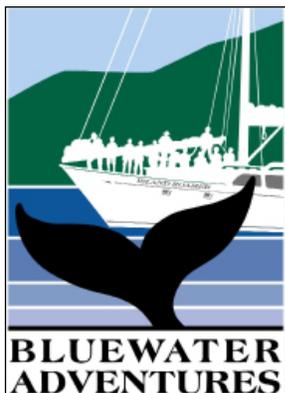


BLUEWATER ADVENTURES

Gulf Islands National Reserve Marine School Program



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Biology
Sustainability
Outdoor Education
Team Building
Nature Appreciation



Ahoy!

Bluewater Adventures has been offering school programs for over 45 years running safe, educational, and memorable trips for students. We see many of the same schools year after year and these relationships give depth to our programs. This Spring, we had one of our biggest turn-outs, hosting over 300 students aboard our two sailing vessels, Island Roamer and Island Odyssey.

The school program trips are typically 5 days in length that are spent exploring the unique coastline of BC's Gulf Islands National Park Reserve. They start and finish in the picturesque Port Sidney Marina - 20 minutes outside of Victoria, BC and situated close to the Victoria Airport. We are excited to continue providing these life changing and educational experiences through our programs in an effort to connect students with nature.

We can accommodate 15 students plus two Group Leaders on the Island Odyssey and 18 students plus two Group Leaders on the Island Roamer. The Group Leaders act as additional crew and do not pay for their spot. They are expected to participate fully in the trip by overseeing student behaviour and participation and generally assisting Crew where required. The crew consists of a Captain, Mate and a Naturalist - some of our crew are also certified teachers. Together, we endeavor to create an unforgettable learning experience for all students and Group Leaders who sail with us.

Our marine school programs are a great opportunity for students to have hands on experience with marine biology, forest ecology, oceanography, sailing and navigation, geography, teamwork and leadership. Our programs have a lot of flexibility to allow individual schools to determine the focus for their students. I have included a general overview of our educational topics as well as a list of a few Prescribed Learning Outcomes.

Please feel free to contact me if you have any questions.

Sincerely,

Erin Boyle
School Program Coordinator

BLUEWATER ADVENTURES EDUCATIONAL PROGRAMS



The educational program that we follow while the students are onboard is an all encompassing program intended to give students a sampling of the different activities, sightings and experiences found in the Gulf Islands. Depending on wildlife, weather and tides, and the interest of the group we try to provide a program that will best represent the area and will best suit the group. For example, some groups prefer a focus on sailing and kayaking, some groups prefer a focus on marine biology, and some groups just come for the adventure and team building.

Aboard our vessels students learn about natural history, marine biology, weather, environmental stewardship and sustainability, vessel operation and marine navigation. Students learn through hands-on experience, group activities, observation and discussion. The following education topics are examples of some of the subjects that we can include.

Natural History

Students will have the opportunity to:

- Explore and discover the “marine” flora and fauna. Depending on the tides, we will try and schedule at least one outing where students will have hands on experience with colourful marine invertebrates of the intertidal zone.
- Explore and discover “terrestrial” flora and fauna of various Gulf Islands. We will identify some of the tree species that are found in this unique ecosystem and will talk about why some of these trees are unique to the Gulf Islands.
- Learn about the different rock formations that play a role in where animals and plants can survive.
- Watch for marine mammal sightings using binoculars.
- Go ashore every day to explore, play games, or hike.

Weather

Students will have the opportunity to:

- Observe weather patterns.
- Listen to marine weather forecasts and learn to understand the predictions from Environment Canada and how to plan a route based on these predictions.
- Gain an understanding of why the climate of the Gulf Islands is unique.

Environmental Stewardship & Sustainability



Students will have the opportunity to:

- Learn about the fragility of ecosystems and how their balance can be disrupted.
- Learn how to interact with animals on land or in a boat to minimize disturbances.
- Learn about, and sometimes participate in local environmental issues.
- Participate in the recycling and composting systems on the vessel.

Vessel Operation

- Learn about the major structural features of sail boats.
- Experience raising, lowering and trimming the sails.
- Experience jibbing and/or tacking while under sail.
- Practice knots that are useful in sail/motor vessel operation.
- Learn about the physics behind sailing (points of sail, how boats can sail into the wind, etc).
- Participate in ship duties and chores, including meal preparation and clean-up, cleaning and general tidiness of the vessel.
- Participate in our watch system - Students are teamed up in a watch group and will be responsible for navigation, clean-up, watching for wildlife or meals. We rotate watches through the stations during each day.

Navigation Skills

- Learn how to read a marine chart.
- Learn how to plot a course and then practice going through with that course.
- Learn how to observe the landscape to determine the ships position on a chart.
- Practice using navigation tools such as GPS, radar, depth sounder, and compass.
- Steer the vessel.

