Concept Plan SP 2022-029

Habitat enhancement approaches within the Swan-Canning Estuary.

BCS Rivers and Estuaries Science

Project Core Team

Supervising Scientist	Kerry Trayler
Data Custodian	Josh Baker

Project status as of Aug. 5, 2022, 1:55 p.m.

New project, pending concept plan approval

Document endorsements and approvals as of Aug. 5, 2022, 1:55 p.m.

Project Team	granted
Program Leader	granted
Directorate	required

Habitat enhancement approaches within the Swan-Canning Estuary.

Program

BCS Rivers and Estuaries Science

Departmental Service

Service 6: Conserving Habitats, Species and Communities

Background

This project focuses effort on a State Government commitment to enhanced habitat in the Swan Canning and is intended to build on and support existing work of The Nature Conservancy – Habitat Creation project using mussel reefs.

Within the Swan-Canning Estuary (SCE) there has been limited implementation of eco-engineering methodologies to enhance habitat. Recently The Nature Conservancy has successfully piloted an approach to improving benthic habitat using limestone reef construction and this work will be extended to build 4 limestone reefs over an 8ha area and seed these with 4 million mussels.

In addition to building benthic habitat there are opportunities to improve shoreline and subtidal habitat, particularly those associated with and adjacent to built shorelines.

The project focuses on the application of eco-engineering materials to enhancement of habitat in the Swan Canning and also provides support to The Nature Conservancy mussel reef project

Aims

This project will identify approaches to improving nearshore habitat and protecting shorelines in heavily modified parts of the Swan Canning. In the first instance the project will trial the local application of cost-effective seawall tiles in built environments to identify their best application and form for improving species diversity. The project will compare the biodiversity value of revetment vs seawalls on built shorelines.

Expected outcome

- Determine suitability and effectiveness of living seawall in the lower Swan Canning estuary.
- Evaluate conditions and tile forms that maximize biodiversity outcomes.
- Provide information for planners on the value of revetment vs seawalls for biodiversity outcomes on built shorelines.

Strategic context

Strategic Direction: Discover - [variant=australian]Use world-recognised science to build and share biodiversity knowledge to support evidence-based management

Science Strategic Goal: [variant=australian]Restoration of degraded and disturbed ecosystems is based on scientific knowledge.

BCS Approach: [variant=australian]Undertake research to inform approaches to ecological restoration and fauna reconstruction.

RES Program objective: [variant=australian]Develop knowledge and capability to support the protection and rehabilitation of foreshores and habitat in the Swan Canning Riverpark.

Swan Canning River Protection Strategy: Protect and rehabilitate foreshore

Expected collaborations

This project is a collaboration with Living Seawalls and Sydney Institute of Marine Science (SIMS), internal stakeholders such as DBCA Riverbank Management and Statutory Planning within the Rivers and Estuaries Branch as well as local government authorities such as Town of East Fremantle and Melville Council.

The project will also work closely with The Nature Conservancy to track the progress of benthic blue-mussel reef survival and the application of pygmy mussels aggregations for shoreline protection and water quality improvement.

Proposed period of the project

Aug. 1, 2022 – Aug. 31, 2024

Staff time allocation

Role	Year 1	Year 2	Year 3
Scientist	60 Technical lt;5	10 Volunteer	10 Collaborator

Indicative operating budget

Source	Year 1	Year 2	Year 3
Consolidated Funds (DBCA) External Funding	$127k$	$127k$	$127k$