OREGON
Department of Land Conservation & Development

OREGON FARM & FOREST LAND USE REPORT

2022–2023

November 21, 2024

OREGON
Department of
Land Conservation
& Development

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I. Introduction

Strong farm and timber economies need large, connected areas of working farms and forests to thrive.

When residential development or other non-resource uses encroach on these areas, it can trigger a cycle of land conversion, leading to more conflicts between farm and forest operations and rural residents, along with higher wildfire risks and pressures on wildlife.

For over fifty years, Oregon has maintained strong policies to protect our limited amount of agricultural and forest lands. In response to an unprecedented loss of arable land from 1955 to 1965, the state legislature established a program in the early 1970s to preserve agricultural and timber lands. This initiative aimed to ensure suitable land remains available to support our farming and timber industries, and also safeguards open space, wildlife habitats, air and water quality, and land needed to sequester carbon. The protection of working lands assures that healthful and nutritious food is available for the people of this state while also providing a suite of environmental benefits.

The main tool for carrying out these policies is the statewide land use planning program. Oregon's Legislature and the Land Conservation and Development Commission (LCDC) set standards and criteria for protecting land needed to support our resource industries. All 36 counties then apply the state requirements through local comprehensive plans, zoning maps and land-use ordinances.

Oregon provides strong evidence that comprehensive land use planning and zoning protects large areas of working land from conversion to uses like residential subdivisions. The comparison to other parts of the country is stark, especially at the edges of urban areas. In most states, low-density residential development continues to leap-frog across the landscape, forcing the premature loss of farms and forestlands while increasing urban sprawl.

This report provides information on the background and structure of the working land conservation program; data on applications approved and denied for certain land uses in exclusive farm use (EFU) and forest zones; and highlights challenges and emerging issues about protecting agricultural and forest lands. Careful consideration of this information can provide insight into:

- How well Oregon's land use planning program is working relative to its original goals.
- How new data and information could enhance the program.
- How Oregon can respond to challenges facing the program.
- How the program could adapt to overcome emerging issues.

Reporting on County Land Use Decisions

Oregon Revised Statutes (ORS) 197.065 requires LCDC to submit a report every two years to the Legislature "analyzing applications approved and denied" for certain land uses in exclusive farm use (EFU) and forest zones and "such other matters pertaining to protection of agricultural or forest land as the commission deems appropriate."

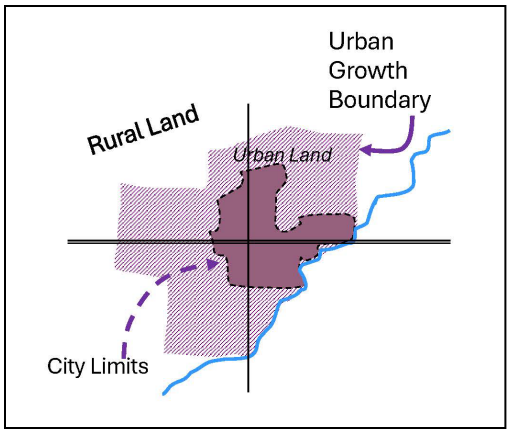
The Department of Land Conservation and Development (DLCD or department) receives county land use decisions in EFU, forest and mixed farm-forest zones. This report summarizes the information provided

by the counties for the two-year period from January 1, 2022, through December 31, 2023. Tables and graphs in this report include information on dwelling and land division approvals as well as other approved uses on farm and forest land. The body of the report includes statewide summaries of this information, and the appendix includes detailed, county-level data tables historically and for the 2022-2023 biennium. In addition, the report provides information on the acreage rezoned out of farm and forest zones to urban and rural zones during the same period.

How DLCD Uses This Report

The department uses the data collected for this report to evaluate the extent and location of development, partitions, and zone changes on farm and forest lands. This information helps continually assess the effectiveness of farm and forest programs in implementing Statewide Planning Goal 3 (Agricultural Lands) and Goal 4 (Forest Lands). LCDC and the legislature may also use the data to shape statutory and rule changes to enhance or clarify protections for farm and forest lands.

II. Inventory and Classification of Lands



Urban growth boundaries (UGBs) delineate a 20-year planning area around cities for those for cities to plan to expand into. "Rural lands" are lands that are outside of UGBs. In Oregon, counties were required to inventory their rural lands and categorize them primarily[1] into farmland, forest land, mixed farm-forest land (collectively "resource lands") and non-resource land. "Non-resource land" is land that does not meet the definition of either agricultural land or forest land. Counties then either protected inventoried resource lands under conservation zoning, as required by the state, or they "took an exception" to the state's conservation program and zoned those land for rural residential, commercial or industrial uses. By 1986, all counties had completed this initial inventory and classification, or "zoning", documented the result in comprehensive plans and zoning maps, and had that work acknowledged.

To identify resource lands, counties must use the state's definition of "agricultural land" and "forest land" which are discussed below.

What and where are our Agricultural Lands?

For land use purposes, the state's definition of "Agricultural Lands" is first based on Natural Resource Conservation Service (NRCS) soil capability ratings. Oregon's program relies on objective, scientific field data rather than subjective and changeable trends in the agricultural economy or metrics of profitability which are dependent on the skills of individual operators and market conditions. Having our definition of agricultural lands based on soils classifications acknowledges that long term decisions about our finite land resources should not be made on short-term conditions. To put it in other words, individual circumstances such as market trends or an individual's ability to operate a business should not be the basis for long-term resource preservation decisions.

In recognition of the difference in our regional landscapes and unique needs of various agricultural sectors, the definition also encompasses land in other soil classes based on fertility, climatic conditions, availability of water, land use patterns and farming practices. While the soils component of the definition looks at the capability of the land to support certain types farming like raising a broad variety of crops, the second component looks at the suitability of the land for farming activities. There is land which may have a lower capability rating that is suitable for specific crops or specific types of farming activities.

Oregon boasts a diverse landscape supporting a variety of agricultural activities. As reported in the 2023 Agricultural Statistics & Directory, more than 220 high-quality agricultural products worth more than $5 billion are produced in the state. The top commodities produced reflect that diversity ranging from cattle and calves, hay, grass seed, milk, wheat, wine grapes, cherries, blueberries, hazelnuts, nursery products,

[1] Coastal counties also inventory unique areas like estuaries, beaches and shorelands.

Agricultural Lands Definition

1) Lands classified by the U.S. Natural Resources Conservation Service (NRCS) as predominantly Class I-IV soils in Western Oregon and I-VI soils in Eastern Oregon;

2) Land in other soil classes that is suitable for farm use as defined in ORS 215.203(2)(a), taking into consideration soil fertility; suitability for grazing; climatic conditions; existing and future availability of water for farm irrigation purposes; existing land use patterns; technological and energy inputs required; and accepted farming practices; and

3) Land that is necessary to permit farm practices to be undertaken on adjacent or nearby agricultural lands.

4) Land in capability classes other than I-IV/I-VI that is adjacent to or intermingled with lands in capability classes I-IV/I-VI within a farm unit, shall be inventoried as agricultural lands even though this land may not be cropped or grazed.

onions, and Christmas trees. Important agri-clusters are located in all areas of our state. The second and third parts of the definition allow for a broader definition of agricultural lands in keeping with the individual characteristics, vision and needs of local communities.

Lastly, the definition of Agricultural Lands is also meant to include lower capability lands that are interspersed within a cohesive working landscape. This is meant to limit fragmentation of the agricultural landscape. Areas of lower soil capability are also useful for placement of infrastructure like barns and lanes.

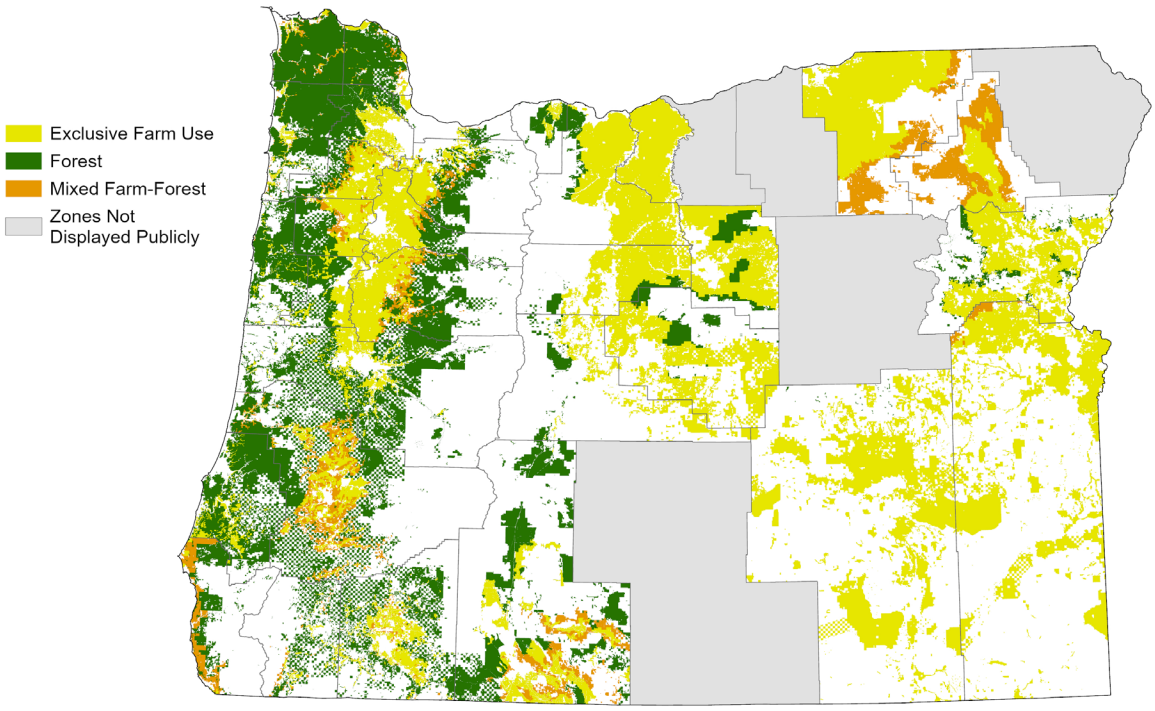
By 1986, all 36 counties had completed their agricultural land inventories based on this definition and the procedures set forth in rule. Counties applied Exclusive Farm Use (EFU) zoning to all land identified as agricultural lands, or they took an exception to Goal 3 and zoned those lands for other purposes. In 1986 the department estimated that approximately 16.1 million acres were protected under the EFU zoning designation. Since 1987, just over 43,000 acres of land have been removed from EFU zoning through an urban growth boundary expansion or through a zone change process. This means that 99% of land originally zoned EFU has been maintained under EFU zoning.

In 2024, DLCD staff undertook a detailed GIS review of resource zoning in the state. [INSERT Sarah write-up]. Following the quality control initiative on the zoning layer, DLCD staff performed a GIS analysis of acres in the state under resource zoning which identified **15.6 million acres currently under**

exclusive farm use zoning, 8.5 million acres under forest zoning and 2.2 million acres under mixed farm-forest zoning. Appendix 3 contains additional details including acres under resource zoning by county.

The difference in estimated acreage subject to resource conservation is primarily due to removal of lands that are not directly regulated under the statewide land use planning program such as lands within the Columbia Gorge National Scenic Area and lands under federal ownership.

Fig. 1, Resource zones in Oregon, 2023

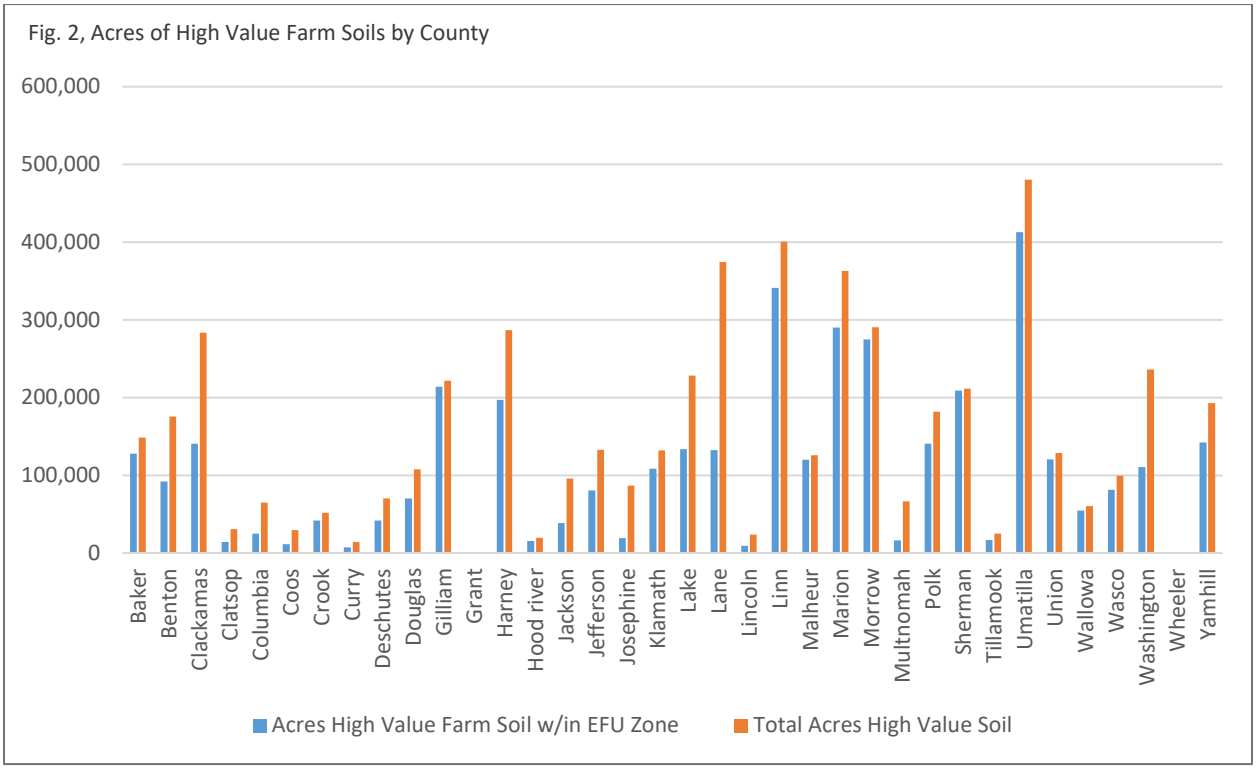


High-value farmland

Within agricultural lands, there is a special class of land that is particularly imporant to agriculture — high-value farmland. The State Legislature has added two definitions of high-value farmland to statute and rule. Whether or not land is composed of high-value farmland influences what types of nonresource development opportunities may be permitted on them and how they are prioritized for conversion.

