Towards a Conservation Plan for Cetaceans in Queensland

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Disclaimer

This paper contains the thoughts and opinions of individual officers on a issues at an early stage of policy formulation. It does not represent any statement of Queensland Government policy or legislation, and should not be construed, quoted or referred to as such.

Abstract

The background to the introduction of specialist legislation for the protection and management of cetaceans in Queensland waters is discussed. The process for formulation of a conservation plan is explained. In considering the biology, population dynamics and conservation issues relating to cetaceans, a division into large and small whale species is utilised. This will probably be reflected in different management approaches to these two groups. A range of management options for improved protection of large whale species within Queensland and adjacent Commonwealth waters is canvassed. A discussion of some issues affecting the conservation of cetacean species is included.

Introduction

This paper is presented as a work in progress, rather than a definitive statement of regulations or policy. Our aim is to provide some background to the development of conservation plans, explain just what a conservation plan is, run through the process followed in framing the conservation plan and present some discussion of the issues and threats facing cetaceans, especially humpback whales, and the alternatives available to address them.

Nature Conservation Act 1992

This Act was passed in 1992, but at the time writing has yet to be fully proclaimed, for reasons we will touch on later. It is intended as a comprehensive piece of conservation legislation, covering the establishment and management of conservation reserves (principally on land), and the conservation of flora and fauna throughout the State, including its territorial seas. It replaces the existing National Parks and Wildlife Act, the Fauna Conservation Act and the Native Plants Protection Act (Nature Conservation Act, 1992, Schedule 1, page 104)

In the area of fauna protection, section 66 of the Act provides that fauna is assigned to one of a number of classes of wildlife (Figure 1). There are management principles contained in the Act that provide the basis or intent for management of protected species (Figure 2). These will be further amplified and detailed for each class of wildlife by statements of "Declared Management Intent" that will form part of the Regulations under the Act, which are still being developed. The process of assigning each taxon to a class of wildlife is a quantitative one adapted from work by Millsap *et al* (1990) and Mace and Lande (1991). Each taxon is ranked against a number of criteria incorporating best estimates of species range, population trends and dynamics, and the nature and extent of

Figure 1 (extract from *Nature Conservation Act 1992* - page 48)

Classes of wildlife to which Act Applies

66. The classes of wildlife to which this Act applies are—

(a) protected wildlife, that is—

(i) presumed extinct wildlife; and

(ii) endangered wildlife; and

(iii) vulnerable wildlife; and

(iv) rare wildlife; and

(v) common wildlife; and

(b) international wildlife; and

(c) prohibited wildlife.

Figure 2 (extract from *Nature Conservation Act 1992* - pages 49 - 50)

Management principles of protected wildlife

68. Protected wildlife is to be managed to—

(a) conserve the wildlife and its values and, in particular to—

(i) ensure the survival and natural development of the wildlife in the wild; and

(ii) conserve the biological diversity of the wildlife to the greatest possible extent; and

(iii) identify, and reduce or remove, the effects of threatening processes relating to the wildlife; and

(iv) identify the wildlife's critical habitat and conserve it ti the greatest possible extent; and

(b) ensure that any use of the wildlife—

(i) for scientific study and monitoring; or

(ii) for educational, recreational, commercial and authorised purposes; or

(iii) by Aboriginal people under Aboriginal tradition or Torres Strait Islanders under Island custom;

is ecologically sustainable.

threatening processes. A derived score is then used to assign each taxon to a class of wildlife.

With regard to marine species such as turtles, sea snakes, dugong and cetaceans, provisions in the Act operate to remove any explicit reference to these species in Fisheries legislation in Queensland (eg. Figure 3). Further, the act of listing a taxon as a protected species in the regulations under the Nature Conservation Act will completely remove it from Fisheries jurisdiction. This change reflects the long held community view that the management of such species should be according to the principles of conservation of biodiversity, rather than from a resource management perspective. This does not imply any criticism of fisheries management agencies in this respect; it reflects a philosophical change in the community rather than a major practical one.

