

Operational policy

Natural Resource Management

Artificial waters

Operational policies provide a framework for consistent application and interpretation of legislation and for the management of non-legislative matters by the Department of Environment and Science. Operational policies are not intended to be applied inflexibly in all circumstances. Individual circumstances may require a modified application of policy.

Policy subject

Managing artificial waters on Queensland Parks and Wildlife Service (QPWS) managed areas.

Purpose

To ensure that appropriate management arrangements are applied to artificial waters on QPWS managed areas.

Background

There are many types of artificial waters on QPWS managed areas, including groundwater bores and surface water storages (such as dams and “turkey nests”). Artificial waters may have been inherited by QPWS as assets on newly acquired areas, constructed by QPWS for management purposes, or are associated with current or historic authorised activities such as grazing and mining.

Artificial waters may be vital areas where natural water sources are scarce or unreliable. They can also benefit species that are range limited and threatened and, in certain locations, can compensate for loss of naturally available water through the impacts of post-European settlement.

However, artificial waters are not part of the natural environment and may therefore have detrimental impacts on biodiversity and ecological processes. Artificial surface waters such as dams may alter the population dynamics of native species such as macropods, and inadvertently support populations of feral animals such as pigs and introduced freshwater fish (particularly carp and Gambusia). Bores can also contribute to the depressurisation of groundwater aquifers, which may degrade groundwater dependent ecosystems and reduce water availability for other groundwater users. Proper management of artificial waters is therefore essential to avoid or mitigate these impacts.

Definitions

Artificial waters are facilities designed for the collection, extraction and/or storage of freshwater which are constructed by earthworks or drilling. This includes surface water collection structures such as dams and in-stream impoundments, and groundwater extraction bores, but does not include:

- removable water storage, such as water tanks, troughs or containers;
- temporary water storage units designed for the holding and/or treatment of contaminated water or effluent from resource extraction; or
- impounded water from dams or weirs not constructed on a QPWS managed area.

Natural waters include streams, rivers, lakes, ponds, rockpools and springs.

Piped and capped bores are Artesian ground water bores with infrastructure that eliminates uncontrolled surface water flow under its own pressure. It does not include non-free flowing, subartesian bores.

Decommission is to remove the artificial waters facility from a site and restore the area it to its natural state, by:

- for surface artificial waters - physically breaching or removing a wall, impoundment or catchment wings, or filling a constructed depression or hole to original ground level; or
- for bores - capping a bore and removing all associated surface infrastructure (pumps, piping, foundations, etc.).

QPWS managed areas include:

- protected area tenures, being any of the following classes of protected area defined under the *Nature Conservation Act 1992* (NC Act) -
 - national park;
 - national park (scientific);
 - conservation park; and
 - resources reserve;
- forest reserves declared under the NC Act;
- State forests and timber reserves under the *Forestry Act 1959* (Forestry Act); and
- Other lands, such as *Land Act 1994* (Land Act) reserves and unallocated State land (USL), for which QPWS has management responsibility.

Policy statements

Artificial waters on QPWS managed areas are generally considered undesirable, as they may disturb existing values and users, increase management costs and create significant environmental risk. QPWS may also be left with the costs of decommissioning and rehabilitating artificial waters left by authority holders if adequate conditions are not specified regarding decommissioning when the artificial water was authorised.

Artificial waters on QPWS managed areas are however acceptable in the following circumstances:

- where the water needs of a legitimate user (i.e. an authority holder) of an area are not being met by existing water resources, for example a grazing authority holder requiring additional watering points for stock;
- to meet QPWS water demands for management of the area, such as for firefighting purposes;
- to meet the water demands for a key public interest and there is no practicable alternative source;
- a net positive outcome for the ongoing management of the area can be achieved by using artificial water sources instead of natural waterways, for example relying on artificial waters rather than vulnerable or sensitive natural waters; or
- the artificial water has significant natural or cultural heritage value.