The original definition of high-value farmland at ORS 215.710 was only based on mapped soil units and classifications by the NRCS. Under this soils-based definition, **there are approximately 5.4 million acres**

of high-value soils in the state[2]. **Approximately 3.8 million acres (seventy-one percent) of those high-value soils are protected under exclusive farm use zoning or mixed farm-forest zoning. The remaining 1.6 million acres of high-value farmland are located within UGBs, exception lands and forest lands, and are not protected for agricultural use.** Figure 2 illustrates the difference between the amount of high value farmland soils in each county and the amount of that soil that has been protected under EFU zoning.



The newer definition for high-value farmland is more inclusive and relies on additional data, such as suitablity for viticultre and availability of irrigation. The Oregon Legislature originally created this definition of high-value farmland at ORS 195.300(10) for use in review of Measure 49 claims. Since then, this definition has been referenced in new additions to statute.

This is an example of how the Goal 3 program has been updated, albeit in a limited way, to account for advances in data availability, external or environmental constraints on irrigation potential, and evolving social perceptions of value. The way in which we prioritize our agricultural lands for better protection is a topic that merits regular consideration. As noted above, the foundation for farmland inventories was based on scientific data. Our evolving understanding of the importance of agricultural soils should be informed by technical experts and current data.

[2] Estimates derived from GIS analysis provided by the Oregon Department of Agriculture. NRCS has not completed soils mapping for all counties in the state. The figures provided may understate the extent of high value farmland in the following counties: Hood River, Wasco, Clackamas, Marion, Linn, Lane, Deschutes, Douglas, Jackson, Jefferson, Klamath, Lake, Crook, Wheeler, Grant, Harney, Wallowa and Malheur. The bulk of unmapped areas are on federal lands. Soil mapping for the entire state is anticipated to be completed and published in 2026.

What and where are our Forestlands?

> "Forest lands" as defined in Goal 4 are those lands acknowledged as forest lands, or, in the case of a plan amendment, forest lands include:
>
> (a) Lands that are suitable for commercial forest uses, including adjacent or nearby lands which are necessary to permit forest operations or practices; and
>
> (b) Other forested lands that maintain soil, air, water and fish and wildlife resources.

Oregon's forested landscape consists of a mosaic of land uses including working forests, conservation reserves, and human-dominated uses. Oregon is home to some of the world's most productive forests, ranging from dense Douglas-fir forests of the Willamette Valley and Coast Range to the high desert Ponderosa Pine stands in the Cascades and Blue Mountains. Forests cover more than 30.5 million acres of Oregon, almost half of the state. Sixty percent of the forest land base, approximately 16 million acres, is owned and managed by the federal government under management plans for different benefits. **The Oregon Department of Forestry (ODF) estimates that there are approximately 10.4 million acres of nonfederal wildland forests and approximately 853,000 acres of mixed forest/agriculture. Approximately 10.7 million acres of the non-federal forest land base have been inventoried by counties as forest and mixed farm-forest lands and protected under Goal 4.**

There are now provisions in administrative rules for the identification of forest lands which must be contemplated as part of an amendment to a county's comprehensive plan. Like the requirements for identifying agricultural lands, OAR 660-006-0010(2) requires forest land determinations be based on the ability of the soil to produce timber (vegetative capability class) as published by the Natural Resource Conservation Service (NRCS) or other specific technical resources if such data is not available.

High-value forest land

There is also a definition for high-value forest land at ORS 195.300(11) which is tied to the published vegetative capability classes for soils. However, unlike the definition of high-value farmland at ORS 195.300(10), the definition for high-value forest land at 195.300(11) is not currently applied to land use reviews and is only used in procedures related to Measure 49 claims.

Mixed Farm-Forest Lands

Lands that contain such a mixture of agriculture and forest uses that neither Goal 3 nor 4 can be applied alone are often designated as mixed farm-forest lands. These lands are subject to both goals. Approximately 2.2 million acres are protected under mixed farm-forest zoning in the state.

For dwellings proposed in mixed farm-forest zones, counties apply either the standards for agricultural lands or the standards for forest lands based on the predominant use of the tract on January 1, 1993.

For uses however, no clear guidance is provided in rule directing which standards to apply — farm or forest. Some counties specify in their mixed farm-forest zones which uses are allowed and some only

reference the variety of uses permitted in both their farm and forest zones. This has been problematic for a handful of uses which are authorized in both zones but are subject to very different standards. Most of these uses with conflicting standards, like solar generating facilities and youth camps, were added more recently.

Land use actions in mixed farm-forest zones are reported here along with data for forest zones.

Non-resource Land Designations

"Non-resource lands" are rural lands that do not meet the state's definition of agricultural or forest lands. Because they are not agricultural lands or forest lands, non-resource lands are not subject to Statewide Planning Goals 3 and 4 and do not require an exception to statewide planning goals 3 or 4 to be zoned by counties for rural residential, commercial, industrial, recreational, or other uses. However, the land is still subject to compliance with the other Statewide Planning Goals unless an exception is taken. For example, Goal 11 (Public Facilities and Services) prohibits extension of sewer service to rural areas, including rural resource lands, without an exception. Resource values such as protecting open space to maintain soil, air, water quality, conservation of fish and wildlife habitat and opportunities for recreational opportunities must be appropriately considered in planning for the use of rural resource lands.

Table 1, Acres reported designated non-resource by county

County	Total Acres Designated Rural Resource/ Non-resource
Clatsop	2,351
Coos	38
Crook	23,261
Deschutes	783
Douglas	3,361
Jackson	545
Josephine	15,573
Klamath	34,877
Linn	231
Lane	613
Wasco	7,047
Total	88,291

Table 1 identifies the total acreage by county of land designated non-resource at acknowledgement and through a non-resource zone change and plan amendment.

The mapping and designation of new non-resource land has been approached in several iterations over the years through extensive public review, work sessions, and pilot studies by the Oregon State Legislature and the Land Conservation and Development Commission (LCDC or the commission). In 2009, the Legislature adopted provisions that allow counties to correct mapping errors and designate rural land for non-resource use (see ORS 215.788 – 794). This process requires coordination with state agencies to ensure such lands are truly not agricultural or forest lands, and that future development of them for their designated uses would not conflict with wildlife, water quality, rural character or increase the costs of public facilities and services.

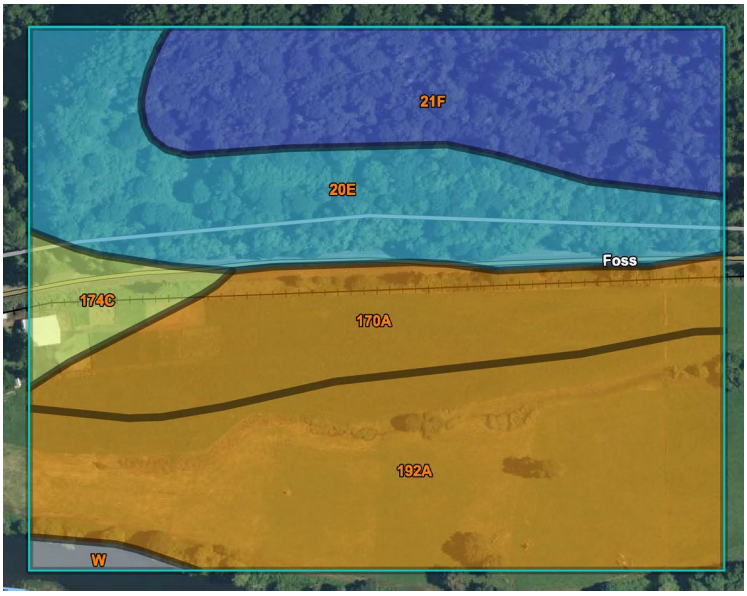
Counties and landowners have not used this coordinated process but instead have continued to designate non-resource lands on a case-by-case basis through a non-resource zone change and post-acknowledgement plan amendment. Lands designated non-resource through a post-acknowledgement plan amendment and zone change are most commonly rezoned for rural residential development with a minimum parcel as low as 5 acres. There are currently no standards to guide counties in identifying and zoning individual parcels or tracts which do not meet the definition of agricultural or forest resource lands. **DLCD staff has found that counties vary in the degree to which consideration of carrying capacity,**

environmental factors, habitat protection, hazards, infrastructure requirements and availability of water and other services are considered in the non-resource designation process.

In 2012 Executive Order 12-07 established a pilot program known as the Southern Oregon Regional Pilot Project (SORPP) which allowed Douglas, Josephine and Jackson counties to establish a regional planning framework to define non-resource land for their region. Ultimately the participating counties were unable to reach consensus on the scope of topics included in the executive order.

DLCD's 2014-2022 Strategic Plan identified development of a non-resource/rural resource lands policy as a work item. DLCD approached the project by researching the issue with the intent of documenting past efforts and current interests as well as what and how data can best inform rural resource designations. The department collected that research in the 2019 Rural Resource Lands Research Report. The report contains a set of prioritized recommendations for further research and suggests DLCD draft a guidance document for counties that addresses methodologies and criteria for rezoning resource lands and includes recommendations on appropriately identifying and establishing development parameters for newly designated rural resource lands. The report also recommends rulemaking to either require the process in ORS 215.788-794 to be used for all rural resource land designations or to develop additional rule requirements for rural resource land designations that do not utilize the process in ORS 215.788-794. The department has not taken action yet on the items recommended in the report. A copy of the 2019 Rural Resource Lands Research Report is included here as Appendix 4.

Figure 3, Example NRCS WebSoil Survey map showing capability class



Map Unit Symbol	Map Unit Name	Capability Class Rating	Acres in Area of Interest	Percent of Area of Interest
20E	Klootchie-Necanicum complex, 30 to 60 percent slopes	6	13.3	23%
21F	Necanicum-Ascar-Klootchie complex, 60 to 90 percent slopes	7	11.8	20%
170A	Logsden silt loam, 0 to 3 percent slopes	2	10	17%
174C	Typic Fulvudands compex, 3 to 15 percent slopes	4	2.3	4%
192A	Yachats very fine sandy loam, 0 to 3 percent slopes, occasional flooding	2	19.7	34%
W	Water		0.6	1%

NRCS Soils Data

Both the farm and forest definitions rely to various extents on soils data published by the United States Department of Agriculture Natural Resource Conservation Service

(USDA NRCS). When LCDC adopted the definition of 'agricultural lands' to be protected under Goal 3, it very intentionally relied on objective, scientific information collected and provided by NRCS to inform the base definition. The definitions of 'agricultural lands' and 'forest lands' are discussed further below.

Many uses and dwelling reviews in the resource zones include references to the NRCS soil agricultural capability classification or forest vegetative productivity classification. It is important to take a moment to provide some background on the soils data that is used in the Goal 3 and 4 regulatory structures.

NRCS has completed soil surveys for most of the State of Oregon[3]. These soil maps are available online through NRCS's Web Soil Survey tool and contain a wealth of information about the characteristics of the soils and its suitability for many kinds of agricultural and forestry uses.

The land capability classification assigned to a particular mapped soil unit shows, in a general way, the suitability of soils for most kinds of field crops. Capability classes are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use with 8 being the least suitable soil for agricultural uses.

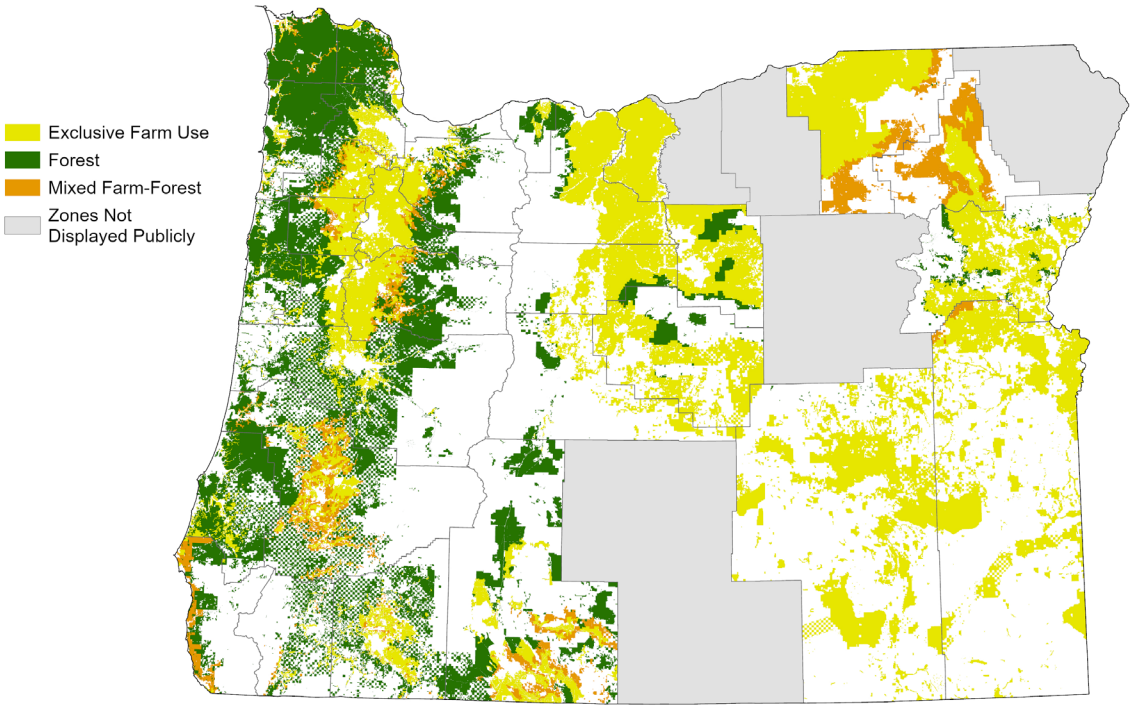
In addition to capability class, a soil unit also has an 'farmland' description assigned by USDA: prime farmland, unique farmland, farmland of statewide importance or not prime farmland. Prime and unique soils, along with some other regionally specific soils, are considered 'high-value farm soils' as discussed further below. Similarly, NRCS assigns a vegetative productivity classification for forestry to some mapped soils units.

Figure 3 shows portions of four mapped soil units on a portion of an example property where the valley bottom is zoned EFU, and the wooded hillside is zoned Forest. NRCS's WebSoil Survey tool allows one to look up certain characteristics of the mapped soils units. Using that tool, one can generate a variety of tables like the one in Figure 1 that shows the agricultural capability classification for the mapped soils units. In this case, the valley bottom has a very productive agricultural capability class rating, and the steep, forested slopes have a low agricultural capability class rating. The vegetative productivity for the forested slopes has very high cubic foot per acre year ratings that are indicative of their suitability for timber production.

