

2016 / 2017 ANNUAL REPORT



ENVIRONMENTAL SCIENCE CENTER





THE PROBLEM



of toxic chemicals enter Puget Sound each day

Kids spend an average of



looking at screens, each day ...and only 30 minutes outdoors



Only 51% of students in South King County met state 5th grade science standards in 2017

OUR SOLUTION: WE DELIVER HANDS-ON ENVIRONMENTAL SCIENCE PROGRAMS AT LOCAL BEACHES, FORESTS, RIVERS AND CLASSROOMS



To provide STEM learning opportunities



To get students outdoors



To foster a sense of place in our watershed

OUR IMPACT

409 hands-on science learning opportunities



of trash removed from the park during beach clean-ups

WE VALUE ACCESS FOR ALL!
OUR PROGRAMS ARE FREE OR OFFERED AT A HIGHLY REDUCED COST

2381 students visited Seahurst Beach



11,454 PEOPLE SERVED

The average diversity index of the South King County schools we serve is:

71%



2317 students visited the Cedar River or Miller Creek



gardening and restoration projects with teens

(a calculation used to measure the probability that two randomly chosen students are of a different race, 100% being most diverse)

FROM THE EXECUTIVE DIRECTOR

Dear Community Members;

I remember swinging from trees and digging in the dirt when I was a child. Today, kids are growing up in a much different world. Our youth spend hours staring at their cell phones and watching television. Connecting to nature just isn't happening.

You and I know the mental, physical, and emotional benefits of connecting to nature. Feeling the earth between our hands as we garden, hearing the birds chirp on a weekend hike or even just taking a deep breath of fresh air on a park stroll help us connect to nature. Without these experiences the next generation is losing out on a major component of life that has been an integral part of human existence for thousands of years.

Since youth connect less to nature, they lack an understanding of the importance of protecting our environment. We need today's youth to become stewards of our environment so that future generations can enjoy what we all enjoyed as children.

Unfortunately, funding for STEM (science, technology, engineering, and math) opportunities in our schools is a low priority. The Environmental Science Center (ESC) is one of the few environmental science resources in South King County. Our hands-on programs in the outdoors provide the opportunity for our local youth to develop a love of nature while also advancing their STEM skills.

With help from people like you we have been able to offer quality programs to community members, in particularly, low-income students that otherwise would not have the opportunity to experience hands-on environmental science at our local beaches, streams, and forests.

ESC has steadily increased the number of people served within the community by more than 10% each year for the past three years and our plan is to continue that growth. This year alone, ESC served well over 11,000 people and had more than 29,000 student contact hours!

I invite you to take a look at our annual report to better understand the resources we offer our community. I also welcome you to attend an ESC public program to see first-hand the transformative nature of our hands-on science programs.

With your support, the Environmental Science Center can continue to offer unforgettable experiences that connect our youth to nature in South King County.

Thank you,



Dr. Tara Luckie
Executive Director



Students studying a local watershed map.



An ESC naturalist showing students a moon snail egg case.



Youth identifying Thimbleberry.



ESC naturalist Kelly Steffen looks at anemones with a group of Beach Heroes students at Seahurst Beach.

111
CLASSES

2,503
STUDENTS

696
ADULTS

During spring of 2017, we hosted more classes than ever before (111), broke ground on a new outdoor learning space, and worked with an exceptional group of Jr. Naturalist, Waskowitz Environmental Leadership School (WELS) students! More than 3,000 individuals are now inspired by unbelievable biodiversity that resides in Puget Sound and have a better understanding of how we can help protect marine habitats.

In the past, Beach Heroes has traditionally served Kindergarten, first, and second graders, however, many of the new partners we worked with this year were middle and high schools. We even delivered this program to our first preschool class, demonstrating the relevancy of this program to learning standards across grade levels.



Beach Heroes students use models to learn about the impacts Seahurst Park's old seawall had on forage fish.

