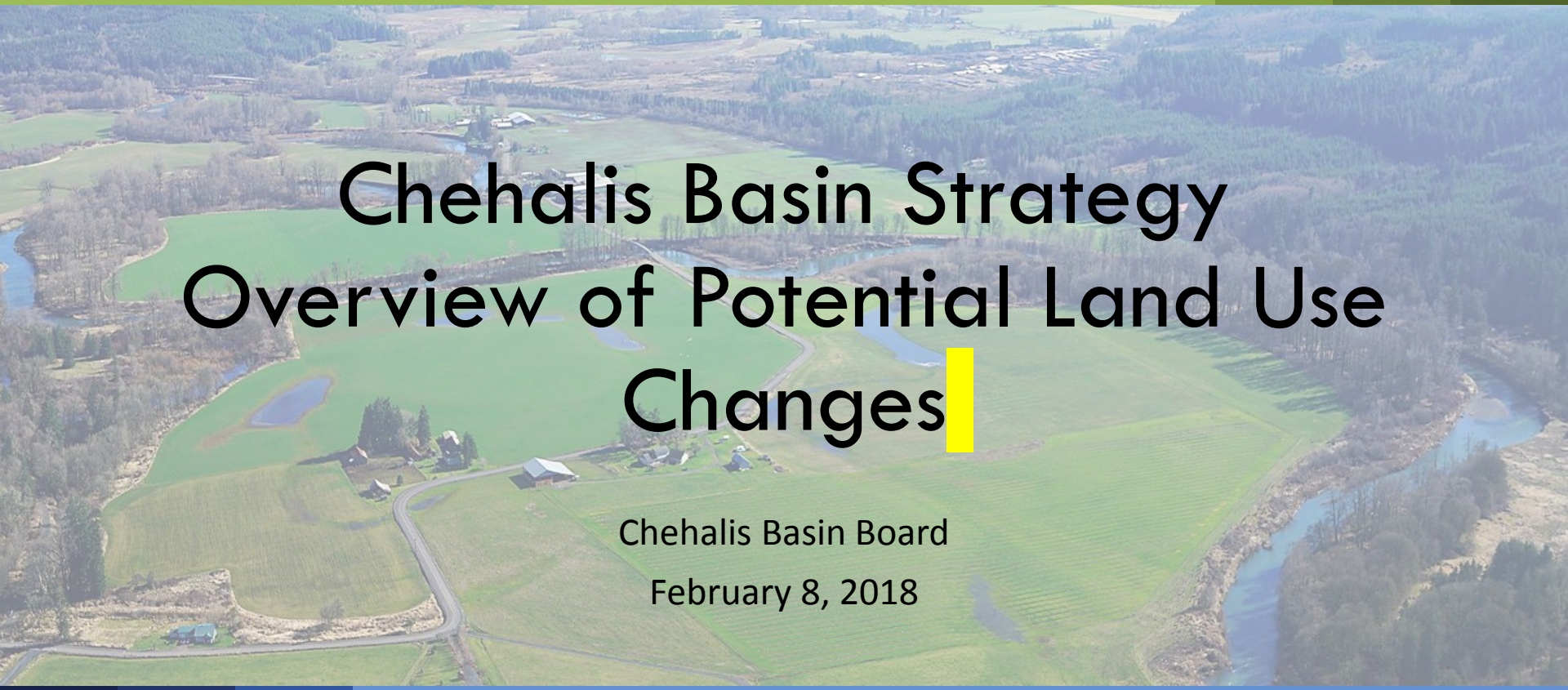


Chehalis Basin Strategy Overview of Potential Land Use Changes

Chehalis Basin Board

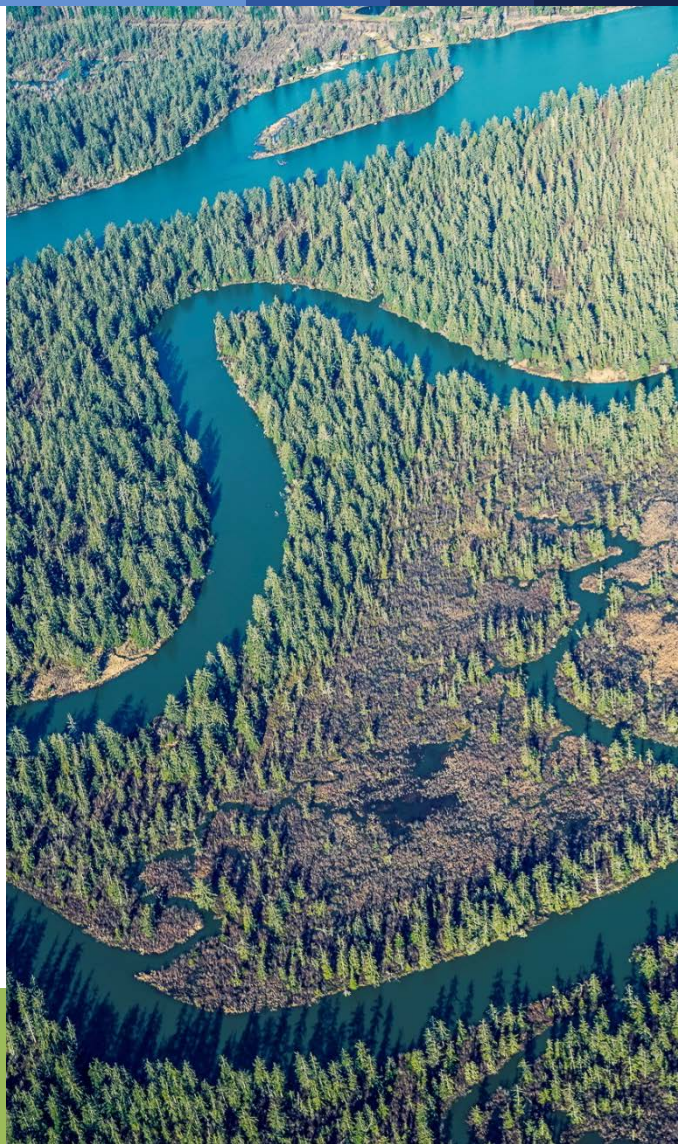
February 8, 2018

Purpose of Presentation

- The Chehalis Basin Board will determine what future land use scenario(s) should be evaluated as part of the Chehalis Basin Strategy.
- The ASRP Science Review Team and Steering Committee will need to provide guidance on the potential future degradation that should be used in EDT and NOAA models.
- Respond to Board request to understand potential future floodplain scenarios.

