EXMOUTH GULF UNDER THREAT

How Important is Exmouth Gulf?

Exmouth Gulf is one of Australia's most productive marine ecosystems. Because it is located in the tropical arid zone it functions most of the time as a 'reverse estuary' where seawater salinity increases slightly upstream away from the ocean gulf due to evaporation.

However, during intermittent heavy rainfall events, usually the result of tropical cyclones, the extensive Yannarie delta system floods out transporting terrestrial sediment and nutrients into the marine environment along the entire length of the eastern shore of the Gulf.

At least some of the sediment is trapped by the mangrove system. It is highly probable that the nutrient flush from such events is captured through the growth of marine plants, including the mangroves, seaweeds, seagrasses and mats of micro-algae that grow in the shallow, silty environment on the eastern side of the Gulf.

The relative importance of the regular marine and intermittent terrestrial inputs of nutrients to the productivity of Exmouth Gulf is not well understood. The adjacent oceanic environments are nutrient poor and relatively unproductive and it is difficult to conceive that inputs from the sea alone could sustain the productivity of the Gulf ecosystem.

It is likely the mangrove, seaweed and seagrass habitats of the eastern Gulf function like a battery, fixing and gradually re-supplying nutrients and energy after re-charge from the intermittent flood-out events.

The mangrove system on the eastern side of Exmouth Gulf is a vital nursery for crustaceans and fish, including species utilised by significant commercial and recreational fisheries established in the region.

Exmouth Gulf is bio-diverse meaning many different species in a single area. For example, a recent study of the biodiversity of the prawn trawl grounds identified considerably more species than in the comparable Shark Bay Gulf system.

At the Muiron Islands at the head of the Gulf, museum studies identified 482 species of fish. Even in the simple muddy bottom habitats trawled for adult king and tiger prawns there are 289 species of fish and at least 365 species of marine invertebrate. Many more species would be expected to occupy the protected mangrove, seagrass, seaweed and reef habitats within the Gulf.

The shallow water habitats on the eastern side of the Gulf are an important feeding ground for both adult and juvenile Green Turtles. The area is a major Dugong habitat and an important sheltered resting area for Humpback Whales which may be critical for the survival of young calves on the southward migration.

The Yannarie mangrove system on the eastern side of Exmouth Gulf has been universally recognised as requiring a high level of protection. It is completely closed to trawling and has been proposed as a marine conservation reserve under the Conservation and Land Management Act, as a fish habitat protection area under the Fish Resources Management Act and as part of a Ningaloo/Cape Range World Heritage Area.

What will happen to our Fisheries?

Exmouth Gulf supports a long-standing sustainable prawn trawl fishery which provides Exmouth king prawns to the Perth market. The Exmouth region also is home to a pearl oyster fishery and grow-out industry and an established recreational sports-fishery.

Both fishing and aquaculture are highly dependent on the maintenance of high water quality and the natural ecological processes which drive marine productivity. All these activities will be threatened by the proposed Yannarie Salt Project.

The production and transfer of juvenile pearl oyster to important pearl farm areas in the Kimberley is dependent on freedom from exotic disease and pests. The presence of large bulk carriers from high risk areas puts the disease-free status of stock from what the government has declared an 'icon' industry in WA at definite risk.

Both commercial and recreational fisheries will potentially see a reduction in recruitment as a consequence of changes to habitat structure and foodwebs resulting from the construction of the solar salt complex. Vast numbers of larvae and juveniles will also be directly removed from the nursery habitat by the intake pumps.

The presence of an industrial port and shipping operation may also result in the exclusion of both commercial and recreational fishers from important fishing areas.

What will be the impact of the Project?

Straits Salts' proposal involves the extraction of huge quantities of seawater via two or more massive intake pump stations. These pumps would also remove vast numbers of weakly swimming prawn and fish larvae and post larvae fish from the Gulf ecosystem and the fisheries.

The proposal will involve the impoundment of enormous quantities of toxic bitterns, the highly concentrated by-product of solar salt product. This material could then enter the Gulf ecosystem through seepage or wall failure, potentially resulting in a major 'kill' event.

The excavated inland harbour and other infastructure works may expose significant areas of acid generating sulphides as well as removing mangrove and algal mat habitat.

The silty bottom of the eastern Gulf is likely to be mobilised by repeated dredging operations smothering marine producer habitats. The 300 metre long Panamax bulk carriers, barges and service vessels are likely to increasingly disturb and disrupt the use of the area by megafauna such as Humpback Whales, Dugongs and Sea-Turtles. The international shipping may transport exotic marine pests from high-risk regions such as the coast of China.

What is the Straits Salt Project?

Straits Resources proposes to construct 411 square kilometres of evaporative 'solar' salt ponds across the discharge of the Yannarie system. A complex system of rock retaining walls would extend 70 km and essentially occupy the entire eastern coast of Exmouth Gulf.

Such a system would radically alter the natural 'flood-out' drainage pattern and artificially redirect the flow of sediment and nutrients. The barrier could effectively starve much of the Gulf ecosystem of its vital natural resources.

Straits Resources claims the project will have nett economic benefits for the region, but has generally failed to make firm commitments.

By permission: Dr G. Taylor

What you can do to help save Exmouth Gulf?

Join the 'Halt the Salt' Campaign

The 'Halt the Salt' campaign is a major coalition of community and industry groups concerned that the Straits Yannarie Salt Project will;

- create large scale landscape alteration having major impacts on the ecosystem;
- have unknown and probably irreversible consequences;
- be totally incompatible with the Exmouth Gulf region's environmental, social and economic values.

Currently the coalition includes the Conservation Council of Western Australia, the M.G. Kailis Group, the State's peak commercial fishing body the WA Fishing Industry Council, the State's peak recreational fishing body Recfishwest, the Pearl Producers Association, major commercial fishing company; the North West Research Association, and the local Cape Conservation Group based in Exmouth.

The coalition is also backed by national bodies including the Australian Conservation Foundation, Recfish Australia and the Australian Council of Prawn Fisheries.

Many residents of the affected area have previously said they value their environment and do not want to trade off environmental impact for any short-term gains. It is important that we show the residents of Exmouth our support.

To be kept up-to-date on this vital issue and informed when there are opportunities for you to make a difference please visit the campaign website at www.haltthesalt.org.au and provide your email contact details.

There is also an online petition that you can sign which will be distributed throughout the State and eventually presented to State Parliament.