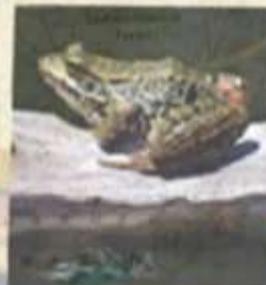


Mapping *the* OREGON CONSERVATION STRATEGY



Autumn 2016 Framework Forum 09.30.2016

Arthur Rodriguez,
Oregon Conservation Strategy GIS Analyst

arthur.h.rodriguez@state.or.us

<http://OregonConservationStrategy.org>

Mapping the Oregon Conservation Strategy

Project History

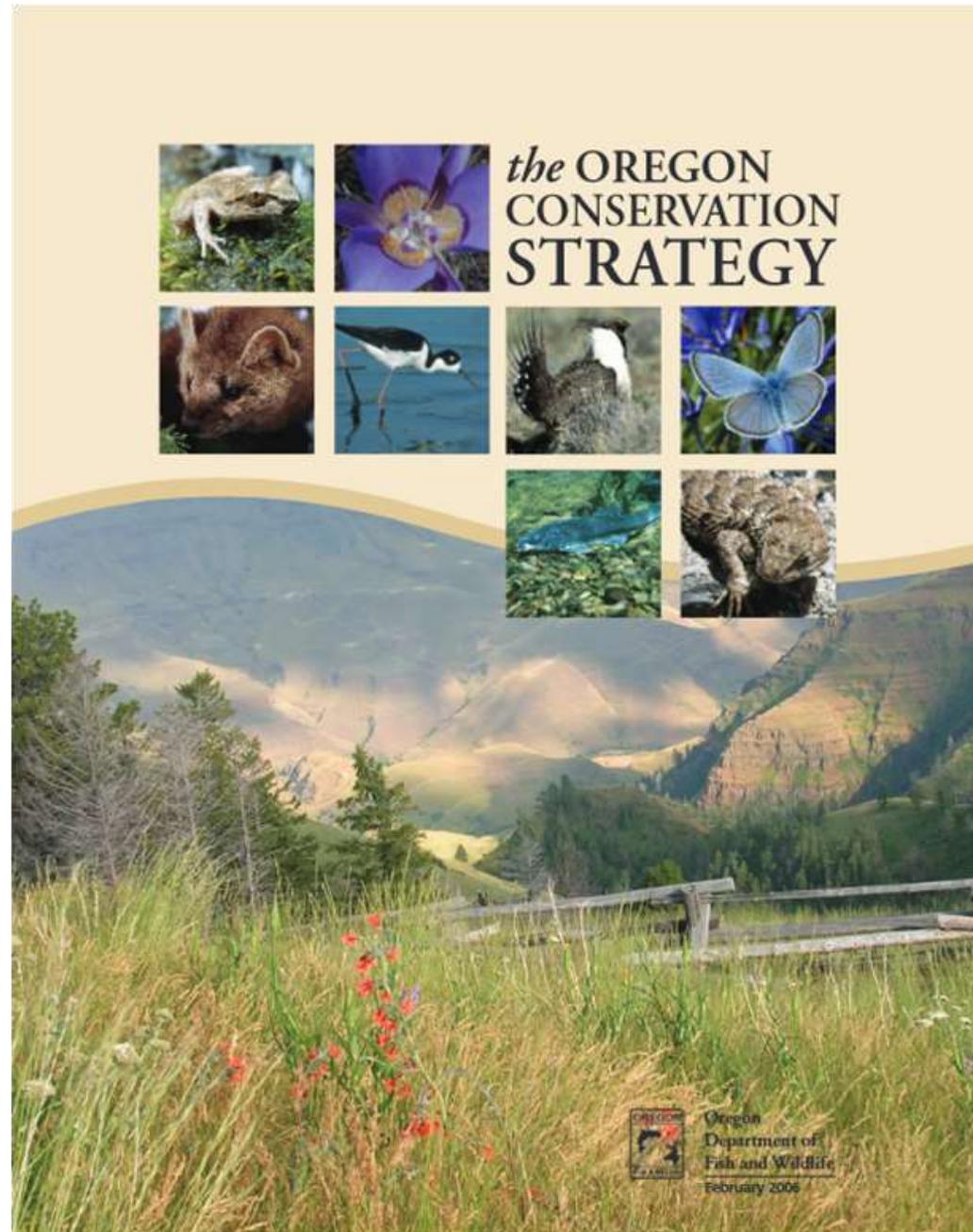
- Oregon Conservation Strategy
- Westwide CHAT & ODFW Compass

