Call for Decade Actions No. 02/2021 - Project Application

Information

This form should only be used to request for endorsement of a Decade project linked to an endorsed Decade Programme. The deadline for submission for this form is **23.59h CEST 31 January 2022**.

Important Information:

Please note that all character limits include spaces.

You may continue editing your submission until you are ready to submit. This is done via IP address recognition. Bookmark the survey when you first open it, and it should maintain your responses if you access it via the bookmarked link.

Please find the PDF and Word versions of the form here: https://oceanexpert.org/document/29171
Please note that these are for your use only, e.g. to help prepare your submission. Only submissions sent via the online form will be accepted.

Please read all the supporting documentation to the Call carefully before submitting your application:

- Guidance Note for Applicants for Call for Decade Actions No. 02/2021
- Frequently Asked Questions for Call for Decade Actions No. 02/2021
- Ocean Decade Implementation Plan and Summary

If you need a copy of your responses please email us at oceandecade@unesco.org with the exact full name and contact name of your submission. Please be aware that it may take some time to provide you with the download. For any questions please contact oceandecade@unesco.org with “Call for Decade Actions No. 02/2021” in the subject line.

Eligibility

* 1. To which Ocean Decade Programme are you apply to be a project under?

✔ 17. **Marine Life 2030: A Global Integrated Marine Biodiversity Information Management and Forecasting System for Sustainable Development and Conservation**

* 2. Is your project already affiliated with the programme you have selected?

✔ **Yes**

○ No

Proponent and Partner Details

* 3. Lead Institution Name

Hakai Institute

* 4. Lead Institution Type

Choose from:

Research Institution (publicly funded)
Research Institution (privately funded)
Educational organization
Non-governmental organization
Governmental organization
Intergovernmental organization
Private Sector organization
Philanthropic organization

* 5. Lead Institution Physical Address

Street Address: *PO Box 25039*
Town/City: *Campbell River*
Postal/Zip Code: *V9W 0B7*

* 6. Lead Institution Country

Dropdown

CANADA

* 7. Is your institution based in a Least Developed Country, Small Island Developing State, or Africa

Yes

No

* 8. Lead Institution Website

www.hakai.org

* 9. Lead Partner Contact

First Name: Matt
Last Name: Whalen

* 10. Lead Partner Contact Email Address

matt.whalen@hakai.org

* 11. Email contact of person completing survey

matt.whalen@hakai.org

12. Partner Institution Names

Please provide the names of up to five partner lead institutions. Other partner details can be provided in the supplementary information section.

Partner No. 1 Institution name: **Western Washington University (WWU), Salish Sea Institute**

Partner No. 2 Institution name: **University of British Columbia, Biodiversity Research Centre**

Partner No. 3 Institution name: **University of Washington, Friday Harbor Laboratories**

Partner No. 4 Institution name: **Fisheries & Oceans Canada (DFO)**

Partner No. 5 Institution name:

13. Partner Institution Countries

Dropdown

USA

CANADA

Decade Action Description

* 14. Name of Decade Action

Your Action name must be fewer than 50 characters.

Northeast Pacific Coastal Biodiversity Action Network

15. Short name or acronym of Decade Action

NEPac-BAN

* 16. Is the project you are proposing an ongoing initiative or new?

- Ongoing Initiative
- **New Initiative**

* 17. When will your proposed Action start and end?

Please use the first of the month in which your Action will start if you do not have a specific start date.

Start Date: September 2022
End date: December 2030

* 18. Total Budget estimate for the Decade Action to the nearest whole number with no punctuation.

$2,000,000

* 19. Please indicate the currency of the above budget.

EUR or **USD**

* 20. Estimate of percentage of total budget secured

This can include in-kind and financial resources.

75

* 21. Please select all countries in which the Decade Action will be implemented.

Checkboxes

CANADA

USA

* 22. Please select all ocean basins in which the Decade Action will be implemented.

