



Fact Sheet

About Westport

Westport is the State Government's long-term program to investigate, plan and build a future container port in Kwinana with integrated road and rail transport networks.

Work is underway to develop a business case that will recommend to Government the high-level designs and best time and way to transition trades from the Inner Harbour in Fremantle to the Outer Harbour in Kwinana.



Westport Marine Science Program

About WAMSI

The Western Australian Marine Science Institution (WAMSI) was established by the State Government more than 15 years ago as a collaborative marine science research partnership to benefit all Western Australians.

Comprising of 11 partners, WAMSI is an independent collaboration of state and federal government and academic science organisations working together to provide independent marine research for the benefit of the environment, community and to encourage better stewardship of our ocean.



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MARINE SCIENCE
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Westport recognises that when construction starts on a new container port in the Kwinana Outer Harbour, there will be some impact to the local environment. This can be minimised with thorough planning, scheduling and using new technologies to build the port and associated infrastructure.

The State Government is taking action now to better understand the marine environment of Cockburn Sound or Derbal Nara, as it's known to the Noongar people.

A key priority for Westport during this planning phase is to take a science-based approach to better understand potential impacts and opportunities so that ecosystem health and resilience can successfully be protected for generations to come.

Westport has partnered with the Western Australian Marine Science Institution (WAMSI) as an independent, transparent science provider, to deliver a comprehensive research program that fills important knowledge gaps about Cockburn Sound's ecosystem.

The WAMSI Westport Marine Science Program will see \$13.5 million invested in environmental research and modelling which will:

- establish environmental baselines and improve understanding of key ecological processes;
- help shape the concept designs and operational planning for the new port;
- inform mitigation strategies; and
- complete on-ground ecosystem restoration trials to inform a long-term restoration plan.

This partnership will ensure high quality, transparent and inclusive science will be undertaken by an independent provider.

The three-year WAMSI partnership is a collaboration with scientists, researchers and experts from across Western Australia, to deliver the science which will underpin a world class green port and environmental impact assessment:

It is the biggest component of Westport's Environment and Social Program.

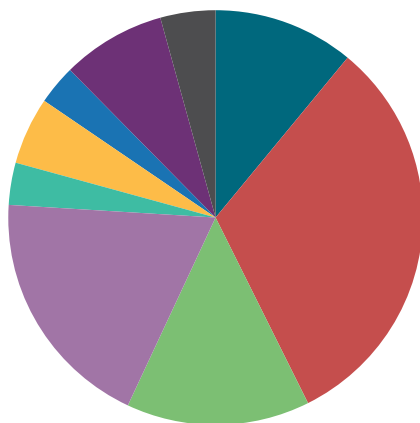


Science themes

Nine research themes were established through a series of 16 expert workshops involving scientists, key stakeholders and informed community representatives.

Across the themes are about 30 research projects, including a series of on-ground trials for restoring seagrass meadows and improving knowledge of the marine biodiversity, were established.

Comparative Funding



Distribution of the \$13.5million WAMSI Westport Science Program funding

Science Program Themes

- 01 Ecosystem modelling and integration
- 02 Benthic habitats and communities
- 03 Sediment and water quality
- 04 Fisheries and aquatic resources
- 05 Hydrodynamic modelling
- 06 Social values
- 07 Noise
- 08 Apex predators and iconic species
- 09 Coastal processes

Ecosystem modelling and integration

An integrated ecosystem modelling framework for Cockburn Sound will help significantly improve our capacity to understand and manage the effect of multiple pressures on the marine environment.

A key component includes developing a model to simulate how water quality and benthic (seafloor) communities will respond under different development and restoration scenarios.

This will mean that cumulative impact assessments and decisions based on strong evidence can be made to ensure key ecological and social values are protected in the long term.

Benthic habitats and communities

This theme will improve understanding of key benthic communities and processes as well as test restoration and rehabilitation opportunities and initiatives.

Projects under this theme will, for example, look at how seagrasses are affected by different pressures, develop practical management thresholds and investigate how seagrass meadows can be strengthened to better cope with the changing climate.

Sediment and water quality

Baseline monitoring surveys of water and sediment quality will help understand existing pollutants and seasonal and spatial variations in environmental quality.

Projects will also focus on understanding contaminant and nutrient inputs from ground and surface water and recycling nutrients in this system.

Fisheries and aquatic resources

This theme will improve knowledge on the spatial and temporal distribution of fish and crustaceans, including popular target species, key forage prey species and zooplankton.

It will also complete work to better understand how various pressures can impact on different life stages and which seasons are the most critical.

This work will improve our capacity to develop appropriate construction and operation activity schedules and management thresholds to minimise long-term impacts.

Noise

For the first time ever a baseline and future 'soundscape' for Cockburn Sound will be created to provide a picture of the current and future noise levels in the marine environment.

This theme will also investigate how sound spreads and the susceptibility of key species to the range of frequencies emitted by vessels and port operations.

This will help develop mitigation and avoidance strategies of underwater noise on marine species.

Hydrodynamic modelling

Hydrodynamic modelling is required to understand how changes to Cockburn Sound's seabed will change flushing and circulation regimes.

The work under this theme will link the local model with The University of Western Australia's regional hydrodynamic model to strengthen the accuracy of outputs and collect metocean data for model calibration and validation.

This fully integrated model will then be used to run a series of scenarios to inform the new port's design process and a best-practice dredging plan and schedule.

Apex predators and iconic species

This theme will address knowledge gaps relating to conservation-significant and iconic species in the Cockburn Sound area, such as little penguins, bottlenose dolphins, Australian sea lions and seahorses/pipefish.

It will investigate seasonal habitat use as well as diet composition to inform construction planning and the evaluation of options to avoid and mitigate impacts.

Social values

Protecting what is important for the community and users of Cockburn Sound will ensure it can be enjoyed for generations to come.

Projects in this theme will identify what the community most values in the Cockburn Sound environment.

This research will inform port design and identify opportunities to create social benefits.

Coastal processes

By analysing historical data and on-ground measurements, projects in this theme will provide an insight into erosion and accumulation processes in Owen Anchorage and Cockburn Sound.

Aimed at protecting amenity, shoreline stability, marine ecosystems and shipping channel stability, it will also inform where dredge material may be placed to benefit areas such as beach nourishment, seagrass restoration or habitat creation.



Cockburn Sound Monitoring

In late-2020, Westport collaborated with the Department of Water and Environmental Regulation (DWER), to deploy eight continuous monitoring stations in Cockburn Sound.

The buoys will monitor a range of factors (such as salinity, dissolved oxygen, pH, temperature, light and water clarity) to assess the quality of the water in the Sound and how it varies throughout the year.

The data gathered will be published by DWER and is important for shaping future management activities in Cockburn Sound.

It will also form key data inputs into the WAMSI projects.

Snapper Fingerlings Study

Working with the Department of Primary Industries and Regional Development (DPIRD), Westport will be supporting Recfishwest's Snapper Guardian Program and will introduce up to 60,000 new Snapper fingerlings into Cockburn Sound in the coming years.

Protecting and promoting Aboriginal knowledge and culture

Derbal Nara (Cockburn Sound in Noongar) is a significant place for the Aboriginal community with many stories connected to it. Recognising this, the new container port's location was selected to avoid impacting important sites like Mount Brown.

Through its Cultural Advisory Group Westport is developing an Aboriginal Engagement Strategy to outline how Aboriginal culture and stories will be protected and promoted as well as business and employment opportunities

