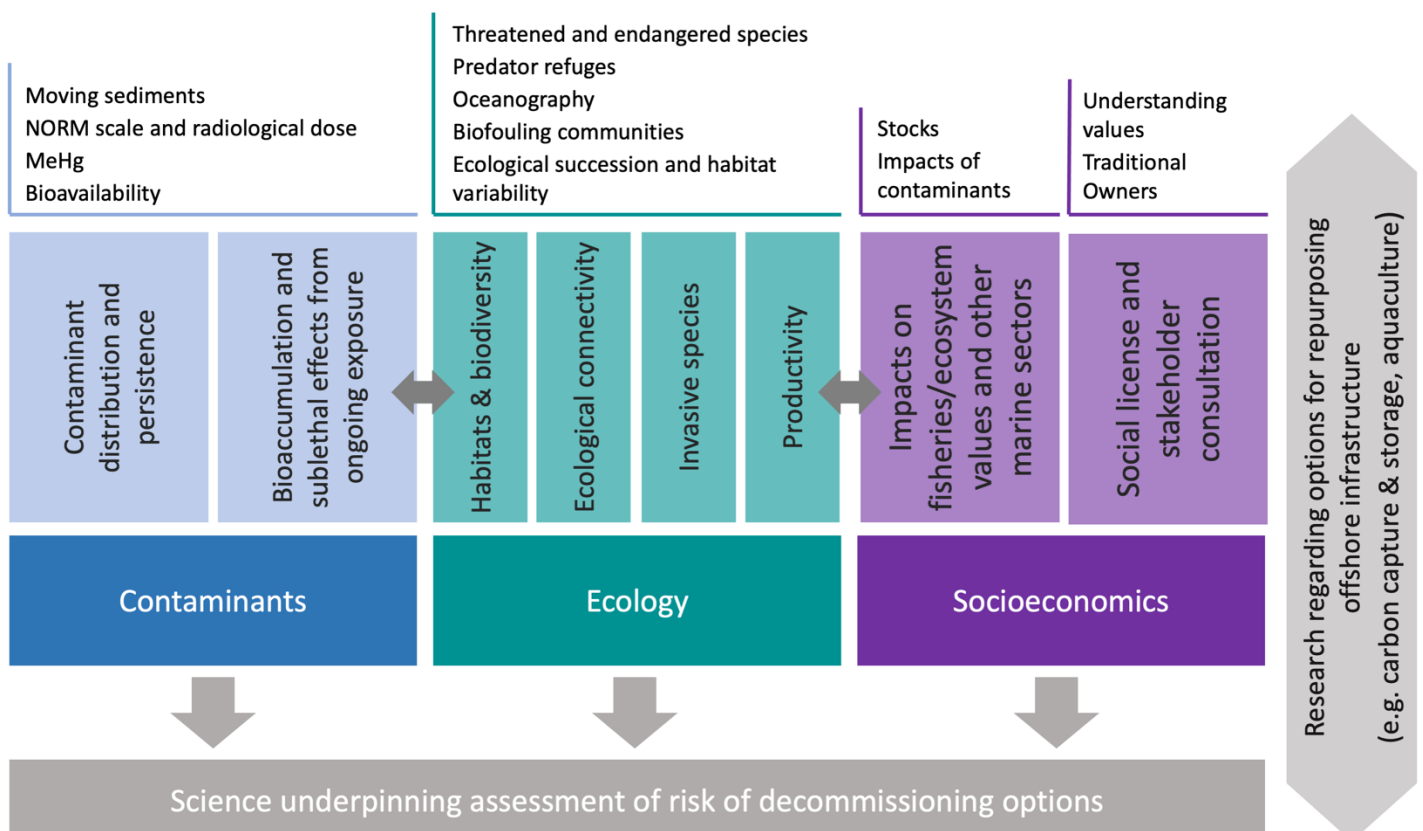
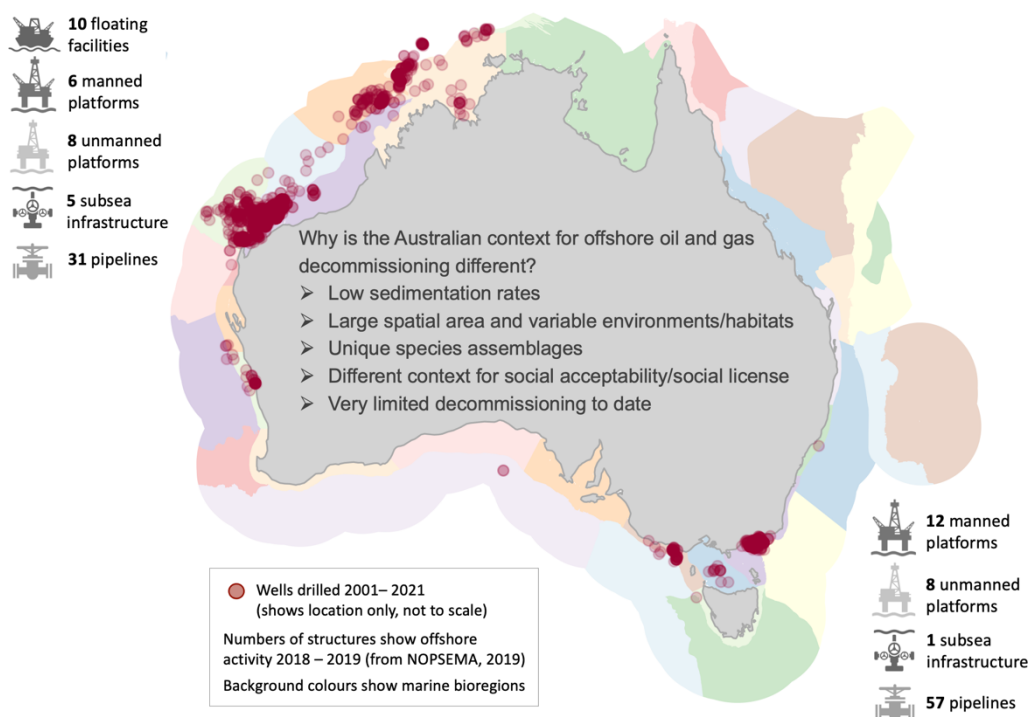


