

# Enlargement of the Cotter Reservoir and associated works




**Draft environmental impact statement – Summary**

September 2008

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The enlargement of the Cotter Dam will deliver a more secure water supply for the Canberra region. The project involves building a dam downstream of the existing Cotter Dam to increase the volume of the Cotter Reservoir from 4 gigalitres (GL) to about 78 GL – increasing the ACT’s overall storage capacity by 30 per cent.

ACTEW is committed to the provision of a safe, secure and sustainable water supply for the Canberra region.

The Enlarged Cotter Dam project is a key component in ACTEW’s long term plan to ensure this security, leading to an increasingly prosperous national capital and a vibrant and healthy community.

The project was chosen as a high priority above other options to improve the security of Canberra’s water supply because of its economic benefit to the community, reliability and relatively lower environmental impacts.



## About ACTEW

The project proponent is ACTEW Corporation Limited (ACTEW). ACTEW is a government owned company whose primary functions are to provide energy, water and wastewater services to the ACT.

## Proposal objectives

The objective of the Enlarged Cotter Dam project is to increase the security of Canberra’s water supply by providing increased storage capacity in a way that:

- Minimises environmental impacts.
- Provides safe water supply for the Canberra region.
- Provides economic benefit to the community.
- Maximises the potential of recreational amenity and visitor access to the Cotter Reserve during and after the construction period.
- Complies with applicable legislation, approvals, permits and licences.

## Document overview

A project of this nature requires the preparation of an environmental impact statement (EIS) under the *ACT Planning and Development Act 2007*.

The draft EIS for the proposed Enlarged Cotter Dam assesses the potential impacts associated with the project and proposes mitigation measures to address these impacts. ACTEW has prepared this summary of the draft EIS to provide an overview of the issues and a general understanding of the project.

If you need more information on any aspect of the proposal outlined in this summary document, please refer to the full version of the draft EIS. Details on where you can view and comment on the draft EIS are provided at the end of this booklet.



## Location and setting

The Cotter Dam lies on the Cotter River approximately 18 kilometres (km) due west of Canberra City in the ACT. The focus of the project is within an area colloquially known as 'The Cotter', the popular recreation area adjacent to the Cotter Dam, which is Canberra's oldest dam.

While this area is not formally defined it generally includes the area around the confluence of the Cotter, Paddys and Murrumbidgee Rivers, including Cotter Avenue, Cotter Campground, Casuarina Sands, the existing dam and the Cotter Pumping Station.

The new Cotter Dam will be constructed approximately 125 metres (m) downstream of the existing Cotter Dam. This site will be the focus of the construction activities.

All land within the project area is either unleased Territory land under the custodianship of the Department of Territory and Municipal Services or leased by ACTEW Corporation.

## Project need and benefits

The Enlarged Cotter Dam forms part of ACTEW's continued commitment to provide secure water supplies for the Canberra region. The key challenge in the medium and long term is to build additional water supply assets that can cope with reduced average inflow into the dams and longer, more frequent droughts, without having to impose high level water restrictions for extended periods.

The Enlarged Cotter Dam was chosen from a range of water supply options as it will:

- Deliver a net economic benefit to the community.
  - Have minimal impact on threatened fish populations.
  - Result in environmental benefits derived through improved catchment conditions.
  - Use existing infrastructure via the pump station at Lower Cotter and the Mt Stromlo Water Treatment Plant.
- Draw water from a reliable catchment in times of drought.
  - Capture environmental flows that are released from the Corin and Bendora reservoirs that often spill over the current Cotter Dam.
  - Catch some of the overflow from storm events that the current dams in the Cotter River system cannot store.
  - Lead to economic and social benefits derived from the Canberra region spending less time subjected to water restrictions.

