

Water challenges in SEQ

SEQ is the fastest growing region in Australia and the second fastest growing region in the western world. It is the powerhouse of the Queensland economy, supporting the majority of the state's population and the broader state economy. The region's social and economic security is inextricably linked with urban water availability.

Without significant action, rapid population and economic growth coupled with climatic variability and change could well outstrip the ability of our water supplies to cater for demand.

The current challenge—drought

Under past approaches to water supply planning, the worst droughts on record were used as a basis for establishing water infrastructure requirements and how well supplies would cope with the perceived climatic cycle. Restrictions were applied in times of severe drought. The current drought, the second worst in the region's recorded history, has encouraged a more cautious approach for the following reasons:

- Without substantial inflows to regional storages by about February 2006, it will become the worst drought on record.
- Wivenhoe, Somerset and North Pine dams, which supply more than 70 per cent of regional supply south of Caloundra, were last full in February 2001 and only minimal inflows occurred in 2004.
- Wivenhoe, Somerset and North Pine dams total storage (at the time of writing) was below 35 per cent, and Level 2 water restrictions were in effect (refer page 18 for definition of level 2 water restrictions). Toowoomba's dams are less than 28 per cent full and strict water restrictions are in force.

- Rural water shortages have resulted in some irrigators being without surface water supplies for four years.
- Unseasonably heavy rainfall in some parts of the region in late June produced only minimal inflows, with Brisbane metropolitan area dams rising on average only 0.5 per cent, highlighting that prolonged and significant rainfall will be needed to generate the runoff storages need if dams are to recover.
- If the drought continues and water restrictions are our sole means of moderation, available water supplies could become severely depleted in 2008 in many parts of the region.

The current water consumption across the region amounts to only about 75 per cent of the long-term annual volume that can be extracted from the storages based on the historical assessment approach used. This highlights the concerns with utilising traditional planning approaches to secure water supplies. In very recent times the Water Service Association of Australia and other agencies have published discussion papers to deal with this issue.

If the current conditions endure well beyond the length of the worst drought on record, severe water shortages could be experienced. At this point, in the absence of any way of predicting when the drought may break, it is essential that we are prepared for a less favourable outcome. The *Regional Drought Strategy* addresses the current drought.



The longer-term challenges—population and climate

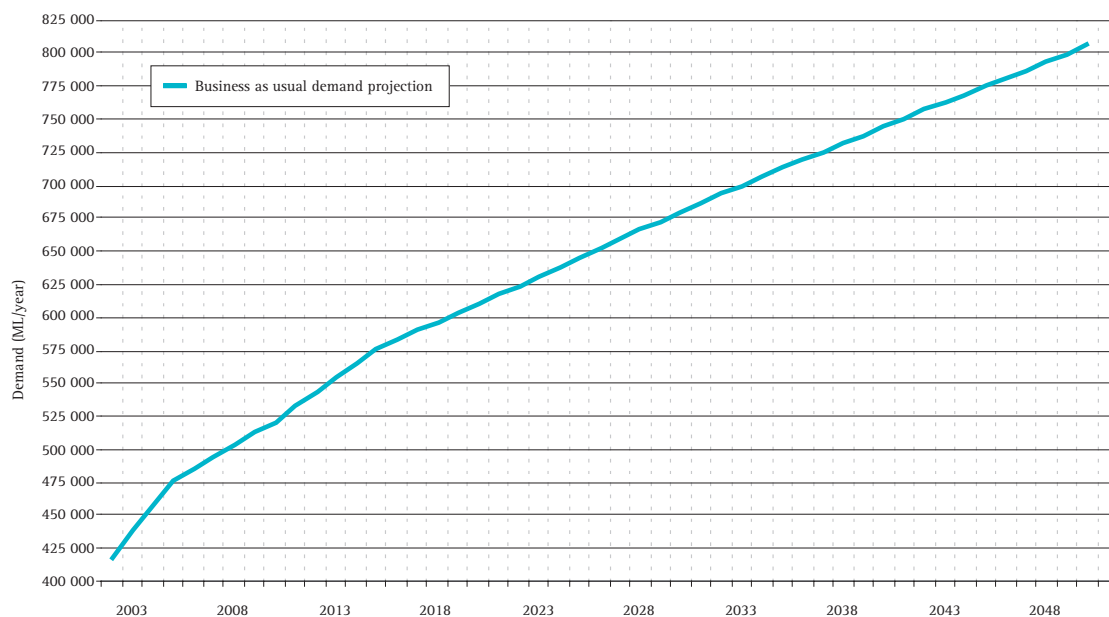
For the longer term, the effects of population pressure, protracted increased demand, and climatic variability and change must be addressed if regional water supply provision is to match our needs. While assessing the effects of population and demand is comparatively easy, those of climate variability and change are far less certain.