[3] NRCS estimates remaining areas of the state will be fully mapped and published by the end of 2026.

III. How are Resource Lands Protected in Oregon?

Fig. 4, Resource zones in Oregon, 2023



Oregon's Agricultural Land Conservation Program: Planning for the agricultural economy

As expressed in the statutory Agricultural Land Use Policy, the preservation of agricultural land is one of the primary objectives of Oregon's statewide planning program. Oregon has determined that it is in the state's interest to protect the finite land resource that is the foundation of one of its leading industries — agriculture.

Oregon agriculture directly and indirectly contributes 686,518 jobs, $29.71 billion in wages, $12.12 billion in taxes, and $2.85 billion in exports to the state (Oregon Agricultural Statistics & Directory 2022). In Oregon, agriculture makes up 13% of the state's gross product and results in $5.01 billion in agricultural production, and $2.57 billion in agricultural exports (Oregon State Board of Agriculture 2021 Report).

Oregon's agricultural lands conservation program is based on statute and administrative rules as it is interpreted by the Land Use Board of Appeals (LUBA) and the courts.

Statewide Planning Goal 3 (Agricultural Lands) requires counties to identify and inventory agricultural land and then apply statutory EFU zones (ORS Chapter 215) to those lands. Counties then review applications for farm and non-farm uses according to standards established in state statute and administrative rule (OAR chapter 660, division 33), and in county ordinances. These provisions also incorporate statutory minimum lot sizes and standards for all land divisions.

Oregon's Agricultural Land Use Policy

Oregon's Agricultural Land Use Policy was first established by the Oregon Legislature in 1973 with the enactment of SB 101, the partner bill to the Land Conservation and Development Act (SB 100) and is codified at ORS 215.243. It pre-dates the adoption of Goal 3 and is included therein by reference.

There are four basic elements to the policy. This first two parts of the policy recognize the benefit of farmland preservation to the agricultural economy and its physical, social and aesthetic contributions to all people of the state in both urban and rural communities. The policy acknowledges agricultural land as a limited natural resource and an asset to the public, finding that private farmland has significant public value beyond the economic contribution of the agricultural sector and the security of food supply.

ORS 215.243 Agricultural Land Use Policy

(1) Open land used for agricultural use is an efficient means of conserving natural resources that constitute an important physical, social, aesthetic and economic asset to all of the people of this state, whether living in rural, urban or metropolitan areas of the state.

(2) The preservation of a maximum amount of the limited supply of agricultural land is necessary to the conservation of the state's economic resources and the preservation of such land in large blocks is necessary in maintaining the agricultural economy of the state and for the assurance of adequate, healthful and nutritious food for the people of this state and nation.

(3) Expansion of urban development into rural areas is a matter of public concern because of the unnecessary increases in costs of community services, conflicts between farm and urban activities and the loss of open space and natural beauty around urban centers occurring as the result of such expansion.

(4) Exclusive farm use zoning as provided by law, substantially limits alternatives to the use of rural land and, with the importance of rural lands to the public, justifies incentives and privileges offered to encourage owners of rural lands to hold such lands in exclusive farm use zones.

Some of those public values are less tangible, such as the contribution of the farm-scape to our sense of landscape identity - or the 'open air' and 'room to breathe' that attract recreationists to our countryside. Other public values are more concrete and have been the subject of growing public discourse such as the potential for carbon sequestration, particularly on managed rangeland.

While the first two policy statements clearly set forth the state's interest in the preservation of agricultural lands, the later statements establish that:

- Imposing limitations on uses allowed on agricultural lands is justified to prevent the conflicts and negative outcomes which are the typical topics of much of our land use reviews, and
- Certain incentives and privileges (i.e., special tax assessment) are justified because of those limitations placed upon the use of the land.

Farmland Taxation in Oregon

In Oregon, all land zoned EFU automatically receives special tax assessment at its farm use value rather than at its true cash or "highest and best use" value, unless it is explicitly disqualified. The tax laws enabling this special assessment, establishing areas of eligibility and the criteria for eligibility, pre-date the Land Conservation and Development Act by over a decade.

Between 1961 and 1973 the special farm assessment program evolved from a voluntary, incentive-based program available in a few areas of the state to a consistent, statewide program that requires the conservation of agricultural land through zoning restrictions with reciprocal tax benefits. EFU landowners receive financial compensation in the form of reduced property tax in exchange for the restrictive land use limitations imposed by the EFU zone. The structure that has been in place since 1973 is a compensatory tax program linked to the land use program.

Over the years there have been efforts to quantify the tax benefit owners of EFU land have received. A 2015 report by the American Land Institute estimates the program has resulted in a total $5.75 billion of compensation in the form of reduced property taxes in the forty-year period from 1974 to 2014. As discussed further below, when the program was established only six nonfarm uses were allowed in the EFU zone. Since the inception of the program the legislature has added additional allowed uses on farmland almost every legislative session. There are now more than 60 nonfarm uses allowed in the exclusive farm zone[4]. As we consider how the program has evolved over the past 60 years and how successful we have been in achieving the farmland policy goals set by the legislature, it is also important to keep in mind the incentives and privileges the state has provided owners of rural lands to hold such lands in restrictive exclusive farm use zones.

[4] See Appendix 6 for a list of uses allowed in exclusive farm use zones.

Exclusive Farm Use Zones

Agricultural lands in Oregon are meant to be protected from conversion to urban uses and other conflicting non-farm uses, through the application of exclusive farm use (EFU) zoning. At present, about 15.6 million acres in Oregon are protected under EFU zoning. The Legislature first developed the statewide EFU zone in 1963 and the statutory zoning provisions are codified in ORS Chapter 215 as now interpreted and refined by LCDC rulemaking, and by the courts.

Farm use is encouraged and protected by law within the EFU zone. In addition to farm use, the statutes allow for a variety of accessory farm uses and nonfarm uses provided they are compatible with agriculture. As discussed later in this report, large minimum lot sizes and dwelling approval standards limit the outright conversion of farmland to other uses.

Local jurisdictions do have some discretion in how state statute and rule are reflected in local zoning ordinance provisions, and local jurisdictions craft many of the standards and criteria associated with specific uses to recognize regional differences.

- Counties may not impose more restrictive standards on those uses allowed outright in statute, like farming itself or farm stands, and they cannot regulate farm or forest practices[5], such as herbicide application, on resource lands. However, for discretionary uses like campgrounds that require a demonstration of compatibility with surrounding farm and forest practices, counties may adopt more restrictive standards than those in statute.
- Some uses and standards are mandatory and some are optional, meaning that a county wanting to implement those optional use provisions must adopt them into ordinance.
- Certain uses, like guest ranches, are allowed in some areas of the state and not in others.
- Other uses, such as nonfarm dwellings, apply different standards and criteria depending on where in the state they will be located.

This flexibility recognizes that municipal and county governments are in the best position to assess local conditions and needs within the regulatory framework established by the state. As a result, county farm use zoning ordinances vary widely across the state.

[5] *ORS 215.253, "Restrictive local ordinances affecting farm use zones prohibited; exception. (1) No state agency, city, county or political subdivision of this state may exercise any of its powers to enact local laws or ordinances or impose restrictions or regulations affecting any farm use land situated within an exclusive farm use zone established under ORS 215.203 or within an area designated as marginal land under ORS 197.247 (1991 Edition) in a manner that would restrict or regulate farm structures or that would restrict or regulate farming practices if conditions from such practices do not extend into an adopted urban growth boundary in such manner as to interfere with the lands within the urban growth boundary. "Farming practice" as used in this subsection shall have the meaning set out in ORS 30.930."*

Oregon's Forestland Protection Program

Goal 4

"To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture."

The conservation of forest land is one of the primary objectives of Oregon's statewide planning program. Oregon has determined that it is in the state's interest to protect the land base needed to support one of its largest industries — forestry. Forestry products and services employ more than 61,000 people directly in Oregon and are critical to Oregon's rural communities (OFRI, 2019). That is approximately 3 percent of the total jobs in Oregon according to the Oregon Forest Research Institute. Oregon has been the top producer of softwood lumber and plywood in the United States for many years (OFRI, 2019). Oregon is also a leader in producing value-added engineered wood products such as cross-laminated timber (CLT), glue-laminated timber (glulam) and mass plywood panels (MPP) (OFRI, 2019).

Statewide Planning Goal 4 seeks to maintain Oregon's forests for tree harvesting in balance with the sound management of soil, air, water, fish, and wildlife resources. Healthy forests provide vital ecosystem functions and environmental, social, and economic benefits that people value: air, healthy soils capable of carbon storage, clean water, riparian areas, streams, wetlands and estuaries that enhance habitat for fish and wildlife. Investments in healthy ecosystems also provide recreational opportunities for those who live in and visit Oregon. Recreational opportunities and agriculture are also encouraged on forest land. Other uses allowed on forest land (e.g. dwellings) are limited and subject to standards that make them more compatible with forestry, agriculture, and the preservation of habitat and natural resources. Large minimum lot sizes are prescribed to help ensure land is used in accordance with the purposes of Goal 4.

Plans providing for the preservation of forest lands for forest uses must consider the carrying capacity of the air, land and water resources of the planning area. Allowable development in forest zones should not exceed the carrying capacity of such resources.

Forest zoning has been instrumental in maintaining working forests in Oregon. The Oregon Department of Forestry reports that Washington state's loss of wildland forest between 1974 and 2014 was nearly three times the amount of wildland forest lost in Oregon (Gray et al, 2018).

Forest and Mixed Farm-Forest Zones

Lands inventoried as forest land are required to be zoned forest or mixed farm-forest by counties. Approximately 10.7 million acres in Oregon are included in forest or mixed farm-forest zones.

The required minimum parcel size of 80 acres is intended to support opportunities for economically efficient forest operations, the continuous growing and harvesting of trees, and conservation of natural resource and recreation values consistent with the Forest Practices Act Policy (ORS 527.630).

Minimizing fire risk is a major concern in forest zones and is reflected in siting and fire standards applied to all structural development in designated forest zones through DLCD's Goal 4 rules at OAR 660-006-0035 and -0040. All structures located in forest zones are required to have defensible fuel-free space around them. Dwellings must be in a fire protection district or have other sufficient means of suppressing fire such as an onsite lake and sprinklers. Fire retardant roofs and spark arrestors are required for dwellings. County road design requirements for firefighting equipment also need to be met. In addition to these siting and road design standards, DLCD's rules require that many uses in forest zones demonstrate that they will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel[6].

[6] OAR 660-006-0025(5), "A use authorized by section (4) of this rule may be allowed provided the following requirements or their equivalent are met. These requirements are designed to make the use compatible with forest operations and agriculture and to conserve values found on forest lands:…(b) The proposed use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel."

IV. Co-Benefits of Protecting Working Lands

While the primary focus of Goals 3 and 4 is the conservation of the limited land base needed to support the agricultural and timber sectors of the state's economy, there are numerous other benefits that go along with the conservation of these lands. The Agricultural Land Use Policy at ORS 215.243 identifies the preservation of open space and natural resources as an important physical, social, economic and aesthetic benefit of protecting farmland. As noted above, rules implementing Goal 4 explicitly recognizes that "forest land" to be protected also include forested lands that maintain soil, air, water and fish and wildlife resources even if they may not be suitable for commercial timber operations.

> "There is distinct value in maintaining the integrity and functionality of the region's resource lands to ensure that the benefits they provide persist. This interest is challenged as significant regional population growth threatens to fragment resource lands and disrupt the continuity requisite to their ecological health, productivity, and functionality."
> Oregon Department of Forestry

Protection of resource lands not only keep farm and forest lands in production, but also provide fish and wildlife habitat, recreation opportunities, protection of scenic areas, maintaining soil health, water quality and provide resiliency from natural hazards such as wildfire in the wildland urban interface.

Two areas of co-benefits that are particularly relevant to current public discourse are the conservation of habitat resources, and the conservation of natural and working lands for carbon sequestration. These co-benefits are both acknowledged in the Oregon Climate Action Commission's 2023 Natural and Working Lands Report.[7] While there are many co-benefits to acknowledge, this section briefly highlights the co-benefits of protecting resource lands through Goals 3 and 4 to wildlife habitat.

Resource Goals and Fish and Wildlife Resources

Although the Oregon Department of Fish and Wildlife (ODFW) is charged with the protection and enhancement of fish and wildlife species, that agency has very limited authority over the habitat on which animals depend. ODFW is reliant upon local and state compliance with land use planning goals to ensure protection and enhancement of Oregon's fish and wildlife and their habitats. This is particularly true for the working lands goals which protect farm, forest, and rangelands and provide fish and wildlife habitat and other natural resource values. ODFW staff often coordinate with DLCD staff in review and commenting on land use applications to avoid and minimize impacts to fish and wildlife habitat.

Statewide Planning Goal 5 is a broad statewide planning goal that covers more than a dozen resources, including fish and wildlife habitat. Goal 5 requires cities and counties to provide programs that conserve or protect a variety of natural resources including fish and wildlife areas and habitats. Unlike some of the other more prescriptive goals, Goal 5 is more of a process goal, requiring decision makers to consider resource values rather than mandating their protection.

[7] https://climate.oregon.gov/natural-working-lands

Implementation of Goal 5 required cities and counties to inventory fish and wildlife habitat, identify significant resource sites, develop a local program for protection of significant resources, and a plan for reviewing proposals for uses which might conflict with significant resources in these areas. Where no conflicting uses were identified, wildlife resources were to be managed, from a land use standpoint, "so as to preserve their original character".

In both the Forest Lands definition and in Goal 5 there is a lack of guidance regarding what habitat resources should be considered, how they should be evaluated, how to determine resource significance, and how to secure protections, leaving many critical conservation decisions up to local governments. Inventories needed to implement Goal 5 were originally adopted with the intent for periodic review (i.e., every 5-7 years) so the best fish, wildlife and habitat information could be incorporated into land use decisions. However, in 2007 the legislature revised periodic review requirements, limiting them to only cities with a population greater than 10,000 and no longer requiring Goal 5 inventory updates. As a result, most fish and wildlife inventories have not been updated since comprehensive plan acknowledgement in the 1980's.

