



Feasibility Study for the Canadian Centre for Ocean Exploration
Prepared for the Nanaimo Deep Discovery Association
May 2019

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EXECUTIVE SUMMARY

The Nanaimo Deep Discovery Association (“NDDA”) is investigating the feasibility of an attraction in Nanaimo called the Canadian Centre for Ocean Exploration (“OceanEXP”). MNP LLP (“MNP”) was engaged to undertake a feasibility study for the OceanEXP, focusing on developing attendance projections and associated surplus/deficit projections.

The OceanEXP would feature interactive experiences, collections of deep-sea exploration technology, and marine ecology exhibits allowing visitors to experience the diversity of ocean environments and gain a deeper understanding of our impact on the world’s oceans. The facility would be unique and is expected to appeal to a range of visitors, including both adults and children.

Panel research and interviews with tourism industry representatives suggest that the facility will not draw a significant number of new visitors to Vancouver Island; however, it would increase the number of attractions available thereby increasing the attractiveness of Vancouver Island as a destination.

Based on the experience of comparator facilities and data on tourism published by Destination BC and Tourism Nanaimo MNP developed attendance projections for three scenarios (Table A). The majority of visitors to the OceanEXP would be expected to be from Vancouver Island. Between 40 percent and 50 percent of visitors to the facility were projected to reside within a 60 minute drive of Nanaimo, and an additional 20 percent to 25 percent were projected to come from other parts of Vancouver Island.

Table A. Total Projected Attendance

Market Segment	Attendance		
	Low	Medium	High
Residents of Vancouver Island	16,600	38,200	61,700
Visitors to Vancouver Island	8,500	16,700	24,200
Total Attendance	25,100	54,900	85,900

Table B shows the projected annual revenues for each of the attendance scenarios.

Table B. Projected Annual Revenues under High, Medium and Low Attendance Scenarios

Revenue Category	Low Attendance Scenario	Medium Attendance Scenario	High Attendance Scenario
Individual Admissions	\$471,880	\$1,032,120	\$1,614,920
Theatre Admissions	\$42,670	\$93,330	\$146,030
Business Operations	\$102,700	\$184,800	\$279,800
Donations and Special Projects	\$65,600	\$139,200	\$216,800
Grants and Other Revenue	\$150,000	\$175,000	\$250,000
Total Projected Revenue	\$832,850	\$1,624,450	\$2,507,550

Data were not available on the operating costs for the OceanEXP. To develop estimates of the operating costs we used the operating cost per square at comparator attractions. Table C shows the surplus and deficit projections for the scenarios considered. Our analysis suggests that suggest that a 15,000 to 20,000 square foot facility would be able to cover its operating costs. As the size of the facility increases its ability cover its operating costs becomes more dependent on revenues from business operations, donations and sponsorships.

Table C. Surplus and Deficit Projections under the Low, Medium, and High Scenarios

Expenditures (Operating Costs)	Revenues		
	Low	Medium	High
15,000 Square Foot Facility			
Low (\$70/ sq. ft)	\$(217,150)	\$574,450	\$1,457,550
Medium (\$80/ sq. ft)	\$(367,150)	\$424,450	\$1,307,550
High (\$90/ sq. ft)	\$(517,150)	\$274,450	\$1,157,550
20,000 Square Foot Facility			
Low (\$70/ sq. ft)	\$(567,150)	\$224,450	\$1,107,550
Medium (\$80/ sq. ft)	\$(767,150)	\$24,450	\$907,550
High (\$90/ sq. ft)	\$(967,150)	\$(175,550)	\$707,550

1 INTRODUCTION

1.1 Background and Study Purpose

The Nanaimo Deep Discovery Association (“NDDA”) is investigating the feasibility of an attraction in Nanaimo called the Canadian Centre for Ocean Exploration (“OceanEXP”). The OceanEXP would feature interactive experiences, collections of deep-sea exploration technology, and marine ecology exhibits allowing visitors to experience the diversity of ocean environments and gain a deeper understanding of our impact on the world’s oceans.

MNP LLP (“MNP”) was engaged to undertake a feasibility study for the OceanEXP, focusing on developing attendance projections and associated surplus/deficit projections.

1.2 Scope

The scope of the study encompassed:

- Development of attendance projections for the local market and visitor markets.
- Development of surplus/deficit projections.

1.3 Approach

In preparing this report, MNP carried out the following activities:

- Identified comparator attractions.
- Identified potential visitor markets.
- Conducted primary research assessing visitors’ travel intentions and interest in the concept.
- Gathered relevant data and information from secondary sources.
- Interviewed key stakeholders.
- Developed attendance projections and surplus/deficit projections based on the information gathered.

1.4 Structure of the Report

The remainder of the report is organized as follows:

- Section 2 provides an overview of the OceanEXP.
- Section 3 provides an overview of visitor markets.
- Section 4 provides attendance projections.
- Section 5 presents the surplus/deficit projections.
- Section 6 provides a summary of the findings of the feasibility study.

1.5 Study Limitations

This presentation is not intended for general circulation, nor is it to be published in whole or in part without the prior written consent of MNP.

The presentation is provided for information purposes and is intended for general guidance only. We have relied upon the completeness, accuracy and fair presentation of all information and data obtained from public sources, believed to be reliable. The accuracy and reliability of the findings and opinions expressed in the presentation are conditional upon the completeness, accuracy and fair presentation of the information underlying them. As a result, we caution readers not to rely upon any findings or opinions expressed as accurate or complete and disclaim any liability to any party who relies upon them as such.

Additionally, the findings and opinions expressed in the presentation constitute judgments as of the date of the presentation, and are subject to change without notice. MNP is under no obligation to advise you of any change brought to its attention which would alter those findings or opinions.

Finally, the reader must understand that our analysis is based upon projections, founded on past events giving an expectation of certain future events. Future events are not guaranteed to follow past patterns and results may vary, even significantly. Accordingly, we express no assurance as to whether the projections underlying the economic and financial analysis will be achieved.

2 OVERVIEW OF THE OCEANEXP CENTRE

OceanEXP is envisioned to foster an appreciation of the vulnerable ocean realm and provide an opportunity for people of all ages to learn and explore the world's oceans. The facility will use modern display technology and virtual reality to allow visitors to feel immersed beneath the surface of the ocean and interact with it. The interactive experience will be further enhanced by the historical collections of deep-sea exploration technology and imagery projected through a variety of mediums. The sustainable, west-coast designed facility will feature:

- A Deep Sea Underwater Marine Display.
- First Nation's Marine Culture Centre.
- Interactive Marine Ecology Display.
- Theatre

The changing content of super high definition cinematography will be selected and produced by the facility's Director of Cinematography and Imagery who will work closely with the world's leading underwater explorers, videographers and photographers to storyboard exciting and factual imagery. The Centre has partnered with leading animation and VR programmers to produce a seamless and realistic experience.

Location

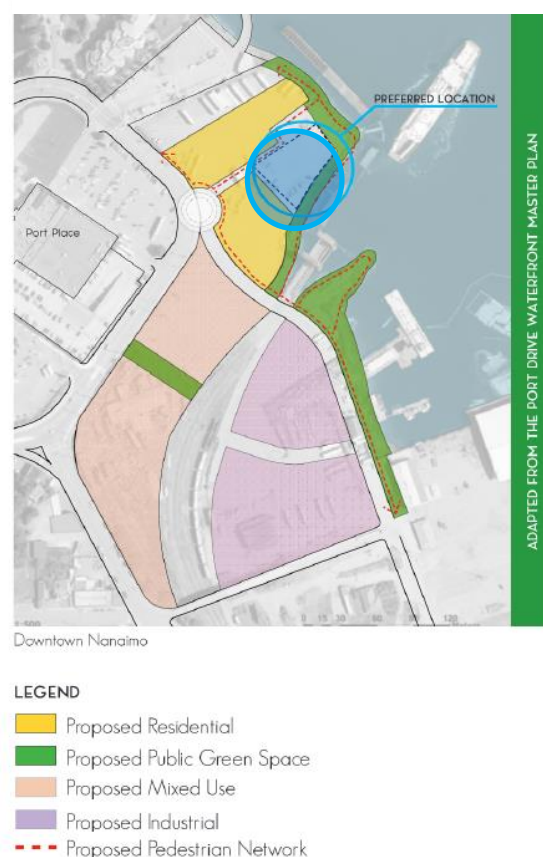
On January 8, 2018 the City of Nanaimo Council unanimously passed a motion to support the development of the OceanEXP including the allocation of up to two acres of Waterfront Master Plan property at 1 Port Drive. The Port Drive Waterfront Master Plan covers a total area of 9.9 hectares (24.4 acres) and is located at the waterfront edge of Downtown Nanaimo, next to the Gabriola ferry terminal and across from Port Place Mall.¹ Figure 1 illustrates the proposed location of the OceanEXP facility.

