

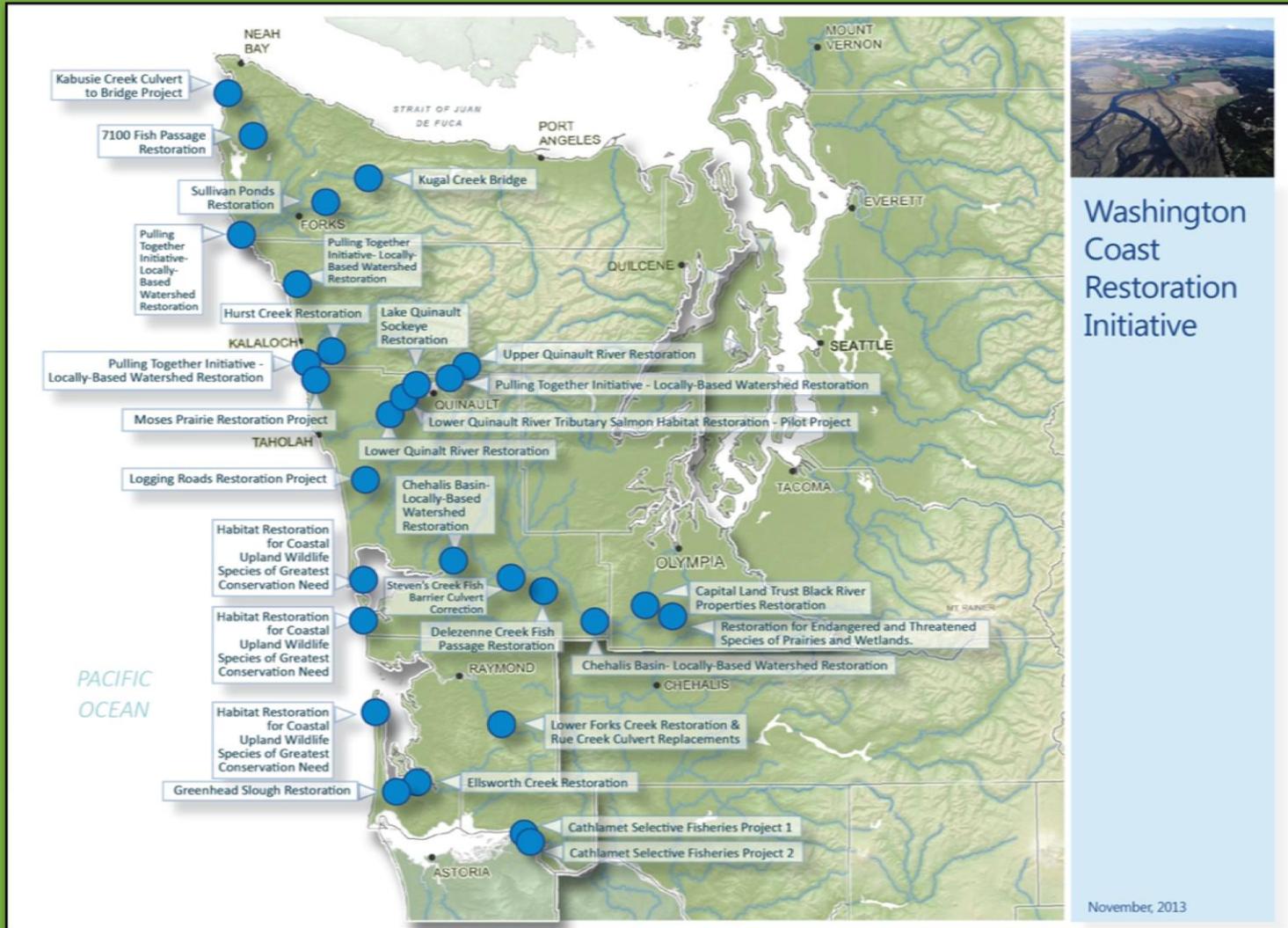
Pulling Together in Restoration: Coastal Jobs and Invasive Species