## How will it be built?

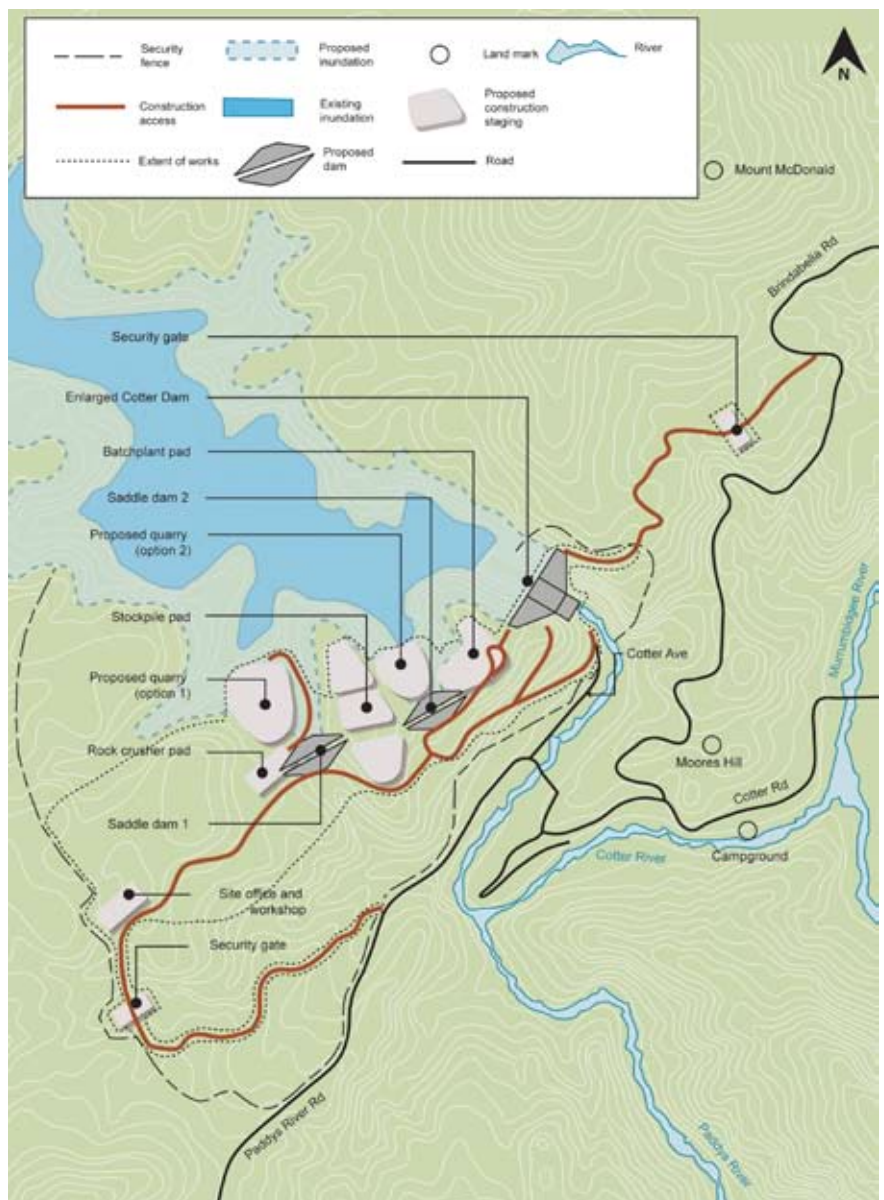
The project consists of a main dam, approximately 125m downstream of the existing dam, with two adjacent saddle dams required to plug lower lying valleys due to the increased height of the water level in the enlarged reservoir. The main dam will be approximately 80m high and the adjacent saddle dams will be approximately 11m and 16m high. The storage capacity will increase from 4GL to approximately 78GL. The main dam will be constructed of roller compacted concrete (RCC) and the saddle dams are likely to be constructed of earth and rock fill.

The existing dam and 231 hectares (ha) of land will be inundated, and a further 38ha of land will be cleared for construction and ancillary works. Most of the land surrounding the Cotter Dam is already impacted by the existing reservoir, previous forestry plantations and the severe bushfires of 2003. 164ha of the land to be impacted is former pine forest that was destroyed by these fires, and the remaining 105ha is native vegetation.

The dam outlet works will incorporate provision for drawing water from multiple depths in the reservoir to respond to changing operational and environmental requirements.

A small temporary dam and diversion culvert will be constructed between the existing dam and new dam to ensure the existing dam remains operable throughout the construction period and for protection of the work site. A quarry will be established to supply construction material for the main dam and associated saddle dams. Two preferred locations for the quarry have been identified to the south west of the right abutment.

Subject to approval, construction of the dam is planned to commence in the spring of 2009, with completion expected in 2011.



Construction area

## The purpose of the draft EIS

The construction of the Enlarged Cotter Dam will inevitably have some impacts on the environment. The information presented in the draft EIS demonstrates that while there are some potentially significant impacts that could occur, appropriate mitigation measures are available to manage the risk of these impacts.

The draft EIS concludes that the high standard of environmental management which will support and guide this Cotter Dam project and the significant economic and social benefits derived from the construction and operation of the dam will have a broad and positive impact on both the immediate locality and the wider region for many years to come.

