



# **Salish Sea Expeditions**

**Strategic Plan**

**2016-2020**

## Salish Sea Expeditions

Salish Sea Expeditions is a unique non-profit organization that actively engages middle and high school students in meaningful, boat-based marine learning experiences on Puget Sound. Working as members of teams aboard ship, students conduct authentic marine research projects. They deploy oceanographic equipment, gather and analyze data, plot a course for data collection stations, and learn basic piloting and navigation skills.

There are multiple benefits gained from these experiences. As a result of being engaged in relevant and interesting work on the boat, students learn and apply important STEM concepts and skills that serve them well as youth and prepare them for future professional careers, especially in STEM. As members of this community, they learn about the Salish Sea and its connected waterways and the role this complex water system plays in the environmental and economic health of the region. Finally, they interact with role models and are made aware of the numerous technical and professional careers available to them in this region.

We are now entering a new phase as an organization. With the acquisition of the *Elettra III* this year, we are planning to increase our impact with youth by strengthening and expanding our portfolio of programs. The strategic plan that follows provides an overview of our vision for the next four years, including five ambitious goals along with performance indicators to hold ourselves accountable and monitor our progress.



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## **Vision**

All citizens experience the wonders of the marine environment and are equipped with the knowledge and investigative skills to address the greatest challenges that face humanity.



## **Mission**

Salish Sea Expeditions inspires youth to connect with the marine environment through boat-based scientific inquiry and hands-on learning, instilling curiosity, confidence, and critical thinking.

## Guiding Principles

### Active Engagement of Visionary Leadership

- Identify and engage strategic, results-driven Board members, staff, and partners who have a bold vision for providing learning experiences for our youth and other stakeholders that advance STEM and maritime interest, motivation, and learning.
- Advocate that every student in America have mandated meaningful interactions with marine-focused learning experiences prior to graduating from high school.

### Focused on Impact

- Deliver relevant, high-quality programs and resources that are based on student-led exploration and discovery of the marine environment.
- Held accountable for achieving positive and sustainable outcomes.
- Use research and data to drive excellence.
- Develop awareness with diverse stakeholder groups of the important role that marine educational experiences play in advancing preK-12 STEM literacy.

### Committed to Collaboration and Partnerships

- Partner with diverse schools and districts, and other organizations to deliver unique and meaningful standards-aligned STEM learning not possible in a classroom setting.
- Build effective and sustainable models of collaboration.



## 2016-2020 Strategic Goals



*Mariner High School Students about S/V Carlyn, Spring 2016*

**Goal 1:** Scale Salish maritime educational programs for new cohorts of middle and high school youth and their teachers annually.

**Goal 2:** Grow organizational support through diverse strategic partnerships and funding sources.

**Goal 3:** Position Salish as a leader in maritime learning as a critical component of the STEM landscape for middle and high school students.

**Goal 4:** Utilize state-of-the-art technology to improve data collection and modeling to launch a research database accessible to stream to classrooms around the globe.

**Goal 5:** Develop our curriculum and offer it to other service providers nationwide.

## Strategies and Key Performance Indicators

**Goal 1: Scale Salish maritime educational programs for new cohorts of middle and high school youth and their teachers.**



### Strategies

- Apply existing proven curricula to expanded program model running an increased number of program days in single- and multi-day formats.
- Determine technology and vessel infrastructure needed to deliver effective programs.
- Align program goals and deliverables with needs of target program audiences.
- Work with partners to remove barriers to new program participation.
- Put in place highly-trained, professional staffing to support expanded programs.
- Meet permitting goals to deliver programs safely and effectively.
- Market new programs within targeted audiences for maximum program reach.
- Develop measurable program goals and tiered growth model.
- Deploy expanded programs and measure program impact.
- Develop capacity to serve all students in Western Washington.

### Key Performance Indicators

- *Elettra III* is retrofitted and relaunched for Salish programs by Q3 2017.
- Up to 7,000 students are reached annually by 2020.
- Public schools participation in Salish programs is increased by 25 percent annually between 2017 and 2020.
- 75 percent of participating schools are public by 2020.
- Underserved and underrepresented populations represent 25 percent of those served annually by Salish by 2020.
- New programs are marketed through Washington school districts and strategic partners.
- A program delivery impact analysis is conducted annually.

**Goal 2: Grow organizational support through diverse strategic partnerships and funding sources.**

**Strategies**

- Develop and deploy comprehensive messaging platform and strategic vision by the end of 2016.
- Launch comprehensive capital campaign by end of 2016.
- Build business plan to manage transition by fall 2016.
- Identify key strategic partners and initiate joint projects aligned with mission and vision.
- Leverage partnerships to expand awareness of Salish and its value as a leader in STEM and maritime shipboard education.
- Assess board member roles, recruit new members and position board of directors to be effective ambassadors for Salish.
- Identify and engage with diverse mix of sustainable foundation and individual supporters.

