Submission to Department of Planning and Infrastructure

Pindimar Abalone Farm Project Application MP 10_0006

24 April 2014

".....We feel this development is totally at odds with the philosophy of the Marine Park and should be struck out as being an inappropriate development."

Executive Summary

We wish to oppose the proposal in its current form. The main issues, risks and recommendations are set out below in tabular form. This project is unique as we see it and insufficient work has been carried out to ensure that all risks have been eliminated or mitigated to a level acceptable to this community. Here is the list of 'firsts' that gives it this uniqueness and also its risk profile, which doesn't seem to be recognised by the proponents:

- There are no operational abalone farms in NSW. This would be the first. This is significant because we are dealing with warmer waters where diseases (carried by the abalone) are likely to be more virulent and difficult to control[1]. With an incubator such as the one being proposed (Port Stephens), any biosecurity measures may not be sufficient to prohibit release into the marine park. This is all new territory.
- The first estuarine environment abalone farm (in Australia?) to operate, being located 11 kms from the ocean which is outside the guidelines for best practice abalone farming practices (no further away than 2 kms from coastal waters).
- The first abalone farm to be situated in a sensitive marine park which includes many threatened and endangered species. To relocate this project outside of Port Stephens seems like the environmentally responsible approach.
- The most northern abalone farm in Australia. Since wild abalone only have a minor presence in the wild this far north, we raise the issue, are they suited this far north to be farmed on a commercial basis? In contrast the Southern Rivers region which represents the bottom 40% of coastline in NSW reports an abundance of abalone and lobsters. This seems like a much more favourable environment for NSW's first land based abalone farm[2]. Significantly, it is reported that disease in abalone increases the further north one travels from Jervis Bay.
- Coincidence with the location of the most important seagrass beds or meadows in NSW. This is clearly a highly inappropriate proposal.

For such a high potential loss venture, one would have expected at the very least, significant longitudinal baseline studies of the marine ecology over many years (perhaps 15 yrs) including spanning the migratory habits of dugong, marine turtles, (in fact all marine vertebrates and invertebrates), and birds in the park in order to better understand and calibrate what we believe are obvious risks of such a venture. The baseline study conducted by Bio-Analysis Pty Ltd as set out in Appendix 16 Aquatic Ecology Assessment is nothing more than sediment sampling the area of the pipes and comparing what was found against other reference sites. This snapshot approach does not constitute a baseline study for such an important, uncertain and risky venture and ignores the likely dispersion of the effluent and its effect throughout Port Stephens and coastal areas beyond. Most of the findings start

with the words "unlikely to have any significant effect", simply "no effect is expected". This is not good enough.

Below is summary of the key issues as we see them. This is not complete and we reserve our rights to challenge any further discourse on the proposed project.

Issue/ benefit	Risk	Recommendations /comments
Impact on marine ecology – loss of habitat, loss of species, disease affecting commercial species such as wild abalone, existing oyster farms, international condemnation, potential prosecution, loss of reputation, costs of reparation if reparation is possible at all.	High	Before any approval can be given a study must be conducted into the behaviour and habits of marine vertebrates and invertebrates in this environment to assess the true impacts and risks of this venture. We would expect the risks of such a venture to be too great for the potential minimal benefits
Impact on terrestrial fauna such as the koala	High	There has been an inadequate study on the prevalence of koalas at the site. There needs to be a 2 year study to monitor Koala movements to determine if this is a core site. A snapshot visit is inadequate to make the judgements made by the proponents.
Traffic – safety issues re interaction with other vehicles, pedestrians, particularly children from allowing access to an industrial business via a dead end residential street (Cambage Street) in the village of Pindimar. Issues are no footpaths, no street lighting, difficult access to Cambage Street from Clarke Street for semi-trailers(construction), Como street access and interaction of business traffic in Como St(track) and Challis Av.(track). Significant increase in volume of traffic in Cambage which it was not designed to carry. Damage to sealed roads in the village Significant loss of property values in Cambage Street as a result with no compensation provided.	High	Poor town planning Given that significant expenditure and tree removal will be required to upgrade Como and Challis Ave to make it two way and suitable for truck traffic, we recommend , should the project go ahead, that access be via the business's Clarke Street address, (180 Clarke Street). It has been partly cleared anyway. So the costs would be comparable.
Noise – Assessment based on 'rural amenity' not 'village amenity'. No baseline studies of existing noise levels in the village. Loss of property values due to increased noise. Nuisance of potential disruption to the community from daily activities to sleeping at night. Again no compensation to the community from this impost.	Medium	As an immediate requirement, there needs to be a study conducted of the ambient noise levels in Pindimar Village. Any increased noise levels need to be addressed not a measure against some norm.
Odour from rotting abalone carcasses Unpleasant experience for residents. This is a known hazard of abalone farms Disruption to the community. Possible health problems Loss of property values Year 1 expectations are to have an 80% mortality rate of abalone – lots of carcasses.	Medium	It seems that because Pindimar is low density residential, the village doesn't rate much consideration. Note there has been no evaluation of prevailing wind directions carrying the stench across to the houses and likely impacts.
Health concerns from ingress of contaminated effluent from the farm's water into the village with high tide water movements. High tide waters are visible in the drains along roads and in low lying areas throughout the village. Any chemicals, fine	High	There is no way of stopping contaminated water entering the village on high tides and polluting the sands/soils and drains. The effect would be to cause unpleasant odours right in