Major Provisions of the Act for use of Fauna

We have already discussed (above) section 66 of the Act, dealing with classes of wildlife. Section 81, however, provides the overriding protection for fauna within the Act (Figure 4). It means that the taking or use of protected wildlife species is illegal unless a conservation plan specifically provides for it. The penalty units referred to here are currently about $60, so the maximum penalty is a hefty $180,000. "Use" in this context includes whale watching.

This is one of the reasons that the Act has not yet been fully proclaimed. Until conservation plans for all species that are currently subject to some take or use (under existing law) are prepared, the Act cannot be proclaimed, otherwise that use would become illegal. Conservation plans for these taxa must therefore be ready before the Act can be proclaimed. It should also be noted that this section is subject to the operation of section 85.

Section 85 (Figure 5) provides that Aboriginals and Torres Strait Islanders may take or use protected wildlife as of right unless an approved conservation plan states otherwise. Therefore, conservation plans for wildlife subject to traditional use, but under some threat - for example dugong or turtles - must be ready before the Act is proclaimed, otherwise there would be no management controls available for those species. The complexities of issues relating to traditional use have proved to take much longer to negotiate through than anticipated, perhaps in part because of the current high profile of community discussion about the ramifications of the MABO decision. Such issues cannot be glossed over or ignored; the Government has made a commitment to fully negotiate these matters with traditional users (eg. Queensland Government, 1992, page 236).

What is a conservation plan and how do we get one?

The Act provides for 2 phases of public input into the development of a conservation plan (Figure 6). The first phase requires a notification of the Government's intent to prepare a conservation plan and a call for public submissions. The submissions are analysed and collated, and used as input for the development of a draft. Simultaneously, the process of classifying wildlife (above) is undertaken, and the relevant declared management intent contained in the Act is used as a guide in the development a draft conservation plan. The draft is circulated to the public for comment and further submissions which are considered during preparation of a final plan for approval by the Government.

Figure 3 (extract from *Nature Conservation Act 1992* - Schedule 2, Acts Amended)

FISHERIES ACT 1976

1. Section 6(1) (definition "fish")—

omit 'turtle. mammal,'.

2. Section 6(1) (definition "fish", after 'star sand')—

insert ', or a fish that is a protected animal under the *Nature Conservation Act 1992*'.

3. Section 6(1) (definition "marine product")—

omit, insert—

' **"marine product"** includes—

(a) oyster, pearl oyster, trochus, green snail, coral, coral limestone, shell grit and star sand, wherever found; and

(b) in a marine park—

(i) all forms of indigenous animal and plant life; and

(ii) Aboriginal remains, artifacts or handicrafts of Aboriginal origin; and

(iii) traces of Aboriginal remains, artifacts or handicrafts; and

(iv) wrecks, relics and traces of wrecks or relics; and

(v) all other materials comprising the tidal land of a marine park; .

but does not include protected wildlife, or cultural or natural resources, within the meaning of the *Nature Conservation Act 1992*;'.

Figure 4 (extract from *Nature Conservation Act 1992* - page 54)

Restriction on taking etc. protected animals

81.(1) Subject to section 85, a person must not take, use or keep a protected animal, other than under—

(a) a conservation plan applicable to the animal; or

(b) a licence, permit or other authority issued or given under a regulation.

Maximum penalty—3 000 penalty units, imprisonment for 2 years or both.

Figure 5 (extract from *Nature Conservation Act 1992* - pages 56 - 57)

Aborigines' and Torres Strait Islanders' rights to take etc. protected wildlife

85.(1) Despite any other Act, an Aborigine or Torres Strait Islander may take, use or keep protected wildlife under Aboriginal tradition or Island custom.

(2) Subsection (1) applies subject to any provision of a conservation plan that expressly applies to the taking, using or keeping of protected wildlife under Aboriginal tradition or Island custom.

(3) An Aborigine or Torres Strait Islander who takes, uses or keeps protected wildlife in contravention of a provision of a conservation plan that expressly prohibits the taking, using or keeping of protected wildlife under Aboriginal tradition or Island custom commits an offence against this Act.

