

Re-Connecting Community to the Urban Marine Environment

A Strategy to Foster Public Engagement and Buy-in for
an Urban Marine Park in False Creek, Vancouver



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Disclaimer

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This project was conducted under the mentorship of the False Creek Friends Society staff. The opinions and recommendations in this report and any errors are those of the author and do not necessarily reflect the views of False Creek Friends Society or the University of British Columbia.

Territory Acknowledgements

The author acknowledges that the work for this project took place on the unceded ancestral lands and waters of the xwməθkwəyəm (Musqueam), Skwxwú7mesh (Squamish), Stó:lō and Səlilwətaʔ/Selilwitulh (Tsleil- Waututh) Nations.

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Glossary

BioBlitz

An intense effort to catalog all life in a given area within a limited amount of time (Henry, Callegari & Silberg, 2018)

Blue Economy

The sustainable use of marine resources which aims to preserve or safeguard the natural environment while improving the livelihoods of people and achieving economic goals (Techera, 2019)

Citizen Science

Individual members of the public contributing to scientific research (Muether, 2022)

Community Science

Re-introducing community members' ability to hold power, share knowledge and act together to create sustainable change (Charles, Loucks, Berks, Armitage, 2020).

INaturalist

A social network of citizen scientists and biologists mapping and documenting biodiversity (INaturalist, 2022)

Ocean Equity

Economy, justice and sustainability to all be considered in the discussion of global and local marine policy (Bennett, 2022)

Table of Contents

1. Executive Summary	4
a. Overview	5
b. Recommendations	7
2. Background	9
a. False Creek’s Host Nations	9
b. False Creek as a Mosaic Today	11
3. Literature Review	12
a. Marine Parks and National Marine Parks	12
b. Ocean Equity	14
c. Community Science and Marine Conservation	16
d. Summary	17
4. Approaches and Methods	18
a. Comparative Analysis of Global Best Practices and Public Engagement Strategies	18
b. Piloted public engagement within the False Creek Friends Society	19
c. Data Gaps and Limitations	22
5. Findings	23
a. Global Best Practices for Public Engagement in Marine Parks	24
i. The Representative Areas Program	24
ii. Cerulean Center’s First BioBlitz	25
iii. Thunder Bay National Marine Sanctuary Advisory Council	26
iv. Artwork to instigate Marine Stewardship	27
v. Friends of Port Mouton Bay	28
b. Piloted Public Engagement within the False Creek Friends Society	28
i. TidalWAV Outreach Boothing Event	30
ii. Youth Engagement Group	32
iii. BioBlitzing with a Summer Camp	33
iv. Light Trap Project	35
v. Social Media as a Tool for Community Engagement	39
vi. Sea Settlement Plate Project	39
vii. False Creek Bioblitz iNaturalist Project	41
6. Discussion	43
a. Recommendations	43
i. Community Science	45
ii. Relationship Building	47
iii. Community Outreach	50
b. Summary	52
7. Conclusion and Next Steps	52
8. Appendix	54
9. References	61

Executive Summary

In 2017, the United Nations declared 2021 to 2030 to be the Decade of Ocean Sciences (United Nations, 2017). The Ocean Decades' mission is *"to catalyze transformative ocean science solutions for a sustainable development, connecting people and our oceans"* within governments, non-governmental organizations and community groups worldwide (United Nations, 2017). One central element of this call to action is the need for broader engagement and involvement of citizens within marine conservation.

False Creek is a highly urbanized, short ocean inlet which faces the grave challenges of climate change, sea-level rise and increased weather extremes. Further, Vancouver's colonial history of industry and development has affected the natural habitat, ocean quality and marine life in this foreshore environment. Additionally, due to False Creek's history of colonization, urbanization and industrialization, the False Creek Inlet has been reduced to 1/5th the size of its historical extent (Wernick et al., 2012; False Creek Friends Society, 2021).

Since 2011 local groups, such as the Squamish Stream Keepers, SwimDrinkFish, and the City of Vancouver, along with a plethora of others, have been working to revitalize False Creek inlet to a place of the highest ecological, social and economic importance. Established in 2021, False Creek Friends Society has also been working on this mission to protect and revitalize this local marine foreshore. The long-term objective of False Creek Friends Society is to establish a Special Status Area or an Urban Marine Park in False Creek.

However, despite significant interest and work of local governments, non-profit organizations and marine institutes as well as universities on this topic, **there remains a distinct lack of urgency** from the broader community concerning the restoration and protection of this area.

This report works to understand how best to achieve this community engagement or buy-in for deeper care, understanding and stewardship for the broader community in urban marine environments. The False Creek Friends Society (FCFS) have partnered with the UBC Sustainability Scholars program to research best practices in fostering public support for marine conservation and stewardship activities. This report focuses on understanding how an urban marine-focused non-profit group can achieve higher community engagement and buy-in. This research contributes to and supports False Creek Friends' long-term goal of establishing a national urban marine park in False Creek, Vancouver.

Overview

This report commences with a historical scan of the Indigenous histories and place names of the local host nations. The host nations include the xwməθkwəyəm (Musqueam), Skwxwú7mesh (Squamish), Stó:lō and Səlílwətaʔ/Selilwiltlh (Tseil- Waututh) Nations. The host nations historically, and continue to be, the most successful stewards in False Creek. Therefore, these host nations are vital actors that must be heavily involved in the conversation when thinking of establishing a special status or marine protected area in False Creek.

Next, the report delved into a literature review to address key indigenous and non-indigenous strategies toward ocean conservation in urban areas. One key element in this discussion highlights that the general public has been left out of the discussion concerning marine conservation during the last two hundred years due to colonial biases. As a result of the lack of community engagement within the marine area, the oceans have suffered. Ocean equity and community science must be considered critical tools for future marine stewardship and conservation initiatives in urban areas.

This report further includes documentation of global best practices for garnering public support and stewardship for marine conservation. The list of aggregated best practices highlights several key marine conservation strategies that prioritize community at the forefront of restoration efforts, stewardships and other conservation initiatives.

Additionally, this report piloted and reported on several public engagement efforts between May and July of 2022. Seven False Creek Friends Society initiatives were piloted to gain local insight into successful strategies involving community-led conservation efforts. Despite this relatively short pilot period, these findings uncovered that the local community is keen and eager to help with local conservation efforts to work towards a revitalized False Creek.

The results of this report highlight that public outreach can be a successful tool to preserve and restore the local waterways. However, a common barrier to involvement is the feeling of a lack of knowledge or a lack of support to start getting involved with marine conservation efforts as a community member. Under this colonial bias, scientific marine conservation, community engagement, and outreach have remained separate entities. However, community science and engagement collectively have the potential to foster large-scale societal buy-in to ocean conservation efforts and sustainable change.

The last section of this report summarizes recommendations to improve community engagement and buy-in for marine conservation efforts working to establish a marine protected area within False Creek. These recommendations include focusing on community science initiatives, relationship building between existing non-profit organization members and host nations, scientific institutes and associated community partners, and a keen focus on community outreach initiatives.

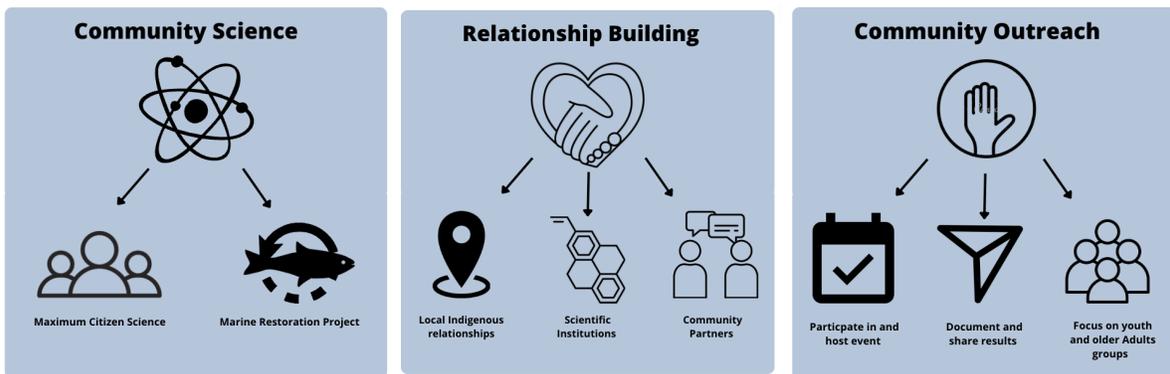
This research has generated the following outcomes:

1. Produce a collection of several global best practices in marine conservation and community science efforts which have garnered public support and stewardship opportunities within urban marine interfaces
2. Pilot and reflect on public engagement strategies within the False Creek Friends Society to garner local public support and stewardship opportunities within marine conservation and community science in urban marine interfaces
3. Gather insights from the community engagement survey on piloted public engagement projects with the False Creek Friends Society (FCFS)
4. Identify a list of recommendations for public engagement strategies directed to the FCFS to "deepen understanding, value, care and enjoyment for citizens within the False Creek area.
5. Assembled an appendix including a ten-year action plan for the future of the False Creek Friends Society

Recommendations

Establishing a Special Status or a National Marine Park within False Creek will require a significant investment of multiple non-profits, the local community, local and higher levels of government, associated community partners, and investors. However, local marine-focused non-profits can take the following steps to support community engagement and buy-in towards marine conservation efforts.

This research provides eight recommendations in three areas of focus: 1. community science, 2. relationship building and 3. community outreach.



These three overarching areas are key strategies marine-focused nonprofits can use to significantly impact community members' buy-in and engagement levels in these longer-term goals of establishing a special status or marine projected area.

Community Science:

1.	Ensure maximum citizen participation in projects that continue to measure and monitor the marine area
2.	Pilot marine restoration projects

Relationship Building:

3.	Invest in ways to foster deeper relationships with host nations
4.	Co-organized events and community science projects and documented results in partnership with local scientific organizations and universities
5.	Collaborate with associated community partners and other local non-profits with similar goals and objectives for the marine area.

Community Outreach:

6.	Participate and host outreach events, host workshops and open houses
7.	Document and share results; Reports, Media and Social Media
8.	Engage youth and older adults in marine conservation work

Background

False Creek Host Nations

The area that is known as today False Creek, Vancouver (Figure 1), is the traditional and unseeded territories of the $x^w m \theta k^w \acute{a} y \acute{a} m$ (Musqueam), $S k w x w \acute{u} 7 m e s h$ (Squamish), and $s \acute{e} l i l w \acute{e} t \acute{a} t$ (Tsleil-Waututh) Nations. Historically, this waterway was a thriving place where indigenous people lived and prospered off the lands and waterways. Indigenous nations inhabited all areas of the waterways. Each area held a vital place name reflecting a typical use of that site.



Figure 1: Draft Map of Indian Villages and landmarks, Burrard Inlet and English Bay, Created by Major James Matthews (1932)

This draft map, created by Major James Matthews in 1932, outlines many of the traditional place names at the time of contact with the host nations. The vast extent of traditional place names illustrates Indigenous peoples' great diversity and vibrancy, even within the local area of Vancouver.

For example, on the Northern-eastern side of False Creek, there is an outcrop area of land labeled the “Indian Medicine Ditch” (Figure 2). The purpose of this traditional place is uncertain. However, Mathews (2011) indicates that by talking with Indigenous wisdom keepers, historically, this was a place of healing where Indigenous community members could visit when they were sick to sweat out their cold and cure themselves with the hot stones in the water.