Presentation Overview

- Changes to floodplain by climate and potential dam
- Buildout analysis under current conditions
- Lewis County Comprehensive Plan and Zoning



Floodplain Area Changes

Estimates for floodplain area of HEC-RAS model (mainstem)

- Change in floodplain from climate effects
- Change in floodplain from potential dam and airport levee

Reduction in Flooded Area (mainstem, in acres)

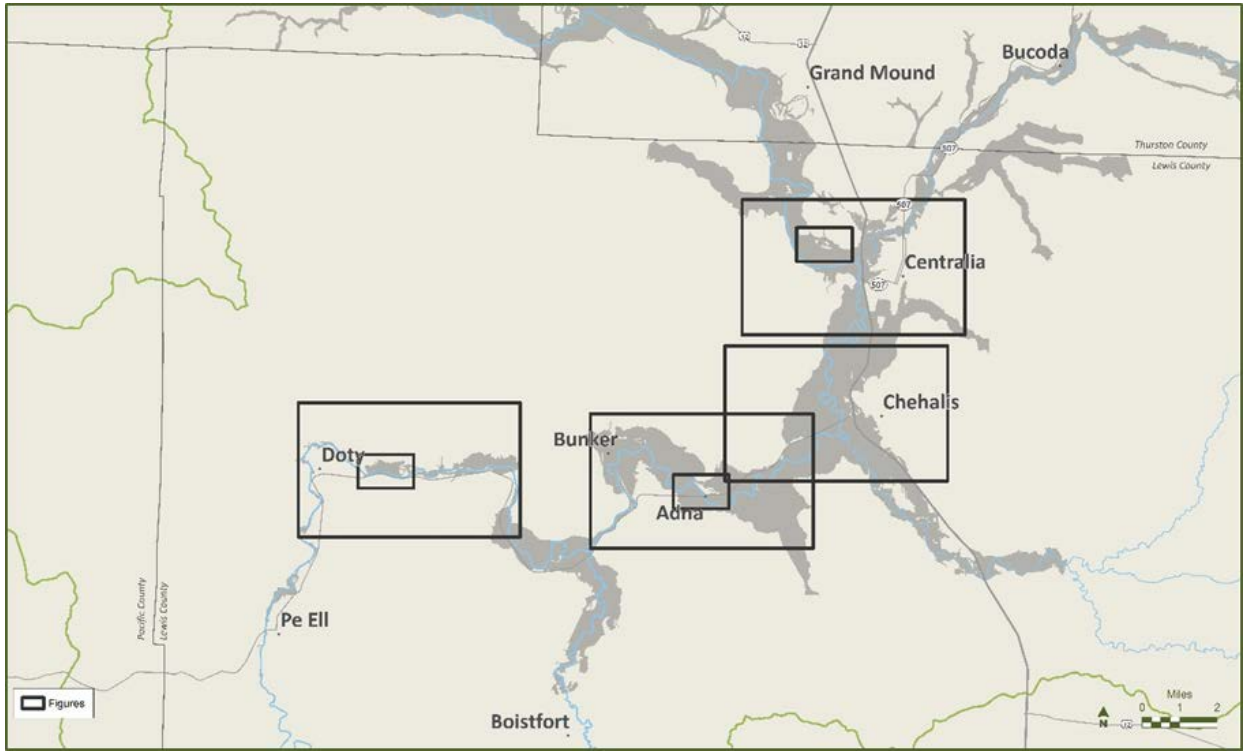
100-year Floodplain	Without Climate Change	With Climate Change	Difference after Climate Change
No Dam or Airport Levee	66,600	74,134	+7,535
With Dam and Airport Levee	60,952	70,326	+9,373
Difference after Dam and Airport Levee	-5,647	-3,808	

Existing Floodplain vs. Climate Change Floodplain

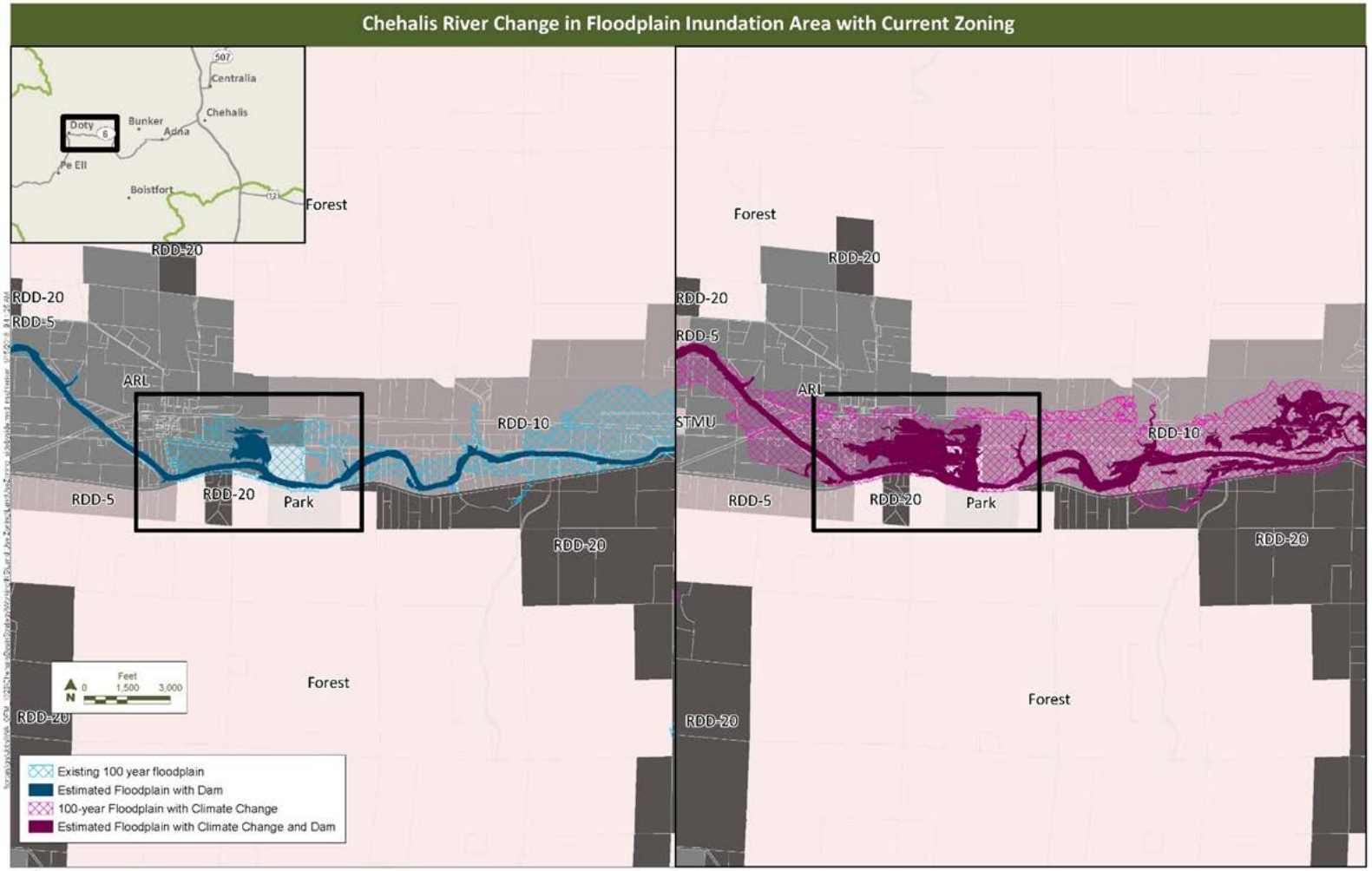
- Largest change (increase) in floodplain/flooded area when considering climate change is just west of Centralia
- Largest change (reduction) in floodplain/flooded area when considering installation of a dam is in the Upper Basin near Doty

