

ZIDELL WATERFRONT REMEDIATION PROJECT AND SALMON RECOVERY PLANNING

The ZRZ Realty Company (Zidell) Waterfront Remedial Action Project is designed to protect human health and the environment by remediating contamination in the river and on the land resulting from past land-use practices on and near the site. In addition to remediating contamination, the Zidell team has made conscious efforts to incorporate improvements to fish and wildlife habitat into the project design. One goal of the project is to avoid harm to fish species listed as “threatened” under the Endangered Species Act (ESA), and to provide an adequate potential for recovery of these fish species by improving migratory and rearing habitat at the site.

Documents prepared for Lower Columbia River Endangered Species Act listed salmon and steelhead recovery planning were reviewed to determine the relationships between the proposed Zidell remedial action project and recovery strategies. These relationships are discussed below in reference to two key recovery planning documents.

The Northwest Power and Conservation Council’s Draft Willamette Subbasin Plan (WRI 2004) outlines the Council’s restoration and protection strategies for the Willamette River. The Zidell remediation project will meet all 8 strategies that are applicable to the project (Table 1), thus the project will help establish adequate potential for recovery of ESA-listed species.

A review was also conducted of the 2009 draft Lower Columbia River Conservation and Recovery Plan for Oregon Populations of Salmon and Steelhead (ODFW 2009). Relevant information for the Zidell project area is limiting factors and threats associated with land management, and corresponding strategies and actions.

The following **limiting factors** identified as having “led to the current status of Oregon Lower Columbia River (LCR) salmon and steelhead” seem relevant to the Zidell project area ((1) = key concern; (2) = secondary concern; the lower Willamette River is considered part of the estuary):

- Oregon LCR Coho, Oregon Columbia River Chum, Oregon LCR Chinook, Oregon LCR steelhead
 - Food web – reduced macrodetrital inputs (1): reduced inputs of plant material from wetlands and other estuarine areas
 - Physical habitat quality/habitat access – reduced habitat quality/complexity, including connectivity to off-channel habitats (2): dredging, disposal of sand/gravel, wetland filling, instream and over-water structures, dikes and navigational structures have significantly altered estuary size/function, and reduced connectivity with peripheral wetland and side channel habitat

- Water quality – toxics from urban and industrial sources (2): toxic chemicals from urban and industrial practices reduce water quality in the estuary, including lower Willamette River

The Zidell Remedial Action Project addresses all of the above limiting factors.

The Strategies and Actions section of the Plan identifies priority locations where specific actions are needed (Chapter 7). Several principles are listed to guide recovery strategies; the principles relevant to the Zidell project are:

- Act to alleviate the impacts of threats to the viability of LCR salmon and steelhead populations throughout their entire life cycle
- Restore ecosystems that have been degraded
- Prevent further degradation
- Act as quickly as possible to achieve the goals of this recovery plan.

The Zidell Remedial Action Project is consistent with the above principles.

Fourteen recovery strategies are identified. The recovery strategies within the Landuse threat category relevant to the Zidell project are:

Strategy 1. Protect and conserve natural ecological processes that support the viability of wild salmon and steelhead populations and their life history strategies throughout their life cycle.

Strategy 3. Restore riparian condition and large woody debris (LWD) recruitment, and maintain unimpaired conditions.

Strategy 7. Restore impaired food web dynamics and function, and maintain unimpaired dynamics and function.

Strategy 8. Restore degraded water quality and maintain unimpaired water quality.

Strategy 10. Reduce the impacts of non-native plants and animals on wild salmon and steelhead populations and prevent the introduction of new non-native plants and animals.

The Zidell Remedial Action Project meets the intent of the above strategies.

Finally, the Plan presents priority actions for Lower Columbia River fish populations; the Clackamas salmon and steelhead populations are the focus for the Willamette River. Priority actions specific to the Clackamas fish “focus on protection and enhancement of estuarine and tributary habitat/riparian areas, implementation of hydroelectric relicensing projects and management of hatchery programs.”

The following strategies and actions are identified for “Willamette River;” a few others are included that are identified for specific locations on the Willamette River, none of which are in the Zidell project area, but that seem relevant to the Zidell project.

Limiting Factors: Impaired habitat complexity/diversity, including access to off-channel habitat; degraded water quality due to elevated water temperatures and toxins.

518: Protect intact riparian areas; restore riparian areas that are degraded.

520: Reduce the square footage of over-water structures in the estuary.

530: Remove invasive plants and plant native species (specific locations identified).

532: Improve or regrade/revegetate streambanks (specific locations identified).

Limiting Factor: Degraded water quality due to toxins and chemical pollutants.

540: Monitor the estuary for contaminants.

541: Maximize habitat benefits by restoration or mitigation.

