2003-072-00:

Integrated Habitat and Biodiversity Information System (IBIS) for Columbia River Basin

Data sets available for subbasin planning and program reporting for regional decision making

Northwest Habitat Institute

IBIS

Core Data Management Project

- Subbasin Planning with Wildlife & Habitat Information
- Council's High-Level Indicators and Criteria in the Wildlife Monitoring Implementation Strategy, and
- Fish Biological Opinion

Eco – Logical

Obvious

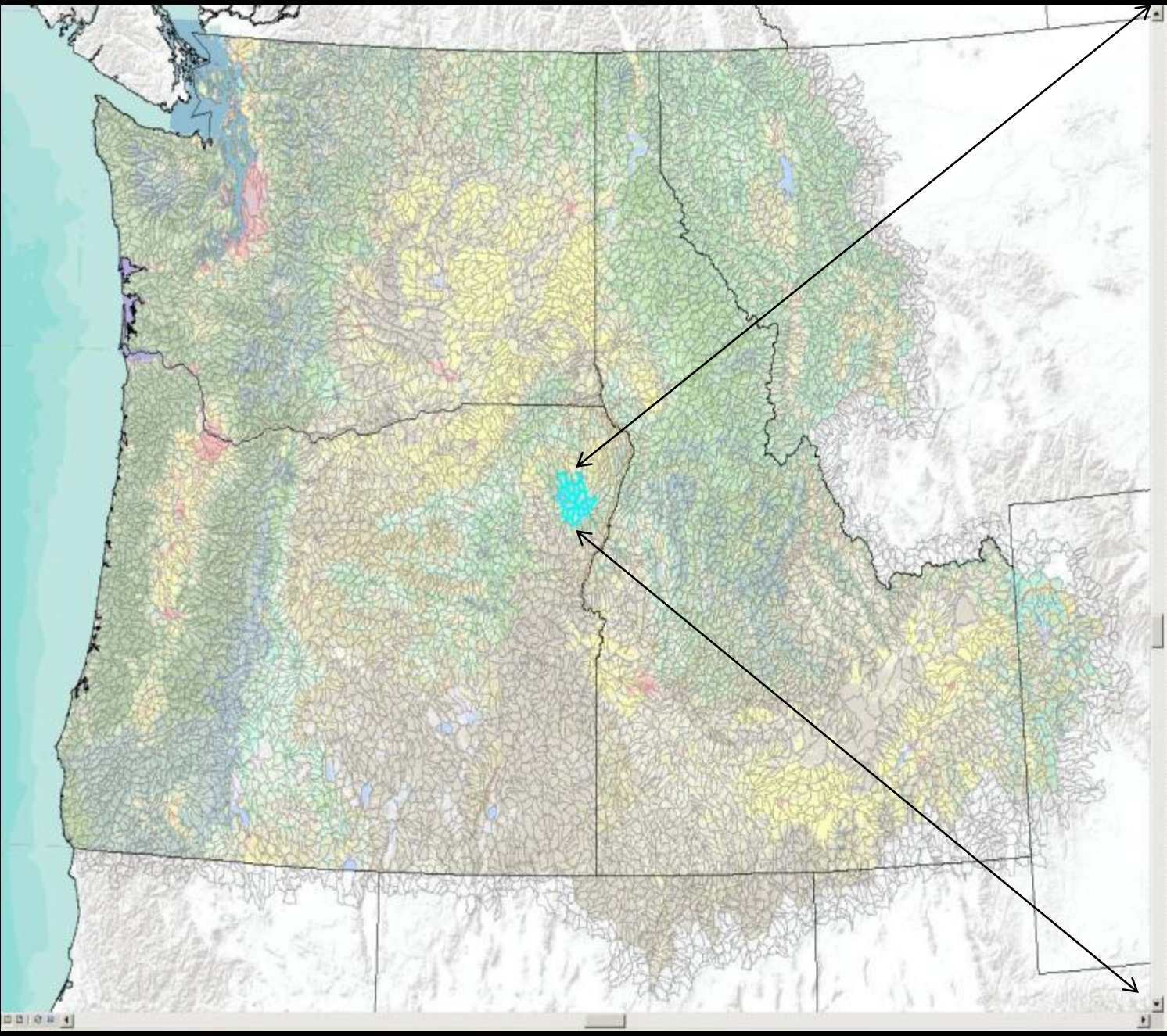
Homework

‘You can not answer a complex question at the same level of consciousness that the question was asked”…

Einstein


Wildlife Species

About 400 species range maps including 109 identified focal species



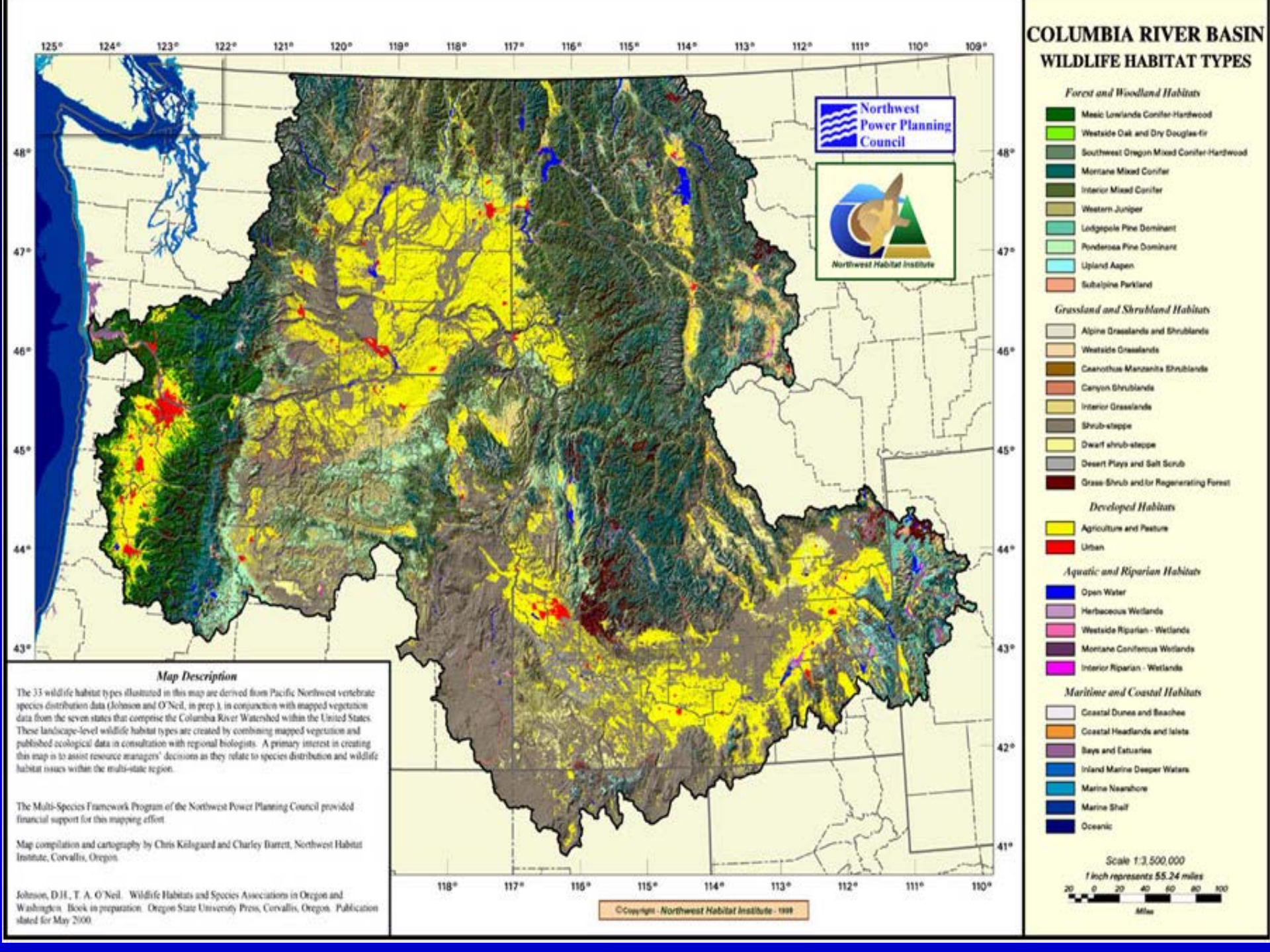
Table

nhi_chap.DBO.IBIS_Animalia_Spp

SppID *	CommonName	ScientificName
10001	Pacific lamprey	Lampetra tridentata
10041	Northern pikeminnow	Ptychocheilus oregonensis
10065	Longnose sucker	Catostomus catostomus
10285	Mountain whitefish	Prosopium williamsoni
10297	Steelhead	Oncorhynchus mykiss
10298	Rainbow trout	Oncorhynchus mykiss gairdneri
10301	Brook trout	Salvelinus fontinalis
10313	Bull trout	Salvelinus confluentus
10318	Redband Trout	«Null»
10585	Chinook salmon	Oncorhynchus tshawytscha
10597	Sockeye salmon	Oncorhynchus nerka
20030	Long-toed Salamander	Ambystoma macrodactylum
20220	Tailed Frog	Ascaphus truei
20240	Western Toad	Bufo boreas
20260	Pacific Chorus Frog	Pseudacris regilla
20330	Bullfrog	Rana catesbeiana
30130	Short-horned Lizard	Phrynosoma douglassii
30150	Sagebrush Lizard	Sceloporus graciosus
30160	Western Fence Lizard	Sceloporus occidentalis
30180	Western Skink	Eumeces skiltonianus
30210	Rubber Boa	Charina bottae
30220	Racer	Coluber constrictor
30290	Gopher Snake	Pituophis catenifer
30340	Common Garter Snake	Thamnophis sirtalis
30350	Western Rattlesnake	Crotalus viridis
40400	Great Blue Heron	Ardea herodias
40500	Turkey Vulture	Cathartes aura
40570	Canada Goose	Branta canadensis
40571	Western Canada Goose	Branta canadensis moffitti
40640	Gadwall	Anas strepera
40670	American Wigeon	Anas americana
40690	Mallard	Anas platyrhynchos
40700	Blue-winged Teal	Anas discors
40710	Cinnamon Teal	Anas cyanoptera
40720	Northern Shoveler	Anas clypeata
40730	Northern Pintail	Anas acuta
40760	Green-winged Teal	Anas crecca
40820	Lesser Scaup	Aythya affinis
40940	Hooded Merganser	Lophodytes cucullatus
40950	Common Merganser	Mergus merganser
40980	Osprey	Pandion haliaetus
41000	Bald Eagle	Haliaeetus leucocephalus
41010	Northern Harrier	Circus cyaneus
41020	Sharp-shinned Hawk	Accipiter striatus
41030	Cooper's Hawk	Accipiter cooperii
41040	Northern Goshawk	Accipiter gentilis
41070	Swainson's Hawk	Buteo swainsoni
41090	Ferruginous Hawk	Buteo regalis
41110	Golden Eagle	Aquila chrysaetos
41120	American Kestrel	Falco sparverius
41150	Peregrine Falcon	Falco peregrinus
41170	Chukar	Alectoris chukar
41180	Gray Partridge	Perdix perdix
41190	Ring-necked Pheasant	Phasianus colchicus
41200	Ruffed Grouse	Bonasa umbellus
41220	Spruce Grouse	Falcipennis canadensis

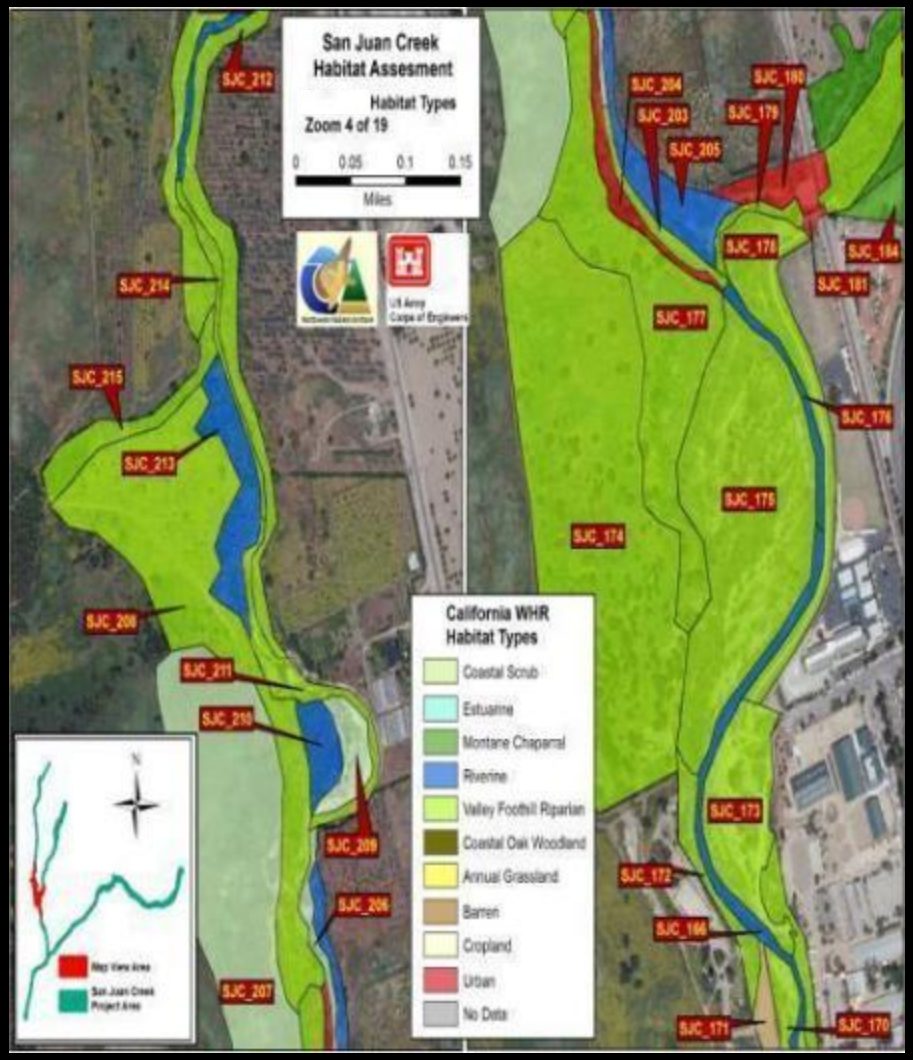
1 (183 out of 1270 Selected)

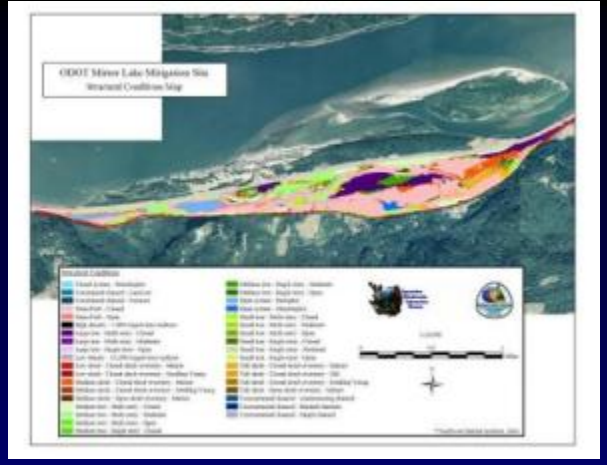
nhi_chap.DBO.CREORWAID_Huc6 | nhi_chap.DBO.IBIS_Animalia_Spp

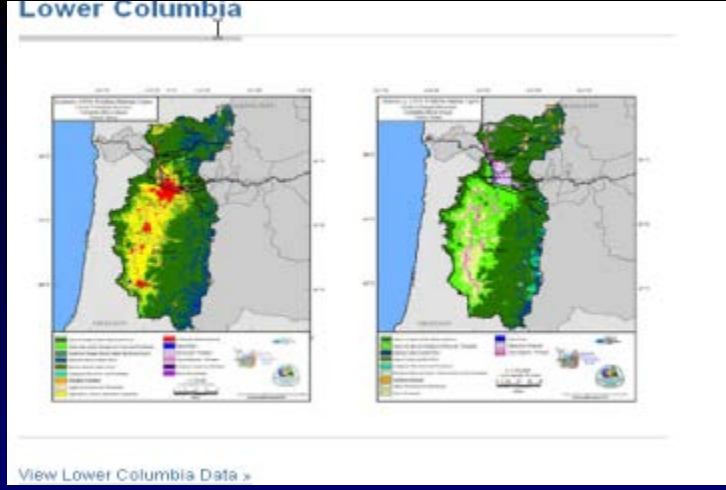

COLUMBIA RIVER BASIN
WILDLIFE HABITAT TYPES
Forest and Woodland Habitats
Mesic Lowlands Conifer-Hardwood
Westside Oak and Dry Douglas-fir
Southwest Oregon Mixed Conifer-Hardwood
Montane Mixed Conifer
Interior Mixed Conifer
Western Juniper
Lodgepole Pine Dominant
Ponderosa Pine Dominant
Upland Aspen
Subalpine Parkland
Grassland and Shrubland Habitats
Alpine Grasslands and Shrublands
Westside Grasslands
Ceanothus Manzanita Shrublands
Canyon Shrublands
Interior Grasslands
Shrub-steppe
Dwarf shrub-steppe
Desert Playa and Salt Scrub
Grass-Shrub and/or Regenerating Forest
Developed Habitats
Agriculture and Pasture
Urban
Aquatic and Riparian Habitats
Open Water
Herbaceous Wetlands
Westside Riparian - Wetlands
Montane Coniferous Wetlands
Interior Riparian - Wetlands
Maritime and Coastal Habitats
Coastal Dunes and Beaches
Coastal Headlands and Islets
Bays and Estuaries
Inland Marine Deeper Waters
Marine Nearshore
Marine Shelf
Oceanic
Scale 1:3,500,000
1 inch represents 55.24 miles
20 0 20 40 60 80 100
Miles
Northwest Power Planning Council
Northwest Habitat Institute
125° 124° 123° 122° 121° 120° 119° 118° 117° 116° 115° 114° 113° 112° 111° 110° 109°
48° 47° 46° 45° 44° 43° 42° 41°
Map Description
The 33 wildlife habitat types illustrated in this map are derived from Pacific Northwest vertebrate species distribution data (Johnson and O'Neil, in prep.), in conjunction with mapped vegetation data from the seven states that comprise the Columbia River Watershed within the United States. These landscape-level wildlife habitat types are created by combining mapped vegetation and published ecological data in consultation with regional biologists. A primary interest in creating this map is to assist resource managers' decisions as they relate to species distribution and wildlife habitat issues within the multi-state region.
The Multi-Species Framework Program of the Northwest Power Planning Council provided financial support for this mapping effort.
Map compilation and cartography by Chris Kiilsgaard and Charley Barrett, Northwest Habitat Institute, Corvallis, Oregon.
Johnson, D.H., T. A. O'Neil. Wildlife Habitats and Species Associations in Oregon and Washington. Book in preparation. Oregon State University Press, Corvallis, Oregon. Publication slated for May 2000.
©Copyright - Northwest Habitat Institute - 1999