The site is located on the traditional territory of the Coast Salish peoples and was once a permanent settlement of a longhouse village of the Salaxal group of the Snuneymuxw First Nation. OceanEXP will recognize the First Nations' heritage within the area through public art, architectural design, and interpretative signage.

Nanaimo Deep Discovery Association

The NDDA was formed by a group of Nanaimo citizens, joined by a number of BC philanthropists, architects, engineers, investors and successful entrepreneurs, with a view towards the establishment of the OceanEXP. By April 2016 NDDA was formally registered under the Societies Act of BC and

Figure 1. Proposed Location of the OceanEXP



¹ City of Nanaimo, Port Drive Waterfront Master Plan, accessed on April 11, 2019. Source: <https://www.nanaimo.ca/your-government/projects/projects-detail/port-drive-waterfront-master-plan>

commenced its efforts to establish a planning model to support the establishment of the OceanEXP in Nanaimo.

3 SUMMARY OF VISITOR MARKETS

To estimate the number of visitors that would come to the OceanEXP we used a combination of primary and secondary research:

- **Primary research.** We conducted interviews with representatives from six comparator facilities and two tourism industry representatives to gather information on visitation and factors that influence attendance. In addition, we conducted a survey using a panel methodology in key visitor markets to gauge interest in the facility.
- **Secondary research.** We gathered information from publicly available sources on population, tourism on Vancouver Island, and comparator facilities.

Summary of Research Findings

The OceanEXP's visitors are expected to be drawn from the following categories:

- **Resident Market** – comprises residents of Vancouver Island and is divided into the Primary, Secondary and Tertiary markets.
- **Visitor Market** – comprises travellers to Vancouver Island from the Lower Mainland, other parts of BC, other Canadian provinces, the United States, and other countries.

The vision for the facility suggests that it will appeal to families with children and those with an interest in the marine environment. Based on the experience of other facilities the primary visitor groups from the Resident Market are expected to be^{2 3}:

- Families with children.
- School groups and International students.

The facility is also expected to appeal to segments of the local adult population with an interest in ecology and the marine environment.

According to interviews with tourism industry representatives attractions such as the OceanEXP which increase the options available for visitors make a region more attractive. However, single attractions do not typically draw significant numbers of incremental visitors on their own. For cruise lines, decisions on ports of call are based on the range of options available to visitors on shore. This suggests that the OceanEXP would increase the appeal of Vancouver Island as a destination, and could encourage visitors to extend their stay in the region.

The panel survey results indicated that people who already visit Vancouver Island were more likely to say that they would make a trip to visit the OceanEXP in Nanaimo. Those who indicated they would make a special trip also had visited Vancouver Island more frequently than respondents who indicated that they would not make a

² Supported by the interviews with the comparator facilities and secondary research from the Association of Zoos and Aquariums.

³ Association of Zoos and Aquariums website, accessed on April 29, 2019. Source: <https://www.aza.org/partnerships-visitor-demographics>

special trip to visit the OceanEXP. This suggests that the visitor market will primarily comprise people who already visit Vancouver Island.

The main visitor groups from the visitor market are expected to be leisure travellers, while business travellers are expected to be a relatively small component of the visitor market.

Important factors in attracting visitors identified through interviews with representatives of comparator attractions were:

- Providing programming that is unique and complements other attractions in the region.
- Rotating and refreshing exhibits to encourage repeat visitation.
- Effective and sustained marketing.

3.1 Resident Market

The resident market for the OceanEXP was segmented as follows:

- **Primary market** - residents living within 30 minutes travel time from the OceanEXP. The primary market comprises Parksville, Nanaimo, and Ladysmith.
- **Secondary market** - residents living between 30 and 60 minutes of travel time from the OceanEXP. The secondary market comprises Qualicum Beach, Gabriola Island, North Cowichan (Chemainus), Lake Cowichan, Duncan, and Cowichan Bay.
- **Tertiary market** - residents living over 60 minutes away from the OceanEXP. The tertiary market comprises the remainder of Vancouver Island.

Figure 2 Illustrates the geographic scope of the Resident Market:

Figure 2. Resident Market



Source: Vancouver Island Economic Alliance

The total population of Vancouver Island segmented by the primary, secondary and tertiary market is provided in Table 1. In 2016 Vancouver Island's population was approximately 799,400. The primary market accounts for approximately 16 percent of Vancouver Island's population, while the secondary market accounts for approximately 6 percent of Vancouver Island's population.

Table 1. Resident Market Population, by Segment

	Population Center	Population 2011	Population 2016	Growth
Primary Market	Ladysmith	8,841	10,637	20%
	Nanaimo	88,799	92,004	4%
	Parksville	24,326	23,574	-3%
Secondary Market	Chemainus	3,035	3,021	0%
	Cowichan Bay	1,401	2,394	71%
	Duncan	24,479	23,278	-5%
	Gabriola Island	4,045	4,033	0%
	Lake Cowichan	3,159	3,013	-5%
	Qualicum Beach	8,687	8,943	3%
	Total Primary and Secondary	166,772	170,897	2%
Tertiary Market		592,594	628,503	6%
Total Vancouver Island		759,366	799,400	5%

Source: Statistics Canada, Census 2016 and 2011

Between 2011 and 2016 the population of Vancouver Island grew by approximately five percent, while the population of the primary and secondary market grew by approximately 2.4 percent. Between 2016 and 2018 the population on Vancouver Island grew by approximately 1.3 percent annually, while the population in the primary and secondary market grew by approximately 1.5 percent.⁴ Over the same period, the population on Vancouver Island aged 65 and over grew by approximately 4.5 percent annually.⁵

A key demographic for the OceanEXP is expected to be families with children. Table 2 provides population data for children 5 to 14 years old between 2011 and 2016. Children 5 to 14 years old comprise approximately nine percent of the population both in the primary and secondary market, and on Vancouver Island as a whole. Between 2011 and 2016 the population aged 5 to 14 grew by approximately four percent.

⁴ BC Stats, Population by the Development Region, Vancouver Island/Coast, accessed on April 26, 2019. Source: <https://www.bcstats.gov.bc.ca/apps/PopulationEstimates.aspx>

⁵ Ibid.