Oregon Conservation Strategy Revision & Compass Upgrade

Demo

2006

- National effort:
USFWS State Wildlife
Action Plans
- Oregon approach
 - Voluntary
 - Collaboration
 - Common priorities:
 - Key Conservation Issues
 - Ecoregions
 - Conservation Opportunity
Areas
 - Strategy Habitats
 - Strategy Species

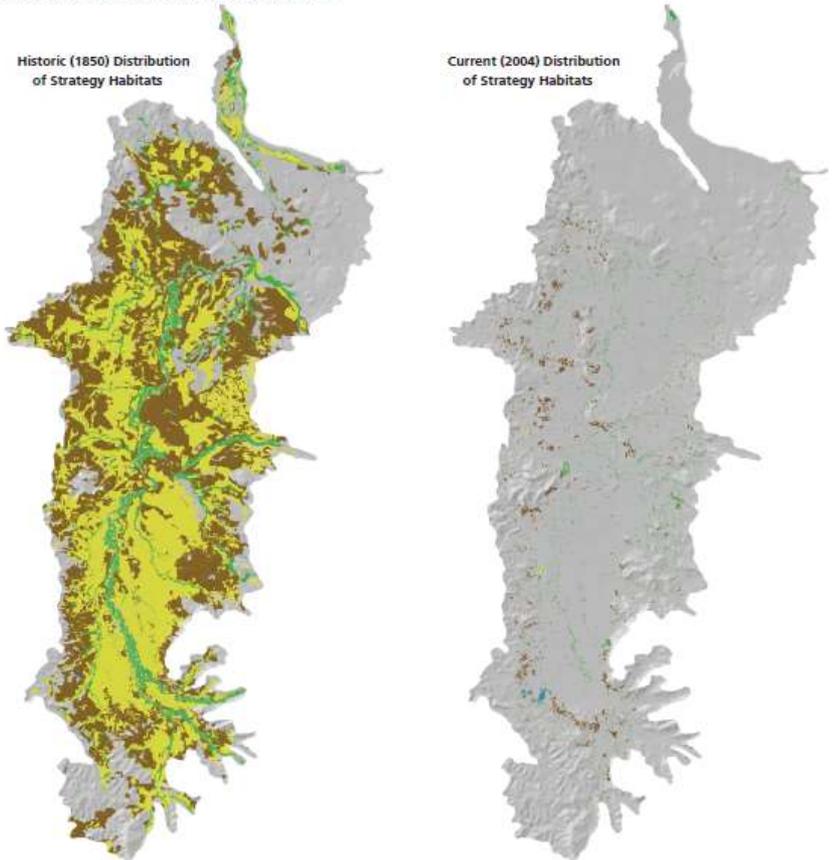


Spatial Data in 2006 Strategy

- Strategy Habitats
- Conservation Opportunity Area Explorer



Change In Willamette Valley Strategy Habitats

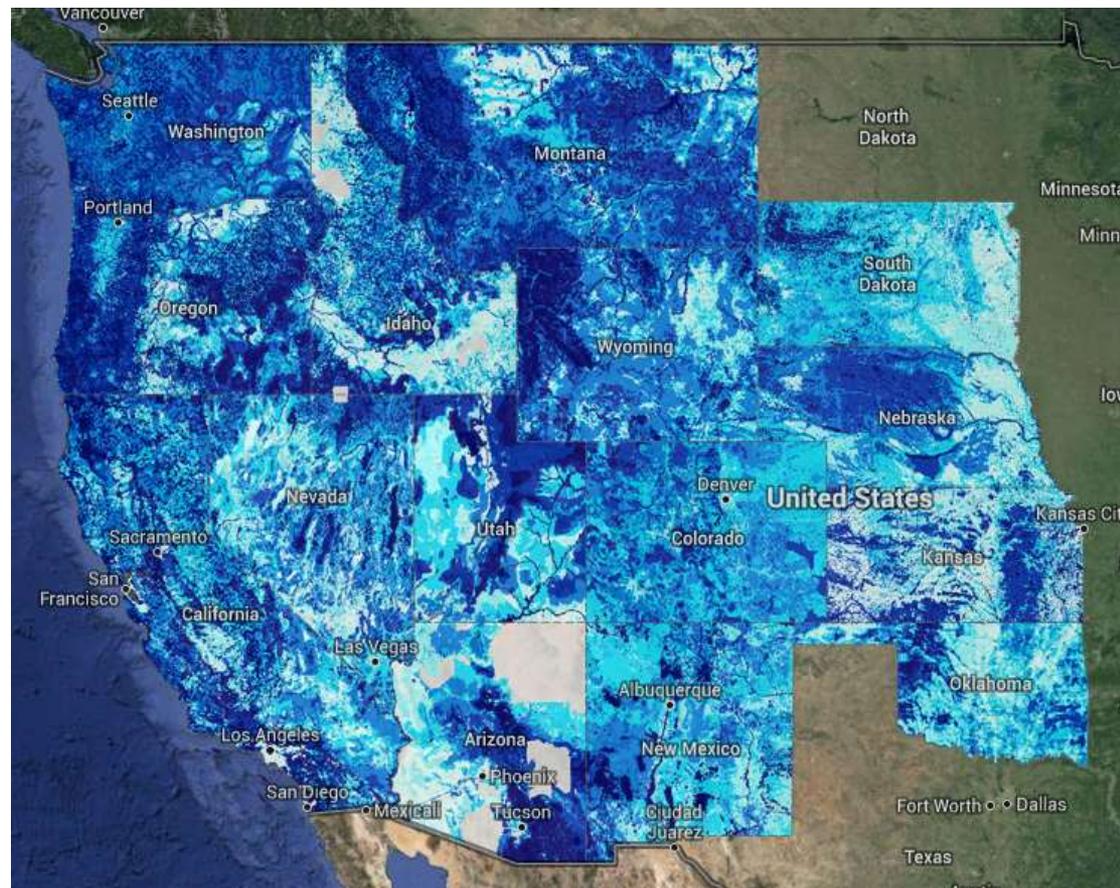


Data Source: Oregon Natural Heritage Information Center, 2004.

2013

Westwide Crucial Habitat Assessment Tool (CHAT)

- Seamless crucial habitat mapped across over half the country
- Collaborative
- Non-Regulatory
- User Friendly
- Evolving



