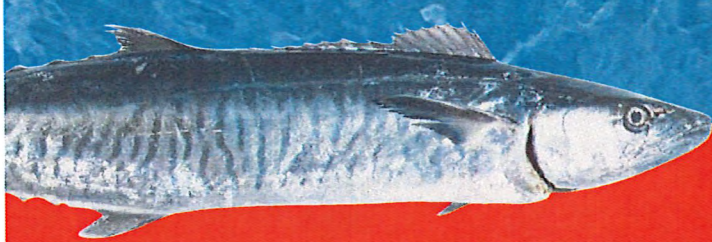


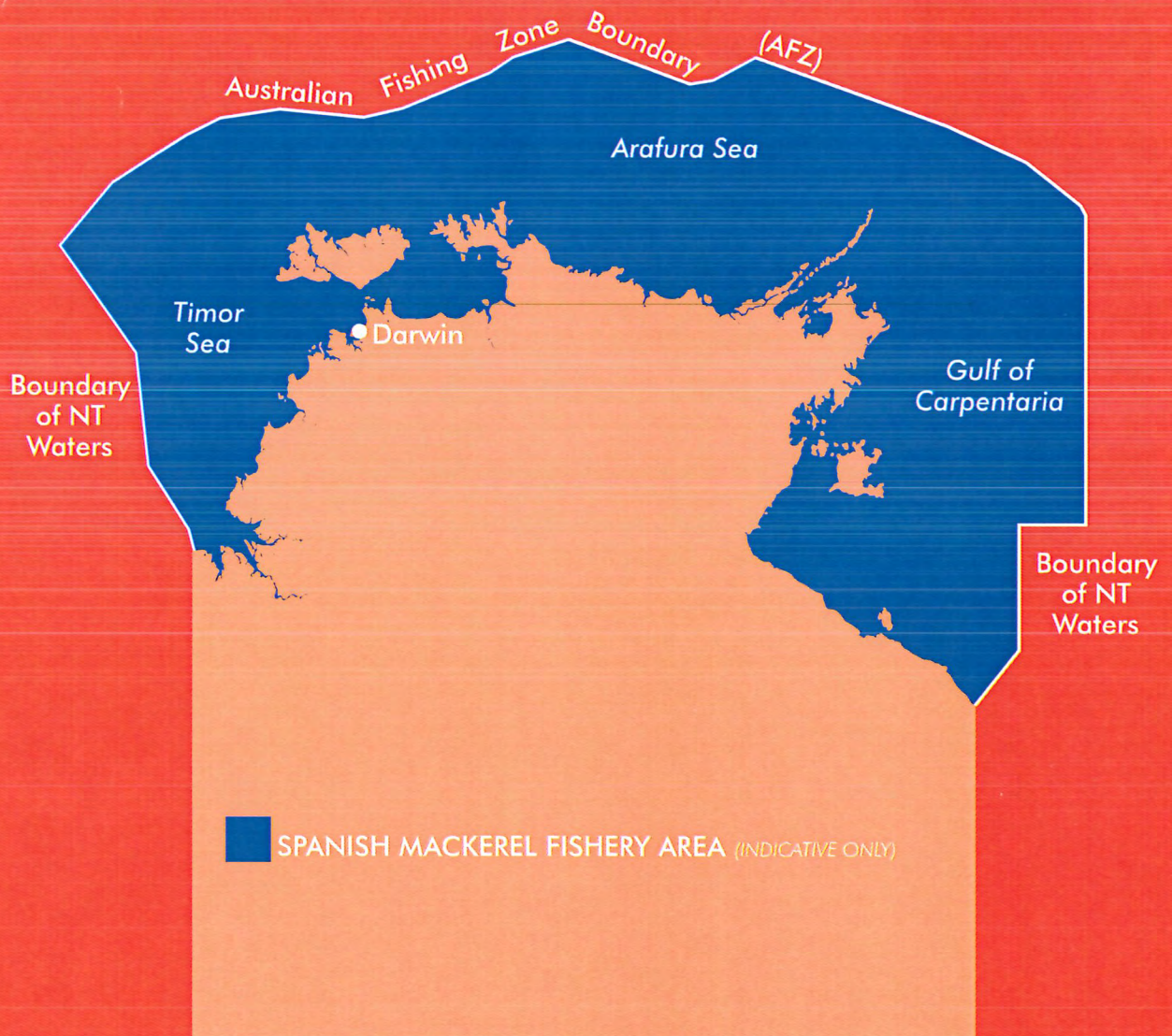
NORTHERN TERRITORY

Spanish Mackerel *Fishery*



CODE OF PRACTICE

SPANISH MACKEREL FISHERY





OBJECTIVE

To provide operators in the Northern Territory Spanish Mackerel fishery with the knowledge and understanding to further enhance the ecological sustainability of the fishery and safety of operations, while maximising the quality, safety and value of product.

INTRODUCTION

A best practice guide for the Spanish Mackerel fishery, this is specifically designed to assist operators to maximise the quality and value of product, minimise wastage and contribute to the ongoing ecological and economic health of the Spanish Mackerel fishery and businesses involved in it.

This voluntary Code of Practice has been developed by the Spanish Mackerel Licensee Committee of the Northern Territory Seafood Council, with funding assistance from the Fisheries Research and Development Corporation and the Northern Territory Government.

THE FISHERY

The Northern Territory Spanish Mackerel fishery is based on the harvest of Spanish mackerel (*Scomberomorus commerson*) seaward of the high water mark at the coast to the outer boundary of the Australian Fishing Zone, between the Queensland and Western Australian maritime borders.

Under current licensing arrangements, licensees operate from a mother vessel with up to two dories. Spanish mackerel are only permitted to be taken by troll line and there is no limit placed on the number of lines in the water at any time. It is common for licensees to troll two to four lines behind a dory and up to eight lines from a mother vessel.

Catch of non-target species in the fishery is very low due to the type of fishing gear used and targeting practices.

Product is sold as frozen fillets, whole fresh fish on ice and as fresh and frozen trunks.





PREPARATION

Vessels

Good vessel design and maintenance minimise the chance of contamination and physical damage to the product.

Gear

Gear should be designed to minimise damage or loss of product. All gear used in the fishing operation should be maintained and stowed or secured in a safe manner when not in use.

