Students participating in Salmon in the Schools - Seattle (SIS-SEATTLE) rear coho, chum, or chinook salmon from eyed eggs to release as fry in local creeks and Lake Washington. In the process, they learn about life cycles, ecosystems, environmental stewardship, and the importance of salmon to Pacific Northwest culture and commerce. Skill development includes observation, data collection and depiction, and research and reporting.

Teachers and tank volunteers engage students in caring for their fish, monitoring water chemistry, and documenting fish behavior. They link this study to such curriculum emphases as science, math, and social studies, and many schools cultivate a building-wide "salmon climate" that extends learning to multiple grades.

PROGRAM COORDINATION
SIS-SEATTLE is a coalition of agency staff members and environmental advocates who enable educators to use salmon rearing as an effective way to enrich academics in public and private schools throughout the city. The Washington Department of Fish and Wildlife (WDFW) initiated the program in 1991 and, after 20 years, it transitioned to local coordination. WDFW continues to issue permits for eggs and track releases.

This report reflects the second year of SIS-SEATTLE coordination. Individuals and the City of Federal Way coordinated most schools elsewhere in King County, leaving a few to link directly to WDFW.

A technical specialist funded by Seattle Public Utilities and Seattle Parks and Recreation and volunteers work directly with teachers to secure eggs from hatcheries, assist with releasing fry, troubleshoot equipment problems, and help new teachers and school volunteers manage their tanks with confidence.

Discovery of a dead bat along a trail in Fauntleroy Park added a memorable feature to Sanislo Elementary’s release. SIS-Seattle technician Nancie Hernandez carefully took advantage of the teaching moment.
Public and private schools throughout the city participated in SIS-Seattle this year.

Thank you for letting us have this experience with the salmon!
- Cleome and Zoe
Pathfinder K-8
Seattle Public Schools

ACCOMPLISHMENTS
During this school year, the SIS-SEATTLE leadership team
▪ maintained our website as a comprehensive resource for salmon teachers in Seattle.
▪ secured state permits for all participating schools.
▪ updated our handbook for teachers and tank volunteers.
▪ conducted a workshop for new teachers, volunteers, and those seeking a "refresher" about tank care and lesson planning.
▪ made more than 101 visits to schools and responded to 1,800 email requests about tank set-up and maintenance.
▪ serviced 15 chillers and purchased 6 chillers and 2 tanks.
▪ did 7 in-class salmon dissections at participating West Seattle schools and 29 more during field trips to Piper’s Creek.
▪ supported 54 salmon-release field trips - 23 in partnership with the Carkeek Watershed Community Action Project, 14 with the Fauntleroy Watershed Council, and 17 elsewhere in the city.
▪ helped 11 schools with transportation costs for release field trips.
▪ invested dozens of administrative and volunteer hours in permitting, training, troubleshooting, and coordinating.

TEACHER FEEDBACK
Reports filed by participating schools after releasing their fry provided the SIS-SEATTLE leadership team with valuable feedback about program components, including the following:

A total of 73 public and private schools engaged these grades in salmon-centered learning. Most schools place their tanks in common areas so that multiple classrooms/grades can participate.
SIS-SEATTLE offers many resources to support teachers. Those they called on most frequently this year were as follows:

**SIS RESOURCES USED**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Release</td>
<td>48</td>
</tr>
<tr>
<td>Tank</td>
<td>38</td>
</tr>
<tr>
<td>Handbook</td>
<td>30</td>
</tr>
<tr>
<td>Website</td>
<td>30</td>
</tr>
<tr>
<td>Lessons</td>
<td>38</td>
</tr>
</tbody>
</table>

The top five ways teachers incorporated salmon-related study to meet learning standards this year were as follows:

**LEARNING STANDARDS MET**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>69</td>
</tr>
<tr>
<td>Social Studies</td>
<td>39</td>
</tr>
<tr>
<td>Arts</td>
<td>34</td>
</tr>
<tr>
<td>Math</td>
<td>28</td>
</tr>
<tr>
<td>Language Arts</td>
<td>26</td>
</tr>
</tbody>
</table>

Top teacher requests for more program resources were

**REQUESTS FOR MORE RESOURCES**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Requests</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGSS Lessons</td>
<td>37</td>
</tr>
<tr>
<td>Presentations</td>
<td>27</td>
</tr>
<tr>
<td>Field Trips</td>
<td>25</td>
</tr>
</tbody>
</table>

Be’er Sheva Park on Lake Washington was a perfect spot on a perfect day for Kimball Elementary students to release 59 coho fry.

Regular testing enables students to monitor water chemistry as their fish develop and sound the alarm if it gets out of balance.
A total of 19 teachers offered to mentor colleagues new to the program, ranging from preschool through middle school.

SIS-SEATTLE partnered with three hatcheries this year for salmon eggs:

<table>
<thead>
<tr>
<th>Hatchery</th>
<th>No. of Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issaquah WDFW hatchery</td>
<td>36</td>
</tr>
<tr>
<td>Soos Creek WDFW hatchery</td>
<td>14</td>
</tr>
<tr>
<td>Grovers Creek Suquamish tribal hatchery</td>
<td>23</td>
</tr>
</tbody>
</table>

**WHAT’S AHEAD**

During the 2018-19 program year, we plan to

- align more lesson plans with next-generation science standards and state common-core standards.
- continue to work with schools to upgrade equipment.

We will retain program capacity at 75 schools and focus recruitment on

- upper elementary grades
- under-served schools
- schools able to enlist assistance with tank maintenance.

**LEADERSHIP TEAM**

Administrative time and on-the-ground expertise sustained and improved this program in 2017-18, including from these members of the leadership team:

**Beth Miller**, program manager, K-12 Stormwater Education Programs, Strategic Outreach and Communications, Seattle Public Utilities; beth.miller@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

**Rick Henry**, Carkeek Watershed Community Action Project volunteer;

RickHenry@carkeekwatershed.org; 206-235-7431

**Judy Pickens**, volunteer area coordinator for Fauntleroy Creek

judy_pickens@msn.com; 206-938-4203

Photos courtesy Peggy Cummings, Nancie Hernandez