



## **DREDGING - PORT OF GIPPSLAND LAKES**

### **- COMMONLY ASKED QUESTIONS**

#### **Summary**

- Maintenance dredging at the entrance to the Port of Gippsland Lakes is routine. It is required to maintain access to the port and has occurred since the 1880's.
- Dredging involves relocating clean oceanic sand. This is sand from the Ninety Mile Beach that has accumulated in the entrance and on the ocean bar.
- Maintaining navigable access through the entrance is essential for the significant commercial fishing industry; recreational boating and local tourism sectors.
- Extensive scientific studies of the Gippsland Lakes have been done, including studies by CSIRO. Studies show that the salinity of the Lakes is driven by rainfall and catchment runoff.
- Rules to make sure that dredging does not affect the protection of the Gippsland Lakes are set out in an Environmental Management Plan (Plan). Conditions for dredging and depositing sand have been established by the State and Commonwealth regulatory agencies.
- As the community rightfully expects, compliance with the rules set out in the Plan has been and will continue to be closely managed by GP, independently audited and reported.

#### **Q. Why does the entrance need to be dredged?**

A. Lakes Entrance is home to the largest commercial fishing fleet in Victoria (\$50m/year to the economy of Victoria) and increasingly is used by local and visiting recreational vessels on the Gippsland Lakes (\$163m/year). Dredging at the entrance to the Gippsland Lakes has occurred for over 120 years and has been essential for maintaining access between the Gippsland Lakes and Bass Strait since the construction of the permanent entrance was completed in 1889.

#### **Q. Whose responsibility is it to keep the entrance open?**

A. Gippsland Ports has responsibility to provide safe and navigable channels in the port, including at the entrance. Gippsland Ports is a Committee of Management established under the Crown Land (Reserves) Act 1978. It is also appointed as a port manager under the Port Management Act 1995 for five local ports in Gippsland, including the Port of the Gippsland Lakes.



**Q. When will dredging occur and how long will it take?**

A. Maintenance dredging is an ongoing activity. Gippsland Ports owns and operates a Cutter Suction Dredge, the *Kalimna*, which operates on the inner channels inside the entrance. Since 2008 a contracted dredging service provider operated a Trailing Suction Hopper Dredge (the *Pelican*) to maintain ocean access. Dredging by the *Pelican* was scheduled annually and typically occurred over a four to eight week period.

Gippsland Ports (from September 2017) will own and operate a Trailing Suction Hopper Dredge *Tommy Norton* to perform maintenance dredging at Lakes Entrance. The vessel will be available to operate all year round, however will only dredge when maintenance trigger levels are reached.

**Q. When does the dredge operate?**

A. Dredging by the *Tommy Norton* to maintain the entrance and inner channels will be ongoing throughout the year when weather and sea conditions are favourable for dredging. Time out from operation will occur if weather and sea conditions become unfavourable; for maintenance; or when the presence of species such as whales and other cetaceans necessitate temporary cessation of dredging to allow them to move away from the operating area.

Gippsland Ports' Cutter Suction Dredge, the *Kalimna*, can operate around- the-clock but generally only operates during daylight hours. The *Kalimna* operates year-round.

**Q. How much sand will be dredged?**

A. Up to 750,000 cubic metres of sand a year can be dredged by the Trailing Suction Hopper Dredge. The actual volume will depend on the amount of sand required to be removed to maintain access to the port. On average around 200,000 - 300,000 cubic metres is dredged each year.

**Q. What would happen if the entrance wasn't maintained?**

A. User safety will be compromised. To ensure safety was maintained, there would be increased restrictions on access which could eventually make the port unusable. (The Port of Gippsland Lakes is the only safe refuge between Port Welshpool and Eden.)

**Q. What would happen if the entrance closed?**

A. The \$50 million commercial fishing industry would need to relocate if the entrance closed. As a result, this would have significant impacts on the regional economy and local tourism. There would also be changes in the character of the lakes in the vicinity of the entrance.

The low lying areas of the Lakes Entrance CBD, along with other low lying areas around the lakes system would likely be inundated.



**Q. How deep does Gippsland Ports propose to dredge?**

A. The entrance is currently dredged to maintain its existing navigability and not to change the character of vessels using the port. To maintain navigability, to allow for the recurring build-up of sand and for the practicality of dredging, the maximum depths are 4.5 metres between the training walls and 5.5 metres for the ocean bar. There is a one metre tolerance to account for the infill and practicality of dredging.

It should be noted that tidal streams and flood events that run through the entrance channels can often create channels or local scour holes far deeper (> 10 metres) than the targeted dredging depths.

