

COLLABORATIVE

PRACTICAL

INVENTIVE

NIMBLE

EQUITABLE



Environmental Overlay Project Update

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Kathy Majidi & Jeff Lesh
January 14, 2020

Environmental Overlay Project Components

	Floodplain Overlay District	Natural Resources Overlay District (Proposed)	Hillside Physical Constraint Overlay District
Last updated	1990s (Johnson, Fairview, and Kelly/Burlingame) 2009 (in Columbia Slough)	2001 (ESRA-PV), 2005 (ESRA-SW), 2008 (HCA)	2003
Current Update	2019	2020	2020
Regulates development in	Floodplains	Streams, wetlands, uplands, natural areas	Steep slopes and landslide-prone soils
Drivers	<ul style="list-style-type: none"> National Flood Insurance Program requirements (FEMA) Statewide Planning Goal 7 (Flooding) Public health and safety Preserve property 	<ul style="list-style-type: none"> Statewide Planning Goal 5 Metro Title 3 and 13 Clean Water Act Preserve wildlife habitat and water quality 	<ul style="list-style-type: none"> Statewide Planning Goal 7 (Landslides) Public health and safety Preserve property

Natural Resource Overlay (stream, wetland, and upland habitat buffers)

Effort kicked off in August 2016

Prompted by 3 primary drivers:

Driver 1:

- Availability of improved data on resource locations
 - LiDAR data



Legend

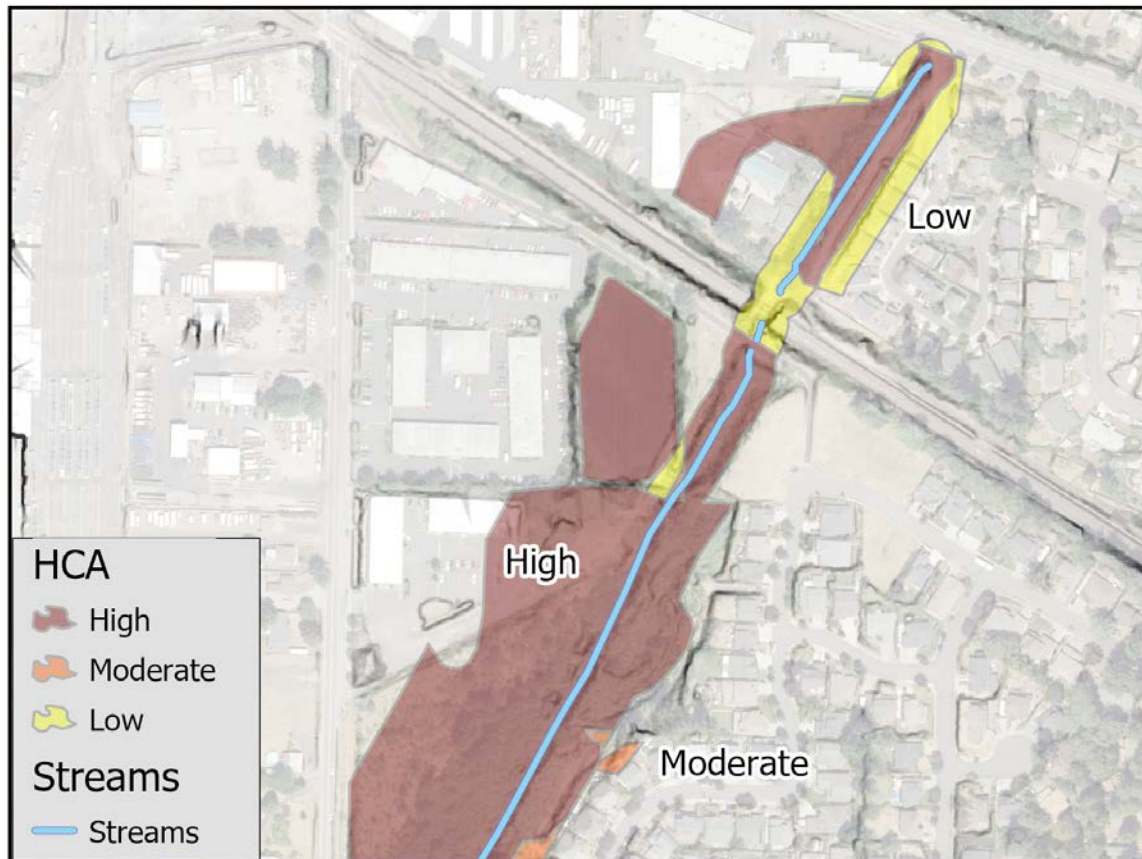
- 2009 LiDAR streams
- Streams from ESRA analysis
- Springwater ESRA

0 115 230 460 690 920 Feet

Natural Resource Overlay (cont.)

Driver 2:

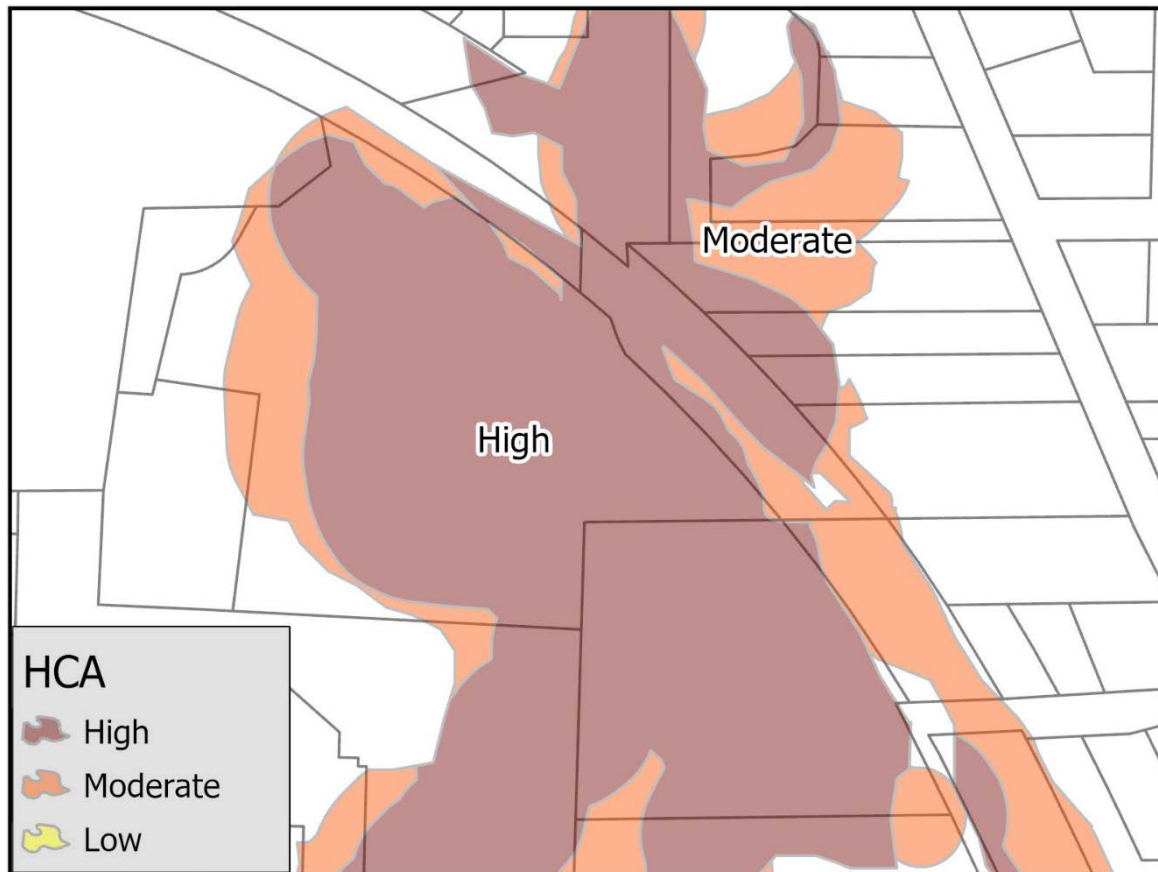
- Presence of computer-generated buffer geometries that didn't result in the envisioned resource protection



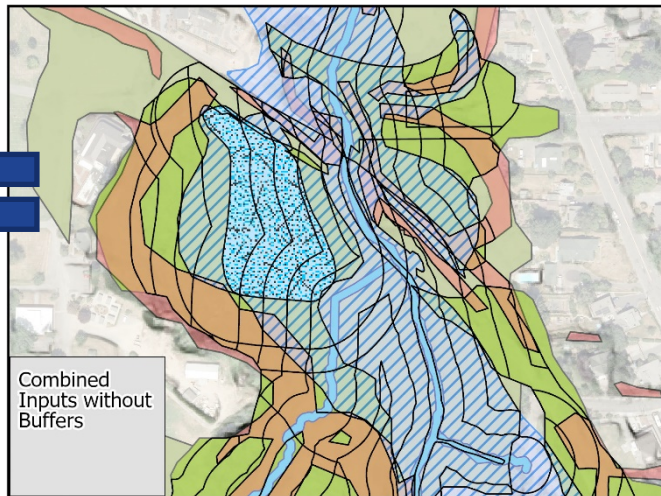
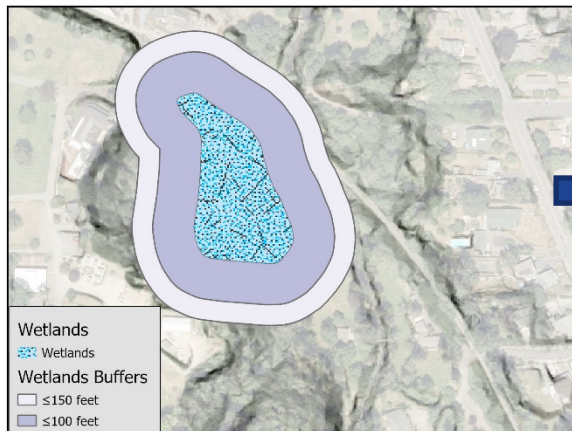
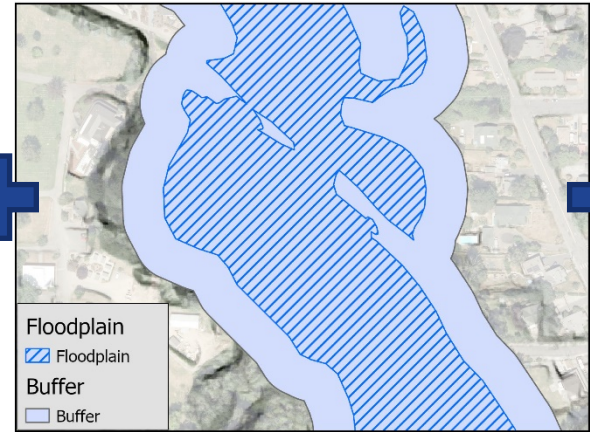
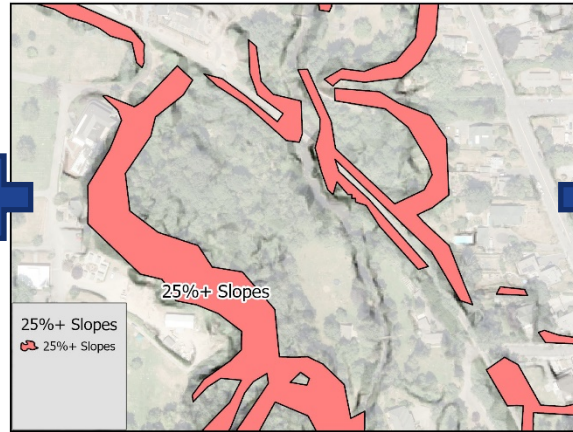
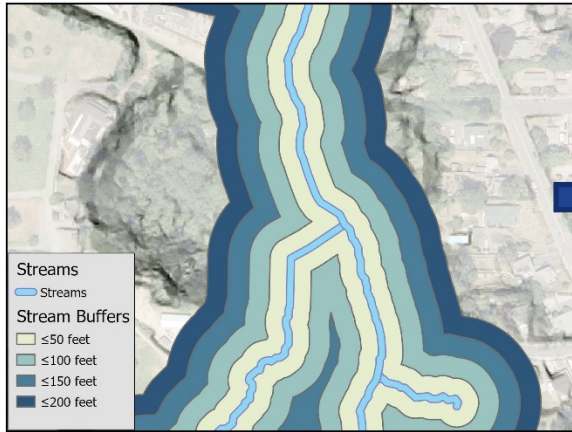
Natural Resource Overlay (cont.)

