STAFF REPORT

TO: Committee of the Whole **MEETING DATE:** November 15th, 2022

FROM: Michelle Lewis
Natural Asset Technician **FILE NO:**

SUBJECT: Ocean Watch - 2022 Quarter 3 Report

RECOMMENDATION

THAT the Natural Asset Technician's report titled Ocean Watch - 2022 Quarter 3 Report be received.

BACKGROUND / PURPOSE

The purpose of this report is to provide an update on the activities of the Howe Sound Ocean Watch Action Plan.

At the November 17, 2020 Council meeting the following motion was passed:

And THAT Council be provided with quarterly reports on actions and data related to the recommended Action Items in the Ocean Wise Ocean Watch 2020 Edition.

STRATEGIC PLAN IMPLICATIONS

The Ocean Watch initiative addresses the following core objectives of the 2019 – 2022 Strategic Plan:

Manage Our Assets – We will focus on fiscal sustainability and support our staff in the prudent management of our natural and engineered assets, to ensure the Town can continue to deliver critical services and infrastructure in perpetuity.

Plan for Sustainable Growth – We will plan for the future in a manner that reflects our finite resources.

Increase Resilience to the Changing Climate – We will apply a climate lens to the planning and development of actions, plans, policies and infrastructure projects.

Advocate and Collaborate on Regional Issues – We will collaborate and partner with neighbouring jurisdictions to effectively address shared opportunities and challenges.

SUMMARY

The following is a summary of the seven (7) actions of the Howe Sound Biosphere Region's Ocean Watch Initiative:

ACTION 1 – RESEARCH

INCREASE KNOWLEDGE OF THE LOCAL AREA AND SPECIES THROUGH RESEARCH.

1.1 Conduct baseline studies and ongoing monitoring of key indicator species and habitats to guide conservation actions.

1.2 Conduct ongoing monitoring of the impacts of climate change and ocean acidification to support adaptation and action.

1.3 Address key knowledge gaps that develop as knowledge increases.

1.4 Improve availability and sharing of data

1.5 Increase participation and engagement of First Nations knowledge holders in Western science.

ACTION 2 - PROTECT AND RESTORE

PROTECT AND RESTORE MARINE SPECIES, HABITATS AND ECOSYSTEM SERVICES.

2.1 Create and implement a coordinated strategy for managing growth (population, tourism, development growth) sustainably throughout the Sound, to reduce impacts on the marine environment.

2.2 Increase the proportion of area protected within the Sound, with a particular focus on beach spawning habitat and critical habitats

2.3 Work with the Federal, Provincial, First Nations and local governments to refine Bill C-64 to clarify the laws applied to abandoned, wrecked or problem vessels so location (on land or at sea), marine debris and waste management issues arising are covered.

2.4 Reduce entry of pollutants into the marine environment (e.g., plastics and micro plastics, harmful chemicals and wastewater).

2.5 Other initiatives.

ACTION 3 – EDUCATE AND ENGAGE

INCREASE AWARENESS AND EDUCATION AND ENSURE CONSISTENT MESSAGING ON ENVIRONMENTAL ISSUES.

3.1 Work with First Nations and local governments to increase education and understanding of critical environmental issues, such as climate change, within municipal staff. Ensure key resources are shared between local governments and have uniform messaging

3.2 Increase education and awareness around environmental knowledge and best practices. Include Traditional Knowledge in these education opportunities, and where applicable, ensure they are taught by Skwxwú7mesh Úxwumixw/Squamish Nation members.

3.3 Increase opportunities for Skwxwú7mesh Úxwumixw/Squamish Nation members to connect to Traditional Knowledge in Átl'ka7tsem/Txwnéwu7ts/Howe Sound. Further meaningful reconciliation efforts are needed.

3.4 Continue to work collaboratively on reconciliation with First Nations.

ACTION 4 – LEGISLATION

DRIVE HIGH-LEVEL CHANGE USING OFFICIAL CHANNELS (E.G., GUIDELINE, POLICY, BYLAW) APPROPRIATE TO THE CIRCUMSTANCES.

4.1 Implement appropriate regulations to curtail actions that are detrimental to the environment (e.g., pesticides, pollutants, boating, development).

4.2 Strengthen protections for vulnerable ecosystem components including legal protection, e.g., Important Bird Areas.

4.3 Explore the option of citizens or First Nations working with government agencies (e.g., a ranger program or something akin to the Coastal Guardian Watchmen Program).

ACTION 5 – FUNDING

FINANCIALLY SUPPORT CONSERVATION ACTIONS AND ENSURE STRICTER ENFORCEMENT.

5.1 Strategically fund priority projects for protection of vulnerable species and restoration of critical habitats.

5.2 Support ongoing, and new, long-term data collection initiatives.

5.3 Allocate resources to clean-up activities (e.g., wrecked, problem and abandoned vessels; plastics and contaminants; shoreline cleanups and appropriate disposal or recycling, especially after storm events).

5.4 Incentivize transitions towards environmentally friendly practices and products, e.g., a zero-carbon economy.

5.5 Commit more resources to enforcement.

ACTION 6 – MONITOR

COLLECT LONG-TERM DATA TO IDENTIFY TRENDS, SUPPORT DECISION MAKING, AND EVALUATE THE OUTCOME OF ACTIONS TAKEN.