Habitat Classifications

Fine Scale

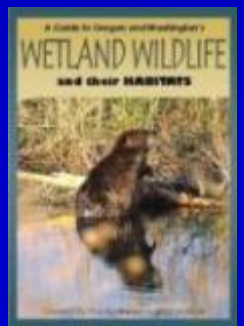


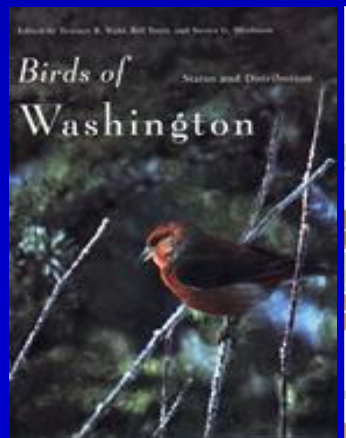


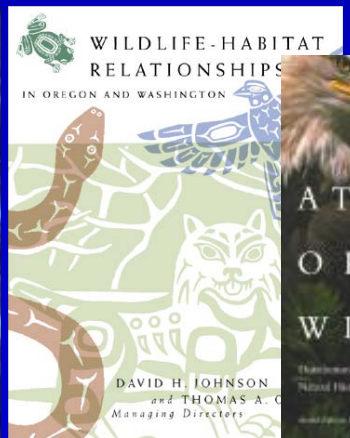


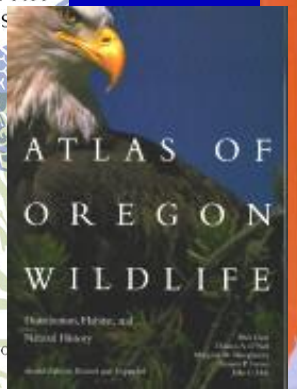
IBIS

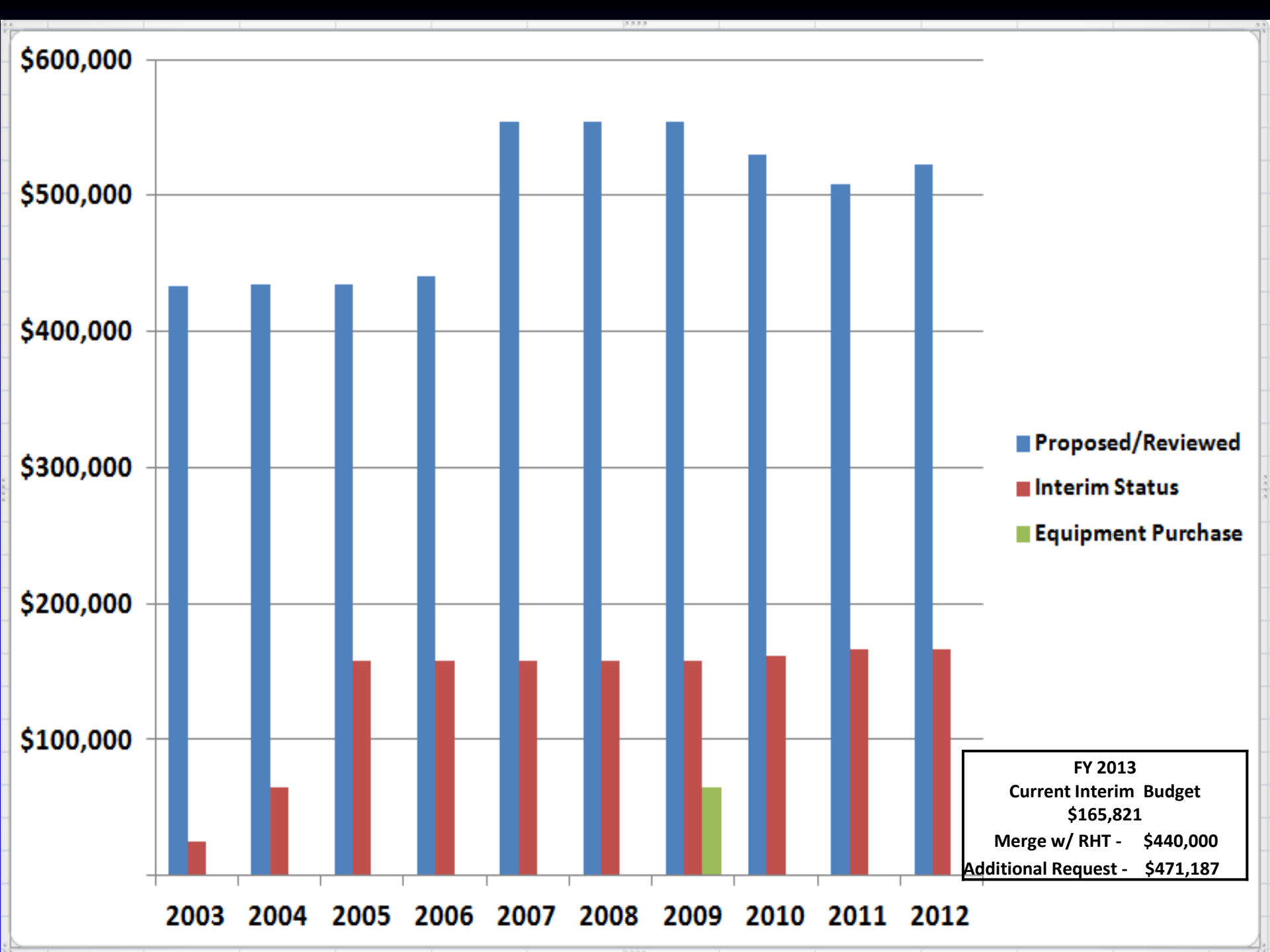
Example of Products

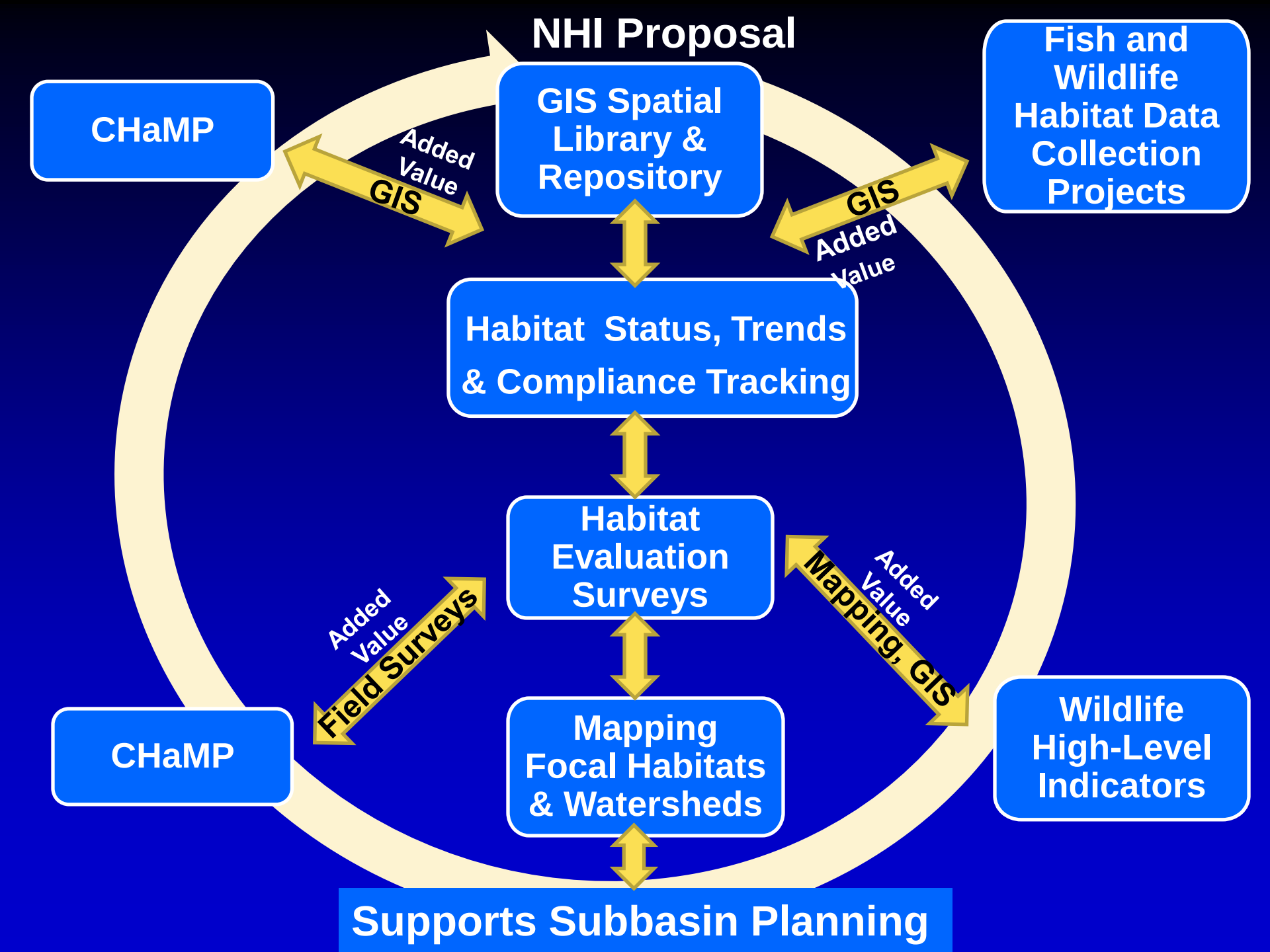









$600,000
$500,000
$400,000
$300,000
$200,000
$100,000
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
Proposed/Reviewed
Interim Status
Equipment Purchase
FY 2013
Current Interim Budget
$165,821
Merge w/ RHT - $440,000
Additional Request - $471,187


NHI Proposal
CHaMP
GIS Spatial Library & Repository
Fish and Wildlife Habitat Data Collection Projects
Added Value
GIS
GIS
Added Value
Habitat Status, Trends & Compliance Tracking
Habitat Evaluation Surveys
Added Value
Field Surveys
Added Value
Mapping, GIS
CHaMP
Mapping Focal Habitats & Watersheds
Wildlife High-Level Indicators
Supports Subbasin Planning

…Proposal Objectives

Maintain, revise, and enhance IBIS by:

Merge with Regional Habitat Team

- Enhance Access to IBIS Information
- Mapping Focal Habitats
- Digital Library and Repository for GIS Data
- Integrating Habitat Inventories and Evaluations
- Transition to Trends, Status, and Compliance
- Developing Tools and Services
- Education Outreach

Perspectives and Scope

- **Largest HEP data collection of its kind….**
  - **Temporally**
  - **Physical Scale**
  - **State, Federal, Tribe Governments, NGOs**
- Thousands of transects… thousands of habitat data sets…..
  - Herbaceous Plants
  - Shrubs
  - Trees
  - Snags
  - Basal Area/DBH
  - Down Wood
  - And More…..

18 Participating Organizations

98 Mitigation Projects

252 Project Parcels

327,467 Project Acres

289,458 Habitat Units

Source: PISCES Data Base - 01/04/12

Habitat Evaluation Transects

- ~ 4,284 Transects
- ~ 2,142,000 Linear Feet
- ~ 406 Transect Miles
- Washington, Oregon, Idaho, and Northern Nevada
- ~ 21,420 Data Sets
- Data sets include herbaceous plants, shrub, and tree components
  - Species Information
  - Structural Conditions
  - Key Ecological Correlates

Other Reasons


PROJ
DATE
Wilson Ranch 06/28/10
TRAN
GPS PT
14
WR14S

Actual Shrub Data Set

Sp.#	Common Name		
0	**BARE -BARE - BARE- BARE**		
1	BIG SAGE		
2	LOW SAGE		
3	GREEN RABBITBRUSH		
4	GRAY RABBITBRUSH		

SU Mean	SU	Tran mean
36%	1	36%
38%	2	37%
24%	3	33%

Point	Spp.	AGE	HT.
2	0		
4	0		
6	1	4	23
8	1	4	11
10	2	3	8
12	1	3	16
14	3	3	15

ONLINE SOLUTION

Acquiring and Disseminating Consistent Information for the Columbia River Basin

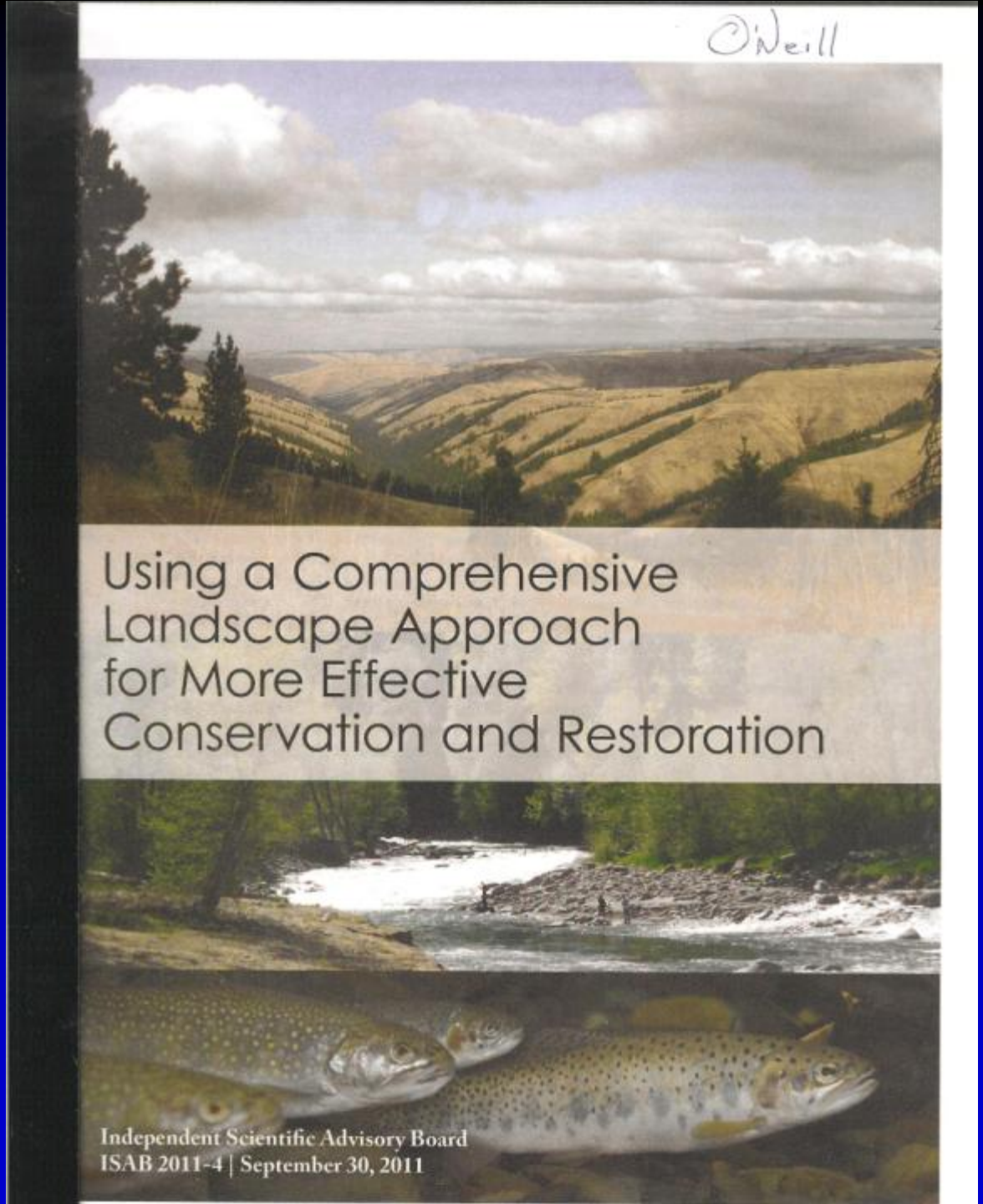
Over 30,000 Citations

Over 100,00 Museum Records Reviewed

Over 150,000 Total Records

- A collection of wildlife-habitat relationship data integrated into a searchable data system.
- Relationships between: species, habitats and functions.
- Peer-reviewed; Based on literature and expert panels.

IBIS:
An Essential Database



Ecoprovince Page

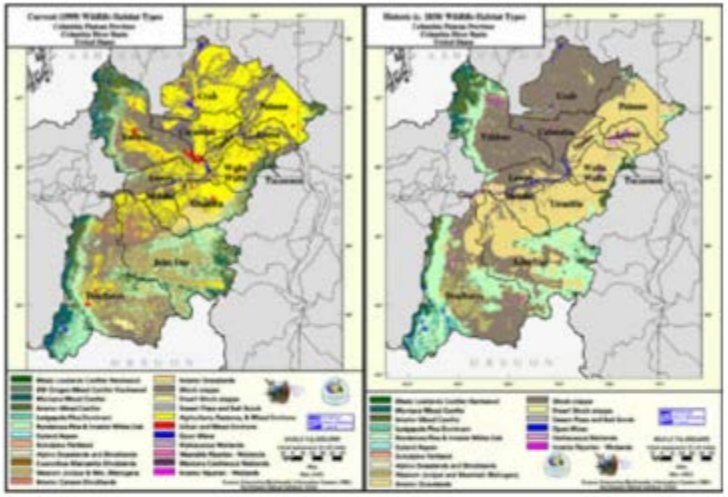
Welcome to the IBIS Ecoprovince and Subbasin Data Center

To navigate to specific ecoprovince or subbasin datasets on this page, click on the appropriate ecoprovince name in the Table of Contents to the right. Subbasins are located in their respective Ecoprovince sections.

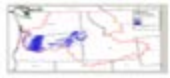
An alternative way to navigate to a specifc location is to use the Map Finder button to the right. This allows for the interactive navigation to Ecoprovinces and Subbasins.

Map Finder

Columbia Plateau

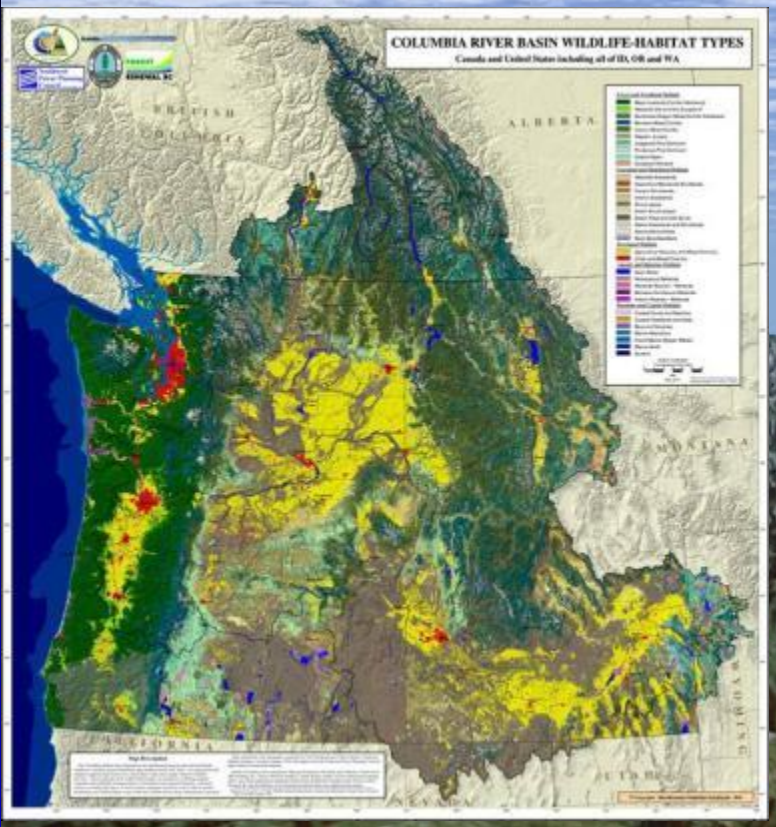


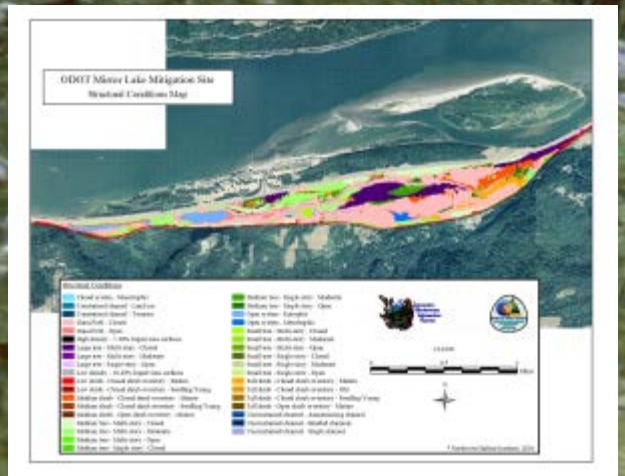
View Columbia Plateau Data »

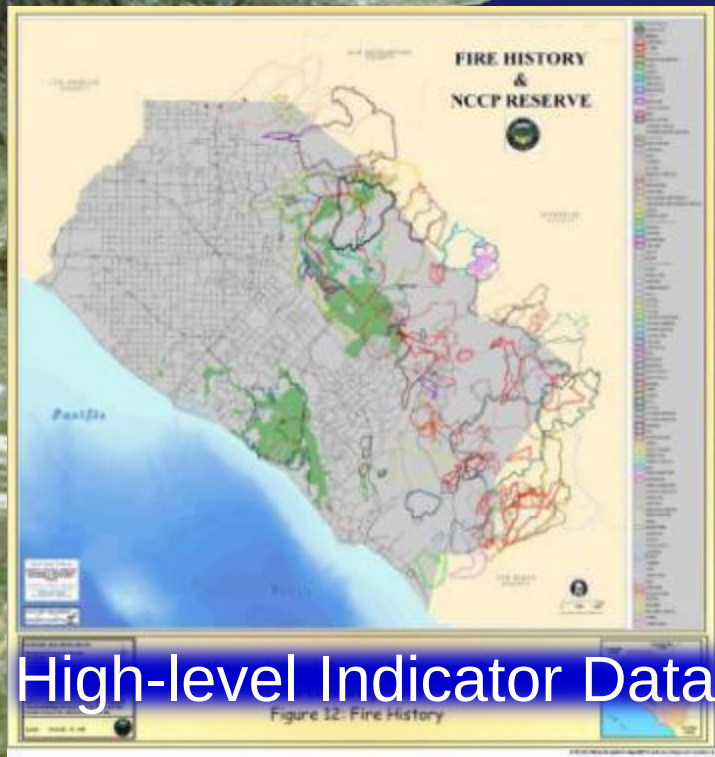
Dataset	Addtional	Download	Formats
View Current Habitat Type Maps »	EPS »	TIF »	JPG »
View Historic (c.1850) Habitat Type Maps »	EPS »	TIF »	JPG »
View Key Ecological Function Maps »	EPS »	TIF »	JPG »
View GAP Ownership and Status Map »	EPS »	TIF »	JPG »
View Percent Change in Habitat Maps »	EPS »	TIF »	JPG »
Focal Species »			
Species Status »			
Columbia Plateau GNN Data »			

Mapping Focal Habitats & Watersheds

Coarse and Fine Scale // Current, Historic, and Virtual Assessments

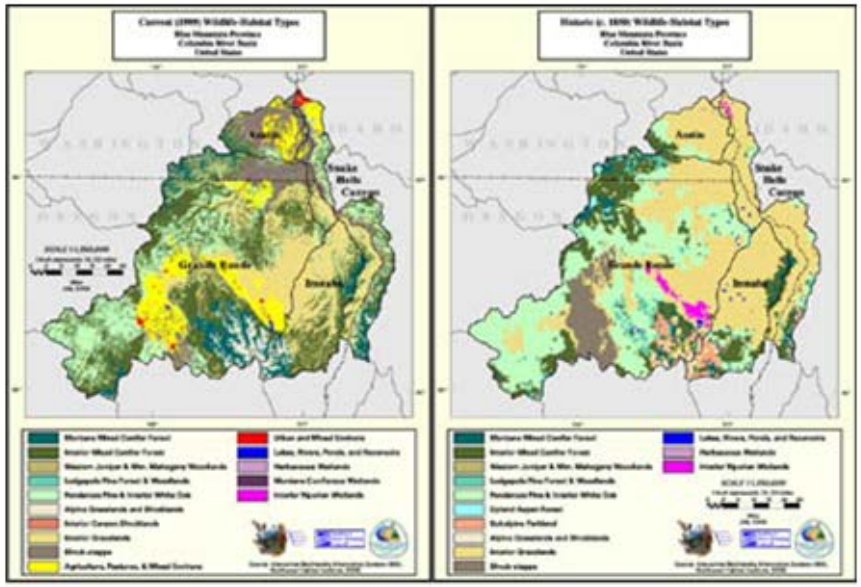






High-level Indicator Data

Blue Mountains



View Blue Mountains Data »

Dataset	Addtional	Download	Formats
View Current Habitat Type Maps »	EPS »	TIF »	JPG »
View Historic (c.1850) Habitat Type Maps »	EPS »	TIF »	JPG »
View Key Ecological Function Maps »	EPS »	TIF »	JPG »

