



Leveraging Mapping Software for Spatial Analysis

March 2018

JLARC's experience using ArcGIS to
analyze habitat land acquisitions and
regulations

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Overview

- Where we found data and how it helped shape study questions
- Role of GIS in analysis: quantitative analysis and case studies
- Using GIS in report writing and presentation



Legislature asked about protecting land through regulations and acquisitions

How much habitat land has been protected through regulations and acquisitions?

Review focused on 3 counties east and 3 counties west of the Cascades

Review included over a dozen acquisition and regulatory programs intended to protect habitat and/or expand outdoor recreation.



Role of spatial data in scoping the study

1 Where has the state acquired land?

2 Where do regulations apply?

3 Which counties should we focus on?

Publicly available GIS data

Washington State - Office of the Chief Information Officer

Home Programs Strategy Stakeholders Policies About Us News Communications

Home > Geospatial Data

Geospatial Data

Access Geospatial Data

- **Washington State Open Data Bridge**: Provides access to a wide range of products and services for state agencies, local government, tribal entities, and the public.
- **Washington Data and Applications Catalog**: Provides tabular access to data and application links from State agencies and departments.

Washington State **Data Disclaimer**

Access Geospatial Metadata

- **Washington Geospatial Metadata Clearinghouse**: provides access to the state's extensive metadata catalog
- **National GIS Inventory (NSGIC)**: contains metadata from multiple state clearinghouses and pushes to data.gov

To move data onto the Geospatial Portal, contact **Jeanne Markert**

IN THIS SECTION

- Geospatial Program Office**
 - Geospatial Program Operations
 - Geospatial Governance, Policy & Standards
 - Statewide Geospatial Initiatives
- Geospatial Data**
 - Geospatial Organizations
 - Open Data Bridge (geo.wa.gov)

ArcGIS Features Plans Gallery Map Scene Groups Content

Washington State Open Data

Overview Content Members

Refine Content

Item Type: Maps, Layers, Scenes, Apps, Tools, Files

Date Modified, Date Created

Search group content: 1 - 16 of 202

- BIOTA WAECY - Ecoregions**
Feature Layer by WAECY_Geoservices
Ecoregions denote areas of general similarity in ecosystems and in the type, quality, and quantity of environmental processes.
Created: Oct 11, 2013 Updated: Oct 11, 2013 View Count: 7,591
- INLAND WATERS WAECY - Category 4B Projects**
Feature Layer by WAECY_Geoservices
Boundary polygons for water pollution control programs identified as Category 4B by the Washington State Water Quality Assessment
Created: Oct 12, 2012 Updated: Mar 28, 2014 View Count: 3,143
- INLAND WATERS WAECY - TMDL Boundaries**
Feature Layer by WAECY_Geoservices
Features depicting the boundaries of the Total Maximum Daily Load (TMDL) projects within Washington State.
Created: May 6, 2014 Updated: May 6, 2014 View Count: 1,918

Washington State Open Data Bridge
Providing Access to Geospatial and Tabular Data

Search for open data SEARCH WITHIN MAP My Activity

Cascadia Basin

"We will provide efficiency, effectiveness and transparency."
Governor Jay Inslee, Inaugural Address, January 16th, 2013

Browse Topics

- Biota
- Boundaries
- Climate
- Economy
- Elevation
- Environment

GIS INVENTORY Search Data Status Map Directory Dashboard

THE GIS INVENTORY IS A TOOL FOR THE ENTIRE GIS COMMUNITY.

