

## Restoration and Enhancement of Lake Sammamish Kokanee Tributaries



Time is running out to recover our little red fish. **We need to act now.**

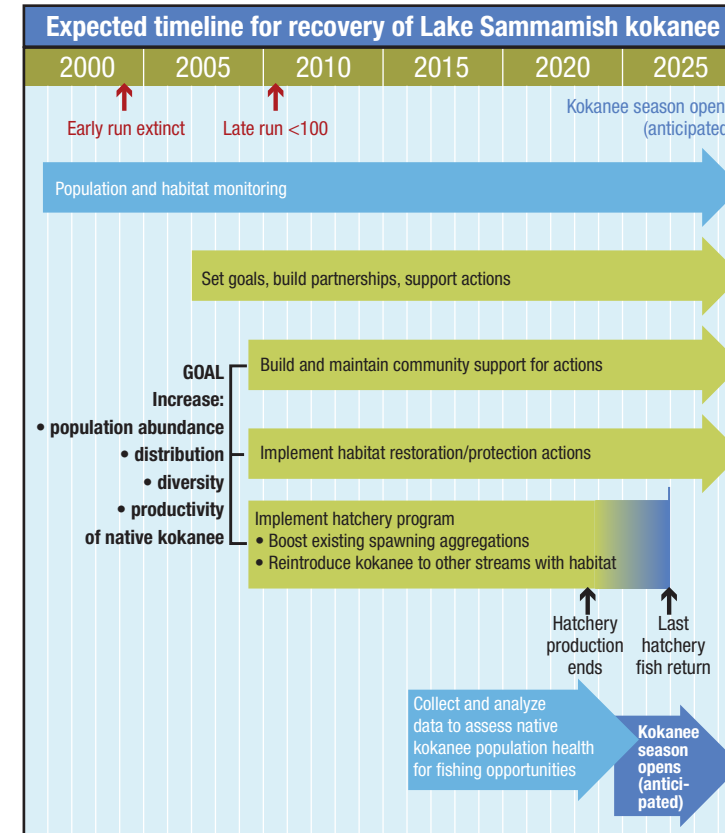
Our Lake Sammamish native kokanee salmon population is declining precipitously. Unlike their larger relative sockeye salmon, kokanee do not go out to the ocean but spend their entire lifecycle in fresh water. They migrate from streams as inch-long fry and spend three to four years in Lake Sammamish before returning to spawn in the late fall and early winter in their natal streams. In recent decades, kokanee numbers have plummeted, and their distribution has been reduced from a large section of the Lake Washington watershed to only Lake Sammamish and several of its tributary streams.

Native kokanee are now known to spawn consistently in only Ebright Creek, Laughing Jacobs Creek, Lewis Creek, Pine Lake Creek, occasionally in Tibbetts and Vasa creeks, and along some shoreline areas in Lake Sammamish. This drastic reduction in the geographic distribution of spawning areas significantly raises the potential for a single catastrophic event—whether natural or human-caused—to completely eradicate native kokanee from the watershed. In fact, recent data indicate that two runs of native Lake Sammamish kokanee are likely already extinct. It appears that only the winter/late run kokanee still remains.

In 2007, local jurisdictions, government agencies, tribes, community groups, area residents, and kokanee advocates in the watershed formed the Lake Sammamish Kokanee Work Group (KWG) to work together to reverse the decline. The KWG established a goal for rebuilding the population: **prevent the extinction and improve the health of native kokanee population such that it is viable and self-sustaining, and then supports fishery opportunities.** Over the past several years, the KWG and its members have assembled the best science available, conducted assessments, implemented a short-term population supplementation program, supported a series of habitat restoration projects, and reached out to the larger community to educate others on kokanee needs in the watershed.

Habitat improvements are essential to restoring a stable and self-sustaining population, both in tributaries that currently support spawning as well as in tributaries infrequently or never used but that could provide spawning opportunities. Building on the latest science and a range of efforts to recover kokanee, the KWG recently compiled *The Blueprint for the Restoration and Enhancement of Lake Sammamish Kokanee Tributaries*. The Blueprint describes and maps a variety of potential habitat projects that will contribute directly to the revitalization of kokanee salmon in Lake Sammamish. It is critical to have sufficient habitat restored to support a robust, self-sustaining population, particularly once the supplementation program is discontinued by 2021.

Because the native kokanee salmon spend their entire lifecycle in the Lake Sammamish basin, our actions have a measureable and direct impact on kokanee recovery and sustainability. **It is up to us to ensure that these little red fish do not go extinct.**



Kokane habitat projects are ready for action.

Our native Lake Sammamish kokanee salmon are in trouble. To help address the problem, the Lake Sammamish Kokanee Work Group—an ad hoc partnership of local jurisdictions, government agencies, tribes, community groups, area residents, and kokanee advocates—has assembled a list of potential habitat projects that will be essential to recover the little red fish. Called *The Blueprint for the Restoration and Enhancement of Lake Sammamish Kokanee Tributaries*, the report contains descriptions and maps of science-based habitat projects that will directly benefit kokanee.

To see *The Blueprint*, visit [www.kingcounty.gov/kokane-habitat-blueprint](http://www.kingcounty.gov/kokane-habitat-blueprint)

For more information on the Lake Sammamish Kokanee Work Group, visit <http://www.kingcounty.gov/environment/animalsAndPlants/salmon-and-trout/kokane/kokane-workgroup.aspx>.

