



Wildlife Preservation

SOCIETY OF QUEENSLAND

Wildlife Preservation Society of Queensland Water Cycle Management Policy

Scope

This policy establishes the Wildlife Preservation Society of Queensland's (WPSQ) views on major issues relating to water use, conservation and management. This policy sets out goals and major actions to protect water resources and catchments and ensure the sustainable use of water. This policy does not include position statements or policy in relation to the Great Artesian Basin, as these will be presented in a separate position paper.

Context

Australia is the driest inhabited continent in the world and currently has one of the highest per capita water consumption rates in the world. Most of Australia's precipitation is lost to evaporation (about 90%). Little (less than 13%) rainfall runoff reaches waterways. Much of the southern part of the country is dry with most (about 75%) of the total rainfall occurring in the northern catchments. Over the next 25 years the climate is predicted to become hotter and drier, with more frequent and violent weather events.

Currently the 200 major reservoirs in Queensland provide over 60% of the total water supply. Decreases in rainfall will impact directly on the capacity of these storages to deliver sufficient water supplies. Recharge rates to underground storages will also be affected, with some underground supplies already stressed due to over-use, seawater intrusion and contamination. Urban areas affect water movement by increasing the volume and speed of runoff and transport pollutants to our precious waterways, rivers and ground water.

Most treated water in Australia is not used for direct consumption. Nationally, in Australia the major use of treated water (over 80%) is for irrigation and the rural sector. The rest is utilised by the urban and industrial sectors. Characteristically in urban areas, gardens account for the largest proportion of domestic/household treated water use. Agricultural production accounts for the bulk of rural water use (over 80%). In addition, just over a third of all treated water is lost to seepage and evaporation through leakages before reaching the consumer.

Climate change, increased population pressure and drought conditions are likely to have serious negative impacts on traditional water sources. Sustainable water use management must include strategies for managing increasing water demands, efficient use of existing supplies and maintaining ecosystem services. Any actions taken must safeguard and improve the ecological health of supplying systems for both water supply sustainability reasons and to protect species biodiversity and viability. There are well documented impacts resulting from water extraction, use and wastewater management practices negatively affecting major ecosystems, for example the Great Barrier Reef, the Murray Darling river system and Moreton Bay.

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Effective water management includes community engagement and proactive management of community attitudes to water as a resource. This could include such measures as effective pricing of water, reduction of inappropriate uses of treated water, embracing new technologies and lifestyle changes. Planning for future water uses must include adequate provision for full costing of water supply, including ecosystem service costs.

The sustainability of supplies will depend on managing existing supplies and finding new supplies to meet demand. Future innovations and technologies focussed on both water supply and demand management must be chosen on the basis of energy efficiency, no or minimal environmental impacts and delivered at a cost that is socially equitable. Equally importantly any changed administrative arrangements, including commercial entities which may undertake future supply or transport of water, should be committed to sustainable water use principles.

The suite of policies and legislation related to water management needs to be integrated.

WPSQ may support any sustainable water storage and delivery system, provided the associated water harvesting, manufacture, control and management activities have:

- No or minimal environmental impact;
- Low energy costs or use renewable energy sources;
- Realistic targets and measurable performance indicators; and
- Been shown to be economically viable in the long term.

Priority should be given to rainwater tanks, recycling of water based on the correct technology and the use of grey water appropriately. Desalination would be favoured over new dams provided it satisfies the above criteria. New dams and associated infrastructure is considered the option of last resort.

Goals

Three major goals and related principles are listed below.

Promote water conservation

- Reduce water use across all sectors of the community.
- Establish systems management approaches (including effective leakage reduction programs) in all water authorities.
- Establish and promote programs to change community attitudes/ embrace lifestyle changes to reduce water use.
- Establish effective water pricing policy that facilitates least cost solutions
- Review water supply and control legislation to ensure effective and efficient water conservation.

Promote environmental values

- Maintain fully functional wetlands and riverine ecosystems.
- Ensure that recharge areas for underground water are maintained and/or enhanced.
- Ensure that water quality objectives are met.
- Ensure that environmental flows are maintained and/or enhanced.

