

MARINE PLAN PARTNERSHIP FOR
THE NORTH PACIFIC COAST

NORTH VANCOUVER ISLAND

MARINE PLAN ANNUAL REPORT

2018



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Photo: Humpback whale (credit: Thalassia.ca)

MESSAGE FROM THE NVI MARINE PLAN IMPLEMENTATION TEAM

On behalf of the Nanwakolas Council and the Province of British Columbia, the North Vancouver Island (NVI) Implementation Technical Team is pleased to present the 2017-2018 NVI Annual Report. This report describes implementation activities during the period from April 1, 2017 to March 31, 2018.

We are pleased to report significant progress in most topic areas identified in the plan and look forward to continuing momentum in the implementation of objectives and strategies of the plan. We hope you enjoy learning about what we have managed to accomplish so far.

Sincerely,

John Bones, (Co-lead, Nanwakolas Council)

Andy Witt, (Co-lead, Province of B.C.)

ACKNOWLEDGEMENTS

We wish to express our sincere gratitude to all the individuals who participated in activities contributing towards the implementation of the North Vancouver Island Marine Plan in 2016-2017. Thanks go to the member First Nations of the N̓anwak̓olas Council: Mamalilikulla, Tlowitsis, Da'naxda'xw Awaetlatla, Wei Wai Kum, Kwiakah and K'omoks, and to the Province of B.C. The valued input and advice of members of the Marine Plan Advisory Committee (MPAC) is gratefully acknowledged. These volunteers from various marine sectors and interests, as well as local governments, continue to provide expert advice, time, enthusiasm and humour to the development, review and completion of implementation projects. We would also like to thank the independent consultants, Marine Plan Partnership (MaPP) contractors and other collaborators in helping us to achieve recommended strategies outlined in the NVI Marine Plan. Lastly, we also wish to acknowledge the ongoing financial support of Tides Canada Foundation on behalf of MaPP implementation funders of the Great Bear Sea Fund.



Photo: Mamalilikulla Guardian Watchmen (credit: Thalassia.ca)

EXECUTIVE SUMMARY

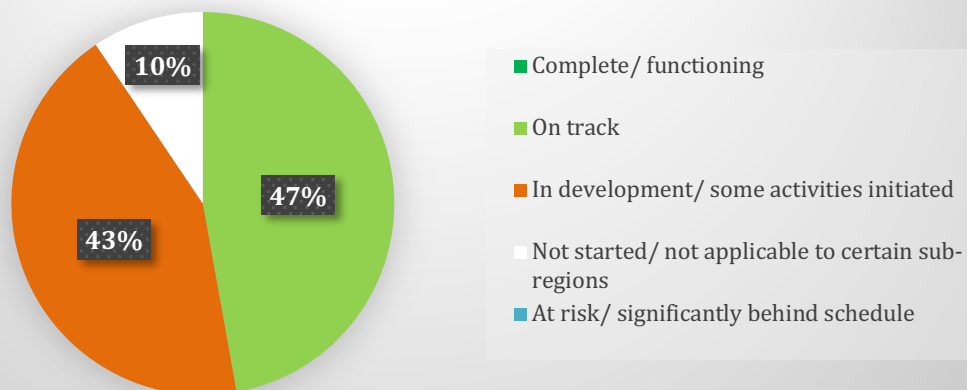
This annual report outlines key achievements, progress and challenges related to implementation of the NVI Marine Plan in the April 1, 2017 to March 31, 2018 fiscal year. The NVI MaPP partner priorities during the fiscal year of implementation were cultural protection, economic stability and development, conservation, and governance.

Implementation activities occurred in four MaPP outcome areas: governance and collaboration; marine zoning; stewardship, monitoring and enforcement; and sustainable economic development and healthy communities. Good progress has been particularly made in economic development, marine protection planning, cultural and heritage assessment and inventory, and in using the Guardian programs to support these activities.

Some of the key challenges faced in the reporting year were associated with consulting contract management and completion. There were also obstacles in some NVI-specific implementation activities due to dependencies with broader MaPP Regional work. Slower than anticipated progress is also related to required MaPP engagement in collaborative processes and agreements with federal departments.

Looking ahead to 2018-2019, the focus will be building on work performed during the 2017-2018 fiscal year, in particular recreation and tourism economic development, shellfish aquaculture, development of protection management zone (PMZ) management plans, geographic response planning, and the management of cultural and heritage sites. Ecosystem-based (EBM) monitoring will be a key area of work. New projects are also anticipated for marine infrastructure, pollution sources, as well as marine governance, and for training needs and opportunities.