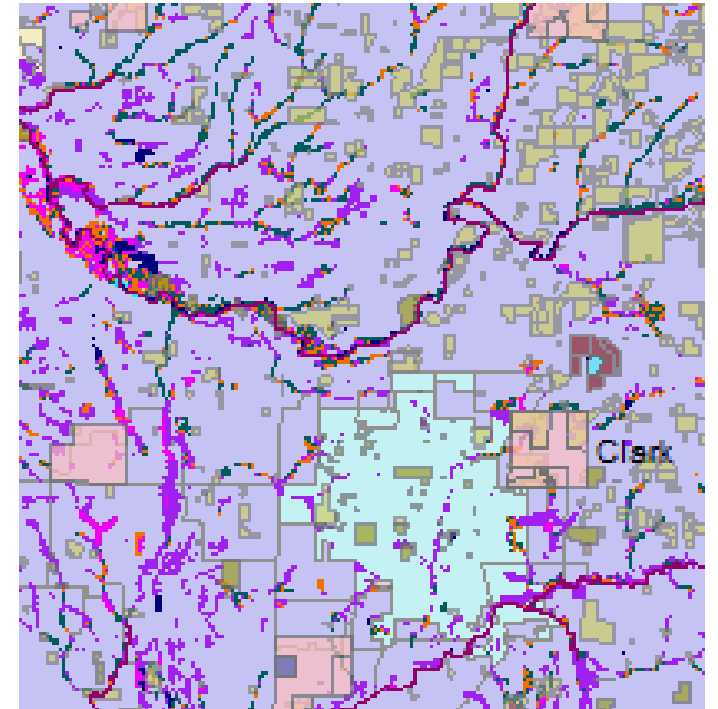
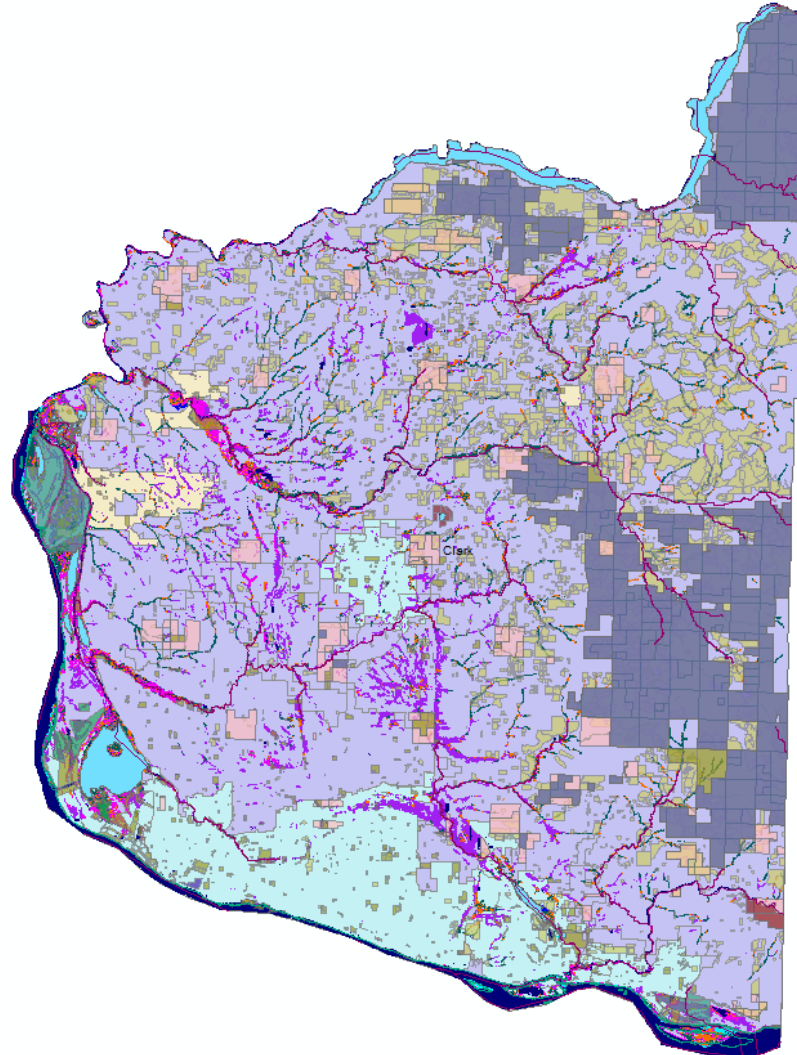
- Create an Account
- Search for Data
- View the Status Map
- Search the GIS Directory

NSGIC
National States Geographic Information Council

Geospatial data are part of the nation's critical infrastructure. Knowing what data exist is essential.