Jill Silver, 10,000 Years Institute

WCRI – Funding for Restoration and Jobs

<http://www.wcssp.org/index.php/home/restoration-initiative>



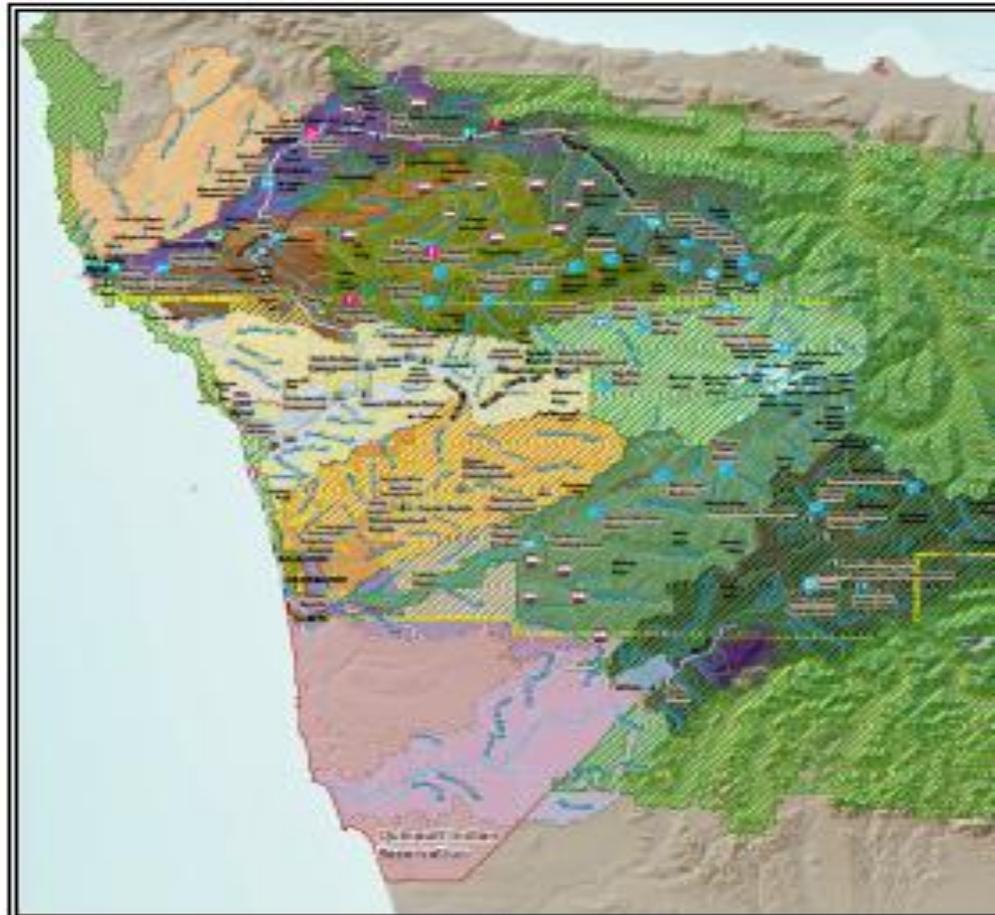
What and Where

Survey, Prevent, and Control:

- Roads
- Rivers - Recreational access
- Agricultural pastures
- Forestland
- Gravel mines
- Restoration Projects

Species of Concern:

- Scotch broom
- Reed canarygrass
- Everlasting peavine
- Herb Robert
- Tansy ragwort
- Knotweeds
- English laurel, ivy, holly
- Blackberry...and MORE...



WRCI Pulling Together Project Ownership, Facilities, Transportation & Hydrography



Making a difference – ED/RR Action

Watershed SWAT Teams act to prevent impacts and cost of invasions:

- Conduct ED/RR to prevent spread
- Fund new crews for source species on roads, rivers, and mines
- Provide review and guidance to restoration projects
- Model BMPs to resource managers, workers, and communities
- Provide extra work force for areas needing quick action
- Report findings – issues and success.



Making the case for investments in jobs

- Identify the sources, vectors, and pathways, and quantifying the costs of prevention vs. control
- Quantify the benefits to communities of local jobs, and investments in invasive species ED/RR
- Support certification of clean gravel, hay, straw, equipment, and landscaping materials.



