

The travesty of native fish ‘protection’ in NZ: How the expiry of historic mining rights in Otago highlights Otago Regional Council’s inadequacies in protecting the threatened galaxiids in their own backyard.

Introduction

Of all types of ecosystems, those of flowing waters are amongst the most damaged by human activities.¹ Rivers and streams are routinely described as regulated, unstable, stressed, impacted, polluted, invaded, fragmented, drained, dammed, and channelized.² This plethora of impacts has led to increasing conservation concern for freshwater ecosystems and a sharp rise in threat classification of aquatic species globally.^{3,4}

In New Zealand, the threatened freshwater species statistics are damning. The earliest threat rankings in 1992 classified 10 species as in need of conservation priority.⁵ In 2011, 67% of New Zealand’s 54 native species are considered threatened or at risk according to the latest rankings conducted by the Department of Conservation freshwater fish recovery panel.⁶ In part, this marked increase can be explained by taxonomic revisions which have discovered genetically distinct differences in populations once thought to be the same species, but overall, the trend is due to continuing decline in the occurrence of freshwater fish throughout the country.⁷ A range of threats have been identified which are causing the decline, including the effects of water abstraction and river modifications, large scale loss of habitat and declining water quality as a result of land-use change and activities, and the impacts of introduced species.⁸ This increased awareness of the growing number of species threatened

¹ OE Sala, S Chapin, JJ Armesto, E Berlow, J Bloomfield, R Dirzo, E Huber-Sanwald, LF Huenneke, RB Jackson, A Kinzig, R Leemans, DM Lodge, HA Mooney, M Oesterheld, L Poff, M Sykes, BH Walker, M Walker and DH Wall “Biodiversity – global biodiversity scenarios for the year 2100” (2000) 287 Science 1770.

² EH Stanley, SM Powers and NR Lottig “The evolving legacy of disturbance in stream ecology: concepts, contributions, and coming challenges” (2010) 29 Journal of the North American Benthological Society, 67.

³ JC Vie, C Hilton-Taylor and SN Stuart *Wildlife in a changing world: An analysis of the IUCN Red list of threatened species* (IUCN (International Union for Conservation of Nature), Gland, Switzerland, 2008).

⁴ R Allibone, B David, R Hitchmough, D Jellyman, N Ling, P Ravenscroft and J Waters “Conservation status of New Zealand freshwater fish, 2009” (2010) 44 New Zealand Journal of Marine and Freshwater Research 271.

⁵ J Molloy and J Davis *Setting priorities for the conservation of New Zealand’s threatened plants and animals* (Department of Conservation, Wellington, 1992).

⁶ R Allibone et al, above n 4.

⁷ Ibid.

⁸ Ibid

with extinction, coupled with the widespread increase in the degradation of streams and rivers has highlighted the need for improved protection and management of freshwater ecosystems.⁹ In Otago, the protection and management of freshwater ecosystems provided by the Regional Council is inadequate. This essay examines the expiry of historic mining rights in Otago to highlight the short-falls in the protection of native fish in New Zealand. First I outline why the expiry of mining rights has implications for threatened native fish and summarise the plan changes Otago Regional Council (ORC) have made to accommodate the shift from mining privileges to resource consents. Secondly, I discuss ORC's statutory obligations to the landowners involved and the process landowners go through in this 'change-over'. Thirdly, I identify the inadequate level of protection of native fish in New Zealand provided by existing legislation. Finally, I comment on what would constitute adequate protection for native fish, and how ORC's current framework falls short of this.

Otago: decreasing native fish biodiversity, increasing water demands

The Otago region is a 'hot-spot' for threatened native fish. Combined with Canterbury, the two regions host the majority of New Zealand's threatened freshwater species.¹⁰ This group is composed of rare non-migratory galaxiid species.¹¹ Five of which, known as the Otago galaxiid complex are found solely in the Otago or the Otago-Southland region, and are all of conservation concern. According to the latest threat rankings for these five species, Dusky (*Galaxias pullus*) and Eldons galaxias (*Galaxias eldoni*) are listed as 'Nationally endangered' the same threat status as the well known Hector's dolphin. Roundhead galaxias (*Galaxias anomalus*), and clutha flathead galaxias (*Galaxias sp.D*) are listed as nationally vulnerable alongside the Great spotted kiwi, and although no further population decreases over the last four years have more recently taken the flathead galaxias (*Galaxias depressiceps*) off the threatened list, the 2005 threat listings classed the species in gradual decline.¹²

⁹ PS Lake, N Bond and P Reich "Linking ecological theory with stream restoration" (2007) 52 *Freshwater Biology* 597.