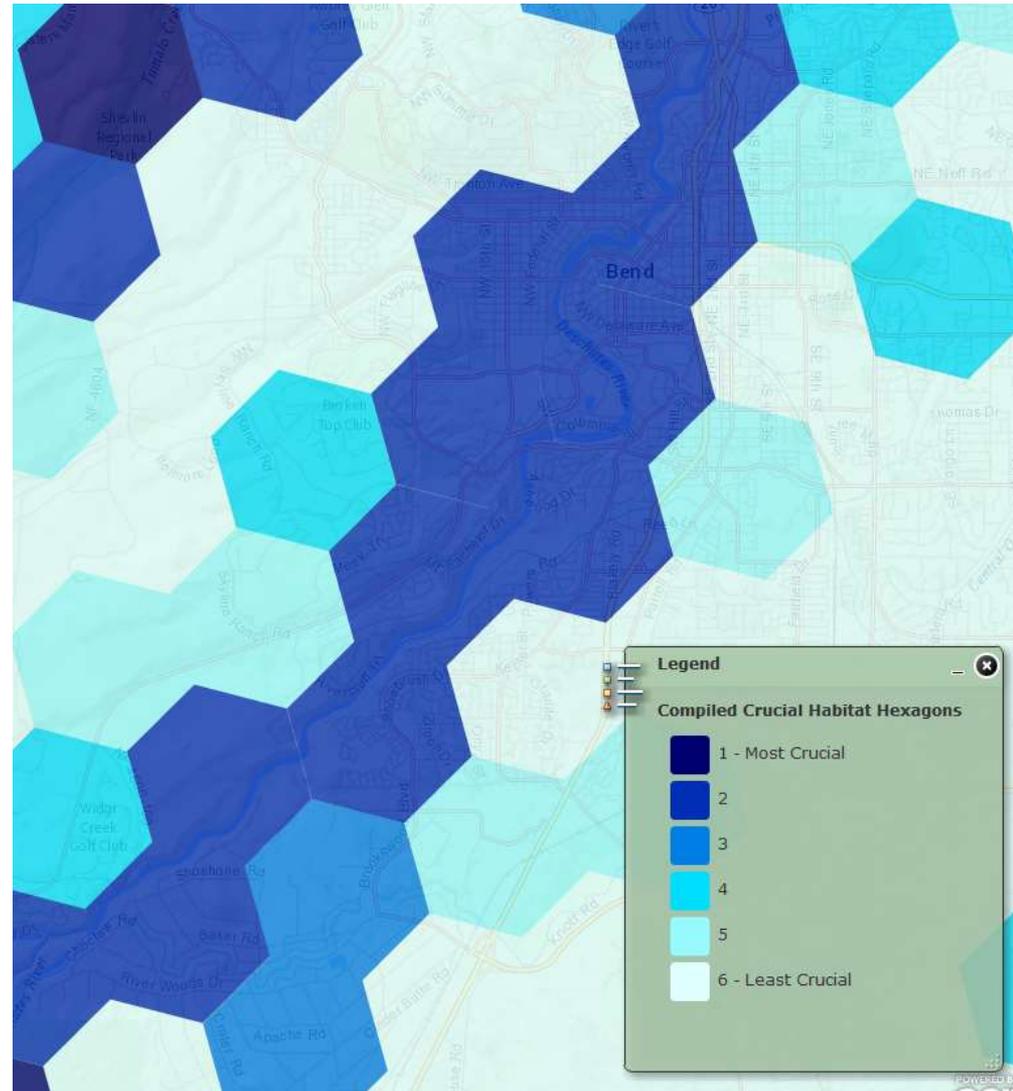
www.wafwachat.org

CHAT Data

States choose input datasets, aggregation methods, and dataset priorities

Aggregated into 1 square mile hexagon assessment units

Data layers and Crucial habitat assessed within a priority scale of 1 (most crucial) – 6 (least crucial)



Data Inputs

ODFW Fish Distributions

National Fish Habitat Assessment Project

Wildlife Observations

Sage-Grouse Core Areas

Species Distribution Models

Game Species Distributions

Wildlife Viewing Areas

Large Intact Blocks

Landscape Corridors

Strategy Habitats

The Wetland Conservancy

Conservation Opportunity Areas

Data Categories

Aquatic Crucial Habitat

Terrestrial Species of Concern

Terrestrial Species of Economic and Recreational Importance

Natural, Unfragmented Habitat

Wetlands

Other

Crucial Habitat



WESTERN ASSOCIATION OF FISH AND WILDLIFE AGENCIES

Crucial Habitat Assessment Tool

Mapping Fish and Wildlife Across the West

CHAT supports cross-state assessments for large-scale conservation projects.

Yellow-headed Blackbird, Oregon

Quickly view the best available maps of crucial wildlife habitat in 16 Western states and connect to more detailed state habitat maps. [Learn More >>](#)

[Learn About CHAT >>](#)

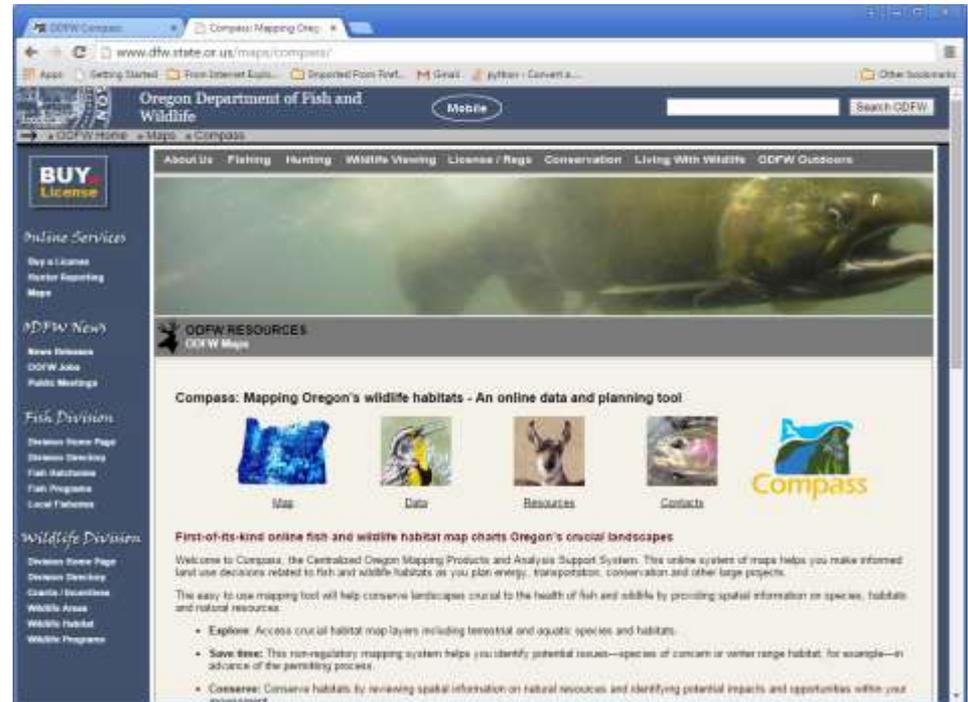
[Go to the Map >>](#)

[Get the Data >>](#)

2014

ODFW Compass

- View fish and wildlife species and habitat layers for project pre-planning
- State level details on crucial habitat assessment layers
- Mapping platform for state-wide, complex ODFW datasets