Several techniques were adopted by counties to protect Goal 5 habitat resources: habitat overlay zones, reliance on farm and forest base zoning and minimum lot sizes, setback standards, use of buffer and filter strips, specific plan review standards, requiring notice to ODFW, etc. Most local comprehensive plans rely in part (in some cases almost entirely) on the protections from non-resource development and parcelization under the farm (particularly rangeland) and forest programs. The idea was that restrictive farm and forest zoning used to conserve resource land for range and timber use also protects habitat from development and fragmentation. For example, many counties cite the minimum 80-acre parcel sizes in forest zone as a significant factor in limiting dwelling density and preventing parcelization that could lead to habitat fragmentation. This approach that relies on limitations on development and minimum parcel sizes in farm and forest zones to implement Goal 5 protection has been recently highlighted in several court cases centered around the use of forest zone minimum parcel sizes to implement Goal 5 habitat protections in Lane County[8].

In relying on minimum parcel size standards and limitations on non-resource development associated with farm and forest zones to protect habitat, it is not clear how counties may or may not have considered the existing distribution of substandard parcels, or the potential for substandard land divisions that are allowable under the Goal 3 and 4 rules. Also, at the time of Goal 5 implementation, far fewer non-resource uses were permitted in farm and forest zones than are permissible now[9]. **Changes to the Goal 3 and 4 programs implemented by the legislature and by LCDC over the past 50 years, such as adding new uses or allowing substandard partitions for certain uses, have not necessarily considered erosion of the co-benefits the programs have for the conservation of Goal 5 habitat values.**

The dwellings, other non-resource development and land divisions that may impact the ability of working land to support resource industries also result in similar impacts to the land's ability to support wildlife. Just as cohesive agricultural landscapes are needed to support the farming economy, and cohesive forested landscape are needed to support the timber economy, large tracts of land are needed

[8] LandWatch Lane County v. Lane County (Nimpkish), __ Or LUBA __ (No. 2020-030, Jan. 23, 2021), King v. Lane County (King), __ Or LUBA __ (Nos. 2021-047/052, Oct. 15, 2021), aff'd without opinion 317 Or App 136, 501 P3d 1058 (2022)

[9] Appendix 6 contains a list of uses permitted in EFU zones noting the year in which the use was added.

to support habitat function and values. When those landscapes are disrupted by significant amounts of development those natural and working lands functions and values are compromised.

Historically, low-density rural residential development has both directly and indirectly contributed to net negative environmental impacts including decreased ecosystem services, increased wildfire risk, proliferation of invasive species, habitat fragmentation, loss of open space, animal-human conflict, high water usage reducing water quantity, substantial impervious surface and runoff reducing water quality, high energy usage, increased greenhouse gas emissions and other pollution due to vehicular traffic[10]. Even small development actions can result in cumulative landscape level impacts leading to significant population level effects. For example, habitat fragmentation is a significant concern for many species, but especially those that depend on migratory and seasonal movements, such as mule deer. Under Goal 5, one option for a local government to identify important habitat is the Oregon Fish and Wildlife Commission's species management plans, which are essential to achieving wildlife policies or population objectives. ODFW recently adopted Oregon's Mule Deer Management Plan, which highlights the importance of the planning program as well as working landscapes in maintaining and protecting mule deer habitat[11].

Evaluating the Nexus of Farm and Forest Zoning and Wildlife Habitat

Wildlife depends on the ability to move across the landscape to fulfill their daily and seasonal requirements to access water, food, shelter, and opportunities to reproduce. In local land use reviews, big game habitat, such as winter range protections through Goal 5, is often used as a surrogate for many other wildlife species dependent on intact habitats to fulfil life-history needs. Human changes to the landscape often restrict the ability of wildlife to move by creating barriers, causing impacts to critical migration stopover sites, increasing habitat fragmentation, and inducing changes in wildlife behavior. Connected habitats aid wildlife in responding to shifting landscape conditions, allowing animals to safely move to seek new habitat following disturbances like human development, wildfire, drought, severe weather, the spread of invasive species, and changing climate. The opportunity for wildlife to adapt to a changing climate is provided by the protection of natural and working lands. However, these lands lose their functionality and their connectivity for wildlife when they become fragmented or converted to other land uses.

ODFW has defined and mapped several areas of priority habitats to emphasize conservation needs, many which are identified in ODFW's Centralized Oregon Mapping Products and Analysis System (COMPASS)[12]. This includes data for Conservation Opportunity Areas, Strategy Habitats, Priority Wildlife Connectivity Areas, Oregon Fish Habitat Distribution and Big Game Habitat. These datasets are valuable resources which could be incorporated into local comprehensive plan updates.

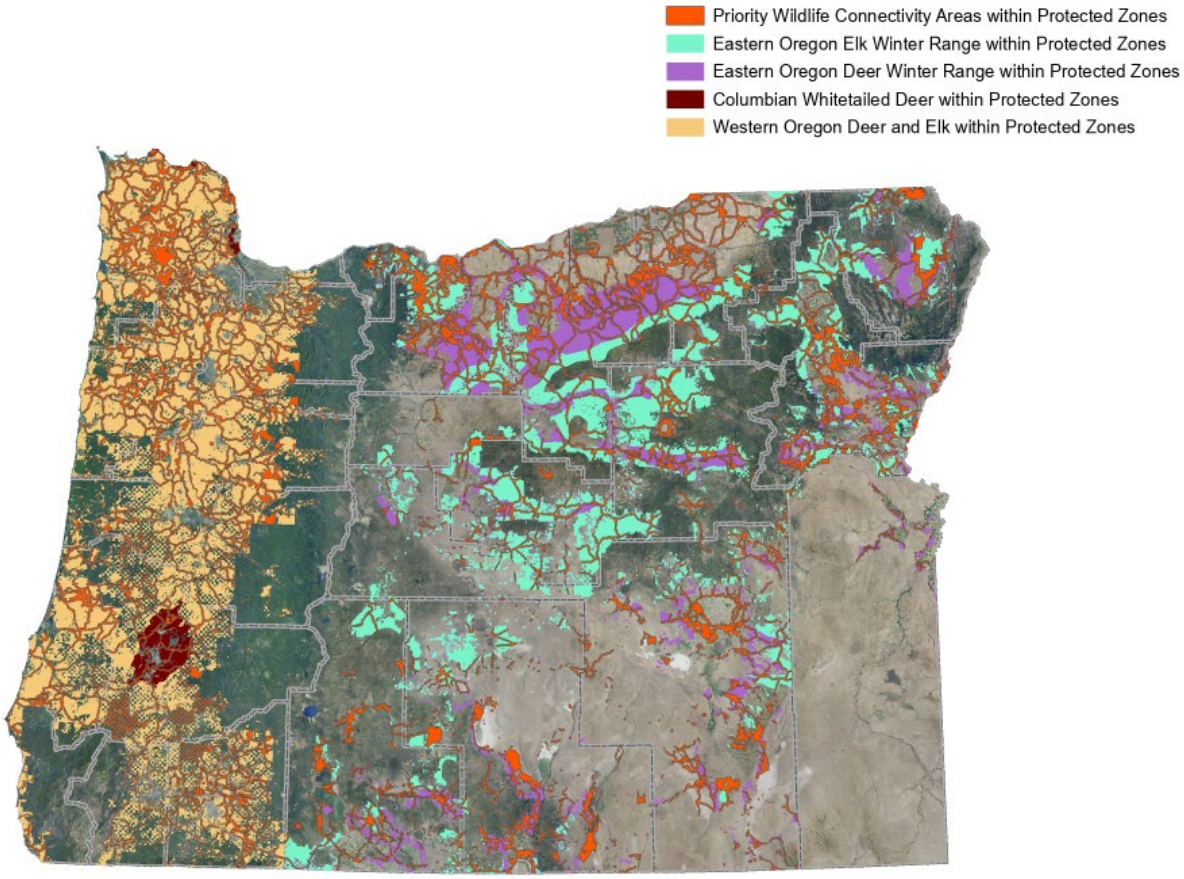
Since periodic review of county comprehensive plans[13] is not required, most counties have not updated their Goal 5 inventories in several decades. ODFW's habitat priorities and best available fish and wildlife

[10] Portland State University. (2018) Analysis of Expanding Rural Residential Housing in Douglas County, Oregon.
[11] https://www.dfw.state.or.us/wildlife/management_plans/mule_deer/index.asp
[12] https://www.dfw.state.or.us/maps/compass/
[13] Periodic Review is a term used in Oregon law to describe the periodic evaluation and revision of a local comprehensive plan.

habitat data is not reflected in most of the county comprehensive plans or evaluated as part of a local land use decision.

For this discussion and analysis, the department has focused on selected wildlife datasets produced by our sister agency. The department collaborated with ODFW staff to review the overlap of EFU, forest and mixed farm-forest zoning with the following habitat areas: Priority Wildlife (PCWA)[14], Eastern Oregon Deer and Elk Winter Range[15], Western Oregon Deer and Elk Habitat[16], and Columbian White-tailed Deer Habitat. Other datasets reviewed but not used in this analysis include Greater Sage-Grouse and Conservation Opportunity Areas[17], which are currently being updated.

Fig. 5, Select ODFW habitat priorities within resource zones



[14] https://geo.maps.arcgis.com/home/item.html?id=f25ec2be02134274beab92c2aeb29bdc&view=table&sortOrder=desc&sortField=defaultFSOrder#overview

[15] https://nrimp.dfw.state.or.us/DataClearinghouse/default.aspx?p=202&XMLname=885.xml

[16] https://nrimp.dfw.state.or.us/DataClearinghouse/default.aspx?p=202&XMLname=1183.xml

[17] Conservation Opportunity Areas (COAs) developed to guide voluntary conservation actions in Oregon, and are places where ODFW has determined that broad fish and wildlife conservation goals would best be met. More information on these area is available on the Oregon Conservation Strategy website at: https://www.oregonconservationstrategy.org/conservation-opportunity-areas/

Greater Sage-Grouse habitat is a specific Goal 5 resource and is addressed separately in DLCD's rules and was not included here. ODFW Conservation Opportunity Areas (COAs)[18] were not included in this exercise as ODFW is currently updating the Oregon Conservation Strategy. While the Oregon Conservation Strategy is currently being updated, the existing Strategy includes Key Conservation Issues, such as land use changes, barriers to animal movement and climate change. Key Conservation Issues are large-scale conservation issues or threats that affect or potentially affect many species and habitats over large landscapes, and conservation of working landscapes, especially those that provide co-benefits, such as migration corridors, is a consistent action identified. For example, the Strategy includes a goal to manage land use changes to conserve farm, forest and rangelands through incorporating best available data in decision-making. This includes protection of working landscapes for species resiliency.

In addition to habitat priorities identified by ODFW, there are other entities that have identified important habitats and landcovers that are not discussed here such as white oak habitat or The Nature Conservancy's Ecologically Significant Areas, which might be appropriate to consider in any local updates.

The intent behind the exercise was to help identify the potential co-benefit of working lands protections and to better articulate the associated habitat consequence from conversion of resource land to residential or urbanized uses. Figure 5 above shows portions of habitat areas important to ODFW that are within resource zones.

The table below summarizes the percentage of these mapped habitat areas outside of federal lands that include land zoned farm, forest or mixed farm-forest and other zones subject to the statewide land use planning program. In all cases, these important habitat types outside of federal lands are also located on land protected under farm or forest zoning.

Table 2, ODFW mapped habitat areas intersected with non-federal lands under resource, urban, non-resource, and exception zoning

Habitat Type	Acres w/in Non-Resource/ Urban/Exception	**Acres w/in EFU**	**Acres w/in Mixed Farm Forest**	**Acres w/in Forest**	Total Acres w/in Non-Federal Land	Percent Non-Federal Acres under Goals 3 & 4
PWCA	447,263	**4,104,624**	**580,316**	**2,186,915**	7,319,118	94%
Columbian White-tailed Deer	95,182	**206,575**	**116,070**	**16,721**	434,549	78%
Western Deer & Elk	1,284,095	**2,439,994**	**783,994**	**6,152,043**	10,659,450	88%

[18] Conservation Opportunity Areas (COAs) developed to guide voluntary conservation actions in Oregon and are places where ODFW has determined that broad fish and wildlife conservation goals would best be met. More information on these areas is available on the Oregon Conservation Strategy website at: https://www.oregonconservationstrategy.org/conservation-opportunity-areas/

Eastern Deer Winter Range	181,909	**5,536,035**	**867,061**	**556,681**	7,141,687	97%
Eastern Elk Winter Range	170,465	**3,790,019**	**821,531**	**1,100,029**	5,882,043	97%

As noted above, 15.6 million acres currently under exclusive farm use zoning, 8.5 million acres under forest zoning and 2.2 million acres under mixed farm-forest zoning. Significant portions of these resource zones also include important habitat. For example, over a quarter of EFU and forest land also contains Priority Wildlife Connectivity Areas (PWCAs) which represent the parts of the landscape with the highest overall value for facilitating wildlife movement. Ninety-four percent of nonfederal PWCAs are within resources zones.

The focus of the Farm and Forest Report is to explain the program and evaluate how well the program has been performing relative to the goals the state has set for the conservation of farm and forest land. As we are considering the information presented here it is also worthwhile to consider the broader implications of impacts to, and loss of, working lands. As working lands are converted or developed for other purposes, their function and value for habitat and open space are also eroded. Maintaining and building a connected network of natural and working landscapes is critical for climate adaptation, species resiliency, as well as viability of societal and economic benefits.

Resource Goals, Ecosystem Function and Carbon Sequestration

In their 2020 report on land use[19], the Oregon Department of Forestry (ODF) also provides a review of the ecosystem benefits of preserving forest lands. They note that conversion of resource lands impairs ecosystem functions and service like water filtration, carbon and soil cycling, and provision of habitat necessary to maintain biological diversity. ODF points out that wildland forests provide ecological benefits as well as economic goods (timber and other forest products) and social benefits like recreation. The quality of these services and benefits is dependent on limiting fragmentation of wildland forests which occurs due to exurban development.

One service that the Department of Forestry particularly stresses in their report is the relationship between wildland forests and water quality. The report contains a discussion of Oregon Department of Environmental Quality (DEQ) water quality index scores according to land classification which demonstrate the relationship between land use and water quality, particularly the prevalence of high water quality on forest lands. Conversion of resource lands disrupts natural processes, surface area and flow, degrades water quality, and reduces vegetation cover and diversity. The report is included as Appendix 5.

The Oregon Global Warming Commission's (OGWC) Natural and Working Lands Proposal[20] identifies Oregon's land use planning program as playing an important role in conserving natural and working lands.