The proposed Zidell remediation project will achieve the six priority actions for Lower Columbia River salmon and steelhead conservation and recovery listed above. The approximately 2,700 linear feet of shoreline will have non-native vegetation removed and native riparian vegetation planted throughout (Actions 518, 530); over 2,100 old pilings and attached stringers will be removed (Action 520); streambanks will be regraded to gentler slopes than existing (Action 532); and a total of 16.3 acres of contaminated river bank and sediment will be capped and monitored (Actions 540 and 541).

Citations:

ODFW. 2009. Lower Columbia River Conservation and Recovery Plan for Oregon Populations of Salmon and Steelhead. Draft. April 24, 2009.
http://www.dfw.state.or.us/fish/CRP/docs/lower-columbia/LCR_Plan_4-24-09_Stk_Plan_DRAFT.pdf (accessed November 20, 2009).

Willamette Restoration Initiative. 2004. Draft Willamette Subbasin Plan. Prepared for the Northwest Power and Conservation Council.
<ftp.nwppc.org/fw/subbasinplanning/willamette/plan/intro.pdf>

prepared for ZRZ Realty Company by NorthWest Ecosystem Services, Inc. January 2010

Table 1. Effects of the Proposed Zidell Remedial Action on Northwest Power and Conservation Council Restoration and Recovery Strategies for the Willamette River Basin

Restoration Strategy	Effect of Zidell Proposed Action			Description of Effect
	Meets Strategy	Does Not Meet Strategy	Not Applicable	
Restore normative seasonal patterns in flow			•	n/a
Identify sites along the river where bank hardening structures can be removed, the banks can be pulled back and bank slopes can be lowered to increase the amount of shallow water habitat	•			Decrease slopes in project area, plant vegetation starting at 8 to 15 feet City of Portland datum (COP) that will be seasonally submerged; increase area of shallow water habitat
Identify vacant or unused lands within the floodplain that can be excavated or otherwise restructured to provide off-channel habitat			•	The Zidell property is valuable land within the North Macadam Urban Renewal – South Waterfront District. ZRZ has worked with some parties that have an interest in reclaiming floodplain at the site; however, major excavation of contaminated site fill would have high ecological risk and costs.
Daylight at least the confluence (if not the entire piped section) of the piped tributaries (e.g., Saltzman Creek, Doane Creek) to create high quality tributary confluence habitat			•	n/a
Remove impervious surfaces, remediate soil contamination, remove any remaining structures, recontour topography to allow seasonal submergence, remove invasive plants and plant native floodplain vegetation	•			Decrease slopes in project area, remove invasive non-native blackberry, butterfly bush, and Japanese knotweed, and plant over 15,000 native trees and shrubs starting at elevation 8 to 15 feet COP that will be seasonally submerged; increase area of shallow water habitat; remediate contaminants in bank and sediment; implement source control to prevent recontamination
Protect high quality riparian, floodplain and wetland habitats through property acquisition and conservation easements			•	n/a, existing riparian habitat on the riverbank is not high quality; no wetlands on site; no active floodplain on site (elevation of some of the site is just below the 100-year flood elevation)
Remove relict anthropogenic structures along the banks and in the floodplain	•			Remove 2,160 treated wood pilings, 2 derelict ship bows, and a large amount of shoreline industrial debris
Add large wood in the form of rootwads, log jams, single key pieces, and dynamic wood clusters	•			plant vegetation starting at 8 to 15 feet COP that will be seasonally submerged and create potential for woody debris recruitment
Develop City policy to retain existing wood in and along the river			•	n/a, what little wood exists is in a highly contaminated area; however, the site is expected to accumulate wood from upstream
Increase the density of woody vegetation in riparian and floodplain areas to provide long-term source material	•			plant vegetation starting at 8 to 15 feet COP that will be seasonally submerged and create potential for woody debris recruitment
Enforce City land use protection codes that impact riparian and floodplain areas			•	n/a
Implement the source identification and control strategies identified through Portland Harbor Superfund efforts	•			remediate contaminants in bank and sediment; implement source control to prevent recontamination
Remediate sediment hot spots presenting significant ecological risks according to strategies identified through the Portland Harbor Sediment	•			remediate contaminants in bank and sediment; implement source control to prevent recontamination

Management Plan. Continue existing efforts in site discovery, remedial actions/feasibility studies, and remedial actions			
Implement TMDL provision to or reduce localized and system-wide sediment and toxic chemical sources		•	n/a
Implement City's Stormwater Management Manual and Stormwater Program Best Management Practices	•		Project will meet City stormwater standards
Implement CSO control strategies to reduce combined sewer overflows to the river		•	n/a

Note: All restoration and recovery strategies from WRI 2004.