

# Knowledge brokering strategy

National Environmental Science Program  
Marine and Coastal Hub



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# Acknowledgement of Country

We acknowledge the Traditional Owners of Country throughout Australia and their continuing connection to land, sea and community. We pay our respects to them and their cultures and to their elders past, present and emerging. Our Indigenous research partnerships are a valued and respected component of National Environmental Science Program (NESP) research.

# Background

The National Environmental Science Program (NESP) is a long-term commitment by the Australian Government to environment and climate research. Targeted research conducted under the NESP provides an evidence base for environmental decision-makers and climate policymakers. Informed decision-making using the best research greatly improves our chances of protecting our environment, conserving our biodiversity and developing climate policies and services.

The Australian Government invested more than \$145 million in NESP from 2014–15 to 2020–21. This funded six research hubs, with marine and coastal research principally led through the Marine Biodiversity Hub and Tropical Water Quality Hub. In early 2020 a further \$149 million was invested for the program over the next 7 years (2021 to 2027). This funds targeted research through four new hubs: Climate Systems Hub, Marine and Coastal Hub, Resilient Landscapes Hub and Sustainable Communities and Waste Hub. The hubs have national capability, but deliver through regional nodes, where appropriate.

A key focus for the second phase of the program is closer engagement with research end-users early in the program design, capturing and responding to their research needs. Hubs will work with end-users to embed NESP research into policy-making through consistent branding, messaging and engagement.

## Marine and Coastal Hub

Australia is responsible for managing and protecting the third largest marine estate in the world. Our oceans provide tremendous environmental, cultural, social and economic benefits. These are subject to cumulative pressures including coastal development, unsustainable natural resource extraction, climate variability and change, and marine plastics and pollution.

The Marine and Coastal Hub will deliver high quality research that improves environmental, cultural, social, and economic outcomes for marine and coastal Australia. We deliver applied scientific knowledge and methods to support decision-making and practical management relating to Australia's national and international laws and obligations in this arena. Our approach is stakeholder-driven, co-designed, and highly collaborative, building on 15 years of achievement in previous national funding programs.

## Vision

The Marine and Coastal Hub will build on the experience of its partners to deliver a national marine research program to ensure:

- Australia's coastal and marine assets are managed and conserved such that Australians derive maximum social, cultural and economic benefit; and leading coastal communities and industries to view effective marine and coastal management and the relationship with their catchments as a positive pathway to sustained economic growth and recovery.
- The environmental information and solutions requested by the Australian Government and the community are delivered by a responsive, flexible and highly skilled national coastal and marine research capability that is transdisciplinary, solution-focused, respectful of tradition and local knowledge and capable of equipping the nation to better respond to challenge and change.

## Research themes

### Informing Policy and Decision Making

This overarching research will develop methods for assessing the cumulative impacts of activities in the marine environment, enabling decision-makers to balance development and protection in the context of climate change. It will draw together information generated by the other five hub themes, on environmental values and processes and cultural sensitivities. Complementary research may develop tools for deriving benefit from environmental offsets, and methodologies for evaluating the economic, social and cultural value of ecosystems.

### **Protected Places**

Working with other NESP hubs, this research will build and enhance the science that underlies the socio-ecological management of Australia's protected places (such as Australian Marine Parks, Ramsar sites, World Heritage Areas, the National Reserve System and Indigenous Protected Areas). It will synthesise existing knowledge, establish baseline understanding of biodiversity, ecosystems and ocean processes, and identify best-practice management approaches that bridge land and sea. We aim to support Indigenous leadership and participation in science and management, and embrace the importance and value of traditional knowledge and cultural values. The Hub is also the cross-Hub Initiative leader for protected places under the NESP.