[19] Oregon Department of Forestry. 2020. Farms, Forests and People. See Appendix 5.
[20] Institute for Natural Resources. 2023. A Roadmap to Increase Net Carbon Sequestration and/or Carbon Storage on Oregon's Natural and Working Lands. Institute for Natural Resources, Oregon State University, Corvallis, Oregon. 171pp.

None of the practices identified for increasing carbon sequestration and reducing GHG emissions listed in the Natural and Working Lands report would be possible without a land base on which to implement them.

The OGWC Natural and Working Lands has identified the enhancement and maintenance of the conservation aspects of Oregon's statewide land use planning program and limiting the provisions that allow for the conversion of natural and working lands to non-resource related uses where they increase emissions, decrease sequestration potential, or create conflicts for resource use of neighboring lands.

An analysis of the climate impacts, such as a change in sequestration potential, is not currently required when exceptions to Goals 3 and 4 are sought to either develop uses not permitted in resource zones, or to rezone land to a different use.

The 2023 report particularly identifies the conservation of rangelands as a recommended practice to reduce GHG emissions and sequester carbon. The preservation of grazing lands is important for their contribution to the agricultural economy as well as for their potential contribution to long-term carbon storage. As noted in the section above, the protection of grazing lands also has the co-benefit of preserving habitat.

V. Conversion: Zone changes, UGB Expansions and Other Metrics for Consideration

A primary goal of Oregon's land use program is the preservation of agricultural and forest lands. Exclusive farm use zoning and forest zoning limits development on resource lands conserving them for farm and timber uses. However, the land use planning program anticipates that some amount of nonresource development may be appropriate or might have to be located on resource lands, and some conversion of farm and timber lands to urban uses, or rural residential, commercial or industrial uses will be necessary to accommodate economic and population growth in the state. This is to say that Goals 3 and 4 are conservation programs rather than protection programs.

Conservation means that limited natural resources, in this case the finite supply of good soil needed to produce food, fiber and timber and other natural resource products, are carefully managed and depletion of the resource is limited and monitored. Although the land use planning program allows for conversion of resource lands to other uses, the less resource land that is converted to urban and rural development relative to the originally protected land base is an indication that the land use program is working.

DLCD has traditionally measured conversion by tracking the amount of land that has been re-zoned from EFU and forest to other zones, and by the amount of EFU and forest land added to Urban Growth Boundaries (UGBs).

Counties report zone changes and urban growth boundary expansions to DLCD through the Post Acknowledgement Plan Amendment (PAPA) database. The data presented here is as reported by counties. By 1986, LCDC had acknowledged most local comprehensive plans and ordinances to comply with statewide planning goals, thus making 1987 an appropriate base year from which to measure the success of the land use program.

Since 1987, a total of 43,000 acres have been rezoned from EFU to other urban and rural uses through 2023. This means that 99.7 percent of land zoned EFU in 1987 was still zoned EFU in 2023. **A little over 10,000 acres of forest land have been removed from protective forest zoning since implementation of the program** meaning that 99.9 percent of land zoned forest or mixed farm-forest in 1987 was still zoned forest in 2023.

While this measure provides insight into the longevity of resource zoning over time, the modest amount of land rezoned or added to UGBs from EFU and forest lands over the past 40 years is relatively minimal compared to the large amount of resource land in Oregon. It is estimated that several times as much acreage is converted to the non-resource uses as is rezoned out of EFU and forest zones each year. **That means that farmland is converted to a nonfarm use even though it is still zoned for exclusive farm use.** This section discusses conversion through zone changes and UGB expansions, non-resource designation and estimating conversion based on land cover review.

Zone Changes

A zone change most typically involves removing land from farm or forest zoning and assigning another zoning designation to that land. This can occur through a comprehensive plan amendment or an UGB expansion. Tables 14 and 15 below summarize acreage removed from farm or forest zoning in 2022 and

2023. These metrics have tended to vary widely from year to year. **Over the past 10 years, an average of 1,350 acres a year have been removed from EFU zoning through zone changes (including UGB expansions).**

Table 3, Zone changes involving agricultural lands, statewide summary, 2022-2023

Year	From EFU to Rural (Acres)	From EFU to Urban (Acres)	From EFU to Forest (Acres)	From EFU to Aggregate (Acres)	To EFU from Other Zone (Acres)	Total Rezone (Acres)	Net Rezone (Acres)
2022	501	110	81	218	138	909	771
2023	543	107	80	325	26	1,055	1,029
Total	1,044	217	161	543	164	1,964	1,800

The majority of farmland redesignation in the 2022-2023 biennium resulted from several smaller zone changes and UGB expansions.

Table 4, Zone changes involving forestlands, statewide summary, 2022-2023

Year	From Forest to Rural (Acres)	From Forest to Urban (Acres)	From Forest to EFU (Acres)	From Forest to Aggregate (Acres)	Total Rezone (Acres)	To Forest from Other Zone (Acres)	Net Rezone (Acres)
2022	117	0	0	0	117	81	36
2023	51	35	26	0	112	80	32
Total	168	35	26	0	229	161	68

Although 229 acres were removed from forest and mixed farm-forest zoning in the biennium, 161 acres were *added* in the past biennium. In the past ten years more than 1,602 acres have been added to forest zones while 2,663 acres have been removed from protective forest zoning, resulting in a net redesignation of only 1,061 acres of forestland over the past decade. However, ninety-two percent of land added to forest zoning has been coverted from EFU meaning this does not represent a positive addition to resource lands.

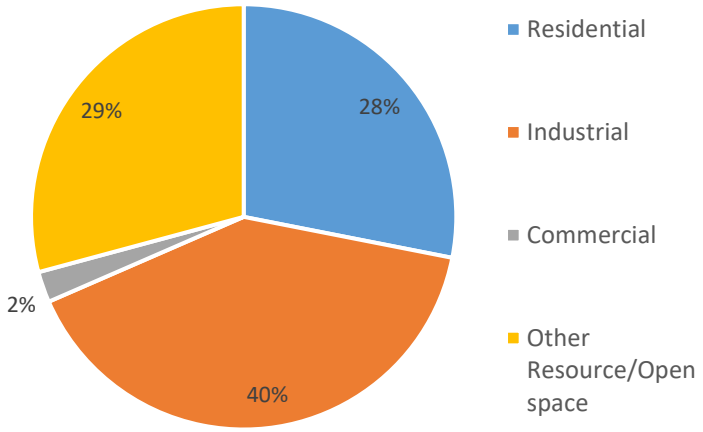
Resource to Resource Zone Changes

Resource-to-resource zone changes do not require exceptions to Goals 3 or 4 and typically occur when a landower proposes a development that is allowed in one resource zone but not the other. For example, if a property is zoned for EFU but may qualify for a forest template dwelling, a landowner wishing to establish a nonresource dwelling may seek to change the zoning from EFU to forest. That zone change to forest would allow them to apply for a forest template dwelling which is not an opportunity available in EFU zones. It is reasonable to assume that the 161 acres added to forest zoning from EFU zoning has been converted for the purpose of facilitating non-resource development.

Resource to Rural Zone Changes

Rural zone changes are typically approved to allow land uses that otherwise would not be permitted in an EFU or forest zone. Examples include rural residential dwelling developments, commercial businesses, and institutional uses such as schools. In the 2022-2023 biennium of the 1,212 acres rezoned to rural uses 650 acres of farm and forest land were rezoned to accommodate rural residential development. Over the past six years, roughly a third of farm and forest zone changes have been to rural residential use.

Fig. 6, Zone change from resource to type, 2018-2023



Zone Changes Requiring an Exception vs Non-resource Zone Changes

A zone change typically includes an exception to Statewide Planning Goals 3 or 4. Exceptions to Goal 3 or 4 are allowable when there are unique circumstances related to a specific property or proposal that merit waiving the state's resource land protections. Exceptions can be justified based on existing development on a property that limits its use, development patterns on surrounding lands that impact a property's ability to be used for farming or forestry, or other reasons unique to the properties or proposal involved.

A goal exception is not required if it can be demonstrated that a parcel does not qualify as agricultural or forest land and is therefore 'non-resource' land. One hundred and ninety-six acres in the past biennium were redesigned on the basis they were improperly mapped as agricultural or forest land. Appendix 1, table 11 contains detailed information on zone changes involving resource lands in the past biennium.

Non-resource zone changes often involve site specific soils reports or "soils challenges". Since 2012 the department has been responsible for reviewing these types of reports and confirming they meet certain standards before they can be used as basis of fact in a land use review. Since 2012, eighteen percent of the soils challenges reviewed were associated with zone change requests and eighty percent were associated with requests for nonfarm dwellings. Non-resource lands are discussed in more detail in Section 2 above. Appendix 4 contains a copy of the 2019 Rural Resource Lands Research Report which discusses non-resource lands in depth.

Urban Growth Boundary (UGB) Expansions

Table 5, Urban growth boundary expansions involving resource lands, statewide summary, 2022-2023

Year	Total Acres added to UGB	Acres Removed from UGB	Net Acres Added to UGB	Resource Acres Added to UGB	Resource Acres Added to County**	Net Acres Resource Loss*	% of Land Added to UGB from Resource Zones	% of Land added to UGB from Reserves, Exception Lands or Marginal Lands
2022	736	189	547	110	138	-28	14.9%	85.1%
2023	404	0	404	142	0	142	35.1%	64.9%

* "UGB swaps" include acreage added to EFU or Forest as well as acreage removed from EFU or Forest and added to an UGB.
**Reflects acreage removed from a UGB and designated EFU or Forest as part of a UGB expansion proposal.

Statewide Planning Goal 14 requires establishment of an urban growth boundary (UGB) around each city. Urban growth boundaries (UGBs) are 20-year planning areas surrounding cities designed to promote orderly growth and the efficient provision of public services. When a city has an identified need to add additional area to its UGB to accommodate housing and economic development needs, the city may expand its UGB resulting in the conversion of rural lands. A UGB is expanded through a joint effort involving the city and county, and in coordination with special districts that will provide important services in the urban area. **Since 2016, of the 50 UGB amendments proposed, 47 were approved**. **Once initiated, most UGB expansions have been successful**. (2016 was chosen as the first year because of legislative action to streamline the process for making UGB adjustments.)

Lands zoned EFU, forest, and mixed farm-forest are given lower priority for inclusion in UGBs than lands already zoned for rural development, included in urban reserves or non-resource lands. DLCD tracks and reports on the amount of land zoned EFU, forest and mixed farm-forest that is added to UGBs.

Table 6, Acres added to UGBs, 2022-2023

Year	Acres EFU to UGB	Acres Forest to UGB	Acres Other Zone to UGB	Total Acres Resource Added to UGB	Acres From UGB Added To Resource	Total Acres From UGB Added To Other Zone	Total Acres Added to UGB	Net Acres Added to UGB	Net Resource Acres Lost
2022	110	0	626	110	138	51	736	547	-28
2023	107	35	262	142	0	0	404	404	142
2022-2023 Biennium	217	35	888	252	138	51	1140	951	114

In the past biennium, 252 acres of land previously zoned for resource use were added to UGBs accounting for twenty-two percent of lands added.

Performance on this measure has varied widely from year to year over the past decade. For example, In 2018, three percent of land added to UGBs were converted resource lands and in 2019, ninety-one percent of land added to UGBs were converted resource lands. Given the inter-annual variability in acreage added to UGBs, a longer look at trends in this area is merited.

Between 1987 and 2023, local governments added just over 74,000 acres to UGBs statewide. Of this amount, 46 percent of land added was zoned EFU, forest or mixed farm-forest and 54 percent was from other rural zones. Appendix 1, table 11 and Appendix 2, Table 22 contain additional information on UGB expansions involving resource lands.

A recent trend in UGB expansions in the past decade has been **UGB land exchanges which result in neutral or net positive additions to land zoned for resource use**. One of the UGB expansions in 2022 involved removal of an amount of land from the UGB which was added to the county and zoned EFU. This approach to UGB expansion serves to maintain the resource land base to some degree[21] while providing cities flexibility for future growth planning.

Other Metrics for Evaluating Conversion

While the state's policy recognizes the significant role resource zoning plays in limiting alternative uses of farm and forest lands, many nonfarm and nonforest uses are allowed in statute and have the potential to contribute to the conversion of working lands. Zone changes may not capture the extent of actual conversion of agricultural and forest lands. This happens when resource land is developed for allowable nonfarm or nonforest uses, or pursuant to Measure 37 or Measure 49 orders. In many cases dwellings or uses permitted on resource lands may result in de facto conversion of these lands to other uses, like residential use or solar power generation use instead of farm use, even while they remain under protective farm or forest zoning.

There are two additional data sources for considering farmland conversion in Oregon which are worth mentioning here: the USDA National Agricultural Statistics Service (NASS) Census of Agriculture and the Oregon Department of Forestry (ODF) "Forests, Farms and People" report. Since publication of the 2018-2019 Oregon Farm & Forest Land Use Report, the Oregon Department of Forestry has published a 2021 update to the "Forests, Farms and People" report which is discussed below.

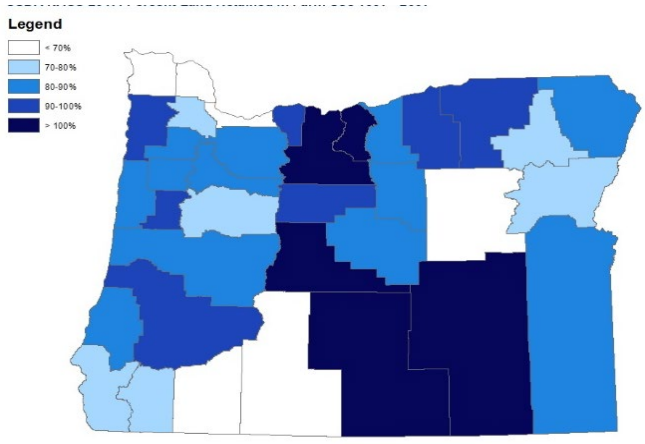
USDA NASS 2022 Census of Agriculture

The Census of Agriculture has been conducted on five-year intervals since 1982. The responsibility for the census was transferred from the Bureau of Census to USDA in 1997. USDA reports the amount of land in

[21] DLCD has not analyzed the relative quality of lands removed from the UGB and zoned for farm or forest use compared to the quality of resource lands being brought into the UGB. Although the swaps may not have resulted in 'apples to apples' exchanges of land in terms of capability for resource production, nevertheless the lands designated for farm or forest use must meet the definition in rule of 'agricultural land' and/or 'forest land'. Even if the swap results in a 'downgrade' of resource capability, such an exchange may still be preferrable to a loss of working land.

actual farm use in Oregon in 2022 at 15.3 million acres which is 87 percent of the 17.7 million acres reported in farm use in 1997.