Existing Floodplain vs. Climate Change Floodplain

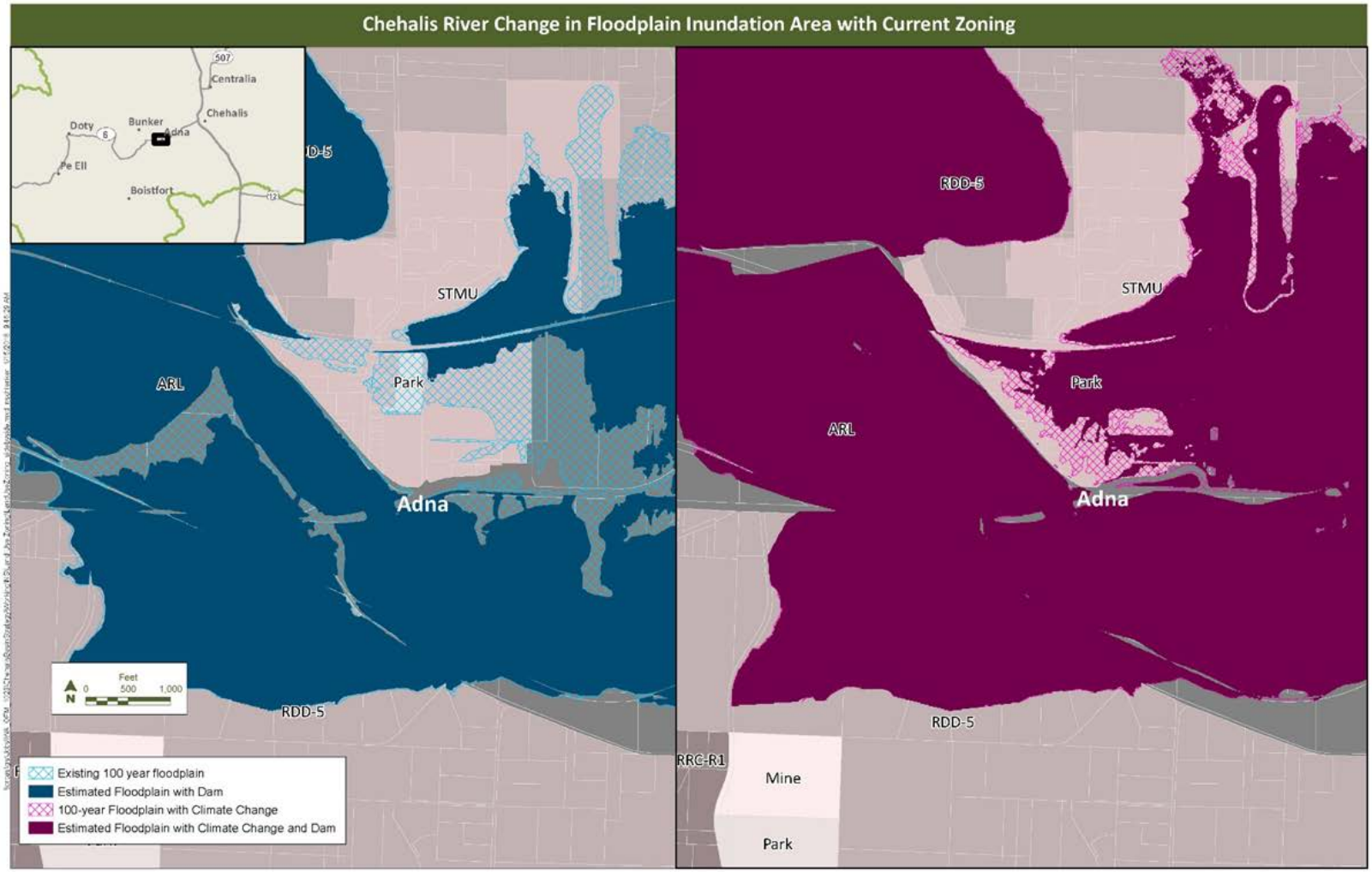
The next slides illustrate the existing 100-year floodplain and 100-year floodplain with climate change, both with and without the dam and airport levee