### **Threatened and migratory species and ecological communities**

This research, in association with the Resilient Landscapes Hub as the cross-Hub Initiative leader for threatened species under the NESP, will provide knowledge on the status, trends and pressures on threatened and migratory species and ecological communities, in response to management needs. This includes exploring threats to threatened and migratory species, such as interactions with fishing and shipping, port developments and oil and gas operations/infrastructure. Many of these species are of concern for Indigenous peoples, and we support their engagement in protection activities through research engagement, training and employment.

### **People and Sustainable Use**

This theme is focused on the human dimensions of sustainable people-environment interactions. Research will examine how regional, remote and Indigenous communities and industries interact with their environment – including specific adaptations to climate change – and ways to minimise environmental impact. It supports ecosystem services or restoration programs that support the economic and social revival of coastal communities. Partnerships will be forged with industry sectors including fisheries, aquaculture, ports, energy, tourism and coastal development, through deriving economic benefit from conservation and protection. We will explore innovative risk reduction actions such as protection and reinstatement of coastal defences (shellfish reefs, wetlands, salt marshes) to prevent harm and reduce major economic loss. With the Sustainable Communities and Waste Hub we will research practical approaches to reduce plastic waste impacts.

### **Ecosystem Restoration and Protection**

This research aims to improve the coordination, scalability and evaluation of wetland rehabilitation, shellfish reef restoration, beach restoration, mangrove and seagrass recovery, kelp and coral restoration and marine pest control. It will explore novel approaches to infrastructure design in partnership with industry, for example habitat engineering to achieve 'living-shorelines', and maximising blue-carbon sequestration. We will also apply research to control species, and deliver on projects that protect habitats in association with Indigenous communities.

### **Knowledge Systems**

This research will lead and support the marine science community as it augments and improves national marine monitoring to support environmental and cross-sectoral reporting and decision making at regional and national scale. A cost-effective marine and coastal monitoring system will incorporate existing methods and technologies in a national toolbox of standard monitoring approaches. This includes smart monitoring technologies and novel indicators; aligning existing monitoring programs;

mining existing data and data aggregation, industry information, citizen science and traditional ecological knowledge, and modelling. By working with industries, indigenous communities, and related marine organisations, we will foster a shared understanding of socio-ecological systems.

### **What is knowledge brokering and why is it needed?**

The central theme of knowledge brokering is facilitating a two-way or multiway exchange of information to generate shared understanding and to capture and transfer knowledge. Knowledge brokers seek to bridge the gaps that often exist, and establish effective connections, between knowledge users and knowledge generators. This process can often be a challenging component of research programs. This Knowledge Brokering Strategy (the Strategy) aims to address this challenge.

In the Marine and Coastal Hub knowledge brokers facilitate the exchange of information between researchers, policy makers, managers and Indigenous organisations to generate shared understanding and to capture and transfer knowledge about:

- information needs and priorities of targeted research-users
- available research options for meeting the needs of research-users
- requirements for co-design of projects including research-user engagement and participation to maximise research impact
- packaging research outputs to ensure knowledge is effectively captured and transferred to meet the specific needs of research-users.