 **North Pacific Ocean**

☐ **Other (including regional seas) - *If we want to emphasize Salish Sea here***

* 23. Summary of Decade Action (max. 1000 characters)

NEPac-BAN will foster cross-boundary biodiversity science for action-oriented marine conservation and management. The Project will generate a Network of ocean practitioners, including scientists, Crown, and Indigenous decision makers, community members, educators and communicators, to co-design marine life observing for biodiversity science.. NEPac-BAN is structured around taxonomic groups (Nodes) and a Synthesis Hub that will tackle cross-cutting themes by integrating across the tree of life to address challenges facing the NE Pacific coastal ocean. The network will co-develop a) Essential Biodiversity and Ocean Variables for the NE Pacific; b) best practices and capacity for biodiversity observations and data management; and c) biodiversity analysis for conservation and restoration actions. These components form an Action Cycle to advance understanding and improve management outcomes by leveraging existing strengths and creating spaces for exchange across the Canada-US border.

* 24. Please select which of the Decade Outcomes your Decade Action contributes to (max. 3)

☐ Outcome 1: A clean ocean where sources of pollution are identified and reduced or removed.

✔ **Outcome 2: A healthy and resilient ocean where marine ecosystems are understood, protected, restored and managed.**

☐ Outcome 3: A productive ocean supporting sustainable food supply and a sustainable ocean economy.

☐ Outcome 4: A predicted ocean where society understands and can respond to changing ocean conditions.

☐ Outcome 5: A safe ocean where life and livelihoods are protected from ocean-related hazards.

✔ **Outcome 6: An accessible ocean with open and equitable access to data, information and technology and innovation.**

✔ **Outcome 7: An inspiring and engaging ocean where society understands and values the ocean in relation to human wellbeing and sustainable development.**

* 25. Please select which of the Decade Challenges your Decade Action contributes to (max. 3)

☐ Challenge 1: Understand and map land and sea-based sources of pollutants and contaminants and their potential impacts on human health and ocean ecosystems, and develop solutions to remove or mitigate them.

✔ **Challenge 2: Understand the effects of multiple stressors on ocean ecosystems, and develop solutions to monitor, protect, manage and restore ecosystems and their biodiversity under changing environmental, social and climate conditions.**

☐ Challenge 3: Generate knowledge, support innovation, and develop solutions to optimise the role of the ocean in sustainably feeding the world's population under changing environmental, social and climate conditions.

☐ Challenge 4: Generate knowledge, support innovation, and develop solutions for equitable and sustainable development of the ocean economy under changing environmental, social and climate conditions.

☐ Challenge 5: Enhance understanding of the ocean-climate nexus and generate knowledge and solutions to mitigate, adapt and build resilience to the effects of climate change across all geographies and at all scales, and to improve services including predictions for the ocean, climate and weather.

☐ Challenge 6: Enhance multi-hazard early warning services for all geophysical, ecological, biological, weather, climate and anthropogenic related ocean and coastal hazards, and mainstream community preparedness and resilience.

✔ **Challenge 7: Ensure a sustainable ocean observing system across all ocean basins that delivers accessible, timely, and actionable data and information to all users.**

☐ Challenge 8: Through multi-stakeholder collaboration, develop a comprehensive digital representation of the ocean, including a dynamic ocean map, which provides free and open access for exploring, discovering, and visualizing past, current, and future ocean conditions in a manner relevant to diverse stakeholders.

✔ **Challenge 9: Ensure comprehensive capacity development and equitable access to data, information, knowledge and technology across all aspects of ocean science and for all stakeholders.**

☐ Challenge 10: Ensure that the multiple values and services of the ocean for human wellbeing, culture, and sustainable development are widely understood, and identify and overcome barriers to behaviour change required for a step change in humanity's relationship with the ocean.

* 26. Please select which of the Sustainable Development Goals your Decade Action contributes to (max. 3)

☐ GOAL 1: No Poverty.