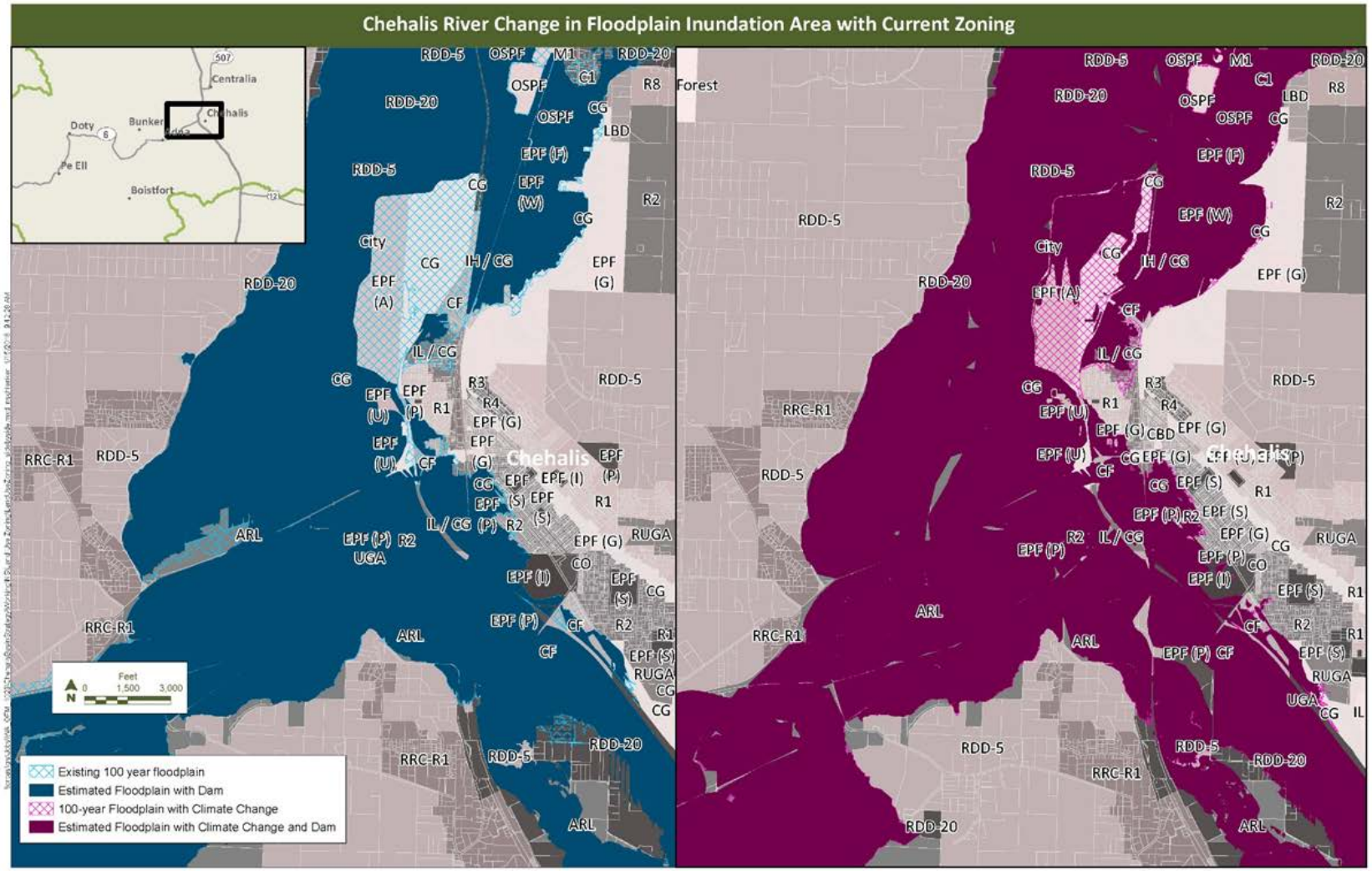
Existing & Climate Change Floodplain, with and without dam (Doty)



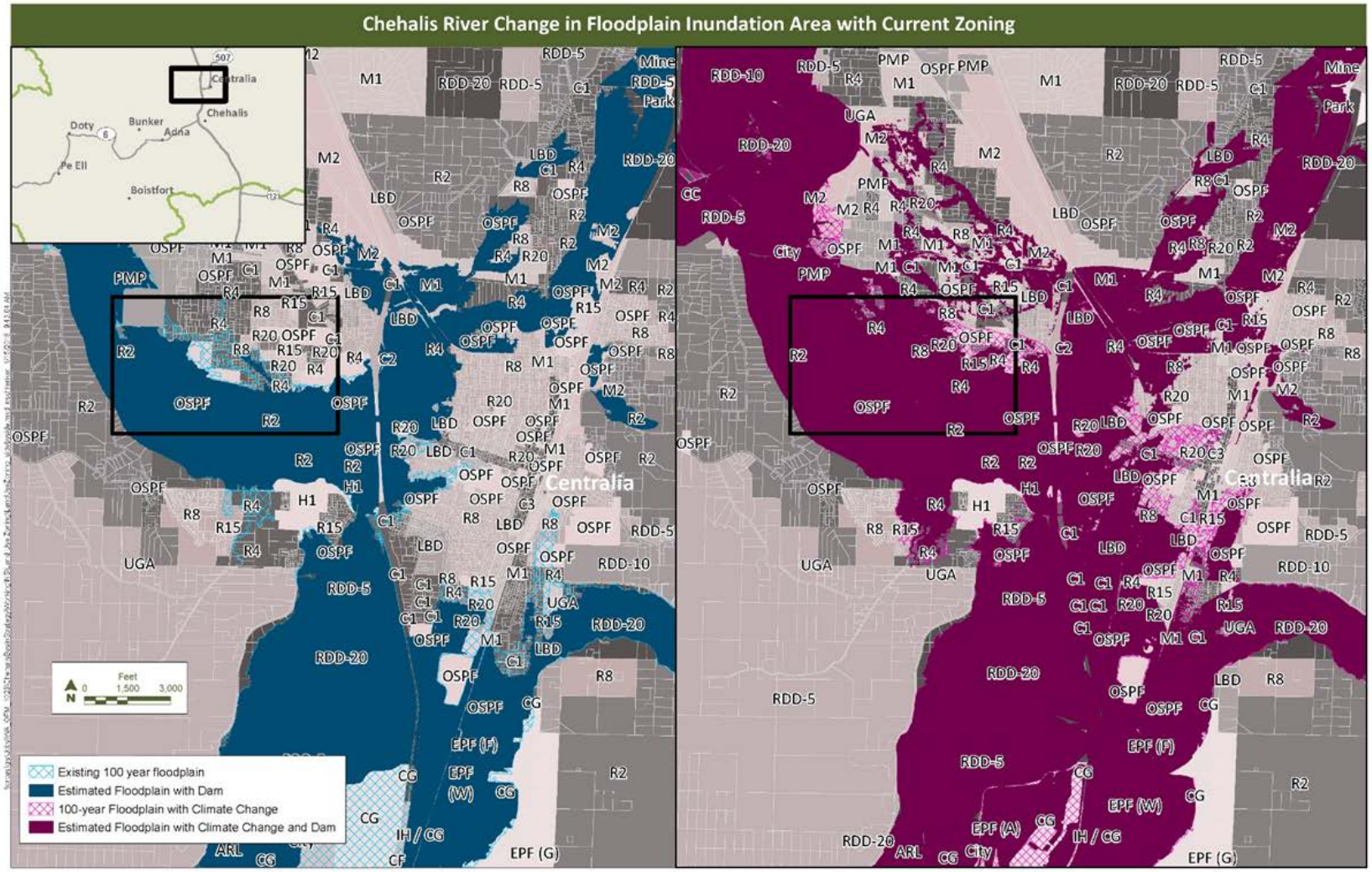
Existing & Climate Change Floodplain, with and without dam (Adna)