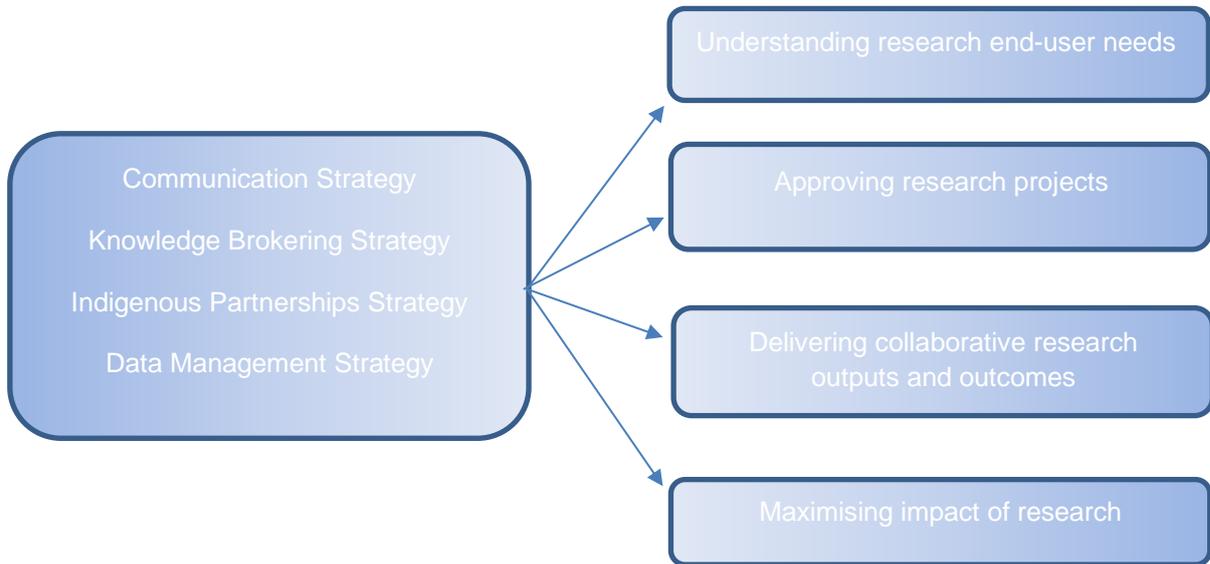
Knowledge brokering in the Marine and Coastal Hub is a team effort involving Hub directors, Initiative leaders, project leaders, Indigenous facilitators, communication and media specialists and data wranglers. Specialist knowledge brokers are tasked with developing, coordinating delivery and periodic review of the Strategy. This document should be read in conjunction with the Hub's Communication Strategy, Indigenous Partnerships Strategy and Data Management Strategy.

## **Integration of Hub strategies**

The Marine and Coastal Hub has developed four strategies to guide development and implementation of its annual research plans. Collectively, these strategies outline the Marine and Coastal Hub's pathway to impact (see diagram below).

- *Communication Strategy*: provides direction communicating the Marine and Coastal Hub's interests, products and outcomes to researchers, research end-users and interested parties.
- *Knowledge Brokering Strategy*: provides direction for facilitating the exchange of information between researchers, policy makers, managers and Indigenous organisations to generate shared understanding and to capture and transfer knowledge.
- *Indigenous Partnerships Strategy*: provides direction for encouraging collaborative input and guidance from indigenous communities, the appropriate communication of Indigenous knowledge and respect for millennia of experience.
- *Data Management Strategy*: provides direction for enabling pathways for how the Hub and its researchers will achieve findable, accessible, interoperable and reusable NESP research products.

## Marine and Coastal Hub knowledge brokering strategy



# Strategy aims and knowledge brokering objectives

The primary aim of this strategy is to provide clear direction about what the Marine and Coastal Hub will do to provide an effective approach to knowledge brokering, including the delivery of first class applied research outputs to meet the needs of targeted research-users. The following objectives have been designed to achieve this purpose:

1. To establish and maintain research-user and researcher networks for transferring knowledge to support the vision of the Hub
2. To generate shared understanding about research-user needs and priorities through effective two-way information exchanges between research-users and researchers
3. To ensure research-users are effectively engaged in the design and implementation of research projects
4. To ensure the Hub's research teams engage research-users in delivering fit for purpose research outputs that effectively capture knowledge meeting the specific needs of research-users, including the planning and prioritisation of the publication of research outputs and annual reporting in collaboration with DAWE
5. To provide clarity about roles and responsibilities for knowledge brokering in the Hub
6. To periodically review, update and improve the Hub's approach to knowledge brokering.

The Hub's approach to knowledge brokering contributes to the broader approach to communication for the NESP outlined in the NESP Communication Strategy. The Hub's knowledge brokers will participate and contribute to activities designed to develop and improve DAWE's broader approach to knowledge brokering for the program.