Fig. 7, Percent land retained in farm use, by county, 1997-2017 (USDA 2017)

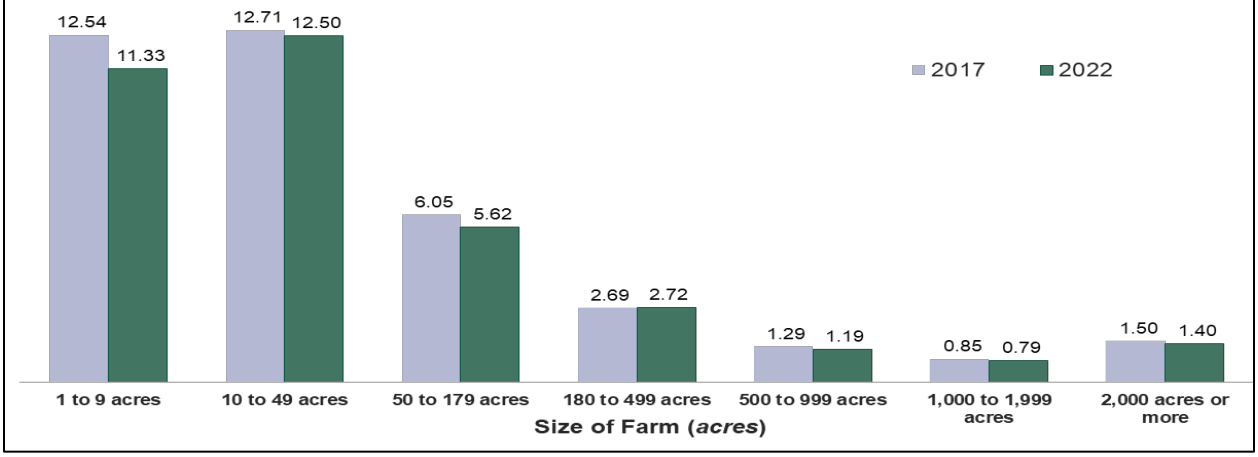


The census of agriculture looks at all farming in Oregon regardless of zoning. These numbers reflect farming that may be happening in other zones, such as urban farms within UGBs and homesteads in rural residential zones.

Some counties have more land protected under EFU zoning than land reported in farm use. In these counties it is reasonable to conclude that there is land zoned EFU which is not being farmed. Some counties have more land in farm use than in EFU zoning. There may also be land zoned for farm use which is not being farmed in these counties. It is reasonable to conclude that farming is happening in other zones in these areas. Although the NASS data provides insights into the state of Oregon agriculture, It is therefore difficult to draw conclusions from this data as to what may be happening on lands protected under Goal 3.

Appendix 2, Table 25 contains a table of acres in farm use by county for each census since 1997, the percent of land retained in farm use since 1997 by county, the percent of the land base in farm use in each county and the acreage currently in EFU zoning in each county. Figure 14 shows the percentage of land retained in farm use by county since 1997.

Figure 8, Number of Farms by Size Class, 2017 and 2022 (thousands), USDA Census of Agriculture 2022



Over the twenty-six-year period, increases in farm use acreage were reported in four counties: Harney, Umatilla, Lake and Deschutes. Of these four counties, only Umatilla has more acreage reported in farm use than under EFU zoning.

The census of agriculture has a different definition of "farm use" that includes any place from which $1,000 or more of agricultural products were produced or sold during the census year. This includes 22,600 small farms reporting less than $10,000 a year in sales. This class of farm has declined in numbers since the last census and represents less than 1% of the farm production value in Oregon. The number of farms in higher sales classes has increased since the last census. USDA reports that the value of production in the state continues to increase. This may indicate that farms are moving up into higher sales categories or that farms in this lower sales category are no longer farming or some combination of both.

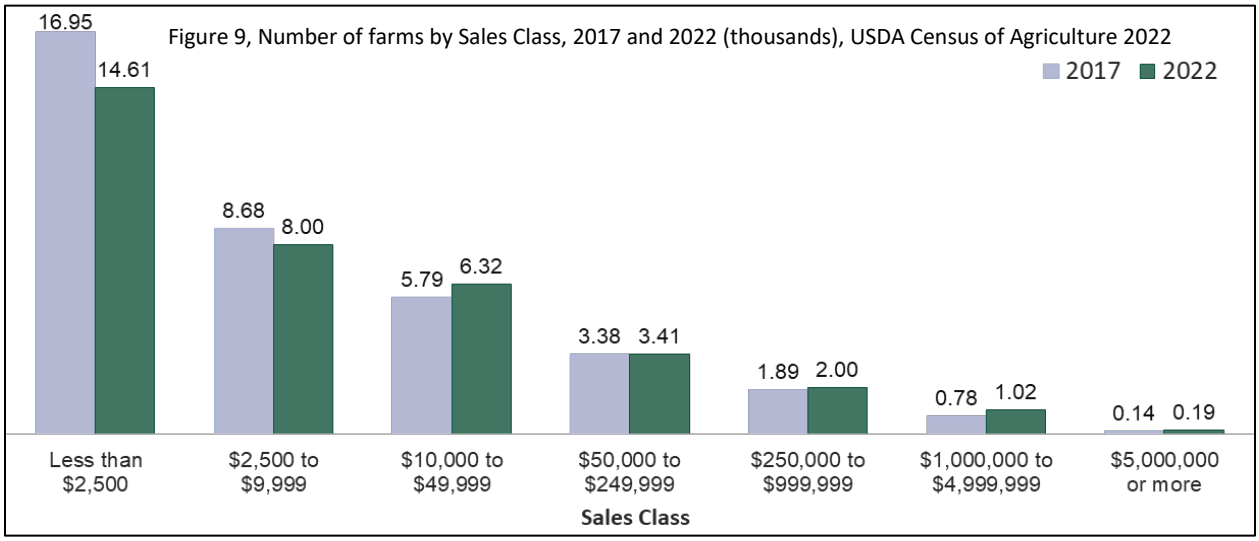


Figure 9, Number of farms by Sales Class, 2017 and 2022 (thousands), USDA Census of Agriculture 2022

Oregon Department of Forestry (ODF) "Land Use Change on Non-Federal Land in Oregon and Washington. 2018 Update"

ODF has performed land use cover review based on interpretation of aerial imagery for seven different years between 1974 and 2018. Based on that review, ODF categorizes nonfederal land into one of five resource land categories, or into urban or low-density residential lands. The categorizations in the referenced report are based on interpretation of land cover and not on zoning designations. **ODF found that ninety-seven percent of nonfederal land categorized as cropland, rangeland or mixed farm-rangeland land in 1974 was retained in those uses in 2014.**

ODF uses 1984 as the land use implementation date to compare conversion rates pre- and post- land use implementation and finds a distinct slowing of conversion.

An update to the report was published in February of 2021 that captures the additional four-year period between 2014 and 2018. That update includes the following items of interest:

- Development of resource land occurs mostly in western Oregon and the Bend area near already-existing development.
- The largest proportional change in the 2009-2018 period was in further development of areas categorized as low-density residential lands.
- Approximately 8,000 acres of low-density residential land were converted to urban use in 2009-2018.

- Since 2009 the number of structures increased by 7 percent on wildland forests, 8 percent on wildland range and 3 percent on agricultural lands.

Table 7, Area of non-federal land in Oregon by land use class and year (ODF 2018)

	1984	1994	2000	2005	2009	2014	Land Retained
forest	10,570,000	10,512,000	10,497,000	10,468,000	10,455,000	10,446,000	98.83%
mixed farm forest	901,000	877,000	876,000	864,000	855,000	853,000	94.67%
Subtotal Forest/Mixed Forest	11,471,000	11,389,000	11,373,000	11,332,000	11,310,000	**11,299,000**	98.50%
range	9,164,000	9,116,000	9,087,000	9,045,000	9,034,000	9,013,000	98.35%
mixed range forest	664,000	666,000	678,000	690,000	690,000	699,000	105.27%
cropland	5,806,000	5,786,000	5,757,000	5,747,000	5,733,000	5,740,000	98.86%
Subtotal Agricultural Land	15,634,000	15,568,000	15,522,000	15,482,000	15,457,000	**15,452,000**	98.84%

In the past, conversations around farmland preservation have focused on constraining urban sprawl. There is a growing concern within farmland preservation communities about recent trends in increasing low-density rural development. This happens even while land remains under exclusive farm use zoning. A 2020 report by the American Farmland Trust[22] found that agricultural land in areas with patterns of scattered large-lot residential development were ninety-five times more likely to be converted to urban and high-density development over the five-year period between 2001 and 2016 than agricultural lands maintained in large, cohesive blocks of working land. This is a finding that supports Oregon's policy of maintaining resource lands in large blocks using minimum parcel sizes. This is a concern to keep in mind when reviewing the sections on dwelling and land division approvals below.

As noted above, the department estimates that there are currently 15.6 million acres under EFU zoning and 10.7 million acres protected under forest and mixed farm-forest zoning in Oregon. As shown in Table 7, ODF has identified 11.3 million acres of nonfederal land in forest and mixed farm-forest land cover in the state and 15.5 million acres of nonfederal land in range or cropland cover in the state. It would be informative to look at how much of these resource land cover types are within resource zones and how much of these resource land cover types are not protected under resource zoning.

The agency is discussing with ODF an analysis looking at land cover and zoning as they have both changed over time. In future reports, the agency hopes to be able to provide information on the extent of these land cover classes as they present within resource zones. This would provide a glimpse into how land zoned EFU, forest and mixed farm-forest are being used by assessing the amount of ODF land cover class within these zones.

A copy of "Land Use Change on Non-Federal Land in Oregon and Washington. 2018 Update." is included as Appendix 5.

[22] American Farmland Trust (2020) 'Farms Under Threat: State of the States '. Available at https://farmlandinfo.org/wp-content/uploads/sites/2/2020/09/AFT_FUT_StateoftheStates_rev.pdf

Land use approvals

The other window we must assess conversion of resource lands are the numbers of permit approvals that have been issued on resource lands for non-resource dwellings and uses. The remainder of this report analyzes permit approvals issued by counties. The department is currently looking to improve our GIS support services. In the future we hope to be able to provide analysis of the geographic distribution of permit approvals for certain regions.

VII. Land Use Approvals on Agricultural Land: Dwellings

The following section summarizes trends in permit approvals on farmland both for the past biennium and historically. The data presented is based on information reported by counties to DLCD through the Farm and Forest Decision Reporting database. A list of county farm and forest land use decisions that were reported to DLCD is available on DLCD's website through the Farm Forest Online Reports interface. Members of the public may also obtain copies of submitted county decisions by submitting a public records request.

Two key dates stand out in relation to the availability of historical data. LCDC acknowledged most local comprehensive plans and ordinances to comply statewide planning goals in 1986, making 1987 an appropriate base year from which to measure the success of the land use program.

Major revisions to the Goal 3 and 4 programs were adopted in 1992 by LCDC and in 1993 by the legislature which allowed for the case-by-case identification of less productive resource lands and a variety of opportunities for the establishment of dwellings under various conditions summarized below. Therefore, historical data on dwellings approvals dates back to 1994 following implementation of these various opportunities. There is a discussion on dwellings approvals before 1993 at the end of this section.

A variety of dwelling types are allowable on agricultural land. These dwelling types generally fall into two broad categories — those permitted for farm owners and farm workers, or "dwellings in conjunction with farm use", and those that are not associated with an active farm use on the property, or "dwellings not in conjunction with farm use". The statutory policies related to housing on resource land[23] indicate that it was the intention of the legislature that agricultural workforce housing be allowed and that a limited number of other dwellings be permitted on less productive resource land acquired before the land use program was implemented. The following section looks at permits issued for these two categories of dwelling approvals.

> "Dwellings in conjunction with farm use" include dwellings for farm operators, farmworker housing and dwellings for relatives supporting a farm operation. These are agricultural workforce housing types.

Dwellings in Conjunction with Farm Use

Primary Farm Dwellings

Primary farm dwellings are dwellings that are permitted in conjunction with a working farm operation. There are several ways in which a farm operator may apply to place a primary farm dwelling on agricultural land. All of these tests require that the dwelling only be occupied by the farm operator and the operator's immediate family, and all of these tests require documentation that a commercial farm use is being conducted on the property. Farming of marijuana or a psilocybin-producing fungi crop cannot be considered as a qualifying farm use for the purpose of establishing primary or accessory farm dwellings.

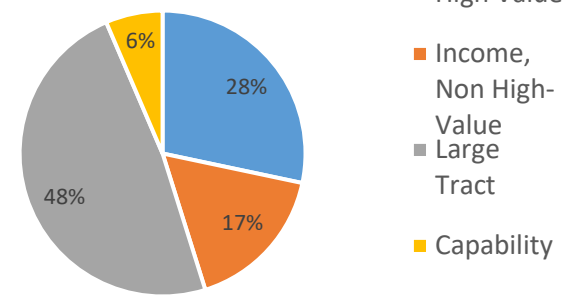
[23] See ORS 215.262, 215.277 and 215.700.

Table 8, Primary farm dwelling approvals, statewide summary, 2022-2023

Primary Farm Dwelling Tests	Summary of Test*	2022	2023
Farm Income (High Value Farmland)	At least $80,000 in gross annual income from the sale of farm products in each of the last two years or three of the last five years, or in an average of three of the last five years.	12	10
Farm Income (Non-High Value Farmland)	At least $40,000 in gross annual income from the sale of farm products in each of the last two years or three of the last five years, or in an average of three of the last five years or the median amount of gross income earned by commercial farm operations in the 1992 census.	8	5
Large Tract Dwelling	On a parcel at least 160 or 320 acres in size depending upon where in the state the parcel is located.	23	25
Farm Capability	At least as large as the median size of commercial farm tracts capable of generating at least $10,000 in annual gross sales that are located within a study area. Must be reviewed by DLCD.	1	4
Commercial Dairy**	Owns a sufficient number of producing dairy animals capable of earning the gross annual income required from the high value or non-high value income test - whichever is applicable, from the sale of fluid milk.	**	**
Relocated Farm Operations**	An experienced farm operator who ran a qualifying operation at a different location may relocate to a parcel or tract that previously met the applicable requirements for the farm income test.	**	**
The basic essence of the test is described here. All referenced tests have additional, nuanced criteria.* * Reported under the high-value or non-high value tests above.*			

Just under half of the primary farm dwellings approved over the past decade have used the large tract test to qualify.

