

Background

The southern resident killer whale population lives as north as far Vancouver BC and travels as far south as Monterey Bay, California. The species was listed as endangered in 2005, as of spring 2024, there are less than seventy-five living southern resident orcas. The declining population of the southern residents results from several factors, low prey availability, pollution, and vessel noise. By understanding these threats to the survival of this orca population, communities can take steps toward replenishing their numbers. 80% of the southern resident's diet consists of chinook salmon. With limited access to their major prey source, the health of southern residents is impacted. The lack of prey these whales face has made them susceptible to malnutrition and infertility.

Whale Scout is an organization that focuses on protecting Pacific Northwest whales through land-based conservation experiences. The organization restores salmon habitat in King and Snohomish County through educational events, planting of native plants, and invasive species removal. Repairing riparian zones helps to provide better conditions for salmon spawning and migration. With an increase in salmon populations, it is expected that the health concerns limiting population growth of the whale population will decrease.

Through my work with Whale Scout, I engaged with the local communities and contributed to riparian restoration along the Sammamish River. Promoting the growth of the southern resident killer whale population is an ongoing project. Through continuous work on restoration and community engagement, we are expected to increase prey availability for southern resident orcas and support their growth.

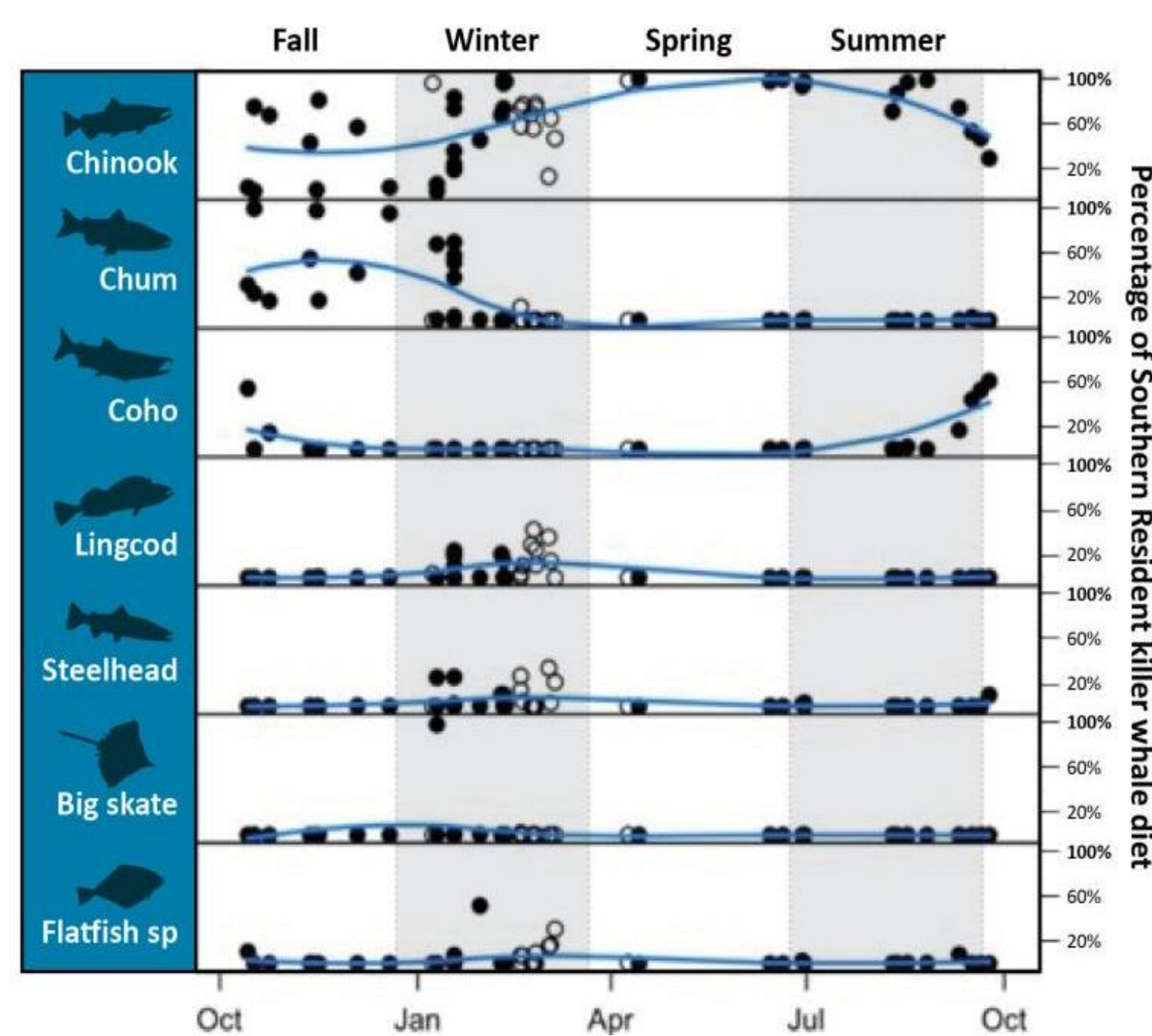


Figure 1. Southern Resident Diet (Percentage of Southern Resident Killer Whale Diet, 2021.)



Figure 2. Princess Angeline *Named after Chief Seattle's Daughter (J17-Peanut-Head-Progression)