rotting abalone debris particles will be deposited in these areas causing a potential significant health hazard particularly for children who play there.		the village and there is a concern bacteria from the rotting material and residual chemicals could cause sickness to anyone who comes in contact with it, particularly children.
Engagement strategies – Equal employment opportunity focussing on disadvantaged groups such as long term unemployed and youth. Potential benefit – 15 full time jobs.	High	With such high technical process requirements of this factory, it seems a high risk strategy not to engage suitably qualified technicians to monitor and manage the process 24/7 not unqualified, inexperienced personnel. The engagement of potentially 15 full time equivalent jobs could be fulfilled by a new McDonalds store/ local hotel or supermarket . This is not considered a significant benefit to the community given the risks and impacts.

We understand the proponents have a rezoning application before Great Lakes Council for the top portion of this same property to subdivide it into rural residential lots of 10 hectares each, which will obviously require public road access from Clarke Street. We don't understand why the proponents would promote access via Cambage Street, other than for immediate financial gain which we oppose.

General Considerations of Application no MP 10_0006 Pindimar Abalone Farm Project

Overall Submission

Thank you for the opportunity to make a submission in relation to the abovementioned project. We oppose the proposal for the reasons given below.

We own a residential property on Cambage Street, in the village of Pindimar. The amenities at Pindimar are extraordinary; beautiful sandy beaches, paddling and swimming in pristine waters, boating, kayaking and a range of other water sports. The population of Pindimar is small (no more than 50 houses), having limited services (i.e. no reticulated water of any form, no sewerage, no footpaths, limited street lighting). In other words we have a sleepy residential community. Because of the close proximity of residential properties, residents tend to walk to visit friends and neighbours in the village. Because of drainage issues with the Pindimar peninsular, high tides subsurface in roadside drains and runoff water following rain takes time to dissipate which means the residents are forced to use the road itself for perambulation. Cambage Street is a dead end street. It is very difficult for any trucks to turn around at the end so they don't come down here at all if it can be avoided. The twice daily school buses terminate on the intersection of Cunningham and Cambage Street, so the school age children walk along Cambage Street every morning and afternoon to get the bus. There is a very close knit community here and the locals share the responsibility of maintaining the road verges with a council provided ride on mower, such is the level of community spirit in the village. All public spaces are maintained like manicured lawns at minimal cost to council. You could call it the best kept secret in NSW. Our most secluded, protected sandy beach is within 100 metres walking distance from people's homes. This is a playground for adults and children alike to play safely in the water on all tides given the shallow high tide water depths and 250m low tide distance from the shore providing a great opportunity to explore the marine environment including the thousands of soldier crabs that march in time without roll call across the open flats at low tide.

The proponents argue that there are anticipated benefits for the project, namely scientific, environmental, social and commercial. We find it difficult to see any benefit to anyone from this project including any to the proponents, except if they on sell the 'business' immediately following approval being granted achieving a one-off windfall gain. We believe the risks of such a project are too great. The potential of devastating permanent damage to the marine environment of the Port Stephens –Great Lakes Marine Park (gazetted by the NSW Government in 2005), is on the basis of the EA submitted, too great without considerable further research. We advocate the relocation of the farm to a more reliable site such as the southern part of NSW (such as the cooler waters south of the Jervis Bay area where the viability of the project would be more assured without the significant potential

impact to the marine park). Sea waters could be drawn directly from the ocean where quality is more likely to meet the needs of the abalone, compared with an estuary that can easily be contaminated by flood waters or storms in a shallow bay environment. Options, such as other parts of the NSW coast don't appear to have even been considered in the alternatives section at all.