Climatologists cite a clear downward trend in regional rainfall over the past 30 years as evidence of climatic change. While the magnitude and nature of the change are far from certain, we need to be prepared for the eventuality that our dams may yield less water than has been the case in the past. Adding to the uncertainty is the prediction that climate change will bring higher temperatures and evaporation, resulting in increased demand for water.

Regional growth has accelerated to the point where an additional 50 000 new South East Queenslanders must be accommodated each year. Under this pressure, the current population of around 2.6 million will swell by more than 1 million by 2026, bringing the total to about 3.7 million.

The future water demand projections for SEQ on a 'business as usual' (i.e. current water use practices continue and no water restrictions are in place) basis are represented in Graph 1. These figures are based on returns in Stage 1 of the Regional Water Supply Strategy. Stage 2 will review both the population projections (to align them with the *SEQ Regional Plan*) and the likely demands to take account of trends in water consumption.

Graph 1—SEQ urban and industrial demand projections



Water challenges in SEQ

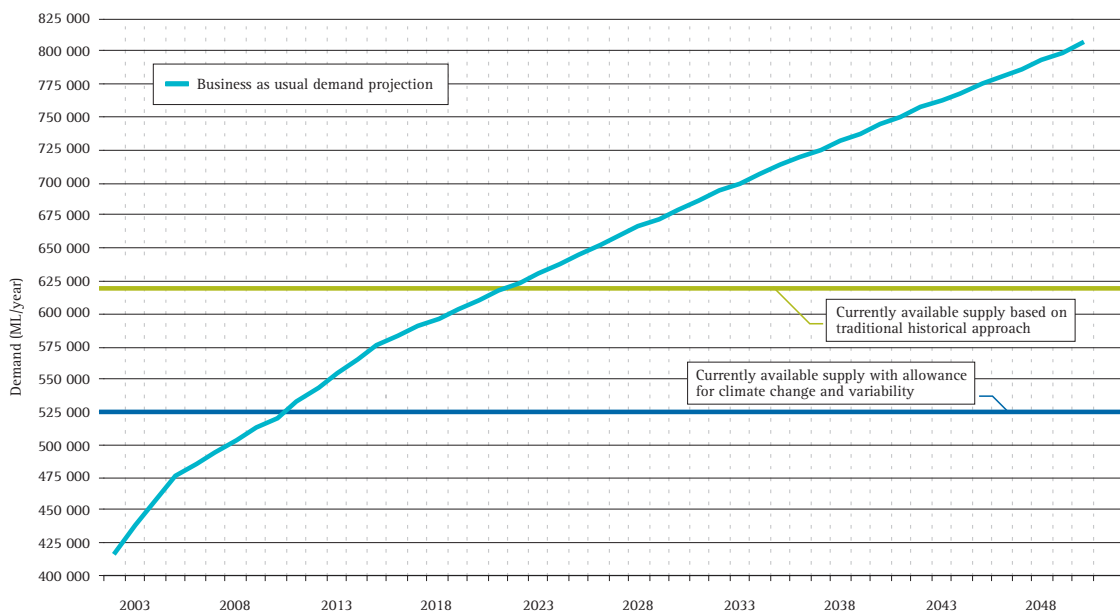
Recent assessments indicate that the region will need additional urban and industrial supplies by about 2021. This is based on a comparison of demand projections and water availability (refer Graph 2) assessed using historical data to determine yield. Some parts of the region will need to be augmented before 2021.

As part of the water resource and regional water supply planning activities in South East Queensland, the yields of all storages are being reassessed. The assessment will take account of the environmental flow requirements and the effects of climate variability and change.