☐ GOAL 2: Zero Hunger

☐ GOAL 3: Good Health and Well-being

☐ GOAL 4: Quality Education

☐ GOAL 5: Gender Equality

☐ GOAL 6: Clean Water and Sanitation

☐ GOAL 7: Affordable and Clean Energy

☐ GOAL 8: Decent Work and Economic Growth

☐ GOAL 9: Industry, Innovation and Infrastructure

☐ GOAL 10: Reduced Inequality

✔ **GOAL 11: Sustainable Cities and Communities**

☐ GOAL 12: Responsible Consumption and Production

☐ GOAL 13: Climate Action

✔ **GOAL 14: Life Below Water**

☐ GOAL 15: Life on Land

☐ GOAL 16: Peace and Justice Strong Institutions

 **GOAL 17: Partnerships to achieve the Goal**

* 27. What is the high-level objective of your Decade Action? (max. 1000 characters)

To advance analysis, implementation, and application of marine biodiversity and oceanographic science, we aim to foster transboundary science and knowledge exchanges through a collaborative Network of practitioners in Canada and the US. This Network will leverage distributed and coordinated efforts to track and predict biodiversity change across the tree of life, and synthesize metrics of change critical to identifying and operationalizing actions towards understanding, conserving, and restoring biodiversity and human well-being.

Aligned with Marine Life 2030 guiding principles and project criteria, NEPac-BAN will promote co-design of local and regional decision-making by bringing together academic scientists, governments, businesses, and local communities to find and implement solutions for common problems. NEPac-BAN will become a testbed for cross-boundary knowledge-to-action collaboration, providing a portable framework for outcomes that benefit socio-ecological systems.

* 28. What are key outcomes of your Decade Action? (max. 2000 characters)

Lasting transboundary partnerships:

NEPac-BAN will nurture spaces for learning and exchange to motivate participation through the Decade and beyond, guided by Project Admin, a Core Leadership Team, and Lead Institutions (Management Team). Partners will co-create a Network structured by taxonomic groups (Nodes, e.g. kelp) and a central Synthesis Hub to aggregate knowledge and prioritize actions to fill biodiversity knowledge gaps. The Nodes and the Hub will co-design agendas and timelines, and the Management Team will facilitate nested Working Groups (WGs) and support engagement of diverse Partners.

Harmonizing biodiversity research:

NEPac-BAN will implement global standards for Essential Ocean Variables (EOVs) to ensure data are useful for detection and attribution of biodiversity change in the Northeast Pacific. Nodes will work to develop EOVs locally, and the Synthesis Hub will integrate EOVs to identify Essential Biodiversity Variables (EBVs). Together with oceanographers, NEPac-BAN will pair biological and oceanographic (physical and chemical) observations to identify key climatic drivers of biodiversity change.

Biodiversity Science Analyses:

NEPac-BAN will 1) allow biodiversity synthesis of EOVs and EBVs, 2) enable openly accessible and discoverable data using FAIR and CARE principles, and 3) co-deliver data products and analyses to fill identified gaps.

Biodiversity Science Implementation:

NEPac-BAN will promote community science and ocean literacy through BioBlitzes with local Partners (see #29), cross-border coordinated experiments and observations, and training for science projects, including those led by Indigenous communities and ECOP.

Conservation and Restoration Actions:

NEPac-BAN will co-deliver analysis products with coastal community leaders, policy-makers and managers. Data and knowledge from biodiversity science and the implementation of this science will be key to cross-border reporting and new projects that fill knowledge gaps and inform policy.

* 29. What are key discrete activities that you will carry out in the first 3 years of your Decade Action? (max. 5000 characters)

The first three years of the Project constitutes the first of three Project phases (see #35) that build on each other and provide guideposts for Network Activities and workshops.

Establish the structure and organization of a Biodiversity Action Network, including a Synthesis Hub and Nodes for learning and exchange:

The unified Biodiversity Synthesis Hub will meet once in year 1 to set the science agenda and to guide formation of taxonomic Nodes, which will come online in phases (years 1-5). We have already started gauging interest and engaging partner participation in priority taxonomic Nodes: kelp, seagrass, benthic invertebrates, fish, microbes, and plankton, all of which will be established by year 3. Strong bird and mammal groups already exist in the region and may form a second wave of Node formation starting year 3. We expect to hold a total of 2-3 workshops per year in the first 3 years to establish Nodes. We will hold annual meetings of the Synthesis Hub and leverage sessions at the biennial Salish Sea Ecosystem Conference (Decade Activity) to prioritize Synthesis Hub actions across Nodes (e.g., climate resilience). By the end of year 3, the Synthesis Hub will publish a report of current status and research gaps for EOVs and EBVs and hold a meeting for all partners and leadership of the guiding Marine Life 2030 Programme to initiate discussion and planning that will guide future efforts.