High-level Indicator Data

Willamette Valley Focal Habitats

9,003 polygons

339,857 acres

Mt. Hood Oak Riparian

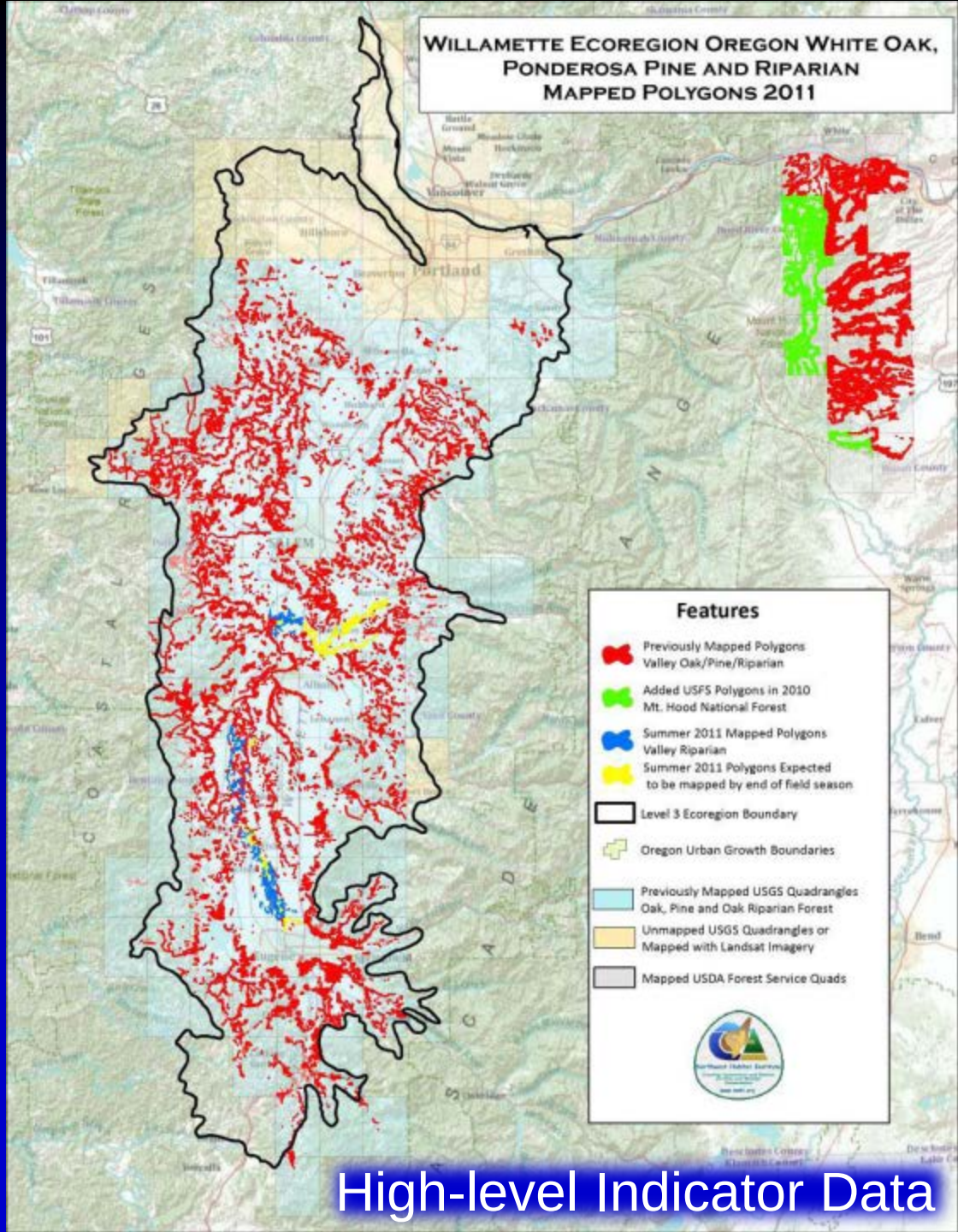
624 polygons

41,160 acre

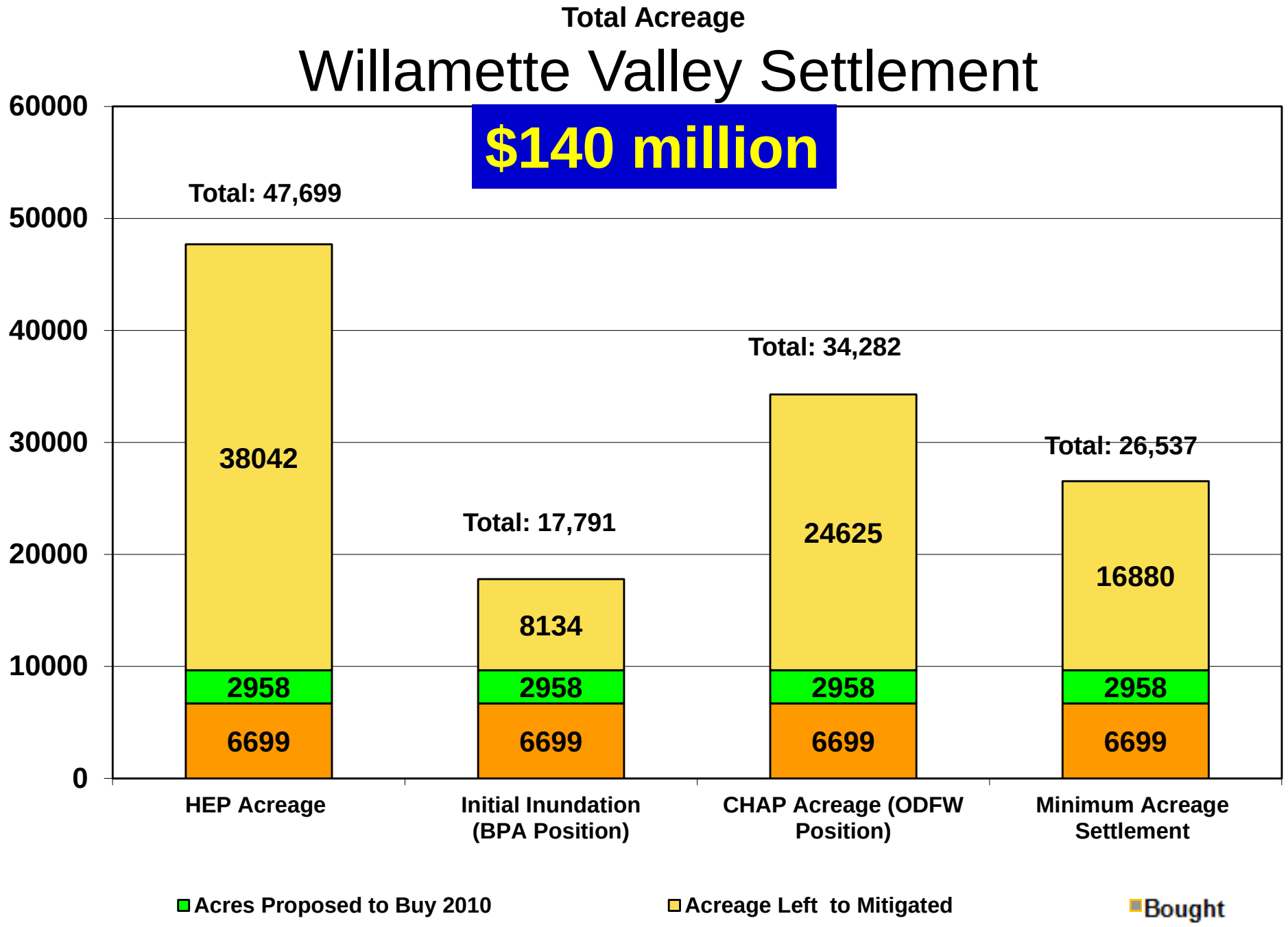
Total

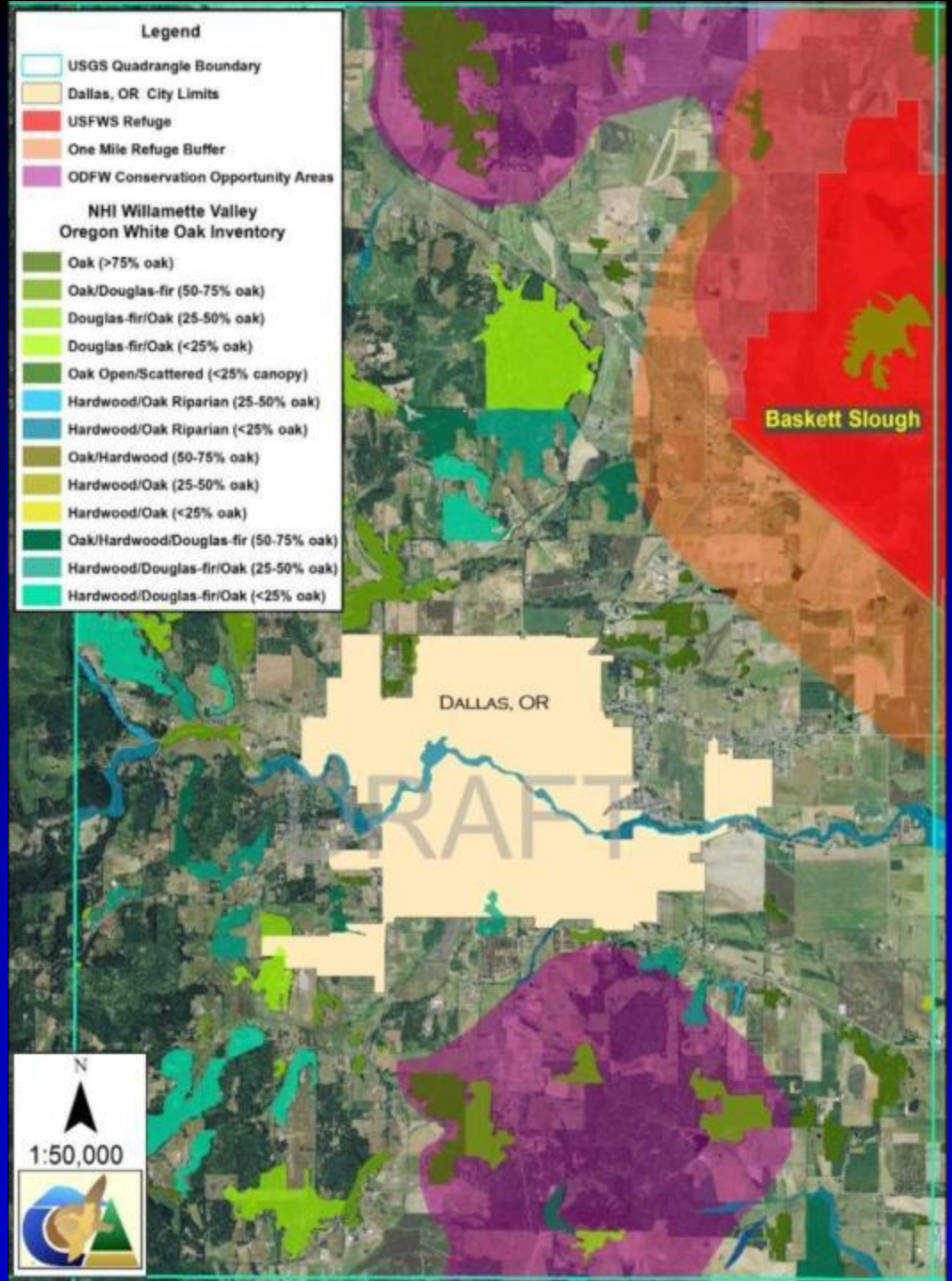
9,627 polygons

381,017 acres



High-level Indicator Data


Total Acreage
Willamette Valley Settlement
$140 million
60000
50000
40000
30000
20000
10000
0
Total: 47,699
38042
2958
6699
Total: 17,791
8134
2958
6699
Total: 34,282
24625
2958
6699
Total: 26,537
16880
2958
6699
HEP Acreage
Initial Inundation (BPA Position)
CHAP Acreage (ODFW Position)
Minimum Acreage Settlement
Acres Proposed to Buy 2010
Acreage Left to Mitigated
Bought

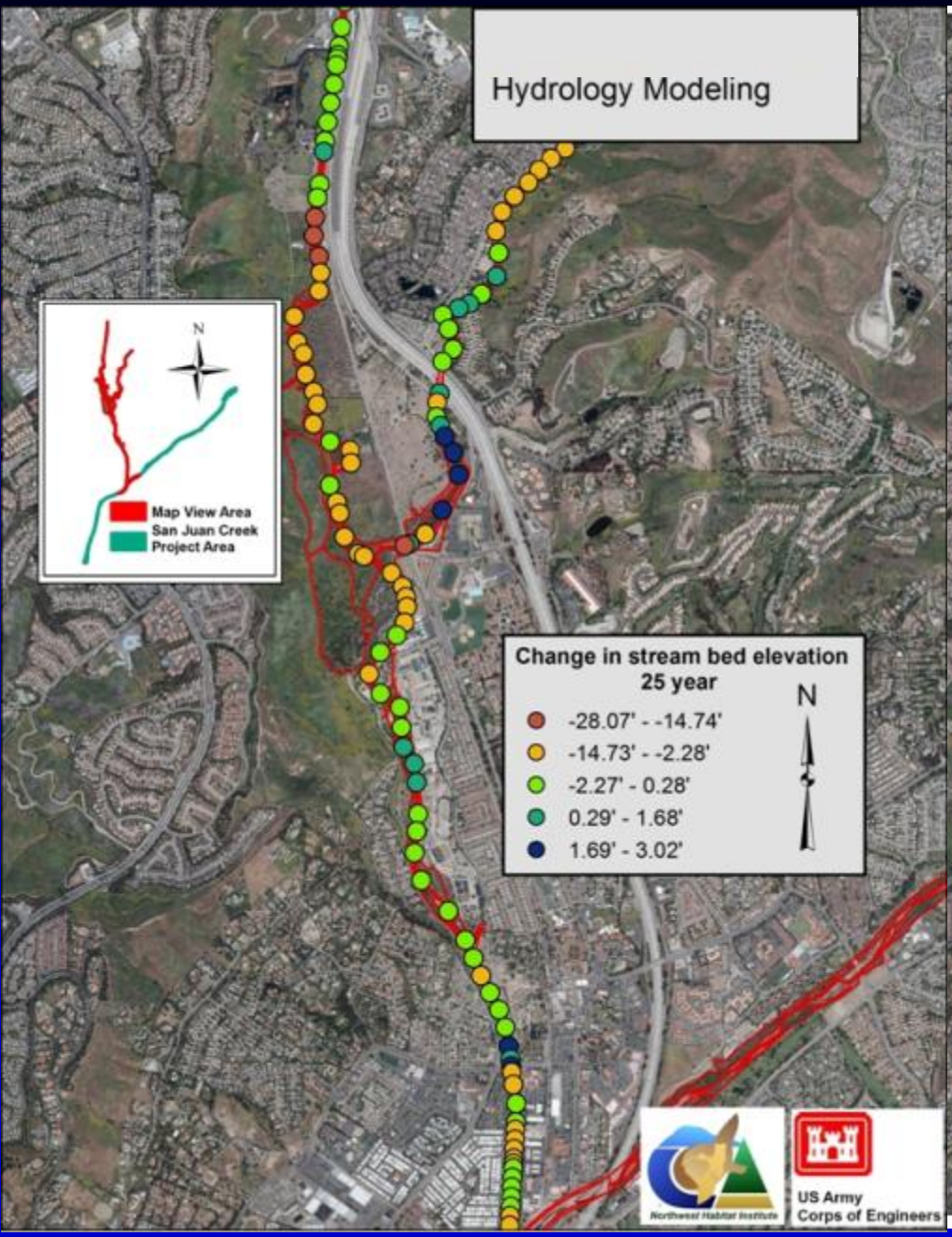


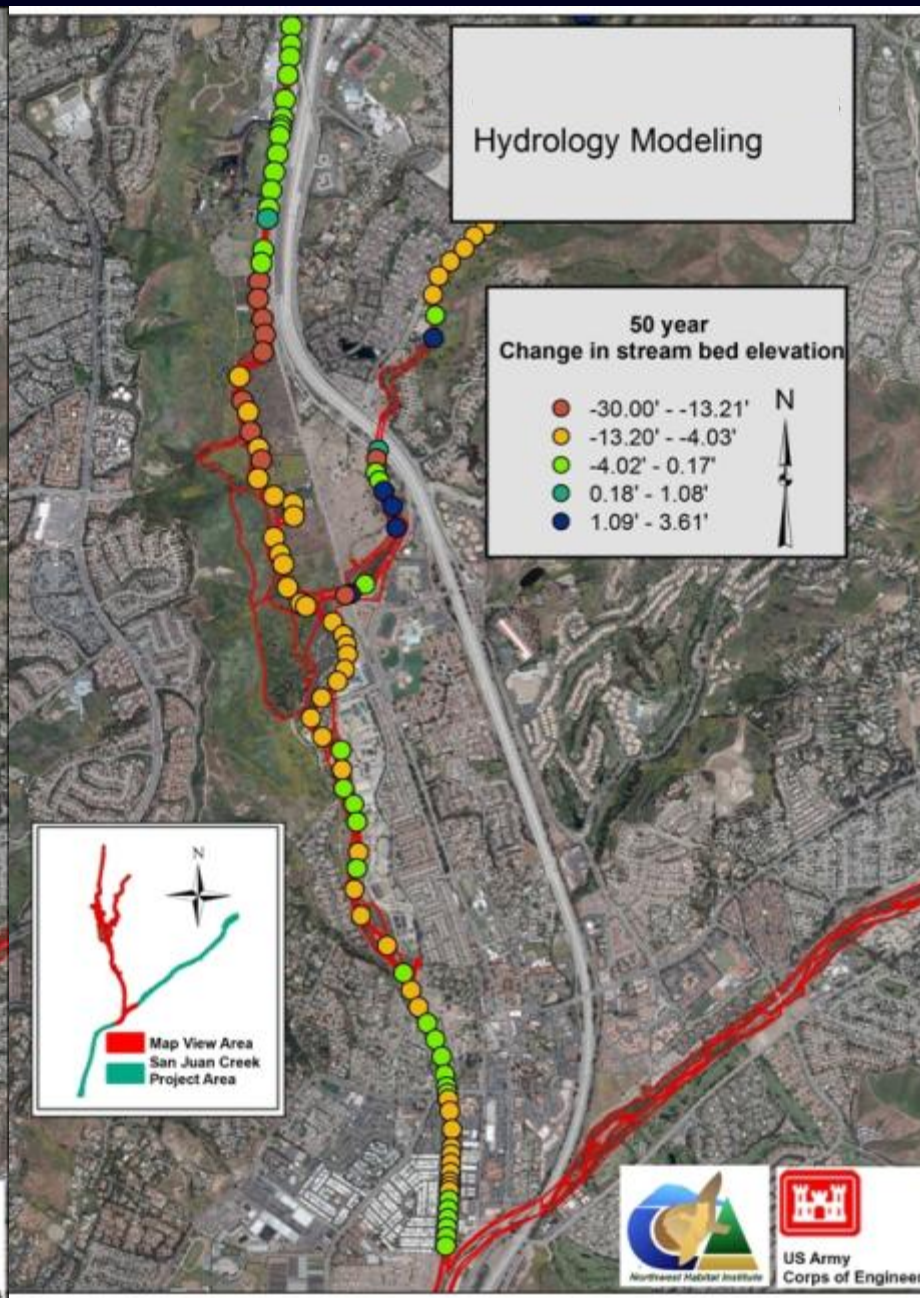
Mapping Subbasin's Focal Habitats

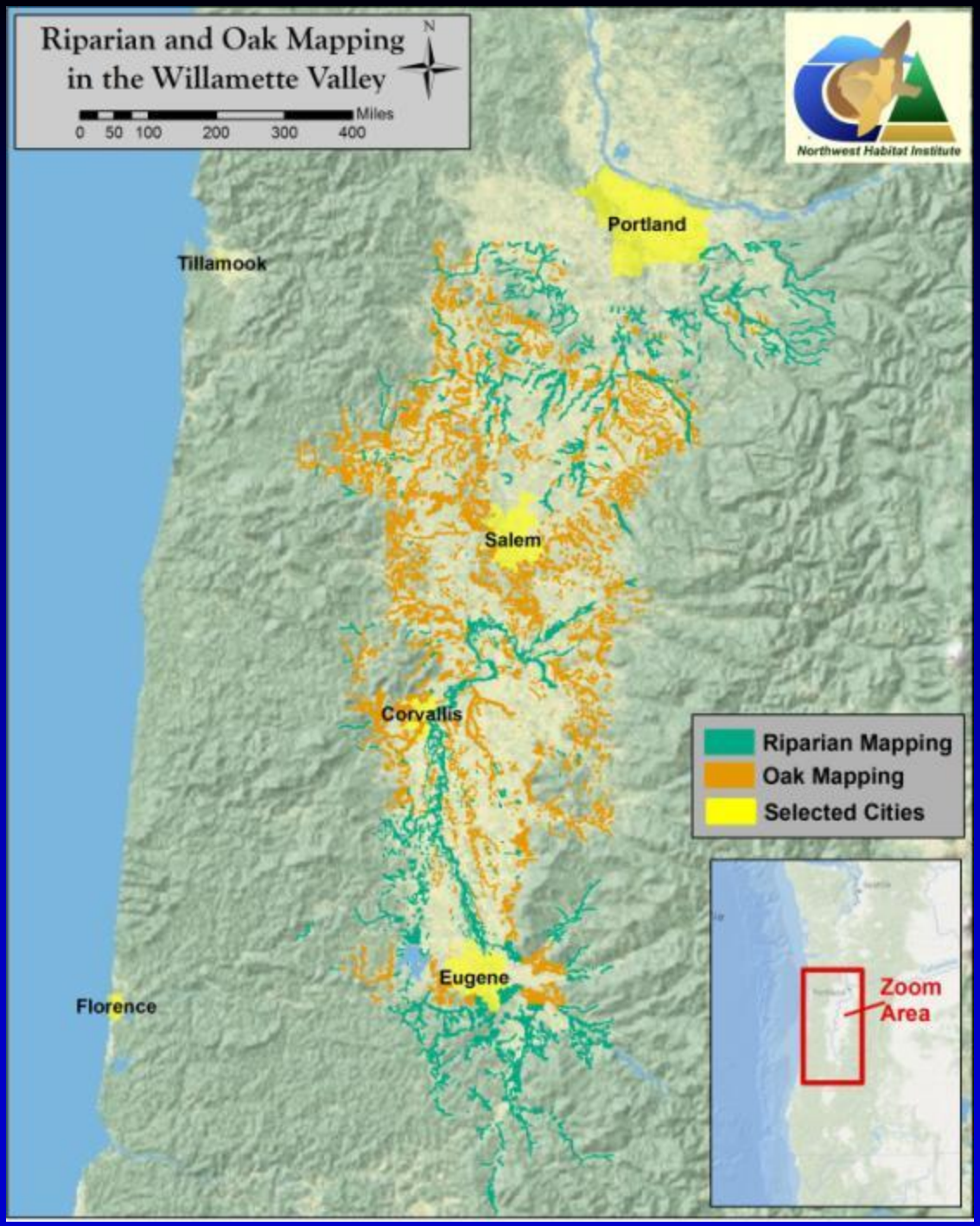
*****

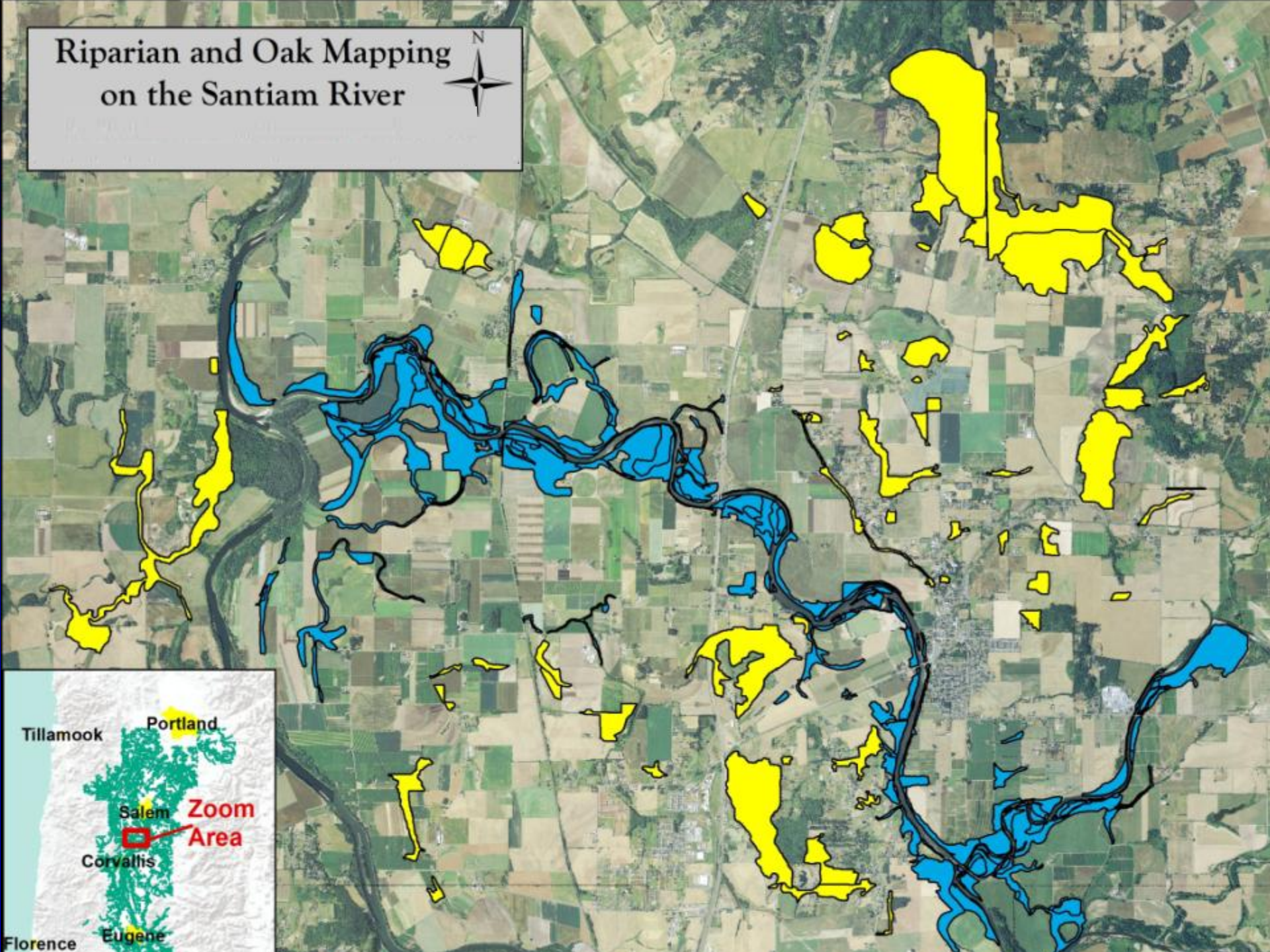
Use in Conservation Strategy to acquire additional land as an outcome of the Willamette Settlement

