

2019 - 20 ANNUAL REPORT

For teachers and students participating in Salmon in the Schools-Seattle (SIS-SEATTLE), this was a very memorable year. It began as usual with the delivery of eyed eggs to schools throughout the city but, in March when the coronavirus pandemic suddenly closed schools, rearing and releasing experiences became quite different.

Teachers, school custodians, tank and imprint-pond volunteers, and the SIS-SEATTLE leadership team scrambled to arrange fish care for a brief closure, then scrambled again when faced with closure through June. Many teachers had no recourse but to release their small fry right away. Others were able to keep them growing at school or off-site and involve students in spring releases.

While school buildings were open, teachers and tank volunteers engaged students in feeding their fish, checking water temperature, testing water chemistry, and monitoring tank equipment. After buildings closed, teachers found ways to weave salmon life cycle, ecosystems, commerce, culture, and habitat stewardship into science, math, language arts, social studies, and arts.

COORDINATION

SIS-SEATTLE is a coalition of agency representatives and advocates that guides the program and provides resources to schools throughout the city. The Washington Department of Fish and Wildlife issues permits, records releases, and ties our program to others in the state.

A technical specialist (funded by Seattle Public Utilities and Seattle Parks and Recreation) and volunteers were readily available to troubleshoot equipment problems and help teachers and their volunteers confidently manage their tanks. Coordination started with being sure tanks were ready for eggs from these area hatcheries:

Hatchery	No. of Schools
WDFW hatchery on Issaquah Creek	34
WDFW hatchery on Soos Creek	14
Suquamish tribal hatchery on Grovers Creek	24



With great optimism, students watched coho eggs hatch and alevin mature into fry before the pandemic curtailed the program across the city.



Many small fry like these reared at McGilvra Elementary had to be released shortly after school buildings closed.



Pacific Crest School released its 201 chinook fry into Lake Washington at Magnuson Park.



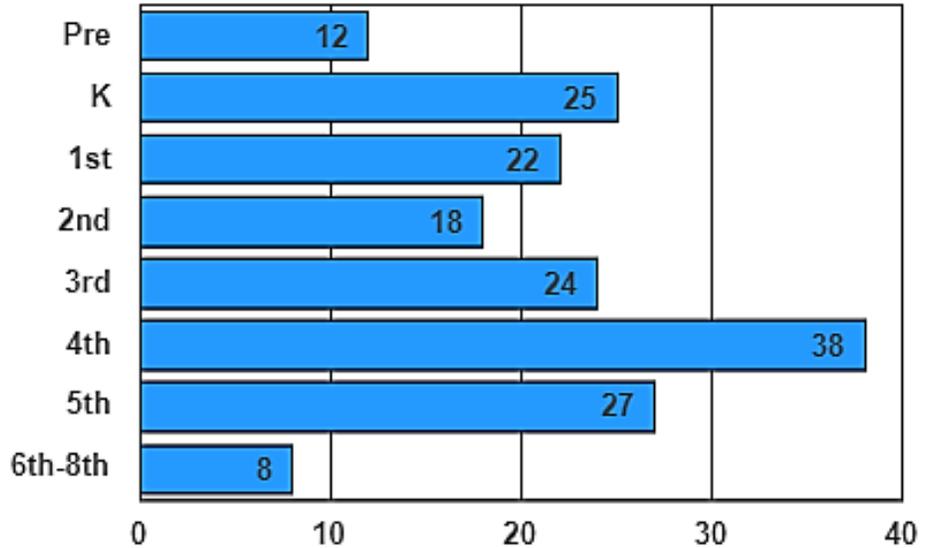
Public and private schools throughout the city participated in SIS-Seattle this year.

PARTICIPATION

Students in 72 public and private schools throughout Seattle were engaged this year in salmon-centered learning. Most tanks were in a common area so that multiple classrooms/grades could witness fish development and care activities.

