PROJECT MANAGEMENT - ASSISTING IN THE RECOVERY OF THE ENDANGERED OXLEYAN PYGMY PERCH

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Paper Summary

Richmond Valley Council (RVC) has assisted the NSW Department of Primary Industries (Fisheries Management Branch), through an agency partnership, to protect the Oxleyan Pygmy Perch (OPP) from becoming extinct.

The Threatened Species Recovery Plan (TSRP) for the Endangered Oxleyan Pygmy Perch (OPP) indentified key threatening processes to the survival and recovery of the OPP. The threatening processes involved a number of Council functions in development and planning, Council services and maintenance processes as well as augmentations to existing Council infrastructure.

The protection and restoration of OPP habitat project involved implementing the elements of the TSRP for the endangered OPP. The project involved collaboration with the NSW Department of Primary Industries (Fisheries), the then Department of Environment and Conservation (National Parks and Wildlife Service), Richmond Valley Council, the Northern Rivers Catchment Management Authority and the former NSW Department of Natural Resources.

Urban drainage has been identified as one of the key threatening processes on the OPP. This is due to nutrient input, sediments, toxicants and altered hydrology. OPP have been identified within RVC drains. This may impede or prevent Council from implementing drainage maintenance, resulting in an eventual failure of the drainage system.

The TSRP for the endangered OPP identified major Council drains which may be contributing to the degradation of OPP habitat, or are likely to contain OPP habitat. In partnership with state government agencies Council then examined methods to implement feasible retrofit measures as required to improve water quality and the quality of habitat available to the OPP. Council also investigated measures to identify solutions to combine habitat and drainage functions. An education program for Evans Head was undertaken as part of the project.

The Environment Trust, Catchment Management Authority and the former NSW Department of Natural Resources as well as Council provided funding to allow this project to be completed.

This paper explores the project management of this complex issue and how Council sought to "embrace" OPP and focus on a whole of government solution to their presence rather than focus on the problems caused to drain maintenance and development.

Introduction

The Oxleyan Pygmy Perch (OPP) (sp. Nannoperca Oxleyan) is an endangered freshwater fish listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the NSW *Fisheries Management Act 1994*. It is also listed as ‘vulnerable’ under the Queensland *Nature Conservation Act 1992.*

Threatened Species Recovery Plans (TSRP) are prepared by the State government departments responsible for species that are endangered or vulnerable on the schedules of the *Threatened Species Conservation Act 1995* (TSC Act). Within NSW the Department of Environment and Climate Change is responsible for administering the TSC Act and the Department of Primary Industries is responsible for the protection of threatened fish and marine vegetation.

TSRP are statutory documents and as such public authorities, such as local councils, are responsible for taking appropriate actions to implement the measures in the plan for which they are responsible.

The coastal wallum heath lands where OPP occur are unique, regionally significant and support a diversity of native flora and fauna. The amount of coastal wallum heath has diminished since European settlement. This is due to land clearing for residential development, agriculture, mining, and drainage impacts with the remaining areas now highly fragmented. This has been a major factor in the historical decline of pygmy perch and the pressures on remaining areas of suitable OPP habitat continue.

The OPP recovery plan contains 17 objectives to be achieved in 3 program areas, which are;

- Research and investigation,
- Compliance and regulatory and,
- Management.

Out of the 17 objectives of the recovery plan Local Councils have responsibility for the implementation of two objectives. These are:-

"*Minimise the impacts on pygmy perch habitats from current and future urban development, agriculture and forestry"* and

"*Identify and restore degraded pygmy perch habitats".*

Local Councils are further partners in *"Develop an education program to increase community awareness of pygmy perch (in both urban and rural areas) and encourage community involvement"* The ultimate goal is to move the OPP from the 'endangered' to 'vulnerable' list.