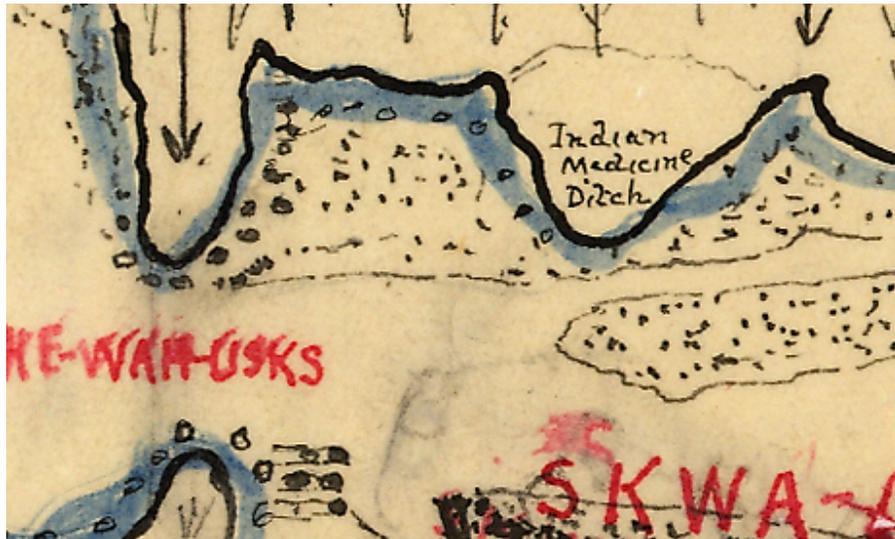


Figure 2: Draft Map of Indian Villages and landmarks, Burrard Inlet and English Bay, Created by Mayor James Matthews (1932) - Zoomed in

Today, this place of the Indian Medicine Ditch is known as Trillium Park (Figure 3). The historical location of the Indian Medicine Ditch is no longer on the False Creek Inlet but rather a place completely infilled with land and used as a sporting arena.

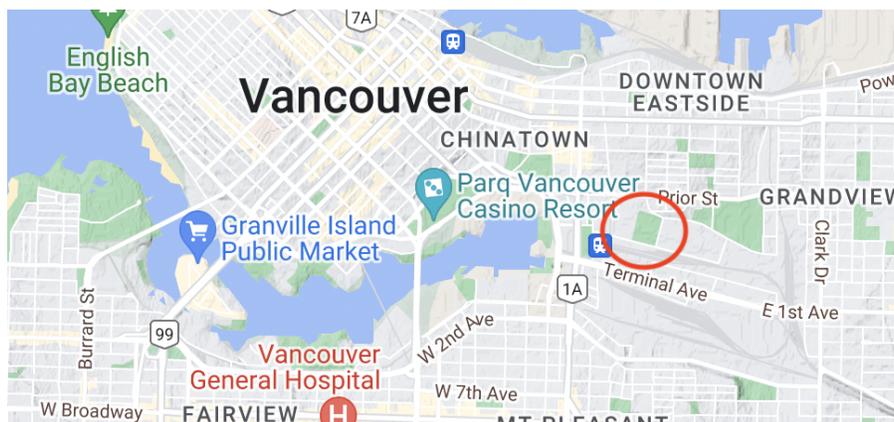


Figure 3: Map of present Trillium Park in False Creek, the historical location of the Indian Medicine Ditch (google maps, 2022).

Another important location within False Creek is Seḥákw, which is located on modern-day Vanier Park. Senakw refers to "the place inside the head of False Creek" (Senakw, n.d). Senakw, located on the westernmost side of False Creek, is a place of great cultural significance and history for the host nations. Historically, Indigenous communities gathered at Senakw to perform their culture, spirituality, and practice governance (Senakw, n.d).

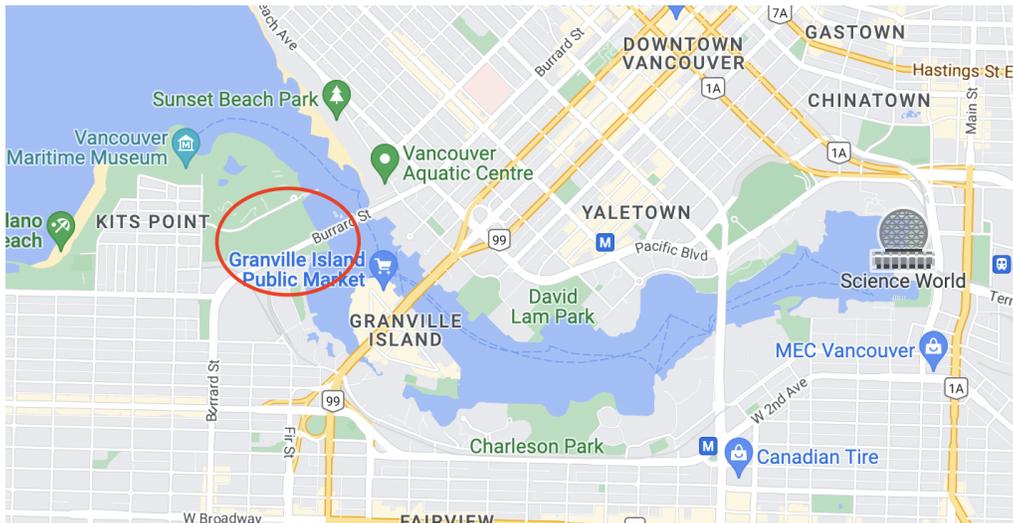


Figure 4: Map of present-day Seḥákw (google maps, 2022)

As a verb, the word Seḥákw refers to the "Start of something beautiful; respect for nature, for indigenous peoples, for healing, and a new path forward." (Senakw, n.d). This understanding that Senakw refers to the great need to preserve and protect the environment and its people is crucial teaching that must be re-incorporated into our marine management strategies.

This important Indigenous history, essentially, over the last few hundred years, has actively been erased from this landscape of False Creek. Between 1869 and 1913, many of these places were lost when the host nations and stewards of this land were essentially evicted from their homes (Barman, 2007 & Matthews, 1931). In the 19th and 20th centuries, the False Creek waterway was reshaped by industrialization and urbanization geographically, biologically and culturally.

False Creek as a Mosaic Today

As a result of 100 years of colonial activity, False Creek has dramatically shifted. The historic False Creek waterway was filled into one-fifth the size of its original extent and the wetland extent to modern-day Clark Drive (Wernick et al., 2012; False Creek Friends, 2021). A cement seawall which hosts thousands of people daily to walk, jog and roll around the waterway

provides excellent access and the ability for humans to enjoy this place. However, the water is often unsuitable for swimming, species are unable to be harvested, and very few shorelines remain in their natural state. Biologically, habitats have been degraded as much of the shoreline was built into seawalls. The industrialization process has been one of the leading causes of micropollutants build-up in the harbour (Vassileko et al., 2021). The host nations of the xwməθkwəyəm (Musqueam), Skwxwú7mesh (Squamish), Stó:lō and Səl̓ílwətaʔ/Selilwitulh (Tseil- Waututh) who were the first stewards of this land have essentially been removed. These outcomes resulted from the loss of place-based and indigenous-led connection to the land and waterways within the local area of False Creek by colonization.

Yet, there is hope, as species remain active within False Creek despite this devastating history. Once again, people understand the need to prioritize Indigenous and local wisdom keepers and teachings. Indigenous stewards have conserved and prospered from the waterways and land around the False Creek area since time immemorial and essentially, and in the past, they essentially conducted their conservation through what is now referred to as community science. Therefore, Indigenous leadership and wisdom are essential to the success of the conservation and future revitalization of the False Creek area supported by the broader community. Understanding the host nations' place names, values and teaching within the local area of False Creek we are investigating today is a crucial first step for this research which attempts to deepen the understanding of values, care and enjoyment of this seascape.

Literature

Marine Protected Areas

A Marine Protected area is a place where the natural and coastal resources are valued and protected for long-term conservation under legislation (Davis et al., 2014). Further, a Marine Protected Area is a collection of marine parks which are established and clearly defined geographical spaces from “sea floor to the surface” for ecological conservation purposes and to protect against human impacts and climate change (Coastal First Nations, 2022). A Marine Protected Area is also a space where natural or cultural resources are located and should have greater importance and value (Davis et al., 2014).

Parks Canada (2022) declares that a National Park is a country-wide system representing natural areas of Canadian significance. The park's main goal is protecting ecological integrity and understanding and appreciating the national surroundings and environments. There are several nationally protected parks. These include marine areas across Canada, many even within British Columbia, including Gwaii Haanas National Marine Park, Pacific Rim National Park, Fort Rodd Hill National Historic Site and more.

Plymouth Sound National Marine Park, located in England, UK, which was established in 2019, is a visionary example of how a maritime-focused city switched the narrative surrounding its foreshore from exploitive to celebratory. As a result, Plymouth is currently working towards achieving the official National Marine Park title.

Plymouth Sound National Marine Park had to develop their own principles defining what a National Marine Park is. These definitions have shaped this understanding of what a National Marine Park could be. In Plymouth's case, this includes the tri-focus on enhancing its economic, environmental and social values while fostering opportunities for the public to be engaged and active in the stewardship of the park (Plymouth Sound National Marine Park, 2010). The Plymouth Sound National Marine Park should be considered with caution within the local context of North American marine cities, as we must understand and actively acknowledge this colonial narrative holds on North American cities and ocean policies over the last 200 years that have caused our oceans, marine life and people to suffer.

In the Minister's Round table on Parks Canada in 2020, Urban Nation Parks were highlighted as an area of high priority (Parks Canada, 2020). The COVID-19 pandemic is attributed to this growing knowledge and understanding of local parks as places of high importance for people's health and wellbeing. The Minister's Round Table also indicated that regardless of where people live, work or play, they should have this access to nature and the outdoors (Parks Canada, 2020). Rouge National Urban Park is seen as Canada's leading example. Internationally, Plymouth National Marine Park could be viewed as a key example of a National Urban Marine Park leader. However, in both the Plymouth Sound National Marine Park and Rouge National Urban Park examples, **this central challenge remains including and incorporating indigenous and community-led action and voices into this protection and revitalization of the urban marine space**. Therefore, incorporating teaching principles and leadership from the local host nations, such as in the example of Gwaii Haanas National Marine Park, is also a critical success factor for future urban marine park designations.

Ocean Equity

The term ocean equity was coined in 2020 by Nathan Bennett et al. in a report titled *Towards Ocean Equity* concerning the need for economy, justice, and sustainability to be considered in the discussion of global and local marine policy across the world's oceans. However, this practice has been occurring by the Indigenous nations on these lands and waterways since time immemorial.

Ocean equity includes six key dimensions: 1. recognition; 2. procedural; 3. management; 4. distributional; 5. environmental; and 6. contextual equity. These six dimensions challenge existing normative colonial marine conservation and parks systems. These dimensions instead highlight holistic approaches and often align with indigenous approaches to foster ocean equity.

Each of the six dimensions can be subject to cultural, social, political, economic and environmental interpretation based on their geographic context.

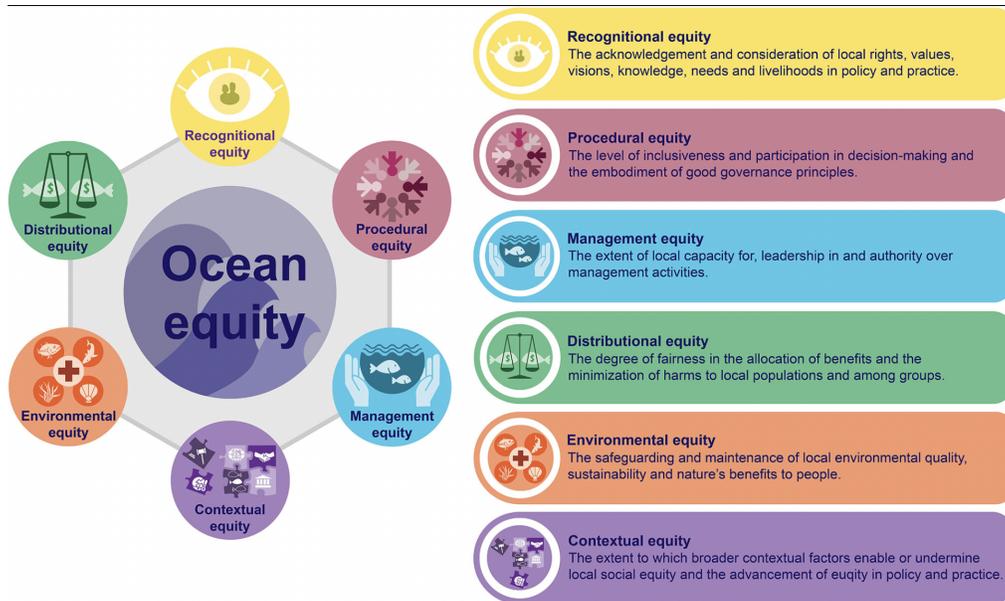


Figure 6: Ocean Equity (Nathan Benett, 2020)

These six dimensions shape the umbrella concept of ocean equity and beg us to re-address this understanding of a marine protected area, a designated national marine protected area, and especially who and what they are actually protecting.