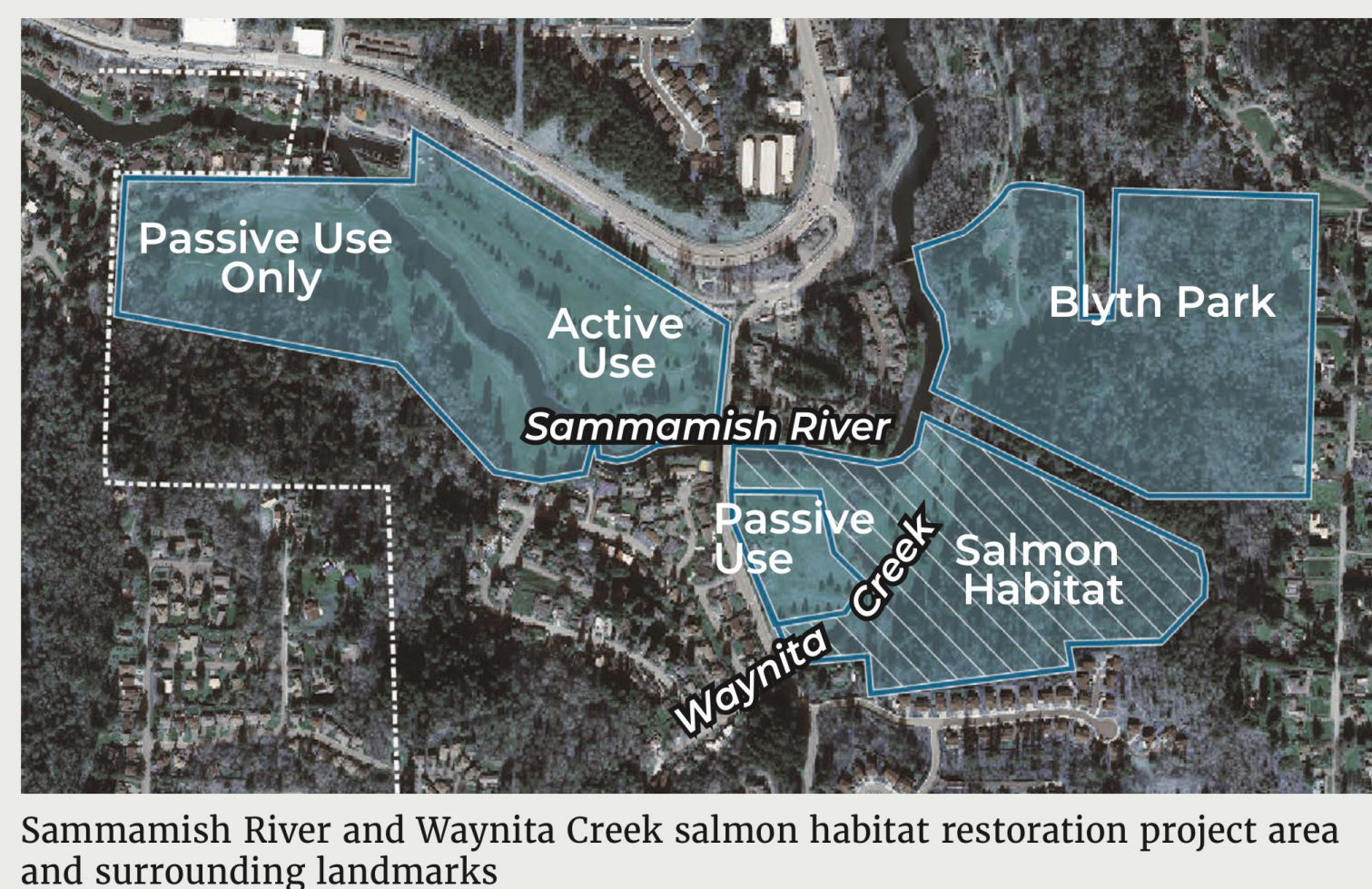


Figure 3. Restoration Site (Sammamish River and Waynita Creek Restoration Project, 2023: 1)

Methods

Riparian Restoration

Riparian zones - areas/stretches of land that run along the edges of major water sources.

Riparian restoration of riparian zones creates an increase in inland to ocean pathways for salmon migration. Reintroducing native plants work to maintain cooler water temperatures through overture and promotes water quality.

Hatcheries

Hatchery - egg spawning under artificial conditions.

Hatcheries increase the adult salmon population and oppose the work of fisheries.

Community Engagement

Understanding the status of Southern Resident orcas is pivotal to addressing the current issues that orcas face. By informing individuals of the state of resident orcas and engaging neighboring communities it is presumed that the support for Southern Residents will increase.