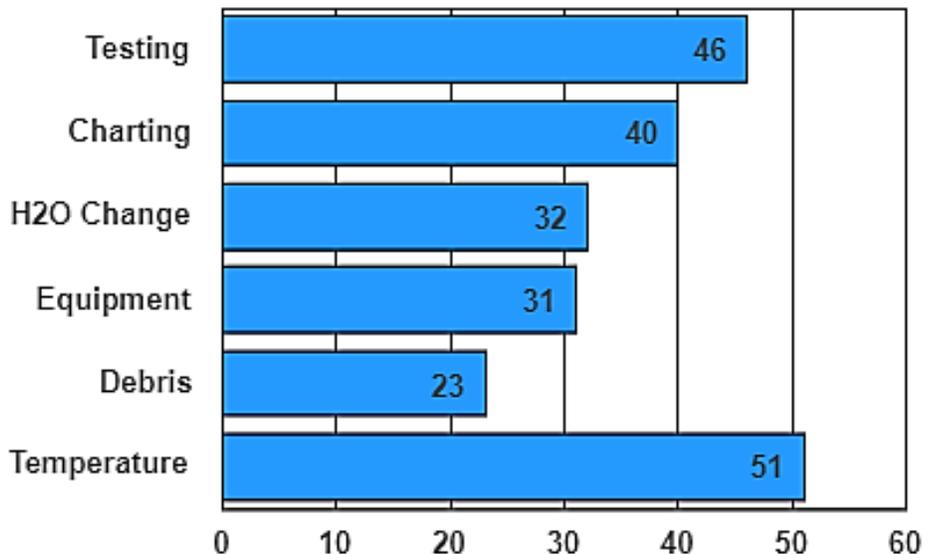
The majority of students rearing fish were fourth graders. Younger students at many schools were also significantly involved, often through reading-buddy programs.

PRINCIPAL GRADES INVOLVED



Teachers and tank volunteers supported students in keeping tanks healthy - checking water temperature, using test kits to monitor water quality, charting their data, helping with water changes, making sure equipment was working properly, and removing debris.

STUDENT ENGAGEMENT



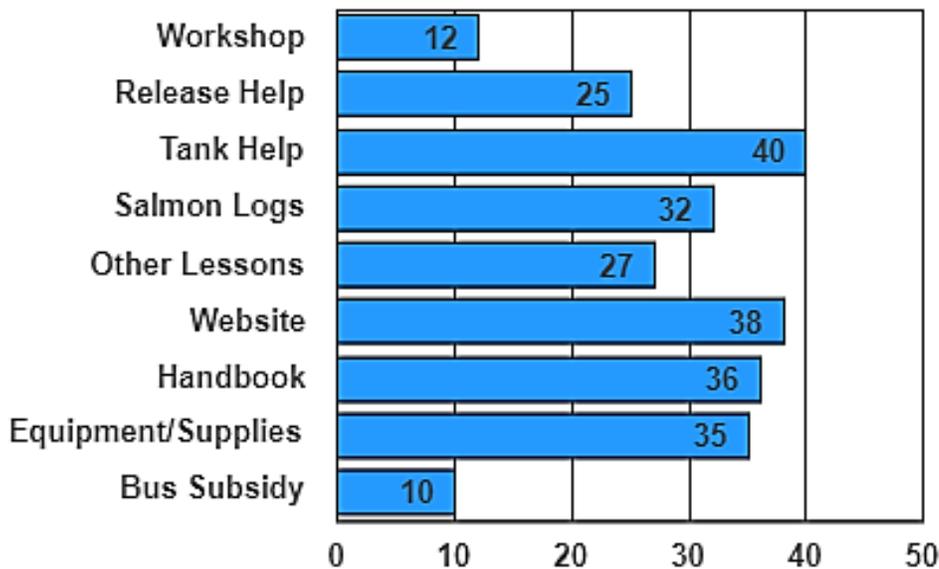
My 4th grader was so excited to show me the tank! It is amazing that the kids get to be so involved for such a long project. Thank you so much to Salmon in the Schools and the teachers who work hard to make this happen!
Highland Park Elementary parent

SUPPORT FOR TEACHERS, VOLUNTEERS

SIS-SEATTLE offered many resources to support teachers and their tank volunteers, starting with an all-day workshop in the fall attended by representatives from 12 new and returning schools. At the same time, we provided all our teachers with an updated handbook that covered topics ranging from tank set-up to field-trip opportunities.