Barbara and Darrell Williams Outdoor Education Space

We were proud to break ground and debut the new Outdoor Education Space! This project was a partnership between the City of Burien, Eagle Scout Troop 290, and ESC. Many of the pavers and materials were donated by Mutual Materials Construction Company. This new classroom provides an excellent backdrop to deliver our Forage Fish stations as it features views of neighboring armored shoreline next to the restored shoreline at Seahurst Beach.

"THIS TIED IN PERFECTLY WITH WHAT WE WERE STUDYING IN THE CLASSROOM IN BOTH READING AND SCIENCE SO THE KIDS WERE VERY ENGAGED. OUR FOURTH GRADE TEAM HAS ALL AGREED WE WILL DEFINITELY DO THIS AGAIN NEXT YEAR IF IT IS STILL AVAILABLE."

-REBECCA WINBAUER, GLENRIDGE ELEMENTARY [NEW PARTNER IN 2017]

2016 was an exciting season for Salmon Heroes. We nearly doubled our participants, hosting 96 classes compared to the 50 we normally serve. One-third of those classes were delivered at our NEW field site along the Cedar River near the Renton Community Center! The new field study site provided a unique opportunity for students from the Renton and Kent Districts to watch Sockeye and Chinook salmon digging redds, fighting, and displaying other spawning behaviors through new salmon-viewing glasses.

Students were also exposed to environmental careers while interacting with scientists tending to the weir. One day while the Washington State Department of Fish and Wildlife biologists were conducting fish counts, they rowed up to a group of students collecting water quality data and opened their cooler full of fish heads (collected to measure otoliths). Biologists told the students: "If you stay in school, you could do this one day!"

In addition to serving new partners, we were also able to make several improvements to our field gear. Thanks to support from the NOAA-BWET grant, we purchased new thermometers and turbidity tubes very similar to the water quality equipment scientists use in the field. We also worked with local GIS experts to create watershed maps showing the flow of water from each individual school to the nearest river or stream and eventually to Puget Sound.

In the classroom, we adapted the post-field study presentation to help students better understand how their actions affect salmon habitat. Students created a dirty stormwater sample by adding pollutant models (trash, dog poop, car oil, brake dust, fertilizer). After witnessing the effects of non-point source pollution, students learned about the work NOAA scientists are doing to control stormwater pollution. They poured the dirty stormwater through a rain garden filter and witnessed clean water come out the other side to understand the role forests, wetlands, and native plants play in watershed health.



Students test the turbidity of water with ESC Program Manager Joanna Stodden.

100% of teachers strongly agree that their students are excited to bring their families back to the river/creek they explored and share what they learned about salmon.

96% of teachers agree this field study aligns with Next Generation Science standards.



Students tested the PH of the water in the Cedar River.

"I LIKED THAT STUDENTS COULD SEE A DIRECT RELATIONSHIP BETWEEN OUR DAILY HABITS AND THE EFFECT ON OUR WATERSHED/HABITATS."
-MARVISTA 4TH GRADE TEACHER

"THE FIELD STUDY WAS WELL ORGANIZED AND ENGAGING. THE STUDENTS TALKED ABOUT BEING A SALMON HERO WITH THEIR FAMILIES"
-EAST HILL 5TH GRADE TEACHER

New Futures Science Clubs

In the 2016-2017 school year, ESC delivered a seven week after-school science program to six different New Futures cohorts. Students were introduced to the salmon lifecycle by meeting each lifecycle stage at the Seattle Aquarium Open House event.

Students discovered native plants outside their apartment building and learned about the important role they play in watershed health. At the end of the school year, they conducted a service project to clean up the area around their apartments and to learn how to keep these pollutants out of salmon streams.

During the summer, each New Futures group visited Seahurst Beach for a three-hour field trip at low tide. They witnessed the marine invertebrates they had been studying throughout the year in their natural habitat and met some of the native plants that are integral to watershed health.