# Audiences

Effective knowledge brokering is vital in order to inform and influence decision-making and policy development, and to ensure that research information is disseminated to the most relevant audiences. Clarity about primary and secondary audiences is critical for allocating resources for knowledge brokering as the process is often challenging and time consuming. Knowledge brokers need to balance their time investments to strike an appropriate balance between development of knowledge networks for exchange of information and project specific investments to maximise research impact. The table below identifies government, primary and secondary audiences for knowledge brokering. The Australian Government audience includes DAWE (the NESP grant administrator) and other Australian Government agencies that are likely to be research-users of the Hub's research. Primary audiences include all NESP Hubs, research partners of the Hub, state and territory governments, relevant Indigenous organisations and relevant industries. Secondary audiences include the general public and industry peak organisations.

<b>Government</b>	<b>Research</b>	<b>Industry/Community</b>
Environment Minister's Office	NESP Hubs	General public (particularly professional networks)
Department of Agriculture, Water and the Environment	Natural Resource Management regional managers	Environment non-government organisations (e.g. WWF)
Australian Fisheries Management Authority	Native Title Bodies (e.g. NLC, KLC, SWALSC, YMAC, CYLC, CLC, SANTS, QSNTS, TSRA)	Great Barrier Reef Foundation
Great Barrier Reef Marine Park Authority	Indigenous regional land and sea managers (e.g. NAILSMA, ISWAG, Murujuga Corporation)	APPEA
Department of Industry, Science, Energy and Resources	CSIRO	Ports Australia
Bureau of Meteorology	Australian Institute of Marine Science	National Energy Resources Australia
National Offshore Petroleum Safety and Environment Management Authority	Geoscience Australia	OzFish
Fisheries Research Development Corporation	Integrated Marine Observing System	Association of Marine Park Tourism Operators
Australian Maritime Safety Authority	Sydney Institute of Marine Science	Seafood Industry Australia
Torres Strait Regional Authority	Marine Innovations South Australia	Industry, including environmental, agricultural and/or financial sectors
National Indigenous Australians Agency	Australian Universities	
Indigenous Land and Sea Corporation	Museum Victoria	
State/territory and local governments	Bioplatforms Australia	
NSW Department of Primary Industries	Clean Ocean Foundation	
NSW Environment Energy and Science	National Marine Science Committee	

# Knowledge brokering approach

The Hub's approach to knowledge brokering adopts an applied approach to knowledge transfer that focuses on establishing effective networks for knowledge transfer, developing a shared understanding of research-user needs, effective engagement of research-users in project scoping and implementation, and delivering fit for purpose research outputs. Specialist knowledge brokers will be appointed to coordinate, develop, implement and review this strategy. The Hub's approach to knowledge brokering will be guided by the following principles:

Knowledge brokering is a team effort requiring effective communication between the knowledge brokers, project leaders, Hub leaders, Initiative leaders, Indigenous facilitators, data wranglers, communication and media specialists

Identifying priority research needs of research-users is key to high-impact research

Co-design of research proposals with research-users is key to high-impact research

Identifying high-priority projects for knowledge brokering investment is key to managing risks and adopting a 'no surprises' approach

Co-development of research outputs is key to effective knowledge capture and transfer

Reflection on the effectiveness of end-user engagement, project outputs and achievements is key to building effective long-term partnerships based on trust.

This document identifies six objectives designed to achieve the aim of the strategy. The text that follows describes the Hub's approach to knowledge brokering, including knowledge transfer, for each of the objectives.