River tation (ft)	Initial Bed Elevation (ft)	Bed Elevation After 10 Yrs (ft)	Bed Elevation After 20 Yrs (ft)	Bed Elevation After 30 Yrs (ft)	Bed Elevation After 40 Yrs (ft)	Bed Elevation After 50 Yrs (ft)	Bed Elevation After 60 Yrs (ft)	Bed Elevation After 70 Yrs (ft)	Bed Elevation After 74 Yrs (ft)	River Station (ft)	25 year change in bed elevation	50 yea chang in be elevati
9377.71	612.5	612.5	612.5	612.5	612.5	612.5	612.5	612.5	612.5	59377.71	0.0	
9199.99	607.1	609.9	609.8	609.7	610.0	610.3	610.2	610.3	609.9	59199.99	2.6	
58900	604.1	604.8	604.8	604.8	605.6	606.1	606.0	606.1	605.6	58900	0.7	
8599.99	599.3	599.3	599.2	599.0	599.5	599.6	599.5	600.1	599.5	58599.99	-0.2	
8299.99	592.4	592.4	592.5	592.7	592.5	592.4	592.3	593.1	592.9	58299.99	0.2	
58000	589.2	589.3	589.3	589.4	589.4	589.1	589.1	589.0	589.2	58000	0.1	
7699.99	583.3	582.6	582.6	582.7	582.3	581.4	581.2	581.3	581.3	57699.99	-0.6	
7399.99	578.1	578.1	578.2	578.5	578.2	578.1	578.0	577.7	577.5	57399.99	0.2	
7099.99	573.0	573.9	574.0	574.4	573.0	572.8	572.9	573.0	572.5	57099.99	1.2	
6799.99	569.3	568.9	568.7	568.7	567.1	566.4	566.3	566.5	566.2	56799.99	-0.5	
6499.99	564.2	562.6	562.4	561.9	560.6	556.4	555.9	558.0	559.9	56499.99	-2.1	
56200	554.0	554.0	553.9	553.7	555.1	551.9	551.7	553.9	555.0	56200	-0.2	
5896.99	551.9	551.1	551.0	550.9	551.2	549.1	549.2	551.0	551.8	55896.99	-1.0	
5619.44	549.1	546.3	546.0	545.6	545.8	546.6	546.7	548.1	548.7	55619.44	-3.3	
5300.56	543.2	543.1	543.1	543.1	542.8	544.2	544.4	545.1	545.0	55300.56	-0.1	
4959.99	536.9	537.3	537.4	537.6	537.9	539.6	539.8	540.1	539.7	54959.99	0.6	
4696.94	532.5	532.9	533.0	533.1	533.2	535.2	535.5	535.4	534.6	54696.94	0.6	
4398.62	524.1	522.1	521.9	521.5	518.6	514.1	513.9	506.3	506.0	54398.62	-2.4	-1
4098.72	522.7	521.5	521.3	521.0	518.9	515.3	515.0	506.7	506.0	54098.72	-1.5	
3803.85	513.4	510.0	509.6	508.6	502.5	498.3	498.2	500.4	500.8	53803.85	-4.3	-1
3500.53	510.2	507.9	507.7	505.8	501.2	498.1	498.1	499.3	500.0	53500.53	-3.4	-1
53200.8	506.7	504.9	504.2	502.0	499.0	496.6	496.7	497.5	498.3	53200.8	-3.6	-1
2897.45	498.3	496.4	496.5	497.1	497.2	496.3	496.1	496.1	496.8	52897.45	-1.5	
52599.5	493.3	492.2	492.2	492.5	493.0	491.9	491.7	492.9	493.4	52599.5	-0.9	
2299.83	486.9	487.3	487.2	487.1	488.6	488.1	487.6	488.5	488.2	52299.83	0.3	
1999.33	481.4	482.2	482.1	481.9	483.7	483.8	483.6	485.6	485.2	51999.33	0.5	
1700.26	476.7	476.9	477.0	476.8	478.5	479.0	478.9	478.6	478.6	51700.26	0.2	
1400.11	473.0	473.1	473.1	473.2	474.4	475.2	476.1	476.4	476.0	51400.11	0.1	

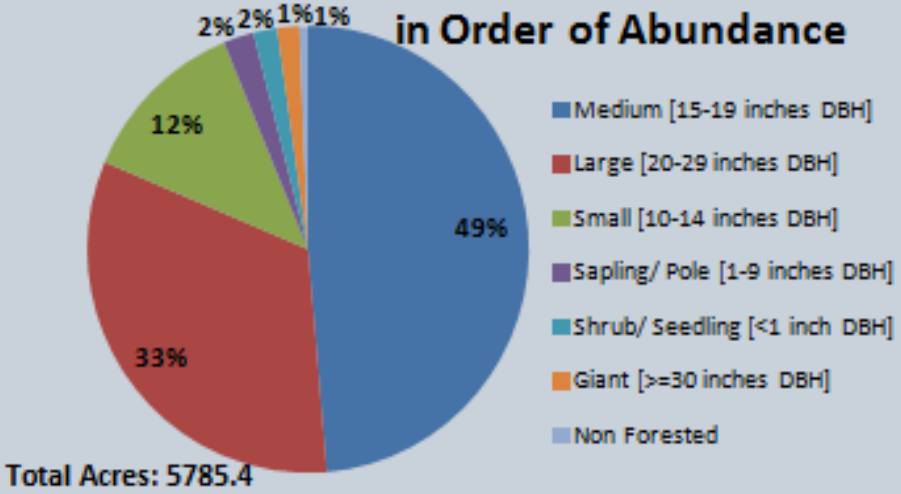

Hydrology Modeling
N
Map View Area
San Juan Creek
Project Area
Change in stream bed elevation
25 year
-28.07' - -14.74'
-14.73' - -2.28'
-2.27' - 0.28'
0.29' - 1.68'
1.69' - 3.02'
N
US Army
Corps of Engineers


Hydrology Modeling
50 year
Change in stream bed elevation
-30.00' - -13.21'
-13.20' - -4.03'
-4.02' - 0.17'
0.18' - 1.08'
1.09' - 3.61'
N
N
Map View Area
San Juan Creek
Project Area
US Army
Corps of Engineers


Riparian and Oak Mapping
in the Willamette Valley
N
Miles
0 50 100 200 300 400
Northwest Habitat Institute
Portland
Tillamook
Salem
Corvallis
Eugene
Florence
Riparian Mapping
Oak Mapping
Selected Cities
Zoom
Area

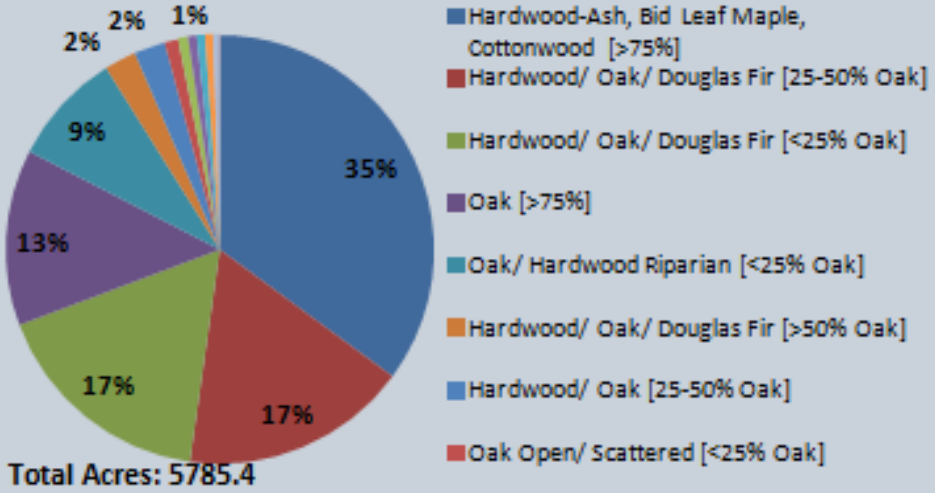

Riparian and Oak Mapping
on the Santiam River
N
Tillamook
Portland
Salem
Zoom
Area
Corvallis
Florence
Eugene

Proportion of Size Class in Order of Abundance



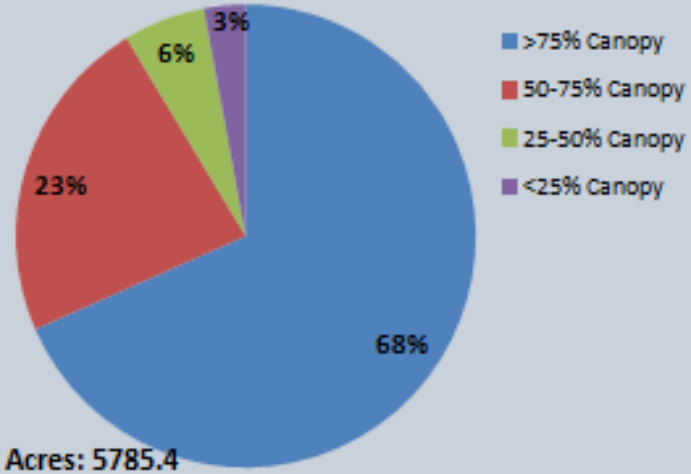
Total Acres: 5785.4

Proportion of Vegetation Classes in Order of Abundance



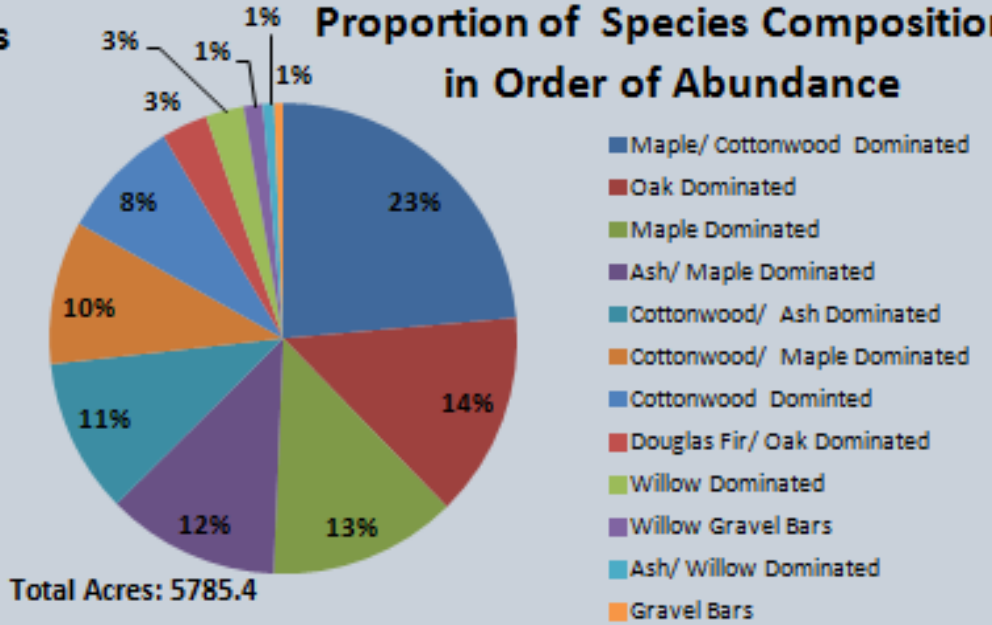
Total Acres: 5785.4

Proportion of Structural Conditions in Order of Abundance

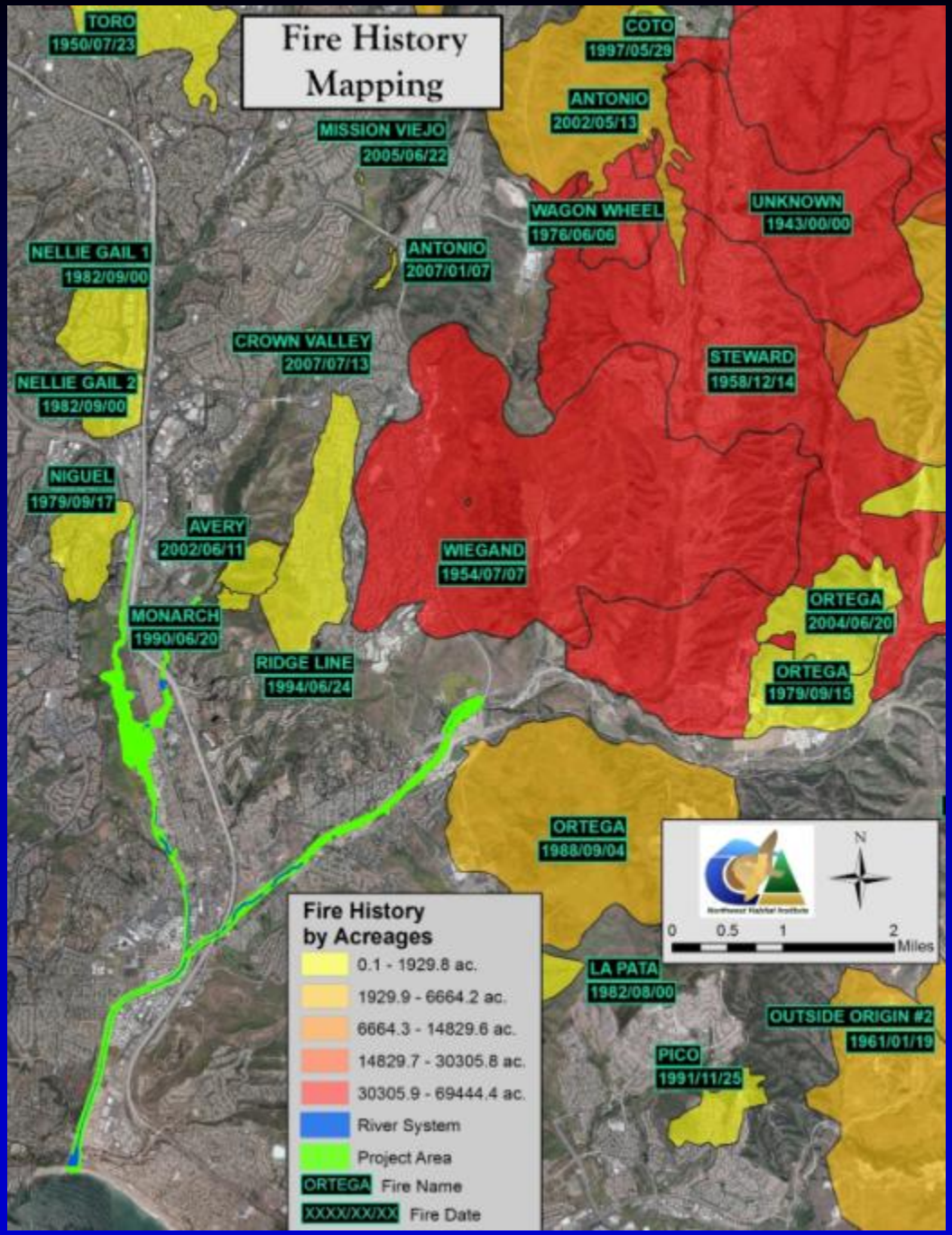


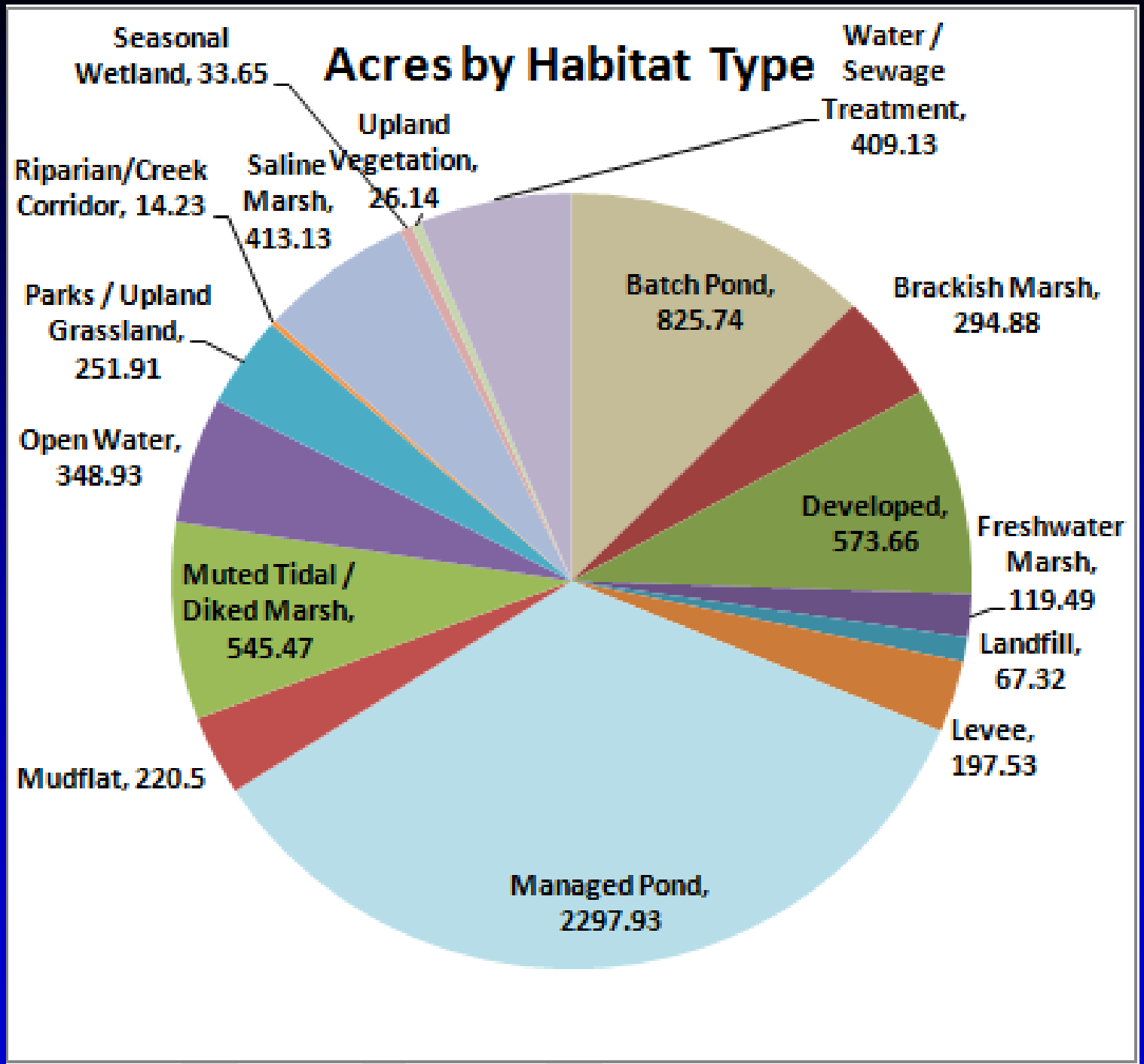
Total Acres: 5785.4

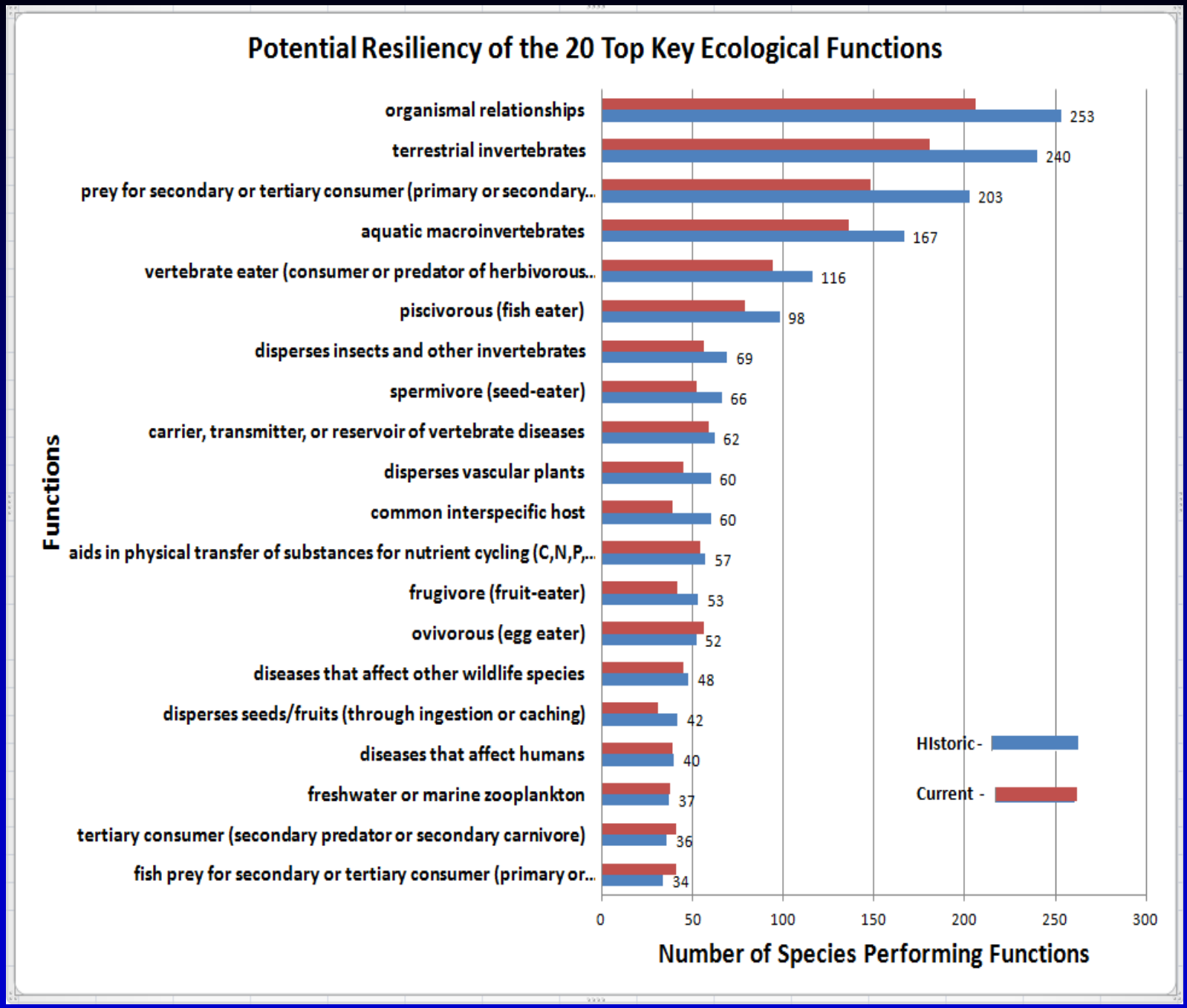
Proportion of Species Composition in Order of Abundance



