



REPÚBLICA DE ANGOLA
MINISTÉRIO DA ENERGIA E ÁGUAS (MINEA)

PLANO NACIONAL DA ÁGUA



VERSÃO PROVISÓRIA

VOLUME I - CARACTERIZAÇÃO DA SITUAÇÃO DE REFERÊNCIA

TOMO 8 – BALANÇO HÍDRICO DISPONIBILIDADES-NECESSIDADES

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REPÚBLICA DE ANGOLA

MINISTÉRIO DA ENERGIA E ÁGUAS

INSTITUTO NACIONAL DE RECURSOS HÍDRICOS

PROJECTO PARA ELABORAÇÃO DO PLANO NACIONAL DA ÁGUA DE ANGOLA

PLANO NACIONAL DA ÁGUA

VOLUME I - CARACTERIZAÇÃO DA SITUAÇÃO DE REFERÊNCIA

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TOMO 8 - BALANÇO HÍDRICO DISPONIBILIDADES-NECESSIDADES

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Anexos

Anexo 1 – Balanço hídrico sequencial mensal das unidades hidrográficas

ACRÓNIMOS E ABREVIATURAS

AAE	Avaliação Ambiental Estratégica
AC	Acrissolos
Af	Afloramentos Rochosos
AL	Alissolos
AP	Áreas de Protecção
AR	Arenossolos
CDB	Convenção sobre Diversidade Biológica
CEIC-UCAN	Centro de Estudos e Investigação Científica da Universidade Católica de Angola
CICOS	Comissão Internacional das Bacias dos Rios Congo, Oubangui e Sangha
CL	Calcissolos
CLE	Comércio de Licenças de Emissão
CM	Cambissolos
CNE	Comissão Nacional de Eleições
COBA	Consultores de Engenharia e Ambiente
CTC	Capacidade de Troca Catiónica
CUVECOM	Comissão Permanente de Gestão do Curso de Água do Rio Cuvelai
DA	Dependência da Água
DD	Dunas do Deserto
DJF	Dezembro, Janeiro, Fevereiro
DNA	Direcção Nacional de Águas
DNAAS	Direcção Nacional de Abastecimento de Águas e Saneamento
DNB	Direcção Nacional de Biodiversidade
DNEE	Direcção Nacional da Energia Eléctrica
DNEL	Direcção Nacional Electrificação
DNEP	Direcção Nacional de Estudos e Planeamento
DNER	Direcção Nacional de Engenharia Rural
DNGA	Direcção Nacional de Gestão Ambiental
DNIIIP	Direcção Nacional de Infra-estruturas e da Indústria Pesqueira
DNPA	Direcção Nacional de Pescas e Aquicultura
DNRH	Direcção Nacional de Recursos Hídricos
DNTA	Direcção Nacional de Tecnologias Ambientais
DPE	Delegações Provinciais de Educação

E/Dr	Endemismo/Distribuição restrita
EASBL	Empresas de Águas e Saneamento de Lobito e Benguela
EC	Estatuto de Conservação
EIU	Economist Intelligence Unit
EN	Em Perigo
ENE	Empresa Nacional de Electricidade
EPAL	Empresa Publica das Águas de Luanda
EPASH	Empresa Provincial de Água e Saneamento do Huambo
ER	Eco-regiões de água-doce
ETc	Evapotranspiração cultural
FCD	Factores Críticos para Decisão
FEOW	Freshwater Ecoregions of the World
FG	Classes Fitogeográficas
FL	Fluvissolos
FMI	Fundo Monetário Internacional
FR	Ferralsolos
GABHIC	Gabinete para a Administração da Bacia Hidrográfica do Cunene
GAMEK	Gabinete de Aproveitamento do Médio Kwanza
GCM	Modelos de Circulação Global (General Circulation Models)
GEE	Gases com Efeito de Estufa
GL	Gleissolos
GTA	Grupo Técnico para o Acompanhamento da Elaboração do PNA
GY	Gipsissolos
GWP	Global Water Partnership
IBEP	Inquérito Integrado sobre o Bem-Estar da População
IC	Implementação Conjunta
ID	Índice de Disponibilidade
IDH	Índice de Desenvolvimento Humano
IDP	Índice de Desenvolvimento da População
IDPAA	Instituto de Desenvolvimento da Pesca Artesanal e da Aquicultura
IDW	Inverso da Distância Ponderada Simples
IGA	Instituto Geológico de Angola
INAIP	Instituto Nacional de Apoio às Indústrias de Pesca
INARH	Instituto Nacional de Recursos Hídricos
INBO	International Network of Basins Organizations

INE	Instituto Nacional de Estatística de Angola
INIP	Instituto Nacional de Investigação Pesqueira
INPC	Instituto Nacional do Património Cultural
INRH	Instituto Nacional de Recursos Hídricos
IP	Índice de Potencialidade
IPA	Instituto de Desenvolvimento da Pesca Artesanal
IPAD	Instituto Português de Apoio ao Desenvolvimento - Ministério dos Negócios Estrangeiros de Portugal
IPCC	Painel Intergovernamental sobre Alterações Climáticas
IUCN	International Union for Conservation of Nature
IUP	Índice de Utilização Potencial (também denominado por “water exploitation index”)
IV	Índice de Variabilidade
JI	Implementação Conjunta
JJA	Junho, Julho e Agosto
LP	Leptosolos
LRBA	Lei sobre Recursos Biológicos Aquáticos
LV	Luvissolos
LX	Lixissolos
MAM	Março, Abril, Maio
MDL	Mecanismo de Desenvolvimento Limpo
MICS	Multiple Indicator Cluster Survey – UNICEF
MGM	Ministério da Geologia e Minas
MINAGRI	Ministério da Agricultura e Desenvolvimento Rural
MINAMB	Ministério do Ambiente
MINEA	Ministério da Energia e Águas
MINPLAN	Ministério do Planeamento
MINUA	Ministério do Urbanismo e do Ambiente
MODIS	Moderate Resolution Imaging Spectroradiometer
NAPA	Programa de Acção Nacional de Adaptação as Alterações Climáticas
NBSAP	Estratégia e Plano de Acção Nacionais para a Biodiversidade
NPA	Núcleos de Povoamento Agrário
NT (Biodiversidade)	Quase Ameaçada
NT (Solos)	Nitissolos
OCDE	Organização para a Cooperação e Desenvolvimento Económico
ODM	Objectivos de Desenvolvimento do Milénio
OGE	Orçamento Geral do Estado

OKACOM	Comissão Permanente de Gestão do Curso de Água do Rio Okavango
OMS	Organização Mundial de Saúde.
OSC	Organizações da Sociedade Civil
PAH	Pequenos Aproveitamentos Hidroelétricos
PANA	Programa de Acção Nacional de Adaptação
PAT	Programa "Água para Todos
PDI	Polos de Desenvolvimento Industrial
PDISA	Projecto de Desenvolvimento do Sector das Águas
PH	Phaeozems
PIB	Produto Interno Bruto
PIP	Programa de Investimentos Públicos de Angola
PLANIRRIGA	Plano Nacional Director de Irrigação de Angola-
PNA	Plano Nacional da Água de Angola
PNEA	Programa Nacional Estratégico Imediato para a Água
PNGA	Programa Nacional de Gestão Ambiental
PNUD	Programa das Nações Unidas para o Desenvolvimento
PNSA	Política Nacional de Saneamento Ambiental
PPP	Parceria Público-Privado
Pr	Areias de Praia
PSDI	Índice de severidade da seca de Palmer
PZ	Podzóis
RCP	Representative Concentration Pathways
RE	Riqueza Específica
REGA	Relatório do Estado Geral do Ambiente e o Desenvolvimento Sustentável de Angola 2012
RH	Regiões Hidrográficas
RNB	Rendimento Nacional Bruto
RU	Reserva Utilizável (mm)
SADC	Southern African Development Community
SC	Solonchacks
SDT	Sólidos Dissolvidos Totais
SISAS	Sistema de Informação Sectorial de Água e Saneamento
SN	Solonetz
SON	Setembro, Outubro, Novembro
SPI	Índice de precipitação normal
SRES	Special Report on Emissions Scenarios

SWOT	Forças (Strengths), Fraquezas (Weaknesses), Oportunidades (Opportunities) e Ameaças (Threats)
TR	Terreno Rochoso
UH	Unidades Hidrográficas
UNDP	Programa de Desenvolvimento das Nações Unidas (United Nations Development Programme)
UNESCO	Organização das Nações Unidas para a Educação, Ciência e Cultura
UNFCCC	Convenção Quadro das Nações Unidas sobre Mudança do Clima
VR	Vertissolos
VU	Vulnerável
WWF	World WildLife Fund
ZAMCOM	Comissão Permanente de Gestão do Curso de Água do Rio Zambeze

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TOMO 8 - BALANÇO HÍDRICO DISPONIBILIDADES-NECESSIDADES

1 INTRODUÇÃO

Neste Tomo, designado por “Balanço Hídrico Disponibilidades-Necessidades”, apresenta-se o balanço hídrico entre as disponibilidades e as necessidades de água, comparando os recursos hídricos superficiais e subterrâneos (avaliados para as 22 unidades hidrográficas) com as necessidades de água. Este balanço é realizado por unidade hidrográfica, de modo a obter-se uma visão espacial das situações críticas de escassez de água existentes ou previstas para o País.

O balanço aqui apresentado tem por base os valores das disponibilidades hídricas inventariadas e descritas no Tomo 6 - Avaliação das Disponibilidades Hídricas Superficiais e Tomo 7 - Avaliação das Disponibilidades Hídricas Subterrâneas e as necessidades a satisfazer na situação de referência que foram apresentados no Tomo 7 - Caracterização Geral dos Sectores Utilizadores e Determinação das Necessidades de Água.

Importa realçar que, e relativamente à criticidade da avaliação das disponibilidades hídricas, a implementação da reabilitação e expansão da rede hidrométrica nacional é de grande importância, permitindo gerar informação hidrológica actualizada.

2 ESTABELECIMENTO DO BALANÇO HÍDRICO

2.1 PRESSUPOSTOS E INDICADORES

O balanço entre as disponibilidades e as necessidades de água tem por objectivo identificar, ao nível das unidades hidrográficas (UH), o grau de satisfação das necessidades de água estimadas para a situação de referência e a classe de gestão ecológica, onde poderão ocorrer situações de escassez, e perceber quais as condições e condicionalismos prováveis de gestão da água, perante a incerteza associada à evolução futura ao nível dos recursos e dos diferentes usos da água. A análise recorrendo ao balanço hídrico permite identificar potenciais problemas ou conflitos relacionados com o uso da água.

Tendo por base a série disponível de escoamentos, desde o ano hidrológico de 1944/45 a 1973/74, foi efectuado um balanço hídrico sequencial mensal.

A discretização espacial para efeitos do balanço considerou as 22 UH estabelecidas. Na fase seguinte do PNA, correspondente ao estabelecimento de cenários alternativos de evolução, as unidades hidrográficas serão subdivididas em função da localização das pressões dos usos sobre os recursos hídricos. Na identificação das subunidades hidrográficas serão equacionadas as pressões impostas pelos grandes centros urbanos situados nas cabeceiras das bacias e pela irrigação, que se prevê que venha a ter um crescimento muito importante.

Os usos consumptivos considerados ao nível do balanço hídrico foram o abastecimento público e indústria, pecuária e irrigação. No cálculo dos consumos para irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada. Na Figura 2.1 apresenta-se um esquema simplificado das metodologias aplicadas na avaliação das necessidades de água ao nível dos principais sectores utilizadores da água, associando usos consumptivos e não consumptivos, sendo que nos usos não consumptivos, de natureza ambiental, se procedeu a um tratamento específico, recorrendo ao conceito de classe de gestão ecológica, conforme é descrito no Tomo 8.



Figura 2.1 – Esquema simplificado do processo de avaliação das necessidades de água

As percentagens consideradas dos retornos relativamente às necessidades são apresentadas no Quadro 2.1:

Quadro 2.1 - Retornos hídricos médios por sector de actividade

Sector de actividade	Retorno Médio
Abastecimento público	80% das necessidades avaliadas
Indústria	80% das necessidades avaliadas
Termo eléctrica	95% das necessidades avaliadas
Irrigação	20% das necessidades avaliadas
Pecuária	85% das necessidades avaliadas

Na avaliação dos usos consumptivos foi incluído o projecto de Abastecimento de Água Transfronteiriço do Rio Cunene. O projecto abrange o desenvolvimento e a reabilitação das infra-estruturas de abastecimento de água e saneamento no sul de Angola e norte da Namíbia para as comunidades e cidades na região fronteiriça entre os dois países. A extracção acordada é de cerca de 6 m³/s. A captação do volume de água para abastecimento na Namíbia é feita na barragem do Calueque, na unidade hidrográfica do Médio Cunene.

No balanço não se entrou directamente com as necessidades para produção de energia eléctrica, apesar de, e dada a sua significância, se fazer referência a este valor no referido balanço necessidades-disponibilidades.

No balanço hídrico efectuado não se entrou directamente com um valor de caudal ecológico tendo-se, em alternativa, procedido à análise comparativa dos resultados mensais e anuais do balanço com os regimes de caudais estimados a partir do método de Deslocamento da Curva de Duração de Caudais (vide Tomo 8), apurando-se a classe de gestão ecológica da UH (Quadro 2.2).

Quadro 2.2 – Classes de Gestão Ecológica (adaptado de Smakhtin & Anpuhas, 2006)

Classe de Gestão Ecológica	Condição Ecológica Expectável
A	Rios naturais com pequenas modificações do habitat aquático e da galeria ripícola
B	Rios ligeiramente modificados e/ou de importância ecológica, em que a biodiversidade e os habitats se mantêm maioritariamente intactos, apesar de alguma exploração dos recursos hídricos e/ou modificações na bacia hidrográfica
C	Os habitats e dinâmicas naturais do biota foram perturbados, mas as funções básicas do ecossistema mantêm-se intactos. Algumas espécies sensíveis poderão estar ausentes ou diminuir a área de distribuição. Espécies não nativas presentes.
D	Grandes alterações ao habitat natural, biota e funções básicas do ecossistema. Riqueza específica inferior ao esperado em condições de naturalidade. Menor representatividade de espécies intolerantes. Dominância de espécies não nativas.
E	Diminuição da disponibilidade e diversidade do habitat. Riqueza específica muito inferior ao esperado em condições de naturalidade. Ausência de espécies intolerantes. Reprodução das espécies nativas inviabilizada. Dominância absoluta das espécies não nativas no ecossistema.
F	O ecossistema foi criticamente alterado, com uma perda quase total do habitat natural e do biota nativo. No pior cenário, as funções básicas do ecossistema foram destruídas e as alterações são irreversíveis

O balanço hídrico é acompanhado do cálculo de indicadores que auxiliam a elaboração do diagnóstico das unidades hidrográficas, quer ao nível das disponibilidades quer ao nível das necessidades. Os indicadores adoptados são os seguintes:

- **Índice de Utilização Potencial** (também denominado por “Water Exploitation Index”) – **IUP**, definido como a relação entre o volume médio anual dos usos consumptivos e a disponibilidade hídrica anual e permite definir o grau de escassez de uma região.

Para este indicador, normalmente é adoptada, a nível internacional, a seguinte classificação:

$IUP \leq 5\%$	Situação excelente: Pouca ou nenhuma actividade de gestão é necessária;
$5\% < IUP \leq 10\%$	Situação confortável: Podem ocorrer situações que exijam medidas específicas de gestão, ao nível da bacia;
$10\% < IUP \leq 20\%$	Situação preocupante: A gestão integrada da unidade hidrográfica é indispensável, exigindo a realização de investimentos de média dimensão;
$20\% < IUP \leq 40\%$	Situação crítica: Exigindo intensa actividade de gestão e grandes investimentos;
$IUP > 40\%$	Situação muito crítica.

- **Índice de Potencialidade - IP** ($m^3/ano.habitante$), definido como a razão entre as disponibilidades da unidade hidrográfica e a população residente.

Este indicador traduz o nível de dificuldade ou não para atender a toda a população com os recursos hídricos da região. Os limites, normalmente adoptados, a nível internacional, para a classificação duma unidade hidrográfica quanto valor de IP são:

$IP \leq 500 m^3/ano.habitante$	Situação de escassez;
$500 m^3/ano.habitante < IP \leq 1\,700 m^3/ano.habitante$	Situação de stress; e
$IP > 1\,700 m^3/ano.habitante$	Situação confortável

Quando as disponibilidades se referem ao ano médio, o indicador IP é equivalente ao indicador de Falkenmark.

- **Classe de gestão ecológica (A, B, C, D e F)** que traduz o desvio ao regime de caudal natural do rio (Quadro 2.2). Este indicador permite identificar as UH onde o uso actual dos recursos hídricos poderá estar a pôr em causa o estado ecológico dos ecossistemas fluviais, e antecipar quais as UH onde essa situação será mais provável de acontecer futuramente, em função do grau de desenvolvimento esperado.

Seguidamente é estabelecido o balanço hídrico em cada uma das 22 UH, sendo apresentados os resultados e índices associados, bem como as principais ilações retiradas.

2.2 UNIDADE HIDROGRÁFICA DE CABINDA

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH de Cabinda cifram-se em $16,6 \text{ hm}^3/ano$. O abastecimento público é o sector com maiores necessidades de água: $14,6 \text{ hm}^3/ano$, que correspondem a 88,1% das necessidades totais. A pecuária com uma necessidade média anual de $1,5 \text{ hm}^3/ano$ aparece em segundo lugar, representando 9,2% das necessidades consumptivas.

Em termos médios anuais, as disponibilidades hídricas da UH de Cabinda são cerca de 1 839 hm³. A Figura 2.2 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades.

Em termos médios anuais, as disponibilidades hídricas da UH de Cabinda são cerca de cento e onze vezes superiores às necessidades. A taxa de utilização dos recursos é por isso muito baixa, cerca de 1%. Mesmo para o ano muito seco (probabilidade de não excedência de 5%), verifica-se que as disponibilidades são cerca de oitenta e duas vezes superiores às necessidades médias anuais.

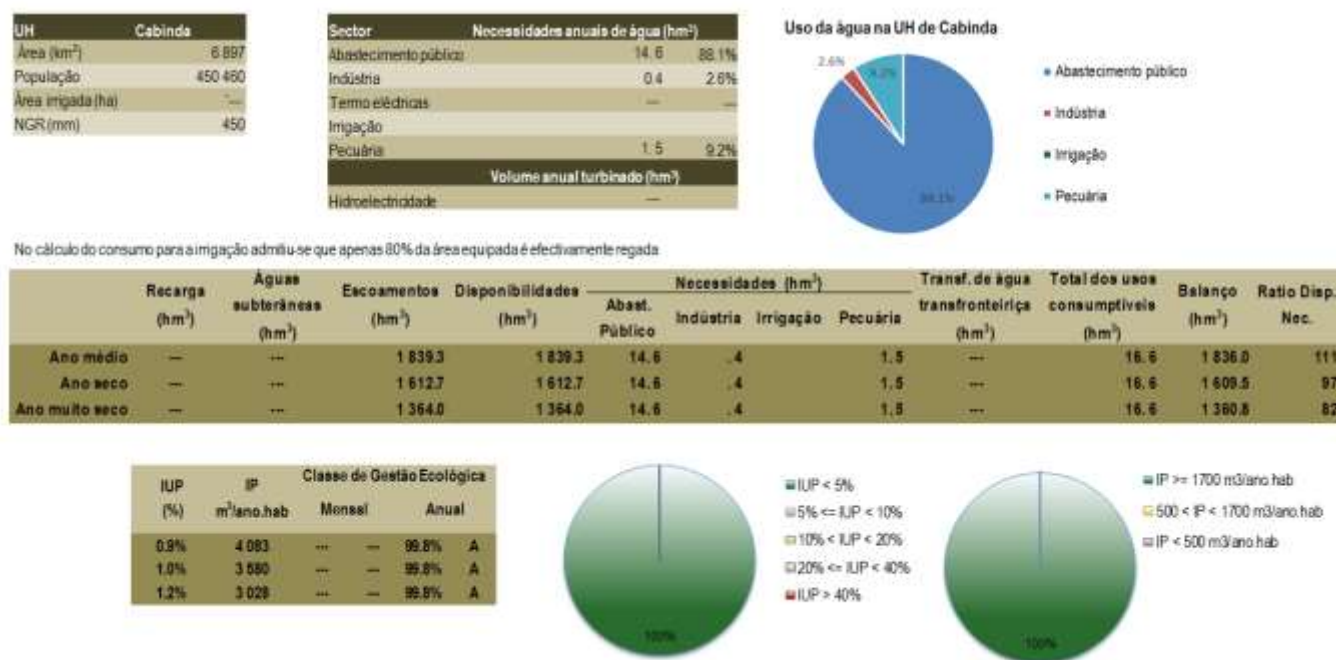


Figura 2.2 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH de Cabinda

No Quadro 2.3 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH de Cabinda para a situação de referência, tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74. Os resultados mensais mostram que o balanço é sempre positivo, variando entre 57,3 hm³ e 332,7 hm³.

Quadro 2.3 – Estatísticas descritivas do balanço hídrico mensal da UH de Cabinda

Estatística (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Racio Disp. Nec.
Máximo	333,0	332,7	240,5
3ºQuartil	210,6	210,3	152,1
Mediana	145,1	144,9	104,8
1ºQuartil	84,0	83,7	60,7
Mínimo	57,6	57,3	41,6
Valor médio	153,5	153,0	110,7

No Quadro 2.4 apresentam-se as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74.

Os valores obtidos para o indicador IUP são muito baixos, variando entre 0,7 e 1,4%, verificando-se uma situação excelente ($IUP \leq 5\%$) para todo o período simulado. O valor médio do indicador IP é de cerca de 4 083 m³/ano.habitante. Da análise dos valores anuais do indicador IP, constata-se que a UH de Cabinda apresenta uma situação de conforto ($IP \geq 1700$ m³/ano.habitante). Pode-se, por isso, concluir que a disponibilidade hídrica da unidade hidrográfica oferece garantias elevadas quanto à capacidade de atender às necessidades de água.

Quadro 2.4 – Estatísticas descritivas dos indicadores do balanço hídrico da UH de Cabinda

Estatística	IUP (%)	IP (m ³ /ano.hab)
Máximo	1,4%	5 177
3ºQuartil	1,0%	4 685
Mediana	0,9%	4 179
1ºQuartil	0,8%	3 581
Mínimo	0,7%	2 601
Valor médio	0,9%	4 083

Actualmente, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH de Cabinda é A pelo que os usos ambientais são largamente assegurados.

2.3 UNIDADE HIDROGRÁFICA DO CUANGO

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH de Cuango cifram-se em 33,1 hm³. O sector com maiores necessidades é o abastecimento público (21,8 hm³/ano) que representa 65,9% das necessidades, seguindo-se a irrigação (7,1 hm³/ano) que é responsável por 21,6% das necessidades. Em terceiro lugar aparece a pecuária com 2,2 hm³/ano que totaliza 6,6% das necessidades estimadas. O sector com menor peso é a indústria com 2,0 hm³/ano que representam 6,0% das necessidades consumptivas.

Em termos médios anuais, as disponibilidades hídricas da UH do Cuango são cerca de 66 023 hm³, dos quais 50 363 hm³ correspondem a recursos superficiais e 15 660 hm³ a águas subterrâneas.

A Figura 2.3 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Cuango. A taxa de utilização dos recursos é muito baixa, inferior a 0,1%. Mesmo quando se considera o ano seco (probabilidade de não excedência de 20%) e o ano muito seco (probabilidade de não excedência de 5%), os resultados evidenciam um superavit das disponibilidades relativamente às necessidades.

No Quadro 2.5 apresentam-se as principais estatísticas descritivas dos resultados mensais do balanço hídrico da UH do Cubango para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74. Os resultados mensais mostram que o balanço é sempre positivo, variando entre 3 978,3 hm³ e 7 234,9 hm³.

Para todo o período não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos superficiais.

O Quadro 2.6 apresenta as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. O indicador de IUP assume o valor de 0,05% em todos os anos hidrológicos do período considerado. Verifica-se ainda que a dispersão do indicador IP é relativamente pequena, tomando o valor médio 51 774 m³/ano.habitante, que é cerca de 30 vezes superior ao limite de 1 700 m³/ano.habitante, usado como referência.

Para a situação de referência, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Cuango é A.

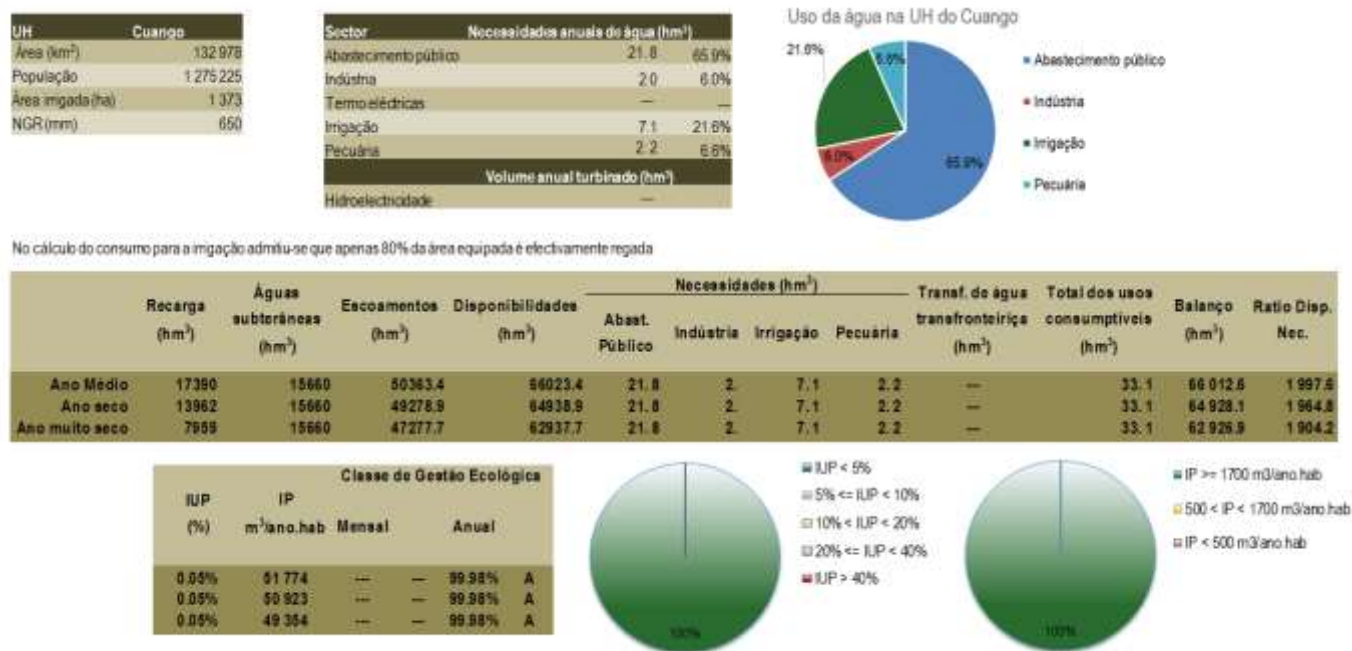


Figura 2.3 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Cuango

Quadro 2.5 – Estatísticas descritivas do balanço hídrico mensal da UH do Cuango

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterrâneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Racio Disp. Nec.
Máximo	4 946,7	1 305,0	5 930,3	7 235,3	7 234,9	3 350,9
3ºQuartil	2 299,1	1 305,0	5 007,0	6 312,0	6 311,4	2 899,4
Mediana	1 373,2	1 305,0	4 490,4	5 795,4	5 794,7	2 487,8
1ºQuartil	229,5	1 305,0	3 168,7	4 473,7	4 472,0	1 295,4
Mínimo	0	1 305,0	2 675,0	3 980,0	3 978,3	1 015,9
Valor médio	1 447,8	1 305,0	4 198,8	5 503,8	5 501,0	2 195,6

Quadro 2.6 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Cuango

Estatística	IUP (%)	IP (m³/ano.hab)
Máximo	0,05%	55 202
3ºQuartil	0,05%	52 822
Mediana	0,05%	51 612
1ºQuartil	0,05%	51 005
Mínimo	0,05%	49 080
Valor médio	0,05%	51 774

2.4 UNIDADE HIDROGRÁFICA DO KASSAI

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH do Kassai ascendem a cerca de 38,7 hm³. O sector responsável pelos maiores consumos na UH é o abastecimento público com 17,2 hm³/ano (44,5% das necessidades totais). Em segundo lugar aparece o sector da indústria (15,3 hm³/ano) que representa 39,4% das necessidades. As necessidades para a irrigação cifram-se em 4,6 hm³/ano (11,9%). O sector com menor peso é a pecuária (1,6 hm³/ano) que representa 4,6% das necessidades consumptivas.

Em termos médios anuais, as disponibilidades hídricas da UH do Kassai são cerca de 79 632 hm³, dos quais 59 496 hm³ correspondem a recursos superficiais e 20 136 hm³ a águas subterrâneas.

A Figura 2.4 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Kassai. A taxa de utilização dos recursos é muito baixa, inferior a 0,1%. Mesmo quando se considera o ano seco (probabilidade de não excedência de 20%) e o ano muito seco (probabilidade de não excedência de 5%), os resultados evidenciam um superavit das disponibilidades relativamente às necessidades.

Na unidade hidrográfica do Kassai, o volume médio anual de água turbinado para a produção de energia eléctrica é de 9 963 hm³. Este volume representa cerca de 16,7% do escoamento médio anual.

No Quadro 2.7 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Kassai para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74. Os resultados mensais mostram que o balanço é sempre positivo, variando entre 4 820,9 hm³ e 8 637,7 hm³.

Para todo o período não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos superficiais.

UH	Kassai
Área (km ²)	154 641
População	986 974
Área irrigada (ha)	720
NGR (mm)	800

Sector	Necessidades anuais de água (hm ³)
Abastecimento público	17.2 44.5%
Indústria	15.3 39.4%
Termo eléctricas	—
Irrigação	4.6 11.9%
Pecuária	1.6 4.2%
Volume anual turbinado (hm ³)	
Hidroelectricidade	9983



No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm ³)	Águas subterrâneas (hm ³)	Ecoamentos (hm ³)	Disponibilidades (hm ³)	Abast. Público	Necessidades (hm ³)	Transf. de água transfronteiriça (hm ³)	Total dos usos consumptíveis (hm ³)	Balanço (hm ³)	Ratio Disp. Nec.
						Indústria	Irrigação	Pecuária		
Ano médio	22 381.8	20 136.0	59 495.6	79 631.6	17.2	15.3	4.6	1.6	—	38.7 79 621 2 057
Ano seco	16 958.4	20 136.0	58 336.5	78 472.5	17.2	15.3	4.6	1.6	—	38.7 78 462 2 027
Ano muito seco	16 622.8	20 136.0	57 038.2	77 174.2	17.2	15.3	4.6	1.6	—	38.7 77 164 1 994

IUP (%)	IP m ³ /ano.hab	Classe de Gestão Ecológica	
		Mensal	Anual
0.05%	79 873	—	— 99.98% A
0.06%	78 711	—	— 99.98% A
0.05%	77 408	—	— 99.98% A

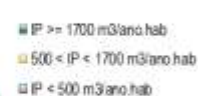
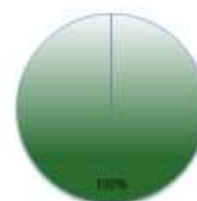
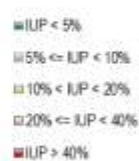


Figura 2.4 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Kassai

Quadro 2.7 – Estatísticas descritivas do balanço hídrico mensal da UH do Kassai

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterrâneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Ratio Disp. Nec.
Máximo	5 718,3	1 678,0	6 960,3	8 638,3	8 637,7	3 027,3
3ºQuartil	3 036,5	1 678,0	6 064,7	7 742,7	7 742,1	2 718,8
Mediana	1 927,1	1 678,0	5 138,8	6 816,8	6 815,9	2 287,6
1ºQuartil	252,7	1 678,0	3 696,2	5 374,2	5 373,0	1 444,6
Mínimo	0	1 678,0	3 144,3	4 822,3	4 820,9	1 216,9
Valor médio	1 863,8	1 678,0	4 959,8	6 637,8	6 635,1	2 142,6

O Quadro 2.8 apresenta as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. O indicador de IUP é 0,05% (situação excelente) e o indicador IP varia entre 77 417 m³/ano.habitante e 83 044 m³/ano.habitante. Os valores deste indicador são muito superiores ao limite de 1 700 m³/ano.habitante, estabelecido para a definição de uma situação confortável em termos de disponibilidades dos recursos.

Para a situação presente, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Kassai é A.

Quadro 2.8 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Kassai

Estatística	IUP (%)	IP (m³/ano.hab)
Máximo	0,05%	83 044
3ºQuartil	0,05%	81 091
Mediana	0,05%	79 851
1ºQuartil	0,05%	78 614
Mínimo	0,05%	77 417
Valor médio	0,05%	79 873

2.5 UNIDADE HIDROGRÁFICA DO NOROESTE

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH do Noroeste ascendem a cerca de 19,2 hm³. O abastecimento público é o sector com maiores necessidades de água (13,9 hm³/ano) que representam 72,5% das necessidades totais. Em segundo lugar aparece a indústria (2,6 hm³/ano) responsável por 13,3% das necessidades totais. Os sectores da irrigação e pecuária, cada um com necessidades médias de 1,4 hm³/ano, representam 14,7% das necessidades consumptivas anuais.

Em termos médios anuais, as disponibilidades hídricas da UH do Noroeste são cerca de 16 570 hm³, dos quais 13 822 hm³ correspondem a recursos superficiais e 2 748 hm³ a águas subterrâneas.

A Figura 2.5 sumariza os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Noroeste. A taxa de utilização dos recursos hídricos é apenas de cerca de 0,1%. Mesmo quando se considera o ano seco (probabilidade de não excedência de 20%) e o ano muito seco (probabilidade de não excedência de 5%), os resultados do balanço evidenciam um superavit das disponibilidades relativamente às necessidades.

No Quadro 2.9 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Noroeste para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74. A análise dos valores mensais mostra que valor mínimo da razão disponibilidades necessidades é de cerca de 880.

Para todo o período não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos superficiais.

O Quadro 2.10 apresenta as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. O indicador de IUP é igual a 0,1% para todo o período simulado. O valor médio do indicador IP é da ordem dos 22 965 m³/ano.habitante, sendo muito superior ao limite 1700 m³/ano.habitante.

Para a situação de referência, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Noroeste é A.

UH	Noroeste
Área (km ²)	52 670
População	721 523
Área irrigada (ha)	214
NGR (mm)	800

Sector	Necessidades anuais de água (hm ³)	
Abastecimento público	13,9	72,5%
Indústria	2,6	13,3%
Termoeléctricas	—	—
Irrigação	1,4	7,1%
Pecuária	1,4	7,1%
Volume anual turbinado (hm ³)		
Hidroelectricidade	—	—



No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm ³)	Águas subterâneas (hm ³)	Esgotamentos (hm ³)	Disponibilidades (hm ³)	Necessidades (hm ³)				Transf. de água transfronteiriça (hm ³)	Total dos usos consumptíveis (hm ³)	Balanco (hm ³)	Ratio Disp. Nec.
					Abast. Público	Indústria	Irrigação	Pecuária				
Ano médio	3 046,1	2 748,0	13 821,7	16 969,7	13,9	2,6	1,4	1,4	—	19,2	16 965,1	881,5
Ano seco	1 647,3	2 748,0	12 720,7	15 468,7	13,9	2,6	1,4	1,4	—	19,2	15 464,1	804,3
Ano muito seco	841,4	2 748,0	11 542,1	14 290,1	13,9	2,6	1,4	1,4	—	19,2	14 285,5	743,0

IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
				Mensal	Anual
0.1%	22 963	---	---	99.97%	A
0.1%	21 439	---	---	99.96%	A
0.1%	19 805	---	---	99.96%	A

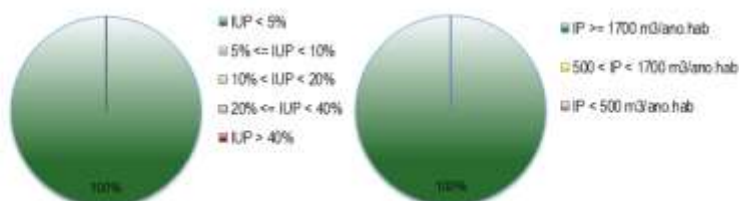


Figura 2.5 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Noroeste

Quadro 2.9 – Estatísticas descritivas do balanço hídrico mensal da UH do Noroeste

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterâneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Ratio Disp. Nec.
Máximo	1 614,8	229,0	2 358,8	2 587,8	2 587,6	1 738,1
3ºQuartil	390,6	229,0	1 504,1	1 733,1	1 732,8	1 145,6
Mediana	172,2	229,0	1 156,7	1 385,7	1 385,3	887,1
1ºQuartil	19,3	229,0	724,8	953,8	953,3	556,6
Mínimo	0	229,0	477,9	706,9	706,4	406,8
Valor médio	253,6	229,0	1 153,0	1 382,0	1 380,4	880,2

Quadro 2.10 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Noroeste

Estatística	IUP (%)	IP (m ³ /ano.hab)
Máximo	0,1%	25 866
3ºQuartil	0,1%	24 292
Mediana	0,1%	23 570
1ºQuartil	0,1%	21 484
Mínimo	0,1%	18 653
Valor médio	0,1%	22 965

2.6 UNIDADE HIDROGRÁFICA DO DANDE

As necessidades anuais de água para usos consumptivos na UH do Dande cifram-se em 12,2 hm³. O sector com maiores necessidades de água é a irrigação (9,4 hm³/ano), responsável por 77,1% das necessidades totais. O abastecimento público com 2,3 hm³/ano é o segundo sector com maiores necessidades (19,0% do total). A pecuária (0,4 hm³/ano) e a indústria (0,1 hm³/ano) representam 3,2% e 0,6%, respectivamente, das necessidades consumptivas.

Em termos médios anuais, as disponibilidades hídricas da UH do Dande são cerca de 2 562 hm³, dos quais 1 926 hm³ correspondem a recursos superficiais e 636 hm³ a águas subterrâneas.

A Figura 2.6 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Dande. A taxa de utilização dos recursos é baixa, sendo inferior a 1%. Mesmo quando se considera o ano seco (probabilidade de não excedência de 20%) e o ano muito seco (probabilidade de não excedência de 5%), os resultados evidenciam um superavit das disponibilidades relativamente às necessidades, mesmo quando apenas se considera os recursos superficiais.

Na unidade hidrográfica do Dande, o volume médio anal de água turbinado para a produção de energia eléctrica é de 1 660 hm³. Este volume representa cerca de 86,1% do escoamento médio anual.

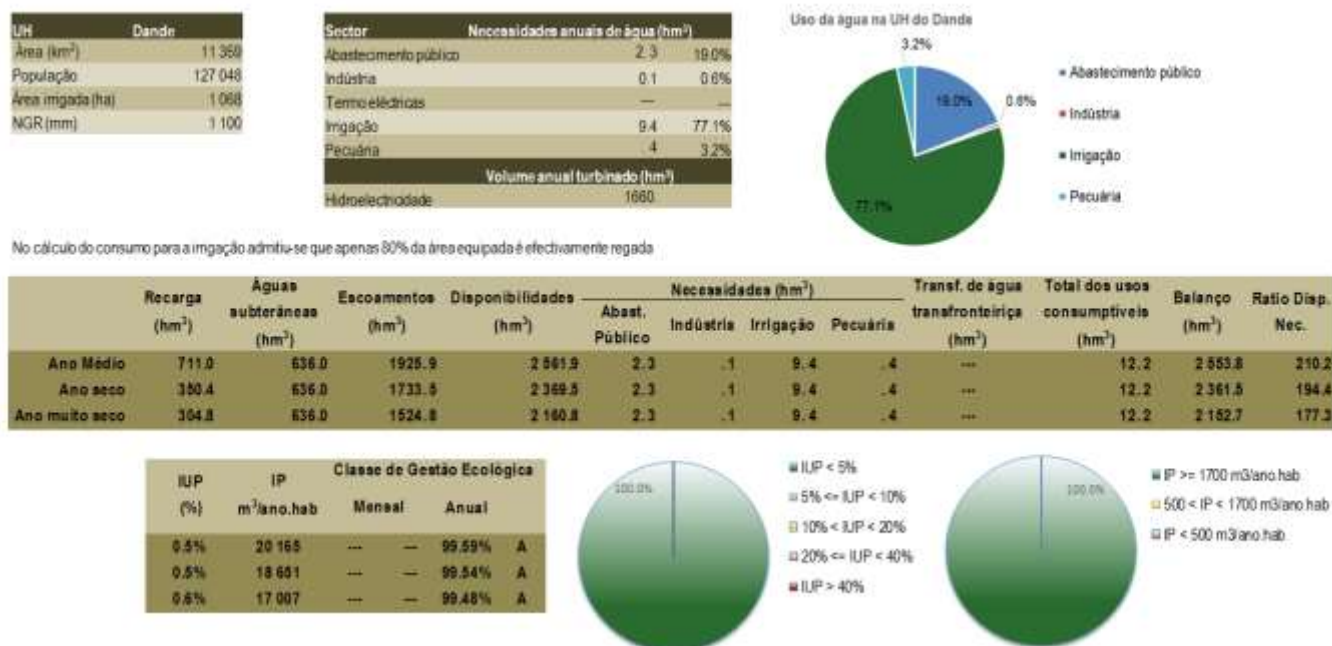


Figura 2.6 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Dande

No Quadro 2.11 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Dande para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74. A análise dos valores mensais mostra que valor mínimo da razão dos valores mensais das disponibilidades necessidades é de cerca de 33, sendo valor médio bastante superior, cerca de 686.

Para todo o período simulado não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos superficiais.

Quadro 2.11 – Estatísticas descritivas do balanço hídrico mensal da UH do Dande

Estatística	Recarga ($\text{hm}^3 \text{ mês}^{-1}$)	Águas subterrâneas ($\text{hm}^3 \text{ mês}^{-1}$)	Águas superficiais ($\text{hm}^3 \text{ mês}^{-1}$)	Disponibilidades ($\text{hm}^3 \text{ mês}^{-1}$)	Balanço ($\text{hm}^3 \text{ mês}^{-1}$)	Rácio Disp. Nec.
Máximo	389,9	53,0	422,7	475,7	475,7	2 048,8
3ºQuartil	86,9	53,0	227,1	280,1	280,0	1 144,6
Mediana	36,0	53,0	149,0	202,0	201,9	805,8
1ºQuartil	4,5	53,0	66,3	119,3	117,4	75,7
Mínimo	0	52,9	35,1	88,1	86,2	33,0
Valor médio	59,2	53,0	160,7	213,7	212,8	686,8

O Quadro 2.12 apresenta as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. A dispersão dos indicadores do balanço hídrico é muito pequena, variando entre 0,4% e 0,6%, para todo o período simulado. O valor médio do indicador IP é da ordem dos 20 165 $\text{m}^3/\text{ano.habitante}$, sendo muito superior ao limite 1700 $\text{m}^3/\text{ano.habitante}$.

Para a situação de referência, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Dande é A.

Quadro 2.12 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Dande

Estatística	IUP (%)	IP ($\text{m}^3/\text{ano.hab}$)
Máximo	0,6%	24 341
3ºQuartil	0,5%	20 991
Mediana	0,5%	20 175
1ºQuartil	0,5%	19 296
Mínimo	0,4%	15 412
Valor médio	0,5%	20 165

2.7 UNIDADE HIDROGRÁFICA DO BENGÓ

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH do Bengó ascendem a cerca de 130,3 hm^3 . O sector que exerce maior pressão sobre os recursos hídricos da UH é o abastecimento público (100,6 hm^3/ano) que representa 77,2% das necessidades totais. A irrigação aparece em segundo lugar com 19,0 hm^3/ano que representam 14,6% das necessidades totais. As necessidades para a indústria são de cerca de 9,4 hm^3/ano (7,2% do total) e o sector com menor peso é a pecuária (1,4 hm^3/ano) que representa 1,0% das necessidades consumptivas.

Em termos médios anuais, as disponibilidades hídricas da UH do Bengo são cerca de 1 811 hm³, dos quais 1 356 hm³ correspondem a recursos superficiais e 456 hm³ a água subterrâneas. A taxa de utilização dos recursos é da ordem dos 8%. Quando se considera o ano muito seco (probabilidade de não excedência de 5%), a taxa de utilização dos recursos atinge o patamar dos 10%, evidenciando a necessidade de uma gestão integrada dos recursos hídricos.

A Figura 2.7 apresenta-se os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Bengo. Embora o balanço seja positivo, a taxa de utilização dos recursos hídricos é significativa, sendo de 7,2% em ano médio. Para o ano muito seco, a taxa de utilização dos recursos atinge a percentagem de 9,4%. Importa notar que a UH do Bengo é a que apresenta maiores necessidades de água por unidade de área.

No Quadro 2.13 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Dande para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74.

A análise dos valores mensais mostra que valor mínimo da razão disponibilidades é apenas de 3 vezes, sendo valor médio cerca de 13 vezes. Para todo o período não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos superficiais.

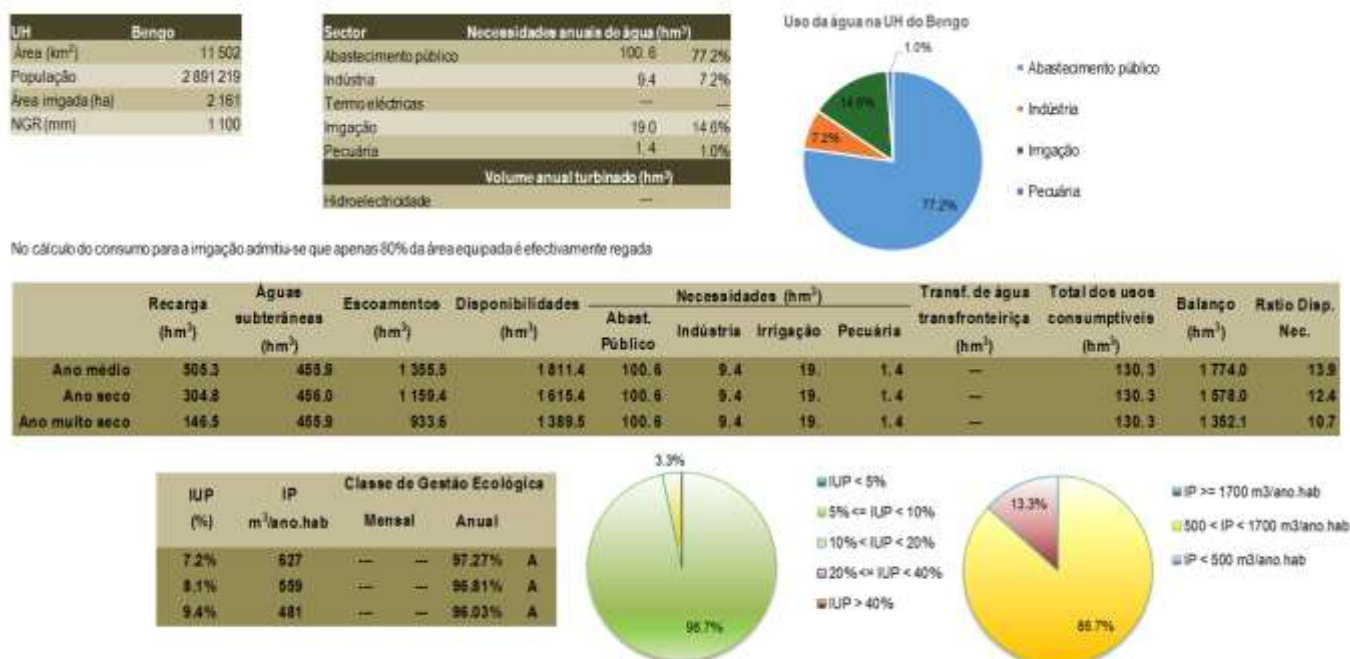


Figura 2.7 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Bengo

Quadro 2.13 – Estatísticas descritivas do balanço hídrico mensal da UH do Bengo

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterrâneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Rácio Disp. Nec.
Máximo	324,0	38,0	352,0	390,0	388,2	42,1
3ºQuartil	62,0	38,0	170,5	208,5	206,6	22,4
Mediana	18,3	38,0	98,0	136,0	134,1	13,9
1ºQuartil	1,6	38,0	34,0	72,0	67,0	5,9
Mínimo	0	37,5	11,2	49,1	43,3	3,5
Valor médio	42,0	38,0	113,1	151,1	147,8	15,3

O Quadro 2.14 apresenta as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. O indicador IUP varia entre o valor mínimo de 5,5%, exprimindo uma situação relativamente confortável, e 10,8% revelador de uma situação relativamente preocupante. Porém, o 3º quartil dos valores do IUP está ainda abaixo do limiar de 10%. Na Figura 2.8 apresenta-se o gráfico da frequência relativa dos valores do indicador IUP.

No que se refere ao indicador IP, os resultados do balanço mostram que o valor deste indicador é inferior ao limite 1 700 m³/ano.habitante. Cerca de 13,3% dos valores do indicador IP inferiores a 500 m³/ano.habitante, reflectindo uma situação de escassez.

Na avaliação da classe de gestão ecológica verifica-se que no final da estação seca (Agosto e Setembro) a classe de gestão ecológica da bacia é muitas vezes F. Contudo, quando a análise é reportada aos volumes anual, verifica-se que a classe de gestão ecológica da UH do Bengo é A para todo o período simulado.

Quadro 2.14 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Bengo

Estatística	IUP (%)	IP (m ³ /ano.hab)
Máximo	10,8%	826
3ºQuartil	7,8%	664
Mediana	7,2%	628
1ºQuartil	6,8%	577
Mínimo	5,5%	417
Valor médio	7,4%	627

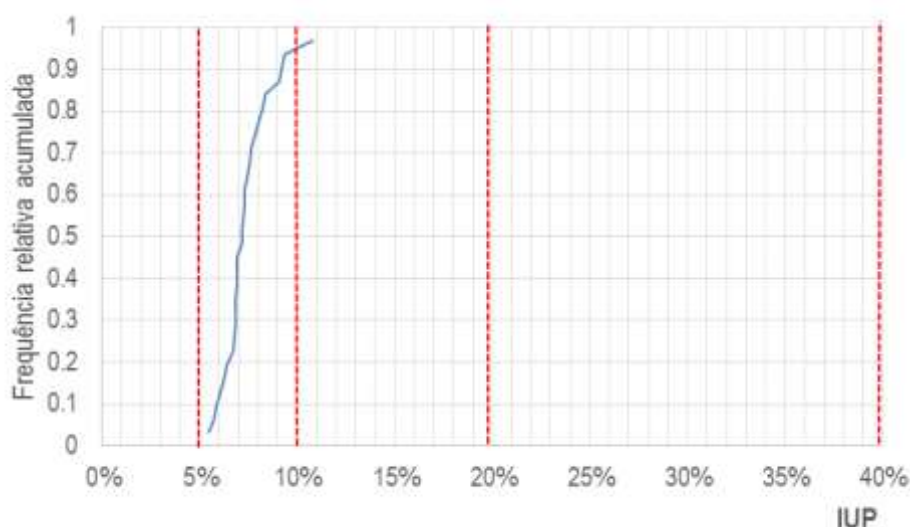


Figura 2.8 – Frequência relativa acumulada dos valores do indicador IUP da UH do Bengo

2.8 UNIDADE HIDROGRÁFICA DO ALTO KWANZA

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH do Alto Kwanza ascendem a cerca de 43,9 hm³. O sector responsável pelos maiores consumos de água é a agricultura (20,4 hm³/ano, 46,6% das necessidades totais). O abastecimento público com 18,7 hm³/ano representa 42,6% das necessidades. As necessidades para a pecuária estimam-se em 3,8 hm³/ano (8,7%). O sector com menor peso é a indústria (0,9 hm³/ano) que representa 2,1% das necessidades consumptivas.

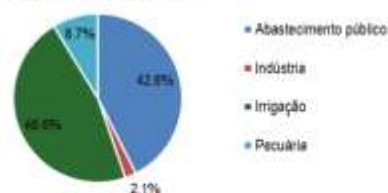
Em termos médios anuais, as disponibilidades hídricas da UH do Alto Kwanza são cerca de 23 957 hm³, dos quais 15 965 hm³ correspondem a recursos superficiais e 7 992 hm³ a águas subterrâneas.

A Figura 2.9 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Alto Kwanza. A taxa de utilização dos recursos é muito baixa, cerca de 0,2%. Mesmo quando se considera o ano seco (probabilidade de não excedência de 20%) e o ano muito seco (probabilidade de não excedência de 5%), os resultados evidenciam um superavit das disponibilidades relativamente às necessidades.

UH	Alto Kwanza
Área (km²)	88.830
População	1 109 809
Área irrigada (ha)	3 932
NGR (mm)	650

Sector	Necessidades anuais de água (hm³)
Abastecimento público	18.7 42.6%
Indústria	0.9 2.1%
Termo eléctricas	— —
Irrigação	20.4 46.6%
Pecuária	3.8 8.7%
Hidroelectricidade	— —

Uso da água na UH do Alto Kwanza



No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm³)	Águas subterrâneas (hm³)	Esgotamentos (hm³)	Disponibilidades (hm³)	Abast. Público	Indústria	Irrigação	Pecuária	Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.
Ano médio	8 874.8	7 991.9	15 964.9	23 956.8	18.7	.9	20.4	3.8	—	43.9	23 935.9	546.1
Ano seco	5 199.5	7 991.7	10 577.8	18 569.5	18.7	.9	20.4	3.8	—	43.9	18 545.6	423.3
Ano muito seco	2 902.0	7 991.9	4 840.5	12 832.4	18.7	.9	20.4	3.8	—	43.9	12 811.5	294.8

IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica Mensal	Anual
0.2%	21 590	—	99.9% A
0.2%	16 735	—	99.8% A
0.3%	11 655	—	99.6% A

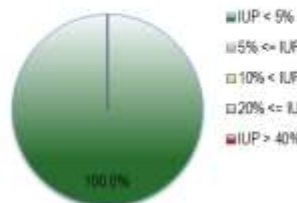


Figura 2.9 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Alto Kwanza

No Quadro 2.15 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Alto Kwanza para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74. A análise dos valores mensais mostra que valor mínimo da razão dos valores mensais das disponibilidades necessidades é de cerca de 120, sendo valor médio bastante superior, cerca de 766.

Para todo o período não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos superficiais.

Quadro 2.15 – Estatísticas descritivas do balanço hídrico mensal da UH do Alto Kwanza

Estatística	Recarga (hm³ mês⁻¹)	Águas subterrâneas (hm³ mês⁻¹)	Águas superficiais (hm³ mês⁻¹)	Disponibilidades (hm³ mês⁻¹)	Balanço (hm³ mês⁻¹)	Ratio Disp. Nec.
Máximo	3 329,2	666,0	5 769,2	6 435,2	6 434,7	3 012,0
3ºQuartil	1 229,1	666,0	1 839,7	2 505,7	2 505,3	1 079,7
Mediana	571,7	666,0	944,8	1 610,8	1 608,5	598,3
1ºQuartil	20,2	666,0	558,5	1 224,5	1 223,3	233,5
Mínimo	0	665,7	81,4	747,4	744,0	120,3
Valor médio	739,6	666,0	1 333,1	1 999,1	1 994,7	766,3

O Quadro 2.16 apresenta as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. A dispersão dos indicadores do balanço hídrico é muito reduzida, sendo praticamente nula para o indicador de IUP que toma apenas os valores 0,1% e 0,3%, para todo o período simulado. O valor médio do indicador IP é da ordem dos 21 590 m³/ano.habitante, cerca de 13 vezes superior ao limite 1 700 m³/ano.habitante, traduzindo uma situação de conforto em termos de recursos hídricos.

Actualmente, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Alto Kwanza é A.

Quadro 2.16 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Alto Kwanza

Estatística	IUP (%)	IP (m³/ano.hab)
Máximo	0,3%	33 030
3ºQuartil	0,2%	23 677
Mediana	0,2%	21 017
1ºQuartil	0,2%	19 428
Mínimo	0,1%	11 655
Valor médio	0,2%	21 590

2.9 UNIDADE HIDROGRÁFICA DO MÉDIO KWANZA

As necessidades anuais de água para usos consumptivos na UH do Médio Kwanza cifram-se em 105,6 hm³. O sector com maiores necessidades de água é a irrigação (95,5 hm³/ano), responsável por 90,4% das necessidades totais. Uma parte significativa da área actualmente irrigada é beneficiada a partir da albufeira de Capanda. O abastecimento público com 8,1 hm³/ano é o segundo sector com maiores necessidades (7,7% do total). A pecuária (1,6 hm³/ano) e a indústria (0,4 hm³/ano) representam 1,5% e 0,3%, respectivamente, das necessidades consumptivas.

Na simulação do Balanço hídrico disponibilidades necessidades é necessário incluir as necessidades e disponibilidades da UH do Alto Kwanza.

Em termos médios anuais, as disponibilidades hídricas da UH do Médio Kwanza são cerca de 22 393 hm³, dos quais 20 762 hm³ correspondem a recursos superficiais e 1 820 hm³ a águas subterrâneas.

A Figura 2.10 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Médio Kwanza. A taxa de utilização dos recursos é baixa, de cerca de 1%. Mesmo quando se considera o ano seco (probabilidade de não excedência de 20%) e o ano muito seco (probabilidade de não excedência de 5%), os resultados evidenciam um superavit das disponibilidades relativamente às necessidades, mesmo quando apenas se considera os recursos superficiais.

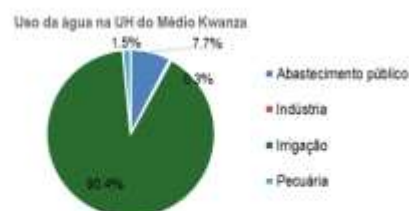
Na unidade hidrográfica do Médio Kwanza, o volume médio anual de água turbinado para a produção de energia eléctrica é de 14 799 hm³. Este volume representa cerca de 71,3% do escoamento médio anual.

No Quadro 2.17 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Médio Kwanza para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74. A análise dos valores mensais mostra que valor mínimo da razão disponibilidades necessidades é de cerca de 9 vezes, sendo o valor médio significativamente superior, cerca de 431 vezes.

Para todo o período não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos superficiais.

UH	Médio Kwanza
Área (km ²)	27 710
População	473 477
Área irrigada (ha)	18 373
NGR (mm)	650

Sector	Necessidades anuais de água (hm ³)	
Abastecimento público	8.1	7.7%
Indústria	0.4	0.3%
Termoeléctricas	—	—
Irrigação	95.5	90.4%
Pecuária	1.6	1.5%
Volume anual turbinado (hm³)		
Hidroelectricidade	14 799	



No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm ³)	Águas subterrâneas (hm ³)	Escoamentos (hm ³)	Disponibilidades (hm ³)	Necessidades (hm ³)				Transf. de água transfronteiriça (hm ³)	Total dos usos consumptíveis (hm ³)	Balanço (hm ³)	Ratio Disp. Nec.
					Abast. Público	Indústria	Irrigação	Pecuária				
Ano médio	1 819.8	1 631.5	20 761.6	22 393.0	26.8	1.3	196.	5.4	—	149.5	22 293.8	149.8
Ano seco	1 533.0	1 631.3	13 767.3	15 398.6	26.8	1.3	196.	5.4	—	149.5	15 299.4	103.0
Ano muito seco	1 484.0	1 630.8	10 843.0	12 473.8	26.8	1.3	196.	5.4	—	149.5	12 374.6	83.4

IUP (%)	IP m ³ /ano.hab	Classe de Gestão Ecológica	
		Mensal	Anual
0.7%	8 316	—	— 99.5% A
1.2%	9 727	—	— 98.3% A
1.2%	7 879	—	— 99.1% A

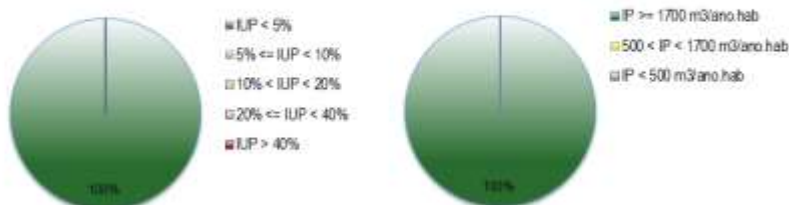


Figura 2.10 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Médio Kwanza

Quadro 2.17 – Estatísticas descritivas do balanço hídrico mensal da UH do Médio Kwanza

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterrâneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Ratio Disp. Nec.
Máximo	942,9	136,0	7 502,8	7 638,8	7 638,2	2 564,3
3ºQuartil	237,6	136,0	2 369,0	2 505,0	2 502,9	579,7
Mediana	132,7	136,0	1 228,8	1 364,7	1 361,7	263,3
1ºQuartil	9,4	136,0	726,4	862,3	852,9	41,7
Mínimo	0	135,1	105,9	241,9	227,7	8,6
Valor médio	151,2	136,0	1 733,6	1 869,6	1 857,8	431,1

O Quadro 2.18 apresenta as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. O indicador de IUP que assume valores entre 0,4% e 1,8%, reflectindo uma situação excelente do ponto de vista de exploração dos recursos hídricos. Também o indicador IP reflecte uma situação de conforto, o valor médio do indicador IP é da ordem dos 13 115 m³/ano.habitante, sendo valor mínimo cerca de 5 092 m³/ano.habitante (5 vezes superior ao limite de 1 700 m³/ano.habitante).

Actualmente, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Médio Kwanza é A.

Quadro 2.18 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Médio Kwanza

Estatística	IUP (%)	IP (m³/ano.hab)
Máximo	1,9%	24 597
3ºQuartil	0,8%	16 018
Mediana	0,7%	13 634
1ºQuartil	0,6%	12 134
Mínimo	0,4%	5 092
Valor médio	0,7%	14 145

2.10 UNIDADE HIDROGRÁFICA DO BAIXO KWANZA

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH do Baixo Kwanza cifram em 173,5 hm³, sendo que é o sector de abastecimento público urbano que se assume como o maior consumidor de água (108,5 hm³), representando 62,5% das necessidades totais. Em segundo lugar aparece a irrigação com uma necessidade anual de 53,6 hm³ (30,9%). O sector da indústria (8,6 hm³) representa 4,9% das necessidades. O sector com menor peso é a pecuária (2,9 hm³) que representa 1,7% das necessidades consumptivas.

Na simulação do Balanço hídrico disponibilidades necessidades é necessário incluir as necessidades e disponibilidades das UH do Alto Kwanza e Médio Kwanza. As três unidades juntas, apresentam as necessidades mais elevadas em valor absoluto, 323 hm³ ano⁻¹.

A Figura 2.11 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Baixo Kwanza. Em termos médios anuais, as disponibilidades hídricas da UH do Baixo Kwanza são cerca de 79 632 hm³, dos quais 59 496 hm³ correspondem a recursos superficiais e 20 136 hm³ a água subterrâneas. A taxa de utilização dos recursos é muito baixa, inferior a 0,1%. Mesmo quando se considera o ano seco (probabilidade de não excedência de 20%) e o ano muito seco (probabilidade de não excedência de 5%), os resultados evidenciam um superavit das disponibilidades relativamente às necessidades, mesmo quando apenas se considera os recursos superficiais.

No Quadro 2.19 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Baixo Kwanza para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74. Os resultados mensais mostram que o balanço é sempre positivo, variando entre 124 hm³ e 8 637 hm³.

Para todo o período não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos superficiais.

UH	Baixo Kwanza
Área (km ²)	34 706
População	3 102 539
Área irrigada (ha)	8 927
NGR (mm)	750

Sector	Necessidades anuais de água (hm ³)
Abastecimento público	108 5 62,4%
Indústria	8 6 4,9%
Termo eléctricas	— —
Irrigação	53 6 30,9%
Pecuária	2 9 1,7%
Volume anual turbinado (hm ³)	
Hidroelectrodote	—

Uso da água na UH do Baixo Kwanza



No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm ³)	Águas subterrâneas (hm ³)	Escoamentos (hm ³)	Disponibilidades (hm ³)	Necessidades (hm ³)				Transf. de água transfronteiriça (hm ³)	Total dos usos consumptivos (hm ³)	Balanco (hm ³)	Ratio Disp. Nec.
					Abast. Público	Indústria	Irrigação	Pecuária				
Ano médio	45,7	124,9	25 350,5	25 475,4	135,3	9,9	169,5	8,3	---	323	25 309,5	78,9
Ano seco	142,4	124,1	11 171,7	11 295,8	135,3	9,9	169,5	8,3	---	323	11 129,5	35,0
Ano muito seco	7,3	122,8	18 287,8	18 410,6	135,3	9,9	169,5	8,3	---	323	18 344,7	57,0

IUP (%)	IP m ³ /ano.hab	Classe de Gestão Ecológica	
		Mensal	Anual
1,3%	5 437	—	99,4% A
2,9%	2 411	—	98,6% A
1,8%	3 929	—	99,1% A

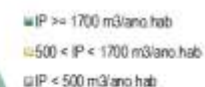
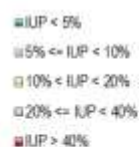


Figura 2.11 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Baixo Kwanza

Quadro 2.19 – Estatísticas descritivas do balanço hídrico mensal da UH do Baixo Kwanza

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterrâneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Racio Disp. Nec.
Máximo	50,4	11,0	8 628,5	8 639,5	8 636,8	665,3
3ºQuartil	4,8	11,0	2 899,7	2 910,7	2 899,5	147,7
Mediana	0,7	11,0	1 589,5	1 600,0	1 578,3	76,9
1ºQuartil	0	9,8	907,3	917,1	888,4	26,8
Mínimo	0	8,8	136,2	145,7	124,5	4,0
Valor médio	3,8	10,4	2 116,6	2 127,0	2 109,1	115,8

No Quadro 2.20 apresentam-se as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74.

Quadro 2.20 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Baixo Kwanza

Estatística	IUP (%)	IP (m³/ano.hab)
Máximo	2,9%	8 942
3ºQuartil	1,5%	6 247
Mediana	1,3%	5 277
1ºQuartil	1,1%	4 464
Mínimo	0,8%	2 411
Valor médio	1,4%	5 437

O indicador de IUP com o valor médio de 1,4%, varia entre 0,8% e 2,9%. Conclui-se por isso, que, em termos de exploração dos recursos hídricos a UH do Baixo Kwanza está numa situação de conforto. O valor médio do indicador IP é da ordem dos 5 437 m³/ano.habitante.

Actualmente, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Baixo Kwanza é A.

2.11 UNIDADE HIDROGRÁFICA DO LONGA

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH do Longa cifram-se em 13,5 hm³. O abastecimento público, com necessidades de água avaliadas em 8,2 hm³/ano, é o sector com maior consumo, representando 60,5% das necessidades totais. Em segundo lugar, representando 22,2% das necessidades totais aparece o sector da irrigação (3,0 hm³/ano). As necessidades de água do sector da pecuária são cerca de 1,9 hm³/ano e representam 13,9% da procura. O sector com menor peso é a indústria (0,4 hm³/ano) que representa 2,9% das necessidades consumptivas.

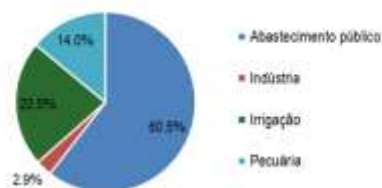
Em termos médios anuais, as disponibilidades hídricas da UH do Longa são cerca de 4 441 hm³, dos quais 3 613 hm³ correspondem a recursos superficiais e 828 hm³ a águas subterrâneas.

A Figura 2.12 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Longa. A taxa de utilização dos recursos é inferior a 1%. Mesmo quando se considera o ano seco (probabilidade de não excedência de 20%) e o ano muito seco (probabilidade de não excedência de 5%), os resultados evidenciam um superavit das disponibilidades relativamente às necessidades, mesmo quando apenas se considera os recursos superficiais.

UH	Longa
Área (km ²)	20.618
População	538 180
Área irrigada (ha)	506
NGR (mm)	750

Sector	Necessidades anuais de água (hm ³)
Abastecimento público	8.2 60.5%
Indústria	0.4 2.9%
Termoeléctricas	— —
Irrigação	3.0 22.5%
Pecuária	1.9 14.0%
Volume anual turbinado (hm ³)	
Hidroelelectricidade	—

Uso da água na UH do Longa



No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm ³)	Águas subterrâneas (hm ³)	Ecoamentos (hm ³)	Disponibilidades (hm ³)	Necessidades (hm ³)				Transf. de água transfronteiriça (hm ³)	Total dos usos consumptíveis (hm ³)	Balanco (hm ³)	Ratio Disp. Nec.
					Abast. Público	Indústria	Irrigação	Pecuária				
Ano médio	924.3	828.0	3613.5	4441.5	8.2	.4	3.	1.9	—	13.5	4 437.1	329.1
Ano seco	421.1	828.0	2988.5	3816.5	8.2	.4	3.	1.9	—	13.5	3 812.1	262.8
Ano muito seco	375.5	828.0	2351.7	3179.7	8.2	.4	3.	1.9	—	13.5	3 175.2	235.6

IUP (%)	IP m ³ /ano.hab	Classe de Gestão Ecológica	
		Mensal	Anual
0.3%	8 253	—	99.88% A
0.4%	7 092	—	99.85% A
0.4%	6 908	—	99.81% A

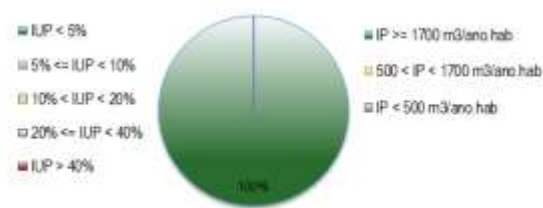


Figura 2.12 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Longa

No Quadro 2.21 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Longa para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74.

A análise dos valores mensais mostra que valor mínimo da razão disponibilidades necessidades é de cerca de 48, sendo valor médio bastante superior, cerca de 359. Porém, existem algumas situações pontuais (1957/58; 1971/72 e 1966/67) em que os recursos superficiais em regime natural podem ser nulos no final da estação seca (meses de Agosto e Setembro). Esta variação intranual das disponibilidades indicia a necessidade de regularização dos Águas superficiais. Os resultados mensais mostram que o balanço é sempre positivo, variando entre 68,5 hm³ e 954,6 hm³.

Para todo o período não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos superficiais.

Quadro 2.21 – Estatísticas descritivas do balanço hídrico mensal da UH do Longa

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterrâneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Racio Disp. Nec.
Máximo	483,6	69,0	885,7	954,7	954,6	1 070,9
3ºQuartil	122,2	69,0	430,7	499,7	499,4	493,3
Mediana	48,7	69,0	297,0	366,0	365,8	335,4
1ºQuartil	3,5	69,0	127,5	196,5	196,0	164,1
Mínimo	0	69,0	0	69,1	68,5	47,9
Valor médio	76,8	69,0	301,5	370,5	369,8	358,7

O Quadro 2.22 apresenta as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. A dispersão dos indicadores do balanço hídrico é muito pequena, variando entre 0,2% e 0,5%, para todo o período simulado. O valor médio do indicador IP é da ordem dos 8 253 m³/ano.habitante, sendo muito superior ao limite 1 700 m³/ano.habitante.

Para a situação de referência, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Longa é A.

Quadro 2.22 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Longa

Estatística	IUP (%)	IP (m ³ /ano.hab)
Máximo	0.5%	11 774
3ºQuartil	0.4%	9 098
Mediana	0.3%	8 396
1ºQuartil	0.3%	7 142
Mínimo	0.2%	5 039
Valor médio	0.3%	8 253

2.12 UNIDADE HIDROGRÁFICA DO QUEVE

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH do Queve ascendem a cerca de 132,2 hm³. O sector com maiores necessidades de água é a irrigação (111,4 hm³/ano), representando 84,2% das necessidades totais. O abastecimento público aparece em segundo lugar com 17,1 hm³/ano que correspondem a 13,0% das necessidades totais. As necessidades para o sector pecuário são de cerca de 2,8 hm³/ano, (2,1% do total). O sector com menor peso é a indústria (0,9 hm³/ano) que representa 0,7% das necessidades consumptivas.

A Figura 2.13 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Queve. Em termos médios anuais, as disponibilidades hídricas da UH do Queve são cerca de 8 292 hm³, dos quais 6 561 hm³ correspondem a recursos superficiais e 1 731 hm³ a águas subterrâneas.

A taxa de utilização dos recursos é relativamente baixa, da ordem dos 2%. Mesmo quando se considera o ano seco (probabilidade de não excedência de 20%) e o ano muito seco (probabilidade de não excedência de 5%), os resultados evidenciam um superavit das disponibilidades relativamente às necessidades, mesmo quando apenas se considera os recursos superficiais.

UH	Queve
Área (km ²)	22.813
População	1 129 722
Área irrigada (ha)	18 885
NGR (mm)	700

Sector	Necessidades anuais de água (hm ³)	
Abastecimento público	17.1	13.0%
Indústria	0.9	0.7%
Termoeléctricas	—	—
Irrigação	111.4	84.2%
Pecuária	2.8	2.1%
Volume anual turbinado (hm ³)		
Hidroelectricidade	—	—



No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm ³)	Águas subterrâneas (hm ³)	Escoamentos (hm ³)	Disponibilidades (hm ³)	Necessidades (hm ³)				Transf. de água transfronteiriça (hm ³)	Total dos usos consumptivos (hm ³)	Balanço (hm ³)	Ratio Disp. Nec.
					Abast. Público	Indústria	Irrigação	Pecuária				
Ano médio	1 931.3	1 740.0	6 560.8	8 300.9	17.1	.9	111.4	2.8	—	132.2	8 207.8	62.8
Ano seco	1 227.0	1 740.0	4 413.7	6 153.7	17.1	.9	111.4	2.8	—	132.2	6 060.8	46.6
Ano muito seco	693.9	1 740.0	2 908.6	4 648.6	17.1	.9	111.4	2.8	—	132.2	4 565.3	35.2

IUP (%)	IP m ³ /ano.hab	Classe de Gestão Ecológica			
		Mensal		Anual	
1.6%	7 348	—	—	98.6%	A
2.1%	6 447	—	—	97.9%	A
2.8%	4 118	—	—	96.8%	A

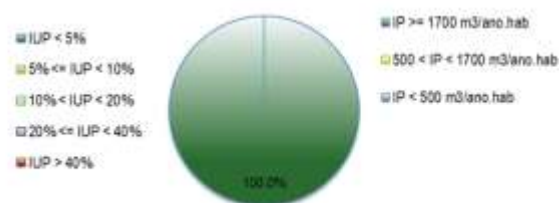
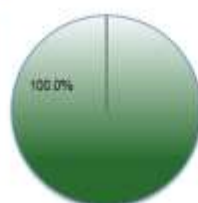


Figura 2.13 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Queve

O Quadro 2.23 apresenta as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Queve para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74. A análise dos valores mensais mostra que valor mínimo da razão disponibilidades necessidades é de cerca de 10, sendo valor médio bastante superior, cerca de 131.

Para todo o período não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos superficiais.

Quadro 2.23 – Estatísticas descritivas do balanço hídrico mensal da UH do Queve

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterrâneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Ratio Disp. Nec.
Máximo	735,9	145,0	2 201,2	2 346,2	2 345,3	955,6
3ºQuartil	269,9	145,0	744,0	889,0	886,3	133,8
Mediana	103,6	145,0	409,2	554,2	547,5	68,6
1ºQuartil	4,8	145,0	245,0	390,0	376,2	26,7
Mínimo	0	145,0	63,8	208,8	194,8	9,9
Valor médio	160,3	145,0	547,6	692,6	684,0	131,1

No Quadro 2.24 apresentam-se as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. Na Figura 2.14 apresenta-se o gráfico da frequência relativa dos valores do indicador IUP.

Quadro 2.24 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Queve

Estatística	IUP (%)	IP (m³/ano.hab)
Máximo	4,0%	11 874
3ºQuartil	2,0%	9 407
Mediana	1,7%	6 872
1ºQuartil	1,2%	5 841
Mínimo	1,0%	2 903
Valor médio	1,8%	7 348

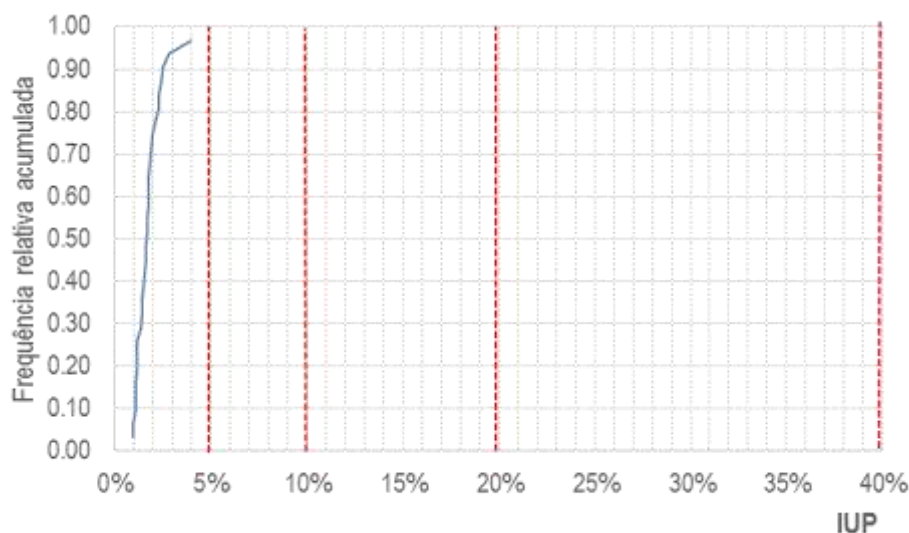


Figura 2.14 – Frequência relativa acumulada dos valores do indicador IUP da UH do Queve

No que se refere à relação entre os usos consumptivos e as disponibilidades hídricas, a UH do Queve encontra-se numa situação excelente: o indicador de IUP é sempre inferior a 5%, variando entre 1,0% e 4,1%. O valor médio de IUP é de cerca de 1,8%.

O valor médio do indicador IP é da ordem dos 7 348 m³/ano.habitante, sendo muito superior ao limite 1 700 m³/ano.habitante.

Para a situação de referência, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Queve é A.

2.13 UNIDADE HIDROGRÁFICA DO CENTRO-OESTE

As necessidades anuais de água para usos consumptivos na UH do Centro-Oeste foram avaliadas em cerca de 54,8 hm³. O sector com maiores necessidades de água é o abastecimento público (30,4 hm³/ano), responsável por 55,5% das necessidades totais. A irrigação aparece em segundo lugar com 18,9 hm³/ano que correspondem a 34,5% das

necessidades totais. As necessidades de água anuais da indústria são de cerca de 2,9 hm³ (5,2% do total). Por último tem-se o sector da pecuária (2,6 hm³/ano) que representa 4,8% das necessidades consumptivas.

Em termos médios anuais, as disponibilidades hídricas da UH do Queve são cerca de 3 523 hm³, dos quais 2 746 hm³ correspondem a recursos superficiais e 777 hm³ a águas subterrâneas.

A Figura 2.15 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Centro-Oeste. A taxa de utilização dos recursos é relativamente baixa, da ordem dos 2%. Mesmo quando se considera o ano seco (probabilidade de não excedência de 20%) e o ano muito seco (probabilidade de não excedência de 5%), os resultados evidenciam um superavit das disponibilidades relativamente às necessidades, mesmo quando apenas se considera os recursos superficiais.

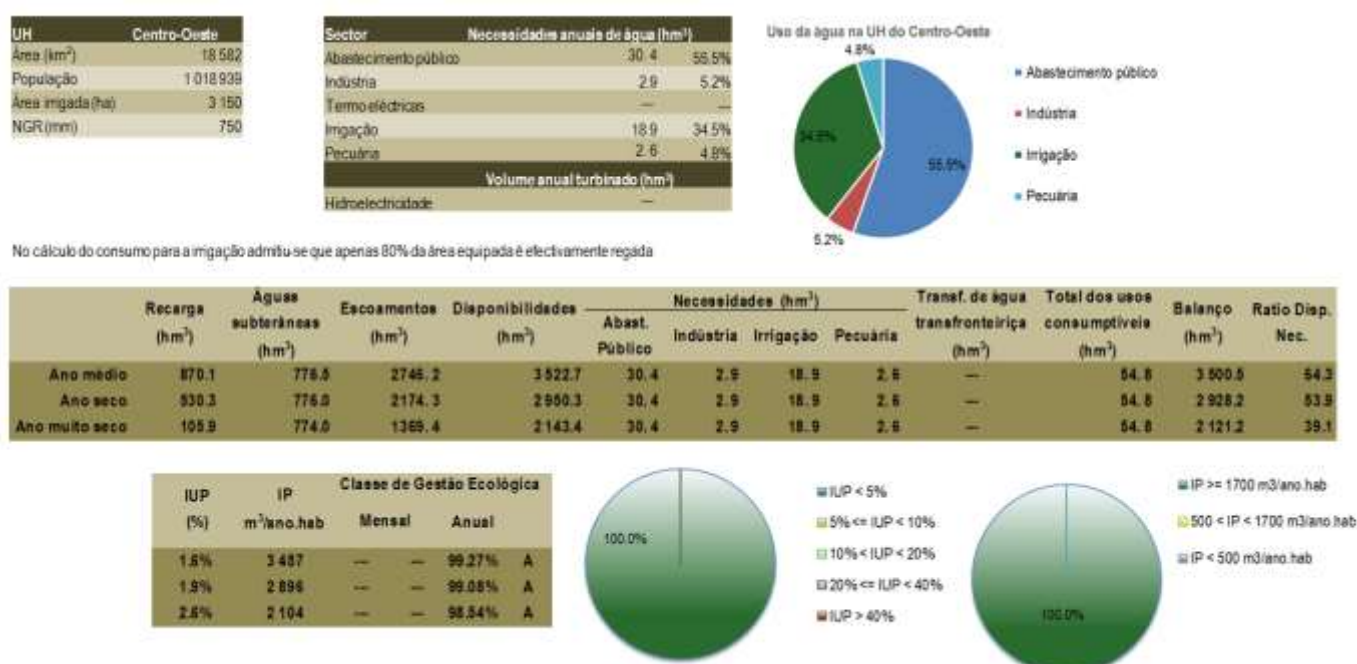


Figura 2.15 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Centro-Oeste

O Quadro 2.25 apresenta as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Centro-Oeste para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74.

A análise dos valores mensais dos escoamentos mostra que na UH do Centro-Oeste que em determinados anos hidrológicos (1947/48, 1963/64, 1971/72 e 1973/74), o escoamento superficial no final da estação seca (meses de Agosto e Setembro) pode ser nulo. Pelo que, a constituição de reservas superficiais reveste-se de extrema importância, ou em alternativa a exploração dos recursos hídricos subterrâneos renováveis.

Quadro 2.25 – Estatísticas descritivas do balanço hídrico mensal da UH do Centro-Oeste

Estatística	Recarga ($\text{hm}^3 \text{ mês}^{-1}$)	Águas subterrâneas ($\text{hm}^3 \text{ mês}^{-1}$)	Águas superficiais ($\text{hm}^3 \text{ mês}^{-1}$)	Disponibilidades ($\text{hm}^3 \text{ mês}^{-1}$)	Balanço ($\text{hm}^3 \text{ mês}^{-1}$)	Racio Disp. Nec.
Máximo	546,7	65,0	768,7	833,7	833,1	268,0
3ºQuartil	118,5	65,0	343,2	408,2	407,0	102,9
Mediana	36,2	65,0	213,2	278,2	277,0	64,1
1ºQuartil	1,3	65,0	89,2	154,0	150,9	29,5
Mínimo	0	62,0	0	62,1	59,3	9,6
Valor médio	72,4	64,7	229,2	293,9	291,9	75,1

No Quadro 2.26 apresentam-se as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74.

No que se refere à relação entre os usos consumptivos e as disponibilidades hídricas, a UH do Queve encontra-se numa situação excelente: o indicador de IUP é sempre inferior a 5%, variando entre 1,1% e 2,7%. O valor médio de IUP é de cerca de 1,6%.

O valor médio do indicador IP é da ordem dos 3 457 $\text{m}^3/\text{ano.habitante}$, sendo muito superior ao limite 1 700 $\text{m}^3/\text{ano.habitante}$.

Quadro 2.26 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Centro-Oeste

Estatística	IUP (%)	IP ($\text{m}^3/\text{ano.hab}$)
Máximo	2,7%	4 939
3ºQuartil	1,8%	3 896
Mediana	1,5%	3 590
1ºQuartil	1,4%	2 915
Mínimo	1,1%	1 977
Valor médio	1,6%	3 457

Para a situação de referência, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Centro-Oeste é A.

2.14 UNIDADE HIDROGRÁFICA DO CATUMBELA

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH do Catumbela ascendem a cerca de 81,7 hm^3 . Os sectores que exercem maior pressão sobre os recursos hídricos da UH são a irrigação (38,2 hm^3/ano) e o abastecimento público (38,1 hm^3/ano) responsáveis por 93,3% das necessidades totais. As necessidades para a pecuária são de cerca de 4,2 hm^3/ano (5,1% do total) e o sector com menores necessidades de água é a indústria (1,6 hm^3/ano) que representa somente 2,0% das necessidades consumptivas.

Em termos médios anuais, as disponibilidades hídricas da UH do Catumbela são cerca de 6 053 hm³, dos quais 4 919 hm³ correspondem a recursos superficiais e 1 134 hm³ a águas subterrâneas.

A Figura 2.16 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Catumbela. Em ano médio, a taxa de utilização dos recursos é da ordem dos 2%. Mesmo em ano muito seco (probabilidade de não excedência de 5%), a taxa de utilização dos recursos (4,5%) é inferior ao limite de 5% estabelecido para a definição de uma situação excelente em termos de exploração dos recursos hídricos.

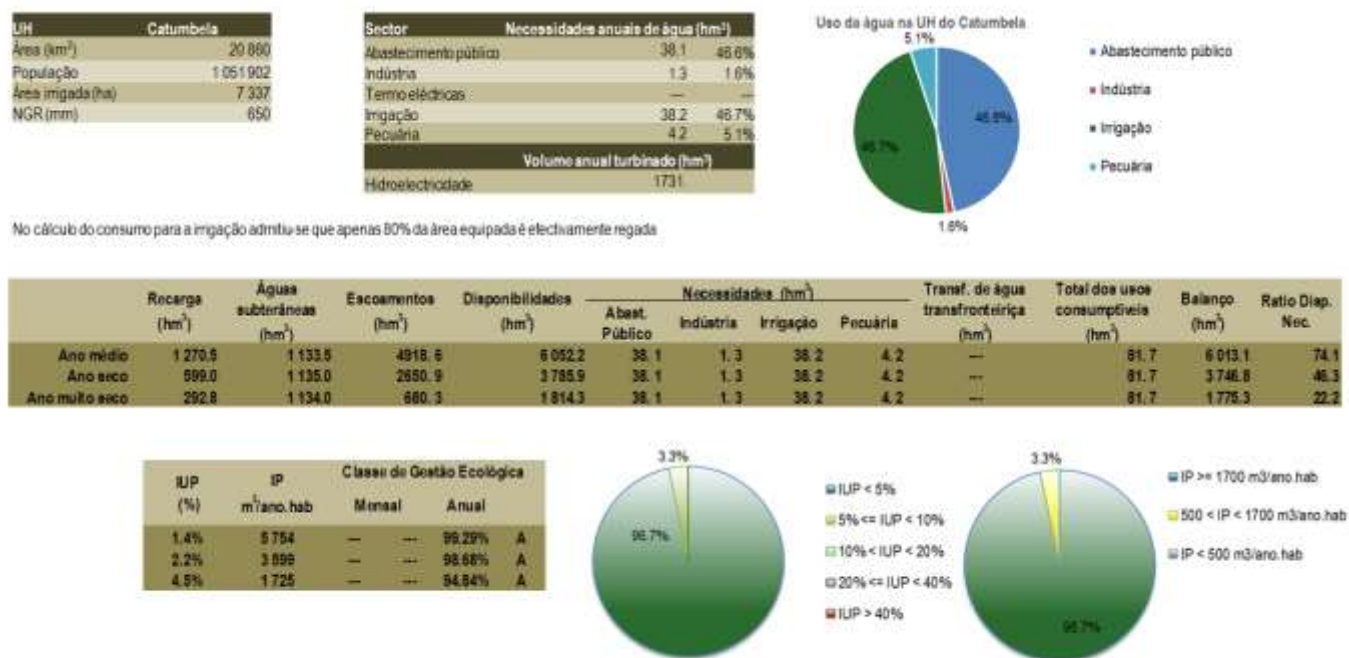


Figura 2.16 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Catumbela

No Quadro 2.27 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Dande para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74.

A análise dos valores mensais mostra que valor mínimo da razão disponibilidades necessidades é 8,5, sendo valor médio 96,4. Na UH do Catumbela, o escoamento mensal, em determinados anos hidrológicos (1947/48, 1954/55, 1957/58 e 1971/72), pode ser nulo no final da estação seca (meses de Agosto e Setembro). Pelo que, a constituição de reservas superficiais reveste-se de extrema importância, ou em alternativa a exploração dos recursos hídricos subterrâneos renováveis.

Quadro 2.27 – Estatísticas descritivas do balanço hídrico mensal da UH do Catumbela

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterrâneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Rácio Disp. Nec.
Máximo	631,7	95,0	1 636,0	1 731,0	1 728,3	444,2
3ºQuartil	166,3	95,0	605,6	700,6	698,9	142,0
Mediana	48,9	95,0	280,6	375,6	373,7	63,1
1ºQuartil	0,6	95,0	122,9	217,3	212,0	25,0
Mínimo	0	91,0	0	92,1	85,7	8,5
Valor médio	105,4	94,5	409,4	503,9	501,1	96,4

No Quadro 2.28 apresentam-se as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. Na Figura 2.17 apresenta-se o gráfico da frequência relativa dos valores do indicador IUP.

O indicador IUP varia entre 0,7% e 6,2%, mas na maioria dos casos o valor de IUP é inferior a 5%, exprimindo uma situação excelente. A frequência absoluta de casos de IUP > 5% é apenas de 3,3%.

No que se refere ao indicador IP, os resultados do balanço mostram que para quase todo o período simulado o valor deste indicador é superior ao limite 1 700 m³/ano.habitante, traduzindo uma situação confortável no atendimento das necessidades de toda a população. Todavia, constata-se que podem ocorrer situações de escassez (500 m³/ano.habitante < IP ≤ 1 700 m³/ano.habitante). O valor mínimo do indicador de IP é de 1 252 m³/ano.habitante.

O valor máximo do indicador de IUP e o valor mínimo do IP ocorrem para as disponibilidades hídricas geradas para o ano hidrológico 1971/72.

Quadro 2.28 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Catumbela

Estatística	IUP (%)	IP (m ³ /ano.hab)
Máximo	6,2%	10 708
3ºQuartil	1,9%	7 495
Mediana	1,3%	6 031
1ºQuartil	1,0%	4 158
Mínimo	0,7%	1 252
Valor médio	1,7%	5 754

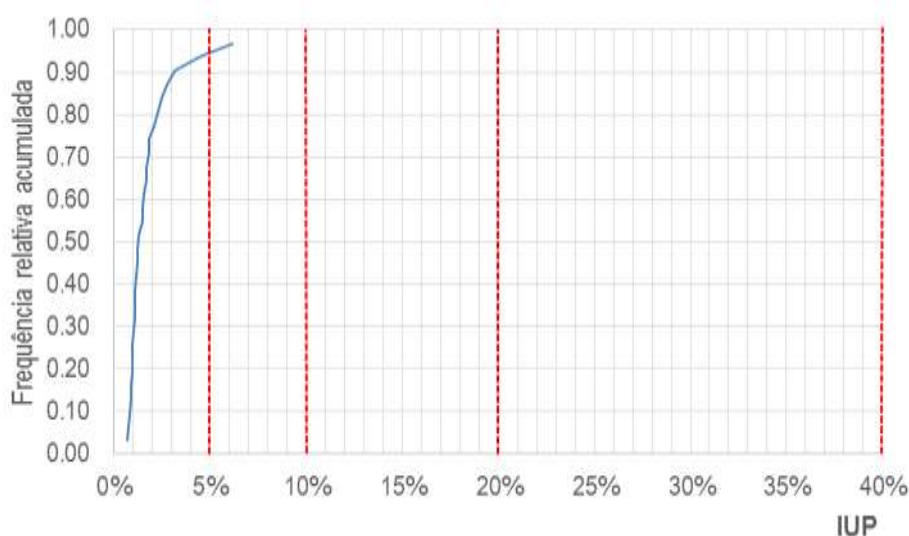


Figura 2.17 – Frequência relativa acumulada dos valores do indicador IUP da UH do Catumbela

Para a situação de referência, os vários sectores consumptivos não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Catumbela é A.

2.15 UNIDADE HIDROGRÁFICA DO ZAMBEZE

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH do Zambeze cifram-se em 9,4 hm³. As necessidades de água por unidade de área são muito baixas. O sector responsável pelos maiores consumos na UH é o abastecimento público com 6,7 hm³/ano (71,5% das necessidades totais). Em segundo lugar aparece a irrigação (1,7 hm³/ano) que representa 18,1% das necessidades. As necessidades para a pecuária são cerca de 0,8 hm³/ano (8,2%). O sector com menor peso é a indústria, cujas necessidades limitam-se a 0,2 hm³/ano (2,2% das necessidades consumptivas).

Em termos médios anuais, as disponibilidades hídricas da UH do Zambeze são cerca de 33 359 hm³, dos quais 22 343 hm³ correspondem a recursos superficiais e 11 016 hm³ a águas subterrâneas.

A Figura 2.18 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Zambeze. Verifica-se que as disponibilidades são da ordem de 3 500 vezes superiores às necessidades em ano médio. A taxa de utilização dos recursos é por isso muito baixa, inferior a 0,1%. Mesmo quando se considera o ano muito seco (probabilidade de não excedência de 5%), os resultados do balanço evidenciam um superavit das disponibilidades relativamente às necessidades, mesmo quando apenas se considera os recursos superficiais.

No Quadro 2.29 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Zambeze para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74. Os resultados mensais mostram que o balanço é sempre positivo, variando entre 1 170,5 hm³ e 9 533,2 hm³.

Para todo o período não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos superficiais.

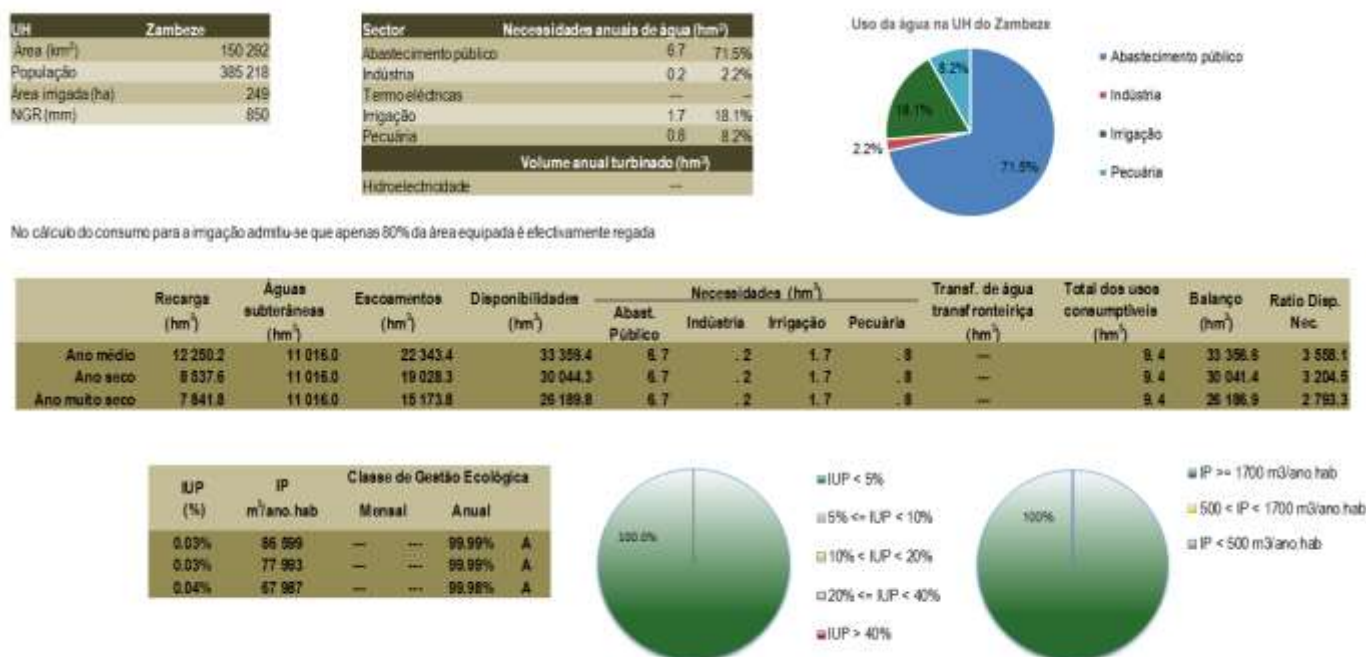


Figura 2.18 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Zambeze

Quadro 2.29 – Estatísticas descritivas do balanço hídrico mensal da UH do Zambeze

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterrâneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Racio Disp. Nec.
Máximo	3 824,0	918,0	8 615,3	9 533,3	9 533,2	14 894,5
3ºQuartil	1 652,6	918,0	2 556,2	3 474,2	3 474,0	4 304,5
Mediana	720,5	918,0	1 124,6	2 042,6	2 042,2	2 755,1
1ºQuartil	18,7	918,0	611,2	1 529,2	1 529,0	1 949,7
Mínimo	0	918,0	252,6	1 170,6	1 170,5	1 318,9
Valor médio	1 022,0	918,0	1 866,2	2 784,2	2 779,7	3 771,5

No Quadro 2.30 apresentam-se as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74.

O Quadro 2.30 mostra que o valor do indicador de IUP para a UH do Zambeze é muito baixo, variando entre 0,02% e 0,04%, verificando-se uma situação excelente em termos de exploração dos recursos hídricos e com margem para suportar um crescimento das necessidades.

O indicador IP varia entre 64 170 m³/ano.habitante e 105 100 m³/ano.habitante. Os valores deste indicador são muito superiores ao limite de 1 700 m³/ano.habitante, estabelecido para a definição de uma situação confortável em termos de disponibilidades dos recursos.

Actualmente, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Zambeze é A.

Quadro 2.30 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Zambeze

Estatística	IUP (%)	IP (m³/ano.hab)
Máximo	0,04%	105 100
3ºQuartil	0,03%	97 046
Mediana	0,03%	85 767
1ºQuartil	0,03%	79 304
Mínimo	0,02%	64 170
Valor médio	0,03%	86 599

2.16 UNIDADE HIDROGRÁFICA DO ALTO CUNENE

As necessidades anuais de água para usos consumptivos na UH do Alto Cunene foram avaliadas em cerca de 43,5 hm³. O abastecimento público é o sector com maiores necessidades de água (19,2 hm³/ano) que representam 44,2% das necessidades totais. Em segundo lugar aparece a irrigação (12,5 hm³/ano) responsável por 28,78% das necessidades totais, seguindo-se a pecuária (10,7 hm³/ano) que representa 24,7% do total. As necessidades de água avaliadas para o sector da indústria são de 1,0 hm³ (2,3% das necessidades consumptivas anuais).

Em termos médios anuais, as disponibilidades hídricas da UH do Alto Cunene são cerca de 7 766 hm³, dos quais 5 738 hm³ correspondem a recursos superficiais e 2 028 hm³ a águas subterrâneas.

A Figura 2.19 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Alto Cunene. As disponibilidades são sempre superiores às necessidades, constatando-se que a taxa de utilização dos recursos é, quase sempre, inferior a 1%. Mesmo quando se considera o ano seco (probabilidade de não excedência de 20%) e o ano muito seco (probabilidade de não excedência de 5%), os resultados evidenciam um superavit das disponibilidades relativamente às necessidades.

No Quadro 2.31 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Alto Cunene para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74. A análise dos valores mensais mostra que valor mínimo da razão disponibilidades necessidades é de 42, sendo o valor médio muito superior, cerca de 215.

Para todo o período não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos superficiais.

O Quadro 2.32 apresenta as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. O indicador de IUP varia entre 0,3 e 1,2% para todo o período simulado, revelando uma situação excelente do ponto de vista de exploração dos recursos. O valor médio do indicador IP é da ordem dos 8 150 m³/ano.habitante, sendo muito superior ao limite 1700 m³/ano.habitante. Mesmo nos anos secos, os valores de IP mostram que os recursos hídricos da UH do Alto Cunene são suficientes para atender às necessidades da população.

Actualmente, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Alto Cunene é A.

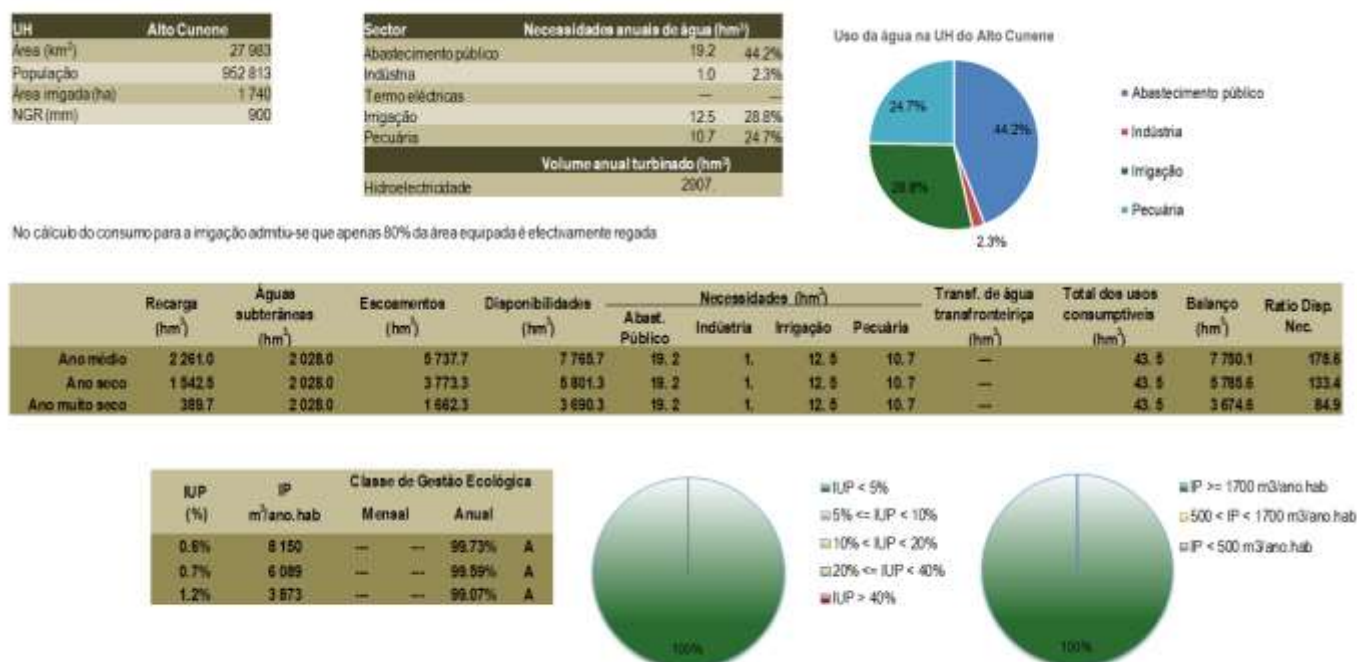


Figura 2.19 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Alto Cunene

Quadro 2.31 – Estatísticas descritivas do balanço hídrico mensal da UH do Alto Cunene

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterráneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Racio Disp. Nec.
Máximo	1 673,3	169,0	4 254,4	4 423,4	4 422,9	1 698,2
3ºQuartil	314,8	169,0	647,5	816,5	815,5	286,1
Mediana	84,8	169,0	293,1	462,1	460,6	128,2
1ºQuartil	1,0	169,0	136,5	305,5	304,6	78,9
Mínimo	0	169,0	50,3	219,3	218,3	41,8
Valor médio	188,0	169,0	479,2	648,2	645,8	215,3

Quadro 2.32 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Alto Cunene

Estatística	IUP (%)	IP (m ³ /ano.hab)
Máximo	1,2%	16 039
3ºQuartil	0,7%	9 495
Mediana	0,6%	7 460
1ºQuartil	0,5%	6 400
Mínimo	0,3%	3 873
Valor médio	0,6%	8 150

2.17 UNIDADE HIDROGRÁFICA DO MÉDIO CUNENE

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH do Médio Cunene são de cerca de 233,9 hm³. O sector responsável pelo maior consumo de água é a irrigação. Para uma área actualmente irrigada de cerca de 18 786 ha, as necessidades de água para irrigação ascendem a 172,8 hm³/ano (73,9% das necessidades totais). Com necessidades significativamente menores, seguem-se os sectores do abastecimento público e da pecuária com necessidades de água estimadas em 31,5 hm³/ano (13,5% do total) e 26,3 hm³/ano (11,2% do total), respectivamente. O sector com menor peso é a indústria (3,3 hm³/ano) que representa 1,4% das necessidades consumptivas.

Na simulação do Balanço hídrico disponibilidades necessidades é necessário incluir as necessidades e disponibilidades da UH do Alto Cunene.

A Figura 2.20 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Médio Cunene. Em termos médios anuais, as disponibilidades hídricas da UH do Médio Cunene são cerca de 8 532 hm³, dos quais 7 281 hm³ correspondem a recursos superficiais e 1 252 hm³ a água subterrâneas. A taxa média de utilização dos recursos hídricos é de cerca de 5,5%. Quando se analisam os resultados do balanço hídrico para o ano muito seco (probabilidade de não excedência de 5%), constata-se que a taxa de utilização dos recursos é de 14,5%.

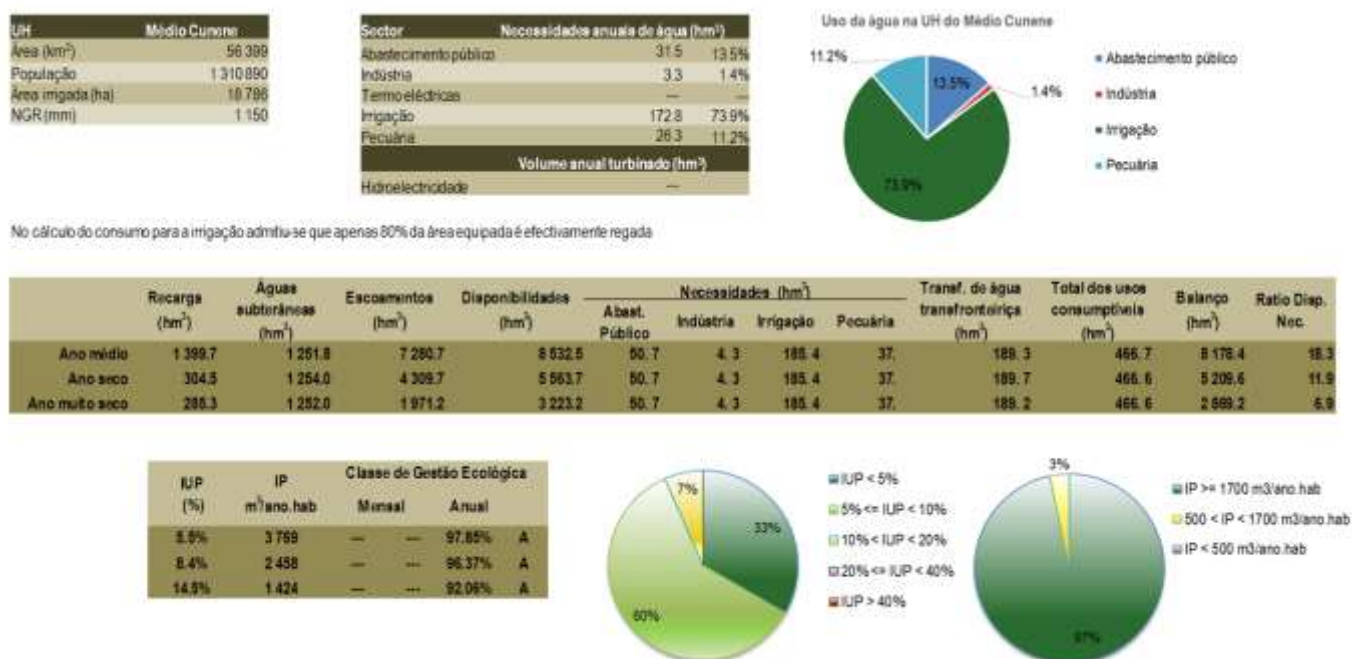


Figura 2.20 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Médio Cunene

No Quadro 2.33 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Médio Cunene para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74.

A análise dos valores mensais mostra o valor mínimo e primeiro quartil da razão disponibilidades necessidades é de cerca de 3 vezes e de 6,2 vezes, respectivamente. Os resultados balanço mostram que embora sempre positivo, nos anos a pressão sobre os recursos hídricos é significativa, exigindo uma gestão integrada e articulada dos recursos hídricos da unidade hidrográfica correspondente à bacia do médio Cunene.

Quadro 2.33 – Estatísticas descritivas do balanço hídrico mensal da UH do Médio Cunene

Estatística	Recarga ($\text{hm}^3 \text{ mês}^{-1}$)	Águas subterrâneas ($\text{hm}^3 \text{ mês}^{-1}$)	Águas superficiais ($\text{hm}^3 \text{ mês}^{-1}$)	Disponibilidades ($\text{hm}^3 \text{ mês}^{-1}$)	Balanço ($\text{hm}^3 \text{ mês}^{-1}$)	Racio Disp. Nec.
Máximo	1 226,6	105,0	4 935,6	5 040,6	5 020,7	187,1
3ºQuartil	154,5	105,0	817,4	922,4	901,2	28,5
Mediana	37,5	105,0	365,9	470,4	436,2	11,9
1ºQuartil	0,2	104,0	169,8	274,2	237,0	6,0
Mínimo	0	100,0	61,5	162,5	125,9	3,3
Valor médio	116,7	104,3	608,0	712,3	681,5	22,8

No Quadro 2.34 apresentam-se as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. Na Figura 2.21 apresenta-se o gráfico da frequência relativa dos valores do indicador IUP.

O indicador IUP varia entre o valor mínimo de 2,8%, exprimindo uma situação relativamente confortável e 14,5% revelador de uma situação relativamente preocupante. Porém, o 3º quartil dos valores do IUP está ainda abaixo do limiar de 10%. A frequência acumulada dos valores de IUP inferiores a 5% é apenas de 33%.

O valor médio do indicador IP é da ordem dos 3 769 $\text{m}^3/\text{ano.habitante}$, superior ao limite 1 700 $\text{m}^3/\text{ano.habitante}$. Constata-se porém, que para todo o período simulado ocorre uma situação de stress ($500 \text{ m}^3/\text{ano.habitante} < \text{IP} \leq 1 700 \text{ m}^3/\text{ano.habitante}$). Esta situação ocorre para as disponibilidades geradas no ano hidrológico de 1954/55 e o valor de IP é de 3 769 $\text{m}^3/\text{ano.habitante}$.

Em termos do balanço anual, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Médio Cunene é A. Todavia, os resultados mensais mostram que nos meses de Setembro, Outubro e Novembro a classe de gestão ecológica da bacia é muitas vezes F, assumindo também as classes B a E.

Quadro 2.34 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Médio Cunene

Estatística	IUP (%)	IP ($\text{m}^3/\text{ano.hab}$)
Máximo	14,5%	7 456
3ºQuartil	7,1%	4 568
Mediana	5,7%	3 630
1ºQuartil	4,5%	2 898
Mínimo	2,8%	1 424
Valor médio	6,3%	3 769

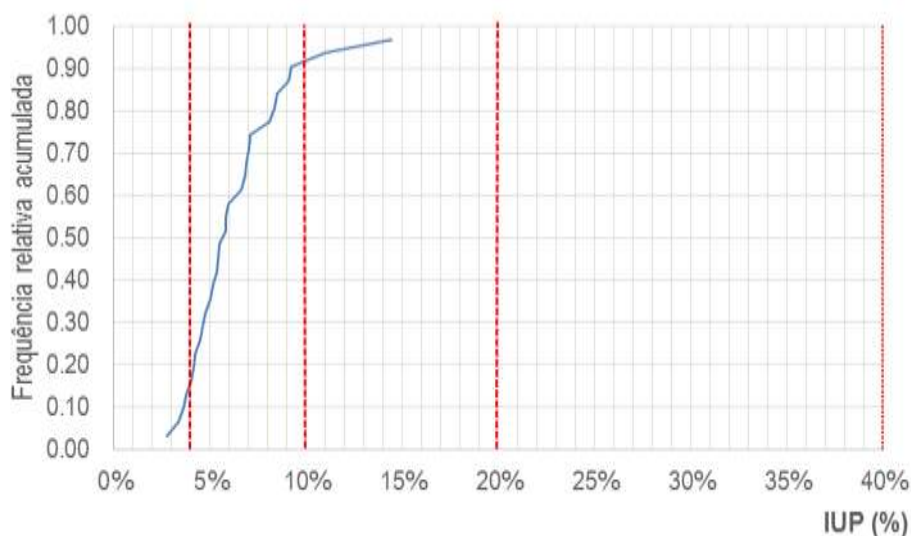


Figura 2.21 – Frequência relativa acumulada dos valores do indicador IUP da UH do Médio Cunene

2.18 UNIDADE HIDROGRÁFICA DO BAIXO CUNENE

As necessidades anuais de água para usos consumptivos na UH do Baixo Cunene foram avaliadas em cerca de 13,5 hm³. O sector com maiores necessidades de água é a irrigação (8,6 hm³/ano), responsável por 63,2% das necessidades totais. A pecuária aparece em segundo lugar com 4,0 hm³/ano que correspondem a 29,9% das necessidades totais. As necessidades anuais apuradas para o abastecimento público cifram-se em 0,9 hm³ (6,4% do total). Por último, tem-se o sector da indústria que com 0,9 hm³/ano representa 0,4% das necessidades consumptivas.

Na simulação do Balanço hídrico disponibilidades necessidades é necessário incluir as necessidades e disponibilidades das UH do Alto e Médio Cunene.

A Figura 2.22 apresenta-se os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Baixo Cunene. Em termos médios anuais, as disponibilidades hídricas da UH do Médio Cunene são cerca de 8 532 hm³, dos quais 7 281 hm³ correspondem a recursos superficiais e 1 252 hm³ a água subterrâneas. Importa notar que os recursos hídricos do Baixo Cunene dependem do escoamento gerado nas unidades hidrográficas do Alto e Médio Cunene.

Na unidade hidrográfica do Baixo Cunene, o volume médio anual de água turbinado para a produção de energia eléctrica é de 4 561 hm³. Este volume representa cerca de 62,6% do escoamento médio anual.

A taxa média de utilização dos recursos hídricos é de cerca de 6,4%. Quando se analisam os resultados do balanço hídrico para o ano muito seco (probabilidade de não excedência de 5%), constata-se que a taxa de utilização dos recursos ultrapassa a barreira dos 20%, cifrando-se em 24,4%.

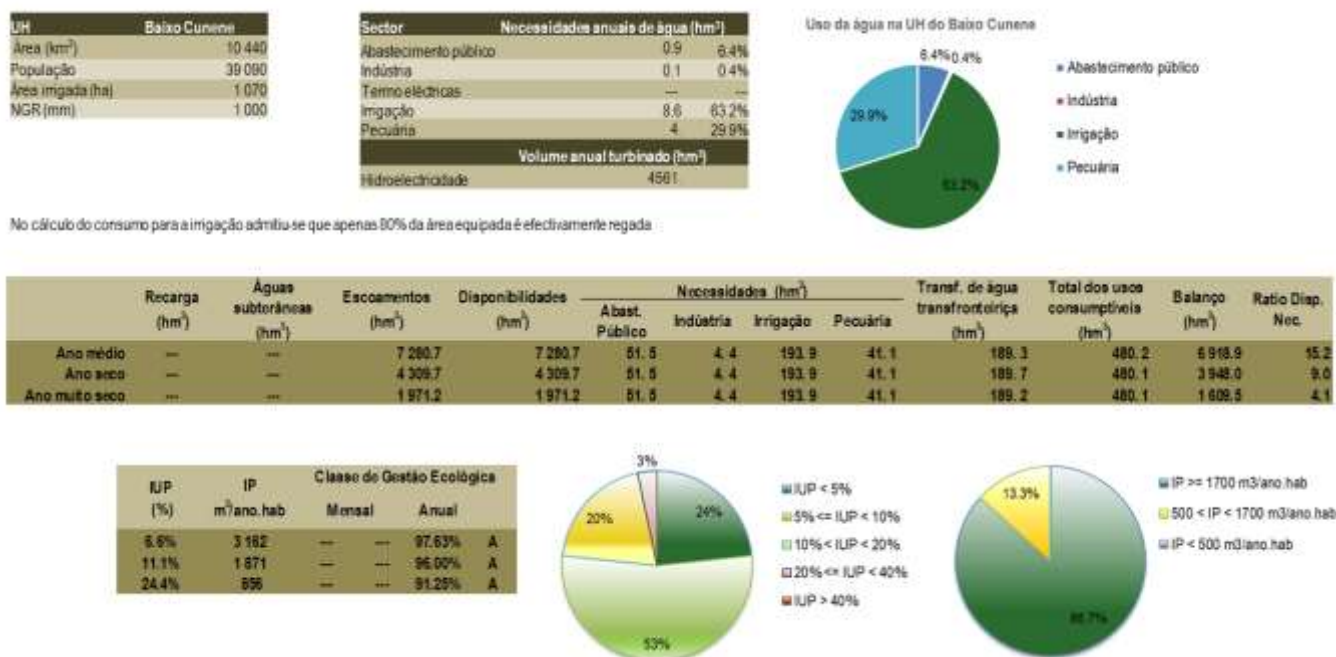


Figura 2.22 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Baixo Cunene

No Quadro 2.33 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Baixo Cunene para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74.

Embora o balanço mensal seja sempre positivo, a análise dos valores mensais mostra o valor mínimo da razão disponibilidades/ necessidades é apenas de 1,2 e que 25% dos valores são inferiores a 3,7. Assim, nos anos de baixa pluviosidades nas unidades hidrográficas do Alto e Médio Cunene, a problema de escassez dos recursos hídricos no Baixo Cunene coloca-se, exigindo uma gestão integrada e articulada dos recursos hídricos da unidade hidrográfica correspondente à bacia do baixo Cunene.

Quadro 2.35 – Estatísticas descritivas do balanço hídrico mensal da UH do Baixo Cunene

Estatística	Recarga (hm³ mês ⁻¹)	Águas subterráneas (hm³ mês ⁻¹)	Águas superficiais (hm³ mês ⁻¹)	Disponibilidades (hm³ mês ⁻¹)	Balanço (hm³ mês ⁻¹)	Racio Disp. Nec.
Máximo	0	0	4 935,6	4 935,6	4 915,4	178,2
3ºQuartil	0	0	817,4	817,4	795,9	24,5
Mediana	0	0	365,9	365,9	331,2	9,0
1ºQuartil	0	0	169,8	169,8	134,2	3,7
Mínimo	0	0	61,5	61,5	23,9	1,2
Valor médio	0	0	608,0	608,0	576,6	19,5

O Quadro 2.36 apresenta as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. Na Figura 2.23 apresenta-se o gráfico da frequência relativa dos valores do indicador IUP.

O indicador IUP varia entre o valor mínimo de 3,1%, exprimindo uma situação relativamente confortável e 24,4% revelador de uma situação crítica. Porém, o 3º quartil dos valores do IUP está ainda abaixo do limiar de 10%. A frequência acumulada dos valores de IUP inferiores a 5% é apenas de 23%.

O valor médio do indicador IP é da ordem dos 3 162 m³/ano.habitante, superior ao limite 1 700 m³/ano.habitante. Porém, em quatro dos trinta anos do período da simulação, obtiveram valores de inferiores ao limite 1 700 m³/ano.habitante que correspondem a situações de “stress”. O menor valor de IP obtido para a UH do Baixo Cunene foi de 856 m³/ano.habitante.

Quadro 2.36 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Baixo Cunene

Estatística	IUP (%)	IP (m³/ano.hab)
Máximo	24,4%	6 786
3ºQuartil	9,0%	3 947
Mediana	6,9%	3 024
1ºQuartil	5,3%	2 305
Mínimo	3,1%	856
Valor médio	8,1%	3 162

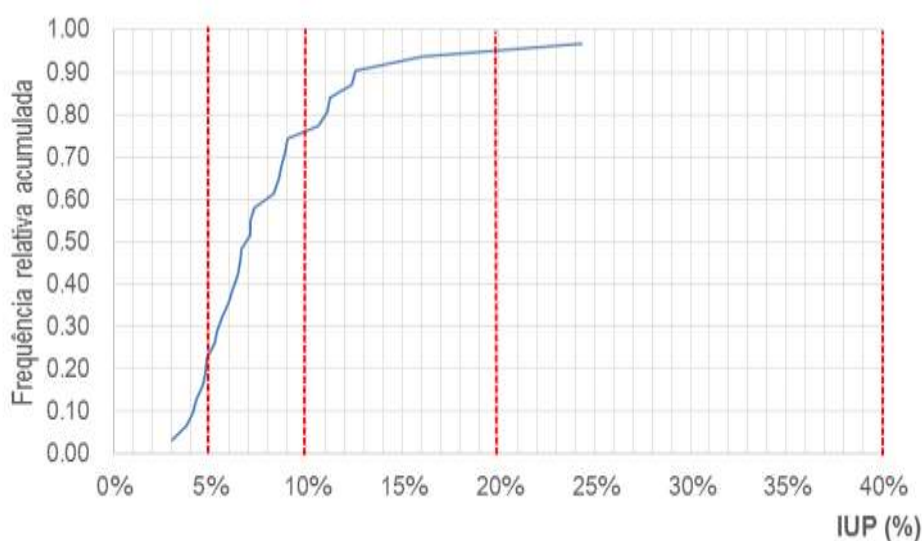


Figura 2.23 – Frequência relativa acumulada dos valores do indicador IUP da UH do Baixo Cunene

Em termos do balanço anual, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Médio Cunene é A. Todavia, os resultados mensais mostram que nos meses de Setembro a Dezembro a classe de gestão ecológica da bacia é muitas vezes F, assumindo também as classes B a E.

2.19 UNIDADE HIDROGRÁFICA DO COPOROLO

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH do Coporolo são cerca de 26,2 hm³. O sector que exerce maior pressão sobre os recursos hídrico da UH é a irrigação (12,2 hm³/ano) que representa 46,6% das necessidades totais. O abastecimento público aparece em segundo lugar com 9 hm³/ano (34,5% das necessidades totais), seguindo-se o sector da pecuária com 4,8 hm³/ano (18,4% do total). O sector com menores necessidades de água é a indústria (0,1 hm³/ano) que representa somente 0,4% das necessidades consumptivas.

A Figura 2.24 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Coporolo. Em termos médios anuais, as disponibilidades hídricas da UH do Coporolo são cerca de 2 581 hm³, dos quais 2 157 hm³ correspondem a recursos superficiais e 424 hm³ a águas subterrâneas. A taxa de utilização dos recursos é de cerca de 1%. Todavia, os resultados do balanço mostram que a UH do Coporolo é vulnerável aos anos de pluviosidade muito baixa. De facto, quando se considera o ano muito seco (probabilidade de não excedência de 5%), a taxa de utilização dos recursos é de 6,4%, ficando acima do limite de 5% estabelecido para a definição de uma situação excelente em termos de exploração dos recursos hídricos.

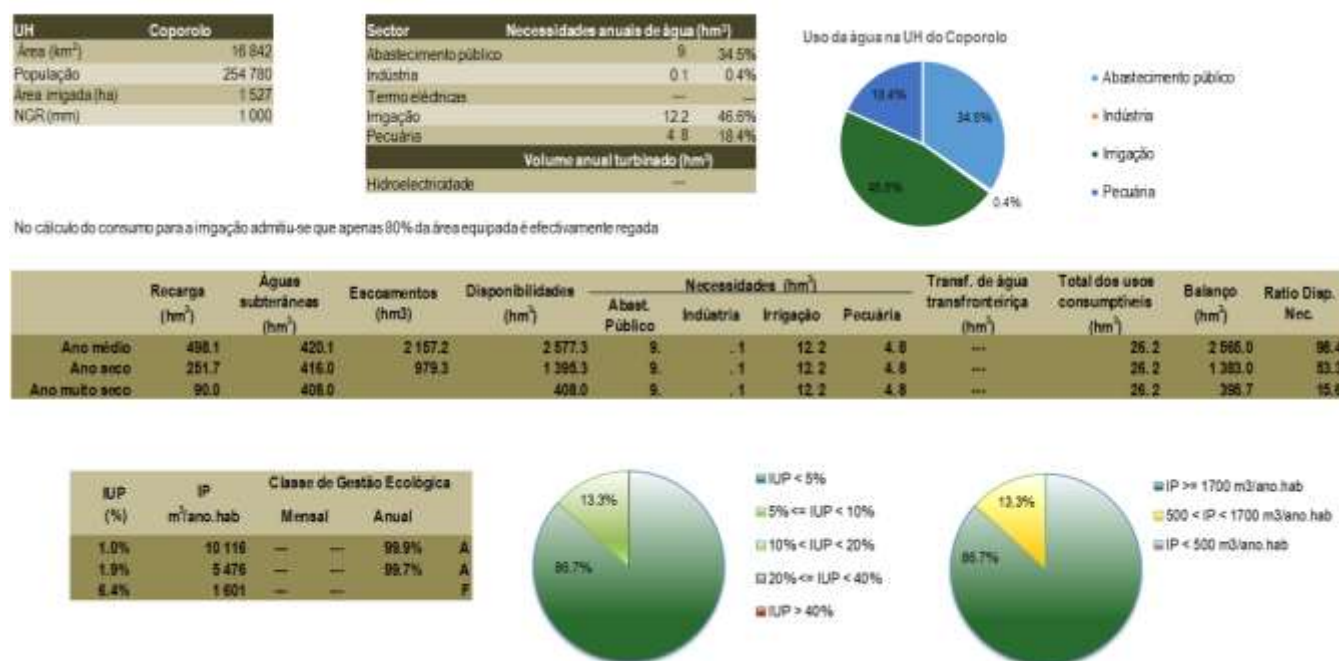


Figura 2.24 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Coporolo

O Quadro 2.37 apresenta as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Coporolo para a situação de referência, tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74. A análise dos valores mensais mostra que valor mínimo da razão disponibilidades necessidades é cerca de 9, sendo o valor médio de 129.

Na UH do Coporolo, o escoamento mensal, em determinados anos hidrológicos pode ser nulo no final da estação seca (meses de Agosto e Setembro). Verificando-se mesmo um ano hidrológico (1971/72) em que o escoamento superficial foi nulo. Pelo que, a constituição de reservas superficiais a exploração dos recursos hídricos subterrâneos renováveis revestem-se de extrema importância para a UH.

No Quadro 2.38 apresentam-se as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. Na Figura 2.25 apresenta-se o gráfico da frequência relativa dos valores do indicador IUP.

O indicador IUP varia entre 0,3% e 6,4%, exprimindo uma situação excelente para quase todo o período simulado. Apenas em quatro anos do período da simulação se obtiveram valores de IUP ligeiramente acima do limite de 5%.

O valor médio do indicador IP é da ordem dos 10 116m³/ano.habitante, cerca de 6 vezes superior ao limite 1 700 m³/ano.habitante. Porém, nos anos hidrológicos de 1947/48, 1954/55, 1965/66 e 1971/72 em que o escoamento superficial gerado foi nulo, os valores do indicador IP ficam abaixo do limite de 1 700 m³/ano.habitante.

Quadro 2.37 – Estatísticas descritivas do balanço hídrico mensal da UH do Coporolo

Estatística	Recarga (hm³ mês⁻¹)	Águas subterrâneas (hm³ mês⁻¹)	Águas superficiais (hm³ mês⁻¹)	Disponibilidades (hm³ mês⁻¹)	Balanço (hm³ mês⁻¹)	Rácio Disp. Nec.
Máximo	394,6	37,0	1 142,8	1 179,8	1 179,0	845,9
3ºQuartil	60,2	37,0	263,1	300,1	299,4	182,6
Mediana	15,7	37,0	111,2	146,2	145,2	67,4
1ºQuartil	0,1	34,0	26,6	61,8	60,9	25,5
Mínimo	0	27,0	0	28,1	26,2	8,9
Valor médio	41,3	35,3	179,0	214,3	213,8	128,6

Quadro 2.38 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Coporolo

Estatística	IUP (%)	IP (m³/ano.hab)
Máximo	6,4%	29 459
3ºQuartil	1,8%	12 899
Mediana	1,0%	10 759
1ºQuartil	0,8%	5 575
Mínimo	0,3%	1 601
Valor médio	1,9%	10 116

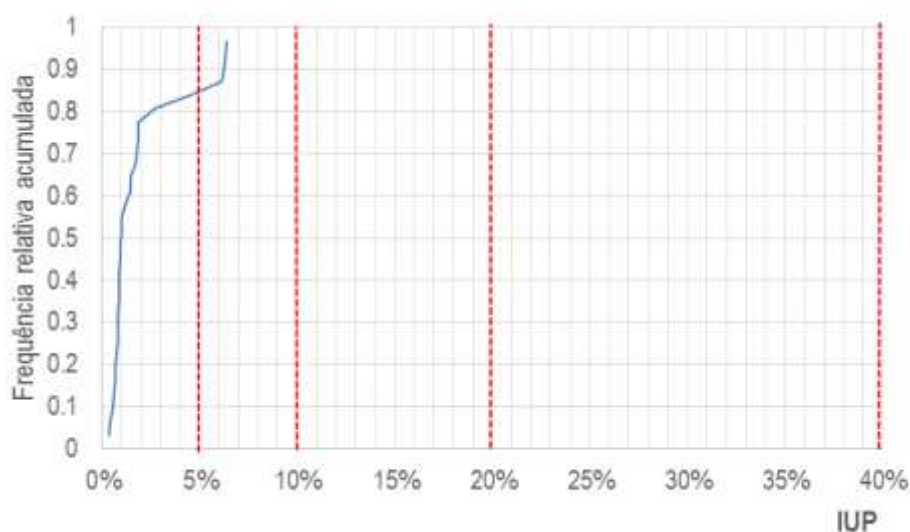


Figura 2.25 – Frequência relativa acumulada dos valores do indicador IUP da UH do Coporolo

Para a situação de referência, os vários sectores consumptivos não introduzem alterações ao regime hídrico natural. No apuramento dos valores anuais do balanço, a classe de gestão ecológica da UH do Coporolo é sempre A. Apenas na análise mensal dos valores do balanço se constata que nos meses de Agosto e Setembro do ano hidrológico de 1951/52, as necessidades previstas para a situação de referência conduzem uma diminuição importante do escoamento superficial, sendo a classe de gestão ecológica da unidade hidrográfica F. Importa, no entanto, notar que se trata de uma ocorrência pontual e de curta duração.

2.20 UNIDADE HIDROGRÁFICA DO SUDOESTE

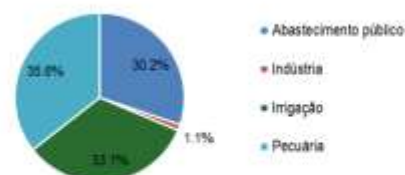
As necessidades anuais de água para usos consumptivos na UH do Sudoeste foram avaliadas em cerca de 57,8 hm³. O sector com maiores necessidades de água é a pecuária (20,6 hm³/ano), responsável por 35,6% das necessidades totais. A irrigação aparece em segundo lugar com 19,1 hm³/ano que correspondem a 31,1% das necessidades totais. As necessidades de água do sector do abastecimento público são de cerca de 17,5 hm³/ano (30,1% do total). Por último, tem-se o sector da indústria (0,7 hm³/ano) que representa 1,1% das necessidades consumptivas.

A Figura 2.26 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Sudoeste. Em termos médios anuais, as disponibilidades hídricas da UH do Sudoeste são cerca de 1 042 hm³, dos quais 819 hm³ correspondem a recursos superficiais e 223 hm³ a água subterrâneas. A taxa de utilização dos recursos é de cerca de 6%. Quando se analisam os resultados do balanço ao nível do ano seco (probabilidade de não excedência de 20%) e do ano muito seco (probabilidade de não excedência de 5%), os resultados evidenciam alguma pressão dos usos sobre os recursos.

UH	Sudoeste
Área (km ²)	66 170
População	584 385
Área irrigada (ha)	2 380
NGR (mm)	1 000

Sector	Necessidades anuais de água (hm ³)
Abastecimento público	17,5 30,2%
Indústria	0,7 1,1%
Termo-eléctricas	—
Irrigação	19,1 33,1%
Pecuária	20,6 35,6%
Volume anual turbinado (hm ³)	
Hidroelectricidade	—

Uso da água na UH do Sudoeste



No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm ³)	Águas subterrâneas (hm ³)	Escoamentos (hm ³)	Disponibilidades totais (hm ³)	Necessidades (hm ³)	Transf. de água transfronteiriça (hm ³)	Total dos usos consumptíveis (hm ³)	Balanço (hm ³)	Ratio Disp. Nec.
					Abast. Público	Indústria	Irrigação	Pecuária	
Ano médio	337,1	208,1	818,7	1 026,8	17,5	7	19,1	20,6	57,8 1 004,8 17,8
Ano seco	229,2	227,0	821,4	748,4	17,5	7	19,1	20,6	57,8 726,4 13,0
Ano muito seco	30,1	208,0	184,2	392,2	17,5	7	19,1	20,6	57,8 370,2 6,8

IUP (%)	IP m ³ /ano.hab	Classe de Gestão Ecológica
		Mensal Anual
5,6%	1 819	— 99,5% A
7,7%	1 326	— 99,8% A
14,7%	695	— 99,4% A

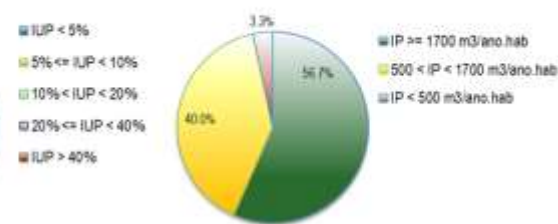
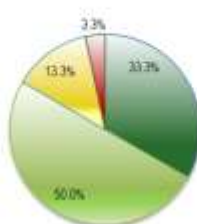


Figura 2.26 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Sudoeste

No Quadro 2.39 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Sudoeste para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74.

Embora em termos anuais o balanço hídrico disponibilidades necessidades seja sempre positivo, ao nível mensal obtiveram-se alguns valores negativos, na sequência da baixa pluviosidade do ano hidrológico de 1971/72. Importa notar que mais de 25% dos valores mensais do escoamento são nulos, pelo que a satisfação das necessidades de água é muito dependente dos recursos hídricos subterrâneos existentes.

Quadro 2.39 – Estatísticas descritivas do balanço hídrico mensal da UH do Sudoeste

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterrâneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Ratio Disp. Nec.
Máximo	433,2	25,0	402,0	427,0	425,9	109,8
3ºQuartil	37,4	25,0	103,2	128,2	125,1	26,9
Mediana	6,9	22,0	30,0	52,0	48,1	10,0
1ºQuartil	0,1	13,0	0	14,9	11,3	2,7
Mínimo	0	-12,0	0	11,9	-18,7	-3,5
Valor médio	28,1	18,6	68,4	87,0	83,7	19,0

O Quadro 2.40 apresenta as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. O indicador IUP varia entre o valor mínimo de 2,6%, exprimindo uma situação relativamente confortável e 60,7%, expressando uma situação muito crítica (IUP > 40%). Porém, o 3º quartil dos valores do IUP está ainda abaixo do limiar de 10%, sendo a frequência acumulada dos valores de IUP inferiores a 10% de 86,7%. A Figura 2.27 mostra que a frequência de situações muito críticas é relativamente pequena, sendo inferior a 5%.

O valor médio do indicador IP é da ordem dos 1 819 m³/ano.habitante, ficando acima do limite de 1 700 m³/ano.habitante. Todavia, a frequência acumulada do valores de IP > 1 700 m³/ano.habitante é apenas de 56,7%, sendo a frequência de situações de stress é de 40%. Constata-se a ocorrência de um ano em que o indicador de IP fica abaixo do limite de 500 m³/ano.habitante – situação de escassez. Esse ano corresponde ao ano hidrológico de 1971/72.

Quadro 2.40 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Sudoeste

Estatística	IUP (%)	IP (m³/ano.hab)
Máximo	60,7%	3 903
3ºQuartil	7,5%	2 239
Mediana	5,5%	1 850
1ºQuartil	4,6%	1 367
Mínimo	2,6%	169
Valor médio	8,4%	1 819

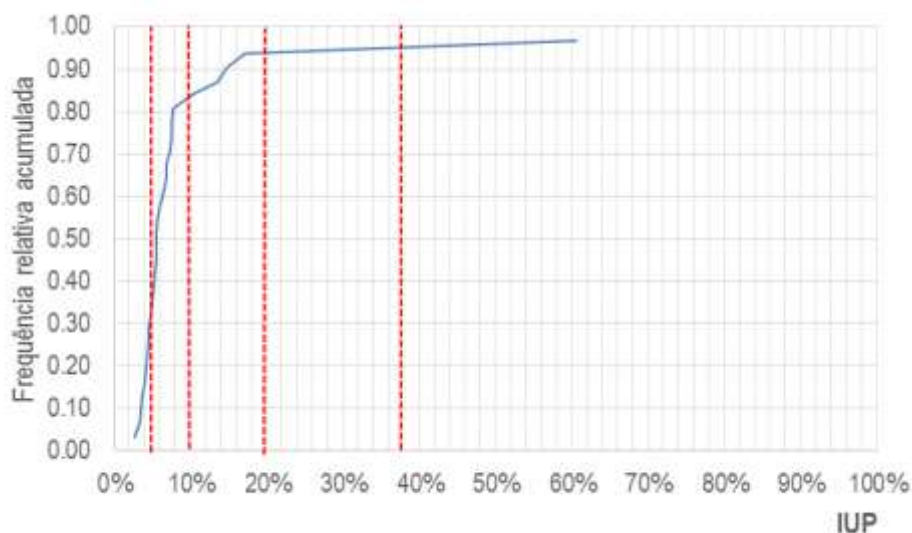


Figura 2.27 – Frequência relativa acumulada dos valores do indicador IUP da UH do Sudoeste

As necessidades de água dos vários usos são atendidas na sua grande maioria a partir dos recursos hídricos subterrâneos, não se verificando por isso uma alteração significativa do regime hídrico natural. A classe de gestão ecológica da UH do Sudoeste é A. Apenas ao nível dos valores mensais se constata a ocorrência de um mês (Julho de 1968) em que a classe de gestão ecológica da unidade hidrográfica é F. Esta classe não decore duma sobreexploração dos recursos superficiais mas sim como consequência de se tratar dum ano em que não sendo nulo o escoamento superficial, este é muito baixo, pelo que a classe F corresponde a 89% do regime natural.

2.21 UNIDADE HIDROGRÁFICA DO CUVELAI

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH do Cuvelai são cerca de 29,3 hm³. O sector que exerce maior pressão sobre os recursos hídrico da UH é a pecuária (21 hm³/ano) que representa 71,7% das necessidades totais. O abastecimento público aparece em segundo lugar com 7,8 hm³/ano (26,6% das necessidades totais), seguindo-se o sector da indústria com 0,5 hm³/ano (1,8% do total).

Em termos médios anuais, as disponibilidades hídricas da UH do Cuvelai são cerca de 2 052 hm³, dos quais 1 319 hm³ correspondem a recursos superficiais e 733 hm³ a águas subterrâneas.

A Figura 2.28 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Cuvelai. Verifica-se que as disponibilidades são da ordem de setenta vezes superiores relativamente às necessidades. A taxa de utilização dos recursos é de cerca de 1,4%, verificando-se uma situação excelente (IUP < 5%) no que se refere à utilização dos recursos hídricos, mesmo em anos secos.

No Quadro 2.41 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Cuvelai para a situação de referência, tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74.

A análise dos valores mensais mostra que o balanço mensal é sempre positivo. O valor mínimo da razão disponibilidades necessidades é cerca de 23, sendo o valor médio de 74.

Os valores do Quadro 2.41 mostram que na UH do Cuvelai o escoamento mensal pode ser nulo. Pelo que, a constituição de reservas superficiais e a exploração dos recursos hídricos subterrâneos renováveis revestem-se de extrema importância para a unidade hidrográfica.

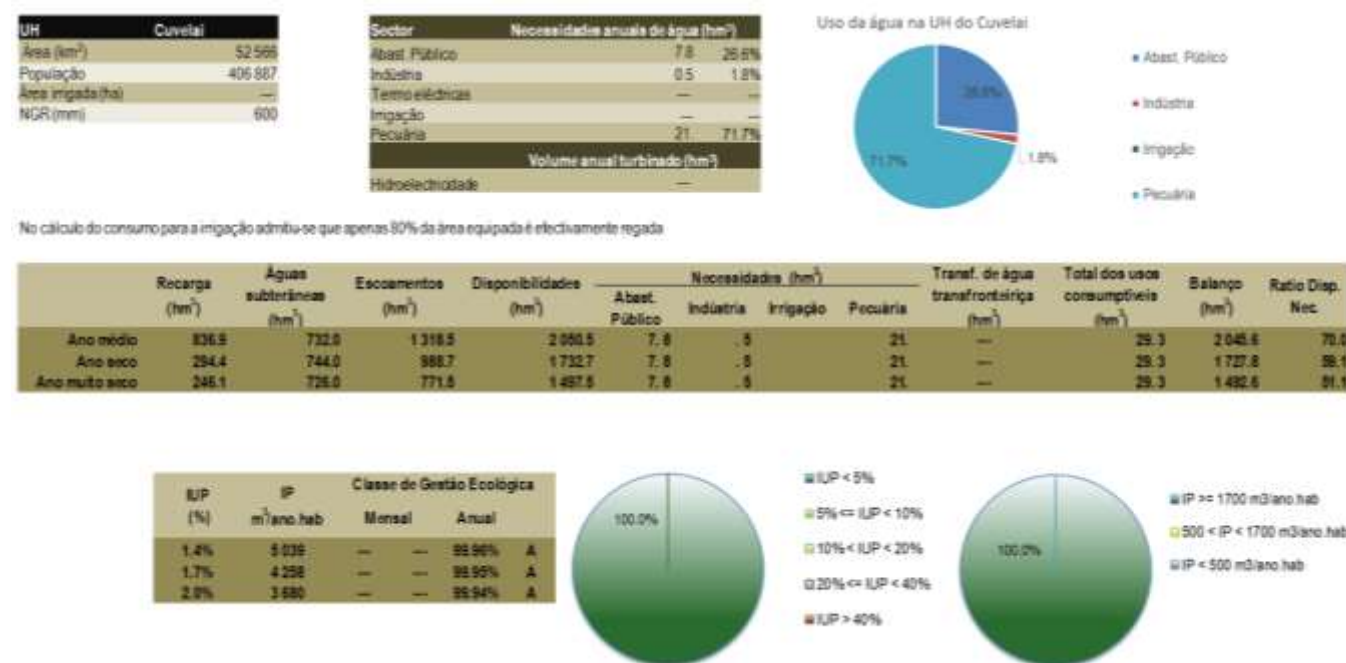


Figura 2.28 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Cuvelai

Quadro 2.41 – Estatísticas descritivas do balanço hídrico mensal da UH do Cuvelai

Estatística	Recarga ($\text{hm}^3 \text{ mês}^{-1}$)	Águas subterrâneas ($\text{hm}^3 \text{ mês}^{-1}$)	Águas superficiais ($\text{hm}^3 \text{ mês}^{-1}$)	Disponibilidades ($\text{hm}^3 \text{ mês}^{-1}$)	Balanço ($\text{hm}^3 \text{ mês}^{-1}$)	Rácio Disp. Nec.
Máximo	666,6	63,0	503,1	566,1	565,7	231,8
3ºQuartil	89,6	63,0	220,8	250,7	250,3	102,7
Mediana	20,4	63,0	123,3	129,9	129,5	53,2
1ºQuartil	0	59,0	44,6	60,8	60,3	24,9
Mínimo	0	53,0	0	53,0	52,6	21,7
Valor médio	69,8	61,0	145,4	171,2	170,5	70,0

O Quadro 2.42 apresenta as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. O indicador IUP varia entre 1% e 2%, exprimindo uma situação excelente em todo o período simulado. O valor médio do indicador IP é da ordem dos 5 039 $\text{m}^3/\text{ano.habitante}$, cerca de 3 vezes superior ao limite 1 700 $\text{m}^3/\text{ano.habitante}$, não se verificando situações de “stress”.

Quadro 2.42 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Cuvelai

Estatística	IUP (%)	IP ($\text{m}^3/\text{ano.hab}$)
Máximo	2,0%	7 389
3ºQuartil	1,7%	5 401
Mediana	1,5%	4 811
1ºQuartil	1,3%	4 295
Mínimo	1,0%	3 680
Valor médio	1,5%	5 039

Para a situação de referência, os vários sectores consumptivos não introduzem alterações ao regime hídrico natural. No apuramento dos valores anuais do balanço, a classe de gestão ecológica da UH do Cuvelai é sempre A.

2.22 UNIDADE HIDROGRÁFICA DO CUBANGO

As necessidades anuais de água para usos consumptivos na UH do Cubango cifram-se em 32,4 hm^3 . O sector com maiores necessidades de água é a pecuária (11,8 hm^3/ano), responsável por 36,4% das necessidades totais. O abastecimento público aparece em segundo lugar com 10,8 hm^3/ano (33,3% das necessidades totais), seguindo-se o sector da irrigação com 9,5 hm^3/ano (29,4% do total). O sector com menor peso é a indústria (0,3 hm^3/ano) que representa apenas 0,9% das necessidades consumptivas.

A Figura 2.29 apresenta os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Cubango. Em termos médios anuais, as disponibilidades hídricas da UH do Cubango são cerca de 11 156 hm^3 , dos quais 6 800 hm^3 correspondem a recursos superficiais e 4 356 hm^3 a águas subterrâneas. A taxa de utilização dos recursos é muito baixa, cerca de 0,3%. Mesmo quando se considera o ano seco (probabilidade de não excedência de 20%) e o ano muito seco (probabilidade de não excedência de 5%), os resultados evidenciam um superavit das disponibilidades relativamente às necessidades.

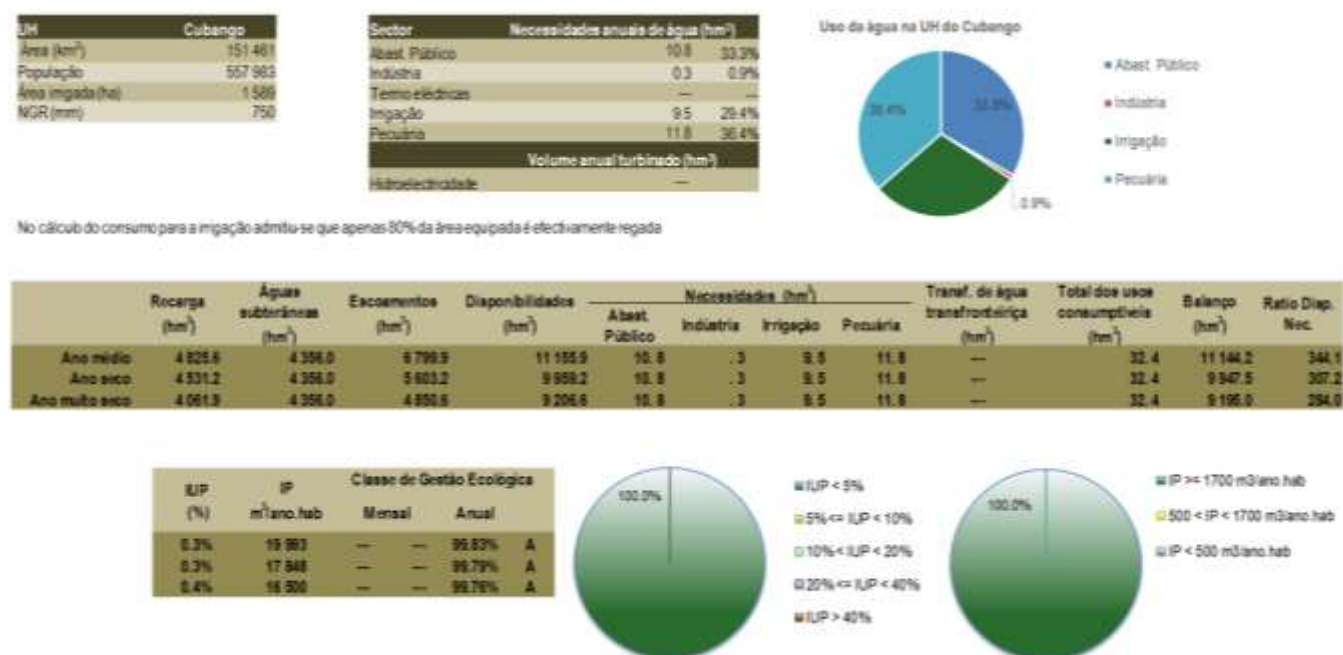


Figura 2.29 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Cubango

No Quadro 2.43 apresentam-se as principais estatísticas descritivas dos resultados mensais do Balanço hídrico disponibilidades necessidades da UH do Dande para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74.

A análise dos valores mensais mostra que o balanço mensal é sempre positivo. As disponibilidades são em média cerca de 365 vezes superiores às necessidades. Para todo o período simulado não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos hídricos superficiais.

Quadro 2.43 – Estatísticas descritivas do balanço hídrico mensal da UH do Cubango

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterrâneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Rácio Disp. Nec.
Máximo	389,9	53,0	422,7	475,7	2 279,4	1 136,0
3ºQuartil	86,9	53,0	227,1	280,1	1 079,5	462,1
Mediana	36,0	53,0	149,0	202,0	848,2	323,9
1ºQuartil	4,5	53,0	66,3	119,3	692,5	234,4
Mínimo	0	52,9	35,1	88,1	545,4	157,4
Valor médio	59,2	53,0	160,7	213,7	928,7	364,9

No Quadro 2.44 apresentam-se as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74. A dispersão do indicador IUP é muito pequena, variando entre 0,2% e 0,4%, para todo o período simulado. O valor médio do indicador IP é da ordem dos 19 993 m³/ano.habitante, sendo muito superior ao limite 1 700 m³/ano.habitante.

Quadro 2.44 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Cubango

Estatística	IUP (%)	IP (m ³ /ano.hab)
Máximo	0,4%	26 136
3ºQuartil	0,3%	21 335
Mediana	0,3%	19 580
1ºQuartil	0,3%	17 901
Mínimo	0,2%	16 250
Valor médio	0,3%	19 993

Para a situação actual, a UH do Cubango não apresenta problemas de sobreexploração dos recursos hídricos. As várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Cubango é A.

2.23 UNIDADE HIDROGRÁFICA DO CUANDO

De acordo com as estimativas efectuadas, as necessidades anuais de água para usos consumptivos na UH de Cuando cifram-se em 6,4 hm³. O sector com maiores necessidades é a pecuária (4,8 hm³/ano) que representa 75% das necessidades, seguindo-se o abastecimento público (1,6 hm³/ano) que é responsável por 24,6% das necessidades. O peso do sector da indústria (0,03 hm³/ano) é apenas de 0,4%. A UH do Cuando é a que apresenta as menores necessidades de água por unidade de área.

A Figura 2.3 apresenta-se os principais resultados do balanço hídrico disponibilidades-necessidades da UH do Cuando. Em termos médios anuais, as disponibilidades hídricas da UH do Cuando são cerca de 3 695 hm³, dos quais 1 259 hm³ correspondem a recursos superficiais e 2 563 hm³ a água subterrâneas. A taxa de utilização dos recursos é muito baixa, cerca de 0,2%. Mesmo quando se considera o ano seco (probabilidade de não excedência de 20%) e o ano muito seco (probabilidade de não excedência de 5%), os resultados evidenciam um superavit das disponibilidades relativamente às necessidades, mesmo quando apenas se considera os recursos superficiais.

O Quadro 2.45 apresenta as principais estatísticas descritivas dos resultados mensais do balanço hídrico disponibilidades-necessidades da UH do Cuando para a situação de referência tendo como base as disponibilidades hídricas mensais correspondentes ao período 1944/45 a 1973/74. Os resultados mensais mostram que o balanço é sempre positivo, variando entre 247,7 hm³ e 418,9 hm³.

