

# fact sheets

## Threats to Tasmania's Marine Environment

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Accumulated pressures, over many decades, are undermining the health of Tasmania's valuable marine environment. **However, by supporting marine national parks, sustainable fisheries and catchment management, we can turn this around before it's too late.**

In Tasmania, important ecosystems such as kelp forests and estuaries are in decline. Forty-nine marine species found here are listed under threatened species legislation at a state and national level. Globally, 70% of coral reefs are threatened and only 10% of big predatory fish populations like tuna and sharks remain. This limits the oceans' capacity to do vital jobs, like providing seafood and maintaining water quality. Some of these threats are outlined below.

### Climate change

Some scientists suggest that climate change should be known as ocean change as that is where the grave impacts will occur.

*Sea temperature rise:* Due to climate change, the East Australian current is helping to push warm water further south. Tasmania waters have already experienced a 1.5°C increase in sea surface temperature since 1940 – three times larger than the global average.

*Sea level rise and storm surges:* Ocean water expands as it warms and that, along with melting ice, is leading to global sea level rise. When these effects combine with increasing storm surges, coastal erosion will increase in Tasmania.

*Ocean acidification:* The oceans have had a pH of 8.2 for millions of years. When carbon dioxide dissolves in the ocean water hydrogen ions go up, carbonate ions go down, and the pH goes down.



*Clio balantium* is a shelled pteropod found in the Southern Ocean and a food source for many fish that are in turn eaten by seals, birds and whales. It is under significant threat from acidification. R.Hopcroft

This increased CO<sub>2</sub> concentration is acidifying our oceans at a rate 100 times faster than any other time in the last 650,000 years. This may make it impossible for some creatures like coral, plankton, molluscs and crustaceans to survive. It may also decrease growth rates, average size and fertilisation for some species.

### Marine pests

Marine pests threaten biodiversity, and marine industries (such as fisheries, aquaculture, tourism), and human health. They smother native species for food and habitat, eat or push out native species, poison and spread disease, which changes the natural balance of ecosystems. Tiny marine pests poison shellfish beds which are then eaten by humans, creating health human problems and decreasing production in aquaculture, tourism and fisheries. This can result in decreased employment, and lost opportunities as financial, technical and human resources are spent managing the impacts.

Protecting our oceans is common sense.  
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## Commercial fishing

Currently, over three quarters of the world's fish stocks are fully exploited, over-exploited or depleted. The global fishing industry is estimated to be wasting \$50 billion a year increasing catch efforts, despite declining catches. The impacts of intense fishing are enormous, threatening global food security, coastal water quality, ecosystem stability, and capacity to provide other essential ecosystem services. The specific impacts of intensive commercial fishing, all of which we have seen in Tasmania, include:

- Removal and destruction of seafloor habitat and associated marine life
- Changes in community structure and declines in species population
- Commercial extinction of species and fishing down the food chain
- By-catch and the death of millions of commercially unwanted fish, birds and mammals
- Loss of biodiversity, reducing the provision of ecosystem services such as nursery habitats, filtering services, and the viability of fisheries.

Employment in the fishing industry in Australia has dropped 50% since 2000, and is the lowest it has been in twenty years. Tasmania has seven main fisheries, with abalone, rock lobster and salmon farming the most economically important. Each has been typified by over-exploitation in the early years, followed by attempts to recover specific populations, with many populations and related ecosystems still facing problems.

## Recreational fishing

**One third of all Tasmanians go fishing at least once a year, and it is an integral part of our idyllic lifestyle.** However, recreational fishing is having an increasing impact on the marine environment. There are more people fishing, more effectively. This is due to increased access to boats, technology such as fish finding devices, and better

information on where and how to fish. Impacts from recreational fishing include:

- Dramatically reduced populations, especially where recreational and commercial fishing intersect
- Discarded fish – roughly 30-50% of fish caught are discarded
- Increased catches of juvenile fish which undermine the future population of that species
- Disturbance in community structure, which encourages pest invasion (e.g. the more the popular large rock lobsters are caught, the less there are to prey on invading long-spined urchins).

## Pollution and coastal development

The main sources of pollution are from agriculture, logging, urban run-off, coastal development, industrial discharge, sewage and atmospheric deposits from fossil fuel-burning power stations and transport.

Marine and estuarine pollution can result in:

- Reduced oxygen levels in the water
- Changed water temperature which changes community structure
- Reduced productivity and breeding success and in some cases local extinction of species
- Harmful algal blooms, and other proliferations of algae
- Contaminated food webs with toxic metals, leading to fish kills and causing illness in humans
- Degradation or destruction of coral reefs, seagrass beds, mangroves and kelp forests through siltation and increased turbidity, reducing habitat and nursery areas for fish
- Harm and death to marine mammals, fish and seabirds through eating and entanglement with plastic and debris.

To read more, including a list of references, please go to: [oceanplanet.org.au](http://oceanplanet.org.au)



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