From:	<u>"Mochrie, Paul" <paul.mochrie@vancouver.ca></paul.mochrie@vancouver.ca></u>
To:	"Direct to Mayor and Council - DL"
Date:	2/24/2023 1:05:34 PM
Subject:	Council Memo - Aquatic Environments Action Plan Progress Update - RTS# 13050

Dear Mayor and Council,

The attached Memo to Council provides a progress update on implementation action taken during 2022 to advance the City's Aquatic Environments Action Plan across City departments and the Park Board. The Memo also responds to the following two related Council resolutions (adopted July 20, 2022):

- THAT Council direct staff to work with First Nations, Vancouver Coastal Health and the Vancouver Park Board on a report back to Council on the feasibility and financial costing to restore sections of Coal Harbour, False Creek, Trout Lake, downtown waterfront, New Brighton and Fraser River to primary contact recreational water bodies by Vancouver Coastal Health standards, which would allow more equitable access to natural aquatic spaces throughout Vancouver.
- THAT staff report back on the creation of a Joe Fortes learn to swim campaign to empower the next generation of swimmers in Vancouver.

The Aquatic Environments Action Plan, adopted by Council in 2020, sets out a strategic framework for guiding City efforts in improving water quality and overall aquatic environmental health. Recognizing the need for concerted effort over time, the Aquatic Environments Plan establishes a two-prong approach, directing effort at the strategic planning level to support the broader systemic changes needed to make more significant improvements over the longer term as well as tactical action to realize concrete improvements over the short-term.

Advancing the City's Aquatic Environments Plan is a result of a multitude of actions being advanced across various City departments and the Park Board. Annual progress updates provide a collated synopsis of key highlights.

If you have any questions or concerns, please reach out to Armin directly.

Best, Paul

Paul Mochrie (he/him) City Manager City of Vancouver paul.mochrie@vancouver.ca



The City of Vancouver acknowledges that it is situated on the unceded traditional territories of the x^wməθk^wəẏ̀əm (Musqueam), Skwxwú7mesh (Squamish), and səlilwətal (Tsleil-Waututh) Nations.



MEMORANDUM

February 24, 2023

- TO: Mayor and Council
- Paul Mochrie, City Manager CC: Karen Levitt, Deputy City Manager Maria Pontikis, Chief Communications Officer, CEC Rosemary Hagiwara, Acting City Clerk Teresa Jong, Administration Services Manager, City Manager's Office Mellisa Morphy, Acting Chief of Staff, Mayor's Office Trevor Ford, Director of Operations, Mayor's Office Theresa O'Donnell, General Manager, Planning, Urban Design and Sustainability Lon LaClaire, General Manager, Engineering Services Donnie Rosa, General Manager, Board of Parks and Recreation Steve Kellock, Director of Recreation, Board of Parks and Recreation Margot Davis, Manager, Environmental Services Armin Amrolia FROM: Acting General Manager, Real Estate and Facilities Management SUBJECT: Aquatic Environments Action Plan Progress Update and Response to "Swimmable Vancouver" Motion
- RTS #: 13050

Purpose

In February 2020, Council adopted the City's Aquatic Environments Action Plan (Aquatic Environments Plan), setting a strategic pathway for improving water quality and ecological health of the City's aquatic environments. In accordance with the plan, annual progress updates are provided to Council. This memo provides Council with updates for action taken in 2022 ¹ and responds to Council's July 20, 2022 resolutions pertaining to "Swimmable Vancouver" motion (Attachment A).

Background

Improving aquatic environments is complex work, requiring time, partnership and sustained investment. This is particularly the case in highly urbanized areas where aquatic environments have been and continue to be heavily impacted by the built environment. The Aquatic Environments Plan takes a systematic approach to addressing aquatic environmental health via City-led planning initiatives and short term actions. This approach, action while planning, enables the City to make concrete improvements in the short-term while also directing energy and focus towards broader systemic changes needed to result in more significant improvements over the longer term.

¹ Prior year efforts can be found in the May 2022 progress update as well as previous progress update reports.