Para todo o período não se verifica variação do volume das águas subterrâneas, uma vez que as necessidades são supridas na sua quase totalidade a partir dos recursos hídricos superficiais.

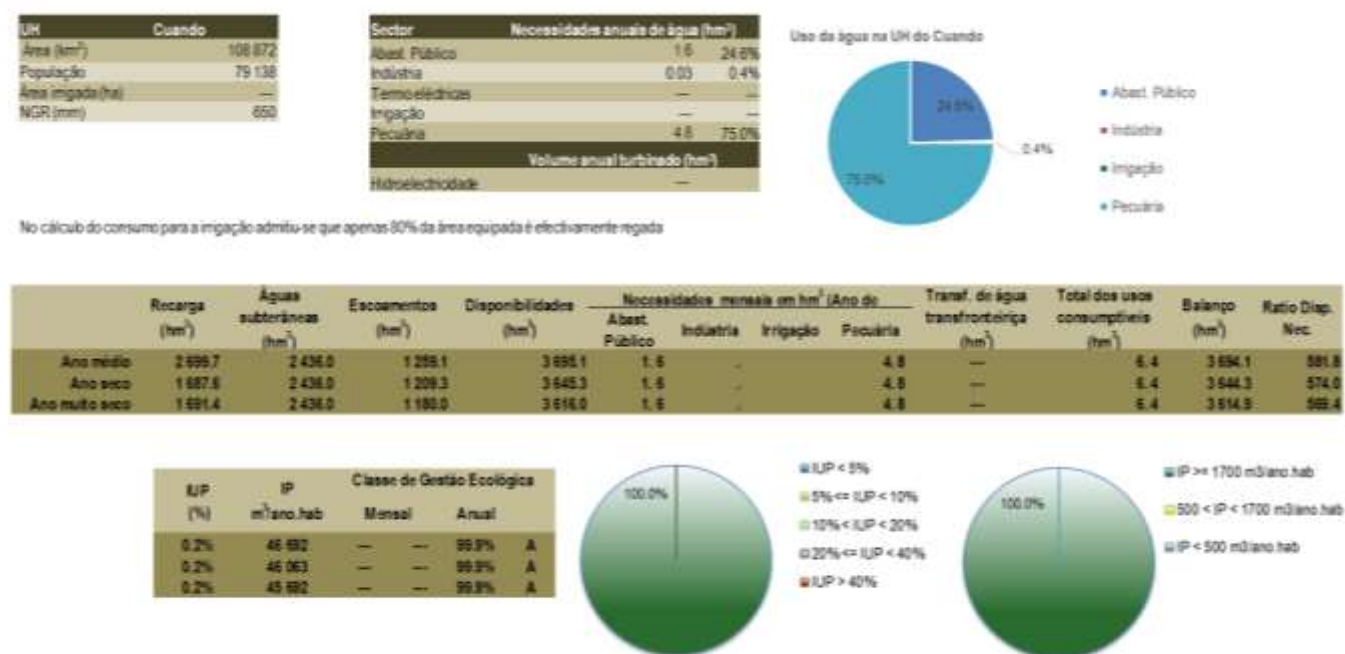


Figura 2.30 – Balanço hídrico disponibilidades necessidades para a situação de referência. UH do Cuando

Quadro 2.45 – Estatísticas descritivas do balanço hídrico mensal da UH do Cuando

Estatística	Recarga (hm ³ mês ⁻¹)	Águas subterrâneas (hm ³ mês ⁻¹)	Águas superficiais (hm ³ mês ⁻¹)	Disponibilidades (hm ³ mês ⁻¹)	Balanço (hm ³ mês ⁻¹)	Ratio Disp. Nec.
Máximo	1	203,0	216,0	419,0	418,9	791,7
3ºQuartil	358,8	203,0	113,5	316,5	316,4	598,0
Mediana	74,0	203,0	02,8	305,8	305,7	577,8
1ºQuartil	1,6	203,0	94,3	297,3	297,3	561,8
Mínimo	0	203,0	44,8	247,8	247,7	468,2
Valor médio	225,4	203,0	104,9	307,9	307,8	581,8

No Quadro 2.6 apresentam-se as principais estatísticas descritivas dos indicadores IUP e IP apurados para o período 1944/45 a 1973/74.

O indicador IUP assume o valor 0,2%, para todo o período simulado. O valor médio do indicador de IP é de 46 692 m³/ano.habitante, que é cerca de 27 vezes superior ao limite de 1700 m³/ano.habitante.

Actualmente, as várias utilizações não introduzem alterações ao regime hídrico natural. A classe de gestão ecológica da UH do Cuando é A.

Quadro 2.46 – Estatísticas descritivas dos indicadores do balanço hídrico da UH do Cuando

Estatística	IUP (%)	IP (m³/ano.hab)
Máximo	0,2%	52 728
3ºQuartil	0,2%	46 972
Mediana	0,2%	46 593
1ºQuartil	0,2%	46 024
Mínimo	0,2%	40 528
Valor médio	0,2%	46 692

3 SÍNTESE DOS RESULTADOS PARA A SITUAÇÃO DE REFERÊNCIA

Presentemente, não se verificam consumos significativos de água na generalidade das unidades hidrográficas (Quadro 3.1). A nível do País e em ano médio, existe uma necessidade de cerca de 2 288 hm³/ano, que se distribui do seguinte modo pelos principais usos consumptivos:

- 33,7% abastecimento público
- 3,4% indústria;
- 8,9% pecuária;
- 41,4% irrigação;

Para além dos valores acima referidos, teve-se em consideração que 12,6% dos usos correspondem a transferências de água no âmbito dos acordos transfronteiriços.

No que se refere ao volume anual turbinado, as unidades hidrográficas com maior peso são o Alto Kwanza e o Baixo Cunene. Na situação actual, a procura consumptiva impõe uma diminuição pouco significativa nos caudais médios nas principais linhas de água, não induzindo consequentemente problemas de índole ambiental relacionados com o regime hídrico natural.

Quadro 3.1 – Síntese das necessidades de água para usos consumptivos para a situação de referência

Unidade Hidrográfica	Necessidades (hm ³)				Transf.de água transfronteiriça (hm ³)	Necessidades Totais (hm ³)
	Abastecimento público	Indústria	Irrigação	Pecuária		
Cabinda	14,6	0,4	0,0	1,5	-	16,6
Cuango	21,8	2,0	7,1	2,2	-	33,1
Kassai	17,2	15,3	4,6	1,6	-	38,7
Noroeste	13,9	2,6	1,4	1,4	-	19,2
Dande	2,3	0,1	9,4	0,4	-	12,2
Bengo	100,6	9,4	19,0	1,4	-	130,3
Alto Kwanza	18,7	0,9	20,4	3,8	-	43,9
Médio Kwanza	26,8	1,3	116,0	5,4	-	149,5
Baixo Kwanza	135,3	9,9	169,5	8,3	-	323,0
Longa	8,2	0,4	3,0	1,9	-	13,5
Queve	17,1	0,9	111,4	2,8	-	132,2
Centro-Oeste	30,4	2,9	18,9	2,6	-	54,8
Catumbela	38,1	1,3	38,2	4,2	-	81,7
Zambeze	6,7	0,2	1,7	0,8	-	9,4
Alto Cunene	19,2	1,0	12,5	10,7	-	43,5
Médio Cunene	50,7	4,3	185,4	37,0	189,3	744,0
Baixo Cunene	51,5	4,4	193,9	41,1	-	290,9
Coporolo	9,0	0,1	12,2	4,8	-	26,2
Sudoeste	17,5	0,7	19,1	20,6	-	57,8
Cuvelai	7,8	0,5	0,0	21,0	-	29,3
Cubango	10,8	0,3	9,5	11,8	-	32,4
Cuando	1,6	0,0	0,0	4,8	-	6,4
País	504,4	51,1	619,0	133,1	189,3	1 496,9

A Figura 3.1 e Figura 3.2 permitem avaliar a razão entre os valores médios das disponibilidades e necessidades ao nível de cada uma das unidades hidrográficas. A Figura 3.2 mostra claramente que as unidades hidrográficas do Kassai e do Cuango são as que apresentam maiores disponibilidades hídricas quer em valor absoluto quer por unidade de área, enquanto a unidade hidrográfica do Sudoeste é que apresenta menores disponibilidades, quer em valor absoluto quer por unidade de área.

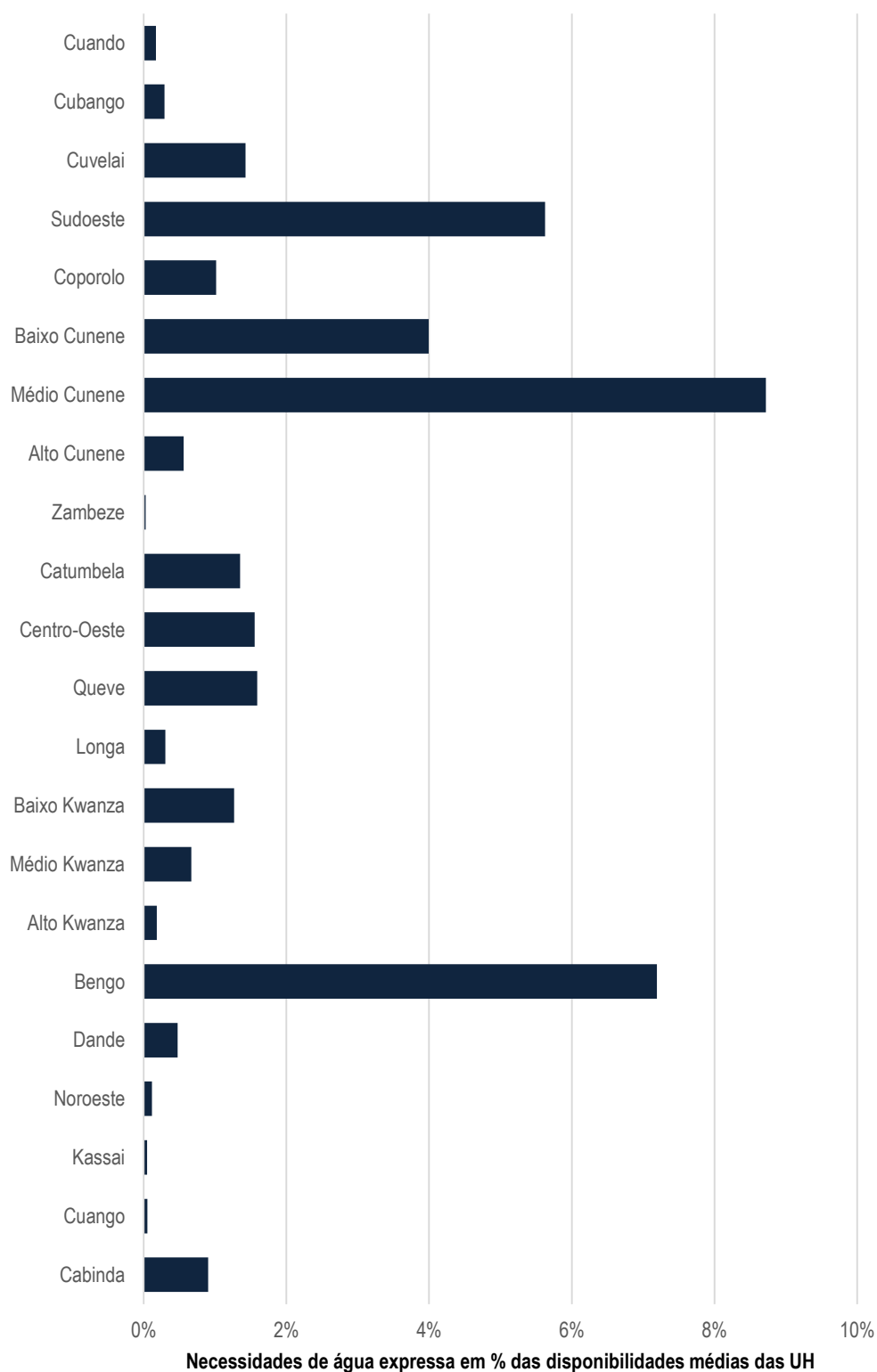


Figura 3.1 – Necessidades de água expressa em função das disponibilidades

Resumo do balanço hídrico disponibilidades-necessidades por unidade hidrográfica

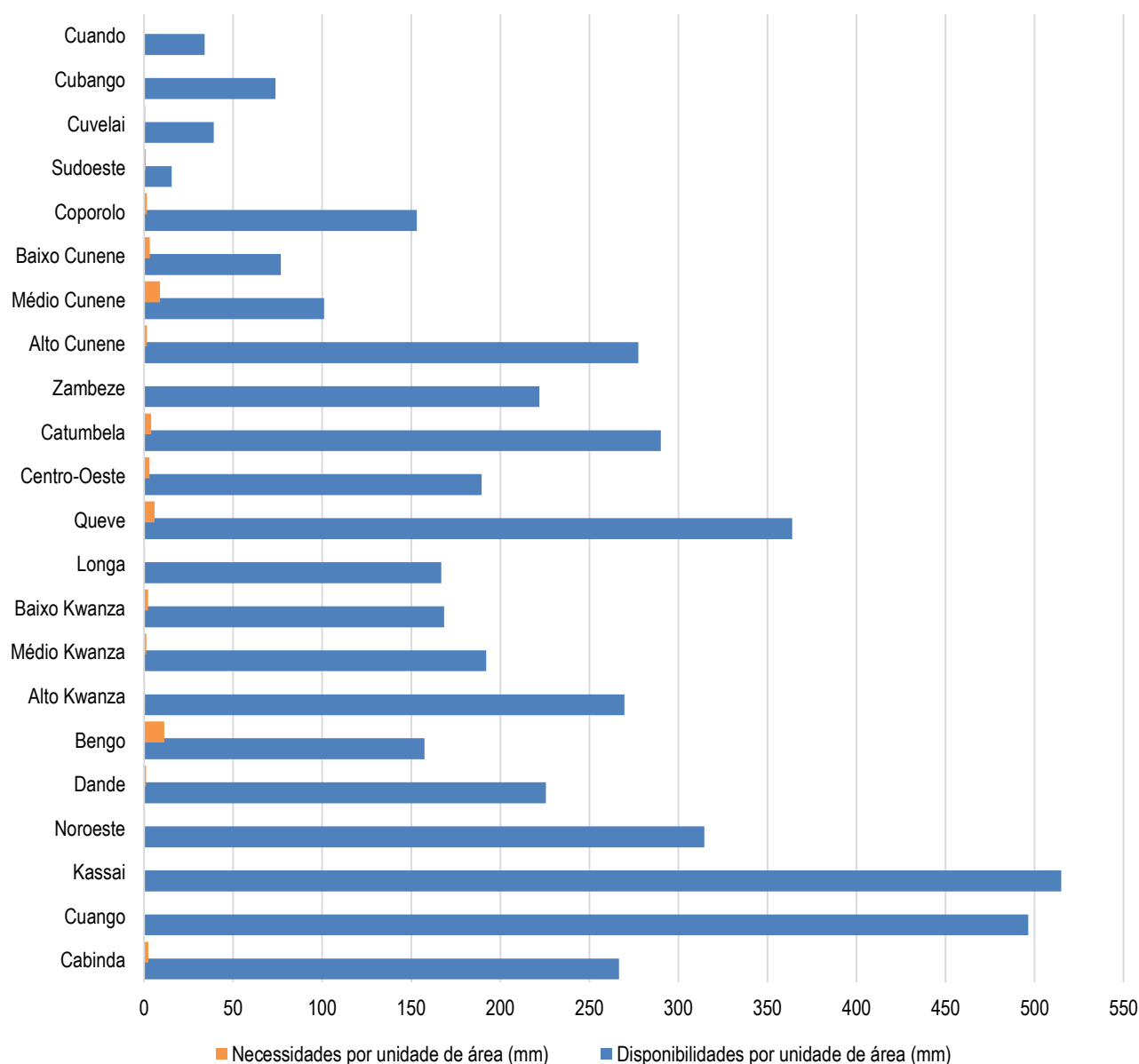


Figura 3.2 – Necessidades e disponibilidades de água por unidade hidrográfica

O balanço anual é sempre positivo em todas as unidades hidrográficas. Também ao nível dos valores mensais do balanço verifica-se que estes são sempre positivos com excepção da UH do Sudoeste, onde ao nível mensal se obtiveram alguns valores negativos, na sequência da baixa pluviosidade do ano hidrológico de 1971/72.

O Quadro 3.2 e a Figura 3.3 apresentam os valores do Indicador IUP para ano médio, seco e muito seco. Embora a nível global o consumo de água no País seja baixo (representa apenas 0,7% das disponibilidades hídricas efectivas em ano médio), verifica-se no entanto que nas unidades do Bengo, do Sudoeste, do Médio e Baixo Cunene, o indicador IUP pode tomar valores superiores a 10%, indiciando a necessidade de medidas de gestão visando a preservação dos recursos hídricos e a capacidade de atender às necessidades dos vários sectores.

Na análise do indicador IUP das unidades hidrográficas do Médio e Baixo Cunene, importa ter em atenção a transferência de água no âmbito do acordo transfronteiriço.

Quadro 3.2 – Análise do indicador IUP

<i>Unidade Hidrográfica</i>	<i>IUP (%)</i>		
	<i>Ano médio</i>	<i>Ano seco</i>	<i>Ano muito seco</i>
Cabinda	0,9%	1,0%	1,2%
Cuango	0,1%	0,1%	0,1%
Kassai	0,0%	0,0%	0,1%
Noroeste	0,1%	0,1%	0,1%
Dande	0,5%	0,5%	0,6%
Bengo	7,2%	8,1%	9,4%
Alto Kwanza	0,2%	0,2%	0,3%
Médio Kwanza	0,7%	1,0%	1,2%
Baixo Kwanza	1,3%	2,9%	1,8%
Longa	0,3%	0,4%	0,4%
Queve	1,6%	2,1%	2,8%
Centro-Oeste	1,6%	1,9%	2,6%
Catumbela	1,4%	2,2%	4,5%
Zambeze	0,0%	0,0%	0,0%
Alto Cunene	0,6%	0,7%	1,2%
Médio Cunene	5,5%	8,4%	14,5%
Baixo Cunene	6,6%	11,1%	24,4%
Coporolo	1,0%	1,9%	6,4%
Sudoeste	5,6%	7,7%	14,7%
Cuvelai	1,4%	1,7%	2,0%
Cubango	0,3%	0,3%	0,4%
Cuando	0,2%	0,2%	0,2%

Legenda:

$IUP \leq 5\%$	Situação excelente: Pouca ou nenhuma actividade de gestão é necessária
$5\% < IUP \leq 10\%$	Situação confortável: Podem ocorrer situações que exijam medidas específicas de gestão, ao nível da bacia
$10\% < IUP \leq 20\%$	Situação preocupante: A gestão integrada da unidade hidrográfica é indispensável, exigindo a realização de investimentos de média dimensão
$20\% < IUP \leq 40\%$	Situação crítica: Exigindo intensa actividade de gestão e grandes investimentos
$IUP > 40\%$	Situação muito crítica

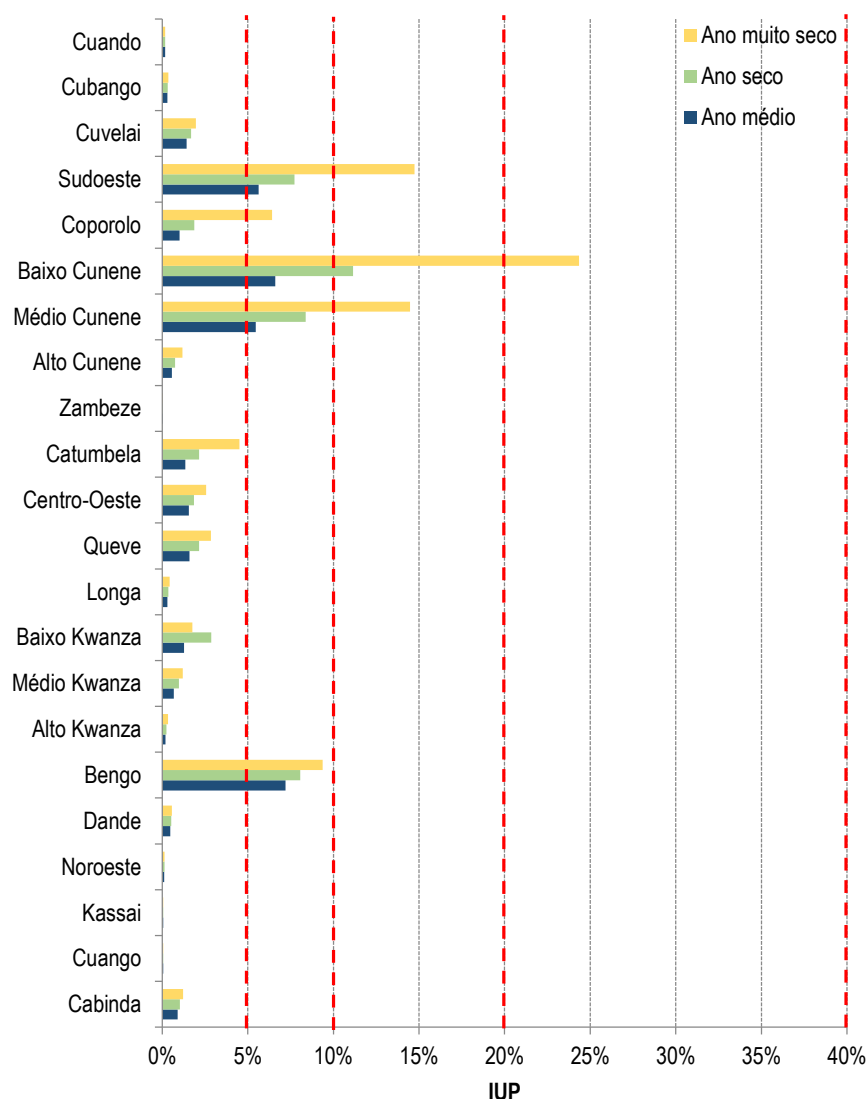


Figura 3.3 – Indicador IUP em ano médio, seco e muito seco por unidade hidrográfica

O Quadro 3.3 apresenta os valores do Indicador IP para ano médio, seco e muito seco. O IP é superior a 1700 m³/habitante.ano (situação confortável) em quase todas as unidades hidrográficas, com exceção das unidades hidrográficas do Bengo, do Sudoeste, do Médio e Baixo Cunene e do Coporolo. A unidade hidrográfica do Bengo é aquela que apresenta piores resultados ao nível do indicador de IP, seguindo-se a UH do Sudoeste. As unidades do Médio e Baixo Cunene e do Coporolo só apresentam valores de IP inferiores a 1700 m³/habitante.ano em anos muito secos.

Quadro 3.3 – Análise do índice IP

Unidade Hidrográfica	IP (m³/ano.hab)		
	Ano médio	Ano seco	Ano muito seco
Cabinda	4083	3580	3028
Cuango	51774	50923	49354
Kassai	79873	78711	77408
Noroeste	22965	21439	19805
Dande	20165	18651	17007
Bengo	627	559	481
Alto Kwanza	21590	16735	11655
Médio Kwanza	8316	9727	7879
Baixo Kwanza	5437	2411	3929
Longa	8253	7091	5908
Queve	7348	5447	4115
Centro-Oeste	3457	2896	2103
Catumbela	5754	3599	1725
Zambeze	86599	77993	67987
Alto Cunene	8150	6089	3873
Médio Cunene	3769	2458	1424
Baixo Cunene	3162	1871	856
Coporolo	10116	5476	1601
Sudoeste	1819	1326	695
Cuvelai	5039	4258	3680
Cubango	19993	17848	16500
Cuando	46692	46063	45692

Legenda:

IP ≤ 500	Situação de escassez
500 < IP ≤ 1 700	Situação de stress
IP > 1 700	Situação confortável

No que se refere à classe de gestão ecológica das unidades hidrográficas, os usos sectores estimados em cada uma das unidades não introduzem alterações ao regime hídrico natural. No apuramento dos valores anuais do balanço, a classe de gestão ecológica das unidades hidrográficas é sempre A. Em algumas unidades, a nível mensal, as necessidades previstas para a situação de referência podem conduzir a uma diminuição importante do escoamento superficial. Tratando-se, no entanto, de ocorrências pontuais e temporárias.

Os resultados dos balanços permitem concluir que, para a situação actual, todo o território em estudo tem recursos hídricos abundantes e suficientes para suprir todas as suas utilizações hídricas consumptivas, desde que se disponha das adequadas infra-estruturas de armazenamento e de distribuição de água; isto numa perspectiva estritamente quantitativa que pressupõe a existência de aptidão qualitativa da água para todas as utilizações.

ANEXOS

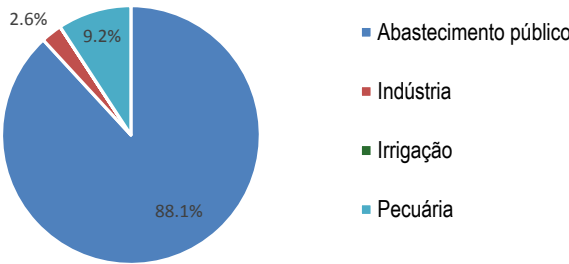
ANEXO 1

**Balanço hídrico sequencial mensal das
unidades hidrográficas**

UH	Cabinda
Área (km ²)	6 897
População	450 460
Área irrigada (ha)	
NGR (mm)	450

Sector	Necessidades anuais de água (hm ³)	
Abastecimento público	14. 6	88.1%
Indústria	0.4	2.6%
Termo eléctricas		
Irrigação		
Pecuária	1. 5	9.2%
Volume anual turbinado (hm ³)		
Hidroelectricidade		

Uso da água na UH de Cabinda



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm ³)	Águas subterâneas (hm ³)	Escoamentos (hm ³)	Disponibilidades (hm ³)	Necessidades (hm ³)				Transf. de água transfronteiriça (hm ³)	Total dos usos consumptíveis (hm ³)	Balanço (hm ³)	Ratio Disp. Nec.	IUP (%)	IP m ³ /ano.hab	Classe de Gestão Ecológica			
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano médio	---	---	1 839.3	1 839.3	14. 6	. 4		1. 5	---	16. 6	1 836.0	111	0.9%	4 083	---	---	99.8%	A
Ano seco	---	---	1 612.7	1 612.7	14. 6	. 4		1. 5	---	16. 6	1 609.5	97	1.0%	3 580	---	---	99.8%	A
Ano muito seco	---	---	1 364.0	1 364.0	14. 6	. 4		1. 5	---	16. 6	1 360.8	82	1.2%	3 028	---	---	99.8%	A

Mês	Ano																	
10	1944		87.1	87.1	1.2	0.0		0.1		1.4	87	63	0.89%	4 165	99.69%	A	99.83%	A
11	1944		177.6	177.6	1.2	0.0		0.1		1.4	177	128			99.85%	A		
12	1944		239.2	239.2	1.2	0.0		0.1		1.4	239	173			99.89%	A		
1	1945		225.5	225.5	1.2	0.0		0.1		1.4	225	163			99.88%	A		
2	1945		218.8	218.8	1.2	0.0		0.1		1.4	219	158			99.88%	A		
3	1945		234.4	234.4	1.2	0.0		0.1		1.4	234	169			99.88%	A		
4	1945		200.3	200.3	1.2	0.0		0.1		1.4	200	145			99.86%	A		
5	1945		162.6	162.6	1.2	0.0		0.1		1.4	162	117			99.83%	A		
6	1945		118.2	118.2	1.2	0.0		0.1		1.4	118	85			99.77%	A		
7	1945		83.9	83.9	1.2	0.0		0.1		1.4	84	61			99.68%	A		
8	1945		67.9	67.9	1.2	0.0		0.1		1.4	68	49			99.60%	A		
9	1945		60.4	60.4	1.2	0.0		0.1		1.4	60	44			99.55%	A		
10	1945		118.7	118.7	1.2	0.0		0.1		1.4	118	86	1.19%	3 098	99.77%	A	99.77%	A
11	1945		160.1	160.1	1.2	0.0		0.1		1.4	160	116			99.83%	A		
12	1945		154.5	154.5	1.2	0.0		0.1		1.4	154	112			99.82%	A		
1	1946		150.5	150.5	1.2	0.0		0.1		1.4	150	109			99.82%	A		
2	1946		135.0	135.0	1.2	0.0		0.1		1.4	135	98			99.80%	A		
3	1946		134.5	134.5	1.2	0.0		0.1		1.4	134	97			99.80%	A		
4	1946		150.8	150.8	1.2	0.0		0.1		1.4	151	109			99.82%	A		
5	1946		120.7	120.7	1.2	0.0		0.1		1.4	120	87			99.78%	A		
6	1946		84.8	84.8	1.2	0.0		0.1		1.4	85	61			99.68%	A		
7	1946		68.0	68.0	1.2	0.0		0.1		1.4	68	49			99.60%	A		
8	1946		60.2	60.2	1.2	0.0		0.1		1.4	60	43			99.55%	A		
9	1946		57.7	57.7	1.2	0.0		0.1		1.4	57	42			99.53%	A		
10	1946		63.0	63.0	1.2	0.0		0.1		1.4	63	45	0.92%	4 000	99.57%	A	99.82%	A
11	1946		89.0	89.0	1.2	0.0		0.1		1.4	89	64			99.70%	A		
12	1946		108.6	108.6	1.2	0.0		0.1		1.4	108	78			99.75%	A		
1	1947		147.8	147.8	1.2	0.0		0.1		1.4	148	107			99.82%	A		
2	1947		177.6	177.6	1.2	0.0		0.1		1.4	177	128			99.85%	A		
3	1947		192.7	192.7	1.2	0.0		0.1		1.4	192	139			99.86%	A		
4	1947		261.8	261.8	1.2	0.0		0.1		1.4	262	189			99.90%	A		
5	1947		285.0	285.0	1.2	0.0		0.1		1.4	285	206			99.91%	A		
6	1947		199.3	199.3	1.2	0.0		0.1		1.4	199	144			99.86%	A		
7	1947		120.9	120.9	1.2	0.0		0.1		1.4	121	87			99.78%	A		
8	1947		84.8	84.8	1.2	0.0		0.1		1.4	85	61			99.68%	A		
9	1947		71.1	71.1	1.2	0.0		0.1		1.4	71	51			99.62%	A		
10	1947		70.8	70.8	1.2	0.0		0.1		1.4	70	51			99.62%	A		

11	1947	176.1	176.1	1.2	0.0	0.1	1.4	176	127	1.03%	3 581	99.85%	A	99.80%	A
12	1947	193.3	193.3	1.2	0.0	0.1	1.4	193	140			99.86%	A		
1	1948	167.2	167.2	1.2	0.0	0.1	1.4	167	121			99.84%	A		
2	1948	185.7	185.7	1.2	0.0	0.1	1.4	185	134			99.85%	A		
3	1948	182.1	182.1	1.2	0.0	0.1	1.4	182	132			99.85%	A		
4	1948	180.0	180.0	1.2	0.0	0.1	1.4	180	130			99.85%	A		
5	1948	146.8	146.8	1.2	0.0	0.1	1.4	147	106			99.82%	A		
6	1948	102.1	102.1	1.2	0.0	0.1	1.4	102	74			99.73%	A		
7	1948	76.1	76.1	1.2	0.0	0.1	1.4	76	55			99.64%	A		
8	1948	64.0	64.0	1.2	0.0	0.1	1.4	64	46			99.58%	A		
9	1948	69.1	69.1	1.2	0.0	0.1	1.4	69	50			99.61%	A		
10	1948	81.5	81.5	1.2	0.0	0.1	1.4	81	59	0.98%	3 759	99.67%	A	99.81%	A
11	1948	151.5	151.5	1.2	0.0	0.1	1.4	151	109			99.82%	A		
12	1948	175.5	175.5	1.2	0.0	0.1	1.4	175	127			99.85%	A		
1	1949	168.4	168.4	1.2	0.0	0.1	1.4	168	122			99.84%	A		
2	1949	173.5	173.5	1.2	0.0	0.1	1.4	173	125			99.84%	A		
3	1949	183.6	183.6	1.2	0.0	0.1	1.4	183	133			99.85%	A		
4	1949	216.9	216.9	1.2	0.0	0.1	1.4	217	157			99.88%	A		
5	1949	190.8	190.8	1.2	0.0	0.1	1.4	191	138			99.86%	A		
6	1949	128.5	128.5	1.2	0.0	0.1	1.4	128	93			99.79%	A		
7	1949	88.2	88.2	1.2	0.0	0.1	1.4	88	64			99.69%	A		
8	1949	70.0	70.0	1.2	0.0	0.1	1.4	70	51			99.61%	A		
9	1949	65.0	65.0	1.2	0.0	0.1	1.4	65	47			99.58%	A		
10	1949	90.7	90.7	1.2	0.0	0.1	1.4	90	66	0.77%	4 774	99.70%	A	99.85%	A
11	1949	143.9	143.9	1.2	0.0	0.1	1.4	144	104			99.81%	A		
12	1949	148.2	148.2	1.2	0.0	0.1	1.4	148	107			99.82%	A		
1	1950	157.8	157.8	1.2	0.0	0.1	1.4	158	114			99.83%	A		
2	1950	271.1	271.1	1.2	0.0	0.1	1.4	271	196			99.90%	A		
3	1950	306.7	306.7	1.2	0.0	0.1	1.4	306	222			99.91%	A		
4	1950	310.7	310.7	1.2	0.0	0.1	1.4	310	224			99.91%	A		
5	1950	274.0	274.0	1.2	0.0	0.1	1.4	274	198			99.90%	A		
6	1950	181.4	181.4	1.2	0.0	0.1	1.4	181	131			99.85%	A		
7	1950	112.7	112.7	1.2	0.0	0.1	1.4	112	81			99.76%	A		
8	1950	82.2	82.2	1.2	0.0	0.1	1.4	82	59			99.67%	A		
9	1950	70.7	70.7	1.2	0.0	0.1	1.4	70	51			99.62%	A		
10	1950	68.3	68.3	1.2	0.0	0.1	1.4	68	49	1.03%	3 570	99.60%	A	99.80%	A
11	1950	160.2	160.2	1.2	0.0	0.1	1.4	160	116			99.83%	A		
12	1950	220.7	220.7	1.2	0.0	0.1	1.4	220	159			99.88%	A		
1	1951	169.3	169.3	1.2	0.0	0.1	1.4	169	122			99.84%	A		
2	1951	139.0	139.0	1.2	0.0	0.1	1.4	139	100			99.81%	A		
3	1951	167.7	167.7	1.2	0.0	0.1	1.4	167	121			99.84%	A		
4	1951	179.4	179.4	1.2	0.0	0.1	1.4	179	130			99.85%	A		
5	1951	166.0	166.0	1.2	0.0	0.1	1.4	166	120			99.84%	A		
6	1951	122.0	122.0	1.2	0.0	0.1	1.4	122	88			99.78%	A		
7	1951	85.1	85.1	1.2	0.0	0.1	1.4	85	61			99.68%	A		
8	1951	68.1	68.1	1.2	0.0	0.1	1.4	68	49			99.60%	A		
9	1951	62.5	62.5	1.2	0.0	0.1	1.4	62	45			99.57%	A		
10	1951	77.7	77.7	1.2	0.0	0.1	1.4	77	56	0.72%	5 090	99.65%	A	99.86%	A
11	1951	146.3	146.3	1.2	0.0	0.1	1.4	146	106			99.82%	A		
12	1951	209.9	209.9	1.2	0.0	0.1	1.4	210	152			99.87%	A		
1	1952	180.2	180.2	1.2	0.0	0.1	1.4	180	130			99.85%	A		
2	1952	214.5	214.5	1.2	0.0	0.1	1.4	214	155			99.87%	A		
3	1952	283.2	283.2	1.2	0.0	0.1	1.4	283	205			99.90%	A		
4	1952	333.0	333.0	1.2	0.0	0.1	1.4	333	241			99.92%	A		
5	1952	328.2	328.2	1.2	0.0	0.1	1.4	328	237			99.92%	A		
6	1952	223.7	223.7	1.2	0.0	0.1	1.4	223	162			99.88%	A		
7	1952	132.2	132.2	1.2	0.0	0.1	1.4	132	96			99.80%	A		

8	1952	91.2	91.2	1.2	0.0	0.1	1.4	91	66			99.70%	A		
9	1952	72.8	72.8	1.2	0.0	0.1	1.4	72	53			99.63%	A		
10	1952	93.6	93.6	1.2	0.0	0.1	1.4	93	68			99.71%	A		
11	1952	150.7	150.7	1.2	0.0	0.1	1.4	150	109			99.82%	A		
12	1952	147.4	147.4	1.2	0.0	0.1	1.4	147	106			99.82%	A		
1	1953	118.9	118.9	1.2	0.0	0.1	1.4	119	86			99.77%	A		
2	1953	172.0	172.0	1.2	0.0	0.1	1.4	172	124			99.84%	A		
3	1953	233.5	233.5	1.2	0.0	0.1	1.4	233	169			99.88%	A		
4	1953	269.1	269.1	1.2	0.0	0.1	1.4	269	194	0.94%	3 914	99.90%	A	99.82%	A
5	1953	214.9	214.9	1.2	0.0	0.1	1.4	215	155			99.87%	A		
6	1953	136.3	136.3	1.2	0.0	0.1	1.4	136	98			99.80%	A		
7	1953	91.8	91.8	1.2	0.0	0.1	1.4	92	66			99.71%	A		
8	1953	71.5	71.5	1.2	0.0	0.1	1.4	71	52			99.62%	A		
9	1953	63.4	63.4	1.2	0.0	0.1	1.4	63	46			99.57%	A		
10	1953	65.1	65.1	1.2	0.0	0.1	1.4	65	47			99.58%	A		
11	1953	75.0	75.0	1.2	0.0	0.1	1.4	75	54			99.64%	A		
12	1953	75.4	75.4	1.2	0.0	0.1	1.4	75	54			99.64%	A		
1	1954	81.0	81.0	1.2	0.0	0.1	1.4	81	59			99.67%	A		
2	1954	149.2	149.2	1.2	0.0	0.1	1.4	149	108			99.82%	A		
3	1954	222.4	222.4	1.2	0.0	0.1	1.4	222	161			99.88%	A		
4	1954	218.4	218.4	1.2	0.0	0.1	1.4	218	158	1.19%	3 101	99.88%	A	99.77%	A
5	1954	172.9	172.9	1.2	0.0	0.1	1.4	173	125			99.84%	A		
6	1954	119.5	119.5	1.2	0.0	0.1	1.4	119	86			99.77%	A		
7	1954	84.0	84.0	1.2	0.0	0.1	1.4	84	61			99.68%	A		
8	1954	67.8	67.8	1.2	0.0	0.1	1.4	68	49			99.60%	A		
9	1954	66.1	66.1	1.2	0.0	0.1	1.4	66	48			99.59%	A		
10	1954	105.3	105.3	1.2	0.0	0.1	1.4	105	76			99.74%	A		
11	1954	185.8	185.8	1.2	0.0	0.1	1.4	185	134			99.85%	A		
12	1954	223.4	223.4	1.2	0.0	0.1	1.4	223	161			99.88%	A		
1	1955	237.7	237.7	1.2	0.0	0.1	1.4	237	172			99.89%	A		
2	1955	180.1	180.1	1.2	0.0	0.1	1.4	180	130			99.85%	A		
3	1955	193.5	193.5	1.2	0.0	0.1	1.4	193	140			99.86%	A		
4	1955	300.0	300.0	1.2	0.0	0.1	1.4	300	217	0.76%	4 864	99.91%	A	99.85%	A
5	1955	295.0	295.0	1.2	0.0	0.1	1.4	295	213			99.91%	A		
6	1955	193.5	193.5	1.2	0.0	0.1	1.4	193	140			99.86%	A		
7	1955	118.3	118.3	1.2	0.0	0.1	1.4	118	85			99.77%	A		
8	1955	83.9	83.9	1.2	0.0	0.1	1.4	84	61			99.68%	A		
9	1955	74.4	74.4	1.2	0.0	0.1	1.4	74	54			99.64%	A		
10	1955	136.0	136.0	1.2	0.0	0.1	1.4	136	98			99.80%	A		
11	1955	282.3	282.3	1.2	0.0	0.1	1.4	282	204			99.90%	A		
12	1955	278.3	278.3	1.2	0.0	0.1	1.4	278	201			99.90%	A		
1	1956	197.7	197.7	1.2	0.0	0.1	1.4	197	143			99.86%	A		
2	1956	176.4	176.4	1.2	0.0	0.1	1.4	176	127			99.85%	A		
3	1956	167.5	167.5	1.2	0.0	0.1	1.4	167	121			99.84%	A		
4	1956	180.3	180.3	1.2	0.0	0.1	1.4	180	130	0.88%	4 194	99.85%	A	99.83%	A
5	1956	155.0	155.0	1.2	0.0	0.1	1.4	155	112			99.83%	A		
6	1956	107.6	107.6	1.2	0.0	0.1	1.4	107	78			99.75%	A		
7	1956	79.0	79.0	1.2	0.0	0.1	1.4	79	57			99.66%	A		
8	1956	66.2	66.2	1.2	0.0	0.1	1.4	66	48			99.59%	A		
9	1956	63.0	63.0	1.2	0.0	0.1	1.4	63	46			99.57%	A		
10	1956	74.0	74.0	1.2	0.0	0.1	1.4	74	53			99.63%	A		
11	1956	98.3	98.3	1.2	0.0	0.1	1.4	98	71			99.72%	A		
12	1956	135.3	135.3	1.2	0.0	0.1	1.4	135	98			99.80%	A		
1	1957	169.4	169.4	1.2	0.0	0.1	1.4	169	122			99.84%	A		
2	1957	228.3	228.3	1.2	0.0	0.1	1.4	228	165			99.88%	A		
3	1957	254.0	254.0	1.2	0.0	0.1	1.4	254	183			99.89%	A		
4	1957	285.6	285.6	1.2	0.0	0.1	1.4	285	206	0.87%	4 263	99.91%	A	99.83%	A

5	1957	250.9	250.9	1.2	0.0	0.1	1.4	251	181			99.89%	A		
6	1957	164.1	164.1	1.2	0.0	0.1	1.4	164	119			99.84%	A		
7	1957	106.5	106.5	1.2	0.0	0.1	1.4	106	77			99.75%	A		
8	1957	82.1	82.1	1.2	0.0	0.1	1.4	82	59			99.67%	A		
9	1957	71.7	71.7	1.2	0.0	0.1	1.4	71	52			99.62%	A		
10	1957	75.9	75.9	1.2	0.0	0.1	1.4	76	55			99.64%	A		
11	1957	168.4	168.4	1.2	0.0	0.1	1.4	168	122			99.84%	A		
12	1957	241.3	241.3	1.2	0.0	0.1	1.4	241	174			99.89%	A		
1	1958	196.6	196.6	1.2	0.0	0.1	1.4	196	142			99.86%	A		
2	1958	128.0	128.0	1.2	0.0	0.1	1.4	128	92			99.79%	A		
3	1958	119.7	119.7	1.2	0.0	0.1	1.4	119	86			99.77%	A		
4	1958	135.3	135.3	1.2	0.0	0.1	1.4	135	98	1.15%	3 214	99.80%	A	99.78%	A
5	1958	112.1	112.1	1.2	0.0	0.1	1.4	112	81			99.76%	A		
6	1958	82.2	82.2	1.2	0.0	0.1	1.4	82	59			99.67%	A		
7	1958	66.9	66.9	1.2	0.0	0.1	1.4	67	48			99.60%	A		
8	1958	60.1	60.1	1.2	0.0	0.1	1.4	60	43			99.55%	B		
9	1958	61.2	61.2	1.2	0.0	0.1	1.4	61	44			99.56%	A		
10	1958	70.7	70.7	1.2	0.0	0.1	1.4	70	51			99.62%	A		
11	1958	107.1	107.1	1.2	0.0	0.1	1.4	107	77			99.75%	A		
12	1958	126.7	126.7	1.2	0.0	0.1	1.4	126	91			99.79%	A		
1	1959	210.4	210.4	1.2	0.0	0.1	1.4	210	152			99.87%	A		
2	1959	272.2	272.2	1.2	0.0	0.1	1.4	272	197			99.90%	A		
3	1959	307.4	307.4	1.2	0.0	0.1	1.4	307	222			99.91%	A		
4	1959	286.9	286.9	1.2	0.0	0.1	1.4	287	207	0.85%	4 363	99.91%	A	99.83%	A
5	1959	213.1	213.1	1.2	0.0	0.1	1.4	213	154			99.87%	A		
6	1959	138.1	138.1	1.2	0.0	0.1	1.4	138	100			99.80%	A		
7	1959	93.1	93.1	1.2	0.0	0.1	1.4	93	67			99.71%	A		
8	1959	73.2	73.2	1.2	0.0	0.1	1.4	73	53			99.63%	A		
9	1959	66.5	66.5	1.2	0.0	0.1	1.4	66	48			99.59%	A		
10	1959	87.5	87.5	1.2	0.0	0.1	1.4	87	63			99.69%	A		
11	1959	166.0	166.0	1.2	0.0	0.1	1.4	166	120			99.84%	A		
12	1959	217.5	217.5	1.2	0.0	0.1	1.4	217	157			99.88%	A		
1	1960	199.8	199.8	1.2	0.0	0.1	1.4	200	144			99.86%	A		
2	1960	194.0	194.0	1.2	0.0	0.1	1.4	194	140			99.86%	A		
3	1960	250.4	250.4	1.2	0.0	0.1	1.4	250	181			99.89%	A		
4	1960	301.6	301.6	1.2	0.0	0.1	1.4	301	218	0.80%	4 591	99.91%	A	99.84%	A
5	1960	246.4	246.4	1.2	0.0	0.1	1.4	246	178			99.89%	A		
6	1960	156.4	156.4	1.2	0.0	0.1	1.4	156	113			99.83%	A		
7	1960	102.2	102.2	1.2	0.0	0.1	1.4	102	74			99.74%	A		
8	1960	76.4	76.4	1.2	0.0	0.1	1.4	76	55			99.65%	A		
9	1960	69.9	69.9	1.2	0.0	0.1	1.4	70	51			99.61%	A		
10	1960	96.8	96.8	1.2	0.0	0.1	1.4	97	70			99.72%	A		
11	1960	201.2	201.2	1.2	0.0	0.1	1.4	201	145			99.87%	A		
12	1960	267.1	267.1	1.2	0.0	0.1	1.4	267	193			99.90%	A		
1	1961	299.8	299.8	1.2	0.0	0.1	1.4	300	217			99.91%	A		
2	1961	284.2	284.2	1.2	0.0	0.1	1.4	284	205			99.90%	A		
3	1961	252.9	252.9	1.2	0.0	0.1	1.4	253	183			99.89%	A		
4	1961	264.7	264.7	1.2	0.0	0.1	1.4	264	191	0.74%	4 995	99.90%	A	99.86%	A
5	1961	215.1	215.1	1.2	0.0	0.1	1.4	215	155			99.87%	A		
6	1961	137.9	137.9	1.2	0.0	0.1	1.4	138	100			99.80%	A		
7	1961	92.5	92.5	1.2	0.0	0.1	1.4	92	67			99.71%	A		
8	1961	71.6	71.6	1.2	0.0	0.1	1.4	71	52			99.62%	A		
9	1961	66.2	66.2	1.2	0.0	0.1	1.4	66	48			99.59%	A		
10	1961	123.7	123.7	1.2	0.0	0.1	1.4	123	89			99.78%	A		
11	1961	203.6	203.6	1.2	0.0	0.1	1.4	203	147			99.87%	A		
12	1961	233.2	233.2	1.2	0.0	0.1	1.4	233	168			99.88%	A		
1	1962	248.4	248.4	1.2	0.0	0.1	1.4	248	179			99.89%	A		

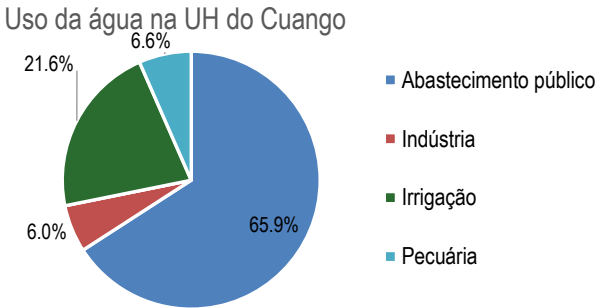
2	1962	287.3	287.3	1.2	0.0	0.1	1.4	287	208	0.71%	5 177	99.91%	A	99.86%	A
3	1962	295.5	295.5	1.2	0.0	0.1	1.4	295	213			99.91%	A		
4	1962	310.0	310.0	1.2	0.0	0.1	1.4	310	224			99.91%	A		
5	1962	242.9	242.9	1.2	0.0	0.1	1.4	243	175			99.89%	A		
6	1962	150.4	150.4	1.2	0.0	0.1	1.4	150	109			99.82%	A		
7	1962	98.3	98.3	1.2	0.0	0.1	1.4	98	71			99.72%	A		
8	1962	74.4	74.4	1.2	0.0	0.1	1.4	74	54			99.64%	A		
9	1962	64.2	64.2	1.2	0.0	0.1	1.4	64	46			99.58%	A		
10	1962	88.4	88.4	1.2	0.0	0.1	1.4	88	64	0.73%	5 062	99.69%	A	99.86%	A
11	1962	121.5	121.5	1.2	0.0	0.1	1.4	121	88			99.78%	A		
12	1962	191.1	191.1	1.2	0.0	0.1	1.4	191	138			99.86%	A		
1	1963	209.7	209.7	1.2	0.0	0.1	1.4	209	151			99.87%	A		
2	1963	224.3	224.3	1.2	0.0	0.1	1.4	224	162			99.88%	A		
3	1963	303.5	303.5	1.2	0.0	0.1	1.4	303	219			99.91%	A		
4	1963	299.6	299.6	1.2	0.0	0.1	1.4	299	216			99.91%	A		
5	1963	312.6	312.6	1.2	0.0	0.1	1.4	312	226			99.91%	A		
6	1963	230.7	230.7	1.2	0.0	0.1	1.4	230	167			99.88%	A		
7	1963	135.4	135.4	1.2	0.0	0.1	1.4	135	98			99.80%	A		
8	1963	91.4	91.4	1.2	0.0	0.1	1.4	91	66			99.70%	A		
9	1963	72.1	72.1	1.2	0.0	0.1	1.4	72	52			99.62%	A		
10	1963	66.0	66.0	1.2	0.0	0.1	1.4	66	48	1.16%	3 175	99.59%	A	99.77%	A
11	1963	113.1	113.1	1.2	0.0	0.1	1.4	113	82			99.76%	A		
12	1963	127.0	127.0	1.2	0.0	0.1	1.4	127	92			99.79%	A		
1	1964	177.4	177.4	1.2	0.0	0.1	1.4	177	128			99.85%	A		
2	1964	187.8	187.8	1.2	0.0	0.1	1.4	187	136			99.86%	A		
3	1964	171.5	171.5	1.2	0.0	0.1	1.4	171	124			99.84%	A		
4	1964	173.1	173.1	1.2	0.0	0.1	1.4	173	125			99.84%	A		
5	1964	133.3	133.3	1.2	0.0	0.1	1.4	133	96			99.80%	A		
6	1964	91.0	91.0	1.2	0.0	0.1	1.4	91	66			99.70%	A		
7	1964	70.9	70.9	1.2	0.0	0.1	1.4	71	51			99.62%	A		
8	1964	61.7	61.7	1.2	0.0	0.1	1.4	61	45			99.56%	A		
9	1964	57.6	57.6	1.2	0.0	0.1	1.4	57	42			99.53%	A		
10	1964	63.0	63.0	1.2	0.0	0.1	1.4	63	46	1.03%	3 580	99.57%	A	99.80%	A
11	1964	94.3	94.3	1.2	0.0	0.1	1.4	94	68			99.71%	A		
12	1964	160.4	160.4	1.2	0.0	0.1	1.4	160	116			99.83%	A		
1	1965	175.0	175.0	1.2	0.0	0.1	1.4	175	126			99.85%	A		
2	1965	177.0	177.0	1.2	0.0	0.1	1.4	177	128			99.85%	A		
3	1965	207.2	207.2	1.2	0.0	0.1	1.4	207	150			99.87%	A		
4	1965	229.2	229.2	1.2	0.0	0.1	1.4	229	166			99.88%	A		
5	1965	179.3	179.3	1.2	0.0	0.1	1.4	179	130			99.85%	A		
6	1965	116.7	116.7	1.2	0.0	0.1	1.4	116	84			99.77%	A		
7	1965	82.8	82.8	1.2	0.0	0.1	1.4	82	60			99.67%	A		
8	1965	67.1	67.1	1.2	0.0	0.1	1.4	67	48			99.60%	A		
9	1965	60.6	60.6	1.2	0.0	0.1	1.4	60	44			99.55%	A		
10	1965	61.1	61.1	1.2	0.0	0.1	1.4	61	44	1.22%	3 028	99.56%	A	99.76%	A
11	1965	79.8	79.8	1.2	0.0	0.1	1.4	80	58			99.66%	A		
12	1965	88.6	88.6	1.2	0.0	0.1	1.4	88	64			99.69%	A		
1	1966	97.9	97.9	1.2	0.0	0.1	1.4	98	71			99.72%	A		
2	1966	138.7	138.7	1.2	0.0	0.1	1.4	138	100			99.80%	A		
3	1966	170.2	170.2	1.2	0.0	0.1	1.4	170	123			99.84%	A		
4	1966	200.9	200.9	1.2	0.0	0.1	1.4	201	145			99.87%	A		
5	1966	182.6	182.6	1.2	0.0	0.1	1.4	182	132			99.85%	A		
6	1966	126.6	126.6	1.2	0.0	0.1	1.4	126	91			99.79%	A		
7	1966	87.3	87.3	1.2	0.0	0.1	1.4	87	63			99.69%	A		
8	1966	69.2	69.2	1.2	0.0	0.1	1.4	69	50			99.61%	A		
9	1966	61.1	61.1	1.2	0.0	0.1	1.4	61	44			99.56%	A		
10	1966	73.7	73.7	1.2	0.0	0.1	1.4	73	53			99.63%	A		

11	1966	173.3	173.3	1.2	0.0	0.1	1.4	173	125	0.85%	4 316	99.84%	A	99.83%	A
12	1966	231.0	231.0	1.2	0.0	0.1	1.4	231	167			99.88%	A		
1	1967	229.8	229.8	1.2	0.0	0.1	1.4	230	166			99.88%	A		
2	1967	238.1	238.1	1.2	0.0	0.1	1.4	238	172			99.89%	A		
3	1967	284.4	284.4	1.2	0.0	0.1	1.4	284	205			99.90%	A		
4	1967	228.9	228.9	1.2	0.0	0.1	1.4	229	165			99.88%	A		
5	1967	161.9	161.9	1.2	0.0	0.1	1.4	162	117			99.83%	A		
6	1967	114.0	114.0	1.2	0.0	0.1	1.4	114	82			99.76%	A		
7	1967	81.8	81.8	1.2	0.0	0.1	1.4	82	59			99.67%	A		
8	1967	66.7	66.7	1.2	0.0	0.1	1.4	66	48			99.59%	A		
9	1967	60.7	60.7	1.2	0.0	0.1	1.4	60	44			99.55%	A		
10	1967	75.8	75.8	1.2	0.0	0.1	1.4	76	55	0.82%	4 479	99.64%	A	99.84%	A
11	1967	134.2	134.2	1.2	0.0	0.1	1.4	134	97			99.80%	A		
12	1967	150.8	150.8	1.2	0.0	0.1	1.4	151	109			99.82%	A		
1	1968	216.0	216.0	1.2	0.0	0.1	1.4	216	156			99.87%	A		
2	1968	266.4	266.4	1.2	0.0	0.1	1.4	266	192			99.90%	A		
3	1968	259.5	259.5	1.2	0.0	0.1	1.4	259	187			99.90%	A		
4	1968	253.0	253.0	1.2	0.0	0.1	1.4	253	183			99.89%	A		
5	1968	240.8	240.8	1.2	0.0	0.1	1.4	241	174			99.89%	A		
6	1968	169.8	169.8	1.2	0.0	0.1	1.4	170	123			99.84%	A		
7	1968	107.3	107.3	1.2	0.0	0.1	1.4	107	77			99.75%	A		
8	1968	78.4	78.4	1.2	0.0	0.1	1.4	78	57			99.65%	A		
9	1968	65.4	65.4	1.2	0.0	0.1	1.4	65	47			99.59%	A		
10	1968	63.7	63.7	1.2	0.0	0.1	1.4	63	46	0.96%	3 828	99.58%	A	99.81%	A
11	1968	104.2	104.2	1.2	0.0	0.1	1.4	104	75			99.74%	A		
12	1968	116.9	116.9	1.2	0.0	0.1	1.4	117	84			99.77%	A		
1	1969	147.9	147.9	1.2	0.0	0.1	1.4	148	107			99.82%	A		
2	1969	184.3	184.3	1.2	0.0	0.1	1.4	184	133			99.85%	A		
3	1969	219.1	219.1	1.2	0.0	0.1	1.4	219	158			99.88%	A		
4	1969	281.9	281.9	1.2	0.0	0.1	1.4	282	204			99.90%	A		
5	1969	230.4	230.4	1.2	0.0	0.1	1.4	230	166			99.88%	A		
6	1969	142.3	142.3	1.2	0.0	0.1	1.4	142	103			99.81%	A		
7	1969	94.5	94.5	1.2	0.0	0.1	1.4	94	68			99.71%	A		
8	1969	74.2	74.2	1.2	0.0	0.1	1.4	74	54			99.64%	A		
9	1969	65.0	65.0	1.2	0.0	0.1	1.4	65	47			99.58%	A		
10	1969	75.2	75.2	1.2	0.0	0.1	1.4	75	54	0.78%	4 729	99.64%	A	99.85%	A
11	1969	163.1	163.1	1.2	0.0	0.1	1.4	163	118			99.83%	A		
12	1969	236.4	236.4	1.2	0.0	0.1	1.4	236	171			99.89%	A		
1	1970	225.3	225.3	1.2	0.0	0.1	1.4	225	163			99.88%	A		
2	1970	231.2	231.2	1.2	0.0	0.1	1.4	231	167			99.88%	A		
3	1970	246.9	246.9	1.2	0.0	0.1	1.4	247	178			99.89%	A		
4	1970	300.0	300.0	1.2	0.0	0.1	1.4	300	217			99.91%	A		
5	1970	248.6	248.6	1.2	0.0	0.1	1.4	248	180			99.89%	A		
6	1970	154.0	154.0	1.2	0.0	0.1	1.4	154	111			99.82%	A		
7	1970	102.1	102.1	1.2	0.0	0.1	1.4	102	74			99.74%	A		
8	1970	77.1	77.1	1.2	0.0	0.1	1.4	77	56			99.65%	A		
9	1970	70.4	70.4	1.2	0.0	0.1	1.4	70	51			99.62%	A		
10	1970	100.5	100.5	1.2	0.0	0.1	1.4	100	73	0.78%	4 716	99.73%	A	99.85%	A
11	1970	200.3	200.3	1.2	0.0	0.1	1.4	200	145			99.86%	A		
12	1970	234.1	234.1	1.2	0.0	0.1	1.4	234	169			99.88%	A		
1	1971	211.2	211.2	1.2	0.0	0.1	1.4	211	153			99.87%	A		
2	1971	262.7	262.7	1.2	0.0	0.1	1.4	262	190			99.90%	A		
3	1971	305.2	305.2	1.2	0.0	0.1	1.4	305	220			99.91%	A		
4	1971	252.3	252.3	1.2	0.0	0.1	1.4	252	182			99.89%	A		
5	1971	196.1	196.1	1.2	0.0	0.1	1.4	196	142			99.86%	A		
6	1971	136.6	136.6	1.2	0.0	0.1	1.4	136	99			99.80%	A		
7	1971	91.9	91.9	1.2	0.0	0.1	1.4	92	66			99.71%	A		

8	1971	71.3	71.3	1.2	0.0	0.1	1.4	71	51	1.42%	2 601	99.62%	A	99.72%	A
9	1971	62.1	62.1	1.2	0.0	0.1	1.4	62	45			99.56%	A		
10	1971	63.7	63.7	1.2	0.0	0.1	1.4	63	46	1.42%	2 601	99.58%	A	99.72%	A
11	1971	106.4	106.4	1.2	0.0	0.1	1.4	106	77			99.75%	A		
12	1971	116.8	116.8	1.2	0.0	0.1	1.4	116	84			99.77%	A		
1	1972	103.7	103.7	1.2	0.0	0.1	1.4	103	75			99.74%	A		
2	1972	121.4	121.4	1.2	0.0	0.1	1.4	121	88			99.78%	A		
3	1972	132.4	132.4	1.2	0.0	0.1	1.4	132	96			99.80%	A		
4	1972	123.7	123.7	1.2	0.0	0.1	1.4	123	89			99.78%	A		
5	1972	117.3	117.3	1.2	0.0	0.1	1.4	117	85			99.77%	A		
6	1972	93.9	93.9	1.2	0.0	0.1	1.4	94	68			99.71%	A		
7	1972	72.2	72.2	1.2	0.0	0.1	1.4	72	52			99.63%	A		
8	1972	62.1	62.1	1.2	0.0	0.1	1.4	62	45			99.56%	A		
9	1972	58.1	58.1	1.2	0.0	0.1	1.4	58	42			99.53%	A		
10	1972	63.8	63.8	1.2	0.0	0.1	1.4	64	46	0.84%	4 380	99.58%	A	99.84%	A
11	1972	173.7	173.7	1.2	0.0	0.1	1.4	173	125			99.84%	A		
12	1972	255.5	255.5	1.2	0.0	0.1	1.4	255	185			99.89%	A		
1	1973	259.8	259.8	1.2	0.0	0.1	1.4	260	188			99.90%	A		
2	1973	234.3	234.3	1.2	0.0	0.1	1.4	234	169			99.88%	A		
3	1973	225.1	225.1	1.2	0.0	0.1	1.4	225	163			99.88%	A		
4	1973	233.0	233.0	1.2	0.0	0.1	1.4	233	168			99.88%	A		
5	1973	187.7	187.7	1.2	0.0	0.1	1.4	187	136			99.86%	A		
6	1973	123.8	123.8	1.2	0.0	0.1	1.4	124	89			99.78%	A		
7	1973	86.0	86.0	1.2	0.0	0.1	1.4	86	62			99.69%	A		
8	1973	68.5	68.5	1.2	0.0	0.1	1.4	68	49			99.61%	A		
9	1973	61.9	61.9	1.2	0.0	0.1	1.4	62	45			99.56%	A		
10	1973	60.0	60.0	1.2	0.0	0.1	1.4	60	43	0.95%	3 887	99.55%	A	99.81%	A
11	1973	118.8	118.8	1.2	0.0	0.1	1.4	119	86			99.77%	A		
12	1973	126.3	126.3	1.2	0.0	0.1	1.4	126	91			99.79%	A		
1	1974	169.4	169.4	1.2	0.0	0.1	1.4	169	122			99.84%	A		
2	1974	192.5	192.5	1.2	0.0	0.1	1.4	192	139			99.86%	A		
3	1974	261.7	261.7	1.2	0.0	0.1	1.4	261	189			99.90%	A		
4	1974	281.7	281.7	1.2	0.0	0.1	1.4	281	203			99.90%	A		
5	1974	199.8	199.8	1.2	0.0	0.1	1.4	200	144			99.86%	A		
6	1974	123.6	123.6	1.2	0.0	0.1	1.4	123	89			99.78%	A		
7	1974	85.9	85.9	1.2	0.0	0.1	1.4	86	62			99.69%	A		
8	1974	68.5	68.5	1.2	0.0	0.1	1.4	68	49			99.61%	A		
9	1974	62.7	62.7	1.2	0.0	0.1	1.4	62	45			99.57%	A		

UH	Cuango
Área (km ²)	132 978
População	1 275 225
Área irrigada (ha)	1 373
NGR (mm)	650

Sector	Necessidades anuais de água (hm ³)	
Abastecimento público	21. 8	65.9%
Indústria	2.0	6.0%
Termo eléctricas		
Irrigação	7. 1	21.6%
Pecuária	2. 2	6.6%
Volume anual turbinado (hm ³)		
Hidroelectricidade		



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

		Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
						Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano Médio		17390	15660	50363.4	66023.4	21. 8	2.	7. 1	2. 2	---	33. 1	66 012.6	1 997.6	0.05%	51 774	---	---	99.98%	A
Ano seco		13962	15660	49278.9	64938.9	21. 8	2.	7. 1	2. 2	---	33. 1	64 928.1	1 964.8	0.05%	50 923	---	---	99.98%	A
Ano muito seco		7959	15660	47277.7	62937.7	21. 8	2.	7. 1	2. 2	---	33. 1	62 926.9	1 904.2	0.05%	49 354	---	---	99.98%	A
Mês	Ano																		
10	1944	1935	1305	3 527.2	4 832.2	1.8	0.2	0.3	0.2		2.4	4 832	1 989	0.05%	53 860	99.98%	A	99.98%	A
11	1944	4363	1305	4 818.3	6 123.3	1.8	0.2	0.0	0.2		2.2	6 123	2 834			99.99%	A		
12	1944	3233	1305	5 634.3	6 939.3	1.8	0.2	0.0	0.2		2.2	6 939	3 192			99.99%	A		
1	1945	3275	1305	5 669.8	6 974.8	1.8	0.2	0.0	0.2		2.2	6 974	3 203			99.99%	A		
2	1945	2656	1305	5 504.0	6 809.0	1.8	0.2	0.0	0.2		2.2	6 809	3 144			99.99%	A		
3	1945	3735	1305	5 605.3	6 910.3	1.8	0.2	0.0	0.2		2.2	6 910	3 199			99.99%	A		
4	1945	2707	1305	5 617.0	6 922.0	1.8	0.2		0.2		2.2	6 922	3 206			99.99%	A		
5	1945	348	1305	4 617.3	5 922.3	1.8	0.2	0.5	0.2		2.7	5 921	2 215			99.98%	A		
6	1945	2	1305	3 479.6	4 784.6	1.8	0.2	1.8	0.2		3.9	4 783	1 224			99.95%	A		
7	1945	3	1305	2 933.8	4 238.8	1.8	0.2	1.9	0.2		4.0	4 237	1 050			99.94%	A		
8	1945	30	1305	2 724.9	4 029.9	1.8	0.2	1.6	0.2		3.8	4 028	1 067			99.94%	A		
9	1945	818	1305	2 892.4	4 197.4	1.8	0.2	1.1	0.2		3.2	4 196	1 302			99.96%	A		
10	1945	1504	1305	3 556.8	4 861.8	1.8	0.2	0.3	0.2		2.4	4 861	2 001	0.05%	49 679	99.98%	A	99.98%	A
11	1945	2278	1305	4 485.5	5 790.5	1.8	0.2	0.0	0.2		2.2	5 790	2 680			99.99%	A		
12	1945	1198	1305	4 682.0	5 987.0	1.8	0.2	0.0	0.2		2.2	5 987	2 754			99.99%	A		
1	1946	1246	1305	4 382.8	5 687.8	1.8	0.2	0.0	0.2		2.2	5 687	2 612			99.99%	A		
2	1946	1381	1305	4 338.6	5 643.6	1.8	0.2	0.0	0.2		2.2	5 643	2 606			99.99%	A		
3	1946	2356	1305	4 785.0	6 090.0	1.8	0.2	0.0	0.2		2.2	6 090	2 819			99.99%	A		
4	1946	1780	1305	5 077.5	6 382.5	1.8	0.2		0.2		2.2	6 382	2 956			99.99%	A		
5	1946	376	1305	4 385.0	5 690.0	1.8	0.2	0.5	0.2		2.7	5 689	2 128			99.98%	A		
6	1946	0	1305	3 431.9	4 736.9	1.8	0.2	1.8	0.2		3.9	4 735	1 211			99.95%	A		
7	1946	1	1305	2 913.8	4 218.8	1.8	0.2	1.9	0.2		4.0	4 217	1 045			99.93%	A		
8	1946	23	1305	2 716.8	4 021.8	1.8	0.2	1.6	0.2		3.8	4 020	1 064			99.94%	A		
9	1946	706	1305	2 936.7	4 241.7	1.8	0.2	1.1	0.2		3.2	4 240	1 315			99.96%	A		
10	1946	1992	1305	3 591.8	4 896.8	1.8	0.2	0.3	0.2		2.4	4 896	2 015	0.05%	53 254	99.98%	A	99.98%	A
11	1946	2792	1305	4 374.0	5 679.0	1.8	0.2	0.0	0.2		2.2	5 679	2 628			99.99%	A		
12	1946	3449	1305	5 103.2	6 408.2	1.8	0.2	0.0	0.2		2.2	6 408	2 948			99.99%	A		
1	1947	2879	1305	5 393.5	6 698.5	1.8	0.2	0.0	0.2		2.2	6 698	3 076			99.99%	A		
2	1947	2373	1305	5 199.8	6 504.8	1.8	0.2	0.0	0.2		2.2	6 504	3 003			99.99%	A		
3	1947	2933	1305	5 160.3	6 465.3	1.8	0.2	0.0	0.2		2.2	6 465	2 993			99.99%	A		
4	1947	3776	1305	5 555.2	6 860.2	1.8	0.2		0.2		2.2	6 860	3 177			99.99%	A		
5	1947	1057	1305	5 098.2	6 403.2	1.8	0.2	0.5	0.2		2.7	6 402	2 394			99.98%	A		
6	1947	72	1305	3 883.1	5 188.1	1.8	0.2	1.8	0.2		3.9	5 186	1 327			99.95%	A		
7	1947		1305	3 112.6	4 417.6	1.8	0.2	1.9	0.2		4.0	4 416	1 094			99.94%	A		
8	1947	23	1305	2 793.1	4 098.1	1.8	0.2	1.6	0.2		3.8	4 096	1 085			99.94%	A		
9	1947	1040	1305	2 986.3	4 291.3	1.8	0.2	1.1	0.2		3.2	4 290	1 331			99.96%	A		

10	1947	1806	1305	3 782.0	5 087.0	1.8	0.2	0.3	0.2	2.4	5 086	2 094	0.05%	51 086	99.98%	A	99.98%	A
11	1947	2609	1305	4 827.0	6 132.0	1.8	0.2	0.0	0.2	2.2	6 132	2 838			99.99%	A		
12	1947	1811	1305	5 200.2	6 505.2	1.8	0.2	0.0	0.2	2.2	6 505	2 993			99.99%	A		
1	1948	1390	1305	4 876.1	6 181.1	1.8	0.2	0.0	0.2	2.2	6 181	2 838			99.99%	A		
2	1948	1406	1305	4 598.7	5 903.7	1.8	0.2	0.0	0.2	2.2	5 903	2 726			99.99%	A		
3	1948	1669	1305	4 605.7	5 910.7	1.8	0.2	0.0	0.2	2.2	5 910	2 736			99.99%	A		
4	1948	2096	1305	4 886.9	6 191.9	1.8	0.2		0.2	2.2	6 192	2 868			99.99%	A		
5	1948	669	1305	4 549.9	5 854.9	1.8	0.2	0.5	0.2	2.7	5 854	2 189			99.98%	A		
6	1948	40	1305	3 622.6	4 927.6	1.8	0.2	1.8	0.2	3.9	4 926	1 260			99.95%	A		
7	1948	8	1305	3 007.5	4 312.5	1.8	0.2	1.9	0.2	4.0	4 311	1 068			99.94%	A		
8	1948	47	1305	2 766.9	4 071.9	1.8	0.2	1.6	0.2	3.8	4 070	1 078			99.94%	A		
9	1948	229	1305	2 763.0	4 068.0	1.8	0.2	1.1	0.2	3.2	4 067	1 262			99.95%	A		
10	1948	1748	1305	3 474.0	4 779.0	1.8	0.2	0.3	0.2	2.4	4 778	1 967	0.05%	51 562	99.98%	A	99.98%	A
11	1948	2810	1305	4 768.1	6 073.1	1.8	0.2	0.0	0.2	2.2	6 073	2 810			99.99%	A		
12	1948	1789	1305	5 241.4	6 546.4	1.8	0.2	0.0	0.2	2.2	6 546	3 012			99.99%	A		
1	1949	1623	1305	4 983.6	6 288.6	1.8	0.2	0.0	0.2	2.2	6 288	2 888			99.99%	A		
2	1949	1804	1305	4 896.4	6 201.4	1.8	0.2	0.0	0.2	2.2	6 201	2 863			99.99%	A		
3	1949	2171	1305	5 084.1	6 389.1	1.8	0.2	0.0	0.2	2.2	6 389	2 958			99.99%	A		
4	1949	1742	1305	5 111.8	6 416.8	1.8	0.2		0.2	2.2	6 416	2 972			99.99%	A		
5	1949	284	1305	4 345.3	5 650.3	1.8	0.2	0.5	0.2	2.7	5 649	2 113			99.98%	A		
6	1949	129	1305	3 436.9	4 741.9	1.8	0.2	1.8	0.2	3.9	4 740	1 213			99.95%	A		
7	1949	54	1305	2 985.7	4 290.7	1.8	0.2	1.9	0.2	4.0	4 289	1 063			99.94%	A		
8	1949	222	1305	2 849.5	4 154.5	1.8	0.2	1.6	0.2	3.8	4 153	1 100			99.94%	A		
9	1949	360	1305	2 916.0	4 221.0	1.8	0.2	1.1	0.2	3.2	4 220	1 309			99.96%	A		
10	1949	1187	1305	3 345.0	4 650.0	1.8	0.2	0.3	0.2	2.4	4 649	1 914	0.05%	50 923	99.98%	A	99.98%	A
11	1949	2145	1305	4 227.6	5 532.6	1.8	0.2	0.0	0.2	2.2	5 532	2 560			99.99%	A		
12	1949	2144	1305	4 931.9	6 236.9	1.8	0.2	0.0	0.2	2.2	6 236	2 869			99.99%	A		
1	1950	1497	1305	4 937.2	6 242.2	1.8	0.2	0.0	0.2	2.2	6 242	2 866			99.99%	A		
2	1950	1469	1305	4 689.0	5 994.0	1.8	0.2	0.0	0.2	2.2	5 994	2 767			99.99%	A		
3	1950	2741	1305	5 120.6	6 425.6	1.8	0.2	0.0	0.2	2.2	6 425	2 975			99.99%	A		
4	1950	1823	1305	5 371.3	6 676.3	1.8	0.2		0.2	2.2	6 676	3 092			99.99%	A		
5	1950	381	1305	4 520.1	5 825.1	1.8	0.2	0.5	0.2	2.7	5 824	2 178			99.98%	A		
6	1950	12	1305	3 492.4	4 797.4	1.8	0.2	1.8	0.2	3.9	4 796	1 227			99.95%	A		
7	1950	43	1305	2 960.0	4 265.0	1.8	0.2	1.9	0.2	4.0	4 263	1 057			99.94%	A		
8	1950	156	1305	2 807.3	4 112.3	1.8	0.2	1.6	0.2	3.8	4 111	1 088			99.94%	A		
9	1950	364	1305	2 876.5	4 181.5	1.8	0.2	1.1	0.2	3.2	4 180	1 297			99.96%	A		
10	1950	1711	1305	3 354.9	4 659.9	1.8	0.2	0.3	0.2	2.4	4 659	1 918	0.05%	52 929	99.98%	A	99.98%	A
11	1950	3665	1305	4 473.8	5 778.8	1.8	0.2	0.0	0.2	2.2	5 778	2 674			99.99%	A		
12	1950	3932	1305	5 526.0	6 831.0	1.8	0.2	0.0	0.2	2.2	6 831	3 143			99.99%	A		
1	1951	1693	1305	5 324.9	6 629.9	1.8	0.2	0.0	0.2	2.2	6 629	3 044			99.99%	A		
2	1951	2790	1305	4 983.8	6 288.8	1.8	0.2	0.0	0.2	2.2	6 288	2 904			99.99%	A		
3	1951	3551	1305	5 377.0	6 682.0	1.8	0.2	0.0	0.2	2.2	6 682	3 093			99.99%	A		
4	1951	3051	1305	5 583.2	6 888.2	1.8	0.2		0.2	2.2	6 888	3 190			99.99%	A		
5	1951	718	1305	4 810.4	6 115.4	1.8	0.2	0.5	0.2	2.7	6 115	2 287			99.98%	A		
6	1951	1	1305	3 655.4	4 960.4	1.8	0.2	1.8	0.2	3.9	4 959	1 269			99.95%	A		
7	1951	2	1305	3 003.3	4 308.3	1.8	0.2	1.9	0.2	4.0	4 306	1 067			99.94%	A		
8	1951	283	1305	2 830.6	4 135.6	1.8	0.2	1.6	0.2	3.8	4 134	1 095			99.94%	A		
9	1951	530	1305	2 913.3	4 218.3	1.8	0.2	1.1	0.2	3.2	4 217	1 308			99.96%	A		
10	1951	1314	1305	3 406.7	4 711.7	1.8	0.2	0.3	0.2	2.4	4 711	1 939	0.05%	51 045	99.98%	A	99.98%	A
11	1951	3061	1305	4 687.8	5 992.8	1.8	0.2	0.0	0.2	2.2	5 992	2 773			99.99%	A		
12	1951	2155	1305	5 457.5	6 762.5	1.8	0.2	0.0	0.2	2.2	6 762	3 111			99.99%	A		
1	1952	1052	1305	4 961.8	6 266.8	1.8	0.2	0.0	0.2	2.2	6 266	2 878			99.99%	A		
2	1952	1496	1305	4 546.6	5 851.6	1.8	0.2	0.0	0.2	2.2	5 851	2 702			99.99%	A		
3	1952	1998	1305	4 758.0	6 063.0	1.8	0.2	0.0	0.2	2.2	6 063	2 807			99.99%	A		
4	1952	2177	1305	5 103.1	6 408.1	1.8	0.2		0.2	2.2	6 408	2 968			99.99%	A		
5	1952	267	1305	4 495.2	5 800.2	1.8	0.2	0.5	0.2	2.7	5 799	2 169			99.98%	A		
6	1952	1	1305	3 436.1	4 741.1	1.8	0.2	1.8	0.2	3.9	4 739	1 212			99.95%	A		

7	1952	6	1305	2 917.9	4 222.9	1.8	0.2	1.9	0.2	4.0	4 221	1 046	0.05%	51 952	99.93%	A	99.98%	A
8	1952	29	1305	2 722.8	4 027.8	1.8	0.2	1.6	0.2	3.8	4 026	1 066	0.05%	51 952	99.94%	A	99.98%	A
9	1952	702	1305	2 939.8	4 244.8	1.8	0.2	1.1	0.2	3.2	4 244	1 316	0.05%	51 952	99.96%	A	99.98%	A
10	1952	2150	1305	3 889.6	5 194.6	1.8	0.2	0.3	0.2	2.4	5 194	2 138	0.05%	51 952	99.98%	A	99.98%	A
11	1952	2517	1305	4 957.4	6 262.4	1.8	0.2	0.0	0.2	2.2	6 262	2 898	0.05%	51 952	99.99%	A	99.98%	A
12	1952	2039	1305	5 315.0	6 620.0	1.8	0.2	0.0	0.2	2.2	6 620	3 045	0.05%	51 952	99.99%	A	99.98%	A
1	1953	1389	1305	5 005.1	6 310.1	1.8	0.2	0.0	0.2	2.2	6 310	2 897	0.05%	51 952	99.99%	A	99.98%	A
2	1953	1612	1305	4 737.0	6 042.0	1.8	0.2	0.0	0.2	2.2	6 042	2 790	0.05%	51 952	99.99%	A	99.98%	A
3	1953	1971	1305	4 865.1	6 170.1	1.8	0.2	0.0	0.2	2.2	6 170	2 856	0.05%	51 952	99.99%	A	99.98%	A
4	1953	2230	1305	5 158.5	6 463.5	1.8	0.2		0.2	2.2	6 463	2 993	0.05%	51 952	99.99%	A	99.98%	A
5	1953	406	1305	4 595.7	5 900.7	1.8	0.2	0.5	0.2	2.7	5 900	2 206	0.05%	51 952	99.98%	A	99.98%	A
6	1953	2	1305	3 527.5	4 832.5	1.8	0.2	1.8	0.2	3.9	4 831	1 236	0.05%	51 952	99.95%	A	99.98%	A
7	1953	14	1305	2 958.0	4 263.0	1.8	0.2	1.9	0.2	4.0	4 261	1 056	0.05%	51 952	99.94%	A	99.98%	A
8	1953	77	1305	2 762.1	4 067.1	1.8	0.2	1.6	0.2	3.8	4 065	1 076	0.05%	51 952	99.94%	A	99.98%	A
9	1953	342	1305	2 820.1	4 125.1	1.8	0.2	1.1	0.2	3.2	4 124	1 279	0.05%	51 952	99.96%	A	99.98%	A
10	1953	1478	1305	3 423.5	4 728.5	1.8	0.2	0.3	0.2	2.4	4 728	1 946	0.05%	50 257	99.98%	A	99.98%	A
11	1953	2045	1305	4 323.3	5 628.3	1.8	0.2	0.0	0.2	2.2	5 628	2 605	0.05%	50 257	99.99%	A	99.98%	A
12	1953	1680	1305	4 736.0	6 041.0	1.8	0.2	0.0	0.2	2.2	6 041	2 779	0.05%	50 257	99.99%	A	99.98%	A
1	1954	794	1305	4 389.6	5 694.6	1.8	0.2	0.0	0.2	2.2	5 694	2 615	0.05%	50 257	99.99%	A	99.98%	A
2	1954	1365	1305	4 167.6	5 472.6	1.8	0.2	0.0	0.2	2.2	5 472	2 527	0.05%	50 257	99.99%	A	99.98%	A
3	1954	2106	1305	4 604.3	5 909.3	1.8	0.2	0.0	0.2	2.2	5 909	2 736	0.05%	50 257	99.99%	A	99.98%	A
4	1954	2412	1305	5 181.3	6 486.3	1.8	0.2		0.2	2.2	6 486	3 004	0.05%	50 257	99.99%	A	99.98%	A
5	1954	874	1305	4 870.8	6 175.8	1.8	0.2	0.5	0.2	2.7	6 175	2 309	0.05%	50 257	99.98%	A	99.98%	A
6	1954	64	1305	3 836.3	5 141.3	1.8	0.2	1.8	0.2	3.9	5 139	1 315	0.05%	50 257	99.95%	A	99.98%	A
7	1954	0	1305	3 098.3	4 403.3	1.8	0.2	1.9	0.2	4.0	4 401	1 091	0.05%	50 257	99.94%	A	99.98%	A
8	1954	39	1305	2 797.0	4 102.0	1.8	0.2	1.6	0.2	3.8	4 100	1 086	0.05%	50 257	99.94%	A	99.98%	A
9	1954	769	1305	3 001.2	4 306.2	1.8	0.2	1.1	0.2	3.2	4 305	1 335	0.05%	50 257	99.96%	A	99.98%	A
10	1954	1487	1305	3 657.0	4 962.0	1.8	0.2	0.3	0.2	2.4	4 961	2 042	0.05%	51 526	99.98%	A	99.98%	A
11	1954	2269	1305	4 515.2	5 820.2	1.8	0.2	0.0	0.2	2.2	5 820	2 693	0.05%	51 526	99.99%	A	99.98%	A
12	1954	2548	1305	5 263.9	6 568.9	1.8	0.2	0.0	0.2	2.2	6 569	3 022	0.05%	51 526	99.99%	A	99.98%	A
1	1955	2025	1305	5 442.9	6 747.9	1.8	0.2	0.0	0.2	2.2	6 747	3 099	0.05%	51 526	99.99%	A	99.98%	A
2	1955	462	1305	4 657.5	5 962.5	1.8	0.2	0.0	0.2	2.2	5 962	2 753	0.05%	51 526	99.99%	A	99.98%	A
3	1955	2087	1305	4 459.0	5 764.0	1.8	0.2	0.0	0.2	2.2	5 764	2 668	0.05%	51 526	99.99%	A	99.98%	A
4	1955	2333	1305	5 083.3	6 388.3	1.8	0.2		0.2	2.2	6 388	2 959	0.05%	51 526	99.99%	A	99.98%	A
5	1955	588	1305	4 681.3	5 986.3	1.8	0.2	0.5	0.2	2.7	5 985	2 238	0.05%	51 526	99.98%	A	99.98%	A
6	1955	14	1305	3 634.1	4 939.1	1.8	0.2	1.8	0.2	3.9	4 937	1 263	0.05%	51 526	99.95%	A	99.98%	A
7	1955	2	1305	3 000.2	4 305.2	1.8	0.2	1.9	0.2	4.0	4 303	1 067	0.05%	51 526	99.94%	A	99.98%	A
8	1955	5	1305	2 744.2	4 049.2	1.8	0.2	1.6	0.2	3.8	4 047	1 072	0.05%	51 526	99.94%	A	99.98%	A
9	1955	630	1305	2 908.7	4 213.7	1.8	0.2	1.1	0.2	3.2	4 212	1 307	0.05%	51 526	99.96%	A	99.98%	A
10	1955	1637	1305	3 632.3	4 937.3	1.8	0.2	0.3	0.2	2.4	4 937	2 032	0.05%	51 066	99.98%	A	99.98%	A
11	1955	2657	1305	4 725.5	6 030.5	1.8	0.2	0.0	0.2	2.2	6 030	2 791	0.05%	51 066	99.99%	A	99.98%	A
12	1955	2305	1305	5 387.6	6 692.6	1.8	0.2	0.0	0.2	2.2	6 692	3 079	0.05%	51 066	99.99%	A	99.98%	A
1	1956	1215	1305	5 058.6	6 363.6	1.8	0.2	0.0	0.2	2.2	6 363	2 922	0.05%	51 066	99.99%	A	99.98%	A
2	1956	727	1305	4 318.3	5 623.3	1.8	0.2	0.0	0.2	2.2	5 623	2 596	0.05%	51 066	99.99%	A	99.98%	A
3	1956	2041	1305	4 401.8	5 706.8	1.8	0.2	0.0	0.2	2.2	5 706	2 642	0.05%	51 066	99.99%	A	99.98%	A
4	1956	2477	1305	5 104.3	6 409.3	1.8	0.2		0.2	2.2	6 409	2 968	0.05%	51 066	99.99%	A	99.98%	A
5	1956	311	1305	4 624.7	5 929.7	1.8	0.2	0.5	0.2	2.7	5 929	2 217	0.05%	51 066	99.98%	A	99.98%	A
6	1956	1	1305	3 503.8	4 808.8	1.8	0.2	1.8	0.2	3.9	4 807	1 230	0.05%	51 066	99.95%	A	99.98%	A
7	1956	2	1305	2 943.1	4 248.1	1.8	0.2	1.9	0.2	4.0	4 246	1 052	0.05%	51 066	99.94%	A	99.98%	A
8	1956	154	1305	2 784.8	4 089.8	1.8	0.2	1.6	0.2	3.8	4 088	1 082	0.05%	51 066	99.94%	A	99.98%	A
9	1956	620	1305	2 976.0	4 281.0	1.8	0.2	1.1	0.2	3.2	4 280	1 328	0.05%	51 066	99.96%	A	99.98%	A
10	1956	1157	1305	3 452.0	4 757.0	1.8	0.2	0.3	0.2	2.4	4 756	1 958	0.05%	51 400	99.98%	A	99.98%	A
11	1956	2658	1305	4 477.4	5 782.4	1.8	0.2	0.0	0.2	2.2	5 782	2 676	0.05%	51 400	99.99%	A	99.98%	A
12	1956	1947	1305	5 137.1	6 442.1	1.8	0.2	0.0	0.2	2.2	6 442	2 964	0.05%	51 400	99.99%	A	99.98%	A
1	1957	1720	1305	5 041.3	6 346.3	1.8	0.2	0.0	0.2	2.2	6 346	2 914	0.05%	51 400	99.99%	A	99.98%	A
2	1957	1493	1305	4 822.7	6 127.7	1.8	0.2	0.0	0.2	2.2	6 127	2 829	0.05%	51 400	99.99%	A	99.98%	A
3	1957	2152	1305	4 932.2	6 237.2	1.8	0.2	0.0	0.2	2.2	6 237	2 887	0.05%	51 400	99.99%	A	99.98%	A

4	1957	1952	1305	5 133.9	6 438.9	1.8	0.2		0.2		2.2	6 439	2 982	0.05%	51 400	99.99%	A	99.99%	A
5	1957	400	1305	4 481.2	5 786.2	1.8	0.2	0.5	0.2		2.7	5 785	2 164			99.98%	A		
6	1957	2	1305	3 480.0	4 785.0	1.8	0.2	1.8	0.2		3.9	4 783	1 224			99.95%	A		
7	1957	61	1305	2 959.2	4 264.2	1.8	0.2	1.9	0.2		4.0	4 262	1 056			99.94%	A		
8	1957	230	1305	2 844.9	4 149.9	1.8	0.2	1.6	0.2		3.8	4 148	1 098			99.94%	A		
9	1957	849	1305	3 124.8	4 429.8	1.8	0.2	1.1	0.2		3.2	4 428	1 374			99.96%	A		
10	1957	1053	1305	3 819.4	5 124.4	1.8	0.2	0.3	0.2		2.4	5 124	2 109			99.98%	A		
11	1957	1470	1305	4 687.5	5 992.5	1.8	0.2	0.0	0.2		2.2	5 992	2 773			99.99%	A		
12	1957	1193	1305	5 091.0	6 396.0	1.8	0.2	0.0	0.2		2.2	6 396	2 942			99.99%	A		
1	1958	823	1305	4 837.4	6 142.4	1.8	0.2	0.0	0.2		2.2	6 142	2 820			99.99%	A		
2	1958	320	1305	4 176.7	5 481.7	1.8	0.2	0.0	0.2		2.2	5 481	2 531			99.99%	A		
3	1958	1050	1305	4 113.0	5 418.0	1.8	0.2	0.0	0.2		2.2	5 418	2 508			99.99%	A		
4	1958	1078	1305	4 537.2	5 842.2	1.8	0.2		0.2		2.2	5 842	2 706	0.05%	49 080	99.99%	A	99.98%	A
5	1958	52	1305	4 025.1	5 330.1	1.8	0.2	0.5	0.2		2.7	5 329	1 993			99.98%	A		
6	1958	4	1305	3 183.4	4 488.4	1.8	0.2	1.8	0.2		3.9	4 487	1 148			99.94%	A		
7	1958	0	1305	2 816.9	4 121.9	1.8	0.2	1.9	0.2		4.0	4 120	1 021			99.93%	A		
8	1958	68	1305	2 714.7	4 019.7	1.8	0.2	1.6	0.2		3.8	4 018	1 064			99.94%	A		
9	1958	379	1305	2 925.6	4 230.6	1.8	0.2	1.1	0.2		3.2	4 229	1 312			99.96%	A		
10	1958	1899	1305	3 522.1	4 827.1	1.8	0.2	0.3	0.2		2.4	4 826	1 987			99.98%	A		
11	1958	3251	1305	4 463.1	5 768.1	1.8	0.2	0.0	0.2		2.2	5 768	2 669			99.99%	A		
12	1958	1970	1305	4 804.3	6 109.3	1.8	0.2	0.0	0.2		2.2	6 109	2 811			99.99%	A		
1	1959	3523	1305	5 076.9	6 381.9	1.8	0.2	0.0	0.2		2.2	6 381	2 930			99.99%	A		
2	1959	3187	1305	5 498.1	6 803.1	1.8	0.2	0.0	0.2		2.2	6 803	3 141			99.99%	A		
3	1959	2632	1305	5 404.4	6 709.4	1.8	0.2	0.0	0.2		2.2	6 709	3 106			99.99%	A		
4	1959	2451	1305	5 162.2	6 467.2	1.8	0.2		0.2		2.2	6 467	2 995	0.05%	52 426	99.99%	A	99.98%	A
5	1959	1252	1305	4 646.8	5 951.8	1.8	0.2	0.5	0.2		2.7	5 951	2 226			99.98%	A		
6	1959	1	1305	3 733.7	5 038.7	1.8	0.2	1.8	0.2		3.9	5 037	1 289			99.95%	A		
7	1959	83	1305	3 059.7	4 364.7	1.8	0.2	1.9	0.2		4.0	4 363	1 081			99.94%	A		
8	1959	248	1305	2 863.9	4 168.9	1.8	0.2	1.6	0.2		3.8	4 167	1 103			99.94%	A		
9	1959	669	1305	2 960.1	4 265.1	1.8	0.2	1.1	0.2		3.2	4 264	1 323			99.96%	A		
10	1959	2219	1305	3 443.4	4 748.4	1.8	0.2	0.3	0.2		2.4	4 748	1 954			99.98%	A		
11	1959	4947	1305	4 586.3	5 891.3	1.8	0.2	0.0	0.2		2.2	5 891	2 726			99.99%	A		
12	1959	4366	1305	5 475.3	6 780.3	1.8	0.2	0.0	0.2		2.2	6 780	3 119			99.99%	A		
1	1960	4033	1305	5 626.3	6 931.3	1.8	0.2	0.0	0.2		2.2	6 931	3 183			99.99%	A		
2	1960	3767	1305	5 551.9	6 856.9	1.8	0.2	0.0	0.2		2.2	6 856	3 166			99.99%	A		
3	1960	4639	1305	5 678.0	6 983.0	1.8	0.2	0.0	0.2		2.2	6 983	3 233			99.99%	A		
4	1960	4715	1305	5 930.3	7 235.3	1.8	0.2		0.2		2.2	7 235	3 351	0.05%	55 202	99.99%	A	99.98%	A
5	1960	1613	1305	5 293.6	6 598.6	1.8	0.2	0.5	0.2		2.7	6 598	2 467			99.98%	A		
6	1960	164	1305	4 034.9	5 339.9	1.8	0.2	1.8	0.2		3.9	5 338	1 366			99.96%	A		
7	1960	8	1305	3 190.3	4 495.3	1.8	0.2	1.9	0.2		4.0	4 493	1 114			99.94%	A		
8	1960	173	1305	2 860.8	4 165.8	1.8	0.2	1.6	0.2		3.8	4 164	1 103			99.94%	A		
9	1960	1405	1305	3 063.3	4 368.3	1.8	0.2	1.1	0.2		3.2	4 367	1 355			99.96%	A		
10	1960	2436	1305	3 653.7	4 958.7	1.8	0.2	0.3	0.2		2.4	4 958	2 041			99.98%	A		
11	1960	4280	1305	4 553.8	5 858.8	1.8	0.2	0.0	0.2		2.2	5 858	2 711			99.99%	A		
12	1960	3702	1305	5 160.6	6 465.6	1.8	0.2	0.0	0.2		2.2	6 465	2 974			99.99%	A		
1	1961	3865	1305	5 320.5	6 625.5	1.8	0.2	0.0	0.2		2.2	6 625	3 042			99.99%	A		
2	1961	4387	1305	5 545.2	6 850.2	1.8	0.2	0.0	0.2		2.2	6 850	3 163			99.99%	A		
3	1961	4095	1305	5 673.6	6 978.6	1.8	0.2	0.0	0.2		2.2	6 978	3 231			99.99%	A		
4	1961	4149	1305	5 676.5	6 981.5	1.8	0.2		0.2		2.2	6 981	3 233	0.05%	54 143	99.99%	A	99.98%	A
5	1961	1363	1305	5 012.6	6 317.6	1.8	0.2	0.5	0.2		2.7	6 317	2 362			99.98%	A		
6	1961	12	1305	3 833.3	5 138.3	1.8	0.2	1.8	0.2		3.9	5 136	1 314			99.95%	A		
7	1961	4	1305	3 076.9	4 381.9	1.8	0.2	1.9	0.2		4.0	4 380	1 086			99.94%	A		
8	1961	28	1305	2 779.6	4 084.6	1.8	0.2	1.6	0.2		3.8	4 083	1 081			99.94%	A		
9	1961	1809	1305	3 098.6	4 403.6	1.8	0.2	1.1	0.2		3.2	4 402	1 366			99.96%	A		
10	1961	2290	1305	3 868.9	5 173.9	1.8	0.2	0.3	0.2		2.4	5 173	2 129			99.98%	A		
11	1961	2867	1305	4 587.2	5 892.2	1.8	0.2	0.0	0.2		2.2	5 892	2 727			99.99%	A		
12	1961	2324	1305	4 860.4	6 165.4	1.8	0.2	0.0	0.2		2.2	6 165	2 836			99.99%	A		

1	1962	1847	1305	4 676.2	5 981.2	1.8	0.2	0.0	0.2	2.2	5 981	2 746	0.05%	52 887	99.99%	A	99.98%	A
2	1962	3396	1305	4 953.6	6 258.6	1.8	0.2	0.0	0.2	2.2	6 258	2 890			99.99%	A		
3	1962	3823	1305	5 611.4	6 916.4	1.8	0.2	0.0	0.2	2.2	6 916	3 202			99.99%	A		
4	1962	3518	1305	5 893.7	7 198.7	1.8	0.2		0.2	2.2	7 198	3 334			99.99%	A		
5	1962	282	1305	4 924.4	6 229.4	1.8	0.2	0.5	0.2	2.7	6 229	2 329			99.98%	A		
6	1962	1	1305	3 583.9	4 888.9	1.8	0.2	1.8	0.2	3.9	4 887	1 250			99.95%	A		
7	1962	4	1305	2 975.3	4 280.3	1.8	0.2	1.9	0.2	4.0	4 278	1 060			99.94%	A		
8	1962	251	1305	2 810.0	4 115.0	1.8	0.2	1.6	0.2	3.8	4 113	1 089			99.94%	A		
9	1962	986	1305	3 037.4	4 342.4	1.8	0.2	1.1	0.2	3.2	4 341	1 347			99.96%	A		
10	1962	1485	1305	3 651.1	4 956.1	1.8	0.2	0.3	0.2	2.4	4 955	2 040	0.05%	51 550	99.98%	A	99.98%	A
11	1962	2023	1305	4 407.2	5 712.2	1.8	0.2	0.0	0.2	2.2	5 712	2 643			99.99%	A		
12	1962	1758	1305	4 794.2	6 099.2	1.8	0.2	0.0	0.2	2.2	6 099	2 806			99.99%	A		
1	1963	1969	1305	4 940.5	6 245.5	1.8	0.2	0.0	0.2	2.2	6 245	2 868			99.99%	A		
2	1963	1044	1305	4 683.7	5 988.7	1.8	0.2	0.0	0.2	2.2	5 988	2 765			99.99%	A		
3	1963	2432	1305	4 830.5	6 135.5	1.8	0.2	0.0	0.2	2.2	6 135	2 840			99.99%	A		
4	1963	2660	1305	5 497.3	6 802.3	1.8	0.2		0.2	2.2	6 802	3 150			99.99%	A		
5	1963	434	1305	4 901.3	6 206.3	1.8	0.2	0.5	0.2	2.7	6 205	2 321			99.98%	A		
6	1963	15	1305	3 665.3	4 970.3	1.8	0.2	1.8	0.2	3.9	4 968	1 271			99.95%	A		
7	1963	22	1305	3 021.2	4 326.2	1.8	0.2	1.9	0.2	4.0	4 324	1 072			99.94%	A		
8	1963	32	1305	2 771.5	4 076.5	1.8	0.2	1.6	0.2	3.8	4 075	1 079			99.94%	A		
9	1963	593	1305	2 914.1	4 219.1	1.8	0.2	1.1	0.2	3.2	4 218	1 308			99.96%	A		
10	1963	850	1305	3 503.8	4 808.8	1.8	0.2	0.3	0.2	2.4	4 808	1 979	0.05%	49 699	99.98%	A	99.98%	A
11	1963	1302	1305	4 328.7	5 633.7	1.8	0.2	0.0	0.2	2.2	5 633	2 607			99.99%	A		
12	1963	960	1305	4 691.3	5 996.3	1.8	0.2	0.0	0.2	2.2	5 996	2 759			99.99%	A		
1	1964	1193	1305	4 792.4	6 097.4	1.8	0.2	0.0	0.2	2.2	6 097	2 800			99.99%	A		
2	1964	1175	1305	4 957.6	6 262.6	1.8	0.2	0.0	0.2	2.2	6 262	2 891			99.99%	A		
3	1964	1215	1305	5 039.7	6 344.7	1.8	0.2	0.0	0.2	2.2	6 344	2 937			99.99%	A		
4	1964	786	1305	4 804.7	6 109.7	1.8	0.2		0.2	2.2	6 109	2 830			99.99%	A		
5	1964	125	1305	4 008.8	5 313.8	1.8	0.2	0.5	0.2	2.7	5 313	1 987			99.98%	A		
6	1964	0	1305	3 216.8	4 521.8	1.8	0.2	1.8	0.2	3.9	4 520	1 156			99.94%	A		
7	1964	0	1305	2 827.7	4 132.7	1.8	0.2	1.9	0.2	4.0	4 131	1 024			99.93%	A		
8	1964	99	1305	2 739.9	4 044.9	1.8	0.2	1.6	0.2	3.8	4 043	1 071			99.94%	A		
9	1964	162	1305	2 806.0	4 111.0	1.8	0.2	1.1	0.2	3.2	4 110	1 275			99.96%	A		
10	1964	854	1305	3 340.2	4 645.2	1.8	0.2	0.3	0.2	2.4	4 645	1 912	0.05%	49 354	99.98%	A	99.98%	A
11	1964	1523	1305	4 415.8	5 720.8	1.8	0.2	0.0	0.2	2.2	5 720	2 647			99.99%	A		
12	1964	1443	1305	5 184.4	6 489.4	1.8	0.2	0.0	0.2	2.2	6 489	2 985			99.99%	A		
1	1965	889	1305	5 067.3	6 372.3	1.8	0.2	0.0	0.2	2.2	6 372	2 926			99.99%	A		
2	1965	779	1305	4 619.3	5 924.3	1.8	0.2	0.0	0.2	2.2	5 924	2 735			99.99%	A		
3	1965	1165	1305	4 638.4	5 943.4	1.8	0.2	0.0	0.2	2.2	5 943	2 751			99.99%	A		
4	1965	785	1305	4 615.3	5 920.3	1.8	0.2		0.2	2.2	5 920	2 742			99.99%	A		
5	1965	44	1305	3 878.2	5 183.2	1.8	0.2	0.5	0.2	2.7	5 182	1 938			99.98%	A		
6	1965	6	1305	3 121.5	4 426.5	1.8	0.2	1.8	0.2	3.9	4 425	1 132			99.94%	A		
7	1965	4	1305	2 795.8	4 100.8	1.8	0.2	1.9	0.2	4.0	4 099	1 016			99.93%	A		
8	1965	19	1305	2 675.0	3 980.0	1.8	0.2	1.6	0.2	3.8	3 978	1 053			99.94%	A		
9	1965	447	1305	2 926.5	4 231.5	1.8	0.2	1.1	0.2	3.2	4 230	1 312			99.96%	A		
10	1965	1664	1305	3 489.6	4 794.6	1.8	0.2	0.3	0.2	2.4	4 794	1 973	0.05%	52 113	99.98%	A	99.98%	A
11	1965	3617	1305	4 500.0	5 805.0	1.8	0.2	0.0	0.2	2.2	5 805	2 686			99.99%	A		
12	1965	2891	1305	5 201.7	6 506.7	1.8	0.2	0.0	0.2	2.2	6 506	2 993			99.99%	A		
1	1966	2362	1305	5 123.4	6 428.4	1.8	0.2	0.0	0.2	2.2	6 428	2 952			99.99%	A		
2	1966	2517	1305	4 998.3	6 303.3	1.8	0.2	0.0	0.2	2.2	6 303	2 910			99.99%	A		
3	1966	3386	1305	5 258.5	6 563.5	1.8	0.2	0.0	0.2	2.2	6 563	3 038			99.99%	A		
4	1966	2877	1305	5 437.8	6 742.8	1.8	0.2		0.2	2.2	6 742	3 123			99.99%	A		
5	1966	427	1305	4 615.9	5 920.9	1.8	0.2	0.5	0.2	2.7	5 920	2 214			99.98%	A		
6	1966	67	1305	3 520.3	4 825.3	1.8	0.2	1.8	0.2	3.9	4 823	1 234			99.95%	A		
7	1966	1	1305	2 966.6	4 271.6	1.8	0.2	1.9	0.2	4.0	4 270	1 058			99.94%	A		
8	1966	137	1305	2 770.4	4 075.4	1.8	0.2	1.6	0.2	3.8	4 074	1 079			99.94%	A		
9	1966	735	1305	2 913.6	4 218.6	1.8	0.2	1.1	0.2	3.2	4 217	1 308			99.96%	A		

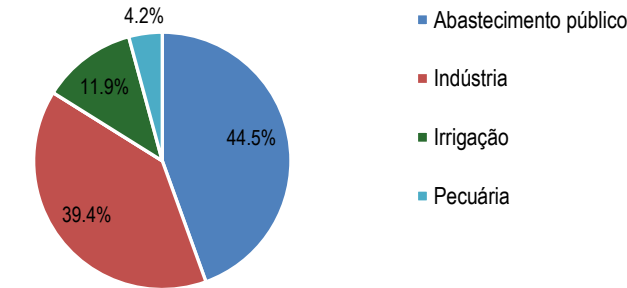
10	1966	2462	1305	3 664.6	4 969.6	1.8	0.2	0.3	0.2	2.4	4 969	2 045	0.05%	51 947	99.98%	A	99.98%	A
11	1966	2996	1305	4 591.6	5 896.6	1.8	0.2	0.0	0.2	2.2	5 896	2 729			99.99%	A		
12	1966	2790	1305	5 040.6	6 345.6	1.8	0.2	0.0	0.2	2.2	6 345	2 919			99.99%	A		
1	1967	2463	1305	5 063.5	6 368.5	1.8	0.2	0.0	0.2	2.2	6 368	2 924			99.99%	A		
2	1967	2295	1305	4 933.0	6 238.0	1.8	0.2	0.0	0.2	2.2	6 238	2 880			99.99%	A		
3	1967	3412	1305	5 181.1	6 486.1	1.8	0.2	0.0	0.2	2.2	6 486	3 003			99.99%	A		
4	1967	2584	1305	5 323.4	6 628.4	1.8	0.2		0.2	2.2	6 628	3 070			99.99%	A		
5	1967	463	1305	4 502.8	5 807.8	1.8	0.2	0.5	0.2	2.7	5 807	2 172			99.98%	A		
6	1967	47	1305	3 478.7	4 783.7	1.8	0.2	1.8	0.2	3.9	4 782	1 223			99.95%	A		
7	1967	0	1305	2 944.7	4 249.7	1.8	0.2	1.9	0.2	4.0	4 248	1 053			99.94%	A		
8	1967	200	1305	2 781.2	4 086.2	1.8	0.2	1.6	0.2	3.8	4 084	1 081			99.94%	A		
9	1967	1202	1305	3 079.2	4 384.2	1.8	0.2	1.1	0.2	3.2	4 383	1 360			99.96%	A		
10	1967	1723	1305	3 827.0	5 132.0	1.8	0.2	0.3	0.2	2.4	5 131	2 112	0.05%	51 663	99.98%	A	99.98%	A
11	1967	2297	1305	4 681.7	5 986.7	1.8	0.2	0.0	0.2	2.2	5 986	2 770			99.99%	A		
12	1967	1077	1305	4 715.7	6 020.7	1.8	0.2	0.0	0.2	2.2	6 020	2 770			99.99%	A		
1	1968	1549	1305	4 480.3	5 785.3	1.8	0.2	0.0	0.2	2.2	5 785	2 657			99.99%	A		
2	1968	2173	1305	4 825.6	6 130.6	1.8	0.2	0.0	0.2	2.2	6 130	2 831			99.99%	A		
3	1968	2221	1305	5 213.2	6 518.2	1.8	0.2	0.0	0.2	2.2	6 518	3 018			99.99%	A		
4	1968	2235	1305	5 391.3	6 696.3	1.8	0.2		0.2	2.2	6 696	3 101			99.99%	A		
5	1968	549	1305	4 751.4	6 056.4	1.8	0.2	0.5	0.2	2.7	6 056	2 265			99.98%	A		
6	1968	0	1305	3 641.8	4 946.8	1.8	0.2	1.8	0.2	3.9	4 945	1 265			99.95%	A		
7	1968	2	1305	2 997.8	4 302.8	1.8	0.2	1.9	0.2	4.0	4 301	1 066			99.94%	A		
8	1968	75	1305	2 772.8	4 077.8	1.8	0.2	1.6	0.2	3.8	4 076	1 079			99.94%	A		
9	1968	576	1305	2 922.7	4 227.7	1.8	0.2	1.1	0.2	3.2	4 226	1 311			99.96%	A		
10	1968	1615	1305	3 421.7	4 726.7	1.8	0.2	0.3	0.2	2.4	4 726	1 945	0.05%	52 627	99.98%	A	99.98%	A
11	1968	3577	1305	4 447.6	5 752.6	1.8	0.2	0.0	0.2	2.2	5 752	2 662			99.99%	A		
12	1968	1955	1305	4 881.1	6 186.1	1.8	0.2	0.0	0.2	2.2	6 186	2 846			99.99%	A		
1	1969	2956	1305	4 928.4	6 233.4	1.8	0.2	0.0	0.2	2.2	6 233	2 862			99.99%	A		
2	1969	2604	1305	5 106.9	6 411.9	1.8	0.2	0.0	0.2	2.2	6 411	2 960			99.99%	A		
3	1969	3653	1305	5 407.7	6 712.7	1.8	0.2	0.0	0.2	2.2	6 712	3 108			99.99%	A		
4	1969	3247	1305	5 683.3	6 988.3	1.8	0.2		0.2	2.2	6 988	3 237			99.99%	A		
5	1969	848	1305	4 943.1	6 248.1	1.8	0.2	0.5	0.2	2.7	6 247	2 336			99.98%	A		
6	1969	2	1305	3 743.6	5 048.6	1.8	0.2	1.8	0.2	3.9	5 047	1 291			99.95%	A		
7	1969	1	1305	3 038.3	4 343.3	1.8	0.2	1.9	0.2	4.0	4 341	1 076			99.94%	A		
8	1969	290	1305	2 846.3	4 151.3	1.8	0.2	1.6	0.2	3.8	4 150	1 099			99.94%	A		
9	1969	793	1305	3 002.6	4 307.6	1.8	0.2	1.1	0.2	3.2	4 306	1 336			99.96%	A		
10	1969	2632	1305	3 768.2	5 073.2	1.8	0.2	0.3	0.2	2.4	5 073	2 088	0.05%	53 567	99.98%	A	99.98%	A
11	1969	4357	1305	5 099.3	6 404.3	1.8	0.2	0.0	0.2	2.2	6 404	2 964			99.99%	A		
12	1969	3212	1305	5 738.2	7 043.2	1.8	0.2	0.0	0.2	2.2	7 043	3 240			99.99%	A		
1	1970	1818	1305	5 255.3	6 560.3	1.8	0.2	0.0	0.2	2.2	6 560	3 012			99.99%	A		
2	1970	2869	1305	5 014.1	6 319.1	1.8	0.2	0.0	0.2	2.2	6 319	2 918			99.99%	A		
3	1970	3492	1305	5 392.0	6 697.0	1.8	0.2	0.0	0.2	2.2	6 697	3 100			99.99%	A		
4	1970	2803	1305	5 496.5	6 801.5	1.8	0.2		0.2	2.2	6 801	3 150			99.99%	A		
5	1970	488	1305	4 638.3	5 943.3	1.8	0.2	0.5	0.2	2.7	5 942	2 222			99.98%	A		
6	1970	63	1305	3 544.7	4 849.7	1.8	0.2	1.8	0.2	3.9	4 848	1 240			99.95%	A		
7	1970	52	1305	2 991.5	4 296.5	1.8	0.2	1.9	0.2	4.0	4 295	1 064			99.94%	A		
8	1970	215	1305	2 818.2	4 123.2	1.8	0.2	1.6	0.2	3.8	4 122	1 091			99.94%	A		
9	1970	541	1305	2 893.6	4 198.6	1.8	0.2	1.1	0.2	3.2	4 197	1 302			99.96%	A		
10	1970	2056	1305	3 479.2	4 784.2	1.8	0.2	0.3	0.2	2.4	4 784	1 969	0.05%	51 736	99.98%	A	99.98%	A
11	1970	3474	1305	4 556.6	5 861.6	1.8	0.2	0.0	0.2	2.2	5 861	2 712			99.99%	A		
12	1970	3159	1305	5 268.8	6 573.8	1.8	0.2	0.0	0.2	2.2	6 573	3 024			99.99%	A		
1	1971	2000	1305	5 110.1	6 415.1	1.8	0.2	0.0	0.2	2.2	6 415	2 946			99.99%	A		
2	1971	1936	1305	4 716.4	6 021.4	1.8	0.2	0.0	0.2	2.2	6 021	2 780			99.99%	A		
3	1971	2906	1305	4 842.0	6 147.0	1.8	0.2	0.0	0.2	2.2	6 147	2 846			99.99%	A		
4	1971	3092	1305	5 209.6	6 514.6	1.8	0.2		0.2	2.2	6 514	3 017			99.99%	A		
5	1971	774	1305	4 689.5	5 994.5	1.8	0.2	0.5	0.2	2.7	5 994	2 242			99.98%	A		
6	1971	1	1305	3 622.2	4 927.2	1.8	0.2	1.8	0.2	3.9	4 925	1 260			99.95%	A		

7	1971	16	1305	2 994.4	4 299.4	1.8	0.2	1.9	0.2	4.0	4 297	1 065			99.94%	A	
8	1971	159	1305	2 792.4	4 097.4	1.8	0.2	1.6	0.2	3.8	4 096	1 084			99.94%	A	
9	1971	1078	1305	3 034.2	4 339.2	1.8	0.2	1.1	0.2	3.2	4 338	1 346			99.96%	A	
10	1971	1897	1305	3 849.7	5 154.7	1.8	0.2	0.3	0.2	2.4	5 154	2 122			99.98%	A	
11	1971	2017	1305	4 635.9	5 940.9	1.8	0.2	0.0	0.2	2.2	5 940	2 749			99.99%	A	
12	1971	2066	1305	5 014.3	6 319.3	1.8	0.2	0.0	0.2	2.2	6 319	2 907			99.99%	A	
1	1972	1846	1305	5 089.9	6 394.9	1.8	0.2	0.0	0.2	2.2	6 394	2 936			99.99%	A	
2	1972	1160	1305	4 747.4	6 052.4	1.8	0.2	0.0	0.2	2.2	6 052	2 794			99.99%	A	
3	1972	1587	1305	4 539.5	5 844.5	1.8	0.2	0.0	0.2	2.2	5 844	2 706			99.99%	A	
4	1972	1946	1305	4 766.6	6 071.6	1.8	0.2		0.2	2.2	6 071	2 812	0.05%	50 991	99.99%	A	99.98% A
5	1972	619	1305	4 425.4	5 730.4	1.8	0.2	0.5	0.2	2.7	5 730	2 143			99.98%	A	
6	1972	100	1305	3 580.0	4 885.0	1.8	0.2	1.8	0.2	3.9	4 883	1 249			99.95%	A	
7	1972	1	1305	3 009.9	4 314.9	1.8	0.2	1.9	0.2	4.0	4 313	1 069			99.94%	A	
8	1972	99	1305	2 787.6	4 092.6	1.8	0.2	1.6	0.2	3.8	4 091	1 083			99.94%	A	
9	1972	531	1305	2 918.8	4 223.8	1.8	0.2	1.1	0.2	3.2	4 222	1 310			99.96%	A	
10	1972	2596	1305	3 706.8	5 011.8	1.8	0.2	0.3	0.2	2.4	5 011	2 063			99.98%	A	
11	1972	4072	1305	4 977.0	6 282.0	1.8	0.2	0.0	0.2	2.2	6 282	2 907			99.99%	A	
12	1972	3733	1305	5 774.0	7 079.0	1.8	0.2	0.0	0.2	2.2	7 079	3 257			99.99%	A	
1	1973	2568	1305	5 640.7	6 945.7	1.8	0.2	0.0	0.2	2.2	6 945	3 189			99.99%	A	
2	1973	2526	1305	5 262.5	6 567.5	1.8	0.2	0.0	0.2	2.2	6 567	3 032			99.99%	A	
3	1973	2759	1305	5 172.6	6 477.6	1.8	0.2	0.0	0.2	2.2	6 477	2 999			99.99%	A	
4	1973	2307	1305	5 059.6	6 364.6	1.8	0.2		0.2	2.2	6 364	2 948	0.05%	53 327	99.99%	A	99.98% A
5	1973	963	1305	4 478.1	5 783.1	1.8	0.2	0.5	0.2	2.7	5 782	2 162			99.98%	A	
6	1973	19	1305	3 594.3	4 899.3	1.8	0.2	1.8	0.2	3.9	4 897	1 253			99.95%	A	
7	1973	11	1305	2 986.6	4 291.6	1.8	0.2	1.9	0.2	4.0	4 290	1 063			99.94%	A	
8	1973	146	1305	2 784.0	4 089.0	1.8	0.2	1.6	0.2	3.8	4 087	1 082			99.94%	A	
9	1973	689	1305	2 907.2	4 212.2	1.8	0.2	1.1	0.2	3.2	4 211	1 306			99.96%	A	
10	1973	1200	1305	3 398.6	4 703.6	1.8	0.2	0.3	0.2	2.4	4 703	1 936			99.98%	A	
11	1973	2788	1305	4 526.9	5 831.9	1.8	0.2	0.0	0.2	2.2	5 832	2 699			99.99%	A	
12	1973	1510	1305	5 018.8	6 323.8	1.8	0.2	0.0	0.2	2.2	6 323	2 909			99.99%	A	
1	1974	1528	1305	4 751.4	6 056.4	1.8	0.2	0.0	0.2	2.2	6 056	2 781			99.99%	A	
2	1974	1415	1305	4 603.5	5 908.5	1.8	0.2	0.0	0.2	2.2	5 908	2 728			99.99%	A	
3	1974	2285	1305	4 872.4	6 177.4	1.8	0.2	0.0	0.2	2.2	6 177	2 860			99.99%	A	
4	1974	1757	1305	5 075.8	6 380.8	1.8	0.2		0.2	2.2	6 380	2 955	0.05%	50 365	99.99%	A	99.98% A
5	1974	401	1305	4 386.3	5 691.3	1.8	0.2	0.5	0.2	2.7	5 690	2 128			99.98%	A	
6	1974	6	1305	3 444.3	4 749.3	1.8	0.2	1.8	0.2	3.9	4 747	1 215			99.95%	A	
7	1974	2	1305	2 921.5	4 226.5	1.8	0.2	1.9	0.2	4.0	4 225	1 047			99.93%	A	
8	1974	81	1305	2 745.2	4 050.2	1.8	0.2	1.6	0.2	3.8	4 049	1 072			99.94%	A	
9	1974	359	1305	2 822.2	4 127.2	1.8	0.2	1.1	0.2	3.2	4 126	1 280			99.96%	A	

UH	Kassai
Área (km²)	154 641
População	996 974
Área irrigada (ha)	720
NGR (mm)	800

Sector	Necessidades anuais de água (hm³)	
Abastecimento público	17. 2	44.5%
Indústria	15.3	39.4%
Termo eléctricas		
Irrigação	4.6	11.9%
Pecuária	1. 6	4.2%
Volume anual turbinado (hm³)		
Hidroelectricidade	9963.	

Uso da água na UH do Kassai



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano médio	22 381.8	20 136.0	59 495.6	79 631.6	17. 2	15. 3	4. 6	1. 6	---	38. 7	79 621	2 057	0.05%	79 873	---	---	99.98%	A
Ano seco	16 958.4	20 136.0	58 336.5	78 472.5	17. 2	15. 3	4. 6	1. 6	---	38. 7	78 462	2 027	0.05%	78 711	---	---	99.98%	A
Ano muito seco	16 622.8	20 136.0	57 038.2	77 174.2	17. 2	15. 3	4. 6	1. 6	---	38. 7	77 164	1 994	0.05%	77 408	---	---	99.98%	A

Mês	Ano																			
	10	1944	2344	1678	4 298	5 976	1.4	1.3	0.2	0.1		3.0	5 975	1 981	0.05%	81 794	99.98%	A	99.98%	A
	11	1944	3401	1678	5 189	6 867	1.4	1.3	0.0	0.1		2.8	6 867	2 416			99.99%	A		
	12	1944	4435	1678	6 148	7 826	1.4	1.3	0.0	0.1		2.9	7 825	2 745			99.99%	A		
	1	1945	4153	1678	6 719	8 397	1.4	1.3	0.0	0.1		2.9	8 397	2 943			99.99%	A		
	2	1945	3881	1678	6 788	8 466	1.4	1.3	0.0	0.1		2.8	8 465	2 975			99.99%	A		
	3	1945	3800	1678	6 717	8 395	1.4	1.3	0.0	0.1		2.8	8 394	2 954			99.99%	A		
	4	1945	2593	1678	6 294	7 972	1.4	1.3		0.1		2.8	7 972	2 806			99.99%	A		
	5	1945	291	1678	5 091	6 769	1.4	1.3	0.3	0.1		3.2	6 768	2 133			99.98%	A		
	6	1945	91	1678	3 932	5 610	1.4	1.3	1.1	0.1		4.0	5 609	1 413			99.96%	A		
	7	1945	0	1678	3 389	5 067	1.4	1.3	1.2	0.1		4.1	5 065	1 250			99.96%	A		
	8	1945	479	1678	3 296	4 974	1.4	1.3	1.0	0.1		3.9	4 973	1 280	99.96%	A				
	9	1945	1003	1678	3 549	5 227	1.4	1.3	0.7	0.1		3.5	5 226	1 481	99.97%	A				
	10	1945	1531	1678	4 131	5 809	1.4	1.3	0.2	0.1		3.0	5 809	1 926	0.05%	77 417	99.98%	A	99.98%	A
	11	1945	2486	1678	5 065	6 743	1.4	1.3	0.0	0.1		2.8	6 742	2 372			99.99%	A		
	12	1945	2555	1678	5 818	7 496	1.4	1.3	0.0	0.1		2.9	7 495	2 629			99.99%	A		
	1	1946	2680	1678	6 197	7 875	1.4	1.3	0.0	0.1		2.9	7 874	2 760			99.99%	A		
	2	1946	1597	1678	5 933	7 611	1.4	1.3	0.0	0.1		2.8	7 611	2 675			99.99%	A		
	3	1946	2312	1678	5 733	7 411	1.4	1.3	0.0	0.1		2.8	7 410	2 608			99.99%	A		
	4	1946	1805	1678	5 701	7 379	1.4	1.3		0.1		2.8	7 378	2 597			99.99%	A		
	5	1946	114	1678	4 783	6 461	1.4	1.3	0.3	0.1		3.2	6 461	2 036			99.98%	A		
	6	1946	0	1678	3 746	5 424	1.4	1.3	1.1	0.1		4.0	5 423	1 366			99.96%	A		
	7	1946	16	1678	3 297	4 975	1.4	1.3	1.2	0.1		4.1	4 974	1 228			99.95%	A		
	8	1946	150	1678	3 181	4 859	1.4	1.3	1.0	0.1		3.9	4 858	1 250	99.96%	A				
	9	1946	803	1678	3 462	5 140	1.4	1.3	0.7	0.1		3.5	5 139	1 456	99.97%	A				
	10	1946	2104	1678	4 123	5 801	1.4	1.3	0.2	0.1		3.0	5 800	1 923	0.05%	81 904	99.98%	A	99.98%	A
	11	1946	3280	1678	5 018	6 696	1.4	1.3	0.0	0.1		2.8	6 696	2 356			99.99%	A		
	12	1946	4035	1678	5 923	7 601	1.4	1.3	0.0	0.1		2.9	7 601	2 666			99.99%	A		
	1	1947	4144	1678	6 520	8 198	1.4	1.3	0.0	0.1		2.9	8 197	2 873			99.99%	A		
	2	1947	3670	1678	6 641	8 319	1.4	1.3	0.0	0.1		2.8	8 318	2 923			99.99%	A		
	3	1947	4184	1678	6 721	8 399	1.4	1.3	0.0	0.1		2.8	8 398	2 955			99.99%	A		
	4	1947	3519	1678	6 685	8 363	1.4	1.3		0.1		2.8	8 362	2 943			99.99%	A		
	5	1947	515	1678	5 564	7 242	1.4	1.3	0.3	0.1		3.2	7 241	2 282			99.99%	A		
	6	1947	1	1678	4 153	5 831	1.4	1.3	1.1	0.1		4.0	5 830	1 468			99.97%	A		
	7	1947	0	1678	3 453	5 131	1.4	1.3	1.2	0.1		4.1	5 129	1 266			99.96%	A		
	8	1947	32	1678	3 184	4 862	1.4	1.3	1.0	0.1		3.9	4 860	1 251	99.96%	A				
	9	1947	1491	1678	3 536	5 214	1.4	1.3	0.7	0.1		3.5	5 213	1 477	99.97%	A				
	10	1947	2887	1678	4 498	6 176	1.4	1.3	0.2	0.1		3.0	6 176	2 048			99.98%	A		

11	1947	2652	1678	5 183	6 861	1.4	1.3	0.0	0.1	2.8	6 861	2 414	0.05%	80 262	99.99%	A	99.98%	A
12	1947	3335	1678	5 605	7 283	1.4	1.3	0.0	0.1	2.9	7 282	2 555			99.99%	A		
1	1948	3606	1678	6 039	7 717	1.4	1.3	0.0	0.1	2.9	7 717	2 705			99.99%	A		
2	1948	3751	1678	6 330	8 008	1.4	1.3	0.0	0.1	2.8	8 007	2 814			99.99%	A		
3	1948	4001	1678	6 562	8 240	1.4	1.3	0.0	0.1	2.8	8 239	2 899			99.99%	A		
4	1948	2937	1678	6 393	8 071	1.4	1.3		0.1	2.8	8 070	2 840			99.99%	A		
5	1948	544	1678	5 300	6 978	1.4	1.3	0.3	0.1	3.2	6 977	2 199			99.98%	A		
6	1948	4	1678	4 057	5 735	1.4	1.3	1.1	0.1	4.0	5 733	1 444			99.96%	A		
7	1948	14	1678	3 420	5 098	1.4	1.3	1.2	0.1	4.1	5 096	1 258			99.96%	A		
8	1948	118	1678	3 200	4 878	1.4	1.3	1.0	0.1	3.9	4 877	1 255			99.96%	A		
9	1948	618	1678	3 296	4 974	1.4	1.3	0.7	0.1	3.5	4 972	1 409			99.97%	A		
10	1948	3963	1678	4 239	5 917	1.4	1.3	0.2	0.1	3.0	5 916	1 962	0.05%	83 044	99.98%	A	99.98%	A
11	1948	5718	1678	5 710	7 388	1.4	1.3	0.0	0.1	2.8	7 387	2 599			99.99%	A		
12	1948	5107	1678	6 517	8 195	1.4	1.3	0.0	0.1	2.9	8 194	2 875			99.99%	A		
1	1949	4107	1678	6 467	8 145	1.4	1.3	0.0	0.1	2.9	8 145	2 855			99.99%	A		
2	1949	5215	1678	6 506	8 184	1.4	1.3	0.0	0.1	2.8	8 183	2 876			99.99%	A		
3	1949	5101	1678	6 727	8 405	1.4	1.3	0.0	0.1	2.8	8 405	2 957			99.99%	A		
4	1949	3427	1678	6 385	8 063	1.4	1.3		0.1	2.8	8 062	2 838			99.99%	A		
5	1949	1283	1678	5 375	7 053	1.4	1.3	0.3	0.1	3.2	7 052	2 222			99.98%	A		
6	1949	79	1678	4 229	5 907	1.4	1.3	1.1	0.1	4.0	5 906	1 487			99.97%	A		
7	1949	4	1678	3 501	5 179	1.4	1.3	1.2	0.1	4.1	5 177	1 278			99.96%	A		
8	1949	890	1678	3 409	5 087	1.4	1.3	1.0	0.1	3.9	5 086	1 309			99.96%	A		
9	1949	1022	1678	3 592	5 270	1.4	1.3	0.7	0.1	3.5	5 269	1 493			99.97%	A		
10	1949	1973	1678	4 054	5 732	1.4	1.3	0.2	0.1	3.0	5 731	1 900	0.05%	80 111	99.98%	A	99.98%	A
11	1949	3012	1678	4 872	6 550	1.4	1.3	0.0	0.1	2.8	6 550	2 304			99.99%	A		
12	1949	4475	1678	5 929	7 607	1.4	1.3	0.0	0.1	2.9	7 607	2 668			99.99%	A		
1	1950	3685	1678	6 498	8 176	1.4	1.3	0.0	0.1	2.9	8 176	2 865			99.99%	A		
2	1950	2875	1678	6 263	7 941	1.4	1.3	0.0	0.1	2.8	7 941	2 791			99.99%	A		
3	1950	5017	1678	6 615	8 293	1.4	1.3	0.0	0.1	2.8	8 292	2 918			99.99%	A		
4	1950	2324	1678	6 496	8 174	1.4	1.3		0.1	2.8	8 174	2 877			99.99%	A		
5	1950	22	1678	5 016	6 694	1.4	1.3	0.3	0.1	3.2	6 693	2 109			99.98%	A		
6	1950	1	1678	3 803	5 481	1.4	1.3	1.1	0.1	4.0	5 479	1 380			99.96%	A		
7	1950	258	1678	3 393	5 071	1.4	1.3	1.2	0.1	4.1	5 069	1 251			99.96%	A		
8	1950	294	1678	3 309	4 987	1.4	1.3	1.0	0.1	3.9	4 986	1 283			99.96%	A		
9	1950	933	1678	3 483	5 161	1.4	1.3	0.7	0.1	3.5	5 160	1 463			99.97%	A		
10	1950	2471	1678	4 199	5 877	1.4	1.3	0.2	0.1	3.0	5 877	1 949	0.05%	80 905	99.98%	A	99.98%	A
11	1950	3856	1678	5 325	7 003	1.4	1.3	0.0	0.1	2.8	7 002	2 464			99.99%	A		
12	1950	5074	1678	6 521	8 199	1.4	1.3	0.0	0.1	2.9	8 198	2 876			99.99%	A		
1	1951	3896	1678	6 960	8 638	1.4	1.3	0.0	0.1	2.9	8 638	3 027			99.99%	A		
2	1951	3222	1678	6 611	8 289	1.4	1.3	0.0	0.1	2.8	8 289	2 913			99.99%	A		
3	1951	3005	1678	6 224	7 902	1.4	1.3	0.0	0.1	2.8	7 902	2 780			99.99%	A		
4	1951	2776	1678	5 941	7 619	1.4	1.3		0.1	2.8	7 618	2 681			99.99%	A		
5	1951	212	1678	4 975	6 653	1.4	1.3	0.3	0.1	3.2	6 652	2 096			99.98%	A		
6	1951	0	1678	3 837	5 515	1.4	1.3	1.1	0.1	4.0	5 513	1 389			99.96%	A		
7	1951	161	1678	3 376	5 054	1.4	1.3	1.2	0.1	4.1	5 053	1 247			99.96%	A		
8	1951	68	1678	3 207	4 885	1.4	1.3	1.0	0.1	3.9	4 884	1 257			99.96%	A		
9	1951	822	1678	3 348	5 026	1.4	1.3	0.7	0.1	3.5	5 025	1 424			99.97%	A		
10	1951	1556	1678	4 013	5 691	1.4	1.3	0.2	0.1	3.0	5 690	1 887	0.05%	78 200	99.98%	A	99.98%	A
11	1951	2931	1678	5 215	6 893	1.4	1.3	0.0	0.1	2.8	6 893	2 425			99.99%	A		
12	1951	2574	1678	6 049	7 727	1.4	1.3	0.0	0.1	2.9	7 727	2 711			99.99%	A		
1	1952	2037	1678	6 023	7 701	1.4	1.3	0.0	0.1	2.9	7 700	2 699			99.99%	A		
2	1952	2692	1678	6 092	7 770	1.4	1.3	0.0	0.1	2.8	7 770	2 731			99.99%	A		
3	1952	1759	1678	5 965	7 643	1.4	1.3	0.0	0.1	2.8	7 642	2 689			99.99%	A		
4	1952	2251	1678	5 779	7 457	1.4	1.3		0.1	2.8	7 457	2 624			99.99%	A		
5	1952	23	1678	4 940	6 618	1.4	1.3	0.3	0.1	3.2	6 617	2 085			99.98%	A		
6	1952	12	1678	3 780	5 458	1.4	1.3	1.1	0.1	4.0	5 456	1 374			99.96%	A		
7	1952	4	1678	3 310	4 988	1.4	1.3	1.2	0.1	4.1	4 986	1 231			99.95%	A		

8	1952	63	1678	3 144	4 822	1.4	1.3	1.0	0.1	3.9	4 821	1 241			99.96%	A		
9	1952	1045	1678	3 518	5 196	1.4	1.3	0.7	0.1	3.5	5 195	1 472			99.97%	A		
10	1952	1754	1678	4 330	6 008	1.4	1.3	0.2	0.1	3.0	6 007	1 992			99.98%	A		
11	1952	3194	1678	5 526	7 204	1.4	1.3	0.0	0.1	2.8	7 204	2 534			99.99%	A		
12	1952	2255	1678	6 135	7 813	1.4	1.3	0.0	0.1	2.9	7 813	2 741			99.99%	A		
1	1953	1878	1678	5 872	7 550	1.4	1.3	0.0	0.1	2.9	7 549	2 646			99.99%	A		
2	1953	1927	1678	5 648	7 326	1.4	1.3	0.0	0.1	2.8	7 326	2 575			99.99%	A		
3	1953	2781	1678	5 940	7 618	1.4	1.3	0.0	0.1	2.8	7 618	2 680			99.99%	A		
4	1953	1952	1678	6 019	7 697	1.4	1.3		0.1	2.8	7 697	2 709	0.05%	78 670	99.99%	A	99.98%	A
5	1953	331	1678	5 057	6 735	1.4	1.3	0.3	0.1	3.2	6 734	2 122			99.98%	A		
6	1953	1	1678	3 935	5 613	1.4	1.3	1.1	0.1	4.0	5 612	1 413			99.96%	A		
7	1953	2	1678	3 367	5 045	1.4	1.3	1.2	0.1	4.1	5 043	1 245			99.95%	A		
8	1953	172	1678	3 213	4 891	1.4	1.3	1.0	0.1	3.9	4 890	1 259			99.96%	A		
9	1953	264	1678	3 253	4 931	1.4	1.3	0.7	0.1	3.5	4 930	1 397			99.97%	A		
10	1953	2498	1678	3 963	5 641	1.4	1.3	0.2	0.1	3.0	5 640	1 870			99.98%	A		
11	1953	3097	1678	5 003	6 681	1.4	1.3	0.0	0.1	2.8	6 681	2 350			99.99%	A		
12	1953	4196	1678	5 918	7 596	1.4	1.3	0.0	0.1	2.9	7 595	2 664			99.99%	A		
1	1954	3317	1678	6 306	7 984	1.4	1.3	0.0	0.1	2.9	7 983	2 798			99.99%	A		
2	1954	2541	1678	5 985	7 663	1.4	1.3	0.0	0.1	2.8	7 662	2 693			99.99%	A		
3	1954	4172	1678	6 153	7 831	1.4	1.3	0.0	0.1	2.8	7 830	2 755			99.99%	A		
4	1954	2447	1678	6 124	7 802	1.4	1.3		0.1	2.8	7 801	2 746	0.05%	79 317	99.99%	A	99.98%	A
5	1954	840	1678	5 153	6 831	1.4	1.3	0.3	0.1	3.2	6 831	2 152			99.98%	A		
6	1954	96	1678	4 106	5 784	1.4	1.3	1.1	0.1	4.0	5 783	1 456			99.96%	A		
7	1954	1	1678	3 460	5 138	1.4	1.3	1.2	0.1	4.1	5 136	1 268			99.96%	A		
8	1954	254	1678	3 255	4 933	1.4	1.3	1.0	0.1	3.9	4 932	1 269			99.96%	A		
9	1954	1143	1678	3 516	5 194	1.4	1.3	0.7	0.1	3.5	5 193	1 472			99.97%	A		
10	1954	1571	1678	4 173	5 851	1.4	1.3	0.2	0.1	3.0	5 850	1 940			99.98%	A		
11	1954	2728	1678	5 198	6 876	1.4	1.3	0.0	0.1	2.8	6 876	2 419			99.99%	A		
12	1954	2302	1678	5 852	7 530	1.4	1.3	0.0	0.1	2.9	7 530	2 641			99.99%	A		
1	1955	2000	1678	5 828	7 506	1.4	1.3	0.0	0.1	2.9	7 505	2 630			99.99%	A		
2	1955	1744	1678	5 598	7 276	1.4	1.3	0.0	0.1	2.8	7 276	2 557			99.99%	A		
3	1955	2160	1678	5 589	7 267	1.4	1.3	0.0	0.1	2.8	7 266	2 557			99.99%	A		
4	1955	2425	1678	5 851	7 529	1.4	1.3		0.1	2.8	7 529	2 650	0.05%	77 691	99.99%	A	99.98%	A
5	1955	447	1678	5 213	6 891	1.4	1.3	0.3	0.1	3.2	6 890	2 171			99.98%	A		
6	1955	0	1678	4 040	5 718	1.4	1.3	1.1	0.1	4.0	5 716	1 440			99.96%	A		
7	1955	1	1678	3 408	5 086	1.4	1.3	1.2	0.1	4.1	5 084	1 255			99.96%	A		
8	1955	16	1678	3 163	4 841	1.4	1.3	1.0	0.1	3.9	4 839	1 246			99.96%	A		
9	1955	808	1678	3 407	5 085	1.4	1.3	0.7	0.1	3.5	5 084	1 441			99.97%	A		
10	1955	2355	1678	4 181	5 859	1.4	1.3	0.2	0.1	3.0	5 858	1 943			99.98%	A		
11	1955	2785	1678	4 955	6 633	1.4	1.3	0.0	0.1	2.8	6 633	2 334			99.99%	A		
12	1955	4375	1678	5 870	7 548	1.4	1.3	0.0	0.1	2.9	7 548	2 648			99.99%	A		
1	1956	3122	1678	6 274	7 952	1.4	1.3	0.0	0.1	2.9	7 952	2 787			99.99%	A		
2	1956	2157	1678	5 801	7 479	1.4	1.3	0.0	0.1	2.8	7 479	2 628			99.99%	A		
3	1956	3450	1678	5 754	7 432	1.4	1.3	0.0	0.1	2.8	7 431	2 615			99.99%	A		
4	1956	4087	1678	6 278	7 956	1.4	1.3		0.1	2.8	7 956	2 800	0.05%	79 170	99.99%	A	99.98%	A
5	1956	111	1678	5 429	7 107	1.4	1.3	0.3	0.1	3.2	7 107	2 239			99.98%	A		
6	1956	1	1678	3 991	5 669	1.4	1.3	1.1	0.1	4.0	5 668	1 428			99.96%	A		
7	1956	1	1678	3 388	5 066	1.4	1.3	1.2	0.1	4.1	5 065	1 250			99.96%	A		
8	1956	469	1678	3 293	4 971	1.4	1.3	1.0	0.1	3.9	4 969	1 279			99.96%	A		
9	1956	1110	1678	3 578	5 256	1.4	1.3	0.7	0.1	3.5	5 255	1 490			99.97%	A		
10	1956	1458	1678	3 972	5 650	1.4	1.3	0.2	0.1	3.0	5 649	1 873			99.98%	A		
11	1956	3355	1678	4 808	6 486	1.4	1.3	0.0	0.1	2.8	6 485	2 282			99.99%	A		
12	1956	4044	1678	5 862	7 540	1.4	1.3	0.0	0.1	2.9	7 540	2 645			99.99%	A		
1	1957	4213	1678	6 519	8 197	1.4	1.3	0.0	0.1	2.9	8 197	2 873			99.99%	A		
2	1957	3158	1678	6 501	8 179	1.4	1.3	0.0	0.1	2.8	8 178	2 874			99.99%	A		
3	1957	4431	1678	6 604	8 282	1.4	1.3	0.0	0.1	2.8	8 282	2 914			99.99%	A		
4	1957	2377	1678	6 352	8 030	1.4	1.3		0.1	2.8	8 029	2 826	0.05%	80 239	99.99%	A	99.98%	A

5	1957	236	1678	5 039	6 717	1.4	1.3	0.3	0.1	3.2	6 716	2 116			99.98%	A		
6	1957	19	1678	3 875	5 553	1.4	1.3	1.1	0.1	4.0	5 551	1 398			99.96%	A		
7	1957	57	1678	3 364	5 042	1.4	1.3	1.2	0.1	4.1	5 041	1 244			99.95%	A		
8	1957	371	1678	3 268	4 946	1.4	1.3	1.0	0.1	3.9	4 945	1 273			99.96%	A		
9	1957	1612	1678	3 697	5 375	1.4	1.3	0.7	0.1	3.5	5 374	1 523			99.97%	A		
10	1957	1872	1678	4 498	6 176	1.4	1.3	0.2	0.1	3.0	6 175	2 048			99.98%	A		
11	1957	2003	1678	5 131	6 809	1.4	1.3	0.0	0.1	2.8	6 808	2 395			99.99%	A		
12	1957	2823	1678	5 780	7 458	1.4	1.3	0.0	0.1	2.9	7 458	2 616			99.99%	A		
1	1958	3022	1678	6 426	8 104	1.4	1.3	0.0	0.1	2.9	8 103	2 840			99.99%	A		
2	1958	1557	1678	6 134	7 812	1.4	1.3	0.0	0.1	2.8	7 811	2 745			99.99%	A		
3	1958	2446	1678	5 855	7 533	1.4	1.3	0.0	0.1	2.8	7 532	2 651			99.99%	A		
4	1958	1470	1678	5 657	7 335	1.4	1.3		0.1	2.8	7 335	2 581	0.05%	78 166	99.99%	A	99.98%	A
5	1958	120	1678	4 645	6 323	1.4	1.3	0.3	0.1	3.2	6 322	1 992			99.98%	A		
6	1958	2	1678	3 693	5 371	1.4	1.3	1.1	0.1	4.0	5 370	1 352			99.96%	A		
7	1958		1678	3 270	4 948	1.4	1.3	1.2	0.1	4.1	4 947	1 221			99.95%	A		
8	1958	172	1678	3 174	4 852	1.4	1.3	1.0	0.1	3.9	4 850	1 248			99.96%	A		
9	1958	953	1678	3 531	5 209	1.4	1.3	0.7	0.1	3.5	5 208	1 476			99.97%	A		
10	1958	1443	1678	4 169	5 847	1.4	1.3	0.2	0.1	3.0	5 846	1 939			99.98%	A		
11	1958	2859	1678	5 205	6 883	1.4	1.3	0.0	0.1	2.8	6 883	2 421			99.99%	A		
12	1958	2069	1678	5 804	7 482	1.4	1.3	0.0	0.1	2.9	7 482	2 625			99.99%	A		
1	1959	2657	1678	6 002	7 680	1.4	1.3	0.0	0.1	2.9	7 679	2 691			99.99%	A		
2	1959	2417	1678	6 195	7 873	1.4	1.3	0.0	0.1	2.8	7 873	2 767			99.99%	A		
3	1959	2557	1678	6 244	7 922	1.4	1.3	0.0	0.1	2.8	7 921	2 787			99.99%	A		
4	1959	1160	1678	5 721	7 399	1.4	1.3		0.1	2.8	7 399	2 604	0.05%	78 382	99.99%	A	99.98%	A
5	1959	569	1678	4 747	6 425	1.4	1.3	0.3	0.1	3.2	6 424	2 024			99.98%	A		
6	1959	7	1678	3 902	5 580	1.4	1.3	1.1	0.1	4.0	5 579	1 405			99.96%	A		
7	1959	39	1678	3 372	5 050	1.4	1.3	1.2	0.1	4.1	5 048	1 246			99.96%	A		
8	1959	165	1678	3 226	4 904	1.4	1.3	1.0	0.1	3.9	4 902	1 262			99.96%	A		
9	1959	651	1678	3 421	5 099	1.4	1.3	0.7	0.1	3.5	5 098	1 445			99.97%	A		
10	1959	1976	1678	4 011	5 689	1.4	1.3	0.2	0.1	3.0	5 689	1 886			99.98%	A		
11	1959	3731	1678	5 079	6 757	1.4	1.3	0.0	0.1	2.8	6 756	2 377			99.99%	A		
12	1959	4279	1678	6 144	7 822	1.4	1.3	0.0	0.1	2.9	7 821	2 744			99.99%	A		
1	1960	3253	1678	6 398	8 076	1.4	1.3	0.0	0.1	2.9	8 075	2 830			99.99%	A		
2	1960	3689	1678	6 359	8 037	1.4	1.3	0.0	0.1	2.8	8 037	2 824			99.99%	A		
3	1960	4093	1678	6 585	8 263	1.4	1.3	0.0	0.1	2.8	8 263	2 907			99.99%	A		
4	1960	3352	1678	6 555	8 233	1.4	1.3		0.1	2.8	8 232	2 897	0.05%	81 973	99.99%	A	99.98%	A
5	1960	996	1678	5 616	7 294	1.4	1.3	0.3	0.1	3.2	7 293	2 298			99.99%	A		
6	1960	37	1678	4 314	5 992	1.4	1.3	1.1	0.1	4.0	5 991	1 509			99.97%	A		
7	1960	36	1678	3 538	5 216	1.4	1.3	1.2	0.1	4.1	5 214	1 287			99.96%	A		
8	1960	463	1678	3 360	5 038	1.4	1.3	1.0	0.1	3.9	5 037	1 296			99.96%	A		
9	1960	1196	1678	3 630	5 308	1.4	1.3	0.7	0.1	3.5	5 307	1 504			99.97%	A		
10	1960	2969	1678	4 482	6 160	1.4	1.3	0.2	0.1	3.0	6 159	2 042			99.98%	A		
11	1960	3871	1678	5 576	7 254	1.4	1.3	0.0	0.1	2.8	7 253	2 552			99.99%	A		
12	1960	3756	1678	6 218	7 896	1.4	1.3	0.0	0.1	2.9	7 895	2 770			99.99%	A		
1	1961	3136	1678	6 251	7 929	1.4	1.3	0.0	0.1	2.9	7 929	2 779			99.99%	A		
2	1961	3618	1678	6 247	7 925	1.4	1.3	0.0	0.1	2.8	7 925	2 785			99.99%	A		
3	1961	4393	1678	6 615	8 293	1.4	1.3	0.0	0.1	2.8	8 292	2 918			99.99%	A		
4	1961	2848	1678	6 491	8 169	1.4	1.3		0.1	2.8	8 169	2 875	0.05%	81 905	99.99%	A	99.98%	A
5	1961	747	1678	5 379	7 057	1.4	1.3	0.3	0.1	3.2	7 056	2 223			99.98%	A		
6	1961	8	1678	4 144	5 822	1.4	1.3	1.1	0.1	4.0	5 820	1 466			99.96%	A		
7	1961	6	1678	3 453	5 131	1.4	1.3	1.2	0.1	4.1	5 129	1 266			99.96%	A		
8	1961	167	1678	3 227	4 905	1.4	1.3	1.0	0.1	3.9	4 903	1 262			99.96%	A		
9	1961	1008	1678	3 439	5 117	1.4	1.3	0.7	0.1	3.5	5 116	1 450			99.97%	A		
10	1961	2670	1678	4 263	5 941	1.4	1.3	0.2	0.1	3.0	5 941	1 970			99.98%	A		
11	1961	3753	1678	5 372	7 050	1.4	1.3	0.0	0.1	2.8	7 049	2 480			99.99%	A		
12	1961	4247	1678	6 257	7 935	1.4	1.3	0.0	0.1	2.9	7 934	2 783			99.99%	A		
1	1962	3030	1678	6 365	8 043	1.4	1.3	0.0	0.1	2.9	8 043	2 819			99.99%	A		

2	1962	3289	1678	6 163	7 841	1.4	1.3	0.0	0.1	2.8	7 840	2 755	0.05%	81 947	99.99%	A	99.98%	A
3	1962	4950	1678	6 665	8 343	1.4	1.3	0.0	0.1	2.8	8 342	2 935			99.99%	A		
4	1962	2763	1678	6 634	8 312	1.4	1.3		0.1	2.8	8 311	2 925			99.99%	A		
5	1962	361	1678	5 293	6 971	1.4	1.3	0.3	0.1	3.2	6 971	2 197			99.98%	A		
6	1962	3	1678	4 005	5 683	1.4	1.3	1.1	0.1	4.0	5 681	1 431			99.96%	A		
7	1962	9	1678	3 397	5 075	1.4	1.3	1.2	0.1	4.1	5 074	1 252			99.96%	A		
8	1962	880	1678	3 426	5 104	1.4	1.3	1.0	0.1	3.9	5 102	1 313			99.96%	A		
9	1962	1054	1678	3 724	5 402	1.4	1.3	0.7	0.1	3.5	5 401	1 531			99.97%	A		
10	1962	1374	1678	4 148	5 826	1.4	1.3	0.2	0.1	3.0	5 825	1 932	0.05%	78 820	99.98%	A	99.98%	A
11	1962	2430	1678	4 989	6 667	1.4	1.3	0.0	0.1	2.8	6 667	2 346			99.99%	A		
12	1962	2327	1678	5 670	7 348	1.4	1.3	0.0	0.1	2.9	7 348	2 578			99.99%	A		
1	1963	2807	1678	6 108	7 786	1.4	1.3	0.0	0.1	2.9	7 785	2 729			99.99%	A		
2	1963	1834	1678	6 045	7 723	1.4	1.3	0.0	0.1	2.8	7 723	2 714			99.99%	A		
3	1963	3115	1678	6 206	7 884	1.4	1.3	0.0	0.1	2.8	7 884	2 774			99.99%	A		
4	1963	2032	1678	6 282	7 960	1.4	1.3		0.1	2.8	7 960	2 802			99.99%	A		
5	1963	210	1678	5 140	6 818	1.4	1.3	0.3	0.1	3.2	6 817	2 148			99.98%	A		
6	1963	1	1678	3 924	5 602	1.4	1.3	1.1	0.1	4.0	5 600	1 411			99.96%	A		
7	1963	63	1678	3 389	5 067	1.4	1.3	1.2	0.1	4.1	5 065	1 250			99.96%	A		
8	1963	55	1678	3 195	4 873	1.4	1.3	1.0	0.1	3.9	4 871	1 254			99.96%	A		
9	1963	608	1678	3 349	5 027	1.4	1.3	0.7	0.1	3.5	5 026	1 425			99.97%	A		
10	1963	2234	1678	4 047	5 725	1.4	1.3	0.2	0.1	3.0	5 724	1 898	0.05%	80 779	99.98%	A	99.98%	A
11	1963	4595	1678	5 429	7 107	1.4	1.3	0.0	0.1	2.8	7 106	2 500			99.99%	A		
12	1963	3997	1678	6 428	8 106	1.4	1.3	0.0	0.1	2.9	8 105	2 843			99.99%	A		
1	1964	3625	1678	6 551	8 229	1.4	1.3	0.0	0.1	2.9	8 228	2 884			99.99%	A		
2	1964	4340	1678	6 721	8 399	1.4	1.3	0.0	0.1	2.8	8 398	2 951			99.99%	A		
3	1964	4065	1678	6 895	8 573	1.4	1.3	0.0	0.1	2.8	8 573	3 017			99.99%	A		
4	1964	1318	1678	6 042	7 720	1.4	1.3		0.1	2.8	7 720	2 717			99.99%	A		
5	1964	80	1678	4 583	6 261	1.4	1.3	0.3	0.1	3.2	6 260	1 973			99.98%	A		
6	1964	9	1678	3 648	5 326	1.4	1.3	1.1	0.1	4.0	5 325	1 341			99.96%	A		
7	1964		1678	3 254	4 932	1.4	1.3	1.2	0.1	4.1	4 930	1 217			99.95%	A		
8	1964	502	1678	3 249	4 927	1.4	1.3	1.0	0.1	3.9	4 926	1 268			99.96%	A		
9	1964	1052	1678	3 552	5 230	1.4	1.3	0.7	0.1	3.5	5 229	1 482			99.97%	A		
10	1964	1446	1678	4 109	5 787	1.4	1.3	0.2	0.1	3.0	5 786	1 919	0.05%	78 128	99.98%	A	99.98%	A
11	1964	2055	1678	4 841	6 519	1.4	1.3	0.0	0.1	2.8	6 519	2 293			99.99%	A		
12	1964	2626	1678	5 600	7 278	1.4	1.3	0.0	0.1	2.9	7 278	2 553			99.99%	A		
1	1965	1964	1678	5 831	7 509	1.4	1.3	0.0	0.1	2.9	7 509	2 632			99.99%	A		
2	1965	1698	1678	5 567	7 245	1.4	1.3	0.0	0.1	2.8	7 244	2 546			99.99%	A		
3	1965	3461	1678	6 112	7 790	1.4	1.3	0.0	0.1	2.8	7 790	2 741			99.99%	A		
4	1965	2096	1678	6 399	8 077	1.4	1.3		0.1	2.8	8 077	2 843			99.99%	A		
5	1965	41	1678	5 138	6 816	1.4	1.3	0.3	0.1	3.2	6 815	2 148			99.98%	A		
6	1965	250	1678	3 967	5 645	1.4	1.3	1.1	0.1	4.0	5 643	1 421			99.96%	A		
7	1965	3	1678	3 472	5 150	1.4	1.3	1.2	0.1	4.1	5 148	1 271			99.96%	A		
8	1965	129	1678	3 237	4 915	1.4	1.3	1.0	0.1	3.9	4 913	1 265			99.96%	A		
9	1965	818	1678	3 482	5 160	1.4	1.3	0.7	0.1	3.5	5 159	1 462			99.97%	A		
10	1965	1256	1678	4 021	5 699	1.4	1.3	0.2	0.1	3.0	5 698	1 889	0.05%	78 898	99.98%	A	99.98%	A
11	1965	2089	1678	4 750	6 428	1.4	1.3	0.0	0.1	2.8	6 428	2 261			99.99%	A		
12	1965	2935	1678	5 708	7 386	1.4	1.3	0.0	0.1	2.9	7 385	2 591			99.99%	A		
1	1966	2147	1678	6 066	7 744	1.4	1.3	0.0	0.1	2.9	7 743	2 714			99.99%	A		
2	1966	2028	1678	5 868	7 546	1.4	1.3	0.0	0.1	2.8	7 545	2 652			99.99%	A		
3	1966	3519	1678	6 379	8 057	1.4	1.3	0.0	0.1	2.8	8 056	2 835			99.99%	A		
4	1966	1807	1678	6 404	8 082	1.4	1.3		0.1	2.8	8 082	2 844			99.99%	A		
5	1966	76	1678	5 048	6 726	1.4	1.3	0.3	0.1	3.2	6 725	2 119			99.98%	A		
6	1966	149	1678	3 900	5 578	1.4	1.3	1.1	0.1	4.0	5 577	1 405			99.96%	A		
7	1966	5	1678	3 409	5 087	1.4	1.3	1.2	0.1	4.1	5 085	1 255			99.96%	A		
8	1966	437	1678	3 344	5 022	1.4	1.3	1.0	0.1	3.9	5 020	1 292			99.96%	A		
9	1966	791	1678	3 627	5 305	1.4	1.3	0.7	0.1	3.5	5 304	1 503			99.97%	A		
10	1966	1670	1678	4 244	5 922	1.4	1.3	0.2	0.1	3.0	5 921	1 963			99.98%	A		