Total Acres: 5785.4


Fire History Mapping
TORO
1950/07/23
COTO
1997/05/29
ANTONIO
2002/05/13
MISSION VIEJO
2005/06/22
WAGON WHEEL
1976/06/06
UNKNOWN
1943/00/00
NELLIE GAIL 1
1982/09/00
ANTONIO
2007/01/07
CROWN VALLEY
2007/07/13
STEWARD
1958/12/14
NELLIE GAIL 2
1982/09/00
NIGUEL
1979/09/17
AVERY
2002/06/11
WIEGAND
1954/07/07
ORTEGA
2004/06/20
MONARCH
1990/06/20
RIDGE LINE
1994/06/24
ORTEGA
1979/09/15
ORTEGA
1988/09/04
N
0 0.5 1 2
Miles
Fire History by Acreages
0.1 - 1929.8 ac.
1929.9 - 6664.2 ac.
6664.3 - 14829.6 ac.
14829.7 - 30305.8 ac.
30305.9 - 69444.4 ac.
River System
Project Area
ORTEGA Fire Name
XXXX/XX/XX Fire Date
LA PATA
1982/08/00
OUTSIDE ORIGIN #2
1961/01/19
PICO
1991/11/25

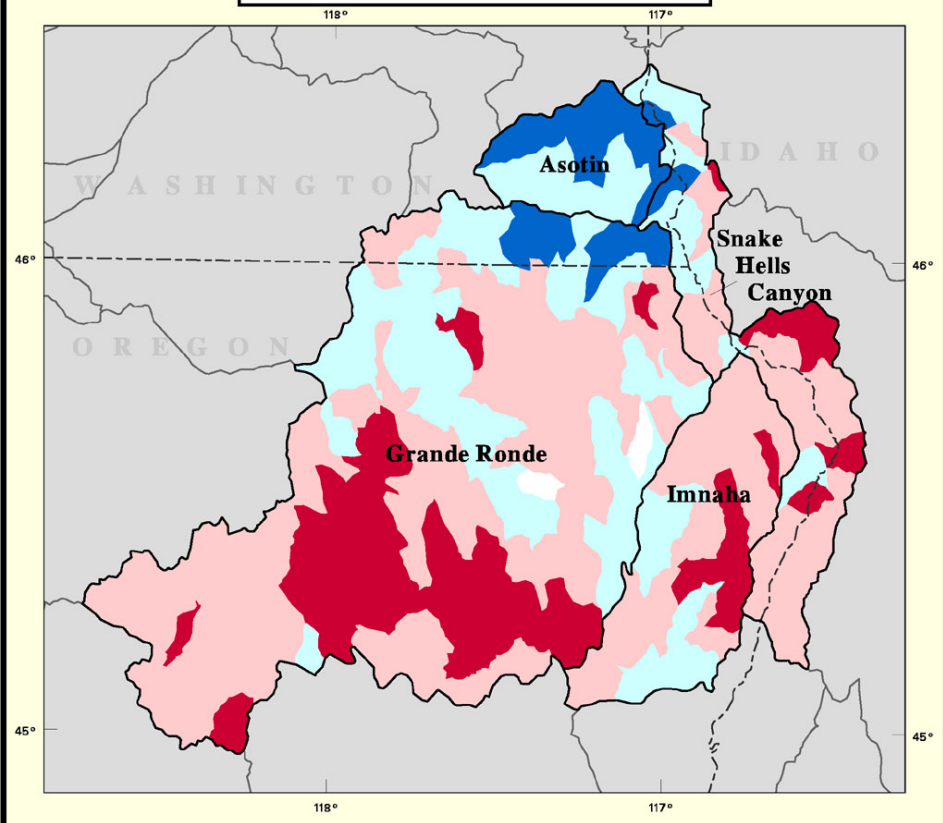

Acres by Habitat Type
Seasonal Wetland, 33.65
Water / Sewage Treatment, 409.13
Upland Vegetation, 26.14
Saline Marsh, 413.13
Riparian/Creek Corridor, 14.23
Parks / Upland Grassland, 251.91
Batch Pond, 825.74
Brackish Marsh, 294.88
Open Water, 348.93
Developed, 573.66
Freshwater Marsh, 119.49
Muted Tidal / Diked Marsh, 545.47
Landfill, 67.32
Levee, 197.53
Mudflat, 220.5
Managed Pond, 2297.93


Potential Resiliency of the 20 Top Key Ecological Functions
Functions
organismal relationships
terrestrial invertebrates
prey for secondary or tertiary consumer (primary or secondary...
aquatic macroinvertebrates
vertebrate eater (consumer or predator of herbivorous...
piscivorous (fish eater)
disperses insects and other invertebrates
spermivore (seed-eater)
carrier, transmitter, or reservoir of vertebrate diseases
disperses vascular plants
common interspecific host
aids in physical transfer of substances for nutrient cycling (C,N,P,...
frugivore (fruit-eater)
ovivorous (egg eater)
diseases that affect other wildlife species
disperses seeds/fruits (through ingestion or caching)
diseases that affect humans
freshwater or marine zooplankton
tertiary consumer (secondary predator or secondary carnivore)
fish prey for secondary or tertiary consumer (primary or...
253
240
203
167
116
98
69
66
62
60
60
57
53
52
48
42
40
37
36
34
HIstoric -
Current -
0
50
100
150
200
250
300
Number of Species Performing Functions

Change in KEF 5.1

Physically Affects (improves) Soil Structure, Aeration (typically by digging)

Historic (c.1850) to Current (1999)
Blue Mountain Province
Columbia River Basin, United States



- Positive Change (upper 25%: > = 2.82)
- Positive Change (lower 75%)
- No Change
- Negative Change (lower 75%)
- Negative Change (upper 25%: < = -3.09)

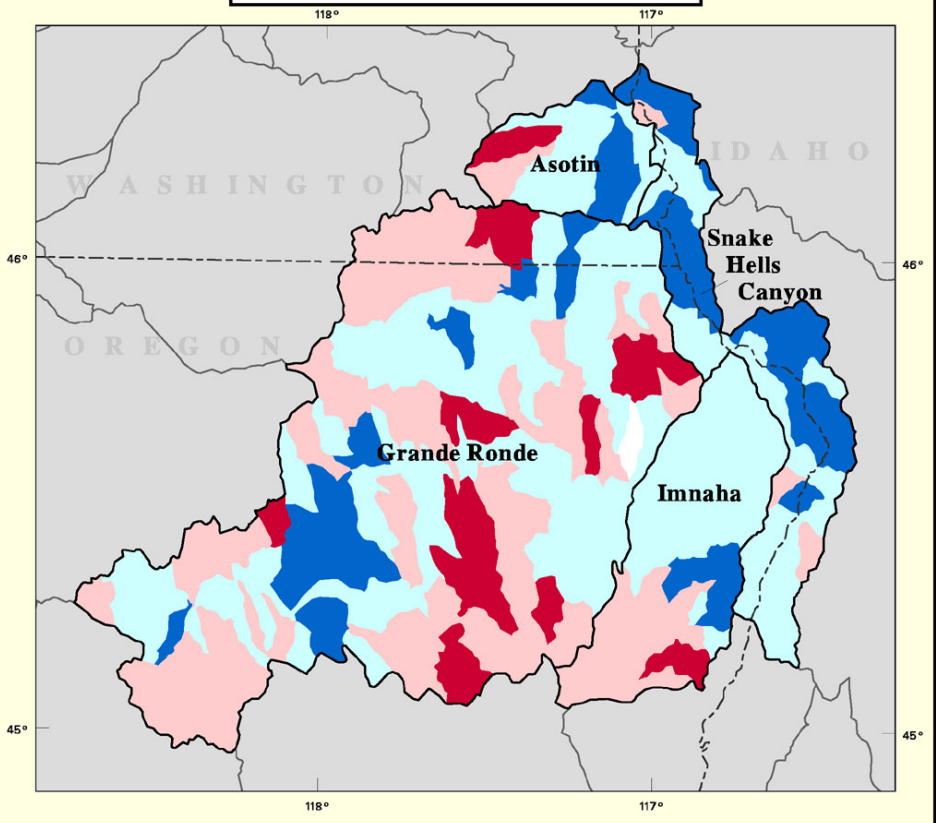
SCALE 1:1,250,000
1 inch represents 19.73 miles
5 0 5 10 15 20 25
Miles
July 2003

Source: Interactive Biodiversity Information System (IBIS). Northwest Habitat Institute. 2003.

Change in KEF 3.9

Primary Cavity Excavator in Snags or Live Trees

Historic (c.1850) to Current (1999)
Blue Mountain Province
Columbia River Basin, United States

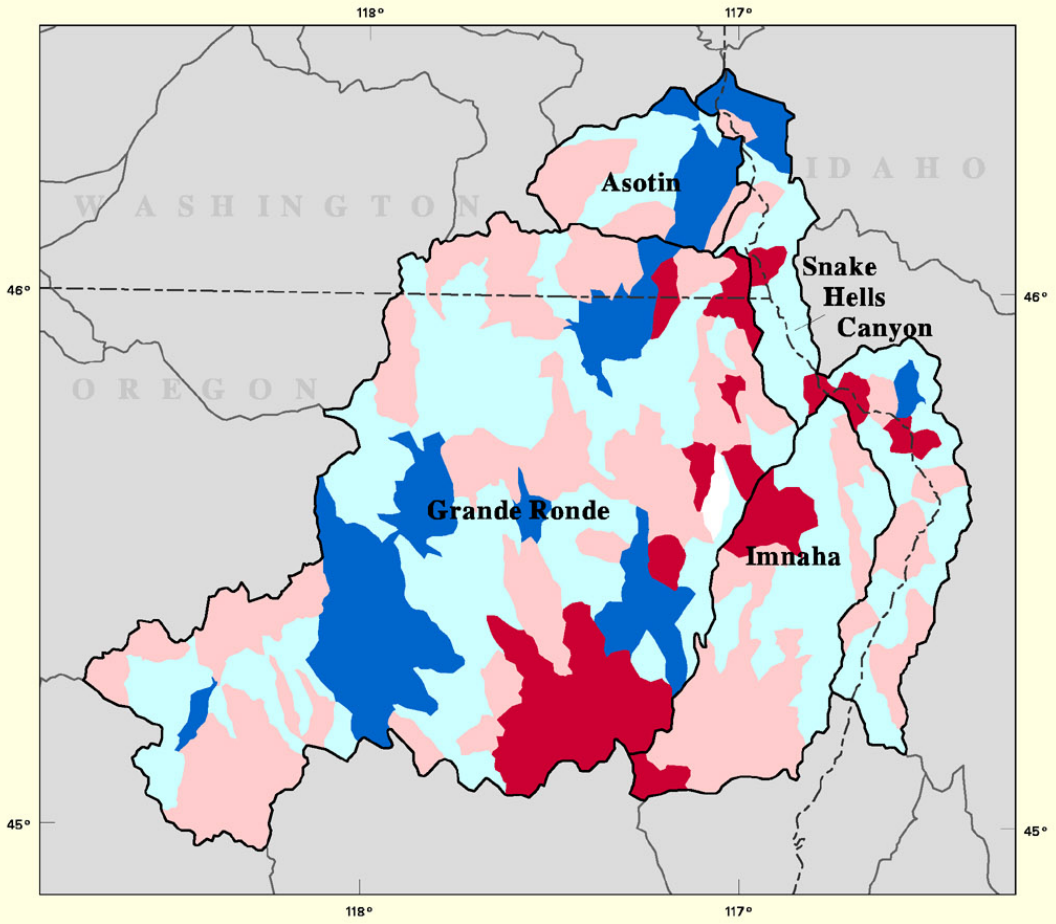


- Positive Change (upper 25%: > = 4.06)
- Positive Change (lower 75%)
- No Change
- Negative Change (lower 75%)
- Negative Change (upper 25%: < = -2.29)

SCALE 1:1,250,000
1 inch represents 19.73 miles
5 0 5 10 15 20 25
Miles
July 2003

Source: Interactive Biodiversity Information System (IBIS). Northwest Habitat Institute. 2003.

Change in Total Functional Diversity
Historic (c.1850) to Current (1999)
Blue Mountain Province
Columbia River Basin, United States



- Positive Change (upper 25%: > = 2.10)
- Positive Change (lower 75%)
- No Change
- Negative Change (lower 75%)
- Negative Change (upper 25%: < = -2.02)

SCALE 1:1,250,000

1 inch represents 19.73 miles

5 0 5 10 15 20 25

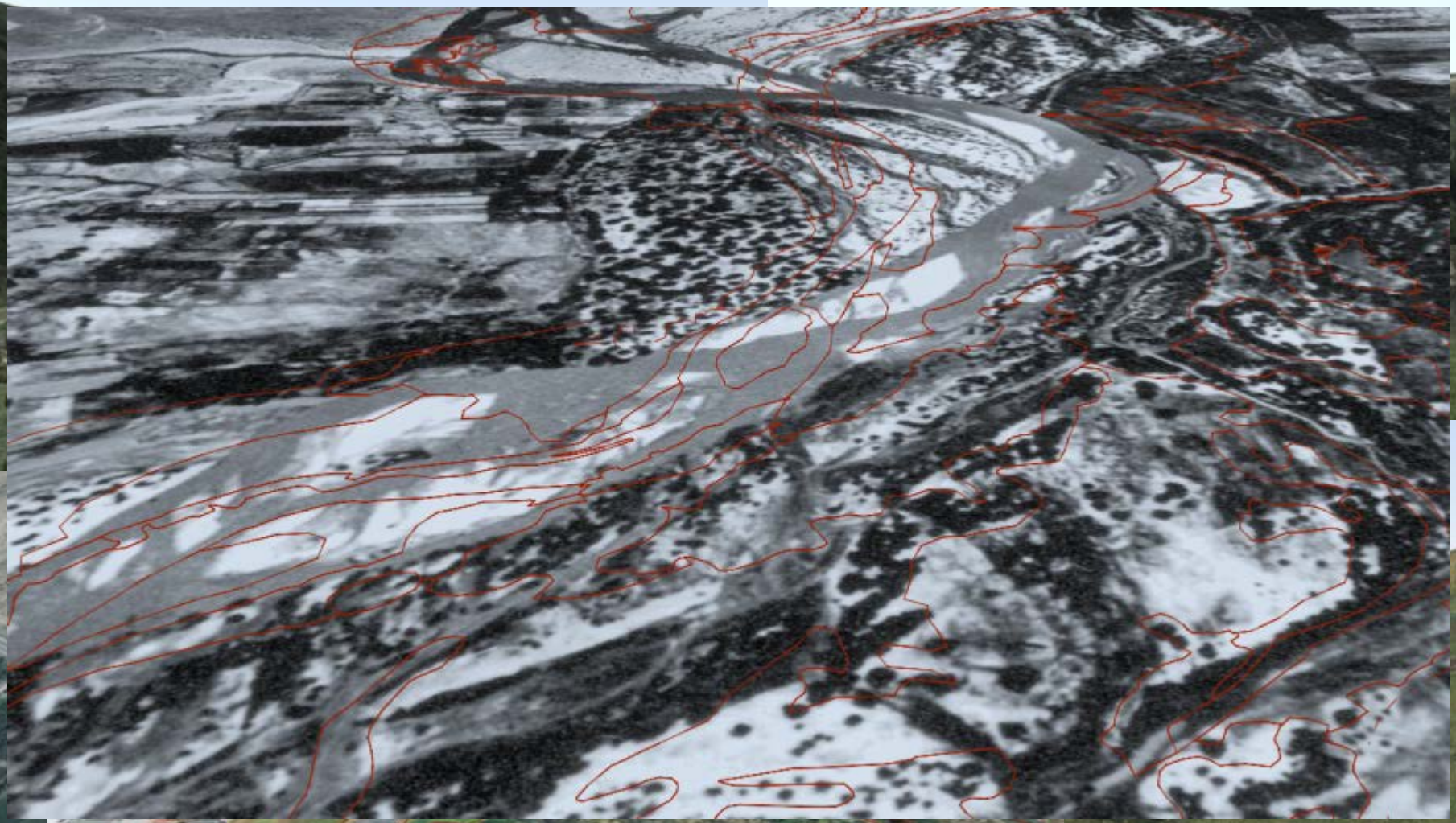
Miles

July 2003

Source: Interactive Biodiversity Information System (IBIS). Northwest Habitat Institute. 2003.

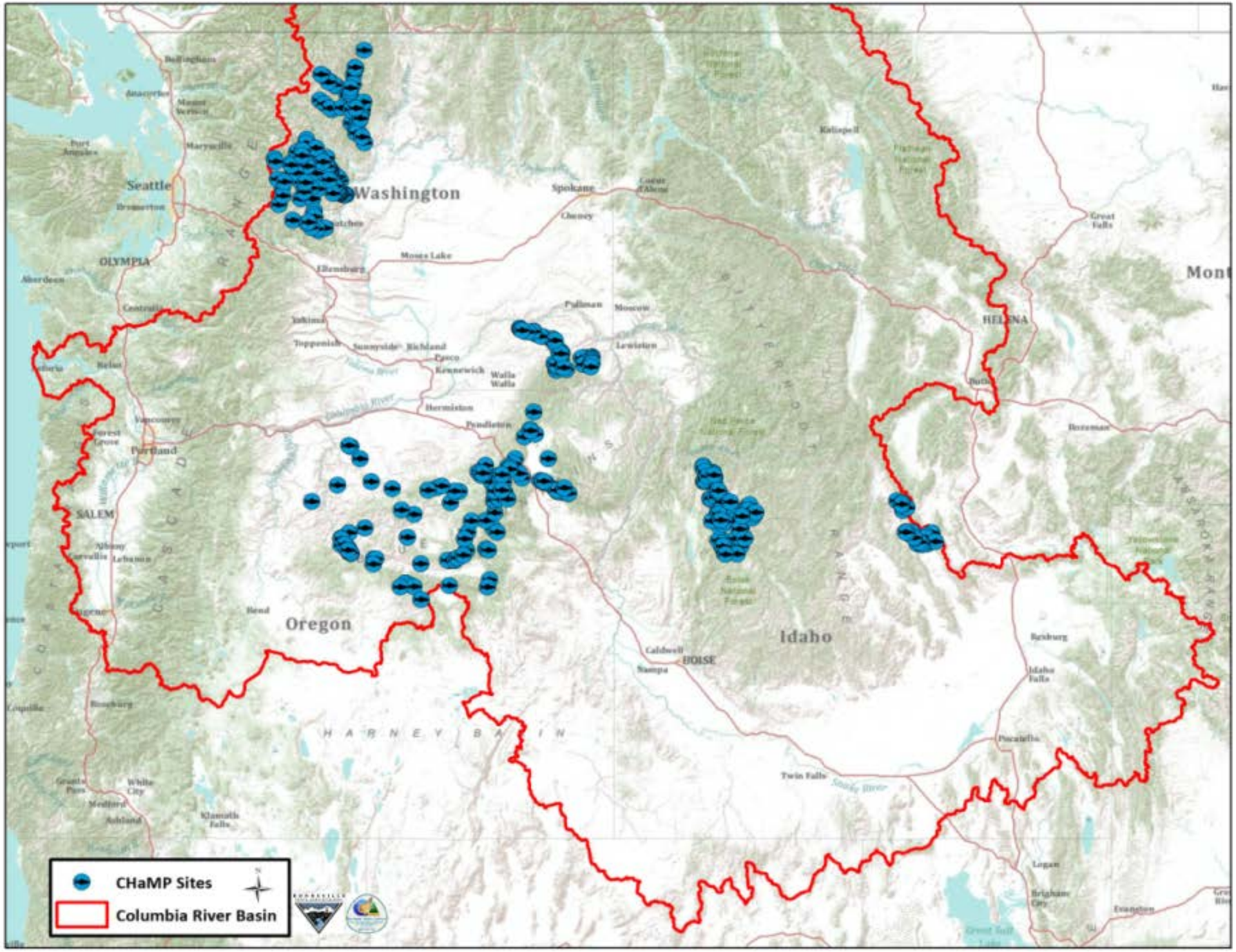

2005 NAIP Aerial Imagery
Green Island Conservation Site
Change Detection 2005 - 2009
2009 NAIP Aerial Imagery
Channel Closes off
Riparian forest removed
Channel Closes off
Riparian forest removed
Channel Closes off
New gravel bar island
Increase in density and age class of gravel bar willows
Island bisected

Visualization and Fly Over



Habitat Evaluation Surveys

Integrate Riparian Habitat Evaluation Surveys with CHaMP


Washington
Oregon
Idaho
Seattle
Spokane
OLYMPIA
Portland
SALEM
BOISE
HELENA
Moses Lake
Pullman
Lewiston
Walla Walla
Hermiston
Pendleton
Yakima
Richland
Kennewick
Twin Falls
Idaho Falls
Pocatello
Bend
Medford
Klamath Falls
HARNEY BASIN
CHaMP Sites
Columbia River Basin

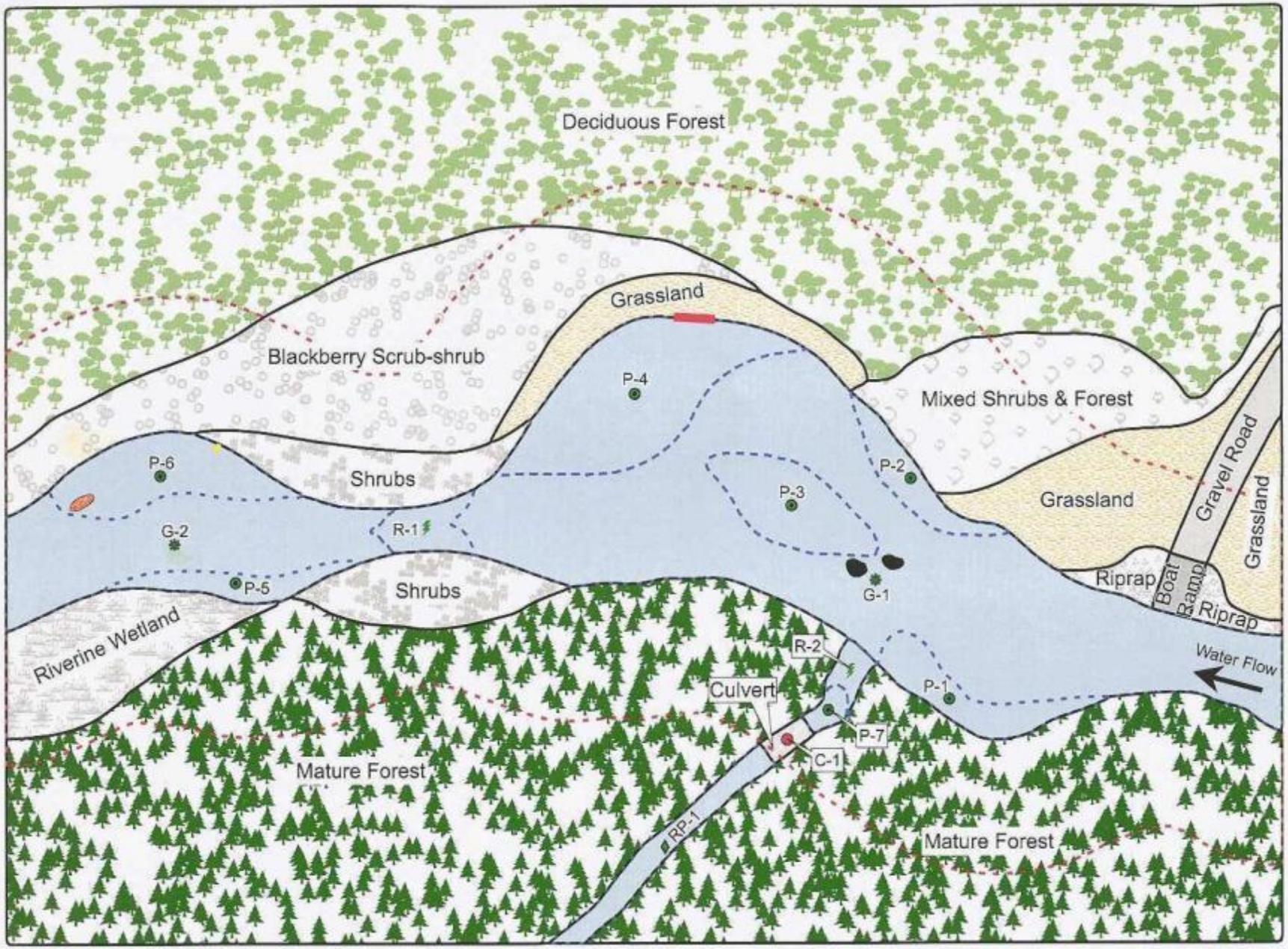
ISRP's CHaMP Project Review June/July 2011