Apply and revise co-design framework:

Each taxonomic Node (e.g. kelp) and the Synthesis Hub will hold an initial workshop to identify Node and Hub leadership, discuss knowledge states on each side of the border and determine research needs and priorities that align with an Action Cycle (1) identification of biodiversity building blocks; 2) analysis and 3) implementation of biodiversity science; 4) conservation, restoration and management actions). These needs will spur formation of Working Groups (WGs) nested within the Nodes and Hub in which Partners select WG leadership, co-develop objectives, timelines, and communications plans that set the course for future meetings. The Core Leadership Team will support Nodes, the Hub, and WGs in selecting leadership and in the formation and functioning of WGs. Hakai Institute and WWU will provide administrative support to facilitate meetings, communications, and activities across and within Nodes. This workshop process will be implemented first with the kelp Node in Year 1, and revised and applied to other taxonomic Nodes (years 1-3) based on lessons learned and feedback from kelp Node partners.

Set a clear geographic focus that grows:

NEPac-BAN will begin with a focus on the Salish Sea, an ecologically, economically, and culturally important estuary of 18,000 square km that connects the US and Canada and that is home to 8+ millions of people. Within 3 years, the Network will incorporate partners and take Action beyond the Salish Sea (e.g., continuous coasts of British Columbia, Washington, Alaska) to tackle issues that connect ecosystems and sustainable development. By testing and refining the NEPac-BAN framework at smaller regional scales, growth and adoption of the framework in other locations can be considered throughout the Northeast Pacific (long-term outcome).

Generate discourse among projects that integrate with Indigenous and coastal communities:

Lead Institutions have strong ties with local and Indigenous partners, and the development of our Network structure will leverage current and expanding capacities within biodiversity science and coastal communities to create purpose-driven spaces for exchange and learning. Indigenous communities in this region are active scientifically, often through collaborations with academics, non-profits, and partnerships with government. These co-designed and co-delivered projects, however, often stand alone. NEPac-BAN creates a space for research projects already engaged with communities to share and expand capacities, and to avoid overburdening community-based science and stewardship through shared resources and improved communication.

BioBlitzes that integrate science and community:

A key project goal is to work with partners to implement Biodiversity Science by conducting strategic BioBlitzes (intensive surveys of local biodiversity) of coastal habitats. BioBlitzes will aim to engage and inspire the public to learn about and steward their local ocean. BioBlitzes will help establish taxonomically-resolved baselines for assessing biodiversity change over time. The first of these BioBlitzes will take place in Vancouver in 2022 between Ocean Week Canada and IMPAC-5 with collaboration between Hakai, False Creek Friends Society and the City of Vancouver. The Network will aim to facilitate one BioBlitz per year, with an initial focus (years 1-6) on the Salish Sea region.

* 30. How does your project align with your chosen Decade Programme's priorities? (max. 3000 characters) *Please review the Call for Decade Actions No. 02/2021 for details of each programmes' priorities.*

Establish and launch a framework for regional coordination and integration (ML30 Obj 02):

Highlighting our commitment to community development (ML30 Criteria for Affiliation), we address cross-cutting issues (e.g. climate resilience) that leverage Partner EOV expertise. This allows, for example, product co-development within WGs related to examination of and response to heatwaves and emerging diseases that impact coastal communities (ML30 Project Criteria).