Driver 3:

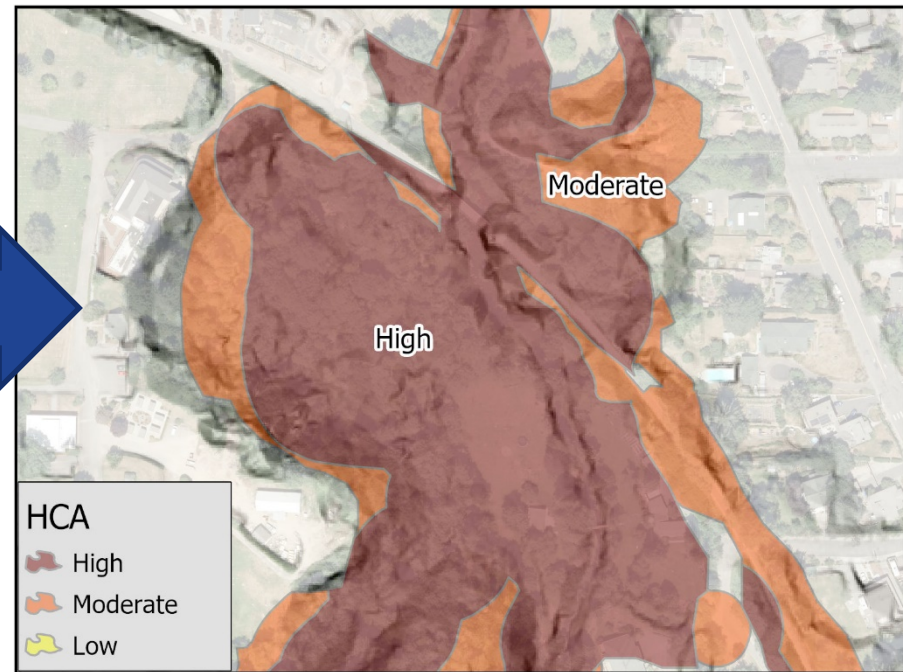
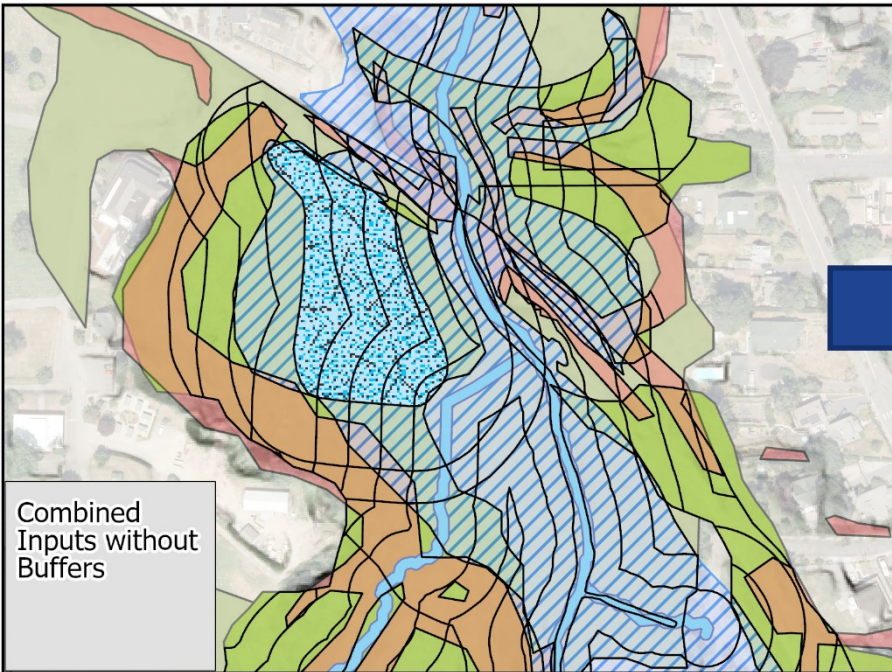
- Difficulty of understanding and administering three complicated, differing buffer models