Table 2. Primary and Secondary Market population, Aged 5 to 14 years

	Population Center	Population ages 5 to 14		Growth
		2011	2016	
Primary Market	Ladysmith	835	995	19%
	Nanaimo	8,575	9,070	6%
	Parksville	1,585	1,405	-11%
Secondary Market	Chemainus	185	170	-8%
	Cowichan Bay	165	260	58%
	Duncan	2,825	2,665	-6%
	Gabriola Island	285	220	-23%
	Lake Cowichan	345	275	-20%
	Qualicum Beach	430	400	-7%
Total Primary and Secondary		15,230	15,460	2%
Tertiary Market		55,855	58,550	5%
Total		71,085	74,010	4%

Source: Statistics Canada, Census 2011 and 2016

School Districts and Students

School groups are expected to be an important component of the visitors to the OceanEXP. Vancouver Island has 12 K-12 public school districts, with two school districts located in the Ocean EXP's primary and secondary market (Table 3). School enrollment projections indicate that the school-aged headcount in the primary and secondary market is expected to grow by between one percent and two percent annually between 2016 and 2027 suggesting that the number of families with children in these regions is expected to continue to increase.⁶

Table 3. K-12 School and Student Counts in the Primary and Secondary Markets, by School District

School District	Number of Elementary Schools	Number of Secondary Schools	Number of Alternate Schools	Number of Students
SD68 – Nanaimo Ladysmith School District ⁷	27	7	1	14,400
SD69 – Qualicum School District ⁸	8	2	1	4,000
Total:				18,400

Socioeconomic Factors

Visitors to attractions such as the OceanEXP tend to be relatively well educated and come from higher income groups.⁹ In 2015, the median total income of Vancouver Island households was \$65,402, while the percentage of children living in private households identified as being low income was approximately 19 percent, and the

⁶ BC Ministry of Education, Projection Report for Public School Headcount Enrolments, 2017/18

⁷ <https://www.sd68.bc.ca/about/>

⁸ <http://www.sd69.bc.ca/About/Pages/default.aspx>

⁹ Richards, Greg. (2002). "Tourism Attraction Systems: Exploring Cultural Behaviour". Annals of Tourism Research (29), pp. 1048-1064.

percentage of adults aged 18 to 64 living in low income private households was approximately 15 percent.¹⁰ In the primary and secondary market the percentage of children living in low income private households was between 21 and 22 percent, while the percentage of adults aged 18 to 64 was between 15 and 16 percent.¹¹

Summary of Implications

The primary and secondary components of the resident market are relatively small. While the population is growing, much of this growth is in the 65 and over age group. Projections for school enrollment suggest growth in younger age groups is expected to be modest.

Information on income levels suggests that incomes in the region are moderate, and there is a relatively higher percentage of children living in low income households. Consequently, demand for the OceanEXP within the resident market is expected to be sensitive to price levels.

3.2 Visitor Market

Tourism is an important industry on Vancouver Island. In 2014, the latest period for which data were available, there were 10.3 million visitors to Vancouver Island, of which 4.4 million were overnight visitors. Since 2014, BC Ferries passenger volumes, hotel occupancy, revenue per available room, and passenger traffic at the regional airports have all increased suggesting that the number of visitors to Vancouver Island has grown (Table 4).¹²

Table 4. Tourism Indicators on Vancouver Island

Tourism Indicator	Growth 2014 to 2018	Annual Growth Rate
Ferry Traffic: Passenger Volumes	11.4%	2.7%
Ferry Traffic: Vehicle Traffic	13.0%	4.2%
Hotel Occupancy Rate	9 percentage points	2.0 percentage points
Average Daily Room Rate	16% to 26%	4% to 6%
Passengers at Regional Airport	18.6%	4.4%

Source: Destination BC, Tourism Indicators Year in Review 2014 and 2017

Vancouver Island Visitor Profile Snapshot

The profile of visitors to Vancouver Island published by Destination BC indicates that:¹³

- **Leisure is the main purpose of travel to Vancouver Island.** The most common reason for a trip to Vancouver Island reported by visitors was leisure (51 percent), followed by visiting friends and relatives (38 percent), business (5 percent), and other (6 percent).
- **The majority of visitors are from BC.** In 2014 BC residents accounted for the majority of overnight visitors (62 percent). Washington State had the next largest share (7 percent), followed by Alberta (6 percent), Australia (2 percent) and Ontario (2 percent).
- **Nanaimo Regional District and Cowichan Regional District have the longest average length of stay among regions on Vancouver Island.** On average, BC travellers stayed 2.7 nights and spent

¹⁰ Statistics Canada, Census 2016

¹¹ Ibid.

¹² MNP, Vancouver Island Economic Alliance, State of the Island Economic Report 2018.

¹³ Destination BC, Regional Tourism Profile: Vancouver Island, May 2017.

Source: https://www.destinationbc.ca/content/uploads/2018/05/Vancouver-Island-Regional-Tourism-Profile_2017.pdf

\$95 per night during their trip to Vancouver Island, while parties from the United States stayed 3.0 nights and spent \$157 per night. Visitors to the Nanaimo Regional District stayed longer than average (5.4 nights), as did visitors to the Cowichan Regional District (4.7 nights).¹⁴

- **Museum or art gallery visits are among the most popular trip activities for out-of-province and international visitors.** Overnight visitors to Vancouver Island tend to take part in a number of outdoor and cultural activities. Among BC residents the top five activities were outdoor activities (e.g., beach, hiking/backpacking, camping, national/provincial or nature park, and boating,) while for out-of-province and international visitors the top five activities included some cultural activities, (e.g., visiting historic sites and museums/art galleries).

Nanaimo and Region Tourism Snapshot

Nanaimo is a major transportation gateway for travellers going to and from Vancouver Island. Approximately 45 percent of passengers travelling by ferry and 13 percent of passenger travelling by plane transit through Nanaimo.¹⁵

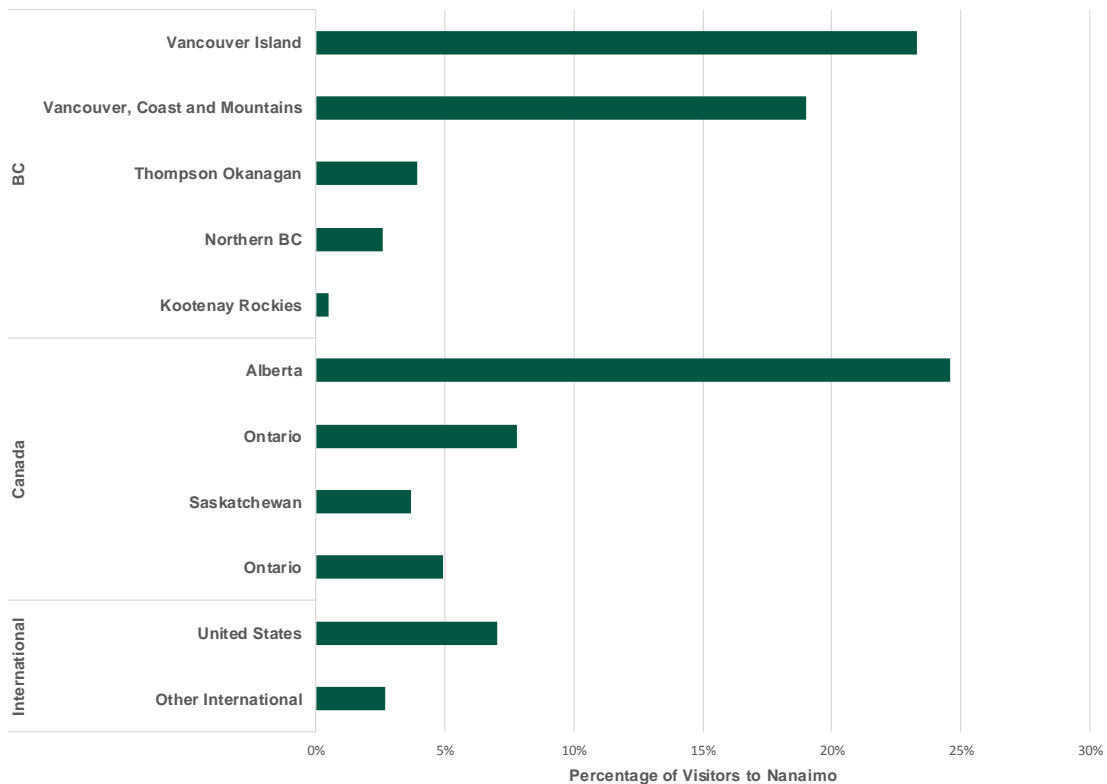
A visitor profile for Nanaimo based on a survey of visitors in summer of 2017 showed:

- **The majority of visitors reported Nanaimo as their main destination.** The average visitor spent 9 nights away, with 55 percent of respondents reporting that Nanaimo was their main destination. An additional 38 percent of visitors reported that Nanaimo was one of several stops on their trip, but it was not their main destination. For 27 percent of respondents it was their first time in Nanaimo, while 73 percent were repeat visitors.
- **Group size and average spending.** The average group size was 3.5 people and the majority of people were travelling with a spouse or partner (approximately 48 percent). Many were travelling with children under 19 years of age (25 percent). The average total spending per day per group was \$477, \$68 of which was spent on entertainment.
- **Leisure was the most common reason for the trip.** Most travellers visited for leisure (58 percent), followed by visiting friends and relatives (33 percent), with the balance being a combination of business and pleasure or purely work related. The top five activities travellers reported participating in were beach activities, shopping, self-guided sightseeing, hiking, and boating/sailing.
- **The majority of out-of-province visitors come from Alberta, Ontario, and Saskatchewan.** Approximately 49 percent of visitors were BC residents, while 41 percent of visitors were from other provinces and 10 percent were international (Figure 3).

¹⁴ Tourism Nanaimo, Visitor Profile: Summer 2017. Source: https://www.tourismnanaimo.com/wp-content/uploads/2017/12/Nanaimo-2017-VES-Visitor-Profile-FINAL_Oct31.pdf

¹⁵ Destination BC. Tourism Indicators, Year in Review 2018 and BC Ferries Traffic Statistics December 2018

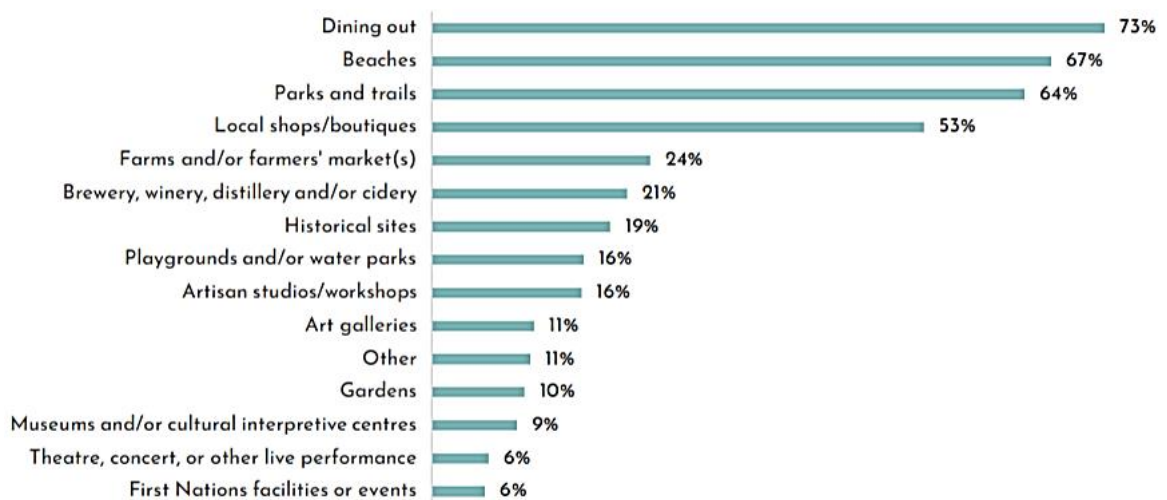
Figure 3. Origin of Visitors to Nanaimo



Source: Tourism Nanaimo, Visitor Profile – Summer 2017

- **Dining out and outdoor activities were the most popular activities.** The top three attractions reported by visitors were dining out, beaches, parks and trails (Figure 4) The top five activities visitors reported participating in were beach activities, shopping, self-guided sightseeing, hiking, and boating/sailing.

Figure 4. Tourist Attractions Visit in Nanaimo



Source: Tourism Nanaimo, Visitor Profile – Summer 2017

Summary of Implications

There are a significant number of visitors to Vancouver Island and many of them arrive through Nanaimo. Outdoor activities and activities involving nature are popular among visitors, which suggests that the OceanEXP will appeal to visitors that come to the region.

4 ATTENDANCE PROJECTIONS

To develop estimates of attendance at the OceanEXP, we used data from Statistics Canada, Destination BC, the experiences of comparator attractions and panel research conducted with residents of BC, Alberta, Ontario and Washington State. Figure 5 below outlines the approach used to develop the projections.

Figure 5. Approach Used to Develop Projections

Step 1: Estimate Market Size	Step 2: Estimate and Apply Penetration Rate
<ul style="list-style-type: none">Estimate the size of the Resident Market based on the total population of the primary, secondary and tertiary segments.Estimate the size of the Visitor Market by estimating the number of leisure visitors to Nanaimo and the number of potential incremental visitors.	<ul style="list-style-type: none">Calculate the penetration rate for low, medium, and high scenarios based on the visitor information provided by the comparator facilities and the information collected through the panel research.Apply the relevant penetration rate to the Resident and Visitor markets.

4.1 Comparator Attractions

The comparator attractions used in the analysis were selected in consultation with the NDDA. To be included the attraction had to provide a dynamic and interactive learning experience or showcase exhibits of the underwater realm. The comparator attractions used were:

- Heritage Park, Calgary, AB.**¹⁶ Heritage Park Historical Village is the biggest historical park in Canada. The core of its mission is to connect people with the settlement of Western Canada and preserve Canadian culture and heritage. The Park now has over 180 exhibits and service structures, various interpretation and education programs, and special events. It is used as a location by the film industry and hosts corporate and private events.
- Fly Over Canada, Vancouver, BC.**¹⁷ Fly Over Canada is an eight minute journey across Canada that gives its audience a feeling of flight. Flying suspended before a 20-metre spherical screen, the audience can not only enjoy the film but also various special effects, including wind, mist and scents.
- MacMillan Space Center, Vancouver, BC.**¹⁸ The Space Centre is a space science attraction that inspires its visitors with shows and exhibits. Established in 1968, the Space Centre evolved into a community resource that provides equipment and knowledge resources about the universe, the planet and space exploration.

¹⁶ Heritage Park, About Us webpage, accessed on April 26, 2019. Source: <https://www.heritagepark.ca/park-information/park-history.html>

¹⁷ Fly Over Canada website, accessed on February 27, 2019. Source: <https://www.flyovercanada.com/>

¹⁸ MacMillan Space Center website, accessed on April 26, 2019. Source: <https://www.spacecentre.ca/about-us>

- **Maritime Museum of Atlantic, Halifax, NS.**¹⁹ Established in 1948, the museum is the oldest and largest maritime museum in Canada with a collection of over 30,000 artifacts including 70 small craft and a steamship.
- **Science North, Sudbury, Ontario.**²⁰ Science North is an interactive science museum, located in Sudbury, Ontario. Apart from the museum, Science North has a planetarium, an escape room, and an IMAX theatre. It also oversees a Large Format Film production unit and an Exhibit Sales and Service unit, which develops custom and ready-made exhibits for sale or lease to science centres, museums, and other cultural institutions all over the world.
- **Shaw Center for the Salish Sea, Sydney, BC.**²¹ The Shaw Centre for the Salish Sea is a not-for-profit aquarium and cultural learning centre dedicated to the ecosystem of the Salish Sea. Apart from the live aquarium habitats, the Center has marine mammal artifact displays, Coast Salish art collection and public and school learning programs.
- **Ucluelet Aquarium, Ucluelet, BC.**²² Ucluelet Aquarium is a small local aquarium that focuses on local species only, interactivity, and open display of infrastructure, and a “catch-and-release” model, where species are released each autumn.