Occupational health and safety

It is important that clear occupational health and safety guidelines are in place for the entire fishing operation and that crew members understand these and other relevant food safety and regulatory obligations.

Wearing appropriate clothing and footwear, avoiding loose clothing and securing long hair are wise precautions.

When crew understand their responsibilities during fishing operations the chances of accidents are minimised.

Hygienic handling

Crew should be trained in the hygienic handling of food products.

Any person with a contagious or notifiable illness must not be allowed to come in to contact with product unless the integrity of the product can be guaranteed.

Secure harmful materials

Harmful and poisonous materials such as oils, insecticides and cleaning products must be stored and/or secured in an area where they cannot contaminate fish product or handling areas.

Pest control

Rodents, birds and insects are all potential carriers of diseases which could contaminate product and it is important that adequate steps are taken to control pests on a vessel. Domestic animals should not be kept onboard.

Cleaning

Deck, mats, processing tables, fish bins, iceboxes, utensils and any other potential fish contact surfaces should be cleaned and sanitised to prevent any contamination.

Ensure only "food safe" cleaning or sanitising products are used on product surfaces and always follow manufacturers directions in respect to their use.

Chilling and freezing facilities

If ice is used, sufficient supplies for both fish packing and storage should be taken onboard and equipment used during processing, handling or storage of ice should be clean.

Check brine tanks and refrigeration equipment prior to departure to ensure they are in working order.



HARVESTING

Bait preparation

Care should be taken when baiting hooks. By freezing bait at night its usefulness in the fishing operation is prolonged. If bait is to be cut, it should be carried out in a safe manner. Knives should always be stowed appropriately to ensure crew safety when not in use.