Data: Collection and Management

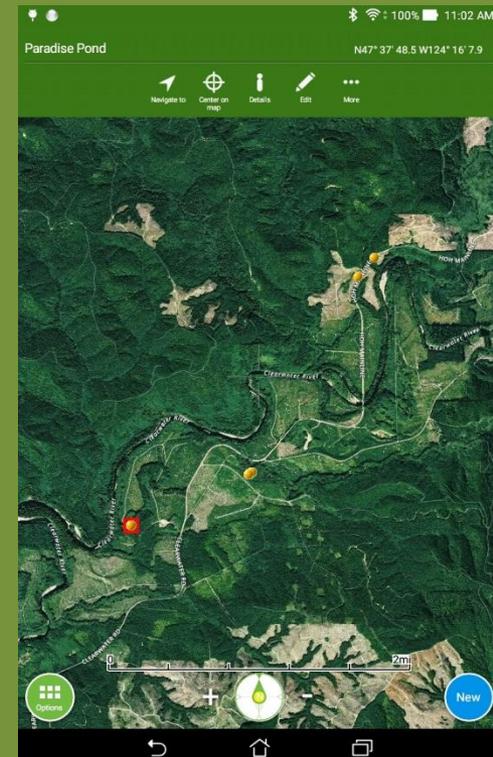


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Save Save As Share Encrypt Print File Info Help & Feedback

DATE	10-Nov	WAYPOINT #	LATITUDE	478551	LONGITUDE	1242853.6
SURVEYOR	Devin Chastain - 10K Years Institute			LICENSE #	PROJECT ID	
WATERSHED	20 - Goodman Creek		ROAD	LANDOWNER		
ADDRESS	(Moh River)			LEFT BANK	RIGHT BANK	
SITE TYPE	Select one	Roadside	TEMP	WIND SPEED	DIRECTION	CLOUD COV
SPECIES	Select one	Reed Canarygrass	LATIN	Phalaris arundinacea		
CLUSTER TYPE	Select one	PLANT COVERAGE %	25%	SEEDS?	Yes	
AREA	2	X	2	= 4 sq ft	PERIMETER	= 8 feet
CANE COUNT	Select one	PLANT HEIGHT	1.6	EROSION POTENTIAL	COVER	Partially Open
SUBSTRATE	Select one	PRIMARY	SECONDARY			
TREATMENT	Select All	HERBICIDE	CONCENTRATION			

Field Data +



Data: Collection and Management

- 2016 Pulling Together in Restoration
- Survey/Control Data Form

Project ID #: <input type="text"/>	Project Complete? Y or N (add notes) <input type="text"/>
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Name of Entity / Project Sponsor: <input type="text"/>
Street Address: <input type="text"/> City: <input type="text"/> State: <input type="text"/> Zip: <input type="text"/>
Address or Exact Location of Site: <input type="text"/>
Parcel: <input type="text"/>

General Activity Fields

County (circle one)	WKIA (circle one)	Project Name (from HWS or PIR project list)	Owner (circle one)	Additional Workforce**
Columbia Gray's Harbor	10		Private Public	
Jefferson	21		Non-Profit	

** Workforce: Inlc. WCC Crew Name, County Wood Board, CNF, ONP, volunteers

Crew Members Present: <input type="text"/>
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Site Inventory Fields

Start Date	Stop Date	Acres examined for weeds	Site Type (circle one)
<input type="text"/>	<input type="text"/>	<input type="text"/>	Road edge ROW Forest Culvert Bank Protection Boat Launch River Bar Riparian/Wetland Other Planting Woody Debris Recreation

Species	Action	Vector Pathway	Transport Potential	Area Length x Width	Cover %	Latitude / Longitude
1.0	<input type="text"/>					
2.0	<input type="text"/>					
3.0	<input type="text"/>					
4.0	<input type="text"/>					
5.0	<input type="text"/>					
6.0	<input type="text"/>					
7.0	<input type="text"/>					

HWS – Restoration Project Review

BluetoothGPS View

HWS js v 6-7-16.xlsx - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View QuickBooks

