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## **Fate of Port Stanvac jetty marine environs**

I write on behalf of The Friends of Gulf St Vincent with regard to the unique and exceptional opportunity provided through the pending change in status of the Port Stanvac jetty.

As an exclusion zone since the 1960s, the marine area under and around the jetty has been unfished and inaccessible to the public. Over that time, the adjacent coastal area has been protected from development, and from public access, which has allowed Port Stanvac to exist in a more 'natural' state compared with many other parts of the metropolitan coastline. We wish to emphasise the significance of these facts and some implications that arise from them.

But most imperative is the need to conduct a thorough survey of the site, which represents a long-term refuge on this side of the Gulf. A baseline study is a must before any decision about future use or access is made and reasons for conducting this survey are discussed in the appendix on page three.

We are seeking bipartisan support for a comprehensive study as soon as possible. It would be inexcusable to miss this opportunity to define:

- ecological values, including distribution and abundance of all marine species, including common, rare, endemic and threatened species. As part of this survey, community composition and biodiversity should be described and quantified
- the population of species currently protected under legislation (i.e. Syngnathidae, including seadragons and pipefishes)
- current (baseline) ecological health
- habitat types and distribution
- presence and population characteristics of introduced species
- physico-chemical conditions and environmental health

and to establish:

- visual disturbance indicators
- performance indicators and environmental trigger values

The decision about future use of, or access to, the Port Stanvac jetty is being anticipated with apprehension by the South Australian marine conservation community, as there are exceptional and rare conservation and marine research values associated with the jetty, based on existing information.

Given the conservation values of Port Stanvac jetty, in addition to this request for a thorough baseline scientific survey, Friends of Gulf St Vincent recommend that the jetty be used for marine scientific monitoring and climate change monitoring over time, and for non-exploitative recreation (i.e. SCUBA diving) that will not threaten the species composition or ecological integrity of this important artificial reef habitat. If managed like the old Rapid Bay jetty, (one of the very few unfished jetties in Gulf St Vincent) use of the area for non-exploitative activity, which promotes the many marine conservation values, may have flow-on economic benefits at local and regional scales, from dive tourism.

We suggest that it is appropriate for experts from a number of state agencies to be involved in a baseline study of the site, which should be led by the EPA. It is inconceivable that this opportunity could be missed.

The Friends of Gulf St Vincent seek:

- 1 assurance that the Government, Opposition and relevant state agencies understand the significance of this opportunity to “recalibrate” our knowledge about the Gulf; and
- 2 commitment to support a baseline survey as soon as possible before any decision is made as to future use of the jetty.

We look forward to your response.

Angela Gackle,



***On behalf of the Friends of Gulf St Vincent***

**CC:**

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## **Appendix - Benefits of carrying out a baseline survey**

### **1. Proximity to desalination plant outlet**

Concern has been expressed about the impact of the desalination plant, particularly the effect of brine discharge. A baseline survey would be critical to determine the current composition and “health” of the marine life in the area prior to full operation of the desalination plant, and prior to any other major changes to the gulf over time. The jetty would be a very useful long-term case study and monitoring site, for the possible changes that may occur to near-shore habitats and biota in mid-eastern Gulf St Vincent, following the development and operation of the desalination plant. The value for monitoring is even greater due to the unfished nature of the jetty over more than 40 years, hence population numbers are likely to be as close to baseline as possible, and if the site is used for monitoring, results of counts over time will not be confounded by the effects of fishing.

**2. Presence of species protected under South Australian legislation:** The Leafy Seadragon *Phycodurus eques* and Weedy Seadragon *Phyllopteryx taeniolatus* occur in the vicinity of the jetty. Leafy seadragon has been recorded by video under the jetty, and weedy seadragon has been recorded by government survey about 800m west of the jetty, swimming along a pipe associated with the desalination plant. Leafy Seadragons are protected in SA waters under the *Fisheries Management Act 2007*. Both seadragons are nationally listed species, under the *Environment Protection and Biodiversity Conservation Act 1999*. It is of concern to Friends of Gulf St Vincent, other conservationists, and dive groups and associations in SA that habitat for these species could easily be destroyed.