All new and existing artificial waters must also be consistent with the management principles of the underlying tenure of the land (or in the case of USL and forest reserve, the proposed tenure type).

QPWS will assess the suitability of all artificial waters on QPWS managed areas, whether they are new constructions, or are existing infrastructure remaining from other interests over the land (i.e. expired authorities or assets on newly acquired land).

Proposals for new artificial waters

All new artificial waters must be authorised and approved by QPWS prior to construction. QPWS will assess applications for new artificial waters with respect to:

- their compatibility with the underlying tenure of the proposed area;
- the specific purpose for which they are required;
- impacts on other users of the area, including adjacent landholders;
- the overall impact on the natural and/or cultural values of the area;
- management and maintenance regimes, including long term asset management, should control of the artificial water pass to QPWS in future;
- contribution to QPWS management of the area;
- demonstrated need (i.e. whether alternative sources of natural waters or existing artificial waters exist); and
- whether the user has access to alternative sites outside the QPWS managed area.

Where QPWS approval is granted, it must be subject to the following conditions, requiring the authority holder to:

- seek and be granted permission from the Department of Agriculture and Fisheries (DAF) where the artificial water may interfere with commercial timber or quarry interests;
- comply with any relevant legislative requirements where applicable, for example, the *Water Act 2000* (the Water Act), the *Planning Act 2016* and relevant Water Resource Plan or Water Plan for the area;
- where applicable, comply with requirements of the Department of Natural Resources, Mines and Energy (DNRME), such as the *Code for self-assessable development for taking overland flow water for stock and domestic purposes* and undertaking assessments, obtaining permits or water extraction licences or complying with set water allocations as required;
- provide free and unrestricted use of water by QPWS (and DAF for areas on State forest and timber reserve);
- decommission all authorised artificial waters upon cessation of the associated use of the area and restore the site to its original condition, unless the artificial water is required by QPWS for future management of the area;
- ensure consistency with relevant native title interests; and
- avoid impacts on indigenous and non-indigenous cultural heritage.

The precise location, type and size (maximum capacity or volume of extraction) of all new artificial waters must be approved by QPWS prior to commencement of any works. The size must be appropriate for the proposed use and location of the artificial water. For example, the maximum capacity of an authorised dam for stock watering must be limited to be consistent with authorised maximum stocking rate, and consider factors such as consumption rate per head of cattle, climatic factors such as rainfall and temperature and the availability of alternative water sources. Maximum size may also be restricted by regulatory requirements, such as under the Water Act, or the Water Plan or Water Resource Plan for that specific catchment.

New artificial waters must also limit, to the greatest extent possible, impacts on the surrounding area. New surface artificial waters will be limited to constructions that capture overland water flow only (i.e. there will be no approvals granted for in-stream impoundments), and must be built in a manner that avoids downslope erosion

caused by overflow bywash. New bores must be installed in accordance with the Water Act and by an authorised and licenced bore driller. Any free-flowing bores (i.e. Artesian bores) must be piped and capped as soon as practicable to restrict uncontrolled surface flow. New bores must also be sited so as to avoid depressurisation impacts on groundwater dependent ecosystems and other users of the aquifer.

New artificial waters may also be approved in situations where natural water sources are available, but using natural waters would result in greater impacts than what would result from the construction of artificial waters. In these cases, steps will be taken to prevent access to the natural waters (for example, fencing to keep stock out).

No compensation is payable for any works undertaken to construct or maintain artificial waters and/or any associated infrastructure, either during or at the expiry or termination of an authority unless specifically provided for in the conditions of that authority. QPWS will refuse requests for new artificial waters that may result in compensation being provided to an authority holder (for example, an artificial water constructed as part of a grazing authority that allows for compensation to be paid for lawful improvements).

Approval of new artificial waters for grazing authorities

New artificial waters for stock grazing authorities, (a stock grazing permit under the NC Act or Forestry Act or a term lease or rolling term lease under the Land Act) will be approved as an ancillary activity to the grazing authority. The new artificial water will be listed as an improvement in the grazing authority. Refer to the *Operational Policy 'Ancillary approvals for grazing authorities'* for more information.