Trolling

Fishing operations are normally carried out in daylight hours, with each fishing session lasting approximately two to three hours. This allows for efficient processing of catch.



Retrieval of line

Retrieve the line at an appropriate speed. If hauling speed is too fast, fish can be damaged or lost, meaning lost income and wasted resource.

Handle fish gently

Each time fish are handled there is potential for damage, so they should always be

handled gently and a minimum number of times. Fish should not be placed on hot, dry surfaces and should also be protected from the drying effects of the sun and wind.

Handle fish with clean hands

Before handling or processing catch, crew members should ensure their hands are clean. If gloves are used they should be clean and rinsed regularly during processing. After use they should be cleaned and dried.

Remove fish from gear

By hooking fish under the gills rather than elsewhere, less damage will be done to the flesh. Landing heavy fish by lifting them by the tail should be avoided as it may cause the spine to break, resulting in flesh discolouration and muscle separation.

By-catch

Fishing in areas where a high incidence of by-catch or protected species is known should be avoided. While by-catch in the fishery is very low, all attempts should be made to quickly release any non retained animal alive with the minimum of stress and injury. Handling fish gently with wet hands or gloves will assist in minimising damage.

PROCESSING

Processing surfaces and implements

Processing surfaces should be cleaned of waste, washed down and rendered sterile at the end of each processing run. During the run, regular rinsing off with clean seawater will also lessen the risk of contamination.



Smoking, eating and drinking should be prohibited in the processing, sorting and storage facility areas.

Water

Using only clean sea water or potable fresh water on product will maintain its safety and quality.

Seawater from polluted waters should not be used on product surfaces or containers.

Dispatch in a timely and humane manner

Dispatching the fish as soon as possible may delay the onset of rigor and increase shelf life.

Bleed fish immediately

Fish should be bled quickly with a sharp knife and immersed in an ice slurry as soon as possible.

Running clean water over the fish during bleeding will assist in keeping the fish cool and wash away the blood.

Chill fish as soon as possible

Delay in chilling the fish will adversely impact on product quality and safety and it may also increase the formation of scombrototoxin.

Maintaining the cold chain throughout processing will assist in maintaining a high quality product.

Monitor brine tank temperature

Brine tank temperature should be between -1°C and $+4^{\circ}\text{C}$ and monitored regularly. Fish to be sold as fresh should not at any

stage reach a temperature below -1°C as partial freezing may occur.

Fish should be packed in the brine tank in a manner capable of lowering the core temperature of product to below 4°C as quickly as possible.

Avoid leaving fish in the brine too long

After the temperature of fish has been reduced, remove them from the brine tank and process as soon as possible.

Change brine or slurry regularly

Only clean water should be used in brine tanks and it should be changed as required.

Removing viscera

Fish viscera contains digestive enzymes and micro-organisms and if not completely removed, may aid spoilage of product. Similarly, removed viscera should not come into contact with other fish.

Preparing trunks

The head should be removed by cutting above the pectoral fin as this will minimise flesh exposure to potential contaminants.





Preparing fillets

Fillets should be prepared in a neat manner to assist in obtaining high value product. Markets prefer fillets not to be cut or bent. However, if cutting cannot be avoided, an angle cut from the tail to the head is preferable.

Processed fish should undergo final wash

Placing trunks, fillets or whole fish into fresh brine or cold water tubs for final cleaning and rinsing will assist in maintaining the cold chain. Always handle fillets with care to avoid breaking or damaging them.

Keep the deck clean

The vessel's deck should be continually washed down to remove any contaminants and to maintain a safe working environment.



Product utilisation

While markets and physical conditions during harvesting are factors, every effort should be made to maximise the utilisation of product.

Operators are encouraged to explore new markets for products.

PACKING & STORAGE

Use food grade packaging

Packaging used for product must be of food grade quality and stored in a contaminant and pest free environment.