¹⁰ R Allibone et al, above n 4.

¹¹ These fish species are part of the same family as the well known 'whitebait', but instead of migrating to estuaries and river mouths to spawn, these non-migratory galaxiids spend their entire lifecycle in freshwater.

¹² R Hitchmough, L Bull and P Cromarty *New Zealand threat classification system lists, 2005*. (Department of Conservation, Wellington, 2007).

The fact that the conservation status of Otago galaxiids is worsening may be no surprise, considering the increasing, and often conflicting demands put on water in Otago - a region which has low rainfall and inland areas amongst the driest in the country.¹³ Otago Regional Council's July 2009 'Otagowide' issue states

“[The] demand for freshwater continues to increase...Public expectations that the water in Otago's rivers, streams and lakes is available for many different uses ranging from domestic and public water supply to recreation, industry, energy, horticulture, tourism and irrigated agriculture make managing the resource a contestable business.”¹⁴

This contestable business has recently become even more complicated with the impending expiry of historic mining rights throughout the region in 2021.



Figure 1: The nationally endangered Dusky galaxiid (*Galaxias pullus*). Part of the 'Otago galaxiid complex' this beautiful species is unique to Otago. Adults can reach 160mm in length. Photo credits: Simon Madill.

The expiry of mining rights in Otago

Dating back to the 1880s the current legislative mechanism for allocating water in Central Otago was established when the gold rush resulted in mass immigration to the region.¹⁵ In these highly competitive times, historic mining rights were issued by the Warden's courts as

¹³ Malcom McKinnon "Otago region – Climate, plants and animals" (2009) Te Ara – the Encyclopedia of New Zealand <<http://www.TeAra.govt.nz/en/otago-region/3>>

¹⁴ Otago Regional Council "Otagowide – News and information from Otago Regional Council" (2009) Otago Regional Council website <http://www.orc.govt.nz/Documents/Publications/neswsletters/OtagoWideMagazine-2nd_issue-web_v2.pdf>

¹⁵ Ibid.

property rights.¹⁶ This involved allocations on a first come, first served basis and included individual priority rights for water takings from streams, rivers and water bodies, or the damming and discharge of water.¹⁷ These historic rights were later classed as ‘mining rights’ under the Mining Act 1898, and more recently with the implementation of the Resource Management Act 1991 (RMA), ‘deemed permits’. As gold mining declined, and land use shifted from mining to agriculture, these water rights were increasingly used for irrigation and have continued to be used as such. Under s413(3) of the RMA, these mining rights expire on 1 October 2021, the thirtieth anniversary of the enactment of the RMA. As of that date, ‘mining privileges’ will lose their priority, and previous eligibility for compensation under s416 as a result of any loss or restriction of the rights which existed will no longer be recognised.¹⁸ From October 2021 all historic mining privileges must be replaced with either a water permit (for the taking or damming of water), or a discharge permit (for the discharge of contaminants) through the normal resource consent process under s413(1) of the RMA.

Implications for threatened native fish

The expiry of these mining rights has major implications for the Otago galaxiid complex precisely because it is the structures, water diversions and periods of low flow associated with the historical mining rights that have been keeping these vulnerable populations from extinction. The low flows and high temperatures associated with water extraction in small streams have prevented predatory trout from reaching these effectively ‘drought isolated’ populations.¹⁹ In other words, the extreme changes in water flows and the dams or structures put in place as a result of mining privileges have aided the survival of these native fish populations by altering their ecosystem and protecting them from predators.^{20,21, 22} Over time,

¹⁶Terry Heiler “Irrigation and drainage - Beginnings of irrigation” (2009) Te Ara - the Encyclopedia of New Zealand <<http://www.TeAra.govt.nz/en/irrigation-and-drainage/2>>

¹⁷ Regional Plan: Water for Otago 2003

¹⁸ Otago Regional Council, above n 14.

¹⁹ F Leprieur, MA Hickey, CJ Arbuckle, GP Closs, S Brosse and CR Townsend “Hydrological disturbance benefits a native fish at the expense of an exotic fish” (2006) 43 *Journal of Applied Ecology* 930.

