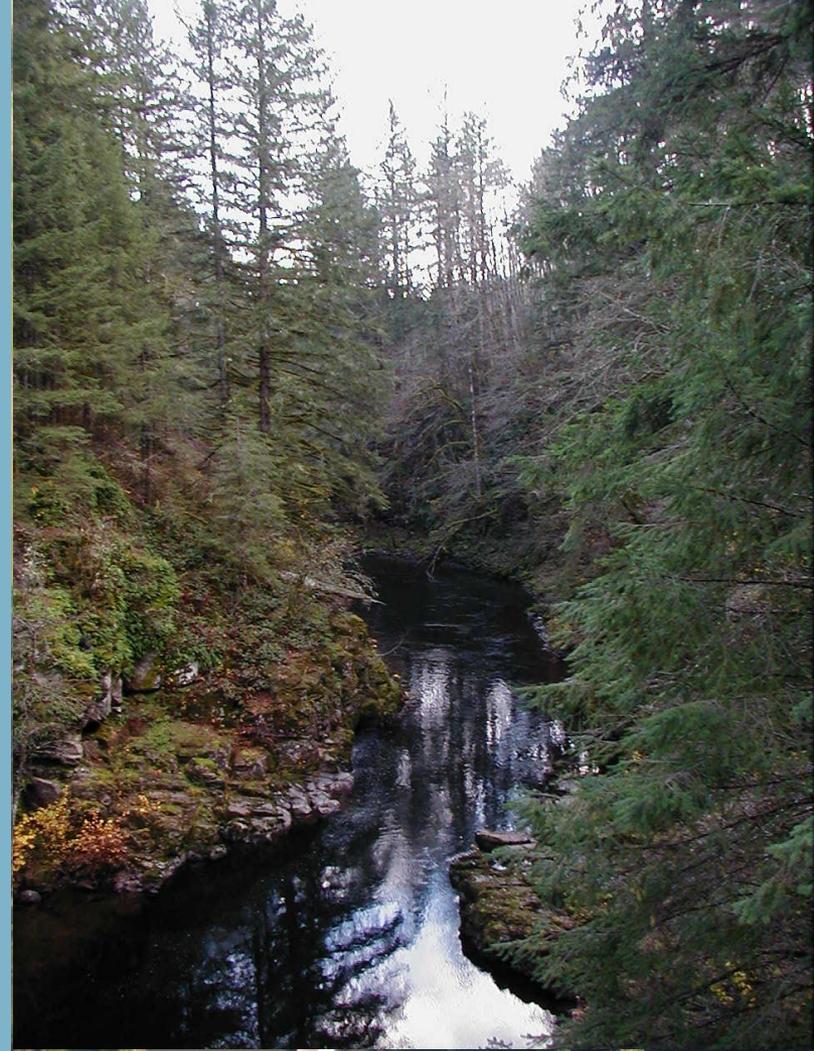


Monitoring Clark County's and Camas' Shoreline Master Program

**Critical Areas Monitoring &
Adaptive Management
Workshop**



Southwest Planners Forum April 11, 2018

No Net Loss

- Post-development functions at least equal to pre-development functions
 - Regulate uses
 - Avoid development impacts
 - Mitigate unavoidable impacts
 - Consider cumulative effects of development
- Develop plans to restore ecological functions



GMA and SMA

- Shoreline management is 14th goal of GMA
- SMP regulates critical areas in shoreline jurisdiction
- Shoreline regulations must protect at least as well as critical areas regulations