**Q. Who has been consulted about the dredging?**

A. Dredging is an ongoing activity, with consultation continuing over many years. A wide range of local stakeholders including scientific experts, community groups and industry representatives have been consulted and provided input. Technical Advisory and Consultative Committee meetings are held annually with these stakeholders.

**Q. Will the dredging affect recreational users of the Lakes system?**

A. No, there will not be any impacts on those users, either on the water or on the shores surrounding the Lakes. Vessels are required to maintain a safe distance from operating dredgers, in line with any Notice to Mariners that may be issued. Gippsland Ports is responsible for this safety measure.

**Q. What are the future plans for development of the Port of Gippsland Lakes?**

A. Gippsland Ports has no plans to change the character of boating on the Gippsland Lakes, and will continue to provide port infrastructure and services to meet community expectations and current standards. Gippsland Ports has no plans to increase the depth of the entrance channel or through the ocean bar to allow deeper draught vessels to enter the Lakes, nor is this permitted through its current environmental approvals.

**Q. Why does Gippsland Ports need the *Kalimna* as well as *Tommy Norton*?**

A. The Trailing Suction Hopper Dredge and Cutter Suction Dredge serve two different purposes. The Trailing Suction Hopper Dredge removes sand and takes it away from the ocean bar *outside* the entrance. The Cutter Suction Dredge, the *Kalimna*, is designed to operate in sheltered conditions inside the entrance and therefore does not have the ability to dredge the ocean bar.

**Q. What happens to the dredged sand?**

A. The Trailing Suction Hopper Dredge removes sand and relocates it to defined areas called Dredged Material Grounds. Dredged Material Grounds are located approximately 2km to the east and to the west of the entrance and situated to ensure the dredged sand is deposited as close as safe and practical to shore and therefore remains within the natural coastal processes.



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Sand dredged by the *Kalimna* is pumped via the Sand Transfer Station to ocean outfalls in the surf zone approximately 800m to the east or to the west of the entrance.

### **Q. What prevents sea water coming into the Gippsland Lakes?**

A. Sea water from Bass Strait has been able to move in and out of the Lakes, on the changing tide and storm surge, since the permanent entrance was opened to the sea in 1889. Scientific research shows that the entrance channel and inner channels of the Gippsland Lakes act as constrictions that limit the exchange of water between the Lakes and Bass Strait. The amount of rainfall and the resulting catchment runoff determines the Lakes' salinity.

### **Q. What is the tidal influence?**

A. Tidal influence is well documented throughout the Gippsland Lakes, and is known to be about  $\pm 0.3$  metres at Lakes Entrance,  $\pm 0.2$  metres at Metung and  $\pm 0.03$  metres in Lake Wellington. The entrance channel, and Reeve and Hopetoun Channels are constrictions that reduce the effect of Bass Strait tides on the Lakes. Storm surges in Bass Strait can last for days and therefore have a major effect on the water levels in the lakes. Studies show that the water level rises during storms are not affected by the depth of the entrance channels.

### **Q. What is the Department of Environment, Land, Water and Planning's responsibility?**

A. Under the Coastal Management Act 1995, the Department of Environment, Land, Water and Planning is the Victorian government organisation that determines the acceptability of Gippsland Ports' application to dredge the entrance and inner channels of the Gippsland Lakes.

### **Q. On what grounds did the Department of Environment, Land, Water and Planning approve the project?**

A. The project was only approved when Gippsland Ports was able show that it had met all necessary approval requirements to describe how the environmental standards expected by the community would be met.

### **Q. When was approval granted?**

A. Consent under Victoria's Coastal Management Act 1995 was issued on 29 September 2011 for the period to 30 June 2020. The consent authorised dredging of the entrance, which is the area between the entrance training walls, the ocean bar and inner channels, and the placement of the dredged material in designated dredge material grounds in the shallow waters of the ocean beaches approximately two kilometres to the east and west of the entrance.

### **Q. Was the approval subject to any conditions?**

A. Yes. Victorian approval was subject to seven broad-ranging conditions that included the requirement for an Environmental Management Plan. This plan consolidates obligations established under Victorian and Commonwealth approvals.



**Q. Why is the approval for such a long period? Is that appropriate from an environmental perspective?**

A. Dredging to maintain navigation at the entrance to the Gippsland Lakes has occurred for over 120 years. It is a routine activity. From long-term scientific studies, the potential environmental effects of dredging are known to be localised and short-term. In these circumstances it is appropriate for Gippsland Ports to seek consent for 10 years or more.

**Q. What documents did Gippsland Ports use to support its application?**

A.

