

## Seagrass snapshot: Hardy Inlet 2022–23

Through the Healthy Estuaries WA program, the condition and area of seagrass is being monitored in five South West estuaries, including Hardy Inlet. This snapshot provides an update on the distribution of seagrass in Hardy Inlet in December 2022.

It updates information from previous surveys in 2018 and 2020.<sup>1</sup> This is the first snapshot for Hardy Inlet, forming part of a collection available at [estuaries.dwer.wa.gov.au/seagrass](https://estuaries.dwer.wa.gov.au/seagrass).

Understanding seagrass  
condition helps to guide  
how we manage  
our estuaries

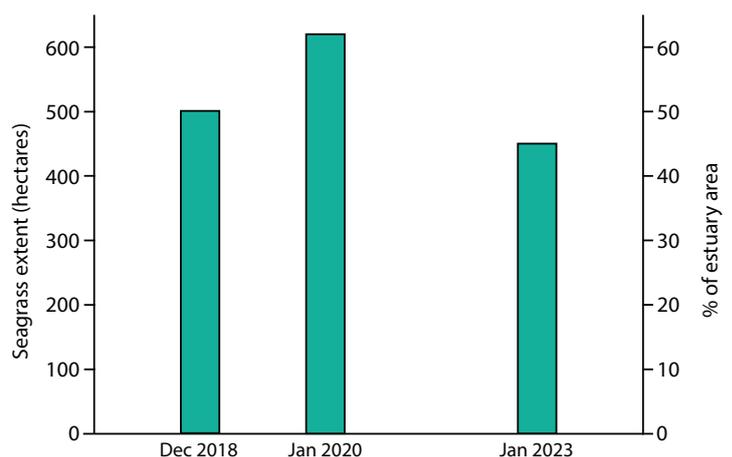
Hardy Inlet is a permanently open, shallow estuary in the south-west of Western Australia, near Augusta. The estuary has one of the largest catchment areas in the south-west, receiving freshwater flow from both the Blackwood and Scott rivers. Marine waters can travel more than 40 kilometres up the Blackwood and 8 kilometres up the Scott, creating estuarine habitats in the lower rivers. Land clearing and agricultural activities in the catchment have impacted water quality, which may be exacerbated by the changing climate. The estuary has been showing signs of eutrophication since the 2000s, including blooms of potentially toxic cyanobacteria and macroalgae and fish kills from low oxygen levels.

Seagrass meadows provide food and habitat for animals and produce oxygen, making them an important part of estuary ecosystems. The condition and location of the seagrass meadows in the estuary can change over time and depending on the water quality. *Ruppia megacarpa* is the dominant species of seagrass found in Hardy Inlet. Other species, including *Halophila* and *Zostera*, are also present in small patches.

### Seagrass over time

- Seagrass was first surveyed in the estuary in 1974 and 1975. *Ruppia* was present in the shallow waters throughout the lower and upper estuary, as well as in Swan Lake.
- The distribution of seagrass was similar in 2000. The density of seagrass coverage across most of the estuary was less than 10 per cent. The maximum density recorded was 60 per cent.
- Seagrass extent in 2008 increased to also include the lower basin. Coverage was generally sparse, but some meadows in the lower basin, around Thomas Island and west of Point Pedder, had high coverage (more than 75 per cent).

The Department of Water and Environmental Regulation monitored seagrass with consistent methods in December 2018, January 2020 and January 2023. Seagrass distribution was estimated to cover almost 50 per cent of the estuary area in December 2018, which increased to 61 per cent in January 2020.