It is possible that the review may result in a reduction in the estimates of water made available for consumption. Alternatively, the review could result in the development of new contingency plans to meet the water supply needs of the region during droughts worse than those experienced historically.

If yields are reduced, it will be necessary to augment supplies at an earlier date than previously assessed. The impact of a preliminary 15 per cent reduction in available supplies below historically determined yields is shown in Graph 2, this being set aside for contingency purposes. Any adjustments to water availability will be determined in the final SEQRWSS Stage 2.

Graph 2—SEQ urban and industrial supply and demand projections
Effect of reducing storage yields



The challenge of institutional arrangements in SEQ

Coordinated investment in regional water infrastructure is currently complicated by the existence of several schemes operated by different water service providers. Rivers and aquifers rarely align with local government boundaries, and there is a pressing case for viewing the regional water needs as a whole so that all sub-regional needs can be addressed equitably.

The existing institutional arrangements constrain the potential for equitable water supply sharing arrangements to be implemented throughout the region. Further, the fragmentation of responsibility for supplying water across the region complicates planning for the development of water supplies on a regional basis, and sub-optimal plans may be the result.

Altogether, 19 major water supply storages are owned by 12 different entities. A total of 18 local governments deliver water to their respective ratepayers. Additionally, several adjoining local governments obtain their supplies from SEQ. Presently, SEQ water supplies are bounded by Borumba Dam owned by SunWater on the Mary River to the north, Toowoomba City's dams in the west, and dams owned by the Gold Coast City Council in the south. In addition, Redlands Shire draws much of its water from the aquifer on North Stradbroke Island.

The State Government has initiated a review of institutional arrangements for water service provision.



Interim Report

The *Interim Report* is intended to accelerate urban and industrial water supply provision throughout the region to address immediate and short-term challenges, and establish a planning framework for long-term supply security.

The *Interim Report* is based on the considerable water supply planning which has been undertaken by state and local governments over the last few years. The *Interim Report* applies what is already known from the SEQRWSS Stage 1. It includes strategies to meet the current water supply challenge in SEQ, while building capacity to meet longer-term water supply challenges.

The *Interim Report*:

- is a companion to, and builds upon the *SEQ Regional Plan* and *SEQ Infrastructure Plan and Program*, the three documents being an integrated approach to dealing with the major issues facing SEQ
- lists projects that will address short, medium and long-term issues particularly for urban and industrial water
- provides indicative balances of supply and demand of water for the period 2005–2050
- addresses the contingency planning needs identified in the *Regional Drought Strategy*
- complements the *Queensland Water Plan 2005–2010*.

Contingency planning under the *Regional Drought Strategy* for urban water supply in SEQ has been undertaken to alleviate the potential low probability future shortfalls in supply to the Wivenhoe, Somerset and North Pine dams supply area. A two-pronged strategy (supply side and demand side) has been developed to lengthen the availability of supply from existing sources and establish new sources should the drought continue beyond this summer. These strategies are aimed at preventing the combined supply of the Wivenhoe, Somerset and North Pine dams dropping below 10 per cent. This assessment is based on the unlikely event of repeated in-flows at April 2004–March 2005 levels to the dams.

Four levels of restrictions have been proposed with level 4 restrictions applying when the combined supply of the Wivenhoe, Somerset and North Pine dams is less than 25 per cent. The targeted reduction in consumption under level 4 restrictions is 25 per cent. Depending on the time of year, this will result in reduced consumption of between 230 ML/day and 280 ML/day.

In addition to the restrictions, it is proposed to implement a range of other measures to either reduce the take of water from the Wivenhoe, Somerset and North Pine dams system or increase supply to the area serviced. The anticipated net benefit of reduced take and increased supply proposed over the next three years is:

Year	Approximate total Additional benefit (ML/day)
2006	60
2007	330
2008	550

The implementation of the drought contingency measures will be overseen by an Executive Infrastructure Implementation Steering Committee and progress on some initiatives will depend on whether the drought continues or breaks.