Whether on the water or on land ‘Mother Nature’ has a way of pleasantly surprising us! Though we often have an agenda, we like to remain flexible in our plan to allow Crew to take advantage of these ‘teachable moments’. If there is a specific program or topic that you would like to focus on during your trip, please advise the office well in advance of your trip departure and we will find a Naturalist to accommodate your needs.

Possible Curriculum for Bluewater Adventures Gulf Island School Programs



Prescribed Learning Outcomes: Examples

Grade 8 Science

- Demonstrate knowledge of the characteristics of living things
- Explain the significance of salinity and temperature in the world's oceans
- Describe how water and ice shape the landscape
- Describe factors that affect productivity and species distribution in aquatic environments

Grade 9 Science

- Compare sexual and asexual reproduction in terms of advantages and disadvantages

Grade 10 Science

- Explain the interaction of abiotic and biotic factors within an ecosystem
- Assess the potential impacts of bioaccumulation
- Explain various ways in which natural populations are altered or kept in equilibrium
- Explain the relationship of displacement and time interval to velocity for objects in uniform motion

Physics 11

- Apply knowledge of the relationships between time, displacement, distance, velocity, and speed to situations involving objects in one dimension

Earth Sciences 11

- Differentiate between rocks and minerals
- Relate the processes associated with weathering and erosion to the resulting features
- Describe features and processes associated with physical oceanography

Possible Curriculum for Bluewater Adventures Gulf Island School Programs



Prescribed Learning Outcomes: Continued

Biology 11

- Apply the Kingdom system of classification to study the diversity of organisms
- Analyze the functional inter-relationships of organisms within an ecosystem
- Analyze how the increasing complexity of algae, mosses, and ferns represent an evolutionary continuum of adaptation
- Analyze how the increasing complexity of gymnosperms and angiosperms contribute to survival in a land environment
- Analyze the increasing complexity of the Phylum Porifera and the Phylum Cnidaria
- Analyze the increasing complexity of the Phylum Mollusca, the Phylum Echinodermata, and the Phylum Arthropoda

Geology 12

- Differentiate between igneous, sedimentary, and metamorphic rocks
- Compare sedimentary rocks
- Relate sedimentary features to their depositional environments

Geography 12

- Describe the features and processes associated with plate tectonics, including : folding and faulting
- Describe the features and processes associated with weathering and mass wasting
- Describe the features and processes associated with – glaciers, waves
- Analyze specific weather phenomena including: fog, local winds, extreme events
- Interpret information from weather maps and station models
- Outline characteristics of the Earth’s major biomes, including – deciduous/mixed forest
- Describe how vegetation adapts to environmental conditions
- Assess the environmental impact of human activities

THE GULF ISLANDS NATIONAL PARK RESERVE

Between southern Vancouver Island and the mainland exists a wonderful archipelago known as the Gulf Islands. These islands are historically and ecologically unique with a portion designated as the Gulf Islands National Park Reserve. Known for great sailing and fabulous weather the Gulf Islands provide a wonderful opportunity to travel short distances between anchorages allowing more time for learning navigation, practicing sailing skills and going ashore to explore. On many of the islands we walk through Garry Oak meadows - an endangered ecosystem - and forests of Western Red Cedar, Douglas Fir and the magnificent Arbutus tree. In nearby waters we often encounter sea lions, seals, porpoise, orca and sometimes the occasional larger whale, such as the gray, minke or humpback whale.

Sample Itinerary for a 5 day trip:

We intentionally keep our itineraries flexible to take advantage of wildlife sightings, weather and tides, and the interests of your group.

Our trip starts in Sidney, BC at Port Sidney Marina. Just outside of Victoria, the marina is 10-15 minutes away from the Victoria International Airport and the BC Ferry Swartz Bay terminal. Most school groups spend their first day travelling, perhaps visiting the Shaw Ocean Discovery Centre for an afternoon program (www.oceandiscovery.ca), having dinner in Sidney and then arriving at the marina to board the vessel after 7pm. An evening arrival works well with travel or flight plans, and allows time for safety and program orientation that evening. An additional overnight fee would be included.