HCA Model - Inputs



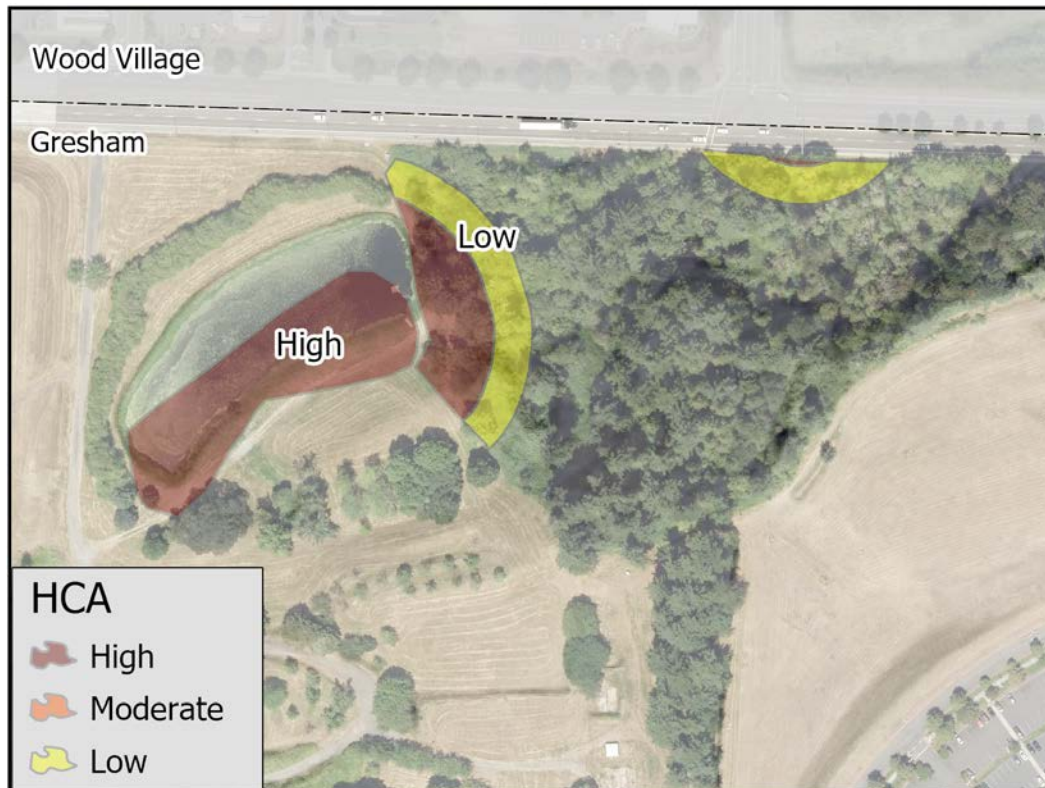
HCA Model – Final Values



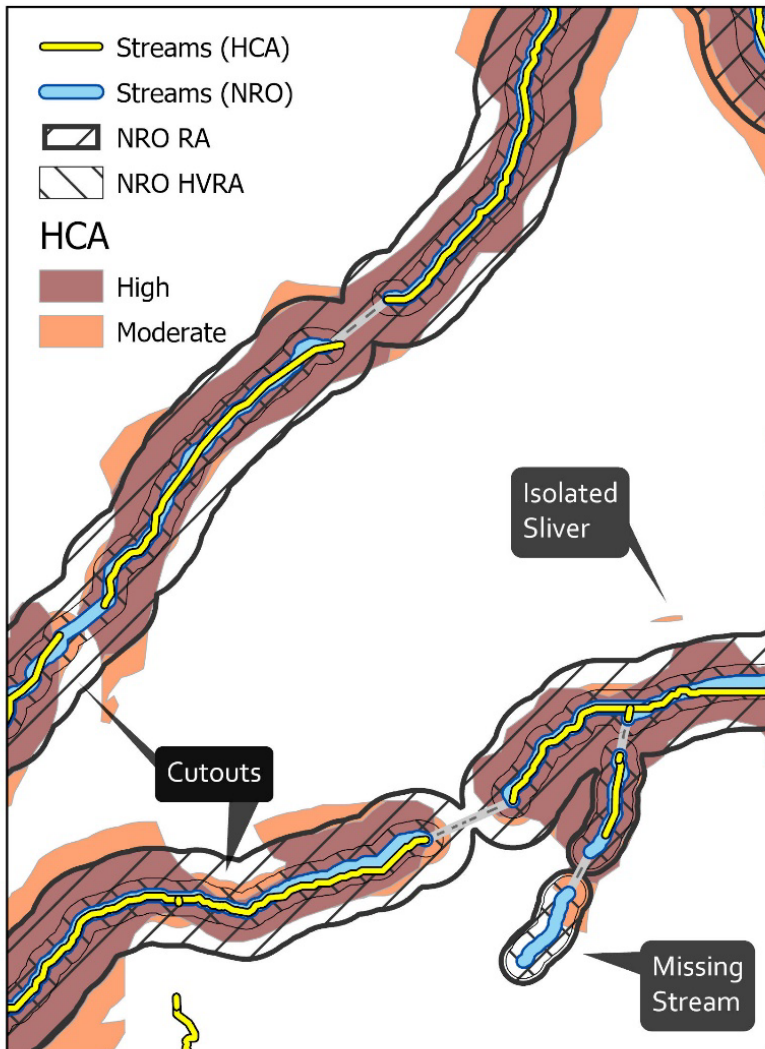
Resolving Natural Resource Buffer Issues

Two primary issues we're addressing:

1. We're currently high on precision, low on accuracy



Fix #1: Simplified model inputs



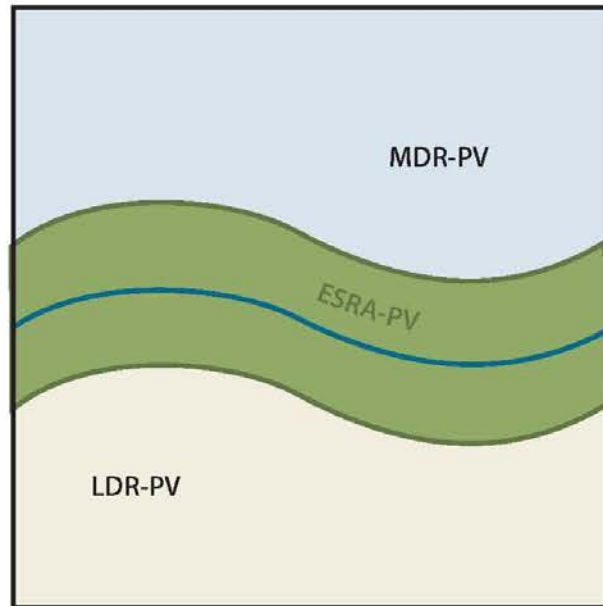
Standard buffer widths around similar resources

- No significant change in level of protection
 - Averaged the pre-existing buffers
- Use easier-to-find field indicators
 - Measure from center of the stream
- Simplified buffer doesn't generate anomalies
 - No slivers
 - No cutouts
- Uses most current, high resolution data

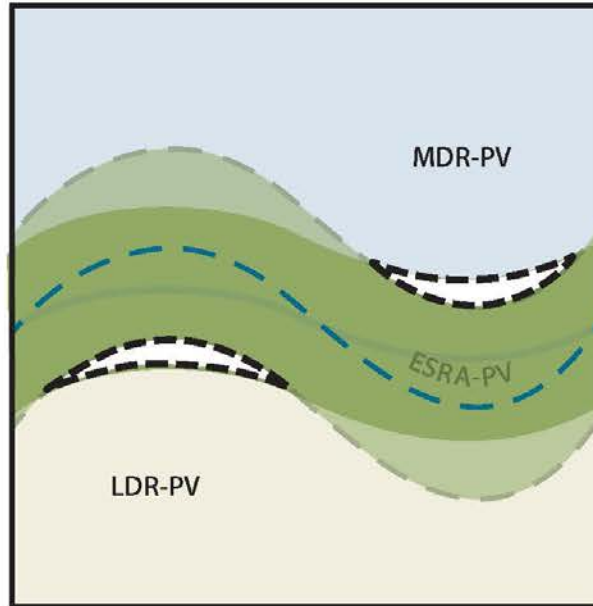
Resolving Natural Resource Buffer Issues

Second issue: discrepancy between buffers as an overlay (HCAs in current city) vs zones (ESRAs in Pleasant Valley and Springwater)