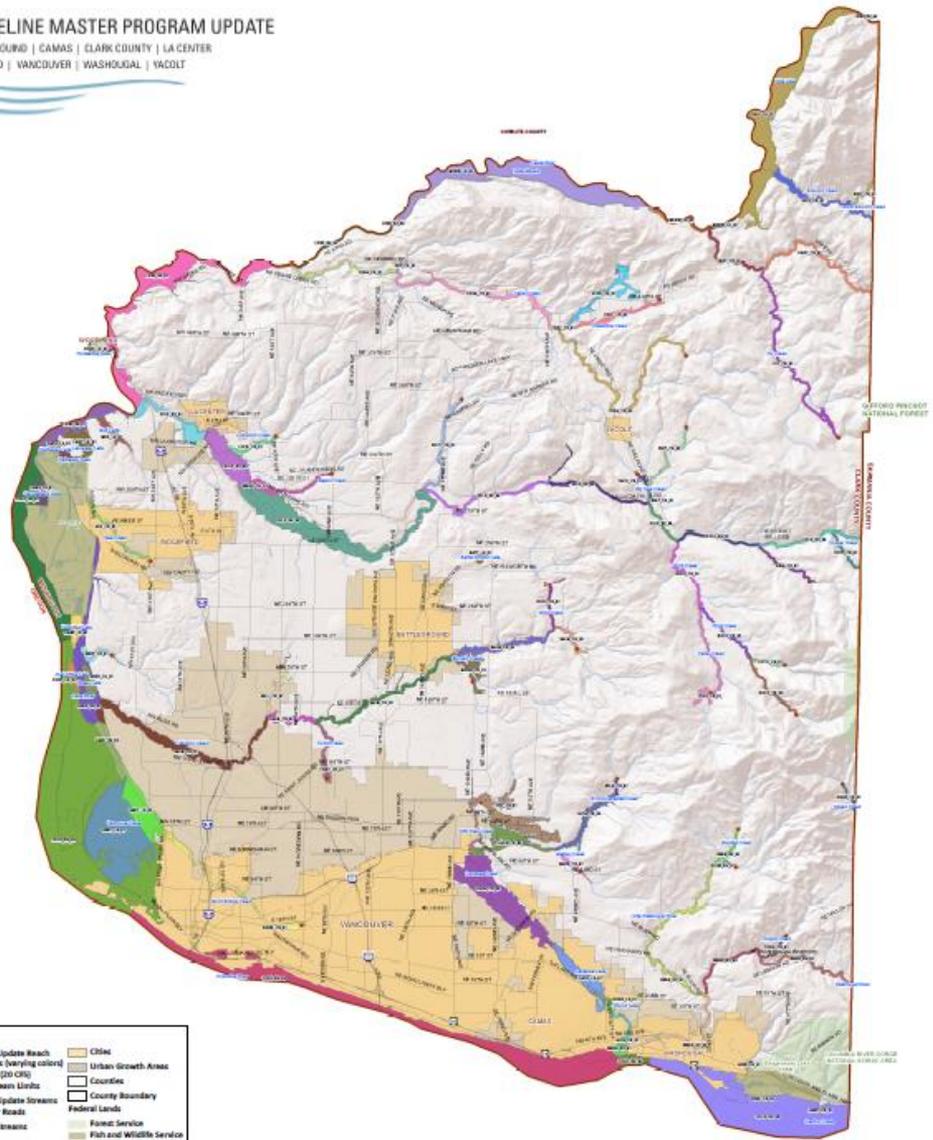
2012 SMP Update

- Ecology

- Grant agreement with the City of Vancouver
- Partnership with all cities in Clark County
- Update goal is to review shorelines without jurisdictional boundaries.

SHORELINE MASTER PROGRAM UPDATE

BATTLE GROUND | CAMAS | CLARK COUNTY | LA CENTER
 RIDGEFIELD | VANCOUVER | WASHOUGAL | YACOLT



Legend

SMUP Update Reach Breaks (varying colors)	City
USGS (2D CPG)	Urban Growth Area
SMUP Update Stream	County
Major Roads	County Boundary
DNR Stream	Federal Lands
	Forest Service
	Fish and Wildlife Service

The colors chosen for the reach breaks were selected and only intended to help visually distinguish between reaches.

- Aquatic
- Natural
- Urban Conservancy
- Medium Intensity
- High Intensity
- Rural Conservancy Residential
- Rural Conservancy Resource Land

	<p>SMA Grant Agreement No. G1300058</p> <p>Coordinate System: State Plane NAD83 (8) Washington South FIPS 4602</p> <p><small>NCTD: Map data shown here are the property of the various listed entities. Users should verify the accuracy or guarantee regarding any aspect of data acquisition.</small></p>		<p>Map 25 SMP UPDATE REACH BREAKS</p> <p><small>Data Sources: Clark County, 2009; FEMA, 2006; DNR, 2003; Department of Ecology, 2006; CSR, 2008</small></p>
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Critical Areas

1. Clark County adopted Critical Area Ordinances by reference into SMP.
2. Camas adopted Critical Area Ordinances within SMP (not by reference) and Restoration Plan as “Appendix D”