Progress Update

Progress in advancing the City's Aquatic Environments Plan is a result of a multitude of actions being advanced across various City departments and the Park Board. A key advancement made in 2022 for improving aquatic health was the inclusion of a dedicated chapter on ecology in the Vancouver Plan adopted by Council in 2022. The policy directions established in the ecology chapter of the Vancouver Plan set a strong foundation for moving forward with considered land use decisions which support improvements to water quality and environmental health. In 2022, effort was also directed at integrated aquatic health objectives into the City's Healthy Waters Plan. Key goals and objectives of this plan were recently brought forward to Council (February 1, 2023). Whereas the Vancouver Plan seeks to ensure that there is space for nature, the Healthy Waters Plan, among other goals, seeks to reduce pollution from the City's sewage and rainwater management system. Both are necessary for achieving meaningful improvement.

As was the case in past years, a suite of on-the-ground tactical actions were also advanced in 2022. Actions included continued advancement of the City's' False Creek Water Quality Improvement Initiative as well as a new initiative launched to improve water quality in Musqueam Creek, working with the Musqueam Nation and Metro Vancouver. A complete description of progress made is provided in the Aquatic Environments Action Plan - 2022 Progress Report (Attachment B).

Response to "Swimmable Vancouver" Motion

1. Resolution: THAT Council direct staff to work with First Nations, Vancouver Coastal Health and the Vancouver Park Board on a report back to Council on the feasibility and financial costing to restore sections of Coal Harbour, False Creek, Trout Lake, downtown waterfront, New Brighton and Fraser River to primary contact recreational water bodies by Vancouver Coastal Health standards, which would allow more equitable access to natural aquatic spaces throughout Vancouver.

As noted, the Aquatic Environments Plan provides a strategic blueprint for restoring and improving aquatic environments. The Plan directs effort towards improving conditions in water bodies to support current uses, including existing ocean beaches, False Creek, Trout Lake and inland streams. Neither the Fraser River nor New Brighton are deemed safe for swimming due to high currents and other hazards. Any focus on Coal Harbour would need to be done in concert with the Park Board. At this point, the Park Board's focus is on directing investments towards existing beaches and pools, as well as the development of new pools as per their adopted strategic aquatics plan, VanSplash.

2. Resolution: THAT staff report back on the creation of a Joe Fortes learn to swim campaign to empower the next generation of swimmers in Vancouver.

City staff have shared this suggestion with Park Board staff in recognition that learn-to-swim campaigns are a Park Board responsibility.

Next Steps

Future updates on the City's efforts in implementing the Aquatic Environments Action plan will continue to be provided. Please do contact me should you have any questions or wish for any further information.

Sincerely,

h.

Armin Amrolia Deputy City Manager Acting General Manager, Real Estate and Facilities Management

604 -873-7627 <u>armin.amrolia@vancouver.ca</u> Attachment A – Council Resolution Attachment B - Aquatic Environments Action Plan – 2022 Progress Update

MOTION

10. For a Swimmable Vancouver (Member's Motion B.7)

At the Council meeting on July 19, 2022, Council referred the following motion to the Standing Committee on Policy and Strategic Priorities meeting on July 20, 2022, in order to hear from speakers, followed by debate and decision.

Submitted by: Councillor Wiebe

WHEREAS

- 1. Waters in and around Vancouver play an important role in the economic, ecological and social well-being of Vancouver;
- 2. Aquatic programming promotes both mental and physical fitness as well as safety and security in and around the water. A current lack of accredited guards and limited aquatic access has prevented the next generation of children from learning basic swim skills. While long term solutions are explored there are steps we can take to immediately help relieve some of the issues;
- Climate change is amplifying the negative impacts of biological and toxic pollutions yet Vancouver has had success restoring creeks, rivers and habitat that has brought salmon and herring back;
- 4. On May 30, 2017, Council passed a motion to establish a Waterfront Initiative for major natural waterways including the Burrard Inlet, False Creek, Lost Lagoon, the Fraser River and Trout Lake that engages First Nations, industry, senior levels of government and adjacent municipalities, and the community to support multiple goals: A Thriving Working Waterfront, Safe Accessible Waterfront Recreation, Restoring Aquatic and Riparian Ecology and Traditional First Nation's Food Sources; and
- 5. On May 2nd, Council approved the recommendation in RTS # 11851 "Update on Protecting Vancouver's Recreational Water Quality" which identified proposed activities and by-law amendments to strengthen water quality protection.