²⁰ *Ibid.*

²¹ CR Townsend and TA Crowl “Fragmented population structure in a native New Zealand fish: an effect of introduced brown trout?” (1991) 61(3) *Oikos* 347.

²² DJ Woodford and AR McIntosh “Evidence of source–sink metapopulations in a vulnerable native galaxiid fish driven by introduced trout” (2010) 20 *Ecological Applications* 967.

the distribution of habitats suitable for galaxiids may have changed from what would have naturally occurred due to the artificial controls placed on, and the takings from, streams and rivers.

This can be inferred as elsewhere where trout have free reigning access to waterbodies throughout New Zealand, trout and galaxiids simply no longer co-occur, with many studies implicating trout in the widespread decline of these unique species of galaxiids.^{23,24} Non-migratory galaxiids are particularly vulnerable to predation as they spend their entire lives in streams and rivers (as opposed to their migratory relatives, which make up the whitebait catch), and their young are highly susceptible to predation as they are often confined to slow-moving pools.²⁵ It has reached such a state, that often galaxiid populations are solely restricted to reaches upstream of barriers to trout migration such as large waterfalls or dams.^{26,27,28}

To illustrate these implications we can take a brief look at the drought-prone Manuherikia catchment in Central Otago. The catchment contains several species of native fish: bullies (*Gobiomorphus spp.*), longfin eel (*Anquilla dieffenbachii*), and the non migratory alpine (*Galaxias paucispondylus*), clutha flathead, and roundhead galaxiids.²⁹ The latter of which is most widespread. The development of irrigation schemes in the early-mid 1900s utilised the historic gold-mining water rights and water races present in the region. These structures and diversions preceded the arrival of brown trout, creating certain areas containing roundhead galaxias populations which essentially isolated fish passage from one area to another. Trout now occur throughout the catchment, both upstream (as a result of headwater introductions

²³ M Lintermans “Recolonization by the mountain galaxias *Galaxias olidus* of a montane stream after the eradication of rainbow trout *Oncorhynchus mykiss*” (2000) 51 Marine and Freshwater Research, 799.

²⁴ RM McDowall “Crying wolf, crying foul, or crying shame: alien salmonids and a biodiversity crisis in the southern cool-temperate galaxioid fishes?” (2006) 16(3) Reviews in Fish Biology and Fisheries 233.

²⁵ AR McIntosh, PA McHugh, NR Dunn, JM Goodman, SW Howard, PG Jellyman, LK O’Brien, P Nyström and DJ Woodford “The impact of trout on galaxiid fishes in New Zealand” (2010) 34(1) New Zealand Journal of Ecology 195.

²⁶ F Leprieur et al, above n 19.

²⁷ CR Townsend and TA Crowl, above n 21.

²⁸ DJ Woodford and AR McIntosh, above n 22.

²⁹ F Leprieur et al, above n 19.

for sports fishing) and downstream (by natural invasion) of the main galaxiid populations, but have been excluded from the galaxiid areas by impeding structures or low flows as a result of significant water abstraction.³⁰ It seems likely that galaxiids were eliminated from the upstream and downstream areas by a combination of competition and predation.³¹ The more recent expansion of irrigation has resulted in a situation where the sum of the permitted water abstractions actually exceeds the average flow, meaning farmers can essentially take all the water from a tributary, resulting in many reaches becoming completely dry during the low flows of summer.

Taking the current Manuherikia galaxiid and trout distributions into account, if natural flows were restored to the streams as a result of expiry of mining rights and there were no structures in place to prevent trout access to galaxiid populations, trout would colonise the galaxiid habitats and predate upon the remaining galaxiid populations.³² This ecological explanation of the implications for threatened native fish is of most relevance to the management of the transition from historic mining rights to resource consents. It has demonstrated that if galaxiids are to be protected it is imperative that the transition proceeds with caution; identifying vulnerable galaxiid populations to ensure firstly that the ill-thought out re-establishment of more natural flows does not allow trout to further threaten or eliminate the existing populations; and secondly, the allocation of consents do not further compromise galaxiid habitat conditions in their already stressed environment³³ So what are ORC's statutory responsibilities in this case? What is the balance between their responsibilities to the holders of historical water rights or resource consents and their responsibilities to protect endangered native fish?