Clipboard Font Alignment Number

	A	B	C	D	E	F	G	H		
1	Name	Sponsor	Staff	Contact	Date	Survey Date	Action	Invasive Spp.	Habitat Type	Area
2	Allen's Marsh / Old Joe's Slough Fish Passage									
3	Anderson--Fletcher Creek Hoh River									
4	Baldwin--Bear Creek Tributary									
5	Big River and Hoko-Ozette Road Knotweed Removal									
6	Big River Floodplain Restoration									
7	Bogachiel River Knotweed Removal									
8	Calawah River Knotweed Removal									
9	Cassel Creek Boat Launch Riparian Restoration									
10	Coal Creek--Dickey River Culvert Replacement									
11	Colby Creek Culvert Replacement									
12	Crooked Creek Tributary Culvert Replacement									
13	Dickey Camp Pond									
14	Dickey River Knotweed Removal									
15	Eagle Creek Springs									
16	Ecotrust--East Fork Dickey River Tributaries									
17	Elk Creek Aquisition									
18	Fletcher Creek Culvert Replacement									
19	Forks Knotweed Removal									
20	Goodman Creek Assessment									
21	Goodman Creek Road Decommission									
22	Greene Properties LLC--Dickey Tributary									
23	Hoh Knotweed Removal									
24	Hoh River Knotweed Control Project									
25	Hoh River Riparian Restoration Project - 2013									
26	Hoh River Trust 2--Hoh River Tributaries									
27	Hoh River Trust- Nolan Cr Trib -R4 Fish Passage Restoration									