Maximum penalty—3 000 penalty units, imprisonment for 2 years or both.

Figure 6 Process for Development of a Conservation Plan under the *Nature Conservation Act 1992*.

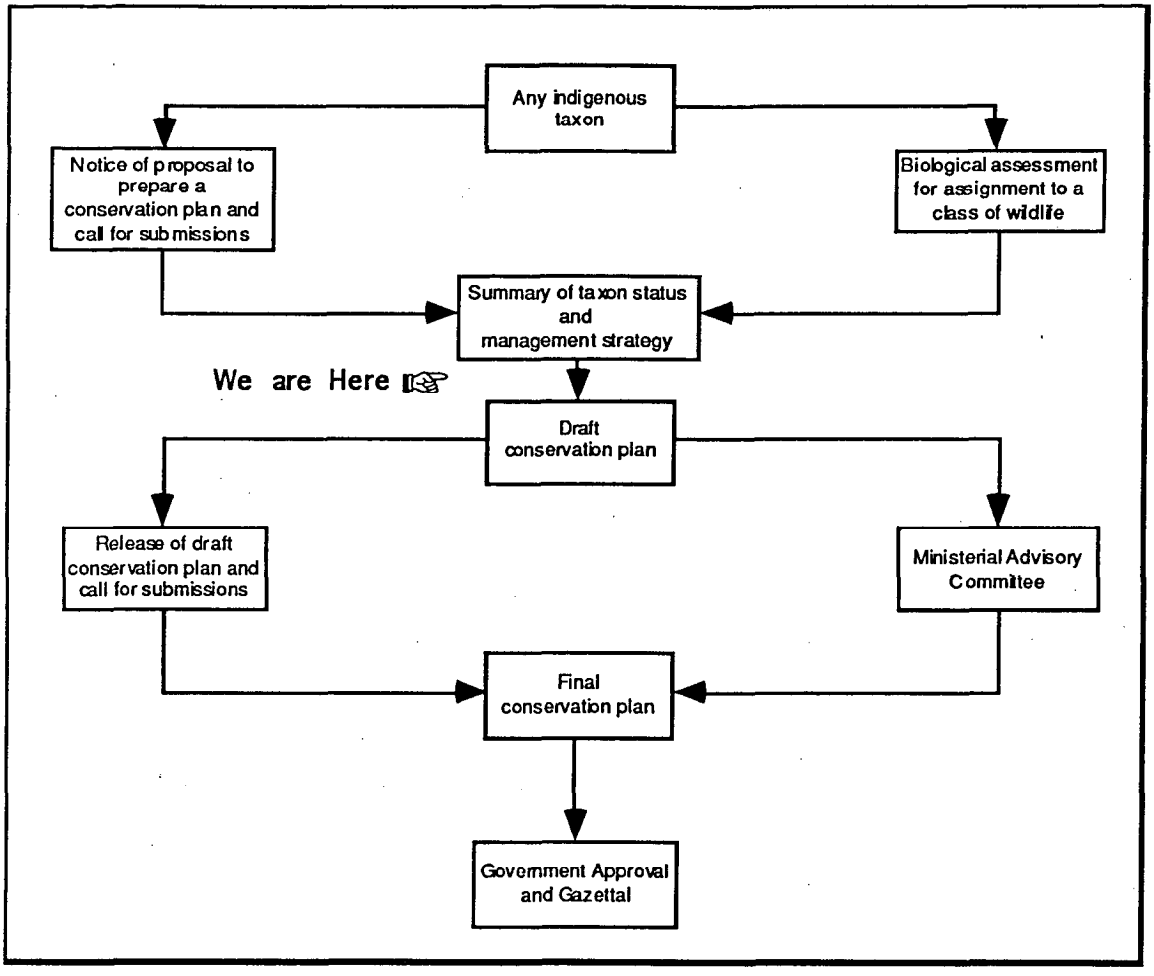


Figure 6 illustrates the current status of the conservation plan's development. The initial notice and call for submissions was published in major newspapers in December 1992 (Figure 7); the time for submissions was subsequently extended by another two months. We are now in the process of putting together a draft conservation plan to be released for public comment.