❖ Role up specific habitat conditions to watershed and subbasin scale (p. 12) **Wildlife High-Level Indicators**

❖ Look at other methods and protocols side by side in the field (p. 17) **CHAP – Habitat Evaluation Team**

❖ Little evidence that habitat monitoring is coordinated in such a way to take advantage of multiple restoration actions occurring in the same area (p. 12) **Spatial Library and Repository**

❖ Explore whether monitoring more sites less intensively is better than monitoring fewer sites more intensively (p. 18)
CHAP – Habitat Evaluation Team

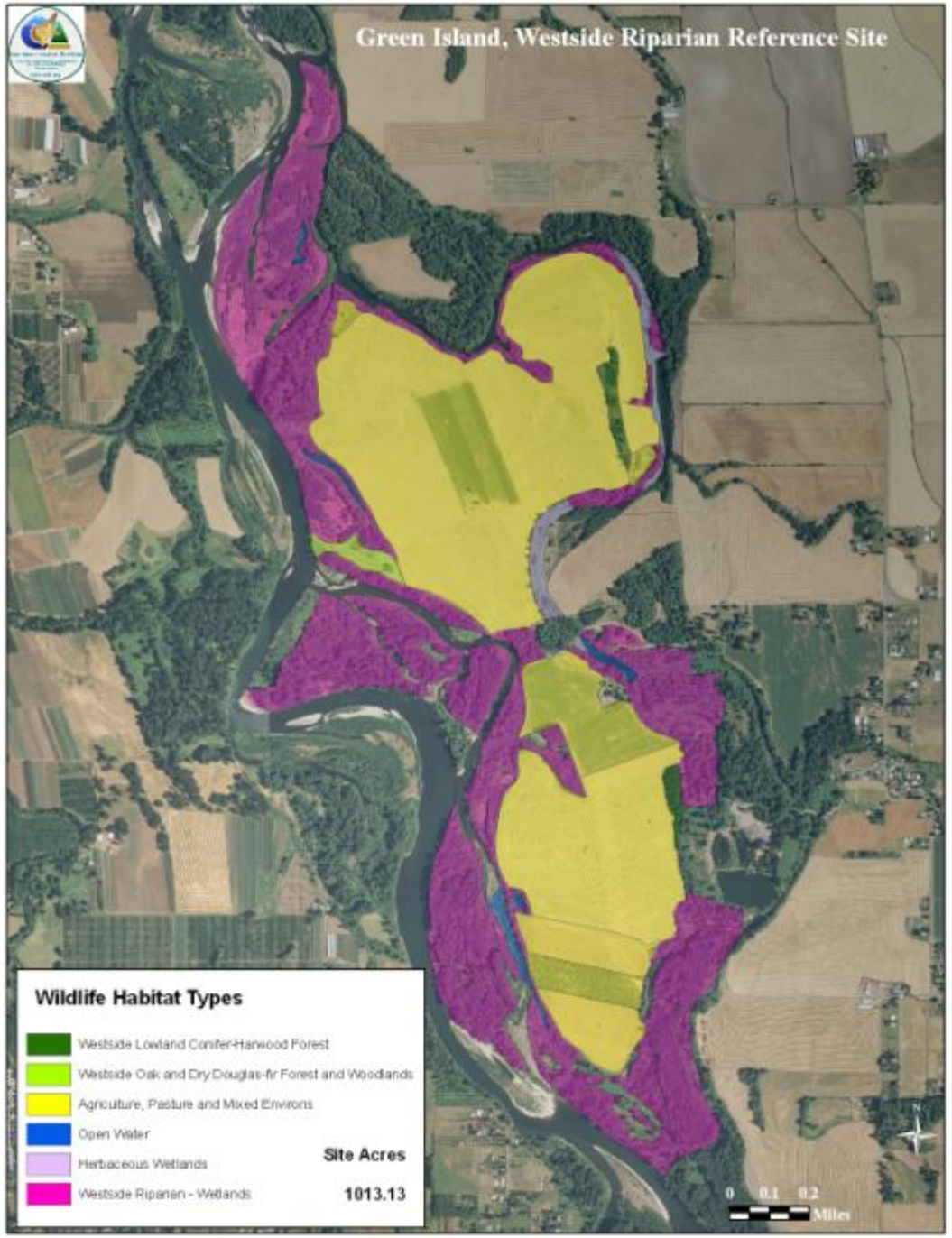

Deciduous Forest
Grassland
Blackberry Scrub-shrub
Mixed Shrubs & Forest
P-4
P-6
Shrubs
P-2
P-3
Grassland
Gravel Road
Grassland
G-2
R-1
P-5
Shrubs
G-1
Riprap
Boat Ramp
Riprap
Riverine Wetland
R-2
Water Flow
Culvert
P-1
P-7
C-1
Mature Forest
RP-1
Mature Forest
Submapunits - C = Culvert G = Glide P = Pool R = Riffle RP = Rapid
Attributes - Influence Area Boulders Undercut Bank Root Wad Spawning Gravel Submapunit Boundary

“ISRP Retrospective Report”.

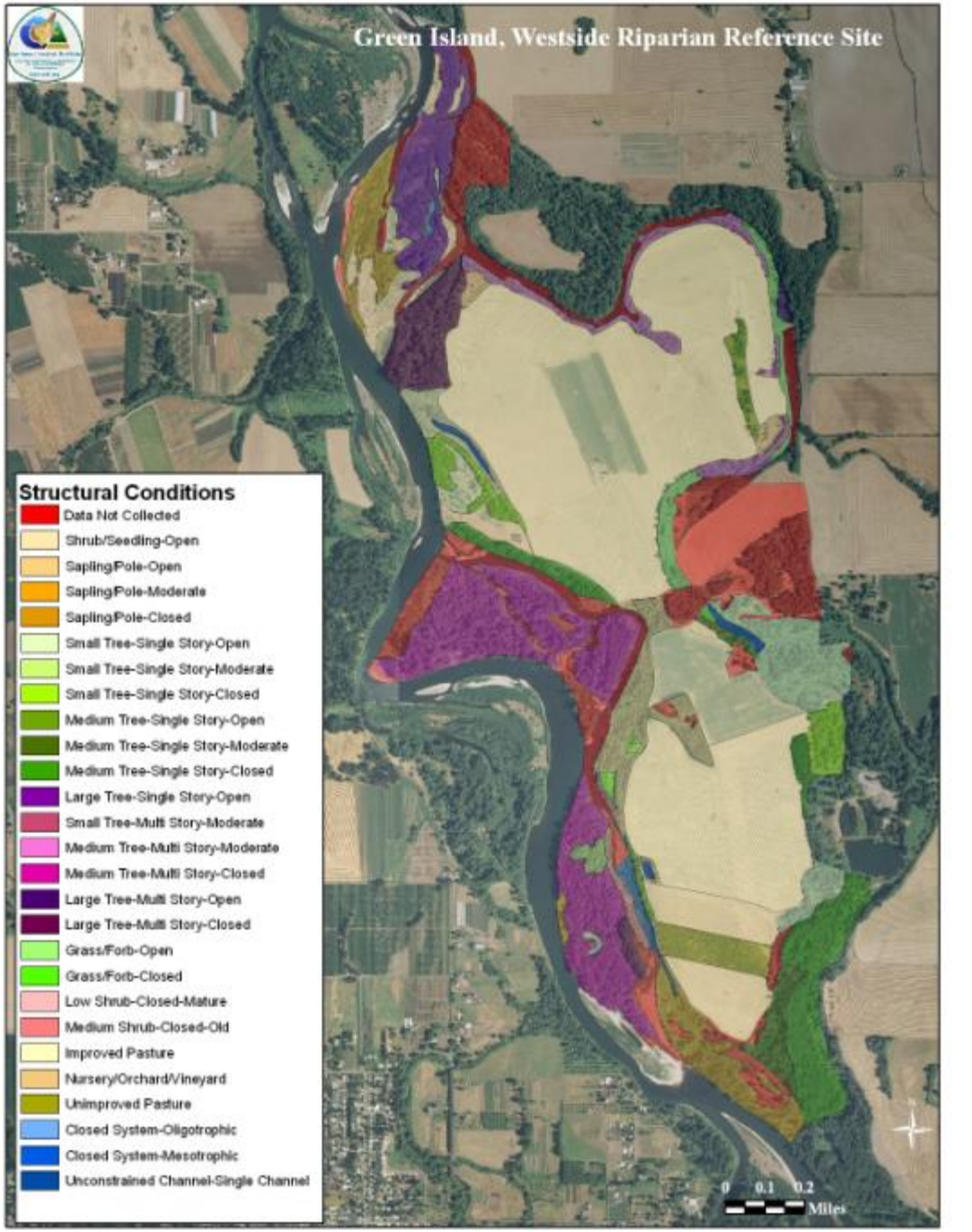
The Concept : CHAP

Provide Spatially Explicit Information to Add Value

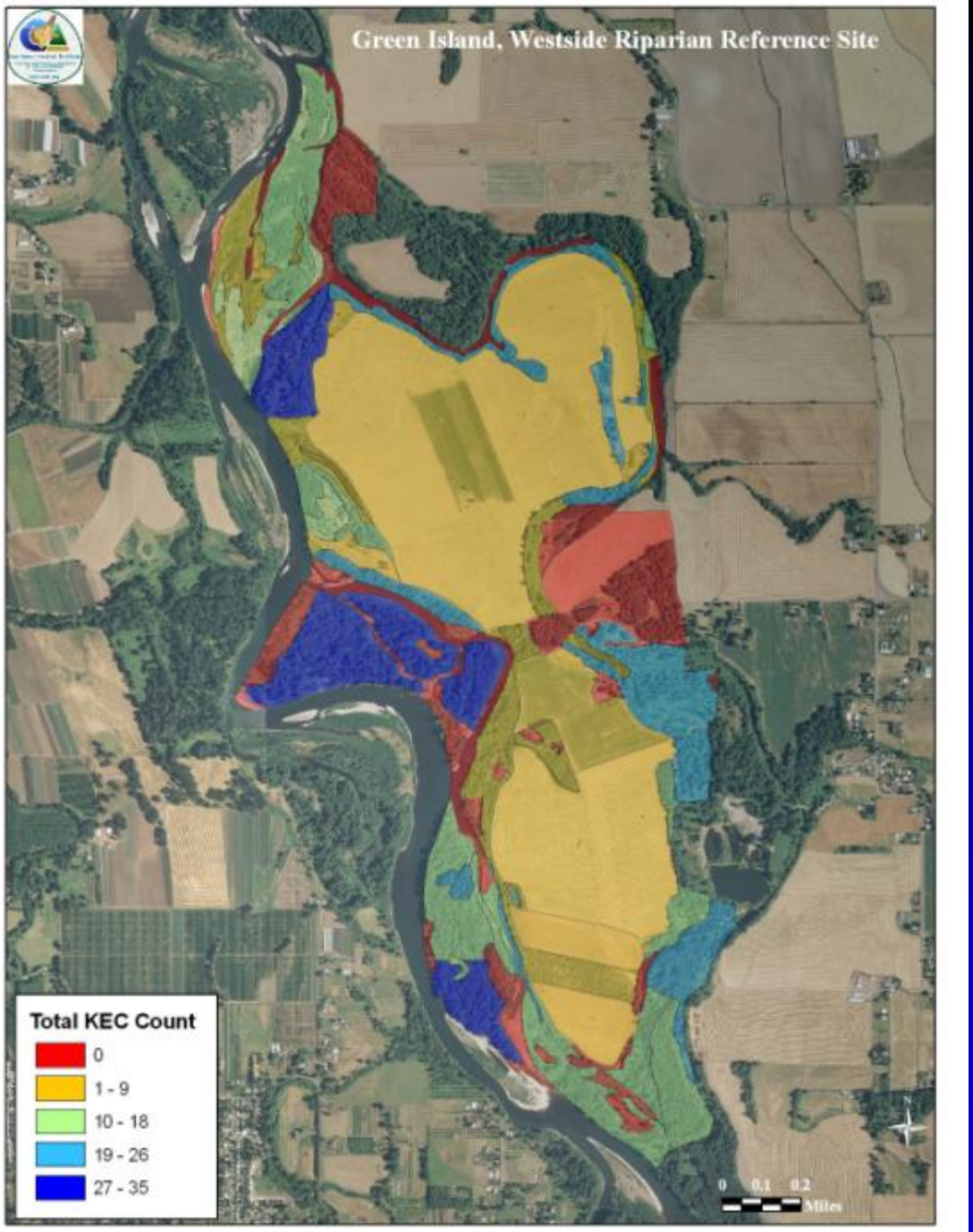
Wildlife-Habitat Types



Structural Conditions



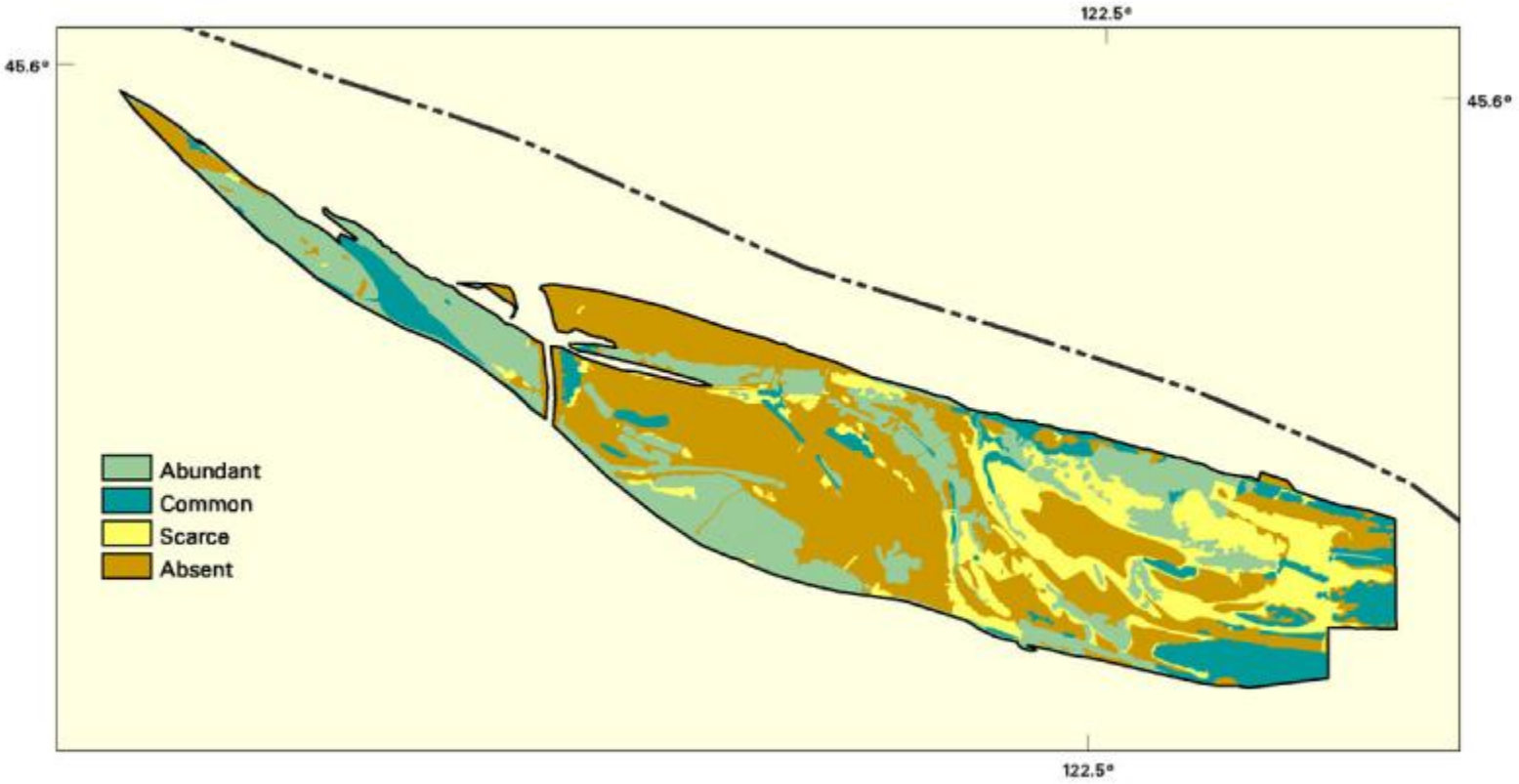
Key Environmental Correlates (KECs)



Example

Current Key Ecological Correlates

Down Wood



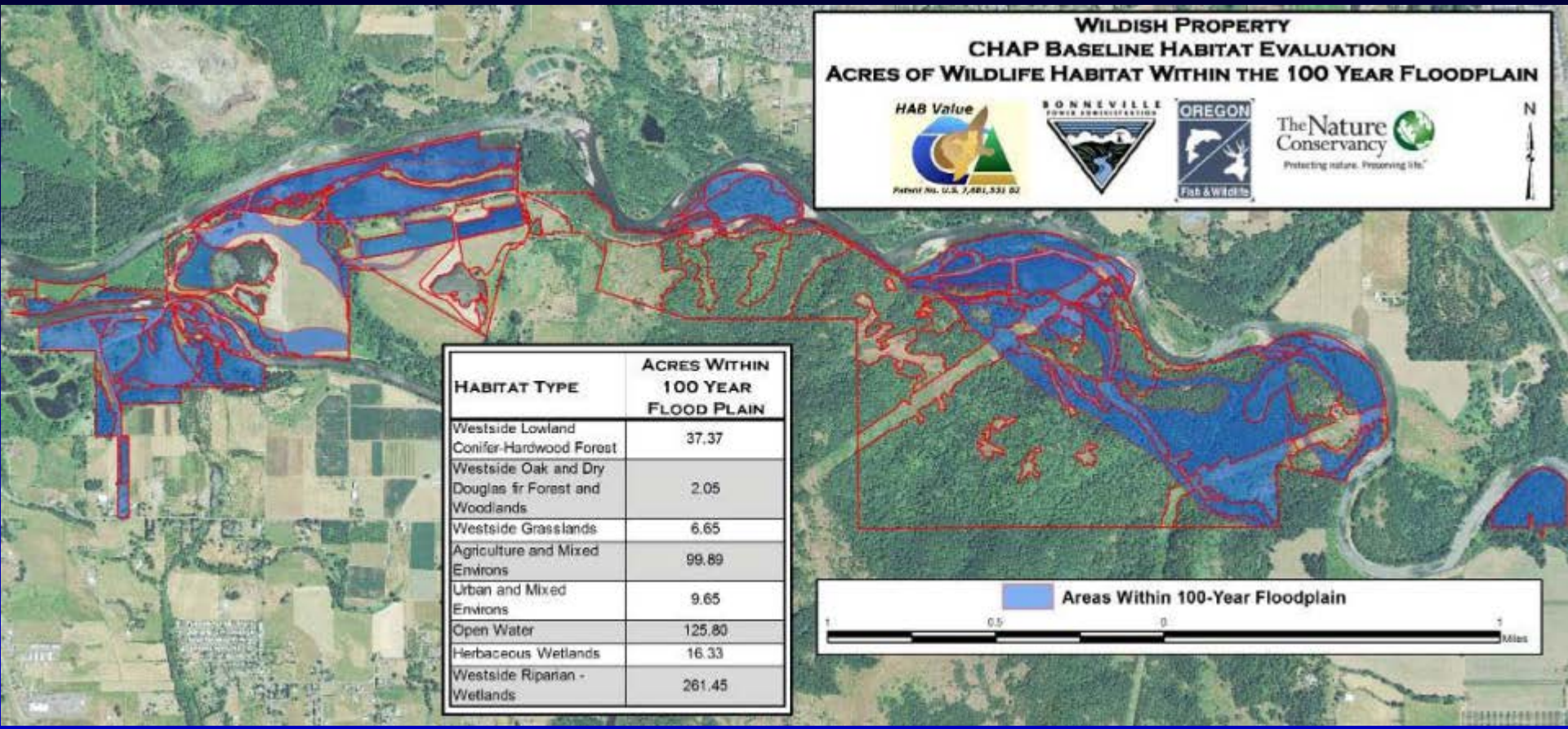
SCALE 1:40,300

1 inch represents 0.64 miles

.5 0 0.5 1 1.5 2 2.5

Miles

August 2002



Habitat Type	Acres Within 100 Year Flood Plain
Westside Lowland Conifer-Hardwood Forest	37.37
Westside Oak and Dry Douglas fir Forest and Woodlands	2.05
Westside Grasslands	6.65
Agriculture and Mixed Environs	99.89
Urban and Mixed Environs	9.65
Open Water	125.80
Herbaceous Wetlands	16.33
Westside Riparian - Wetlands	261.45