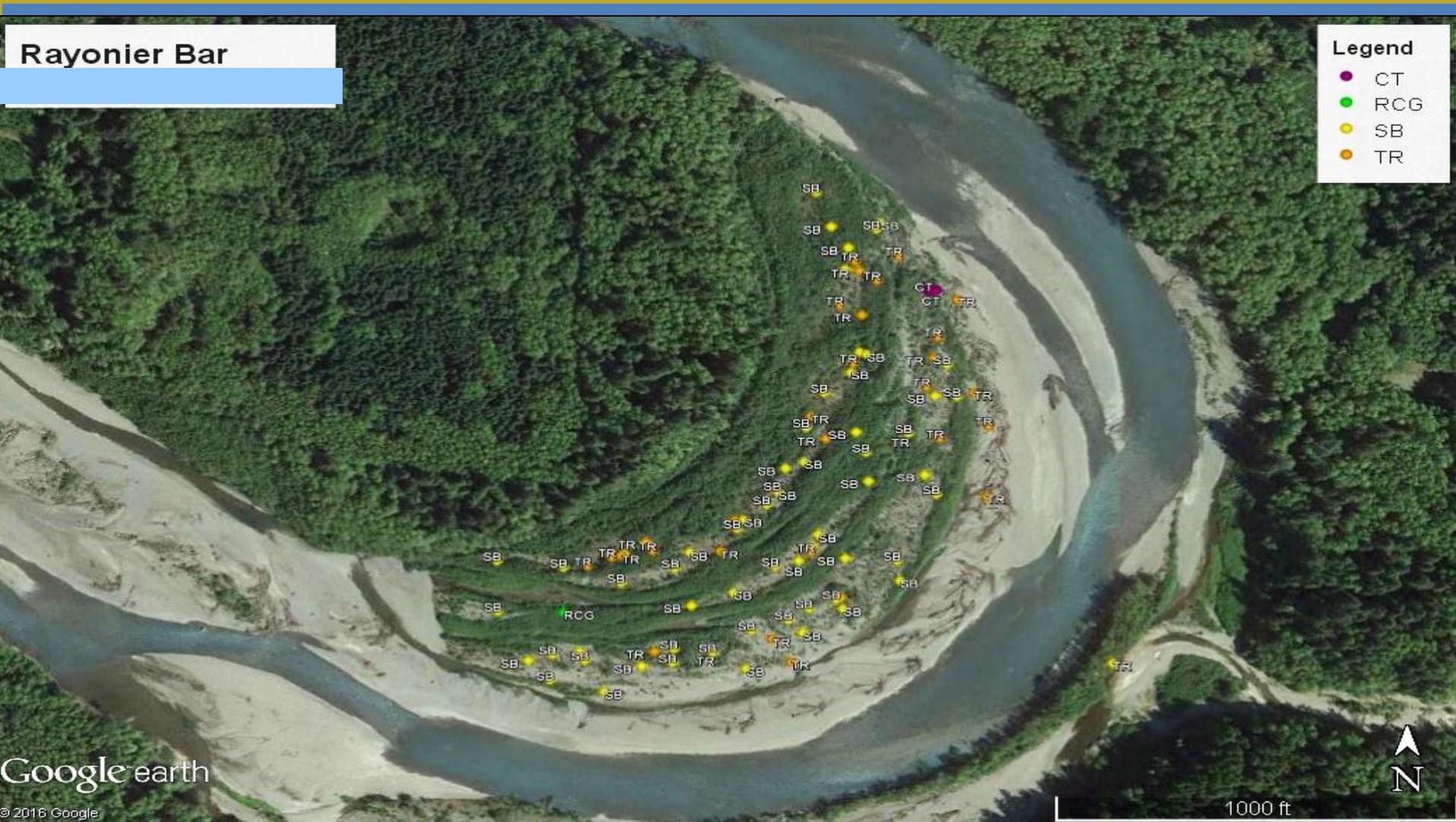
Paradise Pond

N47° 37' 48.5 W124° 16' 7.9

Paradise Pond map showing restoration sites marked with orange and red dots. The map includes a scale bar (0 to 2m) and navigation controls.



Integrating all invasive species



Opportunities to share crews and methods



Scotch Broom

impacts forestry, habitat, and climate resiliency

- Stops native riparian succession
- Overtakes range and forestland, reducing timber growth rates
- Sequesters nutrients
- **Highly flammable!**
- 12,000 seeds per plant
- Seeds last 80 years
- Toxic to livestock and people
- Forestry rotations = 30 to 50 years



Quillayute River SB Sweep



Methods and Protocols

Goals:

- Increase effective long term control
- Restore native forest succession
- Provide climate resiliency ; reduce fuels
- Reduce herbicide application and drift
- Crew safety



Hoh River Scotch Broom Sweep









Supporting local agricultural landowners



Hoh River Riparian Restoration Project

Focal species:

- Knotweed
- Reed canarygrass
- Herb Robert
- Scotch broom
- Canada thistle
- Blackberry
- Tansy ragwort

Moving in:

- Everlasting peavine
- Jewelweed
- Hydrangea







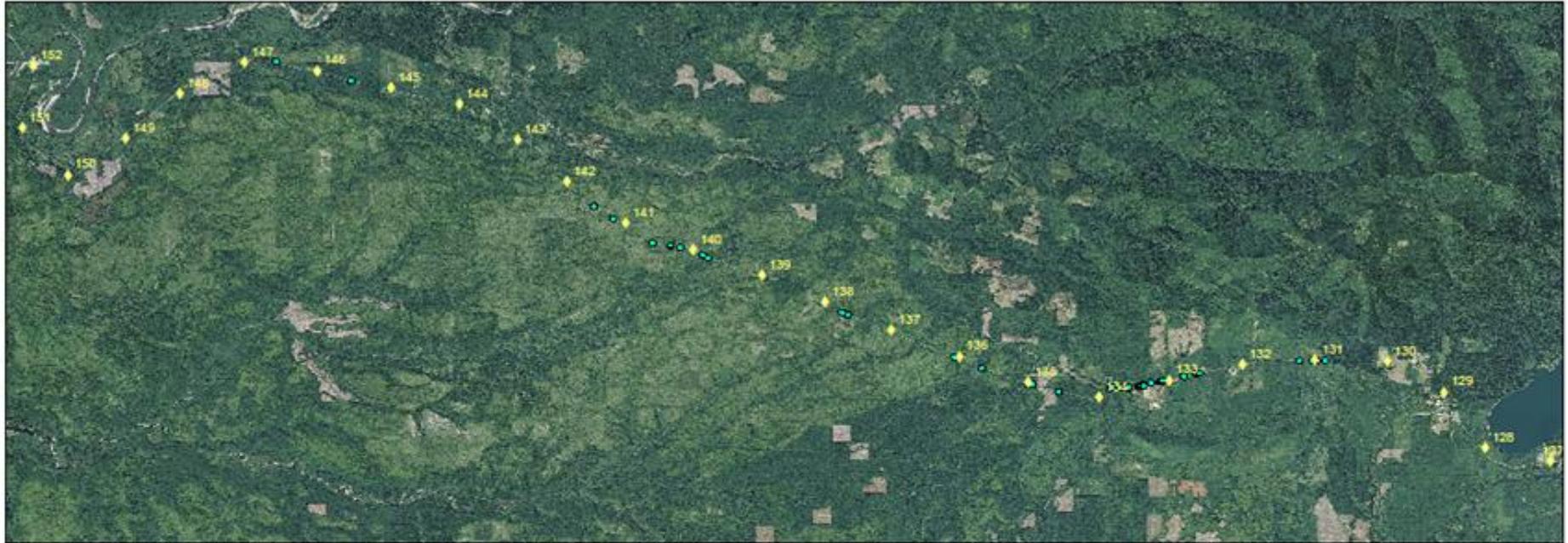
Supporting On-going Projects....