4.2 Attendance Projections

Attendance projections were calculated based on penetration rates. Penetration rates measure the percentage of people in a market that visit an attraction. The low scenario was based on average penetration rates at the comparator attractions, the medium penetration rate was based on the average penetration rates for attractions not located in the Vancouver area and the high penetration rate was the maximum penetration rate among the comparator facilities.

Attendance projections for the resident market are provided in Table 5. The OceanEXP was projected to achieve a penetration rate of between two percent and eight percent in the resident market. The primary market was projected to be the largest source of visitors, followed by the tertiary market and then the secondary market.

Table 5. Projected Resident Attendance

Market Segment	Market Size	Penetration Rate			Attendance		
		Low	Medium	High	Low	Medium	High
Primary (0 to 30 minutes)	126,200	0.06	0.15	0.25	7,600	18,900	31,600
Secondary (30 to 60 minutes)	44,700	0.06	0.15	0.25	2,700	6,700	11,200
Tertiary (60 to 120 minutes)	628,500	0.01	0.02	0.03	6,300	12,600	18,900
Total Resident Market	799,400				16,600	38,200	61,700

¹⁹ Maritime Museum of Atlantic website, accessed on April 26, 2019. Source: <https://maritimemuseum.novascotia.ca/about>

²⁰ Science North Website, accessed on February 27, 2019. Source: <http://sciencenorth.ca/index.aspx>

²¹ Shaw Centre for the Salish Sea website, accessed on February 27, 2019. Source:

<https://www.salishseacentre.org/centre>

²² Ucluelet Aquarium website, accessed on February 27, 2019. Source: <https://uclueletaquarium.org/about/>

Attendance projections for the visitor market were developed by segmenting the visitor market into the following groups:

- **Leisure visitors to Nanaimo** – this segment comprises day trip and overnight visitors who are visiting Nanaimo for pleasure and for whom Nanaimo is the primary destination.
- **Visitors to the North and Central Island** – this segment comprises overnight visitors to other areas of the North and Central Island regions.
- **Incremental Visitors** – this group comprises visitors who will come to Vancouver Island specifically to visit the OceanEXP.

For the leisure visitors to Nanaimo and visitors to the North and Central Island segments market sizes were estimated based on visitor data published by Destination BC and Tourism Nanaimo. The number of incremental visitors was estimated based on the results of the panel survey, interviews with tourism industry representatives and visitor origin data from Destination BC. A description of the approach to estimating market sizes is provided in Appendix B.

Table 6 shows the projected attendance from the visitor market. The potential visitor market size for the OceanEXP is approximately 1.5 million people, 94 percent of which would be those already visiting Vancouver Island. The OceanEXP was projected to achieve a penetration rate of between 0.6 percent and 1.6 percent in the visitor market.

Table 6. Projected Visitor Attendance

Market Segment	Market Size	Penetration Rate			Attendance		
		Low	Medium	High	Low	Medium	High
Leisure Visitors to Nanaimo	149,800	0.04	0.07	0.10	6,000	10,500	15,000
Visitors to the North and Central Island	1,284,700	0.0018	0.00215	0.0025	2,300	2,800	3,200
Incremental Visitors	85,000	0.0025	0.04	0.07	200	3,400	6,000
Total	1,519,500				8,500	16,700	24,200

The total projected attendance at the OceanEXP is provided in Table 7. Attendance projections range from a low of 25,100 to a high of 85,900. Between 65 percent and 75 percent of attendees were projected to come from the resident market.

Table 7. Total Projected Attendance

Market Segment	Attendance		
	Low	Medium	High
Resident Market Subtotal	16,600	38,200	61,700
Visitor Market Subtotal	8,500	16,700	24,200
Total Attendance	25,100	54,900	85,900

5 SURPLUS/DEFICIT PROJECTIONS

This section presents an analysis of operating revenues and costs for the OceanEXP, based on three alternative attendance and cost scenarios.

5.1 Annual Revenue Projections

The OceanEXP's operating revenues would comprise:

- **Admissions** – revenue generated from admission fees paid by visitors to the facility.
- **Business Operations** – revenue generated from merchandise sales, space rentals, workshops and events.
- **Other sources of revenue** – revenue from grants, donations, sponsorships and special projects.

Estimates for admissions revenue were developed based on information on expected admission fees gathered through the panel survey, and the composition of visitors to comparator attractions. The assumptions used to estimate revenues were:

- **Admission Price** - the price for an adult ticket was \$20.00 and the price for a child ticket was \$12.00.²³
- **Theatre Admission** – the price for ticket to the theatre was \$8.50 and was assumed to be in addition to the price of admission to the facility. Theatre attendance was assumed to be 20 percent of total visitors.
- **Composition of visitors** - adult visitors comprised 85 percent of total visitors and children, including school groups, comprised 15 percent of total visitors.

Estimates of business operations revenues and other revenues were developed based on information on the composition of revenue by source at comparator facilities and data provided by NDDA. Business operations revenue accounted for between eight percent and eleven percent of total revenues at comparator attractions on Vancouver Island. Donations and special projects accounted for between seven and ten percent of revenues at comparator facilities, while the value of grants received ranged from \$50,000 to over \$11 million. Smaller facilities received grants in the range of \$50,000 to \$600,000.

For the OceanEXP business operations revenue was estimated as follows:

- Merchandise sales were calculated based on an average spend of \$2 per visitor.
- Lease revenue was calculated based on annual lease costs of between \$15 per square foot in the low revenue scenario and \$24 per square foot in the high revenue scenario. The space leased was 1,500 square feet for a restaurant.
- Space rentals were calculated based on an average rental fee of \$3,000. The number of annual rentals ranged from 10 in the low revenue scenario to 24 in the high revenue scenario.

Donations and special projects was estimated to account for between eight percent and nine percent of total revenue. Grants were assumed to be between \$50,000 and \$100,000, which is consistent with funding levels

²³ The average expected admission price for adults from the panel research was between \$22 and \$25 and for children was \$14 to \$19. The admission price for adults at comparator facilities on Vancouver Island was \$12 to \$18. To account for the expected price sensitivity in the resident market we used \$20 for adult admissions and \$12 for children's admissions.

from these sources for other facilities on Vancouver Island and other revenue was based on corporate sponsorship estimates of \$100,000 provided by NDDA.

Table 8 shows the projected annual revenues for the OceanEXP for the low, medium and high attendance scenarios. Admissions revenues were projected to be between approximately \$470,000 and \$1.6 million and total revenues were projected to be between approximately \$0.8 million and \$2.5 million.

Table 8. Projected Annual Revenues under High, Medium and Low Attendance Scenarios

Revenue Category	Low Attendance Scenario	Medium Attendance Scenario	High Attendance Scenario
Individual Admissions	\$471,880	\$1,032,120	\$1,614,920
Theatre Admissions	\$42,670	\$93,330	\$146,030
Business Operations			
Merchandise Sales	\$50,200	\$109,800	\$171,800
Space Rentals	\$30,000	\$45,000	\$72,000
Lease Revenue	\$22,500	\$30,000	\$36,000
Donations and Special Projects	\$65,600	\$139,200	\$216,800
Grants and Other Revenue	\$150,000	\$175,000	\$250,000
Total Projected Revenue	\$832,850	\$1,624,450	\$2,507,550

5.2 Annual Expenditure Projections

Annual expenditure projections were developed for operating costs. The projections presented here do not include capital costs or any associated debt service costs.

Data were not available on the operating expenditures for the OceanEXP. To estimate operating expenditures we used estimates of the operating costs per square foot for comparator facilities. Operating costs per square foot at comparator facilities ranged from \$4 per square foot to over \$400 per square foot. The operating costs per square foot at comparator facilities decreased with the size of the facility.