The research facility set up Tomaree Heads which had a laboratory-sized abalone farm that processed water directly from the ocean (outside of Port Stephens) is no yardstick for measuring the safety or success of the current proposal which in contrast is located 11 kms inland in a river estuary system. It was simply to see if abalone, a marine crustacean normally living in the wild in the southern ocean off Australian mainland would survive in a tank using ocean water off Port Stephens. Water temperatures would be higher in the bay. Whilst we would not wish to stifle marine science experiments, to risk the operation of an abalone farm in this climate zone, right in the middle of a precious marine park is hard to fathom. It would take a courageous decision to approve such a venture. It also seems at odds with stringent requirements for existing aquaculture farms in this area which are not allowed to discharge one drop of waste water into the bay, or otherwise face prosecution and possible gaol. If the proposal similarly involved close circuit processing, or direct exchange of waters on the coast (i.e. no discharge into Port Stephens), the environmental concerns would not be as great.

We believe the proposal has not adequately addressed the issues or concerns and we oppose it on the following grounds:

Risks to the environment

1. Marine vertebrates and invertebrates of the region.

We don't believe sufficient work has been done to prove that there will be no impact on the marine life in the marine park from the discharge of 50 megalitres, or the equivalent of 25 Olympic swimming pools of effluent into the marine park every day. Transition times in settling ponds are minimal leaving no room for error.

So what's at stake? Figure 1 summarises our findings in relation to important known marine species seen in Port Stephens. For example the Dugong is known to visit this area as part of its migration south[3]. This fragile creature is listed on the International endangered species list, which has been adopted by the Federal government and also on the NSW Threatened Species list under Part 2 of the Threatened Species Conservation Act 1995. The Dugong is therefore fully protected from **harm of any kind** and to do so would be a matter of National Environmental Significance. To that end and for the reasons given below we assert approval for this project will be required by the Federal Government under the Environment Protection Biodiversity Conservation Act (1999)

(EPBC Act). The Dugong is unique amongst marine mammals, being almost exclusively herbivorous. They are long lived with a low reproductive rate[4]. The fundamental issues concerning the Dugong are:

1. Loss of Terrestrial Habitat, or habitat quality. The Dugong feeds on the seagrasses of Lake Macquarie, Port Stephens and Lake Wallis. These represent the largest and most important seagrass beds in NSW. The marine seagrasses are protected under the Fisheries Management Act (1994) Div 4 Protection of Mangroves and Certain Other Marine vegetation. Section 204A states that marine vegetation is protected from any harvesting..... **or other harm**. Under section 205 "harm" includes gathering, cutting, pull up, destroy, poison...injure or otherwise harm the seagrasses. Loss of habitat is a significant issue of the Dugong. In a study in March 1992/3 following devastating cyclones in the Hervey Bay area a total of 99 Dugong carcasses were recovered. Most appeared to be suffering from starvation. If we jeopardise the feeding grounds of the Dugong in their southern migration this would have a devastating impact. This would be akin to the disaster that is happening right now to the wild abalone in Victoria where the extremely contagious Abalone viral ganglioneuritis (which kills in days), was inadvertently released from a land based abalone farm. Infected waters continued to be released and the disease was carried by ocean currents infecting and killing abalone from the South Australian border to Cape Otway, a distance of around 200 kms.
2. The growth of epiphytic macro-algae are known to respond quickly to water column nutrient enrichment which compete with seagrasses starving them of light. Whilst the proponents argue that the processes of water treatment will reduce the level of nutrients to "well below water quality guidelines" how can we be sure that this measure is appropriate and correct in Port Stephens for the marine creatures, not to mention humans swimming in these waters? In our opinion norms are not good enough in our marine park.
3. Noise. No study has been done to prove that the noise levels emanating from the pump house will not affect the Dugong. These animals are noise sensitive and the noise and vibration travelling down the two kilometres of half metre diameter pipes could impact them. Currently, there are no discernible noise sources during the twilight feeding times of the Dugong emanating from Pindimar. The only noise study has been to model noise impact on 'rural amenity' guidelines, a measure quite irrelevant to the Dugong.
4. Potential for poisoning. It is unclear what chemicals found in the effluent from waste products may affect the Dugong. The seagrasses may not be affected themselves but the chemicals could be ingested by the Dugong and cause illness. This has not been assessed.
5. Fishing pressure. Whilst this is not an issue in this EA study it is worth reviewing the actions taken by the government to restrict/ban commercial fishing generally in the