Otago Regional Council and the transition from mining rights to resource consents

Since 1995, ORC has been making moves to transition these mining privileges to resource consents in preparation for the 2021 expiry date. These moves have recently culminated in the implementation of Plan Change 1C to the Regional Water Plan which states

³⁰ F Leprieur et al, above n 19.

³¹ Ibid.

³² Ibid.

³³ Ibid.

“The transition to resource consents under the Resource Management Act will recognise current access to water, but will also consider the intended purpose of use for the water, and protection of aquatic ecosystems and natural character of the affected water bodies.”³⁴

Currently, under s10A or s20A of the RMA, existing users who hold historic mining rights must seek consent within 6 months of the October 2021 expiry date, but throughout that 6 month period they have a temporary reprieve where the activity (e.g. surface water takes, water discharges) is rendered lawful.

There are approximately 3000 consents and deemed permits issued in the Otago Region for water abstraction, and roughly half of these will be affected by the transition from mining rights to resource consents. To encourage a more practical economy of scale in terms of the work involved in processing and managing these consents, individuals are encouraged to apply for resource consents as a group. Plan Change 1C makes provision for ‘water management groups’ by addition of Policy 6.4.12A which “provide[s] the opportunity for groups of water users to become more responsible for managing their own water taking by being delegated specified functions by the Otago Regional Council under the Resource Management Act 1991.”³⁵ The policy recognises that the community of users are well placed to use local knowledge of water needs, in order to ensure local circumstances are taken into account and to avoid unnecessary conflict in periods of water shortage.

Essentially the group concept aims to provide flexibility for two or more consent holders to cooperate in exercising their consents with arrangements ranging from two individuals working together, to all water users in an area. For example if someone needed extra water to irrigate a field or newly planted crop, they could ask other users to cease their use for a day, to allow them that extra allocation. An addition to Appendix 2 of the Water Plan in 2A.1 and 2A.2 lists the criteria for appointment of a water management group and its functions. The group is appointed by the council and under Policy 6.4.0B promotes the shared use and management of the water, enabling individual consent holders to exercise flexibility in order to meet the day-to-day requirements of the users from available water. In this way, under Policy 6.4.0B water users can surrender their existing individual consents or mining rights for replacement with fewer or single consents, or transfer them to another person or site under

³⁴ Proposed Plan Change 1C (Water allocation and use) to the Regional Plan: Water for Otago (2008) at 2.

³⁵ Proposed Plan Change 1C (Water allocation and Use) to the Regional Plan: Water for Otago (2008) at 18.

s136(2)(b)(ii) of the RMA and Policy 6.4.17 of the Regional Water Plan. There are positives in that infrastructure and associated costs can be shared, and combining a point of take means users can pool their resources into installing more state-of-the-art technologies, such as electronically measuring water flows/takes and overall improving the efficiency of their water use.

The council still maintains a role in Policy 6.4.0C to prioritise the use of water within the area it is taken from by taking into account the competing local demands of the area, efficient use, alternative water supplies, and the economic, social, environmental and cultural costs and benefits that result from the proposed take and use of water.³⁶ For example essential local uses such as fire fighting, and community water supplies can, under Policy 6.4.8, be prioritised by the council when required. If disputes or conflict arise the council can intervene as an objective party and at any time a water management group may have its authority to act as an agent of the Council revoked. Annual reporting to the Council from each water management group aims to ensure that all management decisions made within the group are justified and there is transparency in the operation of the group and the exercise of powers as an agent of the Council.

Any applicant or group making an application follows the normal resource consent process for the taking of surface or groundwater. Under Policy 16.3.1 of the Water Plan this involves providing information such as the quantity of the proposed take and other requirements, and an assessment of the economic, social, environmental and cultural costs and benefits of taking from each source. But herein lies the problem for threatened galaxiids in the area of the proposed consent application. Legally as provided by the Water Plan, it is the responsibility of the applicant to assess and investigate whether there are native fish present in their area of take which may be adversely affected by the consent.³⁷ However, many landowners would likely be oblivious to the presence of these small fish due to their cryptic nature, let alone be aware of the threat status of the resident species. An application may be submitted that completely overlooks the threatened native fish present in the area and granted by ORC on the basis of minor effects, when really there may be major effects on the resident galaxiid species. This problem is compounded if the consenting authority, in this case ORC, is also unaware of the presence of galaxiids in the area for which the consent is sought. So

³⁶ Proposed Plan Change 1C (Water allocation and Use) to the Regional Plan: Water for Otago (2008).