- Coastal Management Act consent Application – Supporting Report April 2011
- An Environmental Management Plan
- An Environmental Risk Register
- Supporting reports in relation to EPBC Act protected matters
- Protocol for Gippsland Ports for threat minimisation to Hooded Plovers (*Thinornis rubricollis*) February 2011
- Lakes Entrance Sand Management Program – Sediment Sampling and Analysis Plan and Sediment Quality Assessment, 2007
- Review of Hydrodynamic and Salinity Effects Associated with dredging on the Gippsland Lakes August 2011 – Water Technology (refer Reports section of our website)
- Commonwealth Approvals under the Environmental Protection (sea dumping) Act 1981 and the Environmental Protection and Biodiversity Conservation Act 1999.

**Q. What are the main considerations in the Environmental Management Plan?**

A. The Environmental Management Plan sets out the rules that Gippsland Ports dredging must meet. They set out when, where and how dredging can occur, how it is to be monitored, reported and audited. The rules ensure that the water depths required for navigation are provided and that birds that migrate internationally and whales and dolphins are protected. None of the dredging activities are new or inconsistent with previous activities.

The Environmental Management Plan was developed in line with our Environmental Policy. Gippsland Ports recognises that the health and wellbeing of our custodial environment has a direct impact on the health and wellbeing of Gippslanders. We are therefore committed to minimising the environmental impacts of our operations.

**Q. Does Gippsland Ports have to put up any money in advance for remedial work or post-dredging recovery? If not, Why not?**

A. Gippsland Ports has invested heavily in understanding how sand movement affects the entrance channel and ocean bar and how this can be best managed and the environment protected. The dredging required is routine and is to remove clean oceanic sand that accumulates in the navigation channels. Given that the sand constantly moves, remediation of the areas dredged and the areas where the sand is placed is not required.



**Q. Is the Department of Environment, Land, Water and Planning responsible for monitoring the project from an environmental perspective?**

A. It is Gippsland Ports' obligation to make sure it meets the rules set out in the Environmental Management Plan and to provide the necessary evidence. The Department of Environment, Land, Water and Planning's role is to assess how Gippsland Ports complies with its obligations and does this through the assessment of Environmental audit reports, dredging program reports and any other means it deems fit.

**Q. What impact has dredging had on the ecology and salinity of the Gippsland Lakes?**

A. The Gippsland Lakes is a series of coastal lagoons separated from the sea by a barrier system of sand dunes. The Gippsland Lakes includes some areas which are permanently saline and others which are freshwater. Since the construction of a permanent entrance in 1889, the primary driver of salinity in the Lakes has been the level of rainfall and catchment runoff.

**Q. What will be the impacts on the environmental health of the Gippsland Lakes in keeping the entrance open?**

A. The Environmental Management Plan sets out strict rules to ensure the environment is protected. These set out when, where and how dredging is to occur. Compliance with these rules is monitored and audited.

**Q. Does dredging make the lakes more marine?**

A. The entrance to Bass Strait has been open for over 120 years, freshwater inputs is the main factor that influences salinity changes in the Gippsland Lakes.

The entrance and inner channels of the Gippsland Lakes act as choke-points for marine waters and will only allow a certain amount of marine influence through a tidal exchange.

**Q. Why do we see marine species present in the Gippsland Lakes?**

A. The Gippsland Lakes catchment, as with the rest of South-Eastern Australia, suffers the effects of prolonged drought. Under these conditions rainfall and catchment runoff reaching the Gippsland Lakes is reduced and consequently salinity levels increase. The increased presence of marine species in the Lakes is an expected consequence of drought.

**Q. Has dredging caused spikes in abundances of invasive species in the lakes because of increased salt water coming in?**

A. No. For over 120 years the salinity of the lakes has been mainly driven by freshwater inputs – and the extent of marine species rises and falls with long-term changes in rainfall and catchment runoff.

**Q. The Gippsland Lakes are a Ramsar listed wetland which is of International significance. How can dredging be approved in a Ramsar wetland?**

A. Listing under the international Ramsar Convention occurred in 1982 and at that time the permanent entrance had been in place for nearly 100 years. Nonetheless Gippsland Ports provided evidence in support of its application for Victorian and Commonwealth approvals that the wetland values would not be affected.



**Q. How does Gippsland Ports communicate its sand management activities?**

A. Gippsland Ports posts information on its website including:

- Periodic updates on the dredging program
- Bathymetric surveys
- Environmental Management Plan (and independent audit reports)

Gippsland Ports also convenes a Technical Advisory and Consultative Committee which meets annually. This broad-based stakeholder group is provided with advice on intended activities; reports on completed activities; and research data.

**Q. Has sea level change been considered in relation to dredging?**

A. Climate variability and its effect on sea levels is a routine consideration in the operation of any port. The dredging of the entrance channel and ocean bar does not change the long term average water level inside the entrance.