TRAINING



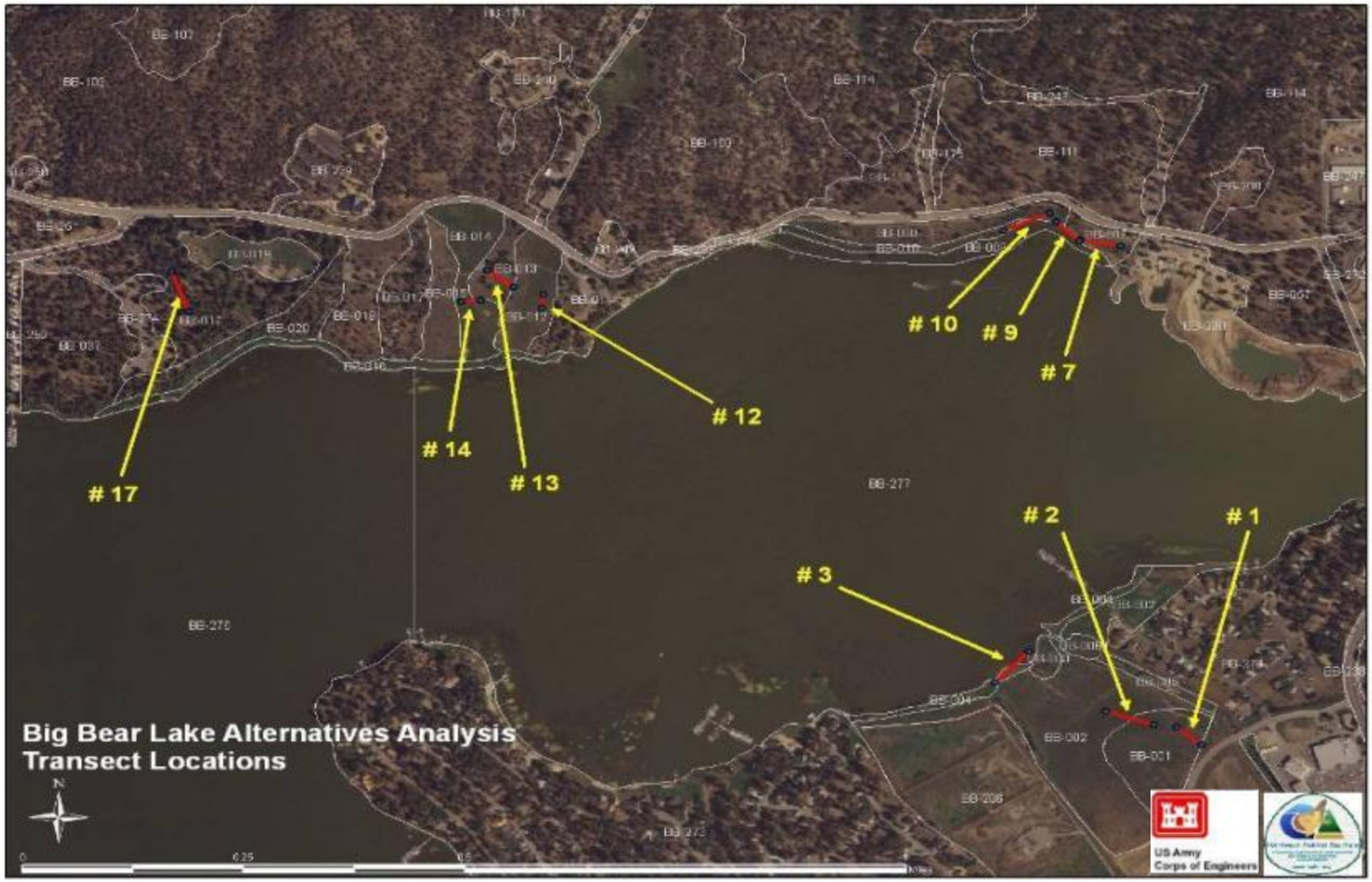



Maintaining Continuity of Information

Habitat Variable Measurement Protocols

Verification Transects

Status & Trends Monitoring



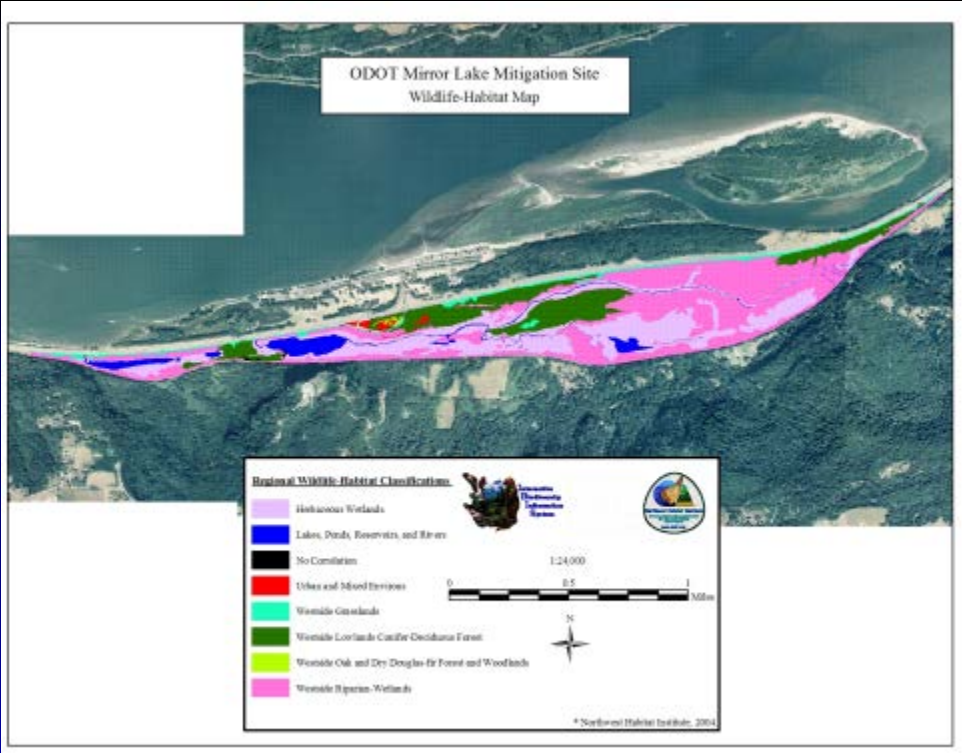
Compliance, Status & Trends

As Identified in MERR Plan

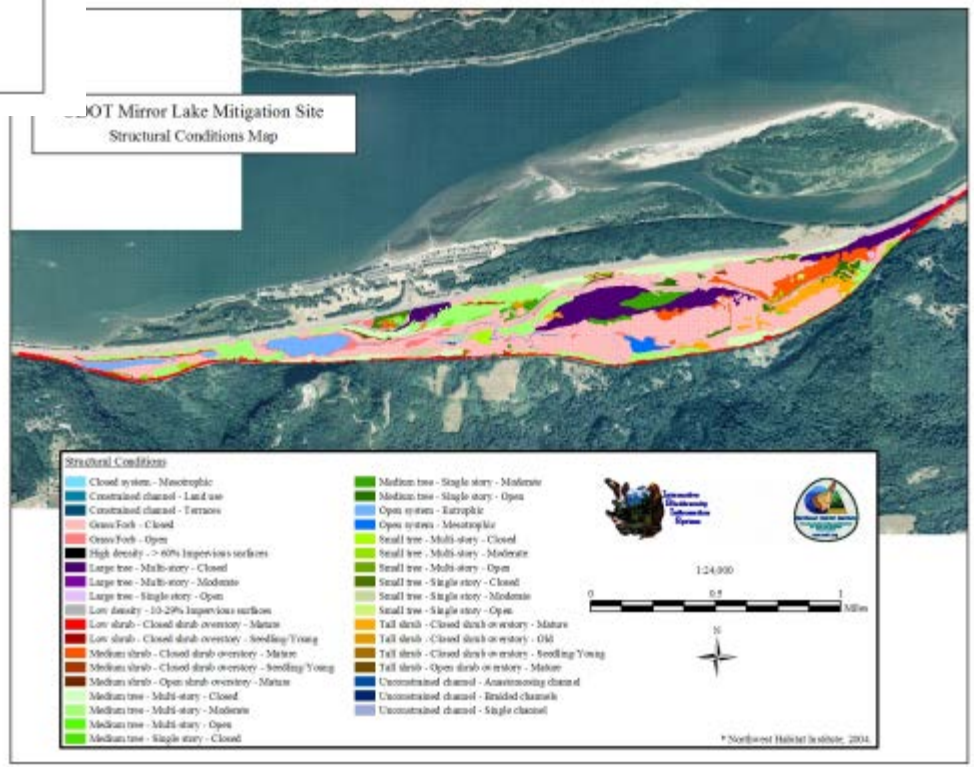
PURPOSE: To have a consistent approach to habitat evaluations that employs sound scientific principles, builds a common understanding for management, and can be used in multiple venues.

"By looking through the eyes and lives of fish and wildlife"

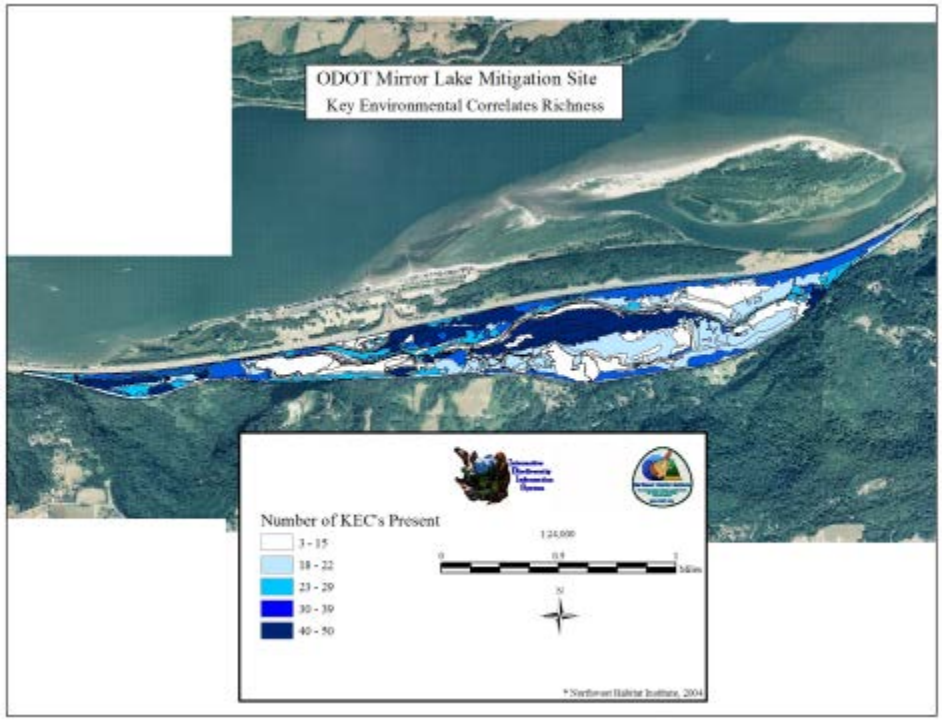
Northwest Habitat Institute



Wildlife-Habitat

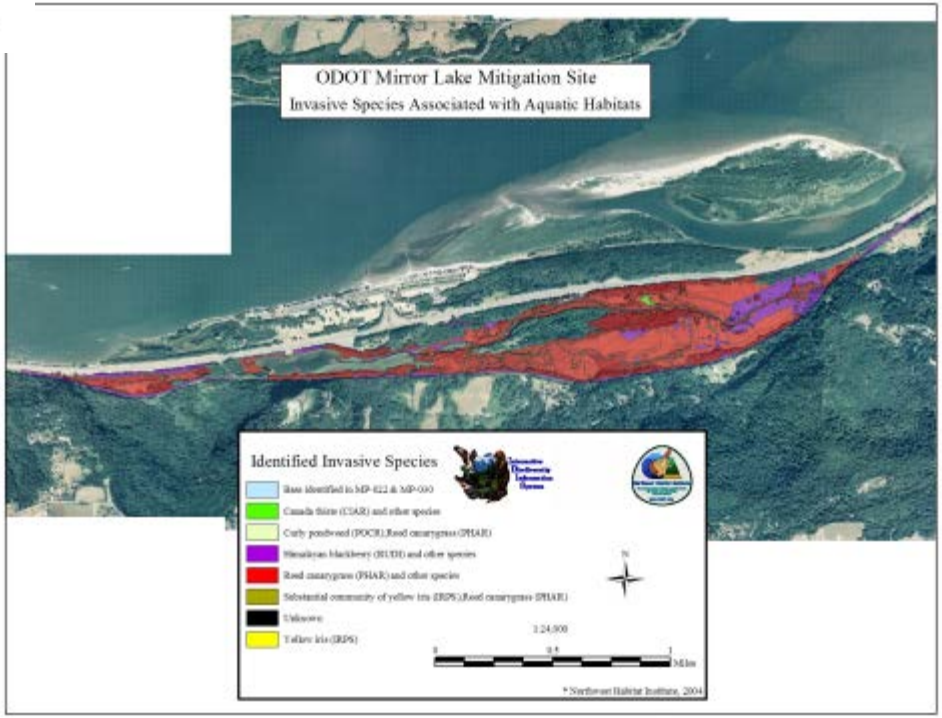


Structural Conditions



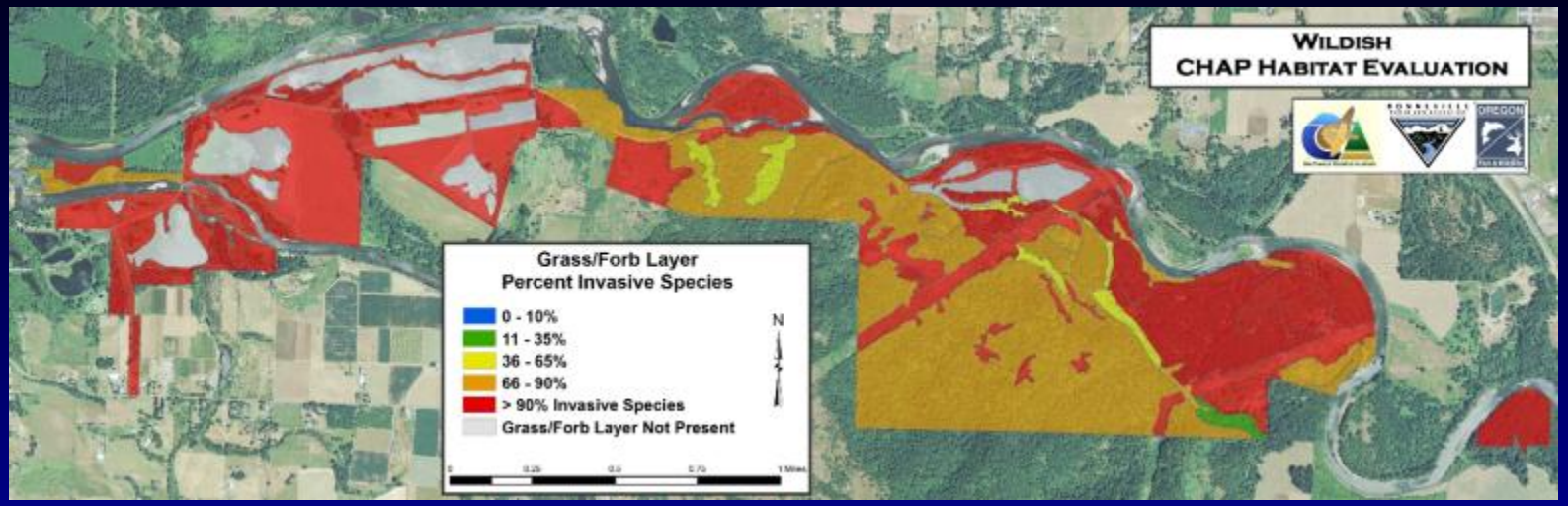
Key Environmental Correlates (KECs)