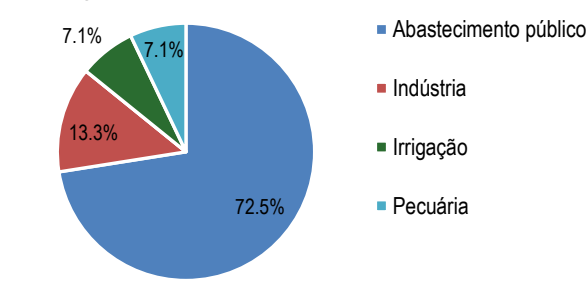
11	1966	1927	1678	4 923	6 601	1.4	1.3	0.0	0.1	2.8	6 600	2 322	0.05%	78 595	99.99%	A	99.98%	A
12	1966	2113	1678	5 368	7 046	1.4	1.3	0.0	0.1	2.9	7 045	2 471			99.99%	A		
1	1967	2039	1678	5 582	7 260	1.4	1.3	0.0	0.1	2.9	7 259	2 544			99.99%	A		
2	1967	2547	1678	5 856	7 534	1.4	1.3	0.0	0.1	2.8	7 533	2 647			99.99%	A		
3	1967	2946	1678	6 321	7 999	1.4	1.3	0.0	0.1	2.8	7 999	2 815			99.99%	A		
4	1967	2214	1678	6 343	8 021	1.4	1.3		0.1	2.8	8 021	2 823			99.99%	A		
5	1967	344	1678	5 288	6 966	1.4	1.3	0.3	0.1	3.2	6 965	2 195			99.98%	A		
6	1967	53	1678	4 054	5 732	1.4	1.3	1.1	0.1	4.0	5 731	1 443			99.96%	A		
7	1967	0	1678	3 433	5 111	1.4	1.3	1.2	0.1	4.1	5 109	1 261			99.96%	A		
8	1967	314	1678	3 299	4 977	1.4	1.3	1.0	0.1	3.9	4 976	1 281			99.96%	A		
9	1967	668	1678	3 512	5 190	1.4	1.3	0.7	0.1	3.5	5 188	1 471			99.97%	A		
10	1967	2311	1678	4 157	5 835	1.4	1.3	0.2	0.1	3.0	5 834	1 935	0.05%	81 431	99.98%	A	99.98%	A
11	1967	5128	1678	5 658	7 336	1.4	1.3	0.0	0.1	2.8	7 336	2 581			99.99%	A		
12	1967	3340	1678	6 459	8 137	1.4	1.3	0.0	0.1	2.9	8 136	2 854			99.99%	A		
1	1968	3363	1678	6 306	7 984	1.4	1.3	0.0	0.1	2.9	7 983	2 798			99.99%	A		
2	1968	3937	1678	6 429	8 107	1.4	1.3	0.0	0.1	2.8	8 106	2 849			99.99%	A		
3	1968	4313	1678	6 747	8 425	1.4	1.3	0.0	0.1	2.8	8 425	2 965			99.99%	A		
4	1968	2582	1678	6 440	8 118	1.4	1.3		0.1	2.8	8 118	2 857			99.99%	A		
5	1968	189	1678	5 115	6 793	1.4	1.3	0.3	0.1	3.2	6 792	2 140			99.98%	A		
6	1968	9	1678	3 889	5 567	1.4	1.3	1.1	0.1	4.0	5 566	1 402			99.96%	A		
7	1968	60	1678	3 369	5 047	1.4	1.3	1.2	0.1	4.1	5 045	1 245			99.96%	A		
8	1968	52	1678	3 172	4 850	1.4	1.3	1.0	0.1	3.9	4 849	1 248			99.96%	A		
9	1968	751	1678	3 307	4 985	1.4	1.3	0.7	0.1	3.5	4 984	1 413			99.97%	A		
10	1968	2292	1678	4 025	5 703	1.4	1.3	0.2	0.1	3.0	5 702	1 891	0.05%	80 186	99.98%	A	99.98%	A
11	1968	3003	1678	4 944	6 622	1.4	1.3	0.0	0.1	2.8	6 621	2 329			99.99%	A		
12	1968	4261	1678	5 890	7 568	1.4	1.3	0.0	0.1	2.9	7 567	2 655			99.99%	A		
1	1969	4276	1678	6 608	8 286	1.4	1.3	0.0	0.1	2.9	8 286	2 904			99.99%	A		
2	1969	3412	1678	6 631	8 309	1.4	1.3	0.0	0.1	2.8	8 309	2 920			99.99%	A		
3	1969	3089	1678	6 309	7 987	1.4	1.3	0.0	0.1	2.8	7 987	2 810			99.99%	A		
4	1969	3424	1678	6 198	7 876	1.4	1.3		0.1	2.8	7 875	2 772			99.99%	A		
5	1969	192	1678	5 245	6 923	1.4	1.3	0.3	0.1	3.2	6 922	2 181			99.98%	A		
6	1969	0	1678	3 939	5 617	1.4	1.3	1.1	0.1	4.0	5 616	1 414			99.96%	A		
7	1969		1678	3 367	5 045	1.4	1.3	1.2	0.1	4.1	5 044	1 245			99.95%	A		
8	1969	259	1678	3 219	4 897	1.4	1.3	1.0	0.1	3.9	4 896	1 260			99.96%	A		
9	1969	914	1678	3 432	5 110	1.4	1.3	0.7	0.1	3.5	5 109	1 448			99.97%	A		
10	1969	3277	1678	4 423	6 101	1.4	1.3	0.2	0.1	3.0	6 100	2 023	0.05%	81 153	99.98%	A	99.98%	A
11	1969	4217	1678	5 742	7 420	1.4	1.3	0.0	0.1	2.8	7 419	2 610			99.99%	A		
12	1969	3837	1678	6 402	8 080	1.4	1.3	0.0	0.1	2.9	8 079	2 834			99.99%	A		
1	1970	3899	1678	6 582	8 260	1.4	1.3	0.0	0.1	2.9	8 259	2 895			99.99%	A		
2	1970	3986	1678	6 697	8 375	1.4	1.3	0.0	0.1	2.8	8 375	2 943			99.99%	A		
3	1970	3057	1678	6 479	8 157	1.4	1.3	0.0	0.1	2.8	8 157	2 870			99.99%	A		
4	1970	1926	1678	5 794	7 472	1.4	1.3		0.1	2.8	7 472	2 630			99.99%	A		
5	1970	186	1678	4 680	6 358	1.4	1.3	0.3	0.1	3.2	6 357	2 003			99.98%	A		
6	1970	100	1678	3 743	5 421	1.4	1.3	1.1	0.1	4.0	5 420	1 365			99.96%	A		
7	1970	66	1678	3 337	5 015	1.4	1.3	1.2	0.1	4.1	5 013	1 237			99.95%	A		
8	1970	347	1678	3 252	4 930	1.4	1.3	1.0	0.1	3.9	4 929	1 269			99.96%	A		
9	1970	1470	1678	3 641	5 319	1.4	1.3	0.7	0.1	3.5	5 318	1 507			99.97%	A		
10	1970	2366	1678	4 373	6 051	1.4	1.3	0.2	0.1	3.0	6 051	2 006	0.05%	80 064	99.98%	A	99.98%	A
11	1970	3433	1678	5 235	6 913	1.4	1.3	0.0	0.1	2.8	6 913	2 432			99.99%	A		
12	1970	3461	1678	5 874	7 552	1.4	1.3	0.0	0.1	2.9	7 551	2 649			99.99%	A		
1	1971	2975	1678	5 985	7 663	1.4	1.3	0.0	0.1	2.9	7 663	2 686			99.99%	A		
2	1971	2647	1678	5 798	7 476	1.4	1.3	0.0	0.1	2.8	7 476	2 627			99.99%	A		
3	1971	2509	1678	5 593	7 271	1.4	1.3	0.0	0.1	2.8	7 271	2 558			99.99%	A		
4	1971	5572	1678	6 421	8 099	1.4	1.3		0.1	2.8	8 098	2 850			99.99%	A		
5	1971	60	1678	5 868	7 546	1.4	1.3	0.3	0.1	3.2	7 546	2 378			99.99%	A		
6	1971	0	1678	4 153	5 831	1.4	1.3	1.1	0.1	4.0	5 829	1 468			99.97%	A		
7	1971	31	1678	3 462	5 140	1.4	1.3	1.2	0.1	4.1	5 138	1 268			99.96%	A		

8	1971	260	1678	3 266	4 944	1.4	1.3	1.0	0.1	3.9	4 942	1 272	0.05%	79 638	99.96%	A	99.98%	A
9	1971	1577	1678	3 656	5 334	1.4	1.3	0.7	0.1	3.5	5 333	1 512			99.97%	A		
10	1971	2460	1678	4 438	6 116	1.4	1.3	0.2	0.1	3.0	6 115	2 028			99.98%	A		
11	1971	3386	1678	5 272	6 950	1.4	1.3	0.0	0.1	2.8	6 949	2 445			99.99%	A		
12	1971	3558	1678	5 905	7 583	1.4	1.3	0.0	0.1	2.9	7 583	2 660			99.99%	A		
1	1972	3582	1678	6 211	7 889	1.4	1.3	0.0	0.1	2.9	7 889	2 765			99.99%	A		
2	1972	3264	1678	6 241	7 919	1.4	1.3	0.0	0.1	2.8	7 919	2 783			99.99%	A		
3	1972	3296	1678	6 178	7 856	1.4	1.3	0.0	0.1	2.8	7 856	2 764			99.99%	A		
4	1972	2596	1678	5 945	7 623	1.4	1.3		0.1	2.8	7 623	2 683			99.99%	A		
5	1972	494	1678	5 015	6 693	1.4	1.3	0.3	0.1	3.2	6 693	2 109			99.98%	A		
6	1972	6	1678	3 930	5 608	1.4	1.3	1.1	0.1	4.0	5 607	1 412			99.96%	A		
7	1972		1678	3 365	5 043	1.4	1.3	1.2	0.1	4.1	5 042	1 244			99.95%	A		
8	1972	130	1678	3 179	4 857	1.4	1.3	1.0	0.1	3.9	4 855	1 250			99.96%	A		
9	1972	1557	1678	3 580	5 258	1.4	1.3	0.7	0.1	3.5	5 257	1 490			99.97%	A		
10	1972	1888	1678	4 444	6 122	1.4	1.3	0.2	0.1	3.0	6 121	2 030	0.05%	78 460	99.98%	A	99.98%	A
11	1972	2363	1678	5 268	6 946	1.4	1.3	0.0	0.1	2.8	6 946	2 444			99.99%	A		
12	1972	2657	1678	5 897	7 575	1.4	1.3	0.0	0.1	2.9	7 574	2 657			99.99%	A		
1	1973	2729	1678	6 286	7 964	1.4	1.3	0.0	0.1	2.9	7 964	2 791			99.99%	A		
2	1973	2147	1678	6 221	7 899	1.4	1.3	0.0	0.1	2.8	7 898	2 776			99.99%	A		
3	1973	2345	1678	6 064	7 742	1.4	1.3	0.0	0.1	2.8	7 742	2 724			99.99%	A		
4	1973	1167	1678	5 574	7 252	1.4	1.3		0.1	2.8	7 252	2 552			99.99%	A		
5	1973	351	1678	4 598	6 276	1.4	1.3	0.3	0.1	3.2	6 275	1 977			99.98%	A		
6	1973	0	1678	3 759	5 437	1.4	1.3	1.1	0.1	4.0	5 436	1 369			99.96%	A		
7	1973	0	1678	3 296	4 974	1.4	1.3	1.2	0.1	4.1	4 972	1 227			99.95%	A		
8	1973	122	1678	3 163	4 841	1.4	1.3	1.0	0.1	3.9	4 839	1 246			99.96%	A		
9	1973	975	1678	3 517	5 195	1.4	1.3	0.7	0.1	3.5	5 194	1 472			99.97%	A		
10	1973	1673	1678	4 269	5 947	1.4	1.3	0.2	0.1	3.0	5 947	1 972	0.05%	78 948	99.98%	A	99.98%	A
11	1973	2528	1678	5 190	6 868	1.4	1.3	0.0	0.1	2.8	6 867	2 416			99.99%	A		
12	1973	2799	1678	5 986	7 664	1.4	1.3	0.0	0.1	2.9	7 664	2 688			99.99%	A		
1	1974	2769	1678	6 391	8 069	1.4	1.3	0.0	0.1	2.9	8 068	2 828			99.99%	A		
2	1974	1500	1678	6 002	7 680	1.4	1.3	0.0	0.1	2.8	7 680	2 699			99.99%	A		
3	1974	2662	1678	5 873	7 551	1.4	1.3	0.0	0.1	2.8	7 551	2 657			99.99%	A		
4	1974	1817	1678	5 891	7 569	1.4	1.3		0.1	2.8	7 568	2 664			99.99%	A		
5	1974	420	1678	4 993	6 671	1.4	1.3	0.3	0.1	3.2	6 670	2 102			99.98%	A		
6	1974	0	1678	3 942	5 620	1.4	1.3	1.1	0.1	4.0	5 619	1 415			99.96%	A		
7	1974	0	1678	3 369	5 047	1.4	1.3	1.2	0.1	4.1	5 045	1 245			99.96%	A		
8	1974	205	1678	3 227	4 905	1.4	1.3	1.0	0.1	3.9	4 904	1 262			99.96%	A		
9	1974	659	1678	3 439	5 117	1.4	1.3	0.7	0.1	3.5	5 116	1 450			99.97%	A		

UH	Noroeste
Área (km ²)	52 676
População	721 523
Área irrigada (ha)	214
NGR (mm)	800

Sector	Necessidades anuais de água (hm ³)	
Abastecimento público	13. 9	72.5%
Indústria	2.6	13.3%
Termo eléctricas		
Irrigação	1.4	7.1%
Pecuária	1.4	7.1%
Volume anual turbinado (hm ³)		
Hidroelectricidade		

Uso da água na UH do Noroeste



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo eléctricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm ³)	Águas subterâneas (hm ³)	Escoamentos (hm ³)	Disponibilidades (hm ³)	Necessidades (hm ³)				Transf. de água transfronteiriça (hm ³)	Total dos usos consumptíveis (hm ³)	Balanço (hm ³)	Ratio Disp. Nec.	IUP (%)	IP m ³ /ano.hab	Classe de Gestão Ecológica		
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual	
Ano médio	3 046.1	2 748.0	13 821.7	16 569.7	13. 9	2. 6	1. 4	1. 4	---	19. 2	16 565.1	861.5	0.1%	22 965	---	---	99.97% A
Ano seco	1 647.3	2 748.0	12 720.7	15 468.7	13. 9	2. 6	1. 4	1. 4	---	19. 2	15 464.1	804.3	0.1%	21 439	---	---	99.96% A
Ano muito seco	841.4	2 748.0	11 542.1	14 290.1	13. 9	2. 6	1. 4	1. 4	---	19. 2	14 285.5	743.0	0.1%	19 805	---	---	99.96% A

Mês	Ano																			
	10	1944	329	229	728.3	957.3	1.2	0.2	0.1	0.1		1.6	957	589	0.10%	25 389	99.95%	A	99.97%	A
	11	1944	837	229	1 261.9	1 490.9	1.2	0.2	0.0	0.1		1.5	1 491	985			99.98%	A		
	12	1944	745	229	1 624.8	1 853.8	1.2	0.2	0.1	0.1		1.5	1 853	1 204			99.98%	A		
	1	1945	729	229	1 748.5	1 977.5	1.2	0.2	0.1	0.1		1.6	1 977	1 275			99.98%	A		
	2	1945	417	229	1 580.8	1 809.8	1.2	0.2	0.0	0.1		1.5	1 810	1 189			99.98%	A		
	3	1945	986	229	1 792.3	2 021.3	1.2	0.2	0.0	0.1		1.5	2 021	1 355			99.98%	A		
	4	1945	1121	229	2 187.7	2 416.7	1.2	0.2	0.0	0.1		1.5	2 416	1 623			99.99%	A		
	5	1945	184	229	1 759.4	1 988.4	1.2	0.2	0.0	0.1		1.5	1 988	1 312			99.98%	A		
	6	1945	1	229	1 099.0	1 328.0	1.2	0.2	0.2	0.1		1.7	1 328	775			99.96%	A		
	7	1945	2	229	729.3	958.3	1.2	0.2	0.3	0.1		1.8	958	537			99.93%	A		
	8	1945	1	229	558.0	787.0	1.2	0.2	0.3	0.1		1.8	786	446	99.91%	A				
	9	1945	33	229	501.2	730.2	1.2	0.2	0.2	0.1		1.7	730	424	99.91%	A				
	10	1945	585	229	874.8	1 103.8	1.2	0.2	0.1	0.1		1.6	1 103	680	0.11%	24 623	99.95%	A	99.97%	A
	11	1945	1005	229	1 539.4	1 768.4	1.2	0.2	0.0	0.1		1.5	1 768	1 168			99.98%	A		
	12	1945	456	229	1 609.4	1 838.4	1.2	0.2	0.1	0.1		1.5	1 838	1 194			99.98%	A		
	1	1946	427	229	1 426.0	1 655.0	1.2	0.2	0.1	0.1		1.6	1 655	1 067			99.98%	A		
	2	1946	274	229	1 223.8	1 452.8	1.2	0.2	0.0	0.1		1.5	1 453	954			99.97%	A		
	3	1946	879	229	1 501.1	1 730.1	1.2	0.2	0.0	0.1		1.5	1 730	1 160			99.98%	A		
	4	1946	1257	229	2 110.3	2 339.3	1.2	0.2	0.0	0.1		1.5	2 339	1 571			99.99%	A		
	5	1946	157	229	1 753.0	1 982.0	1.2	0.2	0.0	0.1		1.5	1 982	1 308			99.98%	A		
	6	1946		229	1 086.1	1 315.1	1.2	0.2	0.2	0.1		1.7	1 315	767			99.96%	A		
	7	1946	1	229	722.3	951.3	1.2	0.2	0.3	0.1		1.8	951	533			99.93%	A		
	8	1946	0	229	553.9	782.9	1.2	0.2	0.3	0.1		1.8	782	443	99.91%	A				
	9	1946	202	229	618.0	847.0	1.2	0.2	0.2	0.1		1.7	846	492	99.92%	A				
	10	1946	248	229	751.4	980.4	1.2	0.2	0.1	0.1		1.6	980	604	0.11%	24 769	99.95%	A	99.97%	A
	11	1946	600	229	1 077.0	1 306.0	1.2	0.2	0.0	0.1		1.5	1 306	863			99.97%	A		
	12	1946	928	229	1 583.7	1 812.7	1.2	0.2	0.1	0.1		1.5	1 812	1 177			99.98%	A		
	1	1947	521	229	1 648.6	1 877.6	1.2	0.2	0.1	0.1		1.6	1 877	1 211			99.98%	A		
	2	1947	499	229	1 518.0	1 747.0	1.2	0.2	0.0	0.1		1.5	1 747	1 148			99.98%	A		
	3	1947	523	229	1 467.0	1 696.0	1.2	0.2	0.0	0.1		1.5	1 696	1 137			99.98%	A		
	4	1947	1125	229	1 875.2	2 104.2	1.2	0.2	0.0	0.1		1.5	2 104	1 413			99.98%	A		
	5	1947	602	229	1 910.2	2 139.2	1.2	0.2	0.0	0.1		1.5	2 139	1 412			99.98%	A		
	6	1947	10	229	1 324.2	1 553.2	1.2	0.2	0.2	0.1		1.7	1 553	906			99.96%	A		
	7	1947		229	835.6	1 064.6	1.2	0.2	0.3	0.1		1.8	1 064	597			99.94%	A		
	8	1947	3	229	608.1	837.1	1.2	0.2	0.3	0.1		1.8	837	474	99.92%	A				
	9	1947	32	229	524.2	753.2	1.2	0.2	0.2	0.1		1.7	753	437	99.91%	A				
	10	1947	63	229	649.4	878.4	1.2	0.2	0.1	0.1		1.6	878	541			99.94%	A		

11	1947	201	229	1 174.0	1 403.0	1.2	0.2	0.0	0.1	1.5	1 403	927	0.14%	18 653	99.97%	A	99.96%	A
12	1947	69	229	1 241.8	1 470.8	1.2	0.2	0.1	0.1	1.5	1 470	955			99.97%	A		
1	1948	55	229	1 045.6	1 274.6	1.2	0.2	0.1	0.1	1.6	1 274	822			99.97%	A		
2	1948	66	229	965.7	1 194.7	1.2	0.2	0.0	0.1	1.5	1 194	785			99.97%	A		
3	1948	49	229	897.3	1 126.3	1.2	0.2	0.0	0.1	1.5	1 126	755			99.97%	A		
4	1948	165	229	1 167.7	1 396.7	1.2	0.2	0.0	0.1	1.5	1 396	938			99.98%	A		
5	1948	47	229	1 125.4	1 354.4	1.2	0.2	0.0	0.1	1.5	1 354	894			99.97%	A		
6	1948	7	229	825.0	1 054.0	1.2	0.2	0.2	0.1	1.7	1 054	615			99.94%	A		
7	1948	1	229	614.2	843.2	1.2	0.2	0.3	0.1	1.8	843	473			99.91%	A		
8	1948	3	229	512.7	741.7	1.2	0.2	0.3	0.1	1.8	741	420			99.90%	A		
9	1948	11	229	491.8	720.8	1.2	0.2	0.2	0.1	1.7	720	419			99.90%	A		
10	1948	335	229	698.8	927.8	1.2	0.2	0.1	0.1	1.6	927	571	0.11%	24 634	99.94%	A	99.97%	A
11	1948	835	229	1 249.5	1 478.5	1.2	0.2	0.0	0.1	1.5	1 478	977			99.98%	A		
12	1948	676	229	1 569.7	1 798.7	1.2	0.2	0.1	0.1	1.5	1 798	1 168			99.98%	A		
1	1949	523	229	1 553.7	1 782.7	1.2	0.2	0.1	0.1	1.6	1 782	1 149			99.98%	A		
2	1949	619	229	1 559.7	1 788.7	1.2	0.2	0.0	0.1	1.5	1 788	1 175			99.98%	A		
3	1949	738	229	1 680.1	1 909.1	1.2	0.2	0.0	0.1	1.5	1 909	1 280			99.98%	A		
4	1949	1139	229	2 060.3	2 289.3	1.2	0.2	0.0	0.1	1.5	2 289	1 538			99.99%	A		
5	1949	162	229	1 691.3	1 920.3	1.2	0.2	0.0	0.1	1.5	1 920	1 267			99.98%	A		
6	1949	49	229	1 093.8	1 322.8	1.2	0.2	0.2	0.1	1.7	1 322	772			99.96%	A		
7	1949	21	229	757.8	986.8	1.2	0.2	0.3	0.1	1.8	986	553			99.93%	A		
8	1949	16	229	588.8	817.8	1.2	0.2	0.3	0.1	1.8	817	463			99.91%	A		
9	1949	35	229	522.4	751.4	1.2	0.2	0.2	0.1	1.7	751	436			99.91%	A		
10	1949	116	229	604.8	833.8	1.2	0.2	0.1	0.1	1.6	833	513	0.11%	23 631	99.93%	A	99.97%	A
11	1949	422	229	1 040.4	1 269.4	1.2	0.2	0.0	0.1	1.5	1 269	839			99.97%	A		
12	1949	374	229	1 362.2	1 591.2	1.2	0.2	0.1	0.1	1.5	1 591	1 033			99.98%	A		
1	1950	257	229	1 351.4	1 580.4	1.2	0.2	0.1	0.1	1.6	1 580	1 019			99.97%	A		
2	1950	403	229	1 443.7	1 672.7	1.2	0.2	0.0	0.1	1.5	1 672	1 099			99.98%	A		
3	1950	555	229	1 740.6	1 969.6	1.2	0.2	0.0	0.1	1.5	1 969	1 320			99.98%	A		
4	1950	575	229	1 987.7	2 216.7	1.2	0.2	0.0	0.1	1.5	2 216	1 489			99.99%	A		
5	1950	229	229	1 724.1	1 953.1	1.2	0.2	0.0	0.1	1.5	1 953	1 289			99.98%	A		
6	1950	9	229	1 157.6	1 386.6	1.2	0.2	0.2	0.1	1.7	1 386	809			99.96%	A		
7	1950	1	229	761.3	990.3	1.2	0.2	0.3	0.1	1.8	990	555			99.93%	A		
8	1950	4	229	576.5	805.5	1.2	0.2	0.3	0.1	1.8	805	456			99.91%	A		
9	1950	57	229	552.4	781.4	1.2	0.2	0.2	0.1	1.7	781	454			99.91%	A		
10	1950	273	229	814.8	1 043.8	1.2	0.2	0.1	0.1	1.6	1 043	643	0.12%	23 141	99.95%	A	99.97%	A
11	1950	840	229	1 697.7	1 926.7	1.2	0.2	0.0	0.1	1.5	1 926	1 273			99.98%	A		
12	1950	471	229	2 012.6	2 241.6	1.2	0.2	0.1	0.1	1.5	2 241	1 455			99.98%	A		
1	1951	81	229	1 509.1	1 738.1	1.2	0.2	0.1	0.1	1.6	1 738	1 121			99.98%	A		
2	1951	203	229	1 191.7	1 420.7	1.2	0.2	0.0	0.1	1.5	1 420	933			99.97%	A		
3	1951	403	229	1 339.1	1 568.1	1.2	0.2	0.0	0.1	1.5	1 568	1 051			99.98%	A		
4	1951	322	229	1 430.6	1 659.6	1.2	0.2	0.0	0.1	1.5	1 659	1 115			99.98%	A		
5	1951	226	229	1 318.8	1 547.8	1.2	0.2	0.0	0.1	1.5	1 547	1 022			99.98%	A		
6	1951	0	229	958.0	1 187.0	1.2	0.2	0.2	0.1	1.7	1 186	693			99.95%	A		
7	1951	1	229	663.4	892.4	1.2	0.2	0.3	0.1	1.8	892	500			99.92%	A		
8	1951	8	229	535.4	764.4	1.2	0.2	0.3	0.1	1.8	764	433			99.91%	A		
9	1951	6	229	477.9	706.9	1.2	0.2	0.2	0.1	1.7	706	411			99.90%	A		
10	1951	141	229	602.2	831.2	1.2	0.2	0.1	0.1	1.6	831	512	0.11%	24 269	99.93%	A	99.97%	A
11	1951	641	229	1 299.3	1 528.3	1.2	0.2	0.0	0.1	1.5	1 528	1 010			99.98%	A		
12	1951	445	229	1 685.9	1 914.9	1.2	0.2	0.1	0.1	1.5	1 915	1 243			99.98%	A		
1	1952	93	229	1 357.6	1 586.6	1.2	0.2	0.1	0.1	1.6	1 586	1 023			99.98%	A		
2	1952	460	229	1 418.4	1 647.4	1.2	0.2	0.0	0.1	1.5	1 647	1 082			99.98%	A		
3	1952	600	229	1 812.4	2 041.4	1.2	0.2	0.0	0.1	1.5	2 041	1 369			99.98%	A		
4	1952	626	229	2 103.9	2 332.9	1.2	0.2	0.0	0.1	1.5	2 333	1 567			99.99%	A		
5	1952	101	229	1 662.2	1 891.2	1.2	0.2	0.0	0.1	1.5	1 891	1 248			99.98%	A		
6	1952	1	229	1 046.9	1 275.9	1.2	0.2	0.2	0.1	1.7	1 275	745			99.96%	A		
7	1952	2	229	706.7	935.7	1.2	0.2	0.3	0.1	1.8	935	524			99.93%	A		

8	1952	1	229	548.5	777.5	1.2	0.2	0.3	0.1	1.8	777	440	0.12%	21 439	99.91%	A	99.96%	A
9	1952	40	229	519.0	748.0	1.2	0.2	0.2	0.1	1.7	747	434			99.91%	A		
10	1952	171	229	774.0	1 003.0	1.2	0.2	0.1	0.1	1.6	1 003	618	0.12%	21 439	99.95%	A	99.96%	A
11	1952	299	229	1 234.7	1 463.7	1.2	0.2	0.0	0.1	1.5	1 463	967			99.97%	A		
12	1952	266	229	1 501.3	1 730.3	1.2	0.2	0.1	0.1	1.5	1 730	1 123			99.98%	A		
1	1953	70	229	1 262.7	1 491.7	1.2	0.2	0.1	0.1	1.6	1 491	962			99.97%	A		
2	1953	199	229	1 203.0	1 432.0	1.2	0.2	0.0	0.1	1.5	1 432	941			99.97%	A		
3	1953	203	229	1 294.0	1 523.0	1.2	0.2	0.0	0.1	1.5	1 523	1 021			99.98%	A		
4	1953	299	229	1 502.5	1 731.5	1.2	0.2	0.0	0.1	1.5	1 731	1 163			99.98%	A		
5	1953	93	229	1 330.3	1 559.3	1.2	0.2	0.0	0.1	1.5	1 559	1 029			99.98%	A		
6	1953	0	229	915.3	1 144.3	1.2	0.2	0.2	0.1	1.7	1 144	668			99.95%	A		
7	1953	1	229	644.6	873.6	1.2	0.2	0.3	0.1	1.8	873	490			99.92%	A		
8	1953	1	229	519.5	748.5	1.2	0.2	0.3	0.1	1.8	748	424	0.13%	20 545	99.90%	A	99.96%	A
9	1953	46	229	538.7	767.7	1.2	0.2	0.2	0.1	1.7	767	446			99.91%	A		
10	1953	167	229	793.1	1 022.1	1.2	0.2	0.1	0.1	1.6	1 022	629			99.95%	A		
11	1953	183	229	1 041.7	1 270.7	1.2	0.2	0.0	0.1	1.5	1 270	839			99.97%	A		
12	1953	135	229	1 089.1	1 318.1	1.2	0.2	0.1	0.1	1.5	1 318	856			99.97%	A		
1	1954	21	229	875.2	1 104.2	1.2	0.2	0.1	0.1	1.6	1 104	712			99.96%	A		
2	1954	204	229	990.6	1 219.6	1.2	0.2	0.0	0.1	1.5	1 219	801			99.97%	A		
3	1954	190	229	1 177.3	1 406.3	1.2	0.2	0.0	0.1	1.5	1 406	943			99.98%	A		
4	1954	406	229	1 620.1	1 849.1	1.2	0.2	0.0	0.1	1.5	1 849	1 242			99.98%	A		
5	1954	157	229	1 587.5	1 816.5	1.2	0.2	0.0	0.1	1.5	1 816	1 199			99.98%	A		
6	1954	0	229	1 090.3	1 319.3	1.2	0.2	0.2	0.1	1.7	1 319	770	0.12%	22 913	99.96%	A	99.97%	A
7	1954	0	229	724.4	953.4	1.2	0.2	0.3	0.1	1.8	953	534			99.93%	A		
8	1954	2	229	558.4	787.4	1.2	0.2	0.3	0.1	1.8	787	446			99.91%	A		
9	1954	28	229	527.6	756.6	1.2	0.2	0.2	0.1	1.7	756	439			99.91%	A		
10	1954	234	229	750.8	979.8	1.2	0.2	0.1	0.1	1.6	979	603			99.95%	A		
11	1954	585	229	1 357.6	1 586.6	1.2	0.2	0.0	0.1	1.5	1 586	1 048			99.98%	A		
12	1954	300	229	1 517.4	1 746.4	1.2	0.2	0.1	0.1	1.5	1 746	1 134			99.98%	A		
1	1955	386	229	1 526.1	1 755.1	1.2	0.2	0.1	0.1	1.6	1 755	1 132			99.98%	A		
2	1955	32	229	1 180.7	1 409.7	1.2	0.2	0.0	0.1	1.5	1 409	926			99.97%	A		
3	1955	294	229	1 114.7	1 343.7	1.2	0.2	0.0	0.1	1.5	1 343	901			99.97%	A		
4	1955	676	229	1 663.0	1 892.0	1.2	0.2	0.0	0.1	1.5	1 892	1 271	0.12%	22 023	99.98%	A	99.97%	A
5	1955	271	229	1 677.8	1 906.8	1.2	0.2	0.0	0.1	1.5	1 906	1 259			99.98%	A		
6	1955	2	229	1 152.2	1 381.2	1.2	0.2	0.2	0.1	1.7	1 381	806			99.96%	A		
7	1955	1	229	755.0	984.0	1.2	0.2	0.3	0.1	1.8	983	551			99.93%	A		
8	1955	2	229	571.4	800.4	1.2	0.2	0.3	0.1	1.8	800	453			99.91%	A		
9	1955	29	229	517.7	746.7	1.2	0.2	0.2	0.1	1.7	746	434			99.91%	A		
10	1955	207	229	828.6	1 057.6	1.2	0.2	0.1	0.1	1.6	1 057	651			99.95%	A		
11	1955	400	229	1 463.6	1 692.6	1.2	0.2	0.0	0.1	1.5	1 692	1 118			99.98%	A		
12	1955	271	229	1 703.3	1 932.3	1.2	0.2	0.1	0.1	1.5	1 932	1 255			99.98%	A		
1	1956	98	229	1 408.7	1 637.7	1.2	0.2	0.1	0.1	1.6	1 637	1 056	0.12%	22 023	99.98%	A	99.97%	A
2	1956	88	229	1 106.8	1 335.8	1.2	0.2	0.0	0.1	1.5	1 335	878			99.97%	A		
3	1956	172	229	1 100.1	1 329.1	1.2	0.2	0.0	0.1	1.5	1 329	891			99.97%	A		
4	1956	357	229	1 484.1	1 713.1	1.2	0.2	0.0	0.1	1.5	1 713	1 151			99.98%	A		
5	1956	106	229	1 393.5	1 622.5	1.2	0.2	0.0	0.1	1.5	1 622	1 071			99.98%	A		
6	1956	1	229	956.1	1 185.1	1.2	0.2	0.2	0.1	1.7	1 185	692			99.95%	A		
7	1956	1	229	663.5	892.5	1.2	0.2	0.3	0.1	1.8	892	500			99.92%	A		
8	1956	0	229	527.8	756.8	1.2	0.2	0.3	0.1	1.8	756	429			99.90%	A		
9	1956	25	229	505.9	734.9	1.2	0.2	0.2	0.1	1.7	734	427			99.91%	A		
10	1956	126	229	615.9	844.9	1.2	0.2	0.1	0.1	1.6	845	520	0.11%	23 530	99.94%	A	99.97%	A
11	1956	332	229	949.9	1 178.9	1.2	0.2	0.0	0.1	1.5	1 179	779			99.97%	A		
12	1956	351	229	1 243.2	1 472.2	1.2	0.2	0.1	0.1	1.5	1 472	956			99.97%	A		
1	1957	321	229	1 355.9	1 584.9	1.2	0.2	0.1	0.1	1.6	1 585	1 022			99.98%	A		
2	1957	295	229	1 361.8	1 590.8	1.2	0.2	0.0	0.1	1.5	1 591	1 045			99.98%	A		
3	1957	514	229	1 595.3	1 824.3	1.2	0.2	0.0	0.1	1.5	1 824	1 223			99.98%	A		
4	1957	765	229	2 110.4	2 339.4	1.2	0.2	0.0	0.1	1.5	2 339	1 571			99.99%	A		

5	1957	214	229	1 871.6	2 100.6	1.2	0.2	0.0	0.1	1.5	2 100	1 386			99.98%	A		
6	1957	0	229	1 206.9	1 435.9	1.2	0.2	0.2	0.1	1.7	1 435	838			99.96%	A		
7	1957	7	229	785.2	1 014.2	1.2	0.2	0.3	0.1	1.8	1 014	568			99.93%	A		
8	1957	11	229	598.5	827.5	1.2	0.2	0.3	0.1	1.8	827	469			99.92%	A		
9	1957	29	229	534.7	763.7	1.2	0.2	0.2	0.1	1.7	763	444			99.91%	A		
10	1957	104	229	774.9	1 003.9	1.2	0.2	0.1	0.1	1.6	1 004	618			99.95%	A		
11	1957	222	229	1 348.7	1 577.7	1.2	0.2	0.0	0.1	1.5	1 577	1 042			99.98%	A		
12	1957	150	229	1 580.6	1 809.6	1.2	0.2	0.1	0.1	1.5	1 809	1 175			99.98%	A		
1	1958	25	229	1 233.5	1 462.5	1.2	0.2	0.1	0.1	1.6	1 462	943			99.97%	A		
2	1958	16	229	871.4	1 100.4	1.2	0.2	0.0	0.1	1.5	1 100	723			99.96%	A		
3	1958	90	229	900.5	1 129.5	1.2	0.2	0.0	0.1	1.5	1 129	757			99.97%	A		
4	1958	200	229	1 327.9	1 556.9	1.2	0.2	0.0	0.1	1.5	1 557	1 046	0.13%	19 805	99.98%	A	99.96%	A
5	1958	14	229	1 158.8	1 387.8	1.2	0.2	0.0	0.1	1.5	1 387	916			99.97%	A		
6	1958	0	229	777.2	1 006.2	1.2	0.2	0.2	0.1	1.7	1 006	587			99.94%	A		
7	1958	0	229	579.8	808.8	1.2	0.2	0.3	0.1	1.8	808	453			99.91%	A		
8	1958	1	229	489.3	718.3	1.2	0.2	0.3	0.1	1.8	718	407			99.90%	A		
9	1958	19	229	499.5	728.5	1.2	0.2	0.2	0.1	1.7	728	423			99.91%	A		
10	1958	121	229	613.9	842.9	1.2	0.2	0.1	0.1	1.6	843	519			99.94%	A		
11	1958	397	229	1 019.5	1 248.5	1.2	0.2	0.0	0.1	1.5	1 248	825			99.97%	A		
12	1958	239	229	1 185.8	1 414.8	1.2	0.2	0.1	0.1	1.5	1 414	919			99.97%	A		
1	1959	458	229	1 419.5	1 648.5	1.2	0.2	0.1	0.1	1.6	1 648	1 063			99.98%	A		
2	1959	447	229	1 639.7	1 868.7	1.2	0.2	0.0	0.1	1.5	1 868	1 228			99.98%	A		
3	1959	450	229	1 738.2	1 967.2	1.2	0.2	0.0	0.1	1.5	1 967	1 319			99.98%	A		
4	1959	513	229	1 856.6	2 085.6	1.2	0.2	0.0	0.1	1.5	2 085	1 401	0.11%	23 610	99.98%	A	99.97%	A
5	1959	305	229	1 713.4	1 942.4	1.2	0.2	0.0	0.1	1.5	1 942	1 282			99.98%	A		
6	1959	1	229	1 186.2	1 415.2	1.2	0.2	0.2	0.1	1.7	1 415	826			99.96%	A		
7	1959	10	229	779.4	1 008.4	1.2	0.2	0.3	0.1	1.8	1 008	565			99.93%	A		
8	1959	8	229	594.0	823.0	1.2	0.2	0.3	0.1	1.8	823	466			99.91%	A		
9	1959	38	229	540.8	769.8	1.2	0.2	0.2	0.1	1.7	769	447			99.91%	A		
10	1959	266	229	678.4	907.4	1.2	0.2	0.1	0.1	1.6	907	559			99.94%	A		
11	1959	721	229	1 135.2	1 364.2	1.2	0.2	0.0	0.1	1.5	1 364	901			99.97%	A		
12	1959	470	229	1 331.6	1 560.6	1.2	0.2	0.1	0.1	1.5	1 560	1 013			99.98%	A		
1	1960	343	229	1 243.5	1 472.5	1.2	0.2	0.1	0.1	1.6	1 472	949			99.97%	A		
2	1960	616	229	1 349.4	1 578.4	1.2	0.2	0.0	0.1	1.5	1 578	1 037			99.98%	A		
3	1960	880	229	1 681.7	1 910.7	1.2	0.2	0.0	0.1	1.5	1 910	1 281			99.98%	A		
4	1960	1167	229	2 131.0	2 360.0	1.2	0.2	0.0	0.1	1.5	2 360	1 585	0.11%	24 296	99.99%	A	99.97%	A
5	1960	420	229	1 915.8	2 144.8	1.2	0.2	0.0	0.1	1.5	2 144	1 416			99.98%	A		
6	1960	42	229	1 284.6	1 513.6	1.2	0.2	0.2	0.1	1.7	1 513	883			99.96%	A		
7	1960	1	229	829.1	1 058.1	1.2	0.2	0.3	0.1	1.8	1 058	593			99.94%	A		
8	1960	3	229	605.1	834.1	1.2	0.2	0.3	0.1	1.8	834	472			99.92%	A		
9	1960	137	229	596.8	825.8	1.2	0.2	0.2	0.1	1.7	825	480			99.92%	A		
10	1960	277	229	739.0	968.0	1.2	0.2	0.1	0.1	1.6	968	596			99.95%	A		
11	1960	838	229	1 249.4	1 478.4	1.2	0.2	0.0	0.1	1.5	1 478	977			99.98%	A		
12	1960	830	229	1 678.9	1 907.9	1.2	0.2	0.1	0.1	1.5	1 908	1 239			99.98%	A		
1	1961	756	229	1 823.1	2 052.1	1.2	0.2	0.1	0.1	1.6	2 052	1 323			99.98%	A		
2	1961	853	229	1 931.4	2 160.4	1.2	0.2	0.0	0.1	1.5	2 160	1 419			99.98%	A		
3	1961	768	229	1 956.5	2 185.5	1.2	0.2	0.0	0.1	1.5	2 185	1 465			99.99%	A		
4	1961	745	229	1 921.9	2 150.9	1.2	0.2	0.0	0.1	1.5	2 151	1 445	0.10%	25 866	99.98%	A	99.97%	A
5	1961	362	229	1 628.4	1 857.4	1.2	0.2	0.0	0.1	1.5	1 857	1 226			99.98%	A		
6	1961	2	229	1 102.8	1 331.8	1.2	0.2	0.2	0.1	1.7	1 331	777			99.96%	A		
7	1961	1	229	731.0	960.0	1.2	0.2	0.3	0.1	1.8	959	538			99.93%	A		
8	1961	5	229	561.3	790.3	1.2	0.2	0.3	0.1	1.8	790	448			99.91%	A		
9	1961	157	229	591.3	820.3	1.2	0.2	0.2	0.1	1.7	820	476			99.92%	A		
10	1961	351	229	943.9	1 172.9	1.2	0.2	0.1	0.1	1.6	1 173	722			99.96%	A		
11	1961	491	229	1 408.3	1 637.3	1.2	0.2	0.0	0.1	1.5	1 637	1 082			99.98%	A		
12	1961	220	229	1 397.3	1 626.3	1.2	0.2	0.1	0.1	1.5	1 626	1 056			99.98%	A		
1	1962	205	229	1 221.9	1 450.9	1.2	0.2	0.1	0.1	1.6	1 451	936			99.97%	A		

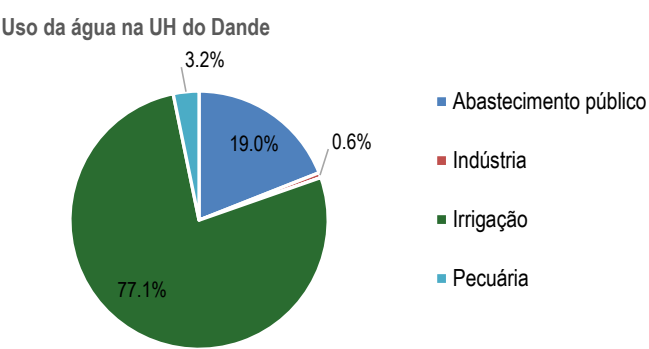
2	1962	357	229	1 303.3	1 532.3	1.2	0.2	0.0	0.1	1.5	1 532	1 007	0.11%	23 911	99.98%	A	99.97%	A
3	1962	455	229	1 537.4	1 766.4	1.2	0.2	0.0	0.1	1.5	1 766	1 184			99.98%	A		
4	1962	772	229	2 058.5	2 287.5	1.2	0.2	0.0	0.1	1.5	2 287	1 536			99.99%	A		
5	1962	113	229	1 738.3	1 967.3	1.2	0.2	0.0	0.1	1.5	1 967	1 299			99.98%	A		
6	1962	1	229	1 088.9	1 317.9	1.2	0.2	0.2	0.1	1.7	1 317	769			99.96%	A		
7	1962	1	229	725.1	954.1	1.2	0.2	0.3	0.1	1.8	954	535			99.93%	A		
8	1962	6	229	562.5	791.5	1.2	0.2	0.3	0.1	1.8	791	448			99.91%	A		
9	1962	32	229	519.1	748.1	1.2	0.2	0.2	0.1	1.7	748	435			99.91%	A		
10	1962	243	229	751.4	980.4	1.2	0.2	0.1	0.1	1.6	980	604	0.12%	22 954	99.95%	A	99.97%	A
11	1962	321	229	1 066.2	1 295.2	1.2	0.2	0.0	0.1	1.5	1 295	856			99.97%	A		
12	1962	298	229	1 230.4	1 459.4	1.2	0.2	0.1	0.1	1.5	1 459	948			99.97%	A		
1	1963	218	229	1 203.7	1 432.7	1.2	0.2	0.1	0.1	1.6	1 432	924			99.97%	A		
2	1963	209	229	1 135.8	1 364.8	1.2	0.2	0.0	0.1	1.5	1 364	897			99.97%	A		
3	1963	480	229	1 404.4	1 633.4	1.2	0.2	0.0	0.1	1.5	1 633	1 095			99.98%	A		
4	1963	807	229	2 051.0	2 280.0	1.2	0.2	0.0	0.1	1.5	2 280	1 531			99.99%	A		
5	1963	198	229	1 850.4	2 079.4	1.2	0.2	0.0	0.1	1.5	2 079	1 373			99.98%	A		
6	1963	2	229	1 190.6	1 419.6	1.2	0.2	0.2	0.1	1.7	1 419	828			99.96%	A		
7	1963	6	229	778.2	1 007.2	1.2	0.2	0.3	0.1	1.8	1 007	564	0.14%	19 406	99.93%	A	99.96%	A
8	1963	6	229	589.4	818.4	1.2	0.2	0.3	0.1	1.8	818	463			99.91%	A		
9	1963	59	229	561.8	790.8	1.2	0.2	0.2	0.1	1.7	790	459			99.92%	A		
10	1963	74	229	722.2	951.2	1.2	0.2	0.1	0.1	1.6	951	586			99.95%	A		
11	1963	92	229	919.5	1 148.5	1.2	0.2	0.0	0.1	1.5	1 148	759			99.97%	A		
12	1963	46	229	905.7	1 134.7	1.2	0.2	0.1	0.1	1.5	1 134	737			99.96%	A		
1	1964	133	229	1 079.2	1 308.2	1.2	0.2	0.1	0.1	1.6	1 308	844			99.97%	A		
2	1964	88	229	1 155.8	1 384.8	1.2	0.2	0.0	0.1	1.5	1 385	910			99.97%	A		
3	1964	118	229	1 211.1	1 440.1	1.2	0.2	0.0	0.1	1.5	1 440	965			99.98%	A		
4	1964	202	229	1 516.1	1 745.1	1.2	0.2	0.0	0.1	1.5	1 745	1 172			99.98%	A		
5	1964	27	229	1 283.9	1 512.9	1.2	0.2	0.0	0.1	1.5	1 513	999			99.98%	A		
6	1964	0	229	852.1	1 081.1	1.2	0.2	0.2	0.1	1.7	1 081	631			99.95%	A		
7	1964	0	229	614.2	843.2	1.2	0.2	0.3	0.1	1.8	843	473			99.91%	A		
8	1964	4	229	514.2	743.2	1.2	0.2	0.3	0.1	1.8	743	421			99.90%	A		
9	1964	6	229	479.7	708.7	1.2	0.2	0.2	0.1	1.7	708	412			99.90%	A		
10	1964	74	229	575.8	804.8	1.2	0.2	0.1	0.1	1.6	804	496	0.13%	21 209	99.93%	A	99.96%	A
11	1964	253	229	980.2	1 209.2	1.2	0.2	0.0	0.1	1.5	1 209	799			99.97%	A		
12	1964	286	229	1 378.9	1 607.9	1.2	0.2	0.1	0.1	1.5	1 608	1 044			99.98%	A		
1	1965	173	229	1 398.8	1 627.8	1.2	0.2	0.1	0.1	1.6	1 627	1 050			99.98%	A		
2	1965	177	229	1 317.2	1 546.2	1.2	0.2	0.0	0.1	1.5	1 546	1 016			99.98%	A		
3	1965	293	229	1 481.5	1 710.5	1.2	0.2	0.0	0.1	1.5	1 710	1 147			99.98%	A		
4	1965	285	229	1 643.4	1 872.4	1.2	0.2	0.0	0.1	1.5	1 872	1 258			99.98%	A		
5	1965	32	229	1 279.7	1 508.7	1.2	0.2	0.0	0.1	1.5	1 508	996			99.98%	A		
6	1965	1	229	840.6	1 069.6	1.2	0.2	0.2	0.1	1.7	1 069	624			99.94%	A		
7	1965	1	229	611.0	840.0	1.2	0.2	0.3	0.1	1.8	840	471	0.12%	21 621	99.91%	A	99.96%	A
8	1965	2	229	506.7	735.7	1.2	0.2	0.3	0.1	1.8	735	417			99.90%	A		
9	1965	50	229	541.0	770.0	1.2	0.2	0.2	0.1	1.7	770	447			99.91%	A		
10	1965	87	229	661.0	890.0	1.2	0.2	0.1	0.1	1.6	890	548			99.94%	A		
11	1965	196	229	934.2	1 163.2	1.2	0.2	0.0	0.1	1.5	1 163	768			99.97%	A		
12	1965	135	229	1 050.7	1 279.7	1.2	0.2	0.1	0.1	1.5	1 279	831			99.97%	A		
1	1966	154	229	1 084.9	1 313.9	1.2	0.2	0.1	0.1	1.6	1 314	847			99.97%	A		
2	1966	214	229	1 219.6	1 448.6	1.2	0.2	0.0	0.1	1.5	1 448	952			99.97%	A		
3	1966	293	229	1 468.1	1 697.1	1.2	0.2	0.0	0.1	1.5	1 697	1 138			99.98%	A		
4	1966	455	229	1 926.4	2 155.4	1.2	0.2	0.0	0.1	1.5	2 155	1 448			99.98%	A		
5	1966	81	229	1 641.0	1 870.0	1.2	0.2	0.0	0.1	1.5	1 870	1 234			99.98%	A		
6	1966	9	229	1 063.6	1 292.6	1.2	0.2	0.2	0.1	1.7	1 292	754			99.96%	A		
7	1966	0	229	719.0	948.0	1.2	0.2	0.3	0.1	1.8	947	531			99.93%	A		
8	1966	5	229	560.2	789.2	1.2	0.2	0.3	0.1	1.8	789	447			99.91%	A		
9	1966	24	229	523.2	752.2	1.2	0.2	0.2	0.1	1.7	752	437			99.91%	A		
10	1966	312	229	701.6	930.6	1.2	0.2	0.1	0.1	1.6	930	573			99.94%	A		

11	1966	995	229	1 354.8	1 583.8	1.2	0.2	0.0	0.1	1.5	1 583	1 046	0.11%	24 304	99.98%	A	99.97%	A
12	1966	690	229	1 685.2	1 914.2	1.2	0.2	0.1	0.1	1.5	1 914	1 243			99.98%	A		
1	1967	688	229	1 727.8	1 956.8	1.2	0.2	0.1	0.1	1.6	1 956	1 262			99.98%	A		
2	1967	460	229	1 586.6	1 815.6	1.2	0.2	0.0	0.1	1.5	1 815	1 193			99.98%	A		
3	1967	885	229	1 739.4	1 968.4	1.2	0.2	0.0	0.1	1.5	1 968	1 320			99.98%	A		
4	1967	583	229	1 748.8	1 977.8	1.2	0.2	0.0	0.1	1.5	1 977	1 328			99.98%	A		
5	1967	276	229	1 430.1	1 659.1	1.2	0.2	0.0	0.1	1.5	1 659	1 095			99.98%	A		
6	1967	31	229	1 000.8	1 229.8	1.2	0.2	0.2	0.1	1.7	1 229	718			99.95%	A		
7	1967	1	229	693.7	922.7	1.2	0.2	0.3	0.1	1.8	922	517			99.92%	A		
8	1967	14	229	550.6	779.6	1.2	0.2	0.3	0.1	1.8	779	441			99.91%	A		
9	1967	127	229	568.3	797.3	1.2	0.2	0.2	0.1	1.7	797	463			99.92%	A		
10	1967	175	229	724.9	953.9	1.2	0.2	0.1	0.1	1.6	953	587	0.11%	23 179	99.95%	A	99.97%	A
11	1967	295	229	986.6	1 215.6	1.2	0.2	0.0	0.1	1.5	1 215	803			99.97%	A		
12	1967	77	229	929.9	1 158.9	1.2	0.2	0.1	0.1	1.5	1 159	752			99.96%	A		
1	1968	445	229	1 193.6	1 422.6	1.2	0.2	0.1	0.1	1.6	1 422	917			99.97%	A		
2	1968	435	229	1 514.3	1 743.3	1.2	0.2	0.0	0.1	1.5	1 743	1 145			99.98%	A		
3	1968	343	229	1 553.1	1 782.1	1.2	0.2	0.0	0.1	1.5	1 782	1 195			99.98%	A		
4	1968	782	229	2 013.3	2 242.3	1.2	0.2	0.0	0.1	1.5	2 242	1 506			99.99%	A		
5	1968	249	229	1 875.7	2 104.7	1.2	0.2	0.0	0.1	1.5	2 104	1 389			99.98%	A		
6	1968	0	229	1 228.9	1 457.9	1.2	0.2	0.2	0.1	1.7	1 457	851			99.96%	A		
7	1968	0	229	788.6	1 017.6	1.2	0.2	0.3	0.1	1.8	1 017	570			99.93%	A		
8	1968	2	229	586.7	815.7	1.2	0.2	0.3	0.1	1.8	815	462			99.91%	A		
9	1968	79	229	580.5	809.5	1.2	0.2	0.2	0.1	1.7	809	470			99.92%	A		
10	1968	166	229	719.7	948.7	1.2	0.2	0.1	0.1	1.6	948	584	0.11%	23 991	99.94%	A	99.97%	A
11	1968	388	229	1 084.0	1 313.0	1.2	0.2	0.0	0.1	1.5	1 313	867			99.97%	A		
12	1968	87	229	1 039.2	1 268.2	1.2	0.2	0.1	0.1	1.5	1 268	823			99.97%	A		
1	1969	361	229	1 155.1	1 384.1	1.2	0.2	0.1	0.1	1.6	1 384	892			99.97%	A		
2	1969	308	229	1 305.4	1 534.4	1.2	0.2	0.0	0.1	1.5	1 534	1 008			99.98%	A		
3	1969	863	229	1 969.9	2 198.9	1.2	0.2	0.0	0.1	1.5	2 199	1 474			99.99%	A		
4	1969	650	229	2 352.8	2 581.8	1.2	0.2	0.0	0.1	1.5	2 581	1 734			99.99%	A		
5	1969	163	229	1 860.7	2 089.7	1.2	0.2	0.0	0.1	1.5	2 089	1 379			99.98%	A		
6	1969	2	229	1 175.1	1 404.1	1.2	0.2	0.2	0.1	1.7	1 404	819			99.96%	A		
7	1969	1	229	765.3	994.3	1.2	0.2	0.3	0.1	1.8	994	557			99.93%	A		
8	1969	10	229	585.5	814.5	1.2	0.2	0.3	0.1	1.8	814	461			99.91%	A		
9	1969	47	229	549.1	778.1	1.2	0.2	0.2	0.1	1.7	778	452			99.91%	A		
10	1969	407	229	786.9	1 015.9	1.2	0.2	0.1	0.1	1.6	1 015	626	0.10%	25 668	99.95%	A	99.97%	A
11	1969	951	229	1 397.1	1 626.1	1.2	0.2	0.0	0.1	1.5	1 626	1 074			99.98%	A		
12	1969	669	229	1 674.1	1 903.1	1.2	0.2	0.1	0.1	1.5	1 903	1 236			99.98%	A		
1	1970	277	229	1 426.1	1 655.1	1.2	0.2	0.1	0.1	1.6	1 655	1 067			99.98%	A		
2	1970	441	229	1 287.7	1 516.7	1.2	0.2	0.0	0.1	1.5	1 516	996			99.98%	A		
3	1970	1615	229	2 107.7	2 336.7	1.2	0.2	0.0	0.1	1.5	2 336	1 566			99.99%	A		
4	1970	839	229	2 358.8	2 587.8	1.2	0.2	0.0	0.1	1.5	2 588	1 738			99.99%	A		
5	1970	205	229	1 753.1	1 982.1	1.2	0.2	0.0	0.1	1.5	1 982	1 308			99.98%	A		
6	1970	23	229	1 119.1	1 348.1	1.2	0.2	0.2	0.1	1.7	1 348	787			99.96%	A		
7	1970	4	229	747.9	976.9	1.2	0.2	0.3	0.1	1.8	976	547			99.93%	A		
8	1970	12	229	575.4	804.4	1.2	0.2	0.3	0.1	1.8	804	456			99.91%	A		
9	1970	69	229	538.4	767.4	1.2	0.2	0.2	0.1	1.7	767	446			99.91%	A		
10	1970	183	229	698.4	927.4	1.2	0.2	0.1	0.1	1.6	927	571	0.11%	24 192	99.94%	A	99.97%	A
11	1970	368	229	1 060.4	1 289.4	1.2	0.2	0.0	0.1	1.5	1 289	852			99.97%	A		
12	1970	422	229	1 394.0	1 623.0	1.2	0.2	0.1	0.1	1.5	1 623	1 054			99.98%	A		
1	1971	190	229	1 317.9	1 546.9	1.2	0.2	0.1	0.1	1.6	1 547	997			99.97%	A		
2	1971	281	229	1 252.9	1 481.9	1.2	0.2	0.0	0.1	1.5	1 482	974			99.97%	A		
3	1971	649	229	1 689.2	1 918.2	1.2	0.2	0.0	0.1	1.5	1 918	1 286			99.98%	A		
4	1971	695	229	2 152.5	2 381.5	1.2	0.2	0.0	0.1	1.5	2 381	1 600			99.99%	A		
5	1971	260	229	1 903.3	2 132.3	1.2	0.2	0.0	0.1	1.5	2 132	1 407			99.98%	A		
6	1971	0	229	1 247.9	1 476.9	1.2	0.2	0.2	0.1	1.7	1 476	862			99.96%	A		
7	1971	1	229	797.6	1 026.6	1.2	0.2	0.3	0.1	1.8	1 026	575			99.93%	A		

8	1971	14	229	604.4	833.4	1.2	0.2	0.3	0.1	1.8	833	472	0.13%	20 470	99.92%	A	99.96%	A
9	1971	72	229	588.4	817.4	1.2	0.2	0.2	0.1	1.7	817	475			99.92%	A		
10	1971	137	229	767.0	996.0	1.2	0.2	0.1	0.1	1.6	996	613	0.13%	20 470	99.95%	A	99.96%	A
11	1971	168	229	979.9	1 208.9	1.2	0.2	0.0	0.1	1.5	1 209	799			99.97%	A		
12	1971	181	229	1 126.5	1 355.5	1.2	0.2	0.1	0.1	1.5	1 355	880			99.97%	A		
1	1972	134	229	1 125.6	1 354.6	1.2	0.2	0.1	0.1	1.6	1 354	873			99.97%	A		
2	1972	133	229	1 081.9	1 310.9	1.2	0.2	0.0	0.1	1.5	1 311	861			99.97%	A		
3	1972	203	229	1 179.5	1 408.5	1.2	0.2	0.0	0.1	1.5	1 408	944			99.98%	A		
4	1972	358	229	1 549.7	1 778.7	1.2	0.2	0.0	0.1	1.5	1 778	1 195			99.98%	A		
5	1972	104	229	1 422.3	1 651.3	1.2	0.2	0.0	0.1	1.5	1 651	1 090			99.98%	A		
6	1972	21	229	1 003.1	1 232.1	1.2	0.2	0.2	0.1	1.7	1 232	719			99.95%	A		
7	1972	1	229	704.0	933.0	1.2	0.2	0.3	0.1	1.8	932	523			99.93%	A		
8	1972	5	229	554.5	783.5	1.2	0.2	0.3	0.1	1.8	783	444			99.91%	A		
9	1972	28	229	527.8	756.8	1.2	0.2	0.2	0.1	1.7	756	440			99.91%	A		
10	1972	189	229	700.1	929.1	1.2	0.2	0.1	0.1	1.6	929	572	0.11%	24 280	99.94%	A	99.97%	A
11	1972	587	229	1 311.1	1 540.1	1.2	0.2	0.0	0.1	1.5	1 540	1 017			99.98%	A		
12	1972	513	229	1 736.7	1 965.7	1.2	0.2	0.1	0.1	1.5	1 965	1 276			99.98%	A		
1	1973	425	229	1 792.8	2 021.8	1.2	0.2	0.1	0.1	1.6	2 021	1 304			99.98%	A		
2	1973	320	229	1 650.2	1 879.2	1.2	0.2	0.0	0.1	1.5	1 879	1 235			99.98%	A		
3	1973	477	229	1 701.4	1 930.4	1.2	0.2	0.0	0.1	1.5	1 930	1 294			99.98%	A		
4	1973	372	229	1 696.8	1 925.8	1.2	0.2	0.0	0.1	1.5	1 925	1 293			99.98%	A		
5	1973	196	229	1 436.4	1 665.4	1.2	0.2	0.0	0.1	1.5	1 665	1 099			99.98%	A		
6	1973	4	229	999.7	1 228.7	1.2	0.2	0.2	0.1	1.7	1 228	717			99.95%	A		
7	1973	4	229	688.1	917.1	1.2	0.2	0.3	0.1	1.8	917	514			99.92%	A		
8	1973	6	229	547.0	776.0	1.2	0.2	0.3	0.1	1.8	776	439			99.91%	A		
9	1973	30	229	510.4	739.4	1.2	0.2	0.2	0.1	1.7	739	429			99.91%	A		
10	1973	111	229	662.2	891.2	1.2	0.2	0.1	0.1	1.6	891	549	0.13%	20 627	99.94%	A	99.96%	A
11	1973	376	229	1 262.3	1 491.3	1.2	0.2	0.0	0.1	1.5	1 491	985			99.98%	A		
12	1973	114	229	1 321.0	1 550.0	1.2	0.2	0.1	0.1	1.5	1 550	1 006			99.98%	A		
1	1974	183	229	1 240.8	1 469.8	1.2	0.2	0.1	0.1	1.6	1 469	948			99.97%	A		
2	1974	105	229	1 130.8	1 359.8	1.2	0.2	0.0	0.1	1.5	1 359	893			99.97%	A		
3	1974	255	229	1 267.4	1 496.4	1.2	0.2	0.0	0.1	1.5	1 496	1 003			99.98%	A		
4	1974	299	229	1 535.7	1 764.7	1.2	0.2	0.0	0.1	1.5	1 764	1 185			99.98%	A		
5	1974	41	229	1 257.1	1 486.1	1.2	0.2	0.0	0.1	1.5	1 486	981			99.98%	A		
6	1974	3	229	840.9	1 069.9	1.2	0.2	0.2	0.1	1.7	1 069	624			99.94%	A		
7	1974	1	229	612.9	841.9	1.2	0.2	0.3	0.1	1.8	841	472			99.91%	A		
8	1974	4	229	511.1	740.1	1.2	0.2	0.3	0.1	1.8	740	419			99.90%	A		
9	1974	19	229	492.6	721.6	1.2	0.2	0.2	0.1	1.7	721	419			99.90%	A		

UH	Dande
Área (km ²)	11 359
População	127 048
Área irrigada (ha)	1 068
NGR (mm)	1 100

Sector	Necessidades anuais de água (hm ³)	
Abastecimento público	2. 3	19.0%
Indústria	0.1	0.6%
Termo eléctricas		
Irrigação	9.4	77.1%
Pecuária	. 4	3.2%
Volume anual turbinado (hm ³)		
Hidroelectricidade	1660.	



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

		Recarga (hm ³)	Águas subterâneas (hm ³)	Escoamentos (hm ³)	Disponibilidades (hm ³)	Necessidades (hm ³)				Transf. de água transfronteiriça (hm ³)	Total dos usos consumptíveis (hm ³)	Balanço (hm ³)	Ratio Disp. Nec.	IUP (%)	IP m ³ /ano.hab	Classe de Gestão Ecológica			
						Abast. Público	Indústria	Irrigação	Pecuária								Mensal	Anual	
Ano Médio		711.0	636.0	1925. 9	2 561.9	2. 3	. 1	9. 4	. 4	---	12. 2	2 553.8	210.2	0.5%	20 165	---	---	99.59%	A
Ano seco		350.4	636.0	1733. 5	2 369.5	2. 3	. 1	9. 4	. 4	---	12. 2	2 361.5	194.4	0.5%	18 651	---	---	99.54%	A
Ano muito seco		304.8	636.0	1524. 8	2 160.8	2. 3	. 1	9. 4	. 4	---	12. 2	2 152.7	177.3	0.6%	17 007	---	---	99.48%	A
Mês	Ano																		
10	1944	82	53	75.0	128.0	0.2	0.0	0.9	0.0		1.1	127	112	0.42%	22 713	98.98%	A	99.65%	A
11	1944	137	53	167.1	220.1	0.2	0.0		0.0		0.2	220	948			99.97%	A		
12	1944	161	53	236.5	289.5	0.2	0.0	0.1	0.0		0.3	289	1 013			99.96%	A		
1	1945	165	53	270.9	323.9	0.2	0.0	0.0	0.0		0.3	324	1 233			99.97%	A		
2	1945	90	53	240.1	293.1	0.2	0.0	0.0	0.0		0.2	293	1 258			99.98%	A		
3	1945	247	53	275.2	328.2	0.2	0.0		0.0		0.2	328	1 413			99.98%	A		
4	1945	327	53	421.5	474.5	0.2	0.0		0.0		0.2	474	2 043			99.99%	A		
5	1945	7	53	327.3	380.3	0.2	0.0	0.0	0.0		0.3	380	1 501			99.98%	A		
6	1945		53	110.1	163.1	0.2	0.0	1.5	0.0		1.8	162	92			98.85%	A		
7	1945	0	53	51.3	104.3	0.2	0.0	2.7	0.0		3.0	102	35			95.69%	A		
8	1945	0	53	36.5	89.4	0.2	0.0	2.4	0.0		2.7	87	34	0.49%	19 735	94.60%	B	99.57%	A
9	1945	10	53	38.2	91.1	0.2	0.0	1.7	0.0		1.9	90	48			96.42%	A		
10	1945	69	53	100.3	153.3	0.2	0.0	0.9	0.0		1.1	153	134			99.24%	A		
11	1945	116	53	217.7	270.7	0.2	0.0		0.0		0.2	271	1 166			99.98%	A		
12	1945	48	53	231.3	284.3	0.2	0.0	0.1	0.0		0.3	284	994			99.96%	A		
1	1946	45	53	167.2	220.2	0.2	0.0	0.0	0.0		0.3	220	838			99.96%	A		
2	1946	31	53	136.3	189.3	0.2	0.0	0.0	0.0		0.2	189	812			99.97%	A		
3	1946	118	53	193.3	246.3	0.2	0.0		0.0		0.2	246	1 061			99.98%	A		
4	1946	160	53	326.8	379.8	0.2	0.0		0.0		0.2	380	1 636			99.99%	A		
5	1946	9	53	265.6	318.6	0.2	0.0	0.0	0.0		0.3	319	1 257			99.98%	A		
6	1946		53	99.3	152.3	0.2	0.0	1.5	0.0		1.8	151	86	0.44%	21 631	98.73%	A	99.62%	A
7	1946	0	53	48.6	101.6	0.2	0.0	2.7	0.0		3.0	99	34			95.45%	A		
8	1946	0	53	35.8	88.8	0.2	0.0	2.4	0.0		2.7	87	33			94.50%	D		
9	1946	18	53	49.0	102.0	0.2	0.0	1.7	0.0		1.9	101	54			97.21%	A		
10	1946	56	53	84.7	137.7	0.2	0.0	0.9	0.0		1.1	137	120			99.10%	A		
11	1946	100	53	133.7	186.7	0.2	0.0		0.0		0.2	187	804			99.97%	A		
12	1946	171	53	211.5	264.5	0.2	0.0	0.1	0.0		0.3	264	925			99.96%	A		
1	1947	89	53	227.9	280.9	0.2	0.0	0.0	0.0		0.3	281	1 069			99.97%	A		
2	1947	80	53	178.3	231.3	0.2	0.0	0.0	0.0		0.2	231	993			99.97%	A		
3	1947	169	53	209.9	262.9	0.2	0.0		0.0		0.2	263	1 132			99.98%	A		
4	1947	287	53	336.5	389.5	0.2	0.0		0.0		0.2	389	1 677			99.99%	A		
5	1947	155	53	364.8	417.8	0.2	0.0	0.0	0.0		0.3	418	1 649			99.98%	A		
6	1947	0	53	207.6	260.6	0.2	0.0	1.5	0.0		1.8	259	147	0.44%	21 631	99.39%	A		
7	1947		53	76.1	129.1	0.2	0.0	2.7	0.0		3.0	127	43			97.09%	A		
8	1947	2	53	43.9	96.9	0.2	0.0	2.4	0.0		2.7	95	36			95.51%	A		
9	1947	2	53	37.2	90.2	0.2	0.0	1.7	0.0		1.9	89	47			96.32%	A		
10	1947	17	53	72.8	125.8	0.2	0.0	0.9	0.0		1.1	125	110			98.95%	A		

11	1947	40	53	172.8	225.8	0.2	0.0		0.0	0.2	226	973	0.62%	15 412	99.97%	A	99.40%	A
12	1947	7	53	179.2	232.2	0.2	0.0	0.1	0.0	0.3	232	812			99.95%	A		
1	1948	5	53	96.8	149.8	0.2	0.0	0.0	0.0	0.3	150	570			99.93%	A		
2	1948	10	53	81.2	134.2	0.2	0.0	0.0	0.0	0.2	134	576			99.94%	A		
3	1948	7	53	82.4	135.4	0.2	0.0		0.0	0.2	135	583			99.95%	A		
4	1948	50	53	172.0	225.0	0.2	0.0		0.0	0.2	225	969			99.97%	A		
5	1948	13	53	214.6	267.6	0.2	0.0	0.0	0.0	0.3	268	1 056			99.97%	A		
6	1948	1	53	111.3	164.3	0.2	0.0	1.5	0.0	1.8	163	93			98.86%	A		
7	1948	1	53	56.4	109.4	0.2	0.0	2.7	0.0	3.0	107	37			96.08%	A		
8	1948	1	53	41.0	94.0	0.2	0.0	2.4	0.0	2.7	92	35			95.19%	A		
9	1948	3	53	41.5	94.5	0.2	0.0	1.7	0.0	1.9	93	50			96.70%	A		
10	1948	65	53	76.8	129.8	0.2	0.0	0.9	0.0	1.1	129	114	0.43%	22 554	99.00%	A	99.64%	A
11	1948	192	53	188.6	241.6	0.2	0.0		0.0	0.2	242	1 040			99.98%	A		
12	1948	209	53	301.5	354.5	0.2	0.0	0.1	0.0	0.3	354	1 240			99.97%	A		
1	1949	178	53	322.4	375.4	0.2	0.0	0.0	0.0	0.3	375	1 428			99.98%	A		
2	1949	142	53	289.5	342.5	0.2	0.0	0.0	0.0	0.2	342	1 470			99.98%	A		
3	1949	170	53	275.8	328.8	0.2	0.0		0.0	0.2	329	1 416			99.98%	A		
4	1949	200	53	305.7	358.7	0.2	0.0		0.0	0.2	359	1 545			99.99%	A		
5	1949	21	53	231.0	284.0	0.2	0.0	0.0	0.0	0.3	284	1 121			99.97%	A		
6	1949	5	53	96.9	149.9	0.2	0.0	1.5	0.0	1.8	149	85			98.69%	A		
7	1949	3	53	52.8	105.8	0.2	0.0	2.7	0.0	3.0	104	36			95.81%	A		
8	1949	8	53	43.3	96.3	0.2	0.0	2.4	0.0	2.7	94	36			95.45%	A		
9	1949	11	53	45.3	98.3	0.2	0.0	1.7	0.0	1.9	97	52			96.97%	A		
10	1949	24	53	62.6	115.6	0.2	0.0	0.9	0.0	1.1	115	101	0.47%	20 585	98.78%	A	99.60%	A
11	1949	78	53	131.6	184.6	0.2	0.0		0.0	0.2	185	795			99.97%	A		
12	1949	62	53	186.3	239.3	0.2	0.0	0.1	0.0	0.3	239	837			99.95%	A		
1	1950	50	53	174.3	227.3	0.2	0.0	0.0	0.0	0.3	227	865			99.96%	A		
2	1950	53	53	162.0	215.0	0.2	0.0	0.0	0.0	0.2	215	923			99.97%	A		
3	1950	177	53	272.4	325.4	0.2	0.0		0.0	0.2	325	1 401			99.98%	A		
4	1950	148	53	392.0	445.0	0.2	0.0		0.0	0.2	445	1 917			99.99%	A		
5	1950	43	53	300.8	353.8	0.2	0.0	0.0	0.0	0.3	354	1 396			99.98%	A		
6	1950	3	53	142.8	195.8	0.2	0.0	1.5	0.0	1.8	195	110			99.11%	A		
7	1950	1	53	63.5	116.5	0.2	0.0	2.7	0.0	3.0	114	39			96.52%	A		
8	1950	2	53	42.3	95.3	0.2	0.0	2.4	0.0	2.7	93	36			95.34%	A		
9	1950	15	53	48.8	101.8	0.2	0.0	1.7	0.0	1.9	100	53			97.19%	A		
10	1950	74	53	116.0	169.0	0.2	0.0	0.9	0.0	1.1	168	148	0.48%	20 118	99.34%	A	99.58%	A
11	1950	186	53	289.5	342.5	0.2	0.0		0.0	0.2	342	1 475			99.98%	A		
12	1950	74	53	339.0	392.0	0.2	0.0	0.1	0.0	0.3	392	1 371			99.97%	A		
1	1951	16	53	193.1	246.1	0.2	0.0	0.0	0.0	0.3	246	937			99.96%	A		
2	1951	34	53	117.9	170.9	0.2	0.0	0.0	0.0	0.2	171	734			99.96%	A		
3	1951	122	53	194.5	247.5	0.2	0.0		0.0	0.2	247	1 066			99.98%	A		
4	1951	83	53	261.9	314.9	0.2	0.0		0.0	0.2	315	1 356			99.98%	A		
5	1951	18	53	184.4	237.4	0.2	0.0	0.0	0.0	0.3	237	937			99.97%	A		
6	1951	0	53	87.3	140.3	0.2	0.0	1.5	0.0	1.8	139	79			98.55%	A		
7	1951	0	53	45.6	98.6	0.2	0.0	2.7	0.0	3.0	96	33			95.15%	A		
8	1951	11	53	44.7	97.6	0.2	0.0	2.4	0.0	2.7	96	37			95.59%	A		
9	1951	1	53	46.1	99.1	0.2	0.0	1.7	0.0	1.9	98	52			97.03%	A		
10	1951	28	53	61.4	114.4	0.2	0.0	0.9	0.0	1.1	114	100	0.47%	20 524	98.75%	A	99.60%	A
11	1951	161	53	208.9	261.9	0.2	0.0		0.0	0.2	262	1 128			99.98%	A		
12	1951	85	53	304.6	357.6	0.2	0.0	0.1	0.0	0.3	358	1 251			99.97%	A		
1	1952	12	53	191.9	244.9	0.2	0.0	0.0	0.0	0.3	245	932			99.96%	A		
2	1952	67	53	142.6	195.6	0.2	0.0	0.0	0.0	0.2	196	840			99.97%	A		
3	1952	126	53	234.9	287.9	0.2	0.0		0.0	0.2	288	1 240			99.98%	A		
4	1952	155	53	340.3	393.3	0.2	0.0		0.0	0.2	393	1 694			99.99%	A		
5	1952	7	53	262.8	315.8	0.2	0.0	0.0	0.0	0.3	316	1 247			99.98%	A		
6	1952	0	53	97.0	150.0	0.2	0.0	1.5	0.0	1.8	149	85			98.70%	A		
7	1952	1	53	49.4	102.4	0.2	0.0	2.7	0.0	3.0	100	34			95.52%	A		

8	1952	0	53	37.3	90.3	0.2	0.0	2.4	0.0	2.7	88	34			94.71%	A	
9	1952	8	53	40.4	93.4	0.2	0.0	1.7	0.0	1.9	92	49			96.61%	A	
10	1952	51	53	86.5	139.5	0.2	0.0	0.9	0.0	1.1	139	122			99.11%	A	
11	1952	114	53	195.3	248.3	0.2	0.0		0.0	0.2	248	1 069			99.98%	A	
12	1952	87	53	258.7	311.7	0.2	0.0	0.1	0.0	0.3	312	1 090			99.97%	A	
1	1953	10	53	180.5	233.5	0.2	0.0	0.0	0.0	0.3	233	888			99.96%	A	
2	1953	63	53	135.1	188.1	0.2	0.0	0.0	0.0	0.2	188	808			99.97%	A	
3	1953	104	53	210.1	263.1	0.2	0.0		0.0	0.2	263	1 133			99.98%	A	
4	1953	112	53	275.1	328.1	0.2	0.0		0.0	0.2	328	1 413	0.50%	19 150	99.98%	A	
5	1953	26	53	222.3	275.3	0.2	0.0	0.0	0.0	0.3	275	1 087			99.97%	A	
6	1953	0	53	104.2	157.2	0.2	0.0	1.5	0.0	1.8	156	89			98.79%	A	
7	1953	0	53	50.5	103.5	0.2	0.0	2.7	0.0	3.0	101	35			95.62%	A	
8	1953	1	53	37.3	90.3	0.2	0.0	2.4	0.0	2.7	88	34			94.71%	A	
9	1953	9	53	41.3	94.3	0.2	0.0	1.7	0.0	1.9	93	49			96.68%	A	
10	1953	42	53	98.4	151.4	0.2	0.0	0.9	0.0	1.1	151	132			99.22%	A	
11	1953	43	53	165.5	218.5	0.2	0.0		0.0	0.2	218	941			99.97%	A	
12	1953	15	53	146.6	199.6	0.2	0.0	0.1	0.0	0.3	200	698			99.94%	A	
1	1954	5	53	88.7	141.7	0.2	0.0	0.0	0.0	0.3	142	539			99.92%	A	
2	1954	42	53	110.0	163.0	0.2	0.0	0.0	0.0	0.2	163	700			99.96%	A	
3	1954	55	53	186.6	239.6	0.2	0.0		0.0	0.2	240	1 032			99.98%	A	
4	1954	132	53	328.2	381.2	0.2	0.0		0.0	0.2	381	1 642	0.51%	18 845	99.99%	A	
5	1954	29	53	335.6	388.6	0.2	0.0	0.0	0.0	0.3	389	1 534			99.98%	A	
6	1954	1	53	151.4	204.4	0.2	0.0	1.5	0.0	1.8	203	115			99.16%	A	
7	1954	0	53	62.9	115.9	0.2	0.0	2.7	0.0	3.0	114	39			96.48%	A	
8	1954	1	53	40.4	93.4	0.2	0.0	2.4	0.0	2.7	91	35			95.12%	A	
9	1954	7	53	43.9	96.9	0.2	0.0	1.7	0.0	1.9	95	51			96.88%	A	
10	1954	53	53	91.8	144.8	0.2	0.0	0.9	0.0	1.1	144	127			99.17%	A	
11	1954	137	53	219.4	272.4	0.2	0.0		0.0	0.2	272	1 173			99.98%	A	
12	1954	68	53	269.6	322.6	0.2	0.0	0.1	0.0	0.3	322	1 128			99.97%	A	
1	1955	52	53	202.1	255.1	0.2	0.0	0.0	0.0	0.3	255	971			99.97%	A	
2	1955	1	53	124.8	177.8	0.2	0.0	0.0	0.0	0.2	178	763			99.96%	A	
3	1955	77	53	124.9	177.9	0.2	0.0		0.0	0.2	178	766			99.96%	A	
4	1955	162	53	272.7	325.7	0.2	0.0		0.0	0.2	326	1 403	0.49%	19 743	99.98%	A	
5	1955	46	53	287.3	340.3	0.2	0.0	0.0	0.0	0.3	340	1 343			99.98%	A	
6	1955	1	53	140.5	193.5	0.2	0.0	1.5	0.0	1.8	192	109			99.10%	A	
7	1955	1	53	59.9	112.9	0.2	0.0	2.7	0.0	3.0	111	38			96.31%	A	
8	1955	0	53	39.5	92.5	0.2	0.0	2.4	0.0	2.7	90	35			95.01%	A	
9	1955	7	53	39.8	92.8	0.2	0.0	1.7	0.0	1.9	91	49			96.55%	A	
10	1955	72	53	103.9	156.9	0.2	0.0	0.9	0.0	1.1	156	137			99.26%	A	
11	1955	148	53	249.6	302.6	0.2	0.0		0.0	0.2	303	1 303			99.98%	A	
12	1955	85	53	301.9	354.9	0.2	0.0	0.1	0.0	0.3	355	1 241			99.97%	A	
1	1956	34	53	210.3	263.3	0.2	0.0	0.0	0.0	0.3	263	1 002			99.97%	A	
2	1956	28	53	133.9	186.9	0.2	0.0	0.0	0.0	0.2	187	802			99.97%	A	
3	1956	61	53	138.3	191.3	0.2	0.0		0.0	0.2	191	824			99.97%	A	
4	1956	148	53	248.6	301.6	0.2	0.0		0.0	0.2	302	1 299	0.48%	19 975	99.98%	A	
5	1956	34	53	257.2	310.2	0.2	0.0	0.0	0.0	0.3	310	1 224			99.98%	A	
6	1956	0	53	120.9	173.9	0.2	0.0	1.5	0.0	1.8	173	98			98.95%	A	
7	1956	0	53	54.8	107.8	0.2	0.0	2.7	0.0	3.0	106	36			95.96%	A	
8	1956	0	53	38.2	91.2	0.2	0.0	2.4	0.0	2.7	89	34			94.84%	A	
9	1956	12	53	44.1	97.1	0.2	0.0	1.7	0.0	1.9	96	51			96.89%	A	
10	1956	32	53	74.1	127.1	0.2	0.0	0.9	0.0	1.1	126	111			98.97%	A	
11	1956	88	53	150.6	203.6	0.2	0.0		0.0	0.2	204	877			99.97%	A	
12	1956	61	53	199.0	252.0	0.2	0.0	0.1	0.0	0.3	252	881			99.96%	A	
1	1957	57	53	182.0	235.0	0.2	0.0	0.0	0.0	0.3	235	894			99.96%	A	
2	1957	39	53	158.4	211.4	0.2	0.0	0.0	0.0	0.2	211	907			99.97%	A	
3	1957	131	53	217.5	270.5	0.2	0.0		0.0	0.2	270	1 165			99.98%	A	
4	1957	184	53	366.2	419.2	0.2	0.0		0.0	0.2	419	1 806	0.47%	20 459	99.99%	A	

5	1957	41	53	326.4	379.4	0.2	0.0	0.0	0.0	0.3	379	1 497			99.98%	A		
6	1957	0	53	144.5	197.5	0.2	0.0	1.5	0.0	1.8	196	111			99.12%	A		
7	1957	2	53	61.5	114.5	0.2	0.0	2.7	0.0	3.0	112	39			96.40%	A		
8	1957	1	53	41.9	94.9	0.2	0.0	2.4	0.0	2.7	93	36			95.29%	A		
9	1957	7	53	41.4	94.4	0.2	0.0	1.7	0.0	1.9	93	50			96.69%	A		
10	1957	42	53	96.8	149.8	0.2	0.0	0.9	0.0	1.1	149	131			99.21%	A		
11	1957	86	53	224.6	277.6	0.2	0.0		0.0	0.2	278	1 195			99.98%	A		
12	1957	49	53	270.2	323.2	0.2	0.0	0.1	0.0	0.3	323	1 130			99.97%	A		
1	1958	10	53	175.8	228.8	0.2	0.0	0.0	0.0	0.3	229	871			99.96%	A		
2	1958	6	53	90.5	143.5	0.2	0.0	0.0	0.0	0.2	143	616			99.95%	A		
3	1958	28	53	93.0	146.0	0.2	0.0		0.0	0.2	146	629			99.95%	A		
4	1958	89	53	207.7	260.7	0.2	0.0		0.0	0.2	261	1 123	0.55%	17 384	99.98%	A	99.49%	A
5	1958	5	53	209.9	262.9	0.2	0.0	0.0	0.0	0.3	263	1 037			99.97%	A		
6	1958	0	53	83.4	136.4	0.2	0.0	1.5	0.0	1.8	135	77			98.48%	A		
7	1958	0	53	45.0	98.0	0.2	0.0	2.7	0.0	3.0	96	33			95.08%	A		
8	1958	0	53	35.1	88.1	0.2	0.0	2.4	0.0	2.7	86	33			94.39%	F		
9	1958	6	53	40.7	93.7	0.2	0.0	1.7	0.0	1.9	92	49			96.63%	A		
10	1958	23	53	62.5	115.5	0.2	0.0	0.9	0.0	1.1	115	101			98.78%	A		
11	1958	99	53	148.9	201.9	0.2	0.0		0.0	0.2	202	870			99.97%	A		
12	1958	39	53	189.6	242.6	0.2	0.0	0.1	0.0	0.3	242	848			99.95%	A		
1	1959	125	53	219.9	272.9	0.2	0.0	0.0	0.0	0.3	273	1 039			99.97%	A		
2	1959	76	53	265.2	318.2	0.2	0.0	0.0	0.0	0.2	318	1 366			99.98%	A		
3	1959	108	53	258.6	311.6	0.2	0.0		0.0	0.2	312	1 342			99.98%	A		
4	1959	111	53	290.4	343.4	0.2	0.0		0.0	0.2	343	1 479	0.45%	21 098	99.98%	A	99.61%	A
5	1959	80	53	273.6	326.6	0.2	0.0	0.0	0.0	0.3	327	1 289			99.98%	A		
6	1959	0	53	168.7	221.7	0.2	0.0	1.5	0.0	1.8	220	125			99.25%	A		
7	1959	4	53	69.7	122.7	0.2	0.0	2.7	0.0	3.0	121	41			96.83%	A		
8	1959	4	53	48.4	101.4	0.2	0.0	2.4	0.0	2.7	99	38			95.93%	A		
9	1959	10	53	48.9	101.9	0.2	0.0	1.7	0.0	1.9	100	53			97.20%	A		
10	1959	42	53	83.1	136.1	0.2	0.0	0.9	0.0	1.1	135	119			99.08%	A		
11	1959	73	53	149.0	202.0	0.2	0.0		0.0	0.2	202	870			99.97%	A		
12	1959	41	53	166.4	219.4	0.2	0.0	0.1	0.0	0.3	219	767			99.95%	A		
1	1960	38	53	138.2	191.2	0.2	0.0	0.0	0.0	0.3	191	728			99.95%	A		
2	1960	70	53	156.9	209.9	0.2	0.0	0.0	0.0	0.2	210	901			99.97%	A		
3	1960	126	53	242.1	295.1	0.2	0.0		0.0	0.2	295	1 271			99.98%	A		
4	1960	181	53	365.5	418.5	0.2	0.0		0.0	0.2	418	1 802	0.48%	20 158	99.99%	A	99.59%	A
5	1960	43	53	325.8	378.8	0.2	0.0	0.0	0.0	0.3	379	1 495			99.98%	A		
6	1960	1	53	147.9	200.9	0.2	0.0	1.5	0.0	1.8	200	113			99.14%	A		
7	1960	0	53	62.4	115.4	0.2	0.0	2.7	0.0	3.0	113	39			96.46%	A		
8	1960	0	53	40.1	93.1	0.2	0.0	2.4	0.0	2.7	91	35			95.08%	A		
9	1960	15	53	47.6	100.6	0.2	0.0	1.7	0.0	1.9	99	53			97.12%	A		
10	1960	87	53	85.1	138.1	0.2	0.0	0.9	0.0	1.1	137	121			99.10%	A		
11	1960	245	53	181.7	234.7	0.2	0.0		0.0	0.2	235	1 011			99.98%	A		
12	1960	271	53	284.7	337.7	0.2	0.0	0.1	0.0	0.3	338	1 181			99.97%	A		
1	1961	202	53	293.9	346.9	0.2	0.0	0.0	0.0	0.3	347	1 320			99.98%	A		
2	1961	259	53	289.6	342.6	0.2	0.0	0.0	0.0	0.2	343	1 471			99.98%	A		
3	1961	309	53	333.4	386.4	0.2	0.0		0.0	0.2	386	1 664			99.99%	A		
4	1961	284	53	355.7	408.7	0.2	0.0		0.0	0.2	409	1 760	0.39%	24 341	99.99%	A	99.68%	A
5	1961	151	53	296.7	349.7	0.2	0.0	0.0	0.0	0.3	350	1 380			99.98%	A		
6	1961	3	53	164.8	217.8	0.2	0.0	1.5	0.0	1.8	216	123			99.23%	A		
7	1961	1	53	66.8	119.8	0.2	0.0	2.7	0.0	3.0	118	40			96.69%	A		
8	1961	2	53	41.5	94.5	0.2	0.0	2.4	0.0	2.7	92	35			95.25%	A		
9	1961	69	53	62.6	115.6	0.2	0.0	1.7	0.0	1.9	114	61			97.81%	A		
10	1961	122	53	136.9	189.9	0.2	0.0	0.9	0.0	1.1	189	166			99.44%	A		
11	1961	131	53	203.2	256.2	0.2	0.0		0.0	0.2	256	1 103			99.98%	A		
12	1961	69	53	190.7	243.7	0.2	0.0	0.1	0.0	0.3	244	852			99.95%	A		
1	1962	95	53	165.2	218.2	0.2	0.0	0.0	0.0	0.3	218	830			99.96%	A		

2	1962	96	53	174.8	227.8	0.2	0.0	0.0	0.0	0.2	228	978	0.45%	21 555	99.97%	A	99.62%	A
3	1962	188	53	229.2	282.2	0.2	0.0		0.0	0.2	282	1 215			99.98%	A		
4	1962	311	53	366.3	419.3	0.2	0.0		0.0	0.2	419	1 806			99.99%	A		
5	1962	34	53	319.5	372.5	0.2	0.0	0.0	0.0	0.3	372	1 470			99.98%	A		
6	1962	1	53	125.1	178.1	0.2	0.0	1.5	0.0	1.8	177	100			98.99%	A		
7	1962	1	53	56.4	109.4	0.2	0.0	2.7	0.0	3.0	107	37			96.08%	A		
8	1962	22	53	50.6	103.6	0.2	0.0	2.4	0.0	2.7	102	39			96.11%	A		
9	1962	64	53	84.7	137.7	0.2	0.0	1.7	0.0	1.9	136	72			98.38%	A		
10	1962	115	53	146.6	199.6	0.2	0.0	0.9	0.0	1.1	199	175	0.41%	23 194	99.48%	A	99.65%	A
11	1962	179	53	228.4	281.4	0.2	0.0		0.0	0.2	281	1 212			99.98%	A		
12	1962	112	53	249.8	302.8	0.2	0.0	0.1	0.0	0.3	303	1 059			99.97%	A		
1	1963	90	53	203.1	256.1	0.2	0.0	0.0	0.0	0.3	256	975			99.97%	A		
2	1963	75	53	169.9	222.9	0.2	0.0	0.0	0.0	0.2	223	957			99.97%	A		
3	1963	199	53	221.5	274.5	0.2	0.0		0.0	0.2	274	1 182			99.98%	A		
4	1963	390	53	414.4	467.4	0.2	0.0		0.0	0.2	467	2 013			99.99%	A		
5	1963	30	53	375.5	428.5	0.2	0.0	0.0	0.0	0.3	428	1 691			99.98%	A		
6	1963	0	53	136.1	189.1	0.2	0.0	1.5	0.0	1.8	188	107			99.07%	A		
7	1963	1	53	58.6	111.6	0.2	0.0	2.7	0.0	3.0	109	38			96.22%	A		
8	1963	1	53	39.2	92.2	0.2	0.0	2.4	0.0	2.7	90	35			94.98%	A		
9	1963	61	53	67.6	120.6	0.2	0.0	1.7	0.0	1.9	119	63			97.97%	A		
10	1963	32	53	119.8	172.8	0.2	0.0	0.9	0.0	1.1	172	151	0.51%	18 651	99.36%	A	99.54%	A
11	1963	48	53	165.2	218.2	0.2	0.0		0.0	0.2	218	940			99.97%	A		
12	1963	20	53	162.0	215.0	0.2	0.0	0.1	0.0	0.3	215	752			99.95%	A		
1	1964	57	53	170.4	223.4	0.2	0.0	0.0	0.0	0.3	223	850			99.96%	A		
2	1964	20	53	175.6	228.6	0.2	0.0	0.0	0.0	0.2	229	981			99.97%	A		
3	1964	81	53	206.6	259.6	0.2	0.0		0.0	0.2	260	1 118			99.98%	A		
4	1964	74	53	292.8	345.8	0.2	0.0		0.0	0.2	346	1 489			99.98%	A		
5	1964	12	53	220.2	273.2	0.2	0.0	0.0	0.0	0.3	273	1 078			99.97%	A		
6	1964	0	53	96.2	149.2	0.2	0.0	1.5	0.0	1.8	148	84			98.68%	A		
7	1964	0	53	48.3	101.3	0.2	0.0	2.7	0.0	3.0	99	34			95.42%	A		
8	1964	1	53	37.0	90.0	0.2	0.0	2.4	0.0	2.7	88	34			94.68%	A		
9	1964	4	53	39.4	92.4	0.2	0.0	1.7	0.0	1.9	91	48			96.52%	A		
10	1964	19	53	55.8	108.8	0.2	0.0	0.9	0.0	1.1	108	95	0.48%	20 101	98.63%	A	99.58%	A
11	1964	109	53	152.3	205.3	0.2	0.0		0.0	0.2	205	884			99.97%	A		
12	1964	94	53	249.2	302.2	0.2	0.0	0.1	0.0	0.3	302	1 057			99.97%	A		
1	1965	55	53	225.1	278.1	0.2	0.0	0.0	0.0	0.3	278	1 058			99.97%	A		
2	1965	55	53	182.1	235.1	0.2	0.0	0.0	0.0	0.2	235	1 009			99.98%	A		
3	1965	133	53	240.7	293.7	0.2	0.0		0.0	0.2	294	1 265			99.98%	A		
4	1965	145	53	339.7	392.7	0.2	0.0		0.0	0.2	393	1 691			99.99%	A		
5	1965	3	53	249.1	302.1	0.2	0.0	0.0	0.0	0.3	302	1 192			99.98%	A		
6	1965	1	53	90.3	143.3	0.2	0.0	1.5	0.0	1.8	142	81			98.60%	A		
7	1965	1	53	48.1	101.1	0.2	0.0	2.7	0.0	3.0	99	34			95.41%	A		
8	1965	2	53	37.9	90.9	0.2	0.0	2.4	0.0	2.7	89	34			94.80%	A		
9	1965	14	53	47.5	100.5	0.2	0.0	1.7	0.0	1.9	99	53			97.12%	A		
10	1965	12	53	64.5	117.5	0.2	0.0	0.9	0.0	1.1	117	103	0.56%	17 007	98.81%	A	99.48%	A
11	1965	34	53	101.7	154.7	0.2	0.0		0.0	0.2	155	666			99.96%	A		
12	1965	33	53	142.5	195.5	0.2	0.0	0.1	0.0	0.3	195	684			99.94%	A		
1	1966	27	53	143.8	196.8	0.2	0.0	0.0	0.0	0.3	197	749			99.95%	A		
2	1966	25	53	132.2	185.2	0.2	0.0	0.0	0.0	0.2	185	795			99.97%	A		
3	1966	58	53	170.3	223.3	0.2	0.0		0.0	0.2	223	962			99.97%	A		
4	1966	104	53	290.0	343.0	0.2	0.0		0.0	0.2	343	1 477			99.98%	A		
5	1966	6	53	254.3	307.3	0.2	0.0	0.0	0.0	0.3	307	1 213			99.98%	A		
6	1966	1	53	97.7	150.7	0.2	0.0	1.5	0.0	1.8	149	85			98.70%	A		
7	1966	0	53	49.9	102.9	0.2	0.0	2.7	0.0	3.0	101	35			95.57%	A		
8	1966	1	53	37.2	90.2	0.2	0.0	2.4	0.0	2.7	88	34			94.71%	A		
9	1966	5	53	40.5	93.5	0.2	0.0	1.7	0.0	1.9	92	49			96.62%	A		
10	1966	43	53	78.5	131.5	0.2	0.0	0.9	0.0	1.1	131	115			99.02%	A		

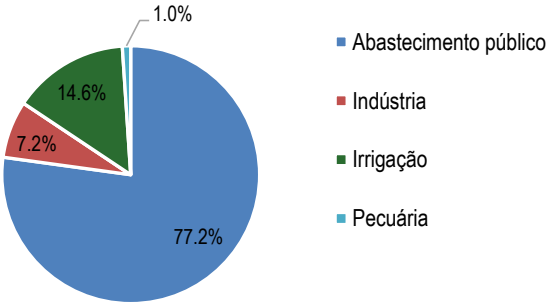
11	1966	152	53	218.8	271.8	0.2	0.0		0.0		0.2	272	1 171	0.47%	20 304	99.98%	A	99.59%	A
12	1966	84	53	296.9	349.9	0.2	0.0	0.1	0.0		0.3	350	1 224			99.97%	A		
1	1967	89	53	256.8	309.8	0.2	0.0	0.0	0.0		0.3	310	1 179			99.97%	A		
2	1967	46	53	213.6	266.6	0.2	0.0	0.0	0.0		0.2	267	1 144			99.98%	A		
3	1967	85	53	197.1	250.1	0.2	0.0		0.0		0.2	250	1 077			99.98%	A		
4	1967	69	53	215.6	268.6	0.2	0.0		0.0		0.2	269	1 157			99.98%	A		
5	1967	54	53	191.4	244.4	0.2	0.0	0.0	0.0		0.3	244	965			99.97%	A		
6	1967	3	53	125.5	178.5	0.2	0.0	1.5	0.0		1.8	177	101			98.99%	A		
7	1967	0	53	58.2	111.2	0.2	0.0	2.7	0.0		3.0	109	37			96.20%	A		
8	1967	1	53	39.2	92.2	0.2	0.0	2.4	0.0		2.7	90	35			94.97%	A		
9	1967	20	53	51.8	104.8	0.2	0.0	1.7	0.0		1.9	103	55			97.36%	A		
10	1967	36	53	87.5	140.5	0.2	0.0	0.9	0.0		1.1	140	123	0.48%	20 192	99.12%	A	99.59%	A
11	1967	65	53	137.8	190.8	0.2	0.0		0.0		0.2	191	822			99.97%	A		
12	1967	17	53	135.1	188.1	0.2	0.0	0.1	0.0		0.3	188	658			99.94%	A		
1	1968	41	53	110.4	163.4	0.2	0.0	0.0	0.0		0.3	163	622			99.94%	A		
2	1968	99	53	179.0	232.0	0.2	0.0	0.0	0.0		0.2	232	996			99.97%	A		
3	1968	114	53	264.3	317.3	0.2	0.0		0.0		0.2	317	1 366			99.98%	A		
4	1968	192	53	369.9	422.9	0.2	0.0		0.0		0.2	423	1 821			99.99%	A		
5	1968	45	53	339.7	392.7	0.2	0.0	0.0	0.0		0.3	393	1 550			99.98%	A		
6	1968	0	53	152.7	205.7	0.2	0.0	1.5	0.0		1.8	204	116			99.17%	A		
7	1968	1	53	63.0	116.0	0.2	0.0	2.7	0.0		3.0	114	39			96.49%	A		
8	1968	1	53	41.2	94.2	0.2	0.0	2.4	0.0		2.7	92	35			95.22%	A		
9	1968	15	53	48.7	101.7	0.2	0.0	1.7	0.0		1.9	100	53			97.19%	A		
10	1968	45	53	90.0	143.0	0.2	0.0	0.9	0.0		1.1	142	125	0.48%	19 965	99.15%	A	99.58%	A
11	1968	73	53	153.8	206.8	0.2	0.0		0.0		0.2	207	891			99.97%	A		
12	1968	15	53	144.6	197.6	0.2	0.0	0.1	0.0		0.3	198	691			99.94%	A		
1	1969	63	53	130.0	183.0	0.2	0.0	0.0	0.0		0.3	183	696			99.95%	A		
2	1969	53	53	163.6	216.6	0.2	0.0	0.0	0.0		0.2	217	930			99.97%	A		
3	1969	180	53	276.1	329.1	0.2	0.0		0.0		0.2	329	1 417			99.98%	A		
4	1969	134	53	383.1	436.1	0.2	0.0		0.0		0.2	436	1 878			99.99%	A		
5	1969	37	53	280.1	333.1	0.2	0.0	0.0	0.0		0.3	333	1 315			99.98%	A		
6	1969	0	53	130.1	183.1	0.2	0.0	1.5	0.0		1.8	182	103			99.03%	A		
7	1969	1	53	57.8	110.8	0.2	0.0	2.7	0.0		3.0	109	37			96.17%	A		
8	1969	4	53	43.1	96.1	0.2	0.0	2.4	0.0		2.7	94	36			95.43%	A		
9	1969	11	53	48.2	101.2	0.2	0.0	1.7	0.0		1.9	100	53			97.16%	A		
10	1969	83	53	92.2	145.2	0.2	0.0	0.9	0.0		1.1	144	127	0.42%	22 726	99.17%	A	99.65%	A
11	1969	226	53	221.8	274.8	0.2	0.0		0.0		0.2	275	1 183			99.98%	A		
12	1969	143	53	293.3	346.3	0.2	0.0	0.1	0.0		0.3	346	1 211			99.97%	A		
1	1970	74	53	223.6	276.6	0.2	0.0	0.0	0.0		0.3	276	1 052			99.97%	A		
2	1970	99	53	178.7	231.7	0.2	0.0	0.0	0.0		0.2	232	994			99.97%	A		
3	1970	347	53	320.3	373.3	0.2	0.0		0.0		0.2	373	1 608			99.99%	A		
4	1970	203	53	422.7	475.7	0.2	0.0		0.0		0.2	476	2 049			99.99%	A		
5	1970	14	53	258.3	311.3	0.2	0.0	0.0	0.0		0.3	311	1 229			99.98%	A		
6	1970	6	53	100.2	153.2	0.2	0.0	1.5	0.0		1.8	152	86			98.74%	A		
7	1970	2	53	53.2	106.2	0.2	0.0	2.7	0.0		3.0	104	36			95.84%	A		
8	1970	4	53	40.2	93.2	0.2	0.0	2.4	0.0		2.7	91	35			95.09%	A		
9	1970	20	53	47.0	100.0	0.2	0.0	1.7	0.0		1.9	99	52			97.08%	A		
10	1970	51	53	93.1	146.1	0.2	0.0	0.9	0.0		1.1	145	128	0.46%	20 671	99.18%	A	99.60%	A
11	1970	86	53	172.0	225.0	0.2	0.0		0.0		0.2	225	969			99.97%	A		
12	1970	111	53	246.7	299.7	0.2	0.0	0.1	0.0		0.3	300	1 048			99.96%	A		
1	1971	24	53	211.8	264.8	0.2	0.0	0.0	0.0		0.3	265	1 008			99.97%	A		
2	1971	49	53	142.8	195.8	0.2	0.0	0.0	0.0		0.2	196	840			99.97%	A		
3	1971	124	53	216.5	269.5	0.2	0.0		0.0		0.2	269	1 161			99.98%	A		
4	1971	157	53	335.7	388.7	0.2	0.0		0.0		0.2	389	1 674			99.99%	A		
5	1971	34	53	287.4	340.4	0.2	0.0	0.0	0.0		0.3	340	1 343			99.98%	A		
6	1971	0	53	128.8	181.8	0.2	0.0	1.5	0.0		1.8	181	102			99.02%	A		
7	1971	1	53	57.0	110.0	0.2	0.0	2.7	0.0		3.0	108	37			96.12%	A		

8	1971	8	53	46.2	99.2	0.2	0.0	2.4	0.0		2.7	97	37			95.73%	A		
9	1971	10	53	52.2	105.2	0.2	0.0	1.7	0.0		1.9	104	55			97.38%	A		
10	1971	24	53	79.0	132.0	0.2	0.0	0.9	0.0		1.1	131	115			99.03%	A		
11	1971	36	53	127.0	180.0	0.2	0.0		0.0		0.2	180	775			99.97%	A		
12	1971	28	53	145.6	198.6	0.2	0.0	0.1	0.0		0.3	198	695			99.94%	A		
1	1972	33	53	144.9	197.9	0.2	0.0	0.0	0.0		0.3	198	753			99.95%	A		
2	1972	29	53	146.0	199.0	0.2	0.0	0.0	0.0		0.2	199	854			99.97%	A		
3	1972	41	53	157.5	210.5	0.2	0.0		0.0		0.2	210	906			99.97%	A		
4	1972	84	53	236.3	289.3	0.2	0.0		0.0		0.2	289	1 246	0.57%	16 904	99.98%	A	99.47%	A
5	1972	17	53	226.8	279.8	0.2	0.0	0.0	0.0		0.3	280	1 104			99.97%	A		
6	1972	3	53	109.0	162.0	0.2	0.0	1.5	0.0		1.8	161	91			98.84%	A		
7	1972	0	53	56.0	109.0	0.2	0.0	2.7	0.0		3.0	107	37			96.05%	A		
8	1972	1	53	39.7	92.7	0.2	0.0	2.4	0.0		2.7	91	35			95.03%	A		
9	1972	7	53	44.0	97.0	0.2	0.0	1.7	0.0		1.9	96	51			96.89%	A		
10	1972	57	53	94.6	147.6	0.2	0.0	0.9	0.0		1.1	147	129			99.19%	A		
11	1972	125	53	212.8	265.8	0.2	0.0		0.0		0.2	266	1 145			99.98%	A		
12	1972	121	53	304.1	357.1	0.2	0.0	0.1	0.0		0.3	357	1 249			99.97%	A		
1	1973	78	53	284.4	337.4	0.2	0.0	0.0	0.0		0.3	337	1 284			99.98%	A		
2	1973	51	53	214.4	267.4	0.2	0.0	0.0	0.0		0.2	267	1 148			99.98%	A		
3	1973	83	53	199.9	252.9	0.2	0.0		0.0		0.2	253	1 089			99.98%	A		
4	1973	95	53	237.1	290.1	0.2	0.0		0.0		0.2	290	1 250	0.47%	20 530	99.98%	A	99.60%	A
5	1973	24	53	194.6	247.6	0.2	0.0	0.0	0.0		0.3	248	977			99.97%	A		
6	1973	0	53	95.6	148.6	0.2	0.0	1.5	0.0		1.8	147	84			98.68%	A		
7	1973	1	53	48.6	101.6	0.2	0.0	2.7	0.0		3.0	99	34			95.45%	A		
8	1973	3	53	38.7	91.7	0.2	0.0	2.4	0.0		2.7	90	34			94.91%	A		
9	1973	13	53	47.3	100.3	0.2	0.0	1.7	0.0		1.9	99	53			97.10%	A		
10	1973	30	53	87.8	140.8	0.2	0.0	0.9	0.0		1.1	140	123			99.13%	A		
11	1973	92	53	212.0	265.0	0.2	0.0		0.0		0.2	265	1 141			99.98%	A		
12	1973	24	53	241.2	294.2	0.2	0.0	0.1	0.0		0.3	294	1 029			99.96%	A		
1	1974	25	53	152.6	205.6	0.2	0.0	0.0	0.0		0.3	206	782			99.96%	A		
2	1974	21	53	126.0	179.0	0.2	0.0	0.0	0.0		0.2	179	768			99.96%	A		
3	1974	80	53	193.4	246.4	0.2	0.0		0.0		0.2	246	1 061			99.98%	A		
4	1974	73	53	285.4	338.4	0.2	0.0		0.0		0.2	338	1 457	0.51%	18 718	99.98%	A	99.54%	A
5	1974	9	53	212.1	265.1	0.2	0.0	0.0	0.0		0.3	265	1 046			99.97%	A		
6	1974	1	53	91.1	144.1	0.2	0.0	1.5	0.0		1.8	143	81			98.61%	A		
7	1974	1	53	48.6	101.6	0.2	0.0	2.7	0.0		3.0	99	34			95.45%	A		
8	1974	2	53	40.2	93.2	0.2	0.0	2.4	0.0		2.7	91	35			95.10%	A		
9	1974	11	53	51.7	104.7	0.2	0.0	1.7	0.0		1.9	103	55			97.35%	A		

UH	Bengo
Área (km ²)	11 502
População	2 891 219
Área irrigada (ha)	2 161
NGR (mm)	1 100

Sector	Necessidades anuais de água (hm ³)	
Abastecimento público	100. 6	77.2%
Indústria	9.4	7.2%
Termo eléctricas		
Irrigação	19.0	14.6%
Pecuária	1. 4	1.0%
Volume anual turbinado (hm ³)		
Hidroelectricidade		

Uso da água na UH do Bengo



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

		Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
						Abast. Público	Indústria	Irrigação	Pecuária								Mensal	Anual	
Ano médio		505.3	455.9	1 355.5	1 811.4	100. 6	9. 4	19.	1. 4	---	130. 3	1 774.0	13.9	7.2%	627	---	---	97.27%	A
Ano seco		304.8	456.0	1 159.4	1 615.4	100. 6	9. 4	19.	1. 4	---	130. 3	1 578.0	12.4	8.1%	559	---	---	96.81%	A
Ano muito seco		146.5	455.9	933.6	1 389.5	100. 6	9. 4	19.	1. 4	---	130. 3	1 352.1	10.7	9.4%	481	---	---	96.03%	A
Mês	Ano																		
10	1944	82	38	56.1	94.1	8.4	0.8	1.8	0.1		11.1	91	8	5.71%	789	94.13%	A	97.97%	A
11	1944	129	38	130.5	168.5	8.4	0.8		0.1		9.3	167	18			98.60%	A		
12	1944	171	38	196.9	234.9	8.4	0.8	0.1	0.1		9.4	233	25			99.03%	A		
1	1945	163	38	232.6	270.6	8.4	0.8	0.1	0.1		9.3	269	29			99.19%	A		
2	1945	110	38	211.0	249.0	8.4	0.8	0.0	0.1		9.3	247	27			99.13%	A		
3	1945	232	38	242.3	280.3	8.4	0.8		0.1		9.3	278	30			99.24%	A		
4	1945	308	38	352.0	390.0	8.4	0.8		0.1		9.3	388	42			99.48%	A		
5	1945	4	38	261.2	299.2	8.4	0.8	0.0	0.1		9.3	297	32			99.29%	A		
6	1945		38	81.5	119.5	8.4	0.8	3.1	0.1		12.4	115	10			94.72%	A		
7	1945		38	28.8	66.7	8.4	0.8	5.5	0.1		14.8	60	5			78.45%	A		
8	1945		38	13.9	51.7	8.4	0.8	4.9	0.1		14.2	46	4			58.84%	F		
9	1945	17	38	18.8	56.5	8.4	0.8	3.4	0.1		12.7	52	4			75.95%	B		
10	1945	37	38	66.9	104.9	8.4	0.8	1.8	0.1		11.1	102	9	7.31%	617	95.08%	A	97.21%	A
11	1945	68	38	156.6	194.6	8.4	0.8		0.1		9.3	193	21			98.83%	A		
12	1945	30	38	171.5	209.5	8.4	0.8	0.1	0.1		9.4	208	22			98.88%	A		
1	1946	27	38	125.0	163.0	8.4	0.8	0.1	0.1		9.3	161	17			98.50%	A		
2	1946	26	38	107.2	145.2	8.4	0.8	0.0	0.1		9.3	143	16			98.29%	A		
3	1946	57	38	140.6	178.6	8.4	0.8		0.1		9.3	177	19			98.70%	A		
4	1946	98	38	239.8	277.8	8.4	0.8		0.1		9.3	276	30			99.24%	A		
5	1946	2	38	195.2	233.2	8.4	0.8	0.0	0.1		9.3	231	25			99.04%	A		
6	1946		38	63.1	101.1	8.4	0.8	3.1	0.1		12.4	97	8			93.19%	A		
7	1946	0	38	23.7	61.6	8.4	0.8	5.5	0.1		14.8	55	4			73.75%	A		
8	1946	0	38	12.5	50.3	8.4	0.8	4.9	0.1		14.2	45	4			54.22%	F		
9	1946	13	38	25.5	63.2	8.4	0.8	3.4	0.1		12.7	59	5			82.32%	A		
10	1946	37	38	59.1	97.1	8.4	0.8	1.8	0.1		11.1	94	9	6.08%	741	94.44%	A	97.81%	A
11	1946	61	38	102.9	140.9	8.4	0.8		0.1		9.3	139	15			98.22%	A		
12	1946	95	38	163.2	201.2	8.4	0.8	0.1	0.1		9.4	199	21			98.83%	A		
1	1947	44	38	164.4	202.4	8.4	0.8	0.1	0.1		9.3	201	22			98.86%	A		
2	1947	55	38	133.9	171.9	8.4	0.8	0.0	0.1		9.3	170	19			98.63%	A		
3	1947	106	38	177.2	215.2	8.4	0.8		0.1		9.3	213	23			98.97%	A		
4	1947	211	38	318.0	356.0	8.4	0.8		0.1		9.3	354	38			99.42%	A		
5	1947	74	38	326.8	364.8	8.4	0.8	0.0	0.1		9.3	363	39			99.43%	A		
6	1947	0	38	157.5	195.5	8.4	0.8	3.1	0.1		12.4	191	16			97.27%	A		
7	1947		38	50.4	88.3	8.4	0.8	5.5	0.1		14.8	82	6			87.67%	A		
8	1947	1	38	20.7	58.5	8.4	0.8	4.9	0.1		14.2	53	4			72.29%	B		
9	1947	2	38	13.7	51.7	8.4	0.8	3.4	0.1		12.7	47	4			67.09%	D		
10	1947	7	38	40.0	78.0	8.4	0.8	1.8	0.1		11.1	75	7			91.76%	A		

11	1947	12	38	96.4	134.4	8.4	0.8		0.1	9.3	133	14	10.81%	417	98.10%	A	95.06%	A
12	1947	2	38	90.2	128.2	8.4	0.8	0.1	0.1	9.4	126	14			97.87%	A		
1	1948	1	38	43.5	81.5	8.4	0.8	0.1	0.1	9.3	80	9			95.68%	A		
2	1948	3	38	34.1	72.1	8.4	0.8	0.0	0.1	9.3	70	8			94.62%	A		
3	1948	3	38	37.6	75.6	8.4	0.8		0.1	9.3	74	8			95.13%	A		
4	1948	24	38	128.2	166.2	8.4	0.8		0.1	9.3	164	18			98.57%	A		
5	1948	4	38	155.2	193.2	8.4	0.8	0.0	0.1	9.3	191	21			98.80%	A		
6	1948	0	38	67.1	105.1	8.4	0.8	3.1	0.1	12.4	101	8			93.59%	A		
7	1948	0	38	26.9	64.9	8.4	0.8	5.5	0.1	14.8	59	4			76.89%	A		
8	1948	0	38	15.0	53.0	8.4	0.8	4.9	0.1	14.2	47	4			61.73%	F		
9	1948	1	38	15.0	53.0	8.4	0.8	3.4	0.1	12.7	48	4			69.96%	C		
10	1948	46	38	38.3	76.3	8.4	0.8	1.8	0.1	11.1	73	7	5.90%	764	91.40%	A	97.89%	A
11	1948	164	38	125.8	163.8	8.4	0.8		0.1	9.3	162	18			98.55%	A		
12	1948	187	38	221.8	259.8	8.4	0.8	0.1	0.1	9.4	258	28			99.14%	A		
1	1949	187	38	260.5	298.5	8.4	0.8	0.1	0.1	9.3	297	32			99.28%	A		
2	1949	148	38	251.1	289.1	8.4	0.8	0.0	0.1	9.3	287	31			99.27%	A		
3	1949	195	38	253.6	291.6	8.4	0.8		0.1	9.3	290	31			99.28%	A		
4	1949	198	38	279.5	317.5	8.4	0.8		0.1	9.3	316	34			99.34%	A		
5	1949	13	38	190.8	228.8	8.4	0.8	0.0	0.1	9.3	227	25			99.02%	A		
6	1949	1	38	66.8	104.8	8.4	0.8	3.1	0.1	12.4	101	8			93.57%	A		
7	1949	1	38	26.0	64.0	8.4	0.8	5.5	0.1	14.8	58	4			76.09%	A		
8	1949	10	38	18.8	56.8	8.4	0.8	4.9	0.1	14.2	51	4			69.48%	C		
9	1949	8	38	20.0	58.0	8.4	0.8	3.4	0.1	12.7	53	5			77.40%	A		
10	1949	11	38	28.9	66.9	8.4	0.8	1.8	0.1	11.1	64	6	7.28%	619	88.60%	A	97.22%	A
11	1949	49	38	89.8	127.8	8.4	0.8		0.1	9.3	126	14			97.96%	A		
12	1949	23	38	119.9	157.9	8.4	0.8	0.1	0.1	9.4	156	17			98.40%	A		
1	1950	27	38	101.9	139.9	8.4	0.8	0.1	0.1	9.3	138	15			98.15%	A		
2	1950	23	38	97.2	135.2	8.4	0.8	0.0	0.1	9.3	133	15			98.12%	A		
3	1950	103	38	193.0	231.0	8.4	0.8		0.1	9.3	229	25			99.05%	A		
4	1950	88	38	297.7	335.7	8.4	0.8		0.1	9.3	334	36			99.38%	A		
5	1950	25	38	229.1	267.1	8.4	0.8	0.0	0.1	9.3	265	29			99.19%	A		
6	1950	1	38	102.4	140.4	8.4	0.8	3.1	0.1	12.4	136	11			95.80%	A		
7	1950	1	38	36.3	74.3	8.4	0.8	5.5	0.1	14.8	68	5			82.87%	A		
8	1950	1	38	18.0	56.0	8.4	0.8	4.9	0.1	14.2	50	4			68.15%	C		
9	1950	7	38	20.3	58.3	8.4	0.8	3.4	0.1	12.7	54	5			77.81%	A		
10	1950	21	38	46.7	84.7	8.4	0.8	1.8	0.1	11.1	81	8	7.64%	590	92.95%	A	97.04%	A
11	1950	73	38	138.3	176.3	8.4	0.8		0.1	9.3	174	19			98.68%	A		
12	1950	44	38	190.5	228.5	8.4	0.8	0.1	0.1	9.4	227	24			98.99%	A		
1	1951	11	38	128.2	166.2	8.4	0.8	0.1	0.1	9.3	164	18			98.53%	A		
2	1951	24	38	86.6	124.6	8.4	0.8	0.0	0.1	9.3	123	13			97.88%	A		
3	1951	76	38	156.1	194.1	8.4	0.8		0.1	9.3	192	21			98.83%	A		
4	1951	65	38	225.0	263.0	8.4	0.8		0.1	9.3	261	28			99.19%	A		
5	1951	8	38	158.9	196.9	8.4	0.8	0.0	0.1	9.3	195	21			98.83%	A		
6	1951	0	38	60.8	98.8	8.4	0.8	3.1	0.1	12.4	94	8			92.93%	A		
7	1951	0	38	23.2	61.2	8.4	0.8	5.5	0.1	14.8	55	4			73.17%	A		
8	1951	5	38	18.6	56.5	8.4	0.8	4.9	0.1	14.2	51	4			69.22%	C		
9	1951	1	38	18.0	56.0	8.4	0.8	3.4	0.1	12.7	51	4			74.95%	B		
10	1951	18	38	26.7	64.7	8.4	0.8	1.8	0.1	11.1	61	6	6.94%	649	87.67%	A	97.40%	A
11	1951	113	38	122.6	160.6	8.4	0.8		0.1	9.3	159	17			98.51%	A		
12	1951	79	38	197.6	235.6	8.4	0.8	0.1	0.1	9.4	234	25			99.03%	A		
1	1952	8	38	131.6	169.6	8.4	0.8	0.1	0.1	9.3	168	18			98.57%	A		
2	1952	64	38	102.9	140.9	8.4	0.8	0.0	0.1	9.3	139	15			98.22%	A		
3	1952	122	38	188.5	226.5	8.4	0.8		0.1	9.3	225	24			99.03%	A		
4	1952	166	38	296.5	334.5	8.4	0.8		0.1	9.3	333	36			99.38%	A		
5	1952	3	38	225.4	263.4	8.4	0.8	0.0	0.1	9.3	261	28			99.17%	A		
6	1952	0	38	72.3	110.3	8.4	0.8	3.1	0.1	12.4	106	9			94.06%	A		
7	1952	1	38	27.1	65.1	8.4	0.8	5.5	0.1	14.8	59	4			77.10%	A		

8	1952	0	38	14.4	52.4	8.4	0.8	4.9	0.1	14.2	47	4			60.36%	F	
9	1952	7	38	16.0	54.0	8.4	0.8	3.4	0.1	12.7	49	4			71.87%	C	
10	1952	24	38	46.3	84.3	8.4	0.8	1.8	0.1	11.1	81	8			92.89%	A	
11	1952	72	38	140.1	178.1	8.4	0.8		0.1	9.3	176	19			98.69%	A	
12	1952	36	38	179.1	217.1	8.4	0.8	0.1	0.1	9.4	215	23			98.93%	A	
1	1953	4	38	105.0	143.0	8.4	0.8	0.1	0.1	9.3	141	15			98.21%	A	
2	1953	43	38	95.6	133.6	8.4	0.8	0.0	0.1	9.3	132	14			98.08%	A	
3	1953	59	38	160.3	198.3	8.4	0.8		0.1	9.3	196	21			98.86%	A	
4	1953	66	38	205.7	243.7	8.4	0.8		0.1	9.3	242	26	7.87%	573	99.11%	A	96.91%
5	1953	10	38	156.4	194.4	8.4	0.8	0.0	0.1	9.3	192	21			98.81%	A	
6	1953	0	38	62.4	100.4	8.4	0.8	3.1	0.1	12.4	96	8			93.11%	A	
7	1953	0	38	23.7	61.7	8.4	0.8	5.5	0.1	14.8	55	4			73.78%	A	
8	1953	0	38	13.1	51.1	8.4	0.8	4.9	0.1	14.2	45	4			56.27%	F	
9	1953	2	38	12.3	50.3	8.4	0.8	3.4	0.1	12.7	46	4			63.41%	F	
10	1953	14	38	40.3	78.3	8.4	0.8	1.8	0.1	11.1	75	7			91.84%	A	
11	1953	18	38	81.9	119.9	8.4	0.8		0.1	9.3	118	13			97.76%	A	
12	1953	3	38	71.5	109.5	8.4	0.8	0.1	0.1	9.4	108	12			97.32%	A	
1	1954	3	38	38.6	76.6	8.4	0.8	0.1	0.1	9.3	75	8			95.13%	A	
2	1954	27	38	79.0	117.0	8.4	0.8	0.0	0.1	9.3	115	13			97.68%	A	
3	1954	25	38	135.7	173.7	8.4	0.8		0.1	9.3	172	19			98.65%	A	
4	1954	75	38	253.4	291.4	8.4	0.8		0.1	9.3	290	31	8.21%	549	99.28%	A	96.73%
5	1954	13	38	255.7	293.7	8.4	0.8	0.0	0.1	9.3	292	32			99.27%	A	
6	1954	0	38	104.9	142.9	8.4	0.8	3.1	0.1	12.4	139	12			95.90%	A	
7	1954	0	38	36.2	74.2	8.4	0.8	5.5	0.1	14.8	68	5			82.84%	A	
8	1954	0	38	17.1	55.1	8.4	0.8	4.9	0.1	14.2	49	4			66.58%	C	
9	1954	3	38	17.8	55.8	8.4	0.8	3.4	0.1	12.7	51	4			74.63%	B	
10	1954	25	38	49.0	87.0	8.4	0.8	1.8	0.1	11.1	84	8			93.28%	A	
11	1954	89	38	163.1	201.1	8.4	0.8		0.1	9.3	199	22			98.88%	A	
12	1954	30	38	197.4	235.4	8.4	0.8	0.1	0.1	9.4	233	25			99.03%	A	
1	1955	28	38	134.2	172.2	8.4	0.8	0.1	0.1	9.3	170	18			98.60%	A	
2	1955	0	38	78.6	116.6	8.4	0.8	0.0	0.1	9.3	115	13			97.67%	A	
3	1955	56	38	99.1	137.1	8.4	0.8		0.1	9.3	135	15			98.15%	A	
4	1955	100	38	228.3	266.3	8.4	0.8		0.1	9.3	264	29	7.29%	618	99.20%	A	97.22%
5	1955	23	38	220.5	258.5	8.4	0.8	0.0	0.1	9.3	257	28			99.15%	A	
6	1955	0	38	96.3	134.3	8.4	0.8	3.1	0.1	12.4	130	11			95.53%	A	
7	1955	0	38	33.7	71.7	8.4	0.8	5.5	0.1	14.8	65	5			81.57%	A	
8	1955	0	38	16.0	54.0	8.4	0.8	4.9	0.1	14.2	48	4			64.23%	C	
9	1955	4	38	15.2	53.2	8.4	0.8	3.4	0.1	12.7	49	4			70.27%	C	
10	1955	40	38	64.9	102.9	8.4	0.8	1.8	0.1	11.1	100	9			94.93%	A	
11	1955	77	38	170.6	208.6	8.4	0.8		0.1	9.3	207	22			98.93%	A	
12	1955	50	38	211.1	249.1	8.4	0.8	0.1	0.1	9.4	247	27			99.09%	A	
1	1956	23	38	155.0	193.0	8.4	0.8	0.1	0.1	9.3	191	21			98.79%	A	
2	1956	11	38	91.3	129.3	8.4	0.8	0.0	0.1	9.3	127	14			97.99%	A	
3	1956	38	38	92.8	130.8	8.4	0.8		0.1	9.3	129	14			98.03%	A	
4	1956	93	38	196.8	234.8	8.4	0.8		0.1	9.3	233	25	7.47%	604	99.07%	A	97.13%
5	1956	8	38	184.9	222.9	8.4	0.8	0.0	0.1	9.3	221	24			98.99%	A	
6	1956	0	38	67.9	105.9	8.4	0.8	3.1	0.1	12.4	102	9			93.66%	A	
7	1956	0	38	25.3	63.3	8.4	0.8	5.5	0.1	14.8	57	4			75.48%	A	
8	1956	0	38	13.5	51.5	8.4	0.8	4.9	0.1	14.2	46	4			57.60%	F	
9	1956	4	38	14.9	52.9	8.4	0.8	3.4	0.1	12.7	48	4			69.77%	C	
10	1956	10	38	27.9	65.9	8.4	0.8	1.8	0.1	11.1	63	6			88.19%	A	
11	1956	33	38	68.7	106.7	8.4	0.8		0.1	9.3	105	12			97.33%	A	
12	1956	31	38	105.6	143.6	8.4	0.8	0.1	0.1	9.4	142	15			98.19%	A	
1	1957	26	38	107.0	145.0	8.4	0.8	0.1	0.1	9.3	143	16			98.24%	A	
2	1957	27	38	101.9	139.9	8.4	0.8	0.0	0.1	9.3	138	15			98.20%	A	
3	1957	94	38	187.1	225.1	8.4	0.8		0.1	9.3	223	24			99.02%	A	
4	1957	96	38	294.8	332.8	8.4	0.8		0.1	9.3	331	36	7.60%	593	99.38%	A	97.06%

5	1957	14	38	222.6	260.6	8.4	0.8	0.0	0.1	9.3	259	28			99.16%	A	
6	1957	0	38	85.5	123.5	8.4	0.8	3.1	0.1	12.4	119	10			94.97%	A	
7	1957	0	38	30.1	68.0	8.4	0.8	5.5	0.1	14.8	62	5			79.39%	A	
8	1957	1	38	15.1	53.0	8.4	0.8	4.9	0.1	14.2	47	4			62.06%	F	
9	1957	2	38	12.8	50.8	8.4	0.8	3.4	0.1	12.7	46	4			64.70%	F	
10	1957	15	38	43.6	81.6	8.4	0.8	1.8	0.1	11.1	78	7			92.46%	A	
11	1957	44	38	141.6	179.6	8.4	0.8		0.1	9.3	178	19			98.71%	A	
12	1957	30	38	197.9	235.9	8.4	0.8	0.1	0.1	9.4	234	25			99.03%	A	
1	1958	4	38	130.1	168.1	8.4	0.8	0.1	0.1	9.3	166	18			98.55%	A	
2	1958	1	38	51.5	89.5	8.4	0.8	0.0	0.1	9.3	88	10			96.45%	A	
3	1958	16	38	54.7	92.7	8.4	0.8		0.1	9.3	91	10			96.66%	A	
4	1958	34	38	124.1	162.1	8.4	0.8		0.1	9.3	160	17	9.38%	481	98.52%	A	96.03% A
5	1958	1	38	110.5	148.5	8.4	0.8	0.0	0.1	9.3	147	16			98.31%	A	
6	1958	0	38	38.7	76.7	8.4	0.8	3.1	0.1	12.4	72	6			88.90%	A	
7	1958	0	38	17.2	55.2	8.4	0.8	5.5	0.1	14.8	49	4			63.88%	C	
8	1958	0	38	11.2	49.1	8.4	0.8	4.9	0.1	14.2	43	3			48.69%	F	
9	1958	1	38	12.5	50.5	8.4	0.8	3.4	0.1	12.7	46	4			63.85%	F	
10	1958	19	38	28.1	66.1	8.4	0.8	1.8	0.1	11.1	63	6			88.30%	A	
11	1958	120	38	129.8	167.8	8.4	0.8		0.1	9.3	166	18			98.59%	A	
12	1958	35	38	168.1	206.1	8.4	0.8	0.1	0.1	9.4	204	22			98.86%	A	
1	1959	125	38	186.7	224.7	8.4	0.8	0.1	0.1	9.3	223	24			98.99%	A	
2	1959	79	38	225.3	263.3	8.4	0.8	0.0	0.1	9.3	261	28			99.19%	A	
3	1959	111	38	226.6	264.6	8.4	0.8		0.1	9.3	263	29			99.19%	A	
4	1959	104	38	246.7	284.7	8.4	0.8		0.1	9.3	283	31	6.28%	717	99.26%	A	97.71% A
5	1959	62	38	211.2	249.2	8.4	0.8	0.0	0.1	9.3	247	27			99.12%	A	
6	1959	0	38	115.4	153.4	8.4	0.8	3.1	0.1	12.4	149	12			96.27%	A	
7	1959	2	38	40.0	78.0	8.4	0.8	5.5	0.1	14.8	72	5			84.45%	A	
8	1959	3	38	20.5	58.5	8.4	0.8	4.9	0.1	14.2	53	4			72.12%	B	
9	1959	6	38	19.1	57.1	8.4	0.8	3.4	0.1	12.7	53	5			76.34%	B	
10	1959	26	38	38.0	76.0	8.4	0.8	1.8	0.1	11.1	73	7			91.35%	A	
11	1959	91	38	113.3	151.3	8.4	0.8		0.1	9.3	149	16			98.38%	A	
12	1959	19	38	125.8	163.8	8.4	0.8	0.1	0.1	9.4	162	17			98.48%	A	
1	1960	38	38	88.0	126.0	8.4	0.8	0.1	0.1	9.3	124	13			97.86%	A	
2	1960	62	38	113.1	151.1	8.4	0.8	0.0	0.1	9.3	149	16			98.38%	A	
3	1960	130	38	196.8	234.8	8.4	0.8		0.1	9.3	233	25			99.07%	A	
4	1960	171	38	309.6	347.6	8.4	0.8		0.1	9.3	346	37	6.89%	655	99.41%	A	97.42% A
5	1960	41	38	265.3	303.3	8.4	0.8	0.0	0.1	9.3	301	33			99.30%	A	
6	1960	0	38	114.2	152.2	8.4	0.8	3.1	0.1	12.4	148	12			96.23%	A	
7	1960	0	38	38.5	76.5	8.4	0.8	5.5	0.1	14.8	70	5			83.85%	A	
8	1960	0	38	17.1	55.1	8.4	0.8	4.9	0.1	14.2	49	4			66.44%	C	
9	1960	7	38	16.8	54.8	8.4	0.8	3.4	0.1	12.7	50	4			73.13%	C	
10	1960	56	38	37.5	75.5	8.4	0.8	1.8	0.1	11.1	72	7			91.24%	A	
11	1960	231	38	125.2	163.2	8.4	0.8		0.1	9.3	161	18			98.54%	A	
12	1960	276	38	231.0	269.0	8.4	0.8	0.1	0.1	9.4	267	29			99.17%	A	
1	1961	201	38	248.5	286.5	8.4	0.8	0.1	0.1	9.3	285	31			99.24%	A	
2	1961	272	38	253.2	291.2	8.4	0.8	0.0	0.1	9.3	289	31			99.28%	A	
3	1961	324	38	300.1	338.1	8.4	0.8		0.1	9.3	336	36			99.39%	A	
4	1961	282	38	316.3	354.3	8.4	0.8		0.1	9.3	352	38	5.45%	826	99.42%	A	98.08% A
5	1961	96	38	234.4	272.4	8.4	0.8	0.0	0.1	9.3	271	29			99.20%	A	
6	1961	3	38	108.3	146.3	8.4	0.8	3.1	0.1	12.4	142	12			96.03%	A	
7	1961	1	38	38.0	76.0	8.4	0.8	5.5	0.1	14.8	70	5			83.63%	A	
8	1961	1	38	17.4	55.4	8.4	0.8	4.9	0.1	14.2	50	4			67.05%	C	
9	1961	31	38	23.2	61.2	8.4	0.8	3.4	0.1	12.7	57	5			80.53%	A	
10	1961	63	38	77.1	115.1	8.4	0.8	1.8	0.1	11.1	112	10			95.73%	A	
11	1961	75	38	141.8	179.8	8.4	0.8		0.1	9.3	178	19			98.71%	A	
12	1961	47	38	145.6	183.6	8.4	0.8	0.1	0.1	9.4	182	20			98.68%	A	
1	1962	64	38	137.9	175.9	8.4	0.8	0.1	0.1	9.3	174	19			98.64%	A	

2	1962	35	38	125.2	163.2	8.4	0.8	0.0	0.1	9.3	161	18	6.88%	655	98.54%	A	97.42%	A
3	1962	91	38	145.8	183.8	8.4	0.8		0.1	9.3	182	20			98.74%	A		
4	1962	185	38	275.6	313.6	8.4	0.8		0.1	9.3	312	34			99.34%	A		
5	1962	9	38	239.4	277.4	8.4	0.8	0.0	0.1	9.3	276	30			99.22%	A		
6	1962	0	38	81.0	119.0	8.4	0.8	3.1	0.1	12.4	115	10			94.69%	A		
7	1962	0	38	29.4	67.4	8.4	0.8	5.5	0.1	14.8	61	5			78.88%	A		
8	1962	3	38	17.3	55.3	8.4	0.8	4.9	0.1	14.2	50	4			66.96%	C		
9	1962	9	38	20.8	58.8	8.4	0.8	3.4	0.1	12.7	54	5			78.33%	A		
10	1962	39	38	51.7	89.7	8.4	0.8	1.8	0.1	11.1	86	8	6.76%	666	93.64%	A	97.48%	A
11	1962	102	38	137.9	175.9	8.4	0.8		0.1	9.3	174	19			98.67%	A		
12	1962	48	38	166.7	204.7	8.4	0.8	0.1	0.1	9.4	203	22			98.85%	A		
1	1963	23	38	110.7	148.7	8.4	0.8	0.1	0.1	9.3	147	16			98.30%	A		
2	1963	28	38	79.3	117.3	8.4	0.8	0.0	0.1	9.3	115	13			97.69%	A		
3	1963	111	38	143.9	181.9	8.4	0.8		0.1	9.3	180	20			98.73%	A		
4	1963	227	38	326.6	364.6	8.4	0.8		0.1	9.3	363	39			99.44%	A		
5	1963	11	38	289.6	327.6	8.4	0.8	0.0	0.1	9.3	326	35			99.36%	A		
6	1963	0	38	96.8	134.8	8.4	0.8	3.1	0.1	12.4	130	11			95.56%	A		
7	1963	0	38	33.5	71.5	8.4	0.8	5.5	0.1	14.8	65	5			81.47%	A		
8	1963	0	38	15.7	53.7	8.4	0.8	4.9	0.1	14.2	48	4			63.59%	D		
9	1963	9	38	18.4	56.4	8.4	0.8	3.4	0.1	12.7	52	4			75.46%	B		
10	1963	16	38	51.2	89.2	8.4	0.8	1.8	0.1	11.1	86	8	9.11%	495	93.57%	A	96.20%	A
11	1963	19	38	90.3	128.3	8.4	0.8		0.1	9.3	126	14			97.97%	A		
12	1963	10	38	90.1	128.1	8.4	0.8	0.1	0.1	9.4	126	14			97.87%	A		
1	1964	27	38	109.0	147.0	8.4	0.8	0.1	0.1	9.3	145	16			98.27%	A		
2	1964	6	38	103.4	141.4	8.4	0.8	0.0	0.1	9.3	140	15			98.23%	A		
3	1964	36	38	123.5	161.5	8.4	0.8		0.1	9.3	160	17			98.52%	A		
4	1964	31	38	178.7	216.7	8.4	0.8		0.1	9.3	215	23			98.98%	A		
5	1964	5	38	129.3	167.3	8.4	0.8	0.0	0.1	9.3	165	18			98.56%	A		
6	1964	0	38	53.1	91.1	8.4	0.8	3.1	0.1	12.4	87	7			91.90%	A		
7	1964	0	38	21.0	58.9	8.4	0.8	5.5	0.1	14.8	53	4			70.44%	B		
8	1964	1	38	13.0	50.8	8.4	0.8	4.9	0.1	14.2	45	4			55.96%	F		
9	1964	1	38	12.5	50.5	8.4	0.8	3.4	0.1	12.7	46	4			63.98%	F		
10	1964	21	38	28.6	66.6	8.4	0.8	1.8	0.1	11.1	63	6	6.74%	669	88.50%	A	97.49%	A
11	1964	102	38	116.1	154.1	8.4	0.8		0.1	9.3	152	17			98.42%	A		
12	1964	101	38	205.3	243.3	8.4	0.8	0.1	0.1	9.4	241	26			99.07%	A		
1	1965	42	38	180.5	218.5	8.4	0.8	0.1	0.1	9.3	217	23			98.96%	A		
2	1965	51	38	133.5	171.5	8.4	0.8	0.0	0.1	9.3	170	18			98.63%	A		
3	1965	144	38	205.3	243.3	8.4	0.8		0.1	9.3	241	26			99.11%	A		
4	1965	135	38	292.2	330.2	8.4	0.8		0.1	9.3	328	36			99.37%	A		
5	1965	0	38	196.5	234.5	8.4	0.8	0.0	0.1	9.3	233	25			99.05%	A		
6	1965	1	38	62.3	100.3	8.4	0.8	3.1	0.1	12.4	96	8			93.10%	A		
7	1965	0	38	24.3	62.3	8.4	0.8	5.5	0.1	14.8	56	4			74.47%	A		
8	1965	2	38	14.4	52.4	8.4	0.8	4.9	0.1	14.2	47	4			60.28%	F		
9	1965	9	38	19.1	57.1	8.4	0.8	3.4	0.1	12.7	53	5			76.40%	B		
10	1965	4	38	28.0	66.0	8.4	0.8	1.8	0.1	11.1	63	6	8.34%	540	88.26%	A	96.65%	A
11	1965	15	38	53.4	91.4	8.4	0.8		0.1	9.3	90	10			96.57%	A		
12	1965	18	38	88.1	126.1	8.4	0.8	0.1	0.1	9.4	124	13			97.82%	A		
1	1966	15	38	99.3	137.3	8.4	0.8	0.1	0.1	9.3	135	15			98.11%	A		
2	1966	8	38	82.2	120.2	8.4	0.8	0.0	0.1	9.3	118	13			97.77%	A		
3	1966	45	38	139.2	177.2	8.4	0.8		0.1	9.3	175	19			98.68%	A		
4	1966	66	38	273.4	311.4	8.4	0.8		0.1	9.3	310	34			99.33%	A		
5	1966	1	38	217.9	255.9	8.4	0.8	0.0	0.1	9.3	254	27			99.14%	A		
6	1966	0	38	69.9	107.9	8.4	0.8	3.1	0.1	12.4	104	9			93.85%	A		
7	1966	0	38	25.9	63.9	8.4	0.8	5.5	0.1	14.8	58	4			76.05%	A		
8	1966	0	38	14.2	52.1	8.4	0.8	4.9	0.1	14.2	46	4			59.72%	F		
9	1966	2	38	14.7	52.7	8.4	0.8	3.4	0.1	12.7	48	4			69.37%	C		
10	1966	14	38	32.1	70.1	8.4	0.8	1.8	0.1	11.1	67	6			89.76%	A		

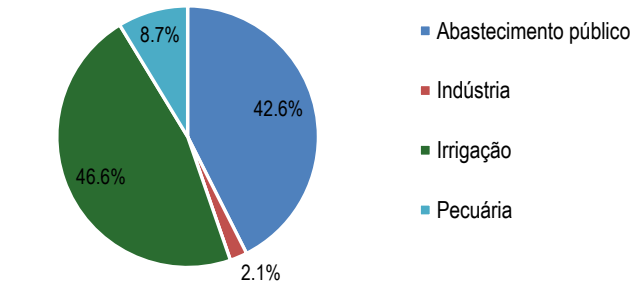
11	1966	86	38	141.4	179.4	8.4	0.8		0.1	9.3	178	19	7.16%	629	98.70%	A	97.28%	A
12	1966	48	38	210.3	248.3	8.4	0.8	0.1	0.1	9.4	246	26			99.09%	A		
1	1967	43	38	177.7	215.7	8.4	0.8	0.1	0.1	9.3	214	23			98.94%	A		
2	1967	32	38	148.2	186.2	8.4	0.8	0.0	0.1	9.3	184	20			98.76%	A		
3	1967	60	38	162.9	200.9	8.4	0.8		0.1	9.3	199	22			98.88%	A		
4	1967	51	38	190.2	228.2	8.4	0.8		0.1	9.3	226	25			99.04%	A		
5	1967	27	38	155.8	193.8	8.4	0.8	0.0	0.1	9.3	192	21			98.80%	A		
6	1967	0	38	82.9	120.9	8.4	0.8	3.1	0.1	12.4	117	10			94.81%	A		
7	1967	0	38	30.0	68.0	8.4	0.8	5.5	0.1	14.8	62	5			79.30%	A		
8	1967	1	38	15.6	53.6	8.4	0.8	4.9	0.1	14.2	48	4			63.22%	D		
9	1967	4	38	16.7	54.7	8.4	0.8	3.4	0.1	12.7	50	4			72.98%	C		
10	1967	20	38	32.3	70.3	8.4	0.8	1.8	0.1	11.1	67	6	6.91%	652	89.82%	A	97.41%	A
11	1967	81	38	98.8	136.8	8.4	0.8		0.1	9.3	135	15			98.15%	A		
12	1967	11	38	107.5	145.5	8.4	0.8	0.1	0.1	9.4	144	16			98.22%	A		
1	1968	34	38	73.0	111.0	8.4	0.8	0.1	0.1	9.3	109	12			97.43%	A		
2	1968	97	38	135.1	173.1	8.4	0.8	0.0	0.1	9.3	171	19			98.64%	A		
3	1968	119	38	222.2	260.2	8.4	0.8		0.1	9.3	258	28			99.18%	A		
4	1968	185	38	319.6	357.6	8.4	0.8		0.1	9.3	356	39			99.43%	A		
5	1968	27	38	266.5	304.5	8.4	0.8	0.0	0.1	9.3	303	33			99.30%	A		
6	1968	0	38	102.8	140.8	8.4	0.8	3.1	0.1	12.4	137	11			95.82%	A		
7	1968	1	38	36.0	74.0	8.4	0.8	5.5	0.1	14.8	68	5			82.76%	A		
8	1968	1	38	17.6	55.6	8.4	0.8	4.9	0.1	14.2	50	4			67.43%	C		
9	1968	7	38	17.5	55.5	8.4	0.8	3.4	0.1	12.7	51	4			74.15%	B		
10	1968	14	38	34.7	72.7	8.4	0.8	1.8	0.1	11.1	69	7	7.19%	627	90.51%	A	97.27%	A
11	1968	43	38	88.1	126.1	8.4	0.8		0.1	9.3	124	14			97.92%	A		
12	1968	5	38	89.4	127.4	8.4	0.8	0.1	0.1	9.4	125	14			97.86%	A		
1	1969	30	38	75.5	113.5	8.4	0.8	0.1	0.1	9.3	112	12			97.51%	A		
2	1969	31	38	102.9	140.9	8.4	0.8	0.0	0.1	9.3	139	15			98.22%	A		
3	1969	124	38	230.6	268.6	8.4	0.8		0.1	9.3	267	29			99.21%	A		
4	1969	88	38	333.5	371.5	8.4	0.8		0.1	9.3	370	40			99.45%	A		
5	1969	20	38	232.1	270.1	8.4	0.8	0.0	0.1	9.3	268	29			99.20%	A		
6	1969	0	38	96.6	134.6	8.4	0.8	3.1	0.1	12.4	130	11			95.55%	A		
7	1969	1	38	34.9	72.9	8.4	0.8	5.5	0.1	14.8	67	5			82.22%	A		
8	1969	2	38	19.6	57.6	8.4	0.8	4.9	0.1	14.2	52	4			70.77%	B		
9	1969	4	38	18.5	56.5	8.4	0.8	3.4	0.1	12.7	52	4			75.55%	B		
10	1969	40	38	49.1	87.1	8.4	0.8	1.8	0.1	11.1	84	8	6.39%	706	93.29%	A	97.66%	A
11	1969	118	38	150.9	188.9	8.4	0.8		0.1	9.3	187	20			98.79%	A		
12	1969	67	38	199.5	237.5	8.4	0.8	0.1	0.1	9.4	236	25			99.04%	A		
1	1970	37	38	147.7	185.7	8.4	0.8	0.1	0.1	9.3	184	20			98.73%	A		
2	1970	58	38	126.7	164.7	8.4	0.8	0.0	0.1	9.3	163	18			98.55%	A		
3	1970	213	38	267.3	305.3	8.4	0.8		0.1	9.3	303	33			99.32%	A		
4	1970	103	38	338.5	376.5	8.4	0.8		0.1	9.3	375	41			99.46%	A		
5	1970	2	38	186.2	224.2	8.4	0.8	0.0	0.1	9.3	222	24			99.00%	A		
6	1970	1	38	61.6	99.6	8.4	0.8	3.1	0.1	12.4	95	8			93.02%	A		
7	1970	2	38	25.8	63.8	8.4	0.8	5.5	0.1	14.8	58	4			75.92%	A		
8	1970	2	38	16.1	54.1	8.4	0.8	4.9	0.1	14.2	48	4			64.32%	C		
9	1970	5	38	15.7	53.7	8.4	0.8	3.4	0.1	12.7	49	4			71.24%	C		
10	1970	36	38	44.4	82.4	8.4	0.8	1.8	0.1	11.1	79	7	6.93%	650	92.58%	A	97.40%	A
11	1970	66	38	102.8	140.8	8.4	0.8		0.1	9.3	139	15			98.22%	A		
12	1970	93	38	165.3	203.3	8.4	0.8	0.1	0.1	9.4	201	22			98.84%	A		
1	1971	14	38	138.5	176.5	8.4	0.8	0.1	0.1	9.3	175	19			98.64%	A		
2	1971	42	38	91.9	129.9	8.4	0.8	0.0	0.1	9.3	128	14			98.01%	A		
3	1971	148	38	189.8	227.8	8.4	0.8		0.1	9.3	226	25			99.04%	A		
4	1971	144	38	298.4	336.4	8.4	0.8		0.1	9.3	335	36			99.39%	A		
5	1971	27	38	227.6	265.6	8.4	0.8	0.0	0.1	9.3	264	29			99.18%	A		
6	1971	0	38	92.0	130.0	8.4	0.8	3.1	0.1	12.4	126	10			95.32%	A		
7	1971	1	38	32.9	70.9	8.4	0.8	5.5	0.1	14.8	65	5			81.12%	A		