QPWS will not authorise the construction of new artificial waters if the additional water availability will or may result in increased stocking rates beyond the stock carrying capacity of the area. Should an artificial water be constructed in relation to a stock grazing permit under the NC Act or Forestry Act, the permit holder must seek additional approvals to increase the stock numbers beyond the maximum stocking rate stated in the permit.

QPWS will, where authority conditions permit (all stock grazing permits and grazing rolling term leases), also recommend, to the Chief Executive (or delegate) of the Department of Environment and Science (DES), reduction of stocking rate where construction of a new artificial water, or use of an existing artificial water, results in overgrazing and subsequent degradation of natural, cultural or forest product values. Note that older grazing authorities may not allow the reduction of stocking rate due. In these cases authorisation of new artificial waters, or expansion of existing artificial waters, will not be authorised unless the grazing authority accepts revised permit conditions allowing reduction of stocking rate.

New QPWS artificial waters

QPWS will rely on existing artificial waters and natural waters to the greatest extent possible. New artificial waters will only be constructed by QPWS where they are required to meet essential management needs. Artificial waters constructed by QPWS will be limited to surface water flow capture (i.e. dams) and small scale in-stream impoundments only, which have minimal impacts on the surrounding area. New artificial waters constructed by QPWS are considered capital works, and therefore must be treated as such for financial and asset management purposes.

Existing artificial waters

All existing artificial waters may continue to be used by a legitimate user of the area, provided that they seek authorisation from QPWS and that their use is compatible with the management principles of the area. Holders of authorities issued for specific artificial waters, or holders of authorities that include associated artificial waters, must:

- manage and maintain any approved artificial waters consistent with the conditions of their authority;
- maintain all artificial waters so as to avoid impacts on the natural and cultural values of the surrounding area (including the local aquifer);

- permanently cap and pipe all free-flowing bores; and
- carry out any works identified as affecting natural or cultural heritage values in a manner consistent with protecting such values.

QPWS will ensure that existing artificial waters are managed appropriately. The justification and conditions of approval for existing artificial waters are reviewed by QPWS as part of the standard process of renewing any authority.

QPWS is responsible for managing all artificial waters that are not associated with a current authority, including artificial waters that are already present on newly acquired areas or that remain on the QPWS estate following the expiry of an authorised use. QPWS will decommission all artificial waters unless they are required for management of the area, such as for firefighting, staff domestic purposes, supply of visitor drinking water or provide or support significant natural, cultural, tourism or scenic amenity values. Any artificial waters retained by QPWS will:

- be catalogued and monitored as QPWS assets;
- be appropriately maintained to minimise QPWS liability;
- be periodically reviewed by QPWS to identify whether they are still required for management purposes;
- be maintained in order to minimise impacts on the surrounding area (including the local aquifer); and
- have, where feasible, complementary infrastructure built to exclude access to the water by animals that may causing environmental degradation or harm.

For newly acquired areas, QPWS will review the justification to retain any inherited artificial waters within three years of acquisition.

Specific requirements for national parks

New artificial waters (including earthworks, in-stream impoundments or bore drilling works) will only be authorised on national parks where:

- natural waters or existing artificial waters cannot adequately meet water demands of QPWS management of the area, such as for firefighting, staff domestic purposes, environmental management or water supply for park visitors; or
- the construction of new artificial waters can be demonstrated to serve a key public need (such as supplying water to a nearby community), are ecologically sustainable and where no practicable alternative exists; or
- artificial waters are required as part of a consistent use of a national park, such as an ecotourism facility (for more information refer to the QPWS *Ecotourism Facilities on National Parks – Implementation Framework*).

New artificial waters will not be authorised in national parks for private use or commercial enterprises, including for grazing and resource extraction. Artificial waters will also not be constructed or maintained to supply water to areas adjacent to national park (except for a critical public need).