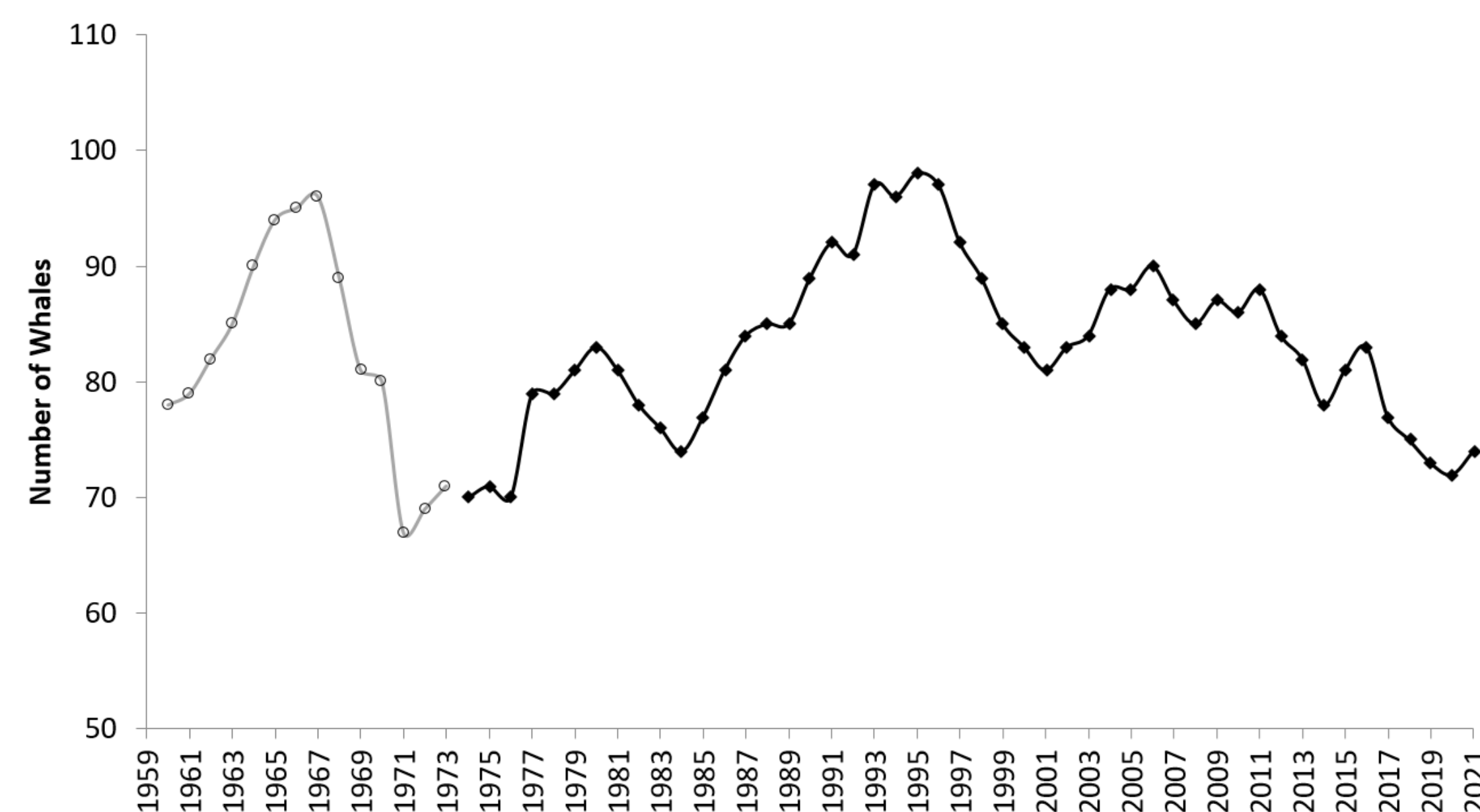


Figure 4. Southern Resident Population (Southern Resident Killer Whale Population, 1960-2021, 2023)

Why Salmon?

The deteriorating health of the Southern Residents is suspected to be the result of....

Lack of prey – a decrease in size, population, and accessibility of salmon contributes to the malnutrition and declined birth rates of the Southern Resident.

Contaminants – organic pollutants travel through food and the environment (PCB, pesticides, etc.) and poison Southern Residents, deteriorating their health and access to 'critical habitat'.

Vessel Noise – interferes with echolocation, navigation, and hunting. Because of its interference, vessel noise limits the range of areas that orcas can travel to access food.