Transboundary relationships (ML30 Obj 03):

NEPac-BAN focuses on forming and nurturing lasting transboundary relationships, which is a key priority of ML30. Our network intentionally recognizes and challenges multiple social, geopolitical,

and disciplinary boundaries by convening diverse ocean practitioners. Nodes (e.g. kelp, benthic invertebrates) will identify leadership of Working Groups (WGs), with representatives from both Canada and USA. Supported by leadership at ML30, the Core Leadership Team will guide co-design of strategies and activities within Nodes (ML30 Project Criteria) and communicate and coordinate with parallel ML30 working groups and efforts

Sustain MBON (ML30 Obj 06) and coordinate sustainable ocean development (ML30 Obj 01):

A key element of our WG structure is to align standards within Nodes through identification of EOV best practices (ML30 Project Criteria). This aims to generate coordinated action on cross-cutting issues (through the Synthesis Hub) focused on sustaining EBVs. Hakai and Partners in BC and WA already augment biological metadata in Ocean Observing Systems, demonstrating our commitment to integrating biological and environmental observing systems (ML30 Criteria for Affiliation). This Project will expand those efforts to develop biological monitoring and observing systems (ML30 Project Criteria), which ML30 can support through decision science modeling and connections across Affiliated Projects

Regional BioBlitzes, a core element of the Network's Biodiversity Science Implementation objective will include emerging technologies such as genetic barcoding (ML30 Project Criteria), which will support the BioCode initiative (**ML30 Obj 04**). Further, a key Project focus will be to foster efforts to fund taxonomic Node and Synthesis Hub objectives collaboratively (**ML30 Obj 07**). ML30 has access to software, technologies, and expertise through the Ocean Decade and Affiliated Projects to support these efforts.

In addition to Marine Life 2030, NEPac-BAN aligns with other Decade Programmes (ML30 Criteria for Affiliation). Specifically, integrating biological observing with oceanographic and biogeochemical observing satisfies key priorities of **OARS** and is critical for attributing the drivers of biodiversity change. WGs will support the use and interpretation of molecular datastreams with **OBON**. Finally, WGs provide opportunities to engage **ECOP** in science and systems convening.

* 31. Please describe the management structure which will be used to coordinate your Decade Action (max. 2000 characters)

Overarching Project Management and Administration:

Two leads from Hakai Institute (Project Admin) will oversee the Project for its duration. Project Admin will coordinate with the Regional Collaborative Center and ML30 to build capacity, make connections with other Networks, and elevate our reporting and communications.

Project Admin are part of a Core Leadership Team, which will build the Network (Nodes, Synthesis Hub, and WGs), guide the ways it convenes, and adapt the Network framework based on internal feedback. Project Admin and the Core Leadership Team consists of Hakai Institute staff and affiliates who are supporting project development, and will include other Partners in year 1 who will collectively serve as an advisory body for the Network.

Approach to project management at three levels:

Synthesis Hub, Nodes, and WGs will co-develop agendas and priorities for research. The Core Leadership Team will: convene diverse participation by inviting underrepresented groups and other

key voices; provide resources and support such as social learning methods (e.g. design clinics and other exercises) to foster equity and empower partner voices; receive outputs and data from WGs and help with data management and coordination, allowing WG outputs to feed into the project deliverables; and evaluate workshops to ensure WGs are functioning well and meeting baseline goals

Hub and Node Leadership:

Synthesis Hub and Nodes will each form leadership teams of Partners from BC and WA that will work with the Core Leadership Team to structure WGs. Leadership for each WG will be fostered through workshops and communications led by leadership teams and the Management Team.

Synthesis Hub Role:

The Hub will work with Nodes to translate EOVs into EBVs (sensu Muller-Karger et al. 2018) and identify priority cross-cutting themes and coordinate WGs for actions pertaining to each theme (e.g. a WG to synthesize heatwave effects on marine organisms and contribute to climate resiliency).

32. Decade Actions that will enhance the sustainability of ocean science, including infrastructure or individual or institutional capacity, in light of the COVID-19 pandemic are welcome in response to this call. If applicable, please describe here how your proposed Action responds to the impacts of the COVID-19 pandemic? (max. 1000 characters)

NEPac-BAN is sensitive to the impacts of COVID-19 pandemic and how it limits the ability of communities to come together and coalesce information for meaningful in-person connection and exchange. In the event that in-person meetings are not advisable under existing restrictions, the Hakai Institute will provide digital spaces for communication, meetings, and learning via the Quadra Centre for Coastal Dialogue, an arm of the Tula Foundation.