Council and other Key stakeholder Involvement

RVC initially formed a partnership with the Department of Primary Industries, Fisheries Management Branch (DPI), when the council was contacted to review a Draft Recovery Plan for the OPP. RVC Local Government Area (LGA) has one of the less disturbed habitat distributions and therefore assumed largest populations of OPP in Northern NSW, RVC considered it important that the proposal be taken seriously and sufficient time be spent on ensuring that Council play a significant role in the review of the Recovery Plan.

Two of Council's employees representing development and planning, and infrastructure services were actively involved in the preparation of the Recovery Plan. The recovery plan was finally adopted in 2005.

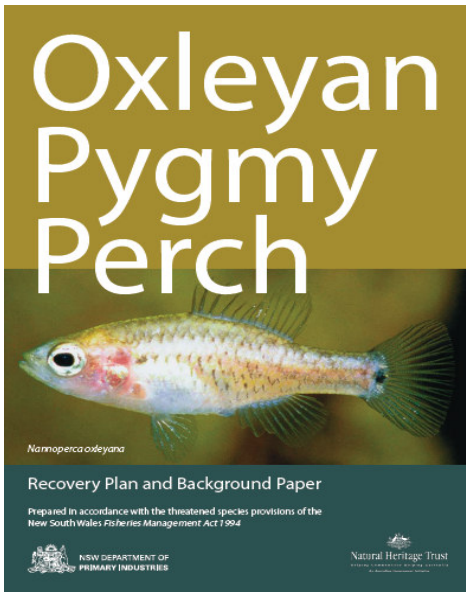

Figure 1 - Oxleyan Pygmy Perch Recovery Plan

The completed recovery plan outlines the key threatening processes of alteration to the natural flow regimes of rivers, streams, floodplains and wetlands. Council functions in development and planning, services and maintenance processes as well as growth of existing Council infrastructure directly affect these.

In addition the Recovery Plan indentified current data gaps and recovery methods which are intended to be used to help OPP to recover.

Protection and restoration of key OPP habitat is a major tool for aiding the growth of the Evans Head OPP population, as well as, improved stormwater treatment, education, enhanced maintenance and management of other known OPP habitat.

The recovery plan required public authorities to take action to implement the measures for which they have an identified responsibility. Similarly, consent and determining authorities must consider the recovery plans when exercising decision-making functions under Part 4 & 5 of the *Environmental Planning Act 1979*, when considering an activity that may impact on OPP or its habitat.

Protection and restoration of OPP habitat

RVC with assistance from DPI applied for and secured grants from the Environmental Trust, Catchment Management Authority and Department of Natural Resources for the implementation of the protection and restoration of OPP habitat project.

RVC engaged an ecological consultant to complete a series of habitat regeneration designs, stormwater treatment designs and an Operational and Maintenance Plan for the existing OPP habitat. Due to the limited research into the preferred habitat, DPI was consulted on the development of the habitat regeneration designs.

Council also completed a drain management plan. The Drain Management Plan (DMP) provided guidelines for the maintenance of RVC drains in order to reduce potential negative impacts on the OPP. This is one of the actions within the Recovery Plan. The DMP is required as the occurrence of the OPP within, and downstream of some drains requiring maintenance by the Council poses legal and management issues.

The protection and restoration of OPP habitat project gave Council the ability to undertake general maintenance works on Council assets to maintain the functions of the Council assets while not impacting on OPP habitat.

Due to the project having been conducted in an area known to include endangered species, acid sulphate soil risk, and on the state heritage listed Evans Head Aerodrome, it was determined to be under Part 4 of the *Environmental Planning Act 1979* with development approval required. Although the OPP is an endangered species due to the works having a beneficial impact a specific species impact statement (SIS) or environmental impact statement (EIS) was not required and development approval was issued on October 2006.

The construction phase of the project required the development of an Environmental Management Plan (EMP). This was prepared to help the contractors and RVC implement environmental responsive work practices and comply with relevant NSW legislation during installation of stormwater quality control devices.

