



Decommissioning and Restoration – Fostering Excellence through Regulations, Innovation, and Sustainable Practices

30–31 JULY 2024 | BANDAR SERI BEGAWAN, BRUNEI

“Aiding Ongoing and Future D&R Decision Through Research and Development”

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Key Objective

Share how Environmental Surveys/Research have contributed to aiding on-going and potentially future D&R decisions



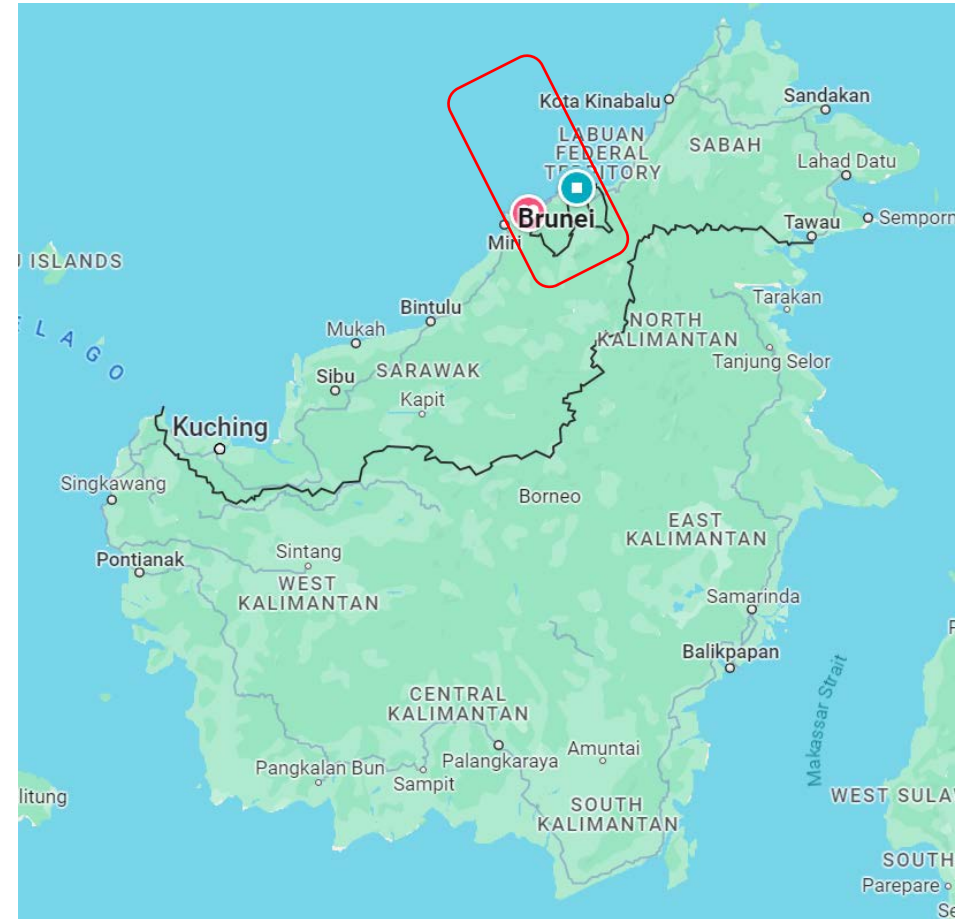
Background

End State Decision:

Justify final declared end state

Offshore D&R Phase 1

- Survey conducted by 3rd Party
- Survey Period: 2022, 2023 @ Three (3) locations
- Survey method: Remote Operated Vehicle (ROV)
- No of Platforms: 16 platforms
- No of Pipelines: 16 pipelines



Pipeline – Marine Biota and Fish Population

1. Biota coverage 5-20%/30% (max) on exposed portion including algae, sponges, ascidians, hydroids, black corals and gorgonians.

2. Fish present are opportunistically feeding on the marine biota present.



Barrel Sponge

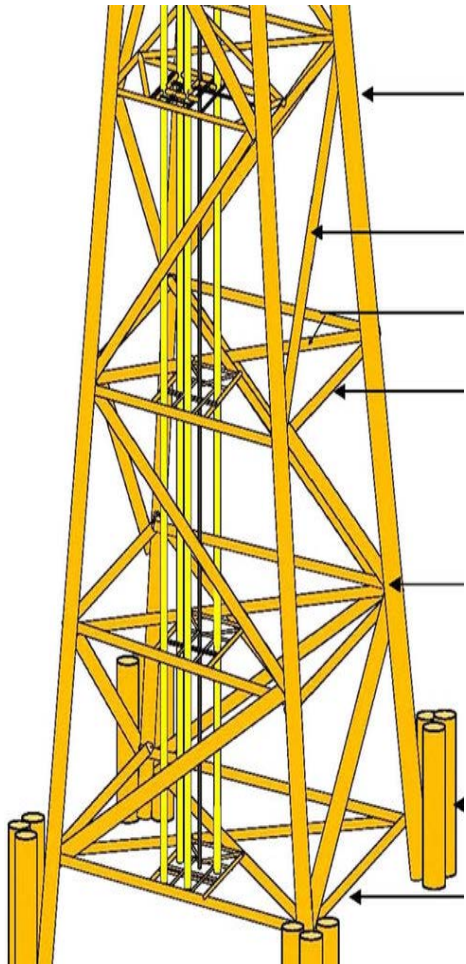


Seawhips and Saefan

Jacket Legs – Marine Biota

Seawater surface

Water Depth:
20/40-
55m



Top Portion
(Barnacles)

Mid Portion
(100% Corals)

Bottom Portion
(Barren /
covered by
algae)



Barnacles



Whitefin Angelfish,
Globular Sponge and
Cup Corals



Spotted Moray Eel and
School of Cardinal Fish
well placed on Nephtea
and Gorgonian



Tubastraea cup coral
amongst Nephtea and
Sponges Surrounded by a
school of Longfin
Bannerfish

Jacket Legs – Fish Population

Function as Fish Aggregating Device (FAD) and feeding station

Reef fishes: e.g. Damselfish, Wrasse, Rabbitfish, Angelfish, Surgeonfish, Butterflyfish, Spotted groupers, Snappers.

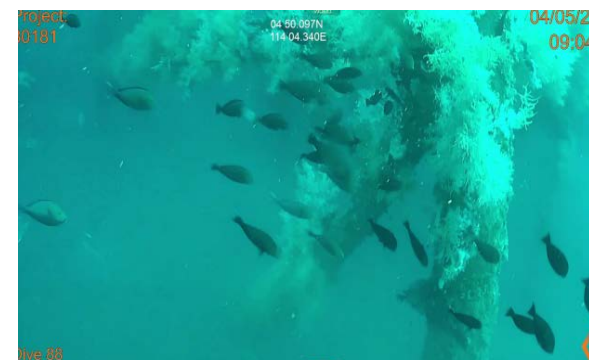
Reef *Pelagic: Yellowtail scad (Mackerel scad), Bigeye snappers (Yellowfin snapper), Fusiliers, Batfish

***Pelagic fishes:** e.g. Silversides, Baraccuda, Mackerels, Queenfish



Batfish (Platax sp), Trevallies and Damselfish around the Jacket Leg

Large school of Trevallies



School of Surgeonfish



School of Snappers at the seabed

Marine Biota Sampling

Chemical analysis of biota (Soft Sponges):

- No bioaccumulation of heavy metals or hydrocarbon
- No indication of high contamination or high toxicity of heavy metals



Branchin Sponge

Conclusion