Facilities on Vancouver Island ranged in size from 5,000 square feet to 10,000 square feet, and reported operating costs of between \$100 and \$120 per square foot. For our analysis we used a low of \$70 per square foot and a high of \$90 per square foot to reflect the relatively larger size of OceanEXP when compared with comparator facilities on Vancouver Island. Please note that the cost estimates presented here are approximations only and the operating costs for the OceanEXP may differ significantly.

Table 9 shows the annual expenditure projections based on a low, medium and high cost scenario for a 15,000 square foot facility and a 20,000 square foot facility.

Table 9. Expenditure Projections

Expenditure Projections	Low	Medium	High
Expenditure Assumptions (per square foot)	\$70	\$80	\$90
Expenditures			
15,000 square foot facility	\$1,050,000	\$1,200,000	\$1,350,000
20,000 square foot facility	\$1,400,000	\$1,600,000	\$1,800,000

5.3 Surplus and Deficit Projections

The low, medium and high scenarios for revenue and expenditure projections were combined to estimate the surplus (deficit) at the OceanEXP for each of the attendance and cost scenarios. The analysis in Table 10 suggests that a 15,000 square foot facility could generate sufficient revenue to cover operating costs in the range of \$70 to \$90 per square foot.

Table 10. Surplus and Deficit Projections under the Low, Medium, and High Scenarios, 15,000 Square Foot Facility

Expenditures (Operating Costs)	Revenues		
	Low	Medium	High
Low (\$70/ sq. ft)	\$(217,150)	\$574,450	\$1,457,550
Medium (\$80/ sq. ft)	\$(367,150)	\$424,450	\$1,307,550
High (\$90/ sq. ft)	\$(517,150)	\$274,450	\$1,157,550

The analysis in Table 11 suggests that a 20,000 square foot facility would be able to generate sufficient revenue to cover operating costs in the range of \$70 to \$90 square feet. It is important to note that as the facility size increases its ability cover its operating costs becomes more dependent on revenues from business operations, donations and sponsorships.

Table 11. Surplus and Deficit Projections under the Low, Medium, and High Scenarios, 20,000 Square Foot Facility

Expenditures (Operating Costs)	Revenues		
	Low	Medium	High
Low (\$70/ sq. ft)	\$(567,150)	\$224,450	\$1,107,550
Medium (\$80/ sq. ft)	\$(767,150)	\$24,450	\$907,550
High (\$90/ sq. ft)	\$(967,150)	\$(175,550)	\$707,550

6 SUMMARY

The vision for the OceanEXP is for the facility to foster an appreciation for the ocean through an immersive experience. The facility will be unique and is expected to appeal to a range of visitors, including both adults and children. The panel research and interviews with tourism industry representatives suggest that the facility would not draw a significant number of new visitors to Vancouver Island; however, it would increase the number of attractions available thereby increasing the attractiveness of Vancouver Island as a destination.

Our analysis suggests that:

- **The majority of visitors to the OceanEXP would be from Vancouver Island.** Between 40 percent and 50 percent of visitors to the facility were projected to reside within a 60 minute drive of Nanaimo, and an additional 20 percent to 25 percent were projected to come from other parts of Vancouver Island.
- **The OceanEXP would generate sufficient revenues to cover operating costs in the range of \$70 to \$90 per square foot.** Revenue projections suggest that a 15,000 to 20,000 square foot facility would be able to cover its operating costs. As the size of the facility increases its ability cover its operating costs becomes more dependent on revenues from business operations, donations and sponsorships.

APPENDIX A – SUMMARY OF PANEL RESEARCH

To gather information on the interest in the facility in key visitor markets we conducted a panel survey. The visitor markets were selected by NDDA and comprised Metro Vancouver, other parts of BC, Seattle, Edmonton, Calgary and Toronto.

The panel was conducted between March 13, 2019 and March 27, 2019. Respondents were asked whether or not they had visited Vancouver Island in the previous five years and to assess their interest in visiting the OceanEXP based on a short video. Table 12 shows the distribution of respondents by market and the results of the research are presented in the charts that follow.

Table 12. Distribution of Panel Respondents

	Unweighted	Weighted
Total Number of Responses		
Distribution of Responses		
Metro Vancouver	207	151
Other BC	207	134
Greater Seattle	227	205
Edmonton	107	79
Calgary	103	78
Toronto	208	354
	1,059	1,001

Figure 6: Distribution of Respondents by Region and Whether or Not they have Visited Vancouver Island

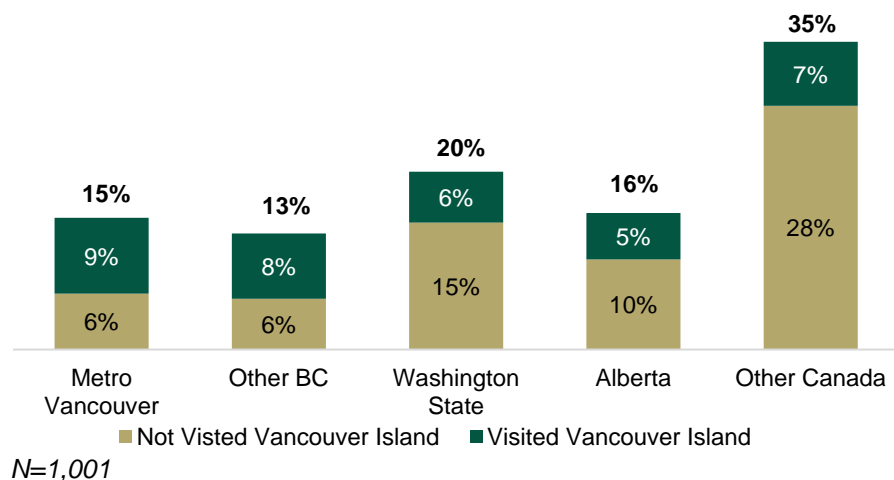
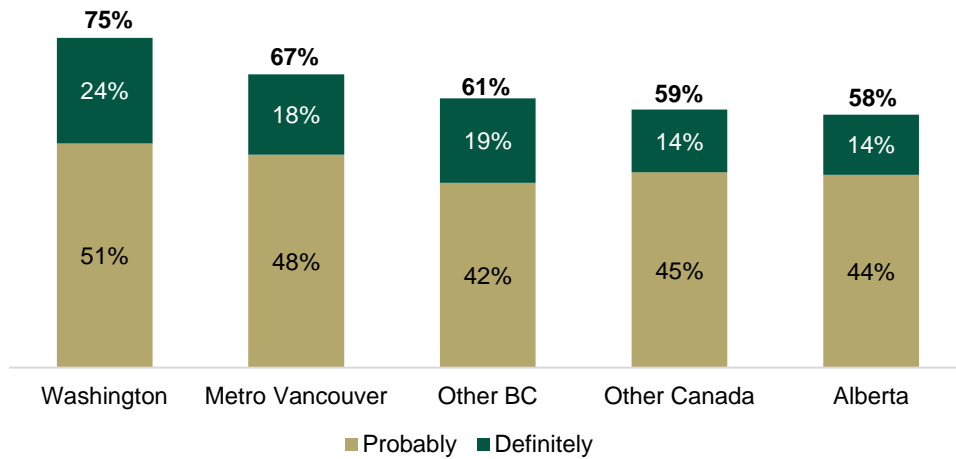
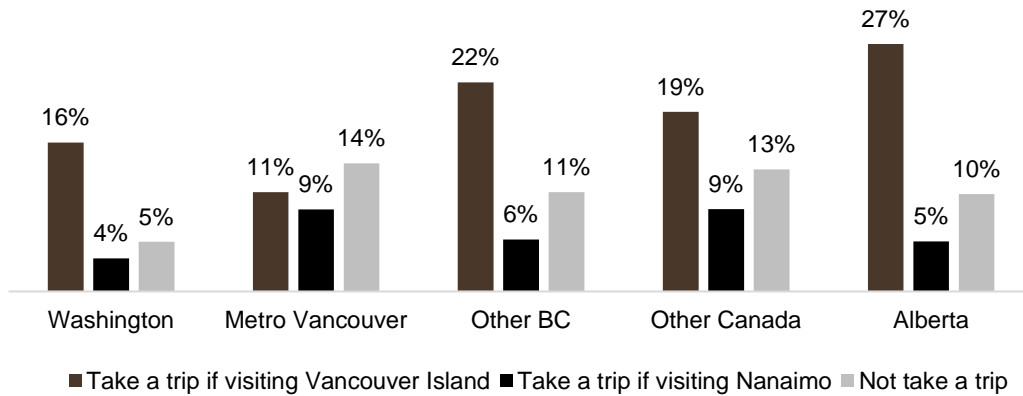