The EMP was prepared and implemented in accordance with the NSW Department of Housing "Managing Urban Stormwater Soils and Construction, revision 2004". However, again due to the limited knowledge of the OPP habitat characteristics, consultation with DPI was again required for the EMP. The EMP detailed the erosion and sedimentation control, the process that was implemented throughout the project, an inductions to the state heritage site and details of environmental risk periods such as breeding and spawning periods. The DPI monitored the work as an independent authority and noted the outstanding results from the implemented controls.

During the initial earthworks in late 2006 RVC uncovered heritage artefacts and in accordance with the heritage classification of the site works were immediately stopped and Council's heritage consultant notified. Upon extensive investigations it was determined that the artefacts were highly disturbed from previous works related to the industrial estate and therefore considered to have little or no value for further detailed archaeological assessment.
All on ground regeneration works were completed by August 2008. Figure 2 and 3 show the unique wetland design required for the OPP habitat areas to deal with stormwater treatment and ensure protection and improvement for the OPP. It is noted that once the revegetation is complete, these areas will be very similar to natural OPP habitat.

Figure 2 - Wetland Habitat

Figure 3 - Constructed retention Basin

Figure 4 Shows the educational signs installed as apart of the community education component of the protection and restoration of OPP habitat project.

Figure 4 - Educational Signs

Description of the Project Management

Originally the project was planned and developed by the DPI. However during the development of the OPP Recovery Plan, RVC was working on a number of projects which all had the opportunity to help protect and enhance the OPP habitat, the list below details those projects:

- OPP habitat Regeneration Project
- Salty Lagoon Restoration as part of the Evans Head Sewage Augmentation
- Water Sensitive Urban Design (WSUD) – Develop Control Plan (DCP)
- Stormwater Management Plan
- Evans River Estuary Management Study and Plan
- OPP Drain Management Plan for Council operational staff (Review to be undertaken)

The project achieved its objective by producing the OPP Recovery Plan; however, this was only the first stage in a much longer process and bigger objective. To achieve the main objective of increased numbers of OPP and the species being removed from the 'Threatened Species List' much more on ground work and continued maintenance is required. Council has completed the on ground works and continues to maintain OPP habitat into the foreseeable future.

Organisations involved

DPI created the Recovery Plan, this began an Agency Partnership between the DPI and RVC, the partnership has continued beyond the Recovery Plan and now the DPI and RVC are working together to ensure the best results for the OPP.

The following organisations were also involved in the preparation of the OPP Recovery Plan; NSW Department of Environment and Conservation, Southern Cross University, Griffith University, Australia New Guinea Fishes Association, National Parks and Wildlife and the Natural Heritage Trust.

Environmental Factors Considered

Evans Head and the surrounding National Parks, have some of the best preserved habitat for OPP in Northern NSW. This has obviously been a contributing factor for the survival of the small communities of OPP found in the Evans Head area. Figure 5 shows the current distribution of OPP.