The documentation that is being prepared will have three parts (Figure 8). A background document summarises the current state of knowledge of the biology, distribution and conservation status of the taxon, and discusses the existing possible threats and impacts from human activities. A management strategies document sets out the principles and aims of management, with some discussion of the means by which they should be achieved. These two parts together form the instructions for the legal drafting of the conservation plan itself, which takes the form of a set of regulations under the Act.

Conservation Plan for Cetaceans

In drafting background documentation we realised that the range of species we had to consider covered quite a spectrum of issues, some of which were not relevant to all species. On the other hand, it was impractical to consider a separate conservation plan for each species. We have therefore taken the approach of considering two separate groups:

The first is comprised of large whale species that are more likely to be subject to harassment and associated issues on account of their size and relative sightability. The humpback is the best example of this type, of course, and we will talk primarily about that species, but the issues and management directions could apply equally to the occasional Minke, Fin, Sperm or even Blue whales that can occur along the Queensland coast (Baker, 1983). It also includes lesser known species including the strap-toothed whales.

The second group is comprised of smaller, faster, more mobile whale species, principally the dolphins such as bottlenose, common, spinner, striped, spotted, Indopacific humpbacked, and Irrawady river dolphins. It includes as well the smaller toothed whale species, such as killer, false killer, pygmy sperm, melon headed and pilot whales. In general, the better known inshore dolphin species are used as examples in the discussion of issues and threats.

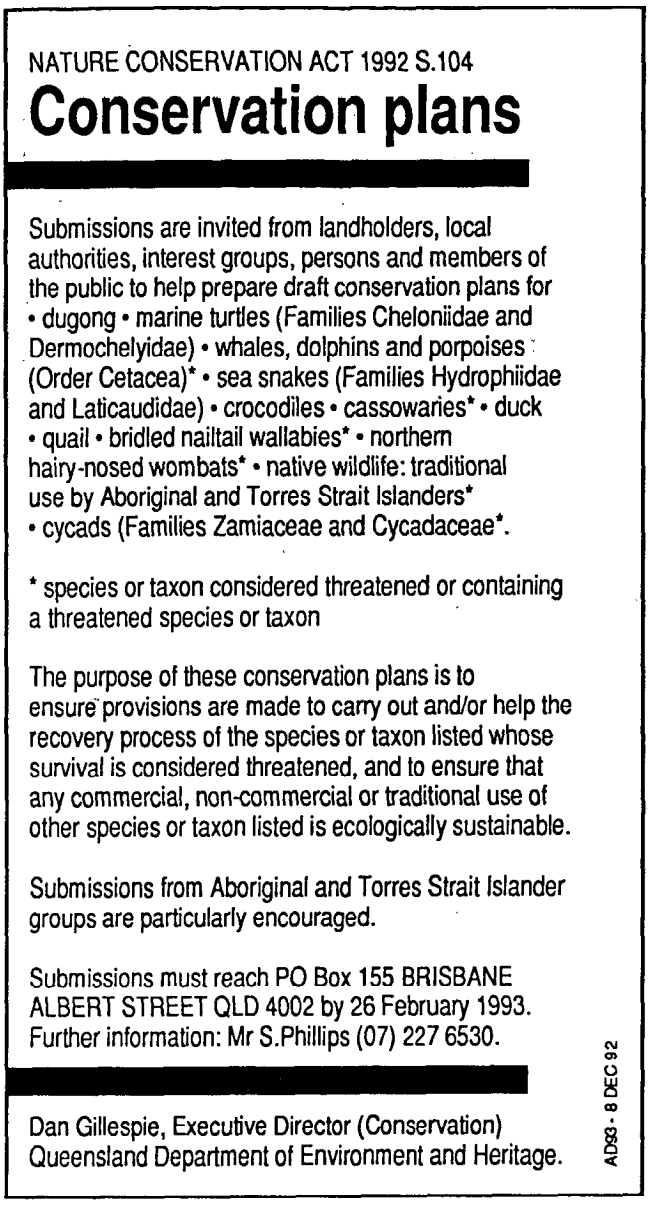
The conservation plan will of course provide protection for all cetacean species occurring in or adjacent to Qld waters, but will cite specific information available for the above species.