**3. Presence of species of conservation concern:** An industry-funded survey of the jetty in 2008 reported the presence of Blue Devilfish under the jetty. Also, the Port Stanvac “dump”, a dive site 300m north of the jetty, supports Blue Devilfish *Paraplesiops meleagris*, Long-snouted Boarfish *Pentaceropsis recurvirostris*, and seadragons, according to recreational dive records, and Reef Watch data. All are species of conservation concern in South Australia, and listed in Conservation Council of South Australia’s “In Peril” species list. The Stanvac “dump” is where surplus equipment (reportedly trucks, pontoons, barges, kilometres of cable) from the oil refinery was dumped into the sea, and has now formed an artificial reef. It is very likely that the artificial reef habitat of the Port Stanvac jetty also supports strongly site-associated species such as devilfish and boarfish, and other long-lived reef species of conservation concern. Surveys undertaken at other similar jetties in Gulf St Vincent, Encounter Bay and surrounds have shown such structures to provide habitat for boarfishes, including uncommon, long-lived species such as Hutchins (Short) Boarfish (e.g. Baker et al. 2008, 2009).

**4. Ecological significance:** Surveys at Rapid Bay jetty have shown that long jetties which support a variety of micro-habitats in both shallow and deeper water, have high species richness and diversity in fishes (Baker et al. 2008 Appendix 2; S. Shepherd, pers. comm.). Given the length and position of Port Stanvac jetty, it is quite likely that this jetty is similarly rich in fish species, particularly reef fishes, and a thorough survey of the jetty fauna is long overdue. Hard structures (such as Port Stanvac Jetty) in the mainly soft-bottom surrounds of the metropolitan waters of Gulf St Vincent (GSV) are ecologically important, as the few patch reefs and other jetties and artificial reefs in the area show. Given that the jetty has been protected from recreational fishing for at least 40 years, in that time it has developed as a significant refuge for reef fishes, and other fishes associated with vertical structure.

**5. Important habitat for reef invertebrates:** An underwater video made several years ago showed that the jetty piles support dense and colourful assemblages of marine invertebrates. Given the lack of disturbance in the area (other than previous periodic oil spills, and a sand dredging episode during the 1990s), it is possible that rare invertebrates also occur in both the intertidal and shallow sub-tidal area. During the mid- 2000s, an intertidal survey by Flinders University marine researchers on the

intertidal reef directly south of Port Stanvac, showed the area to be species-rich, and supporting various invertebrate species that are no longer found in other parts of the metropolitan area.

**6. Likely habitat for rare species:** Given the length and depth of Port Stanvac jetty, the lack of previous access, and the reduced light penetration due to the structure overlying the jetty piles, it is probable that the jetty provides habitat for deeper water fishes and invertebrates, and possibly rare benthic species that exist in low light conditions in shallow waters. This should be determined.

**7. Research value, for monitoring climate change:** The end of the jetty has been a significant long-term weather and sea condition monitoring site for the Bureau of Meteorology, and this role could continue if the offshore jetty structures were retained. The Bureau of Meteorology has used the jetty to monitor tidal changes. Highly sensitive and sophisticated instruments have been used to monitor fluctuations in the tidal cycle and assess changes in sea level. This is important in verifying the impact of climate change on Adelaide's metropolitan coastline. The instruments were specifically installed at Port Stanvac because of the location in GSV; access to deep water on a solid structure; power availability and security (limited access by public). It has been reported that there is no other site in GSV that can support this type of equipment. The data collected have been utilised by State and Federal authorities, oceanographers, universities and private industry.

**8. Value as a long term marine monitoring site, using scientifically valid and nationally recognised method:** Friends of Gulf St Vincent supports the use of the scientifically valid and nationally recognised Reef Life Survey (RLS) method, devised by staff at the University of Tasmania (e.g. <http://reeflifesurvey.com/>; Edgar and Stuart-Smith 2009; Stuart-Smith et al. 2010). The RLS method is preferred for a baseline survey, and for ongoing periodic monitoring by divers from government and/or the community. Some of the staff at EPA, DENR and other government agencies (including NRM Board staff) who are SCUBA divers, are trained in the RLS method, as are a number of community-based marine research divers (e.g. South Australian Conservation Research Divers). The RLS is the preferred method for future monitoring of sanctuary zones in marine parks in SA.

**9. Value as site for monitoring presence of introduced marine species:** Given the history of this jetty as a shipping terminal, and the fact that a number of southern Australia's most invasive marine pest species were introduced by shipping, it is important that any baseline survey of the biota includes description and quantification of introduced marine species. This will support current government and community research and eradication programs for marine pests in Gulf St Vincent.