## **1. Establishing and maintaining research-user and researcher knowledge networks**

The Hub's approach to knowledge brokering will utilise existing relationships, mechanisms and dissemination networks where these are available. National and regional engagement mechanisms that align with the Australian Government and primary audiences for knowledge transfer will be targeted (see previous section). The Hub will build on trust frameworks with end-users for capturing and exchanging knowledge. As well as building on existing mechanisms and networks for engagement and knowledge transfer, new relationships and networks will be facilitated between researchers and end-users through a range of Hub-wide and project-specific mechanisms. Direct lines for feedback between the Hub and agencies, industry groups, Indigenous and other community will be used to build trust and understanding. All activities will be planned and undertaken in the context of achieving the Hub's vision. New Hub mechanisms contributing to the knowledge networks include the Hub Steering Committee, Leadership Team, Regional Reference Groups, the Cross Hub Senior Governance Committee and the Indigenous Facilitation Network.

## **2. Shared understanding about research end-user needs and priorities**

The Department of Agriculture, Water and the Environment (DAWE) have identified a comprehensive list of research needs for all NESP Hubs. To maximise the benefits and impact of the Hub's research it is important to understand how these needs align with those of other primary research users (e.g. state and territory governments, Indigenous communities and Industry). Furthermore, it is critical to identify priority information needs as the list of needs will be extensive. The Hub will develop shared understanding about research needs and priorities to inform the development of annual research plans. Regional Reference Groups and the Indigenous Facilitators Network provide important mechanisms for understanding regional information need and priorities. Understanding of national and regional research needs will be updated annually to ensure understanding is current and responsive.

The knowledge brokers will work with the Hub leadership group, data wranglers and research project leaders to ensure research end-user needs are clearly understood and translated to meaningful research questions. A range of techniques will be used to elicit understanding about research end-user needs and priorities, including structured, semi-structured and unstructured approaches to elicitation. The 2021 research plan includes ten scoping projects specifically designed to capture understanding about research end-user needs and priorities. Collaborative workshops (virtual and in person) that bring together researchers and research end-users will be a key part of our approach to understanding and transferring knowledge about research needs and priorities.

### **3. Research-users engaged in the design and implementation of research projects**

Two key signatures of the NESP are applied research and research-user engagement. It is critical that research-users are engaged in the design and implementation of all Hub research projects. The Project leaders and knowledge brokers will work closely to ensure the Hub implements effective participatory approaches to engage research-users in the project design and implementation. The Hub leaders and knowledge brokers will work with prospective project leaders to ensure research proposals are developed in collaboration with research end-users. In many cases this collaboration will be triggered when researchers and research end-users engage in workshop settings to develop shared understanding about research needs and priorities.

Important requirements for effectively engaging research-users in approved projects are establishment of trust, clarity of process and acceptable timelines for scoping and implementing research projects. Building trusted, enduring relationships between Hub researchers and individual research-users will be fundamental to effective research that meets the needs of research-users. To establish this, the Hub will seek to identify any relevant research-user project contacts for each project. The Hub will work with research users and project leaders to identify project contacts. The project leaders will be the default Hub project contact. Project leaders will identify contacts for relevant research-users and stakeholders. Research-user and stakeholder contacts may change, this is not uncommon in government agencies. The knowledge brokers will meet individually with all project leaders in the early stages of approved projects to discuss engagement and communication with research end-users, including to manage risks associated with understanding and managing the expectations of researcher end-users.

### **4. Delivering fit for purpose research outputs in collaboration with research end-users**

Developing fit-for-purpose research outputs is a key to success in applied research and effective knowledge transfer. To develop these researchers and research end-users need a shared understanding about the research-user context for using knowledge and any requirements for packaging outputs, including limitations and constraints of their knowledge systems. The Hub's project leaders, knowledge brokers, Indigenous facilitators and data wranglers will work closely with research-users to understand the context for knowledge transfer and developing fit-for-purpose products. In some cases, research-users will need detailed or specific information (e.g. species distribution maps or estimates of species populations), in other cases they will need plain-English summaries or high-level synthesis products designed to efficient knowledge transfer. Project leaders and knowledge brokers will also create opportunities for co-development and co-authoring of research outputs to maximise the effectiveness of knowledge transfer and research impact.