Progress Towards Implementation of Strategies Identified in Year 3 Work Plan



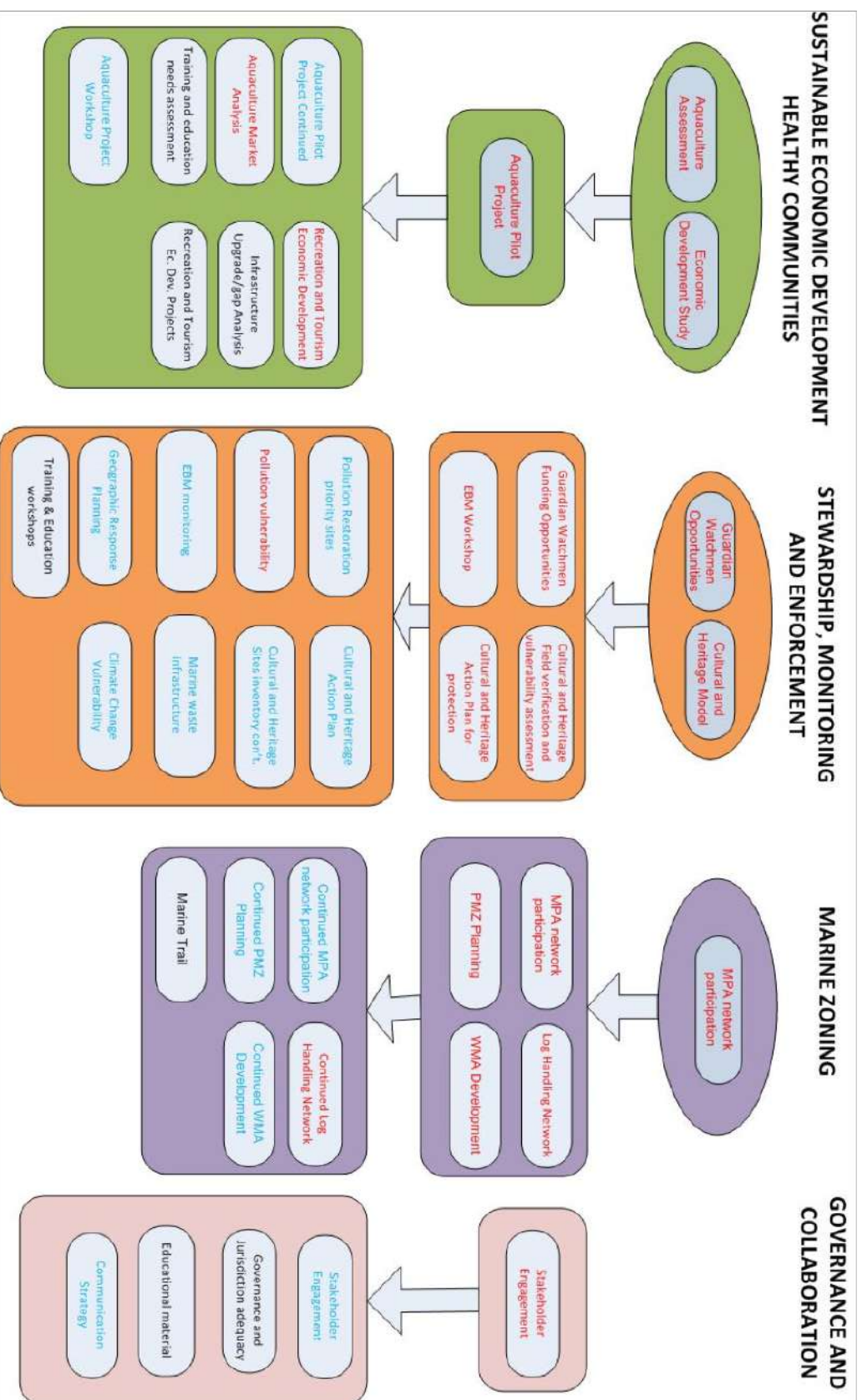


Figure 1. MaPP NVI Sub-Regional Strategic Plan 2018-2019. Projects shown in red are completed, in blue are underway, and in black are to be initiated.

IMPLEMENTATION PROGRESS DETAILS

The initial focus for the NVI Technical Team was to address plan objectives and strategies that lay the foundation for achieving key partner priorities. Plan implementation priorities were identified based on issue significance, sequencing and dependencies, and alignment with other sub-regional and/or regional work. The partner priorities for the 2017-2018 fiscal year were cultural site protection, economic stability and development, conservation, and governance. Key achievements during the fiscal year of implementation are described below MaPP strategic outcomes, and relevant plan strategies. Although all the strategies within this report are organized within the five key outcome areas, some strategies could align with more than one outcome area.



Photo: Leopard dorid, Quadra Island (credit: Thalassia.ca)

The Strategy Status definitions are as follows:

Complete/ functioning	Of the <u>discrete</u> activities intended to be undertaken for this strategy, all are completed. Of the <u>continuous</u> activities intended to be undertaken for this strategy, all are fully operational and ongoing.
On track	All <u>discrete</u> activities intended to be undertaken for this strategy in the relevant budget year (i.e., Year 2, Year 3 or Year 4) are completed. All <u>continuous</u> activities intended to be undertaken for this strategy in the relevant budget year are fully operational.
In development/some activities initiated	Of the activities intended to be undertaken for this strategy, some have been initiated or are in development, but not all are yet complete/ functioning.
Not started	No activities for this strategy have been initiated or planned for the time period or geography (region/ sub-region).
At risk/ significantly behind schedule	Activities for this strategy are not progressing as planned, are behind schedule, or are projected to be behind schedule based on foreseeable risks.