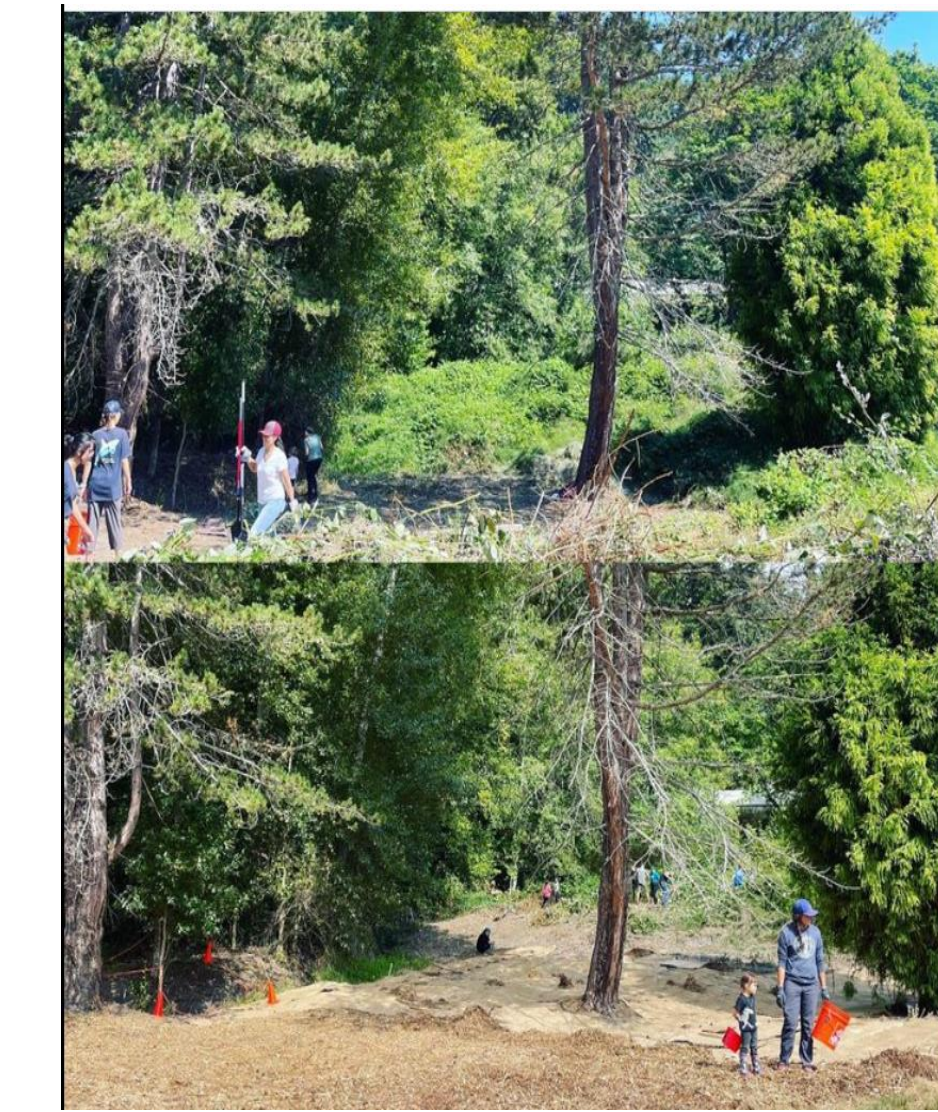


Image 1. Volunteer Event Whale Scout, @whalescout Sep. 19 2023



Image 2. Blackberry Removal Site Whale Scout, @whalescout Jul. 16 2023



Image 3. Plant Site.