The Hub's project outputs and products are typically identified when research project proposals are developed. When engaged in research, to inform policy or on-ground outcomes, it is important to recognise the value in creating opportunities to revisit project outputs to ensure they will be fit-for-purpose for research-users. It is not unusual for unexpected events to lead to a rethink about the type of outputs and products that can or should be developed and when they need to be delivered. For example, scientists may not have been successful in acquiring important data or the needs, language or priorities of research-users may have changed. Similarly, it is also good practice for research end-

users to be engaged at the 'draft' product stage providing an opportunity for feedback and product refinement prior to completion of the final product.

### **5. Providing clarity about the role of knowledge brokers**

Effective knowledge brokering in the Hub is a team effort with contributions from Hub directors, Initiative leaders, knowledge brokers, Indigenous facilitations, media and communication specialists, data wranglers and project leaders. The role of the knowledge brokers is to facilitate the implementation and annual review of the strategy. Knowledge brokers also need to ensure that knowledge networks are functioning effectively and invest time with research leaders and research leaders at the project level to maximise research impact.

The Hub will appoint two knowledge brokers:

- Southern Node knowledge broker employed by the University of Tasmania for projects focused in marine and coastal areas adjacent to Shark Bay in Western Australia south around to Bundaberg in Queensland);
- Northern Node knowledge broker employed by Reef and Rainforest Research Centre for marine and coastal areas adjacent to areas Carnarvon in Western Australia north around to Bundaberg in Queensland).

The knowledge brokers will work together to ensure the Hub adopts a coordinated approach to implementing, reviewing and improving this strategy. Cross-node mechanisms and processes will be established to promote coordination of knowledge brokering activities across nodes. The Hub's Leadership Team will provide the primary mechanism for cross-node collaboration between knowledge brokers to connect with each other and also the Hub leaders, Initiative leaders and Indigenous facilitators. The knowledge brokers will develop and maintain a shared annual engagement schedule for meetings and workshops. The knowledge brokers will work together to ensure a coordinated approach to engaging research end-users, in particular for engagement with DAWE and other research end-users with interests in research that crosses both nodes (e.g. national-scale projects).

A key challenge for knowledge brokers is prioritising allocation of their time to specific projects. Knowledge brokers will work closely with DAWE and the Hub leadership team to understand risks at the project level and to prioritise the projects that are likely to require significant time investments. A shared understanding about project risks and knowledge brokering priorities is an important part of implementing a 'no-surprises' approach to NESP. The knowledge brokers will also collaborate and share information with knowledge brokers from other NESP Hubs to ensure best practices and good ideas are identified and applied.

### **6. Review, update and improve approach to knowledge brokering**

The Hub's approach to reviewing, updating and improving its approach to knowledge brokering is described on the monitoring and evaluation section of this report (see page 19).

# Key messages

- The Marine and Coastal Hub is one of 4 research hubs funded under the National Environmental Science Program (NESP), the Australian Government's enduring commitment to environment and climate research.
- The Marine and Coastal Hub research supports the sustainable use, conservation and recovery of Australia's coastal and marine environment for the maximum social, cultural and economic benefit.
- Marine and Coastal Hub scientists work with research users and communities to plan and conduct research that is relevant, accessible and effectively communicated.
- Targeted research conducted under the Marine and Coastal Hub provides an evidence base and practical solutions for industries, environmental decision-makers and climate policymakers.
- The Marine and Coastal Hub values Indigenous research partnerships and respects traditional knowledge. It works with Traditional Owners and communities to deliver culturally fit-for-purpose research and increase cultural capacity in the environmental research sector.
- Informed decision-making using the best research greatly improves our chances of protecting our environment, conserving our biodiversity and developing climate policies and services.