An overriding principle of management is that species should be managed over the entirety of their range in or adjacent to Qld waters, rather than at isolated sites. In the case of humpbacks, this means from the Qld/NSW border, along the southern Qld coast, into the southern GBR as far as the Whitsundays and even up to Townsville or beyond, as well as Hervey Bay.

Issues and Threats

Harassment

Figure 7 Newspaper advertisement calling for submissions



NATURE CONSERVATION ACT 1992 S.104

Conservation plans

Submissions are invited from landholders, local authorities, interest groups, persons and members of the public to help prepare draft conservation plans for • dugong • marine turtles (Families Cheloniidae and Dermochelyidae) • whales, dolphins and porpoises (Order Cetacea)* • sea snakes (Families Hydrophiidae and Laticaudidae) • crocodiles • cassowaries* • duck • quail • bridled nailtail wallabies* • northern hairy-nosed wombats* • native wildlife: traditional use by Aboriginal and Torres Strait Islanders* • cycads (Families Zamiaceae and Cycadaceae*.

* species or taxon considered threatened or containing a threatened species or taxon

The purpose of these conservation plans is to ensure provisions are made to carry out and/or help the recovery process of the species or taxon listed whose survival is considered threatened, and to ensure that any commercial, non-commercial or traditional use of other species or taxon listed is ecologically sustainable.

Submissions from Aboriginal and Torres Strait Islander groups are particularly encouraged.

Submissions must reach PO Box 155 BRISBANE ALBERT STREET QLD 4002 by 26 February 1993. Further information: Mr S.Phillips (07) 227 6530.

Dan Gillespie, Executive Director (Conservation)
Queensland Department of Environment and Heritage.

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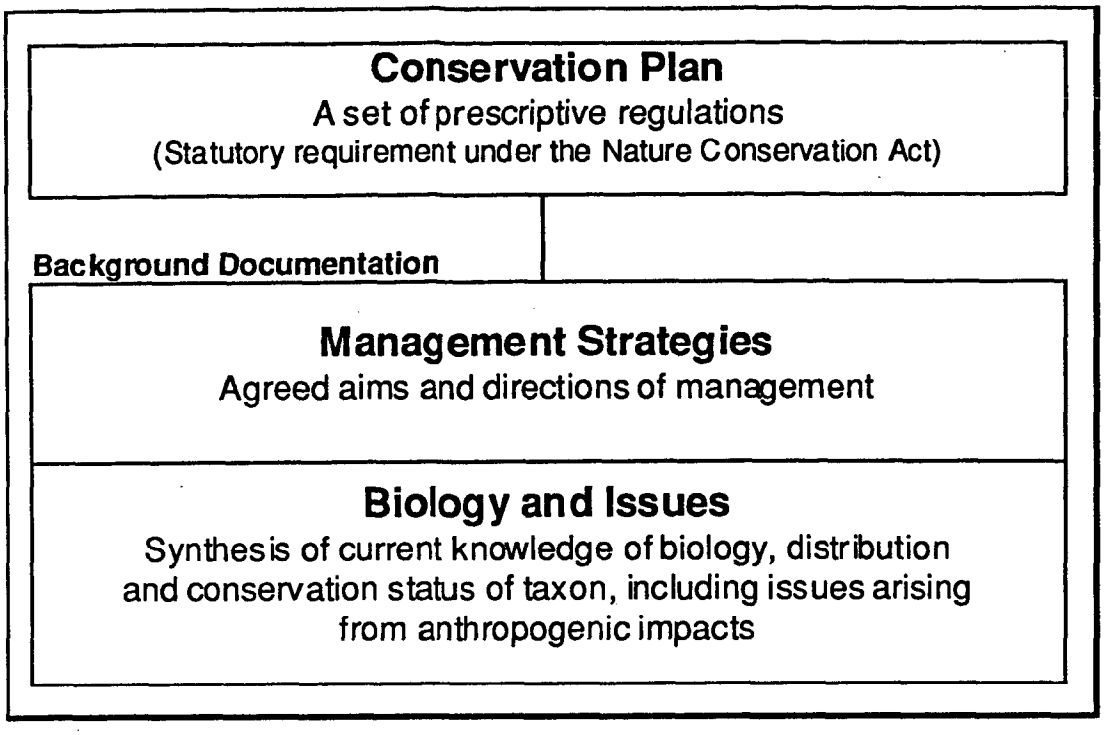
Figure 8 Components of the Conservation Plan and associated documentation