Fig. 10, Primary Farm Dwelling approvals by test
2012 to 2023



The income standards applicable to most of the farm dwelling tests were established in 1992 as clear and objective standards that would be easy for people to understand and for local jurisdictions to apply. These gross income requirements are not tied to any inflationary index and have not been revised.

Although not required by rule or statute, some counties require covenants to be recorded on the property limiting occupancy of the primary farm dwelling to a primary farm operator and the

operator's immediate family in order to increase the likelihood of continued compliance with that requirement.

The total number of primary farm dwelling approvals statewide has declined since 1994, though over the past decade the annual number of approvals have remained fairly consistent, averaging 47 dwellings a year. Table 8 above shows what option was used to approve primary farm dwellings over the past biennium. Appendix 1, Tables 2 and 3 contain detailed information on primary farm dwelling approvals.

Accessory Farm Dwellings and Farmworker Housing

There are two primary types of housing for agricultural workers from a land use perspective: 1) community-based housing, which typically consists of apartments and houses located in urban or urbanized areas and established specifically for farmworkers, and 2) farm-based or on-farm housing.

Farmworker housing located on land zoned for urban uses within city limits, within UGBs and in unincorporated communities:

Land within city limits, within urban growth boundaries (UGBs) and in unincorporated communities are areas planned and designated for urban uses, including multi-family housing development. Multi-family housing development is typically allowable in commercial or high-density residential zones. These urbanizable areas have infrastructure and services in place or planned to serve this type of intensive development. This includes public utility services like water, electric and sewer as well as services like health care, education and social services which may not be as readily available in rural areas.

When located in urban areas, housing for farmworkers is included in the definition for 'needed housing' at ORS 197A.200 and 197A.348. ORS 197.395 provides additional protections for the establishment of farmworker housing in certain residential and commercial zones. The state's legislative policies also recognize the need for adequate agricultural labor accommodations commensurate with the housing needs of Oregon's workers that meet decent health, safety and welfare standards[24]. DLCD has not historically tracked farmworker housing development outside of lands zoned for resource use.

Table 9, Farm Accessory Dwelling Approvals, 1994-2023

Dwelling Type	Accessory Farm Dwelling Approvals	Accessory Farm Dwelling Units
153-Unit	1	153
16-Unit	1	16
20-Unit	1	20
10-Unit	1	10
8-Unit	1	8
6-Unit	1	6
4-Unit	5	20
5-Unit	2	10
3-Unit	11	33
duplex	27	64
single	975	975
Total	1,026 permits	1,315 units

Farmworker housing located on land zoned EFU:
When farmworker housing is located on a farm operation protected under EFU zoning, it is referred to as an 'accessory farm dwelling', that is a dwelling that is accessory to a primary farm

[24] See ORS 197.677, ORS 197.680 and ORS 197.685

use. Accessory farm dwellings can include a variety of housing types including large, multi-family developments.

Since 1983, over 2,200 non-relative, farmworker housing units have been reported as permitted on farm operations in EFU zones with an average of 43 farmworker housing units permitted on-farm annually since 1994. Since 1993, three-quarters of the units permitted on-farm have been single-family dwellings. The remaining on-farm housing approvals reported range from duplexes to a large 153-unit facility permitted in 2016 in association with a cherry growing operation.

Some accessory farm dwelling types may be required to be registered with OSHA and subject to health and safety regulations, and some are not required to be registered. The historic trend in the mix of building types is reflected in the approvals issued over the past biennium with 84 percent of the approvals issued for single-family dwellings, 5 approvals issued for duplexes and 2 approvals for triplexes.

Accessory farm dwellings must be sited on a farm operation that earns the same gross income required for a primary farm dwelling ($80,000 or $40,000). To increase the likelihood of continued compliance with that requirement, some counties require covenants be recorded on the property limiting occupancy of the dwelling to a person who is principally engaged in farm use and whose assistance is required by the farm operator and their immediate family. These types of covenants help alert a potential buyer that the farmworker dwellings were permitted for that specific purpose. Roughly half of the approvals issued in the biennium included recorded acknowledgement of the occupancy restrictions.

Table 10, Accessory farm dwelling approvals, statewide summary, 2022 - 2023

Accessory Farm Dwelling Tests	**Summary of Test***	**2022**	**2023**
Accessory Farm Dwelling	Occupied by a person employed as a farm worker on the operation. Sited on a farm operation that earns the same gross income required for a primary farm dwelling ($80,000 or $40,000).	21	24
Relative Help	Occupied by a relative of the farm operator who whose assistance is required in the management of farm operations.	42	45
**The basic essence of the test is described here. All referenced tests have additional, more specific criteria.*			

Relative Farm Help Dwellings

Housing for relatives whose assistance is required to support farm operations is another type of dwelling permitted in conjunction with a commercial farm use. The number of dwellings approved for relatives whose assistance is needed on the farm has been consistent over the past ten years, averaging 34 dwelling approvals a year.

A concern with this dwelling type is that, once built, there is no requirement that it continue to be occupied by a relative or even that it will continue to be used in conjunction with farm use. Although not required by rule or statute, some counties require covenants be recorded on the property limiting occupancy of the dwelling to a relative of the primary farm operator whose assistance is needed in the day-to-day operation of the farm to increase the likelihood of continued compliance with that requirement.

Dwellings Not in Conjunction with Farm Use

In addition to dwellings permitted in conjunction with an active farm operation on a property, several opportunities also exist in EFU zones to establish dwellings for residential purposes that are not in conjunction with any farm operation. These include lot of record dwellings, nonfarm dwellings, replacement dwellings and temporary health hardship dwellings.

Table 11, dwellings not in conjunction with farm use, statewide summary, 2022-2023

Dwellings Not in Conjunction with Farm Use	**Summary of Opportunity***	**2022**	**2023**
Nonfarm Dwelling	Located on a parcel or portion of a parcel not suitable for resource use and when the dwelling will not materially alter the surrounding land use pattern or negatively impact surrounding farm and forest practices. That portion of the parcel found unsuitable for farm use may be partitioned.	104	89
Lot of Record Dwelling	Located on a parcel owned continuously since 1985 or inherited from someone who owned the parcel continuously since 1985.	21	28
Temporary Health Hardship Dwelling	Located on a parcel with an existing dwelling for a caregiver or person suffering a medical hardship.	64	68
Replacement Dwelling	Allows the replacement of a legally established dwelling.	228	242

**The basic essence of the test is described here. All referenced tests have additional, more specific criteria.*

Nonfarm Dwellings

Nonfarm dwellings may be approved on parcels or portions of parcels that are determined to be unsuitable for farm use. That portion of the parcel found unsuitable for farm use may be partitioned from the remainder of the farm parcel.

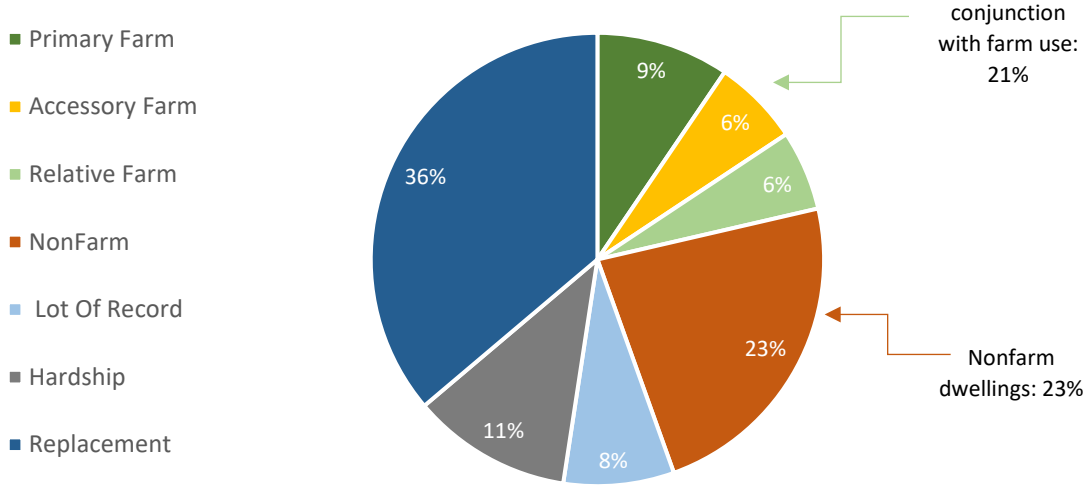
Nonfarm dwellings have engendered much debate due to the subjectivity and complexity of the test. Senator Hector MacPherson, the principal sponsor of 1973 SB 101, stated that the purpose of nonfarm Dwellings was not "*to open the exclusive farm use zone up to subdivisions"* but rather to provide *"a little escape valve here whereby we can allow a small amount of single-family residential dwellings within an exclusive farm use zone*."[25] The Oregon Court of Appeals observed in *Cherry Lane v. Jackson County*[26] that these types of nonfarm dwelling approvals should "*be the exception and that approval for them be difficult to obtain*".

Over 7,300 nonfarm dwellings have been approved across the state since 1984. Nonfarm dwellings represent just under a quarter of all dwellings approved on EFU zoned lands since 1994. The percentage

[25] Audio Tape 10, side 1: Testimony of Hector MacPherson, Senator to Oregon Senate Revenue Committee 57th Session (February 7, 1973) (on file with Oregon State Archives).
[26] 84 Or. App. 196, 733 P.2d 488 (1987).

is higher if one includes approvals over the preceding decade[27]. **Historically, more nonfarm dwellings have been approved on EFU than all types of dwellings in conjunction with farm use combined.** This data trend does not appear to be consistent with the legislative intent underpinning this opportunity.

Fig. 11, EFU dwelling approvals, 1994-2023



Except in the two "marginal lands" counties (Washington and Lane)[28], nonfarm dwelling reviews are complex, requiring a county to consider resource practices, prior development approvals, development and parcelization trends, and the cumulative impact of all possible new nonfarm dwellings and parcels in a 1,000 to 2,000-acre study area to determine if the proposed nonfarm dwelling may alter the stability of the prevailing land use pattern.

A county must deny an application if the county determines that the potential dwelling will make it more difficult for the types of farms in the area to continue operation due to diminished opportunities to expand, purchase or lease farmland, acquire water rights, or diminish the number of tracts or acreage in farm use in a manner that will destabilize the overall character of the study area. A county must thus decide if this additional dwelling will destabilize the agricultural nature of the surrounding area. A particular challenge with this review is determining when the jurisdiction has encountered the proverbial "tipping point" for a given area — particularly when evaluating something as dynamic as the agricultural landscape.

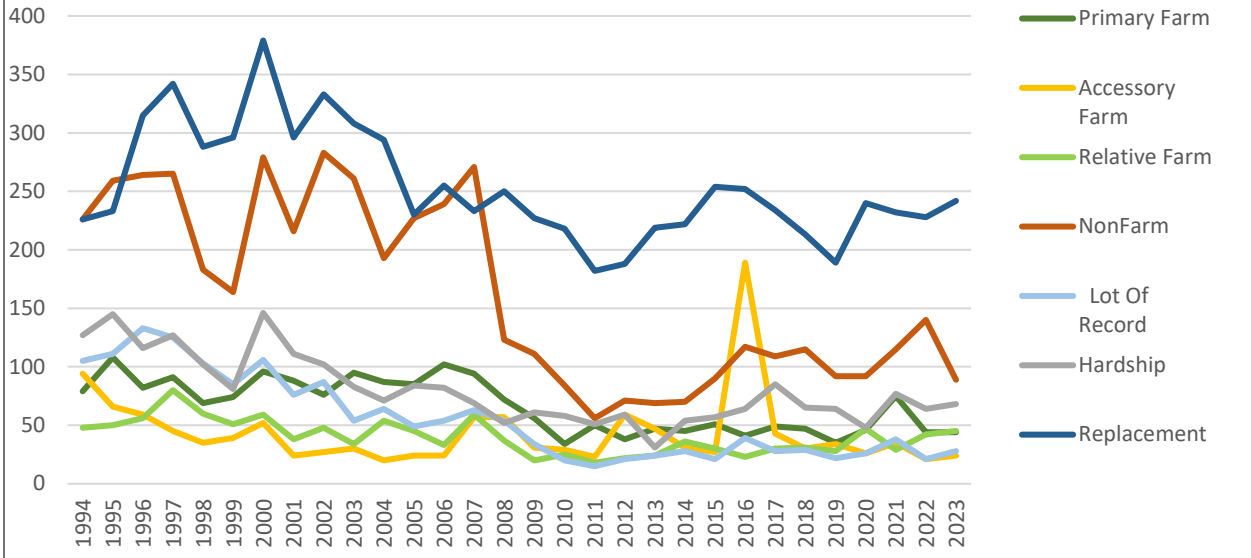
As shown in figure 12, the number of nonfarm dwelling approvals declined after 2008, following general housing market trends, and started steadily increasing in 2011. Over the past five years the number of

[27] More recent Farm and Forest Reports have focused on data for dwelling approvals following the implementation of 1993 HB 3661 which established several new dwelling types. 2,474 nonfarm dwellings were approved between 1984 and 1993 representing 37% of the dwellings approved on EFU between 1984 and 1993.

[28] The 1983 Marginal Lands Act allowed reduced regulation of certain "marginal" farmlands in return for greater protection to more productive lands. Lane and Washington Counties were the only two counties to adopt the marginal lands program before the statute was repealed in 1991 and those are the only two counties allowed to continue to operate under that program.

nonfarm dwelling approvals has been consistent — averaging 106 dwelling approvals a year. That is roughly equivalent to the combined average of primary farm dwelling and accessory farm dwelling approvals over the same five-year period.

Fig. 12, Dwelling approvals on farmland by type, 1994-2023



Twenty percent of nonfarm dwellings approved in the 2022-2023 biennium also involved a land division to separate the area found to be unsuitable from the remainder of the property. This allows an applicant to minimize the tax impact of removing the property from special farm assessment. **In the 2022-2023 biennium 3,482 acres were reported by counties as being removed from the special farm assessment program because of nonfarm dwelling approvals[29].** This is almost double the acreage that was converted through a zone change or urban growth boundary expansion in the past biennium (1,747 acres removed through a zone change[30], 217 acres removed through a UGB expansion[31]).

Appendix 1, tables 1 and 4 and Appendix 2, tables 12 and 13 contain additional detailed information on nonfarm dwelling approvals over the past biennium and historically.