Prior to this discussion of ocean equity, marine protected areas have often failed to consider their full social, ecological and economic implementations and impacts. Specifically, these negative impacts are felt by the local communities who rely on these prosperous marine areas to meet their livelihoods and subsistence needs (Bennett, 2022). The Gwaii Haanas National Reserve Park, however, works to balance these cultural, ecological and economic needs well and can be looked to as a leading example of how this concept of ocean equity can be applied to a National Marine Area. (Parks Canada, n.d. & Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site, 2010)

Gwaii Haanas National Reserve Park Example

Recognitional Equity - This National Reserve Park is structured through a co-managed archipelago management board between Parks Canada, the Council of Haida Nation and Fisheries and Ocean Canada. Additionally, other key stakeholders, including the tourism industry and local municipalities, also hold some jurisdiction (Haida Nation, 2018).

Procedural Equity- Equal control over the reserved marine area is allocated to the Haida people and the Government of Canada (Haida Nation, 2018).. Procedurally as there is only equal control, this is still one area the National Reserve Park could improve on.

Distributional Equity - The marine zoned area prioritizes Haida culture and conservation goals while allowing for other goals, such as economic ones, to still be carried out in moderation (Haida Nation, 2018).

Environmental Equity - Conservation is one of the two key goals of the zoning agreement (Haida Nation, 2018).

Contextual Equity - The host nations and first stewards of this Island Nation's land and waterways, the Haida people, are given leadership capacity and equal decision-making powers to the Government of Canada within the marine reserved area. This is not something that has been done uniformly across other National Parks in Canada (Haida Nation, 2018).

Powerful voices have been in charge of protecting and managing oceans, fisheries and marine habitats, leaving indigenous, marginalized and local communities out of the discussion. However, traditional and local knowledge needed to be established within local marine environments and future national designated marine environments to achieve this concept of ocean equity. As per the Ocean Equity model and other related research on sustainability, Indigenous voices should become leading forces in the future discussion, planning and execution of marine protected areas.

Community Science and Marine Conservation

Marine community science is a key tool for fostering engagement and buy-in to marine conservation (Kelly et al., 2020). Yet, to weave in the voice of Nathan Bennett (2019),

“Marine social science initiatives are still too few and far between, and vast regions and ocean policy realms still largely neglected” (250).

There remain many barriers between scientists, policymakers and NGOs in engaging and involving the broader community in marine conservation that attribute to this neglect of social science initiatives. Community science re-introduces community members to positions of collective power within society by providing community members with ways to act together to create sustainable change (Charles, Loucks, Berks, Armitage, 2020). Indigenous communities have been engaging in community science since time immemorial. Braur (2017) argues traditional ecological knowledge is a key pathway toward re-forming these connections between communities and their environment. Unlearning colonial ways and relearning from Indigenous wisdom keepers about conservation and stewardship practices is one of the best ways to create sustainable and lasting change.

However, as Pittman et al. (2019) argue, coastal communities, specifically urban coastal communities, have the most to gain from a beneficial and healthy relationship with their marine environment. Bridging this gap between science and the larger community is key to the success of ocean sustainability. However, there is no best solution for public engagement in marine conservation and stewardship. Instead, place-specific solutions built on community relationships are the key to fostering a community of stewards and maritime actors formally and informally within a marine area.

Summary

Until recently, marine conservation efforts and community engagement or community science were understood as two separate entities. Marine Protected Areas were designated as waterways that solely aim to protect the existing environment. However, as understood by the vital history of the local indigenous communities within False Creek and as outlined by Nathen Bennett in his understanding of ocean equity, conservation, community, and economy can no longer be referred to as separate entities. A diverse set of community-engaged marine actions and projects are needed to foster success and buy-in towards marine conservation and protection within urban marine cities' future.

Approaches and Methods

Comparative Analysis of Global Best Practices Public Marine Engagement Strategies

In this report, a comparative scan of five historical and current public engagement techniques that have worked to increase buy-in and support towards conservation efforts and higher levels of jurisdictional protection over bodies of water globally were conducted. Indigenous and Non-indigenous methods were included in the comparison. This scan is not a complete list of all significant public engagement techniques that have been used to improve the buy-in and engagement of the local community for marine conservation efforts and higher designations. Instead, this document aims to highlight several examples which could be most applicable or transferable to the local area of False Creek. Each best practice was selected for one strategy or element of their public engagement strategy based on the following metrics.

Metrics

- Location
- Environment type
- Partners involved in the project
- The key outreach activity
- Information about the outreach strategy
- Key takeaways

Piloted Engagement Strategies with the False Creek Friends

Secondly, this research tested seven public engagement strategies between May to July 2022 within the False Creek Friends Society. Similar to the global best practices scan, this list is by no means an exhaustive document. Instead, these piloted engagement strategies provide a few examples of public engagement activities that a non-profit organization within the local area could engage in to increase connectivity and public awareness of the marine environment. This research was able to evaluate the seven outreach strategies by the number of participants and qualitatively through a comparative scan, similar to the one conducted for the global best practices list. However, in addition to the comparison of this tested public engagement, 21 participants who participated in these engagement events were also asked to reflect on the success of these seven piloted engagement techniques.

Survey

This survey aimed to engage 30 participants in these deep questions concerning their reflections and future ideas for the False Creek area. However, due to a lack of higher numbers of engagement, due to many of the participants being youth, and unable to be surveyed, I was only able to engage 21 participants in this research. Therefore, these results do provide both qualitative and quantitative observations, yet the qualitative observations were considered of higher importance due to the survey's inability to achieve 30 participants. The full survey can be found for review in Appendix one.

The first set of questions asked participants to identify their affiliation with the false creek friends and the types of engagement they had been involved in this summer. Next, the survey gauged the participants' level of understanding, values, care and enjoyment concerning the seascape. The first question stated.

False Creek Friends Society aims to deepen the values, care and enjoyment of marine biodiversity, sustainability, climate change, environmental justice and/or reconciliation. While you have participated as a volunteer or an associated community partner with the False Creek Friends Society, have these values of care and/or enjoyment increased/stayed the same / decreased?

Next, the survey followed up by inquiring more about this previous question as indicated below:

Could you share an experience of how your understanding, values, care and enjoyment of marine biodiversity, sustainability, climate change, environmental justice and/or reconciliation have either increased/stayed the same / decreased now that you have engaged with the False Creek Friends Society? (2 sentence max)

These two questions allowed for a direct answer to the question while allowing participants to expand upon their answers in a more qualitative approach. The second portion of the survey was used to inform an action plan which can be viewed in the action plan section of the methods.

Journal reflections

During the piloted public engagement events, the sustainability scholar kept a personal journal highlighting lessons learned, essential themes and community partners' key messages who informally contributed to the success of this research. These reflections have also helped to inform the key takeaway section of the tested engagement strategies, the recommendations and the action plan for the False Creek Friends Society.

Metrics of the seven tested engagement strategies

Each piloted engagement strategy uses the same metrics for comparison as the global best practice scan. Additionally, the number of participants involved and reflections from our survey

participants is also highlighted in the review. The number of participants was often measured from a count of participants at an event on a given day, by email list of participants or by social media engagement counts.

The metrics to review and evaluate the scan of piloted engagement strategies by the False Creek Friends Society include the following:

- Location
- Environment type
- Partners involved in the project
- The key outreach activity
- Number of participants involved
- Information about the outreach strategy
- Key quotes from the participants (survey see below)
- Key takeaways

Recommendations

This report recommends three overarching areas of focus for the False Creek Friends Society to foster buy-in and engagement to support marine conservation work, with the underlying long term objectives to work towards creating a higher designation of protection for the local marine area. These three overarching strategies include community science, relationship-building and community outreach.

False Creek Friends Action Plan

As the culmination of the various research activities, the Appendix of this research includes a ten-year action plan for the False Creek Friends Society. These actions build off the recommendations and survey results of the 21 participants and act to create an initial action plan for FCFS. This is by no means an exhaustive list of the actions that the False Creek Friends need to take to establish a higher level of designation or special marine status in False Creek. However, this action plan is a starting point for FCFS to begin to think long-term about their organizational purpose and direction of achievable actions.

Survey

In this second portion of the survey, participants were asked to rank their preferences for the following questions. These results helped to inform the suggested Action Plan in the Appendix for the FCFS over the next ten years.

As a non-profit working towards the long-term goals of protecting the marine environment, enhancing sustainable economic prosperity and enabling communities to participate in activities

that deepen understanding, value, care and enjoyment of the city seascape, can you rank the most important actions the False Creek Friends Society should take moving forward?
(1 = most important / 6 = least important)

These actions include the following:

1. Expanding the volunteer base by promoting the FCFS mission through tabling events, media outlets and social media platforms
2. Connecting and working towards building deeper relationships with local Indigenous nations whose traditional territory the FCFS resides today
3. Build a strong network with associated community partners working towards similar urban marine conservation work
4. Engage the FCFS in more community science projects, such as the Light Trap
5. Lobby local government towards establishing higher designation of marine conservation and protection within False Creek
6. Additionally, there have been six options in this list left empty to allow new ideas to emerge from the FCFS members.

This last question of this short survey allowed participants to expand on their rankings above. This last question allied participants to provide feedback and inform strategies in a qualitative way to create this action plan for the FCFS. This question provoked many keen insights and ideas for actionable items which informed the Action Plan in the Appendix of this report.

If you would like to expand on your rankings above or indicate a necessary action that is missing from the list that will help inform the future action plan of the False Creek Friends Society, you can do so here.

Data Gaps and Assumptions

Due to the short span of this research project, there were some data gaps and assumptions made within this research.

First, this research was only able to survey 21 participants for their feedback and satisfaction with the tested engagement strategies. Additionally, each of these participants was often highly involved within False Creek Friends Society and often already had deep care, understanding and sense of connection to the False Creek Area prior to these engagement opportunities, which could have skewed the results (Figure 7). Therefore, to address this limitation, this report mainly focused more on the qualitative observations collected from the participants.

