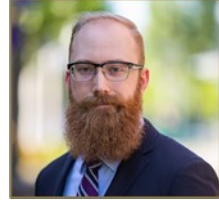


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Program-Software Engineer



**Lucas Forrest**  
Database Administrator

# Salmon Recovery

## UW Tacoma MSBA Team A4

With the WA Department of Natural Resources



**Anderson Kim**  
Business Analyst-Intelligence



**Kelley Roberts**  
Project Manager

### Project Overview

**Problem**

Washington’s salmon are in trouble. The salmon population is declining with local population endangered and threatened.

**Situation**

Washington’s salmon are still declining after over \$1billion and 20 years of recovery effort. Funding to address this issue does not match the need.

DNR is leading the state governor’s salmon recovery effort. This is a coordinated effort conducted at many levels with counties, tribes, federal agencies and others contribute who contribute.

**Scope**

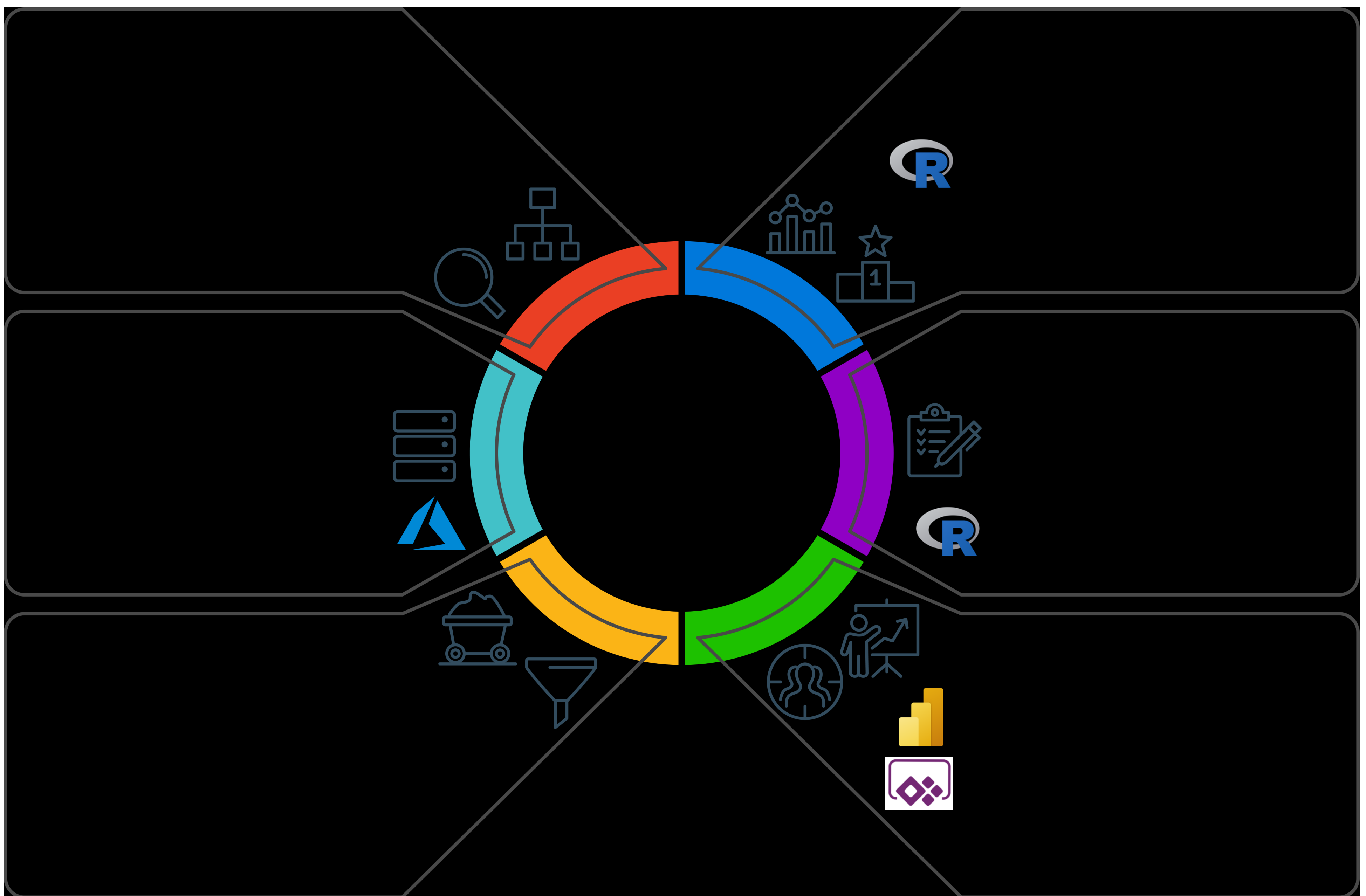
The consultant team seeks to identify Small Forest Landowner’s (SFLO’s) at risk for land use change or conversion in Water Resource Inventory Area (WRIA) 7.