Outcome 1: Governance and Collaboration – *Strengthening the model of collaborative oceans governance.*

Highlights of achievements for the 2017-2018 fiscal year are as follows:

- The MPAC was convened on four occasions. Two regular meetings were held to review the annual report, work plan and progress, as well as to receive updates and provide input on ongoing projects, including a log-handling site review, shellfish aquaculture pilot project, and recreation and tourism development study. An additional two workshops were held to provide local knowledge and input to draft management plans for five PMZs (PMZ 1 North Malcolm, PMZ 2 Hoeya Sill, PMZ 5 Cormorant Channel, PMZ 7 Broughton, and PMZ 8 Rock Bay). Consistent engagement of the MPAC enables a high level of stakeholder buy in and support necessary for plan implementation.
- In October 2017, the NVI team were joined by representatives from B.C. Ministry of Indigenous Relations and Reconciliation, B.C. Archaeology Branch staff, N̓anwākolas Council staff, and four different First Nations Guardian Watchmen departments for a field orientation to the NVI Plan Area to view and discuss projects. In January 2018, a series of joint survey flights were held with N̓anwākolas member First Nations Guardian Watchmen and B.C. Compliance and Enforcement staff. This represents an important step in the active implementation of joint compliance monitoring and provides a good basis for future discussions and bilateral agreements.
- The NVI team continues to prioritize use of Guardian programs as a priority in MaPP implementation projects. MaPP provided funding for Guardians to take a key role in MaPP implementation activities, including providing critical logistical support for the shellfish aquaculture pilot project, working with archaeologists to identify and assess cultural and heritage sites, identifying tourism opportunities, and conducting ongoing monitoring of marine sites and activities. In addition to supporting MaPP deliverables, the activities in which the Guardians participated had an extremely positive impact in the First Nations communities, creating meaningful employment and enabling valuable training. One major highlight is the Guardian updating of 196 registered archaeological sites and determination of their vulnerability/sensitivity. The Guardians were also able to transport MaPP implementation participants to see first-hand the NVI marine areas with videos and photographs being captured for MaPP communication purposes. As a result of initial joint compliance monitoring patrols between the Guardians and B.C. Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) Compliance staff, positive relationships have been created that can be built upon and expanded for future compliance and monitoring programs.

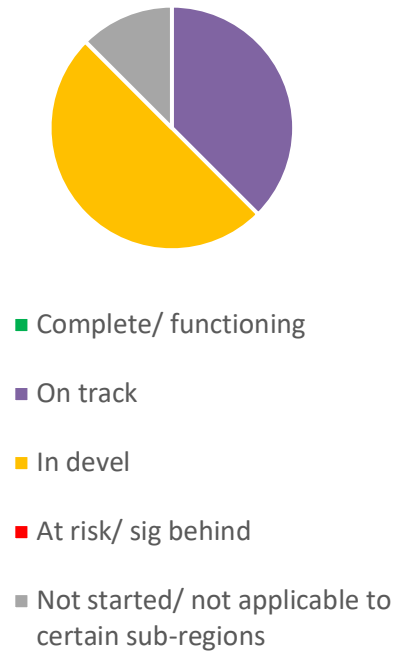
A full list of strategies related to this MaPP outcome is in Table 1.

Table 1. List of collaboration and governance strategies in the approved 2017-2018 work plan.¹

Strategy	Status of Strategy
A.3.1.2 Initiate discussions between First Nations and the provincial government on tenuring loxiwe to the appropriate First Nation(s) to protect their cultural and economic use by First Nations.	Not started / not applicable to some sub-regions
CHR.1.1.1 Encourage proponents to provide existing and new information regarding cultural and heritage resources to <u>Nanwakolas</u> member First Nations and local communities.	On track
GCM.1.1.1 Review the adequacy of existing information and communication materials regarding marine governance and jurisdiction for various government agencies and First Nations.	In development / some activities initiated
GCM.1.1.2 Develop and/or improve information access and education on marine governance and jurisdiction.	In development / some activities initiated
RET.4.3.1 Collaboratively develop and make available education materials to improve public understanding of, and caring for, marine cultural, heritage and ecologic resources.	In development / some activities initiated
RET.4.3.3 Provide, and increase awareness of, opportunities for stewardship involving education, restoration and monitoring.	In development / some activities initiated
Communications – annual reporting	On track
Stakeholder Engagement Meetings	On track

¹ “First Nations” in the context of the NVI Plan objectives and strategies means member First Nations of the Nanwakolas Council who signed the Marine Plan in 2015. These were the Mamalilikulla, Tlowitsis, Da’naxda’xw Awaetlatla, Wei Wai Kum, Kwiakah, K’omoks and Gwa’sala-’Nakwaxda’xw First Nations. The Gwa’sala-’Nakwaxda’xw First Nation is no longer a member of Nanwakolas Council and therefore such statements cannot be assumed to represent its current perspectives.

Collaboration and Governance Strategies



Of the collaboration and governance strategies initiated in the 2017-2018 fiscal year, three are “on track” and four are “in development”. Discussions between the Province and Nanwakolas member First Nations regarding the tenuring of loxiwe have not started; they are delayed pending internal discussion with Nanwakolas. Regular meetings were held with MPAC and the annual report was published on schedule. Initial steps have been taken to develop a broad communications strategy for the NVI region, which will guide future communications and stewardship efforts. A scope of work for a project to review and map governance processes and decision making related to marine resources has been developed and is undergoing internal review.



Photo: Tsatsisnukwomi Village (New Vancouver)

Outcome 2: Marine Zoning - *Achieving a healthy marine environment, robust economy and strong communities through zoning.*

Highlights of achievements for the 2017-2018 fiscal year are as follows:

- Based on a 2016-17 report by consultants on this topic, and general discussion in MaPP technical committees, the NVI Team developed a template and draft management plans for five PMZs (PMZ 1 North Malcolm, PMZ 2 Hoeya Sill, PMZ 5 Cormorant Channel, PMZ 7 Broughton, and PMZ 8 Rock Bay). These draft plans are currently under revision following MPAC review and feedback. The remaining five PMZs (PMZ 3 Cape Caution, PMZ 4 Nigei, PMZ 6 Burdwood Group, PMZ 9 Ba'as/ Blunden Harbour, and PMZ 10 Southeast Quadra) will be completed in the next fiscal year. The PMZ management plans will provide more detailed area-specific information on values and activities in the PMZ, existing PMZ conditional statements, for consideration for potential NVI plan amendments, the eventual plan review process, tenure review, or other follow-up actions by the MaPP partners.
- Both partners continue to be engaged in the Marine Protected Area (MPA) Network development process (as co-chairs of an MPA NVI Advisory Committee and participants in various MPA technical sub-committees) to ensure that the MaPP recommendations are considered in network design strategies, that the sites put forward balance conservation priorities with economic priorities and Nanwakolas member First Nations' interests, and that NVI stakeholders are effectively engaged. The MPA process is not yet at the stage of designing implementation strategies but a draft network is anticipated in late 2018.
- The Nanwakolas partner is working to identify cultural conservation priorities for the MPA network planning process that reflect values in selected PMZs and special management zones (SMZ)s. These areas will reflect areas previously identified in member First Nation plans for discussion and may emerge as part of draft MPA network scenarios. Nanwakolas has been engaged in selection criteria development and stakeholder engagement processes and will continue to play a key role in final candidate selection for North Vancouver Island as one of the MPA process partners.

A full list of strategies related to this MaPP outcome is in Table 2.

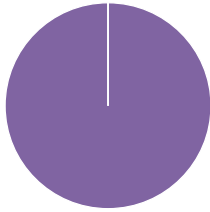
Table 2. List of marine zoning strategies in the approved year 2017-2018 work plan.¹

Strategy	Status of Strategy
CP.1.1.1 Through applicable processes, identify and propose new conservation and protection areas for ecosystem and species representation and resilience, special or unique marine areas or features, and protection of First Nations cultural resources.	On track
CP.1.1.3 Undertake protection management planning for Protection Management Zone areas approved as part of this Plan.	On track
CP.3.1.2 Encourage the Canada-British Columbia Marine Protected Areas Implementation Team to designate marine protected areas through the Network Strategy in a staged manner to minimise impacts on marine uses and activities.	On track
CP.4.2.1 Include First Nations in the Network Strategy review and selection of candidates put forward by First Nations, stakeholders, the public and the scientific community in their marine territories.	On track
CP.4.2.4 Include First Nations interests in the selection criteria for the Network Strategy candidate areas.	On track



Photo: Grizzly bear in Glendale Cove (credit: Thalassia.ca)

Marine Zoning Strategies



■ Complete/ functioning

■ On track

■ In devel

■ At risk/ sig behind

All strategies related to marine zoning are on track. Strategies related to MPA network planning are behind schedule but the partners have continued to engage in the process and progress is being made. Draft scenarios are anticipated for consideration in year 4. The designation of Salmon River as a Wildlife Management Area continues and the first step in designating a Section 16 land reserve is nearing completion. A Section 16 land reserve would withdraw the area from disposition for conservation purposes, precluding and preventing the acceptance of tenure applications. Adjacent land parcels owned by the Nature Trust of BC are being considered for inclusion in the proposed Wildlife Management Area. Significant progress has been made in the development of draft PMZ management plans. A consultant was contracted to develop an initial listing of considerations for PMZ management planning. The NVI team has since developed a template and produced five draft PMZ management plans (PMZ 1 North Malcolm, PMZ 2 Hoeya Sill, PMZ 5 Cormorant Channel, PMZ 7 Broughton, and PMZ 8 Rock Bay), which have undergone review by MPAC.



Photo: Vermilion sea star (credit: Thalassia.ca)

Outcome 3: Stewardship, Monitoring and Enforcement – *Enhancing stewardship of ecological and cultural values, and archaeological sites and areas through monitoring and enforcement.*

Highlights of achievements for the 2017-2018 fiscal year are as follows:

- Nānwakolas has developed a pilot proposal for conservation and protection of cultural resources, which has been submitted for internal review and determination of next steps by senior managers in the MaPP NVI partnership. The partners are also working to actively pursue joint compliance monitoring (as described above). A draft action plan on the management of cultural and heritage resources has been developed and will be refined with relevant provincial ministries. Registered archaeologists were contracted through MaPP funding to support the Ha-ma-yas Guardian Watchmen and provided training in data collection, field survey planning, as well as field data verification, and site vulnerability ratings.
- A contract was completed to gather information from Nānwakolas member First Nations, B.C. ministries and MPAC members on vulnerable and sensitive areas to support the development of a component of an NVI geographic response plan (GRP), which included identifying priority areas of concern, documenting sensitive values and marine traffic data, and evaluating coastal community resources.
- A contract was started with ESSA Technologies to identify priority polluted areas for restoration and develop high-level cost estimates for restoration work. This will be used to develop a plan for future restoration projects.
- Towards the end of the 2017-2018 fiscal year a scope of work was developed for an EBM monitoring co-ordinator and the NVI team began the hiring process to fill the contract. The contract was signed at the start of the 2018-2019 fiscal year. The co-ordinator will work with the B.C. and Nānwakolas partners to develop an EBM monitoring program for the NVI Plan Area, and will work with the technical planner and co-leads to identify educational and stewardship opportunities, and linkages to existing research programs.



Photo: Knight Inlet Waterfall (credit: Thalassia.ca)

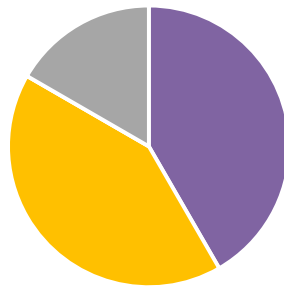
A full list of strategies related to this MaPP outcome is in Table 3.