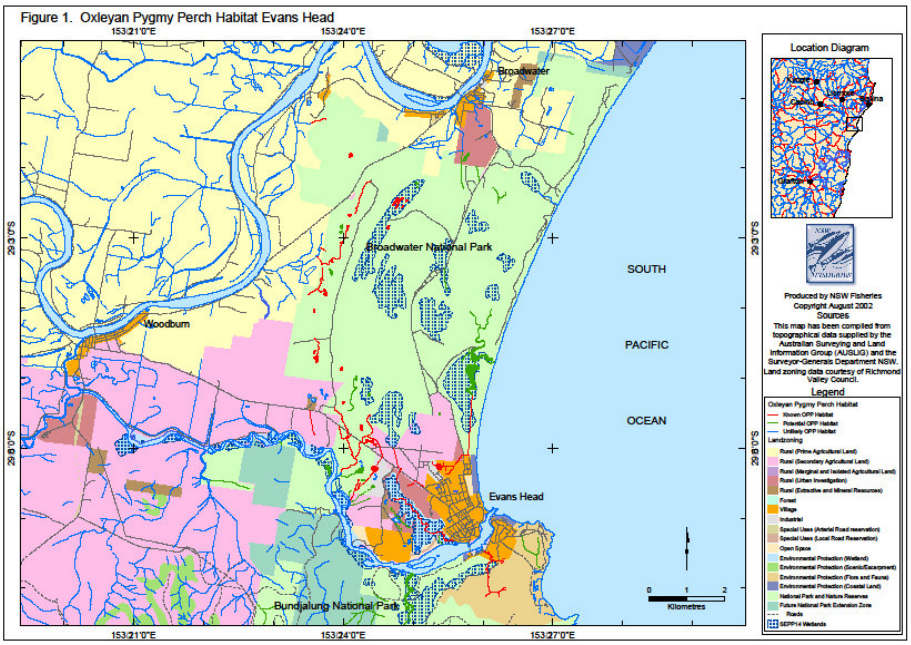

Figure 5 - Current Distribution of OPP

However, the increased urbanisation of Evans Head and its surrounding area is not helping the OPP in its survival, mainly due to poor stormwater quality, increased stormwater volumes, noxious weeds and non-native species such as the Cane Toad and the Gambusia, which actively compete for similar food resources and have predatory aspects, the full impacts on OPP are not currently known.

Some years ago Council created a number of stormwater drains to allow stormwater to run off the urban areas efficiently without causing flooding in an area as flat as Evans Head. Due to the way they were constructed and been managed they have now become home to the OPP. Due to the OPP now being an endangered species, Council is changing the maintenance practices used in these drains to ensure the OPP have a chance of survival.

All these factors were considered when designing the proposed work around Evans Head. The Figures 6 and 7 show areas of Council land, where OPP have been found or are likely be found.

Figure 6 - Evans Head Airfield Drain. This drain takes stormwater from the urban areas of Evans Head and is classed as OPP habitat, although it is a less than ideal habitat.

Figure 7 - Stormwater drainage routes from the Evans Head Industrial Estate. The distant bush land is OPP habitat.

Currently stormwater has very poor treatment before draining into the OPP habitat, now that the project is complete this land will represent OPP habitat with added stormwater treatment controls.

Figure 8 shows wallum heath community, in the Jerusalem Creek area, which represents typical OPP habitat.

Figure 8 - Wallum Heath Community

Conclusion

With the OPP Recovery Plan complete, RVC is now responsible for the implementation of certain requirements outlined in the Recovery Plan. RVC has planned, developed and delivered the OPP regeneration project. RVC has plans to produce a Consultants Brief, to allow specialists to design proper methods of helping the OPP grow as a species.

Council secured as much grant money as possible, to ensure all the designed on ground works were completed as one project, rather than completing in different phases over a number of years.

To aid the growth of OPP, RVC has ensured the OPP issues are covered in other documents; the Council has made amendments to its Stormwater Management Plan, Development Control Plan for Water Sensitive Urban Design, Evans Estuary Management Plan to cover the OPP issues.

Council throughout the total management of the project sought to actively implement the elements of the TSRP for the endangered OPP and focus the whole of government solution to their presence, rather than to focus on the issues caused to drain maintenance and development, and the lack of Council resources to implement these on ground actions.

References

Murphy M. (2005) Recovery Plan and Background Paper, NSW Department of Primary Industries, Orange, NSW Australia.

Knight, J. (2000). *Distribution, Population Structure and Habitat Preferences of the Oxleyan Pygmy Perch Nannoperca oxleyana Near Evans Head, North-eastern New South Wales,* Southern Cross University, NSW Australia

Personal Communication

Richmond Valley Council Consultant Brief for OPP, December 2005.

Grace D, Media release 23/2/2005 for Richmond Valley Council.

Acknowledgements

This conference paper has been assisted by New South Wales Governments though its Environmental Trust