NSGIC's GIS Inventory is the tool for understanding. It helps government agencies to effectively coordinate and build Spatial Data Infrastructures.

Lots of data – helped narrow down 6 counties





UW consultants' analyzed protection provided by both approaches



Mapped where regulations apply



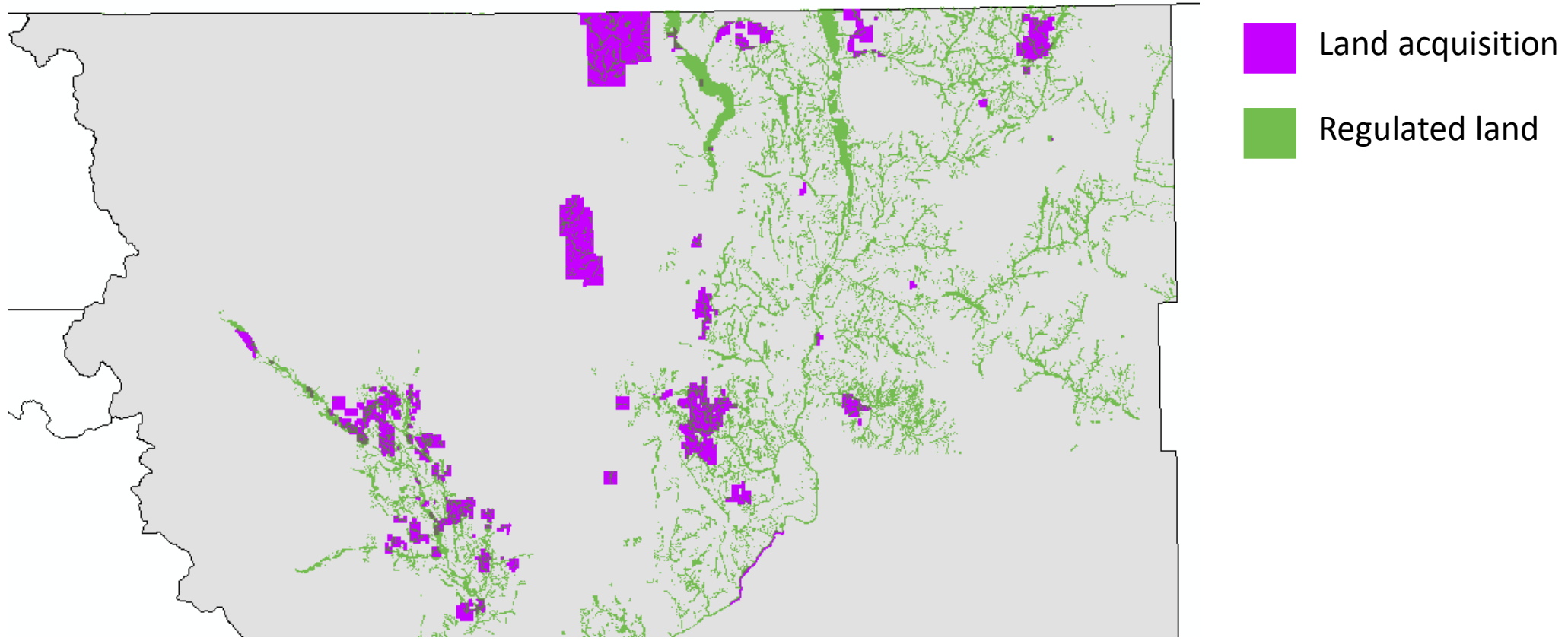
Compared amount of land covered by acquisition and regulation