CLARK COUNTY COALITION SMP UPDATE

BATTLE GROUND | CAMAS | CLARK COUNTY | LA CENTER
RIDGEFIELD | VANCOUVER | WASHOUGAL | YACOLT



MONITORING AND ADAPTIVE MANAGEMENT FRAMEWORK

June 2012
City of Vancouver
Grant No. G1000058

CLARK COUNTY COALITION SMP UPDATE
BATTLE GROUND | CAMAS | CLARK COUNTY | LA CENTER
RIDGEFIELD | VANCOUVER | WASHOUGAL | YACOLT



MONITORING AND ADAPTIVE MANAGEMENT
FRAMEWORK

June 2012
City of Vancouver
Grant No. G1000058

Monitoring components

- Permit data collection
- Bi-annual data consolidation & review
- Mid-SMP Cycle Consolidation & review
- Required 8-year SMP Update

Clark County Permit Tracking Matrices

Started with 12 columns:

Permit No.,
Type,
Shoreline Waterbody
Shoreline Designation,
Parcel #,
General Description,
In-over-water structure,
shoreline stabilization,
Fill,
Clearing/Grading,
Impervious Surface,
Mitigation

Clark County Coalition

Table A-1. Clark County Coalition SMP Monitoring Program - City

	Permit No.	Type (SSDP, CU, Var)	Shoreline Waterbody	Shoreline Designatn	Assessor Parcel No.	General Description (attach map)	In-Over-water (Dock/Float: Piles: no.)
A							
B							
C							
D							
E							
F							
G							
H							
I							
J							
K							
L							
..							

Permit Tracking

2014 Exemption Tracking											
Permit No.	Building Permit No.	Type (SSDP, CU, Var)	Shoreline Waterbody	Shoreline Designation	General Description (attach map)	In-water (Dock/Float:sq.ft; Piles: no.)	Over-water (Dock/Float:sq.ft; Piles: no.)	Shoreline Stabilztn (Bulkhead/RipRap/Soft: lin.ft)	Permanent Fill within 100 yr. fldpln sq.ft.	Permanent fill in streams below OHWM	Permanent Fill in Wetland above OHWM:sq.ft
SHL2016-00011	MSC2016-00241	SHL/EXEMPT	ROCK CREEK	Rural Conservancy Residential	87B03530	N/A	N/A	N/A	N/A	N/A	N/A

- Added Building Permit #
- Separated in-water and over-water structures
- Expanded Fill

Permit Tracking

Permanent habitat impact above OHWM	Permanent habitat impact below OHWM	Clearing below OHWM in sq.ft.	Grading sq ft	ImpervSurface (sq.ft.)
N/A	N/A	N/A	N/A	N/A

- Expanded to include habitat

Permit Tracking

Mitigation On-site: sq./lin.ft.	Mitigation Off-site parcel number	Mitigation Off-site sq. ft.
N/A	N/A	N/A

- Expanded Mitigation to include on-site and off-site

Bi-annual and Mid-SMP Cycle Countywide Characterization

Clark County Coalition SMP Update – Shoreline Monitoring & Adaptive Management Framework
Grant No. G100058

Reach	Watershed Characterization (Ecology)	Integrated Watershed Assessment (IWA)	EDT Model Tier	CMZ, Hazards, Critical Aquifers	Associated Wetlands	Water Quality Assessment	Priority Habitat and Species Data	Riparian Habitat Quality	Modifications	Existing Uses in Shoreline Planning Areas	Land Cover	Ecological functions
Waterbody: Lower Columbia River												
COLU_RV_01 (1,678 ac)	Priority Protection and Restoration Management Zone – Important area for discharge, storage and nitrogen removal processes. Processes are relatively intact and restoration has a high level of success. Mid-SMP update cycle review:	n/a	Tier 4 Lake River and tidal section of E Fork Lewis River Mid-SMP update cycle review:	Area flooded in 1996 Flood. Flood hazard, no critical aquifer	399 acres; (75% High Quality) Mid-SMP update cycle review:	Impaired temperature, dissolved oxygen, fecal coliform Impaired by Invasive Exotic Species Mid-SMP update cycle review:	m.r – all anadromous salmonid species; eulachon, white sturgeon, green sturgeon, mountain whitefish and coastal cutthroat trout. Waterfowl concentrations: great blue heron. Multiple nest sites – bald eagle and osprey Mid-SMP update cycle review:	Forested zone varies from non-existent to 200 feet or wider. Ranges from degraded to moderate quality. High quality riparian on northern half of Bachelor Island Mid-SMP update cycle review:	1 mapped dock/pier Dredging Mid-SMP update cycle review:	SF – Residential; 100%	0% Developed 4% Agricultural pastures 11% Beach shore and sand 37% Marsh or swamp 48% Floodplain and riparian Mid-SMP update cycle review:	Hydrologic: High Riparian: Moderate Hyporheic: Moderate Habitat: High Tidal influence, major migratory route for salmonids, high quality wetlands, multiple PHS, and next to Ridgefield National