The finalisation of the SEQRWSS Stage 2 Report, due at the end of 2006, will continue under existing arrangements negotiated between the state and Council of Mayors (SEQ). It will, among other matters:

- clarify the timing and sequencing of medium-term infrastructure previously announced by the state
- identify other medium and longer-term infrastructure requirements
- identify where further assessments will be necessary for the preservation of lands for future water supply including desalination sites, recycled water schemes and dams
- establish a regional drought strategy for the medium and longer term, and an appropriate policy framework for droughts and other contingencies
- identify how the consumption targets outlined in the *SEQ Regional Plan* will be achieved
- provide a basis for clarifying water sharing arrangements and distribution infrastructure necessary to deliver on the proposed *SEQ Regional Plan* development outcomes
- clarify policy to be applied at the regional level for the use of water so that future development is not inhibited by inefficient or inappropriate use
- investigate options to improve rural water supplies
- establish a consistent system for water accounting, monitoring and reporting.

Summary of short, medium and long-term actions

Table 2—Summary of short, medium and long-term actions

Short-term initiatives	Anticipated date	Estimated ML /day	Lead agent
Water restrictions incorporated in the <i>Regional Drought Strategy</i>	Immediate - level 2 restrictions currently in force	Level 1 - 46-57 Level 2 - 137-170 Level 3 - 183-227 Level 4 - 230-284	Local governments and SEQWater
Recommissioning Lake Manchester and Enoggera dams	Complete by end 2005	30-40	Brisbane City Council
Regional pressure reduction and leakage management (three stages)	Commence 2006	50-75	Local Government with State Government financial support
Stage 1 Recycled water substitution to industry (including industry in the Western Corridor, Swanbank Power Station, possibly Tarong Power Station and Australian TradeCoast)	Commence design and corridor work immediately with view to construction in 2007	up to 110	State Government in partnership with SEQWater, Brisbane City Council and Ipswich City Council
Minor aquifers	Commence immediately with a view to implementation by Mid 2007	20	Primarily Brisbane City Council
Inter-catchment water distribution e.g. <ul style="list-style-type: none"> • Gold Coast offtake • Southern Regional Pipeline • Nth Stradbroke augmentation and possible Redland interconnection 	Investigate with view to implementation as soon as practicable	35-60	State Government in partnership with SEQWater and relevant councils. A subsidiary company of SEQWater has been established to lead the Southern Regional Pipeline project
Indoor water efficiency	Investigate with view to implementation by Mid 2007	10-15	State and local governments and SEQWater
Cedar Grove Weir	Complete by 2008	11	State Government
Regional desalination (Gold Coast)	Investigate immediately with view to implementation by early 2008	55-110	Gold Coast City Council and SEQWater
Mary River Weir	Complete by 2009	20-25	State Government

Interim Report

Table 2 continued

Short-term initiatives	Anticipated date	Estimated ML /day	Lead agent
Additional drought contingency options (for supply zones of Somerset, Wivenhoe and North Pine dams)			
Groundwater supplies	Preliminary analysis complete Feb 2006	Sustainable quantities are yet to be defined	State Government in partnership with the relevant councils
Other regional desalination	Preliminary analysis complete Feb 2006	To be defined	State Government in partnership with the relevant councils
Medium to longer-term options 2010–2020			
Detailed investigations for the raising of Hinze Dam	Commence investigations 2005	12–24	Gold Coast City Council
Stage 2 recycled water	Commence investigations of extension of Stage 1 recycled water substitution to industry 2006	up to 140	State Government in partnership with SEQWater, Brisbane City Council and Ipswich City Council
Detailed investigations for Wyaralong Dam	Commence investigations 2006	55	State Government in partnership with relevant water service provider
Investigate recommissioning of Ewen Maddock Dam and upgrade South Maroochy supply system	Investigate as part of SEQRWSS and beyond	To be defined	Local Government
Possible longer-term measures 2021–2050			
Investigate Mary River water storage improvements	Investigate as part of SEQRWSS and beyond		
Investigate Glendower Dam and downstream Albert River Barrage	Investigate as part of SEQRWSS and beyond		
Investigate raising of Wivenhoe Dam	Investigate as part of SEQRWSS and beyond		
Investigate groundwater supplies	Investigate as part of SEQRWSS and beyond		
Investigate other regional desalination	Investigate as part of SEQRWSS and beyond		
Subsequent stages of water recycling	Investigate as part of SEQRWSS and beyond		

Note: Medium and longer-term actions are subject to the outcomes of more detailed investigation as the South East Queensland Regional Water Supply Strategy is further progressed. Project design and delivery will depend on outcomes of technical, social, economic and environmental investigations.