Alignment with Ocean Decade Endorsement Criteria

* 33. Please indicate if the following are relevant to your Decade Action

Contributes to achieving one or more of the following Decade objectives: Objective 1: Identify critical ocean knowledge; Objective 2: Build capacity and generate knowledge; Objective 3: Increase the use of ocean knowledge.

 **This criteria IS relevant to my Decade Action**

This criteria IS NOT relevant to my Decade Action

Accelerates the generation or use of knowledge and understanding of the ocean, with a specific focus on knowledge that will contribute to the achievement of the SDGs and complementary policy frameworks and initiatives.

This criteria IS relevant to my Decade Action

This criteria IS NOT relevant to my Decade Action

Is co-designed and/or co-delivered by knowledge generators and users, and thus facilitating the uptake of science and ocean knowledge for policy, decision-making, management and/or innovation.

This criteria IS relevant to my Decade Action

This criteria IS NOT relevant to my Decade Action

Ensures that all data and resulting knowledge are provided in an open access**,** shared, discoverable manner

This criteria IS relevant to my Decade Action

This criteria IS NOT relevant to my Decade Action

Strengthens existing or creates new partnerships across nations and/or between diverse ocean actors, including users of ocean science.

This criteria IS relevant to my Decade Action

This criteria IS NOT relevant to my Decade Action

Contributes toward capacity development, including, but not limited to, beneficiaries in SIDS, LDCs and LLDCs.

This criteria IS relevant to my Decade Action

This criteria IS NOT relevant to my Decade Action

Overcomes barriers to diversity and equity, including gender, generational and geographic diversity.

This criteria IS relevant to my Decade Action

This criteria IS NOT relevant to my Decade Action

Collaborates with and engages local and indigenous knowledge holders.

 **This criteria IS relevant to my Decade Action**

This criteria IS NOT relevant to my Decade Action

* 34. Please provide a description of how your Decade Action aligns with the criteria you selected in the previous question.

Your responses should be no more than 5000 characters (6,151 with bold prompts)

Contributes to achieving one or more of the following Decade objectives: Objective 1: Identify critical ocean knowledge; Objective 2: Build capacity and generate knowledge; Objective 3: Increase the use of ocean knowledge.

NEPac-BAN's framework prioritizes knowledge critical ocean generation and mobilization towards tangible actions that benefit coupled socio-ecological systems. The Nodes and Synthesis Hub each utilize the Action Cycle framework, which is built on guiding local biodiversity science to generate relevant ocean knowledge linked to specific actions. The phases of our project timeline mirror these 3 objectives: Phase 1 involves forming the network and identifying knowledge gaps; Phase 2 aims to grow the network and fill identified gaps by generating knowledge on cross-cutting transboundary themes; Phase 3 will move from knowledge generation to policymaking across jurisdictions and establish a Salish Sea Biodiversity Advisory Board.

Accelerates the generation or use of knowledge and understanding of the ocean, with a specific focus on knowledge that will contribute to the achievement of the SDGs and complementary policy frameworks and initiatives.

The NEPac-BAN Action Cycle framework (Building blocks, Analytics, Conservation/Restoration, Implementation) accelerates the generation, mobilization, and uptake of ocean knowledge across the tree of life to tackle the complex challenges facing ocean and people. By creating cooperative environments for lasting transboundary partnerships and action, NEPac-BAN will prioritize action towards SDGs working within existing governance across the US-Canada border.

Is co-designed and/or co-delivered by knowledge generators and users, and thus facilitating the uptake of science and ocean knowledge for policy, decision-making, management and/or innovation.

The partnerships underlying NEPac-BAN bring together community and Indigenous groups, academia, non-profit science, and government to foster spaces of learning and exchange across geographic, disciplinary, and socioeconomic boundaries. Many of our partners are engaged in existing co-designed and co-delivered partnerships, including DFO's Marine Spatial Planning process. The purpose of NEPac-BAN is to leverage the strengths of these partnerships and facilitate self-leadership among these groups towards advancement of ocean knowledge and policies that benefit and protect biodiversity and human well-being.

