DEVELOPING A CONSISTENT APPROACH TO MONITORING, EVALUATION AND REPORTING FOR TEMPERATE REEF RESTORATION PROJECTS

The Nature Conservancy Australia

INTERNATIONAL TEMPERATE REEFS SYMPOSIUM – HOBART, JAN 2023. SESSION 10: RESTORATION ON TEMPERATE REEFS

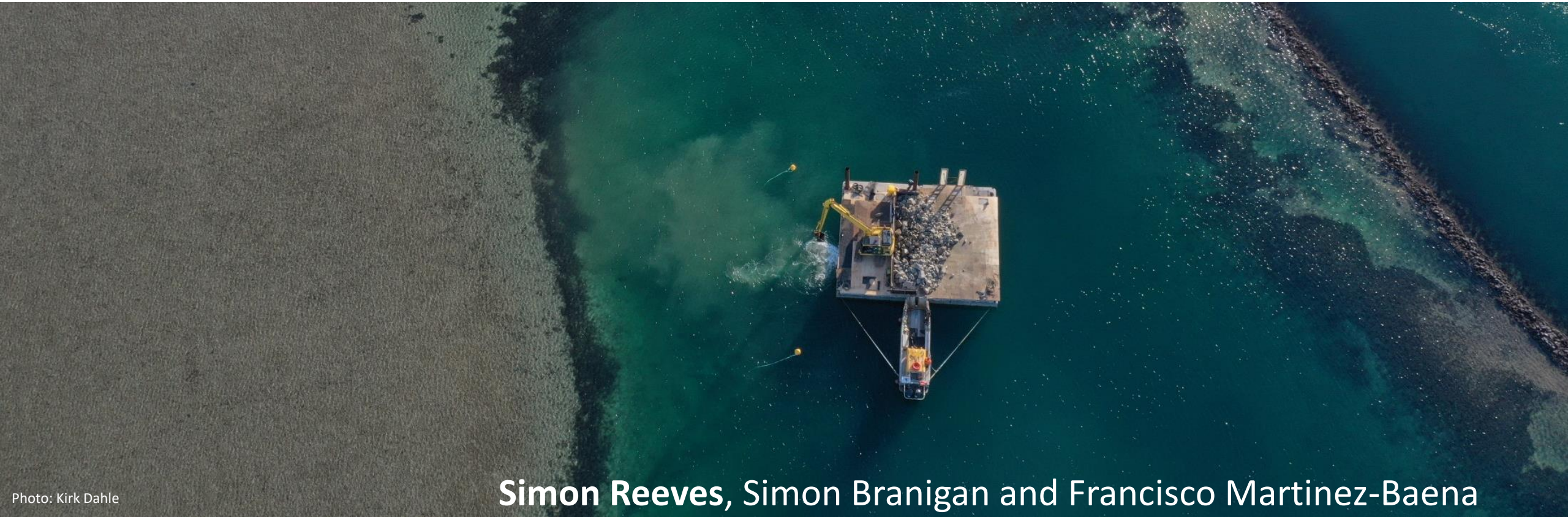


Photo: Kirk Dahle

Simon Reeves, Simon Branigan and Francisco Martinez-Baena

CHALLENGES

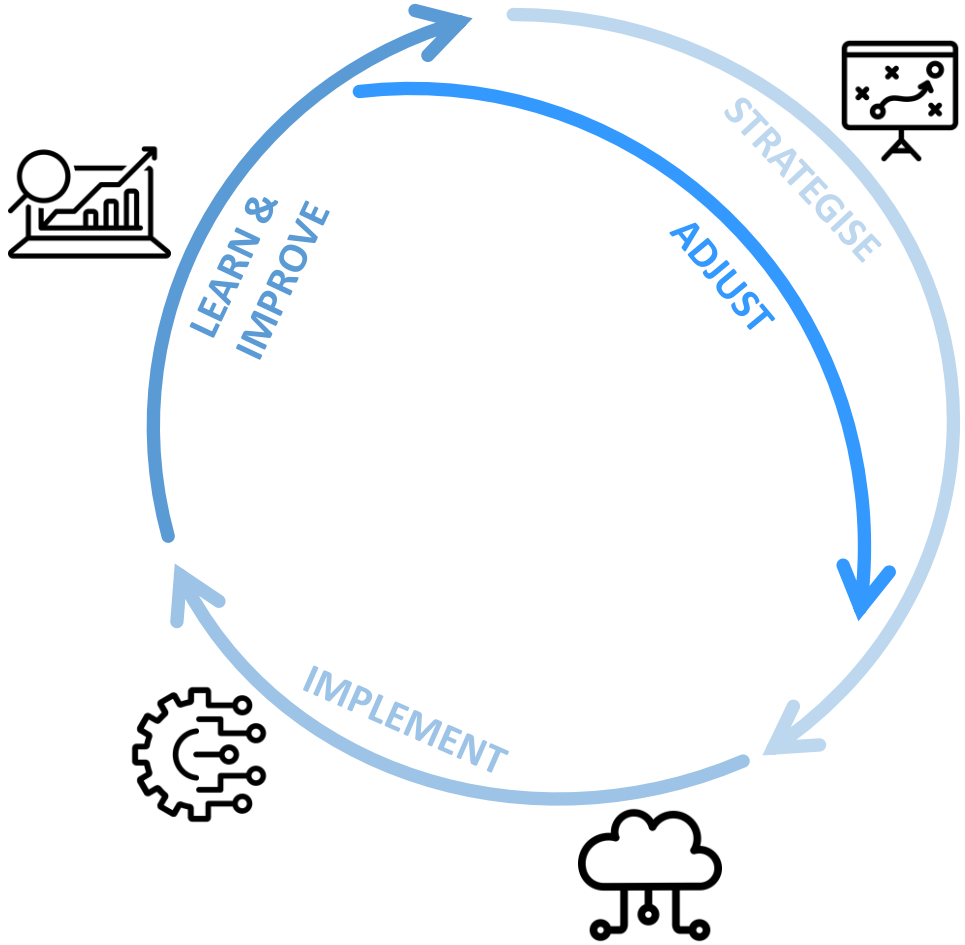

CLIMATE COMPLEXITY
SOCIO-POLITICAL COMPLEXITY
CROWDED SECTORS
SLOW DATA
DATA COMPLEXITY
A NEED TO ACT & SCALE

ReefBuilder

- Australia's largest marine restoration initiative