Harbour, at the Solitary Islands, off Moreton Bay, Hervey Bay, the Capricorn -Bunker group, Keppel Bay and the Whitsundays, we are rapidly approaching a situation where a large proportion of the Group V humpback whale population may be in contact with humans for almost all of the period of their migration in Australian coastal waters.

- The provision of some sanctuary areas and no close approach areas, as discussed above. Sites where it appears there may be a need (on current information) include the northern end of Hervey Bay and the sheltered waters within the Whitsunday islands chain.

- Special provision for cow-calf pairs. One alternative is to allow only one vessel within a 300m radius (and no closer than 100m) of a cow-calf pod, instead of the three vessels allowed within 300m under current laws.

- Special provisions to safeguard individual animals of special interest that risk unwitting harassment perhaps from curious recreational boat users and even news crews. Examples include the now famous white humpback or "emergency" situations such as a female about to give birth, a sick or injured whale lost up an estuary, trapped in a lagoon, or at risk of stranding (see Anderson, 1992).

Accidental Collision

With the continuing recovery of the Group V population , and increasing volume of shipping and commercial and recreational traffic along the Queensland Coast, it is apparent that the likelihood of collisions between whales and both large and small vessels must increase. There are concerns here from both whale conservation and public safety viewpoints. The extent to which this may threaten the recovery of the population cannot be estimated at present, but it would be prudent to assume that in certain critical areas (perhaps the same as those referred to above in discussing harassment) some restrictions may need to be placed on vessel speed, type or area of operations.

Accidental Capture

The collapse of the Taiwanese oceanic gillnet fishery in 1986 after stringent limitations were placed on net sizes in Australian waters has removed the major threat to cetaceans from fishing. However, incidental kills of cetaceans in Queensland waters still result from occasional entanglement in nets used in the barramundi fishery, the mackerel and shark gillnet fishery, and the shark meshing program (Tucker and Puddicombe, 1988).

We recognise that occasional accidental capture and sometimes death will inevitably occur associated with fishing operations. The Queensland Department of Environment and Heritage (Q.DEH) will continue to work with fishermen and fisheries agencies on gear technology to minimise this risk. The conservation plan will probably follow the approach taken in the Commonwealth's Whale Protection Act (1980) in obliging fishermen to report any occurrence of accidental capture, as well as programs to encourage and provide information to fishermen on how to limit the bycatch of cetaceans and how to free entangled animals.

A total of 520 dolphins were caught in shark nets as part of Queenslands anti shark program over the twenty year period from 1967 - 1987 (Paterson, 1990). Paterson (1990) identified Irrawady dolphins as the species which was generally caught in nets

north of Mackay while primarily bottlenose and indopacific humpback dolphins were caught in southern Queensland. The shark meshing program off Bundaberg and Townsville has been modified in recent years to reduce the catch of non-target species in nets. In other areas drumlines are replacing nets, but it is likely that nets will remain for the foreseeable future on the more popular surfing beaches of the southern Queensland coast.