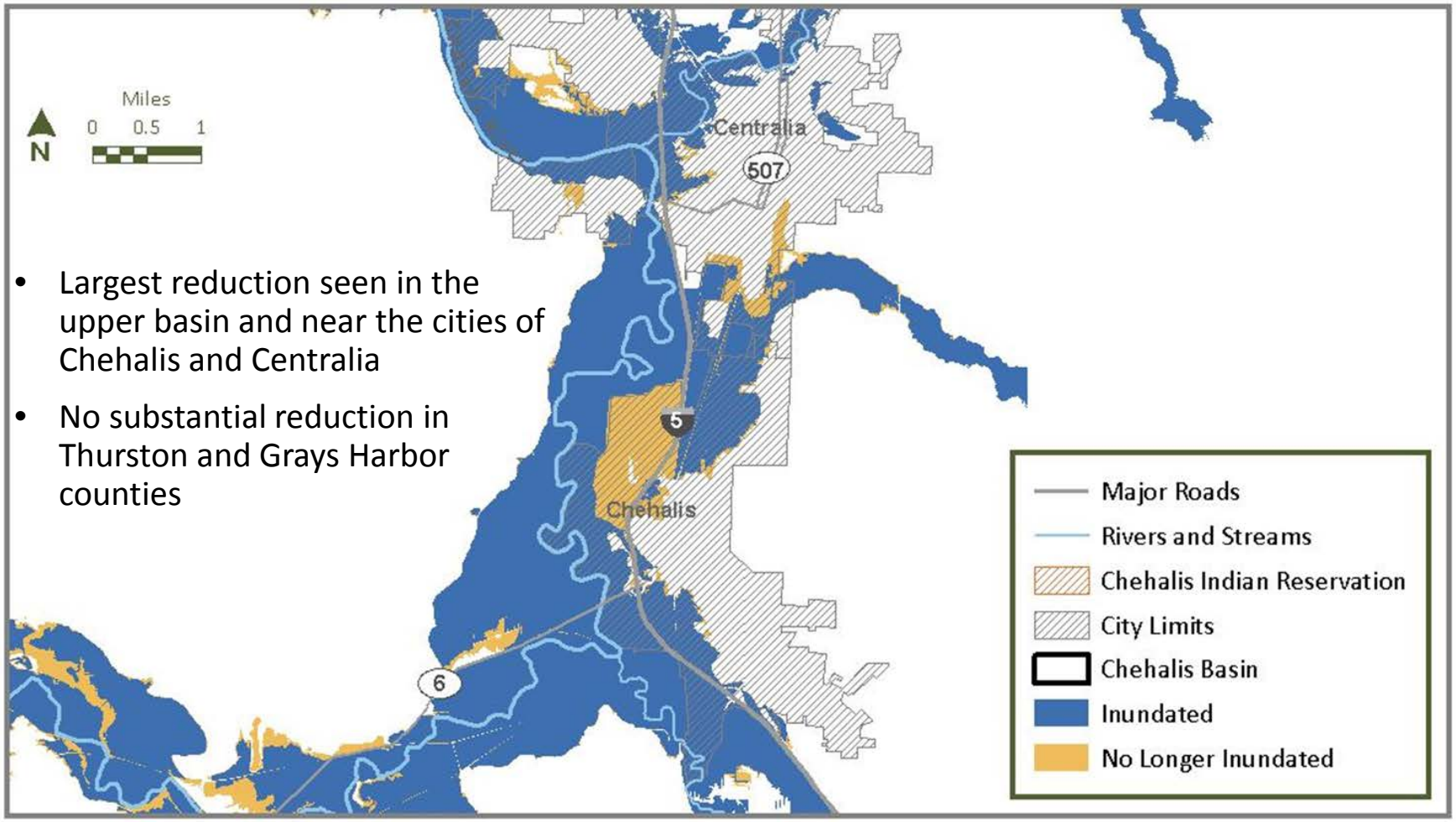
Existing & Climate Change Floodplain, with and without dam/airport levee (Chehalis)



Existing & Climate Change Floodplain, with and without dam/airport levee (Centralia)