THEREFORE BE IT RESOLVED THAT Council direct staff to work with First Nations, Vancouver Coastal Health and the Vancouver Park Board on a report back to council on the feasibility and financial costing to restore sections of Coal Harbour, False Creek, Trout Lake, downtown waterfront, New Brighton and the Fraser River to primary contact recreational water bodies by Vancouver Coastal Health standards, which would allow more equitable access to natural aquatic spaces throughout Vancouver;

FURTHER THAT staff report back on the creation of a Joe Fortes learn to swim campaign to empower the next generation of swimmers Vancouver.

* * * * *



Aquatic Environments Action Plan

Progress Report 2022

Introduction

Water is considered to be the "Life Giver" by the x^wməθk^wəy əm (Musqueam), Skwx wú7mesh (Squamish), and səlilwətał (Tsleil-Waututh) peoples. Since time immemorial, Indigenous communities have been the stewards of local waterbodies and used them for hunting, fishing, collecting other resources, and cultural practices. Vancouver's history of colonization and industrialization has impacted water quality and ecological health in the surrounding marine environment and resulted in the near elimination of freshwater streams. False Creek was once five times its present size and included a large tidal mud flat that was blanketed with thick eelgrass, plentiful clams, and countless birds. Freshwater streams were filled in, moved below ground and covered. Only nine kilometres of Vancouver's estimated 105 km of streams remain today.

Ecological restoration is a key priority of the City and its residents and one of the priority policy areas identified in the Vancouver Plan. The Aquatic Environments Action Plan, adopted by Council in 2020, sets a strategic pathway for improving water quality and ecological health of the City's aquatic environments. On an annual basis, actions taken by the City and Park Board are summarized and reported to Council. This report provides the progress made in 2022.



Freshwater Ecosystems

There are only about 9 km of flowing streams remaining in Musqueam Creek, Vivian Creek, Still Creek, Spanish Bank Creek, and Beaver Creek. Restoration and daylighting projects in Still Creek, Hastings Creek, Salmonberry Creek and Tatlow Creek aim to bring back some of these lost streams. Freshwater wetlands are also an important element of the urban aquatic environment in Vancouver. About 53 ha of freshwater wetlands remain in the City with the largest areas being Lost Lagoon, Beaver Lake, Trout Lake, the Jericho Ponds, and Sanctuary Pond in Hastings Park.

Musqueam Creek

At the request of the Musqueam Indian Band, the City is working in partnership with Musqueam, federal government and MetroVancouver to reduce pollution to Musqueam Creek.

In 2022, the City initiated a microbial pollution investigation study to determine if a City stormwater outfall was contributing to elevated levels of E.coli in the creek. The preliminary results from this study indicated that stormwater from this outfall is likely one of the sources of microbial pollution. Results also suggest that a sanitary cross-connection is not likely to be a pollution source in the stormwater. Additional work is planned for 2023 to further assess and identify root sources.





Trout Lake

In 2022, the Park Board approved the John Hendry (Trout Lake) Park renewal plan, which included several key recommendations to improve Trout Lake's ecological health. These recommendations included:

- piloting ecologically-based treatment within the lake;
- redirecting and treating urban runoff from in and around the park to the lake to help restore the bog and wetland at the lake's edge;
- managing lakeside vegetation to reduce geese residence time as goose droppings impact water quality;
- updating the water quality monitoring program to track progress; and,
- reducing and eventually eliminating potable chlorinated water inputs into the lake.

In addition to these aquatic focused actions, several recommendations were made to enhance the green space surrounding the lake, which will also contribute to improved ecological health of the park.

The Park Board also conducts seasonal water quality monitoring of microbial levels at the swimming beach on Trout Lake in coordination with Vancouver Coastal Health (VCH). Sampling began in April and on June 21, the microbial levels in Trout Lake triggered a "No Swimming" advisory by VCH that was in effect for the remainder of the season. This is the longest closure period of the last 10 years.

Tatlow Creek

In 2022, the Park Board completed the detailed design and awarded the contract for the construction of the Tatlow Creek restoration work. This work will restore a portion of a historical stream in Volunteer and Tatlow Park originally known as "First Creek". This project will daylight the stream, connect the existing stream to English Bay and improve access to the shoreline.

False Creek Water Quality

The City and Park Board have been pursuing efforts to improve water quality in False Creek with both short term and long term initiatives. In accordance to Council's adopted Aquatic Environments Action Plan, the focus of the work has mainly been on microbial impacts to water quality, but many of the initiatives contribute to overall improvements in other ways.