Promote sustainable water use

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- Promote the concept of “right water for right use” or “fit for purpose”, where high quality treated water is only used where necessary and appropriately treated recycled water is used in other applications.
- Explore the possibility of new groundwater sources if used sustainably and in moderation.
- Protect water quality in all water conservation and use initiatives.
- Examine the feasibility of using manufactured water sources to augment existing supplies e.g. desalination, associated water from dewatering coal seams etc.
- Adopt Water Sensitive Urban Design approaches concepts in new developments and in established developments where practical.
- Invest in science and technology that supports total water cycle management including water supply and impacts of water supply e.g. membrane technology, ecosystem impacts, groundwater recharge implications etc.
- Promote administrative structures which deliver sustainable, secure, equitable, long term water supply solutions.
- Ensure any future water supply administrative arrangements embrace the principles of sustainable water use.

Actions

To achieve the above goals and objectives, WPSQ advocates and promotes the following actions.

Promote water conservation

WPSQ advocates that all agencies accountable for managing the water cycle actively pursue reductions in water use and establish policies and programs to deliver water use reductions.

Reduce water use across all sectors of the community.

- Promote domestic water saving/conservation programs.
- Promote water conservation measures in all community based and commercial recreational activities.
- Support promotional and education campaigns aimed at water conservation.
- Encourage and reward industry and commercial sectors for investing and applying water saving measures and independence from reticulated water supply.
- Encourage water saving initiatives through incentive programs for all sectors e.g. rebate schemes.

Establish effective leakage reduction programs

- Ensure water leakage reduction programs in water authorities are a top priority.
- Target operational programs for rapid emergency response to identified water leaks.
- Encourage infrastructure maintenance as high priority in strategic planning and budget allocations.

Establish and promote programs to change community attitudes/ embrace lifestyle changes to reduce water use.

- Promote educational campaigns to encourage community attitude change to water use e.g. promote star rating on water saving devices.

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- Establish incentives programs to encourage water reduction in the community e.g. subsidies on water-saving devices.

Establish effective water pricing policy.

- Investigate water pricing policy options for effective tools to drive water consumption rates down.
- Establish and promote the most effective water pricing policy model to the community.

Review water supply and control legislation to ensure effective water conservation.

- Review water supply legislation for effective water conservation measures.
- Ensure any changes in legislation promote effective water conservation.

Protecting environmental values

WPSQ advocates that the environmental values of all waterways and bodies are maintained and/or enhanced.

Maintain fully functional wetlands and riverine ecosystems.

- Ensure that wetland and riverine ecosystem values are maintained and/or enhanced when any measures taken to supply, manufacture or provide water.
- Ensure that wetland and riverine ecosystem health are maintained.
- Ensure catchments are adequately protected and where necessary undertake rehabilitation works

Ensure that recharge areas for underground water are maintained and/or enhanced.

- Ensure that underground water recharge areas are maintained and/or enhanced.

Ensure that water quality objectives are met.

- Ensure that the water quality in supplying and receiving waters are not diminished when any measures are taken to supply, manufacture or provide water.

Ensure that environmental flows are maintained and/or enhanced.

- Ensure that environmental flows in wetlands and riverine ecosystems are maintained when any measures taken to supply, manufacture or provide water.
- Ensure that environmental flows affecting recharge areas for underground water are maintained and/or enhanced.

Promote sustainable water use

WPSQ advocates that agencies responsible for managing the water cycle actively pursue and encourage investment in sustainable water sources.

Promote the concept of “right water for right use”, where high quality treated water is only used where necessary and appropriately treated recycled water is used in other applications.

- Where possible, non-potable, recycled or other “untreated” water should be used. Promote programs which educate and encourage the “right water for right use” message in all sectors of the community, including private, commercial and government.

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- Investigate and encourage administrative structures that promote the use of less treated waters.
- Establish incentive programs to encourage the use of less treated waters.
- Encourage recycled water use programs.
- Review and where necessary revise legislation to allow the use of recycled water.
- Establish incentive programs for the use of recycled waters.
- Promote community educational campaigns to increase the acceptance of the use of recycled water e.g. use of treated water to augment existing dam supplies.

Explore the possibility of new groundwater sources and their sustainable use.

- Encourage the exploration for new groundwater sources.
- Establish legislation for sustainable use of groundwater supplies.
- Ensure measures are taken to protect groundwater recharge areas and supply quality.

Protect water quality in all water conservation and use initiatives.