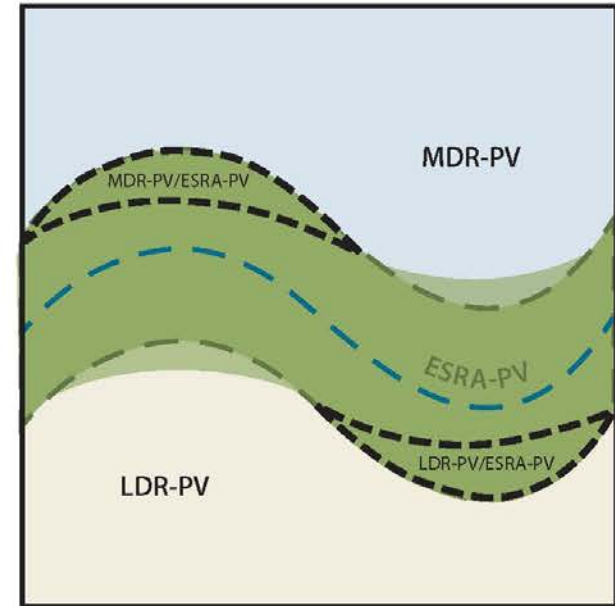
Existing



Changes in NR protection areas

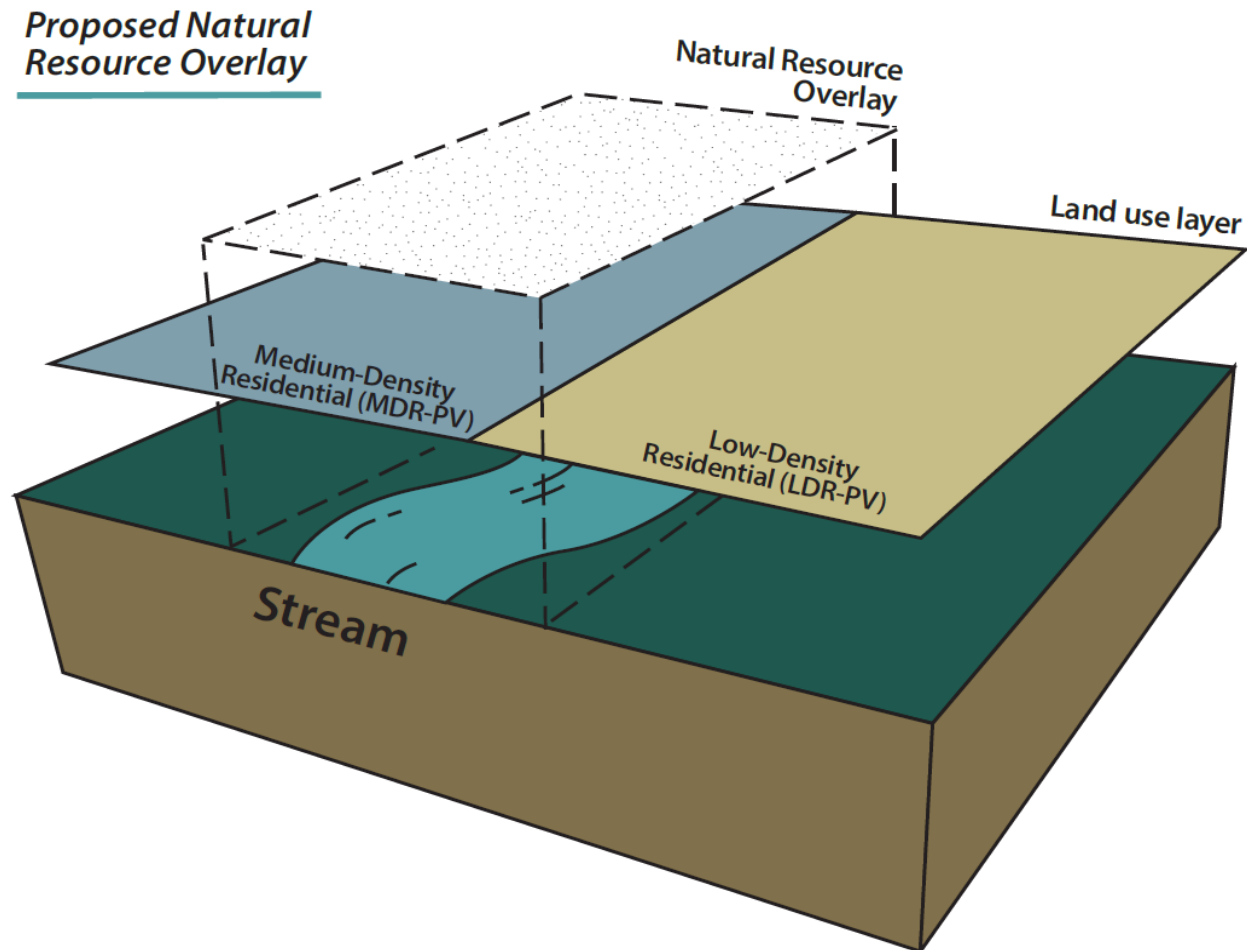


Gaps in zoning (& resource protection)



Overlapping zones

Buffers as an Overlay



Hillside Overlay – What is it?

Regulates development on

- steep slopes
- landslide prone soils

Consists of:

- Development code
- Overlay boundary

Overlay boundary relies on

- slope data
- landslide hazard data
- risk prioritization criteria



Hillside Overlay – Why update?

Natural Resources Overlay (NRO) removed some steeply sloped areas which prompted a review of our Hillside code and overlay.

Limitations

- Coarse slope data
- Inaccurate landslide hazard data
- Lacking clear and objective standards for needed housing

Opportunities to improve

- Higher resolution slope data
- 2014 landslide inventory
- 2018 landslide hazard data
- 2019 State landslide land use guide



Hillside – Inaccurate Hazard Data

Text to Accompany

GIS Overview Map of Potential Rapidly Moving Landslide Hazards in Western Oregon

by

R. Jon Hofmeister

Oregon Department of Geology and Mineral Industries

Daniel J. Miller

Earth Systems Institute

Keith A. Mills and Jason C. Hinkle

Oregon Department of Forestry

Ann E. Beier

Oregon Department of Land Conservation and Development



IMS-22 data was used as our “Further Review Areas”

DOGAMI webpage now states:

“IMS-22 hazard zones are now considered to be an inaccurate depiction of this hazard.”



Oregon Department of Geology
and
Mineral Industries

Interpretive Map Series IMS-22

2002

IMS-22 Report

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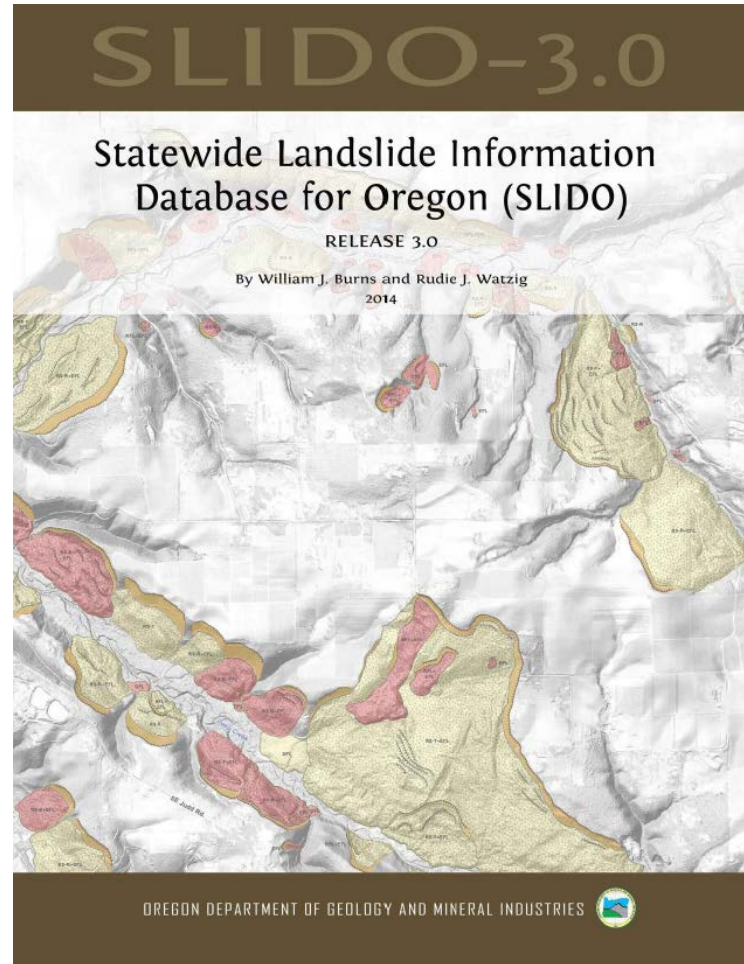
Hillside – New Hazard Data (2014-2018)