Compass: Mapping Oregon x ODFW Compass x

https://nrimp.dfw.state.or.us/compass/

ODFW Compass
Mapping Oregon's fish and wildlife habitats

WGA CHAT
Data Documentation

Basemap

ODFW Crucial Habitat

Layer Visibility

- Compiled Crucial Habitat Hexagons
- Terrestrial Crucial Habitat Hexagons
- Terrestrial Species of Concern Hexagons
- Wetland and Riparian Areas Hexagons
- Terrestrial Species of Econ & Rec Imp Hexagons
- Natural Vegetation Communities Hexagons
- Large Natural Areas Hexagons
- Landscape Connectivity Hexagons
- Aquatic Crucial Habitat Hexagons
- Aquatic Species of Concern Hexagons
- Freshwater Integrity Hexagons
- Compiled Crucial Habitat Overview
- Terrestrial Crucial Habitat Overview

ODFW Data Layers

Scroll for additional layers; zoom in for details

- ODFW Fish Passage Barriers, Priority
- ODFW Fish Passage Barriers, Complete
- Major Streams
- Detailed Streams
- Vector Control: District Boundaries
- Vector Control: Wildlife Areas (Refuge)

Partner Data Layers

Layer Visibility

- GeoMAC Fire layers
- ODOT Roads and Transportation

Disclaimer



ODFW crucial habitat layers updated:
February 26, 2014.

ODFW Compass provides coarse-scale, non-regulatory fish and wildlife information, and the crucial habitat layers emphasize areas documented as containing important natural resources. This site is intended to support early planning for large-scale land-use, development, or conservation projects.

By clicking "Agree", you are acknowledging the following statements:

- Data and analyses presented within Compass are based on best available information, and are expected to change over time.

Agree Cancel

Legend

Compiled Crucial Habitat Overview

Crucial Habitat Rank

- 1 - Most Crucial
- 2
- 3
- 4
- 5

Oregon Conservation Strategy 10-year Revision

- Requirement of USFWS
- Incorporate new science, data, and information
- Update priorities
- Improve access

Key Conservation Issues

Seven most critical conservation threats affecting Strategy Species and Habitats across Oregon.

- Climate Change
- Updated information
- Connected to spatial data

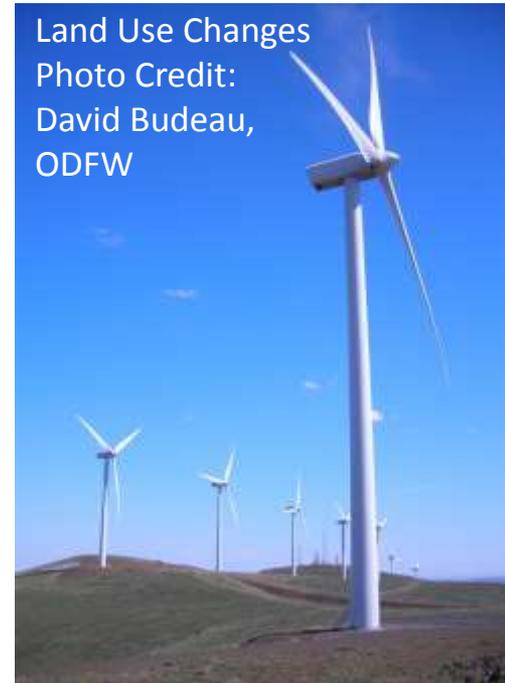
Disruption of Disturbance Regimes
Photo Credit: USFS



Invasive Species
Photo Credit: ODFW



Land Use Changes
Photo Credit:
David Budeau,
ODFW



Strategy Habitats

Habitats of conservation concern that provide important benefits to Strategy Species.

- Revised Strategy Habitat classifications and incorporate new information
- Updated Strategy Habitat Map



COMPASS

DATA ACTIVE TOOLS **LEGEND**

ALL STRATEGY HABITATS

Strategy Habitats

- Aspen Woodlands
- Coastal Dunes
- Estuary
- Flowing Water and Riparian
- Grasslands
- Late Successional Mixed Conifer Forests
- Natural Lakes
- Oak Woodlands
- Ponderosa Pine Woodlands
- Sagebrush Habitats
- Wetlands

STRATEGY ECOREGIONS OUTLINE

Ecoregions

- Ecoregions

Tutorial



the OREGON
CONSERVATION
STRATEGY



CHAT

Search the Map



Sources: Esri, I-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, UPR-EGP and others, ODFW