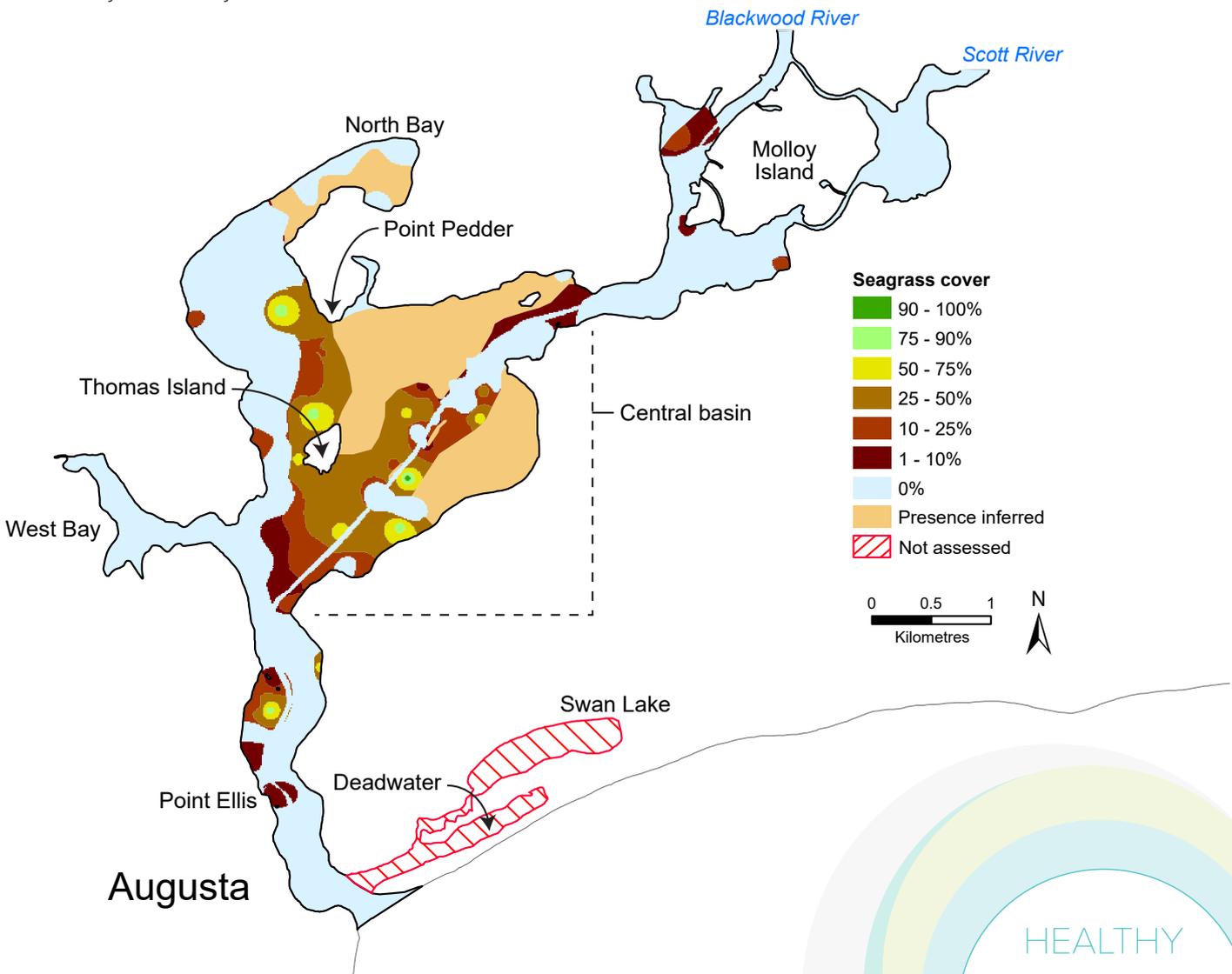
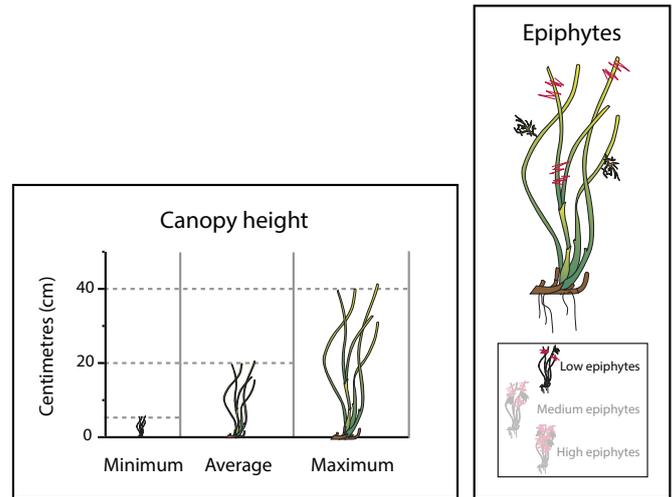
<sup>1</sup> Bennett K, Sánchez-Alarcón M, Forbes V, Thornton H & Kilminster K, 2021, Seagrasses in four estuaries in Western Australia's South West, Water Science Technical Series, report no. 86, Department of Water and Environmental Regulation, Western Australia.

# Seagrass distribution in January 2023

Seagrass was estimated to cover 452 hectares in January 2023, which is 45 per cent of the estuary area. Seagrass was present throughout the central basin and north of Point Ellis, close to the town of Augusta. Coverage was generally sparse, with a few isolated areas of high-density meadows west of Point Pedder, around Thomas Island and on the eastern side of the central basin. While the seagrass meadows have been present in North Bay and around Molloy Island in previous years, the extent of the meadows was reduced in January 2023. Seagrass continues to be absent in West Bay.

The average seagrass canopy height was 20 centimetres, with heights ranging between 5 and 40 centimetres.

The abundance of small organisms growing on the seagrass leaves (epiphytes)<sup>2</sup> was generally low across the estuary in January 2023.



<sup>2</sup> Epiphytes can reduce light availability and affect seagrass growth.

