

**PROTECTED
SPECIES
AWARENESS
INFORMATION
FOR
COMMERCIAL FISHING OPERATIONS**

DUGONG

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ISSUES INVOLVED WITH THE PROTECTED SPECIES *DUGONG DUGON* IN THE NORTHERN TERRITORY

Dugong are found in varying numbers across northern Australia, with some of the biggest populations living in Northern Territory waters.

They are the only plant eating marine mammals that live their whole life in the marine environment. They have specialised seagrass diets and because of this they have often been called “sea-cows”.



DESCRIPTION

A dugong has nostrils on the top of its snout as it must rise to the surface to breathe. Its snout is large and its head is round, with small eyes.

The snout has coarse but sensitive bristles which cover the lip and it is these bristles that help dugong find the right types of seagrass, as they have poor eyesight.

Dugong swim using their whale-like fluke tail. The front flippers are used for both balance and turning. As most dugong which get caught in nets are trapped by their tail, it's easy to understand why a trapped dugong doesn't survive in a net for very long.

Females have teats at the base of their flippers for feeding their calves.

Adult dugongs can reach lengths of more than 3 metres and weigh up to 420 kilograms. While their eyesight is quite poor, their hearing is reported to be acute. Sensory bristles cover their bodies and cows and calves communicate by producing quite high pitched “chirps”.

REPRODUCTION

A female dugong is at least ten years old before she has her first calf and she bears a single calf every three to five years, providing seagrass and other conditions are suitable.

The gestation period is about 13 months and a calf starts to eat seagrass soon after it's born. However a mother continues to nurse her calf with milk until the calf is around eighteen months old.

HABITAT

In Northern Territory waters, the right types of seagrass beds, or meadows as they are sometimes described, in estuaries and shallow coastal waters with sandy or muddy bottoms will attract dugong to feed.

Seagrasses are quite different from seaweeds, which are algae. They have tiny flowers and straplike or oval leaves and, even though they are marine plants, they have the same basic structure as terrestrial plants.

To grow, seagrasses need nutrients, often obtained from nearby mangroves, as well as good light, which means water that is fairly clear. While normally found in shallow water, seagrasses can grow at depths of thirty two metres and have even been found in clear water at sixty eight metres.

Natural events such as cyclones, which often affect waters of the Northern Territory, can have a major effect on seagrass beds as they can stir up sediment in the waters to the extent that the beds can be killed by cutting out sunlight. With or without human impact they can come and go seasonally.

When fishing in areas that dugong are known to frequent, it's important to be aware of this fact. Because no dugong were sighted in an area one year does not mean that they won't be there in the following year or two.

When dugong graze seagrass beds they leave distinctive elongated feeding trails through them as dugong usually pull up entire plants.

VULNERABILITY OF SPECIES

It has been estimated that with optimal combinations of life history parameters such as low natural rate of mortality and no human induced mortality, a

dugong population is unlikely to increase by more than an average of 5% per year.

Dugong are shy creatures and are not often seen in their entirety in the water. In fact, often the only sign of a dugong is a brief swirl in the water as they surface briefly to breathe.

A) nets:

There have been several documented cases of dugong being caught in nets of reasonable size mesh in waters of the Northern Territory. Because those that do get entangled in nets are held by their fluke like tails, they often cannot swim to the surface to breathe and therefore drown. Preventative measures when using nets are detailed further on.

B) boat strikes:

It is believed that some dugong may be killed by being accidentally struck by boats and propellers while grazing in very shallow waters.

It is important that when operating a dinghy in shallow waters in or near seagrass beds, the speed is kept to that which enables the operator to have a good view of what is ahead of the vessel. This applies equally to the recreational and indigenous hunting sectors.

C) indigenous hunting:

For many thousands of years the dugong has held a special place in the customs and beliefs of indigenous coastal communities. Many such communities in the Northern Territory still hunt dugong today for both ceremonial and subsistence purposes.

There are no provisions in any Northern Territory legislation at this time which prohibit or limit traditional hunting.

DUGONG AND NETS

Because of their poor eyesight, dugong will not normally see a net until they are in a vulnerable position in regard to hitting it.

If a dugong hits a net, its natural reaction is to turn away from the barrier and swim to safety. However, because a dugong swims by using its fluke like tail, the agitation of the tail in the water can, on occasion, be the very thing that traps it in that the head line of the net or the light net itself becomes entangled with the dugong's tail.