MILES

0 80 160



Strategy Species

Species of Greatest Conservation Need

- Review and update species list
- Provide spatial context

Great Spangled Fritillary
Photo Credit: Odonata98



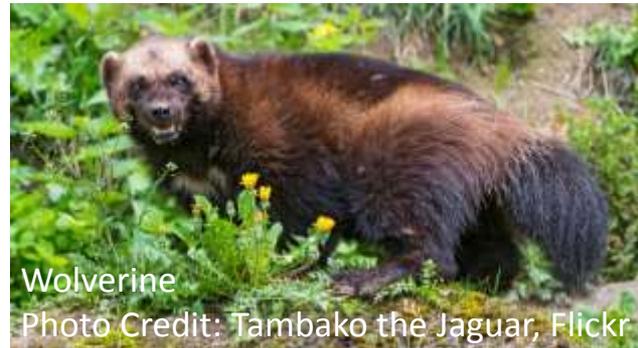
Crinite Mariposa Lily
Photo Credit: ODA



Great Gray Owl
Photo Credit: Jim Richmond, Flickr



Siskiyou Mountains Salamander
Photo Credit: John Clare, Flickr



Wolverine
Photo Credit: Tambako the Jaguar, Flickr



Tufted Puffin
Photo Credit: USFWS



Kit Fox
Photo Credit: Keith Kohl, ODFW



Copper Rockfish
Photo Credit: Janna Nichols



Western Pond Turtle
Photo Credit: Keith Kohl, ODFW

Conservation Opportunity Areas

Places where broad fish and wildlife conservation goals would best be met.



2005 Datasets

- Current and Historic Wildlife Habitat Index
- Existing and Historic Vegetation Models
- Protected Areas / Ownership
- 2004 Urban Growth Boundary
- 2000 Census
- Roads (2003)
- Public Ownership