**Key Performance Indicators**

- New and actively engaged board members have been added to the Board by the end of 2016.
- A pipeline of leaders, prospective Board members and active volunteers is established by the end of 2016.
- Capital campaign goal of 3.5M is met by end of 2018.
- Foundation messaging is adopted and implemented to promote Salish.
- Ten new major individual donors and six new supporting foundation prospects are engaged by the end of 2017.





**Goal 3: Position Salish as a regional leader in shipboard STEM and maritime learning for middle and high school students.**

**Strategies**

- Leverage digital media to share resources and connect with target audiences and stakeholders.
- Develop regular content and incorporate the art of storytelling.
- Host five STEM-related events and have a presence at events hosted by other groups by 2020.
- Cultivate thought leaders to stimulate ideas and sustain the conversation.
- Engage with education policymakers and influencers in Olympia.

**Key Performance Indicators**

- Media about Salish is placed in five high value publications by 2020.
- Partners are engaged in promotion of joint endeavors by 2020.
- Traffic to website and social media platforms is increased 50 percent by 2020.
- Salish is recognized as “thought leader” and “preferred provider” among target audiences and partners by 2020. These may include school districts, day and camp programs, and governments, businesses and organizations with a marine- or maritime-related education mandate.

**Goal 4: Use state-of-the-art technology to improve data collection and modeling to launch a research database accessible to classrooms around the globe.**

**Strategies**

- Improve technology available for data collection by partnering with technology vendors and leaders in the scientific community.
- Streamline data collection standards and practices to enable meaningful data collection, analysis, modeling and sharing.
- Incorporate students into planning and deployment of data collection and database design.
- Launch a web-based data collection website.
- Pilot virtual classroom connectivity and data sharing programs.

**Key Performance Indicators**

- Best practices for student-led data collection are established by 2018.
- Five new classrooms are connected virtually to Salish programs by end of 2019
- Student database is launched by 2020.



## **Goal 5: Develop our curriculum and offer it to other service providers nationwide.**

### **Strategies**

- Explore intellectual property rights to Salish curriculum.
- Maximize transferability of our curriculum to different ecosystems and maritime economies.
- Identify and cultivate new service providers.



### **Key Performance Indicators**

- Salish programs are offered to five institutions nationwide by 2020.
- Training sessions for five partner organizations are hosted and conducted by Salish by 2020.
- Salish curriculum is purchased by one institution by 2020.

# Appendices

## Appendix I

### Washington State's Need for A New Approach to STEM Education

Washington State ranks 2<sup>nd</sup> in the nation in concentration of STEM jobs, yet 45,000 jobs will go unfilled by 2017 due to a lack of qualified candidates. Dramatic and growing economic inequalities, shifting demographics, and the length of time it takes to develop talent, coupled with fierce competition from other states and countries, are among the systemic factors that need to be addressed to inspire and develop informed citizens and fuel a talent pipeline.

These conditions have contributed to the significant mismatch between our state's increasing demand for maritime and STEM-related employment opportunities and our supply of qualified STEM-literate individuals who can step into any career, including marine and maritime technical and professional jobs. And while we have many excellent schools in our state, overall, our middle and high school education system is faced with significant challenges for improving programs to address this STEM literacy deficit.



This situation presents us with an important choice: we can develop local talent or we can continue to import talent from outside our state borders. By investing in a local and robust programmatic approach to STEM and maritime learning, we can prepare “future ready” citizens, increase innovation, break the cycle of poverty for underserved students and their families, and provide an opportunity for more local, qualified employees to participate in our economy.

## Appendix II

### **The Importance of Hands-On, Environment-Rich Learning Experiences in Improving STEM Education**

A recent synthesis of the research by the National Research Council (NRC) clearly indicates that informal or experiential learning environments represent an important component of effective STEM education. The NRC report of this research, *Learning Science in Informal Environments - People, Places, and Pursuits*, provides an impressive review of the impact of informal learning and highlights the importance of the complementary role of schooling and informal learning environments in STEM learning.

Virtually all people of all ages and backgrounds engage in informal STEM learning in the course of daily life. Engaging informal environments can foster interest in STEM fields, build learners' knowledge and skills, and – perhaps most importantly – increase comfort and confidence with STEM subjects. Most notable among successful informal learning environments are science and technology centers, zoos, aquariums, botanical gardens, environmental centers, and museums. These places are rich with real-world phenomena and objects, and provide unique learning experiences as well as access to STEM expertise.

There is mounting evidence that informal STEM education programs that provide structured, non-school science curricula can feed or stimulate the STEM-specific interests of youth and adults and are positively influencing academic achievement for students. Furthermore, research shows these types of programs can expand participants' sense of future STEM career options.