- Providing economic relief post-COVID and 2019 bushfires
- Targeting shellfish reef restoration at 60 locations across Australia by 2030
- Worlds first to recover an endangered marine ecosystem

Adaptive Management

Enable **FLEXIBLE** decision making

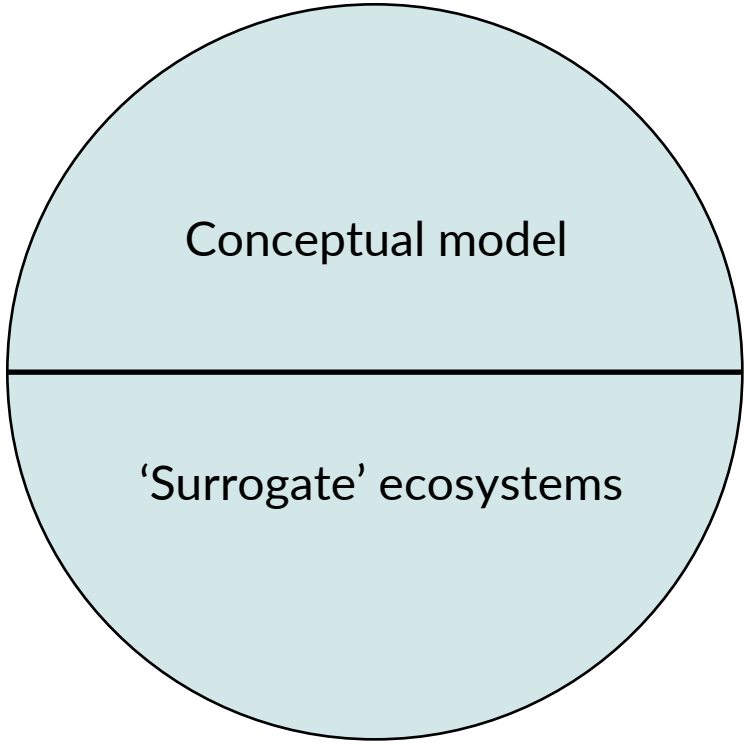


STRATEGISE – A consistent monitoring, evaluation and learning framework

- Adaptively developed through projects delivered 2016-2020
- Diverse stakeholder engagement
- Data collected is holistic e.g. measure triple bottom line outcomes: 4 targets
- **CORE** metrics but allows adaptability for project-to-project