Detailed description of short-term and drought contingency planning projects

The following provides more detail on the short-term and drought contingency projects being urgently progressed. The medium and longer-term measures require more analysis. Further explanation about these proposals and actions relating to rural water supplies will be provided in the Final SEQRWSS Stage 2 Report.

Short-term projects

Regional water restrictions

To save water during the drought, SEQWater and the local governments in the SEQ region have agreed on certain water conservation practices to be implemented across the region. Water restrictions will apply to all consumers. Trigger levels for regional water restrictions are implemented when:

Level 1–	Combined regional water capacity falls to 40 per cent
Level 2–	Combined regional water capacity falls to 35 per cent
Level 3–	Combined regional water capacity falls to 30 per cent
Level 4–	Combined regional water capacity falls to 25 per cent

Level 1 restrictions targeted a five per cent reduction in water consumption, and eight per cent reduction was achieved. Level 2 restrictions currently in force target a 15 per cent reduction. Levels 3 and 4 restrictions are anticipated to target 20 per cent and 25 per cent reductions respectively. Beaudesert Shire may be subject to different restriction regimes because its supplies are provided mainly via the Logan River and the Maroon Dam system.

Recommissioning Lake Manchester and Enoggera Dams

A priority short-term project is the recommissioning of Enoggera Dam. Lake Manchester is now operational. These reserves were once a supply for Brisbane but have not been used since Wivenhoe Dam was built. Given the current drought, they are now a very useful back-up supply. While these reserves are small, being more coastal, the storages are likely to replenish through summer storms.

Regional pressure reduction and leakage management

The State Government will subsidise approved projects to reduce losses by reducing pressure in water pipes to minimise breaks and leakage. This is expected to save 50–75 ML/day across South East Queensland. Initial trials on the Gold Coast have had positive water saving results without a loss of service standards to residents and industry. In addition, pressure reduction in 10 zones in Brisbane since 1993 have shown significant water and maintenance savings.

Stage 1 Recycled water substitution

In recent times, Ipswich City Council, Brisbane City Council, SEQ Water and the Lockyer Water Users Forum developed, as a joint project, a western corridor recycled water proposal. The initial concept was to collect the wastewater of Ipswich and western Brisbane and recycle it to industry (including Swanbank), residential (dual reticulation) and the rural sectors (including irrigators in the Lockyer Valley).

More recently, this proposal has evolved to give priority to the supply of recycled water to the Swanbank and Tarong Power Stations as a drought contingency and long-term supply measure as well as considering the provision of additional supply to irrigators. The proposal is to first pipe recycled water from Oxley, Wacol, Goodna and Bundamba to the power stations. Subsequent stages will explore the option of recycling from Luggage Point and Gibson Island to rural areas and other potential users in the western corridor.

The Queensland Government has taken a lead by financing preliminary activities to facilitate design, easement acquisition and business case development for the project. SEQWater is now the project manager and a business case will be prepared to assess the viability of supplying recycled water to meet industrial, rural and urban demands.

Brisbane City Council has been working with industry in the Australia TradeCoast area to implement a number of projects that substitute recycled water for existing potable water supplies. This scheme, when completed, will be one of the largest recycled water schemes in Australia and provide a key flagship for the future sustainability of water supply in South East Queensland.

Interim Report

Minor aquifers

Brisbane City Council and the Queensland Government are currently investigating groundwater for emergency supplies in mainland areas near Brisbane. These still need to be fully evaluated and developed and would be subject to all the necessary environmental assessments, approvals and project feasibility.

Inter-catchment water distribution

An Inter-catchment Water Distribution Group will be established to investigate and recommend ways to optimise the use of water from SEQ sources of supply. For example, small storages in higher rainfall areas may be emptied more quickly to take advantage of their greater probability of filling, and some water users with adequate alternative supplies may be able to discontinue taking water from the Wivenhoe, Somerset and North Pine dams.

The Coordinator-General has declared the Southern Regional Water Pipeline proposal a 'significant project' and will coordinate all approvals necessary to ensure timely progress on the project. This includes land acquisition, environmental impact and cultural heritage assessments.