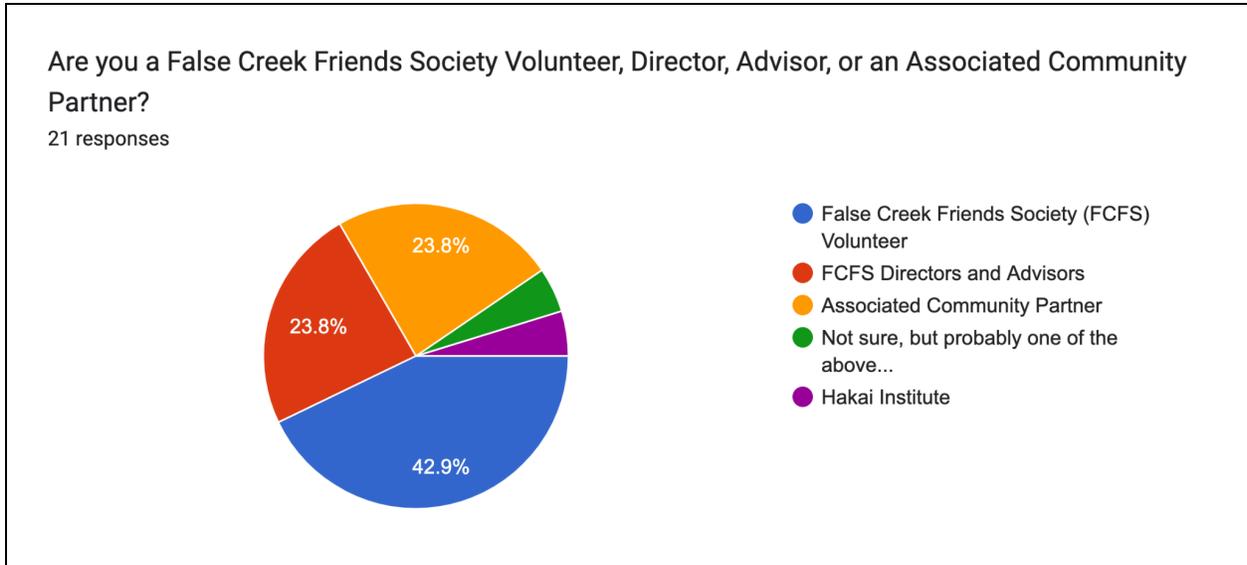


Figure 7: Participants' involvement with the False Creek Friends Society

Secondly, as this research was conducted during the middle of a large public outreach campaign for the False Creek Friends Society, the False Creek BioBlitz 2022 ending in August, there are some assumptions that some of these projected engagement numbers will increase significantly by the end of the project.

Third, youth was a large majority of the participants involved in many engagement activities, such as the youth group, the Summer camp BioBlitz project and the Light Trap project. The participants were unable to participate in the research survey due to their age limitations.

Finally, the personal biases of the researcher being an affluent female of caucasian descent could have impacted these personal reflections or key takeaways sections of the research.

In the future, a wider survey interviewing 100 people would be an excellent research study to understand what type of marine-focused public engagement fuels the highest buy-in from the broader community. It would be fascinating for future research to look at age-segregated data to see if there are specific outreach activities that advance buy-in from these age-segregated community groups. Furthermore, surveying a wider variety of stakeholders, such as the host nations, local government officials, school groups, and local businesses would also add to the research breadth.

Findings

Global Best Practices for Public Engagement in Marine Conservation

The following is a set of best global practices outlining a range of different techniques of successful marine conservation efforts coupled with public engagement and stewardship opportunities for the broader community to deepen their understanding, value and care for the marine area or seascape within their own community. These practices include Indigenous and non-indigenous examples of how community engagement has become a key tool for marine conservation. Further, this research is not indicating that all these best practices will succeed within the local context of False Creek or any other specific place. Each locale has a different set of social, cultural, biological and economic interests which impact the success of any public engagement tool. However, these public engagement practices can all be considered best practices within each of their respective locales.

The best practices include the following:

1. The Representative Areas Program - Great Barrier Reef, Australia
2. Cerulean Center's First BioBlitz, Lake Michigan, USA
3. Thunder Bay National Marine Sanctuary Advisory Council, Lake Michigan, USA
4. Artwork to instigate marine stewardship - Kingstown, St. Vincent Caribbean
5. Friends of Port Mouton - Port Mouton Bay, Nova Scotia

1. The Representative Areas Program

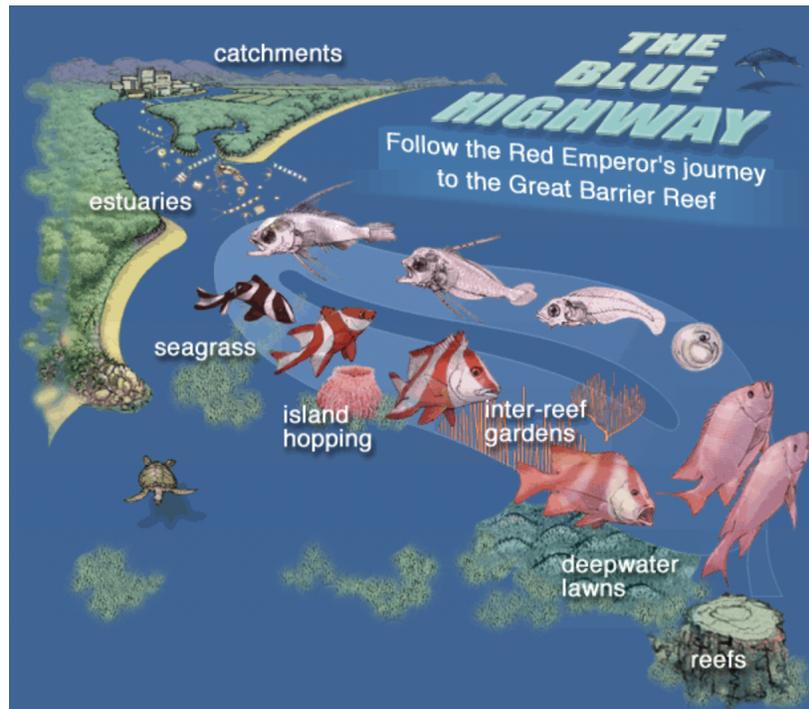


Figure 8: The Blue Highway Interactive Map (GBRMPA, 2022)

Location	Great Barrier Reef, Australia
Environment	Ocean Reef
Partners Involved	Great Barrier Reef Marine Park Authority and local community members
Key outreach activity	An Interactive Blue Highway poster to educate the public about the dire need to conserve the Great Barrier Reef in a friendly way

About the Engagement

In 1975, the Representative Areas Program commenced a rezoning process for the Great Barrier Reef Area to protect and conserve this natural wonder for future generations. This process to recreate a Representative Area Program included two rounds of stringent public engagement. One of the revolutionary strategies from this intensive process was understanding the importance of public engagement for the success of this program. At the time, formal public meetings were the most effective and inclusive approach for community engagement. However, they were not inclusive and were unable to engage a vast amount of the community. Therefore,

various other outreach initiatives and activities were conducted to reach, educate and gain insights from the local populations.

Community information displays were a key tool to engage the public. Each day during the engagement periods, the Interactive Blue Highway Poster and website were staffed daily between 3 pm - 7 pm in the local area. This way, people could ask questions about the importance of establishing a Marine Protected Area and participate in this engagement without feeling overwhelmed in the formal public meetings. As a result, in 2003, the Great Barrier Reef Marine Park Zoning Plan was established, and it supported a wide variety of engaged opportunities for the local community (GBRMPA, 2022). Additionally, there were areas within the park set aside for locals to continue their traditional hunting and gathering practices and subsistence strategies.

Key Takeaway

- Visual Graphics are easy to understand and allow the community member of all ages and ability engage with a proposed plan and provide feedback in a safe and inclusive way

2. Cerulean Center’s First BioBlitz

Location	Michigan, USA
Environment	Lake
Partners Involved	The National Park Service; the Cerulean Center; expert scientists and community members
Key outreach activity	Tiered approach to community involvement in the BioBlitz

About the Engagement

During the Cerulean Center’s first-ever 48 hours, BioBlitz in 2019, the Cerulean Center only involved one level of public engagement making this BioBlitz event in-accessible and un-engaging to many in the community. However, the Cerulean Center suggests the need for a tiered approach to community engagement in the future. Ideally, the next time the Cerulean Center conducts a Bioblitz, they will use the following structure (BioBlitz Canada, 2019). This example may not have been a successful example of tiered community engagement in community science. However, below, the Cerulean Centre has highlighted an exemplary list of tiered public engagement that can be used for other BioBlitz activities across the world.

Tier One - Keen Citizens: participate in a full day of activities by supporting a scientist and documenting species within the park.

Tier Two - General Public: A two-hour session for those interested in participating; who have less time to participate.

Tier Three - People with very limited time or abilities: An opportunity for brief or momentary engagement by using booths to inform the community about the ongoing BioBlitz at a community table and encouraged to participate while they were in the area and document any species observed within the INaturalist App.

Key Takeaway

- Mixed levels of engagement support a variety of community engagement for people of all levels of ability

3. Thunder Bay National Marine Sanctuary Advisory Council

Location	Michigan, USA
Environment	Lake
Partners Involved	Thunder Bay National Marine Sanctuary, Local and international Diving Community
Key outreach activity	Involving ecotourism opportunities through Project Ship Hunt and Shipwreck Ally

About the Engagement

The Thunder Bay National Marine Sanctuary does not only protect its marine life, it has also become a world-renowned place for divers to visit and explore the shipwrecks and maritime history in the Great Lakes (Thunder Bay National Marine Sanctuary, 2022). This recreational use of the Park has acted to instill a desire by the diving community and the local community in Thunder Bay to safeguard this place and protect biodiversity for economic prosperity.

Key Takeaway

- Targeting a focused community group, for example, the diving community, has supported a plethora of marine conservation efforts and restoration work within the local area

4. Artwork to Instigate Marine Stewardship



Figure 8: Our Marine Life, It's a Beautiful Thing (Stewart, 2016)

Location	Kingstown, St. Vincent Caribbean
Environment	Ocean
Partners Involved	Vincent mural artist Shanique Stewart and Eastern Caribbean Marine Managed Areas (ECMMAN)
Key outreach activity	Mural

About the Engagement

Commissioned by the ECMMAN which works to promote the sustainable use of ocean resources undertook an art competition to create a mural that would help to campaign the local people to promote the sustainability of the marine environment. The mural displays the message that “both the land and the sea have a positive impact for the preservation and beauty of the aspects of marine life throughout St Vincent and the Grenadines.” (Stewart, 2016). Art is an important tool to draw in a larger community to work towards an improved marine environment which promotes the suitability and prosperity of the local people.

Key Takeaway

- Activism proking artwork can be considered a key marine conservation tool itself

5. Friends of Port Mouton Bay

Location	Port Mouton Bay, Nova Scotia
Environment	Ocean
Partners Involved	Local government and community members
Key outreach activity	Community-based ecosystem monitoring system

About the Engagement

Due to the decrease of lobster abundance in Port Mouton observed by the local fishers, the Friends of Port Mouton Bay (FPMB) formed to team up with a scientist to conduct community science monitoring of the lobsters within the area to document the ecosystem sensitivity. Next, the community members and scientists collectively tested the re-introduction of the sea-bed drift experiment to answer their hypothesis: Is there a risk that finfish farm waste can pollute adjacent beaches and shoreline habitats? After 7 years of gathering data, their findings indicated that areas adjacent to fish farms had a detrimental effect on the wild lobster population. Then they were able to lobby the Nova Scotia Ministry of Aquaculture for change towards improving their local marine environments.

Key Takeaway

- Community science is a successful form of hybrid research and can stimulate positive environmental, social and economic success

Piloted Engagement Strategies by the False Creek Friends Society

This next set of public engagement strategies highlight place-specific piloted examples of community engagement conducted between April 2022 - July 2022 within the False Creek Friends Society. These public outreach activities have an underlying connection to the False Creek BioBlitz 2022. The False Creek BioBlitz 2022 has been a series of scientific and community-led actions in partnership with the Hakai Institute, the False Creek Friends Society, and the City of Vancouver being conducted between April and August of 2022 to document the extent and range of biodiversity and sediments within the False Creek Area (False Creek Friends Society, 2021). The Hakai Institute and the False Creek Friends were two key

organizations that significantly supported the ability of this report to conduct engagement research.

Qualitative Results

As a result of the 21 people surveyed, 80% indicated that their values, care and enjoyment of marine biodiversity, sustainability, climate change, environmental justice and reconciliation within the local context of False Creek have increased, while 20% indicated it stayed the same (Figure 7). Further, zero respondents indicated that their values, care and enjoyment decreased. These results indicated that there was moderate to high success with these outreach activities as overall it helped to drive a deeper place-making between the community and the local marine environment.