Ensures that all data and resulting knowledge are provided in an open access, shared, discoverable manner

The Action Cycle framework helps to standardize knowledge collection and sharing, including agreement on FAIR and CARE principles. Reports, data, methods and analysis products generated through this process will be shared with Ocean Observing Systems, Ocean Best Practices, the Salish Sea Ecosystem Conference, and government agencies (NOAA, DFO). By including relevant managers and policymakers (e.g., DFO, WDNR, Tribal authorities) in the Network, analysis and reporting products will be immediately useful and appropriate to address co-designed goals. Working Group reports, publications, and datasets will be co-hosted in the Hakai data portal and with CIOOS and NANOOS, and presented and discussed at the Salish Sea Ecosystem Conference and with the Marine Life 2030 community.

Strengthens existing or creates new partnerships across nations and/or between diverse ocean actors, including users of ocean science.

NEPac-BAN is intentionally international and brings together diverse ocean practitioners. Core partners listed in #12 include academic and government institutions in the USA and Canada. Partnerships include novel cross-border collaborations within the Salish Sea, where research and management is often conducted at local and national levels. NEPac-BAN offers a framework to bring science into cross-boundary actions. For example, we are bringing together the Puget Sound Kelp Working Group (led by the WA Department of Natural Resources/NW Straits) and the British Columbia Kelp Analytical Working Group (led by the BC Marine Plan Partnership/Hakai) to establish communication and integration of goals and activities in the kelp Node.

Contributes toward capacity development, including, but not limited to, beneficiaries in SIDS, LDCs and LLDCs.

NEPac-BAN explicitly brings diverse ocean practitioners to exchange capacities for data collection, analysis, reporting, policy change, training, and education. Through a focus on identifying opportunities for collaborative funding, NEPac-BAN will enable capacity building throughout the network, including, but not limited to, Indigenous scientists, fishers, and coastal Guardians.

Overcomes barriers to diversity and equity, including gender, generational and geographic diversity.

Project leadership team will recruit diverse partners in the Network across multiple axes (gender, age, territory). Invite and listen to Indigenous and local communities. We seek to engage ECOP in Working Groups and in fundraising. Our inclusive structure makes room for expression, and we will work with Lead Institutions (e.g., Community Engagement Fellows at WWU) to evaluate workshops to gauge participation and progress, ensuring voices are heard.

Collaborates with and engages local and Indigenous knowledge holders.

Individual Actions in NEPac-BAN that integrate one or more Nodes include several ongoing projects that integrate Indigenous knowledge and engage directly with Tribes and First Nations in the US and Canada. Some ongoing examples include: 1) collaboration between the Pacific Northwest Crab Research Group (pnwcrab.com) and Sentinels for Change (sentinels.hakai.org) to study Dungeness crab stock-recruitment relationships as a community (plankton and benthic invertebrate Nodes); 2) training Indigenous scientists who study marine macrophyte trends and restoration (e.g. kelp and seagrass Nodes). NEPac-BAN will include the diverse voices of such partnerships along with policymakers and policy stakeholders on both sides of the US-Canada border to identify actions to achieve desired knowledge, and so that agendas can respond to community needs.

35. Please provide any supplementary information you would like reviewers to take into account as they review your Decade Action. This may include details of additional partners. There is a character limit of 5000.

LEAD PARTNER DETAILS (initial members of Core Leadership Team):

Dr. Matt Whalen, Hakai Ecologist; Dr. Margot Hessing-Lewis, Hakai Ecologist; Dr. Alyssa Gehman, Hakai Ecologist, Institute for the Oceans and Fisheries Adjunct Professor, UBC; Dr. Jen Jackson, Hakai Oceanographer; Dr. Olivia Rhoades, Hakai Coastal Initiative Postdoctoral Researcher, UBC.

ADDITIONAL PARTNERS:

In addition to the lead institutions identified in #12, NEPac-BAN includes additional Partners (below) from across the region. We have contacted many groups about specific entry points into the Network and all have agreed to participate in an endorsed Project at some level.