Decommissioning research needs for offshore oil and gas infrastructure in Australia

The liability for decommissioning of offshore oil and gas infrastructure in Australia over the next 50 years is expected to exceed US\$45 billion. Multiple factors distinguish the Australian decommissioning context from other regions of the world where decommissioning activities and associated research are more advanced. **CSIRO has undertaken a review of research needs to support risk and impact assessment for offshore decommissioning in Australia**, where full removal of infrastructure is the 'base case' regulatory default, but other options including partial removal and/or repurposing might provide similar or better outcomes when environmental, social, economic and seafood safety aspects are considered.

We have developed a **general framework** (shown below) for research needs to meet legislative requirements for decommissioning and identified **research gaps** that need to be addressed to inform decision-making for decommissioning in the Australian context. Armed with this knowledge, operators, regulators, marine stakeholders and the general public can be confident that sound decisions are being made to **manage the transition of oil and gas infrastructure in an environmentally and socially acceptable way**.





Locations of offshore oil and gas activity in Australia and the diversity of marine environments in which operations have occurred.

The key parts of the framework

There are three categories of interconnected elements to consider in decommissioning research for offshore oil and gas infrastructure in Australia:

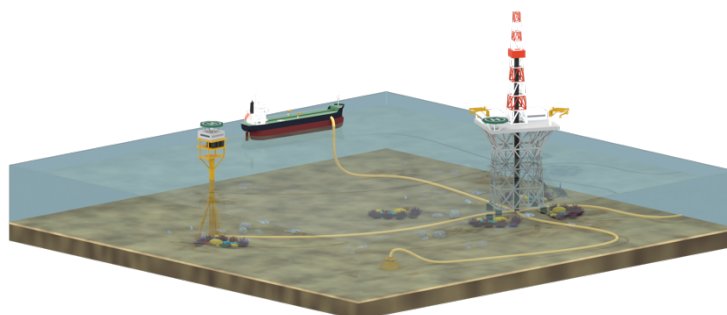
- Ecological considerations
 - Habitats and biodiversity
 - Ecological connectivity
 - Invasive species and productivity
- Contaminants
 - Their distribution and persistence
 - Bioaccumulation and mercury methylation
 - Sublethal effects from ongoing exposure to low levels of contaminants
- Socioeconomics
 - Impacts on fisheries, ecosystem values and other marine sectors
 - Social license and stakeholder consultation

An integrated research approach is required to consider these different factors and the way that they influence each other, as shown on page 1.

Important knowledge gaps

Knowledge gaps that preclude a comprehensive risk assessment for decommissioning in Australia, as well as other understudied regions of the world, include:

- The habitat value of infrastructure and how this varies between locations
- Contributions of infrastructure to fisheries production
- The impacts of long-term exposure to contaminants, including Naturally Occurring Radioactive Material (NORMs)
- The potential for oil and gas infrastructure to be active areas for mercury methylation
- Socioeconomic impacts of different decommissioning options



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