Landslide Hazard and Risk Study Central and Western Multnomah County, Oregon



Interpretive Map 57
Oregon Department of Geology and Mineral Industries

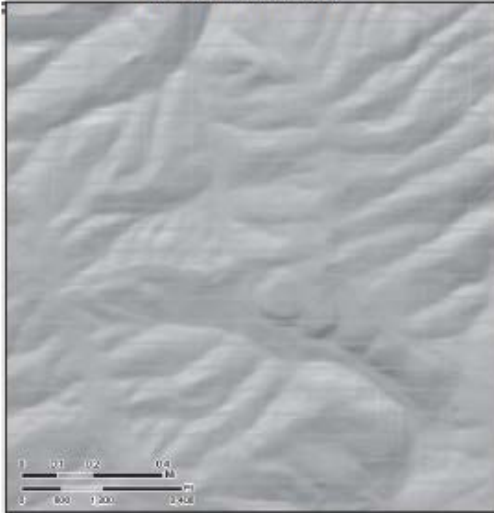
IMS-57 Report



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Hillside – Slope data comparison

10-m USGS DEM



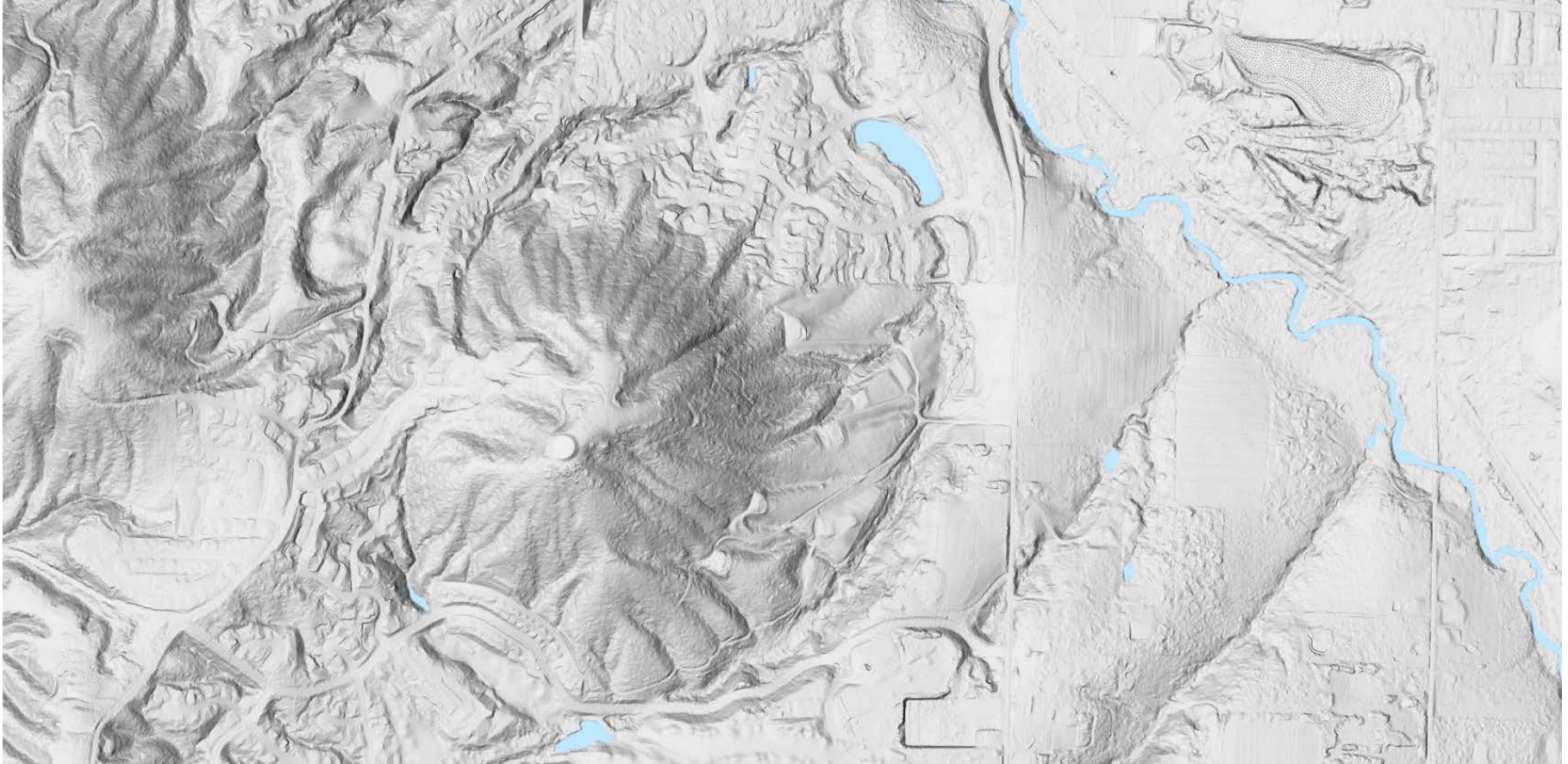
← 2003 available data

1-m lidar DEM



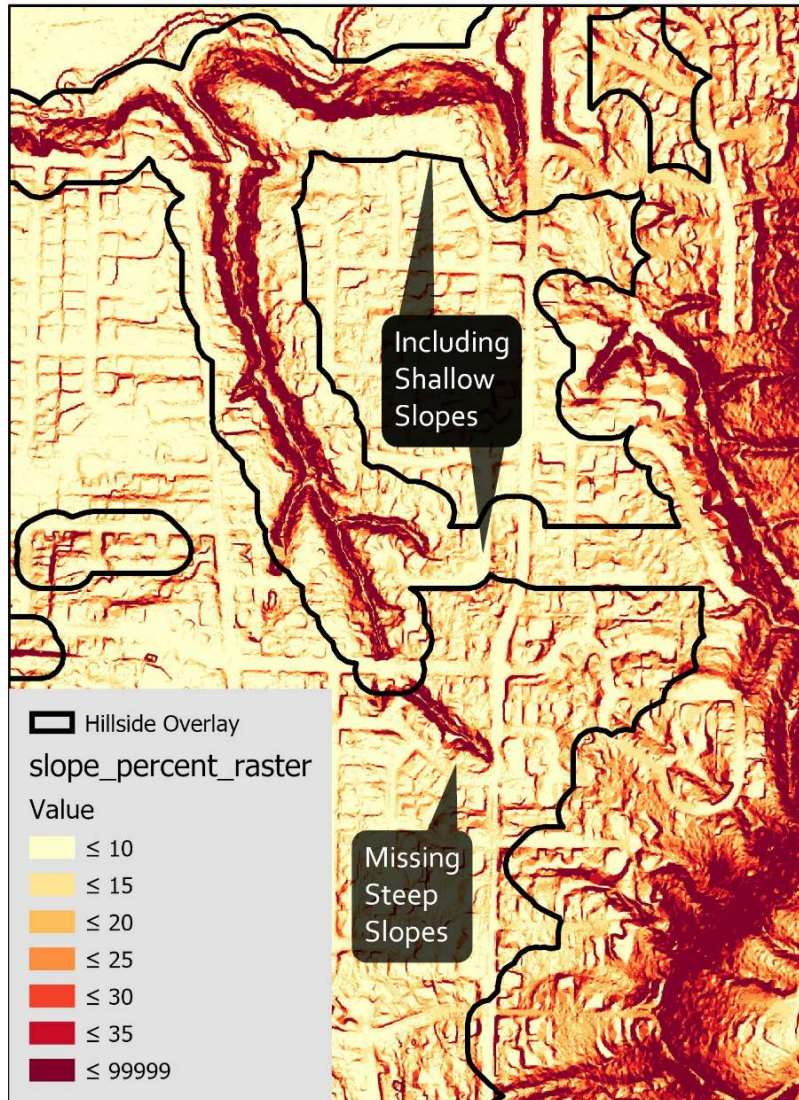
← 2014 available data

Hillside – New high quality slope data



Hogan Butte and Johnson Creek

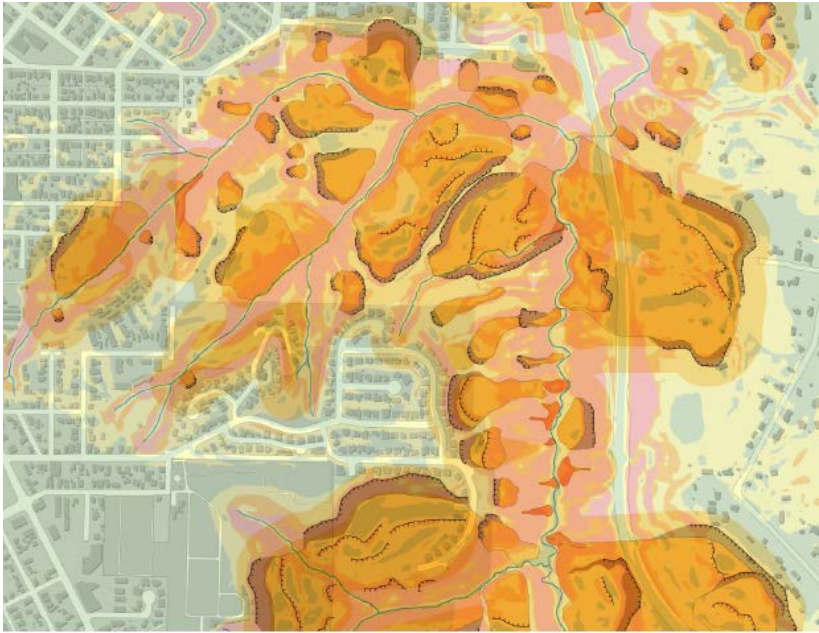
Hillside – Coarse Slope Data



Hillside - New Geology Data (2014-2018)



Hillside – Code



Helps to guide how to put new data to work

Provides code development guidance

- Goal 7 compliance
- Clear and Objective standards
- Examples from other jurisdictions

PREPARING FOR LANDSLIDE HAZARDS

**A LAND USE GUIDE
FOR OREGON COMMUNITIES**

October 2019

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Next Steps

- Planning Commission Update: January 2020
- Other Stakeholder Updates: Spring 2020
- Discussion Draft Available: April 2020
- Neighborhood Coalition: April 2020
- Public Work Session(s): May-June 2020
- Planning Commission Hearing: November 2020
- City Council Hearing: December 2020
- Target Effective Date: January 2021