Invasive Plant Species

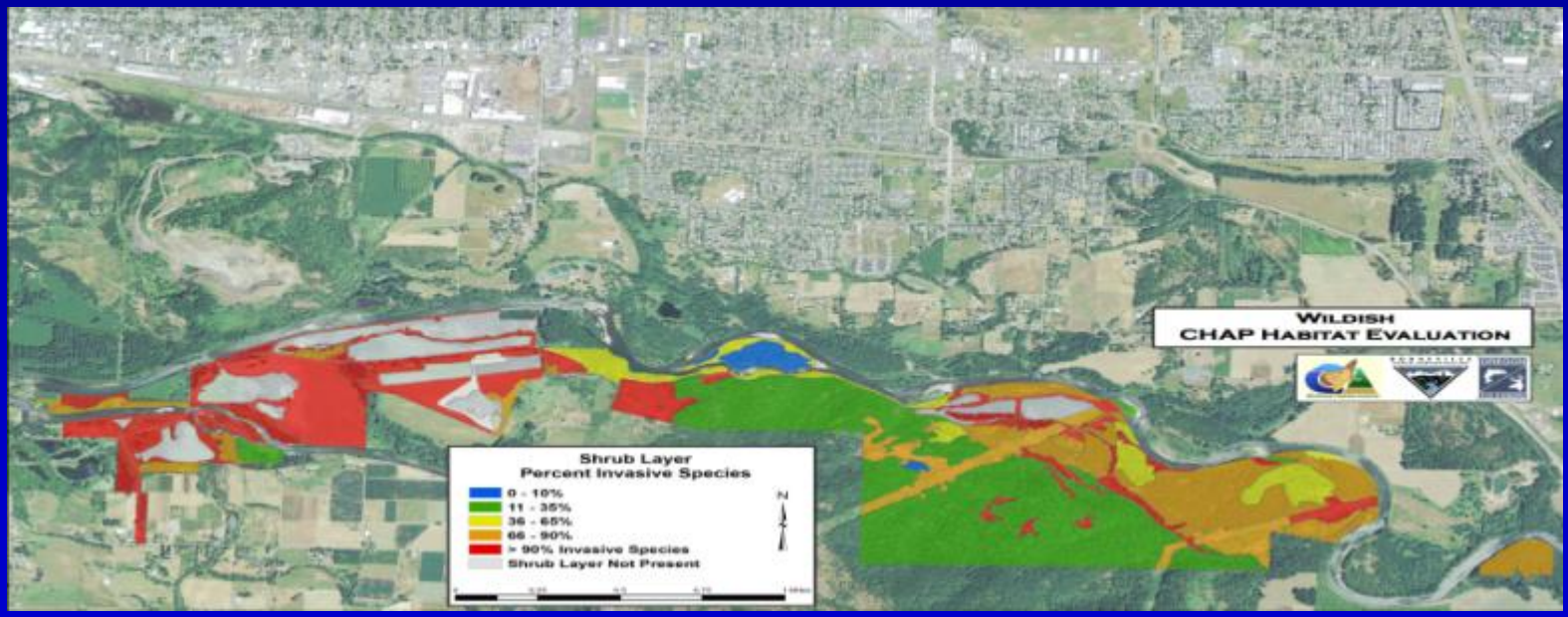


Grass/Forb Layer

Invasive Plant Species

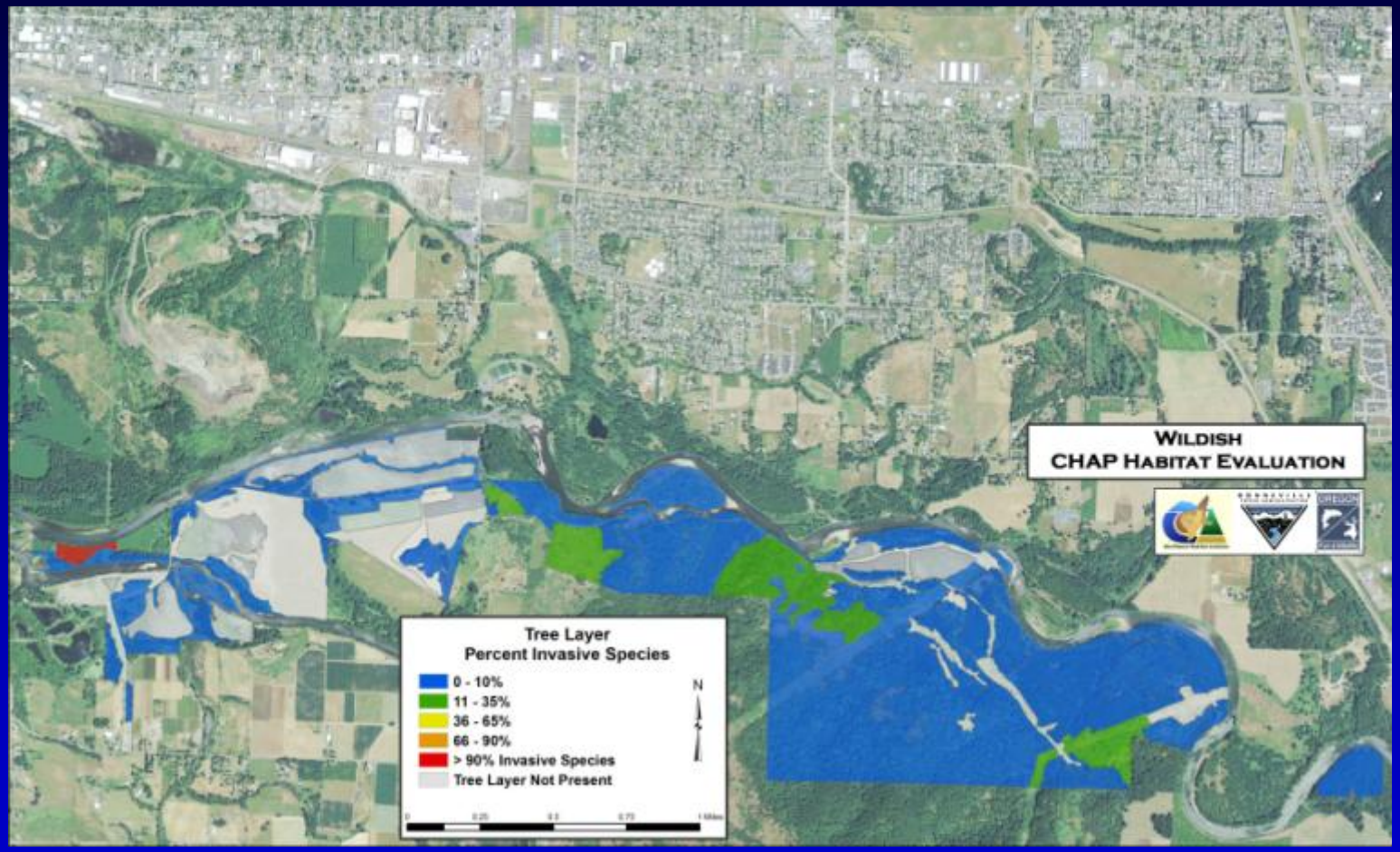


Shrub Layer

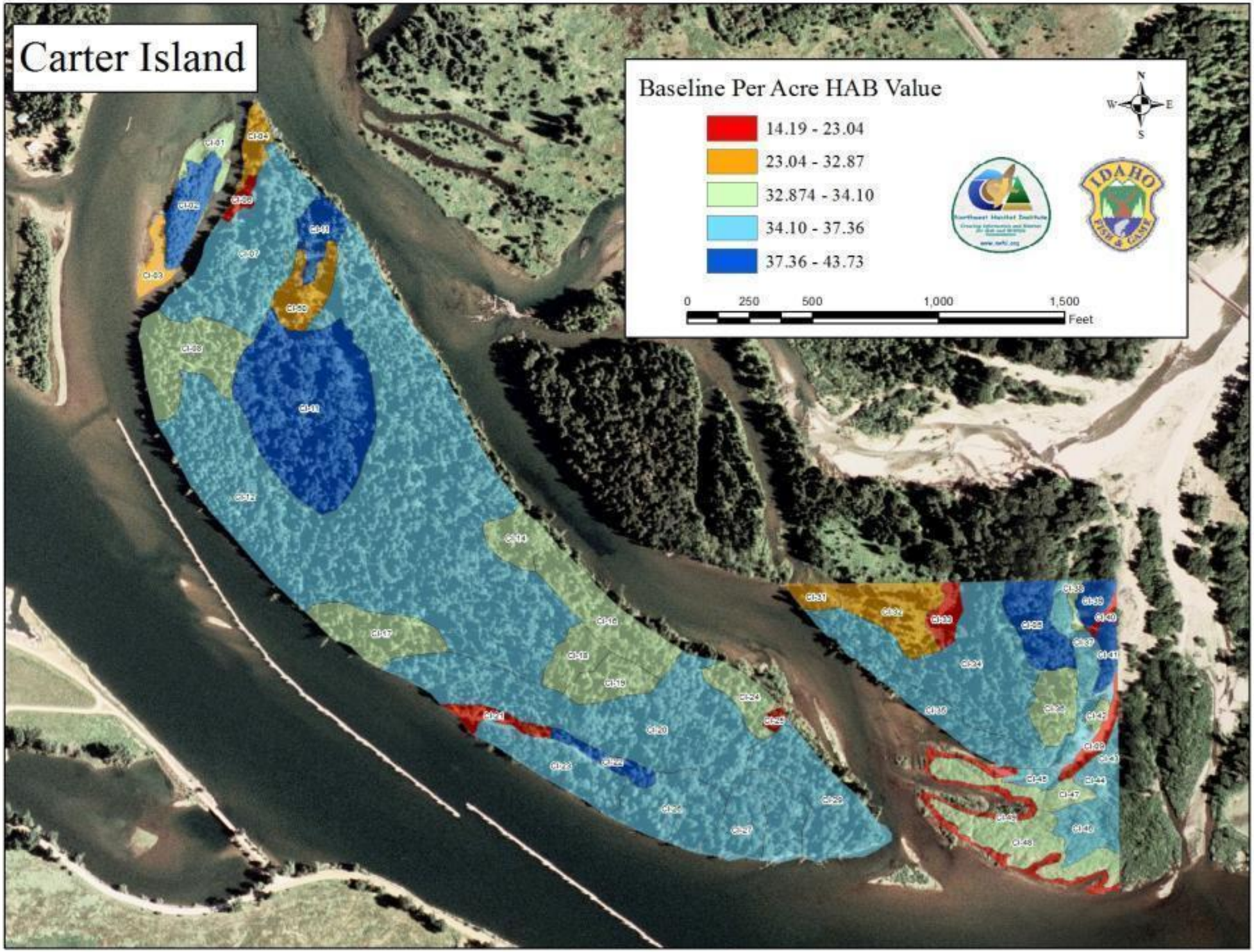


Invasive Plant Species

Tree Layer



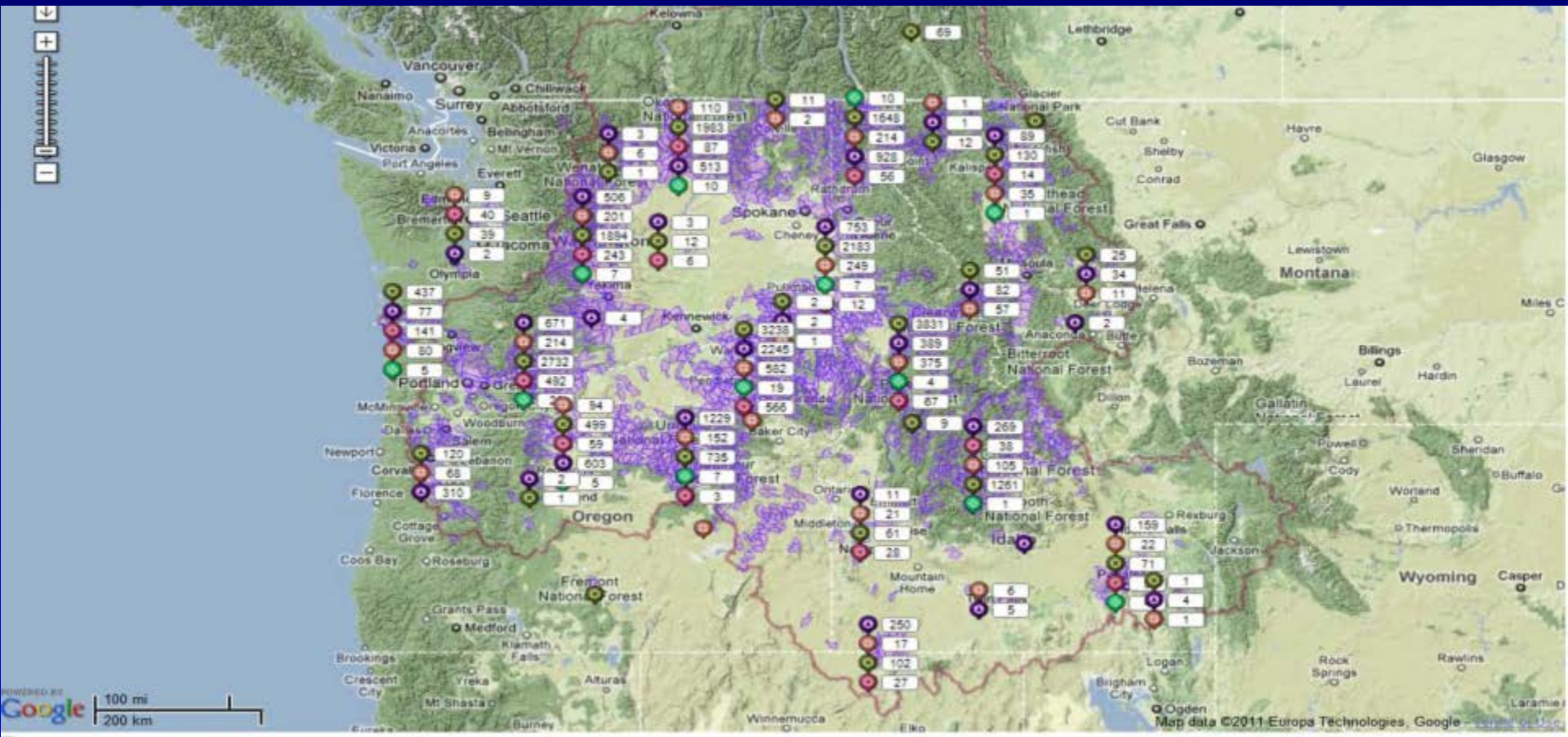
Track Rate of Progression


Carter Island
Baseline Per Acre HAB Value
14.19 - 23.04
23.04 - 32.87
32.874 - 34.10
34.10 - 37.36
37.36 - 43.73
N
W
E
S
0
250
500
1,000
1,500
Feet
IDAHO
FISH & GAME

GIS Spatial Library & Repository

Current Fish & Wildlife Habitat Collection Projects

- 228 - Habitat Collection Projects
- Estimated cost $772 million to 1.2 billion dollar investment
- 136 project locations

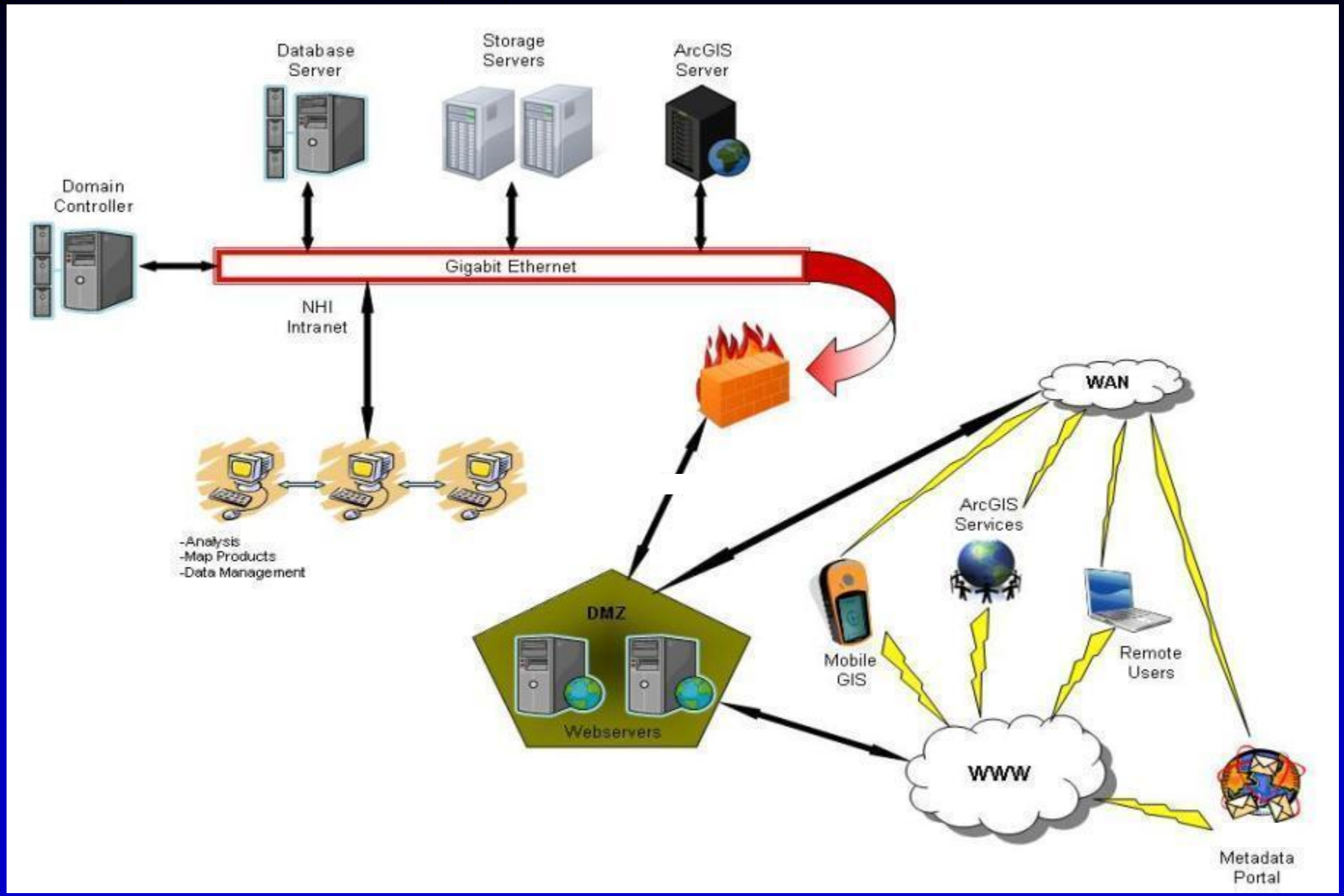


Fills a Critical Data Gap

- Lessons Learned from Subbasin Planning
  60-65% loss in 1 ½ years
- Currently 76 repositories identified in MM.org
- Prevent Collective Memory Loss
- Data Security and Redundant Storage
- Spatial information is different and spatial library and repository could pay for itself over and over

- **Lesson Learned from Subbasin Planning 60-65% loss in 1 ½ years**
- **How many repositories already identified?**
- **Spatial information is different could pay for it over and over**
- **Prevent Memory Loss**

Figure 1. Conceptual Network Architecture of GIS Repository

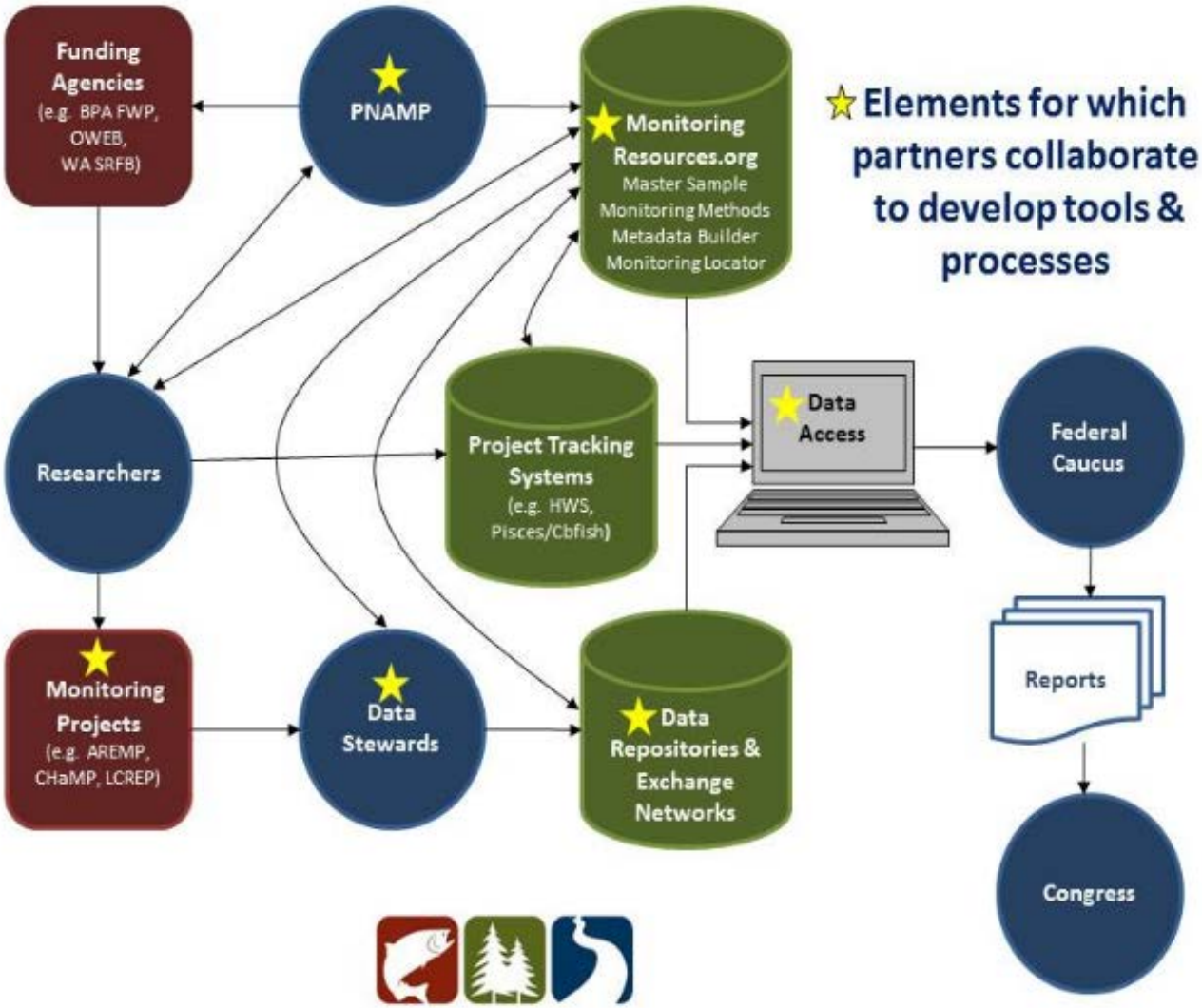


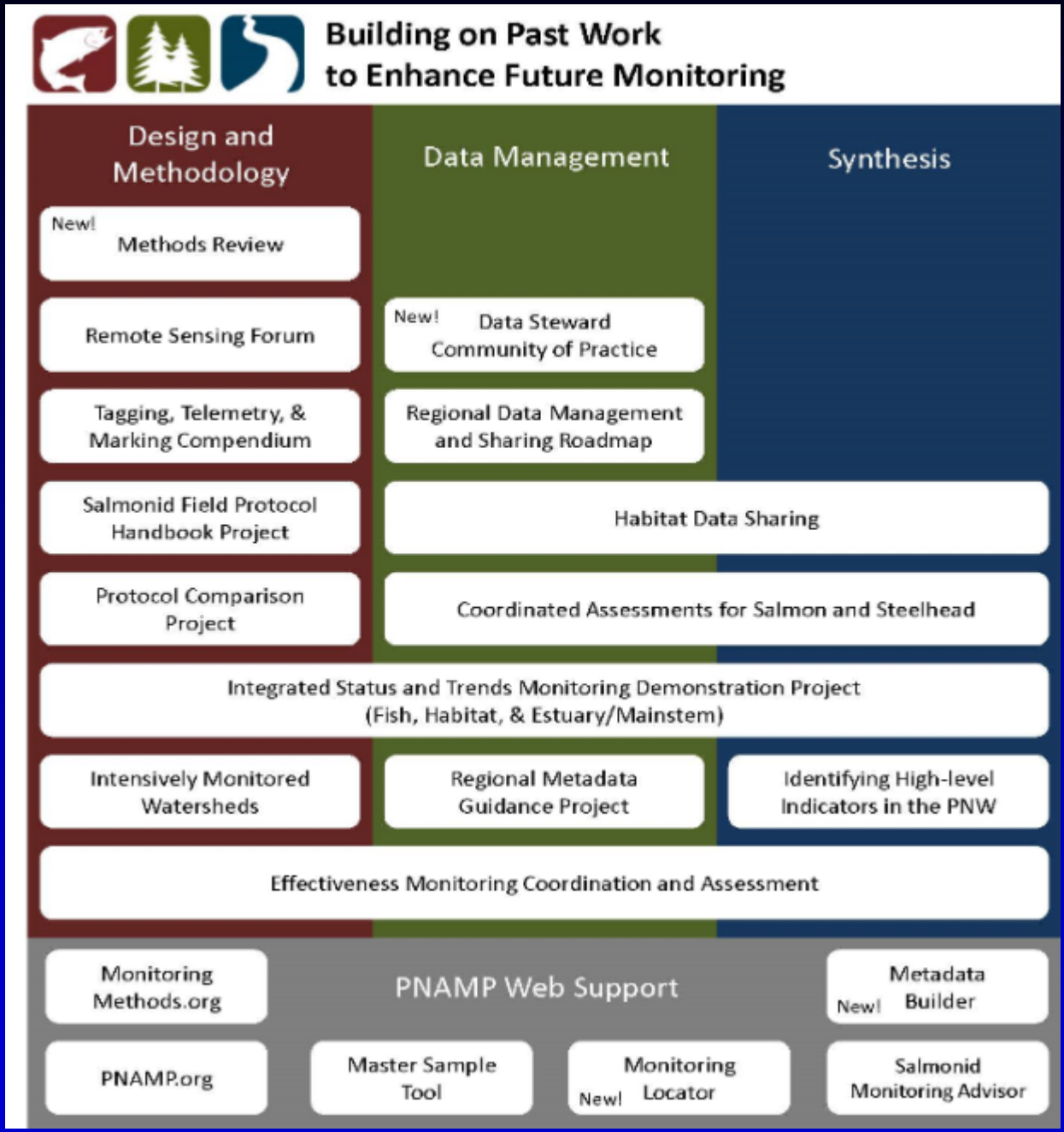
Conceptual Network Architecture of GIS Repository

Questions

- How is it that a project that we proposed as early as 2005 and reiterated in subsequent proposals and is continually held in interim status, yet another project that never made such a proposal is given the OK and funding?

Development of Tools & Processes




Building on Past Work
to Enhance Future Monitoring
Design and Methodology
Data Management
Synthesis
New! Methods Review
Remote Sensing Forum
New! Data Steward Community of Practice
Tagging, Telemetry, & Marking Compendium
Regional Data Management and Sharing Roadmap
Salmonid Field Protocol Handbook Project
Habitat Data Sharing
Protocol Comparison Project
Coordinated Assessments for Salmon and Steelhead
Integrated Status and Trends Monitoring Demonstration Project (Fish, Habitat, & Estuary/Mainstem)
Intensively Monitored Watersheds
Regional Metadata Guidance Project
Identifying High-level Indicators in the PNW
Effectiveness Monitoring Coordination and Assessment
Monitoring Methods.org
PNAMP Web Support
New! Metadata Builder
PNAMP.org
Master Sample Tool
New! Monitoring Locator
Salmonid Monitoring Advisor

Questions

• Given that the Council's reporting vision is an easily accessible and understandable format that will inform the Council and the region. How do we move forward on logical and obvious program needs?

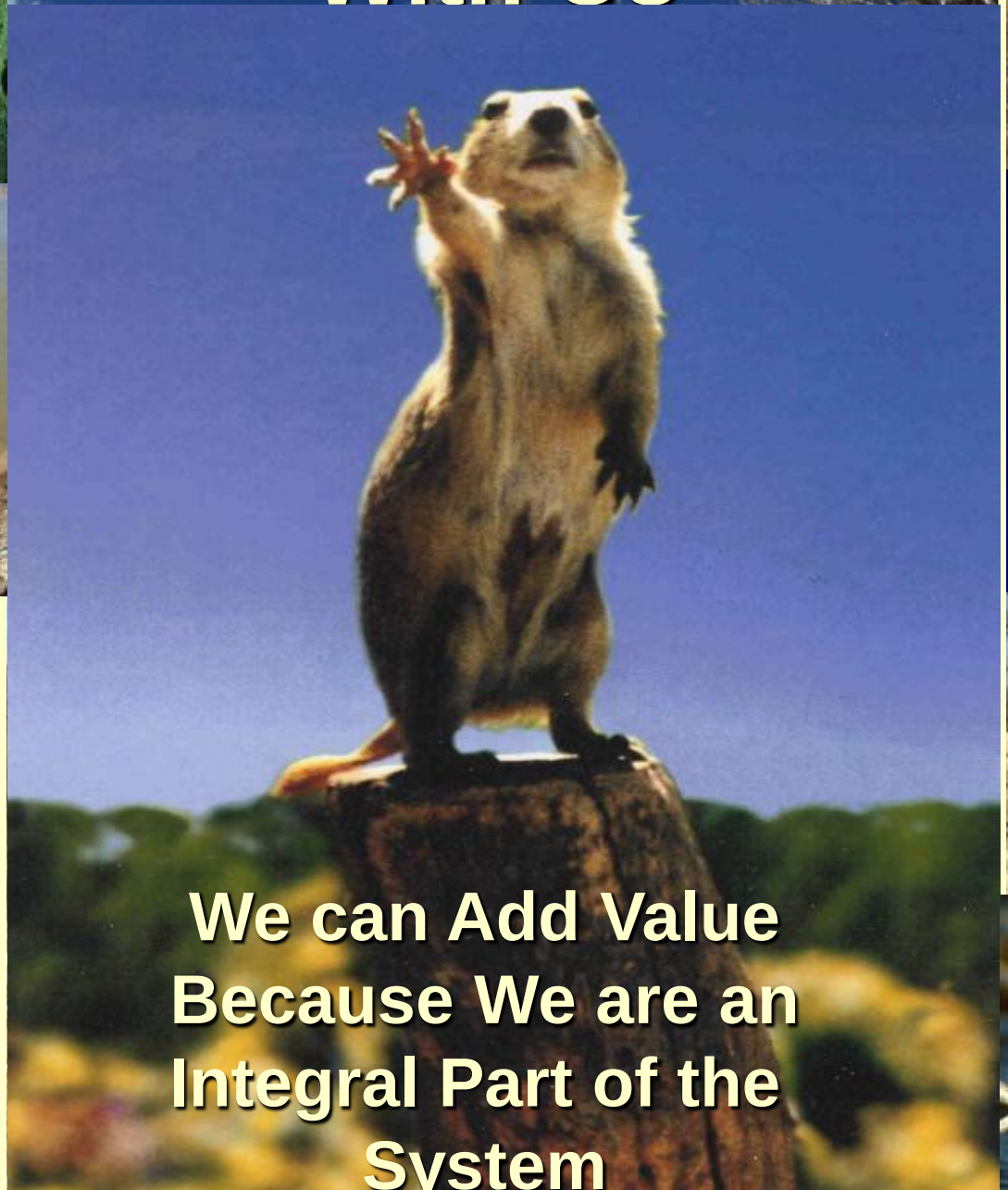
• Our proposal offers to merge the Regional Habitat Team (RHT) project with ours, this was done in coordination with RHT, Council staff and our Board… at this late date what is the status?

(Note: RHT leads are retiring in 2014)

With Us









We can Add Value Because We are an Integral Part of the System

Welcome to Northwest Habitat Institute
Making Your JOB Easier