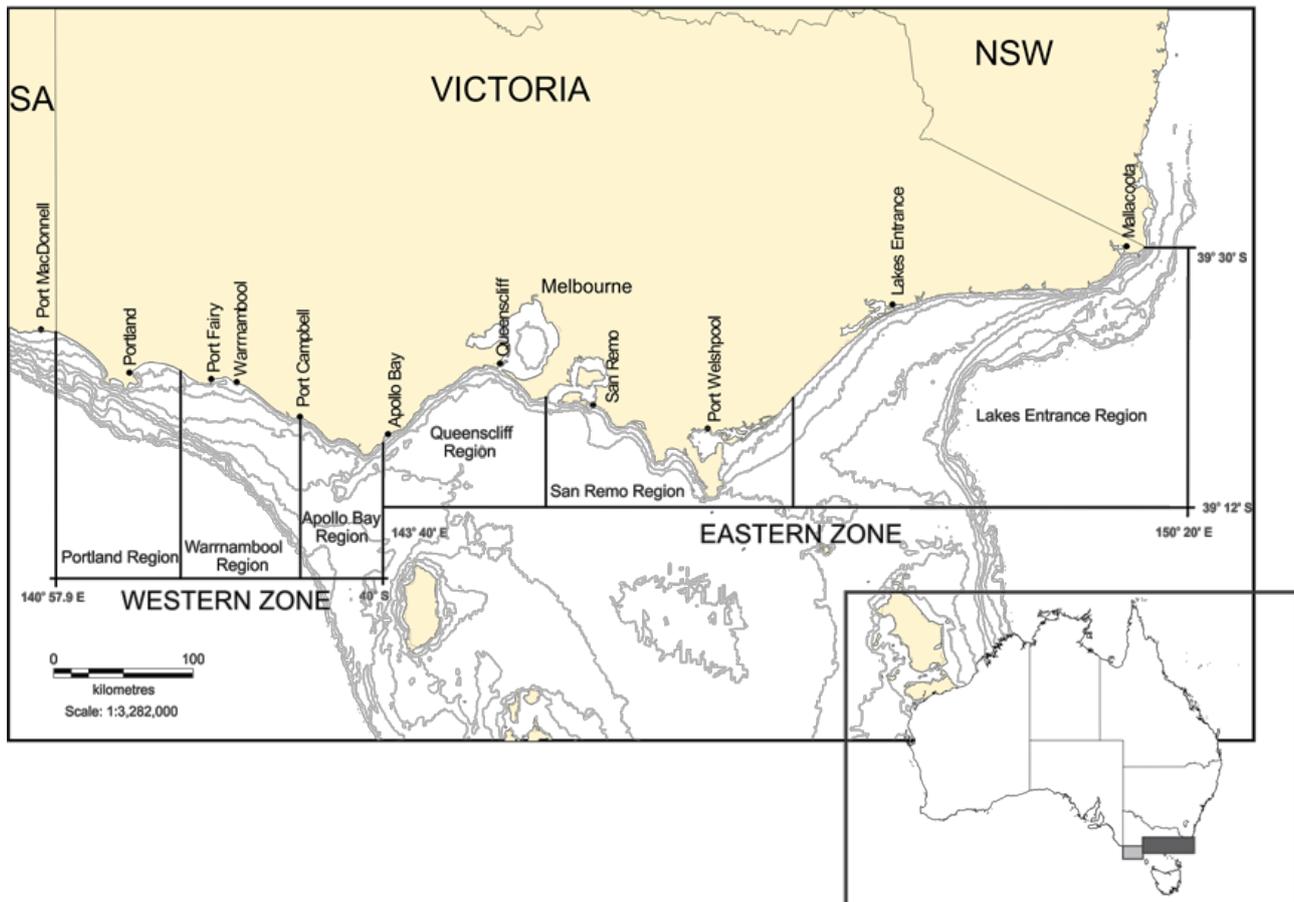


Victorian Rock Lobster Association - submission to Enviroment & Planning Committee.

INQUIRY INTO ECOSYSTEM DECLINE IN VICTORIA

The Victorian Government has jurisdiction over the commercial rock lobster fishery in State and in Commonwealth waters adjacent to Victoria under an Offshore Constitutional Settlement Arrangement (OCS) with the Commonwealth Government and is regulated for the government by the Victorian Fisheries Authority (VFA); a statutory authority. The fishery is divided into Western and Eastern Zones by longitude 143° 40' E just east of Cape Otway. The Western Zone (WZ) extends west to the South Australian border at longitude 140° 57.9' E and southwards to latitude 40° S. The Eastern Zone (EZ) extends east to the NSW border at latitude 39° 12' S.



Southern rock lobster has been harvested in Victoria commercially for more than 100 years, becoming a limited entry fishery in 1968. There was a notable decline in the catch rate in the late 1990s and early 2000s. This was blamed on overfishing and the management of the commercial fishery moved to output controls, changing the emphasis from restricting fishing effort to limiting the catch with the introduction of a Total Allowable Commercial Catch (TACC). By 2003, with stock rebuilding the key objective for the fishery, a system of individual transferable quota units (ITQs) was implemented. With TACCs set annually by 'weight' and divided into a fixed number ITQs, providing a quota set for each season for each access licence.