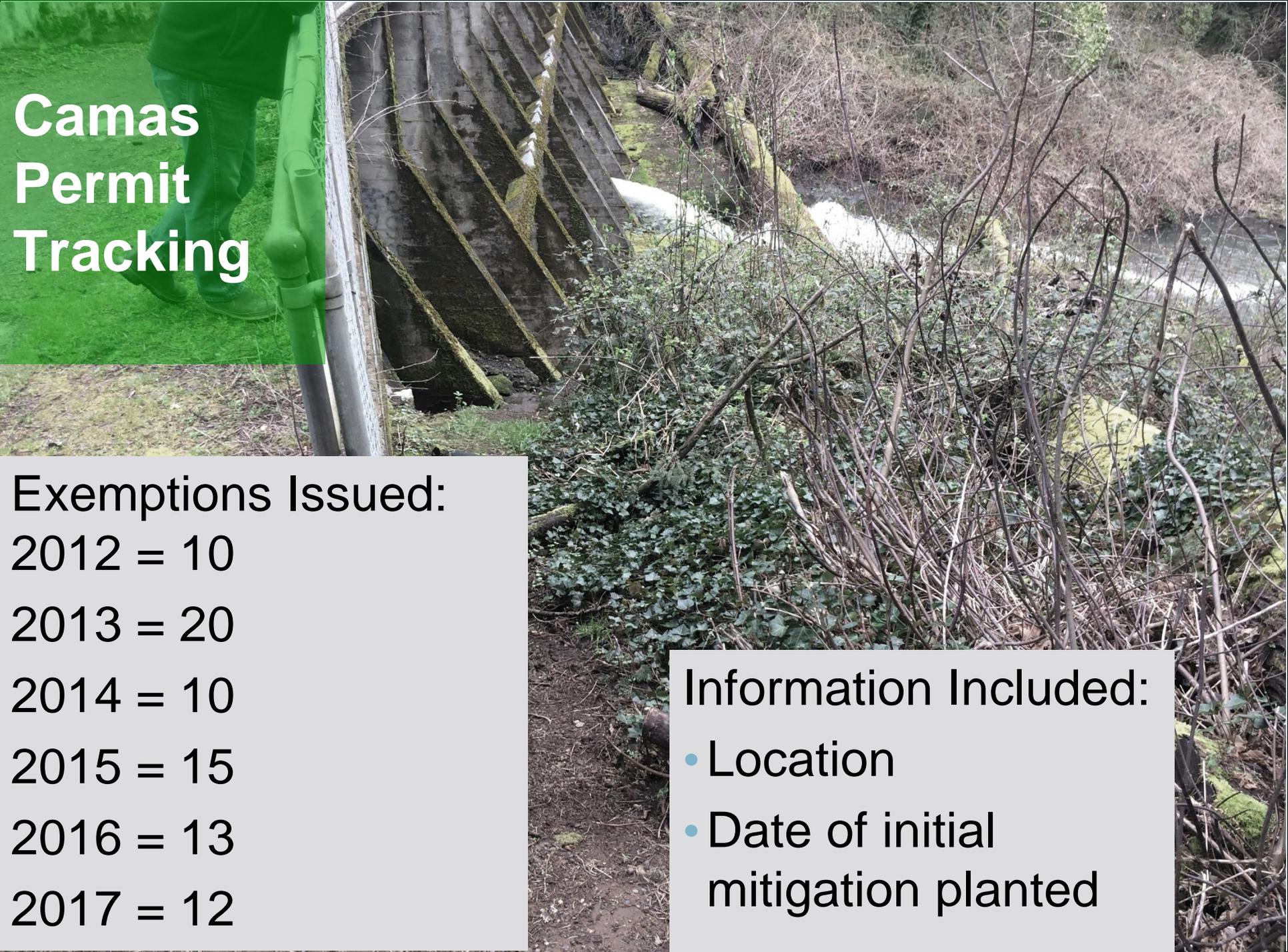
- 13 columns
- **Includes:** Reach, Watershed, Characterization, EDT Model Tier, CMZ Hazards, CARA, Habitat Quality, Existing Uses, Ecological Functions