Table 3. List of stewardship, monitoring and enforcement strategies in the approved 2017-2018 work plan.¹

Strategy	Status of Strategy
P.1.1.5 Assess community infrastructure that is available to accept and manage marine waste, and establish fee-for-service or other financial mechanisms for developing and maintaining the required infrastructure. A priority area is Echo Bay (SMZ 16) – see Chapter 5.	In development / some activities initiated
P.2.1.2 Work with relevant government agencies to confirm the locations of abandoned and derelict vessels, and establish a working group with local government, First Nations and relevant government agencies to identify the owners and potential funding sources, and to develop a risk-based action plan for phased vessel removal.	On track
P.3.1.1 Assess spill preparedness and response management capacity from appropriate government agencies, industry and community perspectives.	On track
P.3.1.3 Work with appropriate government agencies, industry and local communities to establish locally specific geographic response plans and response centres, including training, preparation and equipment for effective response to both local and regional marine spills.	On track
P.3.1.4 Establish a working group that includes appropriate government agencies and First Nations to address marine spill challenges, including financing, industry response times and capacity, spill management techniques, cleanup levels and standards, improved training and preparedness and response mapping systems.	In Development
P.4.1.1 Investigate the identified high-risk pollution areas in Queen Charlotte and Johnstone Straits for priority restoration sites, including estuaries and Plan Protection Management Zone areas.	On track
P.4.1.2 Identify opportunities and funding for local and First Nations community participation in the restoration of priority sites, including sites with degraded habitat from past tenured activities.	On track
P.4.1.3 Identify and confirm funding sources for local participation in restoration/adaptation programs for species and habitat.	On track
CHR.1.1.2 Undertake additional cultural and archaeological surveys and ongoing research for culture and heritage resources	On track
CHR.3.1.2 Develop a joint action plan based on the vulnerability assessment of human impacts (Strategy 3.1.1) that includes a description of legislative tools and how they apply, restrictions on access and/or visitation guidelines, an efficient process for managing development where cultural or heritage resources may be or are being impacted, and appropriate communications tools.	On track
CHR.4.1.1 Establish a provincial government/Nanwakolas member First Nations agreement to address such topics as surveillance and enforcement of cultural resources in Guardian Watchmen programs.	In development / some activities initiated

Strategy	Status of Strategy
CHR.4.1.2 Support the development of Nanwakolas member First Nations guidelines for sharing information about cultural resources and the intended use of this information.	On track
CHR.4.1.3 Develop a provincial government / Nanwakolas member First Nations pilot project on the conservation and protection of cultural resources.	On track
FEAV.3.1.1. Support First Nations monitoring of marine activities as they relate to continued First Nations fishing activities.	In development / some activities initiated
FEAV.4.1.3 Encourage compliance through existing and new monitoring programs, information and education (e.g. guardian watchmen, electronic monitoring).	In development / some activities initiated
RCE.1.1.2 Co-ordinate training for marine surveillance and enforcement with relevant agencies and organizations.	In development / some activities initiated
RCE.1.1.3 Promote and/or renew existing, and investigate potential new, local educational opportunities (e.g., lighthouse keepers, StraitWatch) regarding culture and heritage resources and ecological disturbances, including wildlife and pollution incidents	Not started / not applicable to certain sub-regions
RCE.1.1.5 Assess provincial conservation and protection regulations and policy regarding cultural and heritage resources to improve surveillance and enforcement requirements, if required.	In development / some activities initiated
RCE.2.1.2 Increase the use of Guardian Watchmen programs to assist with monitoring and facilitating compliance with tenure provisions, marine plans and existing regulations. This could include, but is not limited to, ecological conditions, conservancies and protected areas, marine oil spill response, cultural and heritage resources, and related early warning systems.	In development / some activities initiated
RET.1.1.1 Support independent, government, industry and academic funding for, and collaboration on, the development of a marine research program strategy that is consistent with a national research strategy. Include priority topics such as thresholds for pollutants, long-term marine ecosystem health assessments, impacts of light pollution on seabirds and other species, climate change, and analysis of existing data sets (including recreational dive site datasets for ecological values).	In development / some activities initiated
RET.1.1.2 Work with organizations, institutions, industry and governments to develop robust and objective baseline research and monitoring programs.	In development / some activities initiated
RET.1.1.3 Provide local opportunities for hands-on and applied research training.	In development / some activities initiated
RET.3.2.1 Develop or expand education and awareness programs regarding prevention, regulatory compliance, restoration and recovery (e.g., StraitWatch, Observe Record and Report, marine mammal incident reporting).	Not started / not applicable to certain sub-regions
RET.4.3.3 Provide, and increase awareness of, opportunities for stewardship involving education, restoration and monitoring.	Not started / not applicable to certain sub-regions

Stewardship, Monitoring and Enforcement Strategies



- Complete/ functioning
- On track
- In devel
- At risk/ sig behind
- Not started/ not applicable to certain sub-regions

Progress on strategies related to stewardship, monitoring and enforcement has steadily increased from Year 3. Of the above strategies initiated in the 2017-2018 fiscal year, 10 are on track and nine are in development. Three projects pertaining to educational, training and stewardship opportunities have not started yet and are delayed pending the development of a communications strategy to guide these efforts. Strategies to inform the development of a geographic response plan are on track. A consultant was hired to gather information on vulnerable and sensitive areas from First Nations, the provincial government and stakeholders, and identify priority areas for concern, document marine traffic in the area, and evaluate community resources for response. This report will support the development of a geographic response plan for the NVI plan area through a collaborative process led by relevant federal agencies, as part of the Ocean Protection Plan. Strategies to address the restoration of

polluted areas are also on track; a contract is underway to develop a list of priority polluted sites for restoration and high-level cost estimates for a subset of sites, as well as identifying potential funding sources for this work.

