



# MAINTENANCE DREDGING

## FISHING BOAT HARBOUR

In December 2022, Mid West Ports Authority (MWPA) completed maintenance dredging in Geraldton's Fishing Boat Harbour (FBH).

Managing sediment that naturally accumulates and becomes trapped in navigational channels and other port areas is an important and essential practice.

In the case of the FBH, it ensures we can continue to support the region's largest fishing industry (Western Rock Lobster), local marine, tourism and commercial operators and more broadly, the community.

## A BALANCED APPROACH

A comprehensive framework guides our decision making around the sustainable management of marine sediment at the Port of Geraldton.

It starts with understanding our environment and the source of natural sediment accumulation (**see overleaf**) and evaluating ways, through a multiple criteria assessment, in which sediment material can be suitably placed and beneficially reused.

The assessment considers a range of social, environmental and economic values relevant and important to the local area and Mid West region.



## 2022 PROJECT SNAPSHOT



### TIMEFRAME

**COMPLETED  
DECEMBER 2022**

with dredging activities taking place over the course of eight weeks



### SEDIMENT VOLUME

**22,000m<sup>3</sup> REMOVED FROM ENTRANCE CHANNEL  
AND ADJACENT LIVES BEACH**

to reinstate original design widths and a minimum channel depth of -3.2m Lowest Astronomical Tide (LAT) to ensure safe and navigable access. The volume removed is equivalent to approximately nine Olympic sized swimming pools

### BENEFICIAL REUSE

## LAND RECLAMATION

was identified as the preferred placement option in the beneficial reuse assessment with sediment creating 8,500m<sup>2</sup> of usable land in the port's Berth 7 reclamation area. The sediment was capped with gravel to suppress dust until the space is required



BEFORE AND AFTER SEDIMENT PLACEMENT



### POSITIVE OUTCOMES

**ZERO SAFETY AND  
ENVIRONMENTAL INCIDENTS**

throughout the dredging campaign

### ENVIRONMENTAL MANAGEMENT + MONITORING

## WATER QUALITY

within and outside the dredge area remained stable during the campaign with dissolved oxygen levels indicating a highly oxygenated water column



## PRE AND POST DREDGE MONITORING OF MARINE HABITATS

including nearby seagrass meadows showed no detectable change in habitat condition



# MAINTENANCE DREDGING CONT...

## FISHING BOAT HARBOUR (FBH)

### UNDERSTANDING HOW SEDIMENT MOVES

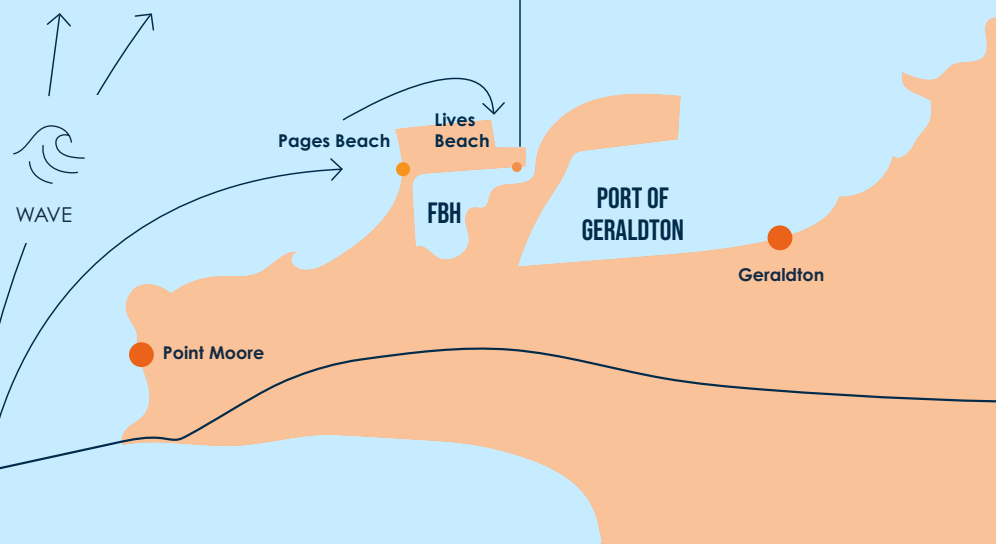
In 2020, MWPA invested in the development of a coastal sediment model to determine how natural sediment cycles occur between Southgates through to Oakajee.

Modelling confirmed that natural sediment transport at the Port of Geraldton occurs as a result of wind and wave energy moving sediment predominantly in a northerly direction.

If we look at how this impacts the FBH:

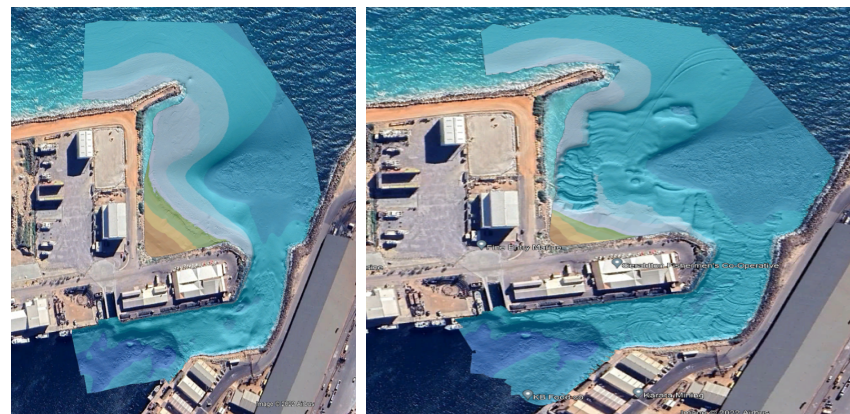
### SEDIMENT BECOMES TRAPPED AT PAGES BEACH AND CAN MIGRATE AND ACCUMULATE AT LIVES BEACH AND THE ENTRANCE TO THE FBH.

+ To understand how sediment moves across the wider sediment cell, see our 'Maintenance Dredging Public Information Package'



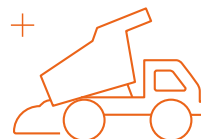
### FBH FUTURE SEDIMENT MANAGEMENT

During maintenance dredging in 2022, sediment was removed from the Lives Beach area to create a sand trap. Moving forward, this will encourage sediment to accumulate in the beach area as opposed to the FBH entrance.



PRE-DREDGE AND POST-DREDGE BATHYMETRIC SURVEY

This approach, combined with MWPA's annual sand bypassing initiative, is expected to provide safe navigable depths for a period of two years before maintenance dredging is next required.



MWPA currently bypasses approximately 12,500m<sup>3</sup> of sand from Pages Beach by truck to renourish other beaches selected by the City of Greater Geraldton. This is done periodically over the course of a year

### MORE INFORMATION

Visit [www.midwestports.com.au/development/port-development-projects.aspx](http://www.midwestports.com.au/development/port-development-projects.aspx) to learn more about this project and maintenance dredging at the Port of Geraldton