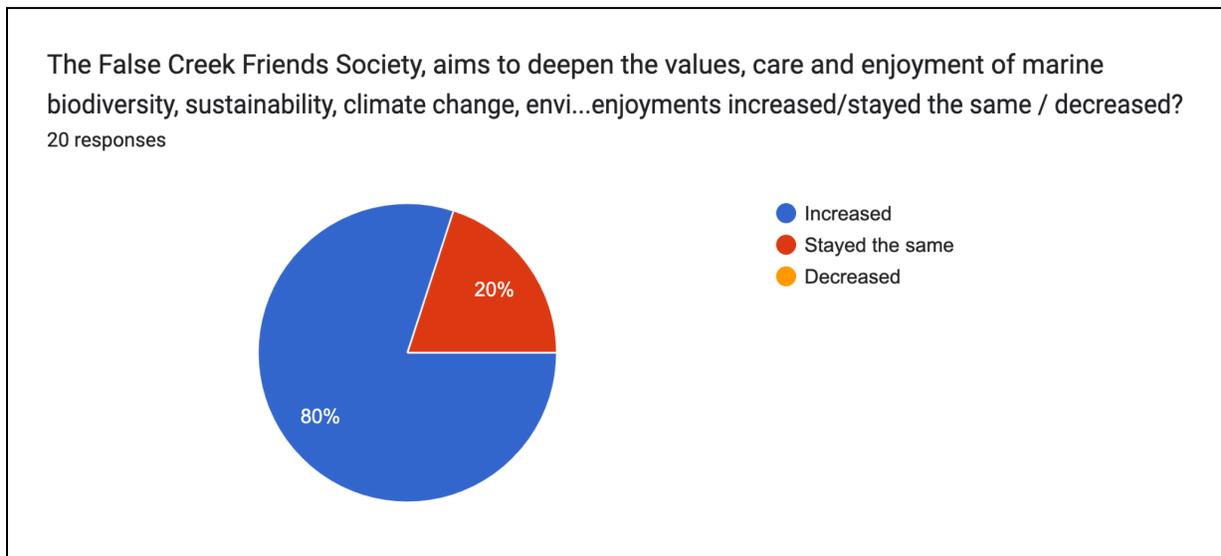


Figure 9: Shifting of participants' enjoyment, care and values reflections after participating in a False Creek Friends Society outreach activity

However, despite the lack of participants the qualitative results were more heavily considered in the evaluation of this report.

Qualitative Results

These seven engagement strategies listed below outline the list of piloted engagement strategies conducted and reported on between May and July of 2022. These engagement strategies were compared using the following metrics: location, environment, key partners, key outreach activity, the number of community members engaging, about the event, key quotes and reflections from participants, and key takeaways.

The outreach activities include the following:

1. TidalWAV Outreach Bothing Event
2. Youth Engagement Group
3. BioBlitzing with a Summer Camp
4. Light Trap Project
5. Social media as a tool for community engagement
6. Sea Settlement Plate Project
7. False Creek Bioblitz iNaturalist

1. TidalWAV Outreach Bothing Event



Figure 10: False Creek Friends at the Wild About Vancouver Event (Photo by: Zadia Schinder, June 3, 2022)

Location	Stanley Park
Environment	Beachside Park
Partners Involved	Wild About Vancouver and False Creek Friends
Key outreach activity	Spreading awareness about the False Creek Inlet and a need for change
Number of participants	Approx. 30 people visited the booth

About the event

During this one-day event at the WildAbout Vancouver TidalWAV 2022 event, the False Creek Friends Society was able to engage community members about several initiatives and opportunities to participate within the organizations, such as the Light Trap project. Furthermore, tFCFS built connections with associated community partners at the event and with the broader community, working towards deepening the local communities' relationship, care and sense of place in Vancouver and False Creek.

Key participant quote:

“The FCFS has worked hard to increase inclusivity throughout the campaign. This has been demonstrated through various engagement activities that have diversified the core team, opened discussions with Indigenous groups and nurtured partnerships across sectors.”

- FCFS Advisor & Seascape Analytics

Key Takeaways

- Ideal for building partnerships with nonprofits
- A platform to recruit volunteers and share the False Creek Friends Message
- A strategy to build a deeper connection, a sense of place and enjoyment for the community with their local marine environment

2. Youth Engagement Group

Location	False Creek
Environment	Inlet
Partners Involved	False Creek Friends Society
Key outreach activity	Youth Group conducting INaturalist observations within the bounds of the False Creek BioBlitz 2022 Project
Number of participants	1 youth and two parents

About the Engagement

The youth group has met twice, to date and expects to meet a few more times throughout the summer of 2022. However, due to a lack of interest to attract youth, this outreach strategy was unable to establish a cohort of 15-18-year-olds who were interested in marine conservation and who were able to meet bi-weekly to document species for the INaturalist Project. However, this tool for engagement for those that participated was quite successful at engaging those who did participate. In the future, a different audience may be more interested in participating in an INaturalist group, such as a younger audience or a senior group.

Key Takeaways

- Difficult to connect with wider youth in this capacity
- Directing this activity to a senior group or a children’s group in the future may be a better strategy for public engagement
- A future idea for this outreach activity could include INat & Lunch, where a senior group meets biweekly in a location documents species then has lunch together in a local park

3. BioBlitzing with a Summer Camp

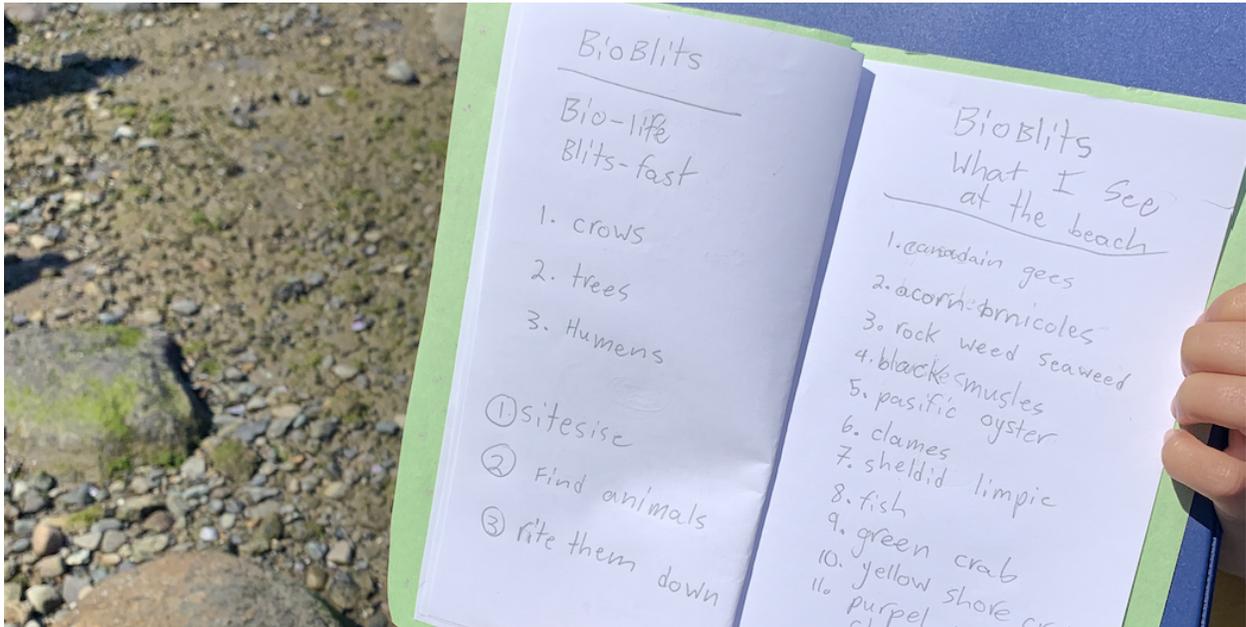


Figure 11: BioBlitzing Event with a Summer Camp (Personal Image, July 2022)

Location	Kitsilano Beach, False Creek
Environment	Beach
Partners Involved	Sea Smart Summer Camp and False Creek Friends Society
Key outreach activity	Educating and conducting a mini BioBlitz with children ages 5-12
Number of participants	Approximately 250 kids and camp staff over the multiple sessions

About the Engagement

As of July 22nd, 2022, the False Creek Friends Society and Hakai Institute have conducted three BioBlitz events with the Sea Smart Summer Camp. Each day these activities engaged approximately 40 kids and six staff members in educating and partaking in a BioBlitz at the Kitsilano Beach and Trout Lake locations. This activity is scheduled to occur three more times throughout the summer. This outreach activity has found massive success as these young children, many of whom are aspiring marine biologists or scientists, had the opportunity to

become citizen scientists for the day and participate in an activity which will help document a baseline of species and sediments within the False Creek BioBlitz Project.

Key quote from an Engagement leader:

"There was a mutual benefit to visiting the Sea Smart camp and introducing the BioBlitz: I was able to share my interest and passion for biodiversity with the campers and they were able to learn what this kind of scientist does for work and grow their understanding of their backyard."

- Kate Henderson, Tula Foundation

Key Takeaways

- Providing children with the opportunity and skill set to participate in the BioBlitz Project
- Inspiring the next generation to become more environmentally conscious and considerate by forming a positive experience and a sense of stewardship within their marine environment
- Scientists' ability to include and involve young and aspiring marine biologists in the process of bioblitzing is key to stewardship efforts.

4. The Light Trap Project



Figure 12: Light Trap Event featuring Wild Outside and the Hakai Institute, (Image taken by Zaida Schneider, July 21, 2022)

Location	Heather Civic Marina, False Creek
Environment	Ocean Inlet
Partners Involved	Elsie Roy Elementary School, False Creek Friends Society and Hakai Institute
Key outreach activity	Citizens participating in Community science
Number of participants	Approximately 200 people collected from consent forms of groups and the Light trapper email list

About the Engagement

The Sentinels of Change Light Trap Project consisted of 24 traps across the Salish Sea managed and overseen by the Hakai Institute. The Light trap is a device used to collect and document larval invertebrates and fish within these locations to identify a baseline of species and the abundance of those species in each of the given locations (Hakai, 2022). The Sentinels of Change project has utilized light traps to monitor the distribution and abundance of dangerous megalopa, an indicator species for ecosystem health (Hakai, 2022). In each of the 24 locations across the Salish Sea, local non-profit groups and community partners have been supported by Hakai to visit and record the collected species of the light traps every two days. The False Creek Friends have been put in charge of checking the Light Trap stationed in False Creek at Heather Civic Marina every two days between April and August of 2022.

This specific Light Trap Station has been pivotal in demonstrating how scientists and community members can successfully work together to conduct meaningful work towards helping to establish an ecosystem baseline for the False Creek Area. This project has unboxed a formula for a future of community-engaged science working towards marine conservation efforts within a highly urban local. Citizens are eager to participate in these types of projects where they can connect to the oceans and participate in a meaningful and helpful way; however, often, they just don't know where to start. Additionally, scientists at Hakai can utilize this keen and vast network of volunteers to conduct a large amount of data collection that, without support, would be virtually impossible for a small team of scientists to conduct.

False Creek Friends also piloted several educational components for this Light Trap Project. On June 6th, a local school group visited the Light Trap project to learn more about the project's purpose and the value of citizen science. This group of school-aged kids could ask important questions about the future of marine conservation and become connected to nature just minutes from their school, instilling a sense of place and connection to their local ecosystems around them. Further, two more groups, Wild Outside, a youth group from Greater Vancouver and the VancouverNatureKids Club Vancouver, each visited the Light Trap for an educational teaching session about the project. The main outcome of these outreach events was to have the groups connect to the great diversity within False Creek and have them begin to build a sense of care and urgency for protecting this place we call home in the future, which were each accomplished with great success.