The recovery effort within WRIA 7 will serve as a model for the large-scale approach.

### WRIA 7—Pilot Area

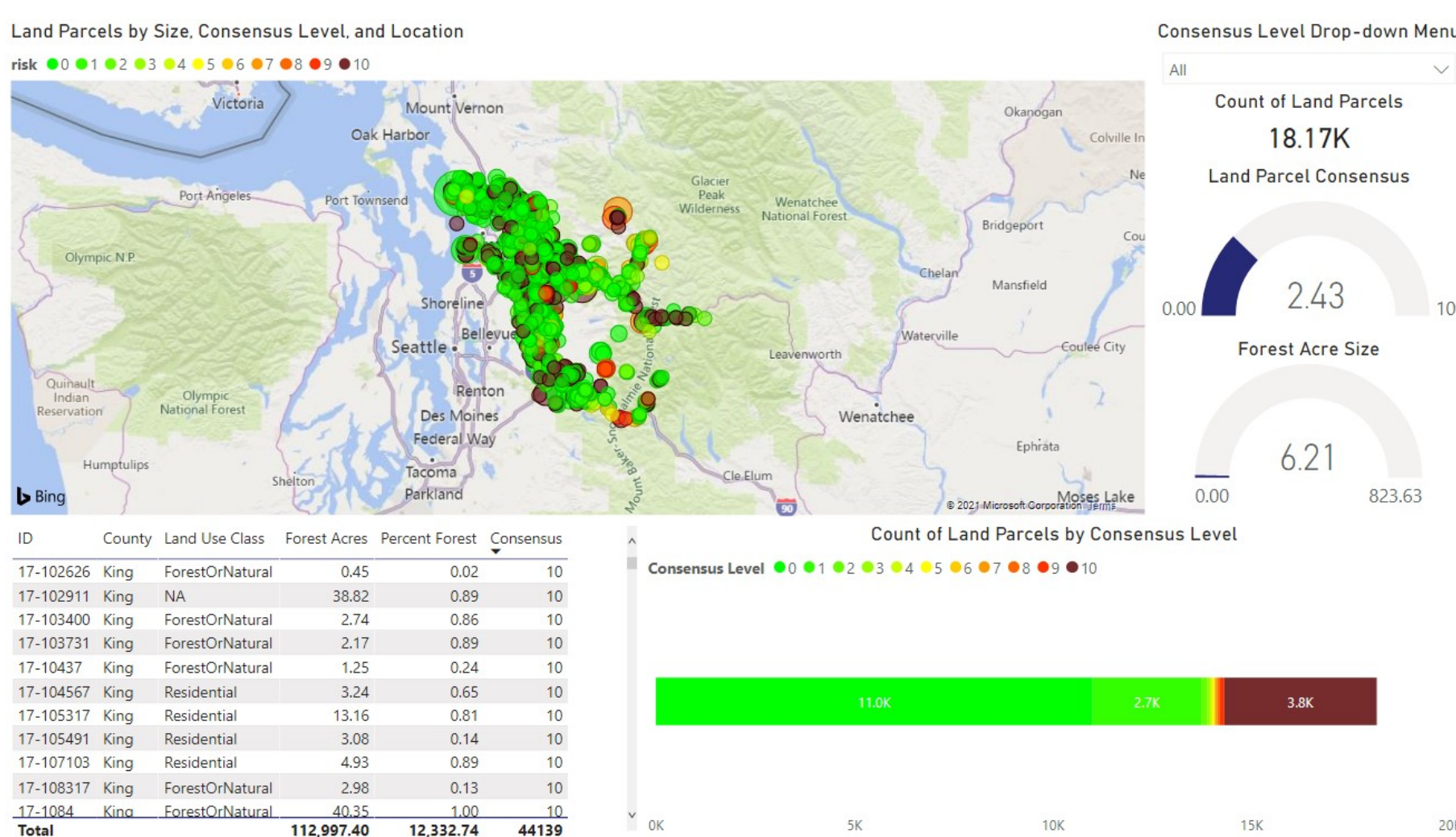


The Snohomish Watershed, also known as Water Resource Inventory Area (WRIA)-7 has one of the highest concentration of salmon spawning grounds in Washington and one of the most vulnerable to land use change and encroachment on riparian zones. WRIA 7 is the pilot WRIA for DNR’s

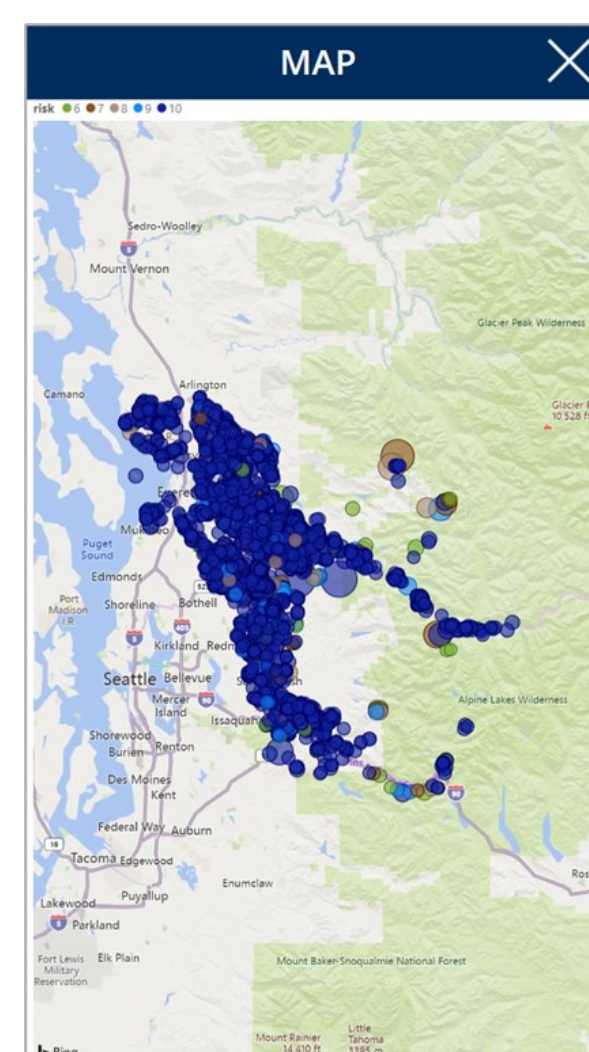


### Results Visualization tools

#### Power BI Dashboards



#### Power App



### Recommendations

- Use visualization tools to help manage resource allocation
- Identify SFLO parcels at risk for land use change
- Use SFLO parcel data to deploy resource offerings
- Expand to analyze SFLO parcels in watersheds statewide
- Continue collaboration with UW School of Environmental and Forest Sciences
- Follow research scientists’ methods to acquire new and updated data
- Maintain model and dashboards
- Review the model fit
- Update and add new data
- Leverage community resources
- Combine WA state tech. and salmon culture to innovate salmon recovery efforts
- Consider sponsoring local events like case competitions and hack-a-thons
- Follow-up with an UW Tacoma MSBA Applied Project next year

### References

Area Map- Washington Department of Fish & Wildlife [snohomish WRIA7 county map - Bing images Map Details \(wa.gov\)](#)  
 Washington State Department of Natural Resources. (2017). *At-a-Glance A Quick Look at the Department of Natural Resources*. Washington State Department of Natural Resources.  
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Sergey Rabotyagov, Ph.D., Luke Rogers, Jeffery Cornick, et. al. (2019). *sflos\_ea\_with\_county\_geos\_newvars\_mnlvars\_snohomish.Rds, model\_vars\_new\_snohomish.Rds, LU\_models\_from\_2019\_cleaned\_snohomish.R*, [Snohomish County parcel data]. UW School of Environmental and Forest Sciences: Luke Rogers.