8	1971	5	38	20.0	58.0	8.4	0.8	4.9	0.1	14.2	52	4			71.34%	B	
9	1971	5	38	20.0	58.0	8.4	0.8	3.4	0.1	12.7	53	5			77.39%	B	
10	1971	12	38	39.9	77.9	8.4	0.8	1.8	0.1	11.1	75	7			91.75%	A	
11	1971	19	38	79.0	117.0	8.4	0.8		0.1	9.3	115	13			97.68%	A	
12	1971	12	38	90.2	128.2	8.4	0.8	0.1	0.1	9.4	126	14			97.87%	A	
1	1972	14	38	85.3	123.3	8.4	0.8	0.1	0.1	9.3	121	13			97.80%	A	
2	1972	13	38	86.1	124.1	8.4	0.8	0.0	0.1	9.3	122	13			97.87%	A	
3	1972	24	38	107.1	145.1	8.4	0.8		0.1	9.3	143	16			98.29%	A	
4	1972	47	38	182.8	220.8	8.4	0.8		0.1	9.3	219	24	9.23%	488	99.00%	A	96.13% A
5	1972	7	38	165.4	203.4	8.4	0.8	0.0	0.1	9.3	201	22			98.87%	A	
6	1972	0	38	67.0	105.0	8.4	0.8	3.1	0.1	12.4	101	8			93.58%	A	
7	1972	0	38	26.0	64.0	8.4	0.8	5.5	0.1	14.8	58	4			76.07%	A	
8	1972	0	38	14.2	52.2	8.4	0.8	4.9	0.1	14.2	46	4			59.56%	F	
9	1972	1	38	13.0	51.0	8.4	0.8	3.4	0.1	12.7	46	4			65.18%	F	
10	1972	39	38	44.4	82.4	8.4	0.8	1.8	0.1	11.1	79	7			92.59%	A	
11	1972	105	38	137.8	175.8	8.4	0.8		0.1	9.3	174	19			98.67%	A	
12	1972	124	38	233.0	271.0	8.4	0.8	0.1	0.1	9.4	269	29			99.18%	A	
1	1973	74	38	233.2	271.2	8.4	0.8	0.1	0.1	9.3	269	29			99.19%	A	
2	1973	47	38	170.4	208.4	8.4	0.8	0.0	0.1	9.3	207	22			98.93%	A	
3	1973	74	38	153.5	191.5	8.4	0.8		0.1	9.3	190	21			98.81%	A	
4	1973	94	38	187.6	225.6	8.4	0.8		0.1	9.3	224	24	6.87%	656	99.02%	A	97.43% A
5	1973	23	38	153.8	191.8	8.4	0.8	0.0	0.1	9.3	190	21			98.79%	A	
6	1973	0	38	68.4	106.4	8.4	0.8	3.1	0.1	12.4	102	9			93.71%	A	
7	1973	1	38	26.0	64.0	8.4	0.8	5.5	0.1	14.8	58	4			76.06%	A	
8	1973	1	38	14.3	52.3	8.4	0.8	4.9	0.1	14.2	47	4			60.00%	F	
9	1973	10	38	19.2	57.2	8.4	0.8	3.4	0.1	12.7	53	5			76.45%	B	
10	1973	20	38	45.1	83.1	8.4	0.8	1.8	0.1	11.1	80	7			92.70%	A	
11	1973	66	38	126.8	164.8	8.4	0.8		0.1	9.3	163	18			98.56%	A	
12	1973	15	38	140.2	178.2	8.4	0.8	0.1	0.1	9.4	176	19			98.63%	A	
1	1974	10	38	76.5	114.5	8.4	0.8	0.1	0.1	9.3	113	12			97.54%	A	
2	1974	12	38	54.7	92.7	8.4	0.8	0.0	0.1	9.3	91	10			96.65%	A	
3	1974	87	38	145.8	183.8	8.4	0.8		0.1	9.3	182	20			98.74%	A	
4	1974	87	38	262.4	300.4	8.4	0.8		0.1	9.3	299	32	8.07%	559	99.30%	A	96.81% A
5	1974	3	38	188.3	226.3	8.4	0.8	0.0	0.1	9.3	224	24			99.01%	A	
6	1974	1	38	63.1	101.1	8.4	0.8	3.1	0.1	12.4	97	8			93.18%	A	
7	1974	1	38	25.1	63.1	8.4	0.8	5.5	0.1	14.8	57	4			75.20%	A	
8	1974	1	38	15.1	53.1	8.4	0.8	4.9	0.1	14.2	47	4			62.16%	E	
9	1974	4	38	16.5	54.5	8.4	0.8	3.4	0.1	12.7	50	4			72.65%	C	

UH	Alto Kwanza
Área (km ²)	88 830
População	1 109 609
Área irrigada (ha)	3 932
NGR (mm)	650

Sector	Necessidades anuais de água (hm³)	
Abastecimento público	18. 7	42.6%
Indústria	0.9	2.1%
Termo eléctricas		
Irrigação	20.4	46.6%
Pecuária	3. 8	8.7%
Volume anual turbinado (hm³)		
Hidroelectricidade		

Uso da água na UH do Alto Kwanza



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano médio	8 874.8	7 991.9	15 964.9	23 956.8	18. 7	. 9	20. 4	3. 8	---	43. 9	23 935.9	546.1	0.2%	21 590	---	---	99.9%	A
Ano seco	5 199.5	7 991.7	10 577.8	18 569.5	18. 7	. 9	20. 4	3. 8	---	43. 9	18 548.6	423.3	0.2%	16 735	---	---	99.8%	A
Ano muito seco	2 902.0	7 991.9	4 940.5	12 932.4	18. 7	. 9	20. 4	3. 8	---	43. 9	12 911.5	294.8	0.3%	11 655	---	---	99.6%	A

Mês	Ano		Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Abast. Público	Indústria	Irrigação	Pecuária	Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
	10	1944	740	666	373.0	1 039.0	1.6	0.1	0.9	0.3		2.9	1 038	364	0.24%	16 369	99.71%	A	99.80%	A
	11	1944	1830	666	838.9	1 504.9	1.6	0.1	0.2	0.3		2.2	1 504	691			99.93%	A		
	12	1944	1026	666	559.5	1 225.5	1.6	0.1	0.0	0.3		2.0	1 225	623			99.93%	A		
	1	1945	1573	666	1 026.2	1 692.2	1.6	0.1	0.0	0.3		2.0	1 692	858			99.96%	A		
	2	1945	1384	666	1 119.1	1 785.1	1.6	0.1	0.1	0.3		2.0	1 785	886			99.96%	A		
	3	1945	1590	666	2 050.8	2 716.8	1.6	0.1	0.1	0.3		2.1	2 716	1 322			99.98%	A		
	4	1945	669	666	1 584.9	2 250.9	1.6	0.1	0.2	0.3		2.1	2 250	1 054			99.97%	A		
	5	1945	41	666	1 104.4	1 770.4	1.6	0.1	2.0	0.3		4.0	1 768	445			99.82%	A		
	6	1945	0	666	568.5	1 234.5	1.6	0.1	4.3	0.3		6.2	1 231	199			99.34%	A		
	7	1945	0	666	382.8	1 048.8	1.6	0.1	4.4	0.3		6.4	1 045	165			98.99%	A		
	8	1945	0	666	311.1	977.0	1.6	0.1	4.4	0.3		6.4	973	153	0.27%	14 710	98.76%	A	99.75%	A
	9	1945	258	666	252.5	918.5	1.6	0.1	3.8	0.3		5.8	915	159			98.65%	A		
	10	1945	431	666	512.3	1 178.3	1.6	0.1	0.9	0.3		2.9	1 177	413			99.79%	A		
	11	1945	829	666	596.2	1 262.2	1.6	0.1	0.2	0.3		2.2	1 262	580			99.91%	A		
	12	1945	855	666	549.8	1 215.8	1.6	0.1	0.0	0.3		2.0	1 215	618			99.93%	A		
	1	1946	501	666	512.3	1 178.3	1.6	0.1	0.0	0.3		2.0	1 178	597			99.92%	A		
	2	1946	583	666	810.4	1 476.4	1.6	0.1	0.1	0.3		2.0	1 476	733			99.95%	A		
	3	1946	787	666	1 844.7	2 510.7	1.6	0.1	0.1	0.3		2.1	2 510	1 222			99.98%	A		
	4	1946	440	666	1 137.0	1 803.0	1.6	0.1	0.2	0.3		2.1	1 802	844			99.95%	A		
	5	1946	8	666	998.5	1 664.5	1.6	0.1	2.0	0.3		4.0	1 663	419			99.80%	A		
	6	1946		666	513.9	1 179.9	1.6	0.1	4.3	0.3		6.2	1 176	190	0.18%	22 071	99.27%	A	99.87%	A
	7	1946	0	666	346.1	1 012.0	1.6	0.1	4.4	0.3		6.4	1 008	159			98.88%	A		
	8	1946	0	666	281.0	946.8	1.6	0.1	4.4	0.3		6.4	943	149			98.62%	A		
	9	1946	145	666	228.0	894.0	1.6	0.1	3.8	0.3		5.8	891	155			98.51%	A		
	10	1946	1384	666	465.9	1 131.9	1.6	0.1	0.9	0.3		2.9	1 131	397			99.77%	A		
	11	1946	1613	666	606.0	1 272.0	1.6	0.1	0.2	0.3		2.2	1 271	584			99.91%	A		
	12	1946	2558	666	1 258.3	1 924.3	1.6	0.1	0.0	0.3		2.0	1 924	978			99.97%	A		
	1	1947	2599	666	1 724.2	2 390.2	1.6	0.1	0.0	0.3		2.0	2 390	1 212			99.98%	A		
	2	1947	2056	666	1 491.3	2 157.3	1.6	0.1	0.1	0.3		2.0	2 157	1 071			99.97%	A		
	3	1947	1597	666	1 864.3	2 530.3	1.6	0.1	0.1	0.3		2.1	2 530	1 231			99.98%	A		
	4	1947	1732	666	4 055.2	4 721.2	1.6	0.1	0.2	0.3		2.1	4 721	2 210			99.99%	A		
	5	1947	165	666	2 260.1	2 926.1	1.6	0.1	2.0	0.3		4.0	2 924	736	0.18%	22 071	99.91%	A		
	6	1947		666	1 090.6	1 756.6	1.6	0.1	4.3	0.3		6.2	1 753	283			99.66%	A		
	7	1947		666	736.3	1 402.2	1.6	0.1	4.4	0.3		6.4	1 398	220			99.47%	A		
	8	1947		666	547.3	1 213.1	1.6	0.1	4.4	0.3		6.4	1 209	190			99.29%	A		
	9	1947	426	666	399.9	1 065.6	1.6	0.1	3.8	0.3		5.8	1 062	184			99.15%	A		
	10	1947	933	666	512.3	1 178.3	1.6	0.1	0.9	0.3		2.9	1 177	413			99.79%	A		

11	1947	773	666	522.1	1 188.1	1.6	0.1	0.2	0.3	2.2	1 188	546	0.20%	19 669	99.89%	A	99.85%	A
12	1947	1926	666	1 034.4	1 700.4	1.6	0.1	0.0	0.3	2.0	1 700	865			99.96%	A		
1	1948	1970	666	1 463.6	2 129.6	1.6	0.1	0.0	0.3	2.0	2 129	1 079			99.97%	A		
2	1948	1732	666	1 864.2	2 530.2	1.6	0.1	0.1	0.3	2.0	2 530	1 256			99.98%	A		
3	1948	1403	666	1 789.4	2 455.4	1.6	0.1	0.1	0.3	2.1	2 455	1 195			99.97%	A		
4	1948	753	666	2 666.5	3 332.5	1.6	0.1	0.2	0.3	2.1	3 332	1 560			99.98%	A		
5	1948	161	666	1 787.7	2 453.7	1.6	0.1	2.0	0.3	4.0	2 452	617			99.89%	A		
6	1948		666	862.5	1 528.5	1.6	0.1	4.3	0.3	6.2	1 525	246			99.57%	A		
7	1948	1	666	582.3	1 248.2	1.6	0.1	4.4	0.3	6.4	1 244	196			99.34%	A		
8	1948	4	666	432.5	1 098.5	1.6	0.1	4.4	0.3	6.4	1 095	172			99.11%	A		
9	1948	128	666	315.2	981.2	1.6	0.1	3.8	0.3	5.8	978	170			98.92%	A		
10	1948	465	666	419.4	1 085.4	1.6	0.1	0.9	0.3	2.9	1 084	381	0.19%	20 761	99.74%	A	99.86%	A
11	1948	867	666	606.0	1 272.0	1.6	0.1	0.2	0.3	2.2	1 271	584			99.91%	A		
12	1948	578	666	552.2	1 218.2	1.6	0.1	0.0	0.3	2.0	1 218	619			99.93%	A		
1	1949	760	666	931.7	1 597.7	1.6	0.1	0.0	0.3	2.0	1 597	810			99.96%	A		
2	1949	1040	666	2 236.5	2 902.5	1.6	0.1	0.1	0.3	2.0	2 902	1 441			99.98%	A		
3	1949	1194	666	2 796.0	3 462.0	1.6	0.1	0.1	0.3	2.1	3 462	1 685			99.98%	A		
4	1949	293	666	3 355.6	4 021.6	1.6	0.1	0.2	0.3	2.1	4 021	1 882			99.98%	A		
5	1949	8	666	1 650.1	2 316.1	1.6	0.1	2.0	0.3	4.0	2 314	582			99.88%	A		
6	1949	2	666	852.7	1 518.7	1.6	0.1	4.3	0.3	6.2	1 515	245			99.56%	A		
7	1949	1	666	657.3	1 323.3	1.6	0.1	4.4	0.3	6.4	1 319	208			99.41%	A		
8	1949	32	666	527.8	1 193.8	1.6	0.1	4.4	0.3	6.4	1 190	187			99.27%	A		
9	1949	77	666	459.4	1 125.4	1.6	0.1	3.8	0.3	5.8	1 122	195			99.26%	A		
10	1949	237	666	251.7	917.7	1.6	0.1	0.9	0.3	2.9	917	322	0.34%	11 655	99.57%	A	99.58%	A
11	1949	565	666	606.0	1 272.0	1.6	0.1	0.2	0.3	2.2	1 271	584			99.91%	A		
12	1949	478	666	437.4	1 103.4	1.6	0.1	0.0	0.3	2.0	1 103	561			99.91%	A		
1	1950	440	666	531.0	1 197.0	1.6	0.1	0.0	0.3	2.0	1 197	607			99.93%	A		
2	1950	248	666	316.8	982.8	1.6	0.1	0.1	0.3	2.0	982	488			99.87%	A		
3	1950	587	666	978.2	1 644.2	1.6	0.1	0.1	0.3	2.1	1 644	800			99.95%	A		
4	1950	264	666	978.2	1 644.2	1.6	0.1	0.2	0.3	2.1	1 644	770			99.95%	A		
5	1950	31	666	354.3	1 020.3	1.6	0.1	2.0	0.3	4.0	1 018	257			99.44%	A		
6	1950		666	182.4	848.4	1.6	0.1	4.3	0.3	6.2	845	137			97.95%	A		
7	1950	0	666	123.0	788.9	1.6	0.1	4.4	0.3	6.4	785	124			96.85%	A		
8	1950	9	666	100.2	766.2	1.6	0.1	4.4	0.3	6.4	762	120			96.14%	A		
9	1950	43	666	81.4	747.4	1.6	0.1	3.8	0.3	5.8	744	129			95.83%	A		
10	1950	588	666	325.8	991.8	1.6	0.1	0.9	0.3	2.9	991	348	0.17%	22 724	99.67%	A	99.88%	A
11	1950	1812	666	373.0	1 039.0	1.6	0.1	0.2	0.3	2.2	1 038	477			99.85%	A		
12	1950	2875	666	885.3	1 551.3	1.6	0.1	0.0	0.3	2.0	1 551	789			99.96%	A		
1	1951	2568	666	1 398.4	2 064.4	1.6	0.1	0.0	0.3	2.0	2 064	1 046			99.97%	A		
2	1951	1818	666	1 491.3	2 157.3	1.6	0.1	0.1	0.3	2.0	2 157	1 071			99.97%	A		
3	1951	2502	666	2 982.5	3 648.5	1.6	0.1	0.1	0.3	2.1	3 648	1 776			99.98%	A		
4	1951	1627	666	4 285.7	4 951.7	1.6	0.1	0.2	0.3	2.1	4 951	2 318			99.99%	A		
5	1951	414	666	2 432.8	3 098.8	1.6	0.1	2.0	0.3	4.0	3 097	779			99.92%	A		
6	1951		666	1 259.2	1 925.2	1.6	0.1	4.3	0.3	6.2	1 921	310			99.70%	A		
7	1951		666	771.3	1 437.2	1.6	0.1	4.4	0.3	6.4	1 433	226			99.50%	A		
8	1951	5	666	574.2	1 240.0	1.6	0.1	4.4	0.3	6.4	1 236	195			99.33%	A		
9	1951	400	666	443.1	1 109.1	1.6	0.1	3.8	0.3	5.8	1 106	192			99.23%	A		
10	1951	904	666	655.6	1 321.6	1.6	0.1	0.9	0.3	2.9	1 321	463	0.20%	19 347	99.83%	A	99.85%	A
11	1951	1268	666	963.5	1 629.5	1.6	0.1	0.2	0.3	2.2	1 629	748			99.94%	A		
12	1951	1962	666	1 580.9	2 246.9	1.6	0.1	0.0	0.3	2.0	2 246	1 142			99.98%	A		
1	1952	1038	666	2 057.7	2 723.7	1.6	0.1	0.0	0.3	2.0	2 723	1 381			99.98%	A		
2	1952	1227	666	1 887.0	2 553.0	1.6	0.1	0.1	0.3	2.0	2 553	1 268			99.98%	A		
3	1952	1074	666	1 996.1	2 662.1	1.6	0.1	0.1	0.3	2.1	2 662	1 296			99.98%	A		
4	1952	973	666	1 345.6	2 011.6	1.6	0.1	0.2	0.3	2.1	2 011	942			99.96%	A		
5	1952	5	666	1 015.3	1 681.3	1.6	0.1	2.0	0.3	4.0	1 679	423			99.81%	A		
6	1952		666	657.4	1 323.4	1.6	0.1	4.3	0.3	6.2	1 320	213			99.43%	A		
7	1952	0	666	515.9	1 181.8	1.6	0.1	4.4	0.3	6.4	1 178	186			99.25%	A		

8	1952	9	666	440.2	1 106.2	1.6	0.1	4.4	0.3	6.4	1 102	174			99.12%	A	
9	1952	297	666	360.9	1 026.9	1.6	0.1	3.8	0.3	5.8	1 023	178			99.06%	A	
10	1952	1076	666	443.0	1 109.0	1.6	0.1	0.9	0.3	2.9	1 108	389			99.76%	A	
11	1952	1958	666	787.0	1 453.0	1.6	0.1	0.2	0.3	2.2	1 452	667			99.93%	A	
12	1952	1336	666	1 159.6	1 825.6	1.6	0.1	0.0	0.3	2.0	1 825	928			99.97%	A	
1	1953	1366	666	1 481.3	2 147.3	1.6	0.1	0.0	0.3	2.0	2 147	1 088			99.97%	A	
2	1953	1162	666	1 471.8	2 137.8	1.6	0.1	0.1	0.3	2.0	2 137	1 062			99.97%	A	
3	1953	1789	666	2 042.3	2 708.3	1.6	0.1	0.1	0.3	2.1	2 708	1 318			99.98%	A	
4	1953	953	666	3 000.3	3 666.3	1.6	0.1	0.2	0.3	2.1	3 666	1 716	0.19%	20 887	99.98%	A	99.86%
5	1953	39	666	2 153.8	2 819.8	1.6	0.1	2.0	0.3	4.0	2 818	709			99.91%	A	
6	1953	0	666	1 040.4	1 706.4	1.6	0.1	4.3	0.3	6.2	1 703	275			99.64%	A	
7	1953	0	666	702.5	1 368.5	1.6	0.1	4.4	0.3	6.4	1 365	215			99.45%	A	
8	1953	82	666	521.2	1 187.2	1.6	0.1	4.4	0.3	6.4	1 183	186			99.26%	A	
9	1953	30	666	380.8	1 046.8	1.6	0.1	3.8	0.3	5.8	1 043	181			99.11%	A	
10	1953	806	666	348.0	1 014.0	1.6	0.1	0.9	0.3	2.9	1 013	356			99.69%	A	
11	1953	1123	666	505.4	1 171.4	1.6	0.1	0.2	0.3	2.2	1 171	538			99.89%	A	
12	1953	1191	666	783.8	1 449.8	1.6	0.1	0.0	0.3	2.0	1 449	737			99.95%	A	
1	1954	1127	666	965.6	1 631.6	1.6	0.1	0.0	0.3	2.0	1 631	827			99.96%	A	
2	1954	1570	666	998.6	1 664.6	1.6	0.1	0.1	0.3	2.0	1 664	827			99.96%	A	
3	1954	1802	666	2 088.1	2 754.1	1.6	0.1	0.1	0.3	2.1	2 754	1 340			99.98%	A	
4	1954	1205	666	3 016.2	3 682.2	1.6	0.1	0.2	0.3	2.1	3 682	1 723	0.20%	19 865	99.98%	A	99.85%
5	1954	257	666	2 383.5	3 049.5	1.6	0.1	2.0	0.3	4.0	3 048	767			99.92%	A	
6	1954	0	666	1 179.6	1 845.6	1.6	0.1	4.3	0.3	6.2	1 842	297			99.68%	A	
7	1954	0	666	751.3	1 417.3	1.6	0.1	4.4	0.3	6.4	1 413	223			99.49%	A	
8	1954	21	666	571.1	1 237.1	1.6	0.1	4.4	0.3	6.4	1 233	194			99.32%	A	
9	1954	232	666	459.6	1 125.6	1.6	0.1	3.8	0.3	5.8	1 122	195			99.26%	A	
10	1954	346	666	424.2	1 090.2	1.6	0.1	0.9	0.3	2.9	1 089	382			99.74%	A	
11	1954	812	666	679.1	1 345.1	1.6	0.1	0.2	0.3	2.2	1 345	618			99.92%	A	
12	1954	1061	666	919.7	1 585.7	1.6	0.1	0.0	0.3	2.0	1 585	806			99.96%	A	
1	1955	919	666	1 163.7	1 829.7	1.6	0.1	0.0	0.3	2.0	1 829	927			99.97%	A	
2	1955	292	666	934.1	1 600.1	1.6	0.1	0.1	0.3	2.0	1 600	795			99.96%	A	
3	1955	956	666	1 085.4	1 751.4	1.6	0.1	0.1	0.3	2.1	1 751	852			99.96%	A	
4	1955	655	666	1 848.2	2 514.2	1.6	0.1	0.2	0.3	2.1	2 514	1 177	0.24%	16 735	99.97%	A	99.80%
5	1955	93	666	1 485.8	2 151.8	1.6	0.1	2.0	0.3	4.0	2 150	541			99.87%	A	
6	1955	0	666	765.2	1 431.2	1.6	0.1	4.3	0.3	6.2	1 427	231			99.51%	A	
7	1955		666	514.1	1 180.1	1.6	0.1	4.4	0.3	6.4	1 176	185			99.25%	A	
8	1955		666	418.6	1 084.5	1.6	0.1	4.4	0.3	6.4	1 081	170			99.08%	A	
9	1955	66	666	339.6	1 005.4	1.6	0.1	3.8	0.3	5.8	1 002	174			99.00%	A	
10	1955	1043	666	359.1	1 025.1	1.6	0.1	0.9	0.3	2.9	1 024	359			99.70%	A	
11	1955	1343	666	746.8	1 412.8	1.6	0.1	0.2	0.3	2.2	1 412	649			99.93%	A	
12	1955	1648	666	1 447.2	2 113.2	1.6	0.1	0.0	0.3	2.0	2 113	1 074			99.97%	A	
1	1956	1492	666	1 789.1	2 455.1	1.6	0.1	0.0	0.3	2.0	2 455	1 244			99.98%	A	
2	1956	740	666	1 919.3	2 585.3	1.6	0.1	0.1	0.3	2.0	2 585	1 284			99.98%	A	
3	1956	1391	666	1 707.2	2 373.2	1.6	0.1	0.1	0.3	2.1	2 373	1 155			99.97%	A	
4	1956	1216	666	2 432.3	3 098.3	1.6	0.1	0.2	0.3	2.1	3 098	1 450	0.19%	21 216	99.98%	A	99.87%
5	1956	9	666	2 503.8	3 169.8	1.6	0.1	2.0	0.3	4.0	3 168	797			99.92%	A	
6	1956	0	666	1 089.7	1 755.7	1.6	0.1	4.3	0.3	6.2	1 752	283			99.66%	A	
7	1956	0	666	647.4	1 313.4	1.6	0.1	4.4	0.3	6.4	1 310	206			99.40%	A	
8	1956	17	666	489.0	1 155.0	1.6	0.1	4.4	0.3	6.4	1 151	181			99.21%	A	
9	1956	361	666	418.7	1 084.7	1.6	0.1	3.8	0.3	5.8	1 081	188			99.19%	A	
10	1956	264	666	379.4	1 045.4	1.6	0.1	0.9	0.3	2.9	1 044	367			99.71%	A	
11	1956	1178	666	591.0	1 257.0	1.6	0.1	0.2	0.3	2.2	1 256	577			99.91%	A	
12	1956	689	666	868.0	1 534.0	1.6	0.1	0.0	0.3	2.0	1 534	780			99.96%	A	
1	1957	1065	666	1 642.0	2 308.0	1.6	0.1	0.0	0.3	2.0	2 308	1 170			99.98%	A	
2	1957	581	666	1 838.1	2 504.1	1.6	0.1	0.1	0.3	2.0	2 504	1 243			99.98%	A	
3	1957	927	666	2 507.0	3 173.0	1.6	0.1	0.1	0.3	2.1	3 173	1 544			99.98%	A	
4	1957	242	666	2 635.8	3 301.8	1.6	0.1	0.2	0.3	2.1	3 301	1 545	0.20%	19 792	99.98%	A	99.85%

5	1957	15	666	1 395.7	2 061.7	1.6	0.1	2.0	0.3	4.0	2 060	518			99.86%	A		
6	1957	0	666	722.1	1 388.1	1.6	0.1	4.3	0.3	6.2	1 384	224			99.48%	A		
7	1957	7	666	555.6	1 221.5	1.6	0.1	4.4	0.3	6.4	1 218	192			99.30%	A		
8	1957	22	666	446.5	1 112.5	1.6	0.1	4.4	0.3	6.4	1 109	175			99.13%	A		
9	1957	211	666	388.2	1 054.2	1.6	0.1	3.8	0.3	5.8	1 051	183			99.12%	A		
10	1957	523	666	434.2	1 100.2	1.6	0.1	0.9	0.3	2.9	1 099	386			99.75%	A		
11	1957	897	666	629.6	1 295.6	1.6	0.1	0.2	0.3	2.2	1 295	595			99.91%	A		
12	1957	976	666	1 181.3	1 847.3	1.6	0.1	0.0	0.3	2.0	1 847	939			99.97%	A		
1	1958	710	666	1 443.5	2 109.5	1.6	0.1	0.0	0.3	2.0	2 109	1 069			99.97%	A		
2	1958	458	666	914.7	1 580.7	1.6	0.1	0.1	0.3	2.0	1 580	785			99.95%	A		
3	1958	740	666	936.9	1 602.9	1.6	0.1	0.1	0.3	2.1	1 602	780			99.95%	A		
4	1958	346	666	1 049.9	1 715.9	1.6	0.1	0.2	0.3	2.1	1 715	803	0.26%	14 975	99.95%	A	99.76%	A
5	1958	6	666	694.0	1 360.0	1.6	0.1	2.0	0.3	4.0	1 358	342			99.72%	A		
6	1958	0	666	390.5	1 056.5	1.6	0.1	4.3	0.3	6.2	1 053	170			99.04%	A		
7	1958	0	666	360.5	1 026.5	1.6	0.1	4.4	0.3	6.4	1 023	161			98.93%	A		
8	1958	3	666	318.9	984.8	1.6	0.1	4.4	0.3	6.4	981	155			98.79%	A		
9	1958	144	666	270.5	936.5	1.6	0.1	3.8	0.3	5.8	933	162			98.74%	A		
10	1958	463	666	278.3	944.3	1.6	0.1	0.9	0.3	2.9	943	331			99.61%	A		
11	1958	1288	666	448.1	1 114.1	1.6	0.1	0.2	0.3	2.2	1 114	512			99.88%	A		
12	1958	1558	666	788.7	1 454.7	1.6	0.1	0.0	0.3	2.0	1 454	740			99.95%	A		
1	1959	1440	666	1 165.2	1 831.2	1.6	0.1	0.0	0.3	2.0	1 831	928			99.97%	A		
2	1959	1302	666	1 734.9	2 400.9	1.6	0.1	0.1	0.3	2.0	2 400	1 192			99.98%	A		
3	1959	1491	666	2 688.6	3 354.6	1.6	0.1	0.1	0.3	2.1	3 354	1 633			99.98%	A		
4	1959	691	666	3 181.2	3 847.2	1.6	0.1	0.2	0.3	2.1	3 847	1 801	0.19%	20 378	99.98%	A	99.86%	A
5	1959	421	666	1 879.1	2 545.1	1.6	0.1	2.0	0.3	4.0	2 543	640			99.89%	A		
6	1959	0	666	970.0	1 636.0	1.6	0.1	4.3	0.3	6.2	1 632	264			99.61%	A		
7	1959	5	666	618.0	1 283.9	1.6	0.1	4.4	0.3	6.4	1 280	202			99.37%	A		
8	1959	10	666	469.6	1 135.6	1.6	0.1	4.4	0.3	6.4	1 132	178			99.18%	A		
9	1959	273	666	398.1	1 064.1	1.6	0.1	3.8	0.3	5.8	1 061	184			99.15%	A		
10	1959	589	666	376.5	1 042.5	1.6	0.1	0.9	0.3	2.9	1 041	366			99.71%	A		
11	1959	1236	666	508.0	1 174.0	1.6	0.1	0.2	0.3	2.2	1 173	539			99.89%	A		
12	1959	1527	666	973.7	1 639.7	1.6	0.1	0.0	0.3	2.0	1 639	834			99.96%	A		
1	1960	1600	666	1 465.8	2 131.8	1.6	0.1	0.0	0.3	2.0	2 131	1 081			99.97%	A		
2	1960	1468	666	2 035.2	2 701.2	1.6	0.1	0.1	0.3	2.0	2 701	1 341			99.98%	A		
3	1960	1912	666	3 441.9	4 107.9	1.6	0.1	0.1	0.3	2.1	4 107	1 999			99.99%	A		
4	1960	839	666	3 988.3	4 654.3	1.6	0.1	0.2	0.3	2.1	4 654	2 178	0.16%	23 995	99.99%	A	99.89%	A
5	1960	257	666	2 593.9	3 259.9	1.6	0.1	2.0	0.3	4.0	3 258	820			99.92%	A		
6	1960	1	666	1 342.8	2 008.8	1.6	0.1	4.3	0.3	6.2	2 005	324			99.72%	A		
7	1960	0	666	821.6	1 487.6	1.6	0.1	4.4	0.3	6.4	1 484	234			99.53%	A		
8	1960	44	666	613.3	1 279.3	1.6	0.1	4.4	0.3	6.4	1 275	201			99.37%	A		
9	1960	306	666	472.0	1 138.0	1.6	0.1	3.8	0.3	5.8	1 135	197			99.28%	A		
10	1960	810	666	457.2	1 123.2	1.6	0.1	0.9	0.3	2.9	1 122	394			99.76%	A		
11	1960	2449	666	693.3	1 359.3	1.6	0.1	0.2	0.3	2.2	1 359	624			99.92%	A		
12	1960	2049	666	1 263.6	1 929.6	1.6	0.1	0.0	0.3	2.0	1 929	981			99.97%	A		
1	1961	2515	666	1 663.2	2 329.2	1.6	0.1	0.0	0.3	2.0	2 329	1 181			99.98%	A		
2	1961	2225	666	2 545.6	3 211.6	1.6	0.1	0.1	0.3	2.0	3 211	1 595			99.98%	A		
3	1961	2738	666	4 220.5	4 886.5	1.6	0.1	0.1	0.3	2.1	4 886	2 378			99.99%	A		
4	1961	1435	666	5 769.2	6 435.2	1.6	0.1	0.2	0.3	2.1	6 435	3 012	0.13%	29 884	99.99%	A	99.92%	A
5	1961	544	666	3 866.2	4 532.2	1.6	0.1	2.0	0.3	4.0	4 530	1 140			99.95%	A		
6	1961	18	666	1 922.3	2 588.3	1.6	0.1	4.3	0.3	6.2	2 585	417			99.81%	A		
7	1961	0	666	1 220.6	1 886.6	1.6	0.1	4.4	0.3	6.4	1 883	296			99.68%	A		
8	1961	2	666	864.6	1 530.6	1.6	0.1	4.4	0.3	6.4	1 527	240			99.55%	A		
9	1961	448	666	681.0	1 347.0	1.6	0.1	3.8	0.3	5.8	1 344	233			99.50%	A		
10	1961	1149	666	740.9	1 406.9	1.6	0.1	0.9	0.3	2.9	1 406	493			99.85%	A		
11	1961	2500	666	1 255.1	1 921.1	1.6	0.1	0.2	0.3	2.2	1 921	882			99.96%	A		
12	1961	2666	666	2 653.2	3 319.2	1.6	0.1	0.0	0.3	2.0	3 319	1 688			99.99%	A		
1	1962	1903	666	4 564.1	5 230.1	1.6	0.1	0.0	0.3	2.0	5 230	2 651			99.99%	A		

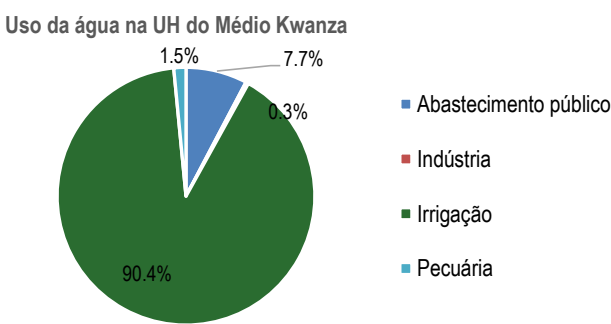
2	1962	1799	666	3 179.6	3 845.6	1.6	0.1	0.1	0.3	2.0	3 845	1 910	0.12%	33 030	99.99%	A	99.93%	A
3	1962	2727	666	3 730.1	4 396.1	1.6	0.1	0.1	0.3	2.1	4 396	2 140			99.99%	A		
4	1962	1099	666	5 713.8	6 379.8	1.6	0.1	0.2	0.3	2.1	6 379	2 986			99.99%	A		
5	1962	1	666	2 721.6	3 387.6	1.6	0.1	2.0	0.3	4.0	3 386	852			99.93%	A		
6	1962	0	666	1 481.8	2 147.8	1.6	0.1	4.3	0.3	6.2	2 144	346			99.75%	A		
7	1962	0	666	1 086.8	1 752.8	1.6	0.1	4.4	0.3	6.4	1 749	275			99.64%	A		
8	1962	128	666	856.2	1 522.2	1.6	0.1	4.4	0.3	6.4	1 518	239			99.55%	A		
9	1962	333	666	675.6	1 341.6	1.6	0.1	3.8	0.3	5.8	1 338	232			99.50%	A		
10	1962	841	666	654.9	1 320.9	1.6	0.1	0.9	0.3	2.9	1 320	463	0.15%	26 384	99.83%	A	99.90%	A
11	1962	1191	666	844.7	1 510.7	1.6	0.1	0.2	0.3	2.2	1 510	694			99.94%	A		
12	1962	1965	666	1 620.2	2 286.2	1.6	0.1	0.0	0.3	2.0	2 286	1 162			99.98%	A		
1	1963	1311	666	2 149.0	2 815.0	1.6	0.1	0.0	0.3	2.0	2 815	1 427			99.98%	A		
2	1963	1383	666	2 772.4	3 438.4	1.6	0.1	0.1	0.3	2.0	3 438	1 707			99.98%	A		
3	1963	1493	666	3 246.7	3 912.7	1.6	0.1	0.1	0.3	2.1	3 912	1 904			99.99%	A		
4	1963	803	666	3 810.8	4 476.8	1.6	0.1	0.2	0.3	2.1	4 476	2 095			99.99%	A		
5	1963	107	666	2 478.8	3 144.8	1.6	0.1	2.0	0.3	4.0	3 143	791			99.92%	A		
6	1963		666	1 378.8	2 044.8	1.6	0.1	4.3	0.3	6.2	2 041	330			99.73%	A		
7	1963	0	666	982.4	1 648.3	1.6	0.1	4.4	0.3	6.4	1 644	259	0.18%	21 693	99.61%	A	99.87%	A
8	1963	1	666	759.4	1 425.3	1.6	0.1	4.4	0.3	6.4	1 421	224			99.49%	A		
9	1963	153	666	585.7	1 251.7	1.6	0.1	3.8	0.3	5.8	1 248	217			99.42%	A		
10	1963	481	666	578.7	1 244.7	1.6	0.1	0.9	0.3	2.9	1 244	436			99.81%	A		
11	1963	1076	666	944.7	1 610.7	1.6	0.1	0.2	0.3	2.2	1 610	740			99.94%	A		
12	1963	645	666	1 308.9	1 974.9	1.6	0.1	0.0	0.3	2.0	1 975	1 004			99.97%	A		
1	1964	923	666	1 644.9	2 310.9	1.6	0.1	0.0	0.3	2.0	2 310	1 171			99.98%	A		
2	1964	797	666	2 249.0	2 915.0	1.6	0.1	0.1	0.3	2.0	2 915	1 448			99.98%	A		
3	1964	796	666	3 079.8	3 745.8	1.6	0.1	0.1	0.3	2.1	3 745	1 823			99.99%	A		
4	1964	170	666	2 644.1	3 310.1	1.6	0.1	0.2	0.3	2.1	3 310	1 549			99.98%	A		
5	1964	13	666	1 358.9	2 024.9	1.6	0.1	2.0	0.3	4.0	2 023	509			99.85%	A		
6	1964		666	743.3	1 409.3	1.6	0.1	4.3	0.3	6.2	1 406	227			99.50%	A		
7	1964		666	603.4	1 269.3	1.6	0.1	4.4	0.3	6.4	1 265	199			99.36%	A		
8	1964	64	666	502.7	1 168.5	1.6	0.1	4.4	0.3	6.4	1 165	183			99.23%	A		
9	1964	164	666	420.4	1 086.4	1.6	0.1	3.8	0.3	5.8	1 083	188	0.19%	20 396	99.19%	A	99.86%	A
10	1964	711	666	385.0	1 051.0	1.6	0.1	0.9	0.3	2.9	1 050	368			99.72%	A		
11	1964	1070	666	578.0	1 244.0	1.6	0.1	0.2	0.3	2.2	1 243	571			99.91%	A		
12	1964	1813	666	936.9	1 602.9	1.6	0.1	0.0	0.3	2.0	1 603	815			99.96%	A		
1	1965	1691	666	1 891.5	2 557.5	1.6	0.1	0.0	0.3	2.0	2 557	1 296			99.98%	A		
2	1965	1188	666	2 026.8	2 692.8	1.6	0.1	0.1	0.3	2.0	2 692	1 337			99.98%	A		
3	1965	1212	666	2 445.7	3 111.7	1.6	0.1	0.1	0.3	2.1	3 111	1 514			99.98%	A		
4	1965	548	666	2 524.2	3 190.2	1.6	0.1	0.2	0.3	2.1	3 190	1 493			99.98%	A		
5	1965	0	666	1 521.1	2 187.1	1.6	0.1	2.0	0.3	4.0	2 185	550			99.87%	A		
6	1965	9	666	828.6	1 494.6	1.6	0.1	4.3	0.3	6.2	1 491	241			99.55%	A		
7	1965	0	666	603.4	1 269.4	1.6	0.1	4.4	0.3	6.4	1 265	199			99.36%	A		
8	1965	14	666	491.8	1 157.7	1.6	0.1	4.4	0.3	6.4	1 154	182			99.21%	A		
9	1965	427	666	406.6	1 072.6	1.6	0.1	3.8	0.3	5.8	1 069	186	0.15%	26 144	99.16%	A	99.90%	A
10	1965	483	666	549.7	1 215.7	1.6	0.1	0.9	0.3	2.9	1 215	426			99.80%	A		
11	1965	1297	666	522.0	1 188.0	1.6	0.1	0.2	0.3	2.2	1 187	546			99.89%	A		
12	1965	1845	666	1 046.0	1 712.0	1.6	0.1	0.0	0.3	2.0	1 712	870			99.96%	A		
1	1966	1718	666	1 754.0	2 420.0	1.6	0.1	0.0	0.3	2.0	2 420	1 227			99.98%	A		
2	1966	1603	666	2 889.2	3 555.2	1.6	0.1	0.1	0.3	2.0	3 555	1 765			99.99%	A		
3	1966	1815	666	4 582.6	5 248.6	1.6	0.1	0.1	0.3	2.1	5 248	2 554			99.99%	A		
4	1966	710	666	4 229.6	4 895.6	1.6	0.1	0.2	0.3	2.1	4 895	2 291			99.99%	A		
5	1966	41	666	2 159.7	2 825.7	1.6	0.1	2.0	0.3	4.0	2 824	711			99.91%	A		
6	1966	11	666	1 191.4	1 857.4	1.6	0.1	4.3	0.3	6.2	1 854	299			99.69%	A		
7	1966	1	666	848.6	1 514.6	1.6	0.1	4.4	0.3	6.4	1 511	238			99.54%	A		
8	1966	85	666	674.8	1 340.8	1.6	0.1	4.4	0.3	6.4	1 337	211			99.43%	A		
9	1966	321	666	569.6	1 235.6	1.6	0.1	3.8	0.3	5.8	1 232	214	0.12%		99.40%	A		
10	1966	781	666	618.0	1 284.0	1.6	0.1	0.9	0.3	2.9	1 283	450			99.82%	A		

11	1966	943	666	788.5	1 454.5	1.6	0.1	0.2	0.3	2.2	1 454	668	0.19%	21 147	99.93%	A	99.87%	A
12	1966	1428	666	866.9	1 532.9	1.6	0.1	0.0	0.3	2.0	1 533	779			99.96%	A		
1	1967	1131	666	1 132.3	1 798.3	1.6	0.1	0.0	0.3	2.0	1 798	911			99.97%	A		
2	1967	1444	666	1 483.5	2 149.5	1.6	0.1	0.1	0.3	2.0	2 149	1 067			99.97%	A		
3	1967	1390	666	2 120.6	2 786.6	1.6	0.1	0.1	0.3	2.1	2 786	1 356			99.98%	A		
4	1967	1440	666	2 561.8	3 227.8	1.6	0.1	0.2	0.3	2.1	3 227	1 511			99.98%	A		
5	1967	91	666	2 674.0	3 340.0	1.6	0.1	2.0	0.3	4.0	3 338	840			99.93%	A		
6	1967	3	666	1 262.9	1 928.9	1.6	0.1	4.3	0.3	6.2	1 925	311			99.70%	A		
7	1967		666	792.4	1 458.4	1.6	0.1	4.4	0.3	6.4	1 454	229			99.51%	A		
8	1967	6	666	644.2	1 310.1	1.6	0.1	4.4	0.3	6.4	1 306	206			99.40%	A		
9	1967	244	666	527.9	1 193.9	1.6	0.1	3.8	0.3	5.8	1 191	207			99.36%	A		
10	1967	1162	666	545.7	1 211.7	1.6	0.1	0.9	0.3	2.9	1 211	425	0.13%	31 538	99.80%	A	99.92%	A
11	1967	3329	666	1 180.3	1 846.3	1.6	0.1	0.2	0.3	2.2	1 846	848			99.95%	A		
12	1967	2407	666	2 092.3	2 758.3	1.6	0.1	0.0	0.3	2.0	2 758	1 402			99.98%	A		
1	1968	2258	666	3 213.6	3 879.6	1.6	0.1	0.0	0.3	2.0	3 879	1 966			99.99%	A		
2	1968	2351	666	4 101.0	4 767.0	1.6	0.1	0.1	0.3	2.0	4 767	2 367			99.99%	A		
3	1968	1982	666	5 358.9	6 024.9	1.6	0.1	0.1	0.3	2.1	6 024	2 932			99.99%	A		
4	1968	1442	666	4 167.8	4 833.8	1.6	0.1	0.2	0.3	2.1	4 833	2 262			99.99%	A		
5	1968	205	666	2 568.9	3 234.9	1.6	0.1	2.0	0.3	4.0	3 233	813			99.92%	A		
6	1968	0	666	1 391.8	2 057.8	1.6	0.1	4.3	0.3	6.2	2 054	332			99.73%	A		
7	1968	0	666	996.7	1 662.6	1.6	0.1	4.4	0.3	6.4	1 659	261			99.61%	A		
8	1968	16	666	774.4	1 440.2	1.6	0.1	4.4	0.3	6.4	1 436	226			99.50%	A		
9	1968	175	666	611.4	1 277.4	1.6	0.1	3.8	0.3	5.8	1 274	221			99.44%	A		
10	1968	935	666	589.3	1 255.3	1.6	0.1	0.9	0.3	2.9	1 254	440	0.13%	30 013	99.82%	A	99.92%	A
11	1968	2271	666	960.9	1 626.9	1.6	0.1	0.2	0.3	2.2	1 626	747			99.94%	A		
12	1968	2440	666	1 510.4	2 176.4	1.6	0.1	0.0	0.3	2.0	2 176	1 107			99.97%	A		
1	1969	2483	666	3 043.9	3 709.9	1.6	0.1	0.0	0.3	2.0	3 710	1 880			99.99%	A		
2	1969	2110	666	2 953.6	3 619.6	1.6	0.1	0.1	0.3	2.0	3 619	1 797			99.99%	A		
3	1969	2534	666	5 083.6	5 749.6	1.6	0.1	0.1	0.3	2.1	5 749	2 798			99.99%	A		
4	1969	1080	666	5 154.0	5 820.0	1.6	0.1	0.2	0.3	2.1	5 819	2 724			99.99%	A		
5	1969	10	666	2 395.8	3 061.8	1.6	0.1	2.0	0.3	4.0	3 060	770			99.92%	A		
6	1969		666	1 305.1	1 971.1	1.6	0.1	4.3	0.3	6.2	1 967	318			99.71%	A		
7	1969	0	666	944.9	1 610.8	1.6	0.1	4.4	0.3	6.4	1 607	253			99.59%	A		
8	1969	35	666	782.1	1 447.9	1.6	0.1	4.4	0.3	6.4	1 444	227			99.51%	A		
9	1969	274	666	587.2	1 253.2	1.6	0.1	3.8	0.3	5.8	1 250	217			99.42%	A		
10	1969	1199	666	775.5	1 441.5	1.6	0.1	0.9	0.3	2.9	1 440	505	0.14%	28 315	99.86%	A	99.91%	A
11	1969	1338	666	1 132.3	1 798.3	1.6	0.1	0.2	0.3	2.2	1 798	826			99.95%	A		
12	1969	1436	666	2 307.6	2 973.6	1.6	0.1	0.0	0.3	2.0	2 973	1 512			99.98%	A		
1	1970	1656	666	2 767.1	3 433.1	1.6	0.1	0.0	0.3	2.0	3 433	1 740			99.99%	A		
2	1970	1263	666	2 982.7	3 648.7	1.6	0.1	0.1	0.3	2.0	3 648	1 812			99.99%	A		
3	1970	1246	666	4 964.8	5 630.8	1.6	0.1	0.1	0.3	2.1	5 630	2 740			99.99%	A		
4	1970	593	666	3 150.6	3 816.6	1.6	0.1	0.2	0.3	2.1	3 816	1 786			99.98%	A		
5	1970	40	666	1 978.6	2 644.6	1.6	0.1	2.0	0.3	4.0	2 643	665			99.90%	A		
6	1970	7	666	1 121.1	1 787.1	1.6	0.1	4.3	0.3	6.2	1 783	288			99.67%	A		
7	1970	2	666	905.3	1 571.3	1.6	0.1	4.4	0.3	6.4	1 567	247			99.57%	A		
8	1970	2	666	744.1	1 410.1	1.6	0.1	4.4	0.3	6.4	1 406	221			99.48%	A		
9	1970	164	666	597.0	1 263.0	1.6	0.1	3.8	0.3	5.8	1 260	219			99.43%	A		
10	1970	561	666	672.7	1 338.7	1.6	0.1	0.9	0.3	2.9	1 338	469	0.19%	21 364	99.84%	A	99.87%	A
11	1970	746	666	974.2	1 640.2	1.6	0.1	0.2	0.3	2.2	1 640	753			99.94%	A		
12	1970	861	666	1 414.6	2 080.6	1.6	0.1	0.0	0.3	2.0	2 080	1 058			99.97%	A		
1	1971	765	666	2 128.1	2 794.1	1.6	0.1	0.0	0.3	2.0	2 794	1 416			99.98%	A		
2	1971	635	666	1 496.6	2 162.6	1.6	0.1	0.1	0.3	2.0	2 162	1 074			99.97%	A		
3	1971	806	666	1 853.5	2 519.5	1.6	0.1	0.1	0.3	2.1	2 519	1 226			99.98%	A		
4	1971	541	666	2 623.6	3 289.6	1.6	0.1	0.2	0.3	2.1	3 289	1 540			99.98%	A		
5	1971	31	666	1 712.5	2 378.5	1.6	0.1	2.0	0.3	4.0	2 376	598			99.88%	A		
6	1971	3	666	926.1	1 592.1	1.6	0.1	4.3	0.3	6.2	1 588	257			99.60%	A		
7	1971	0	666	731.5	1 397.5	1.6	0.1	4.4	0.3	6.4	1 394	219			99.47%	A		

8	1971	3	666	632.1	1 298.0	1.6	0.1	4.4	0.3		6.4	1 294	204			99.39%	A		
9	1971	89	666	548.3	1 214.3	1.6	0.1	3.8	0.3		5.8	1 211	210			99.38%	A		
10	1971	472	666	443.7	1 109.7	1.6	0.1	0.9	0.3		2.9	1 109	389			99.76%	A		
11	1971	694	666	532.9	1 198.9	1.6	0.1	0.2	0.3		2.2	1 198	551			99.90%	A		
12	1971	951	666	693.7	1 359.7	1.6	0.1	0.0	0.3		2.0	1 359	691			99.94%	A		
1	1972	746	666	1 073.9	1 739.9	1.6	0.1	0.0	0.3		2.0	1 740	882			99.96%	A		
2	1972	400	666	802.5	1 468.5	1.6	0.1	0.1	0.3		2.0	1 468	729			99.95%	A		
3	1972	880	666	816.5	1 482.5	1.6	0.1	0.1	0.3		2.1	1 482	722			99.94%	A		
4	1972	674	666	1 423.7	2 089.7	1.6	0.1	0.2	0.3		2.1	2 089	978	0.27%	14 850	99.96%	A	99.76%	A
5	1972	23	666	1 031.5	1 697.5	1.6	0.1	2.0	0.3		4.0	1 695	427			99.81%	A		
6	1972	8	666	535.7	1 201.7	1.6	0.1	4.3	0.3		6.2	1 198	194			99.30%	A		
7	1972	0	666	457.1	1 123.1	1.6	0.1	4.4	0.3		6.4	1 119	176			99.15%	A		
8	1972	5	666	374.1	1 040.0	1.6	0.1	4.4	0.3		6.4	1 036	163			98.97%	A		
9	1972	102	666	301.0	967.0	1.6	0.1	3.8	0.3		5.8	964	167			98.87%	A		
10	1972	1055	666	382.7	1 048.7	1.6	0.1	0.9	0.3		2.9	1 048	368			99.72%	A		
11	1972	1491	666	699.5	1 365.5	1.6	0.1	0.2	0.3		2.2	1 365	627			99.92%	A		
12	1972	1850	666	1 159.0	1 825.0	1.6	0.1	0.0	0.3		2.0	1 825	928			99.97%	A		
1	1973	1510	666	2 091.4	2 757.4	1.6	0.1	0.0	0.3		2.0	2 757	1 398			99.98%	A		
2	1973	1234	666	2 235.0	2 901.0	1.6	0.1	0.1	0.3		2.0	2 901	1 441			99.98%	A		
3	1973	1475	666	2 390.3	3 056.3	1.6	0.1	0.1	0.3		2.1	3 056	1 487			99.98%	A		
4	1973	958	666	2 695.5	3 361.5	1.6	0.1	0.2	0.3		2.1	3 361	1 573	0.18%	21 413	99.98%	A	99.87%	A
5	1973	115	666	1 735.5	2 401.5	1.6	0.1	2.0	0.3		4.0	2 399	604			99.89%	A		
6	1973		666	884.6	1 550.6	1.6	0.1	4.3	0.3		6.2	1 547	250			99.58%	A		
7	1973		666	612.9	1 278.8	1.6	0.1	4.4	0.3		6.4	1 275	201			99.37%	A		
8	1973	2	666	489.6	1 155.4	1.6	0.1	4.4	0.3		6.4	1 151	181			99.21%	A		
9	1973	161	666	392.7	1 058.7	1.6	0.1	3.8	0.3		5.8	1 055	183			99.13%	A		
10	1973	561	666	372.8	1 038.8	1.6	0.1	0.9	0.3		2.9	1 038	364			99.71%	A		
11	1973	696	666	637.1	1 303.1	1.6	0.1	0.2	0.3		2.2	1 303	598			99.91%	A		
12	1973	875	666	1 156.8	1 822.8	1.6	0.1	0.0	0.3		2.0	1 822	927			99.97%	A		
1	1974	526	666	897.8	1 563.8	1.6	0.1	0.0	0.3		2.0	1 563	793			99.96%	A		
2	1974	473	666	747.1	1 413.1	1.6	0.1	0.1	0.3		2.0	1 413	702			99.94%	A		
3	1974	1028	666	1 041.5	1 707.5	1.6	0.1	0.1	0.3		2.1	1 707	831			99.96%	A		
4	1974	700	666	2 036.1	2 702.1	1.6	0.1	0.2	0.3		2.1	2 702	1 265	0.24%	16 389	99.97%	A	99.80%	A
5	1974	48	666	1 342.0	2 008.0	1.6	0.1	2.0	0.3		4.0	2 006	505			99.85%	A		
6	1974	0	666	687.1	1 353.1	1.6	0.1	4.3	0.3		6.2	1 349	218			99.46%	A		
7	1974	0	666	512.6	1 178.6	1.6	0.1	4.4	0.3		6.4	1 175	185			99.25%	A		
8	1974	35	666	411.9	1 077.8	1.6	0.1	4.4	0.3		6.4	1 074	169			99.06%	A		
9	1974	86	666	350.4	1 016.4	1.6	0.1	3.8	0.3		5.8	1 013	176			99.03%	A		

UH	Médio Kwanza
Área (km ²)	27 710
População	473 477
Área irrigada (ha)	18 373
NGR (mm)	650

Sector	Necessidades anuais de água (hm³)	
Abastecimento público	8. 1	7.7%
Indústria	0.4	0.3%
Termo eléctricas		
Irrigação	95.5	90.4%
Pecuária	1. 6	1.5%
Volume anual turbinado (hm³)		
Hidroelectricidade	14 799	



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano médio	1 819.8	1 631.5	20 761.6	22 393.0	26. 8	1. 3	116.	5. 4	---	149. 5	22 293.8	149.8	0.7%	8 316	---	---	99.5%	A
Ano seco	1 533.0	1 631.3	13 767.3	15 398.6	26. 8	1. 3	116.	5. 4	---	149. 5	15 299.4	103.0	1.0%	9 727	---	---	99.3%	A
Ano muito seco	1 484.0	1 630.8	10 843.0	12 473.8	26. 8	1. 3	116.	5. 4	---	149. 5	12 374.6	83.4	1.2%	7 879	---	---	99.1%	A

Mês	Ano		Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Abast. Público	Indústria	Irrigação	Pecuária	Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Mensal	Anual		
	10	1944	323	136	485.1	621.1	2.2	0.1	1.9	0.5		4.7	619	131	1.01%	9 395	99.58%	A	99.26%	A
	11	1944	524	136	1 091.0	1 227.0	2.2	0.1	0.2	0.5		3.0	1 226	406			99.93%	A		
	12	1944	369	136	727.7	863.7	2.2	0.1	0.2	0.5		3.0	863	288			99.90%	A		
	1	1945	344	136	1 334.6	1 470.6	2.2	0.1	0.8	0.5		3.6	1 469	412			99.91%	A		
	2	1945	339	136	1 468.3	1 604.3	2.2	0.1	1.9	0.5		4.7	1 602	340			99.86%	A		
	3	1945	508	136	2 667.1	2 803.1	2.2	0.1	0.1	0.5		2.9	2 802	968			99.98%	A		
	4	1945	327	136	2 061.2	2 197.2	2.2	0.1	0.2	0.5		3.0	2 197	738			99.97%	A		
	5	1945	7	136	1 436.3	1 572.3	2.2	0.1	9.0	0.5		11.8	1 565	133			99.47%	A		
	6	1945	0	136	739.3	875.3	2.2	0.1	29.3	0.5		32.1	851	27			96.79%	A		
	7	1945	0	136	497.8	633.6	2.2	0.1	27.2	0.5		30.0	611	21			95.56%	A		
	8	1945	1	136	404.6	540.2	2.2	0.1	28.0	0.5		30.8	517	18			94.38%	A		
	9	1945	141	136	328.4	464.4	2.2	0.1	17.1	0.5		19.9	450	23			95.70%	A		
	10	1945	160	136	666.2	802.2	2.2	0.1	1.9	0.5		4.7	800	170	1.20%	7 879	99.69%	A	99.09%	A
	11	1945	265	136	775.3	911.3	2.2	0.1	0.2	0.5		3.0	911	302			99.91%	A		
	12	1945	159	136	715.0	851.0	2.2	0.1	0.2	0.5		3.0	850	284			99.90%	A		
	1	1946	151	136	666.2	802.2	2.2	0.1	0.8	0.5		3.6	801	225			99.83%	A		
	2	1946	198	136	1 063.3	1 199.3	2.2	0.1	1.9	0.5		4.7	1 197	255			99.81%	A		
	3	1946	233	136	2 399.1	2 535.1	2.2	0.1	0.1	0.5		2.9	2 534	875			99.97%	A		
	4	1946	197	136	1 478.7	1 614.7	2.2	0.1	0.2	0.5		3.0	1 614	542			99.95%	A		
	5	1946	26	136	1 298.6	1 434.6	2.2	0.1	9.0	0.5		11.8	1 427	122			99.41%	A		
	6	1946		136	668.4	804.4	2.2	0.1	29.3	0.5		32.1	780	25			96.45%	A		
	7	1946	0	136	450.2	585.9	2.2	0.1	27.2	0.5		30.0	564	20			95.09%	A		
	8	1946	1	135	365.4	500.8	2.2	0.1	28.0	0.5		30.8	478	16			93.78%	A		
	9	1946	94	136	296.6	432.3	2.2	0.1	17.1	0.5		19.9	418	22			95.24%	A		
	10	1946	499	136	605.9	741.9	2.2	0.1	1.9	0.5		4.7	740	157	0.65%	14 595	99.66%	A	99.54%	A
	11	1946	556	136	788.0	924.0	2.2	0.1	0.2	0.5		3.0	923	306			99.91%	A		
	12	1946	615	136	1 636.5	1 772.5	2.2	0.1	0.2	0.5		3.0	1 772	591			99.96%	A		
	1	1947	368	136	2 242.3	2 378.3	2.2	0.1	0.8	0.5		3.6	2 377	666			99.95%	A		
	2	1947	464	136	1 956.7	2 092.7	2.2	0.1	1.9	0.5		4.7	2 091	444			99.90%	A		
	3	1947	604	136	2 424.5	2 560.5	2.2	0.1	0.1	0.5		2.9	2 560	884			99.97%	A		
	4	1947	943	136	5 273.8	5 409.8	2.2	0.1	0.2	0.5		3.0	5 409	1 816			99.99%	A		
	5	1947	166	136	2 939.3	3 075.3	2.2	0.1	9.0	0.5		11.8	3 068	261			99.74%	A		
	6	1947		136	1 418.3	1 554.3	2.2	0.1	29.3	0.5		32.1	1 530	48			98.33%	A		
	7	1947		136	957.5	1 093.2	2.2	0.1	27.2	0.5		30.0	1 071	36			97.69%	A		
	8	1947	0	135	711.8	847.2	2.2	0.1	28.0	0.5		30.8	824	27			96.81%	A		
	9	1947	85	135	520.1	655.2	2.2	0.1	17.1	0.5		19.9	641	33			97.29%	A		
	10	1947	195	136	666.2	802.2	2.2	0.1	1.9	0.5		4.7	800	170			99.69%	A		

11	1947	163	136	679.0	815.0	2.2	0.1	0.2	0.5		3.0	814	270	0.76%	12 354	99.90%	A	99.45%	A
12	1947	94	136	1 345.2	1 481.2	2.2	0.1	0.2	0.5		3.0	1 480	494			99.95%	A		
1	1948	54	136	1 903.4	2 039.4	2.2	0.1	0.8	0.5		3.6	2 038	571			99.94%	A		
2	1948	64	136	2 361.7	2 497.7	2.2	0.1	1.9	0.5		4.7	2 496	530			99.91%	A		
3	1948	93	136	2 327.1	2 463.1	2.2	0.1	0.1	0.5		2.9	2 462	850			99.97%	A		
4	1948	131	136	3 467.8	3 603.8	2.2	0.1	0.2	0.5		3.0	3 603	1 210			99.98%	A		
5	1948	42	136	2 325.0	2 461.0	2.2	0.1	9.0	0.5		11.8	2 453	209			99.67%	A		
6	1948	0	136	1 121.7	1 257.7	2.2	0.1	29.3	0.5		32.1	1 234	39			97.89%	A		
7	1948	0	136	757.3	893.0	2.2	0.1	27.2	0.5		30.0	871	30			97.08%	A		
8	1948	3	135	562.4	697.8	2.2	0.1	28.0	0.5		30.8	675	23			95.96%	A		
9	1948	26	136	409.9	545.9	2.2	0.1	17.1	0.5		19.9	532	27			96.56%	A		
10	1948	402	136	545.5	681.5	2.2	0.1	1.9	0.5		4.7	679	144	0.70%	13 406	99.62%	A	99.50%	A
11	1948	523	136	788.0	924.0	2.2	0.1	0.2	0.5		3.0	923	306			99.91%	A		
12	1948	403	136	718.1	854.1	2.2	0.1	0.2	0.5		3.0	853	285			99.90%	A		
1	1949	422	136	1 211.7	1 347.7	2.2	0.1	0.8	0.5		3.6	1 347	378			99.91%	A		
2	1949	352	136	2 934.6	3 070.6	2.2	0.1	1.9	0.5		4.7	3 068	652			99.93%	A		
3	1949	460	136	3 636.3	3 772.3	2.2	0.1	0.1	0.5		2.9	3 772	1 302			99.98%	A		
4	1949	306	136	4 363.9	4 499.9	2.2	0.1	0.2	0.5		3.0	4 499	1 511			99.98%	A		
5	1949	29	136	2 146.0	2 282.0	2.2	0.1	9.0	0.5		11.8	2 274	194			99.64%	A		
6	1949	3	136	1 109.0	1 245.0	2.2	0.1	29.3	0.5		32.1	1 221	39			97.86%	A		
7	1949	4	136	854.8	990.8	2.2	0.1	27.2	0.5		30.0	968	33			97.42%	A		
8	1949	47	136	686.4	822.4	2.2	0.1	28.0	0.5		30.8	799	27			96.69%	A		
9	1949	72	136	597.4	733.4	2.2	0.1	17.1	0.5		19.9	719	37			97.64%	A		
10	1949	160	136	327.3	463.3	2.2	0.1	1.9	0.5		4.7	461	98	1.85%	5 092	99.37%	A	98.47%	A
11	1949	247	136	788.0	924.0	2.2	0.1	0.2	0.5		3.0	923	306			99.91%	A		
12	1949	190	136	568.8	704.8	2.2	0.1	0.2	0.5		3.0	704	235			99.88%	A		
1	1950	140	136	690.6	826.6	2.2	0.1	0.8	0.5		3.6	825	232			99.83%	A		
2	1950	156	136	415.7	551.7	2.2	0.1	1.9	0.5		4.7	550	117			99.51%	A		
3	1950	337	136	1 272.1	1 408.1	2.2	0.1	0.1	0.5		2.9	1 407	486			99.95%	A		
4	1950	197	136	1 272.1	1 408.1	2.2	0.1	0.2	0.5		3.0	1 407	473			99.95%	A		
5	1950	11	136	460.8	596.8	2.2	0.1	9.0	0.5		11.8	589	51			98.34%	A		
6	1950	0	136	237.3	373.3	2.2	0.1	29.3	0.5		32.1	349	12			90.01%	A		
7	1950	1	136	159.9	295.6	2.2	0.1	27.2	0.5		30.0	273	10			86.19%	A		
8	1950	9	136	130.3	266.3	2.2	0.1	28.0	0.5		30.8	243	9			82.55%	A		
9	1950	70	136	105.9	241.9	2.2	0.1	17.1	0.5		19.9	228	12			86.68%	B		
10	1950	206	136	423.7	559.7	2.2	0.1	1.9	0.5		4.7	558	118	0.62%	15 190	99.51%	A	99.56%	A
11	1950	372	136	485.1	621.1	2.2	0.1	0.2	0.5		3.0	620	206			99.85%	A		
12	1950	381	136	1 151.4	1 287.4	2.2	0.1	0.2	0.5		3.0	1 287	429			99.94%	A		
1	1951	229	136	1 818.7	1 954.7	2.2	0.1	0.8	0.5		3.6	1 954	548			99.94%	A		
2	1951	393	136	1 956.7	2 092.7	2.2	0.1	1.9	0.5		4.7	2 091	444			99.90%	A		
3	1951	611	136	3 878.8	4 014.8	2.2	0.1	0.1	0.5		2.9	4 014	1 386			99.98%	A		
4	1951	543	136	5 573.5	5 709.5	2.2	0.1	0.2	0.5		3.0	5 709	1 917			99.99%	A		
5	1951	43	136	3 163.9	3 299.9	2.2	0.1	9.0	0.5		11.8	3 292	280			99.76%	A		
6	1951	0	136	1 637.5	1 773.5	2.2	0.1	29.3	0.5		32.1	1 750	55			98.55%	A		
7	1951		136	1 003.1	1 139.1	2.2	0.1	27.2	0.5		30.0	1 117	38			97.80%	A		
8	1951	21	136	746.7	882.4	2.2	0.1	28.0	0.5		30.8	859	29			96.96%	A		
9	1951	81	136	576.2	712.2	2.2	0.1	17.1	0.5		19.9	698	36			97.55%	A		
10	1951	116	136	852.7	988.7	2.2	0.1	1.9	0.5		4.7	987	209	0.78%	12 061	99.76%	A	99.44%	A
11	1951	175	136	1 253.0	1 389.0	2.2	0.1	0.2	0.5		3.0	1 388	460			99.94%	A		
12	1951	112	136	2 055.9	2 191.9	2.2	0.1	0.2	0.5		3.0	2 191	731			99.97%	A		
1	1952	20	136	2 676.0	2 812.0	2.2	0.1	0.8	0.5		3.6	2 811	788			99.96%	A		
2	1952	69	136	2 390.6	2 526.6	2.2	0.1	1.9	0.5		4.7	2 525	536			99.91%	A		
3	1952	165	136	2 595.9	2 731.9	2.2	0.1	0.1	0.5		2.9	2 731	943			99.98%	A		
4	1952	200	136	1 750.0	1 886.0	2.2	0.1	0.2	0.5		3.0	1 885	633			99.96%	A		
5	1952	4	136	1 320.4	1 456.4	2.2	0.1	9.0	0.5		11.8	1 449	124			99.42%	A		
6	1952	0	136	855.0	991.0	2.2	0.1	29.3	0.5		32.1	967	31			97.23%	A		
7	1952	0	136	671.0	806.7	2.2	0.1	27.2	0.5		30.0	784	27			96.71%	A		

8	1952	2	136	572.5	708.4	2.2	0.1	28.0	0.5	30.8	685	23			96.03%	A	
9	1952	47	136	469.3	605.3	2.2	0.1	17.1	0.5	19.9	591	30			96.99%	A	
10	1952	203	136	576.1	712.1	2.2	0.1	1.9	0.5	4.7	710	151			99.64%	A	
11	1952	313	136	1 023.5	1 159.5	2.2	0.1	0.2	0.5	3.0	1 159	384			99.93%	A	
12	1952	205	136	1 508.0	1 644.0	2.2	0.1	0.2	0.5	3.0	1 643	548			99.95%	A	
1	1953	95	136	1 926.5	2 062.5	2.2	0.1	0.8	0.5	3.6	2 061	578			99.94%	A	
2	1953	195	136	1 931.2	2 067.2	2.2	0.1	1.9	0.5	4.7	2 065	439			99.89%	A	
3	1953	295	136	2 656.0	2 792.0	2.2	0.1	0.1	0.5	2.9	2 791	964			99.98%	A	
4	1953	285	136	3 902.0	4 038.0	2.2	0.1	0.2	0.5	3.0	4 037	1 355	0.70%	13 515	99.98%	A	99.50%
5	1953	14	136	2 801.0	2 937.0	2.2	0.1	9.0	0.5	11.8	2 929	249			99.73%	A	
6	1953	0	136	1 353.1	1 489.1	2.2	0.1	29.3	0.5	32.1	1 465	46			98.25%	A	
7	1953	0	136	913.6	1 049.3	2.2	0.1	27.2	0.5	30.0	1 027	35			97.58%	A	
8	1953	3	136	677.8	813.3	2.2	0.1	28.0	0.5	30.8	790	26			96.65%	A	
9	1953	23	136	495.2	631.2	2.2	0.1	17.1	0.5	19.9	617	32			97.15%	A	
10	1953	151	136	452.6	588.6	2.2	0.1	1.9	0.5	4.7	587	125			99.54%	A	
11	1953	252	136	657.3	793.3	2.2	0.1	0.2	0.5	3.0	793	263			99.89%	A	
12	1953	116	136	1 019.3	1 155.3	2.2	0.1	0.2	0.5	3.0	1 155	385			99.93%	A	
1	1954	40	136	1 255.8	1 391.8	2.2	0.1	0.8	0.5	3.6	1 391	390			99.91%	A	
2	1954	213	136	1 310.3	1 446.3	2.2	0.1	1.9	0.5	4.7	1 444	307			99.84%	A	
3	1954	225	136	2 715.6	2 851.6	2.2	0.1	0.1	0.5	2.9	2 851	984			99.98%	A	
4	1954	374	136	3 922.6	4 058.6	2.2	0.1	0.2	0.5	3.0	4 058	1 362	0.75%	12 581	99.98%	A	99.46%
5	1954	106	136	3 099.8	3 235.8	2.2	0.1	9.0	0.5	11.8	3 228	275			99.75%	A	
6	1954	0	136	1 534.0	1 670.0	2.2	0.1	29.3	0.5	32.1	1 646	52			98.45%	A	
7	1954	0	136	977.1	1 112.9	2.2	0.1	27.2	0.5	30.0	1 091	37			97.74%	A	
8	1954	9	136	742.7	878.6	2.2	0.1	28.0	0.5	30.8	856	29			96.94%	A	
9	1954	65	136	597.7	733.7	2.2	0.1	17.1	0.5	19.9	719	37			97.64%	A	
10	1954	160	136	551.7	687.7	2.2	0.1	1.9	0.5	4.7	686	146			99.63%	A	
11	1954	350	136	883.2	1 019.2	2.2	0.1	0.2	0.5	3.0	1 018	337			99.92%	A	
12	1954	159	136	1 196.1	1 332.1	2.2	0.1	0.2	0.5	3.0	1 331	444			99.94%	A	
1	1955	181	136	1 513.4	1 649.4	2.2	0.1	0.8	0.5	3.6	1 648	462			99.92%	A	
2	1955	19	136	1 225.7	1 361.7	2.2	0.1	1.9	0.5	4.7	1 360	289			99.83%	A	
3	1955	269	136	1 411.6	1 547.6	2.2	0.1	0.1	0.5	2.9	1 547	534			99.96%	A	
4	1955	303	136	2 403.6	2 539.6	2.2	0.1	0.2	0.5	3.0	2 539	853	0.97%	9 727	99.97%	A	99.29%
5	1955	37	136	1 932.2	2 068.2	2.2	0.1	9.0	0.5	11.8	2 061	175			99.60%	A	
6	1955	0	136	995.2	1 131.2	2.2	0.1	29.3	0.5	32.1	1 107	35			97.62%	A	
7	1955	0	136	668.6	804.6	2.2	0.1	27.2	0.5	30.0	782	27			96.70%	A	
8	1955	0	136	544.4	680.2	2.2	0.1	28.0	0.5	30.8	657	22			95.83%	A	
9	1955	53	136	441.7	577.2	2.2	0.1	17.1	0.5	19.9	563	29			96.81%	A	
10	1955	202	136	467.0	603.0	2.2	0.1	1.9	0.5	4.7	601	128			99.56%	A	
11	1955	266	136	971.3	1 107.3	2.2	0.1	0.2	0.5	3.0	1 107	367			99.93%	A	
12	1955	253	136	1 882.1	2 018.1	2.2	0.1	0.2	0.5	3.0	2 017	673			99.96%	A	
1	1956	140	136	2 326.7	2 462.7	2.2	0.1	0.8	0.5	3.6	2 462	690			99.95%	A	
2	1956	60	136	2 431.6	2 567.6	2.2	0.1	1.9	0.5	4.7	2 565	545			99.92%	A	
3	1956	243	136	2 220.3	2 356.3	2.2	0.1	0.1	0.5	2.9	2 356	813			99.97%	A	
4	1956	298	136	3 163.2	3 299.2	2.2	0.1	0.2	0.5	3.0	3 299	1 108	0.69%	13 764	99.98%	A	99.51%
5	1956	11	136	3 256.2	3 392.2	2.2	0.1	9.0	0.5	11.8	3 384	288			99.76%	A	
6	1956	0	136	1 417.2	1 553.2	2.2	0.1	29.3	0.5	32.1	1 529	48			98.33%	A	
7	1956	0	136	842.0	977.8	2.2	0.1	27.2	0.5	30.0	955	33			97.38%	A	
8	1956	3	136	636.0	771.6	2.2	0.1	28.0	0.5	30.8	749	25			96.43%	A	
9	1956	53	136	544.5	680.5	2.2	0.1	17.1	0.5	19.9	666	34			97.41%	A	
10	1956	137	136	493.4	629.4	2.2	0.1	1.9	0.5	4.7	627	133			99.58%	A	
11	1956	235	136	768.7	904.7	2.2	0.1	0.2	0.5	3.0	904	300			99.91%	A	
12	1956	190	136	1 128.9	1 264.9	2.2	0.1	0.2	0.5	3.0	1 264	422			99.94%	A	
1	1957	187	136	2 135.4	2 271.4	2.2	0.1	0.8	0.5	3.6	2 270	636			99.95%	A	
2	1957	145	136	2 411.7	2 547.7	2.2	0.1	1.9	0.5	4.7	2 546	541			99.92%	A	
3	1957	267	136	3 260.3	3 396.3	2.2	0.1	0.1	0.5	2.9	3 396	1 172			99.98%	A	
4	1957	155	136	3 427.9	3 563.9	2.2	0.1	0.2	0.5	3.0	3 563	1 196	0.75%	12 520	99.98%	A	99.46%

5	1957	16	136	1 815.1	1 951.1	2.2	0.1	9.0	0.5	11.8	1 943	166			99.58%	A		
6	1957	0	136	939.1	1 075.1	2.2	0.1	29.3	0.5	32.1	1 051	34			97.48%	A		
7	1957	0	136	722.5	858.2	2.2	0.1	27.2	0.5	30.0	836	29			96.94%	A		
8	1957	6	136	580.6	716.1	2.2	0.1	28.0	0.5	30.8	693	23			96.09%	A		
9	1957	62	136	504.9	640.9	2.2	0.1	17.1	0.5	19.9	627	32			97.21%	A		
10	1957	127	136	564.6	700.6	2.2	0.1	1.9	0.5	4.7	699	148			99.64%	A		
11	1957	212	136	818.7	954.7	2.2	0.1	0.2	0.5	3.0	954	316			99.91%	A		
12	1957	119	136	1 536.2	1 672.2	2.2	0.1	0.2	0.5	3.0	1 672	558			99.95%	A		
1	1958	58	136	1 877.3	2 013.3	2.2	0.1	0.8	0.5	3.6	2 012	564			99.94%	A		
2	1958	30	136	1 200.1	1 336.1	2.2	0.1	1.9	0.5	4.7	1 334	284			99.83%	A		
3	1958	150	136	1 218.4	1 354.4	2.2	0.1	0.1	0.5	2.9	1 354	468			99.95%	A		
4	1958	102	136	1 365.4	1 501.4	2.2	0.1	0.2	0.5	3.0	1 501	504	1.16%	8 122	99.95%	A	99.13%	A
5	1958	3	136	902.5	1 038.5	2.2	0.1	9.0	0.5	11.8	1 031	88			99.15%	A		
6	1958	1	136	507.8	643.8	2.2	0.1	29.3	0.5	32.1	620	20			95.33%	A		
7	1958	0	136	468.8	604.8	2.2	0.1	27.2	0.5	30.0	582	20			95.29%	A		
8	1958	3	136	414.7	550.4	2.2	0.1	28.0	0.5	30.8	527	18			94.52%	A		
9	1958	30	136	351.8	487.8	2.2	0.1	17.1	0.5	19.9	474	24			95.99%	A		
10	1958	256	136	362.0	498.0	2.2	0.1	1.9	0.5	4.7	496	105			99.43%	A		
11	1958	585	136	582.7	718.7	2.2	0.1	0.2	0.5	3.0	718	238			99.88%	A		
12	1958	230	136	1 025.7	1 161.7	2.2	0.1	0.2	0.5	3.0	1 161	388			99.93%	A		
1	1959	451	136	1 515.4	1 651.4	2.2	0.1	0.8	0.5	3.6	1 650	463			99.92%	A		
2	1959	335	136	2 276.3	2 412.3	2.2	0.1	1.9	0.5	4.7	2 410	512			99.91%	A		
3	1959	403	136	3 496.6	3 632.6	2.2	0.1	0.1	0.5	2.9	3 632	1 254			99.98%	A		
4	1959	228	136	4 137.2	4 273.2	2.2	0.1	0.2	0.5	3.0	4 273	1 434	0.72%	13 054	99.98%	A	99.48%	A
5	1959	191	136	2 443.8	2 579.8	2.2	0.1	9.0	0.5	11.8	2 572	219			99.69%	A		
6	1959	0	136	1 261.5	1 397.5	2.2	0.1	29.3	0.5	32.1	1 374	44			98.12%	A		
7	1959	4	136	803.7	939.7	2.2	0.1	27.2	0.5	30.0	917	31			97.25%	A		
8	1959	4	136	610.7	746.7	2.2	0.1	28.0	0.5	30.8	724	24			96.28%	A		
9	1959	104	136	517.7	653.7	2.2	0.1	17.1	0.5	19.9	639	33			97.27%	A		
10	1959	232	136	489.7	625.7	2.2	0.1	1.9	0.5	4.7	624	132			99.58%	A		
11	1959	457	136	660.7	796.7	2.2	0.1	0.2	0.5	3.0	796	264			99.89%	A		
12	1959	271	136	1 266.4	1 402.4	2.2	0.1	0.2	0.5	3.0	1 402	468			99.95%	A		
1	1960	344	136	1 906.2	2 042.2	2.2	0.1	0.8	0.5	3.6	2 041	572			99.94%	A		
2	1960	378	136	2 578.4	2 714.4	2.2	0.1	1.9	0.5	4.7	2 712	576			99.92%	A		
3	1960	503	136	4 476.2	4 612.2	2.2	0.1	0.1	0.5	2.9	4 612	1 592			99.99%	A		
4	1960	430	136	5 186.8	5 322.8	2.2	0.1	0.2	0.5	3.0	5 322	1 787	0.58%	16 295	99.99%	A	99.59%	A
5	1960	131	136	3 373.4	3 509.4	2.2	0.1	9.0	0.5	11.8	3 502	298			99.77%	A		
6	1960	0	136	1 746.3	1 882.3	2.2	0.1	29.3	0.5	32.1	1 858	59			98.64%	A		
7	1960	0	136	1 068.5	1 204.5	2.2	0.1	27.2	0.5	30.0	1 182	40			97.93%	A		
8	1960	8	136	797.6	933.4	2.2	0.1	28.0	0.5	30.8	910	30			97.15%	A		
9	1960	109	136	613.8	749.8	2.2	0.1	17.1	0.5	19.9	736	38			97.70%	A		
10	1960	212	136	594.6	730.6	2.2	0.1	1.9	0.5	4.7	729	155			99.65%	A		
11	1960	486	136	901.6	1 037.6	2.2	0.1	0.2	0.5	3.0	1 037	344			99.92%	A		
12	1960	401	136	1 643.3	1 779.3	2.2	0.1	0.2	0.5	3.0	1 779	594			99.96%	A		
1	1961	375	136	2 163.0	2 299.0	2.2	0.1	0.8	0.5	3.6	2 298	644			99.95%	A		
2	1961	398	136	3 340.1	3 476.1	2.2	0.1	1.9	0.5	4.7	3 474	738			99.94%	A		
3	1961	495	136	5 488.7	5 624.7	2.2	0.1	0.1	0.5	2.9	5 624	1 941			99.99%	A		
4	1961	452	136	7 502.8	7 638.8	2.2	0.1	0.2	0.5	3.0	7 638	2 564	0.43%	21 724	99.99%	A	99.70%	A
5	1961	129	136	5 028.0	5 164.0	2.2	0.1	9.0	0.5	11.8	5 156	438			99.85%	A		
6	1961	11	136	2 500.0	2 636.0	2.2	0.1	29.3	0.5	32.1	2 612	82			99.05%	A		
7	1961	0	136	1 587.4	1 723.4	2.2	0.1	27.2	0.5	30.0	1 701	57			98.61%	A		
8	1961	0	136	1 124.5	1 260.3	2.2	0.1	28.0	0.5	30.8	1 237	41			97.98%	A		
9	1961	137	136	885.6	1 021.4	2.2	0.1	17.1	0.5	19.9	1 007	51			98.41%	A		
10	1961	183	136	963.6	1 099.6	2.2	0.1	1.9	0.5	4.7	1 097	233			99.79%	A		
11	1961	249	136	1 632.3	1 768.3	2.2	0.1	0.2	0.5	3.0	1 768	586			99.96%	A		
12	1961	180	136	3 450.5	3 586.5	2.2	0.1	0.2	0.5	3.0	3 586	1 196			99.98%	A		
1	1962	146	136	5 935.6	6 071.6	2.2	0.1	0.8	0.5	3.6	6 070	1 701			99.98%	A		

2	1962	159	136	4 172.1	4 308.1	2.2	0.1	1.9	0.5	4.7	4 306	914	0.38%	24 597	99.95%	A	99.74%	A
3	1962	258	136	4 851.0	4 987.0	2.2	0.1	0.1	0.5	2.9	4 986	1 721			99.99%	A		
4	1962	253	136	7 430.8	7 566.8	2.2	0.1	0.2	0.5	3.0	7 566	2 540			99.99%	A		
5	1962	0	136	3 539.4	3 675.4	2.2	0.1	9.0	0.5	11.8	3 668	312			99.78%	A		
6	1962	0	136	1 927.1	2 063.1	2.2	0.1	29.3	0.5	32.1	2 039	64			98.77%	A		
7	1962	0	136	1 413.4	1 549.1	2.2	0.1	27.2	0.5	30.0	1 527	52			98.44%	A		
8	1962	7	136	1 113.5	1 249.0	2.2	0.1	28.0	0.5	30.8	1 226	41			97.96%	A		
9	1962	74	136	878.6	1 014.6	2.2	0.1	17.1	0.5	19.9	1 000	51			98.39%	A		
10	1962	155	136	851.7	987.7	2.2	0.1	1.9	0.5	4.7	986	209	0.51%	18 535	99.76%	A	99.65%	A
11	1962	257	136	1 098.6	1 234.6	2.2	0.1	0.2	0.5	3.0	1 234	409			99.94%	A		
12	1962	162	136	2 107.0	2 243.0	2.2	0.1	0.2	0.5	3.0	2 242	748			99.97%	A		
1	1963	139	136	2 794.8	2 930.8	2.2	0.1	0.8	0.5	3.6	2 930	821			99.96%	A		
2	1963	116	136	3 637.7	3 773.7	2.2	0.1	1.9	0.5	4.7	3 772	801			99.94%	A		
3	1963	261	136	4 222.4	4 358.4	2.2	0.1	0.1	0.5	2.9	4 358	1 504			99.99%	A		
4	1963	296	136	4 956.0	5 092.0	2.2	0.1	0.2	0.5	3.0	5 091	1 709			99.99%	A		
5	1963	38	136	3 223.7	3 359.7	2.2	0.1	9.0	0.5	11.8	3 352	285			99.76%	A		
6	1963		136	1 793.2	1 929.2	2.2	0.1	29.3	0.5	32.1	1 905	60			98.68%	A		
7	1963	0	136	1 277.6	1 413.3	2.2	0.1	27.2	0.5	30.0	1 391	47	0.67%	14 191	98.27%	A	99.53%	A
8	1963	2	135	987.7	1 123.1	2.2	0.1	28.0	0.5	30.8	1 100	36			97.70%	A		
9	1963	65	136	761.7	897.7	2.2	0.1	17.1	0.5	19.9	883	45			98.15%	A		
10	1963	166	136	752.6	888.6	2.2	0.1	1.9	0.5	4.7	887	188			99.73%	A		
11	1963	202	136	1 228.6	1 364.6	2.2	0.1	0.2	0.5	3.0	1 364	452			99.94%	A		
12	1963	184	136	1 702.2	1 838.2	2.2	0.1	0.2	0.5	3.0	1 838	613			99.96%	A		
1	1964	279	136	2 139.2	2 275.2	2.2	0.1	0.8	0.5	3.6	2 274	637			99.95%	A		
2	1964	157	136	2 849.2	2 985.2	2.2	0.1	1.9	0.5	4.7	2 983	633			99.93%	A		
3	1964	247	136	4 005.3	4 141.3	2.2	0.1	0.1	0.5	2.9	4 141	1 429			99.98%	A		
4	1964	124	136	3 438.7	3 574.7	2.2	0.1	0.2	0.5	3.0	3 574	1 200			99.98%	A		
5	1964	9	136	1 767.3	1 903.3	2.2	0.1	9.0	0.5	11.8	1 896	161			99.57%	A		
6	1964	0	136	966.7	1 102.7	2.2	0.1	29.3	0.5	32.1	1 079	34			97.55%	A		
7	1964		136	784.7	920.4	2.2	0.1	27.2	0.5	30.0	898	31			97.19%	A		
8	1964	10	135	653.8	789.2	2.2	0.1	28.0	0.5	30.8	766	26	0.72%	13 072	96.52%	A	99.48%	A
9	1964	30	136	546.7	682.7	2.2	0.1	17.1	0.5	19.9	668	34			97.42%	A		
10	1964	146	136	500.7	636.7	2.2	0.1	1.9	0.5	4.7	635	135			99.59%	A		
11	1964	284	136	751.6	887.6	2.2	0.1	0.2	0.5	3.0	887	294			99.91%	A		
12	1964	262	136	1 218.4	1 354.4	2.2	0.1	0.2	0.5	3.0	1 354	452			99.94%	A		
1	1965	154	136	2 459.9	2 595.9	2.2	0.1	0.8	0.5	3.6	2 595	727			99.95%	A		
2	1965	110	136	2 659.4	2 795.4	2.2	0.1	1.9	0.5	4.7	2 793	593			99.92%	A		
3	1965	293	136	3 180.6	3 316.6	2.2	0.1	0.1	0.5	2.9	3 316	1 145			99.98%	A		
4	1965	203	136	3 282.7	3 418.7	2.2	0.1	0.2	0.5	3.0	3 418	1 148			99.98%	A		
5	1965	0	136	1 978.3	2 114.3	2.2	0.1	9.0	0.5	11.8	2 107	179			99.61%	A		
6	1965	0	136	1 077.6	1 213.6	2.2	0.1	29.3	0.5	32.1	1 190	38			97.80%	A		
7	1965	0	136	784.7	920.6	2.2	0.1	27.2	0.5	30.0	898	31			97.19%	A		
8	1965	2	136	639.6	775.3	2.2	0.1	28.0	0.5	30.8	752	25			96.45%	A		
9	1965	65	136	528.8	664.8	2.2	0.1	17.1	0.5	19.9	651	33	0.52%	18 318	97.33%	A	99.64%	A
10	1965	104	136	714.8	850.8	2.2	0.1	1.9	0.5	4.7	849	180			99.71%	A		
11	1965	227	136	678.8	814.8	2.2	0.1	0.2	0.5	3.0	814	270			99.90%	A		
12	1965	218	136	1 360.3	1 496.3	2.2	0.1	0.2	0.5	3.0	1 496	499			99.95%	A		
1	1966	227	136	2 281.1	2 417.1	2.2	0.1	0.8	0.5	3.6	2 416	677			99.95%	A		
2	1966	146	136	3 791.0	3 927.0	2.2	0.1	1.9	0.5	4.7	3 925	833			99.95%	A		
3	1966	426	136	5 959.7	6 095.7	2.2	0.1	0.1	0.5	2.9	6 095	2 104			99.99%	A		
4	1966	231	136	5 500.6	5 636.6	2.2	0.1	0.2	0.5	3.0	5 636	1 892			99.99%	A		
5	1966	7	136	2 808.8	2 944.8	2.2	0.1	9.0	0.5	11.8	2 937	250			99.73%	A		
6	1966	6	136	1 549.4	1 685.4	2.2	0.1	29.3	0.5	32.1	1 661	53			98.47%	A		
7	1966	1	136	1 103.6	1 239.6	2.2	0.1	27.2	0.5	30.0	1 217	41	0.38%	24 597	98.00%	A	99.74%	A
8	1966	6	136	877.6	1 013.6	2.2	0.1	28.0	0.5	30.8	991	33			97.41%	A		
9	1966	44	136	740.8	876.8	2.2	0.1	17.1	0.5	19.9	862	44			98.10%	A		
10	1966	129	136	803.7	939.7	2.2	0.1	1.9	0.5	4.7	938	199			99.74%	A		

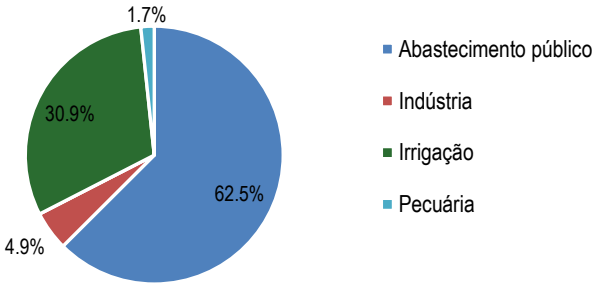
11	1966	285	136	1 025.5	1 161.5	2.2	0.1	0.2	0.5	3.0	1 161	385	0.69%	13 753	99.93%	A	99.51%	A
12	1966	163	136	1 127.4	1 263.4	2.2	0.1	0.2	0.5	3.0	1 263	421			99.94%	A		
1	1967	198	136	1 472.5	1 608.5	2.2	0.1	0.8	0.5	3.6	1 607	451			99.92%	A		
2	1967	158	136	1 946.5	2 082.5	2.2	0.1	1.9	0.5	4.7	2 080	442			99.89%	A		
3	1967	341	136	2 757.9	2 893.9	2.2	0.1	0.1	0.5	2.9	2 893	999			99.98%	A		
4	1967	225	136	3 331.7	3 467.7	2.2	0.1	0.2	0.5	3.0	3 467	1 164			99.98%	A		
5	1967	43	136	3 477.6	3 613.6	2.2	0.1	9.0	0.5	11.8	3 606	307			99.78%	A		
6	1967	1	136	1 642.4	1 778.4	2.2	0.1	29.3	0.5	32.1	1 754	55			98.56%	A		
7	1967	0	136	1 030.5	1 166.5	2.2	0.1	27.2	0.5	30.0	1 144	39			97.86%	A		
8	1967	6	136	837.7	973.5	2.2	0.1	28.0	0.5	30.8	951	32			97.29%	A		
9	1967	38	136	686.6	822.6	2.2	0.1	17.1	0.5	19.9	808	41			97.94%	A		
10	1967	182	136	709.6	845.6	2.2	0.1	1.9	0.5	4.7	844	179	0.41%	23 126	99.71%	A	99.72%	A
11	1967	304	136	1 535.0	1 671.0	2.2	0.1	0.2	0.5	3.0	1 670	553			99.95%	A		
12	1967	94	136	2 721.1	2 857.1	2.2	0.1	0.2	0.5	3.0	2 856	953			99.97%	A		
1	1968	99	136	4 179.3	4 315.3	2.2	0.1	0.8	0.5	3.6	4 314	1 209			99.97%	A		
2	1968	288	136	5 195.4	5 331.4	2.2	0.1	1.9	0.5	4.7	5 329	1 131			99.96%	A		
3	1968	308	136	6 969.3	7 105.3	2.2	0.1	0.1	0.5	2.9	7 105	2 453			99.99%	A		
4	1968	244	136	5 420.3	5 556.3	2.2	0.1	0.2	0.5	3.0	5 556	1 865			99.99%	A		
5	1968	35	136	3 340.9	3 476.9	2.2	0.1	9.0	0.5	11.8	3 469	295			99.77%	A		
6	1968	0	136	1 810.0	1 946.0	2.2	0.1	29.3	0.5	32.1	1 922	61			98.69%	A		
7	1968	0	136	1 296.2	1 432.2	2.2	0.1	27.2	0.5	30.0	1 410	48			98.30%	A		
8	1968	3	136	1 007.1	1 143.1	2.2	0.1	28.0	0.5	30.8	1 120	37			97.74%	A		
9	1968	62	136	795.1	931.1	2.2	0.1	17.1	0.5	19.9	917	47			98.23%	A		
10	1968	152	136	766.4	902.4	2.2	0.1	1.9	0.5	4.7	900	191	0.43%	21 845	99.73%	A	99.70%	A
11	1968	300	136	1 249.7	1 385.7	2.2	0.1	0.2	0.5	3.0	1 385	459			99.94%	A		
12	1968	164	136	1 964.3	2 100.3	2.2	0.1	0.2	0.5	3.0	2 100	701			99.96%	A		
1	1969	197	136	3 958.6	4 094.6	2.2	0.1	0.8	0.5	3.6	4 093	1 147			99.97%	A		
2	1969	163	136	3 875.5	4 011.5	2.2	0.1	1.9	0.5	4.7	4 009	851			99.95%	A		
3	1969	286	136	6 611.3	6 747.3	2.2	0.1	0.1	0.5	2.9	6 747	2 329			99.99%	A		
4	1969	250	136	6 702.8	6 838.8	2.2	0.1	0.2	0.5	3.0	6 838	2 296			99.99%	A		
5	1969	14	136	3 115.8	3 251.8	2.2	0.1	9.0	0.5	11.8	3 244	276			99.75%	A		
6	1969	0	136	1 697.2	1 833.2	2.2	0.1	29.3	0.5	32.1	1 809	57			98.60%	A		
7	1969	0	136	1 228.9	1 364.7	2.2	0.1	27.2	0.5	30.0	1 342	45			98.20%	A		
8	1969	12	136	1 017.1	1 152.9	2.2	0.1	28.0	0.5	30.8	1 130	37			97.77%	A		
9	1969	31	136	763.6	899.6	2.2	0.1	17.1	0.5	19.9	885	45			98.15%	A		
10	1969	236	136	1 008.6	1 144.6	2.2	0.1	1.9	0.5	4.7	1 142	242	0.47%	20 298	99.80%	A	99.68%	A
11	1969	339	136	1 472.5	1 608.5	2.2	0.1	0.2	0.5	3.0	1 608	533			99.95%	A		
12	1969	213	136	3 001.0	3 137.0	2.2	0.1	0.2	0.5	3.0	3 136	1 046			99.98%	A		
1	1970	125	136	3 598.6	3 734.6	2.2	0.1	0.8	0.5	3.6	3 733	1 046			99.97%	A		
2	1970	181	136	3 913.6	4 049.6	2.2	0.1	1.9	0.5	4.7	4 048	859			99.95%	A		
3	1970	290	136	6 456.8	6 592.8	2.2	0.1	0.1	0.5	2.9	6 592	2 276			99.99%	A		
4	1970	146	136	4 097.3	4 233.3	2.2	0.1	0.2	0.5	3.0	4 233	1 421			99.98%	A		
5	1970	16	136	2 573.2	2 709.2	2.2	0.1	9.0	0.5	11.8	2 701	230			99.70%	A		
6	1970	0	136	1 458.0	1 594.0	2.2	0.1	29.3	0.5	32.1	1 570	50			98.37%	A		
7	1970	3	136	1 177.4	1 313.3	2.2	0.1	27.2	0.5	30.0	1 291	44			98.12%	A		
8	1970	1	136	967.7	1 103.7	2.2	0.1	28.0	0.5	30.8	1 081	36			97.65%	A		
9	1970	70	136	776.4	912.4	2.2	0.1	17.1	0.5	19.9	898	46			98.18%	A		
10	1970	194	136	874.9	1 010.9	2.2	0.1	1.9	0.5	4.7	1 009	214	0.68%	13 950	99.76%	A	99.52%	A
11	1970	279	136	1 267.0	1 403.0	2.2	0.1	0.2	0.5	3.0	1 402	465			99.94%	A		
12	1970	259	136	1 839.7	1 975.7	2.2	0.1	0.2	0.5	3.0	1 975	659			99.96%	A		
1	1971	150	136	2 767.6	2 903.6	2.2	0.1	0.8	0.5	3.6	2 902	813			99.96%	A		
2	1971	145	136	1 963.7	2 099.7	2.2	0.1	1.9	0.5	4.7	2 098	446			99.90%	A		
3	1971	271	136	2 410.5	2 546.5	2.2	0.1	0.1	0.5	2.9	2 546	879			99.97%	A		
4	1971	248	136	3 412.0	3 548.0	2.2	0.1	0.2	0.5	3.0	3 547	1 191			99.98%	A		
5	1971	18	136	2 227.1	2 363.1	2.2	0.1	9.0	0.5	11.8	2 355	200			99.66%	A		
6	1971	0	136	1 204.3	1 340.3	2.2	0.1	29.3	0.5	32.1	1 316	42			98.03%	A		
7	1971	0	136	951.3	1 087.1	2.2	0.1	27.2	0.5	30.0	1 065	36			97.68%	A		

8	1971	5	136	822.1	957.8	2.2	0.1	28.0	0.5	30.8	935	31			97.24%	A	
9	1971	46	136	713.0	849.0	2.2	0.1	17.1	0.5	19.9	835	43			98.02%	A	
10	1971	86	136	577.0	713.0	2.2	0.1	1.9	0.5	4.7	711	151			99.64%	A	
11	1971	148	136	693.1	829.1	2.2	0.1	0.2	0.5	3.0	828	275			99.90%	A	
12	1971	127	136	902.2	1 038.2	2.2	0.1	0.2	0.5	3.0	1 037	346			99.92%	A	
1	1972	133	136	1 396.6	1 532.6	2.2	0.1	0.8	0.5	3.6	1 531	429			99.92%	A	
2	1972	78	136	1 016.7	1 152.7	2.2	0.1	1.9	0.5	4.7	1 151	245			99.80%	A	
3	1972	98	136	1 061.9	1 197.9	2.2	0.1	0.1	0.5	2.9	1 197	413			99.94%	A	
4	1972	144	136	1 851.6	1 987.6	2.2	0.1	0.2	0.5	3.0	1 987	667	1.18%	7 985	99.96%	A	99.11%
5	1972	15	136	1 341.4	1 477.4	2.2	0.1	9.0	0.5	11.8	1 470	125			99.43%	A	
6	1972	4	136	696.7	832.7	2.2	0.1	29.3	0.5	32.1	809	26			96.60%	A	
7	1972	0	136	594.4	730.4	2.2	0.1	27.2	0.5	30.0	708	24			96.29%	A	
8	1972	2	136	486.5	622.3	2.2	0.1	28.0	0.5	30.8	599	20			95.33%	A	
9	1972	24	136	391.5	527.5	2.2	0.1	17.1	0.5	19.9	513	26			96.40%	A	
10	1972	216	136	497.7	633.7	2.2	0.1	1.9	0.5	4.7	632	134			99.59%	A	
11	1972	316	136	909.7	1 045.7	2.2	0.1	0.2	0.5	3.0	1 045	346			99.92%	A	
12	1972	211	136	1 507.3	1 643.3	2.2	0.1	0.2	0.5	3.0	1 643	548			99.95%	A	
1	1973	186	136	2 719.9	2 855.9	2.2	0.1	0.8	0.5	3.6	2 855	800			99.96%	A	
2	1973	162	136	2 932.6	3 068.6	2.2	0.1	1.9	0.5	4.7	3 067	651			99.93%	A	
3	1973	281	136	3 108.6	3 244.6	2.2	0.1	0.1	0.5	2.9	3 244	1 120			99.98%	A	
4	1973	188	136	3 505.5	3 641.5	2.2	0.1	0.2	0.5	3.0	3 641	1 222	0.67%	14 000	99.98%	A	99.52%
5	1973	46	136	2 257.0	2 393.0	2.2	0.1	9.0	0.5	11.8	2 385	203			99.66%	A	
6	1973	0	136	1 150.4	1 286.4	2.2	0.1	29.3	0.5	32.1	1 262	40			97.94%	A	
7	1973	0	136	797.0	932.7	2.2	0.1	27.2	0.5	30.0	910	31			97.23%	A	
8	1973	0	136	636.7	772.3	2.2	0.1	28.0	0.5	30.8	749	25			96.43%	A	
9	1973	33	135	510.7	646.1	2.2	0.1	17.1	0.5	19.9	632	32			97.24%	A	
10	1973	132	136	484.9	620.9	2.2	0.1	1.9	0.5	4.7	619	131			99.58%	A	
11	1973	273	136	828.6	964.6	2.2	0.1	0.2	0.5	3.0	964	319			99.91%	A	
12	1973	134	136	1 504.4	1 640.4	2.2	0.1	0.2	0.5	3.0	1 640	547			99.95%	A	
1	1974	101	136	1 167.6	1 303.6	2.2	0.1	0.8	0.5	3.6	1 302	365			99.90%	A	
2	1974	110	136	980.3	1 116.3	2.2	0.1	1.9	0.5	4.7	1 114	237			99.79%	A	
3	1974	368	136	1 354.4	1 490.4	2.2	0.1	0.1	0.5	2.9	1 490	514			99.95%	A	
4	1974	213	136	2 647.9	2 783.9	2.2	0.1	0.2	0.5	3.0	2 783	935	1.00%	9 410	99.97%	A	99.26%
5	1974	19	136	1 745.3	1 881.3	2.2	0.1	9.0	0.5	11.8	1 874	160			99.56%	A	
6	1974	1	136	893.6	1 029.6	2.2	0.1	29.3	0.5	32.1	1 006	32			97.35%	A	
7	1974	0	136	666.6	802.6	2.2	0.1	27.2	0.5	30.0	780	27			96.69%	A	
8	1974	10	136	535.7	671.6	2.2	0.1	28.0	0.5	30.8	649	22			95.76%	A	
9	1974	56	136	455.7	591.7	2.2	0.1	17.1	0.5	19.9	577	30			96.90%	A	

UH	Baixo Kwanza
Área (km ²)	34 706
População	3 102 539
Área irrigada (ha)	8 927
NGR (mm)	750

Sector	Necessidades anuais de água (hm³)	
Abastecimento público	108.5	62.5%
Indústria	8.6	4.9%
Termo eléctricas		
Irrigação	53.6	30.9%
Pecuária	2.9	1.7%
Volume anual turbinado (hm³)		
Hidroelectricidade		

Uso da água na UH do Baixo Kwanza



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

		Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
						Abast. Público	Indústria	Irrigação	Pecuária								Mensal	Anual	
Ano médio		45.7	124.9	25 350.5	25 475.4	135. 3	9. 9	169. 5	8. 3	---	323.	25 309.5	78.9	1.3%	5 437	---	---	99.4%	A
Ano seco		142.4	124.1	11 171.7	11 295.8	135. 3	9. 9	169. 5	8. 3	---	323.	11 129.8	35.0	2.9%	2 411	---	---	98.5%	A
Ano muito seco		7.3	122.8	18 287.8	18 410.6	135. 3	9. 9	169. 5	8. 3	---	323.	18 244.7	57.0	1.8%	3 929	---	---	99.1%	A
Mês	Ano																		
10	1944	2	11	646.7	657.7	11.3	0.8	7.0	0.7		19.8	650	33	1.65%	4 170	98.75%	A	99.15%	A
11	1944	5	11	1 490.5	1 501.5	11.3	0.8	3.3	0.7		16.1	1 496	93			99.66%	A		
12	1944	4	11	1 296.5	1 307.5	11.3	0.8	6.0	0.7		18.8	1 300	70			99.44%	A		
1	1945	7	11	2 034.0	2 045.0	11.3	0.8	7.4	0.7		20.1	2 037	102			99.59%	A		
2	1945	14	11	2 203.2	2 214.2	11.3	0.8	6.5	0.7		19.3	2 206	115			99.65%	A		
3	1945	10	11	3 584.1	3 595.1	11.3	0.8	0.5	0.7		13.3	3 592	270			99.92%	A		
4	1945	0	11	3 148.0	3 159.0	11.3	0.8	0.2	0.7		13.0	3 156	243			99.92%	A		
5	1945	1	11	2 202.2	2 213.2	11.3	0.8	10.9	0.7		23.7	2 202	93			99.49%	A		
6	1945	0	11	1 185.4	1 196.4	11.3	0.8	35.3	0.7		48.1	1 166	25			97.43%	A		
7	1945		11	728.6	739.1	11.3	0.8	33.8	0.7		46.6	709	16			95.98%	A		
8	1945		10	490.9	500.9	11.3	0.8	35.2	0.7		48.0	470	10			93.81%	A		
9	1945	0	10	400.5	410.0	11.3	0.8	23.2	0.7		36.0	389	11			94.78%	A		
10	1945	0	9	857.5	866.7	11.3	0.8	7.0	0.7		19.8	859	44	2.10%	3 285	99.06%	A	98.92%	A
11	1945	1	9	1 241.6	1 250.8	11.3	0.8	3.3	0.7		16.1	1 246	78			99.59%	A		
12	1945	2	11	1 200.8	1 211.3	11.3	0.8	6.0	0.7		18.8	1 204	64			99.40%	A		
1	1946	1	11	1 120.5	1 131.5	11.3	0.8	7.4	0.7		20.1	1 123	56			99.26%	A		
2	1946	0	11	1 541.5	1 552.5	11.3	0.8	6.5	0.7		19.3	1 545	80			99.50%	A		
3	1946	1	11	2 965.7	2 976.7	11.3	0.8	0.5	0.7		13.3	2 974	224			99.90%	A		
4	1946	0	11	2 230.8	2 241.8	11.3	0.8	0.2	0.7		13.0	2 239	173			99.88%	A		
5	1946		11	1 839.8	1 850.8	11.3	0.8	10.9	0.7		23.7	1 840	78			99.39%	A		
6	1946		11	966.8	977.6	11.3	0.8	35.3	0.7		48.1	947	20			96.85%	A		
7	1946		10	581.9	592.2	11.3	0.8	33.8	0.7		46.6	563	13			94.96%	A		
8	1946		10	385.8	395.6	11.3	0.8	35.2	0.7		48.0	365	8			92.12%	A		
9	1946	0	9	336.7	346.0	11.3	0.8	23.2	0.7		36.0	325	10			93.79%	A		
10	1946	3	9	771.3	780.3	11.3	0.8	7.0	0.7		19.8	772	39	1.15%	5 978	98.95%	A	99.41%	A
11	1946	6	11	1 137.8	1 148.8	11.3	0.8	3.3	0.7		16.1	1 144	71			99.55%	A		
12	1946	22	11	2 182.1	2 193.1	11.3	0.8	6.0	0.7		18.8	2 186	117			99.67%	A		
1	1947	31	11	2 814.2	2 825.2	11.3	0.8	7.4	0.7		20.1	2 817	140			99.70%	A		
2	1947	32	11	2 559.6	2 570.6	11.3	0.8	6.5	0.7		19.3	2 563	133			99.70%	A		
3	1947	21	11	3 183.5	3 194.5	11.3	0.8	0.5	0.7		13.3	3 192	240			99.91%	A		
4	1947	16	11	6 433.0	6 444.0	11.3	0.8	0.2	0.7		13.0	6 441	496			99.96%	A		
5	1947	1	11	3 943.2	3 954.2	11.3	0.8	10.9	0.7		23.7	3 943	167			99.72%	A		
6	1947	0	11	2 058.0	2 069.0	11.3	0.8	35.3	0.7		48.1	2 038	43			98.52%	A		
7	1947	0	11	1 318.4	1 328.9	11.3	0.8	33.8	0.7		46.6	1 299	28			97.78%	A		
8	1947	0	10	885.9	895.9	11.3	0.8	35.2	0.7		48.0	865	19			96.57%	A		
9	1947	1	10	595.1	604.6	11.3	0.8	23.2	0.7		36.0	584	17			96.49%	A		
10	1947	0	10	861.7	871.6	11.3	0.8	7.0	0.7		19.8	863	44			99.06%	A		

11	1947	0	10	1 059.9	1 069.8	11.3	0.8	3.3	0.7		16.1	1 065	66	1.56%	4 433	99.52%	A	99.20%	A
12	1947	1	10	1 721.2	1 731.2	11.3	0.8	6.0	0.7		18.8	1 724	92			99.58%	A		
1	1948	1	11	2 176.3	2 186.9	11.3	0.8	7.4	0.7		20.1	2 178	109			99.62%	A		
2	1948	5	11	2 571.2	2 582.2	11.3	0.8	6.5	0.7		19.3	2 574	134			99.70%	A		
3	1948	0	11	2 517.1	2 528.1	11.3	0.8	0.5	0.7		13.3	2 525	190			99.88%	A		
4	1948	0	11	3 897.2	3 908.2	11.3	0.8	0.2	0.7		13.0	3 906	301			99.93%	A		
5	1948	0	11	2 706.6	2 717.6	11.3	0.8	10.9	0.7		23.7	2 706	114			99.59%	A		
6	1948	0	11	1 330.5	1 341.3	11.3	0.8	35.3	0.7		48.1	1 311	28			97.71%	A		
7	1948		10	830.7	841.0	11.3	0.8	33.8	0.7		46.6	811	18			96.47%	A		
8	1948	0	10	562.4	572.2	11.3	0.8	35.2	0.7		48.0	542	12			94.60%	A		
9	1948	0	9	409.9	419.2	11.3	0.8	23.2	0.7		36.0	398	12			94.90%	A		
10	1948	1	9	685.7	694.6	11.3	0.8	7.0	0.7		19.8	686	35	1.23%	5 586	98.82%	A	99.37%	A
11	1948	2	9	1 219.9	1 229.3	11.3	0.8	3.3	0.7		16.1	1 224	76			99.58%	A		
12	1948	3	11	1 337.0	1 348.0	11.3	0.8	6.0	0.7		18.8	1 341	72			99.46%	A		
1	1949	6	11	1 995.5	2 006.5	11.3	0.8	7.4	0.7		20.1	1 998	100			99.58%	A		
2	1949	9	11	3 778.4	3 789.4	11.3	0.8	6.5	0.7		19.3	3 782	196			99.80%	A		
3	1949	15	11	4 620.0	4 631.0	11.3	0.8	0.5	0.7		13.3	4 628	348			99.94%	A		
4	1949	2	11	5 413.3	5 424.3	11.3	0.8	0.2	0.7		13.0	5 422	418			99.95%	A		
5	1949	0	11	2 898.2	2 909.2	11.3	0.8	10.9	0.7		23.7	2 898	123			99.61%	A		
6	1949	0	11	1 559.1	1 569.9	11.3	0.8	35.3	0.7		48.1	1 539	33			98.05%	A		
7	1949	0	10	1 092.5	1 102.8	11.3	0.8	33.8	0.7		46.6	1 073	24			97.32%	A		
8	1949	0	10	805.2	815.0	11.3	0.8	35.2	0.7		48.0	784	17			96.23%	A		
9	1949	0	9	644.0	653.3	11.3	0.8	23.2	0.7		36.0	632	18			96.75%	A		
10	1949	0	9	442.9	451.9	11.3	0.8	7.0	0.7		19.8	444	23	2.86%	2 411	98.18%	A	98.53%	A
11	1949	1	9	1 095.8	1 104.8	11.3	0.8	3.3	0.7		16.1	1 100	69			99.53%	A		
12	1949	2	10	977.4	987.5	11.3	0.8	6.0	0.7		18.8	980	53			99.26%	A		
1	1950	39	11	1 127.5	1 138.5	11.3	0.8	7.4	0.7		20.1	1 130	57			99.26%	A		
2	1950	42	11	863.0	874.0	11.3	0.8	6.5	0.7		19.3	866	45			99.11%	A		
3	1950	50	11	2 002.2	2 013.2	11.3	0.8	0.5	0.7		13.3	2 010	151			99.85%	A		
4	1950	6	11	2 143.6	2 154.6	11.3	0.8	0.2	0.7		13.0	2 152	166			99.88%	A		
5	1950	1	11	1 144.2	1 155.2	11.3	0.8	10.9	0.7		23.7	1 144	49			99.02%	A		
6	1950		11	650.0	661.0	11.3	0.8	35.3	0.7		48.1	630	14			95.31%	A		
7	1950	0	11	372.8	383.3	11.3	0.8	33.8	0.7		46.6	354	8			92.14%	A		
8	1950	0	10	216.0	226.0	11.3	0.8	35.2	0.7		48.0	195	5			85.93%	A		
9	1950	0	10	136.2	145.7	11.3	0.8	23.2	0.7		36.0	125	4			84.64%	A		
10	1950	0	9	538.8	547.9	11.3	0.8	7.0	0.7		19.8	540	28	1.17%	5 867	98.50%	A	99.40%	A
11	1950	4	9	864.7	873.6	11.3	0.8	3.3	0.7		16.1	868	54			99.41%	A		
12	1950	13	11	1 673.1	1 684.1	11.3	0.8	6.0	0.7		18.8	1 677	90			99.57%	A		
1	1951	1	11	2 246.5	2 257.5	11.3	0.8	7.4	0.7		20.1	2 249	112			99.63%	A		
2	1951	13	11	2 420.4	2 431.4	11.3	0.8	6.5	0.7		19.3	2 424	126			99.68%	A		
3	1951	11	11	4 613.9	4 624.9	11.3	0.8	0.5	0.7		13.3	4 622	347			99.94%	A		
4	1951	11	11	6 489.0	6 500.0	11.3	0.8	0.2	0.7		13.0	6 497	501			99.96%	A		
5	1951	1	11	3 827.0	3 838.0	11.3	0.8	10.9	0.7		23.7	3 827	162			99.71%	A		
6	1951		11	2 021.0	2 032.0	11.3	0.8	35.3	0.7		48.1	2 001	42			98.49%	A		
7	1951		11	1 192.0	1 202.5	11.3	0.8	33.8	0.7		46.6	1 173	26			97.54%	A		
8	1951	0	10	860.7	870.7	11.3	0.8	35.2	0.7		48.0	840	18			96.47%	A		
9	1951	0	10	618.5	628.0	11.3	0.8	23.2	0.7		36.0	607	17			96.62%	A		
10	1951	1	9	937.9	947.1	11.3	0.8	7.0	0.7		19.8	939	48	1.51%	4 557	99.14%	A	99.23%	A
11	1951	2	10	1 572.6	1 582.3	11.3	0.8	3.3	0.7		16.1	1 577	98			99.67%	A		
12	1951	10	11	2 487.4	2 498.4	11.3	0.8	6.0	0.7		18.8	2 491	133			99.71%	A		
1	1952	2	11	2 996.1	3 007.1	11.3	0.8	7.4	0.7		20.1	2 999	149			99.72%	A		
2	1952	13	11	2 711.2	2 722.2	11.3	0.8	6.5	0.7		19.3	2 714	141			99.72%	A		
3	1952	4	11	3 096.2	3 107.2	11.3	0.8	0.5	0.7		13.3	3 104	233			99.91%	A		
4	1952	1	11	2 500.9	2 511.9	11.3	0.8	0.2	0.7		13.0	2 509	193			99.89%	A		
5	1952	0	11	1 870.9	1 881.9	11.3	0.8	10.9	0.7		23.7	1 871	79			99.40%	A		
6	1952		11	1 160.6	1 171.4	11.3	0.8	35.3	0.7		48.1	1 141	24			97.37%	A		
7	1952	0	10	808.9	819.2	11.3	0.8	33.8	0.7		46.6	790	18			96.38%	A		

8	1952	0	10	599.8	609.6	11.3	0.8	35.2	0.7		48.0	579	13			94.93%	A	
9	1952	0	9	483.5	492.8	11.3	0.8	23.2	0.7		36.0	472	14			95.68%	A	
10	1952	0	9	715.0	723.9	11.3	0.8	7.0	0.7		19.8	716	37			98.87%	A	
11	1952	0	9	1 469.0	1 477.9	11.3	0.8	3.3	0.7		16.1	1 473	92			99.65%	A	
12	1952	1	9	2 025.0	2 034.1	11.3	0.8	6.0	0.7		18.8	2 027	108			99.64%	A	
1	1953	0	9	2 336.5	2 345.9	11.3	0.8	7.4	0.7		20.1	2 337	116			99.64%	A	
2	1953	1	10	2 389.0	2 398.6	11.3	0.8	6.5	0.7		19.3	2 391	124			99.68%	A	
3	1953	2	11	3 230.2	3 240.8	11.3	0.8	0.5	0.7		13.3	3 238	243			99.91%	A	
4	1953	1	11	4 626.2	4 637.2	11.3	0.8	0.2	0.7		13.0	4 635	357	1.34%	5 148	99.94%	A	99.32%
5	1953	0	11	3 330.3	3 341.3	11.3	0.8	10.9	0.7		23.7	3 330	141			99.66%	A	
6	1953	0	11	1 647.3	1 658.1	11.3	0.8	35.3	0.7		48.1	1 627	34			98.15%	A	
7	1953		10	1 042.7	1 053.0	11.3	0.8	33.8	0.7		46.6	1 023	23			97.19%	A	
8	1953	0	10	697.2	707.0	11.3	0.8	35.2	0.7		48.0	676	15			95.64%	A	
9	1953		9	495.2	504.5	11.3	0.8	23.2	0.7		36.0	483	14			95.78%	A	
10	1953	3	9	526.2	535.1	11.3	0.8	7.0	0.7		19.8	527	27			98.47%	A	
11	1953	1	11	945.7	956.7	11.3	0.8	3.3	0.7		16.1	951	59			99.46%	A	
12	1953	9	11	1 301.4	1 312.4	11.3	0.8	6.0	0.7		18.8	1 305	70			99.44%	A	
1	1954	6	11	1 429.6	1 440.6	11.3	0.8	7.4	0.7		20.1	1 432	72			99.42%	A	
2	1954	16	11	1 601.5	1 612.5	11.3	0.8	6.5	0.7		19.3	1 605	84			99.52%	A	
3	1954	12	11	3 136.8	3 147.8	11.3	0.8	0.5	0.7		13.3	3 145	237			99.91%	A	
4	1954	5	11	4 719.8	4 730.8	11.3	0.8	0.2	0.7		13.0	4 728	364	1.46%	4 731	99.94%	A	99.25%
5	1954	2	11	3 784.3	3 795.3	11.3	0.8	10.9	0.7		23.7	3 784	160			99.70%	A	
6	1954	0	11	1 947.6	1 958.6	11.3	0.8	35.3	0.7		48.1	1 928	41			98.44%	A	
7	1954		11	1 186.9	1 197.4	11.3	0.8	33.8	0.7		46.6	1 168	26			97.53%	A	
8	1954		10	818.6	828.6	11.3	0.8	35.2	0.7		48.0	798	17			96.29%	A	
9	1954	0	10	641.2	650.7	11.3	0.8	23.2	0.7		36.0	630	18			96.74%	A	
10	1954	0	9	681.8	691.0	11.3	0.8	7.0	0.7		19.8	683	35			98.82%	A	
11	1954	0	9	1 361.2	1 370.5	11.3	0.8	3.3	0.7		16.1	1 365	85			99.62%	A	
12	1954	1	10	1 756.8	1 766.4	11.3	0.8	6.0	0.7		18.8	1 759	94			99.59%	A	
1	1955	2	11	2 050.4	2 060.9	11.3	0.8	7.4	0.7		20.1	2 053	102			99.59%	A	
2	1955	0	11	1 567.6	1 578.6	11.3	0.8	6.5	0.7		19.3	1 571	82			99.51%	A	
3	1955	3	11	1 863.7	1 874.7	11.3	0.8	0.5	0.7		13.3	1 872	141			99.84%	A	
4	1955	1	11	3 146.6	3 157.6	11.3	0.8	0.2	0.7		13.0	3 155	243	1.75%	3 929	99.92%	A	99.10%
5	1955	0	11	2 564.6	2 575.6	11.3	0.8	10.9	0.7		23.7	2 564	109			99.56%	A	
6	1955		11	1 374.7	1 385.5	11.3	0.8	35.3	0.7		48.1	1 355	29			97.78%	A	
7	1955	0	10	855.6	865.9	11.3	0.8	33.8	0.7		46.6	836	19			96.58%	A	
8	1955		10	602.0	611.8	11.3	0.8	35.2	0.7		48.0	581	13			94.95%	A	
9	1955	0	9	462.6	471.9	11.3	0.8	23.2	0.7		36.0	451	13			95.48%	A	
10	1955	3	9	657.0	665.9	11.3	0.8	7.0	0.7		19.8	658	34			98.77%	A	
11	1955	2	11	1 439.2	1 450.2	11.3	0.8	3.3	0.7		16.1	1 445	90			99.64%	A	
12	1955	3	11	2 484.0	2 495.0	11.3	0.8	6.0	0.7		18.8	2 488	133			99.71%	A	
1	1956	9	11	2 858.6	2 869.6	11.3	0.8	7.4	0.7		20.1	2 861	142			99.71%	A	
2	1956	5	11	2 814.0	2 825.0	11.3	0.8	6.5	0.7		19.3	2 817	146			99.73%	A	
3	1956	13	11	2 683.9	2 694.9	11.3	0.8	0.5	0.7		13.3	2 692	202			99.89%	A	
4	1956	7	11	3 934.2	3 945.2	11.3	0.8	0.2	0.7		13.0	3 943	304	1.30%	5 301	99.93%	A	99.34%
5	1956	0	11	3 855.9	3 866.9	11.3	0.8	10.9	0.7		23.7	3 856	163			99.71%	A	
6	1956		11	1 760.8	1 771.6	11.3	0.8	35.3	0.7		48.1	1 741	37			98.27%	A	
7	1956	0	10	1 004.3	1 014.6	11.3	0.8	33.8	0.7		46.6	985	22			97.08%	A	
8	1956	0	10	677.2	687.0	11.3	0.8	35.2	0.7		48.0	656	14			95.51%	A	
9	1956	0	9	544.5	553.8	11.3	0.8	23.2	0.7		36.0	533	15			96.16%	A	
10	1956	0	9	551.9	560.8	11.3	0.8	7.0	0.7		19.8	553	28			98.54%	A	
11	1956	7	9	1 027.7	1 036.6	11.3	0.8	3.3	0.7		16.1	1 031	64			99.50%	A	
12	1956	1	11	1 497.3	1 508.3	11.3	0.8	6.0	0.7		18.8	1 501	80			99.52%	A	
1	1957	7	11	2 524.4	2 535.4	11.3	0.8	7.4	0.7		20.1	2 527	126			99.67%	A	
2	1957	6	11	2 818.8	2 829.8	11.3	0.8	6.5	0.7		19.3	2 822	147			99.73%	A	
3	1957	23	11	3 897.1	3 908.1	11.3	0.8	0.5	0.7		13.3	3 905	294			99.93%	A	
4	1957	2	11	4 203.9	4 214.9	11.3	0.8	0.2	0.7		13.0	4 212	325	1.45%	4 761	99.94%	A	99.26%

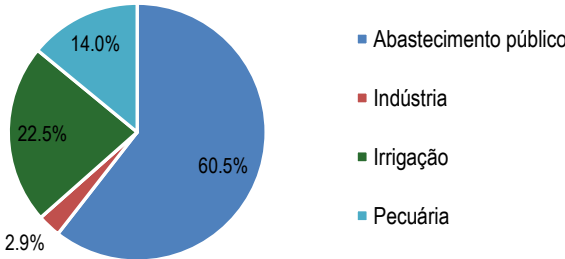
5	1957		11	2 385.8	2 396.8	11.3	0.8	10.9	0.7		23.7	2 385	101			99.53%	A		
6	1957	0	11	1 263.4	1 274.2	11.3	0.8	35.3	0.7		48.1	1 243	26			97.59%	A		
7	1957	0	10	874.1	884.4	11.3	0.8	33.8	0.7		46.6	855	19			96.65%	A		
8	1957	0	10	624.6	634.4	11.3	0.8	35.2	0.7		48.0	604	13			95.13%	A		
9	1957	0	10	514.4	523.9	11.3	0.8	23.2	0.7		36.0	503	15			95.94%	A		
10	1957	1	9	717.3	726.5	11.3	0.8	7.0	0.7		19.8	718	37			98.88%	A		
11	1957	7	10	1 241.7	1 252.0	11.3	0.8	3.3	0.7		16.1	1 247	78			99.59%	A		
12	1957	8	11	2 039.7	2 050.7	11.3	0.8	6.0	0.7		18.8	2 043	109			99.64%	A		
1	1958	8	11	2 262.3	2 273.3	11.3	0.8	7.4	0.7		20.1	2 265	113			99.63%	A		
2	1958	5	11	1 441.1	1 452.1	11.3	0.8	6.5	0.7		19.3	1 444	75			99.47%	A		
3	1958	6	11	1 529.5	1 540.5	11.3	0.8	0.5	0.7		13.3	1 538	116			99.81%	A		
4	1958	0	11	1 805.7	1 816.7	11.3	0.8	0.2	0.7		13.0	1 814	140		2.27%	3 043	99.85%	A	98.84%
5	1958	0	11	1 197.4	1 208.4	11.3	0.8	10.9	0.7		23.7	1 197	51			99.07%	A		
6	1958	0	11	641.6	652.4	11.3	0.8	35.3	0.7		48.1	622	14			95.25%	A		
7	1958	0	10	490.6	500.9	11.3	0.8	33.8	0.7		46.6	471	11			94.03%	A		
8	1958	0	10	414.7	424.5	11.3	0.8	35.2	0.7		48.0	394	9			92.67%	A		
9	1958	0	9	351.8	361.1	11.3	0.8	23.2	0.7		36.0	340	10			94.06%	A		
10	1958	0	9	437.2	446.1	11.3	0.8	7.0	0.7		19.8	438	23			98.16%	A		
11	1958	6	9	1 024.0	1 033.2	11.3	0.8	3.3	0.7		16.1	1 028	64			99.50%	A		
12	1958	4	11	1 494.4	1 505.4	11.3	0.8	6.0	0.7		18.8	1 498	80			99.51%	A		
1	1959	5	11	2 195.3	2 206.3	11.3	0.8	7.4	0.7		20.1	2 198	110			99.62%	A		
2	1959	10	11	3 036.1	3 047.1	11.3	0.8	6.5	0.7		19.3	3 039	158			99.75%	A		
3	1959	3	11	4 273.3	4 284.3	11.3	0.8	0.5	0.7		13.3	4 281	322			99.93%	A		
4	1959	6	11	4 902.4	4 913.4	11.3	0.8	0.2	0.7		13.0	4 911	378		1.31%	5 260	99.95%	A	99.33%
5	1959	0	11	3 142.9	3 153.9	11.3	0.8	10.9	0.7		23.7	3 143	133			99.64%	A		
6	1959	0	11	1 708.2	1 719.0	11.3	0.8	35.3	0.7		48.1	1 688	36			98.22%	A		
7	1959	0	10	1 039.2	1 049.5	11.3	0.8	33.8	0.7		46.6	1 020	23			97.18%	A		
8	1959	0	10	706.2	716.0	11.3	0.8	35.2	0.7		48.0	685	15			95.70%	A		
9	1959	0	9	561.0	570.3	11.3	0.8	23.2	0.7		36.0	549	16			96.27%	A		
10	1959	0	9	596.6	605.5	11.3	0.8	7.0	0.7		19.8	597	31			98.65%	A		
11	1959	1	9	1 025.6	1 034.6	11.3	0.8	3.3	0.7		16.1	1 029	64			99.50%	A		
12	1959	3	10	1 668.9	1 679.0	11.3	0.8	6.0	0.7		18.8	1 672	89			99.57%	A		
1	1960	8	11	2 368.3	2 379.3	11.3	0.8	7.4	0.7		20.1	2 371	118			99.65%	A		
2	1960	15	11	3 122.2	3 133.2	11.3	0.8	6.5	0.7		19.3	3 125	162			99.75%	A		
3	1960	4	11	5 228.6	5 239.6	11.3	0.8	0.5	0.7		13.3	5 237	394			99.94%	A		
4	1960	1	11	6 158.5	6 169.5	11.3	0.8	0.2	0.7		13.0	6 167	475		1.09%	6 336	99.96%	A	99.44%
5	1960	0	11	4 192.6	4 203.6	11.3	0.8	10.9	0.7		23.7	4 192	177			99.73%	A		
6	1960	0	11	2 259.3	2 270.3	11.3	0.8	35.3	0.7		48.1	2 240	47			98.65%	A		
7	1960		11	1 344.6	1 355.1	11.3	0.8	33.8	0.7		46.6	1 325	29			97.82%	A		
8	1960	0	10	914.8	924.8	11.3	0.8	35.2	0.7		48.0	894	19			96.68%	A		
9	1960	0	10	685.5	695.0	11.3	0.8	23.2	0.7		36.0	674	19			96.95%	A		
10	1960	4	9	723.4	732.7	11.3	0.8	7.0	0.7		19.8	725	37			98.88%	A		
11	1960	4	11	1 291.3	1 302.3	11.3	0.8	3.3	0.7		16.1	1 297	81			99.60%	A		
12	1960	2	11	2 229.8	2 240.8	11.3	0.8	6.0	0.7		18.8	2 233	119			99.67%	A		
1	1961	6	11	2 886.7	2 897.7	11.3	0.8	7.4	0.7		20.1	2 889	144			99.71%	A		
2	1961	9	11	4 191.6	4 202.6	11.3	0.8	6.5	0.7		19.3	4 195	218			99.82%	A		
3	1961	15	11	6 506.7	6 517.7	11.3	0.8	0.5	0.7		13.3	6 515	490			99.96%	A		
4	1961	7	11	8 628.5	8 639.5	11.3	0.8	0.2	0.7		13.0	8 637	665		0.81%	8 501	99.97%	A	99.59%
5	1961	0	11	5 952.7	5 963.7	11.3	0.8	10.9	0.7		23.7	5 952	251			99.81%	A		
6	1961		11	3 093.8	3 104.7	11.3	0.8	35.3	0.7		48.1	3 074	65			99.01%	A		
7	1961		10	1 919.7	1 930.1	11.3	0.8	33.8	0.7		46.6	1 901	41			98.47%	A		
8	1961		10	1 280.0	1 289.9	11.3	0.8	35.2	0.7		48.0	1 259	27			97.63%	A		
9	1961	0	9	1 003.5	1 012.9	11.3	0.8	23.2	0.7		36.0	992	28			97.92%	A		
10	1961	1	9	1 167.4	1 176.4	11.3	0.8	7.0	0.7		19.8	1 168	59			99.31%	A		
11	1961	5	9	1 991.8	2 001.1	11.3	0.8	3.3	0.7		16.1	1 996	124			99.74%	A		
12	1961	1	11	3 841.8	3 852.8	11.3	0.8	6.0	0.7		18.8	3 845	205			99.81%	A		
1	1962	5	11	6 358.3	6 369.3	11.3	0.8	7.4	0.7		20.1	6 361	316			99.87%	A		

8	1971	0	10	899.3	909.1	11.3	0.8	35.2	0.7		48.0	878	19			96.62%	A	
9	1971	0	9	740.3	749.6	11.3	0.8	23.2	0.7		36.0	728	21			97.18%	A	
10	1971	0	9	656.6	665.5	11.3	0.8	7.0	0.7		19.8	657	34			98.77%	A	
11	1971	0	9	911.3	920.0	11.3	0.8	3.3	0.7		16.1	915	57			99.44%	A	
12	1971	1	9	1 199.3	1 208.1	11.3	0.8	6.0	0.7		18.8	1 201	64			99.39%	A	
1	1972	2	10	1 752.2	1 762.2	11.3	0.8	7.4	0.7		20.1	1 754	87			99.53%	A	
2	1972	0	11	1 368.7	1 379.7	11.3	0.8	6.5	0.7		19.3	1 372	71			99.44%	A	
3	1972	2	11	1 450.9	1 461.8	11.3	0.8	0.5	0.7		13.3	1 459	110			99.80%	A	
4	1972	1	11	2 419.6	2 430.6	11.3	0.8	0.2	0.7		13.0	2 428	187	2.28%	3 024	99.89%	A	98.83%
5	1972		11	1 780.8	1 791.8	11.3	0.8	10.9	0.7		23.7	1 781	75			99.37%	A	
6	1972		11	940.2	951.0	11.3	0.8	35.3	0.7		48.1	920	20			96.76%	A	
7	1972		10	691.4	701.7	11.3	0.8	33.8	0.7		46.6	672	15			95.76%	A	
8	1972	0	10	488.2	498.0	11.3	0.8	35.2	0.7		48.0	467	10			93.77%	A	
9	1972	0	9	391.5	400.8	11.3	0.8	23.2	0.7		36.0	380	11			94.66%	A	
10	1972	3	9	620.9	629.8	11.3	0.8	7.0	0.7		19.8	622	32			98.70%	A	
11	1972	2	11	1 309.4	1 320.4	11.3	0.8	3.3	0.7		16.1	1 315	82			99.61%	A	
12	1972	12	11	2 142.2	2 153.2	11.3	0.8	6.0	0.7		18.8	2 146	115			99.66%	A	
1	1973	6	11	3 433.5	3 444.5	11.3	0.8	7.4	0.7		20.1	3 436	171			99.76%	A	
2	1973	2	11	3 608.0	3 619.0	11.3	0.8	6.5	0.7		19.3	3 611	188			99.79%	A	
3	1973	14	11	3 814.6	3 825.6	11.3	0.8	0.5	0.7		13.3	3 823	287			99.92%	A	
4	1973	6	11	4 262.8	4 273.8	11.3	0.8	0.2	0.7		13.0	4 271	329	1.25%	5 512	99.94%	A	99.36%
5	1973		11	2 846.6	2 857.6	11.3	0.8	10.9	0.7		23.7	2 846	120			99.61%	A	
6	1973	0	11	1 497.4	1 508.2	11.3	0.8	35.3	0.7		48.1	1 477	31			97.96%	A	
7	1973	0	10	962.4	972.7	11.3	0.8	33.8	0.7		46.6	943	21			96.96%	A	
8	1973		10	682.6	692.4	11.3	0.8	35.2	0.7		48.0	662	14			95.55%	A	
9	1973	0	9	519.5	528.8	11.3	0.8	23.2	0.7		36.0	508	15			95.97%	A	
10	1973	4	9	551.4	560.3	11.3	0.8	7.0	0.7		19.8	552	28			98.54%	A	
11	1973	1	11	1 172.2	1 183.2	11.3	0.8	3.3	0.7		16.1	1 178	73			99.56%	A	
12	1973	6	11	1 861.2	1 872.2	11.3	0.8	6.0	0.7		18.8	1 865	100			99.61%	A	
1	1974	9	11	1 471.0	1 482.0	11.3	0.8	7.4	0.7		20.1	1 474	74			99.43%	A	
2	1974	7	11	1 235.2	1 246.2	11.3	0.8	6.5	0.7		19.3	1 238	65			99.38%	A	
3	1974	17	11	1 882.0	1 893.0	11.3	0.8	0.5	0.7		13.3	1 890	142			99.85%	A	
4	1974	7	11	3 378.9	3 389.9	11.3	0.8	0.2	0.7		13.0	3 387	261	1.90%	3 622	99.92%	A	99.02%
5	1974	0	11	2 280.8	2 291.8	11.3	0.8	10.9	0.7		23.7	2 280	97			99.51%	A	
6	1974	0	11	1 193.7	1 204.5	11.3	0.8	35.3	0.7		48.1	1 174	25			97.45%	A	
7	1974		10	800.7	811.1	11.3	0.8	33.8	0.7		46.6	781	17			96.34%	A	
8	1974	0	10	562.1	572.0	11.3	0.8	35.2	0.7		48.0	541	12			94.59%	A	
9	1974	0	9	456.0	465.4	11.3	0.8	23.2	0.7		36.0	444	13			95.42%	A	

UH	Longa
Área (km ²)	26 616
População	538 180
Área irrigada (ha)	506
NGR (mm)	750

Sector	Necessidades anuais de água (hm ³)	
Abastecimento público	8. 2	60.5%
Indústria	0.4	2.9%
Termo eléctricas		
Irrigação	3.0	22.5%
Pecuária	1. 9	14.0%
Volume anual turbinado (hm ³)		
Hidroelectricidade		

Uso da água na UH do Longa



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

		Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
						Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano médio		924.3	828.0	3613. 5	4 441.5	8. 2	. 4	3.	1. 9	---	13. 5	4 437.1	329.1	0.3%	8 253	---	---	99.88%	A
Ano seco		421.1	828.0	2988. 3	3 816.3	8. 2	. 4	3.	1. 9	---	13. 5	3 811.9	282.7	0.4%	7 091	---	---	99.85%	A
Ano muito seco		375.6	828.0	2351. 6	3 179.6	8. 2	. 4	3.	1. 9	---	13. 5	3 175.1	235.6	0.4%	5 908	---	---	99.81%	A
Mês	Ano																		
10	1944	165	69	161.2	230.2	0.7	0.0	0.2	0.2		1.0	229.9	221	0.24%	10 531	99.82%	A	99.91%	A
11	1944	237	69	368.2	437.2	0.7	0.0	0.1	0.2		0.9	436.9	461			99.94%	A		
12	1944	190	69	484.2	553.2	0.7	0.0	0.1	0.2		1.0	552.9	542			99.94%	A		
1	1945	139	69	493.1	562.1	0.7	0.0	0.2	0.2		1.1	561.8	527			99.94%	A		
2	1945	141	69	483.7	552.7	0.7	0.0	0.2	0.2		1.0	552.4	533			99.94%	A		
3	1945	281	69	627.8	696.8	0.7	0.0	0.0	0.2		0.9	696.6	783			99.97%	A		
4	1945	327	69	822.7	891.7	0.7	0.0	0.0	0.2		0.9	891.6	1 000			99.98%	A		
5	1945	12	69	636.4	705.4	0.7	0.0	0.2	0.2		1.0	705.1	674			99.95%	A		
6	1945	1	69	389.5	458.5	0.7	0.0	0.5	0.2		1.4	458.0	338			99.86%	A		
7	1945	0	69	216.3	285.3	0.7	0.0	0.5	0.2		1.4	284.7	201			99.72%	A		
8	1945	3	69	100.6	169.6	0.7	0.0	0.6	0.2		1.4	169.0	117			99.39%	A		
9	1945	34	69	55.8	124.8	0.7	0.0	0.5	0.2		1.3	124.3	93			99.04%	A		
10	1945	109	69	174.4	243.4	0.7	0.0	0.2	0.2		1.0	243.1	234	0.32%	7 799	99.83%	A	99.87%	A
11	1945	114	69	308.0	377.0	0.7	0.0	0.1	0.2		0.9	376.7	398			99.93%	A		
12	1945	107	69	390.5	459.5	0.7	0.0	0.1	0.2		1.0	459.2	450			99.93%	A		
1	1946	61	69	370.0	439.0	0.7	0.0	0.2	0.2		1.1	438.7	412			99.91%	A		
2	1946	49	69	312.4	381.4	0.7	0.0	0.2	0.2		1.0	381.1	368			99.91%	A		
3	1946	130	69	398.6	467.6	0.7	0.0	0.0	0.2		0.9	467.4	525			99.96%	A		
4	1946	145	69	523.9	592.9	0.7	0.0	0.0	0.2		0.9	592.8	665			99.97%	A		
5	1946	27	69	426.1	495.1	0.7	0.0	0.2	0.2		1.0	494.8	473			99.93%	A		
6	1946		69	254.8	323.8	0.7	0.0	0.5	0.2		1.4	323.3	238			99.78%	A		
7	1946	0	69	123.8	192.8	0.7	0.0	0.5	0.2		1.4	192.2	136			99.52%	A		
8	1946	0	69	34.0	103.0	0.7	0.0	0.6	0.2		1.4	102.4	71			98.18%	A		
9	1946	50	69	52.7	121.7	0.7	0.0	0.5	0.2		1.3	121.2	91			98.99%	A		
10	1946	205	69	229.6	298.6	0.7	0.0	0.2	0.2		1.0	298.3	287	0.23%	11 047	99.87%	A	99.91%	A
11	1946	175	69	362.8	431.8	0.7	0.0	0.1	0.2		0.9	431.6	455			99.94%	A		
12	1946	185	69	454.0	523.0	0.7	0.0	0.1	0.2		1.0	522.7	512			99.94%	A		
1	1947	102	69	431.2	500.2	0.7	0.0	0.2	0.2		1.1	499.9	469			99.93%	A		
2	1947	180	69	471.1	540.1	0.7	0.0	0.2	0.2		1.0	539.8	521			99.94%	A		
3	1947	182	69	526.5	595.5	0.7	0.0	0.0	0.2		0.9	595.3	669			99.97%	A		
4	1947	438	69	837.4	906.4	0.7	0.0	0.0	0.2		0.9	906.2	1 017			99.98%	A		
5	1947	96	69	773.9	842.9	0.7	0.0	0.2	0.2		1.0	842.6	806			99.96%	A		
6	1947		69	511.9	580.9	0.7	0.0	0.5	0.2		1.4	580.3	428			99.89%	A		
7	1947		69	299.7	368.7	0.7	0.0	0.5	0.2		1.4	368.1	260			99.80%	A		
8	1947	0	69	154.5	223.5	0.7	0.0	0.6	0.2		1.4	222.9	155			99.60%	A		
9	1947	9	69	64.6	133.6	0.7	0.0	0.5	0.2		1.3	133.1	100			99.17%	A		
10	1947	51	69	268.8	337.8	0.7	0.0	0.2	0.2		1.0	337.5	325			99.89%	A		

11	1947	33	69	394.7	463.7	0.7	0.0	0.1	0.2	0.9	463.5	489	0.50%	5 039	99.94%	A	99.77%	A
12	1947	7	69	310.6	379.6	0.7	0.0	0.1	0.2	1.0	379.3	372			99.91%	A		
1	1948	11	69	229.4	298.4	0.7	0.0	0.2	0.2	1.1	298.0	280			99.86%	A		
2	1948	6	69	157.3	226.3	0.7	0.0	0.2	0.2	1.0	226.0	218			99.81%	A		
3	1948	21	69	178.2	247.2	0.7	0.0	0.0	0.2	0.9	247.0	278			99.90%	A		
4	1948	17	69	195.5	264.5	0.7	0.0	0.0	0.2	0.9	264.3	297			99.91%	A		
5	1948	1	69	117.4	186.4	0.7	0.0	0.2	0.2	1.0	186.1	178			99.74%	A		
6	1948	0	69	31.5	100.5	0.7	0.0	0.5	0.2	1.4	100.0	74			98.26%	A		
7	1948	0	69	0.1	69.1	0.7	0.0	0.5	0.2	1.4	68.5	49						
8	1948	0	69	0.1	69.1	0.7	0.0	0.6	0.2	1.4	68.5	48						
9	1948	2	69	0.1	69.1	0.7	0.0	0.5	0.2	1.3	68.6	52						
10	1948	387	69	210.9	279.9	0.7	0.0	0.2	0.2	1.0	279.6	269	0.21%	11 774	99.86%	A	99.92%	A
11	1948	334	69	398.2	467.2	0.7	0.0	0.1	0.2	0.9	467.0	493			99.94%	A		
12	1948	370	69	539.3	608.3	0.7	0.0	0.1	0.2	1.0	608.0	596			99.95%	A		
1	1949	484	69	719.0	788.0	0.7	0.0	0.2	0.2	1.1	787.7	739			99.96%	A		
2	1949	316	69	754.5	823.5	0.7	0.0	0.2	0.2	1.0	823.2	794			99.96%	A		
3	1949	400	69	799.2	868.2	0.7	0.0	0.0	0.2	0.9	868.0	975			99.98%	A		
4	1949	313	69	789.6	858.6	0.7	0.0	0.0	0.2	0.9	858.4	963			99.98%	A		
5	1949	31	69	576.7	645.7	0.7	0.0	0.2	0.2	1.0	645.4	617			99.95%	A		
6	1949	0	69	350.8	419.8	0.7	0.0	0.5	0.2	1.4	419.2	309			99.84%	A		
7	1949	8	69	194.5	263.5	0.7	0.0	0.5	0.2	1.4	262.9	186			99.69%	A		
8	1949	22	69	99.0	168.0	0.7	0.0	0.6	0.2	1.4	167.3	116			99.38%	A		
9	1949	83	69	76.9	145.9	0.7	0.0	0.5	0.2	1.3	145.3	109			99.30%	A		
10	1949	94	69	171.6	240.6	0.7	0.0	0.2	0.2	1.0	240.3	231	0.29%	8 511	99.83%	A	99.88%	A
11	1949	123	69	313.9	382.9	0.7	0.0	0.1	0.2	0.9	382.6	404			99.93%	A		
12	1949	62	69	328.2	397.2	0.7	0.0	0.1	0.2	1.0	396.9	389			99.91%	A		
1	1950	53	69	291.2	360.2	0.7	0.0	0.2	0.2	1.1	359.9	338			99.89%	A		
2	1950	63	69	277.7	346.7	0.7	0.0	0.2	0.2	1.0	346.4	334			99.89%	A		
3	1950	265	69	599.0	668.0	0.7	0.0	0.0	0.2	0.9	667.9	750			99.97%	A		
4	1950	119	69	688.0	757.0	0.7	0.0	0.0	0.2	0.9	756.8	849			99.97%	A		
5	1950	12	69	501.7	570.7	0.7	0.0	0.2	0.2	1.0	570.4	546			99.94%	A		
6	1950	0	69	299.2	368.2	0.7	0.0	0.5	0.2	1.4	367.6	271			99.82%	A		
7	1950	0	69	154.8	223.8	0.7	0.0	0.5	0.2	1.4	223.2	158			99.61%	A		
8	1950	0	69	55.9	124.9	0.7	0.0	0.6	0.2	1.4	124.3	86			98.89%	A		
9	1950	52	69	71.5	140.5	0.7	0.0	0.5	0.2	1.3	140.0	105			99.25%	A		
10	1950	70	69	137.5	206.5	0.7	0.0	0.2	0.2	1.0	206.2	199	0.28%	9 038	99.78%	A	99.89%	A
11	1950	133	69	293.7	362.7	0.7	0.0	0.1	0.2	0.9	362.5	383			99.92%	A		
12	1950	103	69	385.0	454.0	0.7	0.0	0.1	0.2	1.0	453.7	445			99.93%	A		
1	1951	80	69	395.3	464.3	0.7	0.0	0.2	0.2	1.1	463.9	435			99.92%	A		
2	1951	52	69	344.6	413.6	0.7	0.0	0.2	0.2	1.0	413.3	399			99.91%	A		
3	1951	168	69	483.5	552.5	0.7	0.0	0.0	0.2	0.9	552.3	621			99.96%	A		
4	1951	223	69	726.8	795.8	0.7	0.0	0.0	0.2	0.9	795.6	893			99.98%	A		
5	1951	19	69	592.0	661.0	0.7	0.0	0.2	0.2	1.0	660.7	632			99.95%	A		
6	1951	0	69	364.6	433.6	0.7	0.0	0.5	0.2	1.4	433.1	319			99.85%	A		
7	1951	0	69	199.0	268.0	0.7	0.0	0.5	0.2	1.4	267.4	189			99.70%	A		
8	1951	0	69	85.8	154.8	0.7	0.0	0.6	0.2	1.4	154.2	107			99.28%	A		
9	1951	13	69	28.5	97.5	0.7	0.0	0.5	0.2	1.3	96.9	73			98.12%	A		
10	1951	89	69	119.0	188.0	0.7	0.0	0.2	0.2	1.0	187.7	181	0.31%	8 191	99.75%	A	99.88%	A
11	1951	142	69	305.7	374.7	0.7	0.0	0.1	0.2	0.9	374.5	395			99.93%	A		
12	1951	108	69	405.8	474.8	0.7	0.0	0.1	0.2	1.0	474.5	465			99.93%	A		
1	1952	14	69	305.0	374.0	0.7	0.0	0.2	0.2	1.1	373.7	351			99.90%	A		
2	1952	52	69	248.8	317.8	0.7	0.0	0.2	0.2	1.0	317.5	307			99.88%	A		
3	1952	141	69	374.2	443.2	0.7	0.0	0.0	0.2	0.9	443.0	498			99.95%	A		
4	1952	248	69	677.5	746.5	0.7	0.0	0.0	0.2	0.9	746.3	837			99.97%	A		
5	1952	3	69	544.8	613.8	0.7	0.0	0.2	0.2	1.0	613.5	587			99.94%	A		
6	1952	0	69	323.6	392.6	0.7	0.0	0.5	0.2	1.4	392.1	289			99.83%	A		
7	1952	0	69	170.9	239.9	0.7	0.0	0.5	0.2	1.4	239.3	169			99.65%	A		

8	1952	0	69	66.4	135.4	0.7	0.0	0.6	0.2	1.4	134.8	94	0.30%	8 391	99.07%	A	99.88%	A
9	1952	27	69	38.4	107.4	0.7	0.0	0.5	0.2	1.3	106.8	80			98.61%	A		
10	1952	92	69	138.1	207.1	0.7	0.0	0.2	0.2	1.0	206.8	199	0.30%	8 391	99.78%	A	99.88%	A
11	1952	153	69	338.5	407.5	0.7	0.0	0.1	0.2	0.9	407.3	430			99.93%	A		
12	1952	89	69	403.5	472.5	0.7	0.0	0.1	0.2	1.0	472.2	463			99.93%	A		
1	1953	42	69	338.9	407.9	0.7	0.0	0.2	0.2	1.1	407.6	382			99.91%	A		
2	1953	90	69	348.7	417.7	0.7	0.0	0.2	0.2	1.0	417.4	403			99.92%	A		
3	1953	178	69	522.4	591.4	0.7	0.0	0.0	0.2	0.9	591.2	664			99.97%	A		
4	1953	152	69	643.4	712.4	0.7	0.0	0.0	0.2	0.9	712.2	799			99.97%	A		
5	1953	7	69	479.7	548.7	0.7	0.0	0.2	0.2	1.0	548.4	525			99.94%	A		
6	1953	0	69	281.5	350.5	0.7	0.0	0.5	0.2	1.4	350.0	258			99.80%	A		
7	1953	0	69	142.2	211.2	0.7	0.0	0.5	0.2	1.4	210.6	149			99.58%	A		
8	1953	2	69	50.6	119.6	0.7	0.0	0.6	0.2	1.4	119.0	83			98.78%	A		
9	1953	8	69	0.1	69.1	0.7	0.0	0.5	0.2	1.3	68.6	52						
10	1953	42	69	65.7	134.7	0.7	0.0	0.2	0.2	1.0	134.4	130	0.39%	6 400	99.55%	A	99.83%	A
11	1953	51	69	165.9	234.9	0.7	0.0	0.1	0.2	0.9	234.7	248			99.86%	A		
12	1953	17	69	150.4	219.4	0.7	0.0	0.1	0.2	1.0	219.1	215			99.81%	A		
1	1954	16	69	108.9	177.9	0.7	0.0	0.2	0.2	1.1	177.6	167			99.71%	A		
2	1954	76	69	238.5	307.5	0.7	0.0	0.2	0.2	1.0	307.2	297			99.88%	A		
3	1954	48	69	303.9	372.9	0.7	0.0	0.0	0.2	0.9	372.7	419			99.94%	A		
4	1954	123	69	525.8	594.8	0.7	0.0	0.0	0.2	0.9	594.7	667			99.97%	A		
5	1954	26	69	483.7	552.7	0.7	0.0	0.2	0.2	1.0	552.4	528			99.94%	A		
6	1954	0	69	302.7	371.7	0.7	0.0	0.5	0.2	1.4	371.1	274			99.82%	A		
7	1954	0	69	156.6	225.6	0.7	0.0	0.5	0.2	1.4	225.0	159			99.62%	A		
8	1954	4	69	66.5	135.5	0.7	0.0	0.6	0.2	1.4	134.9	94			99.07%	A		
9	1954	19	69	47.9	116.9	0.7	0.0	0.5	0.2	1.3	116.3	87			98.88%	A		
10	1954	94	69	150.0	219.0	0.7	0.0	0.2	0.2	1.0	218.7	211	0.35%	7 228	99.80%	A	99.86%	A
11	1954	163	69	364.0	433.0	0.7	0.0	0.1	0.2	0.9	432.7	457			99.94%	A		
12	1954	67	69	390.6	459.6	0.7	0.0	0.1	0.2	1.0	459.4	450			99.93%	A		
1	1955	57	69	343.5	412.5	0.7	0.0	0.2	0.2	1.1	412.2	387			99.91%	A		
2	1955	5	69	222.7	291.7	0.7	0.0	0.2	0.2	1.0	291.4	281			99.87%	A		
3	1955	98	69	263.0	332.0	0.7	0.0	0.0	0.2	0.9	331.8	373			99.93%	A		
4	1955	188	69	483.4	552.4	0.7	0.0	0.0	0.2	0.9	552.2	620			99.96%	A		
5	1955	28	69	422.0	491.0	0.7	0.0	0.2	0.2	1.0	490.7	469			99.93%	A		
6	1955	0	69	252.6	321.6	0.7	0.0	0.5	0.2	1.4	321.1	237			99.78%	A		
7	1955	0	69	122.6	191.6	0.7	0.0	0.5	0.2	1.4	191.0	135			99.51%	A		
8	1955	0	69	33.5	102.5	0.7	0.0	0.6	0.2	1.4	101.9	71			98.16%	A		
9	1955	26	69	13.9	82.9	0.7	0.0	0.5	0.2	1.3	82.4	62			96.16%	A		
10	1955	111	69	150.5	219.5	0.7	0.0	0.2	0.2	1.0	219.2	211	0.30%	8 411	99.80%	A	99.88%	A
11	1955	137	69	329.6	398.6	0.7	0.0	0.1	0.2	0.9	398.4	420			99.93%	A		
12	1955	135	69	462.9	531.9	0.7	0.0	0.1	0.2	1.0	531.6	521			99.94%	A		
1	1956	74	69	455.3	524.3	0.7	0.0	0.2	0.2	1.1	524.0	492			99.93%	A		
2	1956	16	69	325.6	394.6	0.7	0.0	0.2	0.2	1.0	394.3	381			99.91%	A		
3	1956	113	69	362.5	431.5	0.7	0.0	0.0	0.2	0.9	431.3	485			99.95%	A		
4	1956	214	69	601.0	670.0	0.7	0.0	0.0	0.2	0.9	669.8	752			99.97%	A		
5	1956	8	69	484.0	553.0	0.7	0.0	0.2	0.2	1.0	552.7	529			99.94%	A		
6	1956	0	69	284.8	353.8	0.7	0.0	0.5	0.2	1.4	353.2	261			99.81%	A		
7	1956	0	69	144.5	213.5	0.7	0.0	0.5	0.2	1.4	212.9	151			99.59%	A		
8	1956	7	69	60.3	129.3	0.7	0.0	0.6	0.2	1.4	128.7	90			98.98%	A		
9	1956	27	69	37.8	106.8	0.7	0.0	0.5	0.2	1.3	106.2	80			98.58%	A		
10	1956	42	69	100.0	169.0	0.7	0.0	0.2	0.2	1.0	168.7	163	0.42%	6 029	99.70%	A	99.82%	A
11	1956	42	69	165.1	234.1	0.7	0.0	0.1	0.2	0.9	233.9	247			99.86%	A		
12	1956	24	69	161.1	230.1	0.7	0.0	0.1	0.2	1.0	229.8	225			99.82%	A		
1	1957	37	69	178.1	247.1	0.7	0.0	0.2	0.2	1.1	246.8	232			99.82%	A		
2	1957	37	69	202.0	271.0	0.7	0.0	0.2	0.2	1.0	270.7	261			99.85%	A		
3	1957	101	69	387.2	456.2	0.7	0.0	0.0	0.2	0.9	456.1	513			99.95%	A		
4	1957	76	69	502.1	571.1	0.7	0.0	0.0	0.2	0.9	570.9	641			99.96%	A		