Camp CRAZ

ESC partnered with the City of Burien for weekly science lessons during their summer camp. Campers met live worms and aquatic macroinvertebrates, learned about food chains by dissecting owl pellets and meeting live raptors. They also played a game to explore the food web.

Summer Salmon Heroes

Thanks to a generous grant from the National Marine Sanctuary Foundation, we were able to adapt our highly successful Salmon Heroes school program into a summer program. The Summer Salmon Heroes was a 12-hour program delivered to Star Lake Elementary and Totem Middle school students in Federal Way. These two schools host an afterschool and summer program as part of the 21st Century Community Learning Centers program.

The program started with two all-day teacher workshops. We spent the first day focusing on the classroom lessons covering salmon and habitat needs. The second day was split between two field study sites, Dash Point State Park and PowellsWood Garden. Teachers dipped for macroinvertebrates, learned about native plants on the forest walks, sampled the water quality, and explored intertidal organisms at Dash Point State Park. A complete set of materials and curriculum was left with our partners at the completion of the program. Training the teachers and coordinators on how to use all the materials helps ensure that they will successfully use them with students on their own.

Students enjoyed two 3-hour field studies which took place at PowellWood Garden and Dash Point State Park in Federal Way. Both sites expanded our field studies in different ways. PowellsWood Garden has a mile long loop hike through a forest ravine. This allowed students to spend additional time exploring the forest and learning about all the plants, including all the delicious salmon berries that were ripe at the time. Dash Point State Park has a great trail along a riparian habitat to explore water bugs and sandy beach with sand dollar habitat. The beach also allowed for some low tide explorations to make those nearshore salmon connections.



New Futures students were stoked to help clean up their campus.



Camp CRAZ campers made natural habitat structures.

723
PARTICIPANTS



Students dip for macroinvertebrate samples.



Friends and neighbors restored the park during two annual cleanups.



Girl scouts learned about solar cells and alternative energy with Dr. Tom.



Families played games to learn about the invertebrates at the beach.



Low tide revealed lots of summer surprises to toddlers and their friends.

3,849 PARTICIPANTS

Family and Community programs increased by 27% this year!

2016 International Coastal Cleanup (ICC)

Nearly 140 pounds of trash were collected throughout Seahurst Park for the Ocean Conservancy's largest worldwide volunteer effort to protect the oceans! With partnerships from Puget Soundkeeper and the City of Burien, community members pitched in to remove marine debris and create healthier waters.

Science with Dr. Tom

Dr. Thomas Mickel helped families and friends make science experiments a monthly affair. Hands-on activities taught them about the creatures and systems that rely on Puget Sound and how to be stewards for them.

Open House Saturdays

Summertime was the perfect time for beach walks, scoping out macroinvertebrates and plankton, and discovering birds and plants. For 12 weeks, ESC naturalists and volunteers taught the public about our local treasures through hands-on activities, exhibits and arts and crafts. They also shared ways people can help their watershed individually or as a community.

Toddler Time

ESC really hit a stride with Toddler Time this year and it showed. Participation increased by 35%. Through storytelling and natural exploration, ESC helped friends and families engage in positive and creative seasonal activities with the toddlers! This is especially important since stimulation is so important for toddlers' brain development. Collaborating with the Burien Library helped strengthen our program and broaden our reach in the community.

Tide Pools for Tots

This summer program was overflowing with excited participants! Both kids and adults learned proper beach etiquette from naturalists during story time before exploring Seahurst Park at low tide. Handmade field guides helped a curious crowd connect with cool creatures and natural wonders on and near the beach.

TEEN PROGRAMS



Seasoned ESC volunteers Kim Ha and Emmanuel Cruz Soria pitched in during the International Coastal cleanup, as well as in a variety open house events.

Jr. Naturalist Program— We were fortunate to work with the same exceptional group of Waskowitz Environmental Leadership School (WELS) High school students both in the fall and the spring. As a result, they were able to hone in on their leadership skills. The students assisted ESC with both Salmon Heroes and Beach Heroes programs. They participated in naturalist training sessions, shadowed a naturalist, and assisted younger students during outdoor field studies in Burien, Normandy Park and Renton.