6.1 Conduct long-term observations of key species and habitats, and potential hazards (e.g., pollutants).

6.2 Make information easily available to support decision making, e.g., through the Marine Reference Guide.

6.3 Create a centralized hub to make group information and data easily accessible and searchable, to increase group participation and data use

ACTION 7 – GREENHOUSE GAS REDUCTIONS

DECREASE GREENHOUSE GAS EMISSIONS AND MOVE TOWARDS ZERO CARBON MUNICIPALITIES TO ALIGN WITH RECOMMENDED REDUCTIONS IN GLOBAL GREENHOUSE GAS EMISSIONS, E.G., IPCC, PARIS AGREEMENT, COPENHAGEN ACCORD.

7.1 Invest in efficient, regular public transit options in the Sea to Sky corridor.

7.2 Invest in renewable energy and green infrastructure.

7.3 Where not already done, local governments should declare a climate emergency to enable council and staff to dedicate the resources required to immediately reduce communitywide GHG emissions.

7.4 Conduct a baseline GHG emission inventory for each community to identify the largest emitters, with ongoing monitoring and reporting of community-wide emissions beginning in 2020 to track success.

7.5 Work with large businesses to advise on how to decrease their carbon footprint.

7.6 Create a climate action plan to prioritize policies and actions that will be most effective at reducing community wide GHG emissions. Identify challenges and opportunities and establish key evaluation criteria to evaluate success.

DISCUSSION

Based on the seven (7) actions of the Ocean Watch Action Plan the following initiatives are being explored/implemented by the Town:

1.1 *Conduct baseline studies and ongoing monitoring of key indicator species and habitats to guide conservation actions.*

The Town of Gibsons has implemented the following modelling and monitoring initiatives to assess potential impacts to natural assets in the region from climate change:

Creek Monitoring Stations

Staff and Streamkeepers members have continued taking flow measurements at each of the three creeks (Chaster, Charman and Gibson) and have exported the data to Waterline Resources to develop a flow rating curve. This rating curve is being used for stormwater modelling in the Source to Sea project.

Additionally, the Town is currently working with Swiftwater Consulting to install additional monitoring stations in Chaster and Gibson Creek in 2022.

Source to Sea Project

Progress: In Phase 2 of the project, the project team completed a risk identification exercise and determined that the natural asset types that faced the highest number of risks were creeks (7 high risks) and riparian areas (6 high risks), followed by foreshore (4 high risks) and the urban forest (4 high risks). Thirteen risks were considered:

- Development pressure
- Erosion
- Illegal Dumping
- Invasive Species
- Drought (current and future)
- Deforestation
- Overuse of trails/dumping
- Flooding (current and future)
- Forest Fire
- Pollutant loading from urban, agricultural, or industrial sources
- Storm events (rainfall)
- Storm surge
- Sea level rise
- Ocean temperature rise

The following risks to the Town’s Natural Assets will be explored through scenario modelling:

- **Deforestation** through logging or wildfire in the upper watershed
- **Deforestation** due to development pressure within the Town's boundaries (the urban forest)
- **Green waste dumping**, identified as a high risk to the foreshore, creeks, urban forest and riparian areas.
- **Invasive species**, identified as a high risk to creeks, forest, urban forest, and riparian areas.
- **Development pressure** identified as a high risk to all the natural assets.
- **Drought (current and future)** was identified a high risk to forest, urban forest and the Gibsons aquifer, and
- **Erosion** was identified as high risk for the foreshore, creeks and riparian areas.

Anticipated work: The project team will wrap up Phase 2 which will model the future scenarios as listed above and assess the effects to the identified natural assets. Phase 3 will see the analysis of the data and the creation of technical reports: Co-benefits Valuation, Watershed Stormwater Modelling Component, Risk Management and Simulation Modelling of Integrated Natural Asset Management.

1.3 *Address key knowledge gaps that develop as knowledge increases.*

Chaster Creek Watershed Study

This study will look at areas within the Town in the Chaster Creek Watershed to determine how much flow from the Town is draining to Chaster Creek and to explore options and responsibilities for reducing flows to the creek. Consultation and collaboration with the SCRD and the Ministry of Transportation and Infrastructure (MoTI) will be part of this work.

2.2 *Increase the proportion of area protected within the Sound, with a particular focus on beach spawning habitat and critical habitats.*

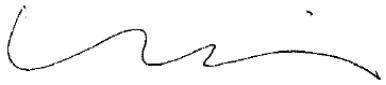
The Town of Gibsons is pursuing Statutory Rights of Way over private properties through which Charman Creek runs. The creek is a fish bearing stream, and Town staff hope to restore degraded sections in the coming years.

Resulting from a 2021 creek assessment and following recommendations from the 2018 Integrated Stormwater Management Plan, staff have applied for a grant through UBCM's Strategic Priorities Fund for a "Lower Watershed Climate Resilience through Natural Assets" project that aims to reduce the flooding risk and improve the natural environment in lower Gibsons. The project will involve restoring degraded habitat and failing infrastructure which pose a risk of flooding and erosion to residents, businesses, and public areas in lower Gibsons, utilizing both nature-based and built infrastructure solutions.

6.1 *Conduct long-term observations of key species and habitats, and potential hazards (e.g., pollutants).*

The Town of Gibsons in partnership with the Nicholas Sonntag Marine Education Centre (NSMEC), are in a four-year partnership and phased workplan called Project Healthy Harbour. The project aims to understand, monitor, develop, conserve and restore the critical nearshore marine environment of the Town of Gibsons, and to do so in a way that balances the environmental, social and economic needs of the harbour.

Respectfully Submitted,



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