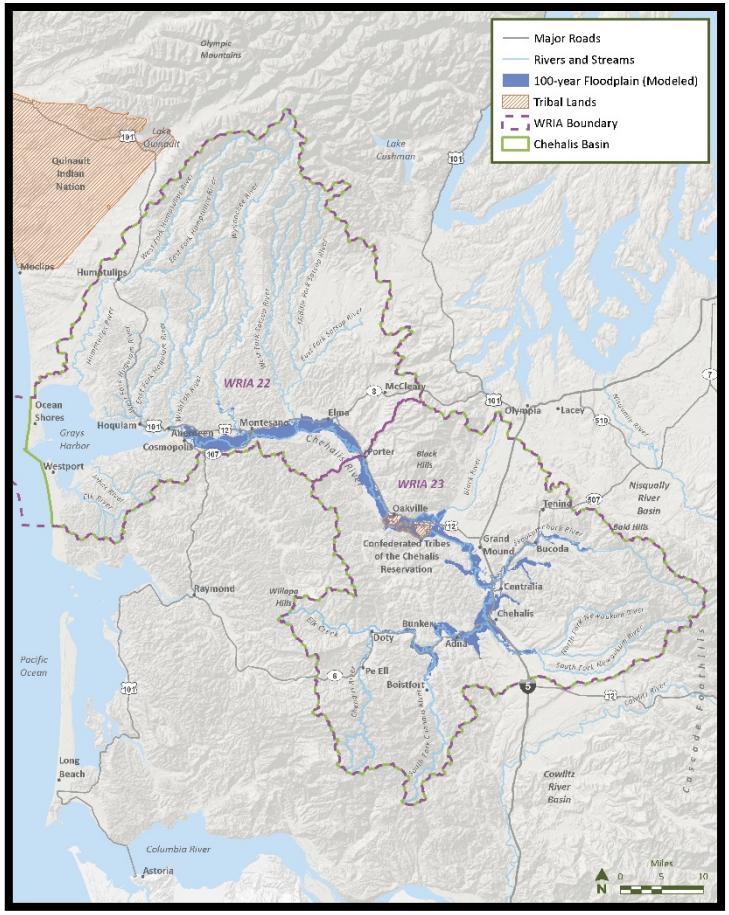
Parcels Impacted by Dam Operations (Current Conditions)



- Largest reduction seen in the upper basin and near the cities of Chehalis and Centralia
- No substantial reduction in Thurston and Grays Harbor counties

Purpose of the Build Out Analysis

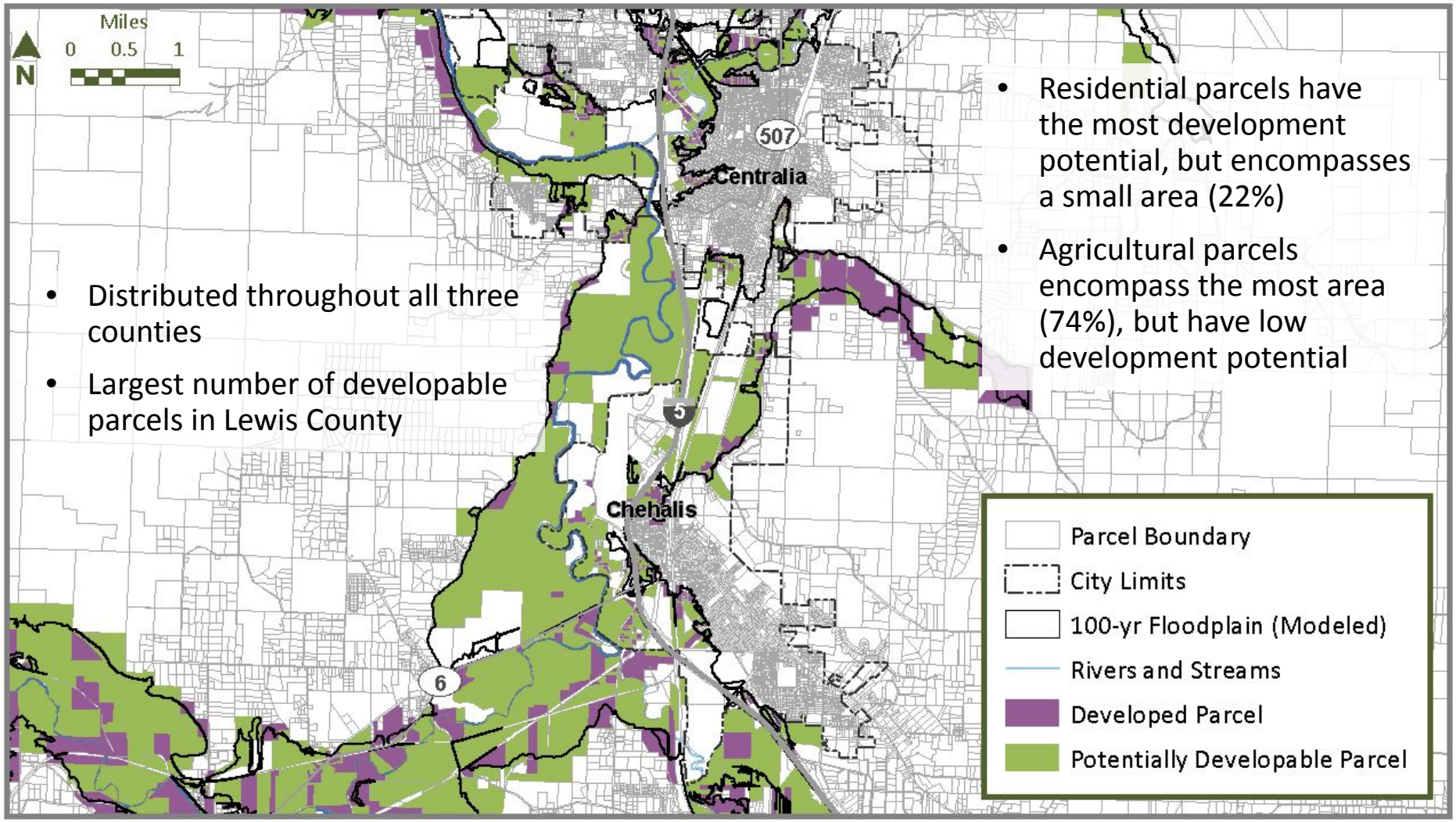
- Determine existing conditions and total development potential in the Basin
- Estimate potential floodplain population growth & development over a 100 year planning horizon
- Analyze how Chehalis Basin Strategy PEIS combined action elements could influence floodplain development