If this occurs the dugong's ability to breathe will depend on a number of critical factors such as depth of water, tide run and degree of entanglement.

If the dugong is a female with a calf, it is quite likely that the calf too will become entangled, as a calf swims very close to its mother in normal circumstances for the first eighteen months or so of its life.

Even if a calf escapes a net, if its mother dies when the calf is young it is more likely that the calf will ultimately die as well within a relatively short space of time.



BEST PRACTICE IN USE OF NETS

It is obviously in the best interests of both dugong and commercial barramundi operators to minimise the potential for adverse interaction between the animals and nets. To achieve this, in dugong rich areas it is recommended that only low tide net sets are worked.

- Approximately one hour before the maximum low for that set of tides, nets are set in approximately 60cm of water and this means that they will be almost dry at the bottom of the low tide.
- The nets are retrieved and stowed in dinghies approximately one hour after the commencement of the incoming tide.

Low tide net settings also have the significant advantage of reducing or minimising unwanted bycatch in a barramundi fishing operation on appropriate tides and in appropriate physical circumstances.

- It is not always practical to do low tide net settings only in a particular area, depending on both the area and the tides in it.

When this situation occurs, consideration should be given to the amount of net set in the area, irrespective of the total amount of net the particular licence allows.

The amount of net should be limited to that which can be adequately patrolled on a ten to fifteen minute basis during the particular set.

- As dugong have a limited time within which they have to surface to breathe and therefore stay alive, it is important that any setting of nets, be it low water, mid water, or high water, is accompanied by a net inspection regime in dugong inhabited waters that takes into account that limited survival time . The ability to continue to fish such waters will be based on the lack of dugong deaths attributable to commercial barramundi fishing.

SOUTH WEST GULF OF CARPENTARIA REGION

This region is a very important one for dugong, with herds of up to 100 or more animals sometimes gathering at certain times of the year.

While fishing in this area when dugong are present, the following net attendance requirements should be implemented.

a) Open Waters Landward of the Coastline

Use no more than three nets at any one time per dinghy. Each net should be no longer than 120 metres and have a maximum drop of 50 meshes.

b) Open Water Seaward of the Coastline

Use no more than three nets at any one time per dinghy. Each net should be no longer than 200 metres and have a maximum drop of 33 meshes.

Whether landward or seaward of the coastline, nets should be no more than 800 metres apart and the distance between the first and last net should be no more than one kilometre.

The person attending the nets should remain between the first and last nets while they are set.

If an accidental capture of a dugong occurs, the fishing operation should be relocated to another area once the animal has been released from the net.

All accidental capture of dugongs, dugong deaths, or injury of a dugong (including prolonged submersion) should immediately be notified to the Fisheries Licensing Section by the person in charge of the fishing operation on 8999 2144 or through Fishwatch on 1800 065 522.



EXTRACTING A LIVE ACCIDENTALLY CAPTURED DUGONG

If a dugong is accidentally entangled in a commercial barramundi net, the aim is to free it before it drowns.

Given that a dugong has to surface to breathe, the most immediately obvious action is to cut the net that entangles the dugong to ensure its survival.

A net can be mended, a dugong's death cannot be changed.

As dugong are shy wild animals, it is important that whoever is cutting a live animal free, does so with a minimum of noise, be it dinghy motor or actual physical handling of that part of the net trapping the dugong. As a captured wild animal, the dugong is already stressed to a significant level. Activities involved in its release should not, where preventable, add to that stress.

DISPOSING OF A DEAD ACCIDENTALLY CAPTURED DUGONG

The present laws in the Northern Territory are quite explicit. It is an offence to be in possession of a dugong without an appropriate permit from Northern Territory Parks and Wildlife unless you are an indigenous person.

Whenever a dugong is accidentally killed, the person in charge of the fishing operation should ensure that the carcass of the animal is not interfered with other than to secure it so that it does not drift away.

The Fisheries Licensing Section should be contacted on 8999 2144 or through Fishwatch on 1800 065 522. The Licensing Section or the local Parks and Wildlife office will advise of a suitable course of action for the disposal of the carcass.

The only exception to this particular guideline is if the person in charge contacts a nearby Aboriginal community or outstation and people from them come and remove the dead dugong for utilisation as food. If this does occur, the removal should be reported to the Fisheries Licensing Section. In any case, all interactions with dugong should be accurately recorded in the 'licensees record book'.