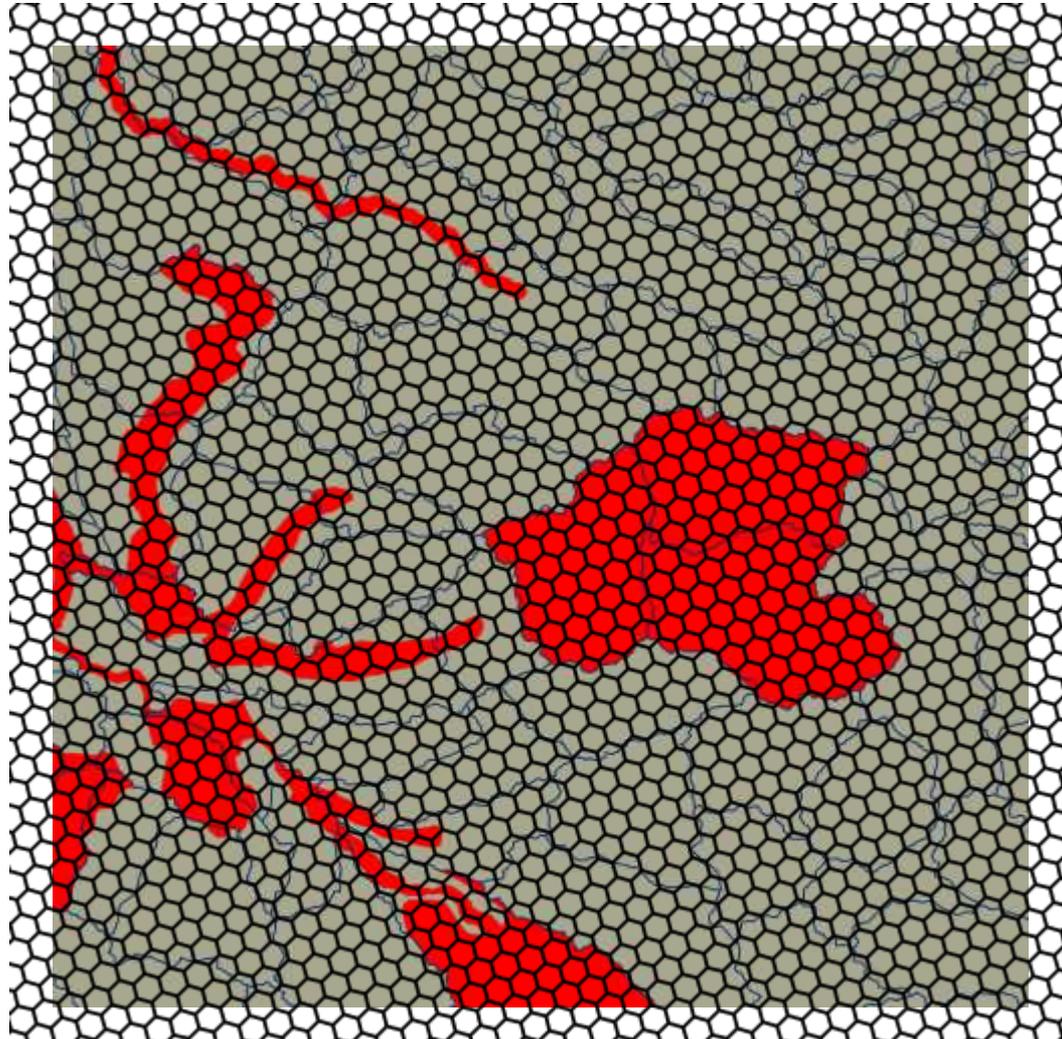
2015 Datasets

- Strategy Species Observations and Models
 - Important Bird Areas
- 2015 Strategy Habitat Map
 - Wetlands, Sagebrush, Confluences, Floodplains
- Topo-climate Diversity Model
- Resistance to Species Movement Model
- Updated Protected Areas/Ownership

Conservation Opportunity Area Spatial Analysis

Spatial Analysis