Where artificial waters are authorised, they will be sited, constructed and maintained so as to minimise the impact on the natural and cultural values, public use and visual amenity of the surrounding area. All new non-QPWS artificial waters will be authorised on national parks through section 35 of the NC Act, except those that are associated with another authority. Construction of new non-QPWS artificial waters may attract offsets under the *Environmental Offsets Act 2014* (the Offsets Act), regardless of purpose. For more information on offsets please contact the Major Projects and Estate Management Unit.

All existing artificial waters on national parks will be decommissioned by QPWS, unless they are required for one of the situations listed above, are identified as having significant natural, cultural or tourism value or are currently authorised for legitimate users of the area.

Specific requirements for national parks (scientific)

New artificial waters will be constructed by QPWS on national park (scientific), and existing artificial waters will be retained, solely to achieve the purpose for which the area was declared, such as maintaining habitat for conservation significant species or ecosystems.

Specific requirements for conservation parks and resources reserves

Construction and operation of artificial waters on conservation parks and resources reserves will generally be managed as per national parks. However artificial waters may be appropriate to provide water to authorised commercial enterprises on the area, such as grazing, mining or coal seam gas extraction, where there are no practicable alternative water sources.

QPWS will not allow artificial waters for grazing on conservation park or resources reserve unless:

- The grazing authority conditions allow QPWS to reduce stock numbers where it is of the view that overgrazing is occurring; and
- The grazing authority is likely to be renewed, OR the artificial water is likely to be of use to QPWS following expiry of the grazing authority.

Existing artificial waters on conservation park or resource reserve may also be retained for use by an authorised user, or by adjacent landowners where there are no practicable water alternatives.

QPWS will assess these instances on a case-by-case basis, based on demonstrated need and the compatibility of the artificial waters with the natural and cultural values of the area. Construction of new, or maintenance of existing, artificial waters on conservation park or resources reserve, apart from ancillary approvals for grazing authorities are authorised though section 34 of the NC Act. Constructing new artificial waters on a conservation park or resources reserve may also require offsets under the Offsets Act.

Specific requirements for State forests and timber reserves

Artificial waters on State forest and timber reserve are generally considered acceptable where existing artificial waters and natural waters (including on accessible adjacent land) do not adequately meet the water needs of an authorised user or adjacent landholder.

Applications for new artificial waters will be considered primarily on the basis of need, availability of alternative water sources and compatibility with the management and use of the area. New artificial waters will be considered for any lawful purpose in a State forest or timber reserve, Artificial waters, except those authorised as ancillary to a grazing authority, are authorised on State forests and timber reserves as an occupation permit, under section 35 of the Forestry Act.

To authorise new artificial waters in relation to a grazing authority, QPWS must be satisfied that it will not result in artificially inflated stock numbers that exceed the stock carrying capacity of the land. Conditions of the grazing authority must also allow QPWS to reduce the number of stock on the land where overgrazing is suspected.

DAF interests, such as commercial timber, quarry resources and DAF owned infrastructure will also be considered prior to authorisation of new artificial waters or alteration of existing artificial waters (including decommission).

Specific requirements for forest reserves and other lands

Artificial waters on forest reserves will be managed and authorised consistent with the proposed final tenure. If the final tenure is not known, the area will be treated consistent with national park tenure.

Artificial water will be authorised on 'other lands' where it is consistent with the purpose of the area being under the control of DES.

Other matters to consider

Native Title

The existence or otherwise of native title and the potential impact on native title of any works must be considered in accordance with the *State Government Native Title Work Procedures*. In some instances, procedural rights may need to be provided to the Native Title parties.

Legislation

Forestry Act 1959

Land Act 1994

Nature Conservation Act 1992

Planning Act 2016

Water Act 2000

Reference materials

Code for self-assessable developments for taking overland flow water for stock and domestic purposes (2013)
prepared by DNRME

Queensland dam safety management guidelines (2002)

Disclaimer

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Approved by

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Signature

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Date

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