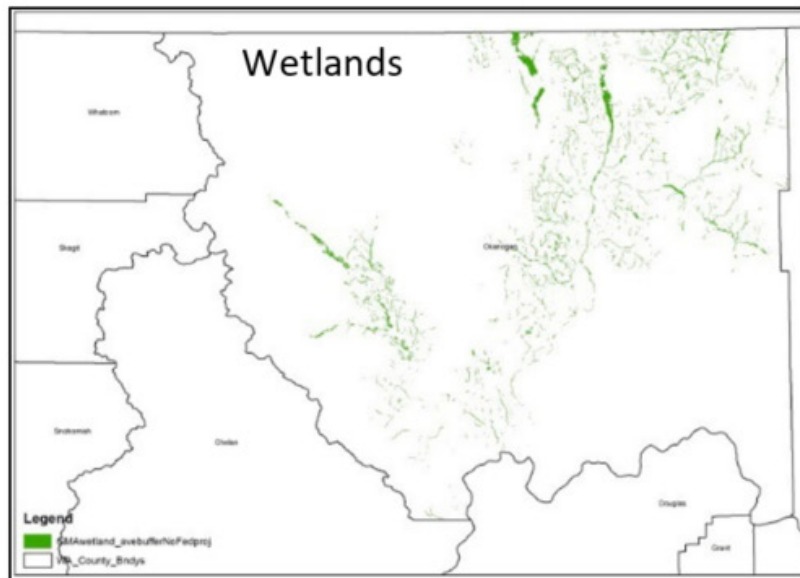
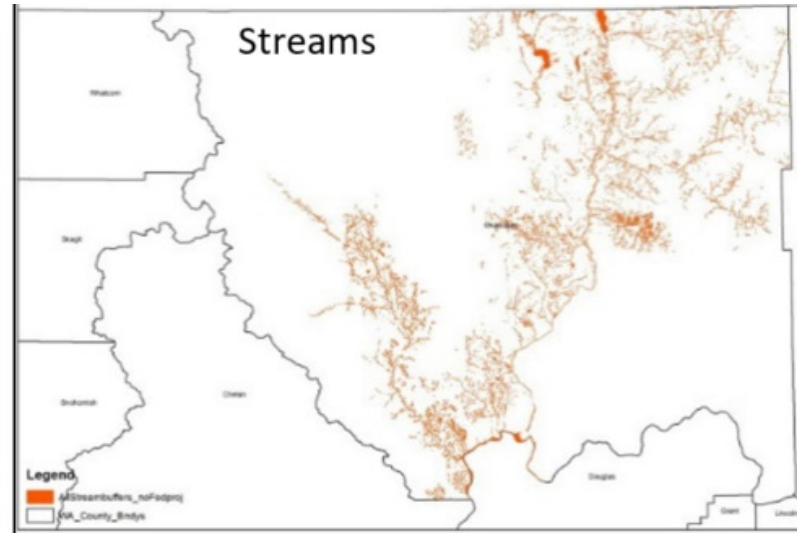
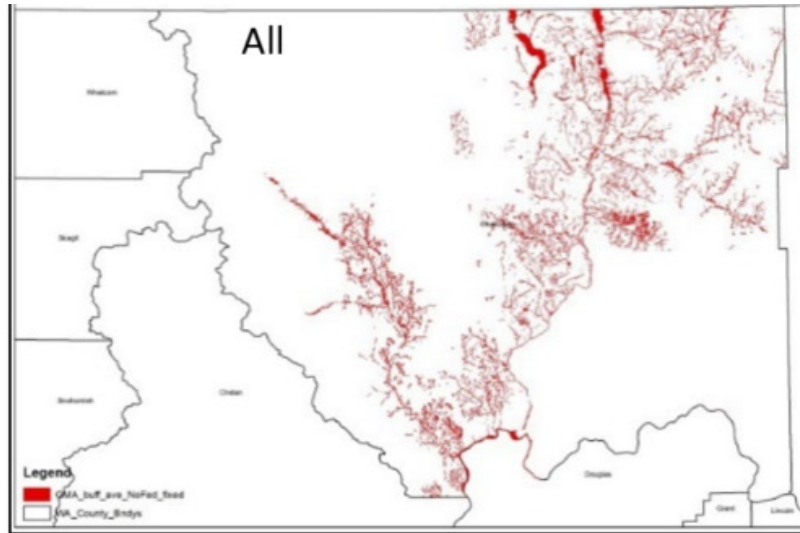
Case studies to determine if regulation or acquisition provides more habitat for certain species