³⁷ Under the Regional Plan: Water for Otago at Policy 16.3.1.

what are ORC's statutory responsibilities to protect these overlooked threatened fish? The answer is a depressing one.

The travesty of native freshwater fish protection in New Zealand

Native fish have no protection under the Wildlife Act 1953 which essentially covers any

“mammal (not being a domestic animal or a rabbit or a hare or a seal or other marine mammal), any bird (not being a domestic bird), any reptile, or any amphibian; and includes any terrestrial or freshwater invertebrate declared to be an animal under section 7B of this Act and any marine species declared to be an animal under section 7BA of this Act; and also includes the dead body or any part of the dead body of any animal.”³⁸

Fish are excluded. Even critically endangered galaxiids sharing the same threat status as the kakapo such as the lowland longjaw galaxias are not protected as a result of their threat status. Galaxiids have some level of protection under the Conservation Act (1987) and National Parks Act (1980). The Conservation Act has specific provisions for freshwater fish set out in s6(ab) in which the function of the Department of Conservation (DOC) is “to preserve so far as is practicable all indigenous freshwater fisheries, and protect recreational freshwater fisheries and freshwater fish habitats”.³⁹ Additionally, s53(3(d)) specifies the Director-General “shall advocate the conservation of aquatic life and freshwater fisheries generally.”⁴⁰

Where galaxiids happen to be in a national park they are afforded further protection. The National Parks Act s4(2(b)) includes a broader definition in the interpretation of ‘animal’ which extends to fish when it states “except where the Authority otherwise determines, the native plants and animals of the parks shall as far as possible be preserved and the introduced plants and animals shall as far as possible be exterminated”.⁴¹ However, few applications for water takes in Otago, especially historic mining rights or agricultural irrigation, pertain to national parks. It also is worthwhile noting here that in the case of a resource consent application for water takes, DOC can only advocate for protection if the Regional Council has notified them (either through limited notification or full notification) of the consent.

³⁸ Wildlife Act (1953) at 2(1).

³⁹ Conservation Act 1987 at s6(ab).

⁴⁰ Ibid, at s53 (3(d)).

⁴¹ National Parks Act 1980 at s4(2(b)).

The only statutory protection which exists to protect native freshwater fish more generally is whitebaiting constraints under the Whitebait Fishing Regulations (1994) which restrict whitebaiting to certain times of the day and months of the year as the galaxiid juveniles return from sea. However, this is only applicable to migratory galaxiids, which although are mostly in decline, are not as rare and endangered as their non-migratory compatriots.

Contrast this lack of native fish protection with the protection of one of the world's most invasive fish species, one that has had and continues to have massive environmental and ecological impacts which have often been extremely detrimental to native fish populations, Trout.^{42,43,44} Brown and rainbow trout (*Salmo trutta*, *Oncorhynchus mykiss*) are the main predators of our native freshwater species; introductions have had deleterious effects on native fish not only in New Zealand, but also Australia and Patagonia.^{45,46} The Trout and Salmon Act 1867 made provision for the preservation and propagation of Salmon and Trout, and today, Fish and Game, a successor of the acclimatisation societies is dedicated to the safe-guarding of trout with statutory responsibility under the RMA and Conservation Act for managing freshwater sports fishing habitat.

Minimum flows not providing for threatened native fish

Although ORC has no explicit statutory obligation to protect galaxiids as an entity, they do make specific provision for 'aquatic ecosystems' in Policy 6.3.1 of the Water Plan "To retain flows in rivers sufficient to maintain their life-supporting capacity for aquatic ecosystems, and their natural character."⁴⁷ This objective refers to the setting of minimum flows to "avoid the loss or degradation of aquatic ecosystems supported by rivers and the natural character of those rivers" by "...maintaining flows necessary for the life-supporting capacity for aquatic

⁴² CR Townsend and KS Simon "Impacts of freshwater invaders at different levels of ecological organisation, with emphasis on salmonids and ecosystem consequences" (2003) 48 *Freshwater Biology* 982.

⁴³ GP Closs and P Lake "Drought, differential mortality and the coexistence of a native and an introduced fish species in a south east Australian intermittent stream" 1996 47(1) *Environmental Biology of Fishes* 17.