Given the complexity of the urban ecosystems surrounding False Creek, improving water quality necessitates a long-term approach involving multiple stakeholders and jurisdictions, and is dependent upon systematic effort across a suite of prioritized action areas. The City has established a dedicated program, False Creek Water Quality Improvement Initiative, which directs action across five priority areas:

- 1. Source Control
- 2. Research and Assessment
- 3. Ecosystem Health Improvement
- 4. Strategic Planning
- 5. Engagement, Partnerships and Inter-agency Coordination

The following sections provide updates on progress and actions taken in each of these priority areas in the False Creek watershed in 2022.



Fairview looking west across False Creek, ca. 1890, CVA 1376-204

Source Control Reducing Land-based Discharges

One source of microbial pollution in False Creek is sewage discharges from land including combined sewer overflows (CSOs). As the vast majority of these discharges occur during the fall and winter rainy seasons, it is not yet clear how significant these discharges are in impacting conditions during the summer period when recreational use is at its highest. Regardless, reducing combined sewer overflows is critical for reducing overall loadings and improving the ecological health of False Creek. Other potential land-based sources of microbial pollution include sewer cross-connections and polluted rainwater runoff.

Reducing Combined Sewer Overflows (CSOs)

The original sewer system in Vancouver combined stormwater/rainwater with sanitary sewage in what is known as a combined sewer system. These systems were built with sufficient capacity to handle sanitary flows but only a portion of stormwater runoff. During some high-precipitation events, pipe capacity can be exceeded and combined sewage and stormwater overflow into local water bodies, including False Creek. These occurrences are called combined sewer overflows (CSOs).

The City has been replacing combined sewers with a separated sanitary and stormwater sewer system for many decades. Three City outfalls and one Metro Vancouver outfall that receive periodic CSOs remain in False Creek. In 2022, design work was completed for a separation project that will redirect 18,000 m² of area from the City Crowe St CSO; this work is anticipated to help reduce the volume and frequency of overflow events in False Creek.



Green Rainwater Infrastructure Program

The City's Green Rainwater Infrastructure (GRI) initiatives provide various rainwater and urban runoff management services, including absorbing rainwater, replenishing groundwater, reducing drainage needs and in some situations, improving the water quality of urban runoff. GRI initiatives also contribute to reduced frequency and intensity of CSOs by decreasing the amount of rainwater that enters the piped sewer system.

In 2022, several additional GRI assets were installed on City lands within the catchment areas that drain to False Creek. Permeable pavement and infiltration trenches were installed along W 10th Ave by the new bike lanes, and a new bioretention bulge at Cook St and W 1st Ave, which contribute to treating 3.8 M litres of stormwater runoff in the False Creek Watershed. The green infrastructure maintenance program was in full-force in 2022, ensuring that all of the existing assets in the False Creek basin and in the City were functioning well to receive and treat road runoff. Looking forward to 2023, the St George Rainway, a 4-block installation of green infrastructure, is starting construction in February 2023, and will be completed in 2024. And for future plans, green infrastructure is apart of the One Water section of the Broadway Plan, and design work continues to incorporate green infrastructure in the Broadway Subway blocks and in future blocks of the full St George Rainway (14 blocks in total).



Source Control

Supporting Responsible Sewage Management by Boaters

While regulating and enforcing marine vessel sewage disposal is a federal government responsibility, the City and Park Board are working to support responsible sewage management by recreational boaters through use of available local government tools. Focus areas to date include education and engagement, provision of pump-out facilities and services, strengthening by-law requirements, and facilitating compliance at marinas.

Marina Compliance Promotion

Initiated in 2018, the City's Marina Compliance Promotion program continued in 2022. This program seeks to ensure compliance with the City's *Health By-law* which:

- prohibits boaters from discharging any polluting substance,
- prohibits marina operators from allowing boaters to discharge polluting substances in their marinas, and
- required that all marinas have an operational pump-out facility by January 1, 2019.

Marinas are periodically inspected to confirm the required signage and pump out facilities are present and operational. In 2022, no significant compliance issues were identified.

Providing Pump-out Services for Boaters

Since 2015, the Park Board has made stationary sewage pump-out facilities at the two civic marinas in False Creek available year-round (and at no cost) to all boaters. This service continued in 2022.