Shoreline Functions Assessment

WRIA 28 Draft Current and Future Performance of Shoreline Ecological Functions

The following table describes the existing performance of shoreline ecological functions along Clark County shorelines as described in the Shoreline Inventory and Characterization Report (ESA Adolfson, 2010). Regulations from the Clark County Coalition Draft SMP (June 2011) that protect ecological functions are identified along with programmatic opportunities from the Draft Restoration Plan (ESA Adolfson, 2011). The future performance is then assessed based on the type and amount of expected development (foreseeable development) in the shoreline, the level of protection the proposed SMP regulations provide, and restoration opportunities. Specific opportunities for restoration are outlined in the Restoration Plan. Current performance of shoreline ecological functions are ranked "low", "moderate", and "high" depending on the level of alteration along the shoreline. Future performance is ranked "No Loss" and "Potential for Loss" depending on the expected changes from existing conditions over the next twenty years. **TO BE UPDATED**

Waterbodies and Shoreline Designations	2010 Conditions <i>Shoreline Inventory and Characterization Report - ESA Adolfson, June 2010</i>	2010 Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, June 2010</i>	Foreseeable Development	Development and Restoration Activities - 2014	Development and Restoration Activities - 2016	Development and Restoration Activities - 2018	Performance Category per Framework <i>(no change, area of concern, area of impairment, area of improvement)</i>
Columbia River							
Natural	<p>Reach 1: Tier 4, tidal influence; flood hazard; wetlands; water quality impaired for temperature, dissolved oxygen, fecal coliform and invasive exotic species; waterfowl concentrations, great blue heron, multiple nest sites for bald eagle and osprey; forested riparian zone varies from non-existent to 200 feet or wider, high quality riparian on northern half of Bachelor Island; dredging.</p> <p>Reach 3: Tier 1; tidal; wetlands; impaired water quality for temperature and dissolved oxygen and dioxin; forested riparian zone with some cleared areas; Marine Park.</p> <p>Reach 5: Wetlands; flood hazards; impaired water quality for temperature and dioxin; waterfowl concentrations, purple martin and wood duck nesting sites; developed areas with impervious surfaces; conversion to industrial lands.</p> <p>Mid-SMP update cycle review:</p> <p>[THIS IS WHERE THE CHANGES DOCUMENTED IN THE ICR TABLE WOULD BE TRANSFERRED OVER]</p>	<p>Reach 1: High hydrology and habitat; moderate riparian and hyporheic</p> <p>Reach 3: High hydrology; moderate riparian, hyporheic and habitat.</p> <p>Reach 5: High hydrology and habitat; Moderate hyporheic; Low riparian.</p> <p>Mid-SMP update cycle review:</p> <p>[THIS IS WHERE THE CHANGES DOCUMENTED IN THE ICR TABLE WOULD BE TRANSFERRED OVER]</p>	<p>Vacant Residential: 184 ac (17%) 3 potential residential units</p> <p>Under Public ownership: 624ac (59%)</p> <p>Exempt lands: 238ac (22%)</p>	<p>Number and type of shoreline permits;</p> <p>Number and type of enforcement actions;</p> <p>Number and type of restoration activities;</p> <p>Amount of property under enforcement action or permit activity (in acres and number of parcels);</p>	<p>Number and type of shoreline permits;</p> <p>Number and type of enforcement actions;</p> <p>Number and type of restoration activities;</p> <p>Amount of property under enforcement action or permit activity (in acres and number of parcels);</p>	<p>Number and type of shoreline permits;</p> <p>Number and type of enforcement actions;</p> <p>Number and type of restoration activities;</p> <p>Amount of property under enforcement action or permit activity (in acres and number of parcels);</p>	<p>Mid-SMP Update Cycle Review:</p> <p>2020 Required 8-Year SMP Update;</p>
Natural	<div style="background-color: #ADD8E6; padding: 20px; border: 1px solid black;"> <ul style="list-style-type: none"> • 8 columns • Summary of 2010 Condition • Last three columns summarize development that occurred in each reach every two years </div>						



Camas Permit Tracking

Exemptions Issued:

2012 = 10

2013 = 20

2014 = 10

2015 = 15

2016 = 13

2017 = 12

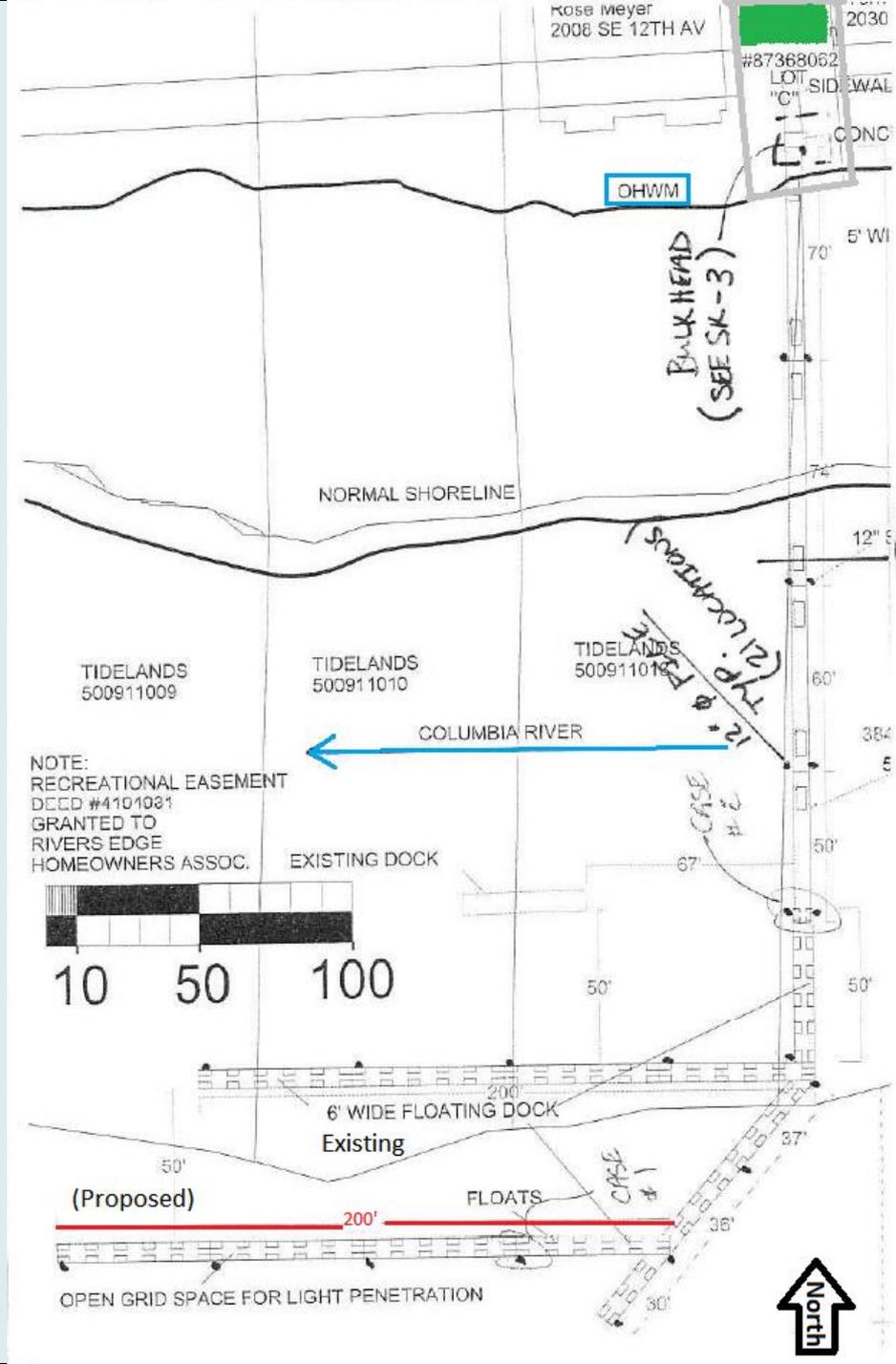
Information Included:

- Location
- Date of initial mitigation planted

Camas Permit Tracking

Substantial Development Permits Issued:

- 2012 = 2
- 2013 = 2
- 2014 = 6
- 2015 = 5
- 2016 = 4
- 2017 = 4

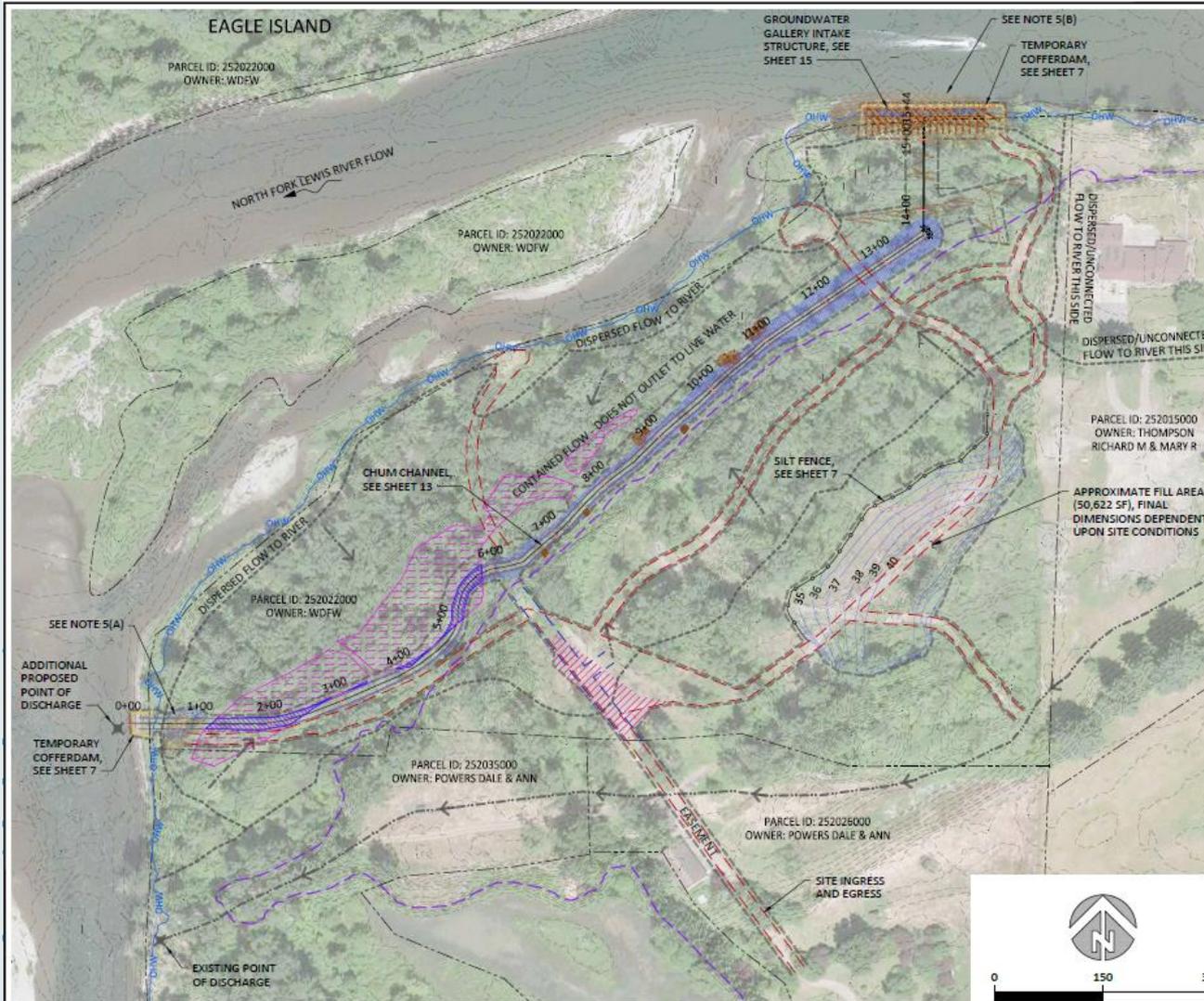


Challenges with Monitoring



- Current Staffing
- Monitoring not a focus during SMP adoption
- No standard process in place

Challenges with Monitoring



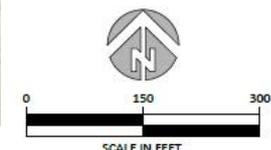
SITE PLAN

NOTES:

- EXISTING FLOW PATHS WILL NOT BE ALTERED BY PROJECT. EXISTING AND PROPOSED WILL BE THE SAME EXCEPT FOR EXISTING CAPTURED FLOWS. DURING CONSTRUCTION, THEY WILL BE TREATED IN THE AREA AND RELEASED TO THE RIVER. FOLLOWING CONSTRUCTION, CONTAINED FLOW WILL FREELY DRAIN TO THE RIVER.
- TEMPORARY ROADS WILL BE ABANDONED FOLLOWING CONSTRUCTION. TEMPORARY ROAD FILL PLACEMENT: A MAXIMUM OF 2,000 LF OF 10-12' WIDE ROAD MAY BE ROCKED IF SOIL CONDITIONS/WEATHER DICTATES NECESSARY. UPLAND CONSTRUCTION IS NOT PLANNED TO BEGIN UNTIL THE SITE HAS DRIED OUT (ESTIMATE MAY) TO MINIMIZE ENVIRONMENTAL IMPACTS AND WATER MANAGEMENT/TREATMENT COSTS AND EFFORTS. IN-WATER WORK WILL NOT HAPPEN UNTIL PERMIT WINDOWS (ESTIMATE JULY). IN THE EVENT THAT ANY ROCK IS NEEDED, THE ROAD WILL BE SPOT ROCKED TO FIRM UP SOFT SPOTS. IF THE ENTIRE ROAD WAS TO BE ROCKED, THIS WOULD BE A TOTAL OF 500 CY OF 2-1/2" MINUS (2,000 LF X 12' WIDE X 0.5' DEEP / 27 X 1.15 COMPACTION FACTOR). IT IS HIGHLY UNLIKELY THIS WILL HAPPEN BASED ON SITE OBSERVATIONS. IT IS MORE PROBABLE THAT SOME AREAS (20-50' LONG) MAY RECEIVE MORE THAN 6" OF ROCK ON THEM. ALL TEMPORARY ROCK FILL WILL BE REMOVED AT THE CONCLUSION OF THE WORK BACK DOWN TO EXISTING SOILS TO ENCOURAGE REVEGETATION AND PRESERVE NATURAL DRAINAGE PATHS, AND MINIMIZE IMPERMEABLE SURFACE AREA.
- ADDITIONALLY, THE EXCAVATED CHANNEL WILL BE USED AS A TEMPORARY ROADWAY.
- PLANNED ROAD FILL PERMANENT: THE STAGING AREA WILL RECEIVE 6" OF 2-1/2" MINUS GRAVEL TO FACILITATE STAGING OF MATERIALS IN THE SPRING. ESTIMATED QUANTITY 300CY.
- CHANNEL IS TO BE CONSTRUCTED IN RELIC CHANNEL OF LEWIS RIVER (CIRCA 1950S). THERE ARE NATURAL LEAVES ON BOTH ENDS OF OF THE CHANNEL CURRENTLY. THE DOWNSTREAM (A) LEVEE WILL BE BREACHED. THE UPSTREAM END (B) WILL BE REBUILT.

LEGEND

- ORDINARY HIGH WATER
- EXISTING CONTOURS (1FT INTERVALS)
- PROPOSED CONTOURS (1FT INTERVALS)
- PROPERTY LINES
- EDGE OF EXISTING FLOODPLAIN
- LIMITS OF DISTURBANCE
- WETLAND - PALUSTRINE FORESTED (43,356 SQUARE FEET)
- IMPACTED WETLAND (3882 SF, 288 CY)
- TEMPORARY STAGING / STOCKPILE AREA
- TEMPORARY COFFERDAM
- SILT FENCE
- CLEARED, EXISTING VEHICLE TRAILS TO BE USED AS TEMPORARY ROADS (SEE NOTE 4)
- PROPOSED PERMANENT ACCESS ROAD AND PARKING AREA (SEE NOTE 3)
- THRESHOLD DRAINAGE AREA (TDA) BOUNDARY
- TDA FLOW PATH



NO.	BY	DATE	REVISION DESCRIPTION

MM, JF	MM, GJ	GJ
DRAWN	DESIGNED	CHECKED
MM	12/10/15	11-02-07
APPROVED	DATE	PROJECT

LEWIS RIVER - EAGLE ISLAND
 CHUM SPAWNING CHANNEL
 WOODLAND, WASHINGTON



301 Portway Avenue, Suite 101
 Hood River, OR 97031
 541.388.9008
 www.interfluve.com

PRELIMINARY
 DEVELOPMENT PLAN

Violations

- Code enforcement tracking
- Work with property owners to correct violation
- No net loss



Lessons learned

- Need for review of as-built development
- Monitoring and Adaptive Management Framework is aspirational
- Potential for interns or entry-level staff to assist with review of aerial photos to determine NNL

Thank you!

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