

MPA Perspective: A New Framework for Managing Impacts of Structures in Declared Fish Habitat Areas

Editor's note: The authors of this essay - Mary Lawrence, Dave Sully, John Beumer, and Dawn Couchman - are all with the Queensland (Australia) Department of Primary Industries and Fisheries.

By Mary Lawrence, Dave Sully, John Beumer, and Dawn Couchman

The Department of Primary Industries and Fisheries (DPI&F) in the state of Queensland, Australia, is developing a framework and guidelines for conducting an inventory of man-made, instream structures in Queensland's declared Fish Habitat Areas. The project, "Targeted Collection of Inventory Data for Wetlands Fish Barriers in the Great Barrier Reef Catchment", is being funded by the Australian Government's Natural Heritage Trust and is a component of the Queensland Wetlands Programme. Outcomes are to lead to informed management decisions for strategic modification or removal of problem structures in cooperation with investment strategies of regional natural resource management (NRM) groups and other key stakeholders.

A Fish Habitat Area (FHA) is a form of multiple-use marine protected area, protecting natural fish habitats (e.g., vegetation, sand bars, rocky headlands) from alteration and degradation related to development. FHAs allow for natural processes and community use, including community access, boating, commercial, and recreational and traditional fishing. First designated in the late 1960s (and previously referred to as Reserves for Fisheries Purposes), there are now 73 FHAs along the Queensland coast, providing protection for about 881,400 hectares of high-quality fish habitats.

As the human population along Queensland's coast continues to grow, the installation of instream structures increasingly impacts FHAs. Examples include weirs, levee banks, road crossings, and floodgates that may act as complete or partial barriers to fish movement, as well as jetties, pontoons, moorings, revetment walls, and boat ramps that have a range of impacts on fish habitats - locally, upstream, and downstream. The diversity of instream and crossing structures, and their locations within catchments, can modify flow regimes, causing permanent physical disturbances that result in direct habitat loss. This leads to fish population declines, reduced distributions of species, and degraded fish habitats, which can have detrimental effects on commercial, recreational, and indigenous fisheries.

The guidelines will be based on trial inventories within two declared FHAs in north Queensland: Trinity Inlet (7212 hectares) and Hinchinbrook (12,268 hectares). The guidelines will provide NRM groups and other key stakeholders with step-by-step instructions on undertaking structure inventory projects throughout Queensland's declared FHA network, and will consist of two user-friendly parts:

- An inventory protocol that describes how to assess the impacts of instream structures and conduct inventory fieldwork; and
- A response protocol including a decision support system (DSS) that outlines the prioritization for identification of problem structures to deliver enhanced management outcomes. These outcomes may include removal, modification, or relocation of the structures.

If legal structures are considered a high priority for management response (such as relocation), any such response will be undertaken only in cooperation and collaboration with key stakeholders including landholders, structure owners, and relevant government agencies. The selected management response will depend on the type of structure and nature of impacts, as well as the availability of funding to carry out remediation works. The project is not about removing justified and legal private and public infrastructure, but rather to mitigate the impacts of problem structures on fish habitats and/or fish movement wherever possible.

The goal is to facilitate a systematic, integrated approach to identifying and prioritizing a management response to all man-made instream structures that have negative development impacts on fish habitats. In doing so, the guidelines will contribute

significantly to enhancing fish habitats and their management within Queensland's FHAs. The project is due to finish by the end of 2008, and the guidelines are expected to be ready for use within the first half of 2009.

For more information

Mary Lawrence, Department of Primary Industries and Fisheries, Queensland, Australia. E-mail:
mary.lawrence@dpi.qld.gov.au

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