The Queensland Department of Primary Industries (Q.DPI) is engaged in research with colleagues from north America in the use of sonar buoys and other repellent devices to avoid entrapment of cetaceans in nets. This is primarily aimed at migrating humpbacks and was triggered by a couple on instances of entanglement off the Gold Coast over the last two years. Q.DEH will examine the shark meshing program in co-operation with Q.DPI with a view to:

- continuing the research program to minimise meshing of cetaceans, as well as dugongs and turtles;
- making every effort to free entangled animals;
- ensuring all cetaceans captured are positively identified and any available information (eg. species, size, sex, condition) is accurately recorded;
- giving research into alternative shark deterrents a high priority; and
- producing an annual report on the cetacean bycatch.

Capture for live display

In 1985, a Commonwealth Government Select Committee on Animal Welfare recommended that no further permits for the capture of live cetaceans for public display be issued (Senate Select Committee on Animal Welfare, 1985). No permits have been issued in Commonwealth waters since that time. Further discussions have still to be held with oceanarium operators, but Q.DEH's initial position is that the conservation plan will probably follow the recommendations of the committee. In situations where a successful captive breeding program has been established, it is difficult to see any justification for further live capture. At the same time, we acknowledge the valuable role played by some oceanaria in the rescue and rehabilitation of sick and injured dolphins and other small whale species and would support the continuation of that role.

Traditional Hunting

Aboriginal or Torres Strait Islander people are not known to have hunted dolphins or other cetacea which were generally considered to be of spiritual significance (Bryden, 1978). It is not anticipated that traditional hunting will be a significant issue in the management of cetacea.

International Whaling

This is outside the consideration of the conservation plan but worth mentioning. Australia's membership of the International Whaling Commission ensures the continued international protection of most large whale species that can occur in Australian waters, with the exception of Minke whales. In addition, the Whale Protection Act prohibits any whaling in Australian waters, and interestingly, prohibits the involvement of any

Australian citizens, aircraft or vessels in whaling or associated activities worldwide (Whale Protection Act , 1980, Section 6).

Strandings

Stranding situations pose unique problems for management. The practicalities of handling whale stranding situations are discussed in detail in another paper presented at this conference; we will not elaborate further here (see also Anderson, 1992; Anon, undated; Robson, 1984).

However, there are a number of issues arising from strandings that a conservation plan will need to address. Some examples include:

- ensuring that the advice of a qualified veterinarian is obtained;
- identifying those officers who should have the authority to take decisions on euthanasia of animals;
- setting out the conditions under which euthanasia may be administered, and the most humane methods;
- ensuring that as much information as possible is obtained from stranded animals in collaboration with research organisations such as the Qld Museum;
- providing officers with the authority for necessary crowd, vehicle and vessel control at a stranding site.

Water Quality, Habitat Loss and Food Stock Reduction

High levels of organochlorins and heavy metals have been recorded in the tissues of toothed whales found stranded on south-eastern Australian coast and in dolphins in Moreton Bay (Corkeron, pers comm). These are assumed to be as a result of consuming contaminated prey species and the subsequent concentration of contaminants at higher trophic levels. As high order carnivores, toothed whales (including dolphins) are particularly susceptible to the effects of toxins which accumulate in the food chain. Populations of dolphins in the western Mediterranean and southern California are considered to be at risk from heavy metal and DDT/PCB contamination (Gaskin, 1982). While the long-term effects of contaminants in the tissues of cetaceans are not clear, it is obvious that animals with coastal distributions are most at risk.

Humpbacks feed only opportunistically in Australian waters, the bulk of their feeding occurring in Antarctic waters, which are as yet, relatively unpolluted. Moreover, humpbacks like the other baleen whales, feed on primarily on planktonic first order consumers such as krill, and on small schooling fish species. Thus only a small number of trophic levels are involved in the food chain, so that concentration on contaminants is less likely to be a problem that in toothed whales feeding on larger prey species. However, with the continued rise of levels of pollutants in coastal waters, the possibility of direct or indirect effects of declining water quality on migrating humpbacks cannot be discounted, particularly because humpbacks migratory route lies close inshore.

Coastal marine habitats and riverine habitats necessary to sustain populations of inshore dolphins are also primarily affected by development and pollution. A number of species