Current Goals and Further Development

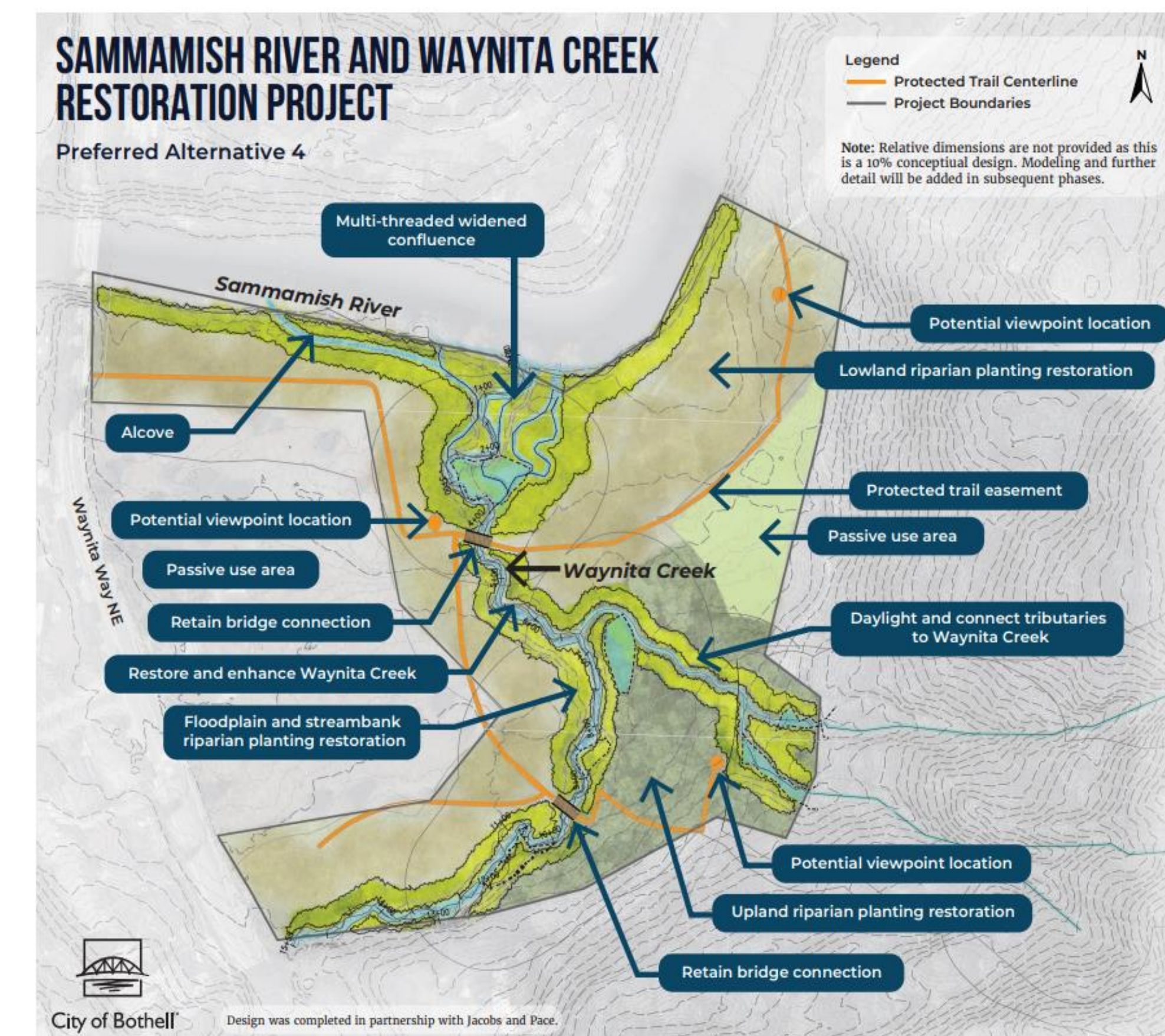


Figure 5. Preferred Alternative 4 (Sammamish River and Waynita Creek Restoration Project, 2023: 2)

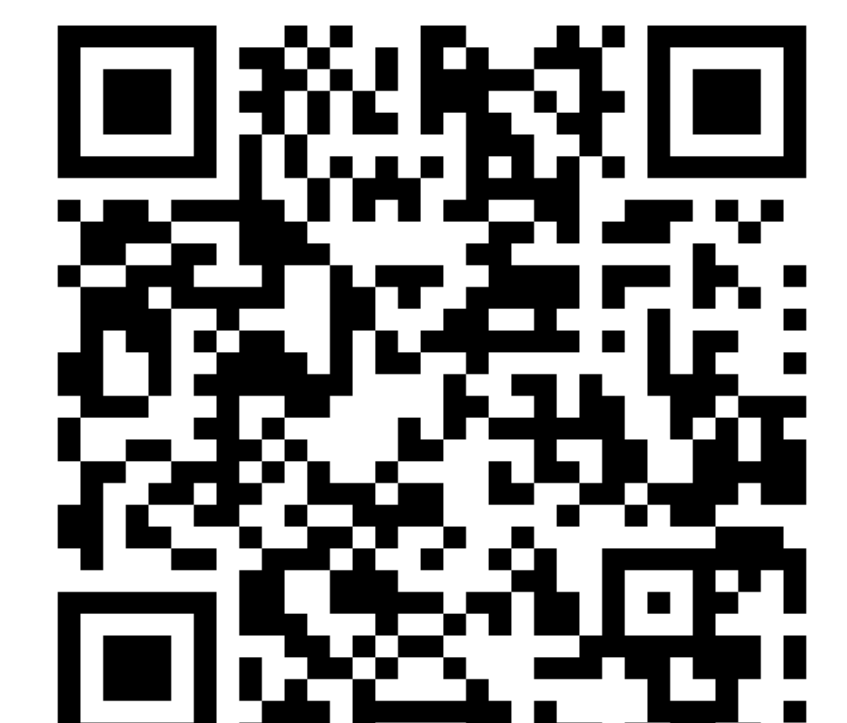
Key Features of Preferred Alternative 4:

- Alcove channels/tributary streams
- Riparian zones receive native plants
- Waynita Creek Restoration

Current Projects/More info:



Killer Whale Conservation Program



Southern Resident Orcas and Salmon

Acknowledgments

Thank you to Whitney Neugebauer and Whale Scout for the new experiences and lasting memories. Thank you to Dr. Kim for all the feedback and support.

References