The key objectives of the draft EIS are as follows:

- To identify and evaluate the potential impacts of the construction and operation of the Enlarged Cotter Dam.
- To identify means of mitigating the negative impacts and enhancing positive aspects associated with the project as a basis for the preparation of an environmental management plan.
- To ensure that ACTEW's activities comply with the ACT regulations and policies regarding environmental protection.

## Approval process of the EIS

The draft EIS has been informed by previous public consultation and specific consultation with government agencies and stakeholder groups, and was prepared to address the specific scoping requirements provided to ACTEW by the ACT Planning and Land Authority (ACTPLA).

The draft EIS has now been submitted to ACTPLA. Following a public notification period and the associated community discussions, ACTEW will prepare a final EIS which addresses issues raised by stakeholders from across government and the community. The final EIS and associated consultation report will then be lodged with ACTPLA for consideration. There will be an opportunity for ACTPLA to seek responses to any outstanding matters.

When the EIS is completed it will form supporting information for a development application, which will also be publicly notified, providing the community with a further opportunity to review the proposal.





## Environmental impacts and mitigation

In accordance with the requirements of the *ACT Planning and Development Act 2007* and the *Planning and Development Regulations 2008*, ACTPLA identified the potentially significant impacts that ACTEW is required to address in the draft EIS. These have been subject to comprehensive assessment and are addressed in detail in the draft EIS.

It is concluded that, on the basis of the commitments made in the draft EIS, the risk of significant environmental impacts resulting from the Enlarged Cotter Dam is low.

The significant impacts that are addressed in the draft EIS can be broadly categorised as:

- Water resource value and impacts.
- Land based plants and animals (terrestrial biodiversity).
- Aquatic plants and animals (aquatic ecology).
- Cultural heritage.
- Social impacts.
- Climate change and whole of system impacts.

### Water resource value and impacts

It is expected that an enlarged Cotter Reservoir will have higher water quality than the existing reservoir. This improvement will be partly due to the larger size of the reservoir and the ongoing recovery and enhancement of the catchment.

An environmental management plan will be developed to address potential impact on water quality during construction.

The dam's design will also include measures to mitigate the downstream effects on the aquatic biota such as a multilevel off-take to prevent cold water pollution and providing large enough outlets for environmental flows.

An environmental monitoring program will also be established to ensure the operation of the enlarged dam has minimal impact on water quality.

### Land based plants and animals

This project will result in the loss of 105.9ha of native vegetation and 139ha of former pine plantation. Since the project was first considered in 2006, ACTEW has worked with the ACT Government to revegetate more than 1000ha of former pine forest in the Lower Cotter catchment. ACTEW will continue with a significant rehabilitation program to provide offset native vegetation rehabilitation to compensate for the loss associated with this project. ACTEW will also introduce procedures to avoid the transportation of weeds into the area during construction.

A detailed study of the project area has been undertaken to determine the likely presence of threatened species of plants and animals. Although no threatened plant species were recorded during the study, the potential occurrence of *Pomaderris pallida* could not be ruled out. One hundred and twenty one animal species were identified, three of which are listed as vulnerable in the ACT. Four are nationally protected migratory species. The mobile and transient nature of these animals means that the likelihood of significant impact is minimal.



### Aquatic plants and animals

There are three threatened fish and one threatened crayfish species present in the Cotter Dam and the Cotter River that could be potentially affected by an Enlarged Cotter Dam. These are:

- Macquarie Perch (*Macquarie Australasia*).
- Trout Cod (*Maccullochella macquariensis*).
- Two-spined Blackfish (*Gadopsis bispinosus*).
- Murray River Crayfish (*Euastacus armatus*).

Macquarie Perch is considered to be the key species of concern since the Cotter Reservoir is home to one of the most viable populations of this threatened species. Trout Cod is also a consideration, however there are larger sustainable populations in the Bendora Reservoir and in the Cotter River upstream of Bendora Reservoir. Proposed actions to limit the impacts on these species will be referred to the Commonwealth for consideration under the *Environmental Protection and Biodiversity Conservation Act 1999*.

A series of further fish studies are being undertaken, which will be used to formulate fish management plans to ensure:

- Fish populations over the long term remain stable.
- Habitat of endangered and vulnerable species are maintained, and where possible improved.
- Harmful invasive species are kept out of the reservoir.

The fish studies are a continuation of work already undertaken in the Cotter catchment. The findings from this work will enhance ACTEW's current understanding of these important species and ensure that they are appropriately managed throughout the planning, design and construction of an Enlarged Cotter Dam.







