



# NORTHERN PACIFIC SEASTAR

## RAPID RESPONSE TASK FORCE

### 1. INTRODUCTION

The Port Phillip EcoCentre is a not-for-profit organisation that empowers local communities to engage in environmental stewardship where they live. We strive for “*development which aims to meet the needs of Australians today, while conserving our ecosystems for the benefit of future generations.*”<sup>1</sup> EcoCentre’s Port Phillip Baykeeper provides education and practical action and an independent, informed voice for the long term health of Port Phillip Bay to the benefit of all Victorians.

A position paper outlines the evidence-based position of the Port Phillip Baykeeper on an issue regarding the health of the Bay. A suite of position papers is available for download from the EcoCentre website.<sup>2</sup>

### 2. PURPOSE

This position paper flags potential adverse impacts of Northern Pacific Seastars (NPS, *Asterias amurensis*) on biodiversity in Port Phillip Bay and provides recommendations to the State Government departments and agencies that are responsible for NPS management in the Bay, to support formation and activity of a ‘Community Rapid Response Task Force’ conducting culls of NPS when and where nearshore aggregations are detected.

### 3. BACKGROUND

- 3.1 NPS were first spotted in Port Phillip Bay in 1995 by a scallop fisherman off Point Cook. They are believed to have originated from Japan and then travelled into the Bay from Tasmania’s Derwent Estuary (which was infected in 1986).
- 3.2 In their native habitat most live for 2-3 years and breed at 1 year old. Females carry up to 20 million eggs. They prey primarily on bivalve molluscs, but also gastropods, crabs, barnacles, ascidians, sea squirts and algae. Their swarming behaviour and mobility (top speed of 20 cm/minute) increases probability of depleting local bivalve populations and move to new feeding sites. In the longer term this scale of predation may impact on native species competing for the same resources.

<sup>1</sup> National Strategy for Ecological and Sustainable Development’s definition

<sup>2</sup> [www.ecocentre.com](http://www.ecocentre.com)

- 3.3 In 1999 the Australian and New Zealand Environment and Conservation Council (ANZECC) and the Ministerial Council on Forestry, Fisheries and Aquaculture (MCFFA) established a team to combat the problem in Australian waters, and thus the “National Taskforce on the Prevention and Management of Marine Pest Incursions” was introduced.
- 3.4 Strategic concentration of ‘catch effort’ for removal of NPS may play a vital part in their control. The most opportune time to conduct removals would be during April - June when they tend to move closer to shore and are therefore most accessible to land-based removal. Attention to ensure they are dead and disposed well away from waterways is just as important as catching them; they should be taken to landfill or composted.
- 3.5 Community volunteer organisation Earthcare St Kilda has maintained efforts to remove NPS from St Kilda Harbour since 2004. The Port Phillip EcoCentre compiled a Best Practice Guide for Removal of Northern Pacific Seastars in 2013 with funding from the Federal Government ‘Caring for Country’ program. The updated version of this guide will be available by the end of 2021.

## 4. RELEVANT LEGISLATION AND POLICY SETTING

- 4.1 The NPS is a declared marine pest species in Victoria<sup>3</sup> and regulations are set by DJPR to control handling of these animals. On a Federal level, DJPR has responsibilities towards delivering the national Marine Pest Plan 2018-2023.<sup>4</sup>
- 4.2 Other organisations and regulators responsible for NPS in management in Victoria are the Victorian Fisheries Authority, Parks Victoria, Department of Environment, Land, Water and Planning, Environment Protection Authority Victoria and Transport Safety Victoria.

## 5. SPECIFIC ISSUES

- 5.1 To date, because of the high mobility of the species and the absence of a bay-wide task force, no coordinated attempt has been made to estimate the number of NPS in Port Phillip Bay, nor to fully understand their impacts on Bay biodiversity. Knowledge of the relative importance of their common prey species at an ecosystem level is also very limited. Apart from areas such as St Kilda Harbour, where regular seasonal spawning aggregations occur, in recent years ‘one-off’ mass aggregations have occurred over a wide-ranging area from the Maribynong River estuary to Rye.<sup>5</sup>
- 5.2 As opposed to measures to reduce or control NPS numbers in Port Phillip Bay, Victorian Government control measures have mainly focussed on preventing dispersal of the species to waters beyond the Bay, rather than removal. Removal of NPS comes down to the efforts of volunteer groups and individuals only.
- 5.3 A key challenge is to mobilise a suitable number of skilled coordinators and volunteers to any given location at short notice. Conducting successful culls of NPS requires skilled coordinators, attention to relevant permissions, volunteer recruitment and supervision, job safety analysis and insurance, access to appropriate equipment, interaction with members of the public, correct identification of species, data collection, and effective and humane disposal of the catch. Due to NPS mobility, all of these success factors will ideally be coordinated within 24 hours of a nearshore aggregation being detected.

<sup>3</sup> <https://agriculture.vic.gov.au/biosecurity/marine-pests>

<sup>4</sup> <https://www.marinepests.gov.au/what-we-do/publications/marine-pest-plan>

<sup>5</sup> E.g. since 2018, spontaneous mass aggregation events of thousands of NPS have happened on beaches and around piers, including at Mordialloc Pier, Kerferd Pier, Mornington Pier, Mt Martha, McCrae, Dromana and other beaches.

## 6. DISCUSSION

- 6.1** In recent years, several aggregations occurring in the south-east of the Bay have generated strong interest from local divers and wider community to remove these pests as opportunities arise. As all ‘in-water’ activities demand stringent attention to safety and volunteer management it is in the interests of all parties to have an agreed process and controls applicable to NPS removals.
- 6.2** In June 2021, funding has been confirmed<sup>6</sup> for the EcoCentre to spear-head the ‘Community Rapid Response Task Force’ project, which will:
- establish a cross-sectoral network to facilitate rapid community responses to pest outbreaks;
  - activate and support Victorians in protecting the valuable marine assets they love, and
  - determine if this strategy can be scaled for other marine pests.
- 6.3** Although removing NPS will not lead to the species being eradicated in the Bay, it is an important way to help people connect to the Bay, foster environmental stewardship and educate them about marine pests and their effects on Victoria’s ecosystems. Knowledgeable community members are better able to respond to threats in their local patch and also recognise new ones (e.g. the discovery of the Asian shore crab in 2020<sup>7</sup>).
- 6.4** Removing marine pest species is like weeding a garden; it will not eradicate every specimen in the country, but it can keep valuable marine assets such as Marine Parks and places people love to dive and snorkel healthy and thriving.

## 7. RECOMMENDATIONS

That State Government, organisations and agencies responsible for marine pest management in Victoria take an active and collaborative stance to support the Community Rapid Response Task Force over the life of the project, work with the community to help reach the project goals and help set up the infrastructure for future community collaborations. This involves topics such as (but not limited to):

- reaching agreement on permits required and responsibilities to be fulfilled by stakeholders in order to proceed with community-based seastar removals;
- participating in workshops about how each stakeholder can contribute to an effective ‘Community Rapid Response Task Force’ for removal of NPS;
- Identifying how such a task force might contribute to other biosecurity objectives in future;
- Facilitate and conduct further research into the seasonal movements of NPS and the types and locations of the sandy seabed habitats of bivalve mollusc species that are commonly preyed upon them.

## CONTACT

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<sup>6</sup> Port Phillip Bay Fund (2021)

<sup>7</sup> <https://www.vrfish.com.au/2020/11/11/marine-pest-alert-asian-shore-crab-spotted-in-victoria/>