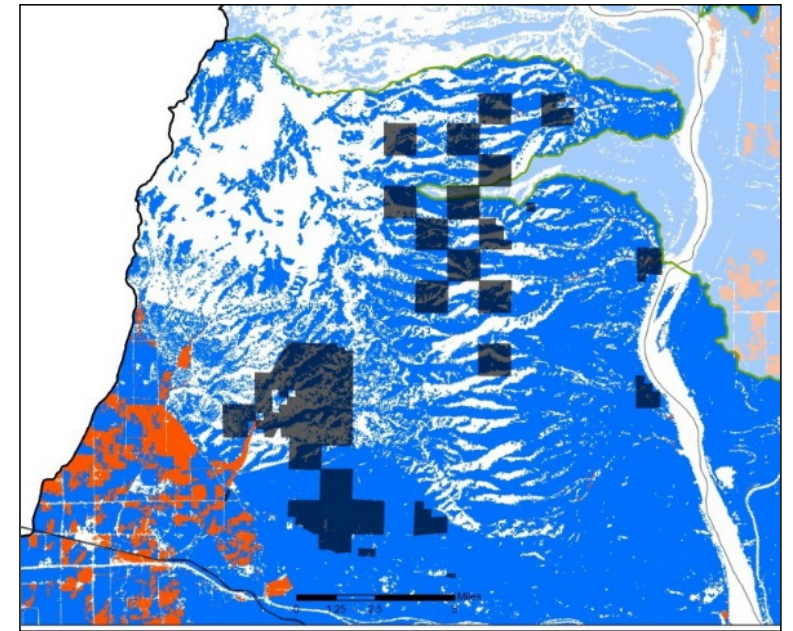
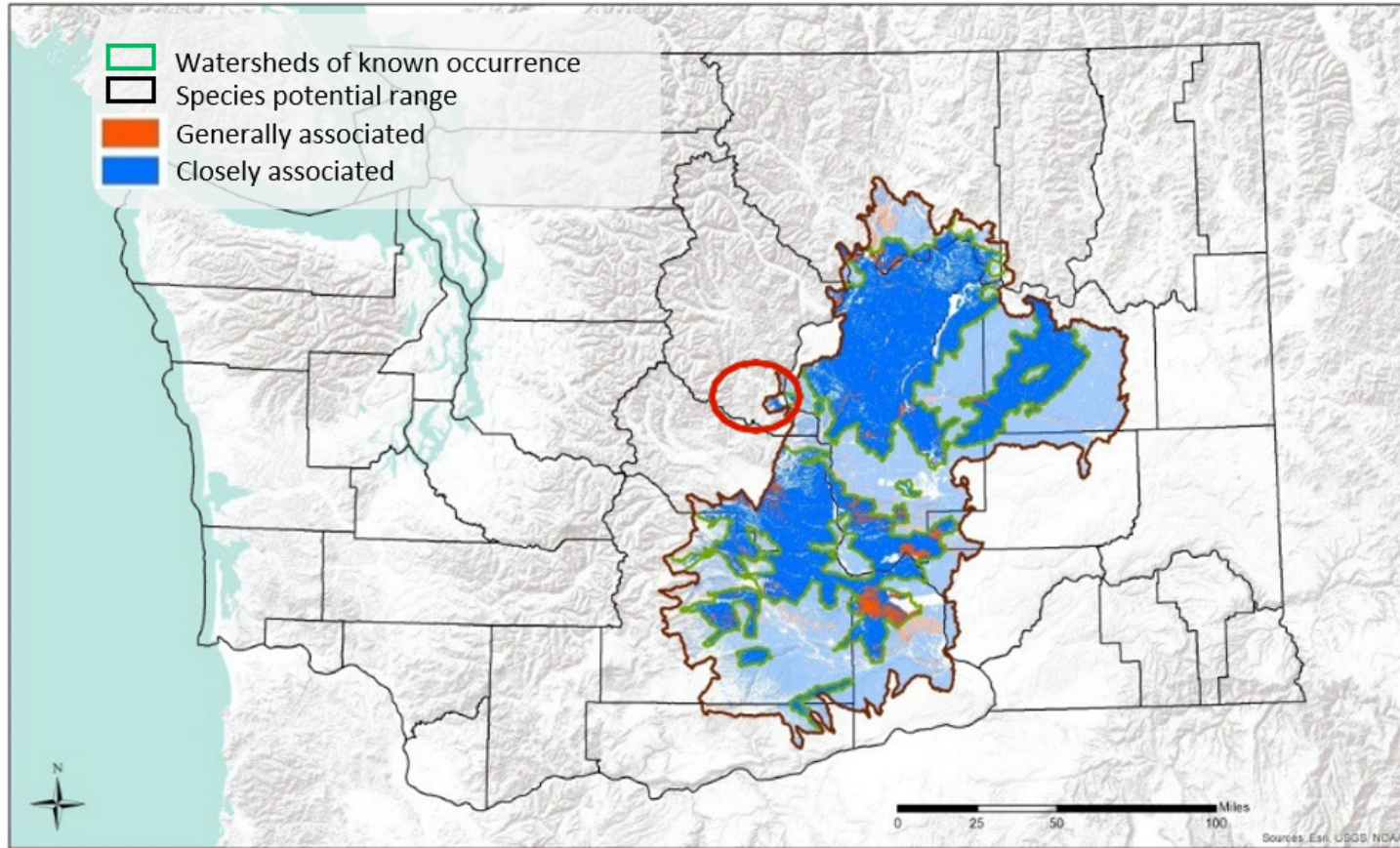
Compared footprint of regulations and acquisitions



