



Fisheries

Notes

MAFRI Research & Education

Determining the value of near-shore habitats to fish

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Scientists from the Marine and Freshwater Resources Institute (MAFRI), Griffith University (GU), and Edith Cowan University (ECU) are undertaking a joint project to assess the importance of different near-shore habitats to marine fish in sub-tropical and temperate waters across Western Australia, South Australia, Victoria and Queensland.

The study will focus on fish species targeted by recreational and commercial fishers in all States. The study aims to increase our understanding of fish–habitat links by determining why different species of fish and different life-stages of a species are using a particular habitat. This information is crucial in identifying and protecting important fish habitats and thus maintaining sustainable fisheries.

To do this, scientists from MAFRI, GU and ECU are using standardised methods to survey the fish found in a range of habitats in Victoria. The University of Queensland in another FRDC project is conducting a parallel survey of Queensland's near shore habitats. As well, the scientists will use chemical signatures to track the transfer of primary production through food chains in South Australia, Western Australia, Victoria and Queensland.

The Victorian aspect of this work is focussing on Western

Port Bay and Corner Inlet, where the factors that link fish to rubble reef–algae, saltmarsh, mangrove, seagrass and unvegetated habitats are being investigated. To date, MAFRI scientists have surveyed two near-shore habitats about which very little is known—mangroves and intertidal unvegetated sand.

The survey, the first year of which has been completed (summer, autumn, winter and spring) has shown that mangroves are commonly used by late-juvenile and adult fishes. Many of the fish species found within the mangroves are of importance to commercial and recreational fishers. The density and abundance of fishes within mangroves was found to be higher than that on intertidal unvegetated sediments. Mangroves harbour small fish and invertebrates, many of which are preyed on by the larger fish. For example, small mullet found in the mangrove forests were prey for larger estuary perch.

The study also suggests that the position of mangroves with relation to the main water body may influence the numbers of fish that use this habitat. Mangroves which are located near water channels may be more accessible to fish than mangroves located further away, most commonly across vast areas of unvegetated sand.

Fisheries Victoria and the Fisheries Research and Development Corporation funded the project.

For more information about this project, contact Dr Jeremy Hindell at MAFRI on 5258 0231.

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