Increasing the use of Nānwakōlas member nations' Guardian programs in supporting the implementation of plan strategies is still of great importance to the sub-region with management of cultural and heritage sites a priority. Work on the management of cultural and heritage resources is underway and good progress is being made on a number of fronts including the development of a pilot project proposal and a draft action plan, which would include the management and sharing of information. There have also been ongoing meetings and joint surveys between B.C. Compliance and Enforcement and the Guardian program representatives.

Toward the end of the fiscal year, an ecosystem-based management monitoring co-ordinator was hired for the NVI sub-region. The EBM coordinator will work with the NVI team, Guardian programs and the Regional MaPP marine biologist to develop and implement a monitoring plan focused primarily on kelp and eelgrass indicator monitoring, and to identify opportunities for training, citizen science and education projects, and linkages to existing research programs.

Outcome 4: Sustainable Economic Development Healthy Communities – *Fostering a new ecosystem-based marine economy for improved community and human well-being.*

Highlights of achievements for the 2017-2018 fiscal year are as follows:

- The Tlowitsis Shellfish Pilot Project is progressing on schedule with continued environmental monitoring as well as the deployment of blue mussels, scallops and Pacific oysters in Port Neville. In general, the results are promising: the amount of fouling was less than anticipated, shell length data shows significant growth during spring and summer, and there was low mortality.
- A shellfish aquaculture market analysis was completed in October 2017 that provides a number of recommendations for follow-up work, such as seeking partnerships for processing and local marketing.
- The Recreation and Tourism Economic Development Opportunities Study is currently being finalized. Topics include an in depth look at cultural and heritage tourism, expansion and development of marine recreation and tourism, infrastructure and transportation needs, small vessel tourism and collaboration and partnership opportunities. The report sets out recommendations and actions that will form the basis for future follow up work.

A full list of strategies related to this MaPP outcome is in Table 4.



Photo: Pink spiny rock scallop (credit: Thalassia.ca)

Table 4. List of sustainable economic development and healthy communities strategies in the approved 2017-2018 work plan.¹

Strategy	Status of Strategy
A.2.1.1 Work with industry and key marine sectors to identify areas with high capability for the aquaculture of shellfish and other invertebrates and plants for potential establishment of provincial government notations of interest.	On track
A.3.1.1 Identify appropriate sites with high shellfish aquaculture capability for First Nations tenure opportunities. Priority areas are the North Shore/Boswell Inlet (SMZ 1), Port Neville (SMZ 25), Booker Lagoon (SMZ 11) and Kalogwis (SMZ 22) – see Chapter 5.	On track
CE.1.2.1 Identify and prioritize marine economic development opportunities and constraints for local communities, including social and ecological constraints.	On track
CHR.2.1.1 Review existing cultural and heritage tourism studies and develop an action plan for increasing tourism opportunities.	On track
I.1.1.1 Review the current inventory of marine infrastructure with appropriate government agencies, industries and stakeholders, and develop an action plan for addressing priority infrastructure upgrades and gaps, including those related to recreation and tourism, fueling and emergency response.	In development / some activities initiated
P.1.1.2 Assess the vulnerability of existing and potential marine uses and activities that are sensitive to pollution from marine and adjacent upland sources. Priorities are sewage outfall impacts on shellfish areas in Hardy Bay (SMZ 8), Ioxiwe in the Broughton (PMZ 7), and existing and new conservation and protection areas – see Chapter 5.	In development / some activities initiated
RCE.2.1.1 Work with relevant government agencies to identify opportunities where Guardian Watchmen could participate in the surveillance of marine activities and the enforcement of marine regulations.	In development / some activities initiated
RET.2.1.3 Encourage research institutions and industry to use First Nations in conducting research programs.	In development / some activities initiated
RET.3.1.1 Work with existing regional and local committees to identify and address gaps in training and establish programs to educate community youth about opportunities for marine sector employment training.	In development / some activities initiated
RET.3.1.2 Increase multi-sector co-operation to create a critical mass for training opportunities for mutual certifications.	In development / some activities initiated
RET.3.1.3 Evaluate current human resource needs and future sector growth as the basis for training programs.	In development / some activities initiated
RET.3.1.4 Encourage training and hiring of local residents for jobs in the marine economic sectors.	In development / some activities initiated

RT.1.1.1 Undertake a review of infrastructure, transportation, market entry and other barriers/challenges to participation in recreation and tourism opportunities.	On track
RT.1.1.2 Identify and assess local and sustainable marine recreation and tourism expansion and development opportunities.	On track
RT.1.1.3 Work with industry and local communities to develop a strategy for attracting pocket cruise ships to improve the use of existing infrastructure.	On track
RT.2.1.5 Facilitate the establishment of new, viable and sustainable First Nations-owned marine recreation and tourism businesses. Priority areas include Knight Inlet North (SMZ 21), Viner Sound/Shoal Bay (SMZ 17), Kalogwis (SMZ 22), Knight Inlet South (SMZ 20), Tribune/Bond (SMZ 18), Thompson Sound (SMZ 19) and Broughton (PMZ 7) – see Chapter 5.	In development / some activities initiated