The stocks are further protected with size restrictions and regulations to prevent the take of females in berry at any time, a 'no take' window for any females in breeding season (1 June to mid September) and no fishing at all for 2 months (mid September to mid November) in the moulting season.

The quota management system (QMS) monitors the annual quota movement which can be leased out between licences and as lobsters are caught, the weight of the catch (to grams) is subtracted from the quota balance on the licence. The compliance measures placed on the industry requires reporting of the catch from every pot lift within pre-defined fishing grids, pre-reporting totals of fishing trips and now with VMS on vessels, this has collectively made the commercial rock lobster fishery for many years deemed to be a low risk and very compliant fishery.

But, despite the Rock Lobster industry spending annually over \$500k on (publicly available) stock assessments and research, the independently modelled re-build forecasts have never really occurred to the extent expected; which remains unexplained, indicating factors at play impacting on the resource other than simply the out-take of commercial catch.

Unqualified risks to the rock lobster fishery

(1) Environmental changes

Changes in the characteristics of the East Australian Current (EAC) is resulting in warmer waters in Victoria which, in turn, is changing the marine environment and habitat. Evidence of this is the increase in the number of Eastern Rock Lobsters (predominantly found in NSW) now found in the east of the state and even North East Tasmania, the loss of kelp forests in Tasmania and urchin barrens spreading further afield each year.

The Great South Australian Coastal Upwelling System (GSACUS) is a key nutrient source for the marine food chain. The Bonney upwelling is one of the largest and best known within this system. But last year the upwelling ran more than a month late, scientists believe its tardy arrival can be traced back to a warm snap in Antarctica last year known as a sudden stratospheric warming.

In the west a great portion of rock lobster habitat and abundance lies within the GSACUS leaving the fishery vulnerable to decreases in productivity without this nutrient source.

The full (and long term) impacts of these changes is poorly understood but even anecdotal observations to date are concerning.

(2) Petroleum exploration

In 1998 the Gas industry in Australia was deregulated which started a surge in offshore gas exploration in the Otway and Gippsland Basins. The tool of choice for the Petroleum industry exploration is seismic air-guns which create one of the loudest manmade sounds in the ocean. During seismic surveys, ships pull large arrays of airguns that release loud pressurised blasts of air through the ocean and into the seafloor. These loud, repetitive sounds (shockwaves) can travel underwater and into the seabed for many kilometres, they are repeated as often as every 10 seconds for days, weeks or months at a time.

Over 40 such seismic surveys have been conducted offshore in the Gippsland Basin and since 1998, 34 in the Otway Basin which is situated within the GSACUS. Despite the prolonged and extensive use of this technology, very little research has been done on cumulative and long term impacts of seismic testing to the marine ecosystem.

However, research undertaken by IMAS at the University of Tasmania has shown that exposure to seismic air-guns leaves Rock Lobsters permanently and significantly damaged, impacting their balance and immune systems, inevitably compromising their survival in the wild.

<https://www.utas.edu.au/communications/general-news/all-news/lobster-organs-and-reflexes-damaged-by-marine-seismic-surveys>

IMAS research has also discovered that seismic air gun shockwaves have a significant negative impact on zooplankton populations, causing an increase in mortality from 18 per cent to 40-60 per cent. This impact reached out to the maximum 1.2 kilometre range tested, 100 times greater than the previously assumed impact range of 10 metres, and all larval krill in the range were killed after the air gun's passage.

<https://www.utas.edu.au/research-admin/research-news/new-research-reveals-impact-of-seismic-surveys-on-zooplankton>

This research indicates that the planktonic life stages (phyllosoma larvae) of rock lobsters which lasts between 12 and 24 months (drifting in the open ocean in the water column) may well be vulnerable to seismic testing.

Rock lobsters first settle on the reefs at the puerulus stage of development; at this stage they are recognisable visually as tiny rock lobsters. No research has been conducted on the impact of seismic to this important stage in lobster development, an early indicator of recruitment into the fishery.

Also of concern is the timing of seismic surveys which are often conducted during the closed season of the fishery, to avoid fishing activities. But the fishery is closed for a reason; it's the moulting season and the adult females in berry are about to release their eggs.

The VFA, whose remit it is to manage and regulate the fishery, does not actively engage to mitigate this risk.

(3) Chemical Warfare Agent (CWA) Dump Site within the GSACUS (see map & link to report)

<http://www.hydro.gov.au/n2m/dumping/cwa/chemical.pdf>

The risk of the integrity of this CWA dump site being compromised has not been evaluated but was in the path of the recently conducted Schlumberger seismic survey. This site was approved for exploration under Good Standing Agreements which required approval from the Joint Authority.

<https://www.nopta.gov.au/application-processes/good-standing-agreement.html>