### **Heritage significance**

In preparation of the draft EIS, consultation and cultural heritage assessment of the area has been undertaken.

Studies so far have shown that there are areas in the project area that are archeologically and culturally significant sites. Further archaeological testing and salvage programs will be undertaken to mitigate impacts and avoid the loss of cultural heritage values.

ACTEW continues to build positive working relations as part of a comprehensive consultation program with Aboriginal and traditional owner representatives.

### **Social impacts**

Clear communication with the community throughout the project is essential. There is extensive national interest in the availability of water for use by industry, agriculture and urban communities. In particular the Murray-Darling Basin is the subject of considerable opinion and debate across broad sections of the community and involving state and Commonwealth governments.

Within the framework of this national debate, there is a risk that the community will misunderstand the impact of enlarging the Cotter Dam both on down-stream users and the community of the Canberra region.

To ensure public expectations about the impact of the Enlarged Cotter Dam are accurate and informed, a substantial community engagement program has commenced and will continue to be implemented throughout the design, construction and commissioning phases of the project. This will be complimented by opportunities for the community to participate in educational aspects of the project through viewing points with interpretative signage and organised visits for schools and other interested groups.

The recreation area around the Cotter Dam, known as the Cotter precinct, has held an important place in the hearts of many generations of Canberra residents. ACTEW will maximise the potential for recreational amenity and visitor access during and after the construction period.

The Enlarged Cotter Dam project presents some significant opportunities to coincide construction activities with improvements to the Cotter precinct. The community continues to be invited to participate in the planning of the precinct.

### **Climate change**

It is now widely accepted that global warming is occurring. Long term studies of the climate confirm that the increase in global temperature observed since the mid-20th century is unusual. Although the future climate is difficult to predict, responsible water supply planning must consider the potentially significant impact of climate change.

There are a range of other potential impacts that are addressed in the draft EIS, these are broadly categorised as:

- Traffic, transportation and water.
- Materials and waste management.
- Visual impact.
- Air quality and emissions.
- Public health issues.
- Economic impacts.

### Traffic, transportation and water

Construction traffic will have temporary impacts on the local road network. A 'shared roads' policy outlining the responsibility of all construction traffic will be developed that will specify how impacts on local traffic and residents will be minimised and set safety requirements for all construction traffic.

While there will be an increase in traffic movements, these movements will remain well below the safe operating capacity of the road network and will be managed to minimise disruption during peak commuter or recreation traffic times. Signage and ongoing communication with users of the roads, including the cycling and equestrian communities, will be part of ensuring the safety of all road users.

Water required for construction will be drawn from the existing reservoir. Within the construction site water from sediment control structures will be re-used for dust suppression or other uses to minimise the discharge of storm water and the consumption of water from the Cotter Reservoir.

The existing Cotter Dam will remain operational during the construction of the new dam.





### **Public health impacts**

To ensure public safety a fence will be built around the construction area and temporary road closures will occur during blasting. Public notification with regard to road closures and other safety issues will be carried out in accordance with ACT Government requirements.

### **Economic impacts**

The draft EIS identifies the socio-economic impacts of the project as positive, bringing certainty of future water supply to the Canberra region as well as related economic benefits.

### **Materials and waste management**

Construction waste will generally consist of concrete, scrap metal, wastewater and green waste from clearing of existing vegetation. Where possible all material from construction works will be re-used for other construction activities and green waste will be incorporated into restoration and landscaping works.

Safe works method statements will be prepared for activities associated with hazardous materials and all other waste streams will be disposed of in accordance with Territory and Municipal Services' requirements.

### **Visual impact**

ACTEW recognises the landscape values of the Cotter catchment. While design and construction will be undertaken to minimise earthworks and impact on the landscape there will be some visual impacts from the works associated with the dam construction and associated infrastructure.

The construction of the dam and saddle dams will permanently change the view from several locations including Camp Cottermouth, Brindabella Road, Cotter Avenue and Moores Hill. If structurally possible,

treatment to the dam wall to provide visual interest and integration with the environment will be part of the project.

Areas subject to temporary construction use will be rehabilitated and returned to public access as early as possible.

### **Air quality, noise and emissions**

Dust, vehicle exhausts, wind erosion and other activities associated with the project have the potential to affect the amenity, safety and environment of the area. Construction methods and strategies will be put in place to minimise dust generation.

To reduce the impact of noise on the area, construction activities will be generally limited to standard construction industry hours, with construction not scheduled to occur on Sundays or public holidays.