Key participant and engagement leaders quotes:

This engagement strategy involved many volunteers, community members and other associated community partners and had one of the most positive impacts in terms of surveyed participants' results as indicated below.

“ Seeing the creatures in the light trap has given me a far greater understanding of the biodiversity of False Creek, and of how all of the waterways are connected and are impacted by the urban environment.”

- False Creek Friend Volunteer

"I had no notion that the Dungeness crabs were even potentially coming back to False Creek. The Light Trap project has increased my optimism that we can make False Creek a friendly home for a wide variety of marine species.

- False Creek Friend Volunteer

"Witnessing the passion and enthusiasm of False Creek volunteers is really exciting! It's inspiring to see how over just a short amount of time, engagement with the marine environment can foster more caring and community. This hasn't changed my engagement with the topics/issues in this question though, which were already high.

- Heather Earle, Hakai Institute

Key Takeaways

- Scientists can benefit from including community volunteers in their research
- Allowing for community members to engage with the science and connect with species under the water in False Creek has built a grown sense of connection and care for the foreshore around them
- Community members want to support climate action; however, they need to be given the tools and training to do so
- People of all ages can benefit from participating in community science

Social Media as a Tool for Community Engagement

Location	Remote
Environment	Not applicable
Partners Involved	False Creek Friends
Key outreach activity	Spread awareness and interest about upcoming projects and challenges facing False Creek
Number of participants	As of July 22nd, 2022 - 100 followers on Instagram

About the Engagement

The ability for the False Creek Friends to pilot an Instagram account and build out our existing Twitter account has helped significantly to share key messages, upcoming events and blog posts with the broader community. Social media also provides a platform for a non-profit organization to gain volunteers from different backgrounds and experiences by viewing our social platforms. Lastly, our social media channels act to highlight events to potential community partners and future investors to learn more about False Creek Friends and buy into this non-profit's long-term goals and objectives.

Key Takeaways

- Networking with a broader audience which has helped to interest potential volunteers, community partners and investors
- Advertise for upcoming events to gain participation
- Reflect and celebrate current events and actions conducted by the False Creek Friends.

Sea Settlement Plate Project

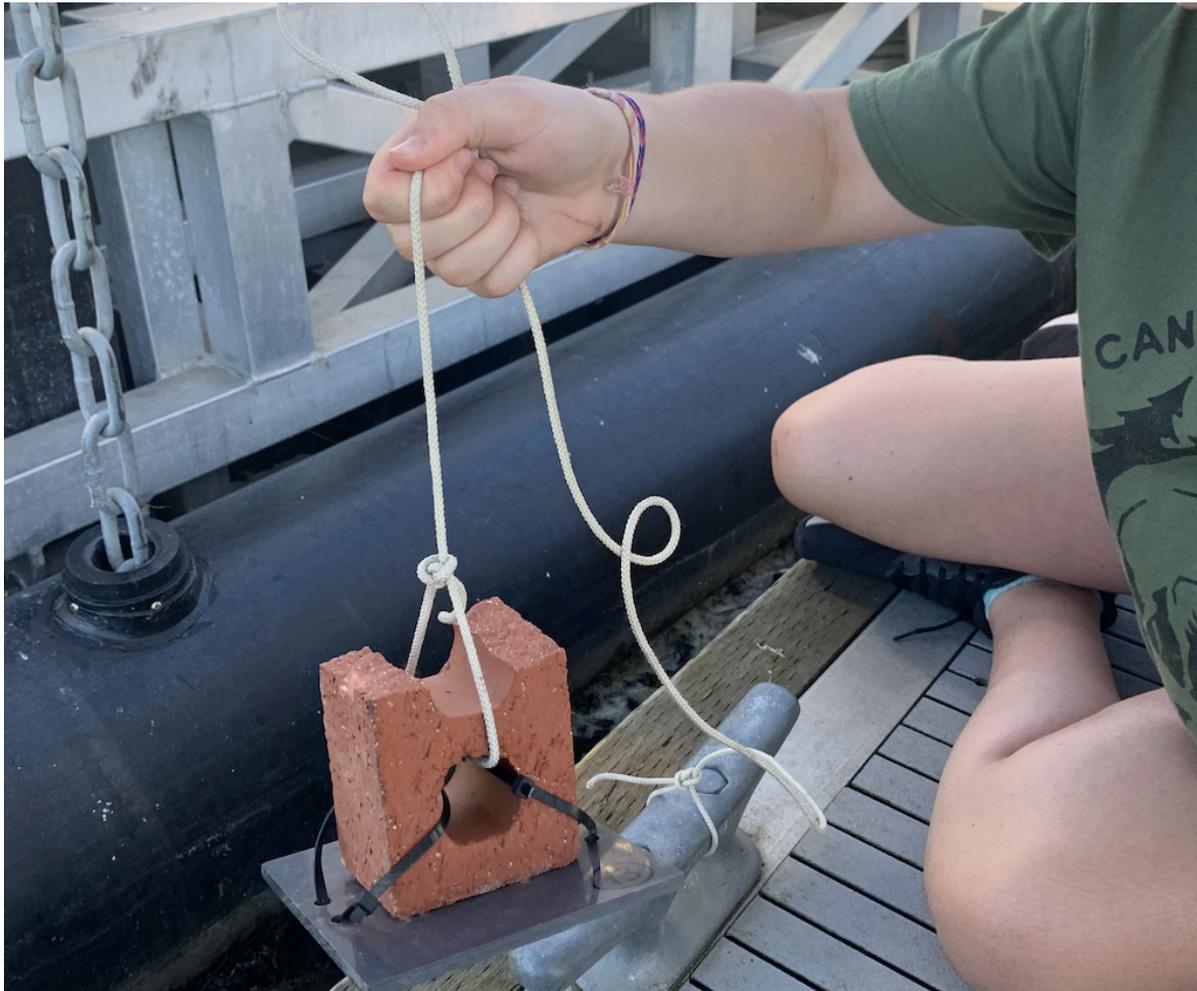


Figure 13: Sea Settlement Deployment (Personal Image, July 8, 2022)

Location	False Creek Public docks
Environment	Inlet
Partners Involved	False Creek Friends Society, Hakai Institute, and City of Vancouver
Key outreach activity	Citizens participating in marine-focused community science
Number of participants	15 people and growing as of the email list

About the Engagement

The Sea- Settlement Project supports 48 plates in nine locations throughout the False Creek Inlet. Each sea settlement was placed over the July 10th weekend, and between one to three months, these plates will become colonized by an artificial neighborhood of marine species.

This research project, led by the Hakai Institute, will work to document what Mirco marine species are abundant and possible within the False Creek area. This contributes to the more significant Biodiversity Baseline, the False Creek Bioblitz 2022 project.

Furthermore, despite this project's late launch, there has already been a vast number of sea settlement stewards from the False Creek Friends Society and beyond who have taken up ownership of looking after these settlements. A broader community-focused objective of this project is to bring members of the community of all ages together to talk about and do marine conservation work within their local community. A sea settlement project is an act of healing for the marine species and our community to re-image this place we live in and reconnect people to the marine environment.

Key participant quotes:

“I’m happy to see citizen science and research being started and pulling the community together.”

- False Creek Friend Volunteer

“When I see people in my community care about the ecosystems in which they live, it inspires me to do more.”

- Matt Walen, Hakai Institute Scientist

Key Takeaways

- Community members have the drive to participate in marine sustainability but often lack the opportunities to partake
- Scientists and community members shared ideas, knowledge and experiences to conduct this project
- Community members felt like they were making a difference
- Local governmental support for this initiative has been key to the success of this project
- Local government will receive finding results of species documentation within the false creek, which can help to encourage their support tremendously

False Creek Bioblitz iNaturalist Project



Figure 14: Social media post on False Creek Friends Society Instagram (Photo by Zaida Schneider, June 2022)

Location	False Creek
Environment	Inlet
Partners Involved	False Creek Friends Society and Hakai Institute
Key outreach activity	Citizen Science throughout iNaturalist
Number of participants	As of July 25th, 2022, there are 245 participants in the iNaturalist Project

About the Engagement

The False Creek BioBlitz 2022 iNaturalist Project utilizes a free and easily accessible platform of iNaturalist which is both a website and app. It allows citizen scientists to participate in the BioBlitz by documenting and uploading species captured within the bounds of the False Creek to the project. This outreach initiative is easy for all people living and visiting the False Creek area to get involved and support scientific research. This online network has allowed community

members to come together to document a wide range of species within the area which will help the scientist at Hakai create a documentation of the range and extent of species at the end of the project. However, this project is still limited to people who know of this project and those who own a cell phone or a camera.

Key directors quote:

“My personal enjoyment has increased because it feels as though we are doing something, instead of just talking about sustainability. I think that there has been a general increase in awareness and care about False Creek - not solely because of FCFS but because of opportunities like UN Decode of Ocean, IMPACT5 being in Vancouver, Hakai involvement, and people like Fernando Lessa and Streamkeepers and Swim Drink Fish and others working to advance collective goals.”

- False Creek Friend Director

“Going out into the False Creek area and looking at the biodiversity has increased my understanding and value of biodiversity.”

- Kate Henderson, Tula Foundation

Key Takeaways

- Easy and engaging tool for all community members to get involved with citizen science
- Public wifi areas around the false creek area make upload and documenting species easy and accessible
- Low effort and cost tool for public engagement

Discussion

Recommendations

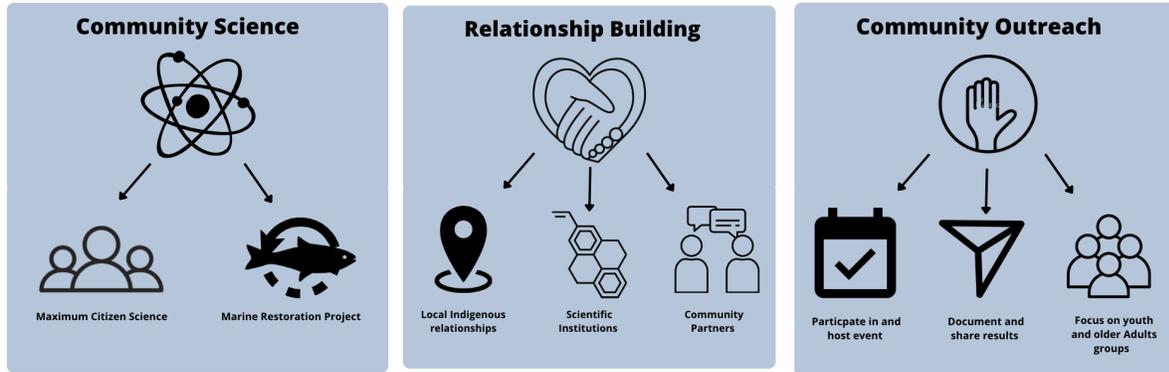
This section outlines a series of recommendations for the False Creek Friends Society to move towards its long-term goal of establishing buy-in and engagement to support a special status or a designated national marine protected area within False Creek. These recommendations could also be utilized by other nonprofit organizations working on marine conservation efforts in urban areas to begin to build an action plan toward establishing a community of citizens to “*deepen understanding, value, care and enjoyment of the city seascape in and around False Creek*” (False Creek Friends Society, 2021).

There are three overarching areas of recommendation for the False Creek Friends Society: community science, relationship building, and broadening community outreach. Community Science as a tool for increasing buy-in and engagement will help local citizens become increasingly connected and involved with marine conservation work in false creek through action-based initiatives. Secondly, relationship building will provide recommendations that work with organizations and networks to collate and establish action towards marine protection in a unified manner. Third, broadening community engagement will act to increase buy-in and engagement by working to recruit volunteers, interested media, government and investors in the projects, therefore, building reports and support from the community at large.