⁴⁴ RE Gozlan, JR Britton, I Cowx and GH Copp "Current knowledge on non-native freshwater fish introductions" (2010) 76 *Journal of Fish Biology* 751.

⁴⁵ M Lintermans, above n 23.

⁴⁶ RM McDowall, above n 24.

⁴⁷ Regional Plan: Water for Otago (2003), at Policy 6.3.1

ecosystems and the natural character of those rivers”.⁴⁸ ORC’s rationale is that the setting of minimum flows provide for the aquatic life present in an area, in that as long as minimum flows are adhered to there should be no more than minor effects on the aquatic life. However, these flows only apply to the main stem of a river and not the tributaries, so even if ORC are indeed making proper assessments of the minimum flows required to maintain threatened galaxiid populations in the main stem, they are not necessarily providing for the life supporting capacity of the aquatic ecosystems in the tributaries, which is where many of the water takes are. One example of this involves the Kakanui River catchment in North Otago. The main tributary of the Kakanui river, the Kauru river, houses the largest population of lowland longjaw galaxias (*Galaxias cobitinis*).⁴⁹ The lower reaches of the Kauru are ephemeral, drying up most years, but this is exacerbated by water takes in the upper Kauru for irrigation. Minimum flows being set for the Kakanui’s main stem only, mean that as long as Kakanui flows exceed or meet minimum flows, farmers can be irrigating much of the available water at the top end of the Kauru, resulting in drastically reduced habitat for the lowland longjaw galaxias. This situation applies to many tributaries of main rivers throughout Otago.



Figure 2: The Lowland longjaw galaxias (*Galaxias cobitinis*) is one of New Zealand’s most threatened native fish. Named for its distinctive overhanging, upturned lower jaw, the last remaining populations of this unique species are found solely in the Kakanui catchment in North Otago. Adults can reach ~70mm in length.

⁴⁸ Regional Plan: Water for Otago (2003), at Policy 6.3.1.

⁴⁹ As mentioned previously, the lowland longjaw galaxiid is critically endangered – the highest threat ranking which is shared with more iconic species such as the kakapo.

There seems to be no onus on ORC to even list known galaxiid habitats so applicants can at the very least be informed of their presence, which could result in applicants including them in their assessment of adverse effects. By not identifying and listing the habitats of threatened galaxiids ORC are not fulfilling their responsibility in establishing methods for the maintenance of biodiversity under s30(ga) of the RMA or providing for the significant habitats of indigenous fauna under s6(c). To be implementing s30(ga) in an effectual way, ORC has a duty to survey, identify and classify areas where threatened galaxiids inhabit or at least make provisions in the plan that require certain methodologies which cover an assessment of native fish values when consent applications are submitted. In other regions Regional Councils are taking responsibility for the maintenance of biodiversity in their region by listing these areas of ecological importance. For example Waikato Regional Council list areas of significant indigenous flora and habitats of indigenous fauna as part of Policy 3.2.3 which covers species threatened with extinction or endemic to the Waikato region.⁵⁰

The proposed National Policy Statement (NPS) for Indigenous Biodiversity would make some amends to the current inadequacies of ORC. The NPS acknowledges the inconsistencies in the approaches of Councils in identifying significant biodiversity, and states “[the] Identification [sic] of significant biodiversity is a prerequisite to effective management”.⁵¹ Under Policy 4 of the NPS, ORC would be required to identify (using maps or schedules) areas of significant indigenous fauna in their regional plans. Furthermore, Policy 6(b) would require them to: “recognise the full range of potential adverse effects on indigenous biodiversity including, but not limited to... increased exposure to invasive introduced plant and animal species that pose a threat to indigenous biodiversity.”⁵² This presumably, could necessitate a much more extensive assessment of the threats trout pose to galaxiid populations throughout Otago. Unfortunately the NPS is not yet in effect, and the transition from mining rights to resource consents which may be overlooking native fish protection is in action now, and at a large scale.

The conclusions of the Special Tribunal appointed in the recent case to amend the Kawarau Water Conservation Order (WCO) to include the Nevis river highlights inconsistencies in the

⁵⁰ Environment Waikato Regional Pest Management Strategy 2008-2013: Biodiversity and natural and cultural heritage at Policy 3.2.3.

⁵¹ Cabinet Economic Growth and Infrastructure Committee “Proposed National Policy Statement on Indigenous Biodiversity: Proposal to release for public consultation” (17 November 2010) at [30].