5	1957	5	69	372.2	441.2	0.7	0.0	0.2	0.2	1.0	440.9	422			99.92%	A		
6	1957	0	69	208.7	277.7	0.7	0.0	0.5	0.2	1.4	277.2	205			99.74%	A		
7	1957	0	69	92.4	161.4	0.7	0.0	0.5	0.2	1.4	160.8	114			99.35%	A		
8	1957	1	69	14.4	83.4	0.7	0.0	0.6	0.2	1.4	82.7	58			95.70%	A		
9	1957	28	69	33.5	102.5	0.7	0.0	0.5	0.2	1.3	101.9	77			98.40%	A		
10	1957	65	69	169.7	238.7	0.7	0.0	0.2	0.2	1.0	238.4	230			99.82%	A		
11	1957	102	69	393.1	462.1	0.7	0.0	0.1	0.2	0.9	461.9	487			99.94%	A		
12	1957	81	69	520.0	589.0	0.7	0.0	0.1	0.2	1.0	588.7	577			99.95%	A		
1	1958	20	69	428.0	497.0	0.7	0.0	0.2	0.2	1.1	496.7	466			99.93%	A		
2	1958	11	69	288.8	357.8	0.7	0.0	0.2	0.2	1.0	357.5	345			99.90%	A		
3	1958	74	69	354.3	423.3	0.7	0.0	0.0	0.2	0.9	423.1	476			99.95%	A		
4	1958	51	69	390.0	459.0	0.7	0.0	0.0	0.2	0.9	458.8	515	0.35%	7 091	99.95%	A	99.85%	A
5	1958	2	69	264.4	333.4	0.7	0.0	0.2	0.2	1.0	333.1	319			99.89%	A		
6	1958	2	69	136.2	205.2	0.7	0.0	0.5	0.2	1.4	204.6	151			99.60%	A		
7	1958	0	69	43.9	112.9	0.7	0.0	0.5	0.2	1.4	112.3	80			98.64%	A		
8	1958	0	69		69.0	0.7	0.0	0.6	0.2	1.4	68.4	48						
9	1958	12	69		69.0	0.7	0.0	0.5	0.2	1.3	68.5	52						
10	1958	77	69	42.2	111.2	0.7	0.0	0.2	0.2	1.0	110.9	107			99.29%	A		
11	1958	237	69	257.0	326.0	0.7	0.0	0.1	0.2	0.9	325.7	344			99.91%	A		
12	1958	114	69	326.8	395.8	0.7	0.0	0.1	0.2	1.0	395.5	388			99.91%	A		
1	1959	221	69	447.0	516.0	0.7	0.0	0.2	0.2	1.1	515.7	484			99.93%	A		
2	1959	154	69	494.9	563.9	0.7	0.0	0.2	0.2	1.0	563.6	544			99.94%	A		
3	1959	210	69	564.4	633.4	0.7	0.0	0.0	0.2	0.9	633.2	711			99.97%	A		
4	1959	194	69	613.2	682.2	0.7	0.0	0.0	0.2	0.9	682.0	765	0.28%	9 118	99.97%	A	99.89%	A
5	1959	134	69	577.2	646.2	0.7	0.0	0.2	0.2	1.0	645.9	618			99.95%	A		
6	1959	0	69	390.0	459.0	0.7	0.0	0.5	0.2	1.4	458.5	338			99.86%	A		
7	1959	0	69	216.6	285.6	0.7	0.0	0.5	0.2	1.4	285.0	202			99.72%	A		
8	1959	0	69	98.0	167.0	0.7	0.0	0.6	0.2	1.4	166.4	116			99.37%	A		
9	1959	33	69	52.1	121.1	0.7	0.0	0.5	0.2	1.3	120.5	90			98.97%	A		
10	1959	101	69	103.8	172.8	0.7	0.0	0.2	0.2	1.0	172.5	166			99.71%	A		
11	1959	226	69	295.3	364.3	0.7	0.0	0.1	0.2	0.9	364.0	384			99.92%	A		
12	1959	111	69	346.5	415.5	0.7	0.0	0.1	0.2	1.0	415.2	407			99.92%	A		
1	1960	167	69	402.0	471.0	0.7	0.0	0.2	0.2	1.1	470.6	442			99.92%	A		
2	1960	157	69	448.0	517.0	0.7	0.0	0.2	0.2	1.0	516.7	499			99.93%	A		
3	1960	370	69	703.0	772.0	0.7	0.0	0.0	0.2	0.9	771.8	867			99.97%	A		
4	1960	309	69	885.7	954.7	0.7	0.0	0.0	0.2	0.9	954.6	1 071	0.24%	10 585	99.98%	A	99.91%	A
5	1960	63	69	727.9	796.9	0.7	0.0	0.2	0.2	1.0	796.6	762			99.96%	A		
6	1960	1	69	470.2	539.2	0.7	0.0	0.5	0.2	1.4	538.6	397			99.88%	A		
7	1960	0	69	271.6	340.6	0.7	0.0	0.5	0.2	1.4	340.0	240			99.78%	A		
8	1960	2	69	137.3	206.3	0.7	0.0	0.6	0.2	1.4	205.7	143			99.55%	A		
9	1960	32	69	77.6	146.6	0.7	0.0	0.5	0.2	1.3	146.0	110			99.31%	A		
10	1960	107	69	127.1	196.1	0.7	0.0	0.2	0.2	1.0	195.8	189			99.77%	A		
11	1960	237	69	324.8	393.8	0.7	0.0	0.1	0.2	0.9	393.6	415			99.93%	A		
12	1960	173	69	435.9	504.9	0.7	0.0	0.1	0.2	1.0	504.6	495			99.94%	A		
1	1961	165	69	482.1	551.1	0.7	0.0	0.2	0.2	1.1	550.8	517			99.93%	A		
2	1961	237	69	587.6	656.6	0.7	0.0	0.2	0.2	1.0	656.3	633			99.95%	A		
3	1961	253	69	700.9	769.9	0.7	0.0	0.0	0.2	0.9	769.7	865			99.97%	A		
4	1961	223	69	752.1	821.1	0.7	0.0	0.0	0.2	0.9	820.9	921	0.24%	10 402	99.98%	A	99.91%	A
5	1961	64	69	607.8	676.8	0.7	0.0	0.2	0.2	1.0	676.5	647			99.95%	A		
6	1961	0	69	387.5	456.5	0.7	0.0	0.5	0.2	1.4	456.0	336			99.86%	A		
7	1961	0	69	214.8	283.8	0.7	0.0	0.5	0.2	1.4	283.2	200			99.72%	A		
8	1961	0	69	96.8	165.8	0.7	0.0	0.6	0.2	1.4	165.2	115			99.36%	A		
9	1961	35	69	52.8	121.8	0.7	0.0	0.5	0.2	1.3	121.3	91			98.99%	A		
10	1961	131	69	137.1	206.1	0.7	0.0	0.2	0.2	1.0	205.8	198			99.78%	A		
11	1961	198	69	298.7	367.7	0.7	0.0	0.1	0.2	0.9	367.5	388			99.92%	A		
12	1961	136	69	366.2	435.2	0.7	0.0	0.1	0.2	1.0	434.9	426			99.92%	A		
1	1962	195	69	453.6	522.6	0.7	0.0	0.2	0.2	1.1	522.3	490			99.93%	A		

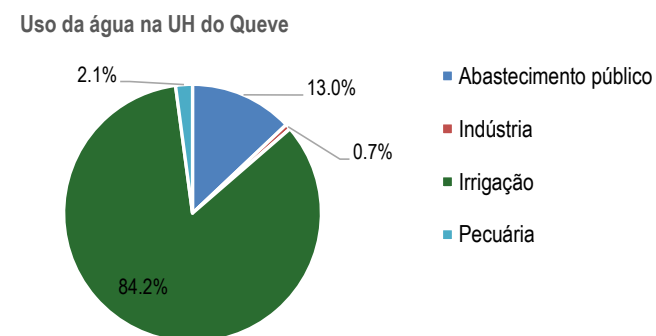
2	1962	77	69	408.5	477.5	0.7	0.0	0.2	0.2	1.0	477.2	461	0.27%	9 249	99.93%	A	99.89%	A
3	1962	297	69	571.5	640.5	0.7	0.0	0.0	0.2	0.9	640.3	719			99.97%	A		
4	1962	282	69	741.4	810.4	0.7	0.0	0.0	0.2	0.9	810.3	909			99.98%	A		
5	1962	3	69	555.6	624.6	0.7	0.0	0.2	0.2	1.0	624.3	597			99.95%	A		
6	1962	0	69	330.8	399.8	0.7	0.0	0.5	0.2	1.4	399.2	294			99.83%	A		
7	1962	0	69	176.1	245.1	0.7	0.0	0.5	0.2	1.4	244.5	173			99.66%	A		
8	1962	3	69	73.2	142.2	0.7	0.0	0.6	0.2	1.4	141.5	98			99.16%	A		
9	1962	34	69	37.0	106.0	0.7	0.0	0.5	0.2	1.3	105.5	79			98.56%	A		
10	1962	73	69	103.4	172.4	0.7	0.0	0.2	0.2	1.0	172.1	166	0.29%	8 582	99.71%	A	99.88%	A
11	1962	172	69	334.5	403.5	0.7	0.0	0.1	0.2	0.9	403.3	426			99.93%	A		
12	1962	80	69	396.1	465.1	0.7	0.0	0.1	0.2	1.0	464.8	456			99.93%	A		
1	1963	45	69	334.7	403.7	0.7	0.0	0.2	0.2	1.1	403.4	379			99.90%	A		
2	1963	61	69	299.4	368.4	0.7	0.0	0.2	0.2	1.0	368.1	355			99.90%	A		
3	1963	160	69	443.6	512.6	0.7	0.0	0.0	0.2	0.9	512.4	576			99.96%	A		
4	1963	222	69	693.3	762.3	0.7	0.0	0.0	0.2	0.9	762.1	855			99.97%	A		
5	1963	11	69	555.5	624.5	0.7	0.0	0.2	0.2	1.0	624.2	597			99.95%	A		
6	1963		69	335.1	404.1	0.7	0.0	0.5	0.2	1.4	403.6	298			99.84%	A		
7	1963	0	69	178.7	247.7	0.7	0.0	0.5	0.2	1.4	247.1	175			99.67%	A		
8	1963	0	69	71.9	140.9	0.7	0.0	0.6	0.2	1.4	140.2	98			99.14%	A		
9	1963	29	69	44.6	113.6	0.7	0.0	0.5	0.2	1.3	113.1	85	98.80%	A				
10	1963	41	69	103.2	172.2	0.7	0.0	0.2	0.2	1.0	171.9	166	0.39%	6 514	99.71%	A	99.84%	A
11	1963	50	69	188.2	257.2	0.7	0.0	0.1	0.2	0.9	257.0	271			99.88%	A		
12	1963	54	69	264.0	333.0	0.7	0.0	0.1	0.2	1.0	332.8	326			99.89%	A		
1	1964	71	69	364.2	433.2	0.7	0.0	0.2	0.2	1.1	432.9	406			99.91%	A		
2	1964	29	69	335.9	404.9	0.7	0.0	0.2	0.2	1.0	404.6	391			99.91%	A		
3	1964	95	69	456.8	525.8	0.7	0.0	0.0	0.2	0.9	525.7	591			99.96%	A		
4	1964	40	69	448.2	517.2	0.7	0.0	0.0	0.2	0.9	517.1	580			99.96%	A		
5	1964	4	69	300.4	369.4	0.7	0.0	0.2	0.2	1.0	369.1	353			99.90%	A		
6	1964	0	69	158.4	227.4	0.7	0.0	0.5	0.2	1.4	226.9	168			99.65%	A		
7	1964		69	57.8	126.8	0.7	0.0	0.5	0.2	1.4	126.2	89			98.97%	A		
8	1964	2	69	0.1	69.1	0.7	0.0	0.6	0.2	1.4	68.5	48						
9	1964	7	69	0.1	69.1	0.7	0.0	0.5	0.2	1.3	68.6	52						
10	1964	49	69	34.3	103.3	0.7	0.0	0.2	0.2	1.0	103.0	99	0.30%	8 402	99.13%	A	99.88%	A
11	1964	125	69	199.9	268.9	0.7	0.0	0.1	0.2	0.9	268.7	284			99.89%	A		
12	1964	138	69	373.9	442.9	0.7	0.0	0.1	0.2	1.0	442.6	434			99.92%	A		
1	1965	71	69	391.2	460.2	0.7	0.0	0.2	0.2	1.1	459.9	431			99.92%	A		
2	1965	47	69	329.8	398.8	0.7	0.0	0.2	0.2	1.0	398.5	385			99.91%	A		
3	1965	246	69	596.3	665.3	0.7	0.0	0.0	0.2	0.9	665.1	747			99.97%	A		
4	1965	146	69	719.9	788.9	0.7	0.0	0.0	0.2	0.9	788.7	885			99.97%	A		
5	1965	0	69	517.4	586.4	0.7	0.0	0.2	0.2	1.0	586.1	561			99.94%	A		
6	1965	0	69	303.5	372.5	0.7	0.0	0.5	0.2	1.4	372.0	274			99.82%	A		
7	1965	0	69	157.1	226.1	0.7	0.0	0.5	0.2	1.4	225.5	160			99.62%	A		
8	1965	1	69	58.0	127.0	0.7	0.0	0.6	0.2	1.4	126.4	88			98.93%	A		
9	1965	14	69	12.2	81.2	0.7	0.0	0.5	0.2	1.3	80.7	61			95.64%	A		
10	1965	52	69	48.4	117.4	0.7	0.0	0.2	0.2	1.0	117.1	113	0.35%	7 114	99.38%	A	99.85%	A
11	1965	73	69	126.4	195.4	0.7	0.0	0.1	0.2	0.9	195.2	206			99.82%	A		
12	1965	102	69	238.4	307.4	0.7	0.0	0.1	0.2	1.0	307.1	301			99.88%	A		
1	1966	80	69	294.5	363.5	0.7	0.0	0.2	0.2	1.1	363.2	341			99.89%	A		
2	1966	28	69	238.1	307.1	0.7	0.0	0.2	0.2	1.0	306.8	296			99.88%	A		
3	1966	183	69	422.2	491.2	0.7	0.0	0.0	0.2	0.9	491.0	552			99.96%	A		
4	1966	184	69	629.1	698.1	0.7	0.0	0.0	0.2	0.9	697.9	783			99.97%	A		
5	1966	5	69	482.3	551.3	0.7	0.0	0.2	0.2	1.0	551.0	527			99.94%	A		
6	1966	1	69	284.1	353.1	0.7	0.0	0.5	0.2	1.4	352.5	260			99.81%	A		
7	1966	0	69	144.8	213.8	0.7	0.0	0.5	0.2	1.4	213.2	151			99.59%	A		
8	1966	7	69	60.4	129.4	0.7	0.0	0.6	0.2	1.4	128.8	90			98.98%	A		
9	1966	23	69	32.0	101.0	0.7	0.0	0.5	0.2	1.3	100.4	75			98.33%	A		
10	1966	62	69	83.7	152.7	0.7	0.0	0.2	0.2	1.0	152.4	147						

11	1966	157	69	292.2	361.2	0.7	0.0	0.1	0.2	0.9	361.0	381	0.32%	7 844	99.92%	A	99.87%	A
12	1966	109	69	406.4	475.4	0.7	0.0	0.1	0.2	1.0	475.1	466			99.93%	A		
1	1967	59	69	379.5	448.5	0.7	0.0	0.2	0.2	1.1	448.2	420			99.92%	A		
2	1967	70	69	353.3	422.3	0.7	0.0	0.2	0.2	1.0	422.0	407			99.92%	A		
3	1967	163	69	490.7	559.7	0.7	0.0	0.0	0.2	0.9	559.6	629			99.96%	A		
4	1967	101	69	531.7	600.7	0.7	0.0	0.0	0.2	0.9	600.5	674			99.97%	A		
5	1967	38	69	425.8	494.8	0.7	0.0	0.2	0.2	1.0	494.5	473			99.93%	A		
6	1967	0	69	260.4	329.4	0.7	0.0	0.5	0.2	1.4	328.8	243			99.79%	A		
7	1967	0	69	127.6	196.6	0.7	0.0	0.5	0.2	1.4	196.0	139			99.53%	A		
8	1967	3	69	41.3	110.3	0.7	0.0	0.6	0.2	1.4	109.7	76			98.50%	A		
9	1967	13	69	0.6	69.6	0.7	0.0	0.5	0.2	1.3	69.1	52			10.87%	F		
10	1967	90	69	102.1	171.1	0.7	0.0	0.2	0.2	1.0	170.8	165	0.29%	8 685	99.71%	A	99.89%	A
11	1967	117	69	254.8	323.8	0.7	0.0	0.1	0.2	0.9	323.5	341			99.91%	A		
12	1967	61	69	282.8	351.8	0.7	0.0	0.1	0.2	1.0	351.5	345			99.90%	A		
1	1968	44	69	245.8	314.8	0.7	0.0	0.2	0.2	1.1	314.4	295			99.87%	A		
2	1968	138	69	362.6	431.6	0.7	0.0	0.2	0.2	1.0	431.3	416			99.92%	A		
3	1968	185	69	567.7	636.7	0.7	0.0	0.0	0.2	0.9	636.5	715			99.97%	A		
4	1968	194	69	747.1	816.1	0.7	0.0	0.0	0.2	0.9	815.9	915			99.98%	A		
5	1968	21	69	594.1	663.1	0.7	0.0	0.2	0.2	1.0	662.7	634			99.95%	A		
6	1968	0	69	366.6	435.6	0.7	0.0	0.5	0.2	1.4	435.1	321			99.85%	A		
7	1968	0	69	200.5	269.5	0.7	0.0	0.5	0.2	1.4	268.9	190			99.70%	A		
8	1968	2	69	90.4	159.4	0.7	0.0	0.6	0.2	1.4	158.7	110			99.32%	A		
9	1968	12	69	31.9	100.9	0.7	0.0	0.5	0.2	1.3	100.4	75			98.33%	A		
10	1968	65	69	82.6	151.6	0.7	0.0	0.2	0.2	1.0	151.3	146	0.33%	7 700	99.64%	A	99.87%	A
11	1968	113	69	221.1	290.1	0.7	0.0	0.1	0.2	0.9	289.9	306			99.90%	A		
12	1968	53	69	243.6	312.6	0.7	0.0	0.1	0.2	1.0	312.3	306			99.88%	A		
1	1969	58	69	237.0	306.0	0.7	0.0	0.2	0.2	1.1	305.6	287			99.87%	A		
2	1969	65	69	246.0	315.0	0.7	0.0	0.2	0.2	1.0	314.7	304			99.88%	A		
3	1969	210	69	489.4	558.4	0.7	0.0	0.0	0.2	0.9	558.2	627			99.96%	A		
4	1969	168	69	663.7	732.7	0.7	0.0	0.0	0.2	0.9	732.6	822			99.97%	A		
5	1969	24	69	528.5	597.5	0.7	0.0	0.2	0.2	1.0	597.2	571			99.94%	A		
6	1969	0	69	323.3	392.3	0.7	0.0	0.5	0.2	1.4	391.7	289			99.83%	A		
7	1969	0	69	171.0	240.0	0.7	0.0	0.5	0.2	1.4	239.4	169			99.65%	A		
8	1969	11	69	83.9	152.9	0.7	0.0	0.6	0.2	1.4	152.3	106			99.26%	A		
9	1969	8	69	25.9	94.9	0.7	0.0	0.5	0.2	1.3	94.4	71			97.94%	A		
10	1969	90	69	116.0	185.0	0.7	0.0	0.2	0.2	1.0	184.7	178	0.31%	8 221	99.74%	A	99.88%	A
11	1969	152	69	319.5	388.5	0.7	0.0	0.1	0.2	0.9	388.3	410			99.93%	A		
12	1969	114	69	430.6	499.6	0.7	0.0	0.1	0.2	1.0	499.3	490			99.93%	A		
1	1970	43	69	372.4	441.4	0.7	0.0	0.2	0.2	1.1	441.1	414			99.91%	A		
2	1970	84	69	361.2	430.2	0.7	0.0	0.2	0.2	1.0	429.9	415			99.92%	A		
3	1970	214	69	585.5	654.5	0.7	0.0	0.0	0.2	0.9	654.3	735			99.97%	A		
4	1970	91	69	607.5	676.5	0.7	0.0	0.0	0.2	0.9	676.4	759			99.97%	A		
5	1970	3	69	416.5	485.5	0.7	0.0	0.2	0.2	1.0	485.2	464			99.93%	A		
6	1970	0	69	235.9	304.9	0.7	0.0	0.5	0.2	1.4	304.3	225			99.77%	A		
7	1970	1	69	111.6	180.6	0.7	0.0	0.5	0.2	1.4	180.0	127			99.47%	A		
8	1970	4	69	32.0	101.0	0.7	0.0	0.6	0.2	1.4	100.3	70			98.07%	A		
9	1970	21	69	7.5	76.5	0.7	0.0	0.5	0.2	1.3	76.0	57			92.91%	A		
10	1970	81	69	96.3	165.3	0.7	0.0	0.2	0.2	1.0	165.0	159	0.30%	8 403	99.69%	A	99.88%	A
11	1970	139	69	281.7	350.7	0.7	0.0	0.1	0.2	0.9	350.5	370			99.92%	A		
12	1970	110	69	392.0	461.0	0.7	0.0	0.1	0.2	1.0	460.7	452			99.93%	A		
1	1971	53	69	360.4	429.4	0.7	0.0	0.2	0.2	1.1	429.0	403			99.91%	A		
2	1971	54	69	310.5	379.5	0.7	0.0	0.2	0.2	1.0	379.2	366			99.90%	A		
3	1971	181	69	481.3	550.3	0.7	0.0	0.0	0.2	0.9	550.2	618			99.96%	A		
4	1971	182	69	666.3	735.3	0.7	0.0	0.0	0.2	0.9	735.1	825			99.97%	A		
5	1971	18	69	528.2	597.2	0.7	0.0	0.2	0.2	1.0	596.9	571			99.94%	A		
6	1971	0	69	320.1	389.1	0.7	0.0	0.5	0.2	1.4	388.5	287			99.83%	A		
7	1971	0	69	168.7	237.7	0.7	0.0	0.5	0.2	1.4	237.1	168			99.65%	A		

8	1971	0	69	65.2	134.2	0.7	0.0	0.6	0.2	1.4	133.6	93			99.05%	A	
9	1971	18	69	23.7	92.7	0.7	0.0	0.5	0.2	1.3	92.2	69			97.75%	A	
10	1971	38	69	76.7	145.7	0.7	0.0	0.2	0.2	1.0	145.4	140			99.61%	A	
11	1971	74	69	230.7	299.7	0.7	0.0	0.1	0.2	0.9	299.5	316			99.90%	A	
12	1971	49	69	300.9	369.9	0.7	0.0	0.1	0.2	1.0	369.6	362			99.91%	A	
1	1972	30	69	277.4	346.4	0.7	0.0	0.2	0.2	1.1	346.0	325			99.88%	A	
2	1972	25	69	231.5	300.5	0.7	0.0	0.2	0.2	1.0	300.2	290			99.87%	A	
3	1972	50	69	263.4	332.4	0.7	0.0	0.0	0.2	0.9	332.2	373			99.93%	A	
4	1972	83	69	394.5	463.5	0.7	0.0	0.0	0.2	0.9	463.3	520	0.42%	5 908	99.95%	A	99.81%
5	1972	12	69	322.1	391.1	0.7	0.0	0.2	0.2	1.0	390.8	374			99.91%	A	
6	1972	0	69	180.0	249.0	0.7	0.0	0.5	0.2	1.4	248.4	183			99.69%	A	
7	1972	0	69	72.5	141.5	0.7	0.0	0.5	0.2	1.4	140.9	100			99.18%	A	
8	1972	1	69	1.9	70.9	0.7	0.0	0.6	0.2	1.4	70.3	49			67.37%	C	
9	1972	12	69		69.0	0.7	0.0	0.5	0.2	1.3	68.5	52					
10	1972	141	69	109.3	178.3	0.7	0.0	0.2	0.2	1.0	178.0	171			99.73%	A	
11	1972	218	69	303.9	372.9	0.7	0.0	0.1	0.2	0.9	372.7	393			99.93%	A	
12	1972	239	69	486.2	555.2	0.7	0.0	0.1	0.2	1.0	554.9	544			99.94%	A	
1	1973	183	69	558.7	627.7	0.7	0.0	0.2	0.2	1.1	627.4	589			99.94%	A	
2	1973	138	69	540.6	609.6	0.7	0.0	0.2	0.2	1.0	609.3	588			99.95%	A	
3	1973	196	69	575.2	644.2	0.7	0.0	0.0	0.2	0.9	644.0	724			99.97%	A	
4	1973	196	69	618.0	687.0	0.7	0.0	0.0	0.2	0.9	686.8	771	0.27%	9 250	99.97%	A	99.89%
5	1973	35	69	476.2	545.2	0.7	0.0	0.2	0.2	1.0	544.8	521			99.94%	A	
6	1973	0	69	287.2	356.2	0.7	0.0	0.5	0.2	1.4	355.6	262			99.81%	A	
7	1973	0	69	145.9	214.9	0.7	0.0	0.5	0.2	1.4	214.3	152			99.59%	A	
8	1973	0	69	49.3	118.3	0.7	0.0	0.6	0.2	1.4	117.6	82			98.75%	A	
9	1973	16	69		69.0	0.7	0.0	0.5	0.2	1.3	68.5	52					
10	1973	41	69	63.6	132.6	0.7	0.0	0.2	0.2	1.0	132.3	128			99.53%	A	
11	1973	78	69	235.1	304.1	0.7	0.0	0.1	0.2	0.9	303.9	321			99.90%	A	
12	1973	26	69	245.9	314.9	0.7	0.0	0.1	0.2	1.0	314.7	309			99.89%	A	
1	1974	11	69	169.0	238.0	0.7	0.0	0.2	0.2	1.1	237.7	223			99.81%	A	
2	1974	9	69	99.3	168.3	0.7	0.0	0.2	0.2	1.0	168.0	162			99.70%	A	
3	1974	122	69	349.6	418.6	0.7	0.0	0.0	0.2	0.9	418.5	470			99.95%	A	
4	1974	90	69	530.9	599.9	0.7	0.0	0.0	0.2	0.9	599.7	673	0.41%	6 127	99.97%	A	99.82%
5	1974	3	69	397.9	466.9	0.7	0.0	0.2	0.2	1.0	466.6	446			99.92%	A	
6	1974	4	69	234.1	303.1	0.7	0.0	0.5	0.2	1.4	302.5	223			99.77%	A	
7	1974	0	69	112.6	181.6	0.7	0.0	0.5	0.2	1.4	181.0	128			99.47%	A	
8	1974	1	69	29.5	98.5	0.7	0.0	0.6	0.2	1.4	97.8	68			97.90%	A	
9	1974	12	69	2.0	71.0	0.7	0.0	0.5	0.2	1.3	70.5	53			73.24%	A	

UH	Queue
Área (km ²)	22 813
População	1 129 722
Área irrigada (ha)	19 885
NGR (mm)	700

Sector	Necessidades anuais de água (hm ³)	
Abastecimento público	17. 1	13.0%
Indústria	0.9	0.7%
Termo eléctricas		
Irrigação	111.4	84.2%
Pecuária	2. 8	2.1%
	Volume anual turbinado (hm ³)	
Hidroelectricidade		



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano médio	1 931.8	1 740.0	6 560.9	8 300.9	17. 1	. 9	111. 4	2. 8	---	132. 2	8 207.8	62.8	1.6%	7 348	---	---	98.6%	A
Ano seco	1 227.0	1 740.0	4 413.7	6 153.7	17. 1	. 9	111. 4	2. 8	---	132. 2	6 060.6	46.6	2.1%	5 447	---	---	97.9%	A
Ano muito seco	693.9	1 740.0	2 908.6	4 648.6	17. 1	. 9	111. 4	2. 8	---	132. 2	4 555.5	35.2	2.8%	4 115	---	---	96.8%	A

Mês	Ano																		
	10	1944	403	145	246.7	391.7	1.4	0.1	6.2	0.2	7.9	386.4	49.6	1.20%	9 756	97.89%	A	99.01%	A
	11	1944	488	145	460.3	605.3	1.4	0.1	2.8	0.2	4.5	602.7	133.6			99.45%	A		
	12	1944	285	145	823.2	968.2	1.4	0.1	5.5	0.2	7.2	963.5	134.6			99.43%	A		
	1	1945	316	145	919.8	1 064.8	1.4	0.1	7.1	0.2	8.9	1 058.7	119.9			99.35%	A		
	2	1945	332	145	803.1	948.1	1.4	0.1	6.0	0.2	7.8	943.0	121.9			99.36%	A		
	3	1945	391	145	1521.3	1 666.3	1.4	0.1	0.7	0.2	2.4	1 665.5	692.0			99.94%	A		
	4	1945	279	145	1752.8	1 897.8	1.4	0.1	0.7	0.2	2.5	1 896.9	772.9			99.95%	A		
	5	1945	6	145	999.8	1 144.8	1.4	0.1	6.4	0.2	8.1	1 139.4	140.9			99.46%	A		
	6	1945	0	145	673.2	818.2	1.4	0.1	17.8	0.2	19.6	803.6	41.8			97.85%	A		
	7	1945	0	145	472.1	617.1	1.4	0.1	20.0	0.2	21.8	600.8	28.4			96.57%	A		
	8	1945	0	145	345.6	490.6	1.4	0.1	21.0	0.2	22.7	473.4	21.6			95.09%	A		
	9	1945	43	145	263.4	408.4	1.4	0.1	17.1	0.2	18.9	394.3	21.6	94.72%	A				
	10	1945	247	145	149.4	294.4	1.4	0.1	6.2	0.2	7.9	289.1	37.2	1.49%	7 848	96.51%	A	98.71%	A
	11	1945	456	145	170.0	315.0	1.4	0.1	2.8	0.2	4.5	312.4	69.5			98.50%	A		
	12	1945	374	145	650.8	795.8	1.4	0.1	5.5	0.2	7.2	791.1	110.7			99.29%	A		
	1	1946	241	145	1093.8	1 238.8	1.4	0.1	7.1	0.2	8.9	1 232.7	139.5			99.45%	A		
	2	1946	197	145	989.3	1 134.3	1.4	0.1	6.0	0.2	7.8	1 129.1	145.9			99.48%	A		
	3	1946	415	145	1062.6	1 207.6	1.4	0.1	0.7	0.2	2.4	1 206.7	501.5			99.92%	A		
	4	1946	241	145	1045.2	1 190.2	1.4	0.1	0.7	0.2	2.5	1 189.3	484.7			99.91%	A		
	5	1946	19	145	710.9	855.9	1.4	0.1	6.4	0.2	8.1	850.5	105.4			99.24%	A		
	6	1946		145	479.2	624.2	1.4	0.1	17.8	0.2	19.6	609.6	31.9			96.98%	A		
	7	1946		145	338.2	483.2	1.4	0.1	20.0	0.2	21.8	466.8	22.2			95.21%	A		
	8	1946	0	145	247.7	392.7	1.4	0.1	21.0	0.2	22.7	375.6	17.3			93.15%	A		
	9	1946	60	145	189.5	334.5	1.4	0.1	17.1	0.2	18.9	320.5	17.7	92.67%	A				
	10	1946	280	145	146.8	291.8	1.4	0.1	6.2	0.2	7.9	286.5	36.9	1.20%	9 756	96.45%	A	99.01%	A
	11	1946	256	145	152.7	297.7	1.4	0.1	2.8	0.2	4.5	295.1	65.7			98.33%	A		
	12	1946	418	145	347.8	492.8	1.4	0.1	5.5	0.2	7.2	488.1	68.5			98.66%	A		
	1	1947	335	145	807.3	952.3	1.4	0.1	7.1	0.2	8.9	946.2	107.2			99.26%	A		
	2	1947	345	145	888.5	1 033.5	1.4	0.1	6.0	0.2	7.8	1 028.4	132.9			99.42%	A		
	3	1947	381	145	1433.6	1 578.6	1.4	0.1	0.7	0.2	2.4	1 577.7	655.5			99.94%	A		
	4	1947	410	145	2041.6	2 186.6	1.4	0.1	0.7	0.2	2.5	2 185.7	890.6			99.96%	A		
	5	1947	67	145	1456.4	1 601.4	1.4	0.1	6.4	0.2	8.1	1 595.9	197.1			99.63%	A		
	6	1947		145	826.0	971.0	1.4	0.1	17.8	0.2	19.6	956.4	49.6			98.25%	A		
	7	1947		145	537.1	682.1	1.4	0.1	20.0	0.2	21.8	665.8	31.4			96.99%	A		
	8	1947		145	372.4	517.4	1.4	0.1	21.0	0.2	22.7	500.2	22.8			95.44%	A		
	9	1947	53	145	271.0	416.0	1.4	0.1	17.1	0.2	18.9	402.0	22.1	94.87%	A				
	10	1947	97	145	88.3	233.3	1.4	0.1	6.2	0.2	7.9	228.0	29.5			94.09%	A		

11	1947	143	145	130.2	275.2	1.4	0.1	2.8	0.2	4.5	272.6	60.7	4.03%	2 903	98.04%	A	94.01%	A
12	1947	73	145	144.7	289.7	1.4	0.1	5.5	0.2	7.2	285.0	40.3			96.78%	A		
1	1948	101	145	142.2	287.2	1.4	0.1	7.1	0.2	8.9	281.2	32.3			95.79%	A		
2	1948	72	145	139.2	284.2	1.4	0.1	6.0	0.2	7.8	279.1	36.6			96.33%	A		
3	1948	80	145	134.2	279.2	1.4	0.1	0.7	0.2	2.4	278.4	116.0			99.36%	A		
4	1948	33	145	180.1	325.1	1.4	0.1	0.7	0.2	2.5	324.2	132.4			99.50%	A		
5	1948	8	145	189.5	334.5	1.4	0.1	6.4	0.2	8.1	329.1	41.2			97.15%	A		
6	1948		145	141.1	286.1	1.4	0.1	17.8	0.2	19.6	271.5	14.6			89.76%	A		
7	1948	0	145	105.3	250.3	1.4	0.1	20.0	0.2	21.8	234.0	11.5			84.63%	A		
8	1948	0	145	81.0	226.0	1.4	0.1	21.0	0.2	22.7	208.9	9.9			79.06%	A		
9	1948	6	145	63.8	208.8	1.4	0.1	17.1	0.2	18.9	194.8	11.1			78.23%	C		
10	1948	480	145	158.3	303.3	1.4	0.1	6.2	0.2	7.9	298.0	38.4	1.13%	10 398	96.70%	A	99.08%	A
11	1948	465	145	164.7	309.7	1.4	0.1	2.8	0.2	4.5	307.1	68.3			98.45%	A		
12	1948	433	145	375.0	520.0	1.4	0.1	5.5	0.2	7.2	515.3	72.3			98.76%	A		
1	1949	575	145	870.4	1 015.4	1.4	0.1	7.1	0.2	8.9	1 009.3	114.3			99.31%	A		
2	1949	504	145	958.0	1 103.0	1.4	0.1	6.0	0.2	7.8	1 097.8	141.8			99.47%	A		
3	1949	716	145	1545.7	1 690.7	1.4	0.1	0.7	0.2	2.4	1 689.8	702.1			99.94%	A		
4	1949	304	145	2201.2	2 346.2	1.4	0.1	0.7	0.2	2.5	2 345.3	955.6			99.96%	A		
5	1949	38	145	1570.2	1 715.2	1.4	0.1	6.4	0.2	8.1	1 709.8	211.1			99.66%	A		
6	1949	5	145	890.6	1 035.6	1.4	0.1	17.8	0.2	19.6	1 021.0	52.9			98.38%	A		
7	1949	4	145	579.1	724.1	1.4	0.1	20.0	0.2	21.8	707.8	33.3			97.20%	A		
8	1949	18	145	401.5	546.5	1.4	0.1	21.0	0.2	22.7	529.3	24.0			95.78%	A		
9	1949	95	145	292.2	437.2	1.4	0.1	17.1	0.2	18.9	423.1	23.2			95.24%	A		
10	1949	170	145	185.7	330.7	1.4	0.1	6.2	0.2	7.9	325.4	41.8	1.52%	7 723	97.19%	A	98.68%	A
11	1949	345	145	346.4	491.4	1.4	0.1	2.8	0.2	4.5	488.8	108.4			99.26%	A		
12	1949	289	145	619.5	764.5	1.4	0.1	5.5	0.2	7.2	759.8	106.3			99.25%	A		
1	1950	342	145	692.2	837.2	1.4	0.1	7.1	0.2	8.9	831.1	94.3			99.13%	A		
2	1950	240	145	604.4	749.4	1.4	0.1	6.0	0.2	7.8	744.2	96.4			99.15%	A		
3	1950	648	145	1144.9	1 289.9	1.4	0.1	0.7	0.2	2.4	1 289.0	535.6			99.92%	A		
4	1950	222	145	1319.1	1 464.1	1.4	0.1	0.7	0.2	2.5	1 463.2	596.3			99.93%	A		
5	1950	7	145	752.4	897.4	1.4	0.1	6.4	0.2	8.1	892.0	110.5			99.28%	A		
6	1950		145	506.6	651.6	1.4	0.1	17.8	0.2	19.6	637.0	33.3			97.15%	A		
7	1950	0	145	355.3	500.3	1.4	0.1	20.0	0.2	21.8	483.9	23.0			95.44%	A		
8	1950	0	145	260.1	405.1	1.4	0.1	21.0	0.2	22.7	387.9	17.8			93.48%	A		
9	1950	75	145	198.2	343.2	1.4	0.1	17.1	0.2	18.9	329.2	18.2			92.99%	A		
10	1950	124	145	157.6	302.6	1.4	0.1	6.2	0.2	7.9	297.3	38.3	1.13%	10 359	96.69%	A	99.07%	A
11	1950	321	145	163.9	308.9	1.4	0.1	2.8	0.2	4.5	306.4	68.2			98.45%	A		
12	1950	480	145	373.4	518.4	1.4	0.1	5.5	0.2	7.2	513.7	72.1			98.75%	A		
1	1951	379	145	866.5	1 011.5	1.4	0.1	7.1	0.2	8.9	1 005.5	113.9			99.31%	A		
2	1951	210	145	953.8	1 098.8	1.4	0.1	6.0	0.2	7.8	1 093.6	141.3			99.46%	A		
3	1951	491	145	1538.9	1 683.9	1.4	0.1	0.7	0.2	2.4	1 683.0	699.3			99.94%	A		
4	1951	355	145	2191.5	2 336.5	1.4	0.1	0.7	0.2	2.5	2 335.5	951.6			99.96%	A		
5	1951	77	145	1563.3	1 708.3	1.4	0.1	6.4	0.2	8.1	1 702.8	210.3			99.66%	A		
6	1951	0	145	886.7	1 031.7	1.4	0.1	17.8	0.2	19.6	1 017.1	52.7			98.37%	A		
7	1951		145	576.5	721.5	1.4	0.1	20.0	0.2	21.8	705.2	33.2			97.19%	A		
8	1951		145	399.7	544.7	1.4	0.1	21.0	0.2	22.7	527.6	24.0			95.76%	A		
9	1951	17	145	290.9	435.9	1.4	0.1	17.1	0.2	18.9	421.9	23.1			95.22%	A		
10	1951	127	145	232.1	377.1	1.4	0.1	6.2	0.2	7.9	371.9	47.7	1.69%	6 918	97.75%	A	98.48%	A
11	1951	260	145	345.9	490.9	1.4	0.1	2.8	0.2	4.5	488.3	108.3			99.26%	A		
12	1951	228	145	729.5	874.5	1.4	0.1	5.5	0.2	7.2	869.8	121.6			99.36%	A		
1	1952	66	145	786.6	931.6	1.4	0.1	7.1	0.2	8.9	925.6	104.9			99.24%	A		
2	1952	165	145	737.3	882.3	1.4	0.1	6.0	0.2	7.8	877.1	113.5			99.31%	A		
3	1952	165	145	763.5	908.5	1.4	0.1	0.7	0.2	2.4	907.7	377.3			99.89%	A		
4	1952	218	145	695.4	840.4	1.4	0.1	0.7	0.2	2.5	839.4	342.3			99.87%	A		
5	1952	1	145	630.1	775.1	1.4	0.1	6.4	0.2	8.1	769.7	95.4			99.14%	A		
6	1952		145	437.0	582.0	1.4	0.1	17.8	0.2	19.6	567.4	29.7			96.69%	A		
7	1952	0	145	311.8	456.8	1.4	0.1	20.0	0.2	21.8	440.5	21.0			94.81%	A		

8	1952	0	145	229.8	374.8	1.4	0.1	21.0	0.2	22.7	357.7	16.5			92.62%	A	
9	1952	32	145	176.4	321.4	1.4	0.1	17.1	0.2	18.9	307.4	17.0			92.12%	A	
10	1952	301	145	197.6	342.6	1.4	0.1	6.2	0.2	7.9	337.3	43.3			97.36%	A	
11	1952	450	145	473.7	618.7	1.4	0.1	2.8	0.2	4.5	616.1	136.5			99.46%	A	
12	1952	343	145	886.0	1 031.0	1.4	0.1	5.5	0.2	7.2	1 026.3	143.4			99.47%	A	
1	1953	239	145	947.0	1 092.0	1.4	0.1	7.1	0.2	8.9	1 085.9	123.0			99.37%	A	
2	1953	207	145	728.9	873.9	1.4	0.1	6.0	0.2	7.8	868.8	112.4			99.30%	A	
3	1953	362	145	771.9	916.9	1.4	0.1	0.7	0.2	2.4	916.0	380.8			99.89%	A	
4	1953	293	145	821.6	966.6	1.4	0.1	0.7	0.2	2.5	965.7	393.7	1.59%	7 361	99.89%	A	98.60%
5	1953	14	145	617.1	762.1	1.4	0.1	6.4	0.2	8.1	756.6	93.8			99.13%	A	
6	1953	0	145	427.5	572.5	1.4	0.1	17.8	0.2	19.6	557.9	29.3			96.62%	A	
7	1953	0	145	302.7	447.7	1.4	0.1	20.0	0.2	21.8	431.3	20.6			94.65%	A	
8	1953	7	145	226.3	371.3	1.4	0.1	21.0	0.2	22.7	354.1	16.3			92.50%	A	
9	1953	24	145	175.7	320.7	1.4	0.1	17.1	0.2	18.9	306.6	17.0			92.09%	A	
10	1953	147	145	155.7	300.7	1.4	0.1	6.2	0.2	7.9	295.5	38.0			96.65%	A	
11	1953	137	145	152.2	297.2	1.4	0.1	2.8	0.2	4.5	294.6	65.6			98.33%	A	
12	1953	83	145	148.5	293.5	1.4	0.1	5.5	0.2	7.2	288.8	40.8			96.87%	A	
1	1954	145	145	180.1	325.1	1.4	0.1	7.1	0.2	8.9	319.0	36.6			96.67%	A	
2	1954	225	145	528.2	673.2	1.4	0.1	6.0	0.2	7.8	668.1	86.6			99.03%	A	
3	1954	220	145	946.3	1 091.3	1.4	0.1	0.7	0.2	2.4	1 090.4	453.2			99.91%	A	
4	1954	221	145	1039.0	1 184.0	1.4	0.1	0.7	0.2	2.5	1 183.1	482.2	1.88%	6 229	99.91%	A	98.26%
5	1954	48	145	824.5	969.5	1.4	0.1	6.4	0.2	8.1	964.1	119.3			99.35%	A	
6	1954		145	515.6	660.6	1.4	0.1	17.8	0.2	19.6	646.0	33.8			97.20%	A	
7	1954		145	354.0	499.0	1.4	0.1	20.0	0.2	21.8	482.6	22.9			95.43%	A	
8	1954	6	145	257.6	402.6	1.4	0.1	21.0	0.2	22.7	385.4	17.7			93.41%	A	
9	1954	44	145	195.6	340.6	1.4	0.1	17.1	0.2	18.9	326.6	18.1			92.90%	A	
10	1954	102	145	201.8	346.8	1.4	0.1	6.2	0.2	7.9	341.5	43.9			97.41%	A	
11	1954	134	145	297.4	442.4	1.4	0.1	2.8	0.2	4.5	439.8	97.6			99.14%	A	
12	1954	55	145	330.6	475.6	1.4	0.1	5.5	0.2	7.2	470.9	66.1			98.59%	A	
1	1955	81	145	325.0	470.0	1.4	0.1	7.1	0.2	8.9	464.0	52.9			98.16%	A	
2	1955	17	145	318.2	463.2	1.4	0.1	6.0	0.2	7.8	458.0	59.6			98.39%	A	
3	1955	118	145	306.8	451.8	1.4	0.1	0.7	0.2	2.4	450.9	187.6			99.72%	A	
4	1955	134	145	411.6	556.6	1.4	0.1	0.7	0.2	2.5	555.7	226.7	2.51%	4 655	99.78%	A	97.38%
5	1955	17	145	433.0	578.0	1.4	0.1	6.4	0.2	8.1	572.6	71.2			98.75%	A	
6	1955	0	145	322.4	467.4	1.4	0.1	17.8	0.2	19.6	452.8	23.9			95.52%	A	
7	1955	0	145	240.7	385.7	1.4	0.1	20.0	0.2	21.8	369.4	17.7			93.28%	A	
8	1955	0	145	185.1	330.1	1.4	0.1	21.0	0.2	22.7	313.0	14.5			90.84%	A	
9	1955	7	145	145.9	290.9	1.4	0.1	17.1	0.2	18.9	276.8	15.4			90.47%	A	
10	1955	216	145	398.0	543.0	1.4	0.1	6.2	0.2	7.9	537.7	68.7			98.69%	A	
11	1955	227	145	559.5	704.5	1.4	0.1	2.8	0.2	4.5	701.9	155.5			99.54%	A	
12	1955	213	145	548.1	693.1	1.4	0.1	5.5	0.2	7.2	688.4	96.4			99.15%	A	
1	1956	167	145	650.7	795.7	1.4	0.1	7.1	0.2	8.9	789.7	89.6			99.08%	A	
2	1956	82	145	572.3	717.3	1.4	0.1	6.0	0.2	7.8	712.1	92.2			99.11%	A	
3	1956	158	145	488.6	633.6	1.4	0.1	0.7	0.2	2.4	632.7	263.1			99.82%	A	
4	1956	243	145	636.3	781.3	1.4	0.1	0.7	0.2	2.5	780.4	318.2	1.80%	6 501	99.86%	A	98.36%
5	1956	4	145	637.6	782.6	1.4	0.1	6.4	0.2	8.1	777.1	96.3			99.15%	A	
6	1956		145	416.6	561.6	1.4	0.1	17.8	0.2	19.6	547.0	28.7			96.53%	A	
7	1956	0	145	296.9	441.9	1.4	0.1	20.0	0.2	21.8	425.5	20.3			94.55%	A	
8	1956	1	145	224.3	369.3	1.4	0.1	21.0	0.2	22.7	352.1	16.2			92.44%	A	
9	1956	37	145	175.5	320.5	1.4	0.1	17.1	0.2	18.9	306.5	17.0			92.08%	A	
10	1956	84	145	164.5	309.5	1.4	0.1	6.2	0.2	7.9	304.2	39.2			96.83%	A	
11	1956	96	145	194.3	339.3	1.4	0.1	2.8	0.2	4.5	336.7	74.9			98.69%	A	
12	1956	77	145	247.3	392.3	1.4	0.1	5.5	0.2	7.2	387.6	54.6			98.12%	A	
1	1957	91	145	305.4	450.4	1.4	0.1	7.1	0.2	8.9	444.4	50.7			98.04%	A	
2	1957	56	145	313.9	458.9	1.4	0.1	6.0	0.2	7.8	453.7	59.0			98.37%	A	
3	1957	161	145	451.9	596.9	1.4	0.1	0.7	0.2	2.4	596.1	247.9			99.81%	A	
4	1957	82	145	553.6	698.6	1.4	0.1	0.7	0.2	2.5	697.7	284.5	2.48%	4 727	99.84%	A	97.44%

5	1957	2	145	437.4	582.4	1.4	0.1	6.4	0.2	8.1	576.9	71.7			98.77%	A		
6	1957	0	145	328.3	473.3	1.4	0.1	17.8	0.2	19.6	458.7	24.2			95.60%	A		
7	1957	1	145	248.1	393.1	1.4	0.1	20.0	0.2	21.8	376.8	18.1			93.48%	A		
8	1957	2	145	191.7	336.7	1.4	0.1	21.0	0.2	22.7	319.5	14.8			91.15%	A		
9	1957	58	145	163.7	308.7	1.4	0.1	17.1	0.2	18.9	294.6	16.4			91.51%	A		
10	1957	102	145	226.4	371.4	1.4	0.1	6.2	0.2	7.9	366.1	47.0			97.69%	A		
11	1957	146	145	465.2	610.2	1.4	0.1	2.8	0.2	4.5	607.6	134.6			99.45%	A		
12	1957	166	145	871.6	1 016.6	1.4	0.1	5.5	0.2	7.2	1 011.9	141.4			99.47%	A		
1	1958	65	145	872.0	1 017.0	1.4	0.1	7.1	0.2	8.9	1 010.9	114.5			99.31%	A		
2	1958	37	145	547.6	692.6	1.4	0.1	6.0	0.2	7.8	687.5	89.1			99.07%	A		
3	1958	127	145	475.2	620.2	1.4	0.1	0.7	0.2	2.4	619.3	257.5			99.82%	A		
4	1958	68	145	451.3	596.3	1.4	0.1	0.7	0.2	2.5	595.3	242.8	1.93%	6 074	99.80%	A	98.20%	A
5	1958	0	145	367.7	512.7	1.4	0.1	6.4	0.2	8.1	507.2	63.1			98.53%	A		
6	1958	1	145	290.3	435.3	1.4	0.1	17.8	0.2	19.6	420.7	22.2			95.02%	A		
7	1958	0	145	228.2	373.2	1.4	0.1	20.0	0.2	21.8	356.8	17.2			92.90%	A		
8	1958	0	145	180.8	325.8	1.4	0.1	21.0	0.2	22.7	308.6	14.3			90.62%	A		
9	1958	27	145	146.4	291.4	1.4	0.1	17.1	0.2	18.9	277.4	15.4			90.51%	A		
10	1958	172	145	126.7	271.7	1.4	0.1	6.2	0.2	7.9	266.4	34.4			95.88%	A		
11	1958	402	145	350.4	495.4	1.4	0.1	2.8	0.2	4.5	492.8	109.3			99.27%	A		
12	1958	361	145	804.5	949.5	1.4	0.1	5.5	0.2	7.2	944.8	132.0			99.42%	A		
1	1959	430	145	1535.1	1 680.1	1.4	0.1	7.1	0.2	8.9	1 674.1	189.2			99.61%	A		
2	1959	262	145	1616.0	1 761.0	1.4	0.1	6.0	0.2	7.8	1 755.8	226.5			99.68%	A		
3	1959	361	145	1319.1	1 464.1	1.4	0.1	0.7	0.2	2.4	1 463.2	608.0			99.93%	A		
4	1959	248	145	1241.1	1 386.1	1.4	0.1	0.7	0.2	2.5	1 385.2	564.5	1.18%	9 905	99.93%	A	99.02%	A
5	1959	157	145	881.9	1 026.9	1.4	0.1	6.4	0.2	8.1	1 021.4	126.4			99.39%	A		
6	1959	0	145	613.5	758.5	1.4	0.1	17.8	0.2	19.6	743.9	38.8			97.64%	A		
7	1959	1	145	425.5	570.5	1.4	0.1	20.0	0.2	21.8	554.1	26.2			96.20%	A		
8	1959	2	145	306.2	451.2	1.4	0.1	21.0	0.2	22.7	434.1	19.8			94.46%	A		
9	1959	61	145	229.8	374.8	1.4	0.1	17.1	0.2	18.9	360.7	19.9			93.95%	A		
10	1959	244	145	189.6	334.6	1.4	0.1	6.2	0.2	7.9	329.3	42.3			97.25%	A		
11	1959	532	145	322.7	467.7	1.4	0.1	2.8	0.2	4.5	465.2	103.2			99.21%	A		
12	1959	462	145	832.2	977.2	1.4	0.1	5.5	0.2	7.2	972.5	135.9			99.44%	A		
1	1960	486	145	1163.6	1 308.6	1.4	0.1	7.1	0.2	8.9	1 302.5	147.4			99.49%	A		
2	1960	401	145	1030.0	1 175.0	1.4	0.1	6.0	0.2	7.8	1 169.8	151.1			99.50%	A		
3	1960	736	145	1407.4	1 552.4	1.4	0.1	0.7	0.2	2.4	1 551.5	644.7			99.94%	A		
4	1960	433	145	1762.2	1 907.2	1.4	0.1	0.7	0.2	2.5	1 906.3	776.8	1.12%	10 461	99.95%	A	99.09%	A
5	1960	118	145	1334.4	1 479.4	1.4	0.1	6.4	0.2	8.1	1 474.0	182.1			99.60%	A		
6	1960	1	145	840.0	985.0	1.4	0.1	17.8	0.2	19.6	970.4	50.3			98.28%	A		
7	1960	0	145	545.9	690.9	1.4	0.1	20.0	0.2	21.8	674.6	31.8			97.03%	A		
8	1960	4	145	376.5	521.5	1.4	0.1	21.0	0.2	22.7	504.4	22.9			95.49%	A		
9	1960	108	145	274.0	419.0	1.4	0.1	17.1	0.2	18.9	404.9	22.2			94.93%	A		
10	1960	282	145	223.5	368.5	1.4	0.1	6.2	0.2	7.9	363.2	46.6			97.67%	A		
11	1960	605	145	459.2	604.2	1.4	0.1	2.8	0.2	4.5	601.6	133.3			99.45%	A		
12	1960	456	145	738.0	883.0	1.4	0.1	5.5	0.2	7.2	878.3	122.8			99.37%	A		
1	1961	508	145	975.9	1 120.9	1.4	0.1	7.1	0.2	8.9	1 114.9	126.2			99.39%	A		
2	1961	597	145	1431.5	1 576.5	1.4	0.1	6.0	0.2	7.8	1 571.3	202.7			99.64%	A		
3	1961	715	145	2091.4	2 236.4	1.4	0.1	0.7	0.2	2.4	2 235.6	928.7			99.96%	A		
4	1961	435	145	2138.4	2 283.4	1.4	0.1	0.7	0.2	2.5	2 282.5	930.0	0.99%	11 874	99.96%	A	99.21%	A
5	1961	104	145	1429.4	1 574.4	1.4	0.1	6.4	0.2	8.1	1 569.0	193.8			99.62%	A		
6	1961	1	145	890.2	1 035.2	1.4	0.1	17.8	0.2	19.6	1 020.6	52.9			98.38%	A		
7	1961	0	145	586.5	731.5	1.4	0.1	20.0	0.2	21.8	715.2	33.6			97.24%	A		
8	1961	2	145	409.7	554.7	1.4	0.1	21.0	0.2	22.7	537.5	24.4			95.86%	A		
9	1961	98	145	300.6	445.6	1.4	0.1	17.1	0.2	18.9	431.6	23.6			95.38%	A		
10	1961	445	145	280.6	425.6	1.4	0.1	6.2	0.2	7.9	420.3	53.8			98.14%	A		
11	1961	528	145	541.2	686.2	1.4	0.1	2.8	0.2	4.5	683.6	151.4			99.53%	A		
12	1961	679	145	1323.3	1 468.3	1.4	0.1	5.5	0.2	7.2	1 463.6	204.2			99.65%	A		
1	1962	428	145	1688.4	1 833.4	1.4	0.1	7.1	0.2	8.9	1 827.3	206.5			99.65%	A		

2	1962	206	145	1207.5	1 352.5	1.4	0.1	6.0	0.2	7.8	1 347.3	173.9	1.01%	11 585	99.58%	A	99.19%	A
3	1962	700	145	1388.9	1 533.9	1.4	0.1	0.7	0.2	2.4	1 533.0	637.0			99.94%	A		
4	1962	485	145	1712.3	1 857.3	1.4	0.1	0.7	0.2	2.5	1 856.4	756.5			99.95%	A		
5	1962	0	145	1248.1	1 393.1	1.4	0.1	6.4	0.2	8.1	1 387.7	171.5			99.57%	A		
6	1962	0	145	780.7	925.7	1.4	0.1	17.8	0.2	19.6	911.1	47.3			98.15%	A		
7	1962	1	145	524.2	669.2	1.4	0.1	20.0	0.2	21.8	652.9	30.8			96.91%	A		
8	1962	10	145	373.6	518.6	1.4	0.1	21.0	0.2	22.7	501.4	22.8			95.46%	A		
9	1962	87	145	279.0	424.0	1.4	0.1	17.1	0.2	18.9	409.9	22.5			95.02%	A		
10	1962	271	145	277.2	422.2	1.4	0.1	6.2	0.2	7.9	416.9	53.4	1.40%	8 359	98.12%	A	98.80%	A
11	1962	388	145	374.1	519.1	1.4	0.1	2.8	0.2	4.5	516.5	114.6			99.32%	A		
12	1962	356	145	681.5	826.5	1.4	0.1	5.5	0.2	7.2	821.8	114.9			99.32%	A		
1	1963	265	145	845.5	990.5	1.4	0.1	7.1	0.2	8.9	984.5	111.5			99.29%	A		
2	1963	287	145	811.1	956.1	1.4	0.1	6.0	0.2	7.8	951.0	123.0			99.37%	A		
3	1963	366	145	1006.5	1 151.5	1.4	0.1	0.7	0.2	2.4	1 150.6	478.2			99.91%	A		
4	1963	340	145	1143.7	1 288.7	1.4	0.1	0.7	0.2	2.5	1 287.8	524.9			99.92%	A		
5	1963	41	145	936.8	1 081.8	1.4	0.1	6.4	0.2	8.1	1 076.4	133.2			99.42%	A		
6	1963		145	623.9	768.9	1.4	0.1	17.8	0.2	19.6	754.3	39.3			97.68%	A		
7	1963	0	145	436.9	581.9	1.4	0.1	20.0	0.2	21.8	565.5	26.7	2.03%	5 764	96.29%	A	98.07%	A
8	1963	0	145	321.2	466.2	1.4	0.1	21.0	0.2	22.7	449.1	20.5			94.72%	A		
9	1963	68	145	245.4	390.4	1.4	0.1	17.1	0.2	18.9	376.4	20.7			94.34%	A		
10	1963	119	145	205.4	350.4	1.4	0.1	6.2	0.2	7.9	345.1	44.3			97.46%	A		
11	1963	218	145	295.8	440.8	1.4	0.1	2.8	0.2	4.5	438.2	97.3			99.14%	A		
12	1963	138	145	388.5	533.5	1.4	0.1	5.5	0.2	7.2	528.8	74.2			98.80%	A		
1	1964	224	145	615.6	760.6	1.4	0.1	7.1	0.2	8.9	754.6	85.6			99.03%	A		
2	1964	118	145	704.6	849.6	1.4	0.1	6.0	0.2	7.8	844.4	109.3			99.27%	A		
3	1964	238	145	644.5	789.5	1.4	0.1	0.7	0.2	2.4	788.7	327.9			99.87%	A		
4	1964	42	145	612.2	757.2	1.4	0.1	0.7	0.2	2.5	756.3	308.4			99.85%	A		
5	1964	3	145	423.4	568.4	1.4	0.1	6.4	0.2	8.1	563.0	70.0			98.73%	A		
6	1964	0	145	310.4	455.4	1.4	0.1	17.8	0.2	19.6	440.8	23.3			95.34%	A		
7	1964		145	237.2	382.2	1.4	0.1	20.0	0.2	21.8	365.8	17.6			93.18%	A		
8	1964	14	145	185.0	330.0	1.4	0.1	21.0	0.2	22.7	312.9	14.5			90.83%	A		
9	1964	27	145	148.7	293.7	1.4	0.1	17.1	0.2	18.9	279.7	15.6	1.74%	6 726	90.65%	A	98.43%	A
10	1964	233	145	137.2	282.2	1.4	0.1	6.2	0.2	7.9	276.9	35.7			96.20%	A		
11	1964	321	145	172.9	317.9	1.4	0.1	2.8	0.2	4.5	315.3	70.2			98.53%	A		
12	1964	433	145	554.3	699.3	1.4	0.1	5.5	0.2	7.2	694.6	97.3			99.16%	A		
1	1965	271	145	858.9	1 003.9	1.4	0.1	7.1	0.2	8.9	997.8	113.0			99.30%	A		
2	1965	194	145	715.8	860.8	1.4	0.1	6.0	0.2	7.8	855.7	110.7			99.29%	A		
3	1965	442	145	753.4	898.4	1.4	0.1	0.7	0.2	2.4	897.5	373.1			99.89%	A		
4	1965	248	145	822.2	967.2	1.4	0.1	0.7	0.2	2.5	966.3	393.9			99.89%	A		
5	1965		145	645.2	790.2	1.4	0.1	6.4	0.2	8.1	784.8	97.3			99.16%	A		
6	1965	0	145	453.9	598.9	1.4	0.1	17.8	0.2	19.6	584.3	30.6	1.47%	7 937	96.82%	A	98.72%	A
7	1965	0	145	322.0	467.0	1.4	0.1	20.0	0.2	21.8	450.6	21.5			94.97%	A		
8	1965	3	145	238.7	383.7	1.4	0.1	21.0	0.2	22.7	366.6	16.9			92.89%	A		
9	1965	45	145	184.0	329.0	1.4	0.1	17.1	0.2	18.9	314.9	17.4			92.45%	A		
10	1965	176	145	151.5	296.5	1.4	0.1	6.2	0.2	7.9	291.2	37.5			96.56%	A		
11	1965	270	145	172.4	317.4	1.4	0.1	2.8	0.2	4.5	314.8	70.0			98.52%	A		
12	1965	504	145	659.9	804.9	1.4	0.1	5.5	0.2	7.2	800.2	111.9			99.30%	A		
1	1966	342	145	1109.1	1 254.1	1.4	0.1	7.1	0.2	8.9	1 248.0	141.2			99.46%	A		
2	1966	200	145	1003.1	1 148.1	1.4	0.1	6.0	0.2	7.8	1 143.0	147.6			99.49%	A		
3	1966	448	145	1077.5	1 222.5	1.4	0.1	0.7	0.2	2.4	1 221.6	507.6			99.92%	A		
4	1966	227	145	1059.8	1 204.8	1.4	0.1	0.7	0.2	2.5	1 203.9	490.7			99.91%	A		
5	1966	19	145	720.9	865.9	1.4	0.1	6.4	0.2	8.1	860.4	106.6			99.25%	A		
6	1966	0	145	485.9	630.9	1.4	0.1	17.8	0.2	19.6	616.3	32.2			97.03%	A		
7	1966	0	145	342.9	487.9	1.4	0.1	20.0	0.2	21.8	471.5	22.4			95.28%	A		
8	1966	19	145	251.2	396.2	1.4	0.1	21.0	0.2	22.7	379.0	17.4			93.25%	A		
9	1966	74	145	192.2	337.2	1.4	0.1	17.1	0.2	18.9	323.2	17.9	1.47%	7 937	92.77%	A		
10	1966	158	145	178.7	323.7	1.4	0.1	6.2	0.2	7.9	318.4	40.9			97.08%	A		

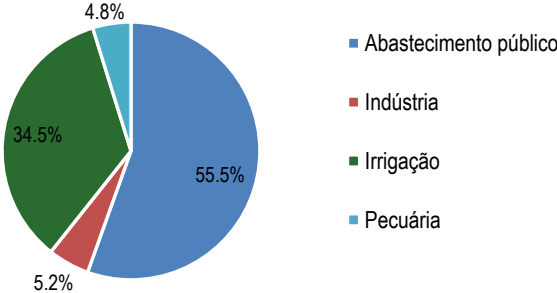
11	1966	184	145	215.8	360.8	1.4	0.1	2.8	0.2	4.5	358.3	79.6	2.15%	5 447	98.82%	A	97.91%	A
12	1966	193	145	335.0	480.0	1.4	0.1	5.5	0.2	7.2	475.3	66.8			98.61%	A		
1	1967	88	145	388.2	533.2	1.4	0.1	7.1	0.2	8.9	527.1	60.0			98.46%	A		
2	1967	124	145	352.7	497.7	1.4	0.1	6.0	0.2	7.8	492.6	64.0			98.55%	A		
3	1967	255	145	537.0	682.0	1.4	0.1	0.7	0.2	2.4	681.1	283.2			99.84%	A		
4	1967	172	145	743.2	888.2	1.4	0.1	0.7	0.2	2.5	887.3	361.7			99.88%	A		
5	1967	28	145	613.9	758.9	1.4	0.1	6.4	0.2	8.1	753.5	93.4			99.12%	A		
6	1967	1	145	389.9	534.9	1.4	0.1	17.8	0.2	19.6	520.3	27.3			96.29%	A		
7	1967		145	279.8	424.8	1.4	0.1	20.0	0.2	21.8	408.5	19.5			94.21%	A		
8	1967	6	145	212.6	357.6	1.4	0.1	21.0	0.2	22.7	340.4	15.7			92.02%	A		
9	1967	19	145	167.0	312.0	1.4	0.1	17.1	0.2	18.9	298.0	16.5			91.68%	A		
10	1967	292	145	182.9	327.9	1.4	0.1	6.2	0.2	7.9	322.6	41.5	1.71%	6 825	97.15%	A	98.46%	A
11	1967	313	145	261.9	406.9	1.4	0.1	2.8	0.2	4.5	404.3	89.8			99.03%	A		
12	1967	343	145	419.2	564.2	1.4	0.1	5.5	0.2	7.2	559.5	78.5			98.89%	A		
1	1968	227	145	574.9	719.9	1.4	0.1	7.1	0.2	8.9	713.9	81.1			98.96%	A		
2	1968	346	145	659.9	804.9	1.4	0.1	6.0	0.2	7.8	799.7	103.5			99.22%	A		
3	1968	378	145	883.4	1 028.4	1.4	0.1	0.7	0.2	2.4	1 027.6	427.1			99.90%	A		
4	1968	283	145	960.7	1 105.7	1.4	0.1	0.7	0.2	2.5	1 104.7	450.3			99.91%	A		
5	1968	46	145	716.3	861.3	1.4	0.1	6.4	0.2	8.1	855.9	106.0			99.25%	A		
6	1968	0	145	491.7	636.7	1.4	0.1	17.8	0.2	19.6	622.1	32.5			97.06%	A		
7	1968	0	145	353.0	498.0	1.4	0.1	20.0	0.2	21.8	481.7	22.9			95.41%	A		
8	1968	2	145	263.3	408.3	1.4	0.1	21.0	0.2	22.7	391.2	18.0			93.56%	A		
9	1968	39	145	203.3	348.3	1.4	0.1	17.1	0.2	18.9	334.3	18.5			93.16%	A		
10	1968	121	145	171.4	316.4	1.4	0.1	6.2	0.2	7.9	311.1	40.0	1.81%	6 450	96.96%	A	98.34%	A
11	1968	215	145	216.4	361.4	1.4	0.1	2.8	0.2	4.5	358.9	79.8			98.82%	A		
12	1968	164	145	320.3	465.3	1.4	0.1	5.5	0.2	7.2	460.6	64.7			98.55%	A		
1	1969	156	145	408.9	553.9	1.4	0.1	7.1	0.2	8.9	547.9	62.4			98.54%	A		
2	1969	146	145	520.1	665.1	1.4	0.1	6.0	0.2	7.8	659.9	85.5			99.02%	A		
3	1969	300	145	852.5	997.5	1.4	0.1	0.7	0.2	2.4	996.6	414.2			99.90%	A		
4	1969	199	145	1003.9	1 148.9	1.4	0.1	0.7	0.2	2.5	1 148.0	467.9			99.91%	A		
5	1969	31	145	746.4	891.4	1.4	0.1	6.4	0.2	8.1	886.0	109.7			99.28%	A		
6	1969		145	501.4	646.4	1.4	0.1	17.8	0.2	19.6	631.8	33.0			97.12%	A		
7	1969	0	145	350.3	495.3	1.4	0.1	20.0	0.2	21.8	478.9	22.8			95.38%	A		
8	1969	8	145	258.0	403.0	1.4	0.1	21.0	0.2	22.7	385.9	17.7			93.43%	A		
9	1969	16	145	197.6	342.6	1.4	0.1	17.1	0.2	18.9	328.6	18.2			92.97%	A		
10	1969	310	145	243.8	388.8	1.4	0.1	6.2	0.2	7.9	383.5	49.2	1.64%	7 119	97.86%	A	98.54%	A
11	1969	472	145	494.3	639.3	1.4	0.1	2.8	0.2	4.5	636.7	141.1			99.48%	A		
12	1969	321	145	769.5	914.5	1.4	0.1	5.5	0.2	7.2	909.8	127.2			99.40%	A		
1	1970	294	145	889.7	1 034.7	1.4	0.1	7.1	0.2	8.9	1 028.6	116.5			99.33%	A		
2	1970	255	145	786.6	931.6	1.4	0.1	6.0	0.2	7.8	926.4	119.8			99.35%	A		
3	1970	368	145	713.0	858.0	1.4	0.1	0.7	0.2	2.4	857.1	356.3			99.88%	A		
4	1970	232	145	732.4	877.4	1.4	0.1	0.7	0.2	2.5	876.4	357.3			99.88%	A		
5	1970	2	145	580.8	725.8	1.4	0.1	6.4	0.2	8.1	720.4	89.3			99.07%	A		
6	1970	0	145	398.2	543.2	1.4	0.1	17.8	0.2	19.6	528.6	27.8			96.37%	A		
7	1970	1	145	291.8	436.8	1.4	0.1	20.0	0.2	21.8	420.4	20.1			94.45%	A		
8	1970	4	145	224.6	369.6	1.4	0.1	21.0	0.2	22.7	352.5	16.3			92.45%	A		
9	1970	55	145	178.3	323.3	1.4	0.1	17.1	0.2	18.9	309.3	17.1			92.21%	A		
10	1970	162	145	168.6	313.6	1.4	0.1	6.2	0.2	7.9	308.3	39.7	2.32%	5 046	96.91%	A	97.67%	A
11	1970	208	145	270.5	415.5	1.4	0.1	2.8	0.2	4.5	412.9	91.7			99.06%	A		
12	1970	186	145	407.7	552.7	1.4	0.1	5.5	0.2	7.2	548.0	76.9			98.86%	A		
1	1971	99	145	438.9	583.9	1.4	0.1	7.1	0.2	8.9	577.8	65.7			98.63%	A		
2	1971	103	145	409.4	554.4	1.4	0.1	6.0	0.2	7.8	549.2	71.3			98.75%	A		
3	1971	229	145	434.4	579.4	1.4	0.1	0.7	0.2	2.4	578.5	240.6			99.80%	A		
4	1971	161	145	480.8	625.8	1.4	0.1	0.7	0.2	2.5	624.9	254.9			99.81%	A		
5	1971	21	145	429.5	574.5	1.4	0.1	6.4	0.2	8.1	569.0	70.7			98.74%	A		
6	1971	0	145	326.7	471.7	1.4	0.1	17.8	0.2	19.6	457.1	24.1			95.58%	A		
7	1971	0	145	248.1	393.1	1.4	0.1	20.0	0.2	21.8	376.8	18.1			93.48%	A		

8	1971	0	145	192.5	337.5	1.4	0.1	21.0	0.2	22.7	320.4	14.8			91.19%	A	
9	1971	22	145	153.4	298.4	1.4	0.1	17.1	0.2	18.9	284.4	15.8			90.94%	A	
10	1971	93	145	145.3	290.3	1.4	0.1	6.2	0.2	7.9	285.0	36.7			96.41%	A	
11	1971	119	145	196.8	341.8	1.4	0.1	2.8	0.2	4.5	339.2	75.4			98.71%	A	
12	1971	93	145	264.5	409.5	1.4	0.1	5.5	0.2	7.2	404.8	56.9			98.24%	A	
1	1972	61	145	281.9	426.9	1.4	0.1	7.1	0.2	8.9	420.8	48.1			97.87%	A	
2	1972	37	145	255.7	400.7	1.4	0.1	6.0	0.2	7.8	395.5	51.5			98.00%	A	
3	1972	125	145	278.1	423.1	1.4	0.1	0.7	0.2	2.4	422.2	175.7			99.69%	A	
4	1972	130	145	356.6	501.6	1.4	0.1	0.7	0.2	2.5	500.7	204.3	2.84%	4 115	99.75%	A	96.83% A
5	1972	12	145	351.2	496.2	1.4	0.1	6.4	0.2	8.1	490.8	61.1			98.47%	A	
6	1972	0	145	270.3	415.3	1.4	0.1	17.8	0.2	19.6	400.7	21.2			94.65%	A	
7	1972	0	145	207.5	352.5	1.4	0.1	20.0	0.2	21.8	336.1	16.2			92.20%	A	
8	1972	2	145	165.6	310.6	1.4	0.1	21.0	0.2	22.7	293.5	13.7			89.76%	A	
9	1972	22	145	135.3	280.3	1.4	0.1	17.1	0.2	18.9	266.2	14.9			89.73%	A	
10	1972	204	145	119.8	264.8	1.4	0.1	6.2	0.2	7.9	259.6	33.5			95.65%	A	
11	1972	354	145	198.2	343.2	1.4	0.1	2.8	0.2	4.5	340.6	75.7			98.72%	A	
12	1972	433	145	570.7	715.7	1.4	0.1	5.5	0.2	7.2	711.0	99.5			99.18%	A	
1	1973	397	145	1073.1	1 218.1	1.4	0.1	7.1	0.2	8.9	1 212.0	137.2			99.44%	A	
2	1973	180	145	966.1	1 111.1	1.4	0.1	6.0	0.2	7.8	1 105.9	142.9			99.47%	A	
3	1973	273	145	591.8	736.8	1.4	0.1	0.7	0.2	2.4	735.9	306.0			99.85%	A	
4	1973	308	145	601.3	746.3	1.4	0.1	0.7	0.2	2.5	745.4	304.0	1.77%	6 628	99.85%	A	98.40% A
5	1973	28	145	564.5	709.5	1.4	0.1	6.4	0.2	8.1	704.0	87.3			99.04%	A	
6	1973	0	145	393.2	538.2	1.4	0.1	17.8	0.2	19.6	523.6	27.5			96.32%	A	
7	1973		145	284.0	429.0	1.4	0.1	20.0	0.2	21.8	412.6	19.7			94.30%	A	
8	1973	1	145	216.0	361.0	1.4	0.1	21.0	0.2	22.7	343.8	15.9			92.15%	A	
9	1973	37	145	169.6	314.6	1.4	0.1	17.1	0.2	18.9	300.5	16.7			91.80%	A	
10	1973	117	145	175.7	320.7	1.4	0.1	6.2	0.2	7.9	315.5	40.6			97.03%	A	
11	1973	138	145	274.3	419.3	1.4	0.1	2.8	0.2	4.5	416.7	92.5			99.07%	A	
12	1973	85	145	355.5	500.5	1.4	0.1	5.5	0.2	7.2	495.8	69.6			98.69%	A	
1	1974	29	145	330.7	475.7	1.4	0.1	7.1	0.2	8.9	469.7	53.6			98.19%	A	
2	1974	20	145	267.5	412.5	1.4	0.1	6.0	0.2	7.8	407.4	53.0			98.09%	A	
3	1974	160	145	367.0	512.0	1.4	0.1	0.7	0.2	2.4	511.1	212.6			99.76%	A	
4	1974	143	145	575.3	720.3	1.4	0.1	0.7	0.2	2.5	719.3	293.3	2.35%	4 983	99.84%	A	97.63% A
5	1974	5	145	546.7	691.7	1.4	0.1	6.4	0.2	8.1	686.2	85.1			99.01%	A	
6	1974	3	145	372.3	517.3	1.4	0.1	17.8	0.2	19.6	502.7	26.4			96.12%	A	
7	1974	0	145	265.9	410.9	1.4	0.1	20.0	0.2	21.8	394.5	18.9			93.91%	A	
8	1974	5	145	201.0	346.0	1.4	0.1	21.0	0.2	22.7	328.9	15.2			91.56%	A	
9	1974	15	145	157.0	302.0	1.4	0.1	17.1	0.2	18.9	288.0	16.0			91.15%	A	

UH	Centro-Oeste
Área (km ²)	18 582
População	1 018 939
Área irrigada (ha)	3 150
NGR (mm)	750

Sector	Necessidades anuais de água (hm³)	
Abastecimento público	30. 4	55.5%
Indústria	2.9	5.2%
Termo eléctricas		
Irrigação	18.9	34.5%
Pecuária	2. 6	4.8%
Volume anual turbinado (hm³)		
Hidroelectricidade		

Uso da água na UH do Centro-Oeste



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano médio	870.1	776.5	2746. 2	3 522.7	30. 4	2. 9	18. 9	2. 6	---	54. 8	3 500.5	64.3	1.6%	3 457	---	---	99.27%	A
Ano seco	530.3	776.0	2174. 3	2 950.3	30. 4	2. 9	18. 9	2. 6	---	54. 8	2 928.2	53.9	1.9%	2 896	---	---	99.08%	A
Ano muito seco	105.9	774.0	1369. 1	2 143.1	30. 4	2. 9	18. 9	2. 6	---	54. 8	2 120.9	39.1	2.6%	2 103	---	---	98.54%	A

Mês	Ano		Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Abast. Público	Indústria	Irrigação	Pecuária	Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
	10	1944	114	65	102.5	167.5	2.5	0.2	1.0	0.2		4.0	166.0	41.5	1.37%	3 931	98.75%	A	99.38%	A
	11	1944	165	65	249.0	314.0	2.5	0.2	0.5	0.2		3.5	313.0	90.7			99.65%	A		
	12	1944	124	65	323.2	388.2	2.5	0.2	0.9	0.2		3.9	386.8	99.2			99.63%	A		
	1	1945	108	65	342.5	407.5	2.5	0.2	1.2	0.2		4.2	405.9	97.0			99.59%	A		
	2	1945	152	65	397.4	462.4	2.5	0.2	1.0	0.2		4.0	461.0	115.2			99.68%	A		
	3	1945	171	65	470.2	535.2	2.5	0.2	0.1	0.2		3.1	534.5	172.5			99.87%	A		
	4	1945	176	65	532.4	597.4	2.5	0.2	0.1	0.2		3.1	596.7	192.0			99.88%	A		
	5	1945	3	65	392.1	457.1	2.5	0.2	1.1	0.2		4.1	455.6	112.2			99.67%	A		
	6	1945	0	65	234.0	299.0	2.5	0.2	3.0	0.2		6.0	296.0	49.7			98.84%	A		
	7	1945	0	64	124.8	188.8	2.5	0.2	3.4	0.2		6.4	185.5	29.6			97.62%	A		
	8	1945	0	63	50.0	113.0	2.5	0.2	3.6	0.2		6.6	109.6	17.2	1.59%	3 390	93.81%	A	99.26%	A
	9	1945	14	62	13.8	75.8	2.5	0.2	2.9	0.2		5.9	72.8	12.8			80.94%	A		
	10	1945	61	65	77.9	142.9	2.5	0.2	1.0	0.2		4.0	141.5	35.4			98.35%	A		
	11	1945	119	65	242.3	307.3	2.5	0.2	0.5	0.2		3.5	306.3	88.7			99.64%	A		
	12	1945	74	65	312.0	377.0	2.5	0.2	0.9	0.2		3.9	375.7	96.3			99.62%	A		
	1	1946	48	65	294.5	359.5	2.5	0.2	1.2	0.2		4.2	358.0	85.6			99.52%	A		
	2	1946	61	65	289.1	354.1	2.5	0.2	1.0	0.2		4.0	352.7	88.2			99.56%	A		
	3	1946	131	65	405.1	470.1	2.5	0.2	0.1	0.2		3.1	469.4	151.5			99.85%	A		
	4	1946	85	65	446.1	511.1	2.5	0.2	0.1	0.2		3.1	510.4	164.3			99.86%	A		
	5	1946	2	65	316.4	381.4	2.5	0.2	1.1	0.2		4.1	379.9	93.6			99.59%	A		
	6	1946		65	182.1	247.1	2.5	0.2	3.0	0.2		6.0	244.1	41.1	1.17%	4 596	98.51%	A	99.49%	A
	7	1946		64	89.2	153.2	2.5	0.2	3.4	0.2		6.4	149.9	24.0			96.67%	A		
	8	1946		63	25.7	88.7	2.5	0.2	3.6	0.2		6.6	85.2	13.5			87.95%	A		
	9	1946	10	62		62.0	2.5	0.2	2.9	0.2		5.9	59.1	10.5						
	10	1946	207	65	107.1	172.1	2.5	0.2	1.0	0.2		4.0	170.7	42.6			98.80%	A		
	11	1946	171	65	195.8	260.8	2.5	0.2	0.5	0.2		3.5	259.8	75.3			99.56%	A		
	12	1946	281	65	321.7	386.7	2.5	0.2	0.9	0.2		3.9	385.4	98.8			99.63%	A		
	1	1947	136	65	334.9	399.9	2.5	0.2	1.2	0.2		4.2	398.3	95.2			99.58%	A		
	2	1947	233	65	377.8	442.8	2.5	0.2	1.0	0.2		4.0	441.4	110.3			99.66%	A		
	3	1947	320	65	485.7	550.7	2.5	0.2	0.1	0.2		3.1	550.0	177.5			99.87%	A		
	4	1947	453	65	666.2	731.2	2.5	0.2	0.1	0.2		3.1	730.6	235.1	1.17%	4 596	99.91%	A		
	5	1947	114	65	592.9	657.9	2.5	0.2	1.1	0.2		4.1	656.4	161.5			99.78%	A		
	6	1947		65	394.8	459.8	2.5	0.2	3.0	0.2		6.0	456.8	76.4			99.31%	A		
	7	1947		64	234.9	298.9	2.5	0.2	3.4	0.2		6.4	295.5	46.8			98.73%	A		
	8	1947		63	125.4	188.4	2.5	0.2	3.6	0.2		6.6	184.9	28.7			97.53%	A		
	9	1947	32	62	71.5	133.5	2.5	0.2	2.9	0.2		5.9	130.6	22.6			96.33%	A		
	10	1947	12	65	82.2	147.2	2.5	0.2	1.0	0.2		4.0	145.8	36.5			98.44%	A		

11	1947	25	65	171.6	236.6	2.5	0.2	0.5	0.2	3.5	235.7	68.3	2.56%	2 103	99.49%	A	98.54%	A
12	1947	7	65	159.7	224.7	2.5	0.2	0.9	0.2	3.9	223.3	57.4			99.25%	A		
1	1948	18	65	182.3	247.3	2.5	0.2	1.2	0.2	4.2	245.7	58.9			99.23%	A		
2	1948	16	65	204.1	269.1	2.5	0.2	1.0	0.2	4.0	267.7	67.0			99.38%	A		
3	1948	16	65	216.8	281.8	2.5	0.2	0.1	0.2	3.1	281.1	90.8			99.72%	A		
4	1948	8	65	184.1	249.1	2.5	0.2	0.1	0.2	3.1	248.4	80.1			99.67%	A		
5	1948	3	65	118.3	183.3	2.5	0.2	1.1	0.2	4.1	181.9	45.0			98.89%	A		
6	1948		65	50.0	115.0	2.5	0.2	3.0	0.2	6.0	112.0	19.1			94.58%	A		
7	1948	0	64		64.0	2.5	0.2	3.4	0.2	6.4	60.7	10.0						
8	1948	0	63		63.0	2.5	0.2	3.6	0.2	6.6	59.6	9.6						
9	1948	2	62		62.0	2.5	0.2	2.9	0.2	5.9	59.1	10.5						
10	1948	230	64	121.4	185.4	2.5	0.2	1.0	0.2	4.0	184.0	45.9	1.09%	4 939	98.94%	A	99.53%	A
11	1948	168	65	208.3	273.3	2.5	0.2	0.5	0.2	3.5	272.3	78.9			99.58%	A		
12	1948	173	65	258.0	323.0	2.5	0.2	0.9	0.2	3.9	321.6	82.5			99.54%	A		
1	1949	278	65	363.0	428.0	2.5	0.2	1.2	0.2	4.2	426.5	101.9			99.61%	A		
2	1949	305	65	475.2	540.2	2.5	0.2	1.0	0.2	4.0	538.8	134.6			99.73%	A		
3	1949	547	65	718.5	783.5	2.5	0.2	0.1	0.2	3.1	782.9	252.5			99.92%	A		
4	1949	294	65	768.7	833.7	2.5	0.2	0.1	0.2	3.1	833.0	268.0			99.92%	A		
5	1949	35	65	576.5	641.5	2.5	0.2	1.1	0.2	4.1	640.1	157.5			99.77%	A		
6	1949	1	65	367.3	432.3	2.5	0.2	3.0	0.2	6.0	429.3	71.9			99.26%	A		
7	1949	1	65	216.7	281.7	2.5	0.2	3.4	0.2	6.4	278.4	44.1			98.63%	A		
8	1949	4	65	116.0	181.0	2.5	0.2	3.6	0.2	6.6	177.6	27.6			97.33%	A		
9	1949	28	65	63.9	128.9	2.5	0.2	2.9	0.2	5.9	126.0	21.9			95.90%	A		
10	1949	61	65	79.4	144.4	2.5	0.2	1.0	0.2	4.0	143.0	35.8	1.30%	4 123	98.38%	A	99.42%	A
11	1949	118	65	165.1	230.1	2.5	0.2	0.5	0.2	3.5	229.2	66.5			99.47%	A		
12	1949	104	65	228.5	293.5	2.5	0.2	0.9	0.2	3.9	292.2	75.0			99.48%	A		
1	1950	179	65	346.8	411.8	2.5	0.2	1.2	0.2	4.2	410.2	98.0			99.60%	A		
2	1950	145	65	417.3	482.3	2.5	0.2	1.0	0.2	4.0	480.9	120.2			99.70%	A		
3	1950	308	65	627.7	692.7	2.5	0.2	0.1	0.2	3.1	692.0	223.3			99.90%	A		
4	1950	114	65	620.9	685.9	2.5	0.2	0.1	0.2	3.1	685.2	220.5			99.90%	A		
5	1950	6	65	435.2	500.2	2.5	0.2	1.1	0.2	4.1	498.8	122.8			99.70%	A		
6	1950		65	264.7	329.7	2.5	0.2	3.0	0.2	6.0	326.7	54.8			98.98%	A		
7	1950	0	64	145.9	209.9	2.5	0.2	3.4	0.2	6.4	206.6	32.9			97.96%	A		
8	1950		63	64.5	127.5	2.5	0.2	3.6	0.2	6.6	124.1	19.5			95.20%	A		
9	1950	21	62	31.0	93.0	2.5	0.2	2.9	0.2	5.9	90.1	15.8			91.56%	A		
10	1950	48	65	43.9	108.9	2.5	0.2	1.0	0.2	4.0	107.4	27.0	1.43%	3 762	97.08%	A	99.35%	A
11	1950	138	65	157.7	222.7	2.5	0.2	0.5	0.2	3.5	221.7	64.3			99.45%	A		
12	1950	197	65	329.5	394.5	2.5	0.2	0.9	0.2	3.9	393.2	100.8			99.64%	A		
1	1951	111	65	376.0	441.0	2.5	0.2	1.2	0.2	4.2	439.4	105.0			99.63%	A		
2	1951	89	65	354.6	419.6	2.5	0.2	1.0	0.2	4.0	418.2	104.5			99.64%	A		
3	1951	206	65	457.1	522.1	2.5	0.2	0.1	0.2	3.1	521.4	168.3			99.87%	A		
4	1951	153	65	510.3	575.3	2.5	0.2	0.1	0.2	3.1	574.6	184.9			99.88%	A		
5	1951	26	65	393.5	458.5	2.5	0.2	1.1	0.2	4.1	457.0	112.6			99.67%	A		
6	1951	0	65	242.8	307.8	2.5	0.2	3.0	0.2	6.0	304.8	51.2			98.89%	A		
7	1951		64	130.8	194.8	2.5	0.2	3.4	0.2	6.4	191.5	30.5			97.73%	A		
8	1951		63	54.1	117.1	2.5	0.2	3.6	0.2	6.6	113.7	17.9			94.28%	A		
9	1951	7	62	9.4	71.4	2.5	0.2	2.9	0.2	5.9	68.4	12.1			71.98%	A		
10	1951	60	65	37.4	102.4	2.5	0.2	1.0	0.2	4.0	100.9	25.4	1.50%	3 593	96.57%	A	99.31%	A
11	1951	190	65	212.7	277.7	2.5	0.2	0.5	0.2	3.5	276.7	80.2			99.59%	A		
12	1951	146	65	329.7	394.7	2.5	0.2	0.9	0.2	3.9	393.3	100.8			99.64%	A		
1	1952	33	65	274.5	339.5	2.5	0.2	1.2	0.2	4.2	338.0	80.8			99.49%	A		
2	1952	156	65	329.8	394.8	2.5	0.2	1.0	0.2	4.0	393.4	98.4			99.62%	A		
3	1952	138	65	390.4	455.4	2.5	0.2	0.1	0.2	3.1	454.7	146.8			99.84%	A		
4	1952	218	65	510.5	575.5	2.5	0.2	0.1	0.2	3.1	574.8	185.0			99.88%	A		
5	1952	0	65	388.4	453.4	2.5	0.2	1.1	0.2	4.1	452.0	111.3			99.66%	A		
6	1952		65	230.6	295.6	2.5	0.2	3.0	0.2	6.0	292.6	49.1			98.83%	A		
7	1952		64	122.5	186.5	2.5	0.2	3.4	0.2	6.4	183.2	29.2			97.57%	A		

8	1952		63	48.4	111.4	2.5	0.2	3.6	0.2		6.6	108.0	17.0			93.61%	A		
9	1952	13	62	11.7	73.7	2.5	0.2	2.9	0.2		5.9	70.7	12.5			77.51%	A		
10	1952	66	65	83.7	148.7	2.5	0.2	1.0	0.2		4.0	147.3	36.8			98.47%	A		
11	1952	111	65	234.6	299.6	2.5	0.2	0.5	0.2		3.5	298.6	86.5			99.63%	A		
12	1952	88	65	323.9	388.9	2.5	0.2	0.9	0.2		3.9	387.5	99.3			99.63%	A		
1	1953	38	65	293.3	358.3	2.5	0.2	1.2	0.2		4.2	356.7	85.3			99.52%	A		
2	1953	32	65	236.8	301.8	2.5	0.2	1.0	0.2		4.0	300.4	75.2			99.47%	A		
3	1953	148	65	381.3	446.3	2.5	0.2	0.1	0.2		3.1	445.6	143.8			99.84%	A		
4	1953	94	65	453.5	518.5	2.5	0.2	0.1	0.2		3.1	517.9	166.7	1.60%	3 361	99.86%	A	99.25%	A
5	1953	2	65	326.9	391.9	2.5	0.2	1.1	0.2		4.1	390.4	96.2			99.60%	A		
6	1953	0	65	189.4	254.4	2.5	0.2	3.0	0.2		6.0	251.4	42.3			98.57%	A		
7	1953	0	64	94.3	158.3	2.5	0.2	3.4	0.2		6.4	155.0	24.8			96.85%	A		
8	1953	1	63	31.2	94.2	2.5	0.2	3.6	0.2		6.6	90.7	14.4			90.07%	A		
9	1953	6	64		64.0	2.5	0.2	2.9	0.2		5.9	61.1	10.9						
10	1953	67	65	75.9	140.9	2.5	0.2	1.0	0.2		4.0	139.5	34.9			98.31%	A		
11	1953	63	65	153.1	218.1	2.5	0.2	0.5	0.2		3.5	217.2	63.0			99.43%	A		
12	1953	26	65	143.6	208.6	2.5	0.2	0.9	0.2		3.9	207.3	53.3			99.17%	A		
1	1954	42	65	144.6	209.6	2.5	0.2	1.2	0.2		4.2	208.1	49.9			99.03%	A		
2	1954	87	65	225.7	290.7	2.5	0.2	1.0	0.2		4.0	289.3	72.4			99.44%	A		
3	1954	77	65	287.4	352.4	2.5	0.2	0.1	0.2		3.1	351.7	113.6			99.79%	A		
4	1954	115	65	387.1	452.1	2.5	0.2	0.1	0.2		3.1	451.4	145.3	1.86%	2 896	99.84%	A	99.08%	A
5	1954	37	65	349.4	414.4	2.5	0.2	1.1	0.2		4.1	413.0	101.8			99.63%	A		
6	1954		65	223.1	288.1	2.5	0.2	3.0	0.2		6.0	285.1	47.9			98.79%	A		
7	1954		64	117.3	181.3	2.5	0.2	3.4	0.2		6.4	178.0	28.4			97.46%	A		
8	1954	1	63	46.9	109.9	2.5	0.2	3.6	0.2		6.6	106.5	16.8			93.41%	A		
9	1954	14	64	20.1	84.1	2.5	0.2	2.9	0.2		5.9	81.2	14.3			86.95%	A		
10	1954	69	65	97.0	162.0	2.5	0.2	1.0	0.2		4.0	160.6	40.2			98.68%	A		
11	1954	96	65	221.9	286.9	2.5	0.2	0.5	0.2		3.5	285.9	82.8			99.61%	A		
12	1954	39	65	229.6	294.6	2.5	0.2	0.9	0.2		3.9	293.3	75.3			99.48%	A		
1	1955	36	65	200.5	265.5	2.5	0.2	1.2	0.2		4.2	264.0	63.2			99.30%	A		
2	1955	4	65	127.1	192.1	2.5	0.2	1.0	0.2		4.0	190.7	47.9			99.00%	A		
3	1955	125	65	255.7	320.7	2.5	0.2	0.1	0.2		3.1	320.0	103.4			99.76%	A		
4	1955	138	65	426.1	491.1	2.5	0.2	0.1	0.2		3.1	490.4	157.9	1.82%	2 961	99.86%	A	99.11%	A
5	1955	9	65	341.1	406.1	2.5	0.2	1.1	0.2		4.1	404.6	99.7			99.62%	A		
6	1955	0	65	202.5	267.5	2.5	0.2	3.0	0.2		6.0	264.5	44.5			98.66%	A		
7	1955	0	64	103.7	167.7	2.5	0.2	3.4	0.2		6.4	164.4	26.3			97.13%	A		
8	1955	0	64	35.8	99.8	2.5	0.2	3.6	0.2		6.6	96.4	15.2			91.37%	A		
9	1955	2	63		63.0	2.5	0.2	2.9	0.2		5.9	60.1	10.7						
10	1955	107	65	80.2	145.2	2.5	0.2	1.0	0.2		4.0	143.8	36.0			98.40%	A		
11	1955	227	65	297.3	362.3	2.5	0.2	0.5	0.2		3.5	361.4	104.6			99.71%	A		
12	1955	135	65	388.9	453.9	2.5	0.2	0.9	0.2		3.9	452.5	115.9			99.69%	A		
1	1956	119	65	402.9	467.9	2.5	0.2	1.2	0.2		4.2	466.4	111.4			99.65%	A		
2	1956	80	65	366.4	431.4	2.5	0.2	1.0	0.2		4.0	430.0	107.5			99.65%	A		
3	1956	117	65	367.7	432.7	2.5	0.2	0.1	0.2		3.1	432.0	139.4			99.83%	A		
4	1956	207	65	476.4	541.4	2.5	0.2	0.1	0.2		3.1	540.7	174.1	1.40%	3 826	99.87%	A	99.36%	A
5	1956	3	65	364.4	429.4	2.5	0.2	1.1	0.2		4.1	428.0	105.4			99.64%	A		
6	1956		65	215.1	280.1	2.5	0.2	3.0	0.2		6.0	277.1	46.6			98.74%	A		
7	1956	0	64	112.0	176.0	2.5	0.2	3.4	0.2		6.4	172.7	27.6			97.34%	A		
8	1956	0	64	41.7	105.7	2.5	0.2	3.6	0.2		6.6	102.3	16.1			92.59%	A		
9	1956	14	64	8.4	72.4	2.5	0.2	2.9	0.2		5.9	69.5	12.3			68.77%	A		
10	1956	51	65	57.4	122.4	2.5	0.2	1.0	0.2		4.0	121.0	30.3			97.77%	A		
11	1956	53	65	116.3	181.3	2.5	0.2	0.5	0.2		3.5	180.4	52.4			99.25%	A		
12	1956	37	65	131.2	196.2	2.5	0.2	0.9	0.2		3.9	194.9	50.1			99.09%	A		
1	1957	26	65	114.8	179.8	2.5	0.2	1.2	0.2		4.2	178.2	42.8			98.78%	A		
2	1957	30	65	104.3	169.3	2.5	0.2	1.0	0.2		4.0	167.9	42.2			98.79%	A		
3	1957	185	65	349.2	414.2	2.5	0.2	0.1	0.2		3.1	413.5	133.5			99.83%	A		
4	1957	130	65	508.9	573.9	2.5	0.2	0.1	0.2		3.1	573.2	184.5	1.85%	2 899	99.88%	A	99.08%	A

5	1957	0	65	380.8	445.8	2.5	0.2	1.1	0.2	4.1	444.3	109.4			99.66%	A		
6	1957	0	65	225.5	290.5	2.5	0.2	3.0	0.2	6.0	287.5	48.3			98.80%	A		
7	1957	0	64	119.3	183.3	2.5	0.2	3.4	0.2	6.4	180.0	28.7			97.51%	A		
8	1957	1	64	47.3	111.3	2.5	0.2	3.6	0.2	6.6	107.9	17.0			93.46%	A		
9	1957	16	64	22.3	86.3	2.5	0.2	2.9	0.2	5.9	83.4	14.6			88.23%	A		
10	1957	29	65	64.1	129.1	2.5	0.2	1.0	0.2	4.0	127.7	32.0			98.00%	A		
11	1957	52	65	171.8	236.8	2.5	0.2	0.5	0.2	3.5	235.9	68.4			99.49%	A		
12	1957	59	65	283.2	348.2	2.5	0.2	0.9	0.2	3.9	346.9	89.0			99.58%	A		
1	1958	14	65	245.5	310.5	2.5	0.2	1.2	0.2	4.2	309.0	73.9			99.43%	A		
2	1958	10	65	172.2	237.2	2.5	0.2	1.0	0.2	4.0	235.8	59.1			99.26%	A		
3	1958	72	65	282.0	347.0	2.5	0.2	0.1	0.2	3.1	346.3	111.8			99.78%	A		
4	1958	27	65	291.3	356.3	2.5	0.2	0.1	0.2	3.1	355.6	114.5	2.11%	2 550	99.79%	A	98.91%	A
5	1958	0	65	188.2	253.2	2.5	0.2	1.1	0.2	4.1	251.8	62.2			99.30%	A		
6	1958	0	65	94.1	159.1	2.5	0.2	3.0	0.2	6.0	156.1	26.4			97.12%	A		
7	1958	0	65	29.1	94.1	2.5	0.2	3.4	0.2	6.4	90.8	14.7			89.79%	A		
8	1958	0	64		64.0	2.5	0.2	3.6	0.2	6.6	60.6	9.8						
9	1958	6	63		63.0	2.5	0.2	2.9	0.2	5.9	60.1	10.7						
10	1958	68	65	42.2	107.2	2.5	0.2	1.0	0.2	4.0	105.7	26.6			96.96%	A		
11	1958	156	65	182.9	247.9	2.5	0.2	0.5	0.2	3.5	247.0	71.6			99.52%	A		
12	1958	118	65	269.0	334.0	2.5	0.2	0.9	0.2	3.9	332.7	85.3			99.56%	A		
1	1959	155	65	354.5	419.5	2.5	0.2	1.2	0.2	4.2	418.0	99.9			99.60%	A		
2	1959	99	65	365.8	430.8	2.5	0.2	1.0	0.2	4.0	429.4	107.3			99.65%	A		
3	1959	149	65	407.6	472.6	2.5	0.2	0.1	0.2	3.1	471.9	152.3			99.85%	A		
4	1959	135	65	437.7	502.7	2.5	0.2	0.1	0.2	3.1	502.1	161.6	1.50%	3 588	99.86%	A	99.31%	A
5	1959	58	65	372.0	437.0	2.5	0.2	1.1	0.2	4.1	435.6	107.3			99.65%	A		
6	1959	0	65	239.2	304.2	2.5	0.2	3.0	0.2	6.0	301.2	50.6			98.87%	A		
7	1959	1	65	129.2	194.2	2.5	0.2	3.4	0.2	6.4	190.9	30.4			97.70%	A		
8	1959	0	65	53.7	118.7	2.5	0.2	3.6	0.2	6.6	115.2	18.1			94.23%	A		
9	1959	20	65	22.4	87.4	2.5	0.2	2.9	0.2	5.9	84.5	14.8			88.31%	A		
10	1959	99	65	52.3	117.3	2.5	0.2	1.0	0.2	4.0	115.9	29.1			97.55%	A		
11	1959	334	65	243.7	308.7	2.5	0.2	0.5	0.2	3.5	307.7	89.1			99.64%	A		
12	1959	171	65	316.5	381.5	2.5	0.2	0.9	0.2	3.9	380.2	97.5			99.62%	A		
1	1960	177	65	335.7	400.7	2.5	0.2	1.2	0.2	4.2	399.2	95.4			99.58%	A		
2	1960	154	65	334.7	399.7	2.5	0.2	1.0	0.2	4.0	398.3	99.6			99.62%	A		
3	1960	485	65	549.0	614.0	2.5	0.2	0.1	0.2	3.1	613.4	197.9			99.89%	A		
4	1960	294	65	639.3	704.3	2.5	0.2	0.1	0.2	3.1	703.6	226.4	1.26%	4 273	99.90%	A	99.44%	A
5	1960	37	65	489.3	554.3	2.5	0.2	1.1	0.2	4.1	552.8	136.1			99.73%	A		
6	1960	0	65	307.4	372.4	2.5	0.2	3.0	0.2	6.0	369.4	61.9			99.12%	A		
7	1960	0	65	175.2	240.2	2.5	0.2	3.4	0.2	6.4	236.9	37.6			98.30%	A		
8	1960	1	64	85.3	149.3	2.5	0.2	3.6	0.2	6.6	145.9	22.8			96.37%	A		
9	1960	34	65	46.0	111.0	2.5	0.2	2.9	0.2	5.9	108.1	18.8			94.30%	A		
10	1960	133	65	91.9	156.9	2.5	0.2	1.0	0.2	4.0	155.4	38.9			98.60%	A		
11	1960	251	65	223.0	288.0	2.5	0.2	0.5	0.2	3.5	287.1	83.2			99.61%	A		
12	1960	223	65	318.9	383.9	2.5	0.2	0.9	0.2	3.9	382.6	98.1			99.63%	A		
1	1961	217	65	374.9	439.9	2.5	0.2	1.2	0.2	4.2	438.4	104.7			99.63%	A		
2	1961	312	65	475.0	540.0	2.5	0.2	1.0	0.2	4.0	538.6	134.5			99.73%	A		
3	1961	416	65	633.0	698.0	2.5	0.2	0.1	0.2	3.1	697.3	225.0			99.90%	A		
4	1961	235	65	642.5	707.5	2.5	0.2	0.1	0.2	3.1	706.8	227.4	1.17%	4 599	99.90%	A	99.49%	A
5	1961	66	65	498.1	563.1	2.5	0.2	1.1	0.2	4.1	561.6	138.3			99.74%	A		
6	1961	0	65	319.8	384.8	2.5	0.2	3.0	0.2	6.0	381.8	64.0			99.15%	A		
7	1961	0	65	183.7	248.7	2.5	0.2	3.4	0.2	6.4	245.4	38.9			98.38%	A		
8	1961	1	65	90.8	155.8	2.5	0.2	3.6	0.2	6.6	152.4	23.8			96.59%	A		
9	1961	42	65	54.7	119.7	2.5	0.2	2.9	0.2	5.9	116.8	20.3			95.21%	A		
10	1961	140	65	159.6	224.6	2.5	0.2	1.0	0.2	4.0	223.2	55.7			99.20%	A		
11	1961	135	65	264.6	329.6	2.5	0.2	0.5	0.2	3.5	328.6	95.2			99.67%	A		
12	1961	127	65	326.2	391.2	2.5	0.2	0.9	0.2	3.9	389.9	99.9			99.63%	A		
1	1962	118	65	356.9	421.9	2.5	0.2	1.2	0.2	4.2	420.4	100.4			99.61%	A		

2	1962	37	65	288.5	353.5	2.5	0.2	1.0	0.2	4.0	352.1	88.1	1.37%	3 919	99.56%	A	99.38%	A
3	1962	234	65	423.9	488.9	2.5	0.2	0.1	0.2	3.1	488.2	157.6			99.86%	A		
4	1962	196	65	543.6	608.6	2.5	0.2	0.1	0.2	3.1	607.9	195.7			99.89%	A		
5	1962	0	65	403.6	468.6	2.5	0.2	1.1	0.2	4.1	467.2	115.1			99.68%	A		
6	1962	0	65	241.3	306.3	2.5	0.2	3.0	0.2	6.0	303.3	50.9			98.88%	A		
7	1962	0	65	130.1	195.1	2.5	0.2	3.4	0.2	6.4	191.8	30.6			97.71%	A		
8	1962	2	65	56.3	121.3	2.5	0.2	3.6	0.2	6.6	117.9	18.5			94.50%	A		
9	1962	14	65	19.0	84.0	2.5	0.2	2.9	0.2	5.9	81.1	14.2			86.19%	A		
10	1962	104	65	92.8	157.8	2.5	0.2	1.0	0.2	4.0	156.4	39.1	1.35%	3 993	98.62%	A	99.39%	A
11	1962	181	65	255.8	320.8	2.5	0.2	0.5	0.2	3.5	319.9	92.6			99.66%	A		
12	1962	138	65	347.9	412.9	2.5	0.2	0.9	0.2	3.9	411.6	105.5			99.66%	A		
1	1963	69	65	322.9	387.9	2.5	0.2	1.2	0.2	4.2	386.3	92.3			99.57%	A		
2	1963	104	65	319.9	384.9	2.5	0.2	1.0	0.2	4.0	383.5	95.9			99.60%	A		
3	1963	192	65	423.2	488.2	2.5	0.2	0.1	0.2	3.1	487.5	157.3			99.86%	A		
4	1963	237	65	571.5	636.5	2.5	0.2	0.1	0.2	3.1	635.9	204.6			99.89%	A		
5	1963	8	65	444.8	509.8	2.5	0.2	1.1	0.2	4.1	508.3	125.2			99.71%	A		
6	1963	0	65	271.8	336.8	2.5	0.2	3.0	0.2	6.0	333.8	56.0			99.00%	A		
7	1963	0	64	150.8	214.8	2.5	0.2	3.4	0.2	6.4	211.5	33.6			98.03%	A		
8	1963	0	64	67.9	131.9	2.5	0.2	3.6	0.2	6.6	128.5	20.1			95.44%	A		
9	1963	11	63	23.2	86.2	2.5	0.2	2.9	0.2	5.9	83.3	14.6			88.69%	A		
10	1963	22	65	42.8	107.8	2.5	0.2	1.0	0.2	4.0	106.4	26.7	2.25%	2 390	97.01%	A	98.80%	A
11	1963	29	65	89.2	154.2	2.5	0.2	0.5	0.2	3.5	153.3	44.5			99.03%	A		
12	1963	36	65	146.5	211.5	2.5	0.2	0.9	0.2	3.9	210.2	54.0			99.18%	A		
1	1964	54	65	239.1	304.1	2.5	0.2	1.2	0.2	4.2	302.6	72.4			99.41%	A		
2	1964	20	65	227.3	292.3	2.5	0.2	1.0	0.2	4.0	290.9	72.8			99.44%	A		
3	1964	70	65	324.3	389.3	2.5	0.2	0.1	0.2	3.1	388.6	125.5			99.81%	A		
4	1964	18	65	293.1	358.1	2.5	0.2	0.1	0.2	3.1	357.4	115.1			99.79%	A		
5	1964	1	65	181.7	246.7	2.5	0.2	1.1	0.2	4.1	245.2	60.6			99.28%	A		
6	1964	0	65	89.5	154.5	2.5	0.2	3.0	0.2	6.0	151.5	25.7			96.97%	A		
7	1964		64	25.8	89.8	2.5	0.2	3.4	0.2	6.4	86.5	14.1			88.48%	A		
8	1964	1	63	0.1	63.1	2.5	0.2	3.6	0.2	6.6	59.7	9.6						
9	1964	6	64	0.1	64.1	2.5	0.2	2.9	0.2	5.9	61.2	10.9						
10	1964	60	65	33.8	98.8	2.5	0.2	1.0	0.2	4.0	97.4	24.5	1.45%	3 713	96.21%	A	99.34%	A
11	1964	159	65	177.2	242.2	2.5	0.2	0.5	0.2	3.5	241.3	69.9			99.51%	A		
12	1964	149	65	298.8	363.8	2.5	0.2	0.9	0.2	3.9	362.4	92.9			99.60%	A		
1	1965	48	65	271.4	336.4	2.5	0.2	1.2	0.2	4.2	334.9	80.1			99.48%	A		
2	1965	91	65	263.6	328.6	2.5	0.2	1.0	0.2	4.0	327.2	81.9			99.52%	A		
3	1965	306	65	502.2	567.2	2.5	0.2	0.1	0.2	3.1	566.5	182.8			99.88%	A		
4	1965	161	65	583.6	648.6	2.5	0.2	0.1	0.2	3.1	647.9	208.5			99.89%	A		
5	1965		65	418.8	483.8	2.5	0.2	1.1	0.2	4.1	482.3	118.8			99.69%	A		
6	1965	0	65	251.3	316.3	2.5	0.2	3.0	0.2	6.0	313.3	52.6			98.92%	A		
7	1965	0	64	136.6	200.6	2.5	0.2	3.4	0.2	6.4	197.3	31.4			97.82%	A		
8	1965	1	63	59.0	122.0	2.5	0.2	3.6	0.2	6.6	118.5	18.6			94.75%	A		
9	1965	7	63	12.5	75.5	2.5	0.2	2.9	0.2	5.9	72.6	12.8			78.99%	A		
10	1965	27	65	18.5	83.5	2.5	0.2	1.0	0.2	4.0	82.1	20.7	1.97%	2 725	93.08%	A	99.00%	A
11	1965	46	65	65.0	130.0	2.5	0.2	0.5	0.2	3.5	129.0	37.5			98.66%	A		
12	1965	83	65	166.6	231.6	2.5	0.2	0.9	0.2	3.9	230.2	59.2			99.28%	A		
1	1966	46	65	195.4	260.4	2.5	0.2	1.2	0.2	4.2	258.8	62.0			99.28%	A		
2	1966	20	65	153.6	218.6	2.5	0.2	1.0	0.2	4.0	217.2	54.5			99.18%	A		
3	1966	159	65	336.7	401.7	2.5	0.2	0.1	0.2	3.1	401.0	129.5			99.82%	A		
4	1966	99	65	436.3	501.3	2.5	0.2	0.1	0.2	3.1	500.7	161.2			99.86%	A		
5	1966	2	65	318.0	383.0	2.5	0.2	1.1	0.2	4.1	381.6	94.0			99.59%	A		
6	1966		65	183.6	248.6	2.5	0.2	3.0	0.2	6.0	245.5	41.3			98.53%	A		
7	1966	0	64	90.4	154.4	2.5	0.2	3.4	0.2	6.4	151.1	24.2			96.71%	A		
8	1966	2	63	29.3	92.3	2.5	0.2	3.6	0.2	6.6	88.8	14.1			89.43%	A		
9	1966	13	64	6.9	70.9	2.5	0.2	2.9	0.2	5.9	67.9	12.0			61.79%	A		
10	1966	63	65	77.5	142.5	2.5	0.2	1.0	0.2	4.0	141.1	35.3			98.35%	A		

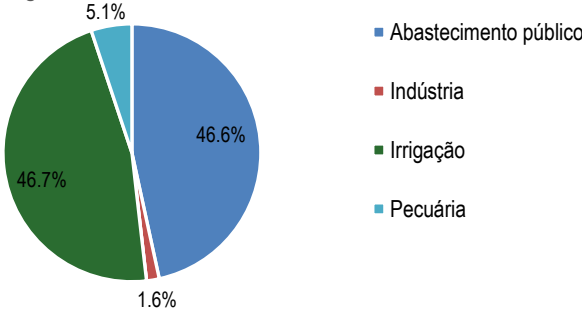
11	1966	85	65	186.6	251.6	2.5	0.2	0.5	0.2	3.5	250.6	72.6	1.67%	3 220	99.53%	A	99.20%	A
12	1966	101	65	298.1	363.1	2.5	0.2	0.9	0.2	3.9	361.8	92.8			99.60%	A		
1	1967	17	65	247.5	312.5	2.5	0.2	1.2	0.2	4.2	311.0	74.4			99.43%	A		
2	1967	41	65	208.2	273.2	2.5	0.2	1.0	0.2	4.0	271.8	68.1			99.39%	A		
3	1967	167	65	397.5	462.5	2.5	0.2	0.1	0.2	3.1	461.8	149.0			99.85%	A		
4	1967	59	65	418.4	483.4	2.5	0.2	0.1	0.2	3.1	482.7	155.4			99.85%	A		
5	1967	28	65	326.7	391.7	2.5	0.2	1.1	0.2	4.1	390.2	96.2			99.60%	A		
6	1967	0	65	202.8	267.8	2.5	0.2	3.0	0.2	6.0	264.8	44.5			98.67%	A		
7	1967		65	103.5	168.5	2.5	0.2	3.4	0.2	6.4	165.2	26.4			97.13%	A		
8	1967	1	64	36.7	100.7	2.5	0.2	3.6	0.2	6.6	97.3	15.4			91.58%	A		
9	1967	4	64		64.0	2.5	0.2	2.9	0.2	5.9	61.1	10.9						
10	1967	108	65	81.2	146.2	2.5	0.2	1.0	0.2	4.0	144.8	36.2	1.42%	3 787	98.42%	A	99.35%	A
11	1967	125	65	190.4	255.4	2.5	0.2	0.5	0.2	3.5	254.5	73.8			99.54%	A		
12	1967	91	65	234.4	299.4	2.5	0.2	0.9	0.2	3.9	298.1	76.5			99.49%	A		
1	1968	72	65	232.7	297.7	2.5	0.2	1.2	0.2	4.2	296.1	70.9			99.40%	A		
2	1968	180	65	340.2	405.2	2.5	0.2	1.0	0.2	4.0	403.8	101.0			99.63%	A		
3	1968	207	65	479.2	544.2	2.5	0.2	0.1	0.2	3.1	543.6	175.4			99.87%	A		
4	1968	189	65	563.9	628.9	2.5	0.2	0.1	0.2	3.1	628.2	202.2			99.89%	A		
5	1968	21	65	437.5	502.5	2.5	0.2	1.1	0.2	4.1	501.0	123.4			99.70%	A		
6	1968	0	65	271.7	336.7	2.5	0.2	3.0	0.2	6.0	333.7	56.0			99.00%	A		
7	1968	0	65	151.1	216.1	2.5	0.2	3.4	0.2	6.4	212.8	33.8			98.03%	A		
8	1968	1	65	68.8	133.8	2.5	0.2	3.6	0.2	6.6	130.4	20.4			95.50%	A		
9	1968	14	65	27.1	92.1	2.5	0.2	2.9	0.2	5.9	89.2	15.6			90.34%	A		
10	1968	104	65	99.1	164.1	2.5	0.2	1.0	0.2	4.0	162.7	40.7	1.51%	3 550	98.71%	A	99.30%	A
11	1968	138	65	215.0	280.0	2.5	0.2	0.5	0.2	3.5	279.1	80.9			99.60%	A		
12	1968	52	65	213.8	278.8	2.5	0.2	0.9	0.2	3.9	277.5	71.2			99.44%	A		
1	1969	55	65	187.1	252.1	2.5	0.2	1.2	0.2	4.2	250.5	60.0			99.25%	A		
2	1969	81	65	197.1	262.1	2.5	0.2	1.0	0.2	4.0	260.7	65.3			99.36%	A		
3	1969	292	65	437.5	502.5	2.5	0.2	0.1	0.2	3.1	501.8	161.9			99.86%	A		
4	1969	189	65	564.0	629.0	2.5	0.2	0.1	0.2	3.1	628.3	202.2			99.89%	A		
5	1969	13	65	429.1	494.1	2.5	0.2	1.1	0.2	4.1	492.6	121.3			99.69%	A		
6	1969		65	262.9	327.9	2.5	0.2	3.0	0.2	6.0	324.9	54.5			98.97%	A		
7	1969	0	64	144.9	208.9	2.5	0.2	3.4	0.2	6.4	205.6	32.7			97.95%	A		
8	1969	6	64	70.0	134.0	2.5	0.2	3.6	0.2	6.6	130.5	20.4			95.58%	A		
9	1969	4	65	18.8	83.8	2.5	0.2	2.9	0.2	5.9	80.9	14.2			86.09%	A		
10	1969	76	65	60.3	125.3	2.5	0.2	1.0	0.2	4.0	123.9	31.0	1.45%	3 702	97.87%	A	99.33%	A
11	1969	216	65	261.3	326.3	2.5	0.2	0.5	0.2	3.5	325.4	94.2			99.67%	A		
12	1969	83	65	305.0	370.0	2.5	0.2	0.9	0.2	3.9	368.7	94.5			99.61%	A		
1	1970	73	65	278.9	343.9	2.5	0.2	1.2	0.2	4.2	342.3	81.9			99.50%	A		
2	1970	157	65	347.3	412.3	2.5	0.2	1.0	0.2	4.0	410.9	102.7			99.64%	A		
3	1970	260	65	532.2	597.2	2.5	0.2	0.1	0.2	3.1	596.5	192.5			99.89%	A		
4	1970	92	65	515.4	580.4	2.5	0.2	0.1	0.2	3.1	579.7	186.6			99.88%	A		
5	1970	0	65	349.0	414.0	2.5	0.2	1.1	0.2	4.1	412.6	101.7			99.63%	A		
6	1970	0	65	203.7	268.7	2.5	0.2	3.0	0.2	6.0	265.7	44.7			98.67%	A		
7	1970	0	64	104.3	168.3	2.5	0.2	3.4	0.2	6.4	165.0	26.4			97.15%	A		
8	1970	1	64	36.6	100.6	2.5	0.2	3.6	0.2	6.6	97.2	15.4			91.55%	A		
9	1970	11	64	1.3	65.3	2.5	0.2	2.9	0.2	5.9	62.4	11.1						
10	1970	62	65	69.1	134.1	2.5	0.2	1.0	0.2	4.0	132.6	33.2	1.73%	3 106	98.14%	A	99.17%	A
11	1970	75	65	165.2	230.2	2.5	0.2	0.5	0.2	3.5	229.3	66.5			99.47%	A		
12	1970	67	65	225.1	290.1	2.5	0.2	0.9	0.2	3.9	288.8	74.1			99.47%	A		
1	1971	20	65	184.9	249.9	2.5	0.2	1.2	0.2	4.2	248.3	59.5			99.24%	A		
2	1971	22	65	137.0	202.0	2.5	0.2	1.0	0.2	4.0	200.6	50.3			99.08%	A		
3	1971	171	65	345.3	410.3	2.5	0.2	0.1	0.2	3.1	409.6	132.2			99.82%	A		
4	1971	123	65	486.8	551.8	2.5	0.2	0.1	0.2	3.1	551.1	177.4			99.87%	A		
5	1971	10	65	376.6	441.6	2.5	0.2	1.1	0.2	4.1	440.1	108.4			99.65%	A		
6	1971	0	65	227.5	292.5	2.5	0.2	3.0	0.2	6.0	289.4	48.6			98.81%	A		
7	1971	0	64	120.4	184.4	2.5	0.2	3.4	0.2	6.4	181.1	28.9			97.53%	A		

8	1971	0	63	47.1	110.1	2.5	0.2	3.6	0.2		6.6	106.7	16.8			93.43%	A	
9	1971	6	62	6.3	68.3	2.5	0.2	2.9	0.2		5.9	65.4	11.6			58.71%	A	
10	1971	30	65	52.9	117.9	2.5	0.2	1.0	0.2		4.0	116.4	29.2			97.58%	A	
11	1971	35	65	120.2	185.2	2.5	0.2	0.5	0.2		3.5	184.3	53.5			99.28%	A	
12	1971	20	65	130.4	195.4	2.5	0.2	0.9	0.2		3.9	194.1	49.9			99.08%	A	
1	1972	10	65	98.6	163.6	2.5	0.2	1.2	0.2		4.2	162.0	38.9			98.58%	A	
2	1972	13	65	74.2	139.2	2.5	0.2	1.0	0.2		4.0	137.8	34.7			98.29%	A	
3	1972	54	65	169.7	234.7	2.5	0.2	0.1	0.2		3.1	234.0	75.6			99.64%	A	
4	1972	46	65	248.1	313.1	2.5	0.2	0.1	0.2		3.1	312.4	100.7	2.72%	1 977	99.75%	A	98.39%
5	1972	9	65	198.0	263.0	2.5	0.2	1.1	0.2		4.1	261.6	64.6			99.34%	A	
6	1972	0	65	108.3	173.3	2.5	0.2	3.0	0.2		6.0	170.3	28.8			97.50%	A	
7	1972	0	64	38.8	102.8	2.5	0.2	3.4	0.2		6.4	99.5	16.1			92.34%	A	
8	1972	0	63		63.0	2.5	0.2	3.6	0.2		6.6	59.6	9.6					
9	1972	8	63		63.0	2.5	0.2	2.9	0.2		5.9	60.1	10.7					
10	1972	108	65	86.3	151.3	2.5	0.2	1.0	0.2		4.0	149.9	37.5			98.51%	A	
11	1972	177	65	248.6	313.6	2.5	0.2	0.5	0.2		3.5	312.6	90.5			99.65%	A	
12	1972	193	65	399.9	464.9	2.5	0.2	0.9	0.2		3.9	463.6	118.8			99.70%	A	
1	1973	174	65	488.7	553.7	2.5	0.2	1.2	0.2		4.2	552.1	131.8			99.71%	A	
2	1973	66	65	428.8	493.8	2.5	0.2	1.0	0.2		4.0	492.3	123.0			99.70%	A	
3	1973	131	65	420.0	485.0	2.5	0.2	0.1	0.2		3.1	484.4	156.3			99.85%	A	
4	1973	114	65	418.6	483.6	2.5	0.2	0.1	0.2		3.1	482.9	155.4	1.42%	3 781	99.85%	A	99.35%
5	1973	12	65	302.8	367.8	2.5	0.2	1.1	0.2		4.1	366.3	90.3			99.57%	A	
6	1973	0	65	175.9	240.9	2.5	0.2	3.0	0.2		6.0	237.9	40.1			98.46%	A	
7	1973		64	85.0	149.0	2.5	0.2	3.4	0.2		6.4	145.7	23.3			96.50%	A	
8	1973	1	63	23.4	86.4	2.5	0.2	3.6	0.2		6.6	83.0	13.2			86.78%	A	
9	1973	5	63		63.0	2.5	0.2	2.9	0.2		5.9	60.1	10.7					
10	1973	35	65	59.4	124.4	2.5	0.2	1.0	0.2		4.0	123.0	30.8			97.84%	A	
11	1973	43	65	150.7	215.7	2.5	0.2	0.5	0.2		3.5	214.7	62.3			99.42%	A	
12	1973	10	65	131.1	196.1	2.5	0.2	0.9	0.2		3.9	194.8	50.1			99.09%	A	
1	1974	2	65	68.7	133.7	2.5	0.2	1.2	0.2		4.2	132.1	31.8			97.96%	A	
2	1974	5	65	25.6	90.6	2.5	0.2	1.0	0.2		4.0	89.2	22.6			95.05%	A	
3	1974	102	65	256.7	321.7	2.5	0.2	0.1	0.2		3.1	321.0	103.7			99.76%	A	
4	1974	71	65	415.5	480.5	2.5	0.2	0.1	0.2		3.1	479.8	154.5	2.18%	2 461	99.85%	A	98.85%
5	1974	2	65	315.3	380.3	2.5	0.2	1.1	0.2		4.1	378.9	93.4			99.58%	A	
6	1974	1	65	183.9	248.9	2.5	0.2	3.0	0.2		6.0	245.9	41.4			98.53%	A	
7	1974	0	65	91.0	156.0	2.5	0.2	3.4	0.2		6.4	152.7	24.4			96.73%	A	
8	1974	1	64	30.5	94.5	2.5	0.2	3.6	0.2		6.6	91.0	14.4			89.84%	A	
9	1974	3	65		65.0	2.5	0.2	2.9	0.2		5.9	62.1	11.0					

UH	Catumbela
Área (km ²)	20 860
População	1 051 902
Área irrigada (ha)	7 337
NGR (mm)	650

Sector	Necessidades anuais de água (hm³)	
Abastecimento público	38.1	46.6%
Indústria	1.3	1.6%
Termo eléctricas		
Irrigação	38.2	46.7%
Pecuária	4.2	5.1%
Volume anual turbinado (hm³)		
Hidroelectricidade	1731.	

Uso da água na UH do Catumbela



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptivos (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica		
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual	
Ano médio	1 270.5	1 133.5	4918. 6	6 052.2	38. 1	1. 3	38. 2	4. 2	---	81. 7	6 013.1	74.1	1.4%	5 754	---	---	99.29% A
Ano seco	599.0	1 135.0	2650. 9	3 785.9	38. 1	1. 3	38. 2	4. 2	---	81. 7	3 746.8	46.3	2.2%	3 599	---	---	98.68% A
Ano muito seco	292.8	1 134.0	680. 3	1 814.3	38. 1	1. 3	38. 2	4. 2	---	81. 7	1 775.3	22.2	4.5%	1 725	---	---	94.84% A

Mês	Ano																			
	10	1944	284	95	598.2	693.2	3.2	0.1	2.1	0.3		5.7	690.8	120.7	0.94%	8 281	99.64%	A	99.54%	A
	11	1944	360	95	944.0	1 039.0	3.2	0.1	1.0	0.3		4.6	1 037.5	226.5			99.86%	A		
	12	1944	235	95	952.9	1 047.9	3.2	0.1	1.9	0.3		5.5	1 045.7	190.6			99.79%	A		
	1	1945	373	95	1153.8	1 248.8	3.2	0.1	2.4	0.3		6.1	1 246.1	205.5			99.79%	A		
	2	1945	344	95	1162.5	1 257.5	3.2	0.1	2.1	0.3		5.7	1 255.1	220.6			99.82%	A		
	3	1945	314	95	1041.2	1 136.2	3.2	0.1	0.2	0.3		3.9	1 135.3	294.3			99.92%	A		
	4	1945	204	95	824.8	919.8	3.2	0.1	0.2	0.3		3.9	918.9	237.3			99.90%	A		
	5	1945	8	95	454.2	549.2	3.2	0.1	2.2	0.3		5.8	546.8	94.4			99.51%	A		
	6	1945	1	95	241.4	336.4	3.2	0.1	6.1	0.3		9.7	330.8	34.5			97.91%	A		
	7	1945	0	95	112.1	207.1	3.2	0.1	6.9	0.3		10.5	200.9	19.7			95.02%	A		
	8	1945	0	94	35.4	129.4	3.2	0.1	7.2	0.3		10.8	122.9	12.0	83.55%	A				
	9	1945	31	93	53.3	146.3	3.2	0.1	5.9	0.3		9.5	140.9	15.4	90.87%	A				
	10	1945	89	95	237.8	332.8	3.2	0.1	2.1	0.3		5.7	330.4	57.9	1.73%	4 502	99.09%	A	99.03%	A
	11	1945	97	95	391.2	486.2	3.2	0.1	1.0	0.3		4.6	484.7	106.0			99.66%	A		
	12	1945	101	95	537.3	632.3	3.2	0.1	1.9	0.3		5.5	630.1	115.0			99.63%	A		
	1	1946	97	95	535.1	630.1	3.2	0.1	2.4	0.3		6.1	627.4	103.7			99.55%	A		
	2	1946	55	95	453.0	548.0	3.2	0.1	2.1	0.3		5.7	545.6	96.1			99.53%	A		
	3	1946	123	95	551.9	646.9	3.2	0.1	0.2	0.3		3.9	646.0	167.6			99.85%	A		
	4	1946	75	95	442.2	537.2	3.2	0.1	0.2	0.3		3.9	536.3	138.6			99.82%	A		
	5	1946	0	95	233.6	328.6	3.2	0.1	2.2	0.3		5.8	326.2	56.5			99.05%	A		
	6	1946		94	121.2	215.2	3.2	0.1	6.1	0.3		9.7	209.6	22.1			95.84%	A		
	7	1946		93	54.0	147.0	3.2	0.1	6.9	0.3		10.5	140.8	14.0			89.67%	A		
	8	1946	0	92	14.0	106.0	3.2	0.1	7.2	0.3		10.8	99.6	9.8	58.51%	A				
	9	1946	18	91	34.9	125.9	3.2	0.1	5.9	0.3		9.5	120.5	13.3	86.06%	A				
	10	1946	329	95	560.9	655.9	3.2	0.1	2.1	0.3		5.7	653.5	114.2	0.73%	10 708	99.62%	A	99.65%	A
	11	1946	429	95	866.4	961.4	3.2	0.1	1.0	0.3		4.6	959.9	209.6			99.85%	A		
	12	1946	478	95	1149.4	1 244.4	3.2	0.1	1.9	0.3		5.5	1 242.2	226.3			99.83%	A		
	1	1947	555	95	1636.0	1 731.0	3.2	0.1	2.4	0.3		6.1	1 728.3	284.8			99.85%	A		
	2	1947	372	95	1350.6	1 445.6	3.2	0.1	2.1	0.3		5.7	1 443.2	253.6			99.84%	A		
	3	1947	532	95	1401.9	1 496.9	3.2	0.1	0.2	0.3		3.9	1 496.0	387.8			99.94%	A		
	4	1947	632	95	1453.0	1 548.0	3.2	0.1	0.2	0.3		3.9	1 547.1	399.3			99.94%	A		
	5	1947	43	95	789.7	884.7	3.2	0.1	2.2	0.3		5.8	882.3	152.1			99.72%	A		
	6	1947		95	432.6	527.6	3.2	0.1	6.1	0.3		9.7	522.0	54.2			98.84%	A		
	7	1947		94	220.4	314.4	3.2	0.1	6.9	0.3		10.5	308.2	30.0			97.47%	A		
	8	1947		93	93.5	186.5	3.2	0.1	7.2	0.3		10.8	180.0	17.2	93.78%	A				
	9	1947	93	92	175.7	267.7	3.2	0.1	5.9	0.3		9.5	262.3	28.2	97.23%	A				
	10	1947	21	95	32.1	127.1	3.2	0.1	2.1	0.3		5.7	124.7	22.1			93.27%	A		

11	1947	62	95	85.3	180.3	3.2	0.1	1.0	0.3		4.6	178.8	39.3	4.50%	1 725	98.44%	A	94.84%	A
12	1947	29	95	78.7	173.7	3.2	0.1	1.9	0.3		5.5	171.5	31.6			97.48%	A		
1	1948	40	95	93.5	188.5	3.2	0.1	2.4	0.3		6.1	185.8	31.0			97.43%	A		
2	1948	81	95	133.6	228.6	3.2	0.1	2.1	0.3		5.7	226.2	40.1			98.41%	A		
3	1948	36	95	108.1	203.1	3.2	0.1	0.2	0.3		3.9	202.2	52.6			99.26%	A		
4	1948	17	95	74.7	169.7	3.2	0.1	0.2	0.3		3.9	168.8	43.8			98.91%	A		
5	1948	6	95	44.8	139.8	3.2	0.1	2.2	0.3		5.8	137.4	24.0			95.06%	A		
6	1948		95	21.4	116.4	3.2	0.1	6.1	0.3		9.7	110.8	11.9			76.44%	A		
7	1948	0	94	7.9	101.9	3.2	0.1	6.9	0.3		10.5	95.7	9.7			29.07%	A		
8	1948	0	93	0.1	93.1	3.2	0.1	7.2	0.3		10.8	86.6	8.6						
9	1948	1	92	0.1	92.1	3.2	0.1	5.9	0.3		9.5	86.7	9.7						
10	1948	227	92	364.3	456.3	3.2	0.1	2.1	0.3		5.7	453.9	79.5	0.99%	7 856	99.41%	A	99.51%	A
11	1948	176	95	550.6	645.6	3.2	0.1	1.0	0.3		4.6	644.1	140.7			99.76%	A		
12	1948	189	95	624.3	719.3	3.2	0.1	1.9	0.3		5.5	717.1	130.8			99.68%	A		
1	1949	289	95	867.5	962.5	3.2	0.1	2.4	0.3		6.1	959.9	158.4			99.72%	A		
2	1949	404	95	1083.9	1 178.9	3.2	0.1	2.1	0.3		5.7	1 176.5	206.8			99.80%	A		
3	1949	523	95	1303.4	1 398.4	3.2	0.1	0.2	0.3		3.9	1 397.6	362.3			99.94%	A		
4	1949	266	95	1115.6	1 210.6	3.2	0.1	0.2	0.3		3.9	1 209.7	312.3			99.93%	A		
5	1949	0	95	603.2	698.2	3.2	0.1	2.2	0.3		5.8	695.8	120.0			99.63%	A		
6	1949	0	95	331.0	426.0	3.2	0.1	6.1	0.3		9.7	420.4	43.7			98.48%	A		
7	1949	0	94	168.4	262.4	3.2	0.1	6.9	0.3		10.5	256.2	25.0			96.69%	A		
8	1949	4	93	75.5	168.5	3.2	0.1	7.2	0.3		10.8	162.1	15.6			92.30%	A		
9	1949	13	95	41.9	136.9	3.2	0.1	5.9	0.3		9.5	131.5	14.4			88.38%	A		
10	1949	24	95	50.4	145.4	3.2	0.1	2.1	0.3		5.7	143.0	25.3	3.22%	2 411	95.71%	A	97.50%	A
11	1949	48	95	147.0	242.0	3.2	0.1	1.0	0.3		4.6	240.5	52.8			99.10%	A		
12	1949	35	95	155.9	250.9	3.2	0.1	1.9	0.3		5.5	248.6	45.6			98.73%	A		
1	1950	72	95	213.5	308.5	3.2	0.1	2.4	0.3		6.1	305.8	50.8			98.88%	A		
2	1950	35	95	185.3	280.3	3.2	0.1	2.1	0.3		5.7	277.9	49.2			98.85%	A		
3	1950	77	95	298.1	393.1	3.2	0.1	0.2	0.3		3.9	392.2	101.8			99.73%	A		
4	1950	23	95	181.0	276.0	3.2	0.1	0.2	0.3		3.9	275.1	71.2			99.55%	A		
5	1950	0	95	97.1	192.1	3.2	0.1	2.2	0.3		5.8	189.7	33.0			97.72%	A		
6	1950		95	49.2	144.2	3.2	0.1	6.1	0.3		9.7	138.6	14.8			89.76%	A		
7	1950		94	20.5	114.5	3.2	0.1	6.9	0.3		10.5	108.3	10.9			72.84%	A		
8	1950		93	3.4	96.4	3.2	0.1	7.2	0.3		10.8	89.9	8.9						
9	1950	5	92	1.1	93.1	3.2	0.1	5.9	0.3		9.5	87.7	9.8						
10	1950	37	95	47.8	142.8	3.2	0.1	2.1	0.3		5.7	140.4	24.9	0.83%	9 306	95.48%	A	99.59%	A
11	1950	275	95	433.3	528.3	3.2	0.1	1.0	0.3		4.6	526.8	115.2			99.69%	A		
12	1950	504	95	1026.3	1 121.3	3.2	0.1	1.9	0.3		5.5	1 119.0	203.9			99.81%	A		
1	1951	286	95	1139.1	1 234.1	3.2	0.1	2.4	0.3		6.1	1 231.4	203.0			99.79%	A		
2	1951	260	95	1129.8	1 224.8	3.2	0.1	2.1	0.3		5.7	1 222.4	214.9			99.81%	A		
3	1951	540	95	1619.9	1 714.9	3.2	0.1	0.2	0.3		3.9	1 714.0	444.2			99.95%	A		
4	1951	343	95	1440.3	1 535.3	3.2	0.1	0.2	0.3		3.9	1 534.3	396.1			99.94%	A		
5	1951	43	95	875.9	970.9	3.2	0.1	2.2	0.3		5.8	968.5	166.9			99.75%	A		
6	1951		95	482.9	577.9	3.2	0.1	6.1	0.3		9.7	572.3	59.3			98.96%	A		
7	1951		94	255.5	349.5	3.2	0.1	6.9	0.3		10.5	343.3	33.3			97.82%	A		
8	1951		93	119.5	212.5	3.2	0.1	7.2	0.3		10.8	206.0	19.6			95.13%	A		
9	1951	22	92	84.4	176.4	3.2	0.1	5.9	0.3		9.5	171.0	18.6			94.24%	A		
10	1951	54	95	152.7	247.7	3.2	0.1	2.1	0.3		5.7	245.3	43.1	1.84%	4 233	98.59%	A	98.94%	A
11	1951	112	95	392.7	487.7	3.2	0.1	1.0	0.3		4.6	486.2	106.3			99.66%	A		
12	1951	93	95	541.7	636.7	3.2	0.1	1.9	0.3		5.5	634.5	115.8			99.63%	A		
1	1952	35	95	396.8	491.8	3.2	0.1	2.4	0.3		6.1	489.1	80.9			99.40%	A		
2	1952	109	95	512.8	607.8	3.2	0.1	2.1	0.3		5.7	605.5	106.6			99.59%	A		
3	1952	97	95	456.7	551.7	3.2	0.1	0.2	0.3		3.9	550.9	142.9			99.82%	A		
4	1952	131	95	446.1	541.1	3.2	0.1	0.2	0.3		3.9	540.1	139.6			99.82%	A		
5	1952		95	230.6	325.6	3.2	0.1	2.2	0.3		5.8	323.1	56.0			99.04%	A		
6	1952		94	118.2	212.2	3.2	0.1	6.1	0.3		9.7	206.6	21.8			95.74%	A		
7	1952		93	51.0	144.0	3.2	0.1	6.9	0.3		10.5	137.8	13.7			89.07%	A		

8	1952		92	10.9	102.9	3.2	0.1	7.2	0.3		10.8	96.4	9.5			46.40%	A	
9	1952	7	91	12.7	103.7	3.2	0.1	5.9	0.3		9.5	98.3	10.9			61.74%	A	
10	1952	123	95	353.7	448.7	3.2	0.1	2.1	0.3		5.7	446.3	78.1			99.39%	A	
11	1952	250	95	746.7	841.7	3.2	0.1	1.0	0.3		4.6	840.2	183.5			99.82%	A	
12	1952	195	95	806.8	901.8	3.2	0.1	1.9	0.3		5.5	899.6	164.0			99.75%	A	
1	1953	102	95	764.0	859.0	3.2	0.1	2.4	0.3		6.1	856.3	141.3			99.69%	A	
2	1953	64	95	607.5	702.5	3.2	0.1	2.1	0.3		5.7	700.1	123.3			99.65%	A	
3	1953	295	95	862.9	957.9	3.2	0.1	0.2	0.3		3.9	957.0	248.1			99.91%	A	
4	1953	140	95	769.0	864.0	3.2	0.1	0.2	0.3		3.9	863.1	222.9	1.20%	6 475	99.89%	A	99.38%
5	1953	5	95	409.9	504.9	3.2	0.1	2.2	0.3		5.8	502.5	86.8			99.46%	A	
6	1953	0	95	216.5	311.5	3.2	0.1	6.1	0.3		9.7	305.9	32.0			97.67%	A	
7	1953		94	101.1	195.1	3.2	0.1	6.9	0.3		10.5	189.0	18.6			94.49%	A	
8	1953	1	93	37.1	130.1	3.2	0.1	7.2	0.3		10.8	123.6	12.0			84.30%	A	
9	1953	2	93	1.4	94.4	3.2	0.1	5.9	0.3		9.5	89.0	9.9					
10	1953	111	94	231.6	325.6	3.2	0.1	2.1	0.3		5.7	323.2	56.7			99.07%	A	
11	1953	143	95	381.3	476.3	3.2	0.1	1.0	0.3		4.6	474.8	103.8			99.65%	A	
12	1953	106	95	419.8	514.8	3.2	0.1	1.9	0.3		5.5	512.6	93.6			99.53%	A	
1	1954	109	95	467.1	562.1	3.2	0.1	2.4	0.3		6.1	559.5	92.5			99.49%	A	
2	1954	135	95	495.6	590.6	3.2	0.1	2.1	0.3		5.7	588.2	103.6			99.57%	A	
3	1954	218	95	720.7	815.7	3.2	0.1	0.2	0.3		3.9	814.9	211.3			99.89%	A	
4	1954	175	95	698.7	793.7	3.2	0.1	0.2	0.3		3.9	792.8	204.8	1.53%	5 081	99.88%	A	99.17%
5	1954	36	95	397.6	492.6	3.2	0.1	2.2	0.3		5.8	490.1	84.7			99.44%	A	
6	1954		95	214.1	309.1	3.2	0.1	6.1	0.3		9.7	303.5	31.7			97.65%	A	
7	1954		94	106.6	200.6	3.2	0.1	6.9	0.3		10.5	194.4	19.1			94.77%	A	
8	1954	0	93	42.4	135.4	3.2	0.1	7.2	0.3		10.8	128.9	12.5			86.27%	A	
9	1954	14	92	36.5	128.5	3.2	0.1	5.9	0.3		9.5	123.1	13.5			86.69%	A	
10	1954	65	95	147.4	242.4	3.2	0.1	2.1	0.3		5.7	240.0	42.2			98.54%	A	
11	1954	95	95	265.5	360.5	3.2	0.1	1.0	0.3		4.6	359.1	78.6			99.50%	A	
12	1954	57	95	249.9	344.9	3.2	0.1	1.9	0.3		5.5	342.7	62.7			99.21%	A	
1	1955	36	95	230.6	325.6	3.2	0.1	2.4	0.3		6.1	322.9	53.6			98.96%	A	
2	1955	11	95	149.1	244.1	3.2	0.1	2.1	0.3		5.7	241.7	42.8			98.57%	A	
3	1955	158	95	323.1	418.1	3.2	0.1	0.2	0.3		3.9	417.2	108.3			99.75%	A	
4	1955	135	95	363.6	458.6	3.2	0.1	0.2	0.3		3.9	457.6	118.3	2.54%	3 056	99.78%	A	98.31%
5	1955	8	95	196.4	291.4	3.2	0.1	2.2	0.3		5.8	288.9	50.1			98.87%	A	
6	1955		95	100.4	195.4	3.2	0.1	6.1	0.3		9.7	189.8	20.1			94.98%	A	
7	1955	0	94	44.0	138.0	3.2	0.1	6.9	0.3		10.5	131.8	13.2			87.31%	A	
8	1955	0	93	10.2	103.2	3.2	0.1	7.2	0.3		10.8	96.7	9.5			43.00%	A	
9	1955	0	92	0.1	92.1	3.2	0.1	5.9	0.3		9.5	86.7	9.7					
10	1955	161	91	252.3	343.3	3.2	0.1	2.1	0.3		5.7	340.9	59.8			99.14%	A	
11	1955	470	95	684.1	779.1	3.2	0.1	1.0	0.3		4.6	777.7	169.8			99.81%	A	
12	1955	289	95	872.2	967.2	3.2	0.1	1.9	0.3		5.5	965.0	175.9			99.77%	A	
1	1956	342	95	1079.3	1 174.3	3.2	0.1	2.4	0.3		6.1	1 171.6	193.2			99.78%	A	
2	1956	85	95	711.0	806.0	3.2	0.1	2.1	0.3		5.7	803.6	141.4			99.70%	A	
3	1956	318	95	834.4	929.4	3.2	0.1	0.2	0.3		3.9	928.5	240.8			99.90%	A	
4	1956	331	95	1050.4	1 145.4	3.2	0.1	0.2	0.3		3.9	1 144.5	295.5	1.06%	7 328	99.92%	A	99.47%
5	1956	5	95	550.5	645.5	3.2	0.1	2.2	0.3		5.8	643.0	110.9			99.60%	A	
6	1956		95	299.8	394.8	3.2	0.1	6.1	0.3		9.7	389.2	40.5			98.32%	A	
7	1956	0	94	150.0	244.0	3.2	0.1	6.9	0.3		10.5	237.8	23.3			96.28%	A	
8	1956	0	93	60.4	153.4	3.2	0.1	7.2	0.3		10.8	147.0	14.2			90.37%	A	
9	1956	10	92	34.2	126.2	3.2	0.1	5.9	0.3		9.5	120.8	13.3			85.77%	A	
10	1956	74	95	274.6	369.6	3.2	0.1	2.1	0.3		5.7	367.2	64.4			99.21%	A	
11	1956	62	95	336.6	431.6	3.2	0.1	1.0	0.3		4.6	430.2	94.1			99.61%	A	
12	1956	61	95	403.3	498.3	3.2	0.1	1.9	0.3		5.5	496.1	90.6			99.51%	A	
1	1957	49	95	377.1	472.1	3.2	0.1	2.4	0.3		6.1	469.5	77.7			99.36%	A	
2	1957	60	95	384.8	479.8	3.2	0.1	2.1	0.3		5.7	477.4	84.2			99.45%	A	
3	1957	232	95	800.9	895.9	3.2	0.1	0.2	0.3		3.9	895.0	232.1			99.90%	A	
4	1957	127	95	657.4	752.4	3.2	0.1	0.2	0.3		3.9	751.5	194.1	1.61%	4 821	99.88%	A	99.11%