Packing product

Pack product straight and with care. Do not straighten fish bent stiff with rigor, as this will tear the tissue.

Regularly check the accuracy of weights

To ensure packages contain correct weights of product, scales should be regularly checked for accuracy. Check weights should be available onboard and used at the beginning, at least, of each processing session.

Minimise transfer time from the brine or slurry to storage

Processing product in small batches will minimise the transfer time between brine and storage and will assist in maintaining the cold chain.

Regularly check thermometers

Fish quality and safety is dependent on temperature control and thermometers should be regularly checked for accuracy. A check thermometer should be available onboard and used at the beginning, at least, of each processing session.



Chilled storage

Whole fish should be soldier packed, with each layer of fish covered in ice. Regular visual inspections are required to ensure adequate ice coverage. Re-ice the fish as necessary and continually remove melt water.

Care must be taken when storing fish to prevent crushing.

Frozen storage

Ensure cartons are lined with a suitable plastic liner, such as 35 micron low density plastic, and are the correct length for Spanish mackerel. Pack fillets with plastic food grade sheets between each layer.

Ensure fish are protected from freezer burn

Trunks and fillets should be protected from dry freezer air. Exposed fish flesh will quickly suffer freezer burn, which will lower the quality of product.

Monitor freezer gauges

It is good practice to monitor freezer temperature three or four times daily. Frozen product must be kept at or below -18°C at all times and it is recommended that freezers be fitted with high temperature alarms.

TRANSPORT

It is important to ensure that the cold chain is maintained during unloading and transport to storage or market to ensure temperatures do not rise above the minimum recommended for frozen (-18°C) or move outside the chilled range (-1°C and $+4^{\circ}\text{C}$) as appropriate.

Transferring product from onboard storage in small batches to the receiving unit, which in turn should be pre-chilled, will help ensure integrity of the cold chain.

All deck equipment and holding tanks should be thoroughly cleaned, disinfected and rinsed following unloading.

WASTE & POLLUTION

Fish waste

By removing processing waste as soon as practical, the risk of contaminating product is reduced.

Discarding waste within enclosed waters such as harbours and in the vicinity of communities should be avoided. Fish waste should be discarded on the opposite side of the vessel to the deck hose intake and where gear is being hauled.

Plastics

Plastics are not allowed to be discharged into the sea. All plastics must be retained on the vessel and disposed of at port facilities. Plastic waste which forms a continuous loop should be cut onboard to minimise impacts in the event that it is accidentally lost at sea.

Noxious liquids

No discharge of residues containing noxious substances is permitted within 12 nautical miles of the nearest land. The discharge of liquid in quantities or concentrations that are harmful to the aquatic environment is prohibited by law.



Garbage

Non-plastic garbage which cannot be retained on-board for proper disposal ashore may, by law, only be disposed of at sea provided the vessels is more than 12 nautical miles from the nearest land.

Oil and oily mixtures

The law does not allow oils or oily mixtures to be discharged into the sea. Waste oil and oily residues must be stored onboard for disposal at port waste disposal facilities.

Retrieval of lost fishing gear and garbage

Lost fishing gear and garbage can pose a significant threat to aquatic life. All efforts should be made to retrieve lost fishing gear. If it is not possible to collect, report the location of the gear to the relevant authorities.

Efforts should also be made to retrieve any non-degradable garbage or wastes found during fishing operations for proper disposal at onshore facilities.

Report pollution

Any oil or chemical spills or other incidences of environmental damage in the area of the fishery should be reported as follows:

- Within 3nm, to the **Pollution Hotline**
1800 064 567
- Beyond 3nm, to the **Rescue**
Co-ordination Centre Australia phone
1800 641 792 or fax **1800 622 153**



THREATENED SPECIES

There are a number of species listed as protected under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* and under the Northern Territory's *Territory Parks and Wildlife Conservation Act*.