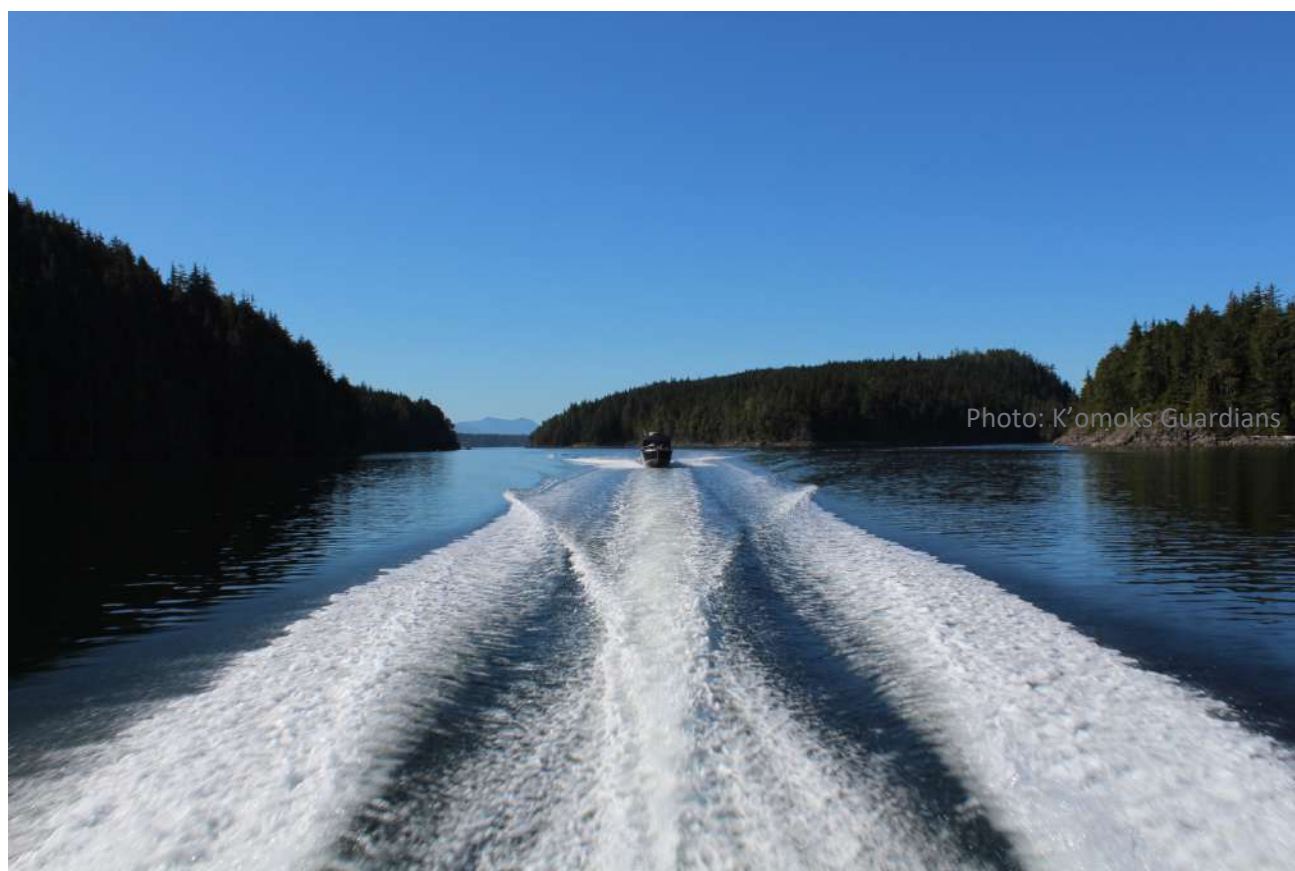
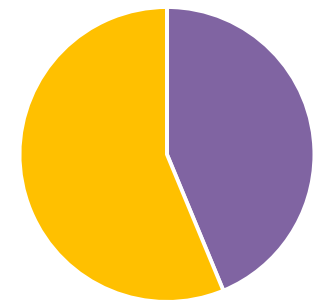


Photo: K'omoks Guardians

Photo: K'omoks Guardians

Sustainable Economic Development, Healthy Communities Strategies



- Complete/ functioning
- On track
- In devel
- At risk/ sig behind
- Not started/ not applicable to certain sub-regions

Good progress continues to be made on the strategies pertaining to shellfish aquaculture through the Tlowitsis Shellfish Aquaculture project. The first year of in situ monitoring has shown good seasonal growth rates, minimal fouling and little mortality. Blue mussels, scallops and Pacific oysters are now being grown in Port Neville as an extension of the pilot project. Environmental data, including temperature and salinity, is also being collected at the Port Neville site as well as Klaoitsis and Havannah Channel. Environmental data will provide a better understanding of factors that might affect growth rates and mortality and will help to identify additional sites for shellfish aquaculture in other parts of the plan area. This project will continue into 2018-2019. A market feasibility study has also been completed for scallops, blue mussels and kelp aquaculture, including local and regional processing capacity.

Good progress has also been made on strategies related to recreation and tourism potential. A consultant was hired to evaluate tourism and recreation opportunities in the NVI Marine Plan

Area and provide recommendations for opportunities or further work. The subjects covered include: culture and heritage tourism opportunities, sustainable recreation and tourism expansion, infrastructure review, and training needs in the tourism sector. The final report is expected shortly, pending review and revision. Funds were allocated to support the development of a strategic plan for Whale Heritage Site Designation for the NVI sub-region, however this project has been postponed until there is full support from First Nations. Finally, a scope of work is under development for a contract to assess the marine-related jobs market, work with stakeholders and N_{an}wak_olas member First Nations to identify common challenges and opportunities faced by industry and the work force, and develop recommendations to address these issues. This work will be conducted in 2018-2019.