5	1957	0	95	351.1	446.1	3.2	0.1	2.2	0.3	5.8	443.7	76.7			99.37%	A		
6	1957	0	95	185.3	280.3	3.2	0.1	6.1	0.3	9.7	274.8	28.8			97.28%	A		
7	1957	0	94	86.7	180.7	3.2	0.1	6.9	0.3	10.5	174.5	17.2			93.57%	A		
8	1957	0	93	27.7	120.7	3.2	0.1	7.2	0.3	10.8	114.2	11.2			79.00%	A		
9	1957	10	92	51.7	143.7	3.2	0.1	5.9	0.3	9.5	138.3	15.1			90.59%	A		
10	1957	38	95	122.7	217.7	3.2	0.1	2.1	0.3	5.7	215.3	37.9			98.24%	A		
11	1957	75	95	223.4	318.4	3.2	0.1	1.0	0.3	4.6	316.9	69.4			99.41%	A		
12	1957	70	95	317.3	412.3	3.2	0.1	1.9	0.3	5.5	410.1	75.0			99.38%	A		
1	1958	24	95	241.8	336.8	3.2	0.1	2.4	0.3	6.1	334.1	55.4			99.01%	A		
2	1958	24	95	214.1	309.1	3.2	0.1	2.1	0.3	5.7	306.7	54.2			99.01%	A		
3	1958	79	95	287.8	382.8	3.2	0.1	0.2	0.3	3.9	381.9	99.2			99.72%	A		
4	1958	19	95	197.6	292.6	3.2	0.1	0.2	0.3	3.9	291.7	75.5			99.59%	A		
5	1958	0	95	103.1	198.1	3.2	0.1	2.2	0.3	5.8	195.6	34.0			97.85%	A		
6	1958	0	94	50.4	144.4	3.2	0.1	6.1	0.3	9.7	138.9	14.8			90.02%	A		
7	1958	0	93	19.0	112.0	3.2	0.1	6.9	0.3	10.5	105.8	10.7			70.63%	A		
8	1958		92	0.2	92.2	3.2	0.1	7.2	0.3	10.8	85.7	8.5						
9	1958	3	91	1.4	92.4	3.2	0.1	5.9	0.3	9.5	87.0	9.7						
10	1958	83	93	183.8	276.8	3.2	0.1	2.1	0.3	5.7	274.4	48.2			98.83%	A		
11	1958	197	95	605.0	700.0	3.2	0.1	1.0	0.3	4.6	698.5	152.6			99.78%	A		
12	1958	200	95	804.7	899.7	3.2	0.1	1.9	0.3	5.5	897.5	163.6			99.75%	A		
1	1959	180	95	799.9	894.9	3.2	0.1	2.4	0.3	6.1	892.2	147.2			99.70%	A		
2	1959	179	95	841.3	936.3	3.2	0.1	2.1	0.3	5.7	933.9	164.3			99.75%	A		
3	1959	194	95	938.1	1 033.1	3.2	0.1	0.2	0.3	3.9	1 032.2	267.6			99.91%	A		
4	1959	150	95	877.2	972.2	3.2	0.1	0.2	0.3	3.9	971.3	250.8			99.91%	A		
5	1959	22	95	540.9	635.9	3.2	0.1	2.2	0.3	5.8	633.4	109.3			99.59%	A		
6	1959	0	95	289.4	384.4	3.2	0.1	6.1	0.3	9.7	378.8	39.5			98.26%	A		
7	1959	0	94	145.7	239.7	3.2	0.1	6.9	0.3	10.5	233.5	22.9			96.17%	A		
8	1959	1	93	61.6	154.6	3.2	0.1	7.2	0.3	10.8	148.1	14.3			90.56%	A		
9	1959	11	93	34.0	127.0	3.2	0.1	5.9	0.3	9.5	121.6	13.4			85.71%	A		
10	1959	124	95	204.4	299.4	3.2	0.1	2.1	0.3	5.7	297.0	52.1			98.94%	A		
11	1959	342	95	569.4	664.4	3.2	0.1	1.0	0.3	4.6	662.9	144.8			99.77%	A		
12	1959	241	95	815.7	910.7	3.2	0.1	1.9	0.3	5.5	908.5	165.6			99.76%	A		
1	1960	252	95	936.0	1 031.0	3.2	0.1	2.4	0.3	6.1	1 028.3	169.6			99.74%	A		
2	1960	248	95	916.4	1 011.4	3.2	0.1	2.1	0.3	5.7	1 009.0	177.5			99.77%	A		
3	1960	597	95	1312.6	1 407.6	3.2	0.1	0.2	0.3	3.9	1 406.7	364.7			99.94%	A		
4	1960	203	95	994.4	1 089.4	3.2	0.1	0.2	0.3	3.9	1 088.5	281.0			99.92%	A		
5	1960	39	95	640.7	735.7	3.2	0.1	2.2	0.3	5.8	733.3	126.4			99.65%	A		
6	1960		95	344.1	439.1	3.2	0.1	6.1	0.3	9.7	433.5	45.1			98.54%	A		
7	1960	0	94	174.7	268.7	3.2	0.1	6.9	0.3	10.5	262.5	25.6			96.81%	A		
8	1960	0	93	73.5	166.5	3.2	0.1	7.2	0.3	10.8	160.1	15.4			92.09%	A		
9	1960	38	92	104.4	196.4	3.2	0.1	5.9	0.3	9.5	190.9	20.7			95.34%	A		
10	1960	188	95	274.2	369.2	3.2	0.1	2.1	0.3	5.7	366.8	64.3			99.21%	A		
11	1960	446	95	743.5	838.5	3.2	0.1	1.0	0.3	4.6	837.0	182.8			99.82%	A		
12	1960	469	95	978.3	1 073.3	3.2	0.1	1.9	0.3	5.5	1 071.1	195.2			99.80%	A		
1	1961	453	95	1073.5	1 168.5	3.2	0.1	2.4	0.3	6.1	1 165.8	192.3			99.78%	A		
2	1961	569	95	1302.8	1 397.8	3.2	0.1	2.1	0.3	5.7	1 395.4	245.2			99.84%	A		
3	1961	533	95	1437.4	1 532.4	3.2	0.1	0.2	0.3	3.9	1 531.5	397.0			99.94%	A		
4	1961	433	95	1369.9	1 464.9	3.2	0.1	0.2	0.3	3.9	1 464.0	377.9			99.94%	A		
5	1961	93	95	843.4	938.4	3.2	0.1	2.2	0.3	5.8	936.0	161.3			99.74%	A		
6	1961	0	95	463.2	558.2	3.2	0.1	6.1	0.3	9.7	552.6	57.3			98.91%	A		
7	1961	0	94	244.2	338.2	3.2	0.1	6.9	0.3	10.5	332.0	32.2			97.72%	A		
8	1961	0	93	113.4	206.4	3.2	0.1	7.2	0.3	10.8	199.9	19.1			94.87%	A		
9	1961	53	92	127.1	219.1	3.2	0.1	5.9	0.3	9.5	213.7	23.1			96.17%	A		
10	1961	261	95	366.5	461.5	3.2	0.1	2.1	0.3	5.7	459.1	80.3			99.41%	A		
11	1961	231	95	464.3	559.3	3.2	0.1	1.0	0.3	4.6	557.8	121.9			99.71%	A		
12	1961	437	95	1177.7	1 272.7	3.2	0.1	1.9	0.3	5.5	1 270.5	231.5			99.83%	A		
1	1962	192	95	956.9	1 051.9	3.2	0.1	2.4	0.3	6.1	1 049.2	173.1			99.75%	A		

2	1962	78	95	482.3	577.3	3.2	0.1	2.1	0.3		5.7	574.9	101.3	1.03%	7 551	99.56%	A	99.48%	A
3	1962	523	95	942.9	1 037.9	3.2	0.1	0.2	0.3		3.9	1 037.0	268.9			99.91%	A		
4	1962	309	95	1041.1	1 136.1	3.2	0.1	0.2	0.3		3.9	1 135.2	293.1			99.92%	A		
5	1962		95	479.7	574.7	3.2	0.1	2.2	0.3		5.8	572.3	98.8			99.54%	A		
6	1962	0	94	317.0	411.0	3.2	0.1	6.1	0.3		9.7	405.4	42.2			98.41%	A		
7	1962	0	93	248.5	341.5	3.2	0.1	6.9	0.3		10.5	335.4	32.6			97.76%	A		
8	1962	4	92	190.6	282.6	3.2	0.1	7.2	0.3		10.8	276.1	26.1			96.95%	A		
9	1962	10	95	141.5	236.5	3.2	0.1	5.9	0.3		9.5	231.1	24.9			96.56%	A		
10	1962	201	95	226.1	321.1	3.2	0.1	2.1	0.3		5.7	318.7	55.9	0.93%	8 308	99.05%	A	99.54%	A
11	1962	259	95	517.8	612.8	3.2	0.1	1.0	0.3		4.6	611.3	133.6			99.74%	A		
12	1962	383	95	852.7	947.7	3.2	0.1	1.9	0.3		5.5	945.5	172.3			99.77%	A		
1	1963	247	95	656.6	751.6	3.2	0.1	2.4	0.3		6.1	749.0	123.7			99.63%	A		
2	1963	301	95	1157.2	1 252.2	3.2	0.1	2.1	0.3		5.7	1 249.8	219.7			99.82%	A		
3	1963	416	95	1155.1	1 250.1	3.2	0.1	0.2	0.3		3.9	1 249.2	323.8			99.93%	A		
4	1963	323	95	1291.9	1 386.9	3.2	0.1	0.2	0.3		3.9	1 386.0	357.8			99.94%	A		
5	1963	11	95	599.3	694.3	3.2	0.1	2.2	0.3		5.8	691.8	119.3			99.63%	A		
6	1963	0	95	390.7	485.7	3.2	0.1	6.1	0.3		9.7	480.1	49.9			98.71%	A		
7	1963		94	313.5	407.5	3.2	0.1	6.9	0.3		10.5	401.3	38.9			98.22%	A		
8	1963	0	93	251.6	344.6	3.2	0.1	7.2	0.3		10.8	338.1	31.8			97.69%	A		
9	1963	17	92	192.9	284.9	3.2	0.1	5.9	0.3		9.5	279.5	30.0			97.48%	A		
10	1963	55	95	168.8	263.8	3.2	0.1	2.1	0.3		5.7	261.4	45.9	1.88%	4 133	98.72%	A	98.91%	A
11	1963	72	95	219.4	314.4	3.2	0.1	1.0	0.3		4.6	312.9	68.5			99.39%	A		
12	1963	79	95	184.1	279.1	3.2	0.1	1.9	0.3		5.5	276.9	50.8			98.92%	A		
1	1964	125	95	449.6	544.6	3.2	0.1	2.4	0.3		6.1	542.0	89.6			99.47%	A		
2	1964	83	95	323.7	418.7	3.2	0.1	2.1	0.3		5.7	416.3	73.5			99.34%	A		
3	1964	178	95	695.1	790.1	3.2	0.1	0.2	0.3		3.9	789.2	204.7			99.88%	A		
4	1964	27	95	474.5	569.5	3.2	0.1	0.2	0.3		3.9	568.6	146.9			99.83%	A		
5	1964	0	95	217.8	312.8	3.2	0.1	2.2	0.3		5.8	310.4	53.8			98.98%	A		
6	1964		95	153.9	248.9	3.2	0.1	6.1	0.3		9.7	243.3	25.6			96.73%	A		
7	1964		94	130.4	224.4	3.2	0.1	6.9	0.3		10.5	218.2	21.4			95.72%	A		
8	1964	2	93	108.4	201.4	3.2	0.1	7.2	0.3		10.8	195.0	18.6			94.63%	A		
9	1964	11	94	85.9	179.9	3.2	0.1	5.9	0.3		9.5	174.5	18.9			94.34%	A		
10	1964	82	95	171.3	266.3	3.2	0.1	2.1	0.3		5.7	263.9	46.4	1.27%	6 100	98.74%	A	99.34%	A
11	1964	120	95	245.1	340.1	3.2	0.1	1.0	0.3		4.6	338.6	74.1			99.46%	A		
12	1964	209	95	438.1	533.1	3.2	0.1	1.9	0.3		5.5	530.9	97.0			99.55%	A		
1	1965	103	95	509.4	604.4	3.2	0.1	2.4	0.3		6.1	601.7	99.4			99.53%	A		
2	1965	166	95	644.9	739.9	3.2	0.1	2.1	0.3		5.7	737.6	129.8			99.67%	A		
3	1965	286	95	1141.7	1 236.7	3.2	0.1	0.2	0.3		3.9	1 235.8	320.4			99.93%	A		
4	1965	165	95	911.1	1 006.1	3.2	0.1	0.2	0.3		3.9	1 005.2	259.5			99.91%	A		
5	1965		95	426.0	521.0	3.2	0.1	2.2	0.3		5.8	518.6	89.5			99.48%	A		
6	1965	0	94	277.1	371.1	3.2	0.1	6.1	0.3		9.7	365.5	38.1			98.18%	A		
7	1965		93	219.3	312.3	3.2	0.1	6.9	0.3		10.5	306.1	29.8			97.46%	A		
8	1965	0	92	169.5	261.5	3.2	0.1	7.2	0.3		10.8	255.0	24.2			96.57%	A		
9	1965	13	91	132.9	223.9	3.2	0.1	5.9	0.3		9.5	218.5	23.6			96.34%	A		
10	1965	28	95	86.3	181.3	3.2	0.1	2.1	0.3		5.7	178.9	31.6	2.16%	3 599	97.50%	A	98.68%	A
11	1965	95	95	116.7	211.7	3.2	0.1	1.0	0.3		4.6	210.2	46.1			98.86%	A		
12	1965	117	95	327.2	422.2	3.2	0.1	1.9	0.3		5.5	420.0	76.8			99.39%	A		
1	1966	102	95	545.8	640.8	3.2	0.1	2.4	0.3		6.1	638.1	105.4			99.56%	A		
2	1966	27	95	250.2	345.2	3.2	0.1	2.1	0.3		5.7	342.8	60.6			99.15%	A		
3	1966	160	95	504.0	599.0	3.2	0.1	0.2	0.3		3.9	598.1	155.2			99.84%	A		
4	1966	49	95	334.0	429.0	3.2	0.1	0.2	0.3		3.9	428.1	110.7			99.76%	A		
5	1966	2	95	158.4	253.4	3.2	0.1	2.2	0.3		5.8	250.9	43.5			98.60%	A		
6	1966		95	109.5	204.5	3.2	0.1	6.1	0.3		9.7	198.9	21.0			95.40%	A		
7	1966		94	88.8	182.8	3.2	0.1	6.9	0.3		10.5	176.6	17.4			93.72%	A		
8	1966	1	93	72.1	165.1	3.2	0.1	7.2	0.3		10.8	158.6	15.3			91.93%	A		
9	1966	18	93	58.0	151.0	3.2	0.1	5.9	0.3		9.5	145.6	15.9			91.61%	A		
10	1966	90	95	200.5	295.5	3.2	0.1	2.1	0.3		5.7	293.1	51.4			98.92%	A		

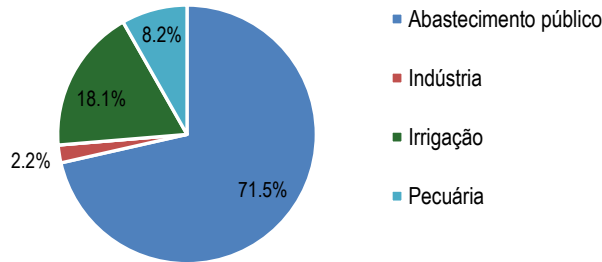
11	1966	124	95	278.0	373.0	3.2	0.1	1.0	0.3		4.6	371.5	81.3	1.50%	5 178	99.52%	A	99.19%	A
12	1966	178	95	632.5	727.5	3.2	0.1	1.9	0.3		5.5	725.3	132.3			99.69%	A		
1	1967	43	95	364.2	459.2	3.2	0.1	2.4	0.3		6.1	456.5	75.6			99.34%	A		
2	1967	97	95	194.7	289.7	3.2	0.1	2.1	0.3		5.7	287.4	50.8			98.91%	A		
3	1967	336	95	727.9	822.9	3.2	0.1	0.2	0.3		3.9	822.0	213.2			99.89%	A		
4	1967	146	95	807.2	902.2	3.2	0.1	0.2	0.3		3.9	901.3	232.8			99.90%	A		
5	1967	37	95	424.5	519.5	3.2	0.1	2.2	0.3		5.8	517.1	89.3			99.48%	A		
6	1967	0	95	233.5	328.5	3.2	0.1	6.1	0.3		9.7	322.9	33.7			97.84%	A		
7	1967		94	177.5	271.5	3.2	0.1	6.9	0.3		10.5	265.3	25.9			96.86%	A		
8	1967	1	93	140.2	233.2	3.2	0.1	7.2	0.3		10.8	226.7	21.5			95.85%	A		
9	1967	4	93	130.6	223.6	3.2	0.1	5.9	0.3		9.5	218.2	23.5			96.28%	A		
10	1967	105	95	209.1	304.1	3.2	0.1	2.1	0.3		5.7	301.7	52.9	1.15%	6 743	98.97%	A	99.41%	A
11	1967	167	95	413.1	508.1	3.2	0.1	1.0	0.3		4.6	506.6	110.8			99.68%	A		
12	1967	179	95	597.0	692.0	3.2	0.1	1.9	0.3		5.5	689.8	125.8			99.67%	A		
1	1968	137	95	936.1	1 031.1	3.2	0.1	2.4	0.3		6.1	1 028.4	169.7			99.74%	A		
2	1968	150	95	607.7	702.7	3.2	0.1	2.1	0.3		5.7	700.3	123.3			99.65%	A		
3	1968	241	95	834.8	929.8	3.2	0.1	0.2	0.3		3.9	928.9	240.9			99.90%	A		
4	1968	195	95	925.8	1 020.8	3.2	0.1	0.2	0.3		3.9	1 019.9	263.3			99.91%	A		
5	1968	25	95	547.1	642.1	3.2	0.1	2.2	0.3		5.8	639.7	110.4			99.60%	A		
6	1968	0	95	313.0	408.0	3.2	0.1	6.1	0.3		9.7	402.4	41.9			98.39%	A		
7	1968	0	94	243.8	337.8	3.2	0.1	6.9	0.3		10.5	331.6	32.2			97.71%	A		
8	1968	0	93	188.5	281.5	3.2	0.1	7.2	0.3		10.8	275.1	26.0			96.91%	A		
9	1968	4	92	142.6	234.6	3.2	0.1	5.9	0.3		9.5	229.2	24.7			96.59%	A		
10	1968	100	95	173.2	268.2	3.2	0.1	2.1	0.3		5.7	265.8	46.7	1.24%	6 255	98.75%	A	99.35%	A
11	1968	173	95	539.4	634.4	3.2	0.1	1.0	0.3		4.6	632.9	138.3			99.75%	A		
12	1968	120	95	442.8	537.8	3.2	0.1	1.9	0.3		5.5	535.6	97.8			99.55%	A		
1	1969	91	95	342.2	437.2	3.2	0.1	2.4	0.3		6.1	434.6	71.9			99.30%	A		
2	1969	197	95	492.6	587.6	3.2	0.1	2.1	0.3		5.7	585.3	103.1			99.57%	A		
3	1969	298	95	1369.9	1 464.9	3.2	0.1	0.2	0.3		3.9	1 464.0	379.5			99.94%	A		
4	1969	168	95	898.5	993.5	3.2	0.1	0.2	0.3		3.9	992.6	256.3			99.91%	A		
5	1969	1	95	420.9	515.9	3.2	0.1	2.2	0.3		5.8	513.5	88.7			99.47%	A		
6	1969		95	265.0	360.0	3.2	0.1	6.1	0.3		9.7	354.4	37.0			98.10%	A		
7	1969	0	94	209.1	303.1	3.2	0.1	6.9	0.3		10.5	296.9	28.9			97.33%	A		
8	1969	4	93	165.8	258.8	3.2	0.1	7.2	0.3		10.8	252.3	23.9			96.49%	A		
9	1969	4	95	123.0	218.0	3.2	0.1	5.9	0.3		9.5	212.6	23.0			96.05%	A		
10	1969	112	95	216.5	311.5	3.2	0.1	2.1	0.3		5.7	309.1	54.2	1.13%	6 853	99.00%	A	99.42%	A
11	1969	253	95	627.6	722.6	3.2	0.1	1.0	0.3		4.6	721.1	157.5			99.79%	A		
12	1969	154	95	701.9	796.9	3.2	0.1	1.9	0.3		5.5	794.7	144.9			99.72%	A		
1	1970	165	95	920.7	1 015.7	3.2	0.1	2.4	0.3		6.1	1 013.0	167.1			99.74%	A		
2	1970	194	95	783.2	878.2	3.2	0.1	2.1	0.3		5.7	875.9	154.1			99.73%	A		
3	1970	254	95	1204.7	1 299.7	3.2	0.1	0.2	0.3		3.9	1 298.8	336.7			99.93%	A		
4	1970	70	95	571.4	666.4	3.2	0.1	0.2	0.3		3.9	665.5	171.9			99.86%	A		
5	1970	0	95	348.9	443.9	3.2	0.1	2.2	0.3		5.8	441.4	76.3			99.37%	A		
6	1970	0	94	236.9	330.9	3.2	0.1	6.1	0.3		9.7	325.3	34.0			97.87%	A		
7	1970	0	93	188.1	281.1	3.2	0.1	6.9	0.3		10.5	275.0	26.8			97.04%	A		
8	1970	0	92	155.3	247.3	3.2	0.1	7.2	0.3		10.8	240.8	22.8			96.25%	A		
9	1970	11	91	123.7	214.7	3.2	0.1	5.9	0.3		9.5	209.3	22.6			96.07%	A		
10	1970	76	95	250.1	345.1	3.2	0.1	2.1	0.3		5.7	342.7	60.1	1.75%	4 449	99.14%	A	99.01%	A
11	1970	101	95	412.8	507.8	3.2	0.1	1.0	0.3		4.6	506.3	110.7			99.68%	A		
12	1970	79	95	458.2	553.2	3.2	0.1	1.9	0.3		5.5	551.0	100.6			99.57%	A		
1	1971	34	95	364.2	459.2	3.2	0.1	2.4	0.3		6.1	456.5	75.6			99.34%	A		
2	1971	76	95	442.1	537.1	3.2	0.1	2.1	0.3		5.7	534.7	94.2			99.52%	A		
3	1971	173	95	589.0	684.0	3.2	0.1	0.2	0.3		3.9	683.1	177.2			99.86%	A		
4	1971	102	95	511.3	606.3	3.2	0.1	0.2	0.3		3.9	605.4	156.4			99.84%	A		
5	1971	5	95	274.5	369.5	3.2	0.1	2.2	0.3		5.8	367.0	63.5			99.19%	A		
6	1971	1	95	144.4	239.4	3.2	0.1	6.1	0.3		9.7	233.8	24.6			96.51%	A		
7	1971		95	66.8	161.8	3.2	0.1	6.9	0.3		10.5	155.6	15.4			91.65%	A		

8	1971		94	20.4	114.4	3.2	0.1	7.2	0.3		10.8	108.0	10.6			71.53%	A	
9	1971	4	93	9.5	102.5	3.2	0.1	5.9	0.3		9.5	97.1	10.8			48.89%	A	
10	1971	33	95	10.6	105.6	3.2	0.1	2.1	0.3		5.7	103.2	18.4	6.21%	1 252	79.62%	A	80.78% A
11	1971	45	95	20.5	115.5	3.2	0.1	1.0	0.3		4.6	114.0	25.2			93.53%	A	
12	1971	41	95	23.0	118.0	3.2	0.1	1.9	0.3		5.5	115.8	21.5			91.37%	A	
1	1972	21	95	20.1	115.1	3.2	0.1	2.4	0.3		6.1	112.4	18.9			88.03%	A	
2	1972	8	95	12.5	107.5	3.2	0.1	2.1	0.3		5.7	105.1	18.9			82.97%	A	
3	1972	81	95	33.4	128.4	3.2	0.1	0.2	0.3		3.9	127.5	33.3			97.59%	A	
4	1972	40	95	30.8	125.8	3.2	0.1	0.2	0.3		3.9	124.9	32.4			97.35%	A	
5	1972	5	95	17.5	112.5	3.2	0.1	2.2	0.3		5.8	110.1	19.3			87.36%	A	
6	1972	0	95	9.0	104.0	3.2	0.1	6.1	0.3		9.7	98.4	10.7			44.24%	A	
7	1972		94	4.1	98.1	3.2	0.1	6.9	0.3		10.5	91.9	9.4					
8	1972	0	93	1.2	94.2	3.2	0.1	7.2	0.3		10.8	87.7	8.7					
9	1972	1	92	0.1	92.1	3.2	0.1	5.9	0.3		9.5	86.7	9.7					
10	1972	116	92	242.9	334.9	3.2	0.1	2.1	0.3		5.7	332.5	58.3	1.30%	5 962	99.11%	A	99.32% A
11	1972	170	95	480.1	575.1	3.2	0.1	1.0	0.3		4.6	573.7	125.4			99.72%	A	
12	1972	213	95	718.9	813.9	3.2	0.1	1.9	0.3		5.5	811.7	148.0			99.72%	A	
1	1973	213	95	886.5	981.5	3.2	0.1	2.4	0.3		6.1	978.9	161.5			99.73%	A	
2	1973	113	95	712.9	807.9	3.2	0.1	2.1	0.3		5.7	805.6	141.8			99.70%	A	
3	1973	163	95	721.2	816.2	3.2	0.1	0.2	0.3		3.9	815.3	211.4			99.89%	A	
4	1973	115	95	673.5	768.5	3.2	0.1	0.2	0.3		3.9	767.6	198.2			99.88%	A	
5	1973	24	95	380.2	475.2	3.2	0.1	2.2	0.3		5.8	472.7	81.7			99.42%	A	
6	1973		95	199.1	294.1	3.2	0.1	6.1	0.3		9.7	288.5	30.2			97.47%	A	
7	1973		94	93.0	187.0	3.2	0.1	6.9	0.3		10.5	180.8	17.8			94.00%	A	
8	1973	0	93	29.5	122.5	3.2	0.1	7.2	0.3		10.8	116.1	11.3			80.31%	A	
9	1973	2	92	2.7	94.7	3.2	0.1	5.9	0.3		9.5	89.3	10.0					
10	1973	82	93	154.4	247.4	3.2	0.1	2.1	0.3		5.7	245.0	43.1	2.31%	3 357	98.60%	A	98.53% A
11	1973	94	95	266.4	361.4	3.2	0.1	1.0	0.3		4.6	360.0	78.8			99.50%	A	
12	1973	28	95	224.6	319.6	3.2	0.1	1.9	0.3		5.5	317.4	58.1			99.12%	A	
1	1974	12	95	149.5	244.5	3.2	0.1	2.4	0.3		6.1	241.8	40.2			98.39%	A	
2	1974	5	95	86.5	181.5	3.2	0.1	2.1	0.3		5.7	179.2	31.9			97.54%	A	
3	1974	207	95	421.3	516.3	3.2	0.1	0.2	0.3		3.9	515.4	133.7			99.81%	A	
4	1974	148	95	525.9	620.9	3.2	0.1	0.2	0.3		3.9	620.0	160.2			99.84%	A	
5	1974	3	95	283.3	378.3	3.2	0.1	2.2	0.3		5.8	375.8	65.0			99.22%	A	
6	1974	0	95	153.7	248.7	3.2	0.1	6.1	0.3		9.7	243.1	25.5			96.72%	A	
7	1974		94	76.8	170.8	3.2	0.1	6.9	0.3		10.5	164.6	16.3			92.74%	A	
8	1974	4	93	41.5	134.5	3.2	0.1	7.2	0.3		10.8	128.0	12.4			85.99%	A	
9	1974	1	95	11.7	106.7	3.2	0.1	5.9	0.3		9.5	101.3	11.2			58.57%	A	

UH	Zambeze
Área (km ²)	150 292
População	385 218
Área irrigada (ha)	249
NGR (mm)	850

Sector	Necessidades anuais de água (hm³)	
Abastecimento público	6.7	71.5%
Indústria	0.2	2.2%
Termo eléctricas		
Irrigação	1.7	18.1%
Pecuária	0.8	8.2%
Volume anual turbinado (hm³)		
Hidroelectricidade		

Uso da água na UH do Zambeze



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano médio	12 250.2	11 016.0	22 343.4	33 359.4	6.7	.2	1.7	.8	---	9.4	33 356.6	3 558.1	0.03%	86 599	---	---	99.99%	A
Ano seco	8 537.6	11 016.0	19 028.3	30 044.3	6.7	.2	1.7	.8	---	9.4	30 041.4	3 204.5	0.03%	77 993	---	---	99.99%	A
Ano muito seco	7 841.8	11 016.0	15 173.8	26 189.8	6.7	.2	1.7	.8	---	9.4	26 186.9	2 793.3	0.04%	67 987	---	---	99.98%	A

10	1944	597	918	324.5	1 242.5	0.6	0.0	0.1	0.1		0.7	1 242.4	1 743.7	0.03%	79 505	99.94%	A	99.99%	A
11	1944	1222	918	330.7	1 248.7	0.6	0.0		0.1		0.6	1 248.5	1 950.9			99.96%	A		
12	1944	1386	918	599.8	1 517.8	0.6	0.0		0.1		0.6	1 517.7	2 371.3			99.98%	A		
1	1945	2132	918	902.7	1 820.7	0.6	0.0		0.1		0.6	1 820.6	2 844.5			99.99%	A		
2	1945	1671	918	1218.9	2 136.9	0.6	0.0		0.1		0.6	2 136.8	3 338.7			99.99%	A		
3	1945	1172	918	2776.9	3 694.9	0.6	0.0		0.1		0.6	3 694.7	5 772.7			100.00%	A		
4	1945	402	918	5392.6	6 310.6	0.6	0.0		0.1		0.6	6 310.5	9 859.4			100.00%	A		
5	1945	15	918	3768.9	4 686.9	0.6	0.0	0.2	0.1		0.8	4 686.6	5 689.3			99.99%	A		
6	1945		918	2123.9	3 041.9	0.6	0.0	0.3	0.1		1.0	3 041.5	3 075.3			99.98%	A		
7	1945		918	1033.3	1 951.3	0.6	0.0	0.4	0.1		1.0	1 950.9	1 922.7			99.96%	A		
8	1945	0	918	675.2	1 593.2	0.6	0.0	0.4	0.1		1.0	1 592.8	1 571.3	0.04%	64 170	99.94%	A	99.98%	A
9	1945	45	918	463.4	1 381.4	0.6	0.0	0.3	0.1		1.0	1 381.0	1 408.1			99.92%	A		
10	1945	572	918	350.6	1 268.6	0.6	0.0	0.1	0.1		0.7	1 268.5	1 780.3			99.95%	A		
11	1945	1348	918	337.5	1 255.5	0.6	0.0		0.1		0.6	1 255.4	1 961.5			99.96%	A		
12	1945	1440	918	557.0	1 475.0	0.6	0.0		0.1		0.6	1 474.8	2 304.4			99.98%	A		
1	1946	1364	918	1013.0	1 931.0	0.6	0.0		0.1		0.6	1 930.9	3 017.0			99.99%	A		
2	1946	961	918	1487.2	2 405.2	0.6	0.0		0.1		0.6	2 405.0	3 757.7			99.99%	A		
3	1946	1239	918	1773.6	2 691.6	0.6	0.0		0.1		0.6	2 691.5	4 205.3			99.99%	A		
4	1946	509	918	2092.9	3 010.9	0.6	0.0		0.1		0.6	3 010.8	4 704.1			99.99%	A		
5	1946	14	918	2478.7	3 396.7	0.6	0.0	0.2	0.1		0.8	3 396.4	4 123.2			99.99%	A		
6	1946		918	1809.6	2 727.6	0.6	0.0	0.3	0.1		1.0	2 727.2	2 757.5			99.98%	A		
7	1946	0	918	864.9	1 782.9	0.6	0.0	0.4	0.1		1.0	1 782.5	1 756.8			99.95%	A		
8	1946	4	918	550.6	1 468.6	0.6	0.0	0.4	0.1		1.0	1 468.2	1 448.4			99.92%	A		
9	1946	124	918	387.8	1 305.8	0.6	0.0	0.3	0.1		1.0	1 305.4	1 331.1			99.90%	A		
10	1946	1013	918	365.8	1 283.8	0.6	0.0	0.1	0.1		0.7	1 283.7	1 801.6	0.02%	98 815	99.95%	A	99.99%	A
11	1946	2287	918	340.0	1 258.0	0.6	0.0		0.1		0.6	1 257.8	1 965.4			99.96%	A		
12	1946	2608	918	593.4	1 511.4	0.6	0.0		0.1		0.6	1 511.2	2 361.3			99.98%	A		
1	1947	2457	918	1030.4	1 948.4	0.6	0.0		0.1		0.6	1 948.2	3 044.0			99.99%	A		
2	1947	2477	918	1318.0	2 236.0	0.6	0.0		0.1		0.6	2 235.9	3 493.4			99.99%	A		
3	1947	3140	918	2598.8	3 516.8	0.6	0.0		0.1		0.6	3 516.7	5 494.5			100.00%	A		
4	1947	1545	918	6842.1	7 760.1	0.6	0.0		0.1		0.6	7 760.0	12 124.1			100.00%	A		
5	1947	99	918	6552.5	7 470.5	0.6	0.0	0.2	0.1		0.8	7 470.2	9 068.2			100.00%	A		
6	1947		918	3658.7	4 576.7	0.6	0.0	0.3	0.1		1.0	4 576.3	4 626.9			99.99%	A		
7	1947		918	1988.4	2 906.4	0.6	0.0	0.4	0.1		1.0	2 906.0	2 863.8			99.98%	A		
8	1947		918	1054.3	1 972.3	0.6	0.0	0.4	0.1		1.0	1 971.8	1 945.1	0.02%	98 815	99.96%	A	99.94%	A
9	1947	351	918	706.9	1 624.9	0.6	0.0	0.3	0.1		1.0	1 624.5	1 656.3			99.94%	A		
10	1947	1013	918	411.9	1 329.9	0.6	0.0	0.1	0.1		0.7	1 329.7	1 866.3			99.96%	A		

11	1947	1153	918	371.8	1 289.8	0.6	0.0		0.1	0.6	1 289.7	2 015.2	0.02%	98 889	99.97%	A	99.99%	A
12	1947	2884	918	500.9	1 418.9	0.6	0.0		0.1	0.6	1 418.8	2 216.9			99.98%	A		
1	1948	3398	918	859.7	1 777.7	0.6	0.0		0.1	0.6	1 777.6	2 777.4			99.99%	A		
2	1948	3237	918	1228.5	2 146.5	0.6	0.0		0.1	0.6	2 146.4	3 353.6			99.99%	A		
3	1948	2821	918	5912.9	6 830.9	0.6	0.0		0.1	0.6	6 830.7	10 672.2			100.00%	A		
4	1948	1260	918	6884.7	7 802.7	0.6	0.0		0.1	0.6	7 802.5	12 190.5			100.00%	A		
5	1948	58	918	5065.0	5 983.0	0.6	0.0	0.2	0.1	0.8	5 982.7	7 262.7			99.99%	A		
6	1948		918	2837.1	3 755.1	0.6	0.0	0.3	0.1	1.0	3 754.7	3 796.3			99.99%	A		
7	1948	0	918	1616.6	2 534.6	0.6	0.0	0.4	0.1	1.0	2 534.2	2 497.4			99.97%	A		
8	1948	0	918	848.6	1 766.6	0.6	0.0	0.4	0.1	1.0	1 766.2	1 742.3			99.95%	A		
9	1948	160	918	540.2	1 458.2	0.6	0.0	0.3	0.1	1.0	1 457.8	1 486.4			99.93%	A		
10	1948	926	918	1043.5	1 961.5	0.6	0.0	0.1	0.1	0.7	1 961.3	2 752.6	0.03%	80 433	99.98%	A	99.99%	A
11	1948	1489	918	1158.6	2 076.6	0.6	0.0		0.1	0.6	2 076.5	3 244.4			99.99%	A		
12	1948	1073	918	1418.6	2 336.6	0.6	0.0		0.1	0.6	2 336.5	3 650.6			99.99%	A		
1	1949	1417	918	1556.3	2 474.3	0.6	0.0		0.1	0.6	2 474.2	3 865.8			99.99%	A		
2	1949	1676	918	1666.3	2 584.3	0.6	0.0		0.1	0.6	2 584.2	4 037.6			99.99%	A		
3	1949	1312	918	2403.4	3 321.4	0.6	0.0		0.1	0.6	3 321.3	5 189.2			99.99%	A		
4	1949	412	918	2888.6	3 806.6	0.6	0.0		0.1	0.6	3 806.4	5 947.2			100.00%	A		
5	1949	230	918	3038.0	3 956.0	0.6	0.0	0.2	0.1	0.8	3 955.7	4 802.1			99.99%	A		
6	1949	11	918	1740.8	2 658.8	0.6	0.0	0.3	0.1	1.0	2 658.4	2 688.0			99.98%	A		
7	1949	0	918	1270.9	2 188.9	0.6	0.0	0.4	0.1	1.0	2 188.4	2 156.7			99.97%	A		
8	1949	88	918	1011.2	1 929.2	0.6	0.0	0.4	0.1	1.0	1 928.7	1 902.6			99.96%	A		
9	1949	72	918	771.9	1 689.9	0.6	0.0	0.3	0.1	1.0	1 689.5	1 722.7			99.95%	A		
10	1949	545	918	275.1	1 193.1	0.6	0.0	0.1	0.1	0.7	1 192.9	1 674.3	0.03%	93 208	99.93%	A	99.99%	A
11	1949	1915	918	252.6	1 170.6	0.6	0.0		0.1	0.6	1 170.5	1 828.9			99.95%	A		
12	1949	2808	918	421.7	1 339.7	0.6	0.0		0.1	0.6	1 339.6	2 093.1			99.97%	A		
1	1950	3145	918	816.9	1 734.9	0.6	0.0		0.1	0.6	1 734.8	2 710.6			99.98%	A		
2	1950	2938	918	1513.2	2 431.2	0.6	0.0		0.1	0.6	2 431.1	3 798.4			99.99%	A		
3	1950	2837	918	6594.5	7 512.5	0.6	0.0		0.1	0.6	7 512.4	11 737.2			100.00%	A		
4	1950	1077	918	5476.2	6 394.2	0.6	0.0		0.1	0.6	6 394.1	9 990.1			100.00%	A		
5	1950	8	918	4686.0	5 604.0	0.6	0.0	0.2	0.1	0.8	5 603.7	6 802.5			99.99%	A		
6	1950		918	2467.2	3 385.2	0.6	0.0	0.3	0.1	1.0	3 384.8	3 422.4			99.98%	A		
7	1950	0	918	1204.4	2 122.4	0.6	0.0	0.4	0.1	1.0	2 121.9	2 091.2			99.97%	A		
8	1950	5	918	710.1	1 628.1	0.6	0.0	0.4	0.1	1.0	1 627.7	1 605.7			99.94%	A		
9	1950	75	918	471.2	1 389.2	0.6	0.0	0.3	0.1	1.0	1 388.8	1 416.1			99.92%	A		
10	1950	678	918	352.8	1 270.8	0.6	0.0	0.1	0.1	0.7	1 270.6	1 783.3	0.03%	88 819	99.95%	A	99.99%	A
11	1950	1646	918	320.1	1 238.1	0.6	0.0		0.1	0.6	1 238.0	1 934.4			99.96%	A		
12	1950	3325	918	529.6	1 447.6	0.6	0.0		0.1	0.6	1 447.4	2 261.6			99.98%	A		
1	1951	3381	918	916.3	1 834.3	0.6	0.0		0.1	0.6	1 834.2	2 865.8			99.99%	A		
2	1951	2167	918	1158.6	2 076.6	0.6	0.0		0.1	0.6	2 076.5	3 244.4			99.99%	A		
3	1951	2101	918	4082.9	5 000.9	0.6	0.0		0.1	0.6	5 000.8	7 813.2			100.00%	A		
4	1951	1313	918	5131.4	6 049.4	0.6	0.0		0.1	0.6	6 049.2	9 451.2			100.00%	A		
5	1951	122	918	4301.4	5 219.4	0.6	0.0	0.2	0.1	0.8	5 219.1	6 335.7			99.99%	A		
6	1951		918	3078.3	3 996.3	0.6	0.0	0.3	0.1	1.0	3 995.9	4 040.2			99.99%	A		
7	1951		918	1765.9	2 683.9	0.6	0.0	0.4	0.1	1.0	2 683.5	2 644.5			99.98%	A		
8	1951	14	918	938.3	1 856.3	0.6	0.0	0.4	0.1	1.0	1 855.8	1 830.7			99.96%	A		
9	1951	118	918	623.4	1 541.4	0.6	0.0	0.3	0.1	1.0	1 541.0	1 571.2			99.94%	A		
10	1951	1013	918	334.5	1 252.5	0.6	0.0	0.1	0.1	0.7	1 252.3	1 757.7	0.03%	85 102	99.95%	A	99.99%	A
11	1951	2242	918	382.3	1 300.3	0.6	0.0		0.1	0.6	1 300.2	2 031.5			99.97%	A		
12	1951	3273	918	580.5	1 498.5	0.6	0.0		0.1	0.6	1 498.3	2 341.1			99.98%	A		
1	1952	2540	918	1441.9	2 359.9	0.6	0.0		0.1	0.6	2 359.8	3 687.0			99.99%	A		
2	1952	2756	918	2890.2	3 808.2	0.6	0.0		0.1	0.6	3 808.1	5 949.8			100.00%	A		
3	1952	1352	918	5980.7	6 898.7	0.6	0.0		0.1	0.6	6 898.6	10 778.2			100.00%	A		
4	1952	861	918	4617.4	5 535.4	0.6	0.0		0.1	0.6	5 535.3	8 648.3			100.00%	A		
5	1952	0	918	2608.2	3 526.2	0.6	0.0	0.2	0.1	0.8	3 525.9	4 280.3			99.99%	A		
6	1952		918	1312.5	2 230.5	0.6	0.0	0.3	0.1	1.0	2 230.1	2 255.0			99.97%	A		
7	1952		918	729.7	1 647.7	0.6	0.0	0.4	0.1	1.0	1 647.2	1 623.5			99.94%	A		

8	1952	11	918	513.3	1 431.3	0.6	0.0	0.4	0.1	1.0	1 430.9	1 411.6	0.02%	97 592	99.92%	A	99.99%	A
9	1952	403	918	375.9	1 293.9	0.6	0.0	0.3	0.1	1.0	1 293.5	1 318.9			99.90%	A		
10	1952	974	918	385.7	1 303.7	0.6	0.0	0.1	0.1	0.7	1 303.5	1 829.5	0.02%	97 592	99.95%	A	99.99%	A
11	1952	2649	918	431.2	1 349.2	0.6	0.0		0.1	0.6	1 349.1	2 108.0			99.97%	A		
12	1952	2297	918	658.0	1 576.0	0.6	0.0		0.1	0.6	1 575.9	2 462.3			99.98%	A		
1	1953	2583	918	887.0	1 805.0	0.6	0.0		0.1	0.6	1 804.9	2 820.0			99.99%	A		
2	1953	2537	918	1205.4	2 123.4	0.6	0.0		0.1	0.6	2 123.3	3 317.6			99.99%	A		
3	1953	3542	918	3740.4	4 658.4	0.6	0.0		0.1	0.6	4 658.3	7 278.1			100.00%	A		
4	1953	1088	918	7355.8	8 273.8	0.6	0.0		0.1	0.6	8 273.7	12 926.6			100.00%	A		
5	1953	65	918	5405.9	6 323.9	0.6	0.0	0.2	0.1	0.8	6 323.6	7 676.4			100.00%	A		
6	1953		918	3245.6	4 163.6	0.6	0.0	0.3	0.1	1.0	4 163.2	4 209.3			99.99%	A		
7	1953	2	918	1746.9	2 664.9	0.6	0.0	0.4	0.1	1.0	2 664.5	2 625.8			99.98%	A		
8	1953	27	918	922.1	1 840.1	0.6	0.0	0.4	0.1	1.0	1 839.7	1 814.8			99.95%	A		
9	1953	76	918	594.3	1 512.3	0.6	0.0	0.3	0.1	1.0	1 511.9	1 541.6			99.93%	A		
10	1953	550	918	477.7	1 395.7	0.6	0.0	0.1	0.1	0.7	1 395.6	1 958.7	0.03%	83 087	99.96%	A	99.99%	A
11	1953	1053	918	445.3	1 363.3	0.6	0.0		0.1	0.6	1 363.2	2 130.0			99.97%	A		
12	1953	1854	918	734.4	1 652.4	0.6	0.0		0.1	0.6	1 652.3	2 581.7			99.98%	A		
1	1954	1660	918	1183.5	2 101.5	0.6	0.0		0.1	0.6	2 101.4	3 283.3			99.99%	A		
2	1954	1288	918	1458.5	2 376.5	0.6	0.0		0.1	0.6	2 376.4	3 712.9			99.99%	A		
3	1954	1795	918	2499.8	3 417.8	0.6	0.0		0.1	0.6	3 417.7	5 339.8			100.00%	A		
4	1954	563	918	4829.2	5 747.2	0.6	0.0		0.1	0.6	5 747.1	8 979.1			100.00%	A		
5	1954	46	918	4267.1	5 185.1	0.6	0.0	0.2	0.1	0.8	5 184.8	6 294.0			99.99%	A		
6	1954		918	2447.7	3 365.7	0.6	0.0	0.3	0.1	1.0	3 365.3	3 402.7			99.98%	A		
7	1954		918	1296.8	2 214.8	0.6	0.0	0.4	0.1	1.0	2 214.3	2 182.3			99.97%	A		
8	1954	13	918	794.2	1 712.2	0.6	0.0	0.4	0.1	1.0	1 711.8	1 688.7			99.95%	A		
9	1954	72	918	556.5	1 474.5	0.6	0.0	0.3	0.1	1.0	1 474.1	1 503.1			99.93%	A		
10	1954	335	918	305.4	1 223.4	0.6	0.0	0.1	0.1	0.7	1 223.2	1 716.8	0.03%	75 585	99.94%	A	99.98%	A
11	1954	1034	918	276.0	1 194.0	0.6	0.0		0.1	0.6	1 193.9	1 865.4			99.96%	A		
12	1954	1891	918	465.8	1 383.8	0.6	0.0		0.1	0.6	1 383.6	2 161.9			99.97%	A		
1	1955	1636	918	982.0	1 900.0	0.6	0.0		0.1	0.6	1 899.9	2 968.5			99.99%	A		
2	1955	1162	918	1608.2	2 526.2	0.6	0.0		0.1	0.6	2 526.1	3 946.8			99.99%	A		
3	1955	1406	918	3088.1	4 006.1	0.6	0.0		0.1	0.6	4 006.0	6 258.9			100.00%	A		
4	1955	722	918	3820.3	4 738.3	0.6	0.0		0.1	0.6	4 738.2	7 402.9			100.00%	A		
5	1955	153	918	3083.8	4 001.8	0.6	0.0	0.2	0.1	0.8	4 001.5	4 857.6			99.99%	A		
6	1955	1	918	2106.4	3 024.4	0.6	0.0	0.3	0.1	1.0	3 024.0	3 057.6			99.98%	A		
7	1955		918	1225.5	2 143.5	0.6	0.0	0.4	0.1	1.0	2 143.0	2 112.0			99.97%	A		
8	1955	0	918	674.8	1 592.8	0.6	0.0	0.4	0.1	1.0	1 592.4	1 570.9			99.94%	A		
9	1955	31	918	464.4	1 382.4	0.6	0.0	0.3	0.1	1.0	1 382.0	1 409.2			99.92%	A		
10	1955	735	918	382.5	1 300.5	0.6	0.0	0.1	0.1	0.7	1 300.4	1 825.1	0.02%	98 098	99.95%	A	99.99%	A
11	1955	1713	918	365.2	1 283.2	0.6	0.0		0.1	0.6	1 283.1	2 004.8			99.97%	A		
12	1955	2498	918	524.3	1 442.3	0.6	0.0		0.1	0.6	1 442.2	2 253.4			99.98%	A		
1	1956	3085	918	803.1	1 721.1	0.6	0.0		0.1	0.6	1 721.0	2 689.0			99.98%	A		
2	1956	2391	918	1091.1	2 009.1	0.6	0.0		0.1	0.6	2 009.0	3 139.0			99.99%	A		
3	1956	2582	918	3896.7	4 814.7	0.6	0.0		0.1	0.6	4 814.6	7 522.3			100.00%	A		
4	1956	2506	918	4567.3	5 485.3	0.6	0.0		0.1	0.6	5 485.2	8 570.0			100.00%	A		
5	1956	2	918	6523.9	7 441.9	0.6	0.0	0.2	0.1	0.8	7 441.7	9 033.6			100.00%	A		
6	1956		918	4501.9	5 419.9	0.6	0.0	0.3	0.1	1.0	5 419.5	5 479.4			99.99%	A		
7	1956		918	2269.5	3 187.5	0.6	0.0	0.4	0.1	1.0	3 187.1	3 140.7			99.98%	A		
8	1956	20	918	1172.2	2 090.2	0.6	0.0	0.4	0.1	1.0	2 089.7	2 061.4			99.96%	A		
9	1956	364	918	675.4	1 593.4	0.6	0.0	0.3	0.1	1.0	1 593.0	1 624.3			99.94%	A		
10	1956	527	918	478.3	1 396.3	0.6	0.0	0.1	0.1	0.7	1 396.2	1 959.5	0.03%	86 433	99.96%	A	99.99%	A
11	1956	2268	918	431.9	1 349.9	0.6	0.0		0.1	0.6	1 349.8	2 109.0			99.97%	A		
12	1956	2257	918	684.7	1 602.7	0.6	0.0		0.1	0.6	1 602.6	2 504.0			99.98%	A		
1	1957	2338	918	837.2	1 755.2	0.6	0.0		0.1	0.6	1 755.1	2 742.3			99.99%	A		
2	1957	3321	918	902.3	1 820.3	0.6	0.0		0.1	0.6	1 820.1	2 843.9			99.99%	A		
3	1957	3016	918	6686.5	7 604.5	0.6	0.0		0.1	0.6	7 604.4	11 880.9			100.00%	A		
4	1957	480	918	5400.3	6 318.3	0.6	0.0		0.1	0.6	6 318.2	9 871.4			100.00%	A		

5	1957	9	918	3075.5	3 993.5	0.6	0.0	0.2	0.1	0.8	3 993.2	4 847.6			99.99%	A		
6	1957		918	1701.4	2 619.4	0.6	0.0	0.3	0.1	1.0	2 619.0	2 648.2			99.98%	A		
7	1957	3	918	982.3	1 900.3	0.6	0.0	0.4	0.1	1.0	1 899.9	1 872.4			99.96%	A		
8	1957	0	918	643.8	1 561.8	0.6	0.0	0.4	0.1	1.0	1 561.4	1 540.3			99.93%	A		
9	1957	379	918	455.2	1 373.2	0.6	0.0	0.3	0.1	1.0	1 372.8	1 399.8			99.91%	A		
10	1957	1276	918	282.3	1 200.3	0.6	0.0	0.1	0.1	0.7	1 200.1	1 684.4			99.94%	A		
11	1957	1238	918	296.4	1 214.4	0.6	0.0		0.1	0.6	1 214.3	1 897.4			99.96%	A		
12	1957	3206	918	421.2	1 339.2	0.6	0.0		0.1	0.6	1 339.1	2 092.3			99.97%	A		
1	1958	3824	918	1055.0	1 973.0	0.6	0.0		0.1	0.6	1 972.9	3 082.6			99.99%	A		
2	1958	2702	918	4480.6	5 398.6	0.6	0.0		0.1	0.6	5 398.5	8 434.6			100.00%	A		
3	1958	2144	918	7818.2	8 736.2	0.6	0.0		0.1	0.6	8 736.1	13 649.1			100.00%	A		
4	1958	564	918	4574.1	5 492.1	0.6	0.0		0.1	0.6	5 492.0	8 580.7	0.03%	91 918	100.00%	A	99.99%	A
5	1958	8	918	2417.0	3 335.0	0.6	0.0	0.2	0.1	0.8	3 334.7	4 048.3			99.99%	A		
6	1958		918	1296.9	2 214.9	0.6	0.0	0.3	0.1	1.0	2 214.5	2 239.2			99.97%	A		
7	1958		918	762.1	1 680.1	0.6	0.0	0.4	0.1	1.0	1 679.6	1 655.4			99.94%	A		
8	1958	2	918	559.5	1 477.5	0.6	0.0	0.4	0.1	1.0	1 477.1	1 457.2			99.92%	A		
9	1958	246	918	429.2	1 347.2	0.6	0.0	0.3	0.1	1.0	1 346.8	1 373.3			99.91%	A		
10	1958	687	918	556.4	1 474.4	0.6	0.0	0.1	0.1	0.7	1 474.2	2 069.0			99.97%	A		
11	1958	1244	918	562.9	1 480.9	0.6	0.0		0.1	0.6	1 480.8	2 313.7			99.98%	A		
12	1958	1363	918	856.1	1 774.1	0.6	0.0		0.1	0.6	1 774.0	2 771.7			99.99%	A		
1	1959	1521	918	1303.7	2 221.7	0.6	0.0		0.1	0.6	2 221.6	3 471.1			99.99%	A		
2	1959	1697	918	1286.5	2 204.5	0.6	0.0		0.1	0.6	2 204.4	3 444.2			99.99%	A		
3	1959	1507	918	2287.1	3 205.1	0.6	0.0		0.1	0.6	3 205.0	5 007.6			99.99%	A		
4	1959	371	918	5051.0	5 969.0	0.6	0.0		0.1	0.6	5 968.9	9 325.8	0.03%	77 993	100.00%	A	99.99%	A
5	1959	107	918	3138.1	4 056.1	0.6	0.0	0.2	0.1	0.8	4 055.8	4 923.6			99.99%	A		
6	1959		918	1873.5	2 791.5	0.6	0.0	0.3	0.1	1.0	2 791.1	2 822.2			99.98%	A		
7	1959	1	918	990.0	1 908.0	0.6	0.0	0.4	0.1	1.0	1 907.6	1 880.0			99.96%	A		
8	1959	4	918	659.5	1 577.5	0.6	0.0	0.4	0.1	1.0	1 577.1	1 555.8			99.94%	A		
9	1959	37	918	463.4	1 381.4	0.6	0.0	0.3	0.1	1.0	1 381.0	1 408.1			99.92%	A		
10	1959	354	918	368.4	1 286.4	0.6	0.0	0.1	0.1	0.7	1 286.3	1 805.3			99.95%	A		
11	1959	1087	918	326.3	1 244.3	0.6	0.0		0.1	0.6	1 244.2	1 944.1			99.96%	A		
12	1959	1643	918	526.8	1 444.8	0.6	0.0		0.1	0.6	1 444.7	2 257.3			99.98%	A		
1	1960	1470	918	910.1	1 828.1	0.6	0.0		0.1	0.6	1 828.0	2 856.2			99.99%	A		
2	1960	1632	918	1109.0	2 027.0	0.6	0.0		0.1	0.6	2 026.9	3 166.9			99.99%	A		
3	1960	1647	918	2259.6	3 177.6	0.6	0.0		0.1	0.6	3 177.5	4 964.6			99.99%	A		
4	1960	524	918	6044.2	6 962.2	0.6	0.0		0.1	0.6	6 962.0	10 877.4	0.03%	82 812	100.00%	A	99.99%	A
5	1960	282	918	4220.7	5 138.7	0.6	0.0	0.2	0.1	0.8	5 138.4	6 237.8			99.99%	A		
6	1960	0	918	2402.3	3 320.3	0.6	0.0	0.3	0.1	1.0	3 319.9	3 356.8			99.98%	A		
7	1960		918	1398.9	2 316.9	0.6	0.0	0.4	0.1	1.0	2 316.5	2 282.9			99.97%	A		
8	1960	70	918	783.8	1 701.8	0.6	0.0	0.4	0.1	1.0	1 701.4	1 678.4			99.95%	A		
9	1960	163	918	534.5	1 452.5	0.6	0.0	0.3	0.1	1.0	1 452.1	1 480.7			99.93%	A		
10	1960	1125	918	390.2	1 308.2	0.6	0.0	0.1	0.1	0.7	1 308.0	1 835.9			99.95%	A		
11	1960	2146	918	375.1	1 293.1	0.6	0.0		0.1	0.6	1 293.0	2 020.3			99.97%	A		
12	1960	2065	918	612.7	1 530.7	0.6	0.0		0.1	0.6	1 530.6	2 391.6			99.98%	A		
1	1961	3116	918	856.0	1 774.0	0.6	0.0		0.1	0.6	1 773.8	2 771.6			99.99%	A		
2	1961	2612	918	1213.7	2 131.7	0.6	0.0		0.1	0.6	2 131.6	3 330.5			99.99%	A		
3	1961	3307	918	2333.2	3 251.2	0.6	0.0		0.1	0.6	3 251.0	5 079.5			99.99%	A		
4	1961	1219	918	7672.7	8 590.7	0.6	0.0		0.1	0.6	8 590.6	13 421.7	0.02%	98 637	100.00%	A	99.99%	A
5	1961	174	918	6427.9	7 345.9	0.6	0.0	0.2	0.1	0.8	7 345.7	8 917.1			100.00%	A		
6	1961	5	918	3350.3	4 268.3	0.6	0.0	0.3	0.1	1.0	4 267.9	4 315.2			99.99%	A		
7	1961	9	918	1989.0	2 907.0	0.6	0.0	0.4	0.1	1.0	2 906.6	2 864.3			99.98%	A		
8	1961	23	918	1079.9	1 997.9	0.6	0.0	0.4	0.1	1.0	1 997.5	1 970.4			99.96%	A		
9	1961	155	918	679.8	1 597.8	0.6	0.0	0.3	0.1	1.0	1 597.4	1 628.8			99.94%	A		
10	1961	876	918	424.4	1 342.4	0.6	0.0	0.1	0.1	0.7	1 342.2	1 883.8			99.96%	A		
11	1961	2674	918	397.8	1 315.8	0.6	0.0		0.1	0.6	1 315.7	2 055.8			99.97%	A		
12	1961	2670	918	643.2	1 561.2	0.6	0.0		0.1	0.6	1 561.1	2 439.1			99.98%	A		
1	1962	2656	918	992.8	1 910.8	0.6	0.0		0.1	0.6	1 910.7	2 985.4			99.99%	A		

2	1962	2660	918	1811.5	2 729.5	0.6	0.0	0.1	0.6	2 729.4	4 264.5	0.02%	98 707	99.99%	A	99.99%	A
3	1962	3046	918	4673.7	5 591.7	0.6	0.0	0.1	0.6	5 591.5	8 736.2			100.00%	A		
4	1962	1061	918	6379.0	7 297.0	0.6	0.0	0.1	0.6	7 296.9	11 400.5			100.00%	A		
5	1962	10	918	5381.2	6 299.2	0.6	0.0	0.2	0.8	6 298.9	7 646.5			99.99%	A		
6	1962		918	3009.4	3 927.4	0.6	0.0	0.3	1.0	3 927.0	3 970.6			99.99%	A		
7	1962		918	1683.1	2 601.1	0.6	0.0	0.4	1.0	2 600.7	2 562.9			99.98%	A		
8	1962	143	918	965.7	1 883.7	0.6	0.0	0.4	1.0	1 883.2	1 857.7			99.96%	A		
9	1962	169	918	646.0	1 564.0	0.6	0.0	0.3	1.0	1 563.6	1 594.3			99.94%	A		
10	1962	635	918	381.3	1 299.3	0.6	0.0	0.1	0.7	1 299.1	1 823.4	0.03%	93 893	99.95%	A	99.99%	A
11	1962	2020	918	327.7	1 245.7	0.6	0.0	0.1	0.6	1 245.6	1 946.3			99.96%	A		
12	1962	3516	918	594.8	1 512.8	0.6	0.0	0.1	0.6	1 512.6	2 363.5			99.98%	A		
1	1963	2735	918	1315.5	2 233.5	0.6	0.0	0.1	0.6	2 233.4	3 489.6			99.99%	A		
2	1963	2647	918	2891.2	3 809.2	0.6	0.0	0.1	0.6	3 809.1	5 951.4			100.00%	A		
3	1963	2874	918	5795.0	6 713.0	0.6	0.0	0.1	0.6	6 712.9	10 488.1			100.00%	A		
4	1963	835	918	5789.1	6 707.1	0.6	0.0	0.1	0.6	6 707.0	10 478.9			100.00%	A		
5	1963	25	918	3787.3	4 705.3	0.6	0.0	0.2	0.8	4 705.0	5 711.7			99.99%	A		
6	1963	1	918	1940.6	2 858.6	0.6	0.0	0.3	1.0	2 858.2	2 889.9			99.98%	A		
7	1963		918	1123.3	2 041.3	0.6	0.0	0.4	1.0	2 040.9	2 011.4	0.04%	67 987	99.96%	A	99.98%	A
8	1963	2	918	703.7	1 621.7	0.6	0.0	0.4	1.0	1 621.3	1 599.4			99.94%	A		
9	1963	138	918	503.9	1 421.9	0.6	0.0	0.3	1.0	1 421.5	1 449.4			99.92%	A		
10	1963	563	918	494.0	1 412.0	0.6	0.0	0.1	0.7	1 411.8	1 981.5			99.96%	A		
11	1963	1794	918	514.2	1 432.2	0.6	0.0	0.1	0.6	1 432.1	2 237.6			99.98%	A		
12	1963	1473	918	936.0	1 854.0	0.6	0.0	0.1	0.6	1 853.9	2 896.6			99.99%	A		
1	1964	1114	918	1218.4	2 136.4	0.6	0.0	0.1	0.6	2 136.3	3 337.9			99.99%	A		
2	1964	1441	918	1367.4	2 285.4	0.6	0.0	0.1	0.6	2 285.3	3 570.7			99.99%	A		
3	1964	1239	918	2370.3	3 288.3	0.6	0.0	0.1	0.6	3 288.2	5 137.5			99.99%	A		
4	1964	82	918	2661.9	3 579.9	0.6	0.0	0.1	0.6	3 579.8	5 593.1			100.00%	A		
5	1964	4	918	2418.5	3 336.5	0.6	0.0	0.2	0.8	3 336.2	4 050.1			99.99%	A		
6	1964		918	1379.6	2 297.6	0.6	0.0	0.3	1.0	2 297.2	2 322.8			99.97%	A		
7	1964		918	777.3	1 695.3	0.6	0.0	0.4	1.0	1 694.9	1 670.4			99.95%	A		
8	1964	32	918	586.3	1 504.3	0.6	0.0	0.4	1.0	1 503.9	1 483.6			99.93%	A		
9	1964	101	918	449.8	1 367.8	0.6	0.0	0.3	1.0	1 367.4	1 394.3			99.91%	A		
10	1964	601	918	476.5	1 394.5	0.6	0.0	0.1	0.7	1 394.4	1 957.0	0.03%	76 840	99.96%	A	99.98%	A
11	1964	813	918	482.0	1 400.0	0.6	0.0	0.1	0.6	1 399.9	2 187.4			99.97%	A		
12	1964	1931	918	723.7	1 641.7	0.6	0.0	0.1	0.6	1 641.6	2 564.9			99.98%	A		
1	1965	1588	918	1053.1	1 971.1	0.6	0.0	0.1	0.6	1 971.0	3 079.5			99.99%	A		
2	1965	1271	918	1386.1	2 304.1	0.6	0.0	0.1	0.6	2 304.0	3 599.8			99.99%	A		
3	1965	1434	918	2876.9	3 794.9	0.6	0.0	0.1	0.6	3 794.7	5 928.9			100.00%	A		
4	1965	488	918	3951.3	4 869.3	0.6	0.0	0.1	0.6	4 869.2	7 607.6			100.00%	A		
5	1965	35	918	3301.7	4 219.7	0.6	0.0	0.2	0.8	4 219.4	5 122.2			99.99%	A		
6	1965	31	918	1964.5	2 882.5	0.6	0.0	0.3	1.0	2 882.1	2 914.2			99.98%	A		
7	1965		918	1067.1	1 985.1	0.6	0.0	0.4	1.0	1 984.6	1 955.9	0.03%	89 873	99.96%	A	99.99%	A
8	1965	12	918	739.9	1 657.9	0.6	0.0	0.4	1.0	1 657.4	1 635.0			99.94%	A		
9	1965	254	918	561.4	1 479.4	0.6	0.0	0.3	1.0	1 479.0	1 508.1			99.93%	A		
10	1965	514	918	487.2	1 405.2	0.6	0.0	0.1	0.7	1 405.0	1 971.9			99.96%	A		
11	1965	2013	918	436.9	1 354.9	0.6	0.0	0.1	0.6	1 354.7	2 116.8			99.97%	A		
12	1965	3072	918	677.4	1 595.4	0.6	0.0	0.1	0.6	1 595.3	2 492.6			99.98%	A		
1	1966	2824	918	987.9	1 905.9	0.6	0.0	0.1	0.6	1 905.8	2 977.7			99.99%	A		
2	1966	2035	918	1351.0	2 269.0	0.6	0.0	0.1	0.6	2 268.9	3 545.1			99.99%	A		
3	1966	2931	918	2765.2	3 683.2	0.6	0.0	0.1	0.6	3 683.1	5 754.5			100.00%	A		
4	1966	1064	918	6933.9	7 851.9	0.6	0.0	0.1	0.6	7 851.8	12 267.5			100.00%	A		
5	1966	37	918	4414.7	5 332.7	0.6	0.0	0.2	0.8	5 332.4	6 473.3			99.99%	A		
6	1966	25	918	2588.6	3 506.6	0.6	0.0	0.3	1.0	3 506.2	3 545.1			99.98%	A		
7	1966	6	918	1431.7	2 349.7	0.6	0.0	0.4	1.0	2 349.3	2 315.3			99.97%	A		
8	1966	141	918	876.5	1 794.5	0.6	0.0	0.4	1.0	1 794.1	1 769.8			99.95%	A		
9	1966	322	918	653.7	1 571.7	0.6	0.0	0.3	1.0	1 571.3	1 602.1			99.94%	A		
10	1966	434	918	474.6	1 392.6	0.6	0.0	0.1	0.7	1 392.4	1 954.2			99.96%	A		

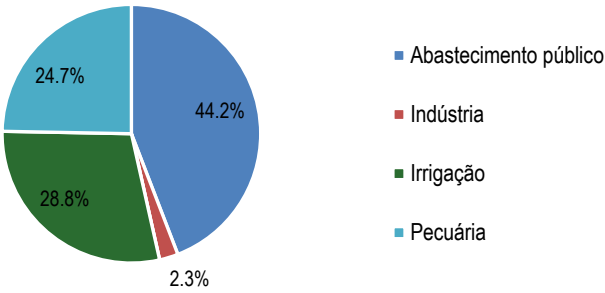
11	1966	719	918	418.6	1 336.6	0.6	0.0		0.1	0.6	1 336.5	2 088.2	0.03%	74 551	99.97%	A	99.98%	A
12	1966	1265	918	548.9	1 466.9	0.6	0.0		0.1	0.6	1 466.8	2 291.9			99.98%	A		
1	1967	1656	918	778.6	1 696.6	0.6	0.0		0.1	0.6	1 696.5	2 650.8			99.98%	A		
2	1967	1585	918	1040.4	1 958.4	0.6	0.0		0.1	0.6	1 958.2	3 059.6			99.99%	A		
3	1967	1383	918	1560.5	2 478.5	0.6	0.0		0.1	0.6	2 478.3	3 872.2			99.99%	A		
4	1967	1154	918	2902.0	3 820.0	0.6	0.0		0.1	0.6	3 819.8	5 968.1			100.00%	A		
5	1967	37	918	4203.7	5 121.7	0.6	0.0	0.2	0.1	0.8	5 121.4	6 217.1			99.99%	A		
6	1967	0	918	2699.4	3 617.4	0.6	0.0	0.3	0.1	1.0	3 617.0	3 657.1			99.99%	A		
7	1967		918	1660.4	2 578.4	0.6	0.0	0.4	0.1	1.0	2 578.0	2 540.5			99.97%	A		
8	1967	4	918	841.6	1 759.6	0.6	0.0	0.4	0.1	1.0	1 759.2	1 735.3			99.95%	A		
9	1967	61	918	573.7	1 491.7	0.6	0.0	0.3	0.1	1.0	1 491.3	1 520.6			99.93%	A		
10	1967	1091	918	385.2	1 303.2	0.6	0.0	0.1	0.1	0.7	1 303.0	1 828.8	0.02%	102 180	99.95%	A	99.99%	A
11	1967	2970	918	452.5	1 370.5	0.6	0.0		0.1	0.6	1 370.3	2 141.2			99.97%	A		
12	1967	2875	918	713.2	1 631.2	0.6	0.0		0.1	0.6	1 631.1	2 548.5			99.98%	A		
1	1968	2677	918	1273.8	2 191.8	0.6	0.0		0.1	0.6	2 191.7	3 424.3			99.99%	A		
2	1968	2549	918	4736.1	5 654.1	0.6	0.0		0.1	0.6	5 654.0	8 833.7			100.00%	A		
3	1968	2587	918	5471.1	6 389.1	0.6	0.0		0.1	0.6	6 389.0	9 982.1			100.00%	A		
4	1968	1448	918	6017.3	6 935.3	0.6	0.0		0.1	0.6	6 935.1	10 835.3			100.00%	A		
5	1968	72	918	4149.1	5 067.1	0.6	0.0	0.2	0.1	0.8	5 066.9	6 150.9			99.99%	A		
6	1968		918	2329.9	3 247.9	0.6	0.0	0.3	0.1	1.0	3 247.5	3 283.5			99.98%	A		
7	1968		918	1351.5	2 269.5	0.6	0.0	0.4	0.1	1.0	2 269.1	2 236.2			99.97%	A		
8	1968	2	918	858.1	1 776.1	0.6	0.0	0.4	0.1	1.0	1 775.7	1 751.7			99.95%	A		
9	1968	79	918	607.7	1 525.7	0.6	0.0	0.3	0.1	1.0	1 525.3	1 555.2			99.94%	A		
10	1968	964	918	427.1	1 345.1	0.6	0.0	0.1	0.1	0.7	1 344.9	1 887.6	0.02%	105 100	99.96%	A	99.99%	A
11	1968	2318	918	373.2	1 291.2	0.6	0.0		0.1	0.6	1 291.1	2 017.3			99.97%	A		
12	1968	2722	918	638.7	1 556.7	0.6	0.0		0.1	0.6	1 556.5	2 432.1			99.98%	A		
1	1969	3090	918	909.4	1 827.4	0.6	0.0		0.1	0.6	1 827.2	2 855.0			99.99%	A		
2	1969	2796	918	1202.1	2 120.1	0.6	0.0		0.1	0.6	2 120.0	3 312.4			99.99%	A		
3	1969	3272	918	5833.4	6 751.4	0.6	0.0		0.1	0.6	6 751.2	10 548.0			100.00%	A		
4	1969	1122	918	8615.3	9 533.3	0.6	0.0		0.1	0.6	9 533.2	14 894.5			100.00%	A		
5	1969	12	918	5646.4	6 564.4	0.6	0.0	0.2	0.1	0.8	6 564.2	7 968.4			100.00%	A		
6	1969		918	2647.9	3 565.9	0.6	0.0	0.3	0.1	1.0	3 565.5	3 605.1			99.98%	A		
7	1969		918	1548.7	2 466.7	0.6	0.0	0.4	0.1	1.0	2 466.3	2 430.5			99.97%	A		
8	1969	10	918	970.0	1 888.0	0.6	0.0	0.4	0.1	1.0	1 887.6	1 862.0			99.96%	A		
9	1969	371	918	658.3	1 576.3	0.6	0.0	0.3	0.1	1.0	1 575.9	1 606.8			99.94%	A		
10	1969	1937	918	660.6	1 578.6	0.6	0.0	0.1	0.1	0.7	1 578.4	2 215.3	0.03%	95 407	99.97%	A	99.99%	A
11	1969	2165	918	725.1	1 643.1	0.6	0.0		0.1	0.6	1 643.0	2 567.2			99.98%	A		
12	1969	3200	918	1047.3	1 965.3	0.6	0.0		0.1	0.6	1 965.2	3 070.5			99.99%	A		
1	1970	2734	918	1484.5	2 402.5	0.6	0.0		0.1	0.6	2 402.4	3 753.5			99.99%	A		
2	1970	2754	918	2545.3	3 463.3	0.6	0.0		0.1	0.6	3 463.2	5 411.0			100.00%	A		
3	1970	1434	918	6172.6	7 090.6	0.6	0.0		0.1	0.6	7 090.5	11 078.1			100.00%	A		
4	1970	958	918	5293.8	6 211.8	0.6	0.0		0.1	0.6	6 211.6	9 705.0			100.00%	A		
5	1970	17	918	3400.9	4 318.9	0.6	0.0	0.2	0.1	0.8	4 318.7	5 242.7			99.99%	A		
6	1970	0	918	1872.9	2 790.9	0.6	0.0	0.3	0.1	1.0	2 790.5	2 821.6			99.98%	A		
7	1970	1	918	1125.9	2 043.9	0.6	0.0	0.4	0.1	1.0	2 043.5	2 013.9			99.96%	A		
8	1970	19	918	801.4	1 719.4	0.6	0.0	0.4	0.1	1.0	1 719.0	1 695.7			99.95%	A		
9	1970	377	918	606.1	1 524.1	0.6	0.0	0.3	0.1	1.0	1 523.7	1 553.6			99.94%	A		
10	1970	543	918	583.4	1 501.4	0.6	0.0	0.1	0.1	0.7	1 501.2	2 107.0	0.03%	83 387	99.97%	A	99.99%	A
11	1970	1423	918	585.7	1 503.7	0.6	0.0		0.1	0.6	1 503.6	2 349.4			99.98%	A		
12	1970	1397	918	848.6	1 766.6	0.6	0.0		0.1	0.6	1 766.5	2 760.1			99.99%	A		
1	1971	1553	918	1318.9	2 236.9	0.6	0.0		0.1	0.6	2 236.8	3 494.8			99.99%	A		
2	1971	1450	918	1673.6	2 591.6	0.6	0.0		0.1	0.6	2 591.4	4 048.9			99.99%	A		
3	1971	978	918	3677.6	4 595.6	0.6	0.0		0.1	0.6	4 595.5	7 180.0			100.00%	A		
4	1971	1423	918	4390.6	5 308.6	0.6	0.0		0.1	0.6	5 308.5	8 293.9			100.00%	A		
5	1971	17	918	3161.2	4 079.2	0.6	0.0	0.2	0.1	0.8	4 078.9	4 951.6			99.99%	A		
6	1971	3	918	2089.3	3 007.3	0.6	0.0	0.3	0.1	1.0	3 006.9	3 040.3			99.98%	A		
7	1971		918	1267.2	2 185.2	0.6	0.0	0.4	0.1	1.0	2 184.8	2 153.1			99.97%	A		

8	1971	5	918	860.0	1 778.0	0.6	0.0	0.4	0.1		1.0	1 777.6	1 753.5			99.95%	A		
9	1971	119	918	650.3	1 568.3	0.6	0.0	0.3	0.1		1.0	1 567.9	1 598.6			99.94%	A		
10	1971	443	918	658.9	1 576.9	0.6	0.0	0.1	0.1		0.7	1 576.7	2 212.9			99.97%	A		
11	1971	1089	918	650.7	1 568.7	0.6	0.0		0.1		0.6	1 568.6	2 450.9			99.98%	A		
12	1971	1651	918	883.0	1 801.0	0.6	0.0		0.1		0.6	1 800.9	2 813.8			99.99%	A		
1	1972	1621	918	1353.6	2 271.6	0.6	0.0		0.1		0.6	2 271.4	3 549.0			99.99%	A		
2	1972	1155	918	1626.2	2 544.2	0.6	0.0		0.1		0.6	2 544.1	3 975.0			99.99%	A		
3	1972	1549	918	1937.9	2 855.9	0.6	0.0		0.1		0.6	2 855.8	4 461.9			99.99%	A		
4	1972	753	918	2649.1	3 567.1	0.6	0.0		0.1		0.6	3 567.0	5 573.1	0.03%	79 237	100.00%	A	99.99%	A
5	1972	128	918	3580.1	4 498.1	0.6	0.0	0.2	0.1		0.8	4 497.8	5 460.1			99.99%	A		
6	1972		918	2780.5	3 698.5	0.6	0.0	0.3	0.1		1.0	3 698.1	3 739.1			99.99%	A		
7	1972		918	1635.0	2 553.0	0.6	0.0	0.4	0.1		1.0	2 552.6	2 515.6			99.97%	A		
8	1972	0	918	1010.4	1 928.4	0.6	0.0	0.4	0.1		1.0	1 928.0	1 901.8			99.96%	A		
9	1972	234	918	742.0	1 660.0	0.6	0.0	0.3	0.1		1.0	1 659.6	1 692.1			99.95%	A		
10	1972	673	918	611.2	1 529.2	0.6	0.0	0.1	0.1		0.7	1 529.0	2 145.9			99.97%	A		
11	1972	751	918	611.1	1 529.1	0.6	0.0		0.1		0.6	1 529.0	2 389.0			99.98%	A		
12	1972	1538	918	742.3	1 660.3	0.6	0.0		0.1		0.6	1 660.1	2 593.9			99.98%	A		
1	1973	1432	918	1030.8	1 948.8	0.6	0.0		0.1		0.6	1 948.6	3 044.7			99.99%	A		
2	1973	1536	918	1289.7	2 207.7	0.6	0.0		0.1		0.6	2 207.6	3 449.2			99.99%	A		
3	1973	1267	918	1753.5	2 671.5	0.6	0.0		0.1		0.6	2 671.4	4 173.8			99.99%	A		
4	1973	364	918	2197.6	3 115.6	0.6	0.0		0.1		0.6	3 115.5	4 867.7	0.04%	66 861	99.99%	A	99.98%	A
5	1973	31	918	2531.2	3 449.2	0.6	0.0	0.2	0.1		0.8	3 449.0	4 187.0			99.99%	A		
6	1973		918	1707.7	2 625.7	0.6	0.0	0.3	0.1		1.0	2 625.3	2 654.6			99.98%	A		
7	1973		918	980.6	1 898.6	0.6	0.0	0.4	0.1		1.0	1 898.2	1 870.7			99.96%	A		
8	1973	2	918	737.8	1 655.8	0.6	0.0	0.4	0.1		1.0	1 655.3	1 632.9			99.94%	A		
9	1973	171	918	546.6	1 464.6	0.6	0.0	0.3	0.1		1.0	1 464.2	1 492.9			99.93%	A		
10	1973	539	918	372.7	1 290.7	0.6	0.0	0.1	0.1		0.7	1 290.6	1 811.3			99.95%	A		
11	1973	920	918	401.4	1 319.4	0.6	0.0		0.1		0.6	1 319.3	2 061.3			99.97%	A		
12	1973	1857	918	659.0	1 577.0	0.6	0.0		0.1		0.6	1 576.9	2 463.8			99.98%	A		
1	1974	1872	918	1415.4	2 333.4	0.6	0.0		0.1		0.6	2 333.2	3 645.5			99.99%	A		
2	1974	1108	918	1834.9	2 752.9	0.6	0.0		0.1		0.6	2 752.7	4 301.0			99.99%	A		
3	1974	1361	918	3963.9	4 881.9	0.6	0.0		0.1		0.6	4 881.8	7 627.3			100.00%	A		
4	1974	852	918	3436.2	4 354.2	0.6	0.0		0.1		0.6	4 354.1	6 802.8	0.03%	82 845	100.00%	A	99.99%	A
5	1974	224	918	3689.6	4 607.6	0.6	0.0	0.2	0.1		0.8	4 607.3	5 593.0			99.99%	A		
6	1974		918	2591.0	3 509.0	0.6	0.0	0.3	0.1		1.0	3 508.6	3 547.5			99.98%	A		
7	1974		918	1270.3	2 188.3	0.6	0.0	0.4	0.1		1.0	2 187.9	2 156.2			99.97%	A		
8	1974	36	918	730.5	1 648.5	0.6	0.0	0.4	0.1		1.0	1 648.0	1 625.7			99.94%	A		
9	1974	106	918	532.4	1 450.4	0.6	0.0	0.3	0.1		1.0	1 450.0	1 478.5			99.93%	A		

UH	Alto Cunene
Área (km²)	27 983
População	952 813
Área irrigada (ha)	1 740
NGR (mm)	900

Sector	Necessidades anuais de água (hm³)	
Abastecimento público	19.2	44.2%
Indústria	1.0	2.3%
Termo eléctricas		
Irrigação	12.5	28.8%
Pecuária	10.7	24.7%
Volume anual turbinado (hm³)		
Hidroelectricidade	2907.	

Uso da água na UH do Alto Cunene



Retornos em função do uso:		
Abastecimento público	80%	
Indústria	80%	
Termo elétricas	95%	
Irrigação	20%	
Pecuária	85%	

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano médio	2 261.0	2 028.0	5 737.7	7 765.7	19. 2	1.	12. 5	10. 7	---	43. 5	7 750.1	178.6	0.6%	8 150	---	---	99.73%	A
Ano seco	1 542.5	2 028.0	3 773.3	5 801.3	19. 2	1.	12. 5	10. 7	---	43. 5	5 785.6	133.4	0.7%	6 089	---	---	99.59%	A
Ano muito seco	389.7	2 028.0	1 662.3	3 690.3	19. 2	1.	12. 5	10. 7	---	43. 5	3 674.6	84.9	1.2%	3 873	---	---	99.07%	A

Mês	Ano	Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Abast. Público	Indústria	Irrigação	Pecuária	Transf. de água transfronteiriça (hm³)	Total dos usos consumptivos (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Mensal	Anual		
10	1944	325	169	116.0	285.0	1.6	0.1	0.6	0.9		3.2	284.1	88.8	0.61%	7 542	99.17%	A	99.70%	A
11	1944	485	169	263.5	432.5	1.6	0.1	0.1	0.9		2.7	432.0	163.1			99.80%	A		
12	1944	391	169	311.2	480.2	1.6	0.1	0.1	0.9		2.7	479.6	180.7			99.83%	A		
1	1945	578	169	592.6	761.6	1.6	0.1	0.1	0.9		2.7	761.0	283.7			99.91%	A		
2	1945	533	169	899.5	1 068.5	1.6	0.1	0.1	0.9		2.7	1 068.0	398.8			99.94%	A		
3	1945	432	169	992.1	1 161.1	1.6	0.1	0.0	0.9		2.6	1 160.6	447.9			99.95%	A		
4	1945	127	169	803.4	972.4	1.6	0.1	0.0	0.9		2.6	971.9	373.3			99.94%	A		
5	1945	3	169	464.3	633.3	1.6	0.1	0.8	0.9		3.4	632.1	186.4			99.76%	A		
6	1945	5	169	290.3	459.3	1.6	0.1	2.1	0.9		4.7	457.1	98.0			99.26%	A		
7	1945	0	169	192.8	361.8	1.6	0.1	2.5	0.9		5.1	359.3	70.8			98.72%	A		
8	1945	1	169	135.4	304.4	1.6	0.1	3.1	0.9		5.7	301.5	53.4			97.83%	A		
9	1945	32	169	96.7	265.7	1.6	0.1	2.9	0.9		5.5	262.9	48.2			97.11%	A		
10	1945	321	169	110.8	279.8	1.6	0.1	0.6	0.9		3.2	278.8	87.2	0.48%	9 586	99.13%	A	99.78%	A
11	1945	489	169	807.8	976.8	1.6	0.1	0.1	0.9		2.7	976.3	368.3			99.94%	A		
12	1945	551	169	990.6	1 159.6	1.6	0.1	0.1	0.9		2.7	1 159.1	436.4			99.95%	A		
1	1946	498	169	726.3	895.3	1.6	0.1	0.1	0.9		2.7	894.7	333.5			99.92%	A		
2	1946	172	169	640.9	809.9	1.6	0.1	0.1	0.9		2.7	809.3	302.2			99.91%	A		
3	1946	520	169	1318.0	1 487.0	1.6	0.1	0.0	0.9		2.6	1 486.5	573.5			99.96%	A		
4	1946	240	169	1157.9	1 326.9	1.6	0.1	0.0	0.9		2.6	1 326.4	509.4			99.96%	A		
5	1946	0	169	530.3	699.3	1.6	0.1	0.8	0.9		3.4	698.1	205.8			99.79%	A		
6	1946		169	339.3	508.3	1.6	0.1	2.1	0.9		4.7	506.1	108.4			99.37%	A		
7	1946		169	218.5	387.5	1.6	0.1	2.5	0.9		5.1	385.0	75.8			98.87%	A		
8	1946	1	169	153.4	322.4	1.6	0.1	3.1	0.9		5.7	319.4	56.6			98.09%	A		
9	1946	49	169	111.9	280.9	1.6	0.1	2.9	0.9		5.5	278.1	50.9			97.51%	A		
10	1946	475	169	124.5	293.5	1.6	0.1	0.6	0.9		3.2	292.5	91.4	0.38%	12 064	99.22%	A	99.84%	A
11	1946	513	169	177.2	346.2	1.6	0.1	0.1	0.9		2.7	345.7	130.5			99.70%	A		
12	1946	914	169	1634.2	1 803.2	1.6	0.1	0.1	0.9		2.7	1 802.7	678.5			99.97%	A		
1	1947	1673	169	2122.9	2 291.9	1.6	0.1	0.1	0.9		2.7	2 291.3	853.6			99.97%	A		
2	1947	840	169	1413.5	1 582.5	1.6	0.1	0.1	0.9		2.7	1 581.9	590.5			99.96%	A		
3	1947	982	169	1234.4	1 403.4	1.6	0.1	0.0	0.9		2.6	1 402.9	541.3			99.96%	A		
4	1947	813	169	998.2	1 167.2	1.6	0.1	0.0	0.9		2.6	1 166.7	448.1			99.95%	A		
5	1947	1	169	691.0	860.0	1.6	0.1	0.8	0.9		3.4	858.9	253.1			99.84%	A		
6	1947		169	447.5	616.5	1.6	0.1	2.1	0.9		4.7	614.4	131.5			99.52%	A		
7	1947		169	285.2	454.2	1.6	0.1	2.5	0.9		5.1	451.7	88.8			99.13%	A		
8	1947		169	197.6	366.6	1.6	0.1	3.1	0.9		5.7	363.7	64.4			98.52%	A		
9	1947	85	169	140.7	309.7	1.6	0.1	2.9	0.9		5.5	306.9	56.2			98.02%	A		
10	1947	25	169	107.1	276.1	1.6	0.1	0.6	0.9		3.2	275.1	86.0			99.10%	A		

11	1947	84	169	136.4	305.4	1.6	0.1	0.1	0.9		2.7	304.9	115.2	0.78%	5 841	99.62%	A	99.56%	A
12	1947	55	169	158.4	327.4	1.6	0.1	0.1	0.9		2.7	326.8	123.2			99.67%	A		
1	1948	57	169	589.1	758.1	1.6	0.1	0.1	0.9		2.7	757.5	282.3			99.91%	A		
2	1948	132	169	705.7	874.7	1.6	0.1	0.1	0.9		2.7	874.2	326.4			99.92%	A		
3	1948	46	169	590.4	759.4	1.6	0.1	0.0	0.9		2.6	758.9	292.9			99.92%	A		
4	1948	25	169	415.8	584.8	1.6	0.1	0.0	0.9		2.6	584.3	224.5			99.88%	A		
5	1948	7	169	322.9	491.9	1.6	0.1	0.8	0.9		3.4	490.8	144.8			99.65%	A		
6	1948		169	214.6	383.6	1.6	0.1	2.1	0.9		4.7	381.4	81.8			99.00%	A		
7	1948		169	137.2	306.2	1.6	0.1	2.5	0.9		5.1	303.7	59.9			98.20%	A		
8	1948		169	93.6	262.6	1.6	0.1	3.1	0.9		5.7	259.6	46.1			96.87%	A		
9	1948	3	169	66.2	235.2	1.6	0.1	2.9	0.9		5.5	232.4	42.7			95.79%	A		
10	1948	129	169	56.7	225.7	1.6	0.1	0.6	0.9		3.2	224.7	70.3	0.64%	7 161	98.30%	A	99.68%	A
11	1948	179	169	94.8	263.8	1.6	0.1	0.1	0.9		2.7	263.3	99.5			99.45%	A		
12	1948	126	169	136.7	305.7	1.6	0.1	0.1	0.9		2.7	305.1	115.0			99.61%	A		
1	1949	263	169	252.1	421.1	1.6	0.1	0.1	0.9		2.7	420.6	156.8			99.78%	A		
2	1949	299	169	511.3	680.3	1.6	0.1	0.1	0.9		2.7	679.7	253.9			99.89%	A		
3	1949	398	169	1153.3	1 322.3	1.6	0.1	0.0	0.9		2.6	1 321.8	510.0			99.96%	A		
4	1949	245	169	1205.4	1 374.4	1.6	0.1	0.0	0.9		2.6	1 373.9	527.7			99.96%	A		
5	1949		169	556.0	725.0	1.6	0.1	0.8	0.9		3.4	723.8	213.4			99.80%	A		
6	1949	0	169	339.9	508.9	1.6	0.1	2.1	0.9		4.7	506.7	108.6			99.37%	A		
7	1949	0	169	221.4	390.4	1.6	0.1	2.5	0.9		5.1	387.9	76.3			98.88%	A		
8	1949	1	169	155.8	324.8	1.6	0.1	3.1	0.9		5.7	321.8	57.0			98.12%	A		
9	1949	12	169	111.8	280.8	1.6	0.1	2.9	0.9		5.5	278.0	50.9			97.50%	A		
10	1949	90	169	84.1	253.1	1.6	0.1	0.6	0.9		3.2	252.2	78.8	0.60%	7 659	98.85%	A	99.71%	A
11	1949	199	169	115.9	284.9	1.6	0.1	0.1	0.9		2.7	284.3	107.4			99.55%	A		
12	1949	154	169	171.0	340.0	1.6	0.1	0.1	0.9		2.7	339.4	127.9			99.69%	A		
1	1950	345	169	539.8	708.8	1.6	0.1	0.1	0.9		2.7	708.2	264.0			99.90%	A		
2	1950	202	169	573.9	742.9	1.6	0.1	0.1	0.9		2.7	742.4	277.2			99.90%	A		
3	1950	402	169	1296.4	1 465.4	1.6	0.1	0.0	0.9		2.6	1 464.9	565.2			99.96%	A		
4	1950	58	169	1283.8	1 452.8	1.6	0.1	0.0	0.9		2.6	1 452.3	557.8			99.96%	A		
5	1950	3	169	490.4	659.4	1.6	0.1	0.8	0.9		3.4	658.2	194.0			99.77%	A		
6	1950		169	298.7	467.7	1.6	0.1	2.1	0.9		4.7	465.6	99.8			99.29%	A		
7	1950		169	191.0	360.0	1.6	0.1	2.5	0.9		5.1	357.5	70.4			98.71%	A		
8	1950		169	131.8	300.8	1.6	0.1	3.1	0.9		5.7	297.8	52.8			97.77%	A		
9	1950	4	169	92.9	261.9	1.6	0.1	2.9	0.9		5.5	259.1	47.5			97.00%	A		
10	1950	66	169	66.9	235.9	1.6	0.1	0.6	0.9		3.2	234.9	73.5	0.28%	16 039	98.56%	A	99.88%	A
11	1950	374	169	73.7	242.7	1.6	0.1	0.1	0.9		2.7	242.2	91.5			99.29%	A		
12	1950	789	169	744.6	913.6	1.6	0.1	0.1	0.9		2.7	913.1	343.8			99.93%	A		
1	1951	547	169	947.9	1 116.9	1.6	0.1	0.1	0.9		2.7	1 116.3	416.0			99.94%	A		
2	1951	679	169	661.2	830.2	1.6	0.1	0.1	0.9		2.7	829.7	309.8			99.92%	A		
3	1951	1229	169	3130.0	3 299.0	1.6	0.1	0.0	0.9		2.6	3 298.5	1 272.5			99.98%	A		
4	1951	779	169	4254.4	4 423.4	1.6	0.1	0.0	0.9		2.6	4 422.9	1 698.2			99.99%	A		
5	1951	152	169	1978.5	2 147.5	1.6	0.1	0.8	0.9		3.4	2 146.4	632.0			99.94%	A		
6	1951		169	607.9	776.9	1.6	0.1	2.1	0.9		4.7	774.7	165.7			99.65%	A		
7	1951		169	375.6	544.6	1.6	0.1	2.5	0.9		5.1	542.1	106.5			99.34%	A		
8	1951		169	245.8	414.8	1.6	0.1	3.1	0.9		5.7	411.8	72.8			98.81%	A		
9	1951	24	169	167.7	336.7	1.6	0.1	2.9	0.9		5.5	333.9	61.1			98.34%	A		
10	1951	130	169	126.8	295.8	1.6	0.1	0.6	0.9		3.2	294.8	92.1	0.82%	5 534	99.24%	A	99.52%	A
11	1951	195	169	159.9	328.9	1.6	0.1	0.1	0.9		2.7	328.4	124.0			99.67%	A		
12	1951	319	169	331.3	500.3	1.6	0.1	0.1	0.9		2.7	499.8	188.3			99.84%	A		
1	1952	139	169	356.3	525.3	1.6	0.1	0.1	0.9		2.7	524.8	195.7			99.85%	A		
2	1952	327	169	429.1	598.1	1.6	0.1	0.1	0.9		2.7	597.5	223.2			99.87%	A		
3	1952	151	169	481.5	650.5	1.6	0.1	0.0	0.9		2.6	650.0	250.9			99.90%	A		
4	1952	133	169	419.6	588.6	1.6	0.1	0.0	0.9		2.6	588.1	226.0			99.88%	A		
5	1952	0	169	347.3	516.3	1.6	0.1	0.8	0.9		3.4	515.2	152.0			99.68%	A		
6	1952		169	238.3	407.3	1.6	0.1	2.1	0.9		4.7	405.1	86.9			99.10%	A		
7	1952		169	159.5	328.5	1.6	0.1	2.5	0.9		5.1	326.0	64.2			98.45%	A		

8	1952		169	113.4	282.4	1.6	0.1	3.1	0.9		5.7	279.4	49.6			97.41%	A		
9	1952	16	169	81.5	250.5	1.6	0.1	2.9	0.9		5.5	247.7	45.4			96.57%	A		
10	1952	184	169	79.6	248.6	1.6	0.1	0.6	0.9		3.2	247.6	77.4			98.79%	A		
11	1952	295	169	289.4	458.4	1.6	0.1	0.1	0.9		2.7	457.9	172.8			99.82%	A		
12	1952	200	169	370.7	539.7	1.6	0.1	0.1	0.9		2.7	539.1	203.1			99.86%	A		
1	1953	157	169	319.5	488.5	1.6	0.1	0.1	0.9		2.7	487.9	181.9			99.83%	A		
2	1953	158	169	347.9	516.9	1.6	0.1	0.1	0.9		2.7	516.4	192.9			99.84%	A		
3	1953	292	169	476.6	645.6	1.6	0.1	0.0	0.9		2.6	645.1	249.0			99.90%	A		
4	1953	160	169	547.2	716.2	1.6	0.1	0.0	0.9		2.6	715.7	274.9	0.79%	5 782	99.91%	A	99.55%	A
5	1953	6	169	408.4	577.4	1.6	0.1	0.8	0.9		3.4	576.3	169.9			99.73%	A		
6	1953		169	263.9	432.9	1.6	0.1	2.1	0.9		4.7	430.7	92.3			99.19%	A		
7	1953		169	170.5	339.5	1.6	0.1	2.5	0.9		5.1	337.0	66.4			98.55%	A		
8	1953	0	169	121.0	290.0	1.6	0.1	3.1	0.9		5.7	287.0	50.9			97.57%	A		
9	1953	3	169	86.7	255.7	1.6	0.1	2.9	0.9		5.5	252.8	46.4			96.78%	A		
10	1953	292	169	84.5	253.5	1.6	0.1	0.6	0.9		3.2	252.5	78.9			98.86%	A		
11	1953	280	169	97.6	266.6	1.6	0.1	0.1	0.9		2.7	266.1	100.5			99.46%	A		
12	1953	320	169	184.7	353.7	1.6	0.1	0.1	0.9		2.7	353.2	133.1			99.71%	A		
1	1954	433	169	317.4	486.4	1.6	0.1	0.1	0.9		2.7	485.9	181.2			99.83%	A		
2	1954	455	169	392.4	561.4	1.6	0.1	0.1	0.9		2.7	560.9	209.5			99.86%	A		
3	1954	636	169	961.8	1 130.8	1.6	0.1	0.0	0.9		2.6	1 130.3	436.2			99.95%	A		
4	1954	250	169	1106.9	1 275.9	1.6	0.1	0.0	0.9		2.6	1 275.4	489.8	0.65%	7 064	99.96%	A	99.67%	A
5	1954	30	169	637.3	806.3	1.6	0.1	0.8	0.9		3.4	805.1	237.3			99.83%	A		
6	1954		169	397.5	566.5	1.6	0.1	2.1	0.9		4.7	564.4	120.9			99.46%	A		
7	1954		169	243.9	412.9	1.6	0.1	2.5	0.9		5.1	410.4	80.7			98.99%	A		
8	1954	0	169	164.2	333.2	1.6	0.1	3.1	0.9		5.7	330.3	58.5			98.21%	A		
9	1954	10	169	114.0	283.0	1.6	0.1	2.9	0.9		5.5	280.2	51.3			97.55%	A		
10	1954	41	169	86.2	255.2	1.6	0.1	0.6	0.9		3.2	254.2	79.5			98.88%	A		
11	1954	65	169	93.2	262.2	1.6	0.1	0.1	0.9		2.7	261.7	98.9			99.44%	A		
12	1954	52	169	109.8	278.8	1.6	0.1	0.1	0.9		2.7	278.3	104.9			99.52%	A		
1	1955	61	169	123.3	292.3	1.6	0.1	0.1	0.9		2.7	291.8	108.9			99.55%	A		
2	1955	25	169	136.1	305.1	1.6	0.1	0.1	0.9		2.7	304.5	113.9			99.60%	A		
3	1955	87	169	178.7	347.7	1.6	0.1	0.0	0.9		2.6	347.2	134.1			99.73%	A		
4	1955	55	169	246.3	415.3	1.6	0.1	0.0	0.9		2.6	414.8	159.5	1.18%	3 873	99.80%	A	99.07%	A
5	1955	4	169	242.4	411.4	1.6	0.1	0.8	0.9		3.4	410.3	121.1			99.54%	A		
6	1955		169	176.6	345.6	1.6	0.1	2.1	0.9		4.7	343.5	73.7			98.79%	A		
7	1955		169	121.2	290.2	1.6	0.1	2.5	0.9		5.1	287.7	56.8			97.96%	A		
8	1955		169	86.6	255.6	1.6	0.1	3.1	0.9		5.7	252.6	44.9			96.61%	A		
9	1955	0	169	61.8	230.8	1.6	0.1	2.9	0.9		5.5	227.9	41.8			95.48%	A		
10	1955	233	169	50.3	219.3	1.6	0.1	0.6	0.9		3.2	218.3	68.3			98.08%	A		
11	1955	381	169	107.1	276.1	1.6	0.1	0.1	0.9		2.7	275.6	104.1			99.51%	A		
12	1955	456	169	298.0	467.0	1.6	0.1	0.1	0.9		2.7	466.5	175.7			99.82%	A		
1	1956	612	169	671.2	840.2	1.6	0.1	0.1	0.9		2.7	839.6	312.9			99.92%	A		
2	1956	203	169	661.8	830.8	1.6	0.1	0.1	0.9		2.7	830.2	310.0			99.92%	A		
3	1956	452	169	601.7	770.7	1.6	0.1	0.0	0.9		2.6	770.2	297.3			99.92%	A		
4	1956	430	169	832.6	1 001.6	1.6	0.1	0.0	0.9		2.6	1 001.1	384.5	0.63%	7 197	99.94%	A	99.68%	A
5	1956	0	169	722.4	891.4	1.6	0.1	0.8	0.9		3.4	890.3	262.3			99.85%	A		
6	1956		169	382.3	551.3	1.6	0.1	2.1	0.9		4.7	549.1	117.6			99.44%	A		
7	1956		169	232.8	401.8	1.6	0.1	2.5	0.9		5.1	399.3	78.6			98.94%	A		
8	1956	0	169	158.0	327.0	1.6	0.1	3.1	0.9		5.7	324.0	57.4			98.14%	A		
9	1956	31	169	111.0	280.0	1.6	0.1	2.9	0.9		5.5	277.2	50.8			97.49%	A		
10	1956	61	169	86.3	255.3	1.6	0.1	0.6	0.9		3.2	254.3	79.5			98.88%	A		
11	1956	109	169	87.6	256.6	1.6	0.1	0.1	0.9		2.7	256.1	96.7			99.40%	A		
12	1956	104	169	129.2	298.2	1.6	0.1	0.1	0.9		2.7	297.6	112.2			99.59%	A		
1	1957	125	169	195.1	364.1	1.6	0.1	0.1	0.9		2.7	363.5	135.6			99.72%	A		
2	1957	113	169	235.3	404.3	1.6	0.1	0.1	0.9		2.7	403.8	150.9			99.77%	A		
3	1957	256	169	630.6	799.6	1.6	0.1	0.0	0.9		2.6	799.1	308.4			99.92%	A		
4	1957	69	169	641.7	810.7	1.6	0.1	0.0	0.9		2.6	810.2	311.2	0.87%	5 227	99.92%	A	99.47%	A

5	1957	0	169	361.8	530.8	1.6	0.1	0.8	0.9		3.4	529.7	156.2			99.69%	A		
6	1957		169	237.1	406.1	1.6	0.1	2.1	0.9		4.7	403.9	86.6			99.10%	A		
7	1957	0	169	156.2	325.2	1.6	0.1	2.5	0.9		5.1	322.7	63.6			98.42%	A		
8	1957	1	169	110.7	279.7	1.6	0.1	3.1	0.9		5.7	276.8	49.1			97.35%	A		
9	1957	24	169	80.7	249.7	1.6	0.1	2.9	0.9		5.5	246.9	45.3			96.54%	A		
10	1957	82	169	70.2	239.2	1.6	0.1	0.6	0.9		3.2	238.2	74.5			98.62%	A		
11	1957	190	169	361.5	530.5	1.6	0.1	0.1	0.9		2.7	530.0	200.0			99.86%	A		
12	1957	201	169	616.1	785.1	1.6	0.1	0.1	0.9		2.7	784.6	295.4			99.91%	A		
1	1958	95	169	525.7	694.7	1.6	0.1	0.1	0.9		2.7	694.1	258.8			99.90%	A		
2	1958	78	169	398.9	567.9	1.6	0.1	0.1	0.9		2.7	567.4	211.9			99.86%	A		
3	1958	190	169	534.1	703.1	1.6	0.1	0.0	0.9		2.6	702.6	271.2			99.91%	A		
4	1958	30	169	549.0	718.0	1.6	0.1	0.0	0.9		2.6	717.5	275.7	0.72%	6 307	99.91%	A	99.61%	A
5	1958	1	169	358.6	527.6	1.6	0.1	0.8	0.9		3.4	526.5	155.3			99.69%	A		
6	1958		169	227.3	396.3	1.6	0.1	2.1	0.9		4.7	394.1	84.5			99.06%	A		
7	1958		169	152.9	321.9	1.6	0.1	2.5	0.9		5.1	319.4	62.9			98.38%	A		
8	1958		169	109.1	278.1	1.6	0.1	3.1	0.9		5.7	275.1	48.8			97.31%	A		
9	1958	8	169	78.4	247.4	1.6	0.1	2.9	0.9		5.5	244.6	44.9			96.44%	A		
10	1958	122	169	58.5	227.5	1.6	0.1	0.6	0.9		3.2	226.5	70.9			98.35%	A		
11	1958	386	169	121.9	290.9	1.6	0.1	0.1	0.9		2.7	290.4	109.7			99.57%	A		
12	1958	520	169	428.4	597.4	1.6	0.1	0.1	0.9		2.7	596.8	224.8			99.88%	A		
1	1959	410	169	599.2	768.2	1.6	0.1	0.1	0.9		2.7	767.6	286.1			99.91%	A		
2	1959	481	169	687.4	856.4	1.6	0.1	0.1	0.9		2.7	855.8	319.6			99.92%	A		
3	1959	394	169	922.4	1 091.4	1.6	0.1	0.0	0.9		2.6	1 090.9	421.0			99.95%	A		
4	1959	398	169	904.1	1 073.1	1.6	0.1	0.0	0.9		2.6	1 072.6	412.0	0.59%	7 737	99.95%	A	99.71%	A
5	1959	67	169	646.9	815.9	1.6	0.1	0.8	0.9		3.4	814.8	240.1			99.83%	A		
6	1959		169	419.1	588.1	1.6	0.1	2.1	0.9		4.7	586.0	125.5			99.49%	A		
7	1959	0	169	260.0	429.0	1.6	0.1	2.5	0.9		5.1	426.5	83.9			99.05%	A		
8	1959	0	169	174.7	343.7	1.6	0.1	3.1	0.9		5.7	340.8	60.3			98.32%	A		
9	1959	10	169	121.8	290.8	1.6	0.1	2.9	0.9		5.5	287.9	52.7			97.71%	A		
10	1959	173	169	89.3	258.3	1.6	0.1	0.6	0.9		3.2	257.3	80.4			98.92%	A		
11	1959	363	169	116.8	285.8	1.6	0.1	0.1	0.9		2.7	285.3	107.8			99.55%	A		
12	1959	458	169	347.0	516.0	1.6	0.1	0.1	0.9		2.7	515.5	194.2			99.85%	A		
1	1960	455	169	566.4	735.4	1.6	0.1	0.1	0.9		2.7	734.9	273.9			99.90%	A		
2	1960	476	169	792.4	961.4	1.6	0.1	0.1	0.9		2.7	960.8	358.8			99.93%	A		
3	1960	557	169	1293.2	1 462.2	1.6	0.1	0.0	0.9		2.6	1 461.7	564.0			99.96%	A		
4	1960	212	169	1095.6	1 264.6	1.6	0.1	0.0	0.9		2.6	1 264.1	485.5	0.55%	8 325	99.96%	A	99.74%	A
5	1960	82	169	625.1	794.1	1.6	0.1	0.8	0.9		3.4	793.0	233.7			99.82%	A		
6	1960	0	169	412.7	581.7	1.6	0.1	2.1	0.9		4.7	579.6	124.1			99.48%	A		
7	1960	0	169	261.4	430.4	1.6	0.1	2.5	0.9		5.1	427.9	84.2			99.05%	A		
8	1960	0	169	177.9	346.9	1.6	0.1	3.1	0.9		5.7	344.0	60.9			98.35%	A		
9	1960	53	169	126.0	295.0	1.6	0.1	2.9	0.9		5.5	292.1	53.5			97.78%	A		
10	1960	168	169	97.8	266.8	1.6	0.1	0.6	0.9		3.2	265.8	83.1			99.01%	A		
11	1960	467	169	328.4	497.4	1.6	0.1	0.1	0.9		2.7	496.9	187.5			99.84%	A		
12	1960	357	169	434.8	603.8	1.6	0.1	0.1	0.9		2.7	603.3	227.2			99.88%	A		
1	1961	498	169	579.8	748.8	1.6	0.1	0.1	0.9		2.7	748.2	278.9			99.91%	A		
2	1961	412	169	1017.5	1 186.5	1.6	0.1	0.1	0.9		2.7	1 186.0	442.8			99.95%	A		
3	1961	611	169	1982.7	2 151.7	1.6	0.1	0.0	0.9		2.6	2 151.2	829.9			99.98%	A		
4	1961	453	169	2129.2	2 298.2	1.6	0.1	0.0	0.9		2.6	2 297.7	882.3	0.39%	11 698	99.98%	A	99.83%	A
5	1961	96	169	1181.2	1 350.2	1.6	0.1	0.8	0.9		3.4	1 349.1	397.4			99.91%	A		
6	1961		169	584.8	753.8	1.6	0.1	2.1	0.9		4.7	751.6	160.8			99.63%	A		
7	1961		169	368.4	537.4	1.6	0.1	2.5	0.9		5.1	534.9	105.1			99.33%	A		
8	1961		169	244.2	413.2	1.6	0.1	3.1	0.9		5.7	410.2	72.5			98.80%	A		
9	1961	25	169	169.4	338.4	1.6	0.1	2.9	0.9		5.5	335.6	61.4			98.35%	A		
10	1961	240	169	136.6	305.6	1.6	0.1	0.6	0.9		3.2	304.6	95.2			99.29%	A		
11	1961	402	169	323.6	492.6	1.6	0.1	0.1	0.9		2.7	492.0	185.7			99.84%	A		
12	1961	752	169	1788.3	1 957.3	1.6	0.1	0.1	0.9		2.7	1 956.8	736.5			99.97%	A		
1	1962	369	169	1889.1	2 058.1	1.6	0.1	0.1	0.9		2.7	2 057.5	766.6			99.97%	A		

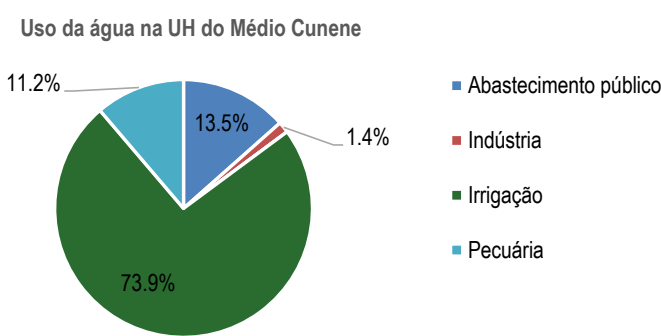
2	1962	223	169	847.1	1 016.1	1.6	0.1	0.1	0.9	2.7	1 015.5	379.2	0.38%	11 862	99.94%	A	99.83%	A
3	1962	520	169	1173.6	1 342.6	1.6	0.1	0.0	0.9	2.6	1 342.1	517.9			99.96%	A		
4	1962	299	169	1342.2	1 511.2	1.6	0.1	0.0	0.9	2.6	1 510.7	580.2			99.96%	A		
5	1962		169	774.1	943.1	1.6	0.1	0.8	0.9	3.4	941.9	277.5			99.86%	A		
6	1962		169	429.2	598.2	1.6	0.1	2.1	0.9	4.7	596.0	127.6			99.50%	A		
7	1962	0	169	263.5	432.5	1.6	0.1	2.5	0.9	5.1	430.0	84.6			99.06%	A		
8	1962	27	169	179.4	348.4	1.6	0.1	3.1	0.9	5.7	345.4	61.2			98.36%	A		
9	1962	23	169	127.9	296.9	1.6	0.1	2.9	0.9	5.5	294.0	53.8			97.82%	A		
10	1962	313	169	105.1	274.1	1.6	0.1	0.6	0.9	3.2	273.1	85.4	0.40%	11 337	99.08%	A	99.82%	A
11	1962	478	169	160.9	329.9	1.6	0.1	0.1	0.9	2.7	329.4	124.4			99.67%	A		
12	1962	793	169	690.3	859.3	1.6	0.1	0.1	0.9	2.7	858.8	323.3			99.92%	A		
1	1963	785	169	1123.7	1 292.7	1.6	0.1	0.1	0.9	2.7	1 292.1	481.5			99.95%	A		
2	1963	714	169	1427.7	1 596.7	1.6	0.1	0.1	0.9	2.7	1 596.2	595.9			99.96%	A		
3	1963	788	169	1924.3	2 093.3	1.6	0.1	0.0	0.9	2.6	2 092.8	807.4			99.98%	A		
4	1963	424	169	1458.6	1 627.6	1.6	0.1	0.0	0.9	2.6	1 627.1	624.9			99.97%	A		
5	1963	16	169	774.4	943.4	1.6	0.1	0.8	0.9	3.4	942.3	277.6			99.86%	A		
6	1963		169	473.5	642.5	1.6	0.1	2.1	0.9	4.7	640.4	137.1			99.55%	A		
7	1963	1	169	295.6	464.6	1.6	0.1	2.5	0.9	5.1	462.1	90.9			99.16%	A		
8	1963	1	169	200.4	369.4	1.6	0.1	3.1	0.9	5.7	366.4	64.8			98.54%	A		
9	1963	22	169	139.7	308.7	1.6	0.1	2.9	0.9	5.5	305.9	56.0			98.00%	A		
10	1963	76	169	104.2	273.2	1.6	0.1	0.6	0.9	3.2	272.3	85.1	0.67%	6 770	99.07%	A	99.65%	A
11	1963	130	169	136.1	305.1	1.6	0.1	0.1	0.9	2.7	304.5	115.0			99.62%	A		
12	1963	75	169	165.7	334.7	1.6	0.1	0.1	0.9	2.7	334.1	125.9			99.68%	A		
1	1964	200	169	290.6	459.6	1.6	0.1	0.1	0.9	2.7	459.0	171.2			99.81%	A		
2	1964	156	169	412.0	581.0	1.6	0.1	0.1	0.9	2.7	580.5	216.8			99.87%	A		
3	1964	245	169	1127.7	1 296.7	1.6	0.1	0.0	0.9	2.6	1 296.2	500.2			99.96%	A		
4	1964	26	169	1096.9	1 265.9	1.6	0.1	0.0	0.9	2.6	1 265.4	486.0			99.96%	A		
5	1964	0	169	429.5	598.5	1.6	0.1	0.8	0.9	3.4	597.4	176.1			99.74%	A		
6	1964		169	267.0	436.0	1.6	0.1	2.1	0.9	4.7	433.9	93.0			99.20%	A		
7	1964		169	176.9	345.9	1.6	0.1	2.5	0.9	5.1	343.4	67.6			98.60%	A		
8	1964	3	169	125.6	294.6	1.6	0.1	3.1	0.9	5.7	291.6	51.7			97.66%	A		
9	1964	5	169	90.5	259.5	1.6	0.1	2.9	0.9	5.5	256.7	47.1			96.92%	A		
10	1964	226	169	74.5	243.5	1.6	0.1	0.6	0.9	3.2	242.5	75.8	0.42%	10 830	98.70%	A	99.81%	A
11	1964	221	169	80.4	249.4	1.6	0.1	0.1	0.9	2.7	248.9	94.0			99.35%	A		
12	1964	529	169	439.1	608.1	1.6	0.1	0.1	0.9	2.7	607.6	228.8			99.88%	A		
1	1965	405	169	667.4	836.4	1.6	0.1	0.1	0.9	2.7	835.8	311.5			99.92%	A		
2	1965	642	169	1175.2	1 344.2	1.6	0.1	0.1	0.9	2.7	1 343.7	501.6			99.95%	A		
3	1965	679	169	2349.3	2 518.3	1.6	0.1	0.0	0.9	2.6	2 517.9	971.4			99.98%	A		
4	1965	272	169	1738.4	1 907.4	1.6	0.1	0.0	0.9	2.6	1 906.9	732.3			99.97%	A		
5	1965		169	706.6	875.6	1.6	0.1	0.8	0.9	3.4	874.5	257.7			99.84%	A		
6	1965	0	169	448.4	617.4	1.6	0.1	2.1	0.9	4.7	615.2	131.7			99.52%	A		
7	1965		169	281.6	450.6	1.6	0.1	2.5	0.9	5.1	448.1	88.1			99.12%	A		
8	1965	0	169	193.3	362.3	1.6	0.1	3.1	0.9	5.7	359.3	63.6			98.48%	A		
9	1965	45	169	137.1	306.1	1.6	0.1	2.9	0.9	5.5	303.3	55.5			97.96%	A		
10	1965	62	169	101.8	270.8	1.6	0.1	0.6	0.9	3.2	269.8	84.3	0.54%	8 496	99.05%	A	99.74%	A
11	1965	229	169	136.4	305.4	1.6	0.1	0.1	0.9	2.7	304.9	115.2			99.62%	A		
12	1965	372	169	934.3	1 103.3	1.6	0.1	0.1	0.9	2.7	1 102.8	415.2			99.94%	A		
1	1966	305	169	1257.4	1 426.4	1.6	0.1	0.1	0.9	2.7	1 425.9	531.3			99.96%	A		
2	1966	93	169	682.1	851.1	1.6	0.1	0.1	0.9	2.7	850.5	317.6			99.92%	A		
3	1966	325	169	908.6	1 077.6	1.6	0.1	0.0	0.9	2.6	1 077.1	415.7			99.95%	A		
4	1966	61	169	889.8	1 058.8	1.6	0.1	0.0	0.9	2.6	1 058.3	406.5			99.95%	A		
5	1966	7	169	452.7	621.7	1.6	0.1	0.8	0.9	3.4	620.6	183.0			99.75%	A		
6	1966	0	169	286.6	455.6	1.6	0.1	2.1	0.9	4.7	453.4	97.2			99.25%	A		
7	1966		169	189.0	358.0	1.6	0.1	2.5	0.9	5.1	355.5	70.0			98.69%	A		
8	1966	4	169	132.6	301.6	1.6	0.1	3.1	0.9	5.7	298.6	52.9			97.79%	A		
9	1966	38	169	95.5	264.5	1.6	0.1	2.9	0.9	5.5	261.7	48.0			97.08%	A		
10	1966	126	169	78.4	247.4	1.6	0.1	0.6	0.9	3.2	246.4	77.1			98.77%	A		

11	1966	138	169	78.5	247.5	1.6	0.1	0.1	0.9		2.7	247.0	93.3	0.67%	6 847	99.33%	A	99.65%	A
12	1966	309	169	287.2	456.2	1.6	0.1	0.1	0.9		2.7	455.7	171.7			99.82%	A		
1	1967	104	169	315.9	484.9	1.6	0.1	0.1	0.9		2.7	484.4	180.6			99.83%	A		
2	1967	168	169	243.0	412.0	1.6	0.1	0.1	0.9		2.7	411.4	153.7			99.78%	A		
3	1967	388	169	820.7	989.7	1.6	0.1	0.0	0.9		2.6	989.2	381.7			99.94%	A		
4	1967	258	169	1106.4	1 275.4	1.6	0.1	0.0	0.9		2.6	1 274.9	489.7			99.96%	A		
5	1967	9	169	718.6	887.6	1.6	0.1	0.8	0.9		3.4	886.5	261.2			99.84%	A		
6	1967	0	169	362.3	531.3	1.6	0.1	2.1	0.9		4.7	529.1	113.3			99.41%	A		
7	1967		169	223.5	392.5	1.6	0.1	2.5	0.9		5.1	390.0	76.8			98.89%	A		
8	1967	2	169	153.0	322.0	1.6	0.1	3.1	0.9		5.7	319.0	56.5			98.08%	A		
9	1967	9	169	108.1	277.1	1.6	0.1	2.9	0.9		5.5	274.3	50.3			97.42%	A		
10	1967	195	169	90.1	259.1	1.6	0.1	0.6	0.9		3.2	258.1	80.7	0.44%	10 310	98.93%	A	99.80%	A
11	1967	503	169	265.4	434.4	1.6	0.1	0.1	0.9		2.7	433.8	163.8			99.80%	A		
12	1967	664	169	1221.1	1 390.1	1.6	0.1	0.1	0.9		2.7	1 389.6	523.1			99.96%	A		
1	1968	502	169	1384.2	1 553.2	1.6	0.1	0.1	0.9		2.7	1 552.7	578.5			99.96%	A		
2	1968	315	169	942.7	1 111.7	1.6	0.1	0.1	0.9		2.7	1 111.1	414.9			99.94%	A		
3	1968	554	169	1260.9	1 429.9	1.6	0.1	0.0	0.9		2.6	1 429.4	551.5			99.96%	A		
4	1968	170	169	1126.0	1 295.0	1.6	0.1	0.0	0.9		2.6	1 294.5	497.2			99.96%	A		
5	1968	37	169	599.0	768.0	1.6	0.1	0.8	0.9		3.4	766.8	226.0			99.81%	A		
6	1968		169	382.2	551.2	1.6	0.1	2.1	0.9		4.7	549.0	117.6			99.44%	A		
7	1968		169	241.9	410.9	1.6	0.1	2.5	0.9		5.1	408.4	80.4			98.98%	A		
8	1968		169	165.9	334.9	1.6	0.1	3.1	0.9		5.7	331.9	58.8			98.23%	A		
9	1968	5	169	116.7	285.7	1.6	0.1	2.9	0.9		5.5	282.8	51.8			97.61%	A		
10	1968	156	169	87.0	256.0	1.6	0.1	0.6	0.9		3.2	255.0	79.7	0.62%	7 378	98.89%	A	99.69%	A
11	1968	400	169	111.6	280.6	1.6	0.1	0.1	0.9		2.7	280.1	105.8			99.53%	A		
12	1968	364	169	177.6	346.6	1.6	0.1	0.1	0.9		2.7	346.0	130.4			99.70%	A		
1	1969	415	169	282.7	451.7	1.6	0.1	0.1	0.9		2.7	451.2	168.2			99.81%	A		
2	1969	556	169	649.2	818.2	1.6	0.1	0.1	0.9		2.7	817.6	305.3			99.92%	A		
3	1969	560	169	1199.2	1 368.2	1.6	0.1	0.0	0.9		2.6	1 367.7	527.7			99.96%	A		
4	1969	265	169	1035.0	1 204.0	1.6	0.1	0.0	0.9		2.6	1 203.5	462.2			99.95%	A		
5	1969	1	169	581.1	750.1	1.6	0.1	0.8	0.9		3.4	749.0	220.8			99.81%	A		
6	1969		169	372.2	541.2	1.6	0.1	2.1	0.9		4.7	539.0	115.5			99.43%	A		
7	1969		169	233.7	402.7	1.6	0.1	2.5	0.9		5.1	400.2	78.7			98.94%	A		
8	1969	4	169	160.2	329.2	1.6	0.1	3.1	0.9		5.7	326.3	57.8			98.17%	A		
9	1969	17	169	112.8	281.8	1.6	0.1	2.9	0.9		5.5	279.0	51.1			97.53%	A		
10	1969	283	169	99.7	268.7	1.6	0.1	0.6	0.9		3.2	267.7	83.7	0.50%	9 221	99.03%	A	99.77%	A
11	1969	550	169	310.7	479.7	1.6	0.1	0.1	0.9		2.7	479.2	180.9			99.83%	A		
12	1969	411	169	446.8	615.8	1.6	0.1	0.1	0.9		2.7	615.2	231.7			99.88%	A		
1	1970	574	169	901.9	1 070.9	1.6	0.1	0.1	0.9		2.7	1 070.4	398.9			99.94%	A		
2	1970	487	169	1287.4	1 456.4	1.6	0.1	0.1	0.9		2.7	1 455.8	543.5			99.96%	A		
3	1970	422	169	1248.3	1 417.3	1.6	0.1	0.0	0.9		2.6	1 416.8	546.7			99.96%	A		
4	1970	164	169	971.4	1 140.4	1.6	0.1	0.0	0.9		2.6	1 139.9	437.8			99.95%	A		
5	1970	1	169	595.6	764.6	1.6	0.1	0.8	0.9		3.4	763.5	225.0			99.81%	A		
6	1970	0	169	373.0	542.0	1.6	0.1	2.1	0.9		4.7	539.8	115.6			99.43%	A		
7	1970		169	238.0	407.0	1.6	0.1	2.5	0.9		5.1	404.5	79.6			98.96%	A		
8	1970		169	166.5	335.5	1.6	0.1	3.1	0.9		5.7	332.5	58.9			98.24%	A		
9	1970	29	169	118.9	287.9	1.6	0.1	2.9	0.9		5.5	285.0	52.2			97.65%	A		
10	1970	161	169	108.8	277.8	1.6	0.1	0.6	0.9		3.2	276.8	86.5	0.75%	6 089	99.11%	A	99.59%	A
11	1970	228	169	170.9	339.9	1.6	0.1	0.1	0.9		2.7	339.3	128.1			99.69%	A		
12	1970	215	169	232.3	401.3	1.6	0.1	0.1	0.9		2.7	400.7	151.0			99.77%	A		
1	1971	190	169	285.7	454.7	1.6	0.1	0.1	0.9		2.7	454.1	169.4			99.81%	A		
2	1971	249	169	431.9	600.9	1.6	0.1	0.1	0.9		2.7	600.3	224.2			99.87%	A		
3	1971	306	169	659.6	828.6	1.6	0.1	0.0	0.9		2.6	828.2	319.6			99.93%	A		
4	1971	173	169	659.8	828.8	1.6	0.1	0.0	0.9		2.6	828.3	318.2			99.93%	A		
5	1971	11	169	472.8	641.8	1.6	0.1	0.8	0.9		3.4	640.7	188.9			99.76%	A		
6	1971	1	169	313.1	482.1	1.6	0.1	2.1	0.9		4.7	479.9	102.8			99.32%	A		
7	1971		169	201.1	370.1	1.6	0.1	2.5	0.9		5.1	367.6	72.4			98.77%	A		

8	1971		169	139.1	308.1	1.6	0.1	3.1	0.9		5.7	305.2	54.1			97.89%	A		
9	1971	7	169	98.3	267.3	1.6	0.1	2.9	0.9		5.5	264.5	48.5			97.16%	A		
10	1971	36	169	73.3	242.3	1.6	0.1	0.6	0.9		3.2	241.3	75.5			98.68%	A		
11	1971	59	169	79.5	248.5	1.6	0.1	0.1	0.9		2.7	248.0	93.7			99.34%	A		
12	1971	79	169	134.9	303.9	1.6	0.1	0.1	0.9		2.7	303.4	114.4			99.61%	A		
1	1972	53	169	175.3	344.3	1.6	0.1	0.1	0.9		2.7	343.7	128.2			99.69%	A		
2	1972	13	169	169.2	338.2	1.6	0.1	0.1	0.9		2.7	337.6	126.2			99.68%	A		
3	1972	142	169	572.7	741.7	1.6	0.1	0.0	0.9		2.6	741.2	286.1	0.93%	4 922	99.92%	A	99.42%	A
4	1972	57	169	620.7	789.7	1.6	0.1	0.0	0.9		2.6	789.2	303.2			99.92%	A		
5	1972	1	169	316.4	485.4	1.6	0.1	0.8	0.9		3.4	484.2	142.8			99.65%	A		
6	1972		169	210.7	379.7	1.6	0.1	2.1	0.9		4.7	377.6	81.0			98.99%	A		
7	1972		169	139.5	308.5	1.6	0.1	2.5	0.9		5.1	306.0	60.3			98.23%	A		
8	1972	1	169	99.1	268.1	1.6	0.1	3.1	0.9		5.7	265.2	47.1			97.04%	A		
9	1972	1	169	71.0	240.0	1.6	0.1	2.9	0.9		5.5	237.2	43.5			96.07%	A		
10	1972	236	169	60.4	229.4	1.6	0.1	0.6	0.9		3.2	228.4	71.4			98.40%	A		
11	1972	265	169	79.5	248.5	1.6	0.1	0.1	0.9		2.7	248.0	93.7			99.34%	A		
12	1972	524	169	385.3	554.3	1.6	0.1	0.1	0.9		2.7	553.8	208.6			99.86%	A		
1	1973	712	169	1353.3	1 522.3	1.6	0.1	0.1	0.9		2.7	1 521.8	567.0			99.96%	A		
2	1973	221	169	1207.2	1 376.2	1.6	0.1	0.1	0.9		2.7	1 375.6	513.6			99.95%	A		
3	1973	497	169	967.5	1 136.5	1.6	0.1	0.0	0.9		2.6	1 136.0	438.4	0.50%	9 133	99.95%	A	99.77%	A
4	1973	315	169	1041.6	1 210.6	1.6	0.1	0.0	0.9		2.6	1 210.1	464.8			99.95%	A		
5	1973	18	169	662.3	831.3	1.6	0.1	0.8	0.9		3.4	830.2	244.7			99.83%	A		
6	1973	0	169	390.6	559.6	1.6	0.1	2.1	0.9		4.7	557.5	119.4			99.45%	A		
7	1973		169	243.1	412.1	1.6	0.1	2.5	0.9		5.1	409.6	80.6			98.98%	A		
8	1973		169	166.3	335.3	1.6	0.1	3.1	0.9		5.7	332.3	58.9			98.24%	A		
9	1973	5	169	117.2	286.2	1.6	0.1	2.9	0.9		5.5	283.4	51.9			97.62%	A		
10	1973	124	169	118.0	287.0	1.6	0.1	0.6	0.9		3.2	286.1	89.4			99.18%	A		
11	1973	94	169	134.3	303.3	1.6	0.1	0.1	0.9		2.7	302.8	114.4			99.61%	A		
12	1973	63	169	150.4	319.4	1.6	0.1	0.1	0.9		2.7	318.8	120.2			99.65%	A		
1	1974	45	169	161.4	330.4	1.6	0.1	0.1	0.9		2.7	329.9	123.1			99.66%	A		
2	1974	29	169	141.1	310.1	1.6	0.1	0.1	0.9		2.7	309.5	115.7			99.61%	A		
3	1974	264	169	851.1	1 020.1	1.6	0.1	0.0	0.9		2.6	1 019.6	393.5	0.68%	6 679	99.94%	A	99.64%	A
4	1974	246	169	1264.3	1 433.3	1.6	0.1	0.0	0.9		2.6	1 432.8	550.3			99.96%	A		
5	1974	7	169	777.8	946.8	1.6	0.1	0.8	0.9		3.4	945.7	278.6			99.86%	A		
6	1974	0	169	316.0	485.0	1.6	0.1	2.1	0.9		4.7	482.8	103.5			99.32%	A		
7	1974		169	194.1	363.1	1.6	0.1	2.5	0.9		5.1	360.6	71.0			98.73%	A		
8	1974	3	169	133.3	302.3	1.6	0.1	3.1	0.9		5.7	299.4	53.1			97.80%	A		
9	1974	3	169	94.1	263.1	1.6	0.1	2.9	0.9		5.5	260.2	47.7			97.03%	A		

UH	Médio Cunene
Área (km ²)	56 399
População	1 310 890
Área irrigada (ha)	18 786
NGR (mm)	1 150

Sector	Necessidades anuais de água (hm ³)	
Abastecimento público	31.5	13.5%
Indústria	3.3	1.4%
Termo eléctricas		
Irrigação	172.8	73.9%
Pecuária	26.3	11.2%
Volume anual turbinado (hm ³)		
Hidroelectricidade		



Retornos em função do uso:		
Abastecimento público	80%	
Indústria	80%	
Termo elétricas	95%	
Irrigação	20%	
Pecuária	85%	

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm ³)	Águas subterâneas (hm ³)	Escoamentos (hm ³)	Disponibilidades (hm ³)	Necessidades (hm ³)				Transf. de água transfronteiriça (hm ³)	Total dos usos consumptíveis (hm ³)	Balanço (hm ³)	Ratio Disp. Nec.	IUP (%)	IP m ³ /ano.hab	Classe de Gestão Ecológica			
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano médio	1 399.7	1 251.8	7 280.7	8 532.5	50. 7	4. 3	185. 4	37.	189. 3	466. 7	8 178.4	18.3	5.5%	3 769	---	---	97.85%	A
Ano seco	304.5	1 254.0	4 309.7	5 563.7	50. 7	4. 3	185. 4	37.	189. 7	466. 6	5 209.6	11.9	8.4%	2 458	---	---	96.37%	A
Ano muito seco	285.3	1 252.0	1 971.2	3 223.2	50. 7	4. 3	185. 4	37.	189. 2	466. 6	2 869.2	6.9	14.5%	1 424	---	---	92.06%	A

Mês	Ano		Recarga (hm ³)	Águas subterâneas (hm ³)	Escoamentos (hm ³)	Disponibilidades (hm ³)	Abast. Público	Indústria	Irrigação	Pecuária	Transf. de água transfronteiriça (hm ³)	Total dos usos consumptíveis (hm ³)	Balanço (hm ³)	Ratio Disp. Nec.	IUP (%)	IP m ³ /ano.hab	Classe de Gestão Ecológica			
	10	1944	92	105	140.0	245.0	4.2	0.4	23.8	3.1	16.1	47.6	208.5	5.1	5.19%	3 970	75.22%	B	97.97%	A
	11	1944	209	105	333.5	438.5	4.2	0.4	13.0	3.1	15.6	36.2	411.2	12.1			92.22%	A		
	12	1944	180	105	433.2	538.2	4.2	0.4	12.7	3.1	16.1	36.4	510.6	14.8			93.95%	A		
	1	1945	304	105	762.5	867.5	4.2	0.4	6.5	3.1	16.1	30.2	844.9	28.7			97.18%	A		
	2	1945	512	105	1335.4	1 440.4	4.2	0.4	2.7	3.1	14.5	24.9	1 422.3	57.8			98.71%	A		
	3	1945	269	105	1640.9	1 745.9	4.2	0.4	0.2	3.1	16.1	24.0	1 728.3	72.8			98.98%	A		
	4	1945	21	105	1294.1	1 399.1	4.2	0.4	3.7	3.1	15.6	26.9	1 379.2	51.9			98.54%	A		
	5	1945	10	105	716.3	821.3	4.2	0.4	19.9	3.1	16.1	43.6	787.9	18.8			95.58%	A		
	6	1945	1	105	442.5	547.5	4.2	0.4	21.6	3.1	15.6	44.8	513.3	12.2			92.65%	A		
	7	1945	0	105	291.4	396.4	4.2	0.4	22.1	3.1	16.1	45.8	361.3	8.6			88.55%	A		
	8	1945	0	104	200.6	304.6	4.2	0.4	28.4	3.1	16.1	52.2	264.4	5.8	5.39%	3 823	80.96%	A	97.88%	A
	9	1945	16	103	139.8	242.8	4.2	0.4	30.7	3.1	15.6	53.9	201.3	4.5			71.80%	B		
	10	1945	30	105	140.4	245.4	4.2	0.4	23.8	3.1	16.1	47.6	208.9	5.2			75.29%	B		
	11	1945	72	105	831.4	936.4	4.2	0.4	13.0	3.1	15.6	36.2	909.1	25.9			96.88%	A		
	12	1945	79	105	1015.1	1 120.1	4.2	0.4	12.7	3.1	16.1	36.4	1 092.5	30.8			97.42%	A		
	1	1946	38	105	751.7	856.7	4.2	0.4	6.5	3.1	16.1	30.2	834.1	28.4			97.14%	A		
	2	1946	18	105	665.6	770.6	4.2	0.4	2.7	3.1	14.5	24.9	752.5	30.9			97.42%	A		
	3	1946	52	105	1348.1	1 453.1	4.2	0.4	0.2	3.1	16.1	24.0	1 435.5	60.6			98.76%	A		
	4	1946	29	105	1193.3	1 298.3	4.2	0.4	3.7	3.1	15.6	26.9	1 278.4	48.2			98.41%	A		
	5	1946		105	561.9	666.9	4.2	0.4	19.9	3.1	16.1	43.6	633.6	15.3	3.63%	5 671	94.36%	A	98.65%	A
	6	1946		104	366.1	470.1	4.2	0.4	21.6	3.1	15.6	44.8	435.9	10.5			91.12%	A		
	7	1946		103	238.5	341.5	4.2	0.4	22.1	3.1	16.1	45.8	306.3	7.5			86.01%	A		
	8	1946	0	102	168.1	270.1	4.2	0.4	28.4	3.1	16.1	52.2	229.9	5.2			77.28%	A		
	9	1946	5	101	123.4	224.4	4.2	0.4	30.7	3.1	15.6	53.9	182.9	4.2			68.07%	B		
	10	1946	199	105	135.1	240.1	4.2	0.4	23.8	3.1	16.1	47.6	203.6	5.0			74.32%	B		
	11	1946	260	105	189.0	294.0	4.2	0.4	13.0	3.1	15.6	36.2	266.7	8.1			86.27%	A		
	12	1946	1063	105	1884.1	1 989.1	4.2	0.4	12.7	3.1	16.1	36.4	1 961.5	54.6			98.61%	A		
	1	1947	1144	105	2515.2	2 620.2	4.2	0.4	6.5	3.1	16.1	30.2	2 597.6	86.8			99.15%	A		
	2	1947	1227	105	1846.4	1 951.4	4.2	0.4	2.7	3.1	14.5	24.9	1 933.3	78.3	3.63%	5 671	99.07%	A		
	3	1947	887	105	1635.6	1 740.6	4.2	0.4	0.2	3.1	16.1	24.0	1 723.0	72.6			98.98%	A		
	4	1947	779	105	1186.0	1 291.0	4.2	0.4	3.7	3.1	15.6	26.9	1 271.0	47.9			98.40%	A		
	5	1947		105	838.0	943.0	4.2	0.4	19.9	3.1	16.1	43.6	909.7	21.6			96.22%	A		
	6	1947	11	105	558.7	663.7	4.2	0.4	21.6	3.1	15.6	44.8	629.5	14.8			94.18%	A		
	7	1947		104	363.5	467.5	4.2	0.4	22.1	3.1	16.1	45.8	432.4	10.2			90.82%	A		
	8	1947		103	253.0	356.0	4.2	0.4	28.4	3.1	16.1	52.2	315.8	6.8			84.91%	A		
	9	1947	39	102	179.1	281.1	4.2	0.4	30.7	3.1	15.6	53.9	239.7	5.2			78.00%	B		
	10	1947	10	105	133.8	238.8	4.2	0.4	23.8	3.1	16.1	47.6	202.3	5.0			74.07%	B		

11	1947	21	105	156.7	261.7	4.2	0.4	13.0	3.1	15.6	36.2	234.4	7.2	8.40%	2 458	83.44%	A	96.37%	A
12	1947	39	105	176.7	281.7	4.2	0.4	12.7	3.1	16.1	36.4	254.1	7.7			85.17%	A		
1	1948	41	105	608.2	713.2	4.2	0.4	6.5	3.1	16.1	30.2	690.6	23.6			96.47%	A		
2	1948	161	105	923.0	1 028.0	4.2	0.4	2.7	3.1	15.0	25.4	1 009.4	40.4			98.09%	A		
3	1948	20	105	864.2	969.2	4.2	0.4	0.2	3.1	16.1	24.0	951.6	40.4			98.06%	A		
4	1948	10	105	493.0	598.0	4.2	0.4	3.7	3.1	15.6	26.9	578.1	22.2			96.16%	A		
5	1948	3	105	365.7	470.7	4.2	0.4	19.9	3.1	16.1	43.6	437.3	10.8			91.34%	A		
6	1948		105	244.3	349.3	4.2	0.4	21.6	3.1	15.6	44.8	315.0	7.8			86.69%	A		
7	1948		104	157.9	261.9	4.2	0.4	22.1	3.1	16.1	45.8	226.8	5.7			78.87%	A		
8	1948		103	108.6	211.6	4.2	0.4	28.4	3.1	16.1	52.2	171.4	4.1			64.82%	B		
9	1948	0	102	77.6	179.6	4.2	0.4	30.7	3.1	15.6	53.9	138.1	3.3			49.18%	F		
10	1948	26	101	65.7	166.7	4.2	0.4	23.8	3.1	16.1	47.6	130.2	3.5	6.83%	3 016	47.17%	F	97.19%	A
11	1948	64	105	103.0	208.0	4.2	0.4	13.0	3.1	15.6	36.2	180.7	5.7			74.80%	A		
12	1948	75	105	145.9	250.9	4.2	0.4	12.7	3.1	16.1	36.4	223.3	6.9			82.04%	A		
1	1949	99	105	275.7	380.7	4.2	0.4	6.5	3.1	16.1	30.2	358.1	12.6			92.21%	A		
2	1949	156	105	548.0	653.0	4.2	0.4	2.7	3.1	14.5	24.9	634.9	26.2			96.86%	A		
3	1949	267	105	1341.5	1 446.5	4.2	0.4	0.2	3.1	16.1	24.0	1 428.9	60.3			98.75%	A		
4	1949	78	105	1450.3	1 555.3	4.2	0.4	3.7	3.1	15.6	26.9	1 535.3	57.7			98.70%	A		
5	1949		105	649.6	754.6	4.2	0.4	19.9	3.1	16.1	43.6	721.3	17.3			95.12%	A		
6	1949		104	405.7	509.7	4.2	0.4	21.6	3.1	15.6	44.8	475.5	11.4			91.98%	A		
7	1949		103	269.2	372.2	4.2	0.4	22.1	3.1	16.1	45.8	337.0	8.1			87.60%	A		
8	1949		102	190.0	292.0	4.2	0.4	28.4	3.1	16.1	52.2	251.8	5.6			79.90%	A		
9	1949	2	101	136.1	237.1	4.2	0.4	30.7	3.1	15.6	53.9	195.7	4.4			71.05%	B		
10	1949	39	102	101.8	203.8	4.2	0.4	23.8	3.1	16.1	47.6	167.3	4.3	4.48%	4 603	65.93%	B	98.29%	A
11	1949	79	105	130.0	235.0	4.2	0.4	13.0	3.1	15.6	36.2	207.6	6.5			80.04%	B		
12	1949	64	105	184.4	289.4	4.2	0.4	12.7	3.1	16.1	36.4	261.8	7.9			85.79%	A		
1	1950	547	105	1159.3	1 264.3	4.2	0.4	6.5	3.1	16.1	30.2	1 241.6	41.9			98.15%	A		
2	1950	469	105	1716.1	1 821.1	4.2	0.4	2.7	3.1	14.5	24.9	1 803.0	73.1			99.00%	A		
3	1950	538	105	2314.2	2 419.2	4.2	0.4	0.2	3.1	16.1	24.0	2 401.6	100.9			99.28%	A		
4	1950	84	105	1932.7	2 037.7	4.2	0.4	3.7	3.1	15.6	26.9	2 017.8	75.6			99.02%	A		
5	1950	12	105	688.8	793.8	4.2	0.4	19.9	3.1	16.1	43.6	760.5	18.2			95.40%	A		
6	1950		105	395.9	500.9	4.2	0.4	21.6	3.1	15.6	44.8	466.6	11.2			91.78%	A		
7	1950		104	251.5	355.5	4.2	0.4	22.1	3.1	16.1	45.8	320.4	7.8			86.73%	A		
8	1950	0	103	172.7	275.7	4.2	0.4	28.4	3.1	16.1	52.2	235.5	5.3			77.89%	A		
9	1950	1	102	121.0	223.0	4.2	0.4	30.7	3.1	15.6	53.9	181.6	4.1			67.44%	B		
10	1950	20	102	86.5	188.5	4.2	0.4	23.8	3.1	16.1	47.6	151.9	4.0	2.76%	7 456	59.87%	F	99.00%	A
11	1950	191	105	88.3	193.3	4.2	0.4	13.0	3.1	15.6	36.2	166.0	5.3			70.63%	C		
12	1950	797	105	861.7	966.7	4.2	0.4	12.7	3.1	16.1	36.4	939.1	26.6			96.96%	A		
1	1951	191	105	1099.5	1 204.5	4.2	0.4	6.5	3.1	16.1	30.2	1 181.9	39.9			98.05%	A		
2	1951	715	105	812.7	917.7	4.2	0.4	2.7	3.1	14.5	24.9	899.6	36.8			97.89%	A		
3	1951	693	105	3656.1	3 761.1	4.2	0.4	0.2	3.1	16.1	24.0	3 743.5	156.9			99.54%	A		
4	1951	565	105	4935.6	5 040.6	4.2	0.4	3.7	3.1	15.6	26.9	5 020.7	187.1			99.62%	A		
5	1951	95	105	2315.4	2 420.4	4.2	0.4	19.9	3.1	16.1	43.6	2 387.1	55.5			98.63%	A		
6	1951		105	771.2	876.2	4.2	0.4	21.6	3.1	15.6	44.8	842.0	19.5			95.78%	A		
7	1951		104	474.9	578.9	4.2	0.4	22.1	3.1	16.1	45.8	543.8	12.6			92.97%	A		
8	1951		103	312.0	415.0	4.2	0.4	28.4	3.1	16.1	52.2	374.8	8.0			87.76%	A		
9	1951	5	102	212.7	314.7	4.2	0.4	30.7	3.1	15.6	53.9	273.2	5.8			81.47%	A		
10	1951	43	105	157.9	262.9	4.2	0.4	23.8	3.1	16.1	47.6	226.3	5.5	9.23%	2 235	78.02%	A	95.89%	A
11	1951	73	105	183.3	288.3	4.2	0.4	13.0	3.1	15.6	36.2	261.0	8.0			85.85%	A		
12	1951	195	105	373.5	478.5	4.2	0.4	12.7	3.1	16.1	36.4	450.9	13.1			92.98%	A		
1	1952	74	105	407.6	512.6	4.2	0.4	6.5	3.1	16.1	30.2	490.0	17.0			94.73%	A		
2	1952	215	105	507.4	612.4	4.2	0.4	2.7	3.1	15.0	25.4	593.8	24.1			96.52%	A		
3	1952	81	105	575.4	680.4	4.2	0.4	0.2	3.1	16.1	24.0	662.7	28.4			97.09%	A		
4	1952	37	105	483.0	588.0	4.2	0.4	3.7	3.1	15.6	26.9	568.1	21.8			96.08%	A		
5	1952	0	105	404.2	509.2	4.2	0.4	19.9	3.1	16.1	43.6	475.8	11.7			92.16%	A		
6	1952		104	285.2	389.2	4.2	0.4	21.6	3.1	15.6	44.8	355.0	8.7			88.60%	A		
7	1952		103	194.4	297.4	4.2	0.4	22.1	3.1	16.1	45.8	262.3	6.5			82.83%	A		

8	1952		102	138.6	240.6	4.2	0.4	28.4	3.1	16.1	52.2	200.4	4.6	9.12%	2 260	72.44%	B	95.95%	A
9	1952	8	101	99.6	200.6	4.2	0.4	30.7	3.1	15.6	53.9	159.1	3.7			60.42%	C		
10	1952	32	105	93.5	198.5	4.2	0.4	23.8	3.1	16.1	47.6	161.9	4.2			62.87%	C		
11	1952	48	105	316.7	421.7	4.2	0.4	13.0	3.1	15.6	36.2	394.4	11.7			91.81%	A		
12	1952	41	105	408.6	513.6	4.2	0.4	12.7	3.1	16.1	36.4	486.1	14.1			93.59%	A		
1	1953	28	105	348.3	453.3	4.2	0.4	6.5	3.1	16.1	30.2	430.7	15.0			93.83%	A		
2	1953	55	105	377.8	482.8	4.2	0.4	2.7	3.1	14.5	24.9	464.7	19.4			95.45%	A		
3	1953	82	105	520.2	625.2	4.2	0.4	0.2	3.1	16.1	24.0	607.6	26.1			96.78%	A		
4	1953	36	105	602.2	707.2	4.2	0.4	3.7	3.1	15.6	26.9	687.3	26.2			96.86%	A		
5	1953	1	105	454.2	559.2	4.2	0.4	19.9	3.1	16.1	43.6	525.9	12.8			93.03%	A		
6	1953		105	300.6	405.6	4.2	0.4	21.6	3.1	15.6	44.8	371.4	9.0			89.18%	A		
7	1953		104	197.8	301.8	4.2	0.4	22.1	3.1	16.1	45.8	266.7	6.6			83.13%	A		
8	1953	0	103	141.0	244.0	4.2	0.4	28.4	3.1	16.1	52.2	203.8	4.7			72.92%	B		
9	1953	0	102	101.4	203.4	4.2	0.4	30.7	3.1	15.6	53.9	161.9	3.8			61.13%	C		
10	1953	177	101	96.7	197.7	4.2	0.4	23.8	3.1	16.1	47.6	161.2	4.2	5.83%	3 536	64.13%	B	97.68%	A
11	1953	189	105	109.9	214.9	4.2	0.4	13.0	3.1	15.6	36.2	187.6	5.9			76.40%	B		
12	1953	371	105	223.0	328.0	4.2	0.4	12.7	3.1	16.1	36.4	300.4	9.0			88.25%	A		
1	1954	432	105	394.9	499.9	4.2	0.4	6.5	3.1	16.1	30.2	477.3	16.6			94.56%	A		
2	1954	816	105	731.2	836.2	4.2	0.4	2.7	3.1	14.5	24.9	818.1	33.6			97.65%	A		
3	1954	648	105	1545.4	1 650.4	4.2	0.4	0.2	3.1	16.1	24.0	1 632.7	68.9			98.92%	A		
4	1954	180	105	1543.0	1 648.0	4.2	0.4	3.7	3.1	15.6	26.9	1 628.1	61.2			98.77%	A		
5	1954	23	105	860.5	965.5	4.2	0.4	19.9	3.1	16.1	43.6	932.2	22.1			96.32%	A		
6	1954		105	536.1	641.1	4.2	0.4	21.6	3.1	15.6	44.8	606.9	14.3			93.93%	A		
7	1954		104	334.3	438.3	4.2	0.4	22.1	3.1	16.1	45.8	403.2	9.6			90.02%	A		
8	1954		103	225.1	328.1	4.2	0.4	28.4	3.1	16.1	52.2	287.9	6.3			83.04%	A		
9	1954	2	102	154.9	256.9	4.2	0.4	30.7	3.1	15.6	53.9	215.4	4.8			74.55%	B		
10	1954	22	103	114.1	217.1	4.2	0.4	23.8	3.1	16.1	47.6	180.6	4.6	14.48%	1 424	69.60%	B	92.06%	A
11	1954	27	105	114.2	219.2	4.2	0.4	13.0	3.1	15.6	36.2	191.8	6.1			77.27%	B		
12	1954	51	105	128.2	233.2	4.2	0.4	12.7	3.1	16.1	36.4	205.6	6.4			79.55%	A		
1	1955	57	105	142.5	247.5	4.2	0.4	6.5	3.1	16.1	30.2	224.9	8.2			84.92%	A		
2	1955	25	105	157.6	262.6	4.2	0.4	2.7	3.1	14.5	24.9	244.6	10.5			89.10%	A		
3	1955	64	105	206.4	311.4	4.2	0.4	0.2	3.1	16.1	24.0	293.8	13.0			91.88%	A		
4	1955	38	105	283.9	388.9	4.2	0.4	3.7	3.1	15.6	26.9	369.0	14.4			93.34%	A		
5	1955	1	105	283.2	388.2	4.2	0.4	19.9	3.1	16.1	43.6	354.8	8.9			88.82%	A		
6	1955		105	211.2	316.2	4.2	0.4	21.6	3.1	15.6	44.8	282.0	7.1			84.60%	A		
7	1955	0	104	147.6	251.6	4.2	0.4	22.1	3.1	16.1	45.8	216.4	5.5			77.39%	A		
8	1955		103	106.2	209.2	4.2	0.4	28.4	3.1	16.1	52.2	169.0	4.0			64.03%	B		
9	1955	0	102	76.2	178.2	4.2	0.4	30.7	3.1	15.6	53.9	136.7	3.3			48.25%	F		
10	1955	48	101	61.5	162.5	4.2	0.4	23.8	3.1	16.1	47.6	125.9	3.4	6.94%	2 975	43.55%	F	97.15%	A
11	1955	76	105	117.2	222.2	4.2	0.4	13.0	3.1	15.6	36.2	194.9	6.1			77.86%	B		
12	1955	107	105	314.9	419.9	4.2	0.4	12.7	3.1	16.1	36.4	392.3	11.5			91.68%	A		
1	1956	193	105	733.5	838.5	4.2	0.4	6.5	3.1	16.1	30.2	815.9	27.8			97.07%	A		
2	1956	101	105	740.3	845.3	4.2	0.4	2.7	3.1	15.0	25.4	826.7	33.2			97.61%	A		
3	1956	224	105	700.4	805.4	4.2	0.4	0.2	3.1	16.1	24.0	787.7	33.6			97.61%	A		
4	1956	120	105	952.0	1 057.0	4.2	0.4	3.7	3.1	15.6	26.9	1 037.1	39.2			98.01%	A		
5	1956	1	105	808.9	913.9	4.2	0.4	19.9	3.1	16.1	43.6	880.5	21.0			96.08%	A		
6	1956		105	447.8	552.8	4.2	0.4	21.6	3.1	15.6	44.8	518.6	12.3			92.74%	A		
7	1956		104	281.0	385.0	4.2	0.4	22.1	3.1	16.1	45.8	349.9	8.4			88.13%	A		
8	1956		103	192.5	295.5	4.2	0.4	28.4	3.1	16.1	52.2	255.3	5.7			80.16%	A		
9	1956	1	102	135.2	237.2	4.2	0.4	30.7	3.1	15.6	53.9	195.7	4.4			70.85%	B		
10	1956	24	103	103.7	206.7	4.2	0.4	23.8	3.1	16.1	47.6	170.2	4.3	8.48%	2 430	66.55%	B	96.32%	A
11	1956	94	105	101.5	206.5	4.2	0.4	13.0	3.1	15.6	36.2	179.2	5.7			74.44%	A		
12	1956	36	105	142.7	247.7	4.2	0.4	12.7	3.1	16.1	36.4	220.1	6.8			81.64%	A		
1	1957	137	105	212.7	317.7	4.2	0.4	6.5	3.1	16.1	30.2	295.0	10.5			89.90%	A		
2	1957	135	105	264.3	369.3	4.2	0.4	2.7	3.1	14.5	24.9	351.2	14.8			93.50%	A		
3	1957	359	105	1055.0	1 160.0	4.2	0.4	0.2	3.1	16.1	24.0	1 142.4	48.4			98.41%	A		
4	1957	63	105	1148.0	1 253.0	4.2	0.4	3.7	3.1	15.6	26.9	1 233.1	46.5			98.35%	A		