- Assessment units
- Goals
 - Land cover percentage
 - Strategy Species and Strategy Habitats
- Suitability
- Scale
 - Ecoregion vs. Statewide



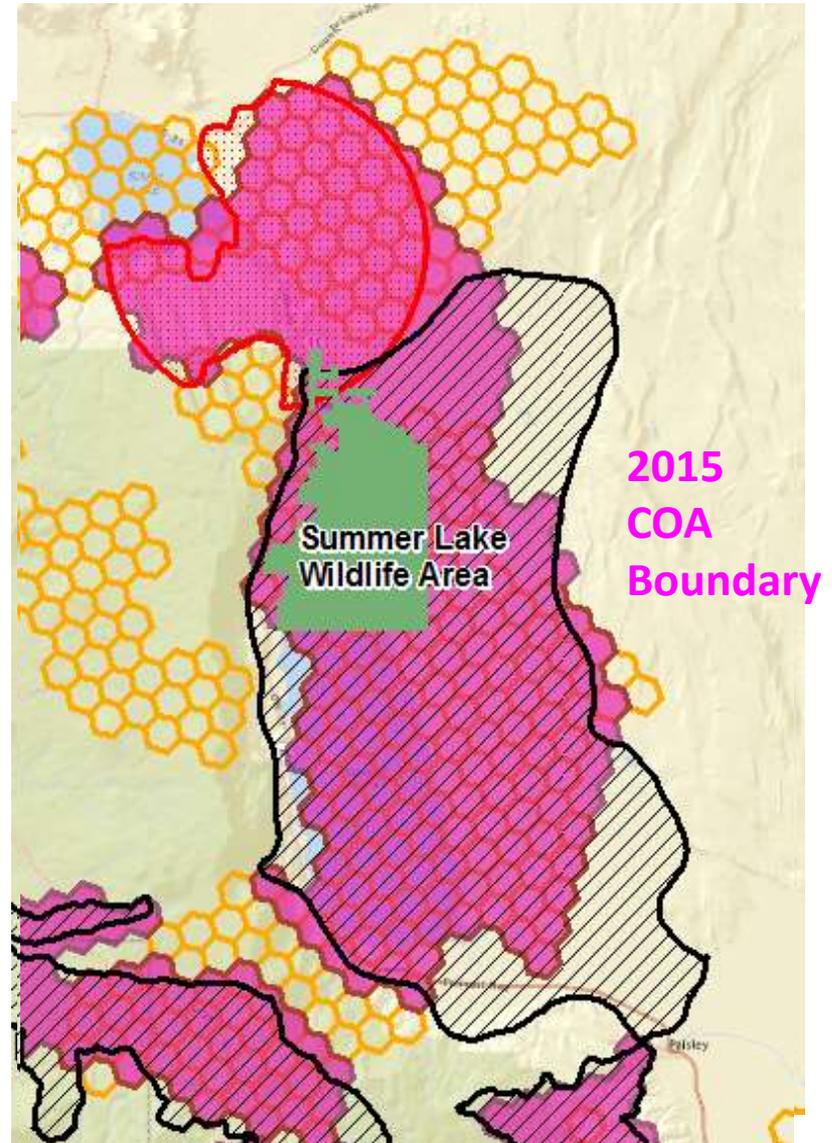
Delineating COA Boundaries

Criteria:

- 2015 model results
- 2005 COAs
- Feedback
- Other prioritization projects (Sage-Grouse Core Areas, The Nature Conservancy, etc.)