Urban Forest Restoration— Both Big Picture Middle School and New Start High School spent many hours in our local parks and community spaces removing invasive plants and planting native species. Students created public trail signs with botanical illustrations of native plants and highlighted the important role these species play in restoring natural areas.

Open House Volunteers—Highline High School seniors Kim Ha and Emmanuel Cruz Soria returned to assist in open house events and activities throughout the year, including Open House Saturdays during the summer.

Festival Volunteers— Highline High School Advancement Via Individual Determination (AVID) and Key Club students informed community members of ways to help local salmon and best methods for disposing waste.

Science with Dr. Tom Volunteer— Monthly, our Lady of Guadalupe Middle School student Rodrigo Servin assisted Dr. Tom in hands-on family programs.



Middle school student Rodrigo Servin passed out squid before a dissection in the Science with Dr. Tom program for teens and families at the Learning Center.



Big Picture Middle School students removed blankets of invasive English ivy at Seahurst.

140
STUDENTS



WELS Junior Naturalists helped younger students test the quality of water during Salmon Heroes.

ESC would not function without its volunteers! From a couple of minutes to hundreds of hours, every moment counts in helping the people and natural systems that benefit from our programs. **Thank you for sharing your passion, skills and time to enrich your community! You are ESC!**



Jarrett Kaplan showed fellow volunteers how they can help plankton through cleanups.

"I DECIDED THAT MY MAIN MISSION UPON RETIREMENT WAS TO CARE FOR THE ENVIRONMENT AND THIS IS THE PREMIER PLACE TO DO THAT. I COULDN'T BELIEVE THAT IN MY OWN BACKYARD THERE WAS THIS ORGANIZATION THAT SUPPORTS MY EFFORTS SO STRONGLY."
-JEAN SPOHN



Highline HS AVID students reached out for salmon.



Eagle Scout Alma Huakau and Troop 290 laid the groundwork for the Barbara and Darrell Williams Outdoor Education Space at Seahurst Park.



Zainab Alhaideri helped evaluate Toddler Time.



Team Trash Masters won heaviest load for the ICC.

"THIS PROGRAM HAS HELPED ME LEARN A LOT ABOUT HOW TO WORK WITH CHILDREN. IT'S EVEN HELPED ME LEARN MORE ABOUT MY OWN SON."
-ZAINAB ALHAIDERI

3,148
VOLUNTEER
HOURS

VOLUNTEERS

Brenda Sullivan
Chris Jansen
Dan Lombardo
Donna Valentine
Emmanuel Cruz Soria
Highline HS AVID &
Key Club students
Jacqueline Drumheller
Jarrett Kaplan
Jean Spohn
Jerrica Pierson-Seeger
John Leonard
Nanci Leonard
Karen Adams
Karl Mejia
Katherine Himes-Strange
Kim Ha
Kristine Ashcraft
Kristyn Clayton
Larry Reymann
Maria Arevalo
Nicole Killebrew
Ning Vung
Phillip Thompson
Robert Richmond
Rodrigo Servin
Rosie Wilson-Briggs
Ruby Krueger
Shea Scribner
Sheri Barr
Terrill Chang
Thomas Mickel
Victoria Hall
Zainab Alhaideri

THANK YOU ESC SUPPORTERS!