Development Potential

- Development Potential = Developable Parcels
- Developable parcels
  - Parcels that could be developed in the future
  - Includes the maximum amount of subdivision possible on all existing, subdividable parcels
- Development potential estimates the total number of new primary structures that could occur under current zoning

Distribution of Developable Parcels in the Floodplain



- Distributed throughout all three counties
- Largest number of developable parcels in Lewis County

- Residential parcels have the most development potential, but encompasses a small area (22%)
- Agricultural parcels encompass the most area (74%), but have low development potential

Developable Parcels

- Existing Parcels without Subdivision
  - Total of 2,073 existing parcels that are developable without the need for subdivision
  - 924 are residential, with 521 of those in Lewis County
- New Parcels through Subdivision
  - Most of the new parcels through subdivision are located in incorporated and UGA areas in Lewis County (1,957 parcels)
  - 1,562 additional potential parcels in other areas
- Total Development Potential
  - The sum of existing and new parcels
  - Total development potential = 5,592 parcels

Calculating Growth Rate

- Floodplain growth rate ~38% of countywide rate
- Office of Financial Management (OFM) releases 20 year population estimates in 5 year increments
- Used the OFM 2015 to 2035 county population projections to calculate growth rate
- Used 2030 to 2035 growth rate for years 2035 to 2120

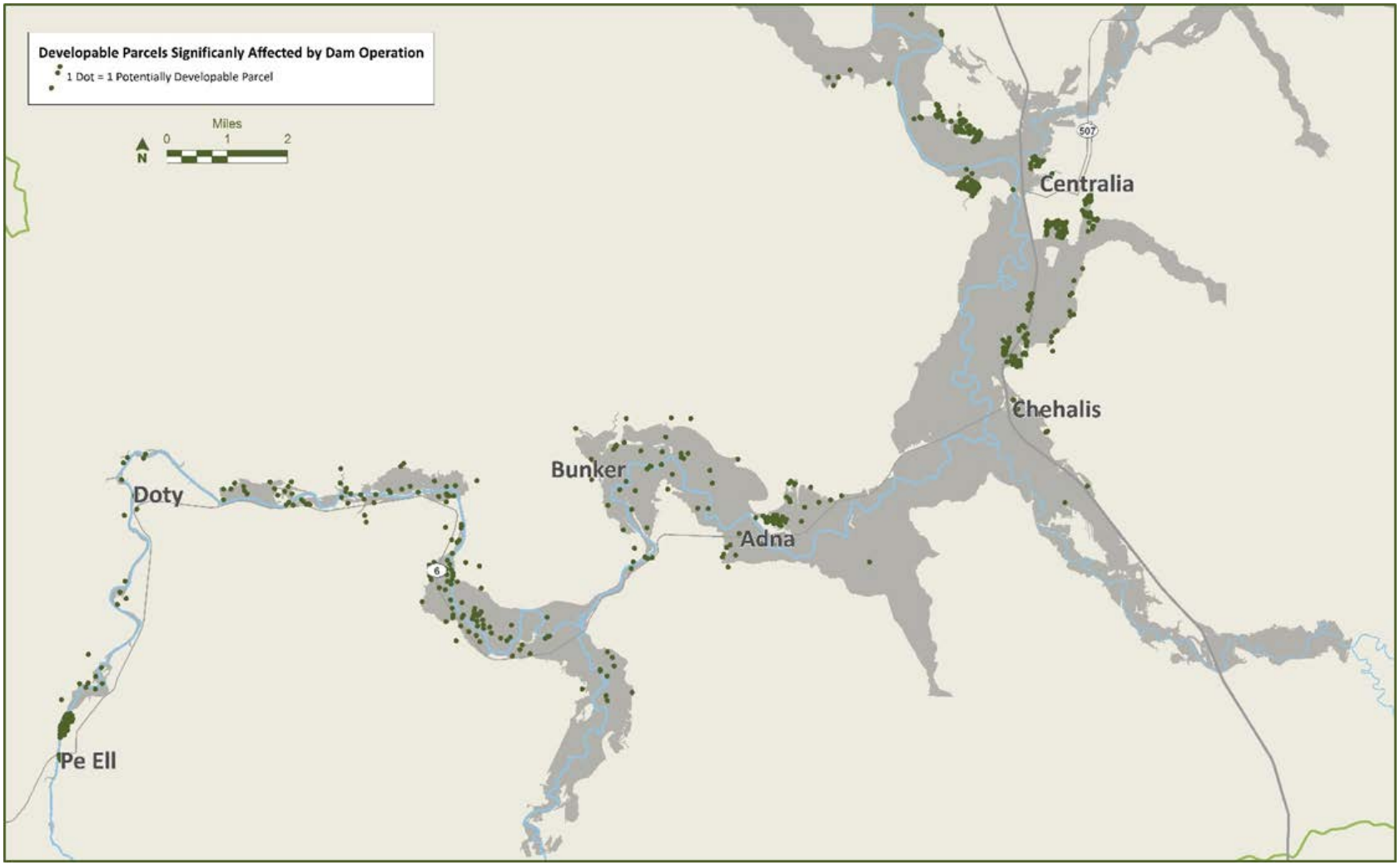
Growth rate = OFM growth rate x floodplain growth rate

Parcels Impacted by Dam Operations (Current Conditions)

- Portions of 649 parcels would no longer be flooded in Lewis County
- Residential parcels could see increased development pressure
- Commercial/industrial and agricultural parcels also may experience areas of increased development pressure

GENERAL ZONE	NO LONGER INUNDATED PARCELS			
	INCORPORATED	UGA	UNINCORPORATED	TOTAL
LEWIS				
Residential	263	82	81	**426**
Commercial/ Industrial	75	1	37	**113**
Agricultural	0	0	110	**110**
County Total	**338**	**83**	**228**	**649**
GRAYS HARBOR COUNTY				
County Total	0	0	0	0
THURSTON COUNTY				
County Total	0	0	0	0
Grand Total	**338**	**83**	**228**	**649**

Parcels Impacted by Dam Operations



Approximate locations of the 649 parcels with area no longer flooded

Development Potential
Chehalis River 100-year Floodplain

Urban Growth Areas (UGA) and Incorporated areas

- 7% of buildable area
- 59% of development potential (under current zoning)