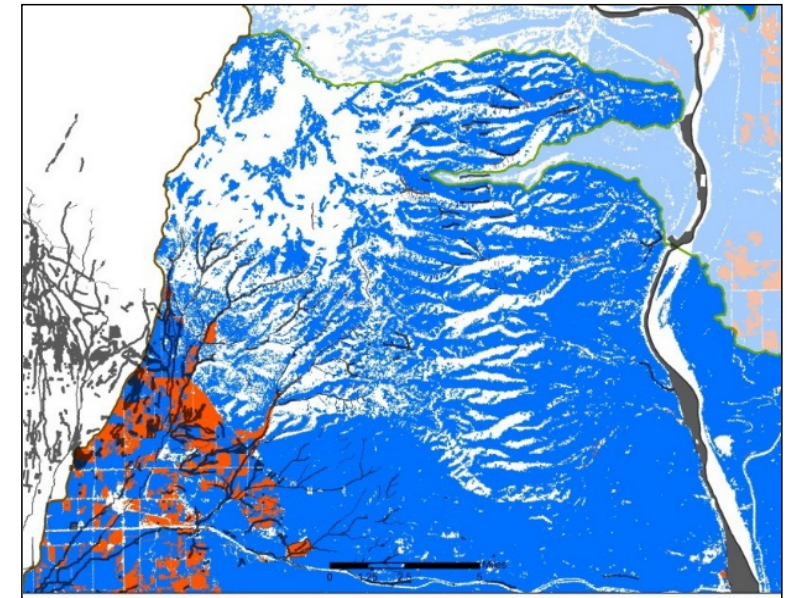
Ability to disaggregate regulations