In 2010, the Legislature passed House Bill 3647, which required DLCD to review soil assessments, or soils challenges, prepared by a private soil consultant. Soil assessments prepared by private consultants may be used to provide more detailed information than is shown on the USDA Natural Resources Conservation Service's soil mapping and are often used to support a nonfarm dwelling approval by re-classifying a

[29] The Oregon Department of Revenue does not maintain data on land removed from the EFU Farm Special Assessment Program. This information is provided by county planning departments through the reporting interface to document compliance with ORS 215.236 which requires removal of a parcel approved for a nonfarm dwelling from special assessment. This reporting requirement was added to the database interface in 2020. 1,919 acres were removed from special farm assessment as a result of nonfarm dwelling approvals in the 2020-2021 biennium. No data on this metric is available for previous periods.

[30] See Table 24, Appendix 2

[31] See Table 22, Appendix 2

portion of a property to a lower soils capability class. In the 2022-2023 biennium 30 percent of nonfarm dwelling reviews involved soils challenges.

Lot of Record Dwellings

Counties may approve lot of record dwellings on parcels that have been in the same ownership since 1985 and, with some exceptions, are not on high-value farmland. The intent[32] was to provide an opportunity for a dwelling to owners of farmland who had purchased the property before the land use planning program was created. This is an opportunity that was introduced by HB 3661 in 1993. It was anticipated that lot of record approvals would decline over time as existing parcels are built out or conveyed to separate ownership.

As Figure 12 illustrates, Lot of Record dwelling approvals have declined slightly over time. In 2022-2023, 49 lot of record dwellings were approved, averaging 24.5 dwellings a year for the biennium which is lower than the average of 28 approvals a year over the last ten years. Appendix 1 table 1, and Appendix 2 tables 12 and 13 contain additional detailed information on lot of record dwelling approvals over the past biennium and historically.

Health Hardship Dwellings

These are temporary dwelling approvals for residents with a medical hardship that must be removed at the end of the hardship. A health hardship dwelling must be sited in conjunction with an existing dwelling and tied into an existing sanitation system. DLCD does not track the removal of these dwellings.

In the 2022-2023 biennium, 132 health hardship dwellings were approved, which is consistent the 10-year average of 60 health hardship dwelling permits/year. Appendix 1 table 1, and Appendix 2 tables 12, 13 and 13 contain additional detailed information on health hardship dwelling approvals over the past biennium and historically.

Replacement Dwellings

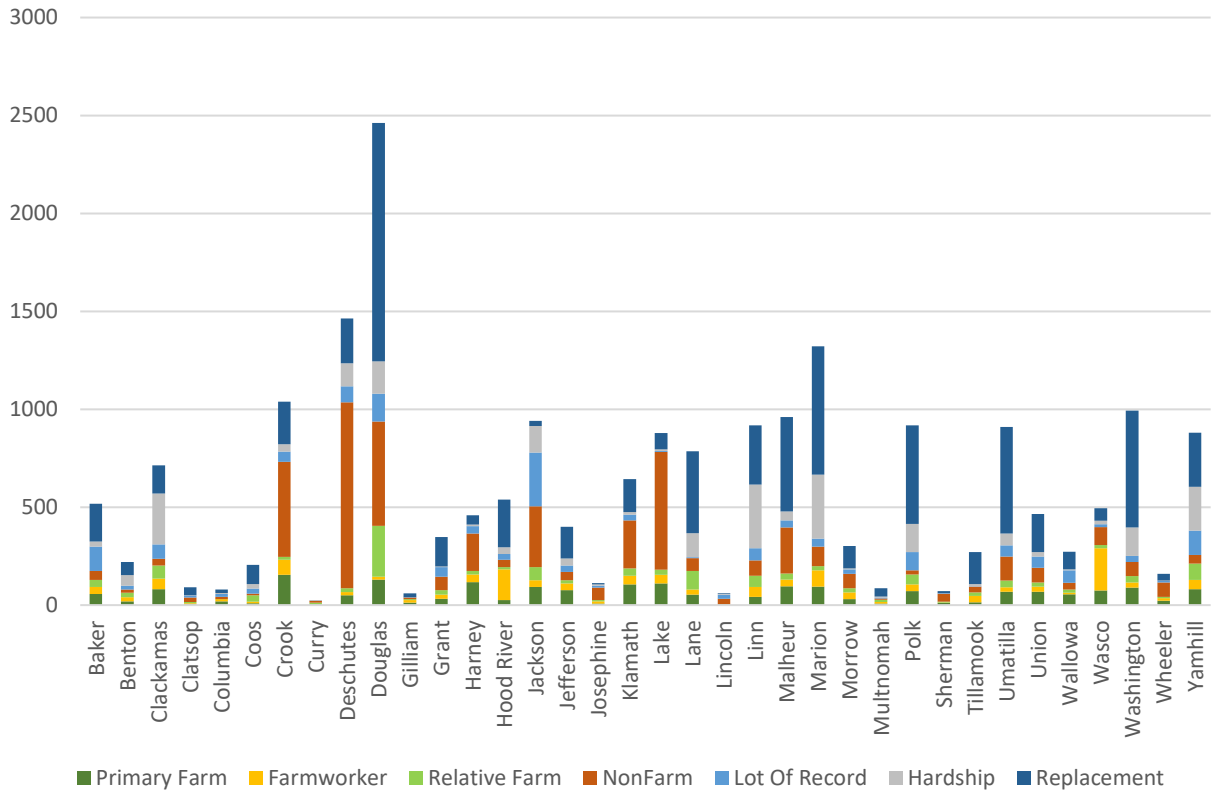
A replacement dwelling is a new home that replaces an older dwelling on a parcel. To be replaced, a dwelling must have or have had certain qualifying features, such as walls and a roof, within the past three years of applying for a replacement application. Replacement dwellings are the most common dwelling approval in farm zones and account for over one-third of dwelling approvals in EFU zones. Replacement dwellings are a sub-1 use meaning that counties must offer them as an option and may not apply more restrictive standards than those in statute or rule.

[32] ORS 215.700, "*The Legislative Assembly declares that land use regulations limit residential development on some less productive resource land acquired before the owners could reasonably be expected to know of the regulations. In order to assist these owners while protecting the state's more productive resource land from the detrimental effects of uses not related to agriculture and forestry, it is necessary to: (1) Provide certain owners of less productive land an opportunity to build a dwelling on their land; and (2) Limit the future division of and the siting of dwellings upon the state's more productive resource land.*"

Originally, dwellings being replaced were those established prior to the adoption of the land use planning system. A wide variety of dwelling uses are now permitted in farm and forest zones. Most of these dwelling types come with conditions that require the dwelling to be associated with a farm operation, or are subject to conditions like being located on a specific area of a property. A key date in the history of the program is the passage of HB 3661 in 1993, which established many of the dwelling tests and conditions that we have now. Dwellings are now being replaced that were permitted in the 1990s for specific purposes and under very specific review standards.

The historical average for replacement dwelling approvals has remained consistent over time at roughly 225 — 250 replacement dwelling approvals per year. Appendix 2 tables 12 and 13 contain detailed information on the number of farm dwelling approvals over time.

Fig. 13, Total dwelling approvals on farmland, all counties, 1994-2023



In keeping with some of the trends discussed above, the annual average for the biennium for all types of nonfarm approvals exceeded the historical 10-year annual average for nonfarm dwellings, replacement dwellings, and health hardship dwellings while approvals for primary farm dwellings and farmworker housing were below the historical averages.

Table 12, Annual average dwelling approvals on EFU							
Dwelling Type	**Primary Farm**	**Accessory Farm**	**Relative Farm**	**Non Farm**	**Lot of Record**	**Health Hardship**	**Replace ment**
Biennium compared to historic average	below	below	above	above	below	above	above
2022-2023 average	**44**	**22.5**	**43.5**	**114.5**	**24.5**	**66**	**235**
5-year average, 2019-2023	49	28	38	106	27	64	226
10-year average, 2014-2023	48	46	34	103	28	65	231

Cumulative Dwelling Approvals

The department has received requests from the public to analyze all dwelling development on EFU land, including dwellings established prior to 1994. The department has investigated data sources for this information.

Data for 1983 – 1994

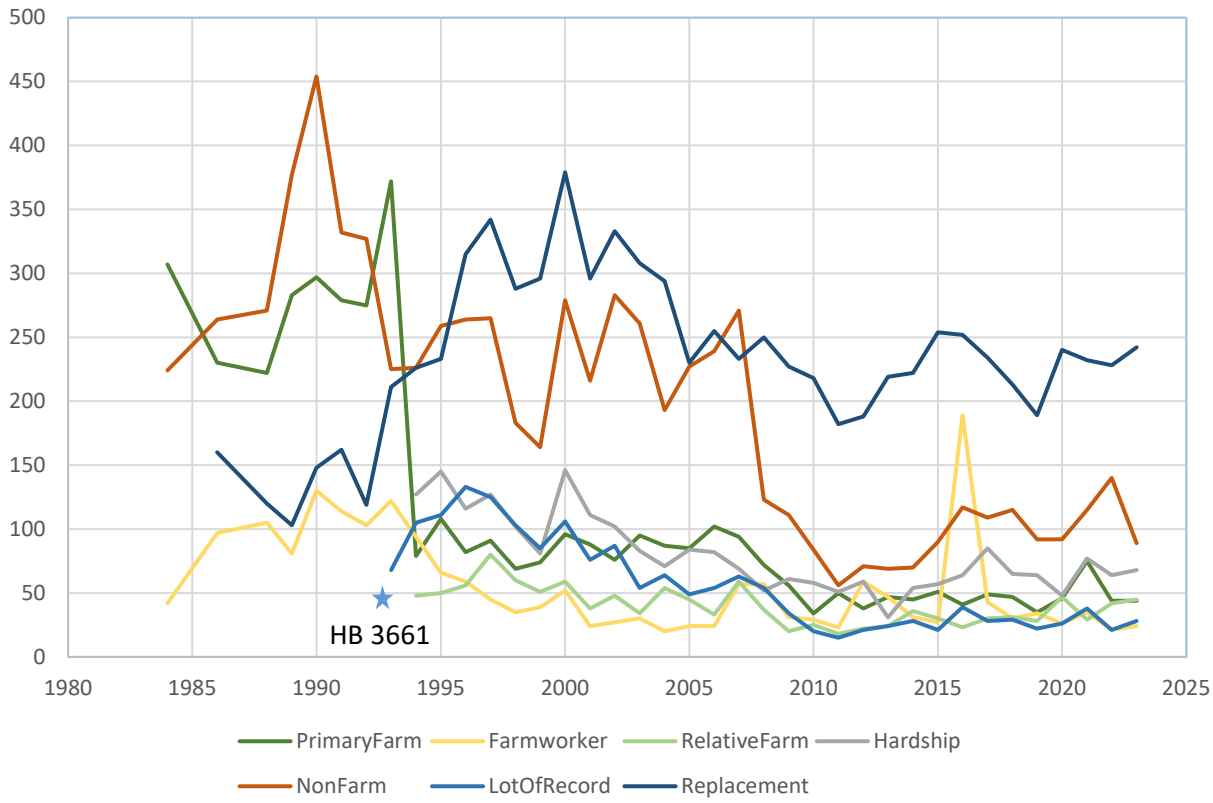
DLCD does have records of dwelling permit approvals submitted by counties for the period between October 1983 and August 1994. This includes data that was collected before all county comprehensive plans were acknowledged by the land conservation and development commission and the reports indicate that not all counties provided reporting for some periods. It is likely, particularly for the earlier part of this period, that the data presented under-reports dwelling approvals. There are also some discrepancies between data reported in older reports and prior year numbers documented in later reports. In these cases, staff used numbers from later reports under the assumption the numbers represent corrections. Appendix 2, table 14 contains a table documenting dwelling approvals in EFU zones as reported to DLCD for the period October 1983 and August 1994.

This data has not been included in Biennial Farm and Forest Reports because it is somewhat misleading to compare approvals for dwellings prior to 1993 with approvals for dwellings under the more detailed standards implemented in 1992 and 1993. However, this data does offer important insight into the cumulative impact of the total number of dwellings approved on resource lands over time and how the program is working at achieving the land conservation goals set out for it. Just over 6,600 dwellings were reported as approved during this 10-year period for an average of 736 dwellings a year (no reporting was provided for 1985). **Between 1984 and 2023, more than 27,600 dwellings of all types were approved on farmland across the state.**

Figure 14 below replicates figure 12 with the addition of dwellings permitted between 1983 and 1994. Figure 14 illustrates the number of dwelling approvals each year since 1984 for the different dwelling types[33]. Detailed information on EFU dwelling approvals over this time are provided in Appendix tables 12, 13 and 14.

[33] One notes the significant decline in primary farm dwelling approvals in the early 1990s. In 1992 LCDC adopted rules establishing clear and objective income thresholds for primary farm dwellings. The income standards were adopted in response to ongoing

Fig. 14, Dwelling approvals on farmland by type 1984-2023



As discussed above, since 1994, only twenty-two percent of dwelling approvals on land zoned EFU have been approved in conjunction with farm use. More nonfarm dwellings have been approved that dwellings in conjunction with farm use. This is true for the preceding decade as well.

Again, it is somewhat misleading to present a comparison, as Figure 14 does, of dwelling types that includes data prior to HB 3116 because of the significant changes in the approval standards and addition of new dwelling opportunities that were added in 1993. This figure has been include to stress that nonfarm dwelling approvals have consistently been the second most commonly approved dwelling type in farm zones over the past thirty years.

concerns related to the breadth of discretion in determining if a proposed dwelling was actually in conjunction with land being employed for farm use. The 1991 *Farm and Forest Land Research Project* documented that the majority of the tracts on which 1,300 new farm dwellings had been approved between 1987 and 1992 were not contributing very much to commercial agriculture. The review found that seventy-five percent of the farm dwellings approved were on farms grossing less than $10,000 from the farm operation and roughly thirty-seven percent of farm dwellings were approved on property with no farm revenue. The rules establishing an income standard had the intended effect of limiting the opportunity for a "Primary Farm Dwelling" to farm operations able to demonstrate gross income at a certain level. Following implementation of the income standard, an average of 67 new primary farm dwellings have been approved annually. As noted above, the income standard has not been adjusted in the past thirty years and remains at the thresholds LCDC found to be indicative of a commercial farm enterprise in the 1990s.

Data Prior to 1983

To identify dwellings that existed prior to implementation of the land use planning program and that continue to exist, county tax lot assessment records were identified as the most reliable, available source of information that documents the presence of a dwelling and the year it was built. However, these data are not available in the statewide tax lot data aggregated by the Department of Revenue for state use. The counties collect dwelling data, but the department must request data sharing agreements from most counties to use their data.

For counties where this information is available, it is possible to spatially evaluate the distribution of dwellings across the landscape, and within resource zones, over time. This type of analysis may be applied to areas of concern, not