



Report to the Department of Climate Change, Energy, the Environment and Water: Annual Performance Report (2025) against the Enlarged Cotter Dam Fish Management Plan Version 4

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Contents

Introduction	3
Background	3
FMP Working Group	4
ECD Fish Monitoring – Technical and Summary Report 2025	4
Operational Risks to native fish and mitigation actions	6
References	8
Annexure 1: Ten Management Questions.....	8

Introduction

This report outlines Icon Water's performance against Version 4 of the Enlarged Cotter Dam (ECD) Fish Management Plan (FMP V4) as required under the conditions of approval. Every year, a report covering performance against the Fish Management Plan must be submitted to the Minister. Icon Water completed the requirements of the ECD FMP V4 and associated sub-plans throughout the reporting period (2025 calendar year). This performance report is structured against each of the sub-plans and should be read together with [FMP V4](#).

Background

As a condition of approval for the ECD, Icon Water manages potential environmental impacts on threatened native aquatic species in the Cotter River system, particularly those listed under the EPBC Act. The objective of FMP V4 is to ensure that operation of the Cotter Dam for supply of community drinking water continues to support aquatic communities, particularly threatened native fish and crayfish species. The specific fish and crayfish species to be managed are listed below.

Species	EPBC Act Listing Status
Macquarie Perch(<i>Macquaria australasica</i>)	Endangered
Trout Cod (<i>Maccullochella macquariensis</i>)	Endangered
Murray Cod (<i>Maccullochella peelii</i>) ¹	Vulnerable
Two-spined Blackfish (<i>Gadopsis bispinosus</i>) ²	-
Murray River Crayfish (<i>Euastacus armatus</i>)	Endangered

Table 1 - EPBC Listing Status

Icon Water's approach to managing threatened aquatic species is documented through a series of ECD Fish Management Plans and projects, as shown in Figure 1. The ECD Fish Management Plan is reviewed every five years, which aligns with Icon Water's adaptive management principles.

The objective of FMP V4 is "To ensure that operation of the Cotter Dam for the supply of community drinking water continues to support aquatic communities, particularly threatened native fish and crayfish species."

Objective	Controls
Risks mitigation	Protect threatened aquatic fauna and their habitats arising from the construction and operation of the enlarged Cotter Dam.
Adaptive Management	Scientifically based, using adaptive management and use of expertise.
Stakeholder involvement	Robust peer review and public transparency
Compliance	Regularly updated on the basis specified in the approval conditions
	Developed as part of the overall requirements of the ECD

Table 2. ECD Fish Management Plan version 4 (and relevant sub-plans) objectives and controls