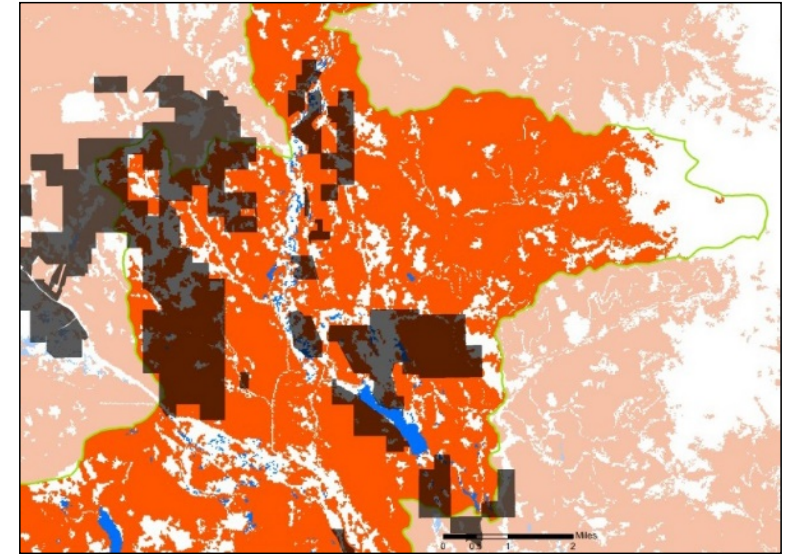
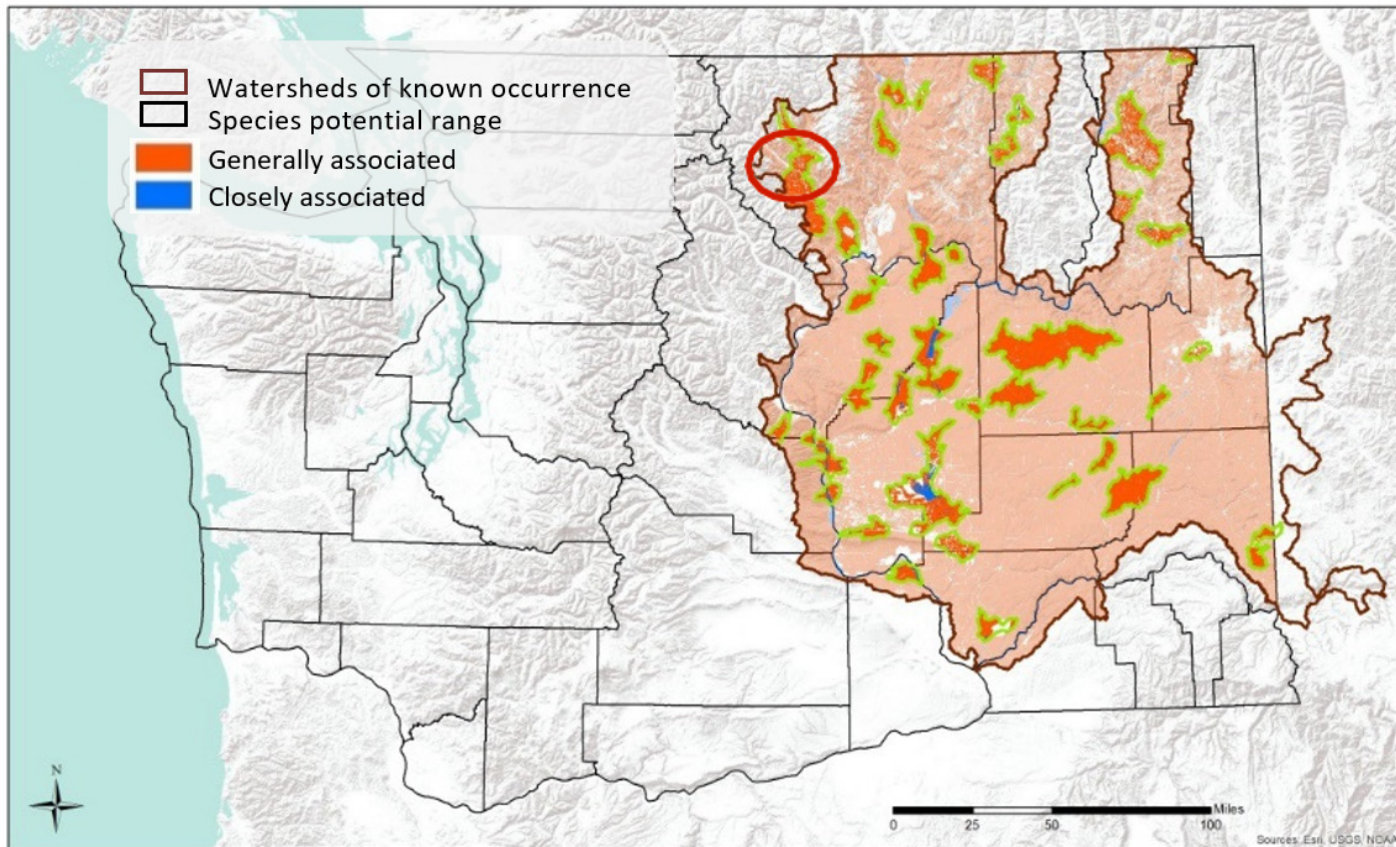
Case Study: Tiger Salamander