The proposed pipeline will enable efficient transfer of water between Wivenhoe Dam, the proposed Wyaralong Dam and Cedar Grove Weir, and possible future desalination facilities and existing supplies on the Gold Coast. These transfer arrangements would enable the SEQ corner to respond efficiently to drought shortages and supply the booming growth corridors linking Brisbane, Ipswich, the Gold Coast, Logan and Beaudesert. The project, if it goes ahead,

will create a network of water pipes between Wivenhoe and Hinze dams and connection points to the planned Wyaralong Dam through to the Cedar Grove Weir. The project is expected to cost \$250 million and be completed over 10 years.

Indoor water efficiency

Targeted financial assistance programs by local governments will continue to be directed at improving water use efficiency. The Queensland Government's Sustainable Housing Policy will improve the greenhouse performance, energy and water efficiency of new housing, through measures such as requiring the mandatory installation of AAA rated water efficient shower heads, dual flush toilets, and pressure limiting devices in all new residential buildings and major renovations approved from 1 March 2006.

The Building Code will also be amended so local governments can mandate rainwater tanks in new houses for toilet flushing and external uses. Using rainwater tanks for gardens, toilets and laundries could save about 25 per cent of household water use. The savings can be higher or lower depending on location, size of rainwater tanks and climatic conditions.

Cedar Grove Weir

The Queensland Government will expedite the construction of the Cedar Grove Weir on the Logan River to improve security of supply for Beaudesert. The weir will ultimately become a regulating structure for the proposed Wyaralong Dam and is anticipated to be completed by the end of 2008. This is a component of the *South East Queensland Regional Infrastructure Plan and Program*.



Regional desalination

As with other Australian metropolitan city regions, desalination is now under active investigation for SEQ. Desalination of seawater involves taking seawater and treating it in a desalination plant most likely using reverse osmosis to remove the salt and other impurities. Issues requiring consideration include development and operating costs, cost of water produced and possible impacts, including additional draw on energy supplies.

The Gold Coast City Council has previously investigated site options and has been fast tracking assessments for the possible construction of a 55–110 ML/day desalination plant. This would provide the Gold Coast's additional water needs for the immediate future.

Mary River Weir

The Queensland Government will expedite construction of a weir on the Mary River to improve security of supply for Gympie and Noosa. The weir will be a regulating structure for Borumba Dam and is anticipated to be completed by the end of 2009. Ultimate ownership and operation of the weir will be determined as part of the review of institutional arrangements.

Additional drought contingency option

Groundwater supplies

The Redlands and Caboolture Shire Councils already extract groundwater from North Stradbroke Island and Bribie Island.

Small quantities of additional supply may be available from North Stradbroke Island. However, more investigations are required to confirm the volumes which may be available. The feasibility of any additional supply will be dependent on whether it can be developed on a sustainable and cost-effective basis.

Other regional desalination

In addition to the desalination facility being considered for the Gold Coast, there is a need to evaluate options for desalination elsewhere in the region. Investigations are being fast tracked to identify suitable sites for desalination facilities and to assess the feasibility of desalination as a drought contingency measure and a possible permanent supply measure. For each potential site, energy use and environmental impacts will be fully investigated and reported.