Figure 7: Likelihood of Taking a Special Trip to Visit the Attraction, by Region



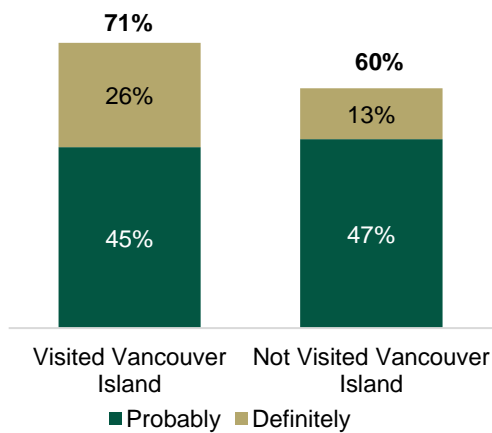
N=635

Figure 8: Likelihood of Visiting the Attraction for Those that Would Not Take a Special Trip, by Region



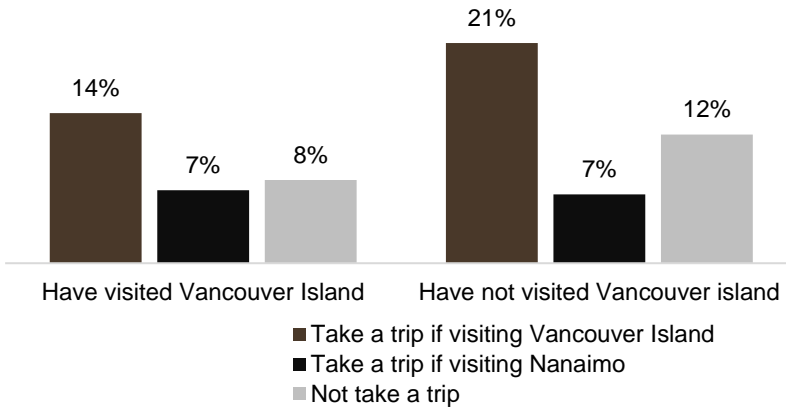
N=365

Figure 9: Likelihood of Taking a Special Trip to Visit the Attraction, by Past Travel to Vancouver Island



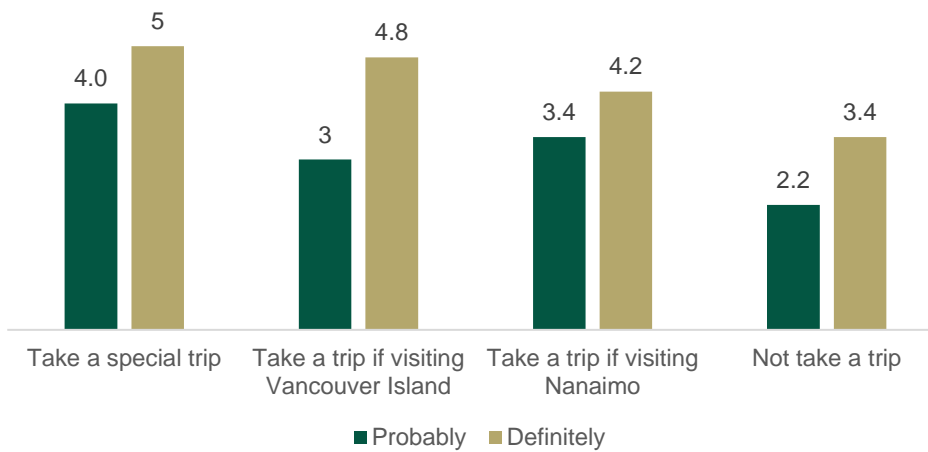
N=635

Figure 10: Likelihood of Visiting the Attraction for Respondents Who Would Not Take a Special Trip, by Past Travel to Vancouver Island



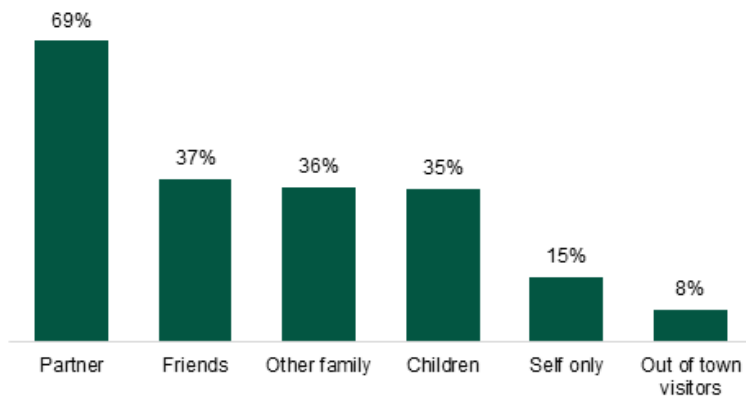
N=365

Figure 11: Average Number of Trips Taken by Respondents who have Visited Vancouver Island



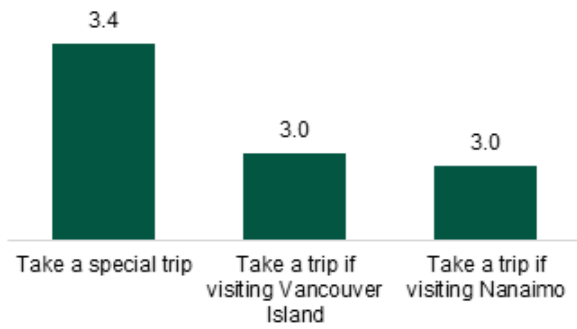
N= 381

Figure 12: People with whom the Respondents would Visit



N=892

Figure 13: Average Number of People in the Party



N=892

Figure 14: Average Price Willing to Pay

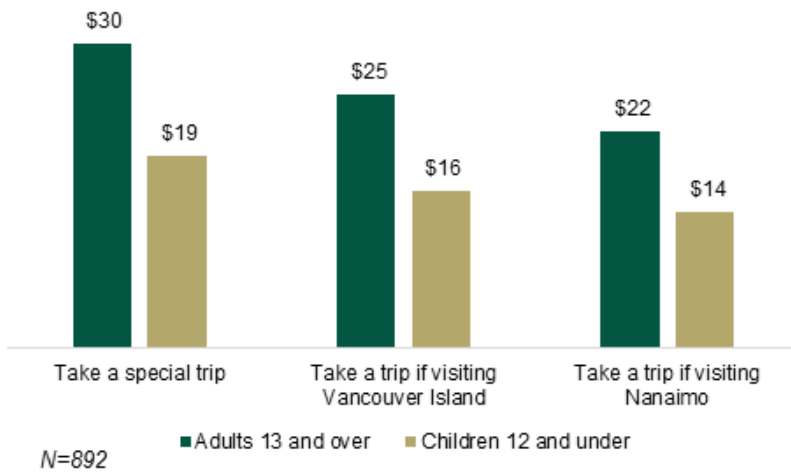
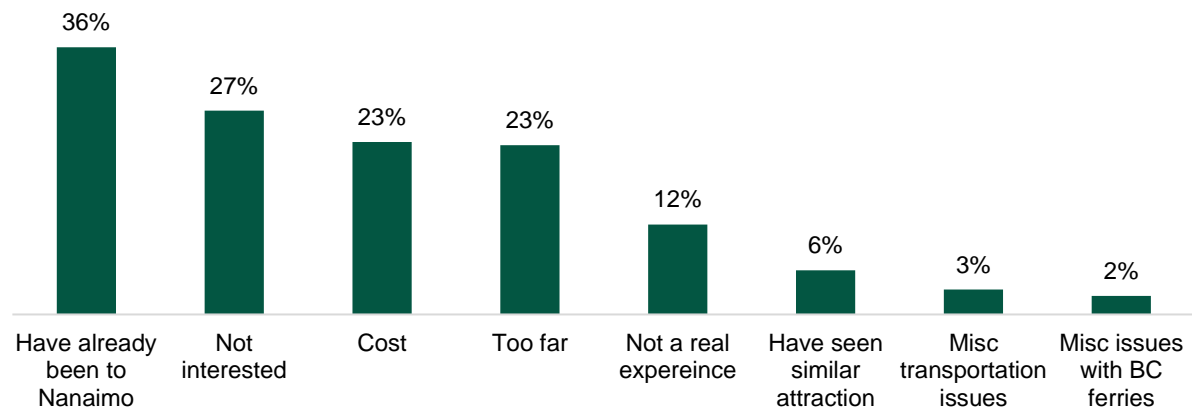


