

KEY GOAL: ENVIRONMENTAL RESTORATION

SITE FILTER: ENVIRONMENTAL RESTORATION TARGETS AT WILLAMETTE FALLS

A. Riparian Habitat

1. Key Elements

- A mix of native trees and shrubs, typically adapted to seasonal flooding such as: Oregon ash, cottonwood, red alder, red-osier dogwood, red elderberry as well as sedges, rushes and ferns.
- Rocky outcrops including basalt outcrops and bluffs which provide unique habitat for insects, amphibians, and rare plants.

2. Desired Outcomes

- Restore native trees and shrubs along a 50-150 buffer along the Willamette River.
- Protect and restore rocky outcrops by removing buildings and structures.
- Provide important habitat for migratory birds and other wildlife species.
- Improve water quality through filtration, stormwater attenuation, and woody debris and leaf litter inputs into the river. (Tied to C – Water Quality).

3. Key Images

- Yellow Warbler and Great Blue Heron
- Intact or restored riparian forest (from Willamette Narrows?)

4. Links to other Key Goals for Blue Heron Partnership

- Public Access >>Protection of rocky outcrops and riparian areas provide scenic views for the public. Restoring native vegetation will provide a natural feeling to portions of the highly developed site and increase wildlife watching opportunities.
- Cultural and Historic Interpretation>>Protection of rocky outcrops are likely to be areas of significant cultural importance to the tribes.

B. Native Fish Habitat

1. Key Elements

- River shoreline that provides a mixture of habitat elements important for native fish. The Willamette Falls area is the gateway for all migratory fish.

2. Desired Outcomes

- Restore shoreline habitat complexity, including alcoves and inlets for cool water refugia and off-channel habitat during periods of high river flow.
- Provide important resting and movement habitat for anadromous fish species.

3. Key Images

- Salmon jumping falls.

- Log placement on shoreline or alcove area.

4. Links to other Key Goals for Blue Heron Partnership

- Cultural and Historic Interpretation>>Salmon fishing and lamprey harvest are culturally important to the tribes.
- Access >>Interpreting salmon and lamprey life cycles (and possibly historic harvest) are likely to be key parts of any interpretation program at the site.
- Economic Development>>Restoration jobs could provide additional jobs and revenue for the community.

C. Water Quality

1. Key Elements

- Springs and seeps that provide cold water input to the Willamette River.
- The 54 CFS water right that could be returned to in stream flows for WQ and fish habitat benefits.
- Surface water (primarily treated stormwater) that could provide additional flows through historic side channels and alcoves at the site.
- Healthy water quality (clean and cool water) that is important to native fish and other wildlife that use the site.

2. Desired Outcomes

- Improve water temperature and chemistry above existing conditions at the site.

3. Key Images

- Spring from the site
- Day lighted stream or channel (Johnson Creek as it went under the parking garage?)

4. Links to other Key Goals for Blue Heron Partnership

- Cultural and historic interpretation>>Interpretative signage can describe the water quality improvements at the site.

More on Environmental Restoration Targets

These environmental restoration targets represent the most regionally rare and threatened major habitat types present at the site, and emphasize the importance of improving water quality at the site. They are designed to capture the site's potential array of native biodiversity and reflect local and regional conservation goals.

Riparian habitat. Riparian habitats are defined as a conservation priority in the Oregon Conservation Strategy, Willamette Valley-Puget Trough Ecoregional Assessment, Willamette Subbasin Plan, and Partners in Flight *Conservation strategy for landbirds in lowlands and valleys of western Oregon and Washington*. Rocky outcrops (balds and bluffs) are a habitat feature along

the Willamette River, and are listed as a specialized and local habitat for the Willamette Valley ecoregion in the Oregon Conservation Strategy. These habitats are critical for many species including red-legged frogs, salamanders, herons, migratory songbirds, water voles, weasels, native turtles and pollinators.

Native fish. Pacific Lamprey, steelhead and salmon species are important for cultural and subsistence purposes. In the vicinity of Willamette Falls, a large variety of native fish species occur including at least six federally listed threatened, endangered, or sensitive species. Anadromous fish present in the Willamette River include: spring and fall run Chinook salmon (*Oncorhynchus tshawytscha*), summer and winter steelhead (*O. mykiss*), coastal cutthroat trout (*O. clarkia*), Coho salmon (*O. kisutch*), white sturgeon (*Acipenser transmontanus*), Pacific lamprey (*Entosphenus tridentatus*), and bull trout (*Salvelinus confluentus*). These fish are listed as conservation priorities in numerous state and multistate conservation plans, including Oregon Department of Fish and Wildlife's *Lower Columbia River Conservation & Recovery Plan for Oregon Populations of Salmon & Steelhead* and the Northwest Power Planning Council's *Willamette Subbasin Plan*, and are also addressed in The Intertwine's *Regional Conservation Strategy*.

Water quality. The Willamette River is on the Clean Water Act 303 (d) list for violations of water quality standards including temperature, bacteria, and mercury. Urban runoff pollutes the river, as do localized pollution issues, including many properties along the river with contaminated soils from past and present industry. The Willamette River's water quality declined significantly but has recently improved somewhat through expensive but effective efforts. Addressing water quality under redevelopment is a vital part of the strategy to restore the Willamette River.