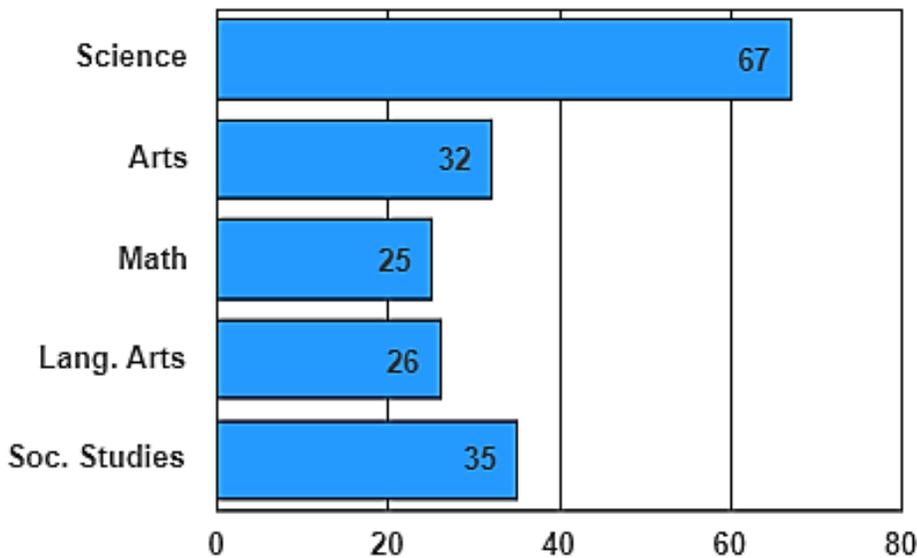
Throughout the year, teachers had access to many SIS-SEATTLE resources, including technical assistance and dozens of lesson plans, most of which now align with Common Core and Next Generation Science Standards. The resources teachers used most were as follows:

PRINCIPAL SIS-SEATTLE RESOURCES USED

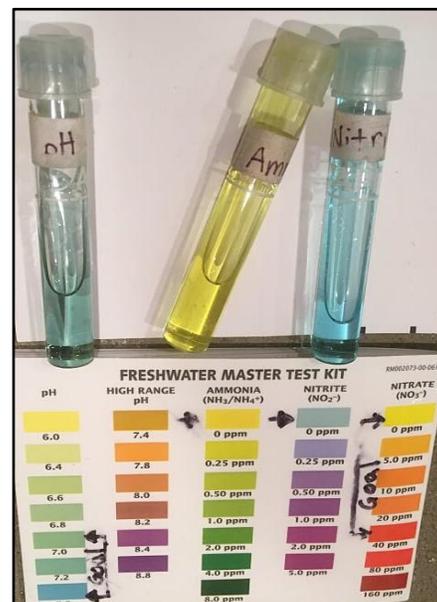


Teachers applied salmon-related study toward meeting learning standards in five principal curriculum areas:

LEARNING STANDARDS MET



Students gather round the tank when the eggs arrive, here brought by leadership team member Judy Pickens.



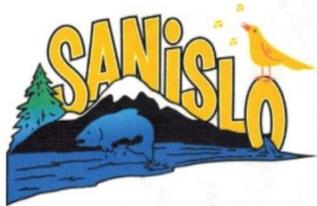
A color chart guided water testing at John Muir Elementary.



Leadership team member Phil Sweetland fostered two tanks of coho in his carport after school buildings closed in March.



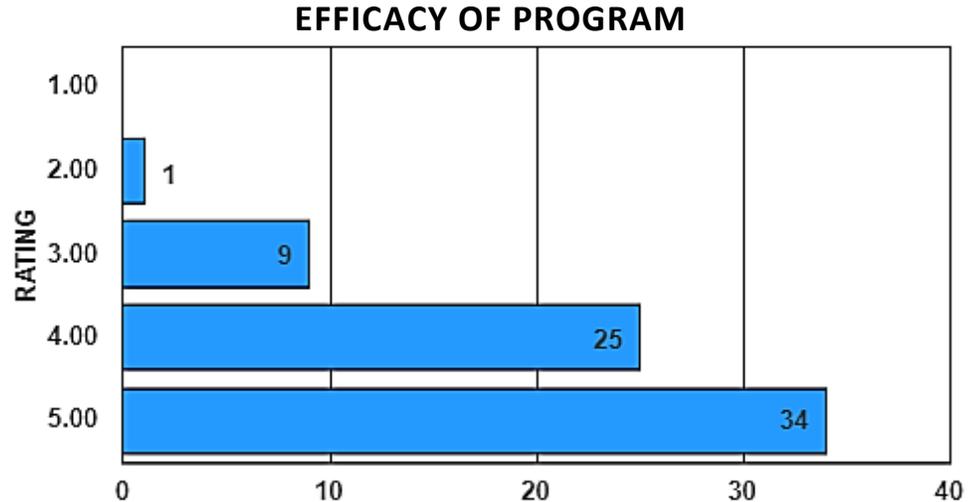
Taproot School teachers delivered art supplies to students at home, then displayed the flags they created as a way for them to be present as a teacher released their fish.