LEADERSHIP
CIRCLE

\$2,000 +

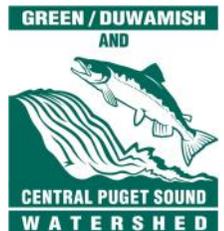
Barbara Williams
Georgette Valle
Horizons Foundation
Kristine Ashcraft and Gorm Brunso
Loren Tomlinson
Peter Valle

\$1,000 - \$1,999

Brenda Sullivan
Jackie and Steve Drumheller
Jean and Tom Spohn
John and Pat Richards
Karl Mejia and Stacia Servos
Karyn Pasquier
Nancy Tosta and Bob Ewing
Patti Gifford and Thor Edman
Stephen Feldman
Terrill Chang and Jan Faul
Watters Charitable Trust

\$500 - \$999

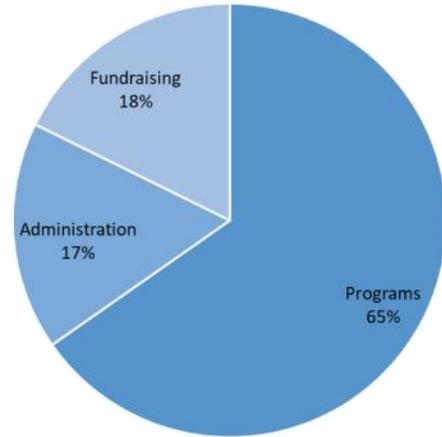
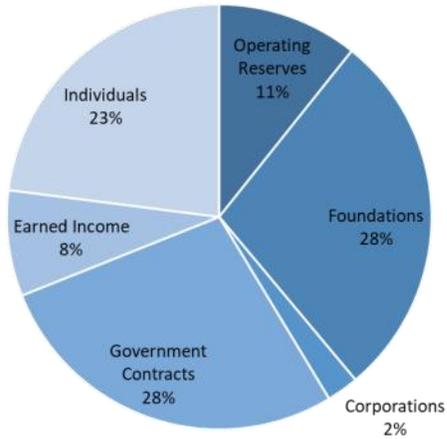
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Shelley Hall and Sean Platter
Tara and Scott Luckie



Doug Head CLU®, ChFC®



FISCAL YEAR 2016-2017 FINANCIALS



REVENUE

INDIVIDUALS	\$68,110
FOUNDATIONS	\$83,491
CORPORATIONS	\$7,220
GOVERNMENT CONTRACTS	\$81,879
EARNED INCOME	\$23,862
OPERATING RESERVES	\$31,803
TOTAL INCOME	\$296,365

EXPENSES

PROGRAMS	\$193,454
ADMINISTRATION	\$50,444
FUNDRAISING	\$52,467
TOTAL EXPENSES	\$296,365

HOW CAN YOU MAKE A DIFFERENCE?

DONATE!

Donations can be made at www.EnvironmentalScienceCenter.org



\$840

Supports **72 students** from high-need schools to become Salmon Heroes by testing water quality samples and pledging to protect salmon.

\$300

Pays for transportation for **4 classes** to a field study. Transportation is often the greatest barrier for youth to explore nature!



\$100

Purchases **science supplies** such as water quality test kits and equipment to be used in the classroom.

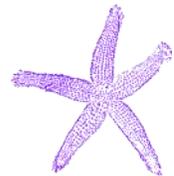
\$50

Sponsors **2 high school students** to receive intensive training and mentorship to become Junior Naturalists.



BECOME A MEMBER!

BOOST your impact! With a monthly **\$10 donation**, you become an integral part of getting MORE kids outside!



Members also **receive great benefits:** discounts at local businesses, discounts on our merchandise, invites to members-only events, and more! You'll also be the first one to hear about ESC news. Join today!

EnvScienceCenter.org/become-a-member

VOLUNTEER

Make a difference by getting involved with ESC's many programs!

If interested, please contact:

Kharli@EnvScienceCenter.org
206-248-4266

YOUR IMPACT

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**ENVIRONMENTAL
SCIENCE CENTER**



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Jennifer Dumlao, Development Director
Joanna Stodden, Program Manager
Kharli Rose, Community Engagement Manager
Emelia Williams, Development Assistant
Kelly Steffen, Salmon Heroes Coordinator

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OUR MISSION

To promote environmental stewardship and
achievement through science-based education.

Serving South King County since 2000.