On occasions, unintended interactions with protected species occur. It is a legal requirement to report any such interactions to the Australian Government Department of the Environment and Heritage.

Some examples of interactions that require reporting are:

- Any action resulting in the killing, injuring, taking or trading of a listed species
- The accidental capture of a listed species in a fishing operation
- A humane action that is necessary to relieve or prevent the suffering of a listed species
- An action taken to prevent risk to human health
- An action that is necessary to deal with an emergency where there is a serious threat to human life or property

Reporting requirements

Under the EPBC Act, the Department of the Environment and Heritage (DEH) must be notified within 7 days of a person becoming aware of an interaction and the report should include the following details:

- Time and date
- Species involved
- Number of animals
- Specific location
- Gear or bait type used

The following are protected species listed in Territory and/or Commonwealth legislation.

Common Name	Scientific Name
Speartooth Shark*	<i>Glyphis sp. A</i>
Northern River Shark*	<i>Glyphis sp. C</i>
Loggerhead Turtle*	<i>Caretta caretta</i>
Green Turtle*	<i>Chelonia mydas</i>
Leatherback Turtle*	<i>Dermochelys coriacea</i>
Hawksbill Turtle*	<i>Eretmochelys imbricata</i>
Flatback Turtle*	<i>Natator depressus</i>
All cetaceans (whales & dolphins)	<i>Cetacea</i>
Freshwater Sawfish*	<i>Pristis microdon</i>
Dwarf Sawfish	<i>Pristis clavata</i>
Green Sawfish	<i>Pristis zijsron</i>
Narrow Sawfish	<i>Anoxypristis cuspidata</i>

* Interaction should be reported to DEH within 7 days

To report an interaction or to seek further information:

Phone: 1800 641 806

Email: protected.species@deh.gov.au

Mail: Director, Wildlife Impact and Protection Section
Dept. Environment & Heritage
GPO Box 787
Canberra ACT 2601



DEFINITIONS

By-Product – Catch which is kept to be sold but is not the principal target.

By-Catch – Catch which is returned to the sea either because it has little or no commercial value or because regulations preclude it being retained.

Ecologically Sustainable Development – Using, conserving and enhancing community resources so that ecological processes, on which life depends, are maintained and the total quality of life, now and in the future, can be increased

CONTACTS

Australian Maritime Safety Authority (AMSA)
Queries regarding Commonwealth environmental laws.
Tel: 02 6279 5015 | Fax: 02 6279 5966

CSIRO
Enquiries and reporting of tagged fish.
Tel: 1300 363 400

Bureau of Meteorology
Forecasts and warnings Tel: 08 8920 3826
General Enquires Tel: 08 8920 3800

Department of the Environment and Heritage (DEH)
Reporting all listed species interactions.
Tel: 1800 641 806

Fishwatch
Reporting illegal fishing activities.
Tel: 1800 065 522

Museum and Art Gallery of the Northern Territory
Identification of unusual or exotic fish.
Tel: 08 8999 8201