Overarching Recommendation



Community Science Relationship Building Community Outreach



Community Science:

1.	Ensure maximum citizen participation in projects that continue to measure and monitor the marine area
2.	Pilot marine restoration projects with community members

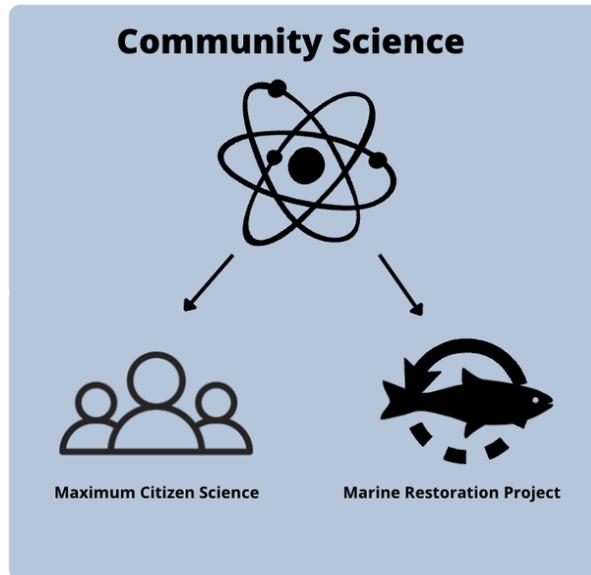
Relationship Building:

3.	Invest in ways to foster deeper relationships with host nations
4.	Partnership with local scientific organizations and universities
5.	Collaborate with associated community partners and other non-profits with similar goals and objectives for the marine area

Community Outreach:

9.	Participate in and host outreach events, host workshops, and open houses
10.	Document and share results; Reports, Media and Social Media
11.	Engage youth and older adults in marine conservation work

Community Science



Community science is vital for fostering increased community buy-in and stewardship towards urban marine areas. This act of local community engagement or this idea of people getting involved and connecting to the marine environment through action is key to fostering these deeper connections and care for the local marine environment. Success during the piloted phases of this research includes the Light Trap Project, where several groups of people could participate in the scientific process of documenting a baseline of species in False Creek. In the future, this research recommends highlighting community-led projects in baseline monitoring and piloting marine restoration initiatives to connect local people to their marine environment, thus driving a more profound sense of care and protection.

1. Ensure maximum citizen participation in projects that continue to measure and monitor the marine area

Community-led projects are one of the best strategies for community members to build a deeper understanding and care for their urban marine environment. Community science helps community members to connect with their local marine environment by participating in the collection of data to help identify the current status and ongoing monitoring of the marine area in False Creek. One of the main barriers to engagement in marine conservation for the public is a lack of knowledge or idea of where to start. Providing community members with opportunities to engage and interact with species or sediments in the local marine environment is crucial to fostering a deeper understanding, sense of place and care for people of all ages and backgrounds.

Key projects in the future could include:

- Juvenile salmon monitoring Reports of the False Creek Area
- Documentation of the percentage of natural vs. sea wall exterior of the False Creek Inlet
- Conducting Light Trap projects in several locations within False Creek for a year-long study
- Study on microplastics and microfibers entering false creek in sewer overflows
- A Benthic survey or observing the lowest ecological area with False Creek
- Water quality sampling (connecting with Swim Drink Fish)
- [What about mentioning an initiative which involves Indigenous/host nations - support for something they want to do or even are doing???

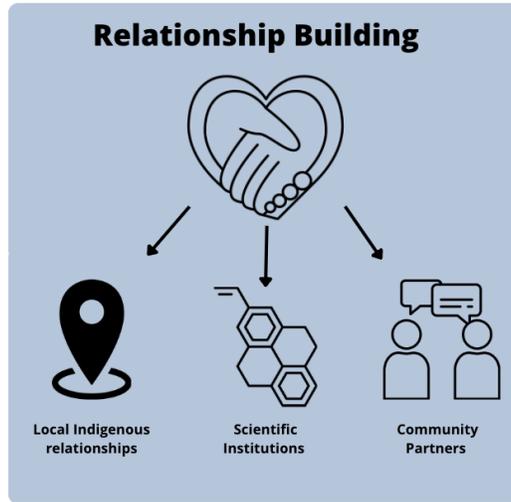
2. Pilot marine restoration projects by community science

Collectively with the support of other nonprofit organizations, local scientific institutes and the City of Vancouver, False Creek could become leading example of a place investing marine restoration projects. However, in the short term piloting restoration efforts by community members, and support by the city is a great way to work towards small-scale marine restoration and another way community scientists can get more involved and connected to the marine environment. Globally, restoration initiatives have been one of the foremost leading strategies to gauge buy-in and engagement towards public support for a marine protected or conservation area. Connecting local community members to their environment by participating in a hands-on stewardship-focused project is crucial to establishing a deeper sense of care and connection to their local marine area.

Key projects in the future could include:

- Eelgrass restoration efforts
- Reinstating retrofitted habitats for marine life along and around the sea wall
- Beach clean up days monthly in collaboration with Ocean Wise or other local non-profit organizations

Relationship Building



Relationship building with existing stakeholders within the local bounds of the urban marine area is the second key recommendation to support building buy-in and support for the community to foster a more profound sense of care and protection over the local marine environment. These stakeholders include the local host nations, local schools and summer camps, marine and local nonprofit organizations, the local government, residence associations, scientific and university institutions, and many others. Each urban marine area will have a slightly different set of stakeholders based on their different locale. However, building partnerships is key to achieve these significant goals of establishing a higher designation or special status within a marine area, such as False Creek. These three areas of focus outlined below are specific to the False Creek. These include investing in ways to connect and build deeper relationships with host nations; connecting and collaborating with scientific institutions; and working and collaborating with community partners such as marine-focused nonprofits that highlight and promote similar ideas in the local marine area.

1. Invest in ways to foster deeper relationships with host nations.

Within the area of False Creek, Vancouver, the host nations include the *xwməθkwəy̓əm* (Musqueam), *Skwxwú7mesh* (Squamish), *Stó:lō* and *Səl̓ílwətaʔ/Selilwitulh* (Tsleil- Waututh) Nations. These nations are the first peoples and sea stewards utilizing and caring for these lands. Building a relationship where the *xwməθkwəy̓əm* (Musqueam), *Skwxwú7mesh* (Squamish), *Stó:lō* and *Səl̓ílwətaʔ/Selilwitulh* (Tsleil- Waututh) are leaders and advisors of local nonprofit groups, such as the False Creek Friends is an ideal way to create this relationship and leadership from the host nations. However, moving toward this relationship will require many steps beforehand. Therefore, in the short term, this research suggests utilizing indigenous teaching and practices found through online and existing seminar-type events to learn about

indigenous ways to work together and towards the revitalization of this traditional area of False Creek.

Key projects in the future could include:

- Look for opportunities to facilitate Indigenous-led walking or boat tours around False Creek
- Attending existing workshops and events concerning marine conservation and stewardship efforts led by Indigenous wisdom and knowledge keepers
- Research and incorporate Indigenous teachings into the False Creek Friends community science efforts
- Listen, learn and ask local host nations members about stewardship project, such as herring initiatives or sit in on a False Creek Friends Society Board meeting to learn about our organization
- Invite local host nations to sit on the False Creek Friends Board of Directors permanently

2. Co-organize events and community science projects in partnership with local scientific organizations and institutions

Existing locally and regional scientific organizations and institutions, such as universities, are key partners that could help the False Creek Friends Society or other local non-profits build community buy-in and stewardship within False Creek. Key actors within Vancouver include Science World, the Hakai Institute, the University of British Columbia and the University of Simon Fraser University.

Key projects in the future could include:

- Continue to engage in baseline monitoring research in False Creek
 - Ex. Sentinels of Change Project
 - Ex. Sea Settlement Plate Project
- Commence new baseline monitoring research projects such as encouraging mussel vitality through artificial habitats
- Support and attend seminars concerning the local marine area presented by professors and professionals in marine conservation
- Host a roundtable series with marine-focused professors, leading scientists and community members engaging in local marine conservation issues and future solutions
- Attend beach and intertidal walks hosted by a marine biologist
- Host a meet a Marine Biologist event

3. Collaborate with associated community partners, and other non-profits with similar goals and objects for the marine area

Several nonprofit organizations and community groups focus on marine stewardship and conservation. This mission is to create a higher marine designation within the False Creek area. These groups are vital to achieving more significant action and stemming community and

political buy-in. Many of these nonprofit groups have existed for several years, each with a specific niche goal. Alone each nonprofit has the potential to achieve reasonable change and impact within the local area of False Creek. However, collective action and collaboration have a vast potential for large-scale actionable change for a marine area. In the case of Plymouth Sound Marine National Park, a collaborative effort from nonprofit organizations, the local community groups, and local and national levels of government were vital to achieving this long-term goal of a Nationally protected marine park. In the future, involving the government in False Creek will also be an essential stakeholder in this process. However, in the short term, collective action from like-minded marine-focused nonprofit organizations is the first important step towards establishing a higher designation of marine conservation.

Key projects in the future could include:

- Learn about other marine-focused nonprofits' missions, values and events within the False Creek Area
- Support and attend other local non-profit events and promote their work on social media
- Collaborate on conservation initiatives
- Collaborate to host a series of lecture talks by marine biologists and professionals
- Reach out to Community Centres around False Creek area to understand programming potential and communications opportunities

Community Outreach



The third overarching set of recommendations involves focusing on broader-scale community outreach. Below this research recommends three strategies of engagement which include: participating and hosting events; monitoring, documenting and reporting on the results of research and focusing on involving the two demographics of youth and older adults in marine conservation work. Overall, outreach can act to spread awareness and build consensus around a particular mission, such as the False Creek Friends' mission to achieve a higher designation of protection or special status within False Creek.

1. **Participate in community outreach events, host workshops, and open houses for the public**

Marine-focused nonprofits must work to gauge the broader understanding and interest of the local community. Wide-facing outreach events, workshops and open houses are several ways a community member can purposefully or accidentally learn about and engage with a nonprofit. These one-time events are a great way to encourage participation. They will help build a virtual group of volunteers interested in participating in some more focused community science projects.

Key projects in the future could include:

- Bi-weekly coffee chats with a community scientist monthly to encourage a low-risk way for citizens to think about the current status of false creek, chat about future goals and objectives for False Creek and learn about ways to get involved locally
- Design an interactive Sea walk game about the importance

- EX. True OR False Creek Walking Game
- Host open houses for new volunteers to attend the non-profit initiative and learn about upcoming events
- Host training sessions and onboarding opportunities for new volunteers

2. Document and share results; reports, media and social media

Reports, media, social media and journaling are key outputs for documenting and sharing results with the larger community. Reports are a way to stimulate evidence-based examples of baseline and ongoing measurements within the local marine area. It is recommended that FCFS should continue to hire or contract field experts to conduct baseline and ongoing evaluations of the ecological, social and environmental conditions and changes in False Creek. Media is a tool that can highlight a nonprofit more broadly to a wider audience, such as a city or provincial level audience. Social media is a tool that can act to celebrate accomplishments and share information about findings, or reporting of an existing project. Social media can be used to teach and spread awareness itself. Blogging is also a key tool that can be utilized to highlight existing volunteers and create more of a community presence by highlighting specific stories and people online.

Key projects in the future could include:

- Hire or contract field experts to continue to evaluate and report on the ecological status of False Creek
- Hire or contract field experts to continue to evaluate and report on community buy-in towards False Creek achieving higher marine park status
- Documenting events, activities and outcomes online through reporting, media and social media streams
- Create and share educational media content
- Share and promote exiting community science efforts and initiatives and ways for the community to get involved
- Highlight a community member weekly on social media or by blogging

3. Engage youth and older adults in marine conservation work

Despite a keen desire to actively require and involve community members from all age groups, this research recommends focused requirements and involvement of youth and older adults. These two groups each seem to have a little more interest and time to participate and volunteer in marine conservation and stewardship actions. Additionally, intermixing these two groups creates an intergenerational connection and allows different actors to work together to achieve great success.