... and then, the other invasive species.



Roads as pathways and vectors



Legend

- ◆ Mile post
- Reed Canary Grass



0 0.75 1.5 3 Miles

Highway 101 Reed Canary Grass Distribution

User Name: cmartorano Date: 8/27/2014

Roadside ED/RR



Collecting data to inform research





Still to do....

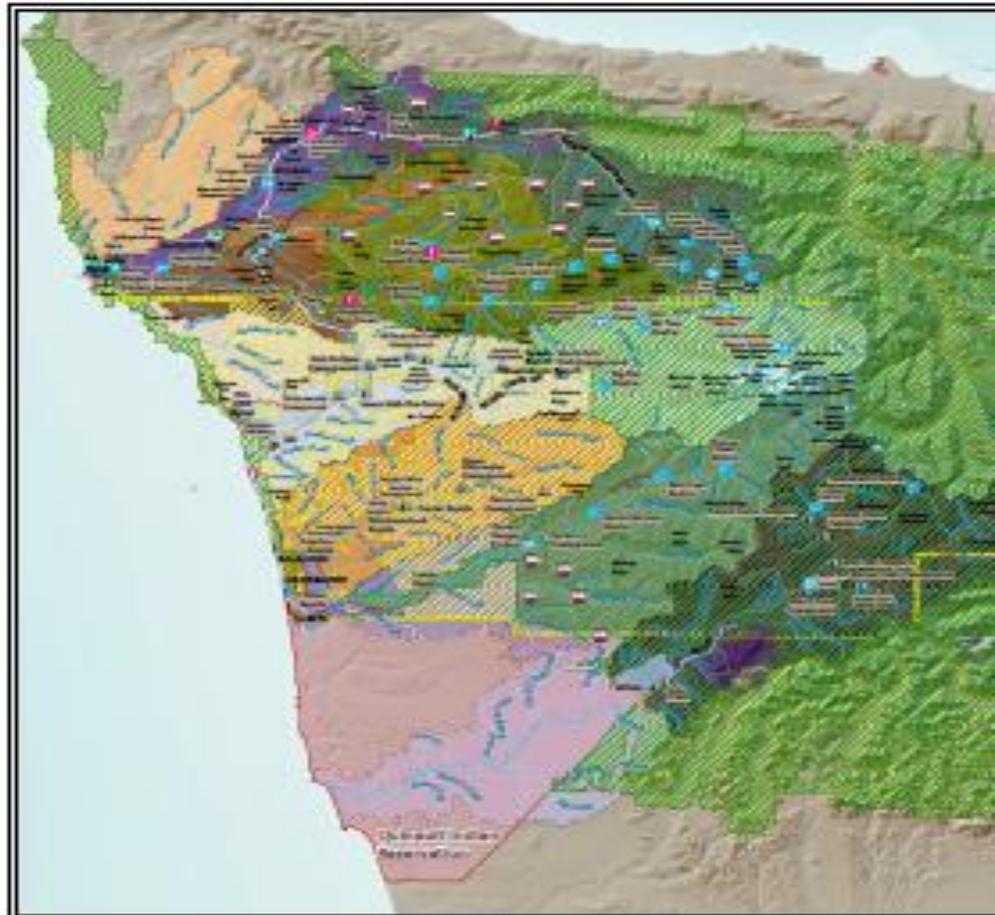
Adopt-A-Highway Agreement

OCC Dedicated SB Crew

Queets/Quinault Crew

Community Workshops

And more....



WRCI Pulling Together Project
Ownership, Facilities, Transportation & Hydrography



Pulling Together: Many hands make light work.



Thank you!