Signage guided family groups and individuals from Sanislo Elementary to the release site on Fauntleroy Creek so that all could participate while keeping safely apart.



This year we also asked teachers to complete a questionnaire to help us understand how effective Salmon in the Schools is in relaying how personal behavior affects water quality. On a 1-to-5 scale, from not effective to very effective, their responses were as follows:



ACCOMPLISHMENTS

During 2019-20, the SIS-SEATTLE leadership team

- secured **state permits** for all participating schools.
- added Islandwood's Community Waters science unit to our **website** and added/highlighted lessons for at-home learning.
- developed and added to our website a six-minute video that gives teachers an overview of the rearing experience.
- updated our **handbook** for teachers and tank volunteers.
- conducted a **workshop** for 18 new teachers, volunteers, and those seeking a "refresher" about tank care and lesson planning.
- made more than 90 **visits to schools** to deliver or install equipment or to check on fish health, including getting 12 teachers at three new schools up and running.
- **transported eggs** from hatcheries to all schools.
- **purchased** 7 chillers, 17 canister filters, 3 tanks, and lots of water-quality supplies.
- **installed** 5 new chillers, 2 tanks, and 16 filters at 12 schools.
- did 4 in-class **salmon dissections** at West Seattle schools before the pandemic shutdown.
- supported 22 modified **salmon releases** in the spring.
- reared chum fry for 2 additional months after schools closed in the Piper's **imprint pond** with the help of Carkeek Watershed Community Action Project volunteers.
- supported 38 **salmon search programs** at Carkeek Park.
- invested dozens of **administrative and volunteer hours** in permitting, training, troubleshooting, and coordinating.

WHAT'S AHEAD

Given the certainty that Seattle Public Schools will start the 2020-21 term online and the uncertainty of where students will be when we would normally provide salmon eggs, we plan to

- secure **state permits** as usual so that teachers may participate during the 2020-21 school year as they are able.
- continue to work with schools to upgrade **equipment**.
- update and add **learning resources** to our website.
- **use more videos** as a substitute for some on-site technical support.
- **encourage teachers** to, at a minimum,
 - give students a broad overview of the importance of salmon in the Pacific Northwest and the challenges that they face
 - engage students in caring for their fish
 - extend the salmon project in some way to other students in their school.
- hold program **capacity** at 75 schools, with an emphasis on
 - upper elementary grades
 - under-resourced schools
 - schools able to enlist assistance with tank maintenance.

LEADERSHIP TEAM

The program relies on administrative and on-the-ground expertise from these members of the leadership team:

Katherine Straus, youth stormwater program manager
Seattle Public Utilities; katherine.straus@seattle.gov; 206-386-4621

Nancie Hernandez, technical support and area coordinator
for Piper's Creek and Lake Washington
seasis.tech@outlook.com; 206-218-9738

Phil Sweetland, database and technical support volunteer
phil_sweetland@msn.com; 206-938-4203

Judy Pickens, volunteer area coordinator for Fauntleroy Creek
judy_pickens@msn.com; 206-938-4203

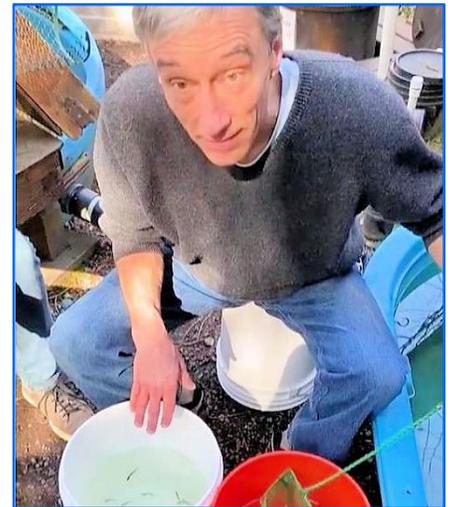
David Koon, Carkeek Watershed Community Action Project volunteer
salmonprograms@carkeekwatershed.org; 206-819-0614

In the spring, we bid farewell to Beth Miller, who retired as program manager after 26 years with Seattle Public Utilities.

Photos courtesy Nancie Hernandez, Dennis Hinton, Judy Pickens,
West Seattle Blog, Taproot School



Nancie Hernandez with the leadership team assisted with Roxhill Elementary's release, aided by long-time release volunteer Dennis Hinton.



Leadership team member David Koon (above) and program manager Beth Miller (below) explained the Piper's Creek imprint pond in a video for students who, in a normal year, would have come to Carkeek Park to release their chum fry.