STRATEGISE – Know what you're **aiming** to restore

Reference Ecosystem



Reference model/system

STRATEGISE – Defining monitoring targets

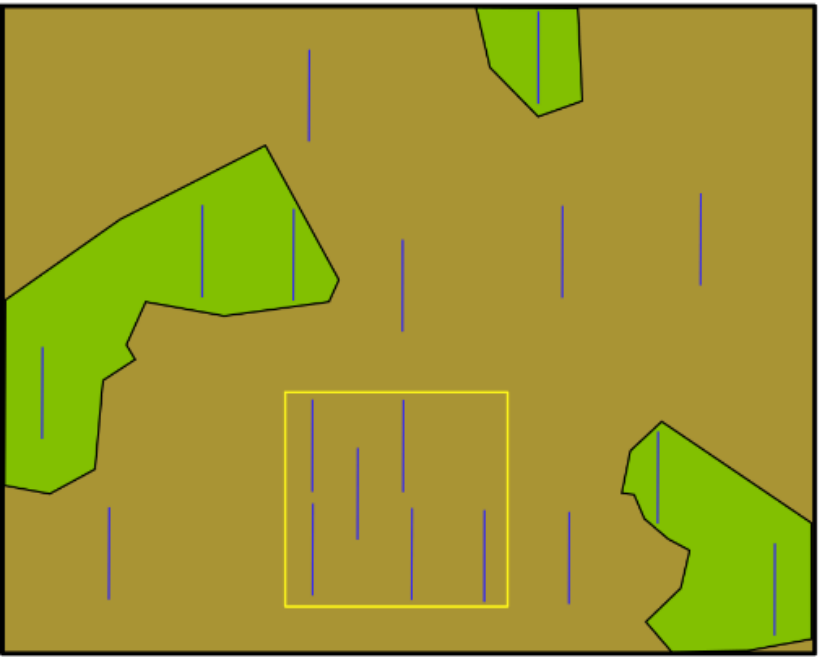
Improve local biodiversity – Establish oyster and mussel populations and associated ecological communities against standard ecological benchmarks at each locations

Goal	Objective	Indicator	Metric	Method	Planned Output or benchmark	Frequency/Timing	Restoration	Soft-sediment	Seagrass	Responsibility

IMPLEMENT – Placing resto in the seascape

Before-After-Control-Reference-Impact

Baseline



IMPLEMENT – Enhancing how data is processed

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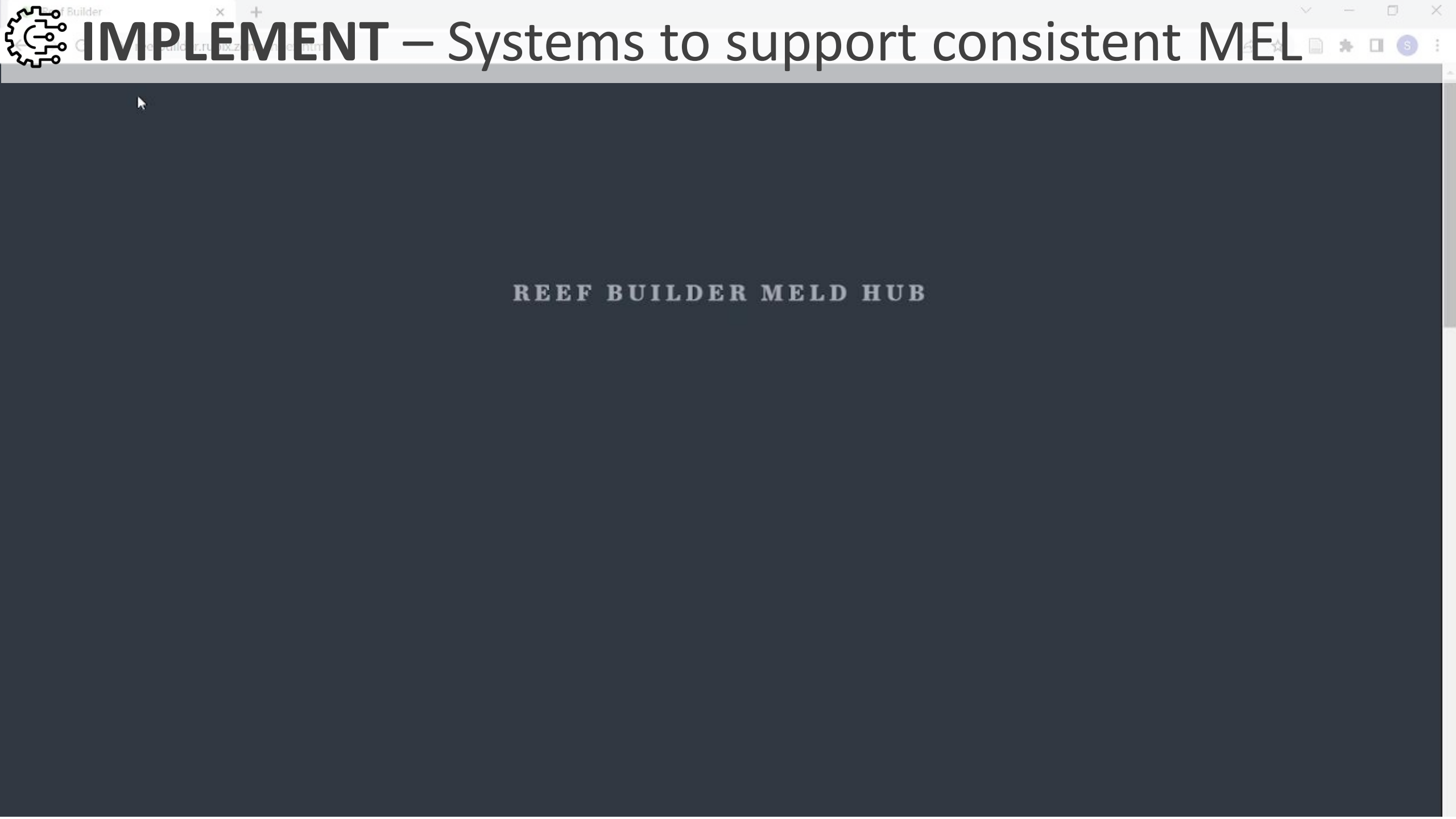
GLOW