In 2017, a seasonal, mobile sewage pump-out service was piloted by the City. It was expanded in 2018 and again in 2019, with additional service hours and a new boat which has continued to be provided each year. The mobile sewage pump-out service provides a convenient option for recreational boaters and also assists those where access to the stationary pump-outs is difficult. In 2022, the sewage pump-out boat conducted 851 pump-outs totalling approximately 79,000 L of sewage. Since the program started in 2017, approximately 330,000 L of sewage has been pumped out of boats in False Creek and diverted to the sewage system with volume generally increasing year over year.



Research and Assessment

Investigating Pollutant Sources and Strengthening Understanding of False Creek

The complex nature of False Creek and limitations in conventional water quality testing makes it difficult to pinpoint pollution sources and impacts. Gaining a better understanding of system conditions, including basin flow and the distribution and fate of pollutants, and developing measures to better assess and identify pollution sources will enable the City and Park Board to better direct investments towards priority areas.

Undertaking Water Quality Assessment Studies

Annual efforts by Metro Vancouver as part of the beach water quality program provide a seasonal snapshot of water quality conditions within False Creek with respect to microbial pollution.

In 2018, the City launched a supplemental seasonal water quality assessment program to develop a greater understanding of water quality conditions throughout the basin and undertake targeted pollution studies. This work has continued through 2022. Results to-date have found that water quality within marinas generally meets water quality objectives, indicating that boats in marinas are unlikely to be a significant source of pollution. Assessment work has been expanded to investigate other potential sources.

Monitoring Sewer Flow

The City started monitoring combined sewer overflows around False Creek in 2019, installing ten sensors at potential overflow locations. In addition, the City started monitoring sewer flow at strategic locations in the pipe network to support better understanding of sewer system dynamics.

In 2022, 4 new flow monitoring stations were installed in the Cambie Heather catchment and 2 new monitoring stations were installed in the Terminal catchment. There is now a total of 51 flow monitoring stations present in the catchments surrounding False Creek. There are a total of nine active stations monitoring CSO discharges to False Creek.

Developing a Conceptual Basin Model

In 2022, the City completed a Conceptual Basin Model, which included a qualitative description of the physical elements of the False Creek basin and their interrelationships in a dynamic system. The focus of the model was to:

- identify potential sources of microbial pollution;
- identify primary forces driving transport and dispersion of microbial pollution within False Creek; and,
- delineate relationship between ecological and human receptors that may be exposed to waterbourne microbial pollution.



False Creek Water Quality Improvement Initiative Ecosystem Health Improvements

Efforts to address water quality in False Creek can be further advanced by improving overall ecosystem health. For example, restoring natural shorelines (such as those found on Habitat Island) supports ecological processes including temperature regulation, nutrient cycling, sediment trapping, and water filtration, while also providing habitat and food for wildlife. When these processes are functioning, water quality can be improved naturally.

BioBlitz

The Hakai Institute and the False Creek Friends Society (FCFS), in collaboration with the City of Vancouver and several local community partners, undertook community engagement activities (i.e. outreach, education and community science) and scientific initiatives between April and September 2022 to develop a more comprehensive understanding of the biodiversity of the seafloor, the water and the shorelines of the False Creek area in Vancouver. Analyses of the scientific initiatives are ongoing with report anticipated in 2023.

The City provided in-kind support in terms of environmental expertise, communications support and provided facility space for the scientists. Early results from the bioblitz has revealed that there is an abundance of sea life in False Creek.





False Creek Pacific Herring

For the third year, the City partnered with CityStudio and UBC to support a study of herring spawning in False Creek. Recent work done by the Squamish Streamkeepers, the City, CityStudio, and other organizations aim to restore Pacific Herring spawn habitat in False Creek. UBC students deployed nets in False Creek and investigated the factors that do and do not allow Pacific Herring to successfully spawn there as well as quantify egg density. This work builds on previous work that contributes to ongoing ecological restoration efforts, with the broader goal of enhancing ecosystem services in False Creek and specifically focusing on herring. This most recent study has supported the City and the Squamish Streamkeepers to improve egg assessment and monitoring methods.