5	1957	0	105	492.8	597.8	4.2	0.4	19.9	3.1	16.1	43.6	564.4	13.7			93.57%	A		
6	1957		104	299.6	403.6	4.2	0.4	21.6	3.1	15.6	44.8	369.4	9.0			89.15%	A		
7	1957	0	103	195.0	298.0	4.2	0.4	22.1	3.1	16.1	45.8	262.8	6.5			82.89%	A		
8	1957	0	102	137.4	239.4	4.2	0.4	28.4	3.1	16.1	52.2	199.2	4.6			72.20%	B		
9	1957	8	101	99.6	200.6	4.2	0.4	30.7	3.1	15.6	53.9	159.1	3.7			60.44%	C		
10	1957	54	105	84.7	189.7	4.2	0.4	23.8	3.1	16.1	47.6	153.2	4.0	8.11%	2 542	59.05%	F	96.52%	A
11	1957	180	105	414.6	519.6	4.2	0.4	13.0	3.1	15.6	36.2	492.3	14.4			93.74%	A		
12	1957	163	105	692.2	797.2	4.2	0.4	12.7	3.1	16.1	36.4	769.6	21.9			96.21%	A		
1	1958	88	105	571.5	676.5	4.2	0.4	6.5	3.1	16.1	30.2	653.9	22.4			96.24%	A		
2	1958	97	105	438.3	543.3	4.2	0.4	2.7	3.1	14.5	24.9	525.2	21.8			96.08%	A		
3	1958	131	105	591.3	696.3	4.2	0.4	0.2	3.1	16.1	24.0	678.7	29.1			97.17%	A		
4	1958	8	105	617.3	722.3	4.2	0.4	3.7	3.1	15.6	26.9	702.4	26.8			96.94%	A		
5	1958	1	105	412.1	517.1	4.2	0.4	19.9	3.1	16.1	43.6	483.8	11.9			92.31%	A		
6	1958		105	269.1	374.1	4.2	0.4	21.6	3.1	15.6	44.8	339.9	8.3			87.92%	A		
7	1958		104	183.6	287.6	4.2	0.4	22.1	3.1	16.1	45.8	252.5	6.3			81.82%	A		
8	1958		103	131.3	234.3	4.2	0.4	28.4	3.1	16.1	52.2	194.1	4.5			70.92%	B		
9	1958	2	102	94.5	196.5	4.2	0.4	30.7	3.1	15.6	53.9	155.0	3.6			58.29%	D		
10	1958	17	103	70.6	173.6	4.2	0.4	23.8	3.1	16.1	47.6	137.1	3.6	6.64%	3 102	50.84%	F	97.29%	A
11	1958	133	105	135.6	240.6	4.2	0.4	13.0	3.1	15.6	36.2	213.3	6.6			80.86%	A		
12	1958	162	105	443.5	548.5	4.2	0.4	12.7	3.1	16.1	36.4	520.9	15.1			94.09%	A		
1	1959	155	105	616.8	721.8	4.2	0.4	6.5	3.1	16.1	30.2	699.2	23.9			96.52%	A		
2	1959	194	105	742.7	847.7	4.2	0.4	2.7	3.1	14.5	24.9	829.6	34.0			97.69%	A		
3	1959	73	105	992.5	1 097.5	4.2	0.4	0.2	3.1	16.1	24.0	1 079.9	45.8			98.31%	A		
4	1959	115	105	957.9	1 062.9	4.2	0.4	3.7	3.1	15.6	26.9	1 043.0	39.4			98.02%	A		
5	1959	7	105	704.9	809.9	4.2	0.4	19.9	3.1	16.1	43.6	776.6	18.6			95.51%	A		
6	1959		105	467.0	572.0	4.2	0.4	21.6	3.1	15.6	44.8	537.7	12.8			93.04%	A		
7	1959	0	104	296.2	400.2	4.2	0.4	22.1	3.1	16.1	45.8	365.1	8.7			88.74%	A		
8	1959	0	103	201.2	304.2	4.2	0.4	28.4	3.1	16.1	52.2	264.0	5.8			81.02%	A		
9	1959	2	102	140.8	242.8	4.2	0.4	30.7	3.1	15.6	53.9	201.3	4.5			72.01%	B		
10	1959	40	103	103.5	206.5	4.2	0.4	23.8	3.1	16.1	47.6	170.0	4.3	5.85%	3 530	66.48%	B	97.68%	A
11	1959	91	105	130.3	235.3	4.2	0.4	13.0	3.1	15.6	36.2	207.9	6.5			80.08%	B		
12	1959	120	105	383.9	488.9	4.2	0.4	12.7	3.1	16.1	36.4	461.3	13.4			93.17%	A		
1	1960	147	105	631.2	736.2	4.2	0.4	6.5	3.1	16.1	30.2	713.6	24.4			96.60%	A		
2	1960	214	105	918.1	1 023.1	4.2	0.4	2.7	3.1	15.0	25.4	1 004.5	40.2			98.08%	A		
3	1960	135	105	1463.4	1 568.4	4.2	0.4	0.2	3.1	16.1	24.0	1 550.8	65.4			98.86%	A		
4	1960	39	105	1229.8	1 334.8	4.2	0.4	3.7	3.1	15.6	26.9	1 314.9	49.5			98.46%	A		
5	1960	13	105	715.4	820.4	4.2	0.4	19.9	3.1	16.1	43.6	787.0	18.8			95.57%	A		
6	1960	0	105	483.5	588.5	4.2	0.4	21.6	3.1	15.6	44.8	554.2	13.1			93.27%	A		
7	1960	0	104	313.3	417.3	4.2	0.4	22.1	3.1	16.1	45.8	382.2	9.1			89.35%	A		
8	1960	0	103	214.8	317.8	4.2	0.4	28.4	3.1	16.1	52.2	277.6	6.1			82.22%	A		
9	1960	10	102	151.8	253.8	4.2	0.4	30.7	3.1	15.6	53.9	212.4	4.7			74.04%	A		
10	1960	78	105	116.6	221.6	4.2	0.4	23.8	3.1	16.1	47.6	185.1	4.7	4.14%	4 974	70.25%	B	98.43%	A
11	1960	167	105	351.1	456.1	4.2	0.4	13.0	3.1	15.6	36.2	428.8	12.6			92.61%	A		
12	1960	170	105	459.9	564.9	4.2	0.4	12.7	3.1	16.1	36.4	537.3	15.5			94.30%	A		
1	1961	363	105	649.9	754.9	4.2	0.4	6.5	3.1	16.1	30.2	732.3	25.0			96.69%	A		
2	1961	285	105	1135.8	1 240.8	4.2	0.4	2.7	3.1	14.5	24.9	1 222.7	49.8			98.49%	A		
3	1961	346	105	2107.3	2 212.3	4.2	0.4	0.2	3.1	16.1	24.0	2 194.7	92.3			99.20%	A		
4	1961	188	105	2274.2	2 379.2	4.2	0.4	3.7	3.1	15.6	26.9	2 359.3	88.3			99.17%	A		
5	1961	17	105	1303.3	1 408.3	4.2	0.4	19.9	3.1	16.1	43.6	1 375.0	32.3			97.57%	A		
6	1961		105	677.2	782.2	4.2	0.4	21.6	3.1	15.6	44.8	747.9	17.4			95.20%	A		
7	1961		104	435.6	539.6	4.2	0.4	22.1	3.1	16.1	45.8	504.4	11.8			92.34%	A		
8	1961		103	292.1	395.1	4.2	0.4	28.4	3.1	16.1	52.2	354.9	7.6			86.92%	A		
9	1961	6	102	202.9	304.9	4.2	0.4	30.7	3.1	15.6	53.9	263.4	5.7			80.57%	A		
10	1961	30	105	159.9	264.9	4.2	0.4	23.8	3.1	16.1	47.6	228.4	5.6			78.30%	A		
11	1961	111	105	340.8	445.8	4.2	0.4	13.0	3.1	15.6	36.2	418.5	12.3			92.39%	A		
12	1961	133	105	1845.7	1 950.7	4.2	0.4	12.7	3.1	16.1	36.4	1 923.1	53.6			98.58%	A		
1	1962	142	105	1981.4	2 086.4	4.2	0.4	6.5	3.1	16.1	30.2	2 063.8	69.1			98.92%	A		

2	1962	123	105	907.8	1 012.8	4.2	0.4	2.7	3.1	14.5	24.9	994.7	40.6	4.21%	4 894	98.11%	A	98.41%	A
3	1962	126	105	1220.9	1 325.9	4.2	0.4	0.2	3.1	16.1	24.0	1 308.3	55.3			98.63%	A		
4	1962	71	105	1401.9	1 506.9	4.2	0.4	3.7	3.1	15.6	26.9	1 486.9	55.9			98.65%	A		
5	1962		105	834.3	939.3	4.2	0.4	19.9	3.1	16.1	43.6	905.9	21.5			96.20%	A		
6	1962		104	478.9	582.9	4.2	0.4	21.6	3.1	15.6	44.8	548.6	13.0			93.21%	A		
7	1962	0	103	300.3	403.3	4.2	0.4	22.1	3.1	16.1	45.8	368.2	8.8			88.89%	A		
8	1962	3	102	205.9	307.9	4.2	0.4	28.4	3.1	16.1	52.2	267.7	5.9			81.45%	A		
9	1962	0	104	147.0	251.0	4.2	0.4	30.7	3.1	15.6	53.9	209.5	4.7			73.19%	B		
10	1962	168	103	119.5	222.5	4.2	0.4	23.8	3.1	16.1	47.6	186.0	4.7	3.80%	5 431	70.97%	B	98.58%	A
11	1962	213	105	173.6	278.6	4.2	0.4	13.0	3.1	15.6	36.2	251.3	7.7			85.06%	A		
12	1962	349	105	710.7	815.7	4.2	0.4	12.7	3.1	16.1	36.4	788.1	22.4			96.31%	A		
1	1963	727	105	1387.3	1 492.3	4.2	0.4	6.5	3.1	16.1	30.2	1 469.7	49.4			98.45%	A		
2	1963	415	105	1756.4	1 861.4	4.2	0.4	2.7	3.1	14.5	24.9	1 843.4	74.7			99.02%	A		
3	1963	786	105	2460.4	2 565.4	4.2	0.4	0.2	3.1	16.1	24.0	2 547.8	107.0			99.32%	A		
4	1963	312	105	2066.6	2 171.6	4.2	0.4	3.7	3.1	15.6	26.9	2 151.7	80.6			99.08%	A		
5	1963	4	105	985.8	1 090.8	4.2	0.4	19.9	3.1	16.1	43.6	1 057.5	25.0			96.79%	A		
6	1963		105	586.2	691.2	4.2	0.4	21.6	3.1	15.6	44.8	656.9	15.4			94.45%	A		
7	1963	1	104	367.6	471.6	4.2	0.4	22.1	3.1	16.1	45.8	436.5	10.3			90.92%	A		
8	1963	1	104	249.9	353.9	4.2	0.4	28.4	3.1	16.1	52.2	313.7	6.8			84.72%	A		
9	1963	9	104	174.0	278.0	4.2	0.4	30.7	3.1	15.6	53.9	236.5	5.2			77.35%	B		
10	1963	30	105	127.4	232.4	4.2	0.4	23.8	3.1	16.1	47.6	195.9	4.9	5.97%	3 457	72.77%	B	97.62%	A
11	1963	148	105	169.7	274.7	4.2	0.4	13.0	3.1	15.6	36.2	247.4	7.6			84.71%	A		
12	1963	78	105	211.6	316.6	4.2	0.4	12.7	3.1	16.1	36.4	289.0	8.7			87.61%	A		
1	1964	196	105	385.4	490.4	4.2	0.4	6.5	3.1	16.1	30.2	467.8	16.2			94.42%	A		
2	1964	159	105	463.9	568.9	4.2	0.4	2.7	3.1	15.0	25.4	550.3	22.4			96.19%	A		
3	1964	163	105	1556.0	1 661.0	4.2	0.4	0.2	3.1	16.1	24.0	1 643.3	69.3			98.92%	A		
4	1964	13	105	1763.5	1 868.5	4.2	0.4	3.7	3.1	15.6	26.9	1 848.6	69.3			98.93%	A		
5	1964	0	105	745.3	850.3	4.2	0.4	19.9	3.1	16.1	43.6	817.0	19.5			95.75%	A		
6	1964	0	104	484.3	588.3	4.2	0.4	21.6	3.1	15.6	44.8	554.1	13.1			93.29%	A		
7	1964		103	289.2	392.2	4.2	0.4	22.1	3.1	16.1	45.8	357.1	8.6			88.46%	A		
8	1964	0	102	215.7	317.7	4.2	0.4	28.4	3.1	16.1	52.2	277.5	6.1			82.30%	A		
9	1964	3	101	164.7	265.7	4.2	0.4	30.7	3.1	15.6	53.9	224.2	4.9			76.06%	B		
10	1964	54	104	121.8	225.8	4.2	0.4	23.8	3.1	16.1	47.6	189.3	4.7	3.35%	6 162	71.52%	B	98.77%	A
11	1964	111	105	82.6	187.6	4.2	0.4	13.0	3.1	15.6	36.2	160.3	5.2			68.60%	F		
12	1964	236	105	750.0	855.0	4.2	0.4	12.7	3.1	16.1	36.4	827.5	23.5			96.51%	A		
1	1965	261	105	882.5	987.5	4.2	0.4	6.5	3.1	16.1	30.2	964.9	32.7			97.57%	A		
2	1965	570	105	2250.4	2 355.4	4.2	0.4	2.7	3.1	14.5	24.9	2 337.3	94.5			99.24%	A		
3	1965	386	105	3672.5	3 777.5	4.2	0.4	0.2	3.1	16.1	24.0	3 759.8	157.6			99.54%	A		
4	1965	149	105	2512.0	2 617.0	4.2	0.4	3.7	3.1	15.6	26.9	2 597.0	97.1			99.25%	A		
5	1965		105	972.4	1 077.4	4.2	0.4	19.9	3.1	16.1	43.6	1 044.1	24.7			96.74%	A		
6	1965	0	104	649.2	753.2	4.2	0.4	21.6	3.1	15.6	44.8	719.0	16.8			94.99%	A		
7	1965		103	345.8	448.8	4.2	0.4	22.1	3.1	16.1	45.8	413.7	9.8			90.35%	A		
8	1965		102	255.0	357.0	4.2	0.4	28.4	3.1	16.1	52.2	316.8	6.8			85.03%	A		
9	1965	17	101	204.8	305.8	4.2	0.4	30.7	3.1	15.6	53.9	264.3	5.7			80.76%	A		
10	1965	6	105	101.8	206.8	4.2	0.4	23.8	3.1	16.1	47.6	170.2	4.3	4.80%	4 292	65.91%	B	98.15%	A
11	1965	114	105	176.7	281.7	4.2	0.4	13.0	3.1	15.6	36.2	254.4	7.8			85.31%	A		
12	1965	143	105	1405.6	1 510.6	4.2	0.4	12.7	3.1	16.1	36.4	1 483.0	41.5			98.14%	A		
1	1966	225	105	1292.6	1 397.6	4.2	0.4	6.5	3.1	16.1	30.2	1 374.9	46.3			98.34%	A		
2	1966	42	105	1315.8	1 420.8	4.2	0.4	2.7	3.1	14.5	24.9	1 402.7	57.0			98.69%	A		
3	1966	186	105	908.6	1 013.6	4.2	0.4	0.2	3.1	16.1	24.0	996.0	42.3			98.16%	A		
4	1966	35	105	1532.2	1 637.2	4.2	0.4	3.7	3.1	15.6	26.9	1 617.2	60.8			98.77%	A		
5	1966	1	105	725.1	830.1	4.2	0.4	19.9	3.1	16.1	43.6	796.8	19.0			95.63%	A		
6	1966	0	105	431.7	536.7	4.2	0.4	21.6	3.1	15.6	44.8	502.4	12.0			92.47%	A		
7	1966		104	276.5	380.5	4.2	0.4	22.1	3.1	16.1	45.8	345.4	8.3			87.93%	A		
8	1966	0	103	169.8	272.8	4.2	0.4	28.4	3.1	16.1	52.2	232.6	5.2			77.50%	A		
9	1966	6	103	124.9	227.9	4.2	0.4	30.7	3.1	15.6	53.9	186.4	4.2			68.45%	B		
10	1966	42	105	78.4	183.4	4.2	0.4	23.8	3.1	16.1	47.6	146.9	3.9			55.75%	F		

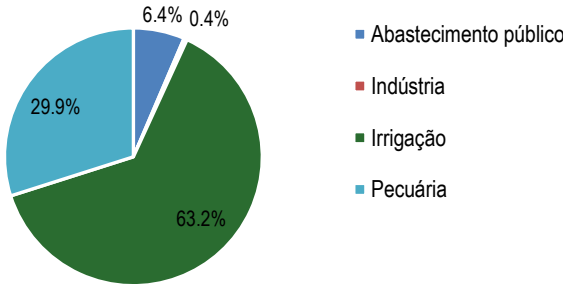
11	1966	37	105	78.5	183.5	4.2	0.4	13.0	3.1	15.6	36.2	156.2	5.1	5.47%	3 769	66.95%	F	97.85%	A
12	1966	160	105	377.1	482.1	4.2	0.4	12.7	3.1	16.1	36.4	454.5	13.2			93.05%	A		
1	1967	53	105	451.7	556.7	4.2	0.4	6.5	3.1	16.1	30.2	534.1	18.4			95.24%	A		
2	1967	220	105	508.3	613.3	4.2	0.4	2.7	3.1	14.5	24.9	595.2	24.6			96.62%	A		
3	1967	242	105	1720.1	1 825.1	4.2	0.4	0.2	3.1	16.1	24.0	1 807.5	76.1			99.03%	A		
4	1967	126	105	1714.7	1 819.7	4.2	0.4	3.7	3.1	15.6	26.9	1 799.8	67.5			98.90%	A		
5	1967	4	105	1078.4	1 183.4	4.2	0.4	19.9	3.1	16.1	43.6	1 150.0	27.1			97.06%	A		
6	1967	0	105	567.3	672.3	4.2	0.4	21.6	3.1	15.6	44.8	638.0	15.0			94.27%	A		
7	1967		104	332.4	436.4	4.2	0.4	22.1	3.1	16.1	45.8	401.2	9.5			89.96%	A		
8	1967	0	103	224.3	327.3	4.2	0.4	28.4	3.1	16.1	52.2	287.1	6.3			82.97%	A		
9	1967	2	103	145.2	248.2	4.2	0.4	30.7	3.1	15.6	53.9	206.7	4.6			72.86%	B		
10	1967	63	104	116.3	220.3	4.2	0.4	23.8	3.1	16.1	47.6	183.8	4.6	4.04%	5 102	70.16%	B	98.48%	A
11	1967	629	105	265.4	370.4	4.2	0.4	13.0	3.1	15.6	36.2	343.0	10.2			90.22%	A		
12	1967	680	105	1221.1	1 326.1	4.2	0.4	12.7	3.1	16.1	36.4	1 298.5	36.4			97.85%	A		
1	1968	588	105	1563.4	1 668.4	4.2	0.4	6.5	3.1	16.1	30.2	1 645.8	55.2			98.63%	A		
2	1968	207	105	1172.1	1 277.1	4.2	0.4	2.7	3.1	15.0	25.4	1 258.5	50.2			98.49%	A		
3	1968	691	105	2034.3	2 139.3	4.2	0.4	0.2	3.1	16.1	24.0	2 121.7	89.3			99.18%	A		
4	1968	105	105	1686.4	1 791.4	4.2	0.4	3.7	3.1	15.6	26.9	1 771.4	66.5			98.88%	A		
5	1968	19	105	902.7	1 007.7	4.2	0.4	19.9	3.1	16.1	43.6	974.3	23.1			96.49%	A		
6	1968		105	544.2	649.2	4.2	0.4	21.6	3.1	15.6	44.8	614.9	14.5			94.02%	A		
7	1968		104	390.7	494.7	4.2	0.4	22.1	3.1	16.1	45.8	459.5	10.8			91.46%	A		
8	1968		103	234.4	337.4	4.2	0.4	28.4	3.1	16.1	52.2	297.2	6.5			83.71%	A		
9	1968	2	102	165.7	267.7	4.2	0.4	30.7	3.1	15.6	53.9	226.2	5.0			76.22%	B		
10	1968	39	103	111.1	214.1	4.2	0.4	23.8	3.1	16.1	47.6	177.6	4.5	5.54%	3 723	68.78%	B	97.82%	A
11	1968	238	105	111.6	216.6	4.2	0.4	13.0	3.1	15.6	36.2	189.3	6.0			76.75%	B		
12	1968	135	105	177.6	282.6	4.2	0.4	12.7	3.1	16.1	36.4	255.0	7.8			85.24%	A		
1	1969	273	105	282.7	387.7	4.2	0.4	6.5	3.1	16.1	30.2	365.1	12.8			92.40%	A		
2	1969	354	105	649.2	754.2	4.2	0.4	2.7	3.1	14.5	24.9	736.1	30.3			97.35%	A		
3	1969	391	105	1390.1	1 495.1	4.2	0.4	0.2	3.1	16.1	24.0	1 477.5	62.4			98.79%	A		
4	1969	104	105	2040.8	2 145.8	4.2	0.4	3.7	3.1	15.6	26.9	2 125.9	79.6			99.07%	A		
5	1969	0	105	1135.4	1 240.4	4.2	0.4	19.9	3.1	16.1	43.6	1 207.0	28.5			97.21%	A		
6	1969		105	538.8	643.8	4.2	0.4	21.6	3.1	15.6	44.8	609.6	14.4			93.96%	A		
7	1969		104	346.0	450.0	4.2	0.4	22.1	3.1	16.1	45.8	414.9	9.8			90.36%	A		
8	1969	2	103	228.8	331.8	4.2	0.4	28.4	3.1	16.1	52.2	291.6	6.4			83.31%	A		
9	1969	4	105	161.4	266.4	4.2	0.4	30.7	3.1	15.6	53.9	224.9	4.9			75.58%	B		
10	1969	67	105	99.7	204.7	4.2	0.4	23.8	3.1	16.1	47.6	168.1	4.3	4.62%	4 463	65.19%	B	98.23%	A
11	1969	298	105	310.7	415.7	4.2	0.4	13.0	3.1	15.6	36.2	388.4	11.5			91.65%	A		
12	1969	160	105	498.5	603.5	4.2	0.4	12.7	3.1	16.1	36.4	575.9	16.6			94.74%	A		
1	1970	401	105	901.9	1 006.9	4.2	0.4	6.5	3.1	16.1	30.2	984.3	33.3			97.62%	A		
2	1970	305	105	1448.8	1 553.8	4.2	0.4	2.7	3.1	14.5	24.9	1 535.8	62.4			98.81%	A		
3	1970	251	105	1911.0	2 016.0	4.2	0.4	0.2	3.1	16.1	24.0	1 998.4	84.1			99.12%	A		
4	1970	27	105	1661.8	1 766.8	4.2	0.4	3.7	3.1	15.6	26.9	1 746.9	65.6			98.86%	A		
5	1970	0	105	783.8	888.8	4.2	0.4	19.9	3.1	16.1	43.6	855.4	20.4			95.96%	A		
6	1970	0	104	473.0	577.0	4.2	0.4	21.6	3.1	15.6	44.8	542.7	12.9			93.12%	A		
7	1970		103	333.5	436.5	4.2	0.4	22.1	3.1	16.1	45.8	401.4	9.5			89.99%	A		
8	1970		102	252.8	354.8	4.2	0.4	28.4	3.1	16.1	52.2	314.6	6.8			84.89%	A		
9	1970	0	101	177.7	278.7	4.2	0.4	30.7	3.1	15.6	53.9	237.2	5.2			77.81%	A		
10	1970	99	101	108.8	209.8	4.2	0.4	23.8	3.1	16.1	47.6	173.2	4.4	7.05%	2 924	68.10%	B	97.08%	A
11	1970	128	105	170.9	275.9	4.2	0.4	13.0	3.1	15.6	36.2	248.5	7.6			84.81%	A		
12	1970	171	105	232.3	337.3	4.2	0.4	12.7	3.1	16.1	36.4	309.7	9.3			88.72%	A		
1	1971	208	105	285.7	390.7	4.2	0.4	6.5	3.1	16.1	30.2	368.1	12.9			92.48%	A		
2	1971	509	105	685.7	790.7	4.2	0.4	2.7	3.1	14.5	24.9	772.7	31.7			97.49%	A		
3	1971	381	105	1115.3	1 220.3	4.2	0.4	0.2	3.1	16.1	24.0	1 202.6	50.9			98.50%	A		
4	1971	150	105	973.4	1 078.4	4.2	0.4	3.7	3.1	15.6	26.9	1 058.5	40.0			98.06%	A		
5	1971	2	105	880.2	985.2	4.2	0.4	19.9	3.1	16.1	43.6	951.9	22.6			96.40%	A		
6	1971	0	105	382.4	487.4	4.2	0.4	21.6	3.1	15.6	44.8	453.1	10.9			91.50%	A		
7	1971		104	245.8	349.8	4.2	0.4	22.1	3.1	16.1	45.8	314.6	7.6			86.42%	A		

8	1971		103	176.2	279.2	4.2	0.4	28.4	3.1	16.1	52.2	239.0	5.4			78.32%	A	
9	1971	1	102	112.8	214.8	4.2	0.4	30.7	3.1	15.6	53.9	173.3	4.0			65.06%	B	
10	1971	7	102	90.3	192.3	4.2	0.4	23.8	3.1	16.1	47.6	155.7	4.0			61.56%	E	
11	1971	24	105	91.1	196.1	4.2	0.4	13.0	3.1	15.6	36.2	168.8	5.4			71.52%	B	
12	1971	40	105	150.7	255.7	4.2	0.4	12.7	3.1	16.1	36.4	228.1	7.0			82.61%	A	
1	1972	50	105	189.1	294.1	4.2	0.4	6.5	3.1	16.1	30.2	271.4	9.7			88.63%	A	
2	1972	11	105	187.5	292.5	4.2	0.4	2.7	3.1	15.0	25.4	273.9	11.5			90.58%	A	
3	1972	95	105	651.9	756.9	4.2	0.4	0.2	3.1	16.1	24.0	739.2	31.6			97.43%	A	
4	1972	36	105	695.3	800.3	4.2	0.4	3.7	3.1	15.6	26.9	780.4	29.7	11.02%	1 872	97.28%	A	94.76% A
5	1972	0	105	344.7	449.7	4.2	0.4	19.9	3.1	16.1	43.6	416.3	10.3			90.81%	A	
6	1972		104	240.1	344.1	4.2	0.4	21.6	3.1	15.6	44.8	309.8	7.7			86.45%	A	
7	1972		103	158.7	261.7	4.2	0.4	22.1	3.1	16.1	45.8	226.5	5.7			78.97%	A	
8	1972	0	102	112.2	214.2	4.2	0.4	28.4	3.1	16.1	52.2	174.0	4.1			65.98%	B	
9	1972	0	101	79.8	180.8	4.2	0.4	30.7	3.1	15.6	53.9	139.3	3.4			50.59%	F	
10	1972	91	100	69.0	169.0	4.2	0.4	23.8	3.1	16.1	47.6	132.4	3.6			49.69%	F	
11	1972	90	105	87.4	192.4	4.2	0.4	13.0	3.1	15.6	36.2	165.1	5.3			70.32%	C	
12	1972	384	105	477.8	582.8	4.2	0.4	12.7	3.1	16.1	36.4	555.2	16.0			94.51%	A	
1	1973	303	105	1602.3	1 707.3	4.2	0.4	6.5	3.1	16.1	30.2	1 684.7	56.5			98.66%	A	
2	1973	132	105	1377.3	1 482.3	4.2	0.4	2.7	3.1	14.5	24.9	1 464.2	59.5			98.75%	A	
3	1973	427	105	1213.2	1 318.2	4.2	0.4	0.2	3.1	16.1	24.0	1 300.6	55.0			98.62%	A	
4	1973	154	105	1318.1	1 423.1	4.2	0.4	3.7	3.1	15.6	26.9	1 403.2	52.8	5.03%	4 095	98.56%	A	98.05% A
5	1973	5	105	767.9	872.9	4.2	0.4	19.9	3.1	16.1	43.6	839.6	20.0			95.88%	A	
6	1973	0	105	469.4	574.4	4.2	0.4	21.6	3.1	15.6	44.8	540.2	12.8			93.07%	A	
7	1973		104	295.3	399.3	4.2	0.4	22.1	3.1	16.1	45.8	364.2	8.7			88.70%	A	
8	1973		103	202.5	305.5	4.2	0.4	28.4	3.1	16.1	52.2	265.3	5.9			81.14%	A	
9	1973	0	102	140.8	242.8	4.2	0.4	30.7	3.1	15.6	53.9	201.3	4.5			72.01%	B	
10	1973	100	101	136.3	237.3	4.2	0.4	23.8	3.1	16.1	47.6	200.8	5.0			74.55%	B	
11	1973	38	105	151.2	256.2	4.2	0.4	13.0	3.1	15.6	36.2	228.9	7.1			82.84%	A	
12	1973	90	105	166.3	271.3	4.2	0.4	12.7	3.1	16.1	36.4	243.7	7.5			84.24%	A	
1	1974	126	105	189.1	294.1	4.2	0.4	6.5	3.1	16.1	30.2	271.5	9.7			88.64%	A	
2	1974	73	105	171.9	276.9	4.2	0.4	2.7	3.1	14.5	24.9	258.8	11.1			90.01%	A	
3	1974	246	105	1049.3	1 154.3	4.2	0.4	0.2	3.1	16.1	24.0	1 136.7	48.2			98.40%	A	
4	1974	200	105	1577.4	1 682.4	4.2	0.4	3.7	3.1	15.6	26.9	1 662.4	62.4	7.13%	2 889	98.80%	A	97.04% A
5	1974	5	105	940.2	1 045.2	4.2	0.4	19.9	3.1	16.1	43.6	1 011.9	24.0			96.63%	A	
6	1974	2	105	384.2	489.2	4.2	0.4	21.6	3.1	15.6	44.8	454.9	10.9			91.54%	A	
7	1974		105	239.1	344.1	4.2	0.4	22.1	3.1	16.1	45.8	309.0	7.5			86.04%	A	
8	1974	1	104	165.0	269.0	4.2	0.4	28.4	3.1	16.1	52.2	228.8	5.2			76.85%	A	
9	1974	0	104	116.5	220.5	4.2	0.4	30.7	3.1	15.6	53.9	179.0	4.1			66.18%	B	

UH	Baixo Cunene
Área (km ²)	10 440
População	39 090
Área irrigada (ha)	1 070
NGR (mm)	1 000

Sector	Necessidades anuais de água (hm ³)	
Abastecimento público	0.9	6.4%
Indústria	0.1	0.4%
Termo eléctricas		
Irrigação	8.6	63.2%
Pecuária	4.	29.9%
Volume anual turbinado (hm ³)		
Hidroelectricidade	4561.	

Uso da água na UH do Baixo Cunene



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

		Recarga (hm ³)	Águas subterâneas (hm ³)	Escoamentos (hm ³)	Disponibilidades (hm ³)	Necessidades (hm ³)				Transf. de água transfronteiriça (hm ³)	Total dos usos consumptíveis (hm ³)	Balanço (hm ³)	Ratio Disp. Nec.	IUP (%)	IP m ³ /ano.hab	Classe de Gestão Ecológica			
						Abast. Público	Indústria	Irrigação	Pecuária								Mensal	Anual	
Ano médio		---	---	7 280.7	7 280.7	51. 5	4. 4	193. 9	41. 1	189. 3	480. 2	6 918.9	15.2	6.6%	3 162	---	---	97.63%	A
Ano seco		---	---	4 309.7	4 309.7	51. 5	4. 4	193. 9	41. 1	189. 7	480. 1	3 948.0	9.0	11.1%	1 871	---	---	96.00%	A
Ano muito seco		---	---	1 971.2	1 971.2	51. 5	4. 4	193. 9	41. 1	189. 2	480. 1	1 609.5	4.1	24.4%	856	---	---	91.25%	A
Mês	Ano																		
10	1944			140.0	140.0	4.3	0.4	25.1	3.4	16.1	49.3	102.4	2.8	6.21%	3 357	73.13%	B	97.77%	A
11	1944			333.5	333.5	4.3	0.4	13.6	3.4	15.6	37.2	305.6	9.0			91.65%	A		
12	1944			433.2	433.2	4.3	0.4	13.4	3.4	16.1	37.6	404.9	11.5			93.47%	A		
1	1945			762.5	762.5	4.3	0.4	6.7	3.4	16.1	30.8	739.6	24.7			97.00%	A		
2	1945			1335.4	1 335.4	4.3	0.4	2.8	3.4	14.5	25.4	1 317.2	52.7			98.64%	A		
3	1945			1640.9	1 640.9	4.3	0.4	0.2	3.4	16.1	24.4	1 623.2	67.3			98.92%	A		
4	1945			1294.1	1 294.1	4.3	0.4	4.1	3.4	15.6	27.7	1 273.8	46.7			98.44%	A		
5	1945			716.3	716.3	4.3	0.4	20.9	3.4	16.1	45.1	682.0	15.9			95.22%	A		
6	1945			442.5	442.5	4.3	0.4	22.6	3.4	15.6	46.3	407.4	9.6			92.07%	A		
7	1945			291.4	291.4	4.3	0.4	23.0	3.4	16.1	47.1	255.5	6.2			87.68%	A		
8	1945			200.6	200.6	4.3	0.4	29.5	3.4	16.1	53.7	159.5	3.7			79.50%	A		
9	1945			139.8	139.8	4.3	0.4	32.0	3.4	15.6	55.6	97.2	2.5			69.52%	B		
10	1945			140.4	140.4	4.3	0.4	25.1	3.4	16.1	49.3	102.8	2.8	6.48%	3 215	73.21%	B	97.67%	A
11	1945			831.4	831.4	4.3	0.4	13.6	3.4	15.6	37.2	803.6	22.4			96.65%	A		
12	1945			1015.1	1 015.1	4.3	0.4	13.4	3.4	16.1	37.6	986.8	27.0			97.22%	A		
1	1946			751.7	751.7	4.3	0.4	6.7	3.4	16.1	30.8	728.9	24.4			96.96%	A		
2	1946			665.6	665.6	4.3	0.4	2.8	3.4	14.5	25.4	647.4	26.2			97.27%	A		
3	1946			1348.1	1 348.1	4.3	0.4	0.2	3.4	16.1	24.4	1 330.4	55.3			98.69%	A		
4	1946			1193.3	1 193.3	4.3	0.4	4.1	3.4	15.6	27.7	1 173.1	43.1			98.30%	A		
5	1946			561.9	561.9	4.3	0.4	20.9	3.4	16.1	45.1	527.6	12.5			93.90%	A		
6	1946			366.1	366.1	4.3	0.4	22.6	3.4	15.6	46.3	331.0	7.9			90.41%	A		
7	1946			238.5	238.5	4.3	0.4	23.0	3.4	16.1	47.1	202.6	5.1			84.95%	A		
8	1946			168.1	168.1	4.3	0.4	29.5	3.4	16.1	53.7	127.0	3.1			75.53%	B		
9	1946			123.4	123.4	4.3	0.4	32.0	3.4	15.6	55.6	80.8	2.2			65.49%	B		
10	1946			135.1	135.1	4.3	0.4	25.1	3.4	16.1	49.3	97.5	2.7	4.14%	5 030	72.16%	B	98.51%	A
11	1946			189.0	189.0	4.3	0.4	13.6	3.4	15.6	37.2	161.2	5.1			85.27%	A		
12	1946			1884.1	1 884.1	4.3	0.4	13.4	3.4	16.1	37.6	1 855.8	50.1			98.50%	A		
1	1947			2515.2	2 515.2	4.3	0.4	6.7	3.4	16.1	30.8	2 492.3	81.6			99.09%	A		
2	1947			1846.4	1 846.4	4.3	0.4	2.8	3.4	14.5	25.4	1 828.2	72.8			99.02%	A		
3	1947			1635.6	1 635.6	4.3	0.4	0.2	3.4	16.1	24.4	1 617.9	67.1			98.92%	A		
4	1947			1186.0	1 186.0	4.3	0.4	4.1	3.4	15.6	27.7	1 165.7	42.8			98.29%	A		
5	1947			838.0	838.0	4.3	0.4	20.9	3.4	16.1	45.1	803.8	18.6			95.91%	A		
6	1947			558.7	558.7	4.3	0.4	22.6	3.4	15.6	46.3	523.6	12.1			93.72%	A		
7	1947			363.5	363.5	4.3	0.4	23.0	3.4	16.1	47.1	327.6	7.7			90.13%	A		
8	1947			253.0	253.0	4.3	0.4	29.5	3.4	16.1	53.7	211.9	4.7			83.74%	A		
9	1947			179.1	179.1	4.3	0.4	32.0	3.4	15.6	55.6	136.5	3.2			76.22%	B		
10	1947			133.8	133.8	4.3	0.4	25.1	3.4	16.1	49.3	96.2	2.7			71.89%	B		

11	1947	156.7	156.7	4.3	0.4	13.6	3.4	15.6	37.2	128.9	4.2	11.15%	1 871	82.23%	A	96.00%	A
12	1947	176.7	176.7	4.3	0.4	13.4	3.4	16.1	37.6	148.4	4.7			84.00%	A		
1	1948	608.2	608.2	4.3	0.4	6.7	3.4	16.1	30.8	585.4	19.7			96.24%	A		
2	1948	923.0	923.0	4.3	0.4	2.8	3.4	15.0	25.9	904.3	35.7			97.98%	A		
3	1948	864.2	864.2	4.3	0.4	0.2	3.4	16.1	24.4	846.5	35.4			97.95%	A		
4	1948	493.0	493.0	4.3	0.4	4.1	3.4	15.6	27.7	472.7	17.8			95.89%	A		
5	1948	365.7	365.7	4.3	0.4	20.9	3.4	16.1	45.1	331.4	8.1			90.63%	A		
6	1948	244.3	244.3	4.3	0.4	22.6	3.4	15.6	46.3	209.2	5.3			85.63%	A		
7	1948	157.9	157.9	4.3	0.4	23.0	3.4	16.1	47.1	122.0	3.4			77.27%	A		
8	1948	108.6	108.6	4.3	0.4	29.5	3.4	16.1	53.7	67.4	2.0			62.11%	C		
9	1948	77.6	77.6	4.3	0.4	32.0	3.4	15.6	55.6	35.0	1.4			45.08%	F		
10	1948	65.7	65.7	4.3	0.4	25.1	3.4	16.1	49.3	28.1	1.3	8.60%	2 423	42.73%	F	96.91%	A
11	1948	103.0	103.0	4.3	0.4	13.6	3.4	15.6	37.2	75.1	2.8			72.96%	B		
12	1948	145.9	145.9	4.3	0.4	13.4	3.4	16.1	37.6	117.6	3.9			80.62%	A		
1	1949	275.7	275.7	4.3	0.4	6.7	3.4	16.1	30.8	252.8	8.9			91.71%	A		
2	1949	548.0	548.0	4.3	0.4	2.8	3.4	14.5	25.4	529.8	21.6			96.68%	A		
3	1949	1341.5	1 341.5	4.3	0.4	0.2	3.4	16.1	24.4	1 323.8	55.0			98.68%	A		
4	1949	1450.3	1 450.3	4.3	0.4	4.1	3.4	15.6	27.7	1 430.0	52.4			98.60%	A		
5	1949	649.6	649.6	4.3	0.4	20.9	3.4	16.1	45.1	615.4	14.4			94.73%	A		
6	1949	405.7	405.7	4.3	0.4	22.6	3.4	15.6	46.3	370.6	8.8			91.35%	A		
7	1949	269.2	269.2	4.3	0.4	23.0	3.4	16.1	47.1	233.3	5.7			86.67%	A		
8	1949	190.0	190.0	4.3	0.4	29.5	3.4	16.1	53.7	148.9	3.5			78.35%	B		
9	1949	136.1	136.1	4.3	0.4	32.0	3.4	15.6	55.6	93.5	2.4			68.71%	B		
10	1949	101.8	101.8	4.3	0.4	25.1	3.4	16.1	49.3	64.2	2.1	5.24%	3 981	63.06%	B	98.12%	A
11	1949	130.0	130.0	4.3	0.4	13.6	3.4	15.6	37.2	102.1	3.5			78.57%	B		
12	1949	184.4	184.4	4.3	0.4	13.4	3.4	16.1	37.6	156.2	4.9			84.67%	A		
1	1950	1159.3	1 159.3	4.3	0.4	6.7	3.4	16.1	30.8	1 136.4	37.6			98.03%	A		
2	1950	1716.1	1 716.1	4.3	0.4	2.8	3.4	14.5	25.4	1 697.9	67.7			98.94%	A		
3	1950	2314.2	2 314.2	4.3	0.4	0.2	3.4	16.1	24.4	2 296.5	94.9			99.23%	A		
4	1950	1932.7	1 932.7	4.3	0.4	4.1	3.4	15.6	27.7	1 912.4	69.8			98.95%	A		
5	1950	688.8	688.8	4.3	0.4	20.9	3.4	16.1	45.1	654.5	15.3			95.03%	A		
6	1950	395.9	395.9	4.3	0.4	22.6	3.4	15.6	46.3	360.8	8.6			91.13%	A		
7	1950	251.5	251.5	4.3	0.4	23.0	3.4	16.1	47.1	215.6	5.3			85.73%	A		
8	1950	172.7	172.7	4.3	0.4	29.5	3.4	16.1	53.7	131.6	3.2			76.18%	B		
9	1950	121.0	121.0	4.3	0.4	32.0	3.4	15.6	55.6	78.4	2.2			64.81%	B		
10	1950	86.5	86.5	4.3	0.4	25.1	3.4	16.1	49.3	48.8	1.8	3.07%	6 786	56.49%	F	98.90%	A
11	1950	88.3	88.3	4.3	0.4	13.6	3.4	15.6	37.2	60.5	2.4			68.48%	D		
12	1950	861.7	861.7	4.3	0.4	13.4	3.4	16.1	37.6	833.5	22.9			96.72%	A		
1	1951	1099.5	1 099.5	4.3	0.4	6.7	3.4	16.1	30.8	1 076.7	35.7			97.92%	A		
2	1951	812.7	812.7	4.3	0.4	2.8	3.4	14.5	25.4	794.5	32.1			97.76%	A		
3	1951	3656.1	3 656.1	4.3	0.4	0.2	3.4	16.1	24.4	3 638.4	149.9			99.52%	A		
4	1951	4935.6	4 935.6	4.3	0.4	4.1	3.4	15.6	27.7	4 915.4	178.2			99.59%	A		
5	1951	2315.4	2 315.4	4.3	0.4	20.9	3.4	16.1	45.1	2 281.1	51.4			98.52%	A		
6	1951	771.2	771.2	4.3	0.4	22.6	3.4	15.6	46.3	736.1	16.7			95.45%	A		
7	1951	474.9	474.9	4.3	0.4	23.0	3.4	16.1	47.1	439.0	10.1			92.44%	A		
8	1951	312.0	312.0	4.3	0.4	29.5	3.4	16.1	53.7	270.9	5.8			86.82%	A		
9	1951	212.7	212.7	4.3	0.4	32.0	3.4	15.6	55.6	170.1	3.8			79.98%	A		
10	1951	157.9	157.9	4.3	0.4	25.1	3.4	16.1	49.3	120.3	3.2	12.61%	1 655	76.17%	A	95.47%	A
11	1951	183.3	183.3	4.3	0.4	13.6	3.4	15.6	37.2	155.5	4.9			84.81%	A		
12	1951	373.5	373.5	4.3	0.4	13.4	3.4	16.1	37.6	345.3	9.9			92.43%	A		
1	1952	407.6	407.6	4.3	0.4	6.7	3.4	16.1	30.8	384.7	13.2			94.39%	A		
2	1952	507.4	507.4	4.3	0.4	2.8	3.4	15.0	25.9	488.8	19.6			96.32%	A		
3	1952	575.4	575.4	4.3	0.4	0.2	3.4	16.1	24.4	557.7	23.6			96.92%	A		
4	1952	483.0	483.0	4.3	0.4	4.1	3.4	15.6	27.7	462.8	17.4			95.81%	A		
5	1952	404.2	404.2	4.3	0.4	20.9	3.4	16.1	45.1	369.9	9.0			91.52%	A		
6	1952	285.2	285.2	4.3	0.4	22.6	3.4	15.6	46.3	250.1	6.2			87.70%	A		
7	1952	194.4	194.4	4.3	0.4	23.0	3.4	16.1	47.1	158.5	4.1			81.54%	A		

8	1952	138.6	138.6	4.3	0.4	29.5	3.4	16.1	53.7	97.4	2.6	12.43%	70.31%	B	95.53%	A
9	1952	99.6	99.6	4.3	0.4	32.0	3.4	15.6	55.6	57.0	1.8		57.22%	C		
10	1952	93.5	93.5	4.3	0.4	25.1	3.4	16.1	49.3	55.8	1.9	12.43%	59.75%	E	95.53%	A
11	1952	316.7	316.7	4.3	0.4	13.6	3.4	15.6	37.2	288.9	8.5		91.21%	A		
12	1952	408.6	408.6	4.3	0.4	13.4	3.4	16.1	37.6	380.4	10.9		93.08%	A		
1	1953	348.3	348.3	4.3	0.4	6.7	3.4	16.1	30.8	325.4	11.3		93.44%	A		
2	1953	377.8	377.8	4.3	0.4	2.8	3.4	14.5	25.4	359.6	14.9		95.19%	A		
3	1953	520.2	520.2	4.3	0.4	0.2	3.4	16.1	24.4	502.5	21.3		96.60%	A		
4	1953	602.2	602.2	4.3	0.4	4.1	3.4	15.6	27.7	582.0	21.7		96.64%	A		
5	1953	454.2	454.2	4.3	0.4	20.9	3.4	16.1	45.1	420.0	10.1		92.46%	A		
6	1953	300.6	300.6	4.3	0.4	22.6	3.4	15.6	46.3	265.5	6.5		88.32%	A		
7	1953	197.8	197.8	4.3	0.4	23.0	3.4	16.1	47.1	161.9	4.2		81.85%	A		
8	1953	141.0	141.0	4.3	0.4	29.5	3.4	16.1	53.7	99.9	2.6	7.11%	70.83%	B	97.45%	A
9	1953	101.4	101.4	4.3	0.4	32.0	3.4	15.6	55.6	58.8	1.8		57.99%	C		
10	1953	96.7	96.7	4.3	0.4	25.1	3.4	16.1	49.3	59.1	2.0		61.11%	C		
11	1953	109.9	109.9	4.3	0.4	13.6	3.4	15.6	37.2	82.1	3.0		74.67%	B		
12	1953	223.0	223.0	4.3	0.4	13.4	3.4	16.1	37.6	194.8	5.9		87.33%	A		
1	1954	394.9	394.9	4.3	0.4	6.7	3.4	16.1	30.8	372.1	12.8		94.21%	A		
2	1954	731.2	731.2	4.3	0.4	2.8	3.4	14.5	25.4	713.0	28.8		97.52%	A		
3	1954	1545.4	1 545.4	4.3	0.4	0.2	3.4	16.1	24.4	1 527.7	63.4		98.85%	A		
4	1954	1543.0	1 543.0	4.3	0.4	4.1	3.4	15.6	27.7	1 522.8	55.7		98.69%	A		
5	1954	860.5	860.5	4.3	0.4	20.9	3.4	16.1	45.1	826.2	19.1		96.02%	A		
6	1954	536.1	536.1	4.3	0.4	22.6	3.4	15.6	46.3	501.0	11.6	24.36%	93.45%	A	91.25%	A
7	1954	334.3	334.3	4.3	0.4	23.0	3.4	16.1	47.1	298.4	7.1		89.26%	A		
8	1954	225.1	225.1	4.3	0.4	29.5	3.4	16.1	53.7	184.0	4.2		81.73%	A		
9	1954	154.9	154.9	4.3	0.4	32.0	3.4	15.6	55.6	112.3	2.8		72.49%	B		
10	1954	114.1	114.1	4.3	0.4	25.1	3.4	16.1	49.3	76.5	2.3		67.04%	B		
11	1954	114.2	114.2	4.3	0.4	13.6	3.4	15.6	37.2	86.3	3.1		75.61%	B		
12	1954	128.2	128.2	4.3	0.4	13.4	3.4	16.1	37.6	99.9	3.4		77.95%	B		
1	1955	142.5	142.5	4.3	0.4	6.7	3.4	16.1	30.8	119.6	4.6		83.96%	A		
2	1955	157.6	157.6	4.3	0.4	2.8	3.4	14.5	25.4	139.5	6.2		88.47%	A		
3	1955	206.4	206.4	4.3	0.4	0.2	3.4	16.1	24.4	188.7	8.5		91.42%	A		
4	1955	283.9	283.9	4.3	0.4	4.1	3.4	15.6	27.7	263.7	10.3		92.87%	A		
5	1955	283.2	283.2	4.3	0.4	20.9	3.4	16.1	45.1	248.9	6.3		87.90%	A		
6	1955	211.2	211.2	4.3	0.4	22.6	3.4	15.6	46.3	176.1	4.6		83.38%	A		
7	1955	147.6	147.6	4.3	0.4	23.0	3.4	16.1	47.1	111.7	3.1		75.68%	A		
8	1955	106.2	106.2	4.3	0.4	29.5	3.4	16.1	53.7	65.0	2.0	8.76%	61.26%	C	96.86%	A
9	1955	76.2	76.2	4.3	0.4	32.0	3.4	15.6	55.6	33.6	1.4		44.07%	F		
10	1955	61.5	61.5	4.3	0.4	25.1	3.4	16.1	49.3	23.9	1.2		38.80%	F		
11	1955	117.2	117.2	4.3	0.4	13.6	3.4	15.6	37.2	89.4	3.2		76.24%	B		
12	1955	314.9	314.9	4.3	0.4	13.4	3.4	16.1	37.6	286.6	8.4		91.02%	A		
1	1956	733.5	733.5	4.3	0.4	6.7	3.4	16.1	30.8	710.6	23.8		96.88%	A		
2	1956	740.3	740.3	4.3	0.4	2.8	3.4	15.0	25.9	721.7	28.6		97.48%	A		
3	1956	700.4	700.4	4.3	0.4	0.2	3.4	16.1	24.4	682.7	28.7		97.47%	A		
4	1956	952.0	952.0	4.3	0.4	4.1	3.4	15.6	27.7	931.8	34.4		97.87%	A		
5	1956	808.9	808.9	4.3	0.4	20.9	3.4	16.1	45.1	774.6	17.9		95.76%	A		
6	1956	447.8	447.8	4.3	0.4	22.6	3.4	15.6	46.3	412.7	9.7	11.29%	92.16%	A	95.94%	A
7	1956	281.0	281.0	4.3	0.4	23.0	3.4	16.1	47.1	245.1	6.0		87.23%	A		
8	1956	192.5	192.5	4.3	0.4	29.5	3.4	16.1	53.7	151.3	3.6		78.63%	B		
9	1956	135.2	135.2	4.3	0.4	32.0	3.4	15.6	55.6	92.6	2.4		68.49%	B		
10	1956	103.7	103.7	4.3	0.4	25.1	3.4	16.1	49.3	66.1	2.1		63.74%	C		
11	1956	101.5	101.5	4.3	0.4	13.6	3.4	15.6	37.2	73.7	2.7		72.57%	B		
12	1956	142.7	142.7	4.3	0.4	13.4	3.4	16.1	37.6	114.5	3.8		80.19%	A		
1	1957	212.7	212.7	4.3	0.4	6.7	3.4	16.1	30.8	189.8	6.9		89.25%	A		
2	1957	264.3	264.3	4.3	0.4	2.8	3.4	14.5	25.4	246.1	10.4		93.12%	A		
3	1957	1055.0	1 055.0	4.3	0.4	0.2	3.4	16.1	24.4	1 037.3	43.3		98.32%	A		
4	1957	1148.0	1 148.0	4.3	0.4	4.1	3.4	15.6	27.7	1 127.7	41.5		98.24%	A		

5	1957	492.8	492.8	4.3	0.4	20.9	3.4	16.1	45.1	458.5	10.9			93.05%	A		
6	1957	299.6	299.6	4.3	0.4	22.6	3.4	15.6	46.3	264.5	6.5			88.29%	A		
7	1957	195.0	195.0	4.3	0.4	23.0	3.4	16.1	47.1	159.1	4.1			81.59%	A		
8	1957	137.4	137.4	4.3	0.4	29.5	3.4	16.1	53.7	96.3	2.6			70.06%	B		
9	1957	99.6	99.6	4.3	0.4	32.0	3.4	15.6	55.6	57.0	1.8			57.25%	C		
10	1957	84.7	84.7	4.3	0.4	25.1	3.4	16.1	49.3	47.1	1.7	10.67%	1 954	55.61%	F	96.17%	A
11	1957	414.6	414.6	4.3	0.4	13.6	3.4	15.6	37.2	386.8	11.1			93.28%	A		
12	1957	692.2	692.2	4.3	0.4	13.4	3.4	16.1	37.6	663.9	18.4			95.92%	A		
1	1958	571.5	571.5	4.3	0.4	6.7	3.4	16.1	30.8	548.6	18.5			96.00%	A		
2	1958	438.3	438.3	4.3	0.4	2.8	3.4	14.5	25.4	420.1	17.3			95.85%	A		
3	1958	591.3	591.3	4.3	0.4	0.2	3.4	16.1	24.4	573.6	24.2			97.01%	A		
4	1958	617.3	617.3	4.3	0.4	4.1	3.4	15.6	27.7	597.1	22.3			96.72%	A		
5	1958	412.1	412.1	4.3	0.4	20.9	3.4	16.1	45.1	377.8	9.1			91.69%	A		
6	1958	269.1	269.1	4.3	0.4	22.6	3.4	15.6	46.3	234.0	5.8			86.96%	A		
7	1958	183.6	183.6	4.3	0.4	23.0	3.4	16.1	47.1	147.7	3.9			80.45%	A		
8	1958	131.3	131.3	4.3	0.4	29.5	3.4	16.1	53.7	90.2	2.4			68.68%	B		
9	1958	94.5	94.5	4.3	0.4	32.0	3.4	15.6	55.6	51.9	1.7			54.92%	F		
10	1958	70.6	70.6	4.3	0.4	25.1	3.4	16.1	49.3	33.0	1.4	8.32%	2 506	46.70%	F	97.01%	A
11	1958	135.6	135.6	4.3	0.4	13.6	3.4	15.6	37.2	107.7	3.6			79.46%	A		
12	1958	443.5	443.5	4.3	0.4	13.4	3.4	16.1	37.6	415.3	11.8			93.63%	A		
1	1959	616.8	616.8	4.3	0.4	6.7	3.4	16.1	30.8	593.9	20.0			96.29%	A		
2	1959	742.7	742.7	4.3	0.4	2.8	3.4	14.5	25.4	724.5	29.3			97.55%	A		
3	1959	992.5	992.5	4.3	0.4	0.2	3.4	16.1	24.4	974.8	40.7			98.22%	A		
4	1959	957.9	957.9	4.3	0.4	4.1	3.4	15.6	27.7	937.6	34.6			97.89%	A		
5	1959	704.9	704.9	4.3	0.4	20.9	3.4	16.1	45.1	670.6	15.6			95.14%	A		
6	1959	467.0	467.0	4.3	0.4	22.6	3.4	15.6	46.3	431.9	10.1			92.48%	A		
7	1959	296.2	296.2	4.3	0.4	23.0	3.4	16.1	47.1	260.4	6.3			87.88%	A		
8	1959	201.2	201.2	4.3	0.4	29.5	3.4	16.1	53.7	160.0	3.7			79.55%	A		
9	1959	140.8	140.8	4.3	0.4	32.0	3.4	15.6	55.6	98.2	2.5			69.75%	B		
10	1959	103.5	103.5	4.3	0.4	25.1	3.4	16.1	49.3	65.9	2.1	7.13%	2 926	63.66%	B	97.44%	A
11	1959	130.3	130.3	4.3	0.4	13.6	3.4	15.6	37.2	102.4	3.5			78.62%	B		
12	1959	383.9	383.9	4.3	0.4	13.4	3.4	16.1	37.6	355.6	10.2			92.64%	A		
1	1960	631.2	631.2	4.3	0.4	6.7	3.4	16.1	30.8	608.4	20.5			96.38%	A		
2	1960	918.1	918.1	4.3	0.4	2.8	3.4	15.0	25.9	899.5	35.5			97.96%	A		
3	1960	1463.4	1 463.4	4.3	0.4	0.2	3.4	16.1	24.4	1 445.7	60.0			98.79%	A		
4	1960	1229.8	1 229.8	4.3	0.4	4.1	3.4	15.6	27.7	1 209.6	44.4			98.35%	A		
5	1960	715.4	715.4	4.3	0.4	20.9	3.4	16.1	45.1	681.1	15.9			95.21%	A		
6	1960	483.5	483.5	4.3	0.4	22.6	3.4	15.6	46.3	448.4	10.5			92.74%	A		
7	1960	313.3	313.3	4.3	0.4	23.0	3.4	16.1	47.1	277.5	6.6			88.55%	A		
8	1960	214.8	214.8	4.3	0.4	29.5	3.4	16.1	53.7	173.7	4.0			80.85%	A		
9	1960	151.8	151.8	4.3	0.4	32.0	3.4	15.6	55.6	109.2	2.7			71.95%	B		
10	1960	116.6	116.6	4.3	0.4	25.1	3.4	16.1	49.3	79.0	2.4	4.80%	4 345	67.75%	B	98.28%	A
11	1960	351.1	351.1	4.3	0.4	13.6	3.4	15.6	37.2	323.3	9.4			92.07%	A		
12	1960	459.9	459.9	4.3	0.4	13.4	3.4	16.1	37.6	431.7	12.2			93.85%	A		
1	1961	649.9	649.9	4.3	0.4	6.7	3.4	16.1	30.8	627.0	21.1			96.48%	A		
2	1961	1135.8	1 135.8	4.3	0.4	2.8	3.4	14.5	25.4	1 117.6	44.8			98.40%	A		
3	1961	2107.3	2 107.3	4.3	0.4	0.2	3.4	16.1	24.4	2 089.6	86.4			99.16%	A		
4	1961	2274.2	2 274.2	4.3	0.4	4.1	3.4	15.6	27.7	2 254.0	82.1			99.11%	A		
5	1961	1303.3	1 303.3	4.3	0.4	20.9	3.4	16.1	45.1	1 269.1	28.9			97.37%	A		
6	1961	677.2	677.2	4.3	0.4	22.6	3.4	15.6	46.3	642.1	14.6			94.82%	A		
7	1961	435.6	435.6	4.3	0.4	23.0	3.4	16.1	47.1	399.7	9.2			91.76%	A		
8	1961	292.1	292.1	4.3	0.4	29.5	3.4	16.1	53.7	251.0	5.4			85.92%	A		
9	1961	202.9	202.9	4.3	0.4	32.0	3.4	15.6	55.6	160.3	3.6			79.00%	A		
10	1961	159.9	159.9	4.3	0.4	25.1	3.4	16.1	49.3	122.3	3.2			76.47%	A		
11	1961	340.8	340.8	4.3	0.4	13.6	3.4	15.6	37.2	313.0	9.2			91.83%	A		
12	1961	1845.7	1 845.7	4.3	0.4	13.4	3.4	16.1	37.6	1 817.5	49.1			98.47%	A		
1	1962	1981.4	1 981.4	4.3	0.4	6.7	3.4	16.1	30.8	1 958.5	64.3			98.85%	A		

2	1962	907.8	907.8	4.3	0.4	2.8	3.4	14.5	25.4	889.6	35.8	4.89%	4 266	98.00%	A	98.24%	A
3	1962	1220.9	1 220.9	4.3	0.4	0.2	3.4	16.1	24.4	1 203.2	50.1			98.55%	A		
4	1962	1401.9	1 401.9	4.3	0.4	4.1	3.4	15.6	27.7	1 381.6	50.6			98.56%	A		
5	1962	834.3	834.3	4.3	0.4	20.9	3.4	16.1	45.1	800.0	18.5			95.89%	A		
6	1962	478.9	478.9	4.3	0.4	22.6	3.4	15.6	46.3	443.8	10.4			92.67%	A		
7	1962	300.3	300.3	4.3	0.4	23.0	3.4	16.1	47.1	264.4	6.4			88.05%	A		
8	1962	205.9	205.9	4.3	0.4	29.5	3.4	16.1	53.7	164.8	3.8			80.02%	A		
9	1962	147.0	147.0	4.3	0.4	32.0	3.4	15.6	55.6	104.4	2.6			71.02%	B		
10	1962	119.5	119.5	4.3	0.4	25.1	3.4	16.1	49.3	81.9	2.4	4.35%	4 793	68.53%	B	98.44%	A
11	1962	173.6	173.6	4.3	0.4	13.6	3.4	15.6	37.2	145.8	4.7			83.96%	A		
12	1962	710.7	710.7	4.3	0.4	13.4	3.4	16.1	37.6	682.5	18.9			96.02%	A		
1	1963	1387.3	1 387.3	4.3	0.4	6.7	3.4	16.1	30.8	1 364.5	45.0			98.35%	A		
2	1963	1756.4	1 756.4	4.3	0.4	2.8	3.4	14.5	25.4	1 738.3	69.3			98.97%	A		
3	1963	2460.4	2 460.4	4.3	0.4	0.2	3.4	16.1	24.4	2 442.7	100.9			99.28%	A		
4	1963	2066.6	2 066.6	4.3	0.4	4.1	3.4	15.6	27.7	2 046.3	74.6			99.02%	A		
5	1963	985.8	985.8	4.3	0.4	20.9	3.4	16.1	45.1	951.6	21.9			96.52%	A		
6	1963	586.2	586.2	4.3	0.4	22.6	3.4	15.6	46.3	551.1	12.7			94.01%	A		
7	1963	367.6	367.6	4.3	0.4	23.0	3.4	16.1	47.1	331.8	7.8			90.24%	A		
8	1963	249.9	249.9	4.3	0.4	29.5	3.4	16.1	53.7	208.8	4.7			83.54%	A		
9	1963	174.0	174.0	4.3	0.4	32.0	3.4	15.6	55.6	131.4	3.1			75.52%	B		
10	1963	127.4	127.4	4.3	0.4	25.1	3.4	16.1	49.3	89.8	2.6	7.31%	2 856	70.48%	B	97.38%	A
11	1963	169.7	169.7	4.3	0.4	13.6	3.4	15.6	37.2	141.9	4.6			83.59%	A		
12	1963	211.6	211.6	4.3	0.4	13.4	3.4	16.1	37.6	183.3	5.6			86.64%	A		
1	1964	385.4	385.4	4.3	0.4	6.7	3.4	16.1	30.8	362.5	12.5			94.07%	A		
2	1964	463.9	463.9	4.3	0.4	2.8	3.4	15.0	25.9	445.2	17.9			95.97%	A		
3	1964	1556.0	1 556.0	4.3	0.4	0.2	3.4	16.1	24.4	1 538.3	63.8			98.86%	A		
4	1964	1763.5	1 763.5	4.3	0.4	4.1	3.4	15.6	27.7	1 743.3	63.7			98.85%	A		
5	1964	745.3	745.3	4.3	0.4	20.9	3.4	16.1	45.1	711.1	16.5			95.40%	A		
6	1964	484.3	484.3	4.3	0.4	22.6	3.4	15.6	46.3	449.2	10.5			92.75%	A		
7	1964	289.2	289.2	4.3	0.4	23.0	3.4	16.1	47.1	253.3	6.1			87.59%	A		
8	1964	215.7	215.7	4.3	0.4	29.5	3.4	16.1	53.7	174.6	4.0			80.93%	A		
9	1964	164.7	164.7	4.3	0.4	32.0	3.4	15.6	55.6	122.1	3.0			74.13%	B		
10	1964	121.8	121.8	4.3	0.4	25.1	3.4	16.1	49.3	84.2	2.5	3.78%	5 515	69.12%	B	98.64%	A
11	1964	82.6	82.6	4.3	0.4	13.6	3.4	15.6	37.2	54.8	2.2			66.31%	F		
12	1964	750.0	750.0	4.3	0.4	13.4	3.4	16.1	37.6	721.8	20.0			96.23%	A		
1	1965	882.5	882.5	4.3	0.4	6.7	3.4	16.1	30.8	859.6	28.6			97.41%	A		
2	1965	2250.4	2 250.4	4.3	0.4	2.8	3.4	14.5	25.4	2 232.2	88.8			99.19%	A		
3	1965	3672.5	3 672.5	4.3	0.4	0.2	3.4	16.1	24.4	3 654.8	150.6			99.52%	A		
4	1965	2512.0	2 512.0	4.3	0.4	4.1	3.4	15.6	27.7	2 491.7	90.7			99.19%	A		
5	1965	972.4	972.4	4.3	0.4	20.9	3.4	16.1	45.1	938.1	21.6			96.48%	A		
6	1965	649.2	649.2	4.3	0.4	22.6	3.4	15.6	46.3	614.1	14.0			94.59%	A		
7	1965	345.8	345.8	4.3	0.4	23.0	3.4	16.1	47.1	309.9	7.3			89.62%	A		
8	1965	255.0	255.0	4.3	0.4	29.5	3.4	16.1	53.7	213.9	4.8			83.87%	A		
9	1965	204.8	204.8	4.3	0.4	32.0	3.4	15.6	55.6	162.2	3.7			79.20%	A		
10	1965	101.8	101.8	4.3	0.4	25.1	3.4	16.1	49.3	64.2	2.1	5.67%	3 674	63.04%	B	97.96%	A
11	1965	176.7	176.7	4.3	0.4	13.6	3.4	15.6	37.2	148.8	4.8			84.24%	A		
12	1965	1405.6	1 405.6	4.3	0.4	13.4	3.4	16.1	37.6	1 377.4	37.4			97.99%	A		
1	1966	1292.6	1 292.6	4.3	0.4	6.7	3.4	16.1	30.8	1 269.7	41.9			98.23%	A		
2	1966	1315.8	1 315.8	4.3	0.4	2.8	3.4	14.5	25.4	1 297.7	51.9			98.62%	A		
3	1966	908.6	908.6	4.3	0.4	0.2	3.4	16.1	24.4	890.9	37.3			98.05%	A		
4	1966	1532.2	1 532.2	4.3	0.4	4.1	3.4	15.6	27.7	1 511.9	55.3			98.68%	A		
5	1966	725.1	725.1	4.3	0.4	20.9	3.4	16.1	45.1	690.9	16.1			95.28%	A		
6	1966	431.7	431.7	4.3	0.4	22.6	3.4	15.6	46.3	396.6	9.3			91.87%	A		
7	1966	276.5	276.5	4.3	0.4	23.0	3.4	16.1	47.1	240.6	5.9			87.02%	A		
8	1966	169.8	169.8	4.3	0.4	29.5	3.4	16.1	53.7	128.6	3.2			75.77%	B		
9	1966	124.9	124.9	4.3	0.4	32.0	3.4	15.6	55.6	82.3	2.2			65.90%	B		
10	1966	78.4	78.4	4.3	0.4	25.1	3.4	16.1	49.3	40.8	1.6			52.03%	F		

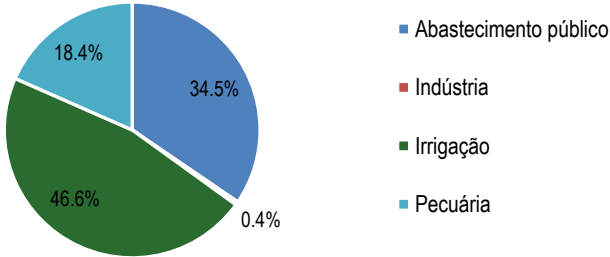
11	1966	78.5	78.5	4.3	0.4	13.6	3.4	15.6	37.2	50.7	2.1	6.60%	3 160	64.54%	F	97.63%	A
12	1966	377.1	377.1	4.3	0.4	13.4	3.4	16.1	37.6	348.8	10.0			92.50%	A		
1	1967	451.7	451.7	4.3	0.4	6.7	3.4	16.1	30.8	428.9	14.7			94.94%	A		
2	1967	508.3	508.3	4.3	0.4	2.8	3.4	14.5	25.4	490.1	20.0			96.43%	A		
3	1967	1720.1	1 720.1	4.3	0.4	0.2	3.4	16.1	24.4	1 702.4	70.5			98.97%	A		
4	1967	1714.7	1 714.7	4.3	0.4	4.1	3.4	15.6	27.7	1 694.5	61.9			98.82%	A		
5	1967	1078.4	1 078.4	4.3	0.4	20.9	3.4	16.1	45.1	1 044.1	23.9			96.82%	A		
6	1967	567.3	567.3	4.3	0.4	22.6	3.4	15.6	46.3	532.2	12.3			93.81%	A		
7	1967	332.4	332.4	4.3	0.4	23.0	3.4	16.1	47.1	296.5	7.1			89.20%	A		
8	1967	224.3	224.3	4.3	0.4	29.5	3.4	16.1	53.7	183.2	4.2			81.66%	A		
9	1967	145.2	145.2	4.3	0.4	32.0	3.4	15.6	55.6	102.6	2.6			70.67%	B		
10	1967	116.3	116.3	4.3	0.4	25.1	3.4	16.1	49.3	78.7	2.4	4.67%	4 471	67.65%	B	98.32%	A
11	1967	265.4	265.4	4.3	0.4	13.6	3.4	15.6	37.2	237.5	7.1			89.51%	A		
12	1967	1221.1	1 221.1	4.3	0.4	13.4	3.4	16.1	37.6	1 192.9	32.5			97.69%	A		
1	1968	1563.4	1 563.4	4.3	0.4	6.7	3.4	16.1	30.8	1 540.5	50.7			98.54%	A		
2	1968	1172.1	1 172.1	4.3	0.4	2.8	3.4	15.0	25.9	1 153.4	45.3			98.41%	A		
3	1968	2034.3	2 034.3	4.3	0.4	0.2	3.4	16.1	24.4	2 016.6	83.4			99.13%	A		
4	1968	1686.4	1 686.4	4.3	0.4	4.1	3.4	15.6	27.7	1 666.1	60.9			98.80%	A		
5	1968	902.7	902.7	4.3	0.4	20.9	3.4	16.1	45.1	868.4	20.0			96.20%	A		
6	1968	544.2	544.2	4.3	0.4	22.6	3.4	15.6	46.3	509.1	11.8			93.55%	A		
7	1968	390.7	390.7	4.3	0.4	23.0	3.4	16.1	47.1	354.8	8.3			90.81%	A		
8	1968	234.4	234.4	4.3	0.4	29.5	3.4	16.1	53.7	193.2	4.4			82.45%	A		
9	1968	165.7	165.7	4.3	0.4	32.0	3.4	15.6	55.6	123.1	3.0			74.29%	B		
10	1968	111.1	111.1	4.3	0.4	25.1	3.4	16.1	49.3	73.5	2.3	6.69%	3 115	66.15%	B	97.60%	A
11	1968	111.6	111.6	4.3	0.4	13.6	3.4	15.6	37.2	83.8	3.0			75.05%	B		
12	1968	177.6	177.6	4.3	0.4	13.4	3.4	16.1	37.6	149.3	4.7			84.08%	A		
1	1969	282.7	282.7	4.3	0.4	6.7	3.4	16.1	30.8	259.8	9.2			91.91%	A		
2	1969	649.2	649.2	4.3	0.4	2.8	3.4	14.5	25.4	631.0	25.6			97.20%	A		
3	1969	1390.1	1 390.1	4.3	0.4	0.2	3.4	16.1	24.4	1 372.4	57.0			98.73%	A		
4	1969	2040.8	2 040.8	4.3	0.4	4.1	3.4	15.6	27.7	2 020.6	73.7			99.01%	A		
5	1969	1135.4	1 135.4	4.3	0.4	20.9	3.4	16.1	45.1	1 101.1	25.2			96.98%	A		
6	1969	538.8	538.8	4.3	0.4	22.6	3.4	15.6	46.3	503.7	11.6			93.49%	A		
7	1969	346.0	346.0	4.3	0.4	23.0	3.4	16.1	47.1	310.1	7.3			89.63%	A		
8	1969	228.8	228.8	4.3	0.4	29.5	3.4	16.1	53.7	187.6	4.3			82.02%	A		
9	1969	161.4	161.4	4.3	0.4	32.0	3.4	15.6	55.6	118.8	2.9			73.60%	B		
10	1969	99.7	99.7	4.3	0.4	25.1	3.4	16.1	49.3	62.0	2.0	5.42%	3 845	62.26%	B	98.05%	A
11	1969	310.7	310.7	4.3	0.4	13.6	3.4	15.6	37.2	282.9	8.4			91.04%	A		
12	1969	498.5	498.5	4.3	0.4	13.4	3.4	16.1	37.6	470.2	13.3			94.33%	A		
1	1970	901.9	901.9	4.3	0.4	6.7	3.4	16.1	30.8	879.1	29.2			97.47%	A		
2	1970	1448.8	1 448.8	4.3	0.4	2.8	3.4	14.5	25.4	1 430.7	57.1			98.75%	A		
3	1970	1911.0	1 911.0	4.3	0.4	0.2	3.4	16.1	24.4	1 893.3	78.3			99.07%	A		
4	1970	1661.8	1 661.8	4.3	0.4	4.1	3.4	15.6	27.7	1 641.6	60.0			98.78%	A		
5	1970	783.8	783.8	4.3	0.4	20.9	3.4	16.1	45.1	749.5	17.4			95.63%	A		
6	1970	473.0	473.0	4.3	0.4	22.6	3.4	15.6	46.3	437.9	10.2			92.58%	A		
7	1970	333.5	333.5	4.3	0.4	23.0	3.4	16.1	47.1	297.6	7.1			89.24%	A		
8	1970	252.8	252.8	4.3	0.4	29.5	3.4	16.1	53.7	211.7	4.7			83.73%	A		
9	1970	177.7	177.7	4.3	0.4	32.0	3.4	15.6	55.6	135.1	3.2			76.02%	B		
10	1970	108.8	108.8	4.3	0.4	25.1	3.4	16.1	49.3	71.1	2.2	8.94%	2 332	65.41%	B	96.79%	A
11	1970	170.9	170.9	4.3	0.4	13.6	3.4	15.6	37.2	143.0	4.6			83.70%	A		
12	1970	232.3	232.3	4.3	0.4	13.4	3.4	16.1	37.6	204.0	6.2			87.83%	A		
1	1971	285.7	285.7	4.3	0.4	6.7	3.4	16.1	30.8	262.8	9.3			92.00%	A		
2	1971	685.7	685.7	4.3	0.4	2.8	3.4	14.5	25.4	667.6	27.0			97.35%	A		
3	1971	1115.3	1 115.3	4.3	0.4	0.2	3.4	16.1	24.4	1 097.5	45.7			98.41%	A		
4	1971	973.4	973.4	4.3	0.4	4.1	3.4	15.6	27.7	953.2	35.1			97.92%	A		
5	1971	880.2	880.2	4.3	0.4	20.9	3.4	16.1	45.1	845.9	19.5			96.11%	A		
6	1971	382.4	382.4	4.3	0.4	22.6	3.4	15.6	46.3	347.3	8.3			90.82%	A		
7	1971	245.8	245.8	4.3	0.4	23.0	3.4	16.1	47.1	209.9	5.2			85.40%	A		

8	1971	176.2	176.2	4.3	0.4	29.5	3.4	16.1	53.7	135.1	3.3		76.65%	B	
9	1971	112.8	112.8	4.3	0.4	32.0	3.4	15.6	55.6	70.2	2.0		62.24%	C	
10	1971	90.3	90.3	4.3	0.4	25.1	3.4	16.1	49.3	52.7	1.8	16.07% 1 299	58.33%	F	94.23% A
11	1971	91.1	91.1	4.3	0.4	13.6	3.4	15.6	37.2	63.3	2.4		69.44%	B	
12	1971	150.7	150.7	4.3	0.4	13.4	3.4	16.1	37.6	122.4	4.0		81.24%	A	
1	1972	189.1	189.1	4.3	0.4	6.7	3.4	16.1	30.8	166.2	6.1		87.91%	A	
2	1972	187.5	187.5	4.3	0.4	2.8	3.4	15.0	25.9	168.8	7.2		90.03%	A	
3	1972	651.9	651.9	4.3	0.4	0.2	3.4	16.1	24.4	634.2	26.7		97.28%	A	
4	1972	695.3	695.3	4.3	0.4	4.1	3.4	15.6	27.7	675.1	25.1		97.09%	A	
5	1972	344.7	344.7	4.3	0.4	20.9	3.4	16.1	45.1	310.4	7.6		90.06%	A	
6	1972	240.1	240.1	4.3	0.4	22.6	3.4	15.6	46.3	205.0	5.2		85.38%	A	
7	1972	158.7	158.7	4.3	0.4	23.0	3.4	16.1	47.1	122.8	3.4		77.38%	A	
8	1972	112.2	112.2	4.3	0.4	29.5	3.4	16.1	53.7	71.1	2.1		63.35%	C	
9	1972	79.8	79.8	4.3	0.4	32.0	3.4	15.6	55.6	37.2	1.4		46.60%	F	
10	1972	69.0	69.0	4.3	0.4	25.1	3.4	16.1	49.3	31.4	1.4	5.99% 3 483	45.46%	F	97.85% A
11	1972	87.4	87.4	4.3	0.4	13.6	3.4	15.6	37.2	59.6	2.4		68.15%	E	
12	1972	477.8	477.8	4.3	0.4	13.4	3.4	16.1	37.6	449.5	12.7		94.08%	A	
1	1973	1602.3	1 602.3	4.3	0.4	6.7	3.4	16.1	30.8	1 579.5	52.0		98.57%	A	
2	1973	1377.3	1 377.3	4.3	0.4	2.8	3.4	14.5	25.4	1 359.2	54.3		98.68%	A	
3	1973	1213.2	1 213.2	4.3	0.4	0.2	3.4	16.1	24.4	1 195.5	49.7		98.54%	A	
4	1973	1318.1	1 318.1	4.3	0.4	4.1	3.4	15.6	27.7	1 297.9	47.6		98.46%	A	
5	1973	767.9	767.9	4.3	0.4	20.9	3.4	16.1	45.1	733.6	17.0		95.54%	A	
6	1973	469.4	469.4	4.3	0.4	22.6	3.4	15.6	46.3	434.3	10.1		92.52%	A	
7	1973	295.3	295.3	4.3	0.4	23.0	3.4	16.1	47.1	259.4	6.3		87.85%	A	
8	1973	202.5	202.5	4.3	0.4	29.5	3.4	16.1	53.7	161.3	3.8		79.68%	A	
9	1973	140.8	140.8	4.3	0.4	32.0	3.4	15.6	55.6	98.2	2.5		69.75%	B	
10	1973	136.3	136.3	4.3	0.4	25.1	3.4	16.1	49.3	98.7	2.8	9.08% 2 296	72.41%	B	96.74% A
11	1973	151.2	151.2	4.3	0.4	13.6	3.4	15.6	37.2	123.3	4.1		81.58%	A	
12	1973	166.3	166.3	4.3	0.4	13.4	3.4	16.1	37.6	138.0	4.4		83.00%	A	
1	1974	189.1	189.1	4.3	0.4	6.7	3.4	16.1	30.8	166.3	6.1		87.91%	A	
2	1974	171.9	171.9	4.3	0.4	2.8	3.4	14.5	25.4	153.7	6.8		89.43%	A	
3	1974	1049.3	1 049.3	4.3	0.4	0.2	3.4	16.1	24.4	1 031.6	43.0		98.31%	A	
4	1974	1577.4	1 577.4	4.3	0.4	4.1	3.4	15.6	27.7	1 557.1	57.0		98.72%	A	
5	1974	940.2	940.2	4.3	0.4	20.9	3.4	16.1	45.1	906.0	20.9		96.36%	A	
6	1974	384.2	384.2	4.3	0.4	22.6	3.4	15.6	46.3	349.1	8.3		90.86%	A	
7	1974	239.1	239.1	4.3	0.4	23.0	3.4	16.1	47.1	203.2	5.1		84.99%	A	
8	1974	165.0	165.0	4.3	0.4	29.5	3.4	16.1	53.7	123.8	3.1		75.06%	B	
9	1974	116.5	116.5	4.3	0.4	32.0	3.4	15.6	55.6	73.9	2.1		63.45%	B	

UH	Coporolo
Área (km ²)	16 842
População	254 780
Área irrigada (ha)	1 527
NGR (mm)	1 000

Sector	Necessidades anuais de água (hm ³)	
Abastecimento público	9.	34.5%
Indústria	0.1	0.4%
Termo eléctricas		
Irrigação	12.2	46.6%
Pecuária	4. 8	18.4%
Volume anual turbinado (hm ³)		
Hidroelectricidade		

Uso da água na UH do Coporolo



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm3)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano médio	498.1	420.1	2 157.2	2 577.3	9.	. 1	12. 2	4. 8	---	26. 2	2 565.0	98.4	1.0%	10 116	---	---	99.9%	A
Ano seco	251.7	416.0	979.3	1 395.3	9.	. 1	12. 2	4. 8	---	26. 2	1 383.0	53.3	1.9%	5 476	---	---	99.7%	A
Ano muito seco	90.0	408.0		408.0	9.	. 1	12. 2	4. 8	---	26. 2	395.7	15.6	6.4%	1 601	---	---		F

Mês	Ano																		
10	1944	135	37	448.8	485.8	0.8	0.0	0.7	0.4		1.8	485.0	263.8	0.43%	23 998	99.97%	A	99.96%	A
11	1944	287	37	708.1	745.1	0.8	0.0	0.3	0.4		1.5	744.7	506.4			99.99%	A		
12	1944	192	37	714.8	751.8	0.8	0.0	0.6	0.4		1.8	751.1	426.4			99.98%	A		
1	1945	263	37	865.5	902.5	0.8	0.0	0.8	0.4		1.9	901.6	463.2			99.98%	A		
2	1945	278	37	872.0	909.0	0.8	0.0	0.7	0.4		1.8	908.3	497.5			99.98%	A		
3	1945	331	37	781.0	818.0	0.8	0.0	0.1	0.4		1.2	817.8	660.6			99.99%	A		
4	1945	163	37	618.7	655.7	0.8	0.0	0.1	0.4		1.2	655.4	527.3			99.99%	A		
5	1945	13	37	340.7	377.7	0.8	0.0	0.7	0.4		1.9	376.9	202.5			99.95%	A		
6	1945	1	37	181.1	218.1	0.8	0.0	2.0	0.4		3.1	216.3	69.9			99.80%	A		
7	1945	0	36	84.1	120.1	0.8	0.0	2.2	0.4		3.4	118.1	35.7			99.53%	A		
8	1945	0	33	26.5	59.5	0.8	0.0	2.3	0.4		3.5	57.5	17.2			98.45%	A		
9	1945	13	31	40.0	71.0	0.8	0.0	1.9	0.4		3.0	69.2	23.3			99.14%	A		
10	1945	54	37	113.7	150.7	0.8	0.0	0.7	0.4		1.8	150.0	81.9	1.22%	8 439	99.87%	A	99.86%	A
11	1945	64	37	187.1	224.1	0.8	0.0	0.3	0.4		1.5	223.7	152.3			99.95%	A		
12	1945	63	37	257.0	294.0	0.8	0.0	0.6	0.4		1.8	293.3	166.8			99.95%	A		
1	1946	56	37	256.0	293.0	0.8	0.0	0.8	0.4		1.9	292.1	150.4			99.93%	A		
2	1946	39	37	216.7	253.7	0.8	0.0	0.7	0.4		1.8	252.9	138.8			99.93%	A		
3	1946	103	37	264.0	301.0	0.8	0.0	0.1	0.4		1.2	300.7	243.1			99.98%	A		
4	1946	67	37	211.5	248.5	0.8	0.0	0.1	0.4		1.2	248.3	199.9			99.97%	A		
5	1946		37	111.8	148.8	0.8	0.0	0.7	0.4		1.9	148.0	79.7			99.86%	A		
6	1946		36	58.0	94.0	0.8	0.0	2.0	0.4		3.1	92.2	30.1			99.39%	A		
7	1946		34	25.8	59.8	0.8	0.0	2.2	0.4		3.4	57.9	17.8			98.47%	A		
8	1946	0	31	6.7	37.7	0.8	0.0	2.3	0.4		3.5	35.7	10.9			93.87%	A		
9	1946	13	28	16.7	44.7	0.8	0.0	1.9	0.4		3.0	43.0	14.7			97.94%	A		
10	1946	140	37	391.9	428.9	0.8	0.0	0.7	0.4		1.8	428.1	232.9	0.35%	29 459	99.96%	A	99.97%	A
11	1946	157	37	605.2	642.2	0.8	0.0	0.3	0.4		1.5	641.8	436.5			99.98%	A		
12	1946	303	37	802.9	839.9	0.8	0.0	0.6	0.4		1.8	839.2	476.4			99.98%	A		
1	1947	239	37	1142.8	1 179.8	0.8	0.0	0.8	0.4		1.9	1 179.0	605.5			99.99%	A		
2	1947	281	37	943.5	980.5	0.8	0.0	0.7	0.4		1.8	979.7	536.6			99.98%	A		
3	1947	313	37	979.3	1 016.3	0.8	0.0	0.1	0.4		1.2	1 016.0	820.6			99.99%	A		
4	1947	395	37	1015.0	1 052.0	0.8	0.0	0.1	0.4		1.2	1 051.7	845.9			99.99%	A		
5	1947	18	37	551.7	588.7	0.8	0.0	0.7	0.4		1.9	587.9	315.6			99.97%	A		
6	1947		37	302.2	339.2	0.8	0.0	2.0	0.4		3.1	337.4	108.7			99.88%	A		
7	1947		35	153.9	188.9	0.8	0.0	2.2	0.4		3.4	187.0	56.2			99.74%	A		
8	1947		32	65.3	97.3	0.8	0.0	2.3	0.4		3.5	95.3	28.1			99.37%	A		
9	1947	31	29	122.8	151.8	0.8	0.0	1.9	0.4		3.0	150.0	49.9			99.72%	A		
10	1947	7	37		37.0	0.8	0.0	0.7	0.4		1.8	36.2	20.1						

11	1947	12	37		37.0	0.8	0.0	0.3	0.4		1.5	36.5	25.1	6.11%	1 684				
12	1947	8	37		37.0	0.8	0.0	0.6	0.4		1.8	36.3	21.0						
1	1948	7	37		37.0	0.8	0.0	0.8	0.4		1.9	36.2	19.0						
2	1948	29	37		37.0	0.8	0.0	0.7	0.4		1.8	36.3	20.2						
3	1948	12	37		37.0	0.8	0.0	0.1	0.4		1.2	36.7	29.9						
4	1948	4	37		37.0	0.8	0.0	0.1	0.4		1.2	36.7	29.8						
5	1948	1	37		37.0	0.8	0.0	0.7	0.4		1.9	36.2	19.8						
6	1948		37		37.0	0.8	0.0	2.0	0.4		3.1	35.2	11.9						
7	1948		35		35.0	0.8	0.0	2.2	0.4		3.4	33.0	10.4						
8	1948		32		32.0	0.8	0.0	2.3	0.4		3.5	29.9	9.2						
9	1948	0	29		29.0	0.8	0.0	1.9	0.4		3.0	27.3	9.5						
10	1948	32	27	127.9	154.9	0.8	0.0	0.7	0.4		1.8	154.2	84.1	0.90%	11 459	99.88%	A	99.90%	A
11	1948	29	37	193.3	230.3	0.8	0.0	0.3	0.4		1.5	229.9	156.5			99.95%	A		
12	1948	31	37	219.2	256.2	0.8	0.0	0.6	0.4		1.8	255.5	145.3			99.94%	A		
1	1949	49	37	304.6	341.6	0.8	0.0	0.8	0.4		1.9	340.8	175.3			99.94%	A		
2	1949	125	37	380.6	417.6	0.8	0.0	0.7	0.4		1.8	416.9	228.5			99.96%	A		
3	1949	163	37	457.7	494.7	0.8	0.0	0.1	0.4		1.2	494.4	399.5			99.99%	A		
4	1949	75	37	391.7	428.7	0.8	0.0	0.1	0.4		1.2	428.5	344.8			99.99%	A		
5	1949		37	211.8	248.8	0.8	0.0	0.7	0.4		1.9	248.0	133.4			99.93%	A		
6	1949	0	36	116.2	152.2	0.8	0.0	2.0	0.4		3.1	150.4	48.8			99.69%	A		
7	1949	0	34	59.1	93.1	0.8	0.0	2.2	0.4		3.4	91.2	27.7	1.45%	7 095	99.33%	A	99.82%	A
8	1949	1	31	26.5	57.5	0.8	0.0	2.3	0.4		3.5	55.5	16.6			98.45%	A		
9	1949	1	29	14.7	43.7	0.8	0.0	1.9	0.4		3.0	42.0	14.4			97.67%	A		
10	1949	17	28	49.8	77.8	0.8	0.0	0.7	0.4		1.8	77.1	42.3			99.70%	A		
11	1949	13	37	145.5	182.5	0.8	0.0	0.3	0.4		1.5	182.0	124.0			99.94%	A		
12	1949	19	37	154.2	191.2	0.8	0.0	0.6	0.4		1.8	190.5	108.5			99.91%	A		
1	1950	75	37	211.3	248.3	0.8	0.0	0.8	0.4		1.9	247.4	127.4			99.92%	A		
2	1950	56	37	183.3	220.3	0.8	0.0	0.7	0.4		1.8	219.6	120.6			99.92%	A		
3	1950	59	37	295.0	332.0	0.8	0.0	0.1	0.4		1.2	331.7	268.1			99.98%	A		
4	1950	23	37	179.1	216.1	0.8	0.0	0.1	0.4		1.2	215.8	173.8			99.97%	A		
5	1950	2	37	96.1	133.1	0.8	0.0	0.7	0.4		1.9	132.4	71.4			99.84%	A		
6	1950		37	48.7	85.7	0.8	0.0	2.0	0.4		3.1	83.9	27.5			99.27%	A		
7	1950		35	20.3	55.3	0.8	0.0	2.2	0.4		3.4	53.3	16.5			98.06%	A		
8	1950	0	32	3.4	35.4	0.8	0.0	2.3	0.4		3.5	33.3	10.2			87.78%	A		
9	1950	2	29	1.1	30.1	0.8	0.0	1.9	0.4		3.0	28.3	9.9			67.40%	A		
10	1950	14	29	20.8	49.8	0.8	0.0	0.7	0.4		1.8	49.0	27.0	0.63%	16 433	99.27%	A	99.93%	A
11	1950	120	37	188.5	225.5	0.8	0.0	0.3	0.4		1.5	225.1	153.3			99.95%	A		
12	1950	143	37	446.5	483.5	0.8	0.0	0.6	0.4		1.8	482.8	274.3			99.97%	A		
1	1951	80	37	495.6	532.6	0.8	0.0	0.8	0.4		1.9	531.8	273.4			99.97%	A		
2	1951	133	37	491.6	528.6	0.8	0.0	0.7	0.4		1.8	527.8	289.3			99.97%	A		
3	1951	266	37	704.8	741.8	0.8	0.0	0.1	0.4		1.2	741.6	599.0			99.99%	A		
4	1951	131	37	626.7	663.7	0.8	0.0	0.1	0.4		1.2	663.4	533.7			99.99%	A		
5	1951	15	37	381.1	418.1	0.8	0.0	0.7	0.4		1.9	417.4	224.1			99.96%	A		
6	1951		37	210.1	247.1	0.8	0.0	2.0	0.4		3.1	245.4	79.2			99.83%	A		
7	1951		35	111.2	146.2	0.8	0.0	2.2	0.4		3.4	144.2	43.5	4.49%	2 291	99.65%	A	98.49%	A
8	1951		32	52.0	84.0	0.8	0.0	2.3	0.4		3.5	81.9	24.2			99.21%	A		
9	1951	6	29	36.7	65.7	0.8	0.0	1.9	0.4		3.0	64.0	21.6			99.07%	A		
10	1951	16	32	7.5	39.5	0.8	0.0	0.7	0.4		1.8	38.8	21.5			97.99%	A		
11	1951	29	37	19.3	56.3	0.8	0.0	0.3	0.4		1.5	55.9	38.3			99.53%	A		
12	1951	34	37	26.7	63.7	0.8	0.0	0.6	0.4		1.8	63.0	36.1			99.48%	A		
1	1952	16	37	19.5	56.5	0.8	0.0	0.8	0.4		1.9	55.7	29.0			99.14%	A		
2	1952	40	37	25.3	62.3	0.8	0.0	0.7	0.4		1.8	61.5	34.1			99.41%	A		
3	1952	38	37	22.5	59.5	0.8	0.0	0.1	0.4		1.2	59.2	48.0			99.76%	A		
4	1952	48	37	22.0	59.0	0.8	0.0	0.1	0.4		1.2	58.7	47.4			99.75%	A		
5	1952	0	37	11.4	48.4	0.8	0.0	0.7	0.4		1.9	47.6	25.9			98.64%	A		
6	1952		36	5.8	41.8	0.8	0.0	2.0	0.4		3.1	40.0	13.4			93.89%	A		
7	1952	0	34	2.5	36.5	0.8	0.0	2.2	0.4		3.4	34.5	10.9			84.32%	A		

8	1952	0	31	0.5	31.5	0.8	0.0	2.3	0.4		3.5	29.5	9.1			23.07%	F	
9	1952	2	28	0.6	28.6	0.8	0.0	1.9	0.4		3.0	26.9	9.4			45.16%	F	
10	1952	38	28	64.3	92.3	0.8	0.0	0.7	0.4		1.8	91.6	50.2			99.77%	A	
11	1952	48	37	135.8	172.8	0.8	0.0	0.3	0.4		1.5	172.4	117.5			99.93%	A	
12	1952	37	37	146.8	183.8	0.8	0.0	0.6	0.4		1.8	183.1	104.2			99.91%	A	
1	1953	13	37	139.0	176.0	0.8	0.0	0.8	0.4		1.9	175.1	90.3			99.88%	A	
2	1953	12	37	110.5	147.5	0.8	0.0	0.7	0.4		1.8	146.8	80.7			99.87%	A	
3	1953	72	37	157.0	194.0	0.8	0.0	0.1	0.4		1.2	193.7	156.6			99.97%	A	
4	1953	33	37	139.9	176.9	0.8	0.0	0.1	0.4		1.2	176.6	142.2	1.80%	5 701	99.96%	A	99.76%
5	1953	1	37	74.6	111.6	0.8	0.0	0.7	0.4		1.9	110.8	59.8			99.79%	A	
6	1953	0	37	39.4	76.4	0.8	0.0	2.0	0.4		3.1	74.6	24.5			99.10%	A	
7	1953		35	18.4	53.4	0.8	0.0	2.2	0.4		3.4	51.4	15.9			97.86%	A	
8	1953	0	32	6.7	38.7	0.8	0.0	2.3	0.4		3.5	36.7	11.2			93.90%	A	
9	1953	0	29	0.3	29.3	0.8	0.0	1.9	0.4		3.0	27.5	9.6					
10	1953	22	27	29.6	56.6	0.8	0.0	0.7	0.4		1.8	55.8	30.7			99.49%	A	
11	1953	29	37	48.7	85.7	0.8	0.0	0.3	0.4		1.5	85.2	58.2			99.81%	A	
12	1953	22	37	53.6	90.6	0.8	0.0	0.6	0.4		1.8	89.9	51.4			99.74%	A	
1	1954	32	37	59.6	96.6	0.8	0.0	0.8	0.4		1.9	95.8	49.6			99.72%	A	
2	1954	46	37	63.2	100.2	0.8	0.0	0.7	0.4		1.8	99.5	54.9			99.77%	A	
3	1954	51	37	92.0	129.0	0.8	0.0	0.1	0.4		1.2	128.7	104.1			99.94%	A	
4	1954	24	37	89.2	126.2	0.8	0.0	0.1	0.4		1.2	125.9	101.5	2.74%	3 754	99.94%	A	99.54%
5	1954	9	37	50.7	87.7	0.8	0.0	0.7	0.4		1.9	87.0	47.0			99.70%	A	
6	1954	0	37	27.3	64.3	0.8	0.0	2.0	0.4		3.1	62.5	20.6			98.70%	A	
7	1954		35	13.6	48.6	0.8	0.0	2.2	0.4		3.4	46.6	14.5			97.10%	A	
8	1954		32	5.4	37.4	0.8	0.0	2.3	0.4		3.5	35.4	10.8			92.40%	A	
9	1954	0	29	4.7	33.7	0.8	0.0	1.9	0.4		3.0	31.9	11.1			92.64%	A	
10	1954	10	27		27.0	0.8	0.0	0.7	0.4		1.8	26.2	14.7					
11	1954	16	36		36.0	0.8	0.0	0.3	0.4		1.5	35.5	24.5					
12	1954	8	37		37.0	0.8	0.0	0.6	0.4		1.8	36.3	21.0					
1	1955	12	37		37.0	0.8	0.0	0.8	0.4		1.9	36.2	19.0					
2	1955	5	37		37.0	0.8	0.0	0.7	0.4		1.8	36.3	20.2					
3	1955	21	37		37.0	0.8	0.0	0.1	0.4		1.2	36.7	29.9					
4	1955	17	37		37.0	0.8	0.0	0.1	0.4		1.2	36.7	29.8	6.27%	1 641			
5	1955	2	37		37.0	0.8	0.0	0.7	0.4		1.9	36.2	19.8					
6	1955		37		37.0	0.8	0.0	2.0	0.4		3.1	35.2	11.9					
7	1955	0	35		35.0	0.8	0.0	2.2	0.4		3.4	33.0	10.4					
8	1955		32		32.0	0.8	0.0	2.3	0.4		3.5	29.9	9.2					
9	1955	0	29		29.0	0.8	0.0	1.9	0.4		3.0	27.3	9.5					
10	1955	48	27	80.9	107.9	0.8	0.0	0.7	0.4		1.8	107.2	58.6			99.81%	A	
11	1955	93	37	219.4	256.4	0.8	0.0	0.3	0.4		1.5	256.0	174.3			99.96%	A	
12	1955	52	37	279.8	316.8	0.8	0.0	0.6	0.4		1.8	316.1	179.7			99.95%	A	
1	1956	76	37	346.2	383.2	0.8	0.0	0.8	0.4		1.9	382.3	196.7			99.95%	A	
2	1956	33	37	228.1	265.1	0.8	0.0	0.7	0.4		1.8	264.3	145.1			99.93%	A	
3	1956	100	37	267.6	304.6	0.8	0.0	0.1	0.4		1.2	304.3	246.0	1.04%	9 926	99.98%	A	99.88%
4	1956	77	37	336.9	373.9	0.8	0.0	0.1	0.4		1.2	373.6	300.7			99.98%	A	
5	1956	2	37	176.6	213.6	0.8	0.0	0.7	0.4		1.9	212.8	114.5			99.91%	A	
6	1956		37	96.2	133.2	0.8	0.0	2.0	0.4		3.1	131.4	42.7			99.63%	A	
7	1956		35	48.1	83.1	0.8	0.0	2.2	0.4		3.4	81.1	24.7			99.18%	A	
8	1956		32	19.4	51.4	0.8	0.0	2.3	0.4		3.5	49.3	14.8			97.88%	A	
9	1956	0	29	11.0	40.0	0.8	0.0	1.9	0.4		3.0	38.2	13.1			96.87%	A	
10	1956	18	27	77.1	104.1	0.8	0.0	0.7	0.4		1.8	103.4	56.5			99.80%	A	
11	1956	20	37	94.5	131.5	0.8	0.0	0.3	0.4		1.5	131.1	89.4			99.90%	A	
12	1956	17	37	113.3	150.3	0.8	0.0	0.6	0.4		1.8	149.6	85.2			99.88%	A	
1	1957	19	37	105.9	142.9	0.8	0.0	0.8	0.4		1.9	142.1	73.3			99.84%	A	
2	1957	31	37	108.0	145.0	0.8	0.0	0.7	0.4		1.8	144.3	79.4			99.86%	A	
3	1957	105	37	224.9	261.9	0.8	0.0	0.1	0.4		1.2	261.6	211.5			99.98%	A	
4	1957	45	37	184.6	221.6	0.8	0.0	0.1	0.4		1.2	221.3	178.2	1.72%	5 968	99.97%	A	99.78%

5	1957	0	37	98.6	135.6	0.8	0.0	0.7	0.4	1.9	134.8	72.7			99.84%	A		
6	1957	0	36	52.0	88.0	0.8	0.0	2.0	0.4	3.1	86.3	28.2			99.32%	A		
7	1957	0	34	24.3	58.3	0.8	0.0	2.2	0.4	3.4	56.4	17.4			98.38%	A		
8	1957	0	31	7.8	38.8	0.8	0.0	2.3	0.4	3.5	36.7	11.2			94.71%	A		
9	1957	1	28	14.5	42.5	0.8	0.0	1.9	0.4	3.0	40.8	14.0			97.64%	A		
10	1957	23	27	68.6	95.6	0.8	0.0	0.7	0.4	1.8	94.8	51.9			99.78%	A		
11	1957	61	37	124.9	161.9	0.8	0.0	0.3	0.4	1.5	161.4	110.0			99.93%	A		
12	1957	51	37	177.4	214.4	0.8	0.0	0.6	0.4	1.8	213.7	121.6			99.92%	A		
1	1958	16	37	135.2	172.2	0.8	0.0	0.8	0.4	1.9	171.3	88.4			99.88%	A		
2	1958	21	37	119.7	156.7	0.8	0.0	0.7	0.4	1.8	155.9	85.7			99.88%	A		
3	1958	71	37	160.9	197.9	0.8	0.0	0.1	0.4	1.2	197.6	159.8			99.97%	A		
4	1958	9	37	110.5	147.5	0.8	0.0	0.1	0.4	1.2	147.2	118.6			99.95%	A		
5	1958	0	37	57.6	94.6	0.8	0.0	0.7	0.4	1.9	93.9	50.7			99.73%	A		
6	1958		36	28.2	64.2	0.8	0.0	2.0	0.4	3.1	62.4	20.6			98.74%	A		
7	1958		34	10.6	44.6	0.8	0.0	2.2	0.4	3.4	42.6	13.3			96.29%	A		
8	1958		31	0.1	31.1	0.8	0.0	2.3	0.4	3.5	29.0	9.0						
9	1958	0	28	0.8	28.8	0.8	0.0	1.9	0.4	3.0	27.1	9.5	1.86%	5 532	57.66%	A	99.75%	A
10	1958	24	26	97.1	123.1	0.8	0.0	0.7	0.4	1.8	122.4	66.9			99.84%	A		
11	1958	69	37	319.7	356.7	0.8	0.0	0.3	0.4	1.5	356.2	242.4			99.97%	A		
12	1958	72	37	425.2	462.2	0.8	0.0	0.6	0.4	1.8	461.5	262.1			99.97%	A		
1	1959	82	37	422.6	459.6	0.8	0.0	0.8	0.4	1.9	458.8	235.9			99.96%	A		
2	1959	136	37	444.5	481.5	0.8	0.0	0.7	0.4	1.8	480.8	263.5			99.97%	A		
3	1959	87	37	495.7	532.7	0.8	0.0	0.1	0.4	1.2	532.4	430.1			99.99%	A		
4	1959	71	37	463.5	500.5	0.8	0.0	0.1	0.4	1.2	500.2	402.5			99.99%	A		
5	1959	3	37	285.8	322.8	0.8	0.0	0.7	0.4	1.9	322.0	173.0			99.95%	A		
6	1959		37	152.9	189.9	0.8	0.0	2.0	0.4	3.1	188.1	60.9			99.77%	A		
7	1959	0	35	77.0	112.0	0.8	0.0	2.2	0.4	3.4	110.0	33.3			99.49%	A		
8	1959	0	32	32.6	64.6	0.8	0.0	2.3	0.4	3.5	62.5	18.6			98.74%	A		
9	1959	4	29	18.0	47.0	0.8	0.0	1.9	0.4	3.0	45.3	15.4	0.72%	14 336	98.09%	A	99.92%	A
10	1959	38	30	88.5	118.5	0.8	0.0	0.7	0.4	1.8	117.7	64.3			99.83%	A		
11	1959	76	37	246.4	283.4	0.8	0.0	0.3	0.4	1.5	283.0	192.6			99.96%	A		
12	1959	48	37	353.0	390.0	0.8	0.0	0.6	0.4	1.8	389.3	221.2			99.96%	A		
1	1960	60	37	405.1	442.1	0.8	0.0	0.8	0.4	1.9	441.3	226.9			99.96%	A		
2	1960	71	37	396.6	433.6	0.8	0.0	0.7	0.4	1.8	432.9	237.3			99.96%	A		
3	1960	194	37	568.1	605.1	0.8	0.0	0.1	0.4	1.2	604.8	488.6			99.99%	A		
4	1960	41	37	430.4	467.4	0.8	0.0	0.1	0.4	1.2	467.1	375.8			99.99%	A		
5	1960	6	37	277.3	314.3	0.8	0.0	0.7	0.4	1.9	313.5	168.5			99.94%	A		
6	1960		37	148.9	185.9	0.8	0.0	2.0	0.4	3.1	184.1	59.6			99.76%	A		
7	1960		35	75.6	110.6	0.8	0.0	2.2	0.4	3.4	108.7	32.9			99.48%	A		
8	1960	0	32	31.8	63.8	0.8	0.0	2.3	0.4	3.5	61.8	18.4			98.71%	A		
9	1960	5	29	45.2	74.2	0.8	0.0	1.9	0.4	3.0	72.4	24.4	0.75%	13 694	99.24%	A	99.92%	A
10	1960	43	31	125.0	156.0	0.8	0.0	0.7	0.4	1.8	155.2	84.7			99.88%	A		
11	1960	101	37	338.9	375.9	0.8	0.0	0.3	0.4	1.5	375.4	255.5			99.97%	A		
12	1960	99	37	445.9	482.9	0.8	0.0	0.6	0.4	1.8	482.2	273.9			99.97%	A		
1	1961	143	37	489.3	526.3	0.8	0.0	0.8	0.4	1.9	525.4	270.1			99.97%	A		
2	1961	140	37	593.8	630.8	0.8	0.0	0.7	0.4	1.8	630.1	345.2			99.97%	A		
3	1961	125	37	655.2	692.2	0.8	0.0	0.1	0.4	1.2	691.9	558.9			99.99%	A		
4	1961	123	37	624.4	661.4	0.8	0.0	0.1	0.4	1.2	661.1	531.9			99.99%	A		
5	1961	19	37	384.4	421.4	0.8	0.0	0.7	0.4	1.9	420.7	225.9			99.96%	A		
6	1961		37	211.1	248.1	0.8	0.0	2.0	0.4	3.1	246.4	79.5			99.83%	A		
7	1961		35	111.3	146.3	0.8	0.0	2.2	0.4	3.4	144.4	43.5			99.65%	A		
8	1961		32	51.7	83.7	0.8	0.0	2.3	0.4	3.5	81.6	24.1			99.20%	A		
9	1961	7	29	57.9	86.9	0.8	0.0	1.9	0.4	3.0	85.2	28.6	0.58%	17 709	99.41%	A	99.94%	A
10	1961	32	33	148.9	181.9	0.8	0.0	0.7	0.4	1.8	181.1	98.8			99.90%	A		
11	1961	63	37	188.6	225.6	0.8	0.0	0.3	0.4	1.5	225.1	153.3			99.95%	A		
12	1961	96	37	478.4	515.4	0.8	0.0	0.6	0.4	1.8	514.7	292.3			99.97%	A		
1	1962	45	37	388.7	425.7	0.8	0.0	0.8	0.4	1.9	424.8	218.5			99.96%	A		

2	1962	24	37	195.9	232.9	0.8	0.0	0.7	0.4		1.8	232.2	127.5	0.82%	12 520	99.92%	A	99.91%	A
3	1962	155	37	383.0	420.0	0.8	0.0	0.1	0.4		1.2	419.7	339.1			99.99%	A		
4	1962	102	37	422.9	459.9	0.8	0.0	0.1	0.4		1.2	459.6	369.8			99.99%	A		
5	1962		37	194.9	231.9	0.8	0.0	0.7	0.4		1.9	231.1	124.3			99.92%	A		
6	1962		36	128.8	164.8	0.8	0.0	2.0	0.4		3.1	163.0	52.8			99.72%	A		
7	1962	0	34	101.0	135.0	0.8	0.0	2.2	0.4		3.4	133.0	40.2			99.61%	A		
8	1962	1	32	77.4	109.4	0.8	0.0	2.3	0.4		3.5	107.4	31.5			99.47%	A		
9	1962	1	30	57.5	87.5	0.8	0.0	1.9	0.4		3.0	85.8	28.7			99.40%	A		
10	1962	48	29	104.4	133.4	0.8	0.0	0.7	0.4		1.8	132.7	72.5	0.67%	15 440	99.86%	A	99.93%	A
11	1962	79	37	239.1	276.1	0.8	0.0	0.3	0.4		1.5	275.7	187.7			99.96%	A		
12	1962	92	37	393.8	430.8	0.8	0.0	0.6	0.4		1.8	430.2	244.4			99.96%	A		
1	1963	106	37	303.3	340.3	0.8	0.0	0.8	0.4		1.9	339.4	174.6			99.94%	A		
2	1963	115	37	534.5	571.5	0.8	0.0	0.7	0.4		1.8	570.7	312.7			99.97%	A		
3	1963	186	37	533.5	570.5	0.8	0.0	0.1	0.4		1.2	570.3	460.7			99.99%	A		
4	1963	122	37	596.7	633.7	0.8	0.0	0.1	0.4		1.2	633.4	509.6			99.99%	A		
5	1963	3	37	276.8	313.8	0.8	0.0	0.7	0.4		1.9	313.0	168.2			99.94%	A		
6	1963	0	37	180.4	217.4	0.8	0.0	2.0	0.4		3.1	215.7	69.7			99.80%	A		
7	1963	0	35	144.8	179.8	0.8	0.0	2.2	0.4		3.4	177.8	53.5			99.73%	A		
8	1963	0	32	116.2	148.2	0.8	0.0	2.3	0.4		3.5	146.1	42.7			99.65%	A		
9	1963	8	29	89.1	118.1	0.8	0.0	1.9	0.4		3.0	116.4	38.8			99.61%	A		
10	1963	20	34	69.4	103.4	0.8	0.0	0.7	0.4		1.8	102.7	56.2	1.50%	6 843	99.78%	A	99.81%	A
11	1963	31	37	90.2	127.2	0.8	0.0	0.3	0.4		1.5	126.8	86.5			99.90%	A		
12	1963	27	37	75.7	112.7	0.8	0.0	0.6	0.4		1.8	112.0	63.9			99.82%	A		
1	1964	60	37	184.9	221.9	0.8	0.0	0.8	0.4		1.9	221.0	113.9			99.91%	A		
2	1964	34	37	133.1	170.1	0.8	0.0	0.7	0.4		1.8	169.3	93.1			99.89%	A		
3	1964	80	37	285.8	322.8	0.8	0.0	0.1	0.4		1.2	322.5	260.7			99.98%	A		
4	1964	11	37	195.1	232.1	0.8	0.0	0.1	0.4		1.2	231.8	186.6			99.97%	A		
5	1964		37	89.6	126.6	0.8	0.0	0.7	0.4		1.9	125.8	67.8			99.83%	A		
6	1964		36	63.3	99.3	0.8	0.0	2.0	0.4		3.1	97.5	31.8			99.44%	A		
7	1964		34	53.6	87.6	0.8	0.0	2.2	0.4		3.4	85.6	26.1			99.27%	A		
8	1964	0	31	44.6	75.6	0.8	0.0	2.3	0.4		3.5	73.5	21.8			99.08%	A		
9	1964	2	29	35.3	64.3	0.8	0.0	1.9	0.4		3.0	62.6	21.1			99.03%	A		
10	1964	27	28	88.4	116.4	0.8	0.0	0.7	0.4		1.8	115.6	63.2	0.83%	12 335	99.83%	A	99.91%	A
11	1964	51	37	126.4	163.4	0.8	0.0	0.3	0.4		1.5	163.0	111.1			99.93%	A		
12	1964	73	37	226.0	263.0	0.8	0.0	0.6	0.4		1.8	262.3	149.2			99.94%	A		
1	1965	33	37	262.7	299.7	0.8	0.0	0.8	0.4		1.9	298.9	153.8			99.94%	A		
2	1965	105	37	332.7	369.7	0.8	0.0	0.7	0.4		1.8	368.9	202.3			99.96%	A		
3	1965	165	37	588.9	625.9	0.8	0.0	0.1	0.4		1.2	625.6	505.4			99.99%	A		
4	1965	61	37	469.9	506.9	0.8	0.0	0.1	0.4		1.2	506.7	407.6			99.99%	A		
5	1965	0	37	219.7	256.7	0.8	0.0	0.7	0.4		1.9	256.0	137.6			99.93%	A		
6	1965		36	142.9	178.9	0.8	0.0	2.0	0.4		3.1	177.2	57.3			99.75%	A		
7	1965		34	113.1	147.1	0.8	0.0	2.2	0.4		3.4	145.1	43.8			99.65%	A		
8	1965	0	31	87.4	118.4	0.8	0.0	2.3	0.4		3.5	116.4	34.1			99.53%	A		
9	1965	3	28	68.6	96.6	0.8	0.0	1.9	0.4		3.0	94.8	31.7			99.50%	A		
10	1965	2	28		28.0	0.8	0.0	0.7	0.4		1.8	27.2	15.2	6.42%	1 601				
11	1965	14	29		29.0	0.8	0.0	0.3	0.4		1.5	28.5	19.7						
12	1965	14	37		37.0	0.8	0.0	0.6	0.4		1.8	36.3	21.0						
1	1966	14	37		37.0	0.8	0.0	0.8	0.4		1.9	36.2	19.0						
2	1966	2	37		37.0	0.8	0.0	0.7	0.4		1.8	36.3	20.2						
3	1966	32	37		37.0	0.8	0.0	0.1	0.4		1.2	36.7	29.9						
4	1966	10	37		37.0	0.8	0.0	0.1	0.4		1.2	36.7	29.8						
5	1966	0	37		37.0	0.8	0.0	0.7	0.4		1.9	36.2	19.8						
6	1966		36		36.0	0.8	0.0	2.0	0.4		3.1	34.2	11.5						
7	1966		34		34.0	0.8	0.0	2.2	0.4		3.4	32.0	10.1						
8	1966	0	31		31.0	0.8	0.0	2.3	0.4		3.5	28.9	8.9						
9	1966	2	28		28.0	0.8	0.0	1.9	0.4		3.0	26.3	9.2						
10	1966	37	28	112.3	140.3	0.8	0.0	0.7	0.4		1.8	139.5	76.2			99.87%	A		

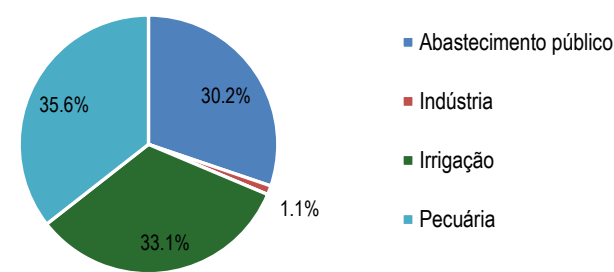
11	1966	32	37	155.7	192.7	0.8	0.0	0.3	0.4	1.5	192.2	131.0	0.92%	11 126	99.94%	A	99.90%	A
12	1966	98	37	354.2	391.2	0.8	0.0	0.6	0.4	1.8	390.6	221.9			99.96%	A		
1	1967	19	37	204.0	241.0	0.8	0.0	0.8	0.4	1.9	240.1	123.7			99.92%	A		
2	1967	47	37	109.1	146.1	0.8	0.0	0.7	0.4	1.8	145.3	79.9			99.86%	A		
3	1967	165	37	407.7	444.7	0.8	0.0	0.1	0.4	1.2	444.4	359.1			99.99%	A		
4	1967	88	37	452.1	489.1	0.8	0.0	0.1	0.4	1.2	488.8	393.3			99.99%	A		
5	1967	11	37	237.8	274.8	0.8	0.0	0.7	0.4	1.9	274.0	147.3			99.93%	A		
6	1967	0	37	130.8	167.8	0.8	0.0	2.0	0.4	3.1	166.0	53.8			99.73%	A		
7	1967		35	99.4	134.4	0.8	0.0	2.2	0.4	3.4	132.5	40.0			99.60%	A		
8	1967	0	32	78.5	110.5	0.8	0.0	2.3	0.4	3.5	108.5	31.9			99.48%	A		
9	1967	3	29	73.2	102.2	0.8	0.0	1.9	0.4	3.0	100.5	33.6			99.53%	A		
10	1967	22	30	78.1	108.1	0.8	0.0	0.7	0.4	1.8	107.3	58.7	0.99%	10 392	99.81%	A	99.89%	A
11	1967	63	37	154.3	191.3	0.8	0.0	0.3	0.4	1.5	190.8	130.0			99.94%	A		
12	1967	68	37	223.0	260.0	0.8	0.0	0.6	0.4	1.8	259.3	147.5			99.94%	A		
1	1968	63	37	349.6	386.6	0.8	0.0	0.8	0.4	1.9	385.8	198.4			99.95%	A		
2	1968	54	37	227.0	264.0	0.8	0.0	0.7	0.4	1.8	263.2	144.5			99.93%	A		
3	1968	146	37	311.8	348.8	0.8	0.0	0.1	0.4	1.2	348.5	281.7			99.98%	A		
4	1968	66	37	345.8	382.8	0.8	0.0	0.1	0.4	1.2	382.5	307.8			99.98%	A		
5	1968	6	37	204.4	241.4	0.8	0.0	0.7	0.4	1.9	240.6	129.4			99.92%	A		
6	1968		37	116.9	153.9	0.8	0.0	2.0	0.4	3.1	152.1	49.3			99.70%	A		
7	1968	0	35	91.1	126.1	0.8	0.0	2.2	0.4	3.4	124.1	37.5			99.57%	A		
8	1968		32	70.4	102.4	0.8	0.0	2.3	0.4	3.5	100.4	29.5			99.42%	A		
9	1968	1	29	53.3	82.3	0.8	0.0	1.9	0.4	3.0	80.5	27.0			99.36%	A		
10	1968	37	27	80.3	107.3	0.8	0.0	0.7	0.4	1.8	106.5	58.3	0.89%	11 548	99.81%	A	99.90%	A
11	1968	63	37	250.1	287.1	0.8	0.0	0.3	0.4	1.5	286.6	195.1			99.96%	A		
12	1968	43	37	205.3	242.3	0.8	0.0	0.6	0.4	1.8	241.6	137.4			99.93%	A		
1	1969	46	37	158.7	195.7	0.8	0.0	0.8	0.4	1.9	194.8	100.4			99.89%	A		
2	1969	105	37	228.4	265.4	0.8	0.0	0.7	0.4	1.8	264.6	145.2			99.93%	A		
3	1969	142	37	635.1	672.1	0.8	0.0	0.1	0.4	1.2	671.8	542.7			99.99%	A		
4	1969	67	37	416.5	453.5	0.8	0.0	0.1	0.4	1.2	453.3	364.7			99.99%	A		
5	1969	0	37	195.1	232.1	0.8	0.0	0.7	0.4	1.9	231.4	124.4			99.92%	A		
6	1969		36	122.8	158.8	0.8	0.0	2.0	0.4	3.1	157.1	50.9			99.71%	A		
7	1969	0	34	96.9	130.9	0.8	0.0	2.2	0.4	3.4	129.0	39.0			99.59%	A		
8	1969	3	31	76.8	107.8	0.8	0.0	2.3	0.4	3.5	105.8	31.1			99.47%	A		
9	1969	0	32	57.0	89.0	0.8	0.0	1.9	0.4	3.0	87.3	29.3			99.40%	A		
10	1969	38	30	87.1	117.1	0.8	0.0	0.7	0.4	1.8	116.4	63.6	0.91%	11 245	99.83%	A	99.90%	A
11	1969	109	37	252.6	289.6	0.8	0.0	0.3	0.4	1.5	289.2	196.8			99.96%	A		
12	1969	51	37	282.6	319.6	0.8	0.0	0.6	0.4	1.8	318.9	181.3			99.95%	A		
1	1970	65	37	370.6	407.6	0.8	0.0	0.8	0.4	1.9	406.8	209.2			99.95%	A		
2	1970	115	37	315.3	352.3	0.8	0.0	0.7	0.4	1.8	351.5	192.8			99.95%	A		
3	1970	107	37	485.0	522.0	0.8	0.0	0.1	0.4	1.2	521.7	421.5			99.99%	A		
4	1970	16	37	230.0	267.0	0.8	0.0	0.1	0.4	1.2	266.8	214.7			99.98%	A		
5	1970	0	37	140.4	177.4	0.8	0.0	0.7	0.4	1.9	176.7	95.1			99.89%	A		
6	1970	0	36	95.4	131.4	0.8	0.0	2.0	0.4	3.1	129.6	42.1			99.63%	A		
7	1970		34	75.7	109.7	0.8	0.0	2.2	0.4	3.4	107.8	32.7			99.48%	A		
8	1970		31	62.5	93.5	0.8	0.0	2.3	0.4	3.5	91.4	27.0			99.34%	A		
9	1970	1	28	49.8	77.8	0.8	0.0	1.9	0.4	3.0	76.1	25.6			99.31%	A		
10	1970	56	27	204.5	231.5	0.8	0.0	0.7	0.4	1.8	230.7	125.7	0.79%	13 025	99.93%	A	99.91%	A
11	1970	59	37	337.4	374.4	0.8	0.0	0.3	0.4	1.5	374.0	254.5			99.97%	A		
12	1970	65	37	374.5	411.5	0.8	0.0	0.6	0.4	1.8	410.8	233.4			99.96%	A		
1	1971	25	37	297.7	334.7	0.8	0.0	0.8	0.4	1.9	333.9	171.8			99.94%	A		
2	1971	49	37	361.4	398.4	0.8	0.0	0.7	0.4	1.8	397.7	218.0			99.96%	A		
3	1971	165	37	481.5	518.5	0.8	0.0	0.1	0.4	1.2	518.2	418.7			99.99%	A		
4	1971	104	37	418.0	455.0	0.8	0.0	0.1	0.4	1.2	454.7	365.8			99.99%	A		
5	1971	2	37	224.4	261.4	0.8	0.0	0.7	0.4	1.9	260.6	140.1			99.93%	A		
6	1971	1	37	118.0	155.0	0.8	0.0	2.0	0.4	3.1	153.2	49.7			99.70%	A		
7	1971		36	54.6	90.6	0.8	0.0	2.2	0.4	3.4	88.6	27.0			99.28%	A		

8	1971		33	16.7	49.7	0.8	0.0	2.3	0.4		3.5	47.6	14.3			97.54%	A	
9	1971	1	30	7.8	37.8	0.8	0.0	1.9	0.4		3.0	36.1	12.4			95.59%	A	
10	1971	7	29		29.0	0.8	0.0	0.7	0.4		1.8	28.2	15.7	6.31%	1 629			
11	1971	7	35		35.0	0.8	0.0	0.3	0.4		1.5	34.5	23.8					
12	1971	13	37		37.0	0.8	0.0	0.6	0.4		1.8	36.3	21.0					
1	1972	6	37		37.0	0.8	0.0	0.8	0.4		1.9	36.2	19.0					
2	1972	1	37		37.0	0.8	0.0	0.7	0.4		1.8	36.3	20.2					
3	1972	22	37		37.0	0.8	0.0	0.1	0.4		1.2	36.7	29.9					
4	1972	9	37		37.0	0.8	0.0	0.1	0.4		1.2	36.7	29.8					
5	1972	0	37		37.0	0.8	0.0	0.7	0.4		1.9	36.2	19.8					
6	1972	0	36		36.0	0.8	0.0	2.0	0.4		3.1	34.2	11.5					
7	1972		34		34.0	0.8	0.0	2.2	0.4		3.4	32.0	10.1					
8	1972	0	31		31.0	0.8	0.0	2.3	0.4		3.5	28.9	8.9					
9	1972	0	28		28.0	0.8	0.0	1.9	0.4		3.0	26.3	9.2					
10	1972	47	26	114.8	140.8	0.8	0.0	0.7	0.4		1.8	140.1	76.5	0.92%	11 178	99.87%	A	99.90%
11	1972	47	37	227.0	264.0	0.8	0.0	0.3	0.4		1.5	263.5	179.4				A	
12	1972	104	37	339.8	376.8	0.8	0.0	0.6	0.4		1.8	376.1	213.7				A	
1	1973	119	37	419.1	456.1	0.8	0.0	0.8	0.4		1.9	455.2	234.1				A	
2	1973	51	37	337.0	374.0	0.8	0.0	0.7	0.4		1.8	373.3	204.7				A	
3	1973	72	37	340.9	377.9	0.8	0.0	0.1	0.4		1.2	377.6	305.1				A	
4	1973	53	37	318.4	355.4	0.8	0.0	0.1	0.4		1.2	355.1	285.7				A	
5	1973	6	37	179.7	216.7	0.8	0.0	0.7	0.4		1.9	215.9	116.2				A	
6	1973		37	94.1	131.1	0.8	0.0	2.0	0.4		3.1	129.3	42.0				A	
7	1973		35	43.9	78.9	0.8	0.0	2.2	0.4		3.4	77.0	23.5				A	
8	1973	0	32	14.0	46.0	0.8	0.0	2.3	0.4		3.5	43.9	13.3				A	
9	1973	0	29	1.3	30.3	0.8	0.0	1.9	0.4		3.0	28.5	9.9				A	
10	1973	38	27	63.1	90.1	0.8	0.0	0.7	0.4		1.8	89.3	48.9	1.88%	5 476	99.76%	A	99.75%
11	1973	22	37	108.9	145.9	0.8	0.0	0.3	0.4		1.5	145.5	99.2				A	
12	1973	5	37	91.8	128.8	0.8	0.0	0.6	0.4		1.8	128.1	73.1				A	
1	1974	5	37	61.1	98.1	0.8	0.0	0.8	0.4		1.9	97.3	50.3				A	
2	1974	3	37	35.4	72.4	0.8	0.0	0.7	0.4		1.8	71.6	39.6				A	
3	1974	100	37	172.2	209.2	0.8	0.0	0.1	0.4		1.2	208.9	168.9				A	
4	1974	77	37	215.0	252.0	0.8	0.0	0.1	0.4		1.2	251.7	202.6				A	
5	1974	1	37	115.8	152.8	0.8	0.0	0.7	0.4		1.9	152.0	81.9				A	
6	1974	0	36	62.8	98.8	0.8	0.0	2.0	0.4		3.1	97.1	31.7				A	
7	1974		34	31.4	65.4	0.8	0.0	2.2	0.4		3.4	63.4	19.5				A	
8	1974	1	31	17.0	48.0	0.8	0.0	2.3	0.4		3.5	45.9	13.8				A	
9	1974	0	29	4.8	33.8	0.8	0.0	1.9	0.4		3.0	32.1	11.1				A	

UH	Sudoeste
Área (km ²)	66 170
População	564 385
Área irrigada (ha)	2 390
NGR (mm)	1 000

Sector	Necessidades anuais de água (hm³)	
Abastecimento público	17.5	30.2%
Indústria	0.7	1.1%
Termo eléctricas		
Irrigação	19.1	33.1%
Pecuária	20.6	35.6%
Volume anual turbinado (hm³)		
Hidroelectricidade		

Uso da água na UH do Sudoeste



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

		Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades totais (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
						Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
	Ano médio	337.1	208.1	818.7	1 026.8	17. 5	. 7	19. 1	20. 6	---	57. 8	1 004.8	17.8	5.6%	1 819	---	---	99.9%	A
	Ano seco	229.2	227.0	521.4	748.4	17. 5	. 7	19. 1	20. 6	---	57. 8	726.4	13.0	7.7%	1 326	---	---	99.8%	A
	Ano muito seco	30.1	208.0	184.2	392.2	17. 5	. 7	19. 1	20. 6	---	57. 8	370.2	6.8	14.7%	695	---	---	99.4%	A

Mês	Ano																			
	10	1944	42	25	0.1	25.1	1.5	0.1	1.5	1.7		4.8	23.3	5.3	3.40%	3 013	10.22%	A	99.92%	A
	11	1944	137	25	65.7	90.7	1.5	0.1	1.7	1.7		4.9	88.8	18.5			99.86%	A		
	12	1944	85	25	130.4	155.4	1.5	0.1	2.5	1.7		5.7	152.8	27.1			99.90%	A		
	1	1945	199	25	196.4	221.4	1.5	0.1	2.6	1.7		5.8	218.8	38.3			99.93%	A		
	2	1945	177	25	288.4	313.4	1.5	0.1	1.8	1.7		5.1	311.4	61.8			99.96%	A		
	3	1945	142	25	308.5	333.5	1.5	0.1	0.7	1.7		3.9	332.5	85.8			99.98%	A		
	4	1945	25	25	238.1	263.1	1.5	0.1	0.7	1.7		3.9	262.0	67.0			99.98%	A		
	5	1945	28	25	131.8	156.8	1.5	0.1	1.5	1.7		4.7	155.1	33.5			99.93%	A		
	6	1945	2	25	60.1	85.1	1.5	0.1	1.5	1.7		4.7	83.4	18.0			99.85%	A		
	7	1945	0	22	4.0	26.0	1.5	0.1	1.6	1.7		4.8	24.1	5.4			97.66%	A		
	8	1945	0	17	0.1	17.1	1.5	0.1	1.5	1.7		4.7	15.3	3.6	12.32%	A				
	9	1945	4	13	0.1	13.1	1.5	0.1	1.5	1.7		4.8	11.3	2.8	10.74%	A				
	10	1945	19	13	0.1	13.1	1.5	0.1	1.5	1.7		4.8	11.3	2.7	7.42%	1 379	10.22%	A	99.79%	A
	11	1945	42	25	35.6	60.6	1.5	0.1	1.7	1.7		4.9	58.7	12.4			99.73%	A		
	12	1945	40	25	80.7	105.7	1.5	0.1	2.5	1.7		5.7	103.1	18.4			99.84%	A		
	1	1946	19	25	81.2	106.2	1.5	0.1	2.6	1.7		5.8	103.6	18.4			99.84%	A		
	2	1946	28	25	66.6	91.6	1.5	0.1	1.8	1.7		5.1	89.6	18.1			99.85%	A		
	3	1946	50	25	92.3	117.3	1.5	0.1	0.7	1.7		3.9	116.2	30.2			99.94%	A		
	4	1946	28	25	108.7	133.7	1.5	0.1	0.7	1.7		3.9	132.5	34.1			99.95%	A		
	5	1946		25	62.5	87.5	1.5	0.1	1.5	1.7		4.7	85.8	18.7			99.86%	A		
	6	1946		21	4.3	25.3	1.5	0.1	1.5	1.7		4.7	23.6	5.4			97.96%	A		
	7	1946		17	0.1	17.1	1.5	0.1	1.6	1.7		4.8	15.3	3.5			7.56%	A		
	8	1946		12	0.1	12.1	1.5	0.1	1.5	1.7		4.7	10.3	2.6	12.32%	A				
	9	1946	7	8	0.1	8.1	1.5	0.1	1.5	1.7		4.8	6.3	1.7	10.74%	A				
	10	1946	51	11	0.1	11.1	1.5	0.1	1.5	1.7		4.8	9.3	2.3	2.62%	3 903	10.22%	A	99.94%	A
	11	1946	117	25	24.3	49.3	1.5	0.1	1.7	1.7		4.9	47.4	10.1			99.61%	A		
	12	1946	238	25	99.9	124.9	1.5	0.1	2.5	1.7		5.7	122.3	21.7			99.87%	A		
	1	1947	330	25	214.5	239.5	1.5	0.1	2.6	1.7		5.8	236.9	41.5			99.94%	A		
	2	1947	433	25	344.0	369.0	1.5	0.1	1.8	1.7		5.1	366.9	72.8			99.97%	A		
	3	1947	273	25	402.0	427.0	1.5	0.1	0.7	1.7		3.9	425.9	109.8			99.99%	A		
	4	1947	273	25	377.6	402.6	1.5	0.1	0.7	1.7		3.9	401.4	102.6			99.99%	A		
	5	1947	34	25	288.2	313.2	1.5	0.1	1.5	1.7		4.7	311.4	66.9			99.97%	A		
	6	1947	0	25	142.9	167.9	1.5	0.1	1.5	1.7		4.7	166.1	35.5			99.94%	A		
	7	1947	0	21	49.4	70.4	1.5	0.1	1.6	1.7		4.8	68.5	14.6			99.81%	A		
	8	1947	0	16	0.1	16.1	1.5	0.1	1.5	1.7		4.7	14.3	3.4	12.32%	A				
	9	1947	20	12	0.1	12.1	1.5	0.1	1.5	1.7		4.8	10.3	2.5	10.74%	A				
	10	1947	1	25	0.1	25.1	1.5	0.1	1.5	1.7		4.8	23.3	5.3			10.22%	A		

11	1947	3	22	0.1	22.1	1.5	0.1	1.7	1.7	4.9	20.2	4.5	14.73%	695	5.06%	A	99.40%	A
12	1947	3	20	0.1	20.1	1.5	0.1	2.5	1.7	5.7	17.5	3.5						
1	1948	2	17	0.1	17.1	1.5	0.1	2.6	1.7	5.8	14.5	3.0						
2	1948	18	13	55.7	68.7	1.5	0.1	1.8	1.7	5.1	66.6	13.5			99.82%	A		
3	1948	1	25	92.6	117.6	1.5	0.1	0.7	1.7	3.9	116.5	30.2			99.94%	A		
4	1948	2	23	35.0	58.0	1.5	0.1	0.7	1.7	3.9	56.9	14.8			99.84%	A		
5	1948	0	21	0.1	21.1	1.5	0.1	1.5	1.7	4.7	19.4	4.5			13.77%	A		
6	1948	0	17	0.1	17.1	1.5	0.1	1.5	1.7	4.7	15.3	3.6			11.85%	A		
7	1948		13	0.1	13.1	1.5	0.1	1.6	1.7	4.8	11.3	2.7			7.56%	A		
8	1948	0	8	0.1	8.1	1.5	0.1	1.5	1.7	4.7	6.3	1.7			12.32%	A		
9	1948	0	4	0.1	4.1	1.5	0.1	1.5	1.7	4.8	2.3	0.9			10.74%	A		
10	1948	8		0.1	0.1	1.5	0.1	1.5	1.7	4.8	- 1.7	0.0	5.63%	1 819	10.22%	A	99.87%	A
11	1948	17	3	0.1	3.1	1.5	0.1	1.7	1.7	4.9	1.2	0.6			5.06%	A		
12	1948	29	15	19.9	34.9	1.5	0.1	2.5	1.7	5.7	32.3	6.1			99.35%	A		
1	1949	31	25	47.3	72.3	1.5	0.1	2.6	1.7	5.8	69.7	12.5			99.73%	A		
2	1949	68	25	103.1	128.1	1.5	0.1	1.8	1.7	5.1	126.0	25.3			99.90%	A		
3	1949	100	25	211.1	236.1	1.5	0.1	0.7	1.7	3.9	235.0	60.7			99.97%	A		
4	1949	37	25	243.0	268.0	1.5	0.1	0.7	1.7	3.9	266.9	68.3			99.98%	A		
5	1949	0	25	148.5	173.5	1.5	0.1	1.5	1.7	4.7	171.8	37.1			99.94%	A		
6	1949	0	21	52.5	73.5	1.5	0.1	1.5	1.7	4.7	71.7	15.5			99.83%	A		
7	1949	0	17	0.1	17.1	1.5	0.1	1.6	1.7	4.8	15.3	3.5			7.56%	A		
8	1949	0	12	0.1	12.1	1.5	0.1	1.5	1.7	4.7	10.3	2.6			12.32%	A		
9	1949	0	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7			10.74%	A		
10	1949	6	4	0.1	4.1	1.5	0.1	1.5	1.7	4.8	2.3	0.9	3.68%	2 783	10.22%	A	99.92%	A
11	1949	9	6	0.1	6.1	1.5	0.1	1.7	1.7	4.9	4.2	1.2			5.06%	A		
12	1949	10	10	0.1	10.1	1.5	0.1	2.5	1.7	5.7	7.5	1.8						
1	1950	96	15	82.6	97.6	1.5	0.1	2.6	1.7	5.8	95.0	16.9			99.84%	A		
2	1950	111	25	244.5	269.5	1.5	0.1	1.8	1.7	5.1	267.5	53.2			99.96%	A		
3	1950	128	25	370.0	395.0	1.5	0.1	0.7	1.7	3.9	393.9	101.6			99.99%	A		
4	1950	26	25	353.2	378.2	1.5	0.1	0.7	1.7	3.9	377.1	96.4			99.98%	A		
5	1950	5	25	202.8	227.8	1.5	0.1	1.5	1.7	4.7	226.1	48.7			99.96%	A		
6	1950		25	89.0	114.0	1.5	0.1	1.5	1.7	4.7	112.2	24.1			99.90%	A		
7	1950	0	21	19.2	40.2	1.5	0.1	1.6	1.7	4.8	38.3	8.3			99.52%	A		
8	1950	0	16	0.1	16.1	1.5	0.1	1.5	1.7	4.7	14.3	3.4			12.32%	A		
9	1950	0	12	0.1	12.1	1.5	0.1	1.5	1.7	4.8	10.3	2.5			10.74%	A		
10	1950	2	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7	4.13%	2 480	10.22%	A	99.91%	A
11	1950	36	6	10.3	16.3	1.5	0.1	1.7	1.7	4.9	14.4	3.3			99.08%	A		
12	1950	50	25	70.1	95.1	1.5	0.1	2.5	1.7	5.7	92.5	16.6			99.82%	A		
1	1951	20	25	87.6	112.6	1.5	0.1	2.6	1.7	5.8	110.0	19.5			99.85%	A		
2	1951	78	25	123.4	148.4	1.5	0.1	1.8	1.7	5.1	146.4	29.3			99.92%	A		
3	1951	95	25	229.7	254.7	1.5	0.1	0.7	1.7	3.9	253.6	65.5			99.98%	A		
4	1951	73	25	285.7	310.7	1.5	0.1	0.7	1.7	3.9	309.6	79.2			99.98%	A		
5	1951	8	25	223.4	248.4	1.5	0.1	1.5	1.7	4.7	246.6	53.1			99.96%	A		
6	1951		25	103.8	128.8	1.5	0.1	1.5	1.7	4.7	127.1	27.3			99.92%	A		
7	1951		21	27.5	48.5	1.5	0.1	1.6	1.7	4.8	46.6	10.0			99.66%	A		
8	1951	0	16	0.1	16.1	1.5	0.1	1.5	1.7	4.7	14.3	3.4			12.32%	A		
9	1951	1	12	0.1	12.1	1.5	0.1	1.5	1.7	4.8	10.3	2.5			10.74%	A		
10	1951	7	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7	6.96%	1 470	10.22%	A	99.82%	A
11	1951	22	10	0.1	10.1	1.5	0.1	1.7	1.7	4.9	8.2	2.1			5.06%	A		
12	1951	55	25	52.1	77.1	1.5	0.1	2.5	1.7	5.7	74.5	13.4			99.75%	A		
1	1952	16	25	79.5	104.5	1.5	0.1	2.6	1.7	5.8	101.9	18.1			99.84%	A		
2	1952	51	25	86.0	111.0	1.5	0.1	1.8	1.7	5.1	109.0	21.9			99.88%	A		
3	1952	53	25	132.6	157.6	1.5	0.1	0.7	1.7	3.9	156.5	40.5			99.96%	A		
4	1952	35	25	142.2	167.2	1.5	0.1	0.7	1.7	3.9	166.1	42.6			99.96%	A		
5	1952	0	25	89.4	114.4	1.5	0.1	1.5	1.7	4.7	112.7	24.5			99.90%	A		
6	1952		21	19.5	40.5	1.5	0.1	1.5	1.7	4.7	38.7	8.6			99.55%	A		
7	1952	1	17	0.1	17.1	1.5	0.1	1.6	1.7	4.8	15.3	3.5			7.56%	A		

8	1952	0	13	0.1	13.1	1.5	0.1	1.5	1.7	4.7	11.3	2.8			12.32%	A		
9	1952	4	9	0.1	9.1	1.5	0.1	1.5	1.7	4.8	7.3	1.9			10.74%	A		
10	1952	6	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7			10.22%	A		
11	1952	5	9	19.0	28.0	1.5	0.1	1.7	1.7	4.9	26.1	5.7			99.50%	A		
12	1952	6	9	29.8	38.8	1.5	0.1	2.5	1.7	5.7	36.2	6.8			99.57%	A		
1	1953	2	10	22.6	32.6	1.5	0.1	2.6	1.7	5.8	30.0	5.7			99.43%	A		
2	1953	2	6	0.1	6.1	1.5	0.1	1.8	1.7	5.1	4.1	1.2						
3	1953	18	3	56.7	59.7	1.5	0.1	0.7	1.7	3.9	58.6	15.4			99.90%	A		
4	1953	6	17	114.1	131.1	1.5	0.1	0.7	1.7	3.9	130.0	33.4	13.68%	748	99.95%	A	99.64%	A
5	1953	0	19	60.8	79.8	1.5	0.1	1.5	1.7	4.7	78.1	17.1			99.86%	A		
6	1953	0	15	3.7	18.7	1.5	0.1	1.5	1.7	4.7	16.9	4.0			97.62%	A		
7	1953		11	0.1	11.1	1.5	0.1	1.6	1.7	4.8	9.3	2.3			7.56%	A		
8	1953	0	6	0.1	6.1	1.5	0.1	1.5	1.7	4.7	4.3	1.3			12.32%	A		
9	1953	0	2	0.1	2.1	1.5	0.1	1.5	1.7	4.8	0.3	0.4			10.74%	A		
10	1953	19	-3	0.1	- 2.9	1.5	0.1	1.5	1.7	4.8	- 4.7	- 0.6			10.22%	A		
11	1953	14	11	5.9	16.9	1.5	0.1	1.7	1.7	4.9	15.0	3.4			98.38%	A		
12	1953	24	20	13.7	33.7	1.5	0.1	2.5	1.7	5.7	31.2	5.9			99.06%	A		
1	1954	17	25	22.5	47.5	1.5	0.1	2.6	1.7	5.8	44.9	8.2			99.42%	A		
2	1954	84	25	89.8	114.8	1.5	0.1	1.8	1.7	5.1	112.7	22.6			99.89%	A		
3	1954	35	25	155.1	180.1	1.5	0.1	0.7	1.7	3.9	179.0	46.3			99.96%	A		
4	1954	29	25	128.0	153.0	1.5	0.1	0.7	1.7	3.9	151.9	39.0	7.72%	1 326	99.96%	A	99.79%	A
5	1954	7	25	82.3	107.3	1.5	0.1	1.5	1.7	4.7	105.6	22.9			99.90%	A		
6	1954	0	25	23.6	48.6	1.5	0.1	1.5	1.7	4.7	46.8	10.3			99.63%	A		
7	1954		21	0.1	21.1	1.5	0.1	1.6	1.7	4.8	19.3	4.4			7.56%	A		
8	1954		16	0.1	16.1	1.5	0.1	1.5	1.7	4.7	14.3	3.4			12.32%	A		
9	1954	0	12	0.1	12.1	1.5	0.1	1.5	1.7	4.8	10.3	2.5			10.74%	A		
10	1954	3	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7			10.22%	A		
11	1954	5	7	6.2	13.2	1.5	0.1	1.7	1.7	4.9	11.3	2.7			98.47%	A		
12	1954	7	7	26.0	33.0	1.5	0.1	2.5	1.7	5.7	30.4	5.7			99.50%	A		
1	1955	5	8	37.2	45.2	1.5	0.1	2.6	1.7	5.8	42.6	7.8			99.65%	A		
2	1955	3	7	26.5	33.5	1.5	0.1	1.8	1.7	5.1	31.4	6.6			99.61%	A		
3	1955	10	5	44.0	49.0	1.5	0.1	0.7	1.7	3.9	47.9	12.6			99.88%	A		
4	1955	7	11	73.0	84.0	1.5	0.1	0.7	1.7	3.9	82.9	21.4	17.07%	600	99.92%	A	99.57%	A
5	1955	0	14	44.0	58.0	1.5	0.1	1.5	1.7	4.7	56.3	12.4			99.80%	A		
6	1955		10	0.1	10.1	1.5	0.1	1.5	1.7	4.7	8.3	2.1			11.85%	A		
7	1955	0	6	0.1	6.1	1.5	0.1	1.6	1.7	4.8	4.3	1.3			7.56%	A		
8	1955		1	0.1	1.1	1.5	0.1	1.5	1.7	4.7	- 0.7	0.2			12.32%	A		
9	1955	0	-3	0.1	- 2.9	1.5	0.1	1.5	1.7	4.8	- 4.7	- 0.6			10.74%	A		
10	1955	15	-8	0.1	- 7.9	1.5	0.1	1.5	1.7	4.8	- 9.7	- 1.7			10.22%	A		
11	1955	27	3	14.7	17.7	1.5	0.1	1.7	1.7	4.9	15.8	3.6			99.35%	A		
12	1955	15	25	24.1	49.1	1.5	0.1	2.5	1.7	5.7	46.5	8.6			99.47%	A		
1	1956	41	25	43.1	68.1	1.5	0.1	2.6	1.7	5.8	65.5	11.8			99.70%	A		
2	1956	37	25	79.9	104.9	1.5	0.1	1.8	1.7	5.1	102.9	20.7			99.87%	A		
3	1956	62	25	122.0	147.0	1.5	0.1	0.7	1.7	3.9	145.9	37.8			99.96%	A		
4	1956	37	25	148.5	173.5	1.5	0.1	0.7	1.7	3.9	172.4	44.2	7.51%	1 363	99.96%	A	99.80%	A
5	1956	3	25	98.2	123.2	1.5	0.1	1.5	1.7	4.7	121.5	26.3			99.91%	A		
6	1956		23	27.3	50.3	1.5	0.1	1.5	1.7	4.7	48.6	10.6			99.68%	A		
7	1956	0	19	0.1	19.1	1.5	0.1	1.6	1.7	4.8	17.3	4.0			7.56%	A		
8	1956	0	14	0.1	14.1	1.5	0.1	1.5	1.7	4.7	12.3	3.0			12.32%	A		
9	1956	0	10	0.1	10.1	1.5	0.1	1.5	1.7	4.8	8.3	2.1			10.74%	A		
10	1956	5	6	0.1	6.1	1.5	0.1	1.5	1.7	4.8	4.3	1.3			10.22%	A		
11	1956	42	7	20.1	27.1	1.5	0.1	1.7	1.7	4.9	25.2	5.5			99.53%	A		
12	1956	5	25	35.5	60.5	1.5	0.1	2.5	1.7	5.7	57.9	10.5			99.64%	A		
1	1957	23	25	19.4	44.4	1.5	0.1	2.6	1.7	5.8	41.8	7.7			99.33%	A		
2	1957	33	25	41.5	66.5	1.5	0.1	1.8	1.7	5.1	64.4	13.1			99.75%	A		
3	1957	144	25	182.3	207.3	1.5	0.1	0.7	1.7	3.9	206.2	53.3			99.97%	A		
4	1957	52	25	294.4	319.4	1.5	0.1	0.7	1.7	3.9	318.3	81.4	5.25%	1 950	99.98%	A	99.87%	A

5	1957	0	25	194.8	219.8	1.5	0.1	1.5	1.7	4.7	218.1	47.0			99.96%	A		
6	1957	0	21	78.4	99.4	1.5	0.1	1.5	1.7	4.7	97.6	21.0			99.89%	A		
7	1957	0	17	13.2	30.2	1.5	0.1	1.6	1.7	4.8	28.4	6.3			99.30%	A		
8	1957	1	12	0.1	12.1	1.5	0.1	1.5	1.7	4.7	10.3	2.6			12.32%	A		
9	1957	0	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7			10.74%	A		
10	1957	16	4	0.1	4.1	1.5	0.1	1.5	1.7	4.8	2.3	0.9			10.22%	A	99.79%	
11	1957	47	16	37.6	53.6	1.5	0.1	1.7	1.7	4.9	51.7	11.0			99.75%	A		
12	1957	50	25	97.5	122.5	1.5	0.1	2.5	1.7	5.7	119.9	21.3			99.87%	A		
1	1958	21	25	103.6	128.6	1.5	0.1	2.6	1.7	5.8	126.0	22.3			99.87%	A		
2	1958	30	25	82.4	107.4	1.5	0.1	1.8	1.7	5.1	105.4	21.2			99.88%	A		
3	1958	45	25	96.8	121.8	1.5	0.1	0.7	1.7	3.9	120.7	31.3			99.94%	A		
4	1958	9	25	85.2	110.2	1.5	0.1	0.7	1.7	3.9	109.1	28.1			99.93%	A		
5	1958	0	25	27.9	52.9	1.5	0.1	1.5	1.7	4.7	51.2	11.3			99.69%	A		
6	1958	0	21	0.1	21.1	1.5	0.1	1.5	1.7	4.7	19.3	4.5			11.85%	A		
7	1958	0	17	0.1	17.1	1.5	0.1	1.6	1.7	4.8	15.3	3.5			7.56%	A		
8	1958	0	12	0.1	12.1	1.5	0.1	1.5	1.7	4.7	10.3	2.6			12.32%	A		
9	1958	0	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7			10.74%	A		
10	1958	4	4	0.1	4.1	1.5	0.1	1.5	1.7	4.8	2.3	0.9			10.22%	A	99.88%	
11	1958	41	4	16.8	20.8	1.5	0.1	1.7	1.7	4.9	18.9	4.3			99.44%	A		
12	1958	18	25	45.7	70.7	1.5	0.1	2.5	1.7	5.7	68.1	12.3			99.72%	A		
1	1959	51	25	70.3	95.3	1.5	0.1	2.6	1.7	5.8	92.7	16.5			99.81%	A		
2	1959	96	25	169.6	194.6	1.5	0.1	1.8	1.7	5.1	192.5	38.4			99.94%	A		
3	1959	37	25	215.9	240.9	1.5	0.1	0.7	1.7	3.9	239.8	62.0			99.97%	A		
4	1959	60	25	197.1	222.1	1.5	0.1	0.7	1.7	3.9	221.0	56.6			99.97%	A		
5	1959	2	25	152.7	177.7	1.5	0.1	1.5	1.7	4.7	176.0	38.0			99.94%	A		
6	1959	0	23	57.7	80.7	1.5	0.1	1.5	1.7	4.7	78.9	17.1			99.85%	A		
7	1959	0	19	1.7	20.7	1.5	0.1	1.6	1.7	4.8	18.8	4.3			94.55%	A		
8	1959	0	14	0.1	14.1	1.5	0.1	1.5	1.7	4.7	12.3	3.0			12.32%	A		
9	1959	0	10	0.1	10.1	1.5	0.1	1.5	1.7	4.8	8.3	2.1			10.74%	A		
10	1959	12	6	0.1	6.1	1.5	0.1	1.5	1.7	4.8	4.3	1.3			10.22%	A	99.83%	
11	1959	28	13	12.2	25.2	1.5	0.1	1.7	1.7	4.9	23.3	5.1			99.22%	A		
12	1959	24	25	34.4	59.4	1.5	0.1	2.5	1.7	5.7	56.8	10.3			99.63%	A		
1	1960	33	25	51.4	76.4	1.5	0.1	2.6	1.7	5.8	73.8	13.2			99.75%	A		
2	1960	55	25	94.3	119.3	1.5	0.1	1.8	1.7	5.1	117.3	23.5			99.89%	A		
3	1960	76	25	166.6	191.6	1.5	0.1	0.7	1.7	3.9	190.6	49.3			99.97%	A		
4	1960	15	25	167.4	192.4	1.5	0.1	0.7	1.7	3.9	191.2	49.0			99.97%	A		
5	1960	4	25	85.2	110.2	1.5	0.1	1.5	1.7	4.7	108.5	23.6			99.90%	A		
6	1960	0	25	21.9	46.9	1.5	0.1	1.5	1.7	4.7	45.1	9.9			99.60%	A		
7	1960		21	0.1	21.1	1.5	0.1	1.6	1.7	4.8	19.3	4.4			7.56%	A		
8	1960	0	16	0.1	16.1	1.5	0.1	1.5	1.7	4.7	14.3	3.4			12.32%	A		
9	1960	2	12	0.1	12.1	1.5	0.1	1.5	1.7	4.8	10.3	2.5			10.74%	A		
10	1960	19	10	0.1	10.1	1.5	0.1	1.5	1.7	4.8	8.3	2.1			10.22%	A	99.91%	
11	1960	39	25	32.4	57.4	1.5	0.1	1.7	1.7	4.9	55.5	11.7			99.71%	A		
12	1960	39	25	73.5	98.5	1.5	0.1	2.5	1.7	5.7	95.9	17.2			99.82%	A		
1	1961	74	25	133.3	158.3	1.5	0.1	2.6	1.7	5.8	155.7	27.4			99.90%	A		
2	1961	77	25	211.2	236.2	1.5	0.1	1.8	1.7	5.1	234.1	46.6			99.95%	A		
3	1961	65	25	245.8	270.8	1.5	0.1	0.7	1.7	3.9	269.7	69.7			99.98%	A		
4	1961	48	25	233.4	258.4	1.5	0.1	0.7	1.7	3.9	257.2	65.8			99.98%	A		
5	1961	5	25	160.7	185.7	1.5	0.1	1.5	1.7	4.7	184.0	39.7			99.95%	A		
6	1961		25	64.5	89.5	1.5	0.1	1.5	1.7	4.7	87.8	18.9			99.86%	A		
7	1961		21	5.5	26.5	1.5	0.1	1.6	1.7	4.8	24.6	5.5			98.31%	A		
8	1961		16	0.1	16.1	1.5	0.1	1.5	1.7	4.7	14.3	3.4			12.32%	A		
9	1961	0	12	0.1	12.1	1.5	0.1	1.5	1.7	4.8	10.3	2.5			10.74%	A		
10	1961	7	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7			10.22%	A		
11	1961	29	11	8.6	19.6	1.5	0.1	1.7	1.7	4.9	17.7	4.0			98.90%	A		
12	1961	31	25	40.5	65.5	1.5	0.1	2.5	1.7	5.7	62.9	11.4			99.68%	A		
1	1962	37	25	67.1	92.1	1.5	0.1	2.6	1.7	5.8	89.5	15.9			99.81%	A		