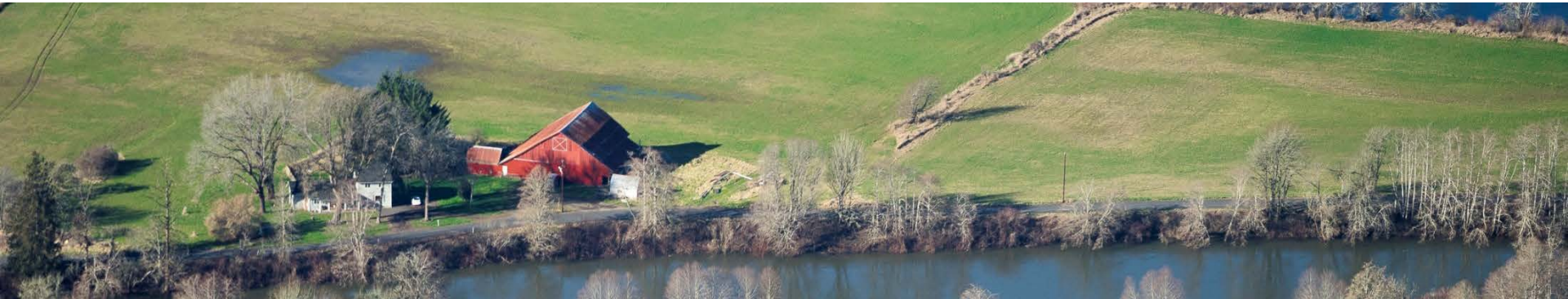
Development Potential
Chehalis River 100-year Floodplain

Rural (Unincorporated)

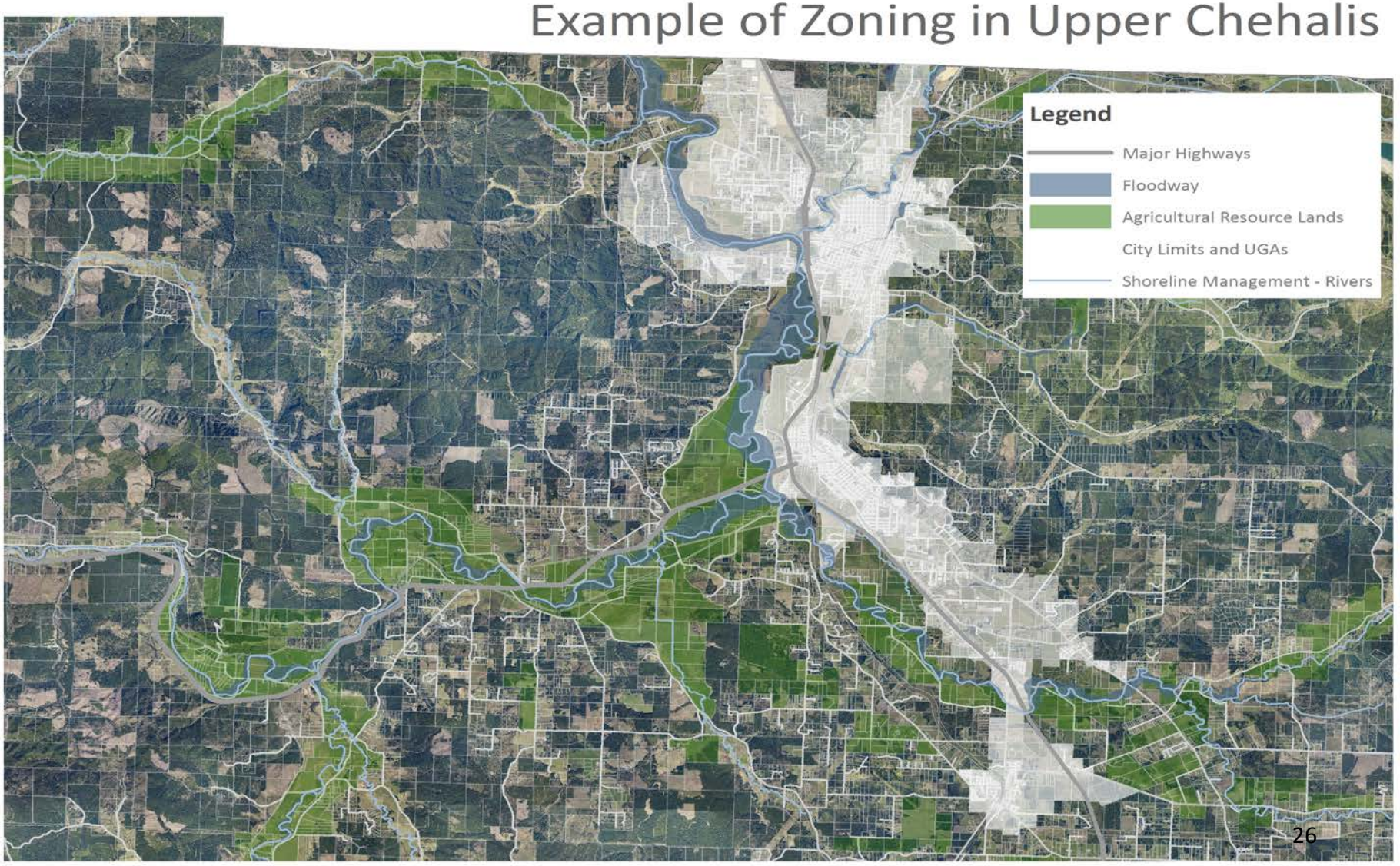
- 93% of buildable area
- 41% of development potential (under current zoning)

Development Potential
Chehalis River 100-year Floodplain

- Development potential is concentrated in UGAs and Incorporated areas
- A majority of the buildable area falls in rural areas
- Floodplain development is estimated at between 4 and 9 structures per year
- Very little subdivision is needed to accommodate predicted future development



Comp Plan and Zoning



Agricultural Resource Lands

- Growth Management Act
  - Agricultural land of long-term, commercial significance
  - Minimum guidelines
- Lewis County
  - Comprehensive Plan and Development Regulations
- Growth Management Hearings Board
- WA State Supreme Court

Questions/Discussion