Or contact David St. John, Lake Sammamish Kokanee Work Group at 206-477-4517 or [david.st.john@kingcounty.gov](mailto:david.st.john@kingcounty.gov).



Photo credits: Ned Ahrens, Glenn Anderson, Bill Priest, Roger Tabor, and King County staff.

File name: 1409\_4333m\_KokaneBlueprintHandout.ai





▲ Assessment ● Culvert replacement/modification ■ Stream restoration ● Supplementation/reintroduction

Name of Project		Description
<b>EBRIGHT CREEK- Category One Stream (primary spawning streams)</b>		
1	Lower Reach Stream Enhancement	Reduce bank armoring and flow velocity between parkway and lake.
2	Lower Reach Habitat Protection	Expand lower reach enhancements to protect kokanee habitat.
3	Culvert Replacement at East Lake Sammamish Trail	Replace culvert to improve fish passage and sediment transport.
4	Culvert Replacement at East Lake Sammamish Parkway	Replace culvert to improve fish passage and sediment transport.
5	Middle Reach Restoration	Enhance and restore spawning habitat upstream of parkway.
6	Driveway Bridge Replacement	Repair or replace driveway bridge for fish passage and sediment/wood transport.
7	Culvert Replacement at 12th Street	Replace culvert to modulate stream flow/velocity.
8	Upper Reach Habitat Protection	Protect spawning habitat and prevent or minimize direct impacts to kokanee eggs.
<b>LAUGHING JACOBS CREEK - Category One Stream</b>		
1	Assessment of Reroute Option	Evaluate feasibility of rerouting stream.
2	Lower Reach Restoration	Reroute channel or enhance current channel to improve spawning.
3	Assessment of Parkway Culvert	Evaluate hydraulics and fish passage of culvert under parkway.
4	Restoration in Hans Jensen Park	Install pool-forming structures and spawning gravel to enhance stream channel.
<b>LEWIS CREEK - Category One Stream</b>		
1	Lower Spawning Reach Restoration	Install a series of instream grade-control structures.
2	Upper Spawning Reach Restoration	Install a series of instream grade-control structures.
3	Protection of Riparian Corridor	Develop a landowner stewardship project to help protect the riparian corridor.
4	Trash Rack at I-90 Culvert	Replace or modify existing trash rack.
5	Upper Basin Hydrological Assessment	Assess upper basin to improve stormwater management.
<b>PINE LAKE CREEK - Category One Stream</b>		
1	Pine Lake Creek Basin Assessment/Plan	Assess watershed to identify limiting factors for kokanee.
2	Reach Restoration Downstream of Parkway	Restore or enhance kokanee staging and spawning habitat.
3	Culvert Replacement/Improvement at East Lake Sammamish Shore Lane SE	Replace or modify culvert to improve fish passage.
4	Culvert Replacement/Improvement at East Lake Sammamish Trail	Replace or modify culvert to improve fish passage.
5	Reach Restoration Upstream of Parkway	Restore or enhance kokanee spawning habitat.
6	Pine Lake Creek Reintroduction	Supplement or reintroduce kokanee into this creek system.
<b>ISSAQUAH CREEK - Category Two Stream (potential spawning – larger streams)</b>		
1	Pickering Reach Habitat Restoration	Improve habitat: remove riprap, add large woody debris, restore native vegetation.
2	Cybil-Madeleine Reach Restoration	Improve habitat: regrade banks, add large woody debris, create side-channel.
3	East Fork Issaquah Confluence Reach Restoration	Improve habitat: regrade banks, add large woody debris and gravel.
4	Issaquah Creek Reintroduction	Supplement or reintroduce kokanee into this creek system.
<b>TIBBETTS CREEK- Category Two Stream</b>		
1	Water Quality Monitoring and Assessment	Continue water quality sampling.
2	NW Poplar Way Stream Restoration	Restore stream channel with large woody debris, pools, riffles.
<b>GEORGE DAVIS CREEK - Category Three Stream (potential spawning – smaller streams)</b>		
1	Habitat Assessment	Assess habitat conditions to determine potential for kokanee use.
<b>IDYLYWOOD CREEK - Category Three Stream</b>		
1	Enhancement of the Idylwood Beach Park Reach	Add gravel to the stream to improve spawning success.
<b>VASA CREEK - Category Three Stream</b>		
1	Hydrologic and Habitat Assessment	Assess hydrologic and habitat conditions for potential kokanee use.
<b>ZACCUSE CREEK - Category Three Stream</b>		
1	Culvert Replacement at East Lake Sammamish Shore Lane	Replace culvert to improve fish passage and natural sediment transport.
2	Culvert Replacement at East Lake Sammamish Trail	Replace culvert to restore fish passage at all flows and natural sediment transport.
3	Culvert Replacement at East Lake Sammamish Parkway	Replace culvert to restore fish passage and natural sediment transport.
4	Channel Reconstruction Through Wetland	Restore channel through forested wetland.
5	Zaccuse Creek Reintroduction	Supplement or reintroduce kokanee into this creek system.

Habitat projects that support recovery of Lake Sammamish kokanee. NOTE: Project numbers indicate location from downstream to upstream, NOT priority or schedule.

— Category 1 Stream — Category 2 Stream — Category 3 Stream — Category 4 Stream



Locations of Lake Sammamish tributaries assessed for potential restoration/enhancement projects to benefit kokanee salmon.