2	1962	41	25	93.6	118.6	1.5	0.1	1.8	1.7	5.1	116.6	23.4	6.09%	1 681	99.89%	A	99.85%	A
3	1962	73	25	146.7	171.7	1.5	0.1	0.7	1.7	3.9	170.6	44.2			99.96%	A		
4	1962	49	25	188.2	213.2	1.5	0.1	0.7	1.7	3.9	212.1	54.3			99.97%	A		
5	1962	0	25	131.5	156.5	1.5	0.1	1.5	1.7	4.7	154.8	33.5			99.93%	A		
6	1962		21	42.9	63.9	1.5	0.1	1.5	1.7	4.7	62.2	13.5			99.79%	A		
7	1962	1	17	0.1	17.1	1.5	0.1	1.6	1.7	4.8	15.3	3.5			7.56%	A		
8	1962	1	13	0.1	13.1	1.5	0.1	1.5	1.7	4.7	11.3	2.8			12.32%	A		
9	1962	0	9	0.1	9.1	1.5	0.1	1.5	1.7	4.8	7.3	1.9			10.74%	A		
10	1962	39	5	0.1	5.1	1.5	0.1	1.5	1.7	4.8	3.3	1.1	3.57%	2 865	10.22%	A	99.92%	A
11	1962	73	25	30.4	55.4	1.5	0.1	1.7	1.7	4.9	53.5	11.3			99.69%	A		
12	1962	64	25	62.1	87.1	1.5	0.1	2.5	1.7	5.7	84.5	15.2			99.79%	A		
1	1963	170	25	130.4	155.4	1.5	0.1	2.6	1.7	5.8	152.8	26.9			99.90%	A		
2	1963	109	25	198.8	223.8	1.5	0.1	1.8	1.7	5.1	221.7	44.1			99.95%	A		
3	1963	229	25	264.6	289.6	1.5	0.1	0.7	1.7	3.9	288.5	74.5			99.98%	A		
4	1963	144	25	326.9	351.9	1.5	0.1	0.7	1.7	3.9	350.8	89.7			99.98%	A		
5	1963	1	25	236.7	261.7	1.5	0.1	1.5	1.7	4.7	260.0	55.9			99.96%	A		
6	1963	0	21	102.3	123.3	1.5	0.1	1.5	1.7	4.7	121.6	26.1			99.91%	A		
7	1963	0	17	26.6	43.6	1.5	0.1	1.6	1.7	4.8	41.8	9.0			99.65%	A		
8	1963	1	12	0.1	12.1	1.5	0.1	1.5	1.7	4.7	10.3	2.6			12.32%	A		
9	1963	5	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7			10.74%	A		
10	1963	8	9	0.1	9.1	1.5	0.1	1.5	1.7	4.8	7.3	1.9	6.80%	1 505	10.22%	A	99.82%	A
11	1963	22	13	2.7	15.7	1.5	0.1	1.7	1.7	4.9	13.8	3.2			96.45%	A		
12	1963	28	25	26.3	51.3	1.5	0.1	2.5	1.7	5.7	48.7	8.9			99.51%	A		
1	1964	56	25	74.9	99.9	1.5	0.1	2.6	1.7	5.8	97.3	17.3			99.83%	A		
2	1964	40	25	118.6	143.6	1.5	0.1	1.8	1.7	5.1	141.6	28.3			99.91%	A		
3	1964	72	25	158.8	183.8	1.5	0.1	0.7	1.7	3.9	182.7	47.3			99.97%	A		
4	1964	13	25	156.3	181.3	1.5	0.1	0.7	1.7	3.9	180.2	46.2			99.96%	A		
5	1964		25	71.9	96.9	1.5	0.1	1.5	1.7	4.7	95.2	20.7			99.88%	A		
6	1964	0	21	9.6	30.6	1.5	0.1	1.5	1.7	4.7	28.8	6.5			99.08%	A		
7	1964		17	0.1	17.1	1.5	0.1	1.6	1.7	4.8	15.3	3.5			7.56%	A		
8	1964	0	12	0.1	12.1	1.5	0.1	1.5	1.7	4.7	10.3	2.6			12.32%	A		
9	1964	1	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7			10.74%	A		
10	1964	6	4	0.1	4.1	1.5	0.1	1.5	1.7	4.8	2.3	0.9	4.32%	2 370	10.22%	A	99.90%	A
11	1964	34	6	12.2	18.2	1.5	0.1	1.7	1.7	4.9	16.3	3.7			99.22%	A		
12	1964	39	25	56.5	81.5	1.5	0.1	2.5	1.7	5.7	78.9	14.2			99.77%	A		
1	1965	21	25	68.2	93.2	1.5	0.1	2.6	1.7	5.8	90.6	16.1			99.81%	A		
2	1965	102	25	139.2	164.2	1.5	0.1	1.8	1.7	5.1	162.1	32.4			99.93%	A		
3	1965	108	25	280.7	305.7	1.5	0.1	0.7	1.7	3.9	304.6	78.6			99.98%	A		
4	1965	41	25	296.5	321.5	1.5	0.1	0.7	1.7	3.9	320.3	81.9			99.98%	A		
5	1965	0	25	183.8	208.8	1.5	0.1	1.5	1.7	4.7	207.1	44.6			99.95%	A		
6	1965		21	72.5	93.5	1.5	0.1	1.5	1.7	4.7	91.8	19.8			99.88%	A		
7	1965	0	17	9.9	26.9	1.5	0.1	1.6	1.7	4.8	25.1	5.6			99.07%	A		
8	1965	0	12	0.1	12.1	1.5	0.1	1.5	1.7	4.7	10.3	2.6			12.32%	A		
9	1965	1	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7			10.74%	A		
10	1965	0	5	0.1	5.1	1.5	0.1	1.5	1.7	4.8	3.3	1.1	10.28%	996	10.22%	A	99.76%	A
11	1965	5	1	0.1	1.1	1.5	0.1	1.7	1.7	4.9	- 0.8	0.2			5.06%	A		
12	1965	9	1	30.2	31.2	1.5	0.1	2.5	1.7	5.7	28.7	5.4			99.57%	A		
1	1966	11	4	76.5	80.5	1.5	0.1	2.6	1.7	5.8	77.9	13.9			99.83%	A		
2	1966	0	10	68.6	78.6	1.5	0.1	1.8	1.7	5.1	76.5	15.5			99.85%	A		
3	1966	19	6	94.7	100.7	1.5	0.1	0.7	1.7	3.9	99.7	25.9			99.94%	A		
4	1966	2	22	127.2	149.2	1.5	0.1	0.7	1.7	3.9	148.1	38.0			99.96%	A		
5	1966	0	21	52.4	73.4	1.5	0.1	1.5	1.7	4.7	71.6	15.7			99.84%	A		
6	1966		17	0.1	17.1	1.5	0.1	1.5	1.7	4.7	15.3	3.6			11.85%	A		
7	1966		13	0.1	13.1	1.5	0.1	1.6	1.7	4.8	11.3	2.7			7.56%	A		
8	1966	0	8	0.1	8.1	1.5	0.1	1.5	1.7	4.7	6.3	1.7			12.32%	A		
9	1966	0	4	0.1	4.1	1.5	0.1	1.5	1.7	4.8	2.3	0.9			10.74%	A		
10	1966	15		0.1	0.1	1.5	0.1	1.5	1.7	4.8	- 1.7	0.0			10.22%	A		

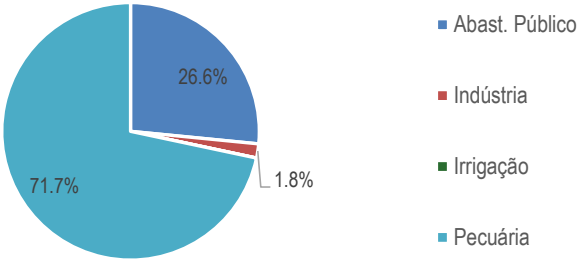
11	1966	12	10	0.1	10.1	1.5	0.1	1.7	1.7	4.9	8.2	2.1	5.54%	1 848	5.06%	A	99.87%	A
12	1966	46	18	31.9	49.9	1.5	0.1	2.5	1.7	5.7	47.3	8.7			99.60%	A		
1	1967	12	25	53.6	78.6	1.5	0.1	2.6	1.7	5.8	76.0	13.6			99.76%	A		
2	1967	57	25	72.7	97.7	1.5	0.1	1.8	1.7	5.1	95.6	19.3			99.86%	A		
3	1967	108	25	189.6	214.6	1.5	0.1	0.7	1.7	3.9	213.5	55.2			99.97%	A		
4	1967	39	25	242.7	267.7	1.5	0.1	0.7	1.7	3.9	266.5	68.2			99.98%	A		
5	1967	6	25	156.4	181.4	1.5	0.1	1.5	1.7	4.7	179.7	38.8			99.94%	A		
6	1967	0	25	63.6	88.6	1.5	0.1	1.5	1.7	4.7	86.8	18.7			99.86%	A		
7	1967		21	4.9	25.9	1.5	0.1	1.6	1.7	4.8	24.1	5.4			98.11%	A		
8	1967	0	16	0.1	16.1	1.5	0.1	1.5	1.7	4.7	14.3	3.4			12.32%	A		
9	1967	1	12	0.1	12.1	1.5	0.1	1.5	1.7	4.8	10.3	2.5			10.74%	A		
10	1967	4	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7	4.57%	2 239	10.22%	A	99.89%	A
11	1967	55	8	31.8	39.8	1.5	0.1	1.7	1.7	4.9	37.9	8.1			99.70%	A		
12	1967	38	25	91.6	116.6	1.5	0.1	2.5	1.7	5.7	114.0	20.3			99.86%	A		
1	1968	51	25	118.7	143.7	1.5	0.1	2.6	1.7	5.8	141.1	24.9			99.89%	A		
2	1968	29	25	125.3	150.3	1.5	0.1	1.8	1.7	5.1	148.3	29.6			99.92%	A		
3	1968	123	25	201.5	226.5	1.5	0.1	0.7	1.7	3.9	225.5	58.3			99.97%	A		
4	1968	31	25	258.3	283.3	1.5	0.1	0.7	1.7	3.9	282.2	72.2			99.98%	A		
5	1968	1	25	151.9	176.9	1.5	0.1	1.5	1.7	4.7	175.2	37.8			99.94%	A		
6	1968		22	55.8	77.8	1.5	0.1	1.5	1.7	4.7	76.0	16.5			99.84%	A		
7	1968	0	18	0.6	18.6	1.5	0.1	1.6	1.7	4.8	16.7	3.8			83.61%	F		
8	1968	0	13	0.1	13.1	1.5	0.1	1.5	1.7	4.7	11.3	2.8			12.32%	A		
9	1968	1	9	0.1	9.1	1.5	0.1	1.5	1.7	4.8	7.3	1.9			10.74%	A		
10	1968	6	5	0.1	5.1	1.5	0.1	1.5	1.7	4.8	3.3	1.1	4.92%	2 080	10.22%	A	99.88%	A
11	1968	34	7	11.7	18.7	1.5	0.1	1.7	1.7	4.9	16.8	3.8			99.19%	A		
12	1968	19	25	34.7	59.7	1.5	0.1	2.5	1.7	5.7	57.1	10.4			99.63%	A		
1	1969	43	25	55.6	80.6	1.5	0.1	2.6	1.7	5.8	78.0	14.0			99.77%	A		
2	1969	87	25	141.8	166.8	1.5	0.1	1.8	1.7	5.1	164.8	32.9			99.93%	A		
3	1969	97	25	251.6	276.6	1.5	0.1	0.7	1.7	3.9	275.5	71.1			99.98%	A		
4	1969	31	25	255.6	280.6	1.5	0.1	0.7	1.7	3.9	279.5	71.5			99.98%	A		
5	1969	1	25	149.2	174.2	1.5	0.1	1.5	1.7	4.7	172.5	37.2			99.94%	A		
6	1969		21	53.5	74.5	1.5	0.1	1.5	1.7	4.7	72.7	15.8			99.84%	A		
7	1969	0	17	0.1	17.1	1.5	0.1	1.6	1.7	4.8	15.3	3.5			7.56%	A		
8	1969	0	12	0.1	12.1	1.5	0.1	1.5	1.7	4.7	10.3	2.6			12.32%	A		
9	1969	1	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7			10.74%	A		
10	1969	8	4	0.1	4.1	1.5	0.1	1.5	1.7	4.8	2.3	0.9	5.52%	1 853	10.22%	A	99.87%	A
11	1969	50	7	31.4	38.4	1.5	0.1	1.7	1.7	4.9	36.5	7.8			99.70%	A		
12	1969	16	25	62.8	87.8	1.5	0.1	2.5	1.7	5.7	85.2	15.3			99.79%	A		
1	1970	64	25	91.1	116.1	1.5	0.1	2.6	1.7	5.8	113.5	20.1			99.86%	A		
2	1970	67	25	166.2	191.2	1.5	0.1	1.8	1.7	5.1	189.2	37.7			99.94%	A		
3	1970	67	25	211.5	236.5	1.5	0.1	0.7	1.7	3.9	235.4	60.8			99.97%	A		
4	1970	8	25	174.6	199.6	1.5	0.1	0.7	1.7	3.9	198.5	50.9			99.97%	A		
5	1970	0	25	76.7	101.7	1.5	0.1	1.5	1.7	4.7	100.0	21.7			99.89%	A		
6	1970	0	21	12.3	33.3	1.5	0.1	1.5	1.7	4.7	31.6	7.0			99.28%	A		
7	1970	0	17	0.1	17.1	1.5	0.1	1.6	1.7	4.8	15.3	3.5			7.56%	A		
8	1970	0	12	0.1	12.1	1.5	0.1	1.5	1.7	4.7	10.3	2.6			12.32%	A		
9	1970	0	8	0.1	8.1	1.5	0.1	1.5	1.7	4.8	6.3	1.7			10.74%	A		
10	1970	23	4	0.1	4.1	1.5	0.1	1.5	1.7	4.8	2.3	0.9	5.43%	1 885	10.22%	A	99.87%	A
11	1970	14	22	10.4	32.4	1.5	0.1	1.7	1.7	4.9	30.5	6.6			99.09%	A		
12	1970	21	25	13.1	38.1	1.5	0.1	2.5	1.7	5.7	35.5	6.6			99.01%	A		
1	1971	21	25	23.6	48.6	1.5	0.1	2.6	1.7	5.8	46.0	8.4			99.45%	A		
2	1971	49	25	59.4	84.4	1.5	0.1	1.8	1.7	5.1	82.3	16.6			99.83%	A		
3	1971	120	25	186.3	211.3	1.5	0.1	0.7	1.7	3.9	210.2	54.4			99.97%	A		
4	1971	50	25	266.9	291.9	1.5	0.1	0.7	1.7	3.9	290.8	74.4			99.98%	A		
5	1971	2	25	179.8	204.8	1.5	0.1	1.5	1.7	4.7	203.1	43.8			99.95%	A		
6	1971	0	23	72.3	95.3	1.5	0.1	1.5	1.7	4.7	93.5	20.2			99.88%	A		
7	1971		19	9.8	28.8	1.5	0.1	1.6	1.7	4.8	26.9	6.0			99.06%	A		

8	1971	0	14	0.1	14.1	1.5	0.1	1.5	1.7		4.7	12.3	3.0			12.32%	A		
9	1971	0	10	0.1	10.1	1.5	0.1	1.5	1.7		4.8	8.3	2.1			10.74%	A		
10	1971	2	6	0.1	6.1	1.5	0.1	1.5	1.7		4.8	4.3	1.3			10.22%	A		
11	1971	1	3	0.1	3.1	1.5	0.1	1.7	1.7		4.9	1.2	0.6			5.06%	A		
12	1971	4	-1	0.1	- 0.9	1.5	0.1	2.5	1.7		5.7	- 3.5	- 0.2						
1	1972	5	-2	12.8	10.8	1.5	0.1	2.6	1.7		5.8	8.2	1.9			98.98%	A		
2	1972	0	-2	4.1	2.1	1.5	0.1	1.8	1.7		5.1	0.1	0.4			97.51%	A		
3	1972	7	-6	6.1	0.1	1.5	0.1	0.7	1.7		3.9	- 1.0	0.0			99.10%	A		
4	1972	10	-2	51.6	49.6	1.5	0.1	0.7	1.7		3.9	48.4	12.6	60.70%	169	99.89%	A	99.09%	A
5	1972	0	4	46.0	50.0	1.5	0.1	1.5	1.7		4.7	48.3	10.7			99.81%	A		
6	1972	0		0.1	0.1	1.5	0.1	1.5	1.7		4.7	- 1.7	0.0			11.85%	A		
7	1972		-4	0.1	- 3.9	1.5	0.1	1.6	1.7		4.8	- 5.7	- 0.8			7.56%	A		
8	1972	0	-9	0.1	- 8.9	1.5	0.1	1.5	1.7		4.7	- 10.7	- 1.9			12.32%	A		
9	1972	0	-13	0.1	- 12.9	1.5	0.1	1.5	1.7		4.8	- 14.7	- 2.7			10.74%	A		
10	1972	22	-17	0.1	- 16.9	1.5	0.1	1.5	1.7		4.8	- 18.7	- 3.5			10.22%	A		
11	1972	25	1	21.4	22.4	1.5	0.1	1.7	1.7		4.9	20.5	4.6			99.56%	A		
12	1972	91	21	106.3	127.3	1.5	0.1	2.5	1.7		5.7	124.8	22.2			99.88%	A		
1	1973	67	25	205.9	230.9	1.5	0.1	2.6	1.7		5.8	228.3	40.0			99.94%	A		
2	1973	24	25	188.4	213.4	1.5	0.1	1.8	1.7		5.1	211.3	42.1			99.95%	A		
3	1973	78	25	185.6	210.6	1.5	0.1	0.7	1.7		3.9	209.5	54.2			99.97%	A		
4	1973	36	25	202.6	227.6	1.5	0.1	0.7	1.7		3.9	226.5	58.0	4.57%	2 239	99.97%	A	99.90%	A
5	1973	0	25	125.2	150.2	1.5	0.1	1.5	1.7		4.7	148.5	32.1			99.93%	A		
6	1973	0	21	40.0	61.0	1.5	0.1	1.5	1.7		4.7	59.2	12.9			99.78%	A		
7	1973	0	17	0.1	17.1	1.5	0.1	1.6	1.7		4.8	15.3	3.5			7.56%	A		
8	1973	0	12	0.1	12.1	1.5	0.1	1.5	1.7		4.7	10.3	2.6			12.32%	A		
9	1973	0	8	0.1	8.1	1.5	0.1	1.5	1.7		4.8	6.3	1.7			10.74%	A		
10	1973	34	4	5.2	9.2	1.5	0.1	1.5	1.7		4.8	7.4	1.9			98.26%	A		
11	1973	16	25	28.8	53.8	1.5	0.1	1.7	1.7		4.9	51.9	11.0			99.67%	A		
12	1973	24	25	29.1	54.1	1.5	0.1	2.5	1.7		5.7	51.5	9.4			99.56%	A		
1	1974	15	25	29.7	54.7	1.5	0.1	2.6	1.7		5.8	52.1	9.5			99.56%	A		
2	1974	15	25	19.3	44.3	1.5	0.1	1.8	1.7		5.1	42.3	8.7			99.47%	A		
3	1974	124	25	126.9	151.9	1.5	0.1	0.7	1.7		3.9	150.8	39.1			99.96%	A		
4	1974	74	25	262.9	287.9	1.5	0.1	0.7	1.7		3.9	286.8	73.4	5.49%	1 863	99.98%	A	99.86%	A
5	1974	1	25	204.9	229.9	1.5	0.1	1.5	1.7		4.7	228.2	49.1			99.96%	A		
6	1974	0	22	86.0	108.0	1.5	0.1	1.5	1.7		4.7	106.2	22.8			99.90%	A		
7	1974		18	17.8	35.8	1.5	0.1	1.6	1.7		4.8	33.9	7.4			99.48%	A		
8	1974	0	13	0.1	13.1	1.5	0.1	1.5	1.7		4.7	11.3	2.8			12.32%	A		
9	1974	0	9	0.1	9.1	1.5	0.1	1.5	1.7		4.8	7.3	1.9			10.74%	A		

UH	Cuvelai
Área (km²)	52 566
População	406 887
Área irrigada (ha)	
NGR (mm)	600

Sector	Necessidades anuais de água (hm³)	
Abast. Público	7. 8	26.6%
Indústria	0.5	1.8%
Termo eléctricas		
Irrigação		
Pecuária	21.	71.7%
Volume anual turbinado (hm³)		
Hidroelectricidade		

Uso da água na UH do Cuvelai



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades (hm³)				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano médio	836.9	732.0	1 318.5	2 050.5	7. 8	. 5		21.	---	29. 3	2 045.6	70.0	1.4%	5 039	---	---	99.96%	A
Ano seco	294.4	744.0	988.7	1 732.7	7. 8	. 5		21.	---	29. 3	1 727.8	59.1	1.7%	4 258	---	---	99.95%	A
Ano muito seco	246.1	726.0	771.5	1 497.5	7. 8	. 5		21.	---	29. 3	1 492.6	51.1	2.0%	3 680	---	---	99.94%	A

Mês	Ano	Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Abast. Público	Indústria	Irrigação	Pecuária	Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
10	1944	42	63	11.7	74.7	0.6	0.0		1.8		2.4	74.3	30.6	1.37%	5 258	99.66%	A	99.97%	A
11	1944	71	63	43.8	106.8	0.6	0.0		1.8		2.4	106.4	43.7			99.91%	A		
12	1944	79	63	83.1	146.1	0.6	0.0		1.8		2.4	145.7	59.8			99.95%	A		
1	1945	104	63	122.9	185.9	0.6	0.0		1.8		2.4	185.5	76.1			99.97%	A		
2	1945	297	63	260.8	323.8	0.6	0.0		1.8		2.4	323.4	132.6			99.98%	A		
3	1945	171	63	385.1	448.1	0.6	0.0		1.8		2.4	447.7	183.5			99.99%	A		
4	1945	4	63	293.0	356.0	0.6	0.0		1.8		2.4	355.6	145.8			99.99%	A		
5	1945	0	63	141.7	204.7	0.6	0.0		1.8		2.4	204.3	83.8			99.97%	A		
6	1945	0	61	55.0	116.0	0.6	0.0		1.8		2.4	115.6	47.5			99.93%	A		
7	1945		59	6.5	65.5	0.6	0.0		1.8		2.4	65.1	26.8			99.38%	A		
8	1945		57		57.0	0.6	0.0		1.8		2.4	56.6	23.3						
9	1945	1	55		55.0	0.6	0.0		1.8		2.4	54.6	22.5						
10	1945	10	54		54.0	0.6	0.0		1.8		2.4	53.6	22.1	1.96%	3 680	99.93%	A	99.94%	A
11	1945	71	62	61.3	123.3	0.6	0.0		1.8		2.4	122.9	50.5			99.98%	A		
12	1945	83	63	179.6	242.6	0.6	0.0		1.8		2.4	242.2	99.4			99.98%	A		
1	1946	24	63	197.7	260.7	0.6	0.0		1.8		2.4	260.3	106.8			99.98%	A		
2	1946	7	63	121.3	184.3	0.6	0.0		1.8		2.4	183.9	75.5			99.97%	A		
3	1946	36	63	90.0	153.0	0.6	0.0		1.8		2.4	152.6	62.6			99.96%	A		
4	1946	14	63	83.0	146.0	0.6	0.0		1.8		2.4	145.6	59.8			99.95%	A		
5	1946	0	63	38.5	101.5	0.6	0.0		1.8		2.4	101.1	41.6			99.90%	A		
6	1946		61		61.0	0.6	0.0		1.8		2.4	60.6	25.0						
7	1946		59		59.0	0.6	0.0		1.8		2.4	58.6	24.2						
8	1946	0	57		57.0	0.6	0.0		1.8		2.4	56.6	23.3						
9	1946	2	55		55.0	0.6	0.0		1.8		2.4	54.6	22.5						
10	1946	119	55	2.6	57.6	0.6	0.0		1.8		2.4	57.2	23.6	0.97%	7 389	98.47%	A	99.98%	A
11	1946	83	63	22.4	85.4	0.6	0.0		1.8		2.4	85.0	35.0			99.82%	A		
12	1946	617	63	137.1	200.1	0.6	0.0		1.8		2.4	199.7	81.9			99.97%	A		
1	1947	574	63	317.1	380.1	0.6	0.0		1.8		2.4	379.7	155.7			99.99%	A		
2	1947	667	63	427.2	490.2	0.6	0.0		1.8		2.4	489.8	200.7			99.99%	A		
3	1947	486	63	472.6	535.6	0.6	0.0		1.8		2.4	535.2	219.3			99.99%	A		
4	1947	320	63	421.1	484.1	0.6	0.0		1.8		2.4	483.7	198.2			99.99%	A		
5	1947	0	63	286.2	349.2	0.6	0.0		1.8		2.4	348.8	143.0			99.99%	A		
6	1947		61	135.8	196.8	0.6	0.0		1.8		2.4	196.4	80.6			99.97%	A		
7	1947		59	51.7	110.7	0.6	0.0		1.8		2.4	110.3	45.3			99.92%	A		
8	1947		57	4.6	61.6	0.6	0.0		1.8		2.4	61.2	25.2			99.12%	A		
9	1947	14	55		55.0	0.6	0.0		1.8		2.4	54.6	22.5						
10	1947	6	63		63.0	0.6	0.0		1.8		2.4	62.6	25.8						

11	1947	15	63		63.0	0.6	0.0	1.8	2.4	62.6	25.8	1.69%	4 258	99.91%	A	99.95%	A
12	1947	48	63	43.5	106.5	0.6	0.0	1.8	2.4	106.1	43.6			99.91%	A		
1	1948	50	63	109.0	172.0	0.6	0.0	1.8	2.4	171.6	70.4			99.96%	A		
2	1948	137	63	239.5	302.5	0.6	0.0	1.8	2.4	302.1	123.9			99.98%	A		
3	1948	22	63	293.9	356.9	0.6	0.0	1.8	2.4	356.5	146.2			99.99%	A		
4	1948	12	63	179.3	242.3	0.6	0.0	1.8	2.4	241.9	99.2			99.98%	A		
5	1948	2	63	92.9	155.9	0.6	0.0	1.8	2.4	155.5	63.8			99.96%	A		
6	1948		63	30.5	93.5	0.6	0.0	1.8	2.4	93.1	38.3			99.87%	A		
7	1948		61		61.0	0.6	0.0	1.8	2.4	60.6	25.0						
8	1948		59		59.0	0.6	0.0	1.8	2.4	58.6	24.2						
9	1948	0	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
10	1948	8	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5	1.84%	3 906	99.82%	A	99.94%	A
11	1948	35	60	21.8	81.8	0.6	0.0	1.8	2.4	81.4	33.5			99.92%	A		
12	1948	20	63	49.8	112.8	0.6	0.0	1.8	2.4	112.4	46.2			99.94%	A		
1	1949	40	63	68.3	131.3	0.6	0.0	1.8	2.4	130.9	53.8			99.94%	A		
2	1949	43	63	105.4	168.4	0.6	0.0	1.8	2.4	168.0	69.0			99.96%	A		
3	1949	108	63	198.0	261.0	0.6	0.0	1.8	2.4	260.6	106.9			99.98%	A		
4	1949	21	63	235.3	298.3	0.6	0.0	1.8	2.4	297.9	122.2			99.98%	A		
5	1949		63	132.5	195.5	0.6	0.0	1.8	2.4	195.1	80.0			99.97%	A		
6	1949		61	49.8	110.8	0.6	0.0	1.8	2.4	110.4	45.4			99.92%	A		
7	1949	0	59	3.5	62.5	0.6	0.0	1.8	2.4	62.1	25.6			98.86%	A		
8	1949		57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
9	1949	0	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5						
10	1949	17	53		53.0	0.6	0.0	1.8	2.4	52.6	21.7	1.10%	6 562	99.49%	A	99.98%	A
11	1949	83	63	7.9	70.9	0.6	0.0	1.8	2.4	70.4	29.0			99.84%	A		
12	1949	51	63	25.5	88.5	0.6	0.0	1.8	2.4	88.1	36.2			99.97%	A		
1	1950	436	63	146.5	209.5	0.6	0.0	1.8	2.4	209.1	85.8			99.99%	A		
2	1950	467	63	360.4	423.4	0.6	0.0	1.8	2.4	423.0	173.4			99.99%	A		
3	1950	505	63	503.1	566.1	0.6	0.0	1.8	2.4	565.7	231.8			99.99%	A		
4	1950	79	63	461.4	524.4	0.6	0.0	1.8	2.4	524.0	214.7			99.99%	A		
5	1950	2	63	262.6	325.6	0.6	0.0	1.8	2.4	325.2	133.3			99.98%	A		
6	1950		63	123.3	186.3	0.6	0.0	1.8	2.4	185.9	76.3			99.97%	A		
7	1950		61	44.7	105.7	0.6	0.0	1.8	2.4	105.3	43.3			99.91%	A		
8	1950		59	0.6	59.6	0.6	0.0	1.8	2.4	59.2	24.4			93.65%	A		
9	1950	0	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
10	1950	8	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5	1.11%	6 513	99.41%	A	99.97%	A
11	1950	89	61	6.7	67.7	0.6	0.0	1.8	2.4	67.3	27.7			99.97%	A		
12	1950	442	63	151.5	214.5	0.6	0.0	1.8	2.4	214.1	87.8			99.98%	A		
1	1951	101	63	249.1	312.1	0.6	0.0	1.8	2.4	311.7	127.8			99.99%	A		
2	1951	412	63	281.9	344.9	0.6	0.0	1.8	2.4	344.5	141.2			99.99%	A		
3	1951	274	63	366.5	429.5	0.6	0.0	1.8	2.4	429.1	175.9			99.99%	A		
4	1951	249	63	356.8	419.8	0.6	0.0	1.8	2.4	419.4	171.9			99.99%	A		
5	1951	55	63	280.8	343.8	0.6	0.0	1.8	2.4	343.4	140.8			99.99%	A		
6	1951		63	152.1	215.1	0.6	0.0	1.8	2.4	214.7	88.1			99.97%	A		
7	1951		61	60.8	121.8	0.6	0.0	1.8	2.4	121.4	49.9			99.93%	A		
8	1951		59	9.7	68.7	0.6	0.0	1.8	2.4	68.3	28.1			99.58%	A		
9	1951	0	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
10	1951	15	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5	1.75%	4 118	99.81%	A	99.95%	A
11	1951	26	63	20.8	83.8	0.6	0.0	1.8	2.4	83.4	34.3			99.96%	A		
12	1951	80	63	102.0	165.0	0.6	0.0	1.8	2.4	164.6	67.5			99.98%	A		
1	1952	33	63	161.1	224.1	0.6	0.0	1.8	2.4	223.7	91.8			99.98%	A		
2	1952	109	63	219.0	282.0	0.6	0.0	1.8	2.4	281.6	115.5			99.98%	A		
3	1952	15	63	242.0	305.0	0.6	0.0	1.8	2.4	304.6	124.9			99.98%	A		
4	1952	6	63	135.3	198.3	0.6	0.0	1.8	2.4	197.9	81.2			99.97%	A		
5	1952		63	58.7	121.7	0.6	0.0	1.8	2.4	121.3	49.8			99.93%	A		
6	1952		61	8.5	69.5	0.6	0.0	1.8	2.4	69.1	28.4			99.53%	A		
7	1952		59		59.0	0.6	0.0	1.8	2.4	58.6	24.2						

8	1952		57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
9	1952	1	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5						
10	1952	18	54		54.0	0.6	0.0	1.8	2.4	53.6	22.1	1.77%	4 071	99.90%	A	99.95%	A
11	1952	41	63	39.9	102.9	0.6	0.0	1.8	2.4	102.5	42.2						
12	1952	24	63	71.5	134.5	0.6	0.0	1.8	2.4	134.1	55.1						
1	1953	52	63	98.4	161.4	0.6	0.0	1.8	2.4	161.0	66.1						
2	1953	80	63	175.1	238.1	0.6	0.0	1.8	2.4	237.7	97.5						
3	1953	43	63	212.5	275.5	0.6	0.0	1.8	2.4	275.1	112.8						
4	1953	30	63	176.9	239.9	0.6	0.0	1.8	2.4	239.5	98.3						
5	1953	1	63	111.4	174.4	0.6	0.0	1.8	2.4	174.0	71.4						
6	1953		62	39.7	101.7	0.6	0.0	1.8	2.4	101.3	41.6						
7	1953		60		60.0	0.6	0.0	1.8	2.4	59.6	24.6						
8	1953	0	58		58.0	0.6	0.0	1.8	2.4	57.6	23.8	1.07%	6 705	98.39%	A	99.98%	A
9	1953	1	56		56.0	0.6	0.0	1.8	2.4	55.6	22.9						
10	1953	82	55	2.5	57.5	0.6	0.0	1.8	2.4	57.1	23.5						
11	1953	88	63	34.0	97.0	0.6	0.0	1.8	2.4	96.6	39.7						
12	1953	229	63	98.6	161.6	0.6	0.0	1.8	2.4	161.2	66.2						
1	1954	298	63	206.5	269.5	0.6	0.0	1.8	2.4	269.1	110.4						
2	1954	496	63	354.3	417.3	0.6	0.0	1.8	2.4	416.9	170.9						
3	1954	409	63	479.7	542.7	0.6	0.0	1.8	2.4	542.3	222.2						
4	1954	93	63	418.7	481.7	0.6	0.0	1.8	2.4	481.3	197.3						
5	1954	4	63	244.4	307.4	0.6	0.0	1.8	2.4	307.0	125.9						
6	1954		63	114.1	177.1	0.6	0.0	1.8	2.4	176.7	72.5						
7	1954		61	39.5	100.5	0.6	0.0	1.8	2.4	100.1	41.1						
8	1954		59		59.0	0.6	0.0	1.8	2.4	58.6	24.2	1.96%	3 683	99.49%	A	99.94%	A
9	1954	1	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
10	1954	9	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5						
11	1954	21	62	7.8	69.8	0.6	0.0	1.8	2.4	69.4	28.6						
12	1954	57	63	64.7	127.7	0.6	0.0	1.8	2.4	127.3	52.3						
1	1955	57	63	139.2	202.2	0.6	0.0	1.8	2.4	201.8	82.8						
2	1955	15	63	136.7	199.7	0.6	0.0	1.8	2.4	199.3	81.8						
3	1955	66	63	138.9	201.9	0.6	0.0	1.8	2.4	201.5	82.7						
4	1955	27	63	158.3	221.3	0.6	0.0	1.8	2.4	220.9	90.6						
5	1955	0	63	96.0	159.0	0.6	0.0	1.8	2.4	158.6	65.1						
6	1955		61	30.0	91.0	0.6	0.0	1.8	2.4	90.6	37.3						
7	1955	0	59		59.0	0.6	0.0	1.8	2.4	58.6	24.2	1.44%	4 984	99.77%	A	99.96%	A
8	1955		57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
9	1955	0	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5						
10	1955	30	53		53.0	0.6	0.0	1.8	2.4	52.6	21.7						
11	1955	47	63	17.7	80.7	0.6	0.0	1.8	2.4	80.3	33.0						
12	1955	87	63	58.4	121.4	0.6	0.0	1.8	2.4	121.0	49.7						
1	1956	172	63	149.0	212.0	0.6	0.0	1.8	2.4	211.6	86.8						
2	1956	131	63	228.1	291.1	0.6	0.0	1.8	2.4	290.7	119.2						
3	1956	176	63	272.3	335.3	0.6	0.0	1.8	2.4	334.9	137.3						
4	1956	97	63	282.2	345.2	0.6	0.0	1.8	2.4	344.8	141.3						
5	1956	0	63	190.5	253.5	0.6	0.0	1.8	2.4	253.1	103.8						
6	1956		61	82.3	143.3	0.6	0.0	1.8	2.4	142.9	58.7						
7	1956		59	21.7	80.7	0.6	0.0	1.8	2.4	80.3	33.0						
8	1956		57		57.0	0.6	0.0	1.8	2.4	56.6	23.3	1.54%	4 674	99.66%	A	99.96%	A
9	1956	2	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5						
10	1956	6	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5						
11	1956	62	58	11.7	69.7	0.6	0.0	1.8	2.4	69.3	28.5						
12	1956	47	63	43.4	106.4	0.6	0.0	1.8	2.4	106.0	43.6						
1	1957	150	63	105.9	168.9	0.6	0.0	1.8	2.4	168.5	69.2			99.96%	A	99.96%	A
2	1957	147	63	199.7	262.7	0.6	0.0	1.8	2.4	262.3	107.6						
3	1957	236	63	297.4	360.4	0.6	0.0	1.8	2.4	360.0	147.6						
4	1957	25	63	293.3	356.3	0.6	0.0	1.8	2.4	355.9	145.9						

5	1957	0	63	154.6	217.6	0.6	0.0	1.8	2.4	217.2	89.1			99.97%	A		
6	1957		61	62.3	123.3	0.6	0.0	1.8	2.4	122.9	50.5			99.94%	A		
7	1957	0	59	10.5	69.5	0.6	0.0	1.8	2.4	69.1	28.5			99.62%	A		
8	1957	0	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
9	1957	7	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5						
10	1957	45	59	3.1	62.1	0.6	0.0	1.8	2.4	61.7	25.4	1.59%	4 534	98.72%	A	99.96%	A
11	1957	141	63	77.7	140.7	0.6	0.0	1.8	2.4	140.3	57.6			99.95%	A		
12	1957	129	63	169.1	232.1	0.6	0.0	1.8	2.4	231.7	95.0			99.98%	A		
1	1958	137	63	217.2	280.2	0.6	0.0	1.8	2.4	279.8	114.7			99.98%	A		
2	1958	81	63	219.8	282.8	0.6	0.0	1.8	2.4	282.4	115.8			99.98%	A		
3	1958	98	63	197.6	260.6	0.6	0.0	1.8	2.4	260.2	106.7			99.98%	A		
4	1958	5	63	146.4	209.4	0.6	0.0	1.8	2.4	209.0	85.8			99.97%	A		
5	1958	2	63	62.0	125.0	0.6	0.0	1.8	2.4	124.6	51.2			99.94%	A		
6	1958		63	11.8	74.8	0.6	0.0	1.8	2.4	74.4	30.6			99.66%	A		
7	1958		61		61.0	0.6	0.0	1.8	2.4	60.6	25.0						
8	1958		59		59.0	0.6	0.0	1.8	2.4	58.6	24.2						
9	1958	2	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
10	1958	9	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3	1.61%	4 486	99.74%	A	99.96%	A
11	1958	66	63	15.5	78.5	0.6	0.0	1.8	2.4	78.1	32.1			99.96%	A		
12	1958	142	63	97.8	160.8	0.6	0.0	1.8	2.4	160.4	65.9			99.98%	A		
1	1959	124	63	178.5	241.5	0.6	0.0	1.8	2.4	241.1	98.9			99.98%	A		
2	1959	146	63	224.6	287.6	0.6	0.0	1.8	2.4	287.2	117.8			99.98%	A		
3	1959	71	63	223.9	286.9	0.6	0.0	1.8	2.4	286.5	117.5			99.98%	A		
4	1959	63	63	175.4	238.4	0.6	0.0	1.8	2.4	238.0	97.6			99.98%	A		
5	1959	14	63	117.9	180.9	0.6	0.0	1.8	2.4	180.5	74.1			99.97%	A		
6	1959		63	49.9	112.9	0.6	0.0	1.8	2.4	112.5	46.2			99.92%	A		
7	1959	0	61	3.7	64.7	0.6	0.0	1.8	2.4	64.3	26.5			98.91%	A		
8	1959	0	59		59.0	0.6	0.0	1.8	2.4	58.6	24.2						
9	1959	1	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
10	1959	8	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5	1.59%	4 533	99.37%	A	99.96%	A
11	1959	49	61	6.4	67.4	0.6	0.0	1.8	2.4	67.0	27.6			99.94%	A		
12	1959	118	63	69.8	132.8	0.6	0.0	1.8	2.4	132.4	54.4			99.97%	A		
1	1960	127	63	150.1	213.1	0.6	0.0	1.8	2.4	212.7	87.3			99.98%	A		
2	1960	204	63	241.2	304.2	0.6	0.0	1.8	2.4	303.8	124.6			99.99%	A		
3	1960	84	63	274.1	337.1	0.6	0.0	1.8	2.4	336.7	138.0			99.98%	A		
4	1960	47	63	202.8	265.8	0.6	0.0	1.8	2.4	265.4	108.8			99.97%	A		
5	1960	5	63	119.5	182.5	0.6	0.0	1.8	2.4	182.1	74.7			99.91%	A		
6	1960		63	45.4	108.4	0.6	0.0	1.8	2.4	108.0	44.4			96.19%	A		
7	1960	0	61	1.1	62.1	0.6	0.0	1.8	2.4	61.7	25.4						
8	1960	0	59		59.0	0.6	0.0	1.8	2.4	58.6	24.2						
9	1960	3	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
10	1960	31	58		58.0	0.6	0.0	1.8	2.4	57.6	23.8	1.55%	4 660	99.86%	A	99.96%	A
11	1960	67	63	29.1	92.1	0.6	0.0	1.8	2.4	91.7	37.7			99.94%	A		
12	1960	61	63	63.2	126.2	0.6	0.0	1.8	2.4	125.8	51.7			99.96%	A		
1	1961	109	63	103.6	166.6	0.6	0.0	1.8	2.4	166.2	68.2			99.97%	A		
2	1961	119	63	159.7	222.7	0.6	0.0	1.8	2.4	222.3	91.2			99.98%	A		
3	1961	191	63	235.1	298.1	0.6	0.0	1.8	2.4	297.7	122.1			99.99%	A		
4	1961	94	63	268.4	331.4	0.6	0.0	1.8	2.4	331.0	135.7			99.98%	A		
5	1961	11	63	186.8	249.8	0.6	0.0	1.8	2.4	249.4	102.3			99.95%	A		
6	1961	0	63	86.8	149.8	0.6	0.0	1.8	2.4	149.4	61.3			99.83%	A		
7	1961	0	61	24.2	85.2	0.6	0.0	1.8	2.4	84.8	34.9						
8	1961		59		59.0	0.6	0.0	1.8	2.4	58.6	24.2						
9	1961	0	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
10	1961	5	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5			99.84%	A		
11	1961	41	58	24.8	82.8	0.6	0.0	1.8	2.4	82.4	33.9			99.96%	A		
12	1961	49	63	89.2	152.2	0.6	0.0	1.8	2.4	151.8	62.3			99.97%	A		
1	1962	58	63	143.6	206.6	0.6	0.0	1.8	2.4	206.2	84.6						

2	1962	68	63	195.4	258.4	0.6	0.0	1.8	2.4	258.0	105.8	1.79%	4 024	99.98%	A	99.95%	A
3	1962	31	63	197.4	260.4	0.6	0.0	1.8	2.4	260.0	106.6			99.98%	A		
4	1962	25	63	148.9	211.9	0.6	0.0	1.8	2.4	211.5	86.8			99.97%	A		
5	1962	0	63	88.6	151.6	0.6	0.0	1.8	2.4	151.2	62.1			99.95%	A		
6	1962		61	25.3	86.3	0.6	0.0	1.8	2.4	85.9	35.3			99.84%	A		
7	1962	0	59		59.0	0.6	0.0	1.8	2.4	58.6	24.2						
8	1962	2	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
9	1962	1	56		56.0	0.6	0.0	1.8	2.4	55.6	22.9						
10	1962	35	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5	1.28%	5 644	99.71%	A	99.97%	A
11	1962	81	63	13.8	76.8	0.6	0.0	1.8	2.4	76.4	31.4			99.93%	A		
12	1962	143	63	57.6	120.6	0.6	0.0	1.8	2.4	120.2	49.4						
1	1963	420	63	192.1	255.1	0.6	0.0	1.8	2.4	254.7	104.5			99.98%	A		
2	1963	203	63	296.3	359.3	0.6	0.0	1.8	2.4	358.9	147.1			99.99%	A		
3	1963	366	63	329.8	392.8	0.6	0.0	1.8	2.4	392.4	160.8			99.99%	A		
4	1963	146	63	336.6	399.6	0.6	0.0	1.8	2.4	399.2	163.6			99.99%	A		
5	1963	0	63	215.9	278.9	0.6	0.0	1.8	2.4	278.5	114.2			99.98%	A		
6	1963		61	96.5	157.5	0.6	0.0	1.8	2.4	157.1	64.5			99.96%	A		
7	1963	0	59	29.7	88.7	0.6	0.0	1.8	2.4	88.3	36.3	1.63%	4 405	99.86%	A	99.95%	A
8	1963		57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
9	1963	3	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5						
10	1963	7	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5						
11	1963	80	60	68.5	128.5	0.6	0.0	1.8	2.4	128.1	52.6			99.94%	A		
12	1963	44	63	153.8	216.8	0.6	0.0	1.8	2.4	216.4	88.8			99.97%	A		
1	1964	65	63	181.2	244.2	0.6	0.0	1.8	2.4	243.8	100.0			99.98%	A		
2	1964	64	63	220.8	283.8	0.6	0.0	1.8	2.4	283.4	116.2			99.98%	A		
3	1964	41	63	216.9	279.9	0.6	0.0	1.8	2.4	279.5	114.6			99.98%	A		
4	1964	5	63	149.2	212.2	0.6	0.0	1.8	2.4	211.8	86.9			99.97%	A		
5	1964	0	63	64.7	127.7	0.6	0.0	1.8	2.4	127.3	52.3			99.94%	A		
6	1964	0	61	12.4	73.4	0.6	0.0	1.8	2.4	73.0	30.0			99.68%	A		
7	1964		59		59.0	0.6	0.0	1.8	2.4	58.6	24.2	1.34%	5 374			99.97%	A
8	1964	0	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
9	1964	0	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5						
10	1964	16	53		53.0	0.6	0.0	1.8	2.4	52.6	21.7						
11	1964	34	63	2.8	65.8	0.6	0.0	1.8	2.4	65.4	26.9			98.57%	A		
12	1964	91	63	44.8	107.8	0.6	0.0	1.8	2.4	107.4	44.2			99.91%	A		
1	1965	179	63	147.8	210.8	0.6	0.0	1.8	2.4	210.4	86.3			99.97%	A		
2	1965	271	63	305.5	368.5	0.6	0.0	1.8	2.4	368.1	150.9			99.99%	A		
3	1965	134	63	375.6	438.6	0.6	0.0	1.8	2.4	438.2	179.6			99.99%	A		
4	1965	66	63	298.6	361.6	0.6	0.0	1.8	2.4	361.2	148.1			99.99%	A		
5	1965		63	181.1	244.1	0.6	0.0	1.8	2.4	243.7	99.9			99.98%	A		
6	1965	2	61	78.0	139.0	0.6	0.0	1.8	2.4	138.6	56.9			99.95%	A		
7	1965		61	20.4	81.4	0.6	0.0	1.8	2.4	81.0	33.4			99.80%	A		
8	1965		59		59.0	0.6	0.0	1.8	2.4	58.6	24.2	1.50%	4 804			99.96%	A
9	1965	14	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
10	1965	9	63		63.0	0.6	0.0	1.8	2.4	62.6	25.8						
11	1965	100	63	33.8	96.8	0.6	0.0	1.8	2.4	96.4	39.6			99.88%	A		
12	1965	102	63	106.5	169.5	0.6	0.0	1.8	2.4	169.1	69.4			99.96%	A		
1	1966	278	63	240.6	303.6	0.6	0.0	1.8	2.4	303.2	124.3			99.98%	A		
2	1966	29	63	288.1	351.1	0.6	0.0	1.8	2.4	350.7	143.8			99.99%	A		
3	1966	141	63	227.4	290.4	0.6	0.0	1.8	2.4	290.0	118.9			99.98%	A		
4	1966	20	63	195.5	258.5	0.6	0.0	1.8	2.4	258.1	105.9			99.98%	A		
5	1966	0	63	96.8	159.8	0.6	0.0	1.8	2.4	159.4	65.4			99.96%	A		
6	1966		61	30.0	91.0	0.6	0.0	1.8	2.4	90.6	37.2			99.87%	A		
7	1966		59		59.0	0.6	0.0	1.8	2.4	58.6	24.2						
8	1966	0	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
9	1966	7	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5						
10	1966	30	60		60.0	0.6	0.0	1.8	2.4	59.6	24.6						

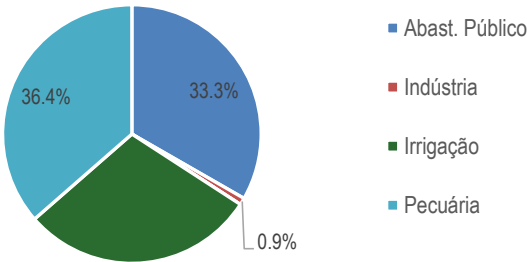
11	1966	20	63	3.8	66.8	0.6	0.0	1.8	2.4	66.4	27.4	1.42%	5 054	98.95%	A	99.96%	A
12	1966	93	63	38.2	101.2	0.6	0.0	1.8	2.4	100.8	41.4			99.90%	A		
1	1967	88	63	97.4	160.4	0.6	0.0	1.8	2.4	160.0	65.7			99.96%	A		
2	1967	241	63	207.9	270.9	0.6	0.0	1.8	2.4	270.5	110.9			99.98%	A		
3	1967	192	63	333.9	396.9	0.6	0.0	1.8	2.4	396.5	162.5			99.99%	A		
4	1967	84	63	318.8	381.8	0.6	0.0	1.8	2.4	381.4	156.4			99.99%	A		
5	1967	1	63	203.4	266.4	0.6	0.0	1.8	2.4	266.0	109.1			99.98%	A		
6	1967		62	90.0	152.0	0.6	0.0	1.8	2.4	151.6	62.3			99.96%	A		
7	1967		60	26.0	86.0	0.6	0.0	1.8	2.4	85.6	35.2			99.85%	A		
8	1967	0	58		58.0	0.6	0.0	1.8	2.4	57.6	23.8						
9	1967	1	56		56.0	0.6	0.0	1.8	2.4	55.6	22.9						
10	1967	41	54		54.0	0.6	0.0	1.8	2.4	53.6	22.1	1.10%	6 528	99.96%	A	99.97%	A
11	1967	382	63	111.6	174.6	0.6	0.0	1.8	2.4	174.2	71.5			99.99%	A		
12	1967	355	63	286.2	349.2	0.6	0.0	1.8	2.4	348.8	143.0			99.99%	A		
1	1968	332	63	367.2	430.2	0.6	0.0	1.8	2.4	429.8	176.2			99.99%	A		
2	1968	144	63	344.7	407.7	0.6	0.0	1.8	2.4	407.3	167.0			99.99%	A		
3	1968	287	63	311.0	374.0	0.6	0.0	1.8	2.4	373.6	153.1			99.99%	A		
4	1968	42	63	264.6	327.6	0.6	0.0	1.8	2.4	327.2	134.2			99.98%	A		
5	1968	34	63	149.2	212.2	0.6	0.0	1.8	2.4	211.8	86.9			99.97%	A		
6	1968		63	71.1	134.1	0.6	0.0	1.8	2.4	133.7	54.9			99.94%	A		
7	1968		61	15.5	76.5	0.6	0.0	1.8	2.4	76.1	31.3			99.74%	A		
8	1968		59		59.0	0.6	0.0	1.8	2.4	58.6	24.2						
9	1968	1	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
10	1968	12	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5	1.33%	5 397	99.91%	A	99.97%	A
11	1968	118	63	44.8	107.8	0.6	0.0	1.8	2.4	107.4	44.1			99.97%	A		
12	1968	92	63	117.9	180.9	0.6	0.0	1.8	2.4	180.5	74.1			99.98%	A		
1	1969	140	63	168.6	231.6	0.6	0.0	1.8	2.4	231.2	94.8			99.98%	A		
2	1969	167	63	239.5	302.5	0.6	0.0	1.8	2.4	302.1	123.9			99.98%	A		
3	1969	205	63	315.0	378.0	0.6	0.0	1.8	2.4	377.6	154.8			99.99%	A		
4	1969	61	63	303.7	366.7	0.6	0.0	1.8	2.4	366.3	150.1			99.99%	A		
5	1969	0	63	181.0	244.0	0.6	0.0	1.8	2.4	243.6	99.9			99.98%	A		
6	1969		61	77.0	138.0	0.6	0.0	1.8	2.4	137.6	56.5			99.95%	A		
7	1969		59	18.7	77.7	0.6	0.0	1.8	2.4	77.3	31.8			99.79%	A		
8	1969	2	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
9	1969	1	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
10	1969	24	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5	1.35%	5 348	99.94%	A	99.97%	A
11	1969	144	63	65.5	128.5	0.6	0.0	1.8	2.4	128.1	52.6			99.97%	A		
12	1969	87	63	142.4	205.4	0.6	0.0	1.8	2.4	205.0	84.1			99.98%	A		
1	1970	229	63	226.3	289.3	0.6	0.0	1.8	2.4	288.9	118.5			99.99%	A		
2	1970	182	63	331.7	394.7	0.6	0.0	1.8	2.4	394.3	161.6			99.99%	A		
3	1970	101	63	320.7	383.7	0.6	0.0	1.8	2.4	383.3	157.1			99.99%	A		
4	1970	12	63	220.3	283.3	0.6	0.0	1.8	2.4	282.9	116.0			99.98%	A		
5	1970	0	63	106.0	169.0	0.6	0.0	1.8	2.4	168.6	69.2			99.96%	A		
6	1970	0	61	35.0	96.0	0.6	0.0	1.8	2.4	95.6	39.3			99.89%	A		
7	1970		59		59.0	0.6	0.0	1.8	2.4	58.6	24.2						
8	1970		57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
9	1970	0	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5						
10	1970	33	53		53.0	0.6	0.0	1.8	2.4	52.6	21.7	1.14%	6 310	99.83%	A	99.97%	A
11	1970	116	63	24.2	87.2	0.6	0.0	1.8	2.4	86.8	35.7			99.95%	A		
12	1970	161	63	81.6	144.6	0.6	0.0	1.8	2.4	144.2	59.2			99.98%	A		
1	1971	279	63	167.1	230.1	0.6	0.0	1.8	2.4	229.7	94.2			99.99%	A		
2	1971	634	63	369.6	432.6	0.6	0.0	1.8	2.4	432.2	177.1			99.99%	A		
3	1971	214	63	475.2	538.2	0.6	0.0	1.8	2.4	537.8	220.4			99.99%	A		
4	1971	131	63	359.2	422.2	0.6	0.0	1.8	2.4	421.8	172.9			99.99%	A		
5	1971	1	63	223.5	286.5	0.6	0.0	1.8	2.4	286.1	117.3			99.98%	A		
6	1971	1	62	101.4	163.4	0.6	0.0	1.8	2.4	163.0	66.9			99.96%	A		
7	1971		61	32.7	93.7	0.6	0.0	1.8	2.4	93.3	38.4			99.88%	A		

8	1971		59		59.0	0.6	0.0	1.8	2.4	58.6	24.2						
9	1971	0	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
10	1971	5	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5	1.77%	4 058	97.97%	A	99.95%	A
11	1971	20	58	2.0	60.0	0.6	0.0	1.8	2.4	59.6	24.6						
12	1971	43	63	44.6	107.6	0.6	0.0	1.8	2.4	107.1	44.0						
1	1972	72	63	126.3	189.3	0.6	0.0	1.8	2.4	188.9	77.5						
2	1972	22	63	153.5	216.5	0.6	0.0	1.8	2.4	216.1	88.7						
3	1972	91	63	182.1	245.1	0.6	0.0	1.8	2.4	244.7	100.4						
4	1972	35	63	220.2	283.2	0.6	0.0	1.8	2.4	282.8	116.0						
5	1972	0	63	139.9	202.9	0.6	0.0	1.8	2.4	202.5	83.1						
6	1972		61	53.9	114.9	0.6	0.0	1.8	2.4	114.5	47.1						
7	1972		59	5.8	64.8	0.6	0.0	1.8	2.4	64.4	26.5						
8	1972		57		57.0	0.6	0.0	1.8	2.4	56.6	23.3						
9	1972	0	55		55.0	0.6	0.0	1.8	2.4	54.6	22.5	1.49%	4 818	99.52%	A	99.96%	A
10	1972	29	53		53.0	0.6	0.0	1.8	2.4	52.6	21.7						
11	1972	30	63	8.4	71.4	0.6	0.0	1.8	2.4	71.0	29.2						
12	1972	144	63	73.3	136.3	0.6	0.0	1.8	2.4	135.9	55.8						
1	1973	94	63	150.2	213.2	0.6	0.0	1.8	2.4	212.8	87.3						
2	1973	86	63	160.0	223.0	0.6	0.0	1.8	2.4	222.6	91.3						
3	1973	268	63	256.0	319.0	0.6	0.0	1.8	2.4	318.6	130.6						
4	1973	55	63	304.0	367.0	0.6	0.0	1.8	2.4	366.6	150.3						
5	1973	2	63	178.8	241.8	0.6	0.0	1.8	2.4	241.4	99.0						
6	1973	0	63	76.8	139.8	0.6	0.0	1.8	2.4	139.4	57.2						
7	1973		61	18.6	79.6	0.6	0.0	1.8	2.4	79.2	32.6						
8	1973		59		59.0	0.6	0.0	1.8	2.4	58.6	24.2						
9	1973	0	57		57.0	0.6	0.0	1.8	2.4	56.6	23.3	1.33%	5 403	99.77%	A	99.97%	A
10	1973	80	55	17.5	72.5	0.6	0.0	1.8	2.4	72.1	29.7						
11	1973	29	63	47.4	110.4	0.6	0.0	1.8	2.4	110.0	45.2						
12	1973	86	63	64.2	127.2	0.6	0.0	1.8	2.4	126.8	52.1						
1	1974	174	63	152.9	215.9	0.6	0.0	1.8	2.4	215.5	88.4						
2	1974	114	63	222.9	285.9	0.6	0.0	1.8	2.4	285.5	117.1						
3	1974	160	63	251.2	314.2	0.6	0.0	1.8	2.4	313.8	128.7						
4	1974	167	63	297.8	360.8	0.6	0.0	1.8	2.4	360.4	147.7						
5	1974	5	63	242.6	305.6	0.6	0.0	1.8	2.4	305.2	125.1						
6	1974	2	63	115.2	178.2	0.6	0.0	1.8	2.4	177.8	73.0						
7	1974		63	41.3	104.3	0.6	0.0	1.8	2.4	103.9	42.7						
8	1974	3	61	0.3	61.3	0.6	0.0	1.8	2.4	60.9	25.1						
9	1974	2	62		62.0	0.6	0.0	1.8	2.4	61.6	25.4						

UH	Cubango
Área (km ²)	151 461
População	557 983
Área irrigada (ha)	1 589
NGR (mm)	750

Sector	Necessidades anuais de água (hm ³)	
Abast. Público	10.8	33.3%
Indústria	0.3	0.9%
Termo eléctricas		
Irrigação	9.5	29.4%
Pecuária	11.8	36.4%
Volume anual turbinado (hm ³)		
Hidroelectricidade		

Uso da água na UH do Cubango



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm ³)	Águas subterâneas (hm ³)	Escoamentos (hm ³)	Disponibilidades (hm ³)	Necessidades (hm ³)				Transf. de água transfronteiriça (hm ³)	Total dos usos consumptíveis (hm ³)	Balanço (hm ³)	Ratio Disp. Nec.	IUP (%)	IP m ³ /ano.hab	Classe de Gestão Ecológica		
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual	
Ano médio	4 825.6	4 356.0	6 799.9	11 155.9	10. 8	. 3	9. 5	11. 8	---	32. 4	11 144.2	344.1	0.3%	19 993	---	---	99.83% A
Ano seco	4 531.2	4 356.0	5 603.2	9 959.2	10. 8	. 3	9. 5	11. 8	---	32. 4	9 947.5	307.2	0.3%	17 848	---	---	99.79% A
Ano muito seco	4 061.9	4 356.0	4 850.6	9 206.6	10. 8	. 3	9. 5	11. 8	---	32. 4	9 195.0	284.0	0.4%	16 500	---	---	99.76% A

Mês	Ano		Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Abast. Público	Indústria	Irrigação	Pecuária	Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Mensal	Anual	
10	1944	300	363	294.7	657.7	0.9	0.0	1.6	1.0		3.5	656.2	189.3	0.30%	19 481	99.47%	A	99.82%	A
11	1944	518	363	343.0	706.0	0.9	0.0	1.0	1.0		2.9	704.8	242.3			99.67%	A		
12	1944	432	363	445.9	808.9	0.9	0.0	0.5	1.0		2.4	808.2	332.3			99.83%	A		
1	1945	797	363	515.4	878.4	0.9	0.0	0.2	1.0		2.1	877.9	423.9			99.91%	A		
2	1945	1039	363	698.9	1 061.9	0.9	0.0	0.1	1.0		2.0	1 061.5	529.1			99.94%	A		
3	1945	871	363	908.3	1 271.3	0.9	0.0	0.1	1.0		2.1	1 270.9	618.1			99.95%	A		
4	1945	82	363	972.1	1 335.1	0.9	0.0	0.6	1.0		2.6	1 334.2	522.9			99.91%	A		
5	1945	7	363	760.9	1 123.9	0.9	0.0	1.0	1.0		2.9	1 122.8	385.6			99.85%	A		
6	1945	0	363	575.7	938.7	0.9	0.0	1.0	1.0		2.9	937.6	324.5			99.81%	A		
7	1945		363	432.7	795.7	0.9	0.0	0.9	1.0		2.8	794.7	281.1			99.75%	A		
8	1945		363	323.8	686.8	0.9	0.0	1.0	1.0		2.9	685.7	233.8	99.65%	A				
9	1945	28	363	242.4	605.4	0.9	0.0	1.4	1.0		3.3	603.9	181.6	99.40%	A				
10	1945	282	363	202.7	565.7	0.9	0.0	1.6	1.0		3.5	564.1	162.8	0.30%	19 243	99.23%	A	99.82%	A
11	1945	910	363	287.3	650.3	0.9	0.0	1.0	1.0		2.9	649.2	223.2			99.61%	A		
12	1945	982	363	559.2	922.2	0.9	0.0	0.5	1.0		2.4	921.4	378.8			99.87%	A		
1	1946	527	363	765.6	1 128.6	0.9	0.0	0.2	1.0		2.1	1 128.2	544.7			99.94%	A		
2	1946	375	363	767.5	1 130.5	0.9	0.0	0.1	1.0		2.0	1 130.1	563.3			99.95%	A		
3	1946	846	363	744.0	1 107.0	0.9	0.0	0.1	1.0		2.1	1 106.6	538.2			99.94%	A		
4	1946	249	363	847.9	1 210.9	0.9	0.0	0.6	1.0		2.6	1 210.1	474.3			99.90%	A		
5	1946	3	363	720.6	1 083.6	0.9	0.0	1.0	1.0		2.9	1 082.4	371.7			99.84%	A		
6	1946		363	543.8	906.8	0.9	0.0	1.0	1.0		2.9	905.6	313.4			99.80%	A		
7	1946		363	408.3	771.3	0.9	0.0	0.9	1.0		2.8	770.2	272.5			99.74%	A		
8	1946	0	363	305.2	668.2	0.9	0.0	1.0	1.0		2.9	667.1	227.5	99.62%	A				
9	1946	43	363	229.0	592.0	0.9	0.0	1.4	1.0		3.3	590.6	177.6	99.36%	A				
10	1946	805	363	210.3	573.3	0.9	0.0	1.6	1.0		3.5	571.8	165.0	0.28%	21 095	99.25%	A	99.84%	A
11	1946	686	363	350.4	713.4	0.9	0.0	1.0	1.0		2.9	712.3	244.9			99.68%	A		
12	1946	1158	363	447.7	810.7	0.9	0.0	0.5	1.0		2.4	810.0	333.1			99.83%	A		
1	1947	1931	363	649.2	1 012.2	0.9	0.0	0.2	1.0		2.1	1 011.7	488.5			99.93%	A		
2	1947	1411	363	950.0	1 313.0	0.9	0.0	0.1	1.0		2.0	1 312.6	654.2			99.96%	A		
3	1947	1064	363	1055.5	1 418.5	0.9	0.0	0.1	1.0		2.1	1 418.1	689.7			99.96%	A		
4	1947	443	363	1040.4	1 403.4	0.9	0.0	0.6	1.0		2.6	1 402.5	549.6			99.92%	A		
5	1947	8	363	881.2	1 244.2	0.9	0.0	1.0	1.0		2.9	1 243.0	426.8			99.87%	A		
6	1947		363	666.6	1 029.6	0.9	0.0	1.0	1.0		2.9	1 028.5	355.9			99.83%	A		
7	1947		363	501.7	864.7	0.9	0.0	0.9	1.0		2.8	863.7	305.5			99.79%	A		
8	1947		363	376.3	739.3	0.9	0.0	1.0	1.0		2.9	738.1	251.7	99.70%	A				
9	1947	130	363	285.3	648.3	0.9	0.0	1.4	1.0		3.3	646.9	194.5	99.49%	A				
10	1947	159	363	247.9	610.9	0.9	0.0	1.6	1.0		3.5	609.3	175.8			99.37%	A		

11	1947	396	363	255.4	618.4	0.9	0.0	1.0	1.0	2.9	617.3	212.3	0.30%	19 654	99.56%	A	99.83%	A
12	1947	816	363	359.6	722.6	0.9	0.0	0.5	1.0	2.4	721.9	296.9			99.79%	A		
1	1948	844	363	576.4	939.4	0.9	0.0	0.2	1.0	2.1	938.9	453.3			99.92%	A		
2	1948	1253	363	771.6	1 134.6	0.9	0.0	0.1	1.0	2.0	1 134.2	565.3			99.95%	A		
3	1948	499	363	1013.7	1 376.7	0.9	0.0	0.1	1.0	2.1	1 376.3	669.3			99.96%	A		
4	1948	249	363	940.6	1 303.6	0.9	0.0	0.6	1.0	2.6	1 302.8	510.6			99.91%	A		
5	1948	22	363	792.1	1 155.1	0.9	0.0	1.0	1.0	2.9	1 154.0	396.3			99.86%	A		
6	1948		363	604.4	967.4	0.9	0.0	1.0	1.0	2.9	966.2	334.4			99.82%	A		
7	1948	0	363	454.4	817.4	0.9	0.0	0.9	1.0	2.8	816.3	288.8			99.77%	A		
8	1948		363	340.3	703.3	0.9	0.0	1.0	1.0	2.9	702.1	239.4			99.66%	A		
9	1948	14	363	254.2	617.2	0.9	0.0	1.4	1.0	3.3	615.7	185.2			99.43%	A		
10	1948	115	363	202.5	565.5	0.9	0.0	1.6	1.0	3.5	563.9	162.8	0.33%	17 853	99.22%	A	99.79%	A
11	1948	373	363	242.2	605.2	0.9	0.0	1.0	1.0	2.9	604.1	207.7			99.54%	A		
12	1948	139	363	390.3	753.3	0.9	0.0	0.5	1.0	2.4	752.5	309.5			99.81%	A		
1	1949	421	363	401.7	764.7	0.9	0.0	0.2	1.0	2.1	764.2	369.0			99.89%	A		
2	1949	376	363	557.8	920.8	0.9	0.0	0.1	1.0	2.0	920.4	458.8			99.93%	A		
3	1949	715	363	681.3	1 044.3	0.9	0.0	0.1	1.0	2.1	1 043.8	507.7			99.93%	A		
4	1949	85	363	902.6	1 265.6	0.9	0.0	0.6	1.0	2.6	1 264.7	495.7			99.91%	A		
5	1949	0	363	726.8	1 089.8	0.9	0.0	1.0	1.0	2.9	1 088.7	373.9			99.84%	A		
6	1949	0	363	547.5	910.5	0.9	0.0	1.0	1.0	2.9	909.4	314.7			99.80%	A		
7	1949	1	363	411.3	774.3	0.9	0.0	0.9	1.0	2.8	773.2	273.5			99.74%	A		
8	1949	6	363	308.4	671.4	0.9	0.0	1.0	1.0	2.9	670.3	228.6			99.63%	A		
9	1949	9	363	233.2	596.2	0.9	0.0	1.4	1.0	3.3	594.8	178.9			99.37%	A		
10	1949	135	363	184.0	547.0	0.9	0.0	1.6	1.0	3.5	545.4	157.4	0.30%	19 386	99.15%	A	99.82%	A
11	1949	481	363	203.2	566.2	0.9	0.0	1.0	1.0	2.9	565.1	194.3			99.45%	A		
12	1949	471	363	329.6	692.6	0.9	0.0	0.5	1.0	2.4	691.8	284.5			99.77%	A		
1	1950	1066	363	453.4	816.4	0.9	0.0	0.2	1.0	2.1	815.9	394.0			99.90%	A		
2	1950	846	363	729.1	1 092.1	0.9	0.0	0.1	1.0	2.0	1 091.7	544.2			99.94%	A		
3	1950	1147	363	883.0	1 246.0	0.9	0.0	0.1	1.0	2.1	1 245.6	605.8			99.95%	A		
4	1950	200	363	1048.7	1 411.7	0.9	0.0	0.6	1.0	2.6	1 410.8	552.9			99.92%	A		
5	1950	2	363	857.3	1 220.3	0.9	0.0	1.0	1.0	2.9	1 219.2	418.6			99.87%	A		
6	1950		363	647.6	1 010.6	0.9	0.0	1.0	1.0	2.9	1 009.5	349.3			99.83%	A		
7	1950		363	487.2	850.2	0.9	0.0	0.9	1.0	2.8	849.2	300.4			99.78%	A		
8	1950	0	363	365.3	728.3	0.9	0.0	1.0	1.0	2.9	727.1	247.9			99.69%	A		
9	1950	4	363	272.8	635.8	0.9	0.0	1.4	1.0	3.3	634.3	190.7			99.47%	A		
10	1950	99	363	206.7	569.7	0.9	0.0	1.6	1.0	3.5	568.1	164.0	0.27%	21 524	99.24%	A	99.85%	A
11	1950	569	363	192.5	555.5	0.9	0.0	1.0	1.0	2.9	554.4	190.7			99.42%	A		
12	1950	1734	363	322.2	685.2	0.9	0.0	0.5	1.0	2.4	684.5	281.5			99.77%	A		
1	1951	1253	363	653.7	1 016.7	0.9	0.0	0.2	1.0	2.1	1 016.3	490.7			99.93%	A		
2	1951	1326	363	805.4	1 168.4	0.9	0.0	0.1	1.0	2.0	1 168.0	582.2			99.95%	A		
3	1951	1568	363	944.7	1 307.7	0.9	0.0	0.1	1.0	2.1	1 307.3	635.8			99.95%	A		
4	1951	1097	363	1086.3	1 449.3	0.9	0.0	0.6	1.0	2.6	1 448.5	567.6			99.92%	A		
5	1951	277	363	1065.3	1 428.3	0.9	0.0	1.0	1.0	2.9	1 427.1	490.0			99.89%	A		
6	1951		363	864.3	1 227.3	0.9	0.0	1.0	1.0	2.9	1 226.1	424.2			99.87%	A		
7	1951		363	652.1	1 015.1	0.9	0.0	0.9	1.0	2.8	1 014.0	358.6			99.84%	A		
8	1951	5	363	490.8	853.8	0.9	0.0	1.0	1.0	2.9	852.7	290.6			99.77%	A		
9	1951	20	363	369.7	732.7	0.9	0.0	1.4	1.0	3.3	731.2	219.8			99.61%	A		
10	1951	392	363	326.0	689.0	0.9	0.0	1.6	1.0	3.5	687.4	198.3	0.31%	18 556	99.52%	A	99.81%	A
11	1951	493	363	352.1	715.1	0.9	0.0	1.0	1.0	2.9	714.0	245.5			99.68%	A		
12	1951	995	363	496.3	859.3	0.9	0.0	0.5	1.0	2.4	858.6	353.0			99.85%	A		
1	1952	760	363	600.7	963.7	0.9	0.0	0.2	1.0	2.1	963.2	465.1			99.92%	A		
2	1952	1179	363	668.2	1 031.2	0.9	0.0	0.1	1.0	2.0	1 030.8	513.8			99.94%	A		
3	1952	277	363	955.9	1 318.9	0.9	0.0	0.1	1.0	2.1	1 318.5	641.2			99.95%	A		
4	1952	148	363	752.6	1 115.6	0.9	0.0	0.6	1.0	2.6	1 114.7	436.9			99.89%	A		
5	1952	0	363	546.4	909.4	0.9	0.0	1.0	1.0	2.9	908.2	312.0			99.79%	A		
6	1952		363	386.6	749.6	0.9	0.0	1.0	1.0	2.9	748.5	259.1			99.71%	A		
7	1952		363	341.4	704.4	0.9	0.0	0.9	1.0	2.8	703.3	248.9			99.69%	A		

8	1952	1	363	311.8	674.8	0.9	0.0	1.0	1.0	2.9	673.7	229.7			99.63%	A		
9	1952	34	363	259.6	622.6	0.9	0.0	1.4	1.0	3.3	621.1	186.8			99.44%	A		
10	1952	392	363	233.3	596.3	0.9	0.0	1.6	1.0	3.5	594.7	171.6			99.33%	A		
11	1952	905	363	266.5	629.5	0.9	0.0	1.0	1.0	2.9	628.4	216.1			99.58%	A		
12	1952	601	363	420.0	783.0	0.9	0.0	0.5	1.0	2.4	782.2	321.7			99.82%	A		
1	1953	835	363	482.7	845.7	0.9	0.0	0.2	1.0	2.1	845.2	408.1			99.90%	A		
2	1953	985	363	530.7	893.7	0.9	0.0	0.1	1.0	2.0	893.3	445.3			99.92%	A		
3	1953	750	363	712.6	1 075.6	0.9	0.0	0.1	1.0	2.1	1 075.1	522.9			99.94%	A		
4	1953	462	363	1066.0	1 429.0	0.9	0.0	0.6	1.0	2.6	1 428.1	559.7	0.29%	19 833	99.92%	A	99.83%	A
5	1953	25	363	1038.0	1 401.0	0.9	0.0	1.0	1.0	2.9	1 399.9	480.6			99.89%	A		
6	1953		363	652.3	1 015.3	0.9	0.0	1.0	1.0	2.9	1 014.2	351.0			99.83%	A		
7	1953		363	525.4	888.4	0.9	0.0	0.9	1.0	2.8	887.3	313.8			99.80%	A		
8	1953	4	363	431.8	794.8	0.9	0.0	1.0	1.0	2.9	793.6	270.5			99.73%	A		
9	1953	10	363	351.4	714.4	0.9	0.0	1.4	1.0	3.3	712.9	214.3			99.58%	A		
10	1953	524	363	295.3	658.3	0.9	0.0	1.6	1.0	3.5	656.7	189.5			99.47%	A		
11	1953	767	363	295.3	658.3	0.9	0.0	1.0	1.0	2.9	657.2	226.0			99.62%	A		
12	1953	1038	363	405.6	768.6	0.9	0.0	0.5	1.0	2.4	767.9	315.8			99.82%	A		
1	1954	1548	363	506.6	869.6	0.9	0.0	0.2	1.0	2.1	869.1	419.7			99.91%	A		
2	1954	1778	363	554.9	917.9	0.9	0.0	0.1	1.0	2.0	917.5	457.4			99.93%	A		
3	1954	1779	363	617.2	980.2	0.9	0.0	0.1	1.0	2.1	979.7	476.6			99.93%	A		
4	1954	632	363	625.1	988.1	0.9	0.0	0.6	1.0	2.6	987.2	387.0	0.33%	17 515	99.87%	A	99.79%	A
5	1954	51	363	592.8	955.8	0.9	0.0	1.0	1.0	2.9	954.7	327.9			99.81%	A		
6	1954		363	485.4	848.4	0.9	0.0	1.0	1.0	2.9	847.2	293.3			99.77%	A		
7	1954		363	409.9	772.9	0.9	0.0	0.9	1.0	2.8	771.8	273.1			99.74%	A		
8	1954	1	363	341.6	704.6	0.9	0.0	1.0	1.0	2.9	703.4	239.8			99.66%	A		
9	1954	23	363	287.5	650.5	0.9	0.0	1.4	1.0	3.3	649.1	195.2			99.49%	A		
10	1954	86	363	363.1	726.1	0.9	0.0	1.6	1.0	3.5	724.5	209.0			99.57%	A		
11	1954	239	363	317.0	680.0	0.9	0.0	1.0	1.0	2.9	678.9	233.4			99.64%	A		
12	1954	531	363	405.6	768.6	0.9	0.0	0.5	1.0	2.4	767.9	315.8			99.82%	A		
1	1955	540	363	506.6	869.6	0.9	0.0	0.2	1.0	2.1	869.1	419.7			99.91%	A		
2	1955	177	363	554.9	917.9	0.9	0.0	0.1	1.0	2.0	917.5	457.4			99.93%	A		
3	1955	481	363	617.2	980.2	0.9	0.0	0.1	1.0	2.1	979.7	476.6			99.93%	A		
4	1955	193	363	625.1	988.1	0.9	0.0	0.6	1.0	2.6	987.2	387.0	0.33%	17 676	99.87%	A	99.79%	A
5	1955	22	363	592.8	955.8	0.9	0.0	1.0	1.0	2.9	954.7	327.9			99.81%	A		
6	1955	0	363	485.4	848.4	0.9	0.0	1.0	1.0	2.9	847.2	293.3			99.77%	A		
7	1955		363	409.9	772.9	0.9	0.0	0.9	1.0	2.8	771.8	273.1			99.74%	A		
8	1955		363	341.6	704.6	0.9	0.0	1.0	1.0	2.9	703.4	239.8			99.66%	A		
9	1955	1	363	287.5	650.5	0.9	0.0	1.4	1.0	3.3	649.1	195.2			99.49%	A		
10	1955	506	363	250.7	613.7	0.9	0.0	1.6	1.0	3.5	612.1	176.6			99.37%	A		
11	1955	791	363	275.0	638.0	0.9	0.0	1.0	1.0	2.9	636.9	219.0			99.59%	A		
12	1955	1280	363	351.8	714.8	0.9	0.0	0.5	1.0	2.4	714.1	293.7			99.79%	A		
1	1956	1670	363	580.4	943.4	0.9	0.0	0.2	1.0	2.1	943.0	455.3			99.92%	A		
2	1956	1253	363	891.4	1 254.4	0.9	0.0	0.1	1.0	2.0	1 254.0	625.0			99.95%	A		
3	1956	1285	363	1003.1	1 366.1	0.9	0.0	0.1	1.0	2.1	1 365.6	664.2			99.96%	A		
4	1956	960	363	917.3	1 280.3	0.9	0.0	0.6	1.0	2.6	1 279.4	501.4	0.28%	20 772	99.91%	A	99.84%	A
5	1956	0	363	961.3	1 324.3	0.9	0.0	1.0	1.0	2.9	1 323.2	454.3			99.88%	A		
6	1956		363	671.9	1 034.9	0.9	0.0	1.0	1.0	2.9	1 033.8	357.7			99.83%	A		
7	1956		363	538.5	901.5	0.9	0.0	0.9	1.0	2.8	900.4	318.5			99.80%	A		
8	1956	0	363	438.4	801.4	0.9	0.0	1.0	1.0	2.9	800.3	272.8			99.74%	A		
9	1956	113	363	354.5	717.5	0.9	0.0	1.4	1.0	3.3	716.0	215.3			99.59%	A		
10	1956	52	363	302.0	665.0	0.9	0.0	1.6	1.0	3.5	663.4	191.4			99.48%	A		
11	1956	283	363	266.5	629.5	0.9	0.0	1.0	1.0	2.9	628.4	216.1			99.58%	A		
12	1956	191	363	308.8	671.8	0.9	0.0	0.5	1.0	2.4	671.0	276.0			99.76%	A		
1	1957	426	363	305.0	668.0	0.9	0.0	0.2	1.0	2.1	667.5	322.4			99.85%	A		
2	1957	542	363	426.3	789.3	0.9	0.0	0.1	1.0	2.0	788.9	393.3			99.90%	A		
3	1957	561	363	656.3	1 019.3	0.9	0.0	0.1	1.0	2.1	1 018.8	495.6			99.93%	A		
4	1957	75	363	851.7	1 214.7	0.9	0.0	0.6	1.0	2.6	1 213.8	475.7	0.34%	17 115	99.90%	A	99.78%	A

5	1957	2	363	665.3	1 028.3	0.9	0.0	1.0	1.0	2.9	1 027.1	352.7			99.83%	A		
6	1957		363	435.6	798.6	0.9	0.0	1.0	1.0	2.9	797.4	276.0			99.75%	A		
7	1957	1	363	365.6	728.6	0.9	0.0	0.9	1.0	2.8	727.6	257.4			99.71%	A		
8	1957	1	363	331.0	694.0	0.9	0.0	1.0	1.0	2.9	692.9	236.2			99.65%	A		
9	1957	52	363	280.1	643.1	0.9	0.0	1.4	1.0	3.3	641.6	192.9			99.48%	A		
10	1957	290	363	264.7	627.7	0.9	0.0	1.6	1.0	3.5	626.1	180.7			99.41%	A		
11	1957	684	363	277.0	640.0	0.9	0.0	1.0	1.0	2.9	638.8	219.7			99.59%	A		
12	1957	887	363	377.6	740.6	0.9	0.0	0.5	1.0	2.4	739.9	304.3			99.80%	A		
1	1958	1027	363	617.6	980.6	0.9	0.0	0.2	1.0	2.1	980.1	473.2			99.93%	A		
2	1958	569	363	651.8	1 014.8	0.9	0.0	0.1	1.0	2.0	1 014.4	505.7			99.94%	A		
3	1958	801	363	696.3	1 059.3	0.9	0.0	0.1	1.0	2.1	1 058.8	515.0			99.94%	A		
4	1958	123	363	762.0	1 125.0	0.9	0.0	0.6	1.0	2.6	1 124.1	440.6	0.33%	17 828	99.89%	A	99.79%	A
5	1958	12	363	594.4	957.4	0.9	0.0	1.0	1.0	2.9	956.3	328.4			99.81%	A		
6	1958		363	418.7	781.7	0.9	0.0	1.0	1.0	2.9	780.6	270.2			99.73%	A		
7	1958		363	343.2	706.2	0.9	0.0	0.9	1.0	2.8	705.1	249.5			99.69%	A		
8	1958	0	363	316.1	679.1	0.9	0.0	1.0	1.0	2.9	678.0	231.2			99.64%	A		
9	1958	43	363	272.6	635.6	0.9	0.0	1.4	1.0	3.3	634.1	190.7			99.47%	A		
10	1958	138	363	230.4	593.4	0.9	0.0	1.6	1.0	3.5	591.8	170.8			99.32%	A		
11	1958	517	363	222.5	585.5	0.9	0.0	1.0	1.0	2.9	584.3	201.0			99.49%	A		
12	1958	1002	363	322.6	685.6	0.9	0.0	0.5	1.0	2.4	684.8	281.6			99.77%	A		
1	1959	885	363	491.5	854.5	0.9	0.0	0.2	1.0	2.1	854.0	412.4			99.91%	A		
2	1959	772	363	575.2	938.2	0.9	0.0	0.1	1.0	2.0	937.8	467.5			99.93%	A		
3	1959	936	363	793.6	1 156.6	0.9	0.0	0.1	1.0	2.1	1 156.2	562.3			99.94%	A		
4	1959	316	363	754.7	1 117.7	0.9	0.0	0.6	1.0	2.6	1 116.8	437.7	0.32%	18 047	99.89%	A	99.80%	A
5	1959	236	363	730.7	1 093.7	0.9	0.0	1.0	1.0	2.9	1 092.6	375.2			99.85%	A		
6	1959		363	533.4	896.4	0.9	0.0	1.0	1.0	2.9	895.3	309.9			99.79%	A		
7	1959	1	363	419.8	782.8	0.9	0.0	0.9	1.0	2.8	781.7	276.5			99.75%	A		
8	1959	0	363	350.7	713.7	0.9	0.0	1.0	1.0	2.9	712.6	243.0			99.67%	A		
9	1959	17	363	288.6	651.6	0.9	0.0	1.4	1.0	3.3	650.1	195.5			99.49%	A		
10	1959	86	363	241.2	604.2	0.9	0.0	1.6	1.0	3.5	602.6	173.9			99.35%	A		
11	1959	246	363	213.3	576.3	0.9	0.0	1.0	1.0	2.9	575.1	197.8			99.47%	A		
12	1959	457	363	301.1	664.1	0.9	0.0	0.5	1.0	2.4	663.3	272.8			99.75%	A		
1	1960	429	363	475.4	838.4	0.9	0.0	0.2	1.0	2.1	837.9	404.6			99.90%	A		
2	1960	544	363	571.4	934.4	0.9	0.0	0.1	1.0	2.0	934.0	465.6			99.93%	A		
3	1960	354	363	847.6	1 210.6	0.9	0.0	0.1	1.0	2.1	1 210.2	588.6			99.95%	A		
4	1960	171	363	669.8	1 032.8	0.9	0.0	0.6	1.0	2.6	1 032.0	404.5	0.32%	18 056	99.87%	A	99.80%	A
5	1960	47	363	693.9	1 056.9	0.9	0.0	1.0	1.0	2.9	1 055.8	362.6			99.84%	A		
6	1960	0	363	565.5	928.5	0.9	0.0	1.0	1.0	2.9	927.4	321.0			99.80%	A		
7	1960	0	363	457.3	820.3	0.9	0.0	0.9	1.0	2.8	819.2	289.8			99.77%	A		
8	1960	2	363	376.7	739.7	0.9	0.0	1.0	1.0	2.9	738.6	251.8			99.70%	A		
9	1960	21	363	305.6	668.6	0.9	0.0	1.4	1.0	3.3	667.1	200.6			99.52%	A		
10	1960	188	363	245.1	608.1	0.9	0.0	1.6	1.0	3.5	606.5	175.0			99.36%	A		
11	1960	614	363	225.6	588.6	0.9	0.0	1.0	1.0	2.9	587.5	202.0			99.50%	A		
12	1960	415	363	244.9	607.9	0.9	0.0	0.5	1.0	2.4	607.2	249.8			99.70%	A		
1	1961	729	363	416.9	779.9	0.9	0.0	0.2	1.0	2.1	779.4	376.4			99.89%	A		
2	1961	677	363	550.5	913.5	0.9	0.0	0.1	1.0	2.0	913.1	455.2			99.93%	A		
3	1961	1109	363	843.9	1 206.9	0.9	0.0	0.1	1.0	2.1	1 206.4	586.7			99.95%	A		
4	1961	500	363	1224.6	1 587.6	0.9	0.0	0.6	1.0	2.6	1 586.8	621.8	0.28%	20 924	99.93%	A	99.84%	A
5	1961	110	363	1272.8	1 635.8	0.9	0.0	1.0	1.0	2.9	1 634.6	561.2			99.91%	A		
6	1961	2	363	828.8	1 191.8	0.9	0.0	1.0	1.0	2.9	1 190.7	412.0			99.87%	A		
7	1961	2	363	612.7	975.7	0.9	0.0	0.9	1.0	2.8	974.6	344.7			99.83%	A		
8	1961		363	481.6	844.6	0.9	0.0	1.0	1.0	2.9	843.5	287.5			99.76%	A		
9	1961	12	363	371.9	734.9	0.9	0.0	1.4	1.0	3.3	733.4	220.5			99.61%	A		
10	1961	179	363	297.3	660.3	0.9	0.0	1.6	1.0	3.5	658.7	190.1			99.47%	A		
11	1961	649	363	276.4	639.4	0.9	0.0	1.0	1.0	2.9	638.3	219.5			99.59%	A		
12	1961	1048	363	464.2	827.2	0.9	0.0	0.5	1.0	2.4	826.5	339.8			99.84%	A		
1	1962	824	363	997.3	1 360.3	0.9	0.0	0.2	1.0	2.1	1 359.9	656.5			99.95%	A		

2	1962	791	363	1157.6	1 520.6	0.9	0.0	0.1	1.0	2.0	1 520.2	757.7	0.25%	22 948	99.96%	A	99.86%	A
3	1962	549	363	1036.3	1 399.3	0.9	0.0	0.1	1.0	2.1	1 398.8	680.3			99.96%	A		
4	1962	315	363	1108.7	1 471.7	0.9	0.0	0.6	1.0	2.6	1 470.8	576.4			99.92%	A		
5	1962	3	363	1002.2	1 365.2	0.9	0.0	1.0	1.0	2.9	1 364.0	468.3			99.89%	A		
6	1962		363	677.5	1 040.5	0.9	0.0	1.0	1.0	2.9	1 039.3	359.7			99.84%	A		
7	1962	0	363	569.3	932.3	0.9	0.0	0.9	1.0	2.8	931.3	329.4			99.81%	A		
8	1962	47	363	474.6	837.6	0.9	0.0	1.0	1.0	2.9	836.5	285.1			99.76%	A		
9	1962	39	363	387.3	750.3	0.9	0.0	1.4	1.0	3.3	748.8	225.1			99.62%	A		
10	1962	263	363	326.5	689.5	0.9	0.0	1.6	1.0	3.5	687.9	198.5	0.22%	26 067	99.52%	A	99.89%	A
11	1962	680	363	320.5	683.5	0.9	0.0	1.0	1.0	2.9	682.4	234.6			99.65%	A		
12	1962	1383	363	423.9	786.9	0.9	0.0	0.5	1.0	2.4	786.1	323.3			99.82%	A		
1	1963	1721	363	716.0	1 079.0	0.9	0.0	0.2	1.0	2.1	1 078.5	520.7			99.94%	A		
2	1963	1533	363	899.7	1 262.7	0.9	0.0	0.1	1.0	2.0	1 262.3	629.2			99.95%	A		
3	1963	1643	363	1694.5	2 057.5	0.9	0.0	0.1	1.0	2.1	2 057.1	1 000.3			99.97%	A		
4	1963	500	363	1728.2	2 091.2	0.9	0.0	0.6	1.0	2.6	2 090.3	819.0			99.95%	A		
5	1963	5	363	1190.1	1 553.1	0.9	0.0	1.0	1.0	2.9	1 552.0	532.8			99.91%	A		
6	1963	0	363	848.9	1 211.9	0.9	0.0	1.0	1.0	2.9	1 210.8	418.9			99.87%	A		
7	1963	0	363	850.5	1 213.5	0.9	0.0	0.9	1.0	2.8	1 212.4	428.7			99.88%	A		
8	1963	0	363	702.4	1 065.4	0.9	0.0	1.0	1.0	2.9	1 064.2	362.7			99.84%	A		
9	1963	45	363	487.6	850.6	0.9	0.0	1.4	1.0	3.3	849.1	255.2			99.70%	A		
10	1963	138	363	374.8	737.8	0.9	0.0	1.6	1.0	3.5	736.2	212.3	0.27%	21 185	99.58%	A	99.85%	A
11	1963	544	363	390.4	753.4	0.9	0.0	1.0	1.0	2.9	752.3	258.6			99.71%	A		
12	1963	321	363	657.9	1 020.9	0.9	0.0	0.5	1.0	2.4	1 020.1	419.4			99.89%	A		
1	1964	511	363	677.6	1 040.6	0.9	0.0	0.2	1.0	2.1	1 040.2	502.2			99.93%	A		
2	1964	412	363	692.5	1 055.5	0.9	0.0	0.1	1.0	2.0	1 055.1	525.9			99.94%	A		
3	1964	347	363	845.1	1 208.1	0.9	0.0	0.1	1.0	2.1	1 207.7	587.4			99.95%	A		
4	1964	50	363	941.9	1 304.9	0.9	0.0	0.6	1.0	2.6	1 304.1	511.1			99.91%	A		
5	1964	5	363	838.7	1 201.7	0.9	0.0	1.0	1.0	2.9	1 200.5	412.2			99.87%	A		
6	1964	0	363	696.9	1 059.9	0.9	0.0	1.0	1.0	2.9	1 058.8	366.4			99.84%	A		
7	1964		363	593.2	956.2	0.9	0.0	0.9	1.0	2.8	955.1	337.8			99.82%	A		
8	1964	6	363	428.2	791.2	0.9	0.0	1.0	1.0	2.9	790.0	269.3			99.73%	A		
9	1964	12	363	327.8	690.8	0.9	0.0	1.4	1.0	3.3	689.3	207.2			99.56%	A		
10	1964	197	363	280.6	643.6	0.9	0.0	1.6	1.0	3.5	642.0	185.3	0.27%	21 397	99.44%	A	99.85%	A
11	1964	331	363	268.8	631.8	0.9	0.0	1.0	1.0	2.9	630.7	216.9			99.58%	A		
12	1964	842	363	330.5	693.5	0.9	0.0	0.5	1.0	2.4	692.7	284.9			99.77%	A		
1	1965	906	363	475.7	838.7	0.9	0.0	0.2	1.0	2.1	838.3	404.8			99.90%	A		
2	1965	823	363	746.1	1 109.1	0.9	0.0	0.1	1.0	2.0	1 108.7	552.7			99.95%	A		
3	1965	607	363	1107.4	1 470.4	0.9	0.0	0.1	1.0	2.1	1 470.0	714.9			99.96%	A		
4	1965	389	363	1245.8	1 608.8	0.9	0.0	0.6	1.0	2.6	1 607.9	630.1			99.93%	A		
5	1965	1	363	1041.5	1 404.5	0.9	0.0	1.0	1.0	2.9	1 403.3	481.8			99.89%	A		
6	1965	5	363	715.8	1 078.8	0.9	0.0	1.0	1.0	2.9	1 077.7	372.9			99.84%	A		
7	1965		363	542.2	905.2	0.9	0.0	0.9	1.0	2.8	904.2	319.8			99.80%	A		
8	1965	1	363	457.4	820.4	0.9	0.0	1.0	1.0	2.9	819.3	279.3			99.75%	A		
9	1965	59	363	371.2	734.2	0.9	0.0	1.4	1.0	3.3	732.7	220.3			99.61%	A		
10	1965	75	363	302.1	665.1	0.9	0.0	1.6	1.0	3.5	663.6	191.4	0.27%	21 384	99.48%	A	99.85%	A
11	1965	669	363	245.0	608.0	0.9	0.0	1.0	1.0	2.9	606.9	208.7			99.54%	A		
12	1965	913	363	380.7	743.7	0.9	0.0	0.5	1.0	2.4	742.9	305.5			99.80%	A		
1	1966	1143	363	614.2	977.2	0.9	0.0	0.2	1.0	2.1	976.7	471.6			99.93%	A		
2	1966	454	363	953.6	1 316.6	0.9	0.0	0.1	1.0	2.0	1 316.2	656.1			99.96%	A		
3	1966	890	363	1055.4	1 418.4	0.9	0.0	0.1	1.0	2.1	1 418.0	689.6			99.96%	A		
4	1966	169	363	1224.9	1 587.9	0.9	0.0	0.6	1.0	2.6	1 587.1	621.9			99.93%	A		
5	1966	10	363	994.3	1 357.3	0.9	0.0	1.0	1.0	2.9	1 356.2	465.6			99.89%	A		
6	1966	2	363	671.6	1 034.6	0.9	0.0	1.0	1.0	2.9	1 033.4	357.6			99.83%	A		
7	1966	0	363	440.9	803.9	0.9	0.0	0.9	1.0	2.8	802.9	284.0			99.76%	A		
8	1966	12	363	378.7	741.7	0.9	0.0	1.0	1.0	2.9	740.6	252.5			99.70%	A		
9	1966	148	363	314.6	677.6	0.9	0.0	1.4	1.0	3.3	676.1	203.3			99.54%	A		
10	1966	239	363	293.2	656.2	0.9	0.0	1.6	1.0	3.5	654.6	188.9			99.46%	A		

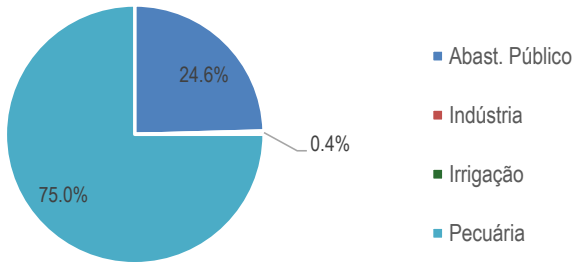
11	1966	269	363	253.4	616.4	0.9	0.0	1.0	1.0	2.9	615.2	211.6	0.33%	17 848	99.56%	A	99.79%	A
12	1966	659	363	277.6	640.6	0.9	0.0	0.5	1.0	2.4	639.8	263.2			99.73%	A		
1	1967	779	363	374.2	737.2	0.9	0.0	0.2	1.0	2.1	736.8	355.8			99.88%	A		
2	1967	827	363	439.6	802.6	0.9	0.0	0.1	1.0	2.0	802.2	399.9			99.91%	A		
3	1967	872	363	615.2	978.2	0.9	0.0	0.1	1.0	2.1	977.8	475.6			99.93%	A		
4	1967	862	363	752.8	1 115.8	0.9	0.0	0.6	1.0	2.6	1 114.9	437.0			99.89%	A		
5	1967	8	363	852.8	1 215.8	0.9	0.0	1.0	1.0	2.9	1 214.7	417.1			99.87%	A		
6	1967	0	363	593.0	956.0	0.9	0.0	1.0	1.0	2.9	954.8	330.4			99.81%	A		
7	1967		363	480.0	843.0	0.9	0.0	0.9	1.0	2.8	842.0	297.8			99.78%	A		
8	1967	1	363	378.7	741.7	0.9	0.0	1.0	1.0	2.9	740.6	252.5			99.70%	A		
9	1967	15	363	292.7	655.7	0.9	0.0	1.4	1.0	3.3	654.3	196.7			99.50%	A		
10	1967	510	363	250.5	613.5	0.9	0.0	1.6	1.0	3.5	611.9	176.6	0.22%	26 136	99.37%	A	99.89%	A
11	1967	2005	363	307.7	670.7	0.9	0.0	1.0	1.0	2.9	669.5	230.2			99.63%	A		
12	1967	1642	363	759.6	1 122.6	0.9	0.0	0.5	1.0	2.4	1 121.8	461.2			99.90%	A		
1	1968	1940	363	1482.0	1 845.0	0.9	0.0	0.2	1.0	2.1	1 844.6	890.4			99.97%	A		
2	1968	885	363	1916.8	2 279.8	0.9	0.0	0.1	1.0	2.0	2 279.4	1 136.0			99.98%	A		
3	1968	1240	363	1517.5	1 880.5	0.9	0.0	0.1	1.0	2.1	1 880.1	914.3			99.97%	A		
4	1968	421	363	1155.0	1 518.0	0.9	0.0	0.6	1.0	2.6	1 517.2	594.5			99.93%	A		
5	1968	143	363	881.1	1 244.1	0.9	0.0	1.0	1.0	2.9	1 243.0	426.8			99.87%	A		
6	1968		363	654.0	1 017.0	0.9	0.0	1.0	1.0	2.9	1 015.9	351.6			99.83%	A		
7	1968		363	526.1	889.1	0.9	0.0	0.9	1.0	2.8	888.0	314.1			99.80%	A		
8	1968		363	432.0	795.0	0.9	0.0	1.0	1.0	2.9	793.8	270.6			99.73%	A		
9	1968	12	363	345.2	708.2	0.9	0.0	1.4	1.0	3.3	706.7	212.5			99.58%	A		
10	1968	222	363	275.2	638.2	0.9	0.0	1.6	1.0	3.5	636.7	183.7	0.25%	23 001	99.43%	A	99.86%	A
11	1968	1075	363	254.2	617.2	0.9	0.0	1.0	1.0	2.9	616.1	211.9			99.56%	A		
12	1968	1031	363	378.0	741.0	0.9	0.0	0.5	1.0	2.4	740.2	304.4			99.80%	A		
1	1969	1412	363	495.1	858.1	0.9	0.0	0.2	1.0	2.1	857.6	414.1			99.91%	A		
2	1969	1607	363	819.2	1 182.2	0.9	0.0	0.1	1.0	2.0	1 181.7	589.0			99.95%	A		
3	1969	1691	363	1295.0	1 658.0	0.9	0.0	0.1	1.0	2.1	1 657.6	806.1			99.97%	A		
4	1969	512	363	1759.6	2 122.6	0.9	0.0	0.6	1.0	2.6	2 121.7	831.3			99.95%	A		
5	1969	0	363	1113.9	1 476.9	0.9	0.0	1.0	1.0	2.9	1 475.8	506.7			99.90%	A		
6	1969		363	675.4	1 038.4	0.9	0.0	1.0	1.0	2.9	1 037.3	358.9			99.84%	A		
7	1969		363	559.5	922.5	0.9	0.0	0.9	1.0	2.8	921.4	325.9			99.81%	A		
8	1969	8	363	471.2	834.2	0.9	0.0	1.0	1.0	2.9	833.1	284.0			99.76%	A		
9	1969	61	363	381.9	744.9	0.9	0.0	1.4	1.0	3.3	743.5	223.5			99.62%	A		
10	1969	389	363	333.3	696.3	0.9	0.0	1.6	1.0	3.5	694.8	200.4	0.27%	21 867	99.53%	A	99.85%	A
11	1969	673	363	381.4	744.4	0.9	0.0	1.0	1.0	2.9	743.3	255.5			99.70%	A		
12	1969	629	363	533.3	896.3	0.9	0.0	0.5	1.0	2.4	895.5	368.2			99.86%	A		
1	1970	1132	363	621.9	984.9	0.9	0.0	0.2	1.0	2.1	984.4	475.3			99.93%	A		
2	1970	1024	363	880.8	1 243.8	0.9	0.0	0.1	1.0	2.0	1 243.4	619.7			99.95%	A		
3	1970	576	363	1373.4	1 736.4	0.9	0.0	0.1	1.0	2.1	1 735.9	844.2			99.97%	A		
4	1970	165	363	1194.6	1 557.6	0.9	0.0	0.6	1.0	2.6	1 556.7	610.0			99.93%	A		
5	1970	2	363	762.8	1 125.8	0.9	0.0	1.0	1.0	2.9	1 124.7	386.2			99.85%	A		
6	1970	0	363	541.1	904.1	0.9	0.0	1.0	1.0	2.9	902.9	312.5			99.79%	A		
7	1970	0	363	464.8	827.8	0.9	0.0	0.9	1.0	2.8	826.7	292.4			99.77%	A		
8	1970		363	413.9	776.9	0.9	0.0	1.0	1.0	2.9	775.7	264.4			99.72%	A		
9	1970	15	363	344.5	707.5	0.9	0.0	1.4	1.0	3.3	706.0	212.2			99.58%	A		
10	1970	189	363	288.0	651.0	0.9	0.0	1.6	1.0	3.5	649.4	187.4	0.30%	19 507	99.45%	A	99.82%	A
11	1970	514	363	274.9	637.9	0.9	0.0	1.0	1.0	2.9	636.7	218.9			99.59%	A		
12	1970	765	363	384.1	747.1	0.9	0.0	0.5	1.0	2.4	746.3	306.9			99.81%	A		
1	1971	1230	363	675.5	1 038.5	0.9	0.0	0.2	1.0	2.1	1 038.0	501.2			99.93%	A		
2	1971	964	363	829.5	1 192.5	0.9	0.0	0.1	1.0	2.0	1 192.0	594.2			99.95%	A		
3	1971	579	363	1077.3	1 440.3	0.9	0.0	0.1	1.0	2.1	1 439.9	700.3			99.96%	A		
4	1971	319	363	851.7	1 214.7	0.9	0.0	0.6	1.0	2.6	1 213.8	475.7			99.90%	A		
5	1971	33	363	673.3	1 036.3	0.9	0.0	1.0	1.0	2.9	1 035.2	355.5			99.83%	A		
6	1971	9	363	458.5	821.5	0.9	0.0	1.0	1.0	2.9	820.3	284.0			99.76%	A		
7	1971		363	386.4	749.4	0.9	0.0	0.9	1.0	2.8	748.4	264.8			99.73%	A		

8	1971		363	342.0	705.0	0.9	0.0	1.0	1.0		2.9	703.8	240.0			99.67%	A		
9	1971	6	363	287.5	650.5	0.9	0.0	1.4	1.0		3.3	649.1	195.2			99.49%	A		
10	1971	80	363	257.7	620.7	0.9	0.0	1.6	1.0		3.5	619.1	178.6			99.39%	A		
11	1971	227	363	251.3	614.3	0.9	0.0	1.0	1.0		2.9	613.1	210.8			99.55%	A		
12	1971	373	363	267.7	630.7	0.9	0.0	0.5	1.0		2.4	630.0	259.1			99.72%	A		
1	1972	510	363	374.0	737.0	0.9	0.0	0.2	1.0		2.1	736.6	355.7			99.88%	A		
2	1972	214	363	369.8	732.8	0.9	0.0	0.1	1.0		2.0	732.4	365.1			99.89%	A		
3	1972	717	363	505.5	868.5	0.9	0.0	0.1	1.0		2.1	868.0	422.2			99.91%	A		
4	1972	283	363	631.6	994.6	0.9	0.0	0.6	1.0		2.6	993.8	389.6	0.36%	16 250	99.87%	A	99.76%	A
5	1972	5	363	622.0	985.0	0.9	0.0	1.0	1.0		2.9	983.9	337.9			99.82%	A		
6	1972		363	464.0	827.0	0.9	0.0	1.0	1.0		2.9	825.9	285.9			99.76%	A		
7	1972		363	376.2	739.2	0.9	0.0	0.9	1.0		2.8	738.1	261.1			99.72%	A		
8	1972	0	363	321.0	684.0	0.9	0.0	1.0	1.0		2.9	682.8	232.8			99.64%	A		
9	1972	8	363	270.2	633.2	0.9	0.0	1.4	1.0		3.3	631.7	190.0			99.46%	A		
10	1972	276	363	245.7	608.7	0.9	0.0	1.6	1.0		3.5	607.1	175.2			99.36%	A		
11	1972	350	363	222.3	585.3	0.9	0.0	1.0	1.0		2.9	584.2	200.9			99.49%	A		
12	1972	852	363	263.1	626.1	0.9	0.0	0.5	1.0		2.4	625.3	257.2			99.72%	A		
1	1973	745	363	410.8	773.8	0.9	0.0	0.2	1.0		2.1	773.3	373.4			99.89%	A		
2	1973	557	363	505.7	868.7	0.9	0.0	0.1	1.0		2.0	868.3	432.9			99.92%	A		
3	1973	936	363	572.7	935.7	0.9	0.0	0.1	1.0		2.1	935.3	454.9			99.92%	A		
4	1973	314	363	650.6	1 013.6	0.9	0.0	0.6	1.0		2.6	1 012.7	397.0	0.35%	16 500	99.87%	A	99.76%	A
5	1973	17	363	655.8	1 018.8	0.9	0.0	1.0	1.0		2.9	1 017.6	349.5			99.83%	A		
6	1973	0	363	428.8	791.8	0.9	0.0	1.0	1.0		2.9	790.7	273.7			99.74%	A		
7	1973		363	339.4	702.4	0.9	0.0	0.9	1.0		2.8	701.4	248.2			99.69%	A		
8	1973		363	300.9	663.9	0.9	0.0	1.0	1.0		2.9	662.7	226.0			99.62%	A		
9	1973	13	363	254.9	617.9	0.9	0.0	1.4	1.0		3.3	616.4	185.4			99.43%	A		
10	1973	320	363	252.7	615.7	0.9	0.0	1.6	1.0		3.5	614.1	177.2			99.38%	A		
11	1973	319	363	265.2	628.2	0.9	0.0	1.0	1.0		2.9	627.0	215.6			99.58%	A		
12	1973	725	363	305.7	668.7	0.9	0.0	0.5	1.0		2.4	668.0	274.7			99.76%	A		
1	1974	919	363	503.5	866.5	0.9	0.0	0.2	1.0		2.1	866.0	418.2			99.91%	A		
2	1974	569	363	724.4	1 087.4	0.9	0.0	0.1	1.0		2.0	1 087.0	541.8			99.94%	A		
3	1974	732	363	1455.0	1 818.0	0.9	0.0	0.1	1.0		2.1	1 817.5	883.8			99.97%	A		
4	1974	832	363	1279.4	1 642.4	0.9	0.0	0.6	1.0		2.6	1 641.6	643.3	0.27%	21 146	99.93%	A	99.85%	A
5	1974	47	363	872.0	1 235.0	0.9	0.0	1.0	1.0		2.9	1 233.9	423.7			99.87%	A		
6	1974	2	363	599.5	962.5	0.9	0.0	1.0	1.0		2.9	961.4	332.7			99.81%	A		
7	1974		363	492.2	855.2	0.9	0.0	0.9	1.0		2.8	854.1	302.1			99.78%	A		
8	1974	20	363	384.1	747.1	0.9	0.0	1.0	1.0		2.9	745.9	254.3			99.70%	A		
9	1974	49	363	309.6	672.6	0.9	0.0	1.4	1.0		3.3	671.1	201.8			99.53%	A		

UH	Cuando
Área (km ²)	108 872
População	79 138
Área irrigada (ha)	
NGR (mm)	650

Sector	Necessidades anuais de água (hm³)	
Abast. Público	1.6	24.6%
Indústria	0.03	0.4%
Termo eléctricas		
Irrigação		
Pecuária	4.8	75.0%
Volume anual turbinado (hm³)		
Hidroelectricidade		

Uso da água na UH do Cuando



Retornos em função do uso:	
Abastecimento público	80%
Indústria	80%
Termo elétricas	95%
Irrigação	20%
Pecuária	85%

No cálculo do consumo para a irrigação admitiu-se que apenas 80% da área equipada é efectivamente regada

	Recarga (hm³)	Águas subterâneas (hm³)	Escoamentos (hm³)	Disponibilidades (hm³)	Necessidades mensais em hm³ (Ano de				Transf. de água transfronteiriça (hm³)	Total dos usos consumptíveis (hm³)	Balanço (hm³)	Ratio Disp. Nec.	IUP (%)	IP m³/ano.hab	Classe de Gestão Ecológica			
					Abast. Público	Indústria	Irrigação	Pecuária							Mensal	Anual		
Ano médio	2 699.7	2 436.0	1 259.1	3 695.1	1. 6	.		4. 8	---	6. 4	3 694.1	581.8	0.2%	46 692	---	---	99.9%	A
Ano seco	1 687.6	2 436.0	1 209.3	3 645.3	1. 6	.		4. 8	---	6. 4	3 644.3	574.0	0.2%	46 063	---	---	99.9%	A
Ano muito seco	1 691.4	2 436.0	1 180.0	3 616.0	1. 6	.		4. 8	---	6. 4	3 614.9	569.4	0.2%	45 692	---	---	99.9%	A

Mês	Ano																	
	10	1944	77	203	113.5	316.5	0.1	0.0	0.4	0.5	316.4	598.0	0.17%	47 732	99.92%	A	99.92%	A
	11	1944	152	203	109.5	312.5	0.1	0.0	0.4	0.5	312.4	590.4			99.92%	A		
	12	1944	215	203	108.2	311.2	0.1	0.0	0.4	0.5	311.1	588.1			99.92%	A		
	1	1945	435	203	107.5	310.5	0.1	0.0	0.4	0.5	310.5	586.8			99.92%	A		
	2	1945	360	203	115.8	318.8	0.1	0.0	0.4	0.5	318.7	602.3			99.93%	A		
	3	1945	297	203	120.8	323.8	0.1	0.0	0.4	0.5	323.7	611.8			99.93%	A		
	4	1945	22	203	125.2	328.2	0.1	0.0	0.4	0.5	328.1	620.2			99.93%	A		
	5	1945	6	203	119.0	322.0	0.1	0.0	0.4	0.5	322.0	608.5			99.93%	A		
	6	1945		203	113.1	316.1	0.1	0.0	0.4	0.5	316.0	597.2			99.92%	A		
	7	1945		203	107.6	310.6	0.1	0.0	0.4	0.5	310.5	586.8			99.92%	A		
	8	1945		203	102.7	305.7	0.1	0.0	0.4	0.5	305.7	577.7			99.92%	A		
	9	1945	3	203	98.5	301.5	0.1	0.0	0.4	0.5	301.4	569.6			99.91%	A		
	10	1945	50	203	94.4	297.4	0.1	0.0	0.4	0.5	297.3	561.9	0.17%	46 176	99.91%	A	99.92%	A
	11	1945	293	203	90.5	293.5	0.1	0.0	0.4	0.5	293.4	554.5			99.91%	A		
	12	1945	355	203	95.5	298.5	0.1	0.0	0.4	0.5	298.4	564.0			99.91%	A		
	1	1946	344	203	102.3	305.3	0.1	0.0	0.4	0.5	305.2	576.9			99.92%	A		
	2	1946	242	203	108.8	311.8	0.1	0.0	0.4	0.5	311.7	589.2			99.92%	A		
	3	1946	225	203	110.9	313.9	0.1	0.0	0.4	0.5	313.8	593.1			99.92%	A		
	4	1946	31	203	113.7	316.7	0.1	0.0	0.4	0.5	316.7	598.5			99.93%	A		
	5	1946	3	203	109.3	312.3	0.1	0.0	0.4	0.5	312.2	590.1			99.92%	A		
	6	1946		203	104.4	307.4	0.1	0.0	0.4	0.5	307.3	580.8			99.92%	A		
	7	1946	0	203	99.9	302.9	0.1	0.0	0.4	0.5	302.8	572.4			99.91%	A		
	8	1946	0	203	96.0	299.0	0.1	0.0	0.4	0.5	298.9	565.0			99.91%	A		
	9	1946	9	203	92.5	295.5	0.1	0.0	0.4	0.5	295.4	558.3			99.91%	A		
	10	1946	99	203	88.9	291.9	0.1	0.0	0.4	0.5	291.8	551.6	0.17%	45 968	99.90%	A	99.91%	A
	11	1946	266	203	87.7	290.7	0.1	0.0	0.4	0.5	290.6	549.3			99.90%	A		
	12	1946	246	203	93.0	296.0	0.1	0.0	0.4	0.5	295.9	559.4			99.91%	A		
	1	1947	347	203	96.1	299.1	0.1	0.0	0.4	0.5	299.0	565.1			99.91%	A		
	2	1947	324	203	102.7	305.7	0.1	0.0	0.4	0.5	305.7	577.7			99.92%	A		
	3	1947	351	203	107.5	310.5	0.1	0.0	0.4	0.5	310.4	586.7			99.92%	A		
	4	1947	53	203	115.3	318.3	0.1	0.0	0.4	0.5	318.2	601.4			99.93%	A		
	5	1947	3	203	111.4	314.4	0.1	0.0	0.4	0.5	314.4	594.2			99.92%	A		
	6	1947		203	106.3	309.3	0.1	0.0	0.4	0.5	309.2	584.4			99.92%	A		
	7	1947		203	101.6	304.6	0.1	0.0	0.4	0.5	304.5	575.5			99.92%	A		
	8	1947		203	97.5	300.5	0.1	0.0	0.4	0.5	300.4	567.8			99.91%	A		
	9	1947	21	203	93.7	296.7	0.1	0.0	0.4	0.5	296.6	560.6			99.91%	A		
	10	1947	124	203	90.8	293.8	0.1	0.0	0.4	0.5	293.8	555.2			99.91%	A		

11	1947	266	203	88.9	291.9	0.1	0.0	0.4	0.5	291.9	551.6	0.17%	47 016	99.90%	A	99.92%	A
12	1947	1101	203	86.5	289.5	0.1	0.0	0.4	0.5	289.4	547.0			99.90%	A		
1	1948	1186	203	96.4	299.4	0.1	0.0	0.4	0.5	299.4	565.8			99.91%	A		
2	1948	1549	203	105.2	308.2	0.1	0.0	0.4	0.5	308.1	582.4			99.92%	A		
3	1948	1050	203	120.1	323.1	0.1	0.0	0.4	0.5	323.0	610.5			99.93%	A		
4	1948	366	203	128.1	331.1	0.1	0.0	0.4	0.5	331.0	625.6			99.93%	A		
5	1948	4	203	126.2	329.2	0.1	0.0	0.4	0.5	329.1	622.1			99.93%	A		
6	1948		203	119.2	322.2	0.1	0.0	0.4	0.5	322.1	608.8			99.93%	A		
7	1948	0	203	113.0	316.0	0.1	0.0	0.4	0.5	315.9	597.1			99.92%	A		
8	1948		203	107.5	310.5	0.1	0.0	0.4	0.5	310.4	586.7			99.92%	A		
9	1948	4	203	102.7	305.7	0.1	0.0	0.4	0.5	305.6	577.6			99.92%	A		
10	1948	43	203	97.7	300.7	0.1	0.0	0.4	0.5	300.7	568.3	0.18%	45 723	99.91%	A	99.91%	A
11	1948	100	203	95.6	298.6	0.1	0.0	0.4	0.5	298.5	564.2			99.91%	A		
12	1948	57	203	98.6	301.6	0.1	0.0	0.4	0.5	301.5	569.9			99.91%	A		
1	1949	137	203	96.7	299.7	0.1	0.0	0.4	0.5	299.6	566.3			99.91%	A		
2	1949	94	203	101.8	304.8	0.1	0.0	0.4	0.5	304.7	575.8			99.92%	A		
3	1949	145	203	102.1	305.1	0.1	0.0	0.4	0.5	305.0	576.5			99.92%	A		
4	1949	4	203	108.6	311.6	0.1	0.0	0.4	0.5	311.6	588.8			99.92%	A		
5	1949	0	203	104.0	307.0	0.1	0.0	0.4	0.5	306.9	580.0			99.92%	A		
6	1949	0	203	99.6	302.6	0.1	0.0	0.4	0.5	302.5	571.7			99.91%	A		
7	1949	0	203	95.7	298.7	0.1	0.0	0.4	0.5	298.6	564.4			99.91%	A		
8	1949	10	203	92.1	295.1	0.1	0.0	0.4	0.5	295.0	557.7			99.91%	A		
9	1949	1	203	89.9	292.9	0.1	0.0	0.4	0.5	292.8	553.4			99.91%	A		
10	1949	23	203	87.0	290.0	0.1	0.0	0.4	0.5	290.0	548.0	0.18%	45 692	99.90%	A	99.91%	A
11	1949	158	203	84.2	287.2	0.1	0.0	0.4	0.5	287.1	542.6			99.90%	A		
12	1949	275	203	85.6	288.6	0.1	0.0	0.4	0.5	288.5	545.3			99.90%	A		
1	1950	452	203	89.7	292.7	0.1	0.0	0.4	0.5	292.6	553.1			99.91%	A		
2	1950	396	203	100.4	303.4	0.1	0.0	0.4	0.5	303.3	573.3			99.92%	A		
3	1950	277	203	108.7	311.7	0.1	0.0	0.4	0.5	311.7	589.0			99.92%	A		
4	1950	108	203	113.1	316.1	0.1	0.0	0.4	0.5	316.0	597.3			99.92%	A		
5	1950	3	203	111.6	314.6	0.1	0.0	0.4	0.5	314.5	594.4			99.92%	A		
6	1950		203	106.4	309.4	0.1	0.0	0.4	0.5	309.3	584.6			99.92%	A		
7	1950	0	203	101.7	304.7	0.1	0.0	0.4	0.5	304.6	575.7			99.92%	A		
8	1950	0	203	97.6	300.6	0.1	0.0	0.4	0.5	300.5	567.9			99.91%	A		
9	1950	1	203	93.9	296.9	0.1	0.0	0.4	0.5	296.8	561.0			99.91%	A		
10	1950	20	203	90.7	293.7	0.1	0.0	0.4	0.5	293.6	554.9	0.17%	46 518	99.91%	A	99.92%	A
11	1950	288	203	86.8	289.8	0.1	0.0	0.4	0.5	289.7	547.6			99.90%	A		
12	1950	834	203	86.6	289.6	0.1	0.0	0.4	0.5	289.5	547.1			99.90%	A		
1	1951	941	203	98.1	301.1	0.1	0.0	0.4	0.5	301.0	569.0			99.91%	A		
2	1951	386	203	113.6	316.6	0.1	0.0	0.4	0.5	316.5	598.2			99.93%	A		
3	1951	457	203	114.3	317.3	0.1	0.0	0.4	0.5	317.3	599.6			99.93%	A		
4	1951	278	203	117.5	320.5	0.1	0.0	0.4	0.5	320.4	605.6			99.93%	A		
5	1951	46	203	117.5	320.5	0.1	0.0	0.4	0.5	320.4	605.6			99.93%	A		
6	1951		203	112.5	315.5	0.1	0.0	0.4	0.5	315.5	596.2			99.92%	A		
7	1951		203	107.1	310.1	0.1	0.0	0.4	0.5	310.0	586.0			99.92%	A		
8	1951	8	203	102.3	305.3	0.1	0.0	0.4	0.5	305.2	576.9			99.92%	A		
9	1951	11	203	98.2	301.2	0.1	0.0	0.4	0.5	301.1	569.2			99.91%	A		
10	1951	134	203	93.6	296.6	0.1	0.0	0.4	0.5	296.5	560.4	0.17%	46 511	99.91%	A	99.92%	A
11	1951	172	203	93.9	296.9	0.1	0.0	0.4	0.5	296.8	561.0			99.91%	A		
12	1951	380	203	93.8	296.8	0.1	0.0	0.4	0.5	296.8	560.9			99.91%	A		
1	1952	495	203	100.5	303.5	0.1	0.0	0.4	0.5	303.4	573.4			99.92%	A		
2	1952	452	203	111.0	314.0	0.1	0.0	0.4	0.5	313.9	593.3			99.92%	A		
3	1952	56	203	122.1	325.1	0.1	0.0	0.4	0.5	325.0	614.3			99.93%	A		
4	1952	15	203	117.5	320.5	0.1	0.0	0.4	0.5	320.4	605.5			99.93%	A		
5	1952		203	112.0	315.0	0.1	0.0	0.4	0.5	314.9	595.2			99.92%	A		
6	1952		203	106.6	309.6	0.1	0.0	0.4	0.5	309.6	585.1			99.92%	A		
7	1952		203	101.9	304.9	0.1	0.0	0.4	0.5	304.8	576.2			99.92%	A		

8	1952	0	203	97.8	300.8	0.1	0.0	0.4	0.5	300.7	568.3			99.91%	A		
9	1952	11	203	94.0	297.0	0.1	0.0	0.4	0.5	296.9	561.2			99.91%	A		
10	1952	252	203	90.3	293.3	0.1	0.0	0.4	0.5	293.3	554.3			99.91%	A		
11	1952	817	203	88.5	291.5	0.1	0.0	0.4	0.5	291.4	550.8			99.90%	A		
12	1952	776	203	95.4	298.4	0.1	0.0	0.4	0.5	298.3	563.8			99.91%	A		
1	1953	943	203	100.3	303.3	0.1	0.0	0.4	0.5	303.2	573.1			99.92%	A		
2	1953	1185	203	106.3	309.3	0.1	0.0	0.4	0.5	309.2	584.4			99.92%	A		
3	1953	1165	203	115.2	318.2	0.1	0.0	0.4	0.5	318.1	601.2			99.93%	A		
4	1953	382	203	125.4	328.4	0.1	0.0	0.4	0.5	328.4	620.6	0.17%	46 984	99.93%	A	99.92%	A
5	1953	15	203	124.1	327.1	0.1	0.0	0.4	0.5	327.0	618.0			99.93%	A		
6	1953		203	117.5	320.5	0.1	0.0	0.4	0.5	320.4	605.6			99.93%	A		
7	1953		203	111.5	314.5	0.1	0.0	0.4	0.5	314.4	594.2			99.92%	A		
8	1953	2	203	106.2	309.2	0.1	0.0	0.4	0.5	309.1	584.2			99.92%	A		
9	1953	22	203	101.5	304.5	0.1	0.0	0.4	0.5	304.4	575.3			99.92%	A		
10	1953	74	203	97.3	300.3	0.1	0.0	0.4	0.5	300.2	567.4			99.91%	A		
11	1953	329	203	93.6	296.6	0.1	0.0	0.4	0.5	296.6	560.5			99.91%	A		
12	1953	599	203	94.7	297.7	0.1	0.0	0.4	0.5	297.7	562.6			99.91%	A		
1	1954	666	203	101.5	304.5	0.1	0.0	0.4	0.5	304.4	575.3			99.92%	A		
2	1954	623	203	109.1	312.1	0.1	0.0	0.4	0.5	312.0	589.7			99.92%	A		
3	1954	603	203	115.0	318.0	0.1	0.0	0.4	0.5	317.9	600.8			99.93%	A		
4	1954	177	203	121.9	324.9	0.1	0.0	0.4	0.5	324.8	613.9	0.17%	46 891	99.93%	A	99.92%	A
5	1954	7	203	119.3	322.3	0.1	0.0	0.4	0.5	322.2	609.0			99.93%	A		
6	1954		203	113.2	316.2	0.1	0.0	0.4	0.5	316.1	597.5			99.92%	A		
7	1954		203	107.7	310.7	0.1	0.0	0.4	0.5	310.6	587.1			99.92%	A		
8	1954	0	203	102.9	305.9	0.1	0.0	0.4	0.5	305.8	577.9			99.92%	A		
9	1954	2	203	98.6	301.6	0.1	0.0	0.4	0.5	301.5	569.9			99.91%	A		
10	1954	36	203	94.7	297.7	0.1	0.0	0.4	0.5	297.6	562.5			99.91%	A		
11	1954	215	203	91.1	294.1	0.1	0.0	0.4	0.5	294.0	555.7			99.91%	A		
12	1954	869	203	88.5	291.5	0.1	0.0	0.4	0.5	291.4	550.8			99.90%	A		
1	1955	769	203	101.5	304.5	0.1	0.0	0.4	0.5	304.4	575.4			99.92%	A		
2	1955	483	203	112.2	315.2	0.1	0.0	0.4	0.5	315.1	595.6			99.92%	A		
3	1955	512	203	115.0	318.0	0.1	0.0	0.4	0.5	317.9	600.9			99.93%	A		
4	1955	97	203	120.3	323.3	0.1	0.0	0.4	0.5	323.2	610.9	0.17%	46 631	99.93%	A	99.92%	A
5	1955	35	203	116.0	319.0	0.1	0.0	0.4	0.5	318.9	602.7			99.93%	A		
6	1955	4	203	110.9	313.9	0.1	0.0	0.4	0.5	313.8	593.1			99.92%	A		
7	1955		203	105.8	308.8	0.1	0.0	0.4	0.5	308.7	583.4			99.92%	A		
8	1955		203	101.1	304.1	0.1	0.0	0.4	0.5	304.1	574.7			99.92%	A		
9	1955	0	203	97.1	300.1	0.1	0.0	0.4	0.5	300.0	567.0			99.91%	A		
10	1955	146	203	92.7	295.7	0.1	0.0	0.4	0.5	295.7	558.8			99.91%	A		
11	1955	292	203	91.4	294.4	0.1	0.0	0.4	0.5	294.4	556.4			99.91%	A		
12	1955	535	203	92.3	295.3	0.1	0.0	0.4	0.5	295.2	558.0			99.91%	A		
1	1956	644	203	98.0	301.0	0.1	0.0	0.4	0.5	300.9	568.7			99.91%	A		
2	1956	615	203	105.6	308.6	0.1	0.0	0.4	0.5	308.5	583.1			99.92%	A		
3	1956	668	203	111.3	314.3	0.1	0.0	0.4	0.5	314.3	594.0			99.92%	A		
4	1956	373	203	119.1	322.1	0.1	0.0	0.4	0.5	322.1	608.7	0.17%	46 698	99.93%	A	99.92%	A
5	1956	0	203	121.3	324.3	0.1	0.0	0.4	0.5	324.3	612.8			99.93%	A		
6	1956		203	114.9	317.9	0.1	0.0	0.4	0.5	317.8	600.6			99.93%	A		
7	1956		203	109.2	312.2	0.1	0.0	0.4	0.5	312.1	589.8			99.92%	A		
8	1956	0	203	104.1	307.1	0.1	0.0	0.4	0.5	307.0	580.3			99.92%	A		
9	1956	34	203	99.5	302.5	0.1	0.0	0.4	0.5	302.5	571.6			99.91%	A		
10	1956	27	203	96.3	299.3	0.1	0.0	0.4	0.5	299.2	565.5			99.91%	A		
11	1956	359	203	91.5	294.5	0.1	0.0	0.4	0.5	294.4	556.5			99.91%	A		
12	1956	370	203	94.7	297.7	0.1	0.0	0.4	0.5	297.7	562.6			99.91%	A		
1	1957	441	203	97.5	300.5	0.1	0.0	0.4	0.5	300.4	567.7			99.91%	A		
2	1957	1000	203	98.5	301.5	0.1	0.0	0.4	0.5	301.5	569.8			99.91%	A		
3	1957	642	203	114.0	317.0	0.1	0.0	0.4	0.5	316.9	598.9			99.93%	A		
4	1957	63	203	122.5	325.5	0.1	0.0	0.4	0.5	325.4	615.0	0.17%	46 555	99.93%	A	99.92%	A

5	1957	2	203	117.3	320.3	0.1	0.0	0.4	0.5	320.2	605.2			99.93%	A		
6	1957		203	111.3	314.3	0.1	0.0	0.4	0.5	314.2	593.9			99.92%	A		
7	1957	0	203	106.0	309.0	0.1	0.0	0.4	0.5	309.0	583.9			99.92%	A		
8	1957		203	101.4	304.4	0.1	0.0	0.4	0.5	304.3	575.1			99.92%	A		
9	1957	14	203	97.2	300.2	0.1	0.0	0.4	0.5	300.1	567.3			99.91%	A		
10	1957	269	203	93.0	296.0	0.1	0.0	0.4	0.5	295.9	559.3			99.91%	A		
11	1957	484	203	92.2	295.2	0.1	0.0	0.4	0.5	295.2	557.9			99.91%	A		
12	1957	971	203	93.1	296.1	0.1	0.0	0.4	0.5	296.0	559.4			99.91%	A		
1	1958	1696	203	98.6	301.6	0.1	0.0	0.4	0.5	301.5	569.8			99.91%	A		
2	1958	1277	203	115.6	318.6	0.1	0.0	0.4	0.5	318.5	602.0			99.93%	A		
3	1958	859	203	125.8	328.8	0.1	0.0	0.4	0.5	328.7	621.3			99.93%	A		
4	1958	222	203	130.8	333.8	0.1	0.0	0.4	0.5	333.7	630.7			99.93%	A		
5	1958	6	203	126.5	329.5	0.1	0.0	0.4	0.5	329.4	622.5			99.93%	A		
6	1958		203	119.5	322.5	0.1	0.0	0.4	0.5	322.4	609.3			99.93%	A		
7	1958		203	113.2	316.2	0.1	0.0	0.4	0.5	316.1	597.5			99.92%	A		
8	1958	0	203	107.7	310.7	0.1	0.0	0.4	0.5	310.6	587.1			99.92%	A		
9	1958	34	203	102.7	305.7	0.1	0.0	0.4	0.5	305.6	577.7			99.92%	A		
10	1958	82	203	98.6	301.6	0.1	0.0	0.4	0.5	301.5	569.8			99.91%	A		
11	1958	293	203	95.1	298.1	0.1	0.0	0.4	0.5	298.0	563.3			99.91%	A		
12	1958	586	203	95.3	298.3	0.1	0.0	0.4	0.5	298.2	563.6			99.91%	A		
1	1959	652	203	101.7	304.7	0.1	0.0	0.4	0.5	304.6	575.8			99.92%	A		
2	1959	562	203	109.3	312.3	0.1	0.0	0.4	0.5	312.2	590.2			99.92%	A		
3	1959	729	203	113.1	316.1	0.1	0.0	0.4	0.5	316.0	597.3			99.92%	A		
4	1959	71	203	123.7	326.7	0.1	0.0	0.4	0.5	326.6	617.3			99.93%	A		
5	1959	64	203	118.2	321.2	0.1	0.0	0.4	0.5	321.1	606.9			99.93%	A		
6	1959		203	113.5	316.5	0.1	0.0	0.4	0.5	316.4	598.1			99.93%	A		
7	1959	0	203	108.0	311.0	0.1	0.0	0.4	0.5	310.9	587.6			99.92%	A		
8	1959	0	203	103.1	306.1	0.1	0.0	0.4	0.5	306.0	578.4			99.92%	A		
9	1959	3	203	98.8	301.8	0.1	0.0	0.4	0.5	301.7	570.2			99.91%	A		
10	1959	41	203	94.7	297.7	0.1	0.0	0.4	0.5	297.6	562.5			99.91%	A		
11	1959	134	203	91.8	294.8	0.1	0.0	0.4	0.5	294.7	557.0			99.91%	A		
12	1959	379	203	90.6	293.6	0.1	0.0	0.4	0.5	293.5	554.7			99.91%	A		
1	1960	210	203	100.0	303.0	0.1	0.0	0.4	0.5	302.9	572.5			99.91%	A		
2	1960	448	203	100.0	303.0	0.1	0.0	0.4	0.5	302.9	572.6			99.91%	A		
3	1960	158	203	111.4	314.4	0.1	0.0	0.4	0.5	314.3	594.0			99.92%	A		
4	1960	73	203	111.3	314.3	0.1	0.0	0.4	0.5	314.3	594.0			99.92%	A		
5	1960	22	203	108.6	311.6	0.1	0.0	0.4	0.5	311.5	588.8			99.92%	A		
6	1960	0	203	104.5	307.5	0.1	0.0	0.4	0.5	307.4	580.9			99.92%	A		
7	1960	0	203	100.0	303.0	0.1	0.0	0.4	0.5	302.9	572.5			99.91%	A		
8	1960	0	203	96.1	299.1	0.1	0.0	0.4	0.5	299.0	565.1			99.91%	A		
9	1960	8	203	92.6	295.6	0.1	0.0	0.4	0.5	295.5	558.5			99.91%	A		
10	1960	117	203	89.2	292.2	0.1	0.0	0.4	0.5	292.1	552.1			99.90%	A		
11	1960	431	203	87.0	290.0	0.1	0.0	0.4	0.5	289.9	547.9			99.90%	A		
12	1960	351	203	92.5	295.5	0.1	0.0	0.4	0.5	295.4	558.3			99.91%	A		
1	1961	539	203	94.5	297.5	0.1	0.0	0.4	0.5	297.4	562.2			99.91%	A		
2	1961	542	203	100.6	303.6	0.1	0.0	0.4	0.5	303.5	573.6			99.92%	A		
3	1961	858	203	104.3	307.3	0.1	0.0	0.4	0.5	307.2	580.6			99.92%	A		
4	1961	253	203	117.8	320.8	0.1	0.0	0.4	0.5	320.8	606.2			99.93%	A		
5	1961	34	203	117.3	320.3	0.1	0.0	0.4	0.5	320.2	605.2			99.93%	A		
6	1961	1	203	112.1	315.1	0.1	0.0	0.4	0.5	315.0	595.3			99.92%	A		
7	1961	3	203	106.7	309.7	0.1	0.0	0.4	0.5	309.6	585.2			99.92%	A		
8	1961		203	102.1	305.1	0.1	0.0	0.4	0.5	305.0	576.4			99.92%	A		
9	1961	2	203	97.9	300.9	0.1	0.0	0.4	0.5	300.8	568.5			99.91%	A		
10	1961	65	203	93.9	296.9	0.1	0.0	0.4	0.5	296.8	561.0			99.91%	A		
11	1961	433	203	89.9	292.9	0.1	0.0	0.4	0.5	292.8	553.4			99.91%	A		
12	1961	515	203	94.2	297.2	0.1	0.0	0.4	0.5	297.1	561.6			99.91%	A		
1	1962	726	203	98.8	301.8	0.1	0.0	0.4	0.5	301.7	570.3			99.91%	A		

2	1962	703	203	107.7	310.7	0.1	0.0	0.4	0.5	310.6	587.1	0.17%	46 459	99.92%	A	99.92%	A
3	1962	330	203	117.0	320.0	0.1	0.0	0.4	0.5	319.9	604.6			99.93%	A		
4	1962	106	203	117.9	320.9	0.1	0.0	0.4	0.5	320.8	606.3			99.93%	A		
5	1962	1	203	114.2	317.2	0.1	0.0	0.4	0.5	317.1	599.3			99.93%	A		
6	1962		203	108.6	311.6	0.1	0.0	0.4	0.5	311.5	588.7			99.92%	A		
7	1962		203	103.6	306.6	0.1	0.0	0.4	0.5	306.5	579.4			99.92%	A		
8	1962	19	203	99.2	302.2	0.1	0.0	0.4	0.5	302.1	570.9			99.91%	A		
9	1962	5	203	95.7	298.7	0.1	0.0	0.4	0.5	298.6	564.5			99.91%	A		
10	1962	19	203	92.3	295.3	0.1	0.0	0.4	0.5	295.3	558.0	0.17%	46 638	99.91%	A	99.92%	A
11	1962	285	203	88.3	291.3	0.1	0.0	0.4	0.5	291.2	550.3			99.90%	A		
12	1962	783	203	88.1	291.1	0.1	0.0	0.4	0.5	291.0	550.0			99.90%	A		
1	1963	728	203	99.4	302.4	0.1	0.0	0.4	0.5	302.3	571.4			99.91%	A		
2	1963	717	203	108.2	311.2	0.1	0.0	0.4	0.5	311.1	588.0			99.92%	A		
3	1963	609	203	116.2	319.2	0.1	0.0	0.4	0.5	319.2	603.2			99.93%	A		
4	1963	74	203	123.7	326.7	0.1	0.0	0.4	0.5	326.6	617.3			99.93%	A		
5	1963	1	203	118.6	321.6	0.1	0.0	0.4	0.5	321.5	607.7			99.93%	A		
6	1963	3	203	112.5	315.5	0.1	0.0	0.4	0.5	315.4	596.1			99.92%	A		
7	1963		203	107.1	310.1	0.1	0.0	0.4	0.5	310.0	586.0	0.17%	46 010	99.92%	A	99.92%	A
8	1963	0	203	102.3	305.3	0.1	0.0	0.4	0.5	305.2	576.9			99.92%	A		
9	1963	13	203	98.1	301.1	0.1	0.0	0.4	0.5	301.0	568.9			99.91%	A		
10	1963	77	203	94.0	297.0	0.1	0.0	0.4	0.5	296.9	561.2			99.91%	A		
11	1963	383	203	90.3	293.3	0.1	0.0	0.4	0.5	293.2	554.2			99.91%	A		
12	1963	284	203	99.3	302.3	0.1	0.0	0.4	0.5	302.3	571.3			99.91%	A		
1	1964	300	203	103.5	306.5	0.1	0.0	0.4	0.5	306.4	579.0			99.92%	A		
2	1964	252	203	108.1	311.1	0.1	0.0	0.4	0.5	311.0	587.8			99.92%	A		
3	1964	122	203	111.5	314.5	0.1	0.0	0.4	0.5	314.4	594.2			99.92%	A		
4	1964	5	203	110.7	313.7	0.1	0.0	0.4	0.5	313.6	592.7			99.92%	A		
5	1964	3	203	105.7	308.7	0.1	0.0	0.4	0.5	308.6	583.2			99.92%	A		
6	1964		203	101.2	304.2	0.1	0.0	0.4	0.5	304.1	574.7			99.92%	A		
7	1964		203	97.1	300.1	0.1	0.0	0.4	0.5	300.0	567.0			99.91%	A		
8	1964	2	203	93.5	296.5	0.1	0.0	0.4	0.5	296.4	560.2			99.91%	A		
9	1964	6	203	90.4	293.4	0.1	0.0	0.4	0.5	293.3	554.3			99.91%	A		
10	1964	65	203	87.3	290.3	0.1	0.0	0.4	0.5	290.2	548.4	0.18%	45 170	99.90%	A	99.91%	A
11	1964	105	203	86.4	289.4	0.1	0.0	0.4	0.5	289.3	546.7			99.90%	A		
12	1964	370	203	84.8	287.8	0.1	0.0	0.4	0.5	287.7	543.7			99.90%	A		
1	1965	313	203	93.7	296.7	0.1	0.0	0.4	0.5	296.6	560.6			99.91%	A		
2	1965	271	203	99.8	302.8	0.1	0.0	0.4	0.5	302.7	572.2			99.91%	A		
3	1965	110	203	105.1	308.1	0.1	0.0	0.4	0.5	308.0	582.1			99.92%	A		
4	1965	103	203	103.7	306.7	0.1	0.0	0.4	0.5	306.6	579.6			99.92%	A		
5	1965	3	203	103.1	306.1	0.1	0.0	0.4	0.5	306.1	578.5			99.92%	A		
6	1965	1	203	99.0	302.0	0.1	0.0	0.4	0.5	301.9	570.5			99.91%	A		
7	1965		203	95.2	298.2	0.1	0.0	0.4	0.5	298.1	563.4	0.18%	45 766	99.91%	A	99.91%	A
8	1965	0	203	91.8	294.8	0.1	0.0	0.4	0.5	294.8	557.1			99.91%	A		
9	1965	9	203	88.8	291.8	0.1	0.0	0.4	0.5	291.7	551.4			99.90%	A		
10	1965	25	203	86.4	289.4	0.1	0.0	0.4	0.5	289.4	546.9			99.90%	A		
11	1965	402	203	82.6	285.6	0.1	0.0	0.4	0.5	285.5	539.6			99.90%	A		
12	1965	396	203	87.7	290.7	0.1	0.0	0.4	0.5	290.6	549.3			99.90%	A		
1	1966	681	203	90.6	293.6	0.1	0.0	0.4	0.5	293.5	554.8			99.91%	A		
2	1966	570	203	100.2	303.2	0.1	0.0	0.4	0.5	303.1	572.9			99.92%	A		
3	1966	727	203	105.3	308.3	0.1	0.0	0.4	0.5	308.2	582.5			99.92%	A		
4	1966	101	203	116.6	319.6	0.1	0.0	0.4	0.5	319.5	603.8			99.93%	A		
5	1966	4	203	112.9	315.9	0.1	0.0	0.4	0.5	315.8	596.9			99.92%	A		
6	1966	6	203	107.5	310.5	0.1	0.0	0.4	0.5	310.4	586.7			99.92%	A		
7	1966	0	203	102.8	305.8	0.1	0.0	0.4	0.5	305.7	577.8			99.92%	A		
8	1966	14	203	98.5	301.5	0.1	0.0	0.4	0.5	301.4	569.6			99.91%	A		
9	1966	54	203	94.7	297.7	0.1	0.0	0.4	0.5	297.7	562.6			99.91%	A		
10	1966	33	203	92.4	295.4	0.1	0.0	0.4	0.5	295.3	558.1			99.91%	A		

11	1966	92	203	89.8	292.8	0.1	0.0	0.4	0.5	292.7	553.3	0.17%	46 063	99.91%	A	99.92%	A
12	1966	256	203	88.3	291.3	0.1	0.0	0.4	0.5	291.2	550.4			99.90%	A		
1	1967	469	203	91.3	294.3	0.1	0.0	0.4	0.5	294.2	556.0			99.91%	A		
2	1967	348	203	102.8	305.8	0.1	0.0	0.4	0.5	305.7	577.8			99.92%	A		
3	1967	229	203	109.5	312.5	0.1	0.0	0.4	0.5	312.4	590.5			99.92%	A		
4	1967	257	203	110.7	313.7	0.1	0.0	0.4	0.5	313.6	592.8			99.92%	A		
5	1967	1	203	115.1	318.1	0.1	0.0	0.4	0.5	318.0	601.0			99.93%	A		
6	1967	0	203	109.4	312.4	0.1	0.0	0.4	0.5	312.3	590.2			99.92%	A		
7	1967		203	104.3	307.3	0.1	0.0	0.4	0.5	307.2	580.7			99.92%	A		
8	1967	0	203	99.9	302.9	0.1	0.0	0.4	0.5	302.8	572.3			99.91%	A		
9	1967	2	203	95.9	298.9	0.1	0.0	0.4	0.5	298.9	564.9			99.91%	A		
10	1967	137	203	91.9	294.9	0.1	0.0	0.4	0.5	294.8	557.1	0.17%	46 836	99.91%	A	99.92%	A
11	1967	781	203	87.9	290.9	0.1	0.0	0.4	0.5	290.8	549.6			99.90%	A		
12	1967	520	203	100.3	303.3	0.1	0.0	0.4	0.5	303.2	573.1			99.92%	A		
1	1968	756	203	104.1	307.1	0.1	0.0	0.4	0.5	307.0	580.2			99.92%	A		
2	1968	382	203	114.7	317.7	0.1	0.0	0.4	0.5	317.6	600.3			99.93%	A		
3	1968	490	203	115.0	318.0	0.1	0.0	0.4	0.5	318.0	601.0			99.93%	A		
4	1968	233	203	119.2	322.2	0.1	0.0	0.4	0.5	322.1	608.7			99.93%	A		
5	1968	15	203	118.1	321.1	0.1	0.0	0.4	0.5	321.0	606.7			99.93%	A		
6	1968		203	112.3	315.3	0.1	0.0	0.4	0.5	315.3	595.8			99.92%	A		
7	1968		203	106.9	309.9	0.1	0.0	0.4	0.5	309.8	585.6			99.92%	A		
8	1968	0	203	102.2	305.2	0.1	0.0	0.4	0.5	305.1	576.6			99.92%	A		
9	1968	10	203	97.9	300.9	0.1	0.0	0.4	0.5	300.8	568.6			99.91%	A		
10	1968	43	203	94.3	297.3	0.1	0.0	0.4	0.5	297.2	561.7	0.17%	46 635	99.91%	A	99.92%	A
11	1968	324	203	90.3	293.3	0.1	0.0	0.4	0.5	293.2	554.2			99.91%	A		
12	1968	375	203	92.9	295.9	0.1	0.0	0.4	0.5	295.8	559.0			99.91%	A		
1	1969	722	203	94.5	297.5	0.1	0.0	0.4	0.5	297.4	562.0			99.91%	A		
2	1969	721	203	103.7	306.7	0.1	0.0	0.4	0.5	306.6	579.5			99.92%	A		
3	1969	818	203	111.3	314.3	0.1	0.0	0.4	0.5	314.2	593.8			99.92%	A		
4	1969	139	203	123.7	326.7	0.1	0.0	0.4	0.5	326.6	617.3			99.93%	A		
5	1969	0	203	120.1	323.1	0.1	0.0	0.4	0.5	323.0	610.4			99.93%	A		
6	1969		203	113.7	316.7	0.1	0.0	0.4	0.5	316.6	598.5			99.93%	A		
7	1969		203	108.2	311.2	0.1	0.0	0.4	0.5	311.1	587.9			99.92%	A		
8	1969	3	203	103.2	306.2	0.1	0.0	0.4	0.5	306.2	578.6			99.92%	A		
9	1969	28	203	98.8	301.8	0.1	0.0	0.4	0.5	301.8	570.3			99.91%	A		
10	1969	145	203	216.0	419.0	0.1	0.0	0.4	0.5	418.9	791.7	0.15%	52 728	99.96%	A	99.94%	A
11	1969	235	203	168.3	371.3	0.1	0.0	0.4	0.5	371.2	701.5			99.95%	A		
12	1969	376	203	161.5	364.5	0.1	0.0	0.4	0.5	364.4	688.7			99.95%	A		
1	1970	323	203	155.9	358.9	0.1	0.0	0.4	0.5	358.8	678.1			99.95%	A		
2	1970	310	203	139.9	342.9	0.1	0.0	0.4	0.5	342.8	647.9			99.94%	A		
3	1970	160	203	141.6	344.6	0.1	0.0	0.4	0.5	344.5	651.1			99.94%	A		
4	1970	70	203	118.8	321.8	0.1	0.0	0.4	0.5	321.7	608.1			99.93%	A		
5	1970	1	203	115.6	318.6	0.1	0.0	0.4	0.5	318.5	601.9			99.93%	A		
6	1970	0	203	119.0	322.0	0.1	0.0	0.4	0.5	321.9	608.4			99.93%	A		
7	1970	0	203	137.6	340.6	0.1	0.0	0.4	0.5	340.6	643.6			99.94%	A		
8	1970	0	203	142.5	345.5	0.1	0.0	0.4	0.5	345.5	652.9			99.94%	A		
9	1970	6	203	120.1	323.1	0.1	0.0	0.4	0.5	323.0	610.5			99.93%	A		
10	1970	102	203	106.3	309.3	0.1	0.0	0.4	0.5	309.2	584.4	0.17%	47 885	99.92%	A	99.92%	A
11	1970	401	203	93.9	296.9	0.1	0.0	0.4	0.5	296.8	561.0			99.91%	A		
12	1970	542	203	83.3	286.3	0.1	0.0	0.4	0.5	286.2	540.9			99.90%	A		
1	1971	890	203	96.9	299.9	0.1	0.0	0.4	0.5	299.8	566.6			99.91%	A		
2	1971	619	203	115.6	318.6	0.1	0.0	0.4	0.5	318.5	602.0			99.93%	A		
3	1971	189	203	116.3	319.3	0.1	0.0	0.4	0.5	319.2	603.3			99.93%	A		
4	1971	115	203	105.6	308.6	0.1	0.0	0.4	0.5	308.5	583.0			99.92%	A		
5	1971	24	203	116.9	319.9	0.1	0.0	0.4	0.5	319.8	604.5			99.93%	A		
6	1971	4	203	120.9	323.9	0.1	0.0	0.4	0.5	323.9	612.1			99.93%	A		
7	1971		203	132.8	335.8	0.1	0.0	0.4	0.5	335.7	634.5			99.94%	A		

8	1971	0	203	140.9	343.9	0.1	0.0	0.4	0.5	343.8	649.7			99.94%	A		
9	1971	6	203	124.2	327.2	0.1	0.0	0.4	0.5	327.1	618.3			99.93%	A		
10	1971	43	203	103.1	306.1	0.1	0.0	0.4	0.5	306.0	578.4			99.92%	A		
11	1971	324	203	85.0	288.0	0.1	0.0	0.4	0.5	287.9	544.1			99.90%	A		
12	1971	424	203	80.6	283.6	0.1	0.0	0.4	0.5	283.5	535.8			99.89%	A		
1	1972	964	203	90.7	293.7	0.1	0.0	0.4	0.5	293.7	555.0			99.91%	A		
2	1972	323	203	103.9	306.9	0.1	0.0	0.4	0.5	306.8	579.8			99.92%	A		
3	1972	840	203	120.0	323.0	0.1	0.0	0.4	0.5	322.9	610.2			99.93%	A		
4	1972	210	203	126.7	329.7	0.1	0.0	0.4	0.5	329.6	623.0	0.16%	49 543	99.93%	A	99.93%	A
5	1972	17	203	129.0	332.0	0.1	0.0	0.4	0.5	331.9	627.2			99.93%	A		
6	1972		203	165.9	368.9	0.1	0.0	0.4	0.5	368.9	697.1			99.95%	A		
7	1972		203	185.4	388.4	0.1	0.0	0.4	0.5	388.3	733.9			99.95%	A		
8	1972	0	203	162.6	365.6	0.1	0.0	0.4	0.5	365.5	690.9			99.95%	A		
9	1972	19	203	131.8	334.8	0.1	0.0	0.4	0.5	334.7	632.6			99.94%	A		
10	1972	38	203	105.7	308.7	0.1	0.0	0.4	0.5	308.6	583.3			99.92%	A		
11	1972	30	203	76.0	279.0	0.1	0.0	0.4	0.5	278.9	527.1			99.89%	A		
12	1972	144	203	72.9	275.9	0.1	0.0	0.4	0.5	275.8	521.3			99.88%	A		
1	1973	120	203	70.5	273.5	0.1	0.0	0.4	0.5	273.5	516.9			99.88%	A		
2	1973	157	203	62.3	265.3	0.1	0.0	0.4	0.5	265.2	501.3			99.86%	A		
3	1973	129	203	66.2	269.2	0.1	0.0	0.4	0.5	269.1	508.6			99.87%	A		
4	1973	21	203	62.0	265.0	0.1	0.0	0.4	0.5	264.9	500.8	0.20%	40 528	99.86%	A	99.87%	A
5	1973	0	203	60.9	263.9	0.1	0.0	0.4	0.5	263.8	498.6			99.86%	A		
6	1973		203	51.2	254.2	0.1	0.0	0.4	0.5	254.1	480.2			99.83%	A		
7	1973		203	48.7	251.7	0.1	0.0	0.4	0.5	251.6	475.6			99.83%	A		
8	1973		203	49.3	252.3	0.1	0.0	0.4	0.5	252.2	476.6			99.83%	A		
9	1973	3	203	45.7	248.7	0.1	0.0	0.4	0.5	248.6	470.0			99.81%	A		
10	1973	177	203	45.4	248.4	0.1	0.0	0.4	0.5	248.3	469.3			99.81%	A		
11	1973	211	203	44.8	247.8	0.1	0.0	0.4	0.5	247.7	468.2			99.81%	A		
12	1973	753	203	57.7	260.7	0.1	0.0	0.4	0.5	260.6	492.5			99.85%	A		
1	1974	890	203	83.6	286.6	0.1	0.0	0.4	0.5	286.6	541.6			99.90%	A		
2	1974	701	203	101.6	304.6	0.1	0.0	0.4	0.5	304.5	575.5			99.92%	A		
3	1974	303	203	144.6	347.6	0.1	0.0	0.4	0.5	347.5	656.9			99.94%	A		
4	1974	351	203	163.8	366.8	0.1	0.0	0.4	0.5	366.8	693.1	0.16%	48 848	99.95%	A	99.93%	A
5	1974	42	203	176.6	379.6	0.1	0.0	0.4	0.5	379.5	717.2			99.95%	A		
6	1974	0	203	155.5	358.5	0.1	0.0	0.4	0.5	358.5	677.5			99.95%	A		
7	1974		203	156.6	359.6	0.1	0.0	0.4	0.5	359.5	679.5			99.95%	A		
8	1974	7	203	154.5	357.5	0.1	0.0	0.4	0.5	357.4	675.4			99.94%	A		
9	1974	49	203	144.9	347.9	0.1	0.0	0.4	0.5	347.8	657.3			99.94%	A		