Strategic Planning Integrating Water Quality Considerations

While the City's most visible efforts are its tangible actions such as the mobile sewage pump-out service, the City is also working to advance longer-term systemic change by integrating water quality considerations into its strategic plans and initiatives. These strategic initiatives provide an opportunity to manage land, foreshore and on-water uses which are important factors that affect the quality of a surface-water body such as False Creek.

Healthy Waters Plan

The Healthy Waters Plan (formerly described as "Sewage and Rainwater Management Plan") is a comprehensive and integrated planning effort that is required to ensure that sewer and drainage infrastructure supports the growth contemplated in the Vancouver Plan. It also aims to address several key issues such as CSOs, management of polluted urban runoff, risks due to climate change, and prioritized investment in infrastructure renewal.

Throughout 2022, the Healthy Waters Plan team conducted and completed Phase 1 of the Plan. Phase 1 included the development of the Strategic Framework of Guiding Principles, Goal Areas and Objectives, as well as an assessment of the current state of sewage and rainwater management and a priority action plan for near-term actions to improve water quality. Council recently approved the Strategic Framework of Guiding Principles and Goal Areas and Objectives and asked staff to report back on Phase 2 of the Plan in 2024. Phase 2 will focus on development of the long-range investments, policy and other actions for the City's sewage and rainwater management.

Vancouver Plan

In July 2022, Council adopted the Vancouver Plan to guide growth and change over the next 30 years. As a part of that plan, Climate Protection & Restored Ecosystems was one of three "Big Ideas" that provide direction on the policies for each component of the Plan.

The Plan recognizes the dependency of communities on healthy ecosystems and the lifesustaining services they provide. The Plan sets out the City's first Ecology Vision which recognizes the importance of connectivity and making space for nature.

The Plan also outlines a suite of policies for strengthening Vancouver's ecosystem health, including measures to better protect waterways and other aquatic environments.

Ecology

Vision: Vancouver has reshaped its relationship to nature and restored its ecological health to the benefit and resilience of all.





Engagement, Partnerships, and Inter-agency Coordination

While the City has a key role to play, improving water quality in False Creek is ultimately dependent upon a community-wide effort and action across multiple governmental agencies. As such, improving conditions requires a commitment to public engagement, partnerships, and collaborative efforts. To encourage a broad-based approach, the City and Park Board delivers targeted education and awareness campaigns as well as foster inter-agency coordination.

Year of the Salish Sea

The Year of the Salish Sea (June 8, 2022-June 7, 2023) is youth run effort that aims to bring together local First Nations, municipalities, organizations, and individuals in the Salish Sea ecosystem region to strengthen existing efforts working towards a healthy Salish Sea through public engagement and the spreading of stewardship and educational opportunities.

The City provided guidance, mentorship and communications support to the amazing Year of the Salish Sea youth leaders.

Burrard Inlet Roundtable and Technical Working Group

The City continued its participation in the Burrard Inlet Roundtable and Technical Working Group, a multistakeholder partnership initiative led by the səlilwətał (Tsleil-Waututh) Nation in partnership with the BC Ministry of Environment. With representatives from several sectors, including federal, provincial, regional and local governments, industry and non-profit organizations, these groups were convened to assess the present state of water quality in Burrard Inlet and update the Burrard Inlet Water Quality Objectives (BIWQOs) to reflect current knowledge and updated future goals for the health of Burrard Inlet.



Conclusion

Throughout 2022, the City and Park Board continued to advance a suite of actions aimed at improving water quality and overall aquatic environmental health. On-the-ground efforts focused on measures to reduce specific sources of pollution with efforts also being directed towards supporting beneficial improvements and ecological repair.

A key advancement was also made with the development of the City's first Ecological Vision established as part of Vancouver Plan. Deeply impacted by urbanization and dependent upon terrestrial environmental health, achieving healthy aquatic environments is contingent upon transformative changes being made at the community planning scale to better safeguard overall ecosystem health. Setting a vision of an interconnected network of ecological functioning areas (which acknowledge the interdependencies between terrestrial and aquatic environments), the Ecological Vision set out in the Vancouver Plan establishes a strategic pathway for making the types and scale of improvements needed for realizing both aquatic and broader-based natural environmental health improvements. Moving forward, efforts will continue to be deployed at the tactical level in order to realize site-specific concrete improvements in the City's freshwater and marine environments. Concurrently, efforts will also be directed at the developing the implementation measures necessary to realize Vancouver Plan's Ecological Vision.