marine park and ban recreational fishing in Sanctuary zones of the park, one of which is located adjacent to the outlet of the farm. These serious measures point to the resolve of successive state governments to protect Port Stephens marine park.

We believe there are significant issues affecting the Dugong. Instead we find on page 64 of Appendix 16 Aquatic Ecology Assessment treatment of the Dugong is extremely limited. They refer to "local populations" of Dugong. I don't think they know anything of the whereabouts of the Dugong in Port Stephens at all, because they haven't looked. Being a migratory animal, I don't think there would be any resident Dugongs, the seagrasses in Port Stephens would be relied on by Dugong in their transit south/north. To claim that the main seagrasses in the bay are protected, gives scant regard to this issue...a bit like 'well there are plenty of other fish in the sea so no need to worry'. Their baseline study is no more than a literature search and a couple a snapshots with a lot of complex graphs and statistics to confound the unwary but not fool the knowledgeable who understand what a baseline study ought to comprise.

In Appendix 16, to the question (g) relating to the Dugong, pictured below:

"Whether the action proposed is of a class of action that is recognised as a threatening process.

The proposed abalone farm is not a recognised threatening process for dugongs."

How do they know? I don't think there is any knowledge about the impact of Abalone farms on Dugongs because they haven't coincided until this project? It is just a convenient statement that supports the project. This is a common response throughout Appendix 16. You don't find any comments that say, 'yes, this could be a problem'.

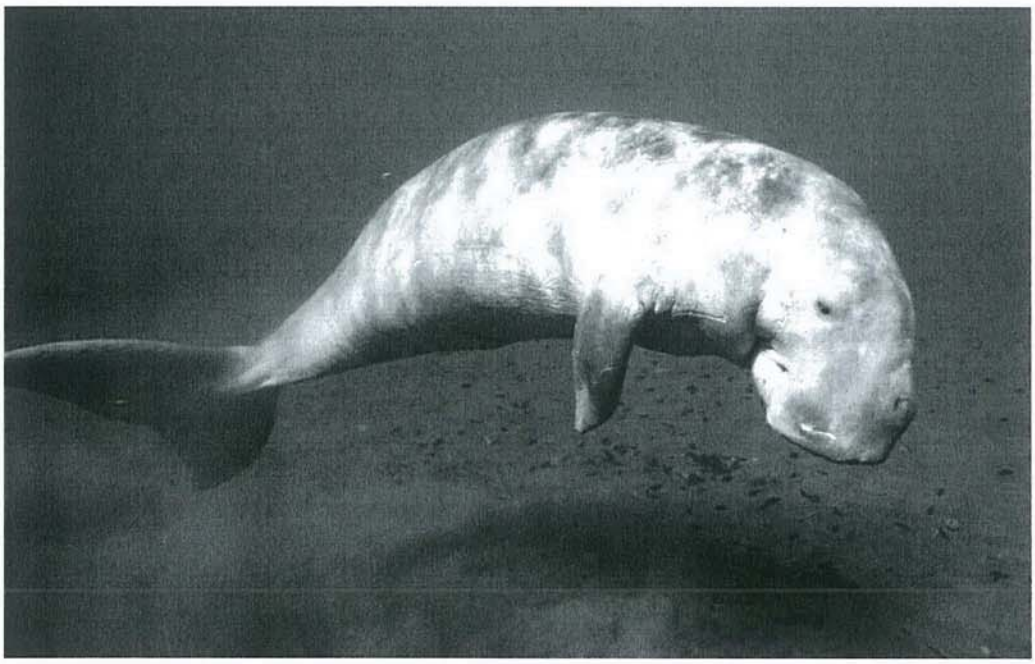

Figure1 : Status of marine life in Port Stephens – Great Lakes Marine Park (main source Marine Park literature, State and Federal threatened species lists)