The construction and operation of the Enlarged Cotter Dam will result in the emission of greenhouse gases. ACTEW acknowledges the link between a reduction in water security and climate change and is committed to minimising and then offsetting greenhouse gas emissions associated with the project where possible.



## Community consultation

Community consultation is an important part of the Enlarged Cotter Dam project.

A number of methods are currently being used to identify and understand the views of the local community and stakeholders and to keep them informed about the progress of the proposal. These include:

- The formation of a 'Friends of the Cotter' community group.
- A public information campaign in local media to inform residents of the full range of works and how to get in touch with ACTEW during this project.

A dedicated community information line **(02) 6248 3563**.

ACTEW's website [www.actew.com.au](http://www.actew.com.au) provides up to date information for the community.

- Community newsletters.
- Information sessions and presentations.
- A working group comprising nominated representatives from ACT Government departments.

- Workshops with the ACT Government.
- Community workshops.
- Presentations and ongoing discussions with local indigenous groups.
- Direct contact with potentially affected residents in the local vicinity of the dam.

Consultation will be ongoing for the life of the project and a communication strategy has been developed to ensure effective communication during the detailed design and construction phases.

The communication strategy includes plans covering community involvement, stakeholder management and issues and media management.

## Commonwealth approvals

In addition to the requirements for approval under the *ACT Planning and Development Act 2007*, the proposal to enlarge the Cotter Dam triggers the requirement for referral to the Australian Government Department of the Environment, Water, Heritage and the Arts (DEWHA) under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act).

The EPBC Act provides for the protection of the matters of national environmental significance.

Under the Act, a proposal that may have a significant impact on any matter of national environmental significance must be approved by the Commonwealth Minister for the Environment.

The preparation of the fish management plan and the terrestrial flora and fauna impact assessment in support of the draft EIS for the Enlarged Cotter Dam have identified four matters of national environmental significance that the project has the potential to impact upon. These are:

- Macquarie Perch that live in the Cotter Dam and Cotter River upstream from the reservoir, and are listed as endangered under the EPBC Act.
- Trout Cod that live in the Bendora Reservoir and the Cotter River upstream from reservoir, and are listed as endangered under the EPBC Act.
- *Pomaderris pallida* and the Pink-tailed Worm Lizard that both have potential habitat within the development footprint, although neither were found during the Flora and Fauna Impact Assessment.



Accordingly, the proposal to enlarge the Cotter Dam will be referred to DEWHA so that the Commonwealth Minister for the Environment can determine whether approval is required under the EPBC Act, and if so the nature of the assessment that will be required. The draft EIS will be used as supporting information for the referral.

The community will also be invited to provide comments to the Commonwealth as part of the approval process under the EPBC Act.



## How you can comment on the draft EIS

You are invited to provide comments on the draft EIS formally to ACTPLA. Comments provided to ACTPLA will be passed on to ACTEW to address in preparing the final version of the EIS.

Copies of the draft EIS are available on the ACTEW website:

[www.actew.com.au/watersecurity](http://www.actew.com.au/watersecurity).

CDs are available free of charge and printed copies are available to purchase for \$20. You can obtain these by contacting the Water Security Major Projects information line: **02 6248 3563**.

Formal submissions must be sent to ACTPLA by 10 November 2008. Submissions should be sent by:

- Website: [www.actpla.act.gov.au](http://www.actpla.act.gov.au)
- Email: [app.sec@act.gov.au](mailto:app.sec@act.gov.au)
- Mail: PO Box 365 Mitchell ACT 2911

Information on the formal public notification period can be obtained by contacting ACTPLA on:

**02 6207 1923**, visiting [www.actpla.act.gov.au](http://www.actpla.act.gov.au) or visiting the ACTPLA office:

**Ground Floor South,  
Dame Pattie Menzies House,  
16 Challis St, Dickson.**

To find out more about providing comments to the Commonwealth Government visit

[www.environment.gov.au/epbc](http://www.environment.gov.au/epbc)

## **Community information sessions**

ACTEW will be holding a series of information sessions in October 2008 so that members of our community can ask questions about the project.

There will be three community drop-in sessions on 21, 23 and 25 October 2008 and details will be placed in local papers and on the ACTEW website.

In addition information will be available at the Uriarra Community Day on 19 October 2008.

## More information

For further information on this or other projects being delivered by the ACTEW Water Security Major Projects team contact:

Information line: (02) 6248 3563

Email: [watersecurity@actew.com.au](mailto:watersecurity@actew.com.au)

Internet: [www.actew.com.au/watersecurity](http://www.actew.com.au/watersecurity)