Interim Report–implementation plan

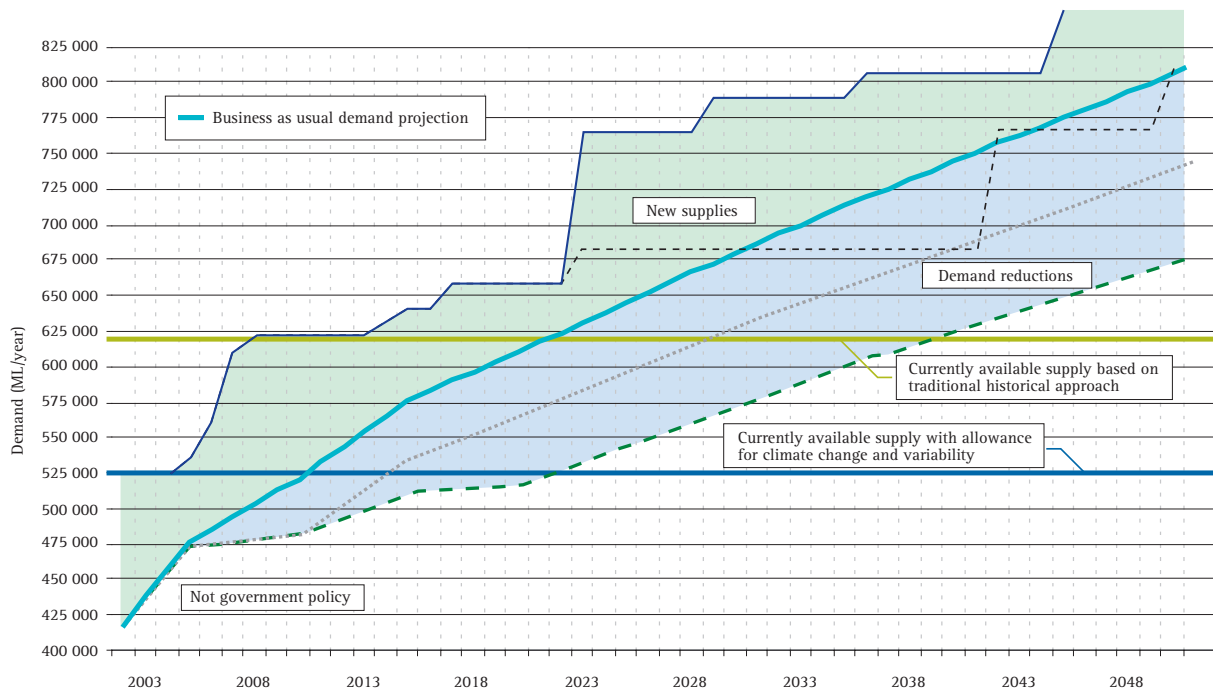
Governance arrangements progressing the Interim Report

An Executive SEQ Infrastructure Implementation Steering Committee has been established to oversee the implementation of projects identified in the *Interim Report*. The committee is jointly chaired by the Coordinator-General and the Director-General of the Department of Natural Resources and Mines and includes local government and water service provider representatives.

Finalising the SEQRWSS–Stage 2 Possible infrastructure program to meet future demand

Graph 3 illustrates a possible infrastructure program, subject to further investigation, to meet future demand. It also illustrates that the demand targets set in the *SEQ Regional Plan* provide considerable scope to extend the period over which existing supplies can meet demand.

Graph 3–Possible infrastructure program to meet future demand



- 'Business as usual' demand projection
- Demand projections using SEQ Regional Plan target demand of 270 litres/person/day in 2010
- - - Demand projections using SEQ Regional Plan target demand of 230 litres/person/day in 2020
- Total supply to meet 'Business as usual' demand following new infrastructure provision
- - - - Future infrastructure can be deferred by demand reductions

Possible infrastructure program subject to SEQ Regional Water Supply Strategy

Short-term projects (2005–2009)

Recommissioning of Lake Manchester and Enoggera Dam, recycling to industry, optimisation of intercatchment water distribution, Cedar Grove Weir, minor aquifers, desalination plant (subject to further investigation), Mary River Weir.

Medium-term projects (2010–2020)

Subject to investigation – Raise Hinze Dam, construct Wyaralong Dam, recommission Ewan Maddock Dam, and upgrade South Maroochy supply system.

Possible longer-term measures (2021–2050)

Pending investigation – construct Glendower Dam and Mary River water storage improvements, augment desalination capacity and recycling of water, provide additional mainland groundwater supplies, and raise Wivenhoe Dam.

All surface water yields have been reduced by 15 per cent as an allowance for contingency purposes. Rural water supplies are still under investigation.

Table 3—Effect of reducing consumption

Domestic consumption (litres/person/day)	Period existing supplies meet demand based on historical record approach	Period existing supplies meet demand allowing for climate variability and change
'Business as usual' 300	2021	2011
Year 2010 target 270	2030	2015
Year 2020 target 230	2040	2022

These targets could be expected to see the adequacy of existing supplies extended as indicated in Table 3 above. This can be viewed schematically in Graph 3 (page 21), which assumes these targets are achieved. Assuming that a consumption target of 270 litres per person per day is achievable, Graph 3 indicates that existing supplies could be extended for about eight or nine years based on historical supply assessments, or about four years when a reduction in storage yield is allowed for to address the risk of climate variability and change. The achievability or otherwise of the consumption targets is currently being assessed, with the results being incorporated in the final SEQRWSS Stage 2 Report.