NT Fisheries
Fisheries Management Agency
Tel: 08 8999 2144 | Fax: 08 8999 2065

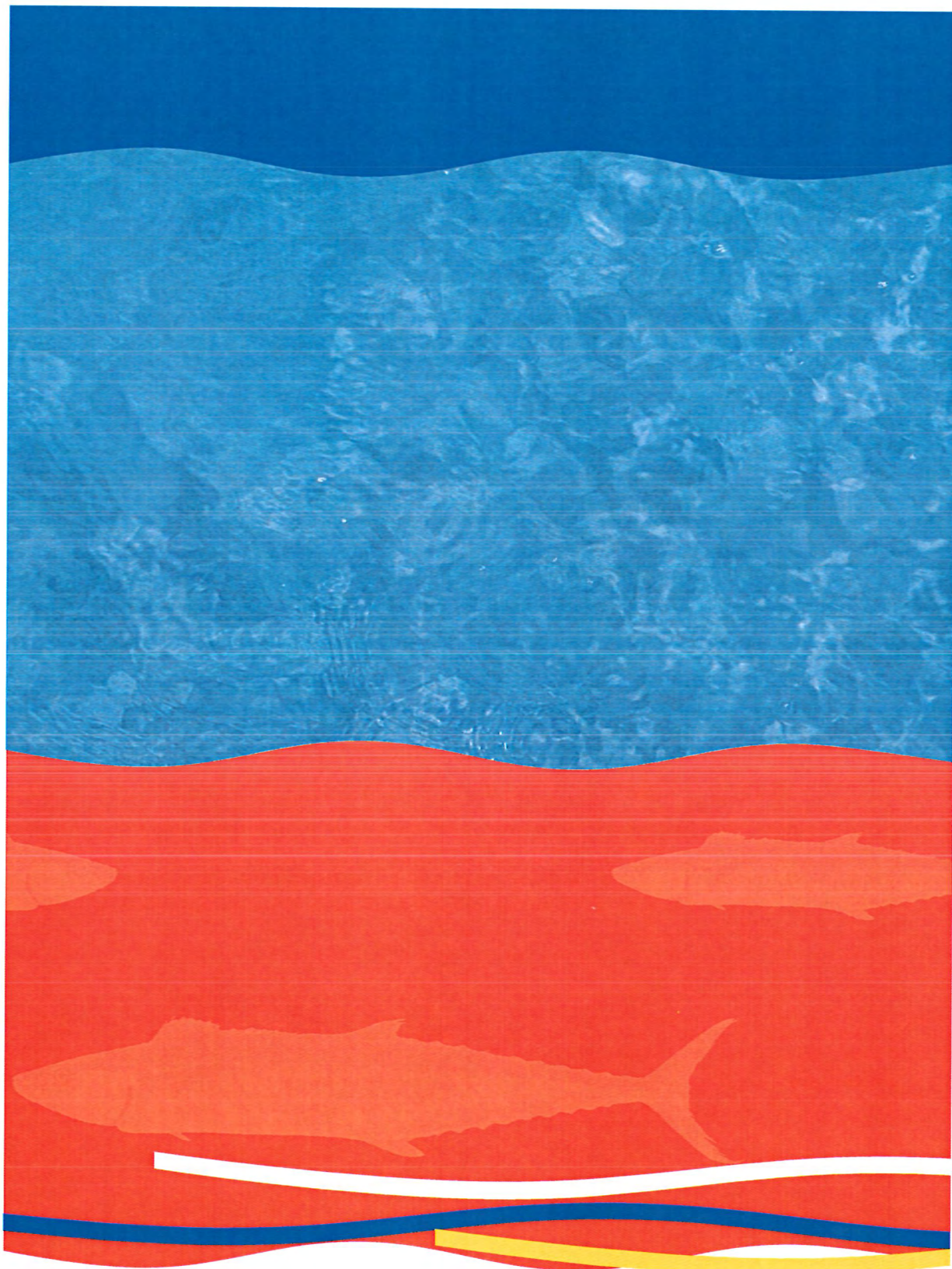
NT Parks and Wildlife Commission
Interactions with tagged animals and NT protected species.
Tel: 08 8999 5511

NT Pollution Hotline
Reporting pollution within the NT.
Tel: 1800 064 567

Northern Territory Seafood Council
Peak industry body, NT.
Tel: 08 8981 5194 | Fax: 08 8981 5063

Rescue Co-ordination Centre Australia (RCC Australia)
Reporting close collisions and pollution at sea beyond 3nm.
Tel: 1800 641 792 | Fax 1800 622 153

Spanish Mackerel Licensee Committee
Industry representative
Tel: 08 8981 5194 | Fax: 08 8981 5063



For more information:
Northern Territory Seafood Council
Spanish Mackerel Licensee Committee
Tel 08 8981 5194
www.ntsc.com.au | ntsc@ntsc.com.au
GPO Box 618 Darwin NT 0801