Figure 15: Reasons for not Taking a Special Trip to Visit the Attraction



N=365

APPENDIX B – APPROACH TO ESTIMATING VISITOR MARKET SIZES

To develop estimates of the market size for visitor markets we followed the steps outlined below:

Step 1: Estimate the number of overnight visitors to Vancouver Island that come to Nanaimo using information on the number of hotel rooms, occupancy rates, average party size, average length of stay and percentage of overnight visitors that reported staying in a hotel, motel or resort published by BC Stats, Destination BC and Tourism Nanaimo.

Step 2: Estimate the number of day trip visitors to Nanaimo based on share of overnight visitors reported in the Nanaimo 2017 Tourism Profile.

Step 3: Calculate Leisure Visitors to Nanaimo as the sum of estimated overnight visitors and estimated day trip visitors.

Step 4: Estimate the number of overnight visitors to North and Central Vancouver Island based on the percentage of hotel room nights in the region. Adjust the estimate to account for overnight visitors to Nanaimo

Step 5: Estimate the size of the Incremental Visitor Market based on the origin of visitors to Vancouver Island and information on travel intentions and interest in the facility from the panel research by region.

APPENDIX C – SUMMARY OF COMPARATOR ATTRACTIONS

Table 13 provides information on attendance at comparator attractions.

Table 13. Comparator Attractions Attendance Characteristics

Facility	Attendance	Cost of Admission (adult)	Local Visitors	Out-of-town Visitors	School Programs ²⁵	Overnight Visitors to Region ²⁶ (2014)
Heritage Park²⁷ , <i>Calgary, AB</i>	600,000	\$26.50	60%	40%	10%	3.6 million
MacMillan Space Center²⁸ , <i>Vancouver, BC</i>	125,000	\$19.50	85%	15%	15%	9.3 million
Science North²⁹ , <i>Sudbury, ON</i>	288,039	\$27.00	N/A	N/A	16%	Not available
Shaw Center for the Salish Sea³⁰ , <i>Sidney, BC</i>	75,000	\$17.50	The majority of visitors were reported to be out-of-town, especially during the summer months.		13%	4.4 million (Vancouver Island)
Vancouver Maritime Museum , <i>Vancouver, BC</i>	65,058	\$13.50	60%	40 %	10%	9.3 million
Ucluelet Aquarium , <i>Ucluelet, BC</i>	35,000	\$15	The majority of visitors were reported to be local, as the programming is very focused on attracting local population.		N/A	4.4 million (Vancouver Island)

²⁵ Attendance at School Programs includes school-age students. Some facilities include teachers and students' parents in calculation.

²⁶ Visitor numbers were taken from Destination BC's Regional Comparisons and Tourism Alberta's Visitor Characteristics report. Both sources use data from Statistics Canada's 2014 Travel Survey of Residents of Canada and International Travel Survey.

²⁷ Heritage Park 2017 Annual Report, adjusted for 2018 based on information provided in an interview. Source: <http://s3-ca-central-1.amazonaws.com/community-knowledge-center/wp-content/uploads/2017/11/25210754/HP-Annual-Report-2017.pdf>

²⁸ MacMillan Space Center 2017 Annual Report. Source: <https://www.spacecentre.ca/sites/default/files/2017-hrm-sc-annual-report.pdf>

²⁹ Science North 2016-2017 Annual Report. Source: http://sciencenorth.ca/about/corporate/annual-report/SCN%202016-17%20Annual%20Report_print%20format.pdf

³⁰ The New Marine Centre Society, Financial Statements Year Ended September 30, 2017. Source : <https://static1.squarespace.com/static/576845438419c29d0408a504/t/5a319b8024a694086ed8faab/1513200513360/2017+NMCS+Financial+Statements+%281%29.pdf>

Table 14 provides information on the size and financials of comparator facilities. Please note that financial information for the Vancouver Maritime Museum was not available.

Table 14. Comparator Attractions Financial Information

Facility	Size (Square Feet)	Revenue (Millions)	Expenditures (Millions)	Net Income (Loss)
Heritage Park ³¹ , <i>Calgary, AB</i>	5,532,120	\$20	\$20	\$0
MacMillan Space Center ³² , <i>Vancouver, BC</i>	4,000	\$1.81	\$1.77	\$0.04
Science North ³³ , <i>Sudbury, ON</i>	61,500	\$21.92	\$22.02	(\$0.1)
Shaw Center for the Salish Sea ³⁴ , <i>Sidney, BC</i>	10,000	\$0.85	\$1.05	(\$0.2)
Ucluelet Aquarium , <i>Ucluelet, BC</i>	5,000	\$0.5	Not publicly available	Not publicly available

³¹ Heritage Park 2017 Annual Report, adjusted for 2018 based on information provided in an interview. Source: <http://s3-ca-central-1.amazonaws.com/community-knowledge-center/wp-content/uploads/2017/11/25210754/HP-Annual-Report-2017.pdf>

³² MacMillan Space Center 2017 Annual Report. Source: <https://www.spacecentre.ca/sites/default/files/2017-hrm-sc-annual-report.pdf>

³³ Science North 2016-2017 Annual Report. Source: http://sciencenorth.ca/about/corporate/annual-report/SCN%202016-17%20Annual%20Report_print%20format.pdf

³⁴ The New Marine Centre Society, Financial Statements Year Ended September 30, 2017. Source : <https://static1.squarespace.com/static/576845438419c29d0408a504/t/5a319b8024a694086ed8faab/1513200513360/2017+NMCS+Financial+Statements+%281%29.pdf>

APPENDIX D – ABOUT MNP

MNP is the fastest growing major chartered accountancy and business advisory firm in Canada. Founded in 1958, MNP has grown to more than 70 offices and 4,000 team members across Canada. In British Columbia, MNP has more than 800 staff located in 19 offices throughout the province. The map below shows our office locations.

MNP provides a wide range of accounting, finance and business advisory services to clients. These include:

- Assurance
- Taxation
- Corporate Finance
- Mergers and Acquisitions
- Enterprise Risk Services
- Forensic Accounting
- Consulting
- Insolvency and Corporate Recovery
- Succession
- Valuations and Litigation Support



About MNP's Economics and Research Practice

Economic and industry studies are carried out by MNP's Economics and Research practice. Based in Vancouver, the Economics and Research practice consists of a team of professionals that has a successful track record of assisting clients with a wide variety of financial and economic impact studies. Our work has encompassed a wide range of programs, industries, company operations and policy initiatives, and has helped clients with decision-making, communication of economic and financial contributions, documentation of the value of initiatives and activities, and development of public policy.