## Key dates

Effective engagement of researchers and research-users is promoted when they have certainty about how and when they will be engaged. NESP research planning sets a predictable annual cycle for developing research plans based on a shared understanding about research-user needs and the research options to meet these needs. A series of engagements are triggered at the beginning of these annual cycles, including with research-users and researchers through the Hub's regional reference groups. Similarly, the NESP progress reporting requirements set a predictable annual cycle for engaging research-users and researchers to capture understanding about project progress, risk management and research impact.

Outside of NESP there are annual events that provide predictable opportunities to develop shared understanding and capture knowledge with research-users and researchers, for example:

- National Marine Science Committee meetings (4 meetings/year)
- Australian Marine Sciences Association (AMSA) annual conference
- AMSA annual Indigenous workshop (once/year)
- Australian Coral Reef Society annual conference
- Ecological Society of Australia annual conference
- Australian Marine Park Advisory Committee meetings (2 meetings/year)

Using established engagement mechanisms is an effective means for maintaining research-user and research engagement networks.

There are other less frequent or unpredictable events that represent key points in time for engaging research-users and researchers to develop shared understanding and capture knowledge, for example:

- State of the environment reporting (5 yearly)
- Great Barrier Reef outlook reporting (5 yearly)
- Review of Australian Marine Park Network Management Plans (10 yearly)
- Review of management plans for Indigenous Protected Areas (variable)
- Review of Threatened species recovery plans and migratory species conservation plans (variable)
- Instigation of strategic assessments under the EPBC Act

It will also be important for the Hub to develop a better understanding of key meetings and knowledge sharing events utilised by industry and community researcher users and add these to our engagement schedules.

The table below provides an indicative list of key dates for 2021-22 for sequencing engagement with research-users and researchers. To promote effective engagement the Hub Executive will develop and maintain a forward looking engagement schedule for knowledge brokering.

## Marine and Coastal Hub knowledge brokering strategy

<b>Indicative key dates for 2021-22</b>	<b>Engagement opportunities</b>
May 2021	NESP RPV1 research scoping
13 May 2021	National Marine Science Committee meeting
28 June – 2 July 2021	AMSA Annual Conference (Sydney)
29-30 June 2021	AMSA Indigenous Workshop (Sydney)
August 2021	National Marine Science Committee meeting
September 2021 – August 2022	*Workshops for approved scoping projects in Research Plan 2021 designed to identify research end-user needs and priorities
21-26 November	ESA Annual Conference
November 2021	National Marine Science Committee meeting
February to March 2022	NESP progress report compilation
February 2022	National Marine Science Committee meeting
May 2022	National Marine Science Committee meeting
28 June – 2 July 2022	AMSA Annual Conference (Queensland)
29-30 June 2022	AMSA Indigenous Workshop (Queensland)
July-October 2022	NESP RPV2 research scoping workshops
August 2022	National Marine Science Committee meeting
TBA	Australian Coral Reef Society annual conference
TBA	ESA annual workshop

\*The forward looking engagement schedule will contain more detailed information on scoping workshops.

# Budget and risks

Table 1 shows the estimate % budget allocation at the time of writing this document. This budget may need to be adjusted through the life of the program to meet evolving needs of the Hub, the Department and other stakeholders.

**Table 1**

Item	Hub Contribution	Partner Contribution (in-kind)
Knowledge brokers (2 at combined FTE 1.4) Knowledge team – Hub leaders, Initiative leaders Operating Travel	The Hub contribution will represent ~5.7% p.a. of the total Hub budget for the life of the program.  Additional investment is expected to occur within specific projects that deliver on aspects of the Strategy.	Matching in-kind contribution will be provided to support the Hub budget allocation.