- Ensure water quality in supply and receiving waters is protected.
- Promote the protection of water quality in all water conservation and use policies.

Examine the feasibility of using manufactured water sources to augment existing supplies e.g. desalination, associated water from dewatering coal seams etc.

- Encourage research into the feasibility of alternative manufactured water sources which have no or minimal environmental impacts.
- Explore the feasibility and sustainability (including the potential environmental impacts) of augmenting existing water supplies through desalination.
- Promote educational campaigns aimed at increasing knowledge about the use of manufactured water.
- Establish incentive programs to encourage manufactured water use as an alternative to treated water.

Embed Water Sensitive Urban Design concepts in the planning of new developments and retrofit where practical.

- Establish that water sensitive urban design principles are mandatory in all new developments e.g. stormwater harvesting, drought resistant street planting, greywater reuse etc.
- Promote the use of water sensitive urban design principles in existing developments where possible e.g. through retrofitting.
- Establish incentives for uptake of water sensitive urban design principles in both new and existing developments e.g. rebates for retrofitting, tax incentives for installing stormwater collection on new developments etc.

Invest in science and technology related to water supply and impacts of water supply e.g. membrane technology, ecosystem impacts, groundwater recharge implications etc.

- Encourage research and development into new technologies for manufactured water.
- Encourage research in water use technologies.
- Encourage and support research into the impacts of water supply policies on affected ecosystems e.g. wetlands, riverine ecosystems.

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Promote administrative structures which deliver sustainable, secure, equitable, long term water supply solutions.

- Promote water supply administrative structures which embody sustainability.
- High priority given to strategic planning which incorporates water conservation targets, performance indicators, performance review and transparent reporting.

Ensure any future water supply administrative arrangements embrace the principles of sustainable water use.

- Promote policy that ensures that the principles of sustainability are embedded in future administrative water supply arrangements.
- Ensure that future water supply administrative arrangements and responsible authorities have performance indicators that include sustainability and transparency.

Approved by Council

29 January 2008

APPENDIX

Glossary

- Associated water:** Groundwater associated with the extraction of coal seam gas through a process of de-watering coal seams. This water is classed as regulated waste but has the potential of reuse after treatment e.g. town supplies, coal washing, feedlot water, crop irrigation.
- Biodiversity:** The range of different species.
- Desalination:** The technology that removes impurities and dissolved minerals from seawater or saline water resulting in clean drinking water.
- Domestic:** Lifestyle and situations associated with residential dwellings, both urban and rural.
- Ecological health:** The overall working state or how well an ecosystem is working, including measures of biodiversity, water quality, levels of erosion, vegetation cover, pest and weed populations etc.
- Ecosystem services:** The range of biological services that are essential to human welfare, including clean air, water and food, provided by the functions of natural ecosystems such as soil renewal, pollination and stabilisation of climate.
- Environmental flows:** The release of water from storage to a waterway to maintain the characteristic water flows required to ensure the healthy state of that waterway.
- Greywater:** Water that contains waste from the kitchen, laundry or bathroom, excluding water that is classed as sewage e.g. toilet water.
- Groundwater:** Subsurface water that has soaked into the soil and moves through the ground in close interaction with surface water.
- Manufactured water:** Any water which is intended for use after a treatment process e.g. desalination, recycling, associated water.
- Non-potable water:** Water not of a drinking water quality.
- Recharge:** The process whereby underground water supplies are replenished by the infiltration or injection of natural waters or recycled waters into an aquifer.
- Recycled water:** Wastewater, stormwater and rainwater which has been collected after use and treated to a particular water quality standard for appropriate beneficial reuse.
- Retrofitting:** Replacing and refitting appliances and devices in existing developments, residences or structures.
- Riverine ecosystems:** Ecosystems associated with rivers and waterways, including the banks and vegetated areas along the waterways.
- Stormwater harvesting:** The collection of stormwater into storage for later reuse.
- Sustainability:** The ability of an activity or process to continue in perpetuity.
- Urban:** Areas of settlement where activities are not typically agricultural, have higher population densities and/or are typically dominated by development.
- Water Sensitive Urban Design:** Application of design principles for urban areas to manage the impacts of urban development on the total water cycle.
- Waterway:** Any creek, stream, river, estuary or bay.
- Wetland:** An area of vegetation, either temporarily or permanently flooded with fresh or salt water.

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