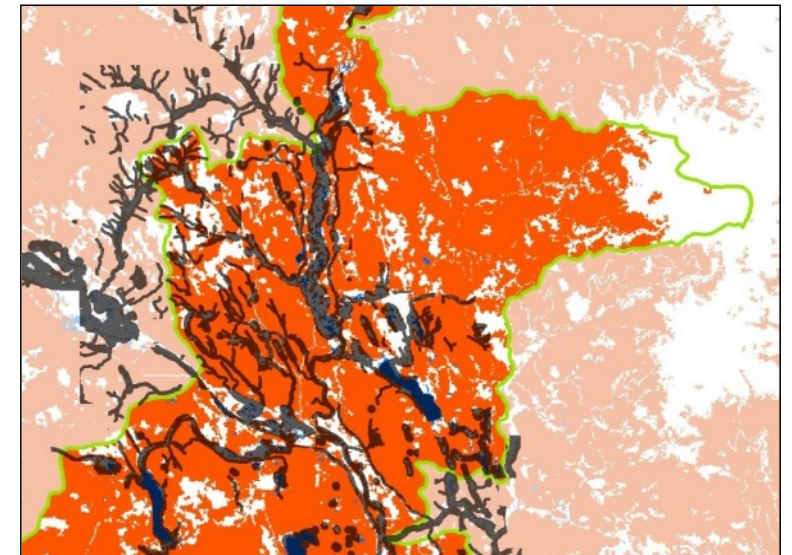
Regulations



Case Study: Great Gray Owl



Regulations





Role of spatial data in report

1 Maps of acquisitions and regulations made public

2 Case study maps made public through ArcGIS Online

Report link:

<http://leg.wa.gov/jlarc/reports/2017/HabitatLands/f/default.html>



GIS helped at every stage of the study

1 Exploring spatial data helps with preliminary research and study scoping. Where are things? How big is this problem?

2 Spatial data analysis can help answer questions: where are things located and what does that mean?

3 Pretty maps.

Lessons learned

- Training is helpful, does not need to be expensive, e.g. Coursera
- See what data is publicly available (there is a lot of it)
- Be flexible – if perfect data does not exist, use what is available
- Contract with national experts to do the really hard stuff

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