

Legislative approach to protecting and enhancing aquatic habitats in New South Wales

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NSW Fisheries is the government agency responsible for the management of the State's fish and aquatic habitat resources. The legislative protection mechanisms employed by the Department are the tools used to manage developmental and unauthorised impacts. The capacity for legislation to address rehabilitation priorities, such as fish passage, adds a second dimension that enables habitat degradation to be tackled, and a net enhancement of our State's aquatic resources.

Protective mechanisms

Aquatic habitats are under pressure from both developmental and unauthorised impacts. Development of agricultural, traffic and foreshore infrastructure can result in harm and loss of aquatic habitats on both small localised and large catchment-wide scales. The legislative process enables assessment and management of developmental impacts. Unauthorised impacts are not afforded the protective mechanisms that legislation enables, and whilst the impacts may be limited to particular habitats or sites, the spatial scale of perpetual unauthorised activities without protective mechanisms can be extensive.

The *Environmental Planning and Assessment Act 1979* (EP and A Act 1979) ensures the provisions of the *Fisheries Management Act 1994* (FMA 1994) are adopted in the assessment process of relevant development activities. Part 5 of the EP and A Act 1979 outlines the assessment process that all developments are subject to.

Sections 198–203 of the FMA 1994 pertain to dredging and reclamation works. The definition of dredging and reclamation allows for a broad suite of activities in, on or near watercourses to be addressed by this provision. Dredging is deemed to be any excavation or removal of material from water land, and reclamation is deemed to be the placement of any material on water land. Water land is defined as any land that is permanently or intermittently submerged

by water. This section contains provisions that outline conservation and biodiversity objectives that allow for the appropriate application of the division. Practical activities that would relate to this legislation include the construction of bridges, road crossings, retaining walls, jetties, boat ramps and any other foreshore infrastructure.

If activities are defined by the FMA 1994 as dredging and reclamation and are authorised by a relevant public authority, the application of this section relies upon the authorising agency adopting the relevant legislative provisions. A relevant public authority that permits the work must give NSW Fisheries notification of the work and consider any issues raised by the Department before authorising the activity. A relevant public authority is deemed to be an agency, department or organisation that is constituted by an Act (e.g. NSW Department of Infrastructure, Planning and Natural Resources). There are instances of inconsistent application of this requirement throughout New South Wales. This is addressed in several planning devices, such as the Murray Regional Environmental Plan 2, and ongoing development of inter-departmental operational arrangements.

Section 219 of the FMA 1994 enables any development activity that will result in the potential blocking or obstruction of fish passage to be assessed by NSW Fisheries. Floodplain or in-stream works that may impede the flow of water at any time can be addressed by this provision. Such works may include the construction of weirs, road crossings, flood control works and block banks.

Threatened species legislation provides the opportunity for any development that occurs within the range of any listed species, population or ecological community to be appropriately assessed. An 8-part test is prepared to determine whether the development will have a significant impact on threatened species, populations or communities. Activities that harm threatened species habitat need to be licensed by NSW Fisheries.



Once legislation allows an environmental assessment to be conducted, mitigative techniques can be imposed to ensure impacts on aquatic habitats are minimised or prevented. A 'no net loss' of habitat policy is adopted when designing mitigative measures. Multiple tools can be employed such as exclusion zones, seasonal restrictions, trigger point monitoring and compensatory actions. The techniques that are employed are adaptive precautionary practices that are developed for the particular activity and the nature of the relevant aquatic habitat.

When mitigative techniques are not able to adequately restrict the immediate and long-term impacts on aquatic environments, mitigative offsets of a compensatory nature can be employed. To maintain a 'no net loss' principle, certain habitat rehabilitation activities at either the subject site or another location can be employed. Retrospective rehabilitation may include riparian enhancement, in-stream habitat enhancement (resnagging), fish passage restoration or strategic funding of large-scale offset strategies. This concept of habitat rehabilitation is employed to halt degradation and remediate aquatic ecosystems to achieve a net gain in available habitat.

The legislation pertaining to dredging and reclamation, fish passage, and threatened species carries penalties to maintain a compliance function. These sections are employed to manage unauthorised impacts on aquatic habitats.

The dredging and reclamation and fish passage provisions carry functions that require a permit to be issued and establish it an offence to conduct activity without such authority.

The FMA 1994 allows for the protection of spawning habitats of certain fish. This mechanism is designed to protect gravel beds of spawning salmonid species, but it is proposed to expand this section's capacity to afford similar protection to woody debris and vegetation substrates that are used by native species for spawning.

Scenario 1: Corowa road bridge construction

The construction of the Corowa road bridge involved the establishment of in-stream infrastructure (bridge piles) and the clearing of large amounts of riparian and floodplain vegetation for the bridge approaches (**Figure 1**). During the construction of the in-stream piles, potential impacts on the aquatic environment of the River Murray were managed through the development of construction techniques that minimised sediment disturbance. This included limiting the duration of in-stream activity and avoiding any complicated de-watering activities. The timing of the works was designed to coincide with low regulated flow in the river so as to minimise the mobilisation and distribution of any sediment.



Figure 1. Corowa bridge site (October 2003)



Figure 2. Woody debris from development site, to be used for in-stream habitat remediation

The resultant woody debris from the corridor clearing was used for in-stream habitat restoration. The sites adjacent to the bridge were inappropriate for in-stream woody habitat restoration (resnagging) due to the recreational river use in the area. The debris was transported from the site for storage and future use in river habitat rehabilitation projects at other sites (**Figure 2**).

Rehabilitative mechanisms

The FMA 1994 contains provisions that allow for the preparation of threat abatement plans, threatened species recovery plans and habitat protection plans. These tools are enacted by legislation, and they outline actions to protect and rehabilitate aquatic habitats and threatened species, populations and communities.

The FMA 1994 makes provision for ordering remediation of habitats that are subject to works that are in contravention of the dredging and reclamation sections (Sections 198–203) (see Scenario 2). Remediation orders may use a compensatory approach that ensures a net gain of restored aquatic habitat.

Section 218 of the FMA 1994 enables the Minister for Fisheries to order fish by-pass provisions to be provided at any weir or similar structure that is built, altered or modified. This section has been implemented Statewide at several government-owned weir structures.

Twelve fishway devices on 10 watercourses in inland NSW are being constructed as a part of capital works program by State Water. The majority of the fishways will be vertical slot concepts. This spatial passage rehabilitation represents the most significant rehabilitative function that is facilitated by the provisions of the FMA 1994 in the Murray-Darling Basin.

Scenario 2: Illegal weir on Cudgegong River

A rock device was constructed in the Cudgegong River for the purpose of raising the water levels at a pump off-take. The weir was detected by agency staff and an investigation was conducted. It was found that the weir was constructed without authority from NSW Fisheries and therefore the works were in contravention of sections 198–203 (dredging and reclamation) and section 219 (block fish passage). No approvals were gained from relevant public authorities to conduct the work. NSW Fisheries issued an infringement notice for the work and restoration of the site commenced (**Figure 3**).



Figure 3. Removal of unauthorised weir structure, Cudgegong River