Key projects in the future could include:

- Support existing summer camps by introducing citizen science-led presentations and activities
- Invite school groups to visit ongoing projects and learn about community science
- Pilot an older adults walking group that utilizes iNaturalist to document species in the local area weekly

Summary

Community science, relationship building, and community outreach are the three key areas of recommendations which will support the False Creek Friends Society's activities and foster this deeper level of care and connection for community members and volunteers to the urban marine environment. However, due to the FCFS being a relatively new non-profit, focusing on these three areas allows the FCFS to hone in on its capacity-building and recruitment strategies needed to sustain this organization in the long term. In the future, the False Creek Friends Society should conduct an annual survey to identify and reflect on the non-profit's capacity to undertake community science, relationship building and community outreach initiatives.

Conclusion and Next Steps

Conclusion

The False Creek Friends Society's long-term goal is to achieve a higher level of marine designation or special status for the urban marine area within False Creek. The key overarching recommendations in this report, recommends community science, relationship building, and community outreach as the three key overarching strategies to foster buy-in and a deeper sense of care and connection to a marine area from various community members and groups. Community science initiatives will help to connect people to the environment around them and build this deeper sense of care and connection towards this marine environment through action. Relationship building will encourage indigenous and non-indigenous partnerships between key stakeholders and the False Creek Friends Society to grow. Community outreach will involve a plethora of methods, from report documentation to community-focused open houses as strategies to spreading awareness about the FCFS opportunities and long-term goals.

False Creek's community has huge stakes in the future of this marine area. However, there seems to be a lack of connection and involvement between the broader community and the local marine environment. This creates a lack of urgency for action from the broader population, despite many people's desire to see positive change in this urban marine area.

This report compared and evaluated seven piloted engagement strategies and five global best practices for involving a higher level of community engagement within marine stewardship and conservation efforts. Additionally, the recommendations provide many actionable areas to further involve the community in marine conservation work. Collectively from these piloted and research engagement initiatives, this research concludes that there is not one best approach or engagement style to achieve this massive scale buy-in of the community. Rather a plethora of public engagement strategies are needed. Collectively these approaches can help to increase

buy-in and foster a deeper sense of care for the urban marine environment within False Creek and beyond.

Next Steps

Lastly, this report would like to leave the False Creek Friends Society and associated community partners with a proposed action plan for the next ten years of False Creek. This action plan is by no means a complete detailed plan of the future direction of this organization as it moves towards the long-term goal of establishing a nationally designated marine protected area. However, this is an open-ended Action Plan to provoke questions and a high-level direction for this organization. Additionally, this action plan was created in support of the rankings suggested by the participants in the survey. The results of the ranked analysis in the survey are included in Appendix two.

The Action Plan highlights four key action clusters highlighted from the survey results of False Creek Friends Volunteers, Directors and Associated partners as the most important strategies towards fostering support for a national designated marine protected area.

These four actionable areas include the following:

1. Document a baseline of the False Creek Area
2. Building relationship with host nations, community groups and many other key stakeholders
3. Broadened community outreach strategy
4. Work with the local and international levels of government

Appendix

Appendix 1

A National Marine Park in False Creek: Action Plan

A National Marine Park in False Creek: Action Plan



Overview

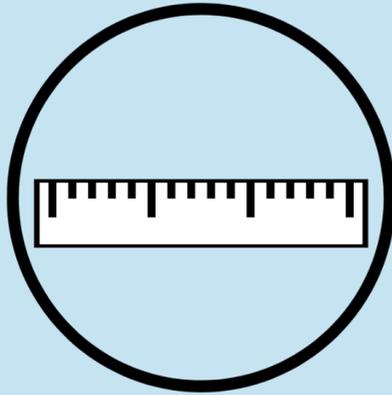
Action Areas.....pg. 2

1 -2 year plan.....pg.3

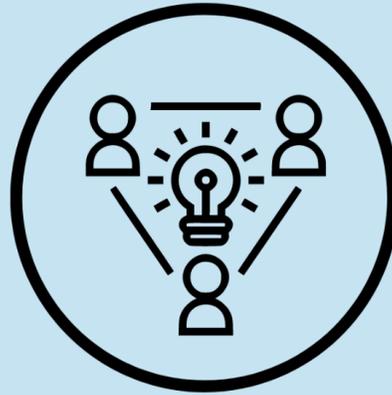
2-5 year plan.....pg. 4

5- 10 year plan.....pg. 5

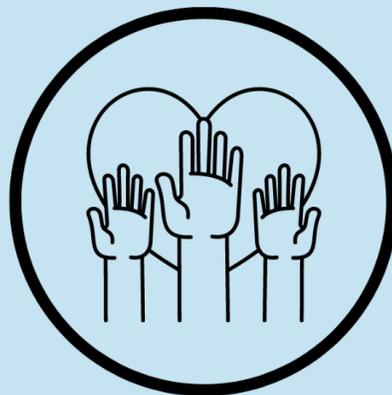
Action Areas



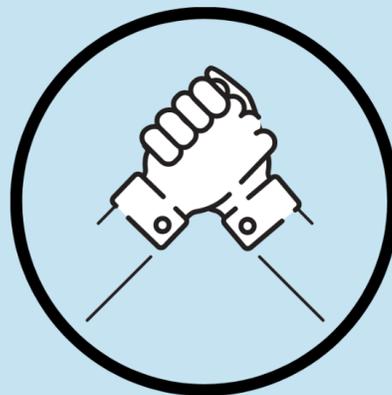
Document a Baseline
and Monitor



Build Relationships



Broaden Community
Outreach



Work with
Government

Short Term

1 - 2 years

Document a Baseline and Monitor

1. Naturalist Events
2. Participate in Sea-Settlement Project

Build Relationships

1. Learn from Host Nations
2. Connect with other NGO's

Work with Government

1. Foster local community support
2. Gain local Media Attention

Broader Community Outreach

1. Document success online
2. Create community-based educational content

Mid Term

5 years

Document a Baseline and Monitor

1. Ongoing water quality surveys
2. Bi-annual BioBlitz events

Build Relationships

1. Invite Host Nations to engage as experts
2. Collaborate with NGOs on projects
3. Connect with for-profit local industry

Work with Government

1. Built rapport with government officials
2. Provincial-level media attention
3. Petition for an MPA

Broader Community Outreach

1. Coffee Shop Talk Series
2. Interactive online games
3. Story book about False Creek

Long Term

10 years

Document a Baseline and Monitor

1. Connect major local players in ongoing community science initiatives

Build Relationships

1. Host nations led conservation
2. Collate NGOs to support an MPA
3. Financial support from for-profit local business

Work with Government

1. Work with local government to pilot MPA in False Creek
2. National level media attention

Broader Community Outreach

1. False Creek Days
2. Video or podcast series

Appendix 2

Survey Questionnaire

8/10/22, 5:04 PM False Creek Friends survey to inform an action plan to support engagement and buy-in for an Urban Marine Park in False Creek

False Creek Friends survey to inform an action plan to support engagement and buy-in for an Urban Marine Park in False Creek

Hello False Creek Friends, Directors, and Associated Community Partners,

My name is Maggy Spence, and I am a UBC Sustainability Scholar partnering with the False Creek Friends Society (FCFS), to support existing FCFS projects and help pilot several engagement initiatives during the Summer of 2022.

As I move into the second half of my partnership with False Creek Friends, I am working towards researching and creating a list of recommendations which will inform an action plan for the FCFS's long-term goal of establishing an urban marine protected area within False Creek and English Bay. Furthermore, the outputs of this research can also be used by other non-profits focused on marine conservation within the local area.

I am very interested to hear from volunteers, directors and advisors of the FCFS as well as associated community partners on best practices for achieving these goals.

If you have the capacity to complete a 5-10 minute survey concerning these topics, I would be thrilled to include your perspective in my research. If you would like a paper copy of this survey, please let me know at maggy@falsecreekfriends.org.

This survey will remain open from Thursday, July 7th - Monday, July 18th, 2022.

Additionally, if you leave your email in the last question of the survey, I will share the final research project with you once complete at the end of August!

Please email maggy@falsecreekfriends.org if you have any questions.

Consent:

This survey will support Maggy Spence's Sustainable Scholar Research Project titled "Research to inform an action plan to support engagement and buy-in for an urban marine park in False Creek."

Participation in this survey will remain anonymous. However, in question three of the survey, there will be an option for associated community partners to identify their organization if they choose.

https://docs.google.com/forms/d/1PKu4Rf0R0H5HcD0jKqumk_JZM2qkzR1p0KICIKUu/edit

1/5

8/10/22, 5:04 PM False Creek Friends survey to inform an action plan to support engagement and buy-in for an Urban Marine Park in False Creek

If you would like to stop the survey at any point, please press clear at the bottom of the survey. If your survey has already been submitted and you would no longer like your answers to be included in this research, please email maggy@falsecreekfriends.org.

- Do you consent to including your answers in the Sustainable Scholar Research Project titled "Research to inform an action plan to support engagement and buy-in for an urban marine park in False Creek"?

Mark only one oval.

- Yes
- No

- Are you a False Creek Friends Society Volunteer, Director, Advisor, or an Associated Community Partner?

Mark only one oval.

- False Creek Friends Society (FCFS) Volunteer
- FCFS Directors and Advisors
- Associated Community Partner
- Other: _____

- Would you like to have your organization highlighted in this research? If so please indicate your organization name here and please supply an email so I can share any quotes I plan to include in my research paper with you before publishing. If not, you can move on to the next question.

https://docs.google.com/forms/d/1PKu4Rf0R0H5HcD0jKqumk_JZM2qkzR1p0KICIKUu/edit

2/5

8/10/22, 5:04 PM False Creek Friends survey to inform an action plan to support engagement and buy-in for an Urban Marine Park in False Creek

- Which projects have you engaged in with the False Creek Friends Society (select all that apply)?

Check all that apply:

- Light Trap Project
- BioBltz Project
- Social Media - Twitter / Instagram
- Booting/Tabling events
- Youth project
- Sea Settlement Project
- Other: _____

- The False Creek Friends Society, aims to deepen the values, care and enjoyment of marine biodiversity, sustainability, climate change, environmental justice and/or reconciliation. While you have participated as a volunteer or an associated community partner with the False Creek Friends have these values care and/or enjoyments increased/stayed the same / decreased?

Mark only one oval.

- Increased
- Stayed the same
- Decreased

- Could you share an experience of how your understanding, values, care and enjoyment of marine biodiversity, sustainability, climate change, environmental justice and/or reconciliation have either increased/stayed the same / decreased now that you have engaged with the False Creek Friends Society? (2 sentence max)

https://docs.google.com/forms/d/1PKu4Rf0R0H5HcD0jKqumk_JZM2qkzR1p0KICIKUu/edit

3/5

8/10/22, 5:04 PM False Creek Friends survey to inform an action plan to support engagement and buy-in for an Urban Marine Park in False Creek

- As a non-profit working towards the long-term goals of protecting the marine environment, enhancing sustainable economic prosperity and enabling communities to participate in activities that deepen understanding, value, care and enjoyment of the city seascape, can you rank the most important actions the False Creek Friends Society should take moving forward? (1 = most important / 6 = least important)

Mark only one oval per row.

	1	2	3	4	5	6
Expand our volunteer base - promotion, tabling events, other...	<input type="radio"/>					
Connect and build deeper relationships with indigenous nations	<input type="radio"/>					
Engage in more community science projects - ex. Light Trap project	<input type="radio"/>					
Lobby government towards establishing a higher designation of marine conservation and protection within False Creek	<input type="radio"/>					
Build a strong network with associated community partners	<input type="radio"/>					
Other	<input type="radio"/>					

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