



File No. FSC 02/04  
Ref. No. FR 29

## RECOMMENDATION KEY THREATENING PROCESS

### INTRODUCTION OF NON-INDIGENOUS FISH AND MARINE VEGETATION TO COASTAL WATERS

The Fisheries Scientific Committee, established under Part 7A of the *Fisheries Management Act 1994* (the Act), has made a recommendation to list the 'Introduction of Non-Indigenous Fish and Marine Vegetation to Coastal Waters' in NSW as a KEY THREATENING PROCESS in Schedule 6 of the Act.

Listing of Key Threatening Processes is provided for by Part 7A, Division 2 of the Act.

The Fisheries Scientific Committee has found that:

1. Section 220B(2) of the Act defines indigenous fish and marine vegetation as species that were established in New South Wales before European settlement. Any fish or marine vegetation introduced since European settlement is therefore non-indigenous to NSW waters. In this recommendation, Coastal Waters includes Ocean Waters and Estuarine Waters as defined in the Fisheries Management Act Regulations.
2. Little detailed information is available on the impacts of non-indigenous fish and marine vegetation in NSW waters. Both Australian and overseas studies, however, provide ample evidence that the introduction of non-indigenous fish and marine vegetation into NSW waters is likely to be deleterious to native species and ecological communities in several ways. These include direct competition for resources (habitat, food etc), predation, introduction of disease, introduction of toxic species and degradation of habitats.
3. Approximately 50 species of marine organisms are considered to have been introduced into NSW coastal waters, some having significant impacts on indigenous species. For example, the invasive alga *Caulerpa taxifolia* has been introduced to several NSW estuaries, where it has replaced seagrass beds that were important fish habitats. Several toxic dinoflagellates have been introduced to NSW waters, including *Alexandrium catenella*, one of the causative agents of paralytic shellfish poisoning. Major fish kills have been linked to the introduction of exotic disease pathogens. Other introductions to NSW marine waters include the European shore crab (*Carcinus maenas*), the European fanworm (*Sabella spallanzani*) and the Pacific oyster (*Crassostrea gigas*). As well as known introductions, there are many species that pose a specific risk to NSW waters, such as the black striped mussel (*Mytilopsis sallei*) and Japanese seaweed (*Undaria pinnatifida*), which have been introduced to Australian waters.
4. The "Introduction of fish to fresh waters within a river catchment outside their natural range" is already listed as a Key Threatening process under the NSW Fisheries Management Act (1994). In Victoria, "The introduction of live fish into waters outside their natural range within a Victorian river catchment after 1770" and "The introduction of exotic organisms into Victorian marine waters" are both listed as a Potentially Threatening Processes under the Flora and Fauna Guarantee Act (1988).

5. In light of the above, the Fisheries Scientific Committee is of the opinion that the 'Introduction of Non-Indigenous Fish and Marine Vegetation in Coastal Waters' could cause species, populations or ecological communities that are not threatened to become threatened. Therefore, the process qualifies for inclusion in Schedule 6 of the *Fisheries Management Act 1994* as a KEY THREATENING PROCESS.

Dr Pat Dixon  
Chairperson  
Fisheries Scientific Committee

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