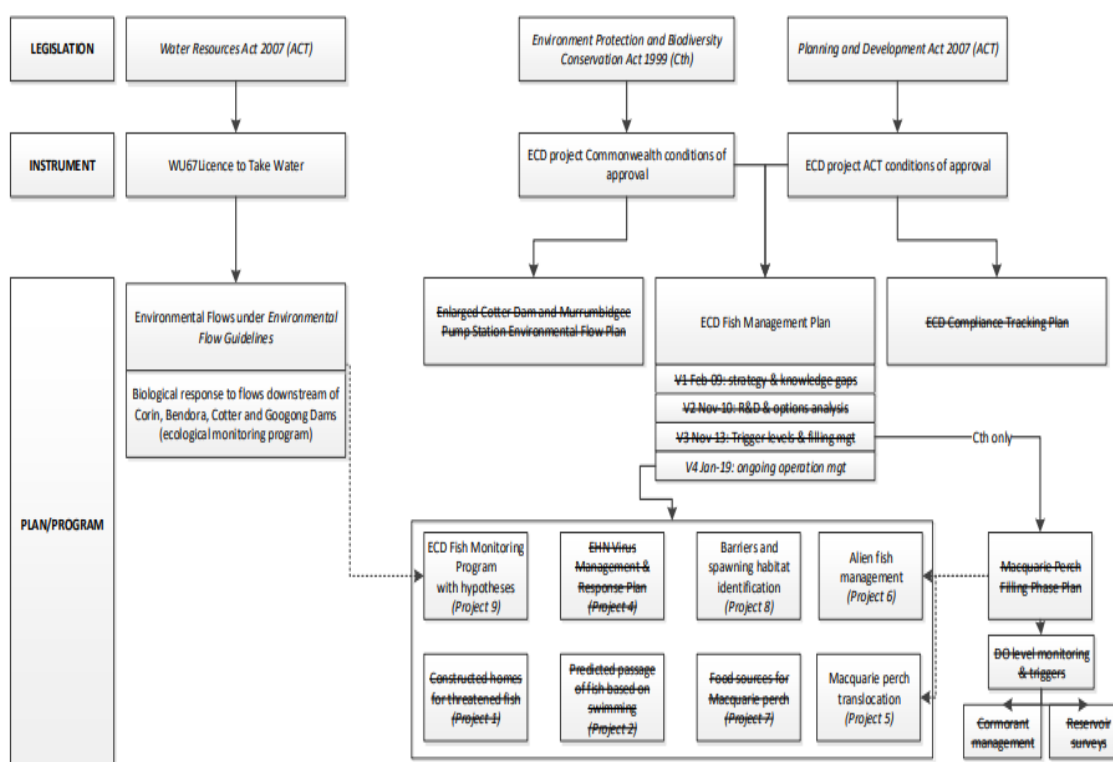
¹ Murray cod have not been detected in the Cotter River and are not included in this version of the FMP

² Listed as vulnerable in the ACT under Section 91 of the Nature Conservation Act 2014

The following sub-plans are contained in the following appendices to the FMP:

Appendix E	Cotter Reservoir EHN Virus Management Plan
Appendix F	Cotter Reservoir Destratification System Process Operating Plan
Appendix G	Enlarged Cotter Reservoir (ECR) Cormorant Management Plan
Appendix H	ECR Emergency Inspection and Translocation Plan
Appendix I	Cotter Reservoir Alien Fish Management Plan

Figure 1. ECD framework



FMP Working Group

Delivery of FMP V4 is overseen by the FMP Working Group (WG), chaired by Icon Water and including representatives from the Commonwealth Government, ACT Government, and the University of Canberra. Icon Water continues to meet and report to the WG. Based on stakeholder feedback, translocations remain paused with a focus on monitoring.

ECD Fish Monitoring – Technical and Summary Report 2025

The 2025 FMP technical report (July 2025) and Spring Summary report (December 2025) reported the key monitoring results.

Adult Macquarie Perch: 2025 recorded the lowest raw gill net captures of adult Macquarie Perch since monitoring began (11 individuals, 230–415 mm TL), with catch rates rebounding in May when surface temperatures fell below 20 °C. High water temperatures during the usual Feb–Apr sampling likely reduced catchability as adults occupied depths beyond net reach; supplementary May netting (mean ~17.5 °C) tripled CPUE relative to routine sampling. Adult body length has increased during the operational phase compared to baseline, and adult condition shows no statistically robust differences across phases.

Young-of-Year (YOY) and Juveniles: YOY were detected for the seventh consecutive year in 2025, but at low levels, likely influenced by a late Nov/early Dec 2024 flow pulse during early development. Juveniles (1+ and 2+) remain relatively stable in the reservoir, indicating suitable early survival and growth conditions over recent years.

Riverine Macquarie Perch: Macquarie Perch were present across the four most downstream sites and frequently detected upstream; YOY captured at four of five riverine sites in 2025, albeit at low abundance. Distribution remains broadly stable, with abundance varying among sites and years.

Two-Spined Blackfish: Five adults (156–226 mm TL) were captured in the upstream end of the ECR in 2025; no evidence of recruitment in the reservoir to date. Only one individual was captured at the Bendora Reservoir reference site, continuing a multi-year decline and warranting consideration of an additional reference site (e.g., Corin Reservoir).