Name	Status	Possible effects from Abalone Farm	Comments
Dugong	Internationally threatened species, Fed, NSW	Unknown but **loss of habitat** thought to be main issue	Dugong visit during migration to the NSW seagrass meadows then return to Qld for breeding
Grey Nurse shark	Internationally threatened species, Fed, NSW	Unknown	Grey Nurse sharks are top of the food chain. Any loss of lower order species directly affect them.
Green Turtle Loggerhead turtle Hawksbill turtle	Endangered species (Aust) Endangered (NSW) Vulnerable (Aust)	Unknown but these breed and live in the Port. Hatchlings have a potential risk of being sucked into intake pipes and killed.	The Green turtles have names there are so few. Tracey, Lucy, Crabby, Max and Jodie are known and tracked
Little Tern	Endangered (Aust)	Unknown	These birds are found in islands off the coast of Port Stephens but feed in the park
Gould's Petrel	Vulnerable (NSW)	Unknown	One of the world's rarest seabirds whose only known sites are Cabbage Tree and Boondelbah islands
Humpback Whale	Vulnerable (NSW)	Unknown	Visitors to the marine park on their transit to breeding grounds
White's seahorse	Protected (NSW)	Unknown but we are not allowed to injure them **in any way**.	There is a concern that these fragile creatures will be sucked in to the intake pipes of the farm and be destroyed.
Bottlenose dolphin	Significant	Unknown	There are around 120 permanent residents in the park and eat fish and squid
Donut Nudibranch, Re Indian Fish, Platypus cowrie, southern pygmy leatherjacket		Unknown	These species unique animals are also listed as special creatures for their spectacular colour and behaviours but not a lot is known about them

This is obviously not an exhaustive list but gives an indication why the Marine Park was gazetted in the first place and how foolhardy it would be to proceed without a proper study completed.

2. Effects on the seagrass beds.

Whilst the proponents argue that there will be "no impacts on seagrass beds" this is being disputed for the following reasons:

1. A significant area of seagrass will be required to be removed or be destroyed in the placement of four, 500 metre long pipelines. The seagrass is protected so this activity is not permitted under existing laws anyway.
2. These pipelines will create a natural barrier for the collection of silt and debris. This will then cause the siltation of a significant area on both sides of each pipe, which is turn could suffocate the seagrass. It is clear that seabed floor sediments are moving as evidenced by the increasing deposition of sand on South Pindimar beach over the last 15 years(see plate 6). This can be verified by local residents who have lived here over this period.
3. Turbidity from the ejection of water from the pipes could cause a decrease in light passing through to the sea grasses. This has not been adequately assessed.
4. Epiphytes as discussed in the last section will affect the seagrasses.

Instead we find on page 25 of Appendix 16 Aquatic Ecology Assessment only consideration of the physical impact of the pipelines which they then deduce will only cause localised disturbance of the seagrasses. It doesn't consider the impact of the effluent from the pipes which have the potential to travel kilometres around Port Stephens to critical areas of the marine park. This again shows the paper thin analysis organised by the proponents in this critical area of concern.

The primary protection for seagrass to date has been through marine parks and fishing industry closures, not installation of abalone farms that have the potential to do irreparable damage to the environment.

3. Water pollution, dilution or dispersion?

This is another issue that we hope the Department gives serious consideration. Abalone are disease carriers and the bigger risk with diseases is not dilution, it is dispersion. The Victorian government approved a land based abalone farm on the shores of the southern ocean in 2005. You would imagine dilution would not be a problem in the southern ocean. Yet, this farm has infected hundreds of kilometres of the coast stretching from Cape Otway to the South Australian border wiping out over 30 percent of the wild sea abalone stock and brought devastation to the wild abalone industry which was worth $75M per annum. The ocean was described as turning cloudy as the rotting dead abalone floated to the surface.

Similar issues surround the dispersion of Perkinsus parasites which are responsible for causing perkinsosis in molluscs such as oysters, mussels, clams and abalone[5] .

4. Affect from water intake pipes

There is a concern that the force of water through the intake pipes will injure or kill the smaller marine creatures such as small fish, sea horses and marine vegetation being caught

in the mesh. Has a study been conducted to ensure that these creatures will not be harmed by the force of water through these screens? This potentially will have an operational impact as well. Blinded screens will need to be cleaned at great expense to the proponents.