Key risks	Controlling measures	Additional mitigation measures
1. Insufficient resources (time and budget) to deliver the Strategy	Knowledge brokers engaged in development and review of Hub priority setting and budget.	
2. Ineffective engagement between research-users and researchers to develop shared understanding about research needs	Knowledge brokers work closely with Hub leadership team and regional Reference Groups to plan and implement engagements.	
3. Research-users are not meaningfully involved in designing research projects	Knowledge brokers work closely with project leaders to ensure primary research users are identified and engage in project design.	Identify high-priority projects where end-user engagement in co-design is critical to success. (e.g. priorities on basis of risk informed by factors like project complexity, experience of research team with NESP, areas of research that proven challenging to progress in the past, etc)
4. Research-users are not meaningfully engaged throughout project	Knowledge brokers review proposed project plans to ensure they contain effective mechanisms for engaging research-users throughout the project.  Knowledge brokers check in with project leaders to ensure engagement is proceeding as planned and, where required,	Knowledge broker check-in with research-users on high priority projects to get feedback on project progress - e.g., priorities informed by factors like project complexity, experience of research team with NESP, areas of research that proven challenging to progress in the past)

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	discuss refinements to improve approach	
5. Research-users are not meaningfully engaged in co-designing research outputs to meet the needs of research-users	Knowledge brokers engage with researchers and research-users to develop to ensure there is a shared understanding about research user context, including limitations and constraints of knowledge systems and packaging of outputs	Knowledge broker check-in with research-users and researchers on high priority projects
6. Lack of coordination between knowledge brokers, Hub leaders and Initiative leader(s)	Knowledge brokers to use Hub leadership team meetings to ensure coordination with Hub leaders and Initiative leaders	Ensure there is shared understanding about high-priority projects requiring coordination
7. Lack of coordination between knowledge brokers, Indigenous facilitators, data wranglers, communications and media specialists	Knowledge brokers to set up regular meetings with knowledge brokers, Indigenous facilitators, data wranglers, communications and media specialists to ensure effective coordination	Ensure there is shared understanding about high-priority projects requiring coordination

# Monitoring and evaluation

Monitoring, evaluation, review and improvement of the Marine and Coastal Hub's strategies is critical to achieving success. There are many factors that will contribute to the success of the Marine and Coastal Hub. It can be challenging to isolate and evaluate the effectiveness of knowledge brokering in this context. Nonetheless, the hub will monitor, evaluate and review the effectiveness of the Strategy in achieving its objectives. The Strategy will be reviewed annually using measures and metrics that align with the broad stages of applied research, these include: understanding research-user needs, design of research projects, engagement in project implementation, delivery or project outputs and reflecting to improve research partnerships. The Hub will also seek feedback from research-users and researchers about the overall effectiveness of the approach to knowledge brokering. The table below identifies the proposed measures and metrics for monitoring the effectiveness of the Strategy.

The knowledge brokers will prepare a concise evaluation of the effectiveness of the Strategy and present it to the Hub leadership team before it is tabled at any meeting of the Steering Committee. The evaluation will summarise the performance measures and metrics and, where required, provide advice and recommendations to improve the Strategy.

Measure	Metric
Understanding research-user needs	<ul style="list-style-type: none"> <li>• Number of times regional reference groups were convened to identify research needs</li> </ul>
Design of research projects	<ul style="list-style-type: none"> <li>• Percent of projects approved in which research-users were actively involved in project design</li> </ul>
Engagement in project implementation	<ul style="list-style-type: none"> <li>• Percent of projects (active or completed in the reporting period) for which there is a research-user actively engaged in the project</li> </ul>
Delivery of project outputs	<ul style="list-style-type: none"> <li>• Percentage of projects with milestones delivering reports to specific research users</li> <li>• Percentage of projects with milestones delivering manuscripts for scientific journals</li> <li>• Number of research publications (reports/papers/fact sheets) co-developed/co-authored with research-users</li> </ul>
Improving partnership approaches to research	<ul style="list-style-type: none"> <li>• Percentage of projects including lessons learnt or reflection activities</li> </ul>
Overall effectiveness of knowledge brokering	<ul style="list-style-type: none"> <li>• Sentiment of research-users (about approach to knowledge brokering)</li> <li>• Sentiment of researchers (about approach to knowledge brokering)</li> </ul>