Parks Canada - Canada's National Parks, National Marine Conservation Areas, and National Historic Sites;

Pacific Northwest Crab Research Group - partnership of Tribal, state and federal governments, nonprofits (including Hakai), and academia (including FHL);

Institute for Multidisciplinary Ecological Research in the Salish Sea - nonprofit multidisciplinary working group of scientists, scholars, artists and citizens committed to fostering an inclusive culture of research and conservation in the Salish Sea;

Northwest Straits Commission - nonprofit conservation initiative managing large environmental projects in Washington State;

Washington Department of Natural Resources - Nearshore Habitat Program;

NOAA - Northwest Fisheries Science Center - Ecosystem Science Program;

Pacific Salmon Foundation - Strait of Georgia Data Centre;

University of Victoria - Ocean Networks Canada;

Salish Sea Initiative - funding and collaboration initiative from DFO to build capacity for science and knowledge acquisition with 33 Indigenous groups.

ADDITIONAL INFORMATION ON NETWORK STRUCTURE:

Visualization of the Network, its relationship with UNDOS and ML2030, and Network Phases can be found at https://hakaiinstitute.github.io/biodiversity-action-network/

TIMELINE:

Phase 1: Yr 1-3 (2022-2024): establish an inclusive network, set priorities, raise funds;

Phase 2: Yr 4-6 (2025-2027): fill identified science/policy network gaps to address cross-cutting themes;

Phase 3: Yr 7-9 (2028-2030): policymaking across jurisdictions, scientific bridges to decision making, Core Leadership Team coordinates a long-term Biodiversity Advisory Board for the Salish Sea for project continuity post Ocean Decade - highlight examples and establish legacy contributions.

ROLES:

> Grant Manager: Hakai Institute; Project Management and Administration: Hakai Institute; Leadership Team: Synthesis Hub, Nodes, Working Groups with Reps from partner institutions; Workshop Facilitators: Hakai Institute and Salish Sea Institute, others who join; Workshop Participants: Hub and Node participants composed of diverse biodiversity practitioners.

CITATION:

> Muller-Karger, FE, P Miloslavich, NJ Bax, et al. 2018. Advancing Marine Biological Observations and Data Requirements of the Complementary Essential Ocean Variables (EOVs) and Essential Biodiversity Variables (EBVs) Frameworks. *Frontiers in Marine Science* 5:211.

KELP NODE EXAMPLE:

https://hakaiinstitute.github.io/biodiversity-action-network/.

One example of NEPac-BAN supporting Node development comes from the kelp Node, which is already active in British Columbia and Washington State. We are organizing the Node such that it follows The Puget Sound Kelp Conservation & Recovery Plan as a starting point for discussion of science priorities that align with the 'Biodiversity Action Cycle'. The Plan advances 6 goals for kelp, which can be adapted across other EOVs (e.g. EOVx). Network node-level management will work to align action-oriented working groups (WGs) with these goals (see specific WG examples in Kelp Node diagram):

1. Describe kelp or [EOVx] distribution and trends.

> Actions: gain accurate information on kelp distribution and trends:
>
> - Biodiversity Building Blocks WGs;
> - Biodiversity Science Analysis WGs.

2. Understand and reduce stressors facing kelp or [EOVx].

Actions: reduce human impacts on water quality and kelp habitats, reduce impacts of biological stressors, reduce impacts from climate change:

- Biodiversity Building Blocks WGs;
- Biodiversity Science Analysis WGs;
- Conservation & Restoration WGs.

3. Improve understanding of the value of kelp or [EOVx] to local ecosystems and integrate into management.

Actions: Improve understanding of kelp value:

- Biodiversity Building Blocks WGs;
- Biodiversity Science Analysis WGs;
- Conservation & Restoration WGs.

4. Incorporate kelp or [EOVx] into marine protected areas.

Actions: Protect kelp habitat through representation and replication in MPAs; incorporate kelp into marine conservation planning outcomes:

- Conservation & Restoration WGs.

5. Restore kelp or [*EOVx*].

Actions: restore kelp forests:

- Conservation & Restoration WGs.

6. Promote [*EOVx*] awareness, engagement, and action from user groups, First Nations/Tribes, the public, and decision-makers.

Actions: promote awareness, engagement and support:

- Biodiversity Science Implementation WGs