Social benefits and impacts

Benefits

The social benefits from this project seem to rest with the engagement of around 15 permanent full time equivalent employees which will be sourced from local unemployed people and youth. Whilst this is good it should be given no more weight than the operation of a small supermarket or hotel. For example, the BILO supermarket employees upwards of 50 people in the local area without the issues/risks that this project delivers.

Impacts

On the other hand, where in the guidelines for good town planning do we let a significant industrial site be accessed down a dead-end residential street in a village, when it could easily be accessed from the main arterial route into Pindimar (i.e. Clarke Street)? This is a significant impost on the community of Pindimar and will destroy the harmonious quiet environment. I would urge the planning department, should it decide to go ahead with approving the project, to make it a condition of any approval that the proponents be required to put in a service road from Clarke Street outside the boundaries of the village. The access being proposed down Cambage Street goes through Como Street and Challis Avenue which are nothing more than narrow winding, one lane gravel tracks(see plate 2). There will no doubt need to be money spent on upgrading these access tracks to carry machinery and equipment during the construction phase where the village will be subjected to 70 vehicle movements a day (workers only) which could double when you take into account the delivery drivers, semi trailers carrying equipment to the site, consumables, inspectors, technical advisors etc. It would be doubtful that the once-a-week garbage truck that comes down Cambage Street could actually get through the access roads as they are. Given the proponents are claiming it is too costly to run a road to the site, this should not deter the Planning Department from requiring this additional work given they will need to spend money upgrading Como and Challis roads anyway.

Other concerns include safety of school children and adults forced to walk on Cambage Street and the interaction of industrial traffic and local vehicular traffic.

Noise is another issue for the Community. I presume the massive pumps that will be required to carry the 50 megalitres of effluent the 500 metres to the Estuary every day and return the same quantity of fresh sea water will operate 24/7 it will be difficult to see how a 'mostly-underground ' pump-house will provide acceptable noise mitigation particularly given it has been modelled against 'rural amenity guideline levels' when it is immediately next to a residential village area. As a minimum I would seek a further study to consider the noise levels against residential standards or better still against actual ambient noise levels in the village. It is important to note that the transport of sound from the pump-house will be

largely across water which will have an amplification effect for all residents along the waterfront. This will affect land values significantly.

Public amenity is another area of concern. Imagine our children and grandchildren losing their summer water playground because of floating debris of dead rotting abalone scum.

Final remarks

While we respect the rights of the proponents to submit this application, we feel it is totally at odds with the philosophy of the Marine Park and should be struck out as being an inappropriate development. Even with safe guards, bio security arrangements why should the people of NSW take the risk at all. It will set a dangerous precedent for other inappropriate developments in the marine park where to date the focus has been to restrict, limit or ban other activities that might damage the park ***in any way***, despite any commercial or other benefit there may be.

As this proposal is of National Environmental Significance we believe it should be referred to the Federal Government Department of Environment, Water, Heritage and the Arts in Canberra.

In any event the proponents have selected a sub-optimal site with a high risk of failure and have not really considered more suitable sites for the development. All we, the community, would be left with is great disruption to the daily lives of the residents of Pindimar with few potential benefits and only losses and four kilometres of semi submerged pipes and building structures left after it is deemed to be an experiment gone wrong.

The Residents of Pindimar already have the legacy of previous failed ventures (see Plates 3, 4 and 5) and we will not stand still to see another disaster unfolding.

Photo Gallery

Plate 1 and 1A: Photographs of Cambage Street looking west. The proponents are advocating this dead end residential street as the main traffic route for the development of a major industrial site with potentially up to 100 vehicles movements a day during construction and over 30 per day during operation on a 24/7 basis. Below, locals using the road as a footpath.

Plate 2: Como Street is actually a single lane bush track. Note proximity of house.

Plates 3, 4, 5. The legacy of previous industrial bungles which has left the Pindimar community a visual eyesore, with safety hazards for fishing, boating, swimming and any activity in the water or along the low tide sands. In addition to this, there are contaminated land sites from the leakage of

tar products from the tar factory which operated on the corner of Cambage and Cunningham streets.

Plate 5. Carcinogenic tar coated structures from the failed oyster leases continue to be washed up against the beach at high tide.

Plate 6. Pindimar beach continues to have sand deposited on what were mud flats 15 years ago indicating a drift of sand and other materials on shore onto this beach.

References

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