Graph 3 also indicates possible increases in cumulative totals of water availability across the region assuming a preliminary 15 per cent reduction in historically determined yields to provide some contingency for worse than historical droughts. This reduction in yield has been assumed based on consideration of probability assessments and the likelihood of worse than historical droughts. The possible program of supply augmentation incorporates some of the infrastructure proposals being investigated and indicatively the potential improvements to supply availability. As indicated earlier, this will be reviewed in the preparation of the final SEQRWSS Stage 2 Report.



Interim Report – implementation plan

It is envisaged that finalisation of the SEQRWSS Stage 2 Report will be progressed under the existing project management arrangements. In developing the final strategy and addressing the appropriate balance between supply and demand, there will be particular regard to:

Demand

- The significant short-term, low-cost gains available through pressure reduction to lower consumption and water distribution system losses.
- The potential gains available through water restrictions and effect of demand hardening as water use efficiency improves.
- The time it will take to implement demand initiatives other than restrictions which have the potential to provide the best long-term community returns e.g. installation of water efficient appliances.
- The need to establish new policy and legislative frameworks to support integrated water management to address the full water cycle.
- The need for the state to lead by example in improving water use efficiency in its own buildings.

Supply

- The relatively high cost of all new water supplies for SEQ compared to the cost of existing supplies.
- Adverse environmental, social and economic costs that may reduce the benefits of new infrastructure.

Opportunities

- There are few surface water storage sites left that could be developed with acceptable social, environmental or economic impacts. Therefore, those sites that exist must be protected for future development.
- The limited major surface water development opportunities already identified in southern areas include the proposed Glendower and Wyaralong dams and the raising of Hinze Dam. There may be some cost-effective opportunities to improve the efficiency of existing dams with water harvested from smaller, undeveloped catchments. The environmental issues associated with inter-basin transfers will have to be assessed.
- Some major water storage improvement opportunities in the Mary River catchment are being assessed.
- Raising existing dams offers a way of minimising the environmental impacts of water resource development by not inundating pristine aquatic environments.
- There are risks associated with heavy reliance on a few major storages in this relatively small and dry region. It is essential to explore the opportunities and gains to be made by matching water quality with use—so called ‘fit for purpose’ strategies—and supply diversification both geographically and in terms of source types, especially those that are least impacted upon climatically. This requires further assessment of opportunities associated with desalination; water recycling; integrated urban water management; aquifer storage and recovery; rainwater tanks; and stormwater harvesting.
- Desalination is a potential future supply source that has energy, water, environmental and cost implications. Significant investigations are underway to identify and secure the most appropriate sites for desalination facilities.
- Water recycling to industry can reduce the demand on our potable water supplies. Recycling opportunities often are not in the most suitable locations and hence, can be expensive. The major opportunities are for substituting existing power station supplies, at Brisbane Airport and the Australia TradeCoast areas of Brisbane.

Limitations and risks

- Any future supply strategies that may be adopted will have advantages and disadvantages, including different limitations and costs. Dams; groundwater extractions; desalination; water recycling; integrated urban water management; aquifer storage and recovery; rainwater tanks; and stormwater harvesting all require careful consideration from an environmental, health, operational complexity and cost perspective.
- There are very few dam sites or aquifers available where new water supplies can be developed cheaply. Under these circumstances, urban requirements could be expected to be predominant and it is unlikely that significant additional surface and groundwater supplies will be able to be made available for rural purposes. Given these limitations and the few opportunities available, new and raised storages will tend to be developed to the maximum limits possible allowed through water resource planning processes.
- The high level of water resource development that has already occurred in the Brisbane River catchment limits the prospect of increasing water allocations. Any further infrastructure development in the Wivenhoe catchment area would reduce the yields of the Wivenhoe Somerset dams system. Future growth in western areas of SEQ will need to be largely serviced from water supplies in existing large storages such as Wivenhoe, Somerset, Cressbrook, Perseverance and Cooby dams.
- Because of the environmental sensitivities, the future development of island groundwater supplies are likely to be limited, except perhaps as an extreme drought emergency measure. Smaller mainland groundwater supplies may be developed as a drought measure.