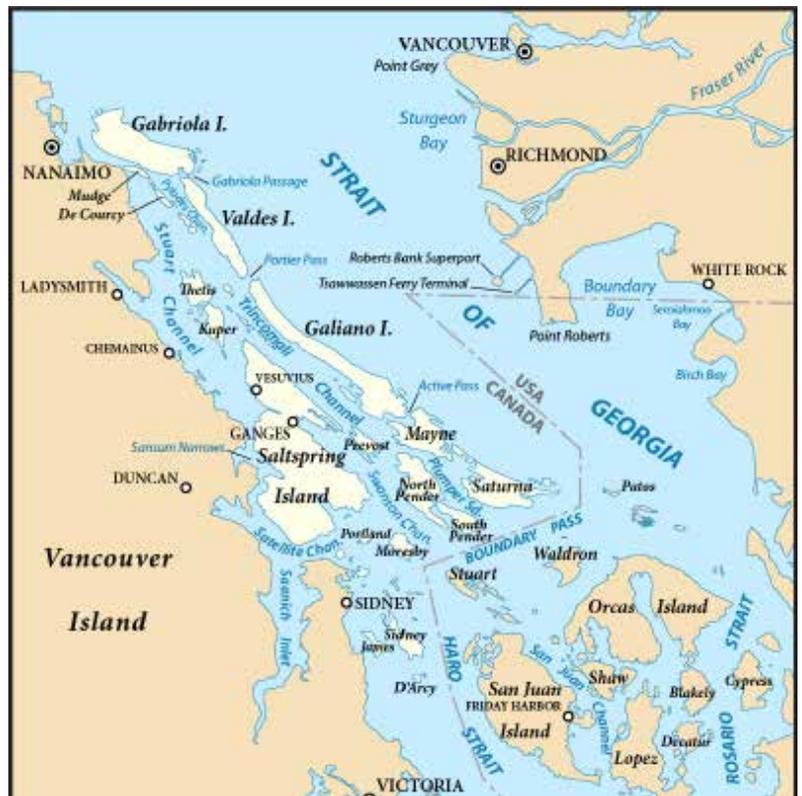
Upon boarding the ship we will have an orientation of the cabins, the bathrooms, and introduce the crew. The watch system is explained, student roles and learning objectives outlined. Each day students will rotate between stations working with the naturalist on “natural history, working with the Captain on “navigation” and taking turns cooking and cleaning up from meals. A thorough safety briefing occurs before we leave the dock. The boat will stay tied to the dock the first evening.

Day 1-4: We begin each morning with one of the watch groups making breakfast while the other groups complete the boat chores and learn with the naturalist. On the first day there will be a lesson on handling lines and we will interact with marine invertebrates on the dock (watching barnacles feed, discovering seastars and anemones, etc). Depending on the anchorage and weather, we will also offer kayaking in the morning. Early on Day 1 we leave the dock and pass by **Sidney Spit to Mandarte Island** (a bird sanctuary and nesting ground) and then into **Haro Strait** to look for porpoise near **Turn Point**. Mid day we will switch groups to navigate the boat, watch for wildlife and make lunch.

After lunch we will plan an activity, such as hiking to fantastic views on **Mount Norman** or **Monarch Head**, sailing in **Plumper Sound**, looking for marine mammals near **Boiling Reef**, cruising by the **Belle Chain** to see (and smell!) the numerous sea lions hauled out on the rocks, exploring the intertidal life of **Montague Harbour** or **Portland Island**, playing games in the forest on **Tumbo Island** or **Saturna Island**, watching for fallow deer on **Sidney Island**, or beach combing along the sandy shore of **Sidney Spit**.

In the late afternoon we will have our final rotation, making dinner and settling into our overnight anchorage. There may be another opportunity to kayak in these protected waters, in sight of the vessel. After dinner we will gather as a group to plot our course for the day on a chart, make a list of the species we saw and perhaps engage in a lesson on sail theory, navigation or participate in a natural history activity.

Day 5: We will begin our day as usual but with a more extensive focus on cleaning and preparing the boat for the next school group. We will offer some form of activity, such as sailing, kayaking or a quick walk, depending on how quick the clean-up and packing occurs. We plan to be at the docks of Port Sidney Marina just before 1 PM.



REGISTRATION PROCESS



2023 time line for school programs with a departure date in the spring and fall:

- Sept 30, 2022
 - Program and reservation requests
 - Scheduling and notification of dates
 - Deposits due (\$1000.00 per vessel)
- - Trip Packages are mailed out
 - Signed school contracts are due
- December 15, 2022
 - Final balance of charter fees are due
- February 1, 2023
 - All forms to be sent in to Bluewater Adventures office

The trip organizer is responsible for collecting payments, distributing forms and making sure that the Bluewater office receives all necessary documents prior to your departure date. The trip organizer must ensure that Group Leaders are capable of assisting Crew by maintaining good student behaviour through the trip.

Forms to be filled out by the Trip Organizer:

- Terms & Conditions/School contract
- Participant List
- Program Request Form
- Watch Roster
- Cabin/berth assignments

Forms to be filled out by students and Group Leaders:

- Liability Release Forms (Except CBE Schools)
- Contract Agreement for Students/Group Leaders
- Health/Emergency/Information Forms (for all participants)

We work hard to keep our costs low and at the same time offer an exciting and educational program. Charter rates for schools are less than half of our regular summer rates, as we are committed to educating upcoming generations and continuing our successful school programs.

If your school is interested in booking a trip, please contact us for availability. Our school trips typically run March - early May and in October- early November.