Sage-Grouse
Core Area

2015 Modeling
Results



COA Profiles

CONSERVE

BAKEOVEN CREEK-BUCKHOLLOW CREEK, COA 151



OVERVIEW



KEY CONSERVATION
ISSUES



ECOREGIONS



CONSERVATION
OPPORTUNITY
AREAS



STRATEGY
HABITATS



STRATEGY SPECIES



MONITORING



CONSERVATION
TOOLBOX



OREGON
NEARSHORE
STRATEGY



The northern boundary of this [COA](#) follows Buck Hollow Creek, with the remaining boundaries connecting to the [Lower Deschutes River \(COA ID 148\)](#) and [Lawrence Grasslands \(COA ID 152\)](#) COAs.

COA ID: 151

RECOMMENDED CONSERVATION ACTIONS

- Maintain or enhance in-channel watershed function, connection to riparian habitat, flow and hydrology
- Promote early detection and suppression of weeds
- Restore and maintain complex, continuous sagebrush and grassland habitats
- Restore and maintain riparian habitats
- Utilize grazing prescriptions to increase vegetative vigour

ON THIS PAGE

RECOMMENDED CONSERVATION ACTIONS

LOCAL CONSERVATION ACTIONS AND
PLANS

POTENTIAL PARTNERS

SPECIAL FEATURES

ECOREGIONS

STRATEGY HABITATS

SPECIALIZED LOCAL HABITATS

STRATEGY SPECIES



the OREGON
CONSERVATION
STRATEGY

Improving Access

OregonConservationStrategy.org

- Interactive website
- Connecting components
- Searchable
- Tracking use

Compass Upgrade

- Add more data, without overwhelming the user
- Connect Strategy components to spatial data
- Connect spatial data to Strategy components

Demo...

Compass Backend

Compass Welcome, Arthur. Change password / Log out

Home > Data_manager > Layers > County Boundaries

Change layer History

Name:	<input type="text" value="County Boundaries"/>
Layer type:	<input type="text" value="ArcRest"/> Use "XYZ" for ArcGIS tiles
Layer source:	<input type="text" value="....."/>
Url:	<input type="text" value="http://navigator.state.or.us/ArcGIS/rest/services/Framework/Admin_Bounds_WM/MapServer/export"/>
Compass instance id:	<input type="text" value="uUvqNMGPm7axC2dD"/>
Compass service name:	<input type="text"/>
Arcgis layers:	<input type="text" value="6"/> IDs separated by commas (no spaces)
Wms slug:	<input type="text"/>
Proj:	<input type="text" value="....."/> will be EPSG:3857, if unspecified
Description:	<input type="text" value="Oregon county boundaries, maintained by DAS GEO."/>

Data download:	<input type="text" value="http://oe.oregonexplorer.info/External/"/> Link to download the data
Metadata:	<input type="text" value="http://spatialdata.oregonexplorer.info/"/> Link to the metadata
Source:	<input type="text" value="http://spatialdata.oregonexplorer.info/"/> Link to the data providers
Ocs:	<input type="text"/> Link to OCS page
<input type="checkbox"/> Arc rest data layer	
Arc rest instance id:	<input type="text" value="uUvqNMGPm7axC2dD"/>
Arc rest service name:	<input type="text"/>
Arc rest out fields:	<input type="text" value="instName"/> comma separated list of fields to return. '*' for all fields.

Compass Development

- Backend: Developed in **Django** (python based framework); used **Madrona**, a Django module developed by **Ecotrust**
- Frontend: mostly **Javascript**, with some **jQuery**
- The database (used by reporting tool): **PostGIS**, a spatially enabled extension on **PostgreSQL**
- Application hosted on a Microsoft Azure cloud server, with Linux operating system
- Layers provided from various web service sources

Compass Layers

- ODFW layers hosted in ArcServer
- Partner layers
 - Real-time layers on fires, streamflow, etc.
 - Federal sources
 - State agency sources
- Framework layers
 - Administrative Boundaries
 - Transportation
 - Other Framework themes of interest
 - Bioscience, Geoscience, Coastal/Marine
 - Utilities, Climate, Hazards

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Oregon Conservation Strategy Team

Conservation.Strategy@state.or.us

- Andrea Hanson, Strategy Coordinator
- Christina Donehower, Strategy Species Coordinator
- Greg Krutzikowsky, Nearshore Conservation Strategy Coordinator
- Meghan Dugan, Public Information Officer
- Audrey Hatch, contractor during revision process

Ecotrust (<https://ecotrust.org/>)

Partners

<http://www.oregonconservationstrategy.org/overview/acknowledgements/>



@ODFWConserve



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American Pika

Photo credit: Keith Kohl, ODFW