⁵² Proposed National Policy Statement on Indigenous Biodiversity (2010) at Policy 6(b).

assessments of impacts afforded to threatened galaxiids compared to ORC. In regards to a future proposition for dam construction on the Nevis the tribunal considered

“the various provisions in Part 2 of the RMA weighing up economic wellbeing and health and safety in the context of sustainable management (section 5(2)), the need to have particular regard to the efficient use and development of natural and physical resources (section 7(b)), the efficiency of the end use of energy (section 7(ba)), and the benefits to be derived from the use and development of natural and physical resources (section 7(j)).”⁵³

But they concluded the weightings favoured:

“[T]he protection of the Gollum galaxiid with references to safeguarding the life supporting capacity of the ecosystems (section 5(2)(b)), the declared national importance of the protection of significant habitats of indigenous fauna (section 6(c)), the exhortation to have particular regard to the intrinsic values of ecosystems and any finite characteristics of natural and physical resources (section 7(d) and (g)).”⁵⁴

The conclusion of the tribunal was to grant the application with amendments confined to the recognition of the outstanding value of the Gollum galaxiid (*Galaxias gollumoides*).^{55,56} I question the difference between the Nevis assessment, where the presence of the nationally vulnerable gollum galaxiid can halt moves towards future damming of a river, and ORC’s assessment of water consent applications where the true breadth of actual and potential effects impacting the many threatened galaxiid species present in Otago is at risk in many cases of being simply overlooked. I contend that although ORC may be focused on providing for the social and economic needs of the local people there is an inappropriate acceptance of the potential ignorance of threatened galaxiids present. ORC are denying their own responsibilities to protect native fish habitats under the RMA and instead are reliant on applicants’ awareness and honesty in addressing any adverse effects on native fish present, and DOC’s advocacy role for protecting native fish. DOC can only play a role in native fish protection if they are notified of the consent application; and I speculate that in many cases,

⁵³ RJB Fowler, C Burns and R Kirikiri *Report of the Special Tribunal appointed under Part 9 of the Resource Management Act 1991 to report on an application by the New Zealand and Otago Fish and Game Councils to amend the Water Conservation (Kawarau) Order 1997 in respect of the Nevis River* (2010), at [153].

⁵⁴ *Ibid*, at [153].

⁵⁵ *Ibid*, at [156].

⁵⁶ As the name suggests, the Gollum galaxiid, with its bulging, bulbous eyes is named after the character Smeagol or Gollum, from the Lord of the Rings trilogy.

an approval for a consent (or number of consents) is submitted which is not taking into account the full adverse effects of the activity on threatened galaxiids, and is granted by ORC on a non-notified basis. In my view, this is unacceptable.

Finally, it is worthwhile to note that New Zealand does have one native freshwater fish, not yet mentioned, which does have statutory protection offered to it, as it is explicitly referred to in Part 10, section 69 of the Freshwater Fisheries Regulations (1983). That fish is the New Zealand Grayling (*Prototroctes oxyrinchus*). Last recorded in the Waiapu River near Gisborne in 1923, it is now officially extinct.⁵⁷ Keeping the legislation up to speed with the current dire situation facing freshwater fish in New Zealand would greatly aid those managers or conservationists in the fight for their preservation.

Conclusion

The renegotiation of water allocation in Otago will involve an influx of applications for water consents over the next decade. Unfortunately, instead of using this as an opportunity to properly assess threatened native fish biodiversity and provide adequate protection for the species present, it appears ORC are choosing to largely turn a blind eye to the many threatened galaxiid populations in tributaries throughout the region which are not being taken into account under minimum flows or when assessing any adverse effects for a water consent application. The implementation of the NPS for Indigenous Biodiversity could improve the situation by requiring ORC to identify and list habitats of native fish and better provide for their protection against trout invasion. At the very least the habitats of native fish need recognition and protection, but I echo other frustrated conservationists in advocating strongly the need for an Endangered Species Act or amendments to the Wildlife Act to explicitly protect native fish. This would be an imperative in progressing towards an acknowledgement that these incredible, unique species are worthy of protection. Once they're gone....they're gone.

⁵⁷ RM McDowall (2009) "Freshwater fish" Te Ara - the Encyclopedia of New Zealand
<<http://www.TeAra.govt.nz/en/freshwater-fish/1/1>>