Outcome 5: Climate Change and Adaptive Management – *Undertaking studies and plans to better address the effects of climate change in the MaPP region.*

The 2017-2018 NVI work plan did not include work on strategies related to climate change. However the NVI team contributed to climate change studies and related ecosystem indicators being developed for the MaPP region, including a regional climate change assessment study. Once this study is underway, more focused work will take place in the plan area for more specific climate change studies and EBM indicator development and monitoring.

In addition, the new sub-regional EBM monitoring co-ordinator has been tasked with identifying and tracking potential climate change indicators within the EBM monitoring program for the NVI Plan Area.



Photo: Compton Island, Blackfish Sound

ECOSYSTEM-BASED MANAGEMENT INDICATOR MONITORING

Refer to Outcome 3: Stewardship, Monitoring and Enforcement of this report.



Photo: Harbour seal in kelp, Knight Inlet (credit: Thalassia.ca)

LOOKING AHEAD

In the next fiscal year of implementation (2018-2019), the NVI Team will continue to focus on projects that were started in the 2017-2018 fiscal year that require additional activities in all MaPP outcomes, and will engage MPAC members on all aspects of implementation.

New projects are anticipated for the following topics:

- Assessment of infrastructure upgrades and gaps
- Training and education
- EBM monitoring
- Education and communications
- Polluted areas restoration
- Shellfish aquaculture feasibility
- Geographic response planning
- Climate change vulnerability
- Marine trail planning

Efforts will continue by both partners in establishing agreements for enabling the Guardian programs to assist with monitoring and facilitating compliance with provincial tenure provisions, marine plans and existing regulations.



Photo: Guardian Watchmen, Knight Inlet (credit: Thalassia.ca)

APPENDIX A – COMPLETED NVI IMPLEMENTATION STUDIES

Topic	Author	Title	Date completed
Log Handling and Storage Sites	Silvacare, Inc.	Log Handling and Storage Site Inventory for the North Vancouver Island Plan Area	1 June 2017
Aquaculture Marketing Information	Linda Hiemstra and Christine Hodgson	Opportunities for Aquaculture in the NVI Marine Plan Area: Marketing and Production Information for Scallops, Mussels and Kelp	27 October 2017
Geographic Response Planning	Stafford Reid and Jason Howes	Areas of Concern and Local Response Capacity for Marine Incidents within North Vancouver Island Marine Plan Area	6 January 2018
Cultural and Heritage Resources	Inlailawatash	Cultural and Heritage Vulnerability and Sensitivity Assessment (Internal)	28 January 2018
Economic Development	Tony Wong	Recreation and Tourism Economic Development: An Implementation Project of the North Vancouver Island Marine Plan	22 May 2018
Shellfish Aquaculture	Don Tillapaugh	Tlowitsis Shellfish Aquaculture Pilot Project Annual Report	TBC

APPENDIX B – NVI MARINE PLAN ADVISORY COMMITTEE MEMBERSHIP

Name	Sector
Bruce Storry (Member)	Coastal Forestry
Bharat Adhikari (Co-alternate)	Coastal Forestry – BCTS
Christina Mardell (Co-alternate)	Coastal Forestry – BCTS
Richard Snowdon (Member)	Commercial Tourism
Jim McIsaac (Member)	Commercial Fishery
Dan Edwards (Alternate)	Commercial Fishery
Kim Wright (Member)	Marine Conservation
Ross Jameson (Alternate)	Marine Conservation
Richard Opala (Member)	Finfish Aquaculture
Jim Abram (Member)	Local Government – Strathcona Regional District
Larry Samson (Member)	Local Government – City of Campbell River
Charlie Cornfield (Alternate)	Local Government – City of Campbell River
Heidi Soltau (Member)	Local Government – Regional District of Mt Waddington
Dennis Buchanan (Alternate 1)	Local Government – Regional District of Mt Waddington
Jeff Long (Alternate 2)	Local Government – Regional District of Mt Waddington
Leighan Wishart (Member)	Local Government – District of Port Hardy
Fred Robertson (Alternate)	Local Government – District of Port Hardy
Mike Kelly (Member)	Port Hardy Harbour Authority
Peter Stockdill (Member)	Public Recreation
Nick Heath (Alternate)	Public Recreation
Chuck Ashcroft (Member)	Public Recreational Fishing
Don Tillapaugh (Member)	Shellfish Aquaculture
Todd Russell (Alternate)	Shellfish Aquaculture

APPENDIX C – NVI TECHNICAL TEAM

Name	Title
John Bones	Co-Lead, N̓anwak̓olas Council of First Nations
Andy Witt	Co-Lead, Province of B.C.
Scott Harris	Marine Planner, N̓anwak̓olas Council of First Nations
Barb Dinning	Marine Planner/GIS Analyst, N̓anwak̓olas Council of First Nations
Alexandra Barron	Technical Planner, NVI MaPP
Josie Byington	Planning Assistant, NVI MaPP



Photo: Steller sea lions, Johnstone Strait (credit: Thalassia.ca)

WHERE TO GO FOR MORE INFORMATION

The Marine Plan Partnership:
<http://mappocean.org/>

Marine Plan Partnership for the North Pacific Coast | MaPP is a partnership between the Government of B.C. and First Nations.