IMPLEMENT – Systems to support consistent MEL



IMPLEMENT – Systems for consistent workflows

REEF BUILDER MELD HUB

UPLOAD VISUALIZE

IMAGE SEARCH

BROWSE OR SEARCH UPLOADED IMAGES

oceans/reefbuilder/vic/port_phillip/dromana_restoration/dr_r3

SEARCH CLEAR

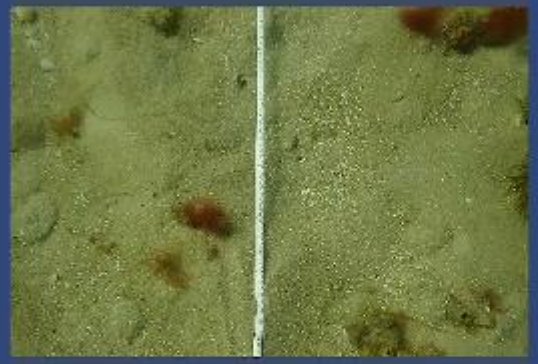
SEARCH RESULTS

TOTAL IMAGES UPLOADED :3302

Vic-Portphillip-Dr_r3-

VIEW DETAILS

Vic-Portphillip-Dr_r3-



VIEW DETAILS

Vic-Portphillip-Dr_r3-

VIEW DETAILS

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VIEW DETAILS

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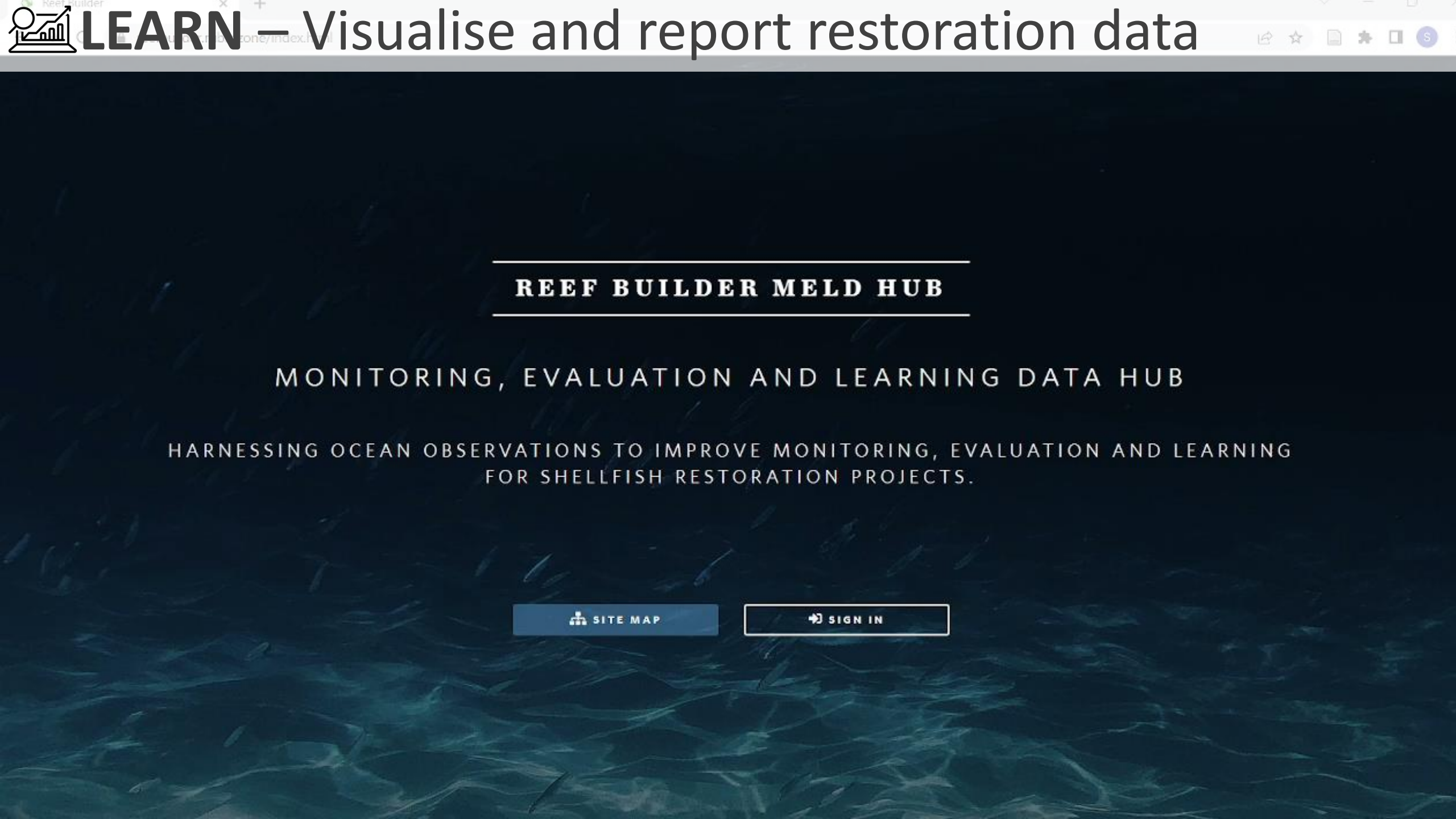
LEARN – Visualise and report restoration data



LEARN & ADAPT – Enhancing how data is collected

- Develop generalizable relationships
- Characteristics of an oyster reef (e.g., reef size, oyster abundance, oyster biomass, reef complexity or other measures)
- Model various ecosystem services

Filtration = ƒ (reef size, reef height, oyster biomass, total suspended solids [TSS] and temp.)

1 HA OF SHELLFISH REEF CAN

FILTER 2.7 billion L of seawater

PRODUCE 2800 kilograms of new fish

Consistent monitoring, evaluation and learning for **large-scale** restoration

Given the scope and scale of restoration ambition, consistency and scalability in monitoring is important.

So that restoration can:

1. Demonstrate progress and success
2. Enhance information sharing
3. Promote and incentivize

REEF LIFE EXPLORER

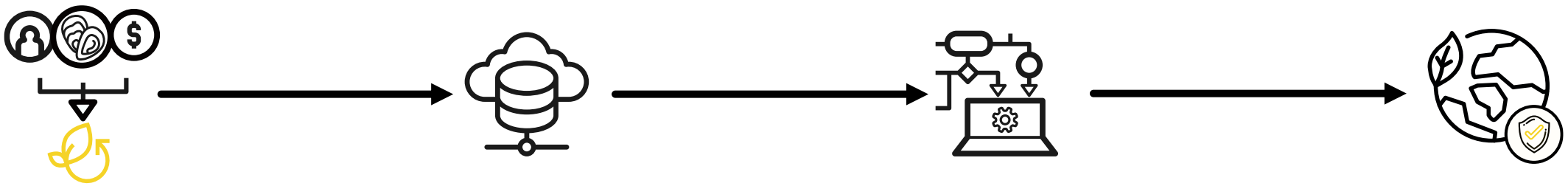
ReefCloud

MERMAID

RESTOR

+

What **Next?**



Faster, efficient and able to scale

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