

Research Priority	Specific Question	Priority Identification Number (PIN)
Understand and assess the environmental impacts of aquaculture	How can the presence or concentration of aquaculture-derived organic material, drugs and pesticides be measured and modeled to estimate their spatial and temporal distribution in various aquatic environments, and how do these inputs from multiple farms vary and impact biodiversity or ecological processes at larger spatial scales?	2024-25-01
	What are the cumulative effects from aquaculture on wild salmon populations, at what point along the continuum of having no farms to having multiple farms would those cumulative effects be observable, and how can those effects be measured?	2024-25-02
Develop, optimize and validate/evaluate diagnostic test methods for the regulated disease agents of aquatic animals	Is the existing test method for Epizootic Haematopoietic Necrosis Virus (EHNV) fit for use for regulatory diagnostic testing?	2024-25-03
Understand and mitigate the impacts of human activities on aquatic ecosystems	What are the potential impacts and potential mitigations of marine renewable energy and monitoring technologies (including offshore wind and instream tidal power generation) on marine ecosystems?	2024-25-04
	What are the impacts and potential mitigations of anthropogenic activities (for example, oil and gas exploration, aquaculture, shipping, or fishing activities) on significant areas or sensitive benthic areas?	2024-25-05
Develop scientific tools and methods to support the management of aquatic ecosystems	What technologies or techniques could be used to perform more efficient, cost-effective or non-invasive bioregional monitoring to support management of aquatic ecosystems?	2024-25-06
	What technologies or techniques could be used to perform a more efficient, cost-effective monitoring program, and still provide sufficient detail to support our understanding of the state of the ocean and EAFM decisions?	2024-25-07
Support innovation and research in the field of omics to meet Departmental operational mandates and to provide tools and science advice for effective management of aquatic resources and conservation and protection of aquatic ecosystems	How can omics approaches be used to characterize and predict the biological impacts of a changing climate or other anthropogenic stressors on aquatic species productivity, resiliency, health, and diversity?	2024-25-08
	What improvements can be made in molecular detection, monitoring, and biosurveillance tools for aquatic species that are difficult to monitor, invasive, at-risk, escaped from aquaculture, or in sensitive habitats or protected areas?	2024-25-09
Understand and assess the vulnerability of fisheries, aquatic ecosystems and coastal infrastructure to climate change	What are the climate vulnerabilities of key species (for example, priority species in conservation areas, Species At Risk, or commercial stocks such as lobster and crab) and ecosystems (for example, Arctic, sensitive habitats, or ecological communities) to single or multiple climate change drivers (observed or projected)?	2024-25-10
	What are the cumulative impacts of multiple stressors (including fishing pressure, climate change, or extreme events) on aquatic species or ecosystems?	2024-25-11
	What are the cumulative impacts of multiple stressors (including sea level rise, climate change, or extreme events) on coastal infrastructure?	2024-25-12

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Understand the state and extent of ocean acidification and hypoxia, and the consequences for aquatic ecosystems and fisheries	What are the impacts of ocean acidification or hypoxia on the vulnerability of aquatic species (including transboundary species) and their associated biological and ecological processes (including recruitment, productivity, behaviour, development, diet, survival, community structure or habitat use)?	2024-25-13
Incorporate environmental variables and climate change into stock assessment and science advice	What is the appropriate spatial scale and content needed for an integrated summary of ecosystem state for use in stock assessment and science advice (based on existing and/or unused data)?	2024-25-14
	How do species interactions (for example, pinniped predation on prey populations or predator needs in light of the Forage Fish Policy) impact stock dynamics, productivity or catchability, and how would this impact science advice on fisheries management?	2024-25-15
	How does habitat loss or degradation impact stock dynamics, productivity or catchability, and what are the implications for conservation measures including fisheries management or rebuilding plans?	2024-25-16
Develop analytical tools and methods to support stock assessment and science advice	What tools/methods could enhance the provision of science advice in stock assessment or rebuilding plans that consider effects of environmental variables (climate, freshwater, oceanographic and ecosystem factors) on stock dynamics, productivity or catchability (for example, development of ecosystem summaries based on transparent, traceable and transferable data for use in multiple stock assessments)?	2024-25-17