Salish outcomes support these findings, with 81% of students surveyed in 2013 reporting improved understanding of the scientific method and increased motivation for achievement in the sciences following a program.

#### **Informal Learning and Underserved Youth**

Studies suggest that informal environments for science learning may be particularly effective for youth from historically non-dominant groups with limited social and political status in society who are often marginalized in educational experiences. For example, evaluations of museum-based and after-school programs suggest that these experiences can support academic gains for children and youth from historically non-dominant groups. Similarly, case studies of community science programs targeting participation of youth from historically non-dominant groups document participants' sustained, sophisticated engagement with science and sustained influence on course selection and career choices.

In these programs, children and youth play an active role in shaping the subject and process of inquiry, which may include local health or environmental issues about which they subsequently educate the community. Equally interesting in these contexts is the cross-generational learning potential and the ways in which informal learning opportunities help connect children, parents, grandparents, and other community elders.

Many designers in informal science learning are making efforts to address inequity. Effective strategies for organizing partnerships include identifying shared goals; designing experiences around issues of local relevance; taking the everyday patterns of participation of learners into account; and designing experiences that satisfy the values and norms and reflect the practices of all partners. These efforts merit replication and further study, including analysis of how science-rich institutions can collaborate with and serve community-based organizations and how these programs support and sustain participants' engagement.

### **U.S. Governors and Washington State STEM**

The National Governors Association (NGA) and Washington State have recognized the important role informal institutions and informal learning can play in advancing STEM education. The NGA issued a brief about The Role of Informal Science in the State Education Agenda.

They recommended that states: (1) explicitly include informal science education as a key part of an action agenda to improve STEM literacy and proficiency among the state's youth; (2) continue to support quality informal science programs such as those offered by museums and science centers; and (3) encourage districts to support more project-based STEM learning in afterschool environments. Washington STEM also completed the WA STEM Framework that included in and out of school programs as a high-impact strategy along with policies to incentivize informal learning.

## Appendix III

### Washington State Education Landscape Analysis

#### Context

Washington State has 2,354 elementary and secondary schools organized into 295 local districts and nine intermediate districts, serving nearly 1.1 million students and 54,000 teachers. The pupil/teacher ratio is 19 for K-12 schools. Transforming education in the state, especially STEM education has become a priority. In 2012, the State Supreme Court ruled in *McCleary v. Washington* that Washington State is not amply funding basic education under the constitution. The State must provide for the education of all Washington children as the first and highest priority before any other State programs or operations. Education is defined as “the basic knowledge and skills needed to compete in today’s economy and meaningfully participate in this state’s democracy.”

#### Challenges

- **Students:** They lack access to a comprehensive, integrated program of inquiry-based science, technology, engineering and mathematics (STEM) learning both in and out of schools. They lack exposure to STEM role models.
- **Families:** Families, especially those in underserved communities, are challenged by work schedules, finances, English language proficiency, transportation, competing priorities, lack of time, and lack of basic exposure to STEM-related experiences and professional learning opportunities.
- **Teachers:** They are overtaxed with the demands of large class sizes, meeting standards and assessments, high turnover, and capacity issues. Most have not received professional development in project-based learning and are more familiar with traditional pedagogical approaches.
- **Teachers and Administrators:** These education leaders have to navigate a fragmented, frequently changing educational system. They contend with shrinking budgets, changing program priorities, and lack funding for transportation for field trips.
- **STEM Non-Profit Organizations:** They represent a crowded field of dedicated organizations working to solve the challenges related to transforming STEM learning for our youth.
- **STEM Experts and the Business Sector:** They want to participate and contribute, but lack a formal system for their involvement.

## Opportunities

- **New STEM Learning Model and Standards Implementation.** Salish can work together strategically with schools and partners to transform STEM education programs. Salish is positioned to deliver a STEM learning model that (1) aligns with the Next Generations Science Standards and the Common Core Standards; (2) improves teacher quality; and (3) inspires and advances STEM learning for underserved youth through access to real-world experiences and experts.
- **Partnerships.** Coordinated STEM resources can be provided through strategic partnerships with organizations such as the Seattle Aquarium, the Puget Sound Partnership, The National and Oceanic and Atmospheric Administration, the University of Washington, and maritime entities.
- **Momentum.** The time to address STEM education reform is excellent. Leaders in education, government and business sectors collectively have reached consensus that middle and high school STEM education reform is a priority. Today we have new federal and state policies and standards, the WA STEM Framework for Action and Accountability has been developed and validated, and the number of organizations interested in working together to address our critical STEM issues is growing.



Dear Salish Seas Expeditions,

You have provided me, a person who swore to loathe "doing Science" for all of time, with what was honestly the best science learning experience I've ever had. I am neither a science kid, nor an outdoorsy kid, but the trip inspired me to do more of both.

So thank you all for expanding my horizons both on the sea and in the classroom!

Sincerely,

Brigid Majmudar