Trout and Alien Species: Rainbow Trout captures in the ECR were very low during routine early-autumn sampling, with higher captures during cooler May conditions; Brown Trout abundance remained very low (two individuals). Goldfish abundance remains relatively low compared to filling years, though 93 individuals (mostly <100 mm FL) were captured over three nights in 2025. Eastern Gambusia and Oriental Weatherloach were detected at low catch rates.

Piscivorous Birds: Little Black, Little Pied, and Great Cormorants continue to dominate; breeding colonies persist in sections 4–5 with seasonal fluctuations. Monthly counts from June–December 2025 showed Great Cormorants increasing from 4 in June to 21 in December, and Little Pied Cormorants peaking at 10–11 in September–October. No nesting was recorded in 2025.

Macrophytes: Four emergent Cumbungi (*Typha domingensis*) stands are now established and slowly expanding along the ECR shoreline (largest ~54 m² as of May 2025), supported by stable reservoir levels since 2020.

Food Resources: Spring sampling (22 September 2025) confirmed abundant food resources. Dead pick samples contained 490 items (Chironomidae 220; Hemiptera 196), sub-samples contained 421 items (Cladocera 285; Copepod 73), and plankton tows yielded 1,992 items (Copepod 1,155; Cladocera 837). Microcrustaceans and aquatic invertebrates remain available for Macquarie Perch.

Juvenile Macquarie Perch (Snorkel Survey): A snorkeling survey on 5 December 2025 found no juveniles in upstream pools; however, small groups of five to ten individuals were observed across a 75-metre stretch at the headwaters of Cotter Reservoir.

Operational Risks to native fish and mitigation actions

Management measures and controls are detailed in FMP V4. The following summaries high (H) and medium (M) risks and 2025 status updates

Risk	Current Controls	Potential Additional Controls	Status
H1. Loss of food resources	- Constructed rock reef provides a substrate for food. - Inundated native hardwood and shrub habitat left in situ provides a source of nutrient loads. - A larger area of shallow fringing habitat in the reservoir provides a habitat for food.	- Trials of reed bed establishment and riparian revegetation around selected reservoir areas. - Macrophytes have returned to the ECD at several locations.	- The current controls are considered adequate as there is a healthy native fish population in the reservoir. - While the reservoir is being used as a water supply source, the fluctuating level makes additional controls impractical at this stage. - Monitoring indicates that food resources and abundances have returned to levels observed during the baseline phase.
H2. Cold Water Pollution	Monitoring water temperature upstream and in the reservoir and selective environmental releases from Bendora Reservoir by Icon Water's License to Take Water.	Explore options for using variable offtakes and release at Bendora Reservoir.	- Water temperature and other water quality parameters are monitored upstream and in the Corin and Bendora Reservoirs. - Reservoir levels were almost all full in 2025 and mostly natural flows.
M1. Increased abundance of Alien Fish	- Implement management options described in section 3.2 of the Alien Fish Management Plan following approval by the FMPWG. - Report illegal fishing to PCS (Parks and Conservation Service) for compliance matters. - Implement controls described in section 3 of the EHN Virus Management Plan related to fish vectors of EHN virus. - Implement the ECD Fish Monitoring Program to define trigger levels and inform adaptive management controls. - Educate Icon Water contractors to reduce the risk of transfer of alien fish eggs on vehicles and equipment.	Monitor for trout predation on Macquarie Perch larvae and implement additional management options if trout impact larvae.	- Rainbow trout size and abundance remain similar between years; Brown trout were low in 2025 in Cotter Reservoir. - Previous confirmed cases of Brown trout predation on YOY Macquarie Perch. - Trout and other alien Fish will continue to be monitored by the ECD Fish Monitoring Program. - Further meetings will take place between EPSDD and IW to assess response actions if required.
M2. EHN Virus	- Report illegal fishing to PCS for compliance matters. - Implement controls described in Section 3 of the EHN Virus Management Plan. - Inspect Fish Monitoring Program Reports for signs of infection in threatened Fish. - Educate Icon Water staff and contractors on wash-down procedures.	Conduct biosecurity training and simulation exercises for large-scale impacts on the Macquarie perch population.	- All Icon Water staff have attended a Toolbox Talk on vehicle and equipment wash-down procedures. - Regular communication with PCS on catchment risks and EHN Virus-related actions.

M3. Increased Great Cormorant Predation	• Constructed rock reef provides shelter/refuge habitat for Macquarie perch. • Native submerged hardwood provides shelter/refuge habitat. • Implement monitoring and management actions from the Cormorant Management Plan. • Operate destratification mixers to reduce the impact of low dissolved oxygen.	• None identified.	• Regular monitoring of the cormorant population continues, with stable abundance and minor shifts in distribution. • Destratification mixers were back online in the first half of 2024-25
M4. Drawdown of reservoir and sedimentation of river reach	• Reservoir operating level and inflow management during spawning informed by ECD Fish Monitoring Program. • Environmental flows, including riffle and pool maintenance flushes.	• The Murrumbidgee recirculation pump can be used to maintain reservoir level.	• Reservoir levels were almost full in 2025, with mostly natural flows. Corin dam went to 80% in mid-2025. • Environmental flows from Bendora Dam have been released per the License to Take Water, with most 2025 flows being natural.
M5. Exposure of instream barriers during Macquarie Perch spawning season	• Reservoir operating level and inflow management during spawning informed by ECR Fish Monitoring Program. • Compliance with licensed environmental flows per Icon Water's License to Take Water.	• Prepare guidelines for spawning targets in successive years. • Management of barriers (identification and mitigation). • Continue research for adaptive management of reservoir levels and river flows.	• An annual spawning management plan was developed and implemented. • Compliance with licensed environmental flows per Icon Water's License to Take Water

References

Broadhurst, B. T., Clear, R. C., Allan, H., Lhendup, U. and Lintermans, M. (2025). Enlarged Cotter Reservoir ecological monitoring program: technical report 2025. Centre for Applied Water Science, University of Canberra, Canberra.

Icon Water Limited (2019). Cotter Reservoir Fish Management Plan (FMP). Version 4.

Annexure 1: Ten Management Questions

The 10 management questions that underpin the Enlarged Cotter Reservoir Ecological Monitoring Program are:

1. Has there been a significant change in the abundance and body condition of Macquarie Perch in the enlarged Cotter Reservoir (Young-of-Year, juveniles and adults) because of the filling and operation of the ECD?
2. Has there been a significant change in the abundance, body condition and distribution of the Macquarie Perch in the Cotter River above and below Vanity's Crossing because of the filling and operation of the ECD?
3. Have Two-spined blackfish established a reproducing population in the enlarged Cotter Reservoir, and are they persisting in the newly inundated section of the Cotter River?
4. Has there been a significant change in adult trout's abundance, distribution and size composition in the enlarged Cotter Reservoir due to the filling and operation of the ECD?
5. Has there been a significant change in the abundance and size composition of trout in the Cotter River upstream of the enlarged Cotter Reservoir due to the filling and operation of ECD?
6. Are Two-spined blackfish and Macquarie Perch present in trout stomachs in the Cotter River?
7. Has there been a significant change in the abundance and distribution of non-native fish species in the enlarged Cotter Reservoir due to the filling and operation of the ECD?
8. Has there been a significant change in the abundance, distribution, and species composition of piscivorous birds near the enlarged Cotter Reservoir due to the filling and operation of the ECD?
9. Have macrophyte beds re-established in the enlarged Cotter Reservoir?
10. Are there adequate food resources (particularly decapods) for the Macquarie Perch following the filling and operation of the enlarged Cotter Reservoir?

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