



**Earth Sciences**  
New Zealand



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# **NIWA HAS CHANGED**

**Sol Fergus**

**General Manager – Vessel Operations**

**New Zealand Research Vessels**

# New Zealand Science Reform

- Early 2025 announced changes to the NZ science sector which were to be implemented 1 July
- Set clear direction, to fit economic growth and position New Zealand for the future
- Merge Crown Research Institutes (CRI) to new Public Research Organisations (PRO)

# Crown Research Institutes

- AgResearch
- Institute of Environmental Science Research (ESR)
- **Institute of Geological and Nuclear Science (GNS Science)**
- Landcare Research
- **National Institute of Water and Atmospheric Research (NIWA)**
- Plant and Food Research
- Scion



# New Public Research Organisations

- **New Zealand Institute for Bioeconomy Science** – advancing innovation in agriculture, aquaculture, forestry, biotechnology and manufacturing; protecting ecosystems from biosecurity threats and climate risks; and developing new bio-based technologies and products.
- **New Zealand Institute for Public Health and Forensic Science** – strengthening public health through disease detection and response; and supporting public safety through forensic science services.
- **New Zealand Institute for Earth Science** – supporting energy security and sustainability; developing land, marine and mineral resources; and improving resilience to natural hazards and climate-related risks.

**Measurement  
Standards  
Laboratory**  
*of New Zealand*

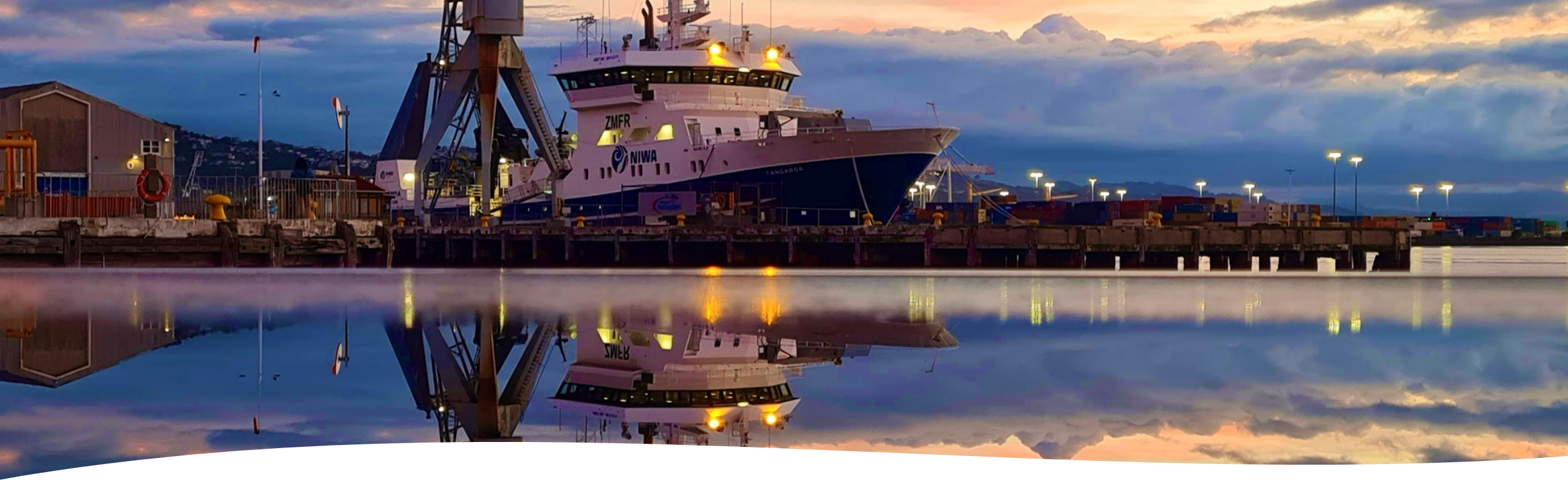


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- Geological Hazards research
- Weather and Climate Hazards research
- Energy research
- Land and Water research
- Oceans research
- Atmosphere and Climate research





# RESEARCH VESSELS NEW ZEALAND

**New Zealand Research Vessels Ltd subsidiary of Earth Sciences New Zealand**



# Tangaroa Life-Extension

Extending RV *Tangaroa's* life is the most practical and cost-effective path, preserving capability and revenue while allowing time to prepare, consult, and plan a fit-for-purpose replacement prior to procurement and build.

# DNV Life Cycle Assessment

- Considering the age of the vessel, machinery, systems and components were generally in good condition
- Analysis of the fatigue age indicated 19 years as opposed to its actual age of 33 years.
- The vessel has a mathematical fatigue life of 270 years, not allowing for existing corrosion or material loss.
- Critical structural areas, including the engine room, factory deck and wet lab, exhibit corrosion and material loss.
- Examples of systems requiring attention included step-up-gear box, midship crane, vessel electrical system, radar systems, trawl winches and evaporators. The midship crane has been replaced.

# Proposed Scenarios

## 5-year scenario 'minimum work'

- investment for essential maintenance,
- critical remediation,
- minimum compliance only,
- Heightened reliability risks.

## 10-year scenario 'recommended approach'

- proactive upgrades,
- lower reactive maintenance,
- Preserves capability while enabling replacement, assessment and planning.

## 15-year scenario 'diminishing returns'

- expected to experience loss of functionality,
- increased maintenance and operational risks,
- diminishing financial viability in the 10–15-year period.



# Plan Forward

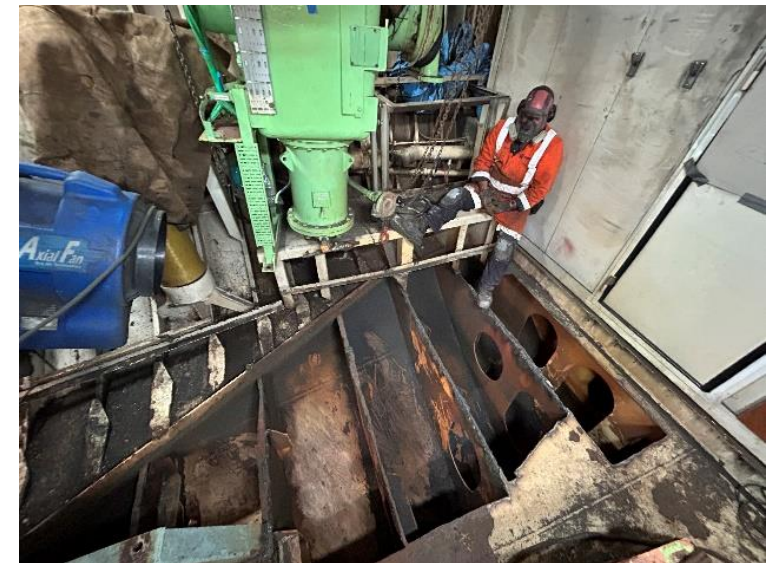
## Phase 1 – Wet Docking FY 24/25

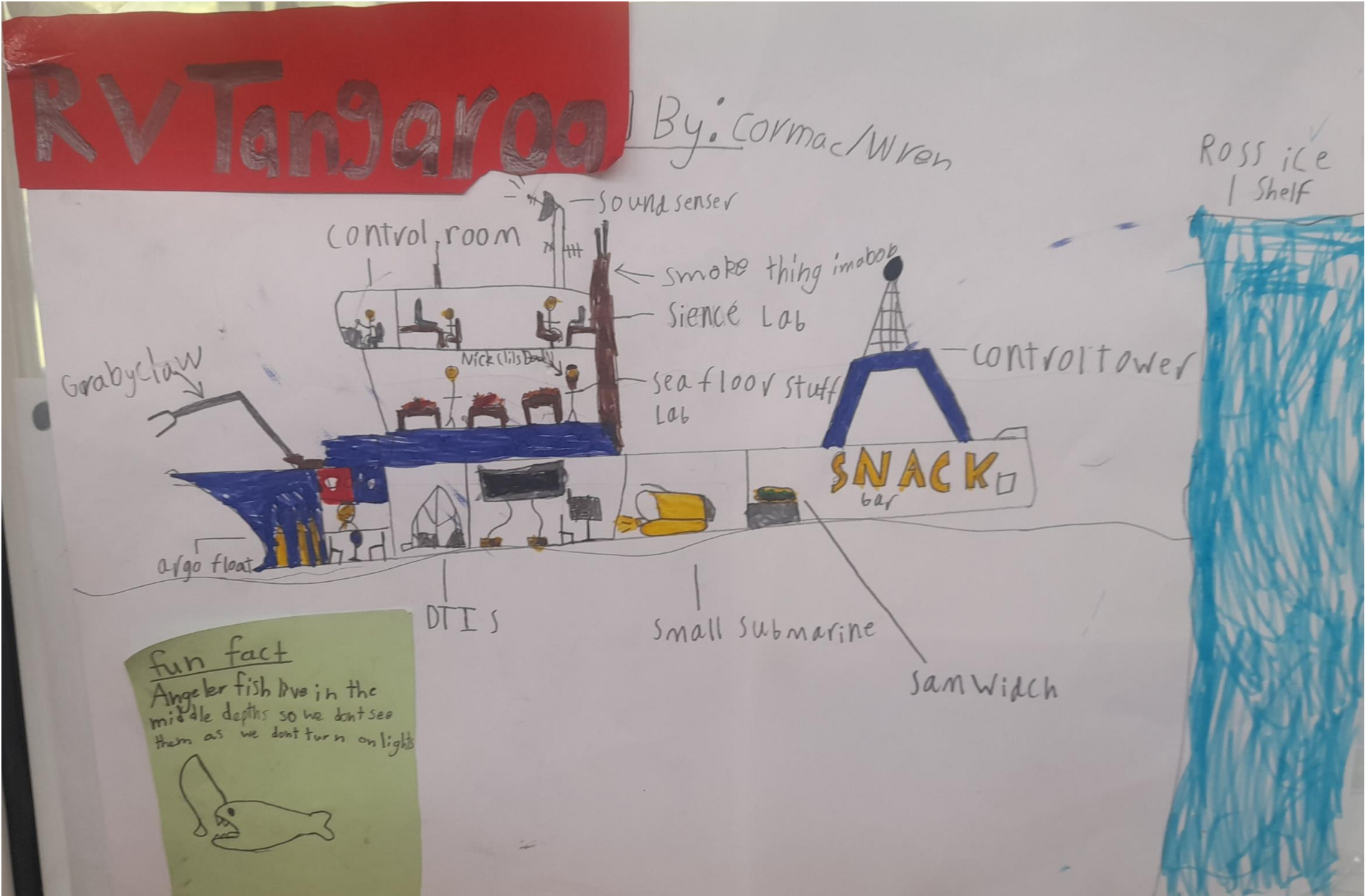
- Immediate remedial work tanks tops and margin repairs
- Install of new crane
- Design of SUG replacement
- Placement of orders

## Phase 2 – Dry Docking 25/26

- March – May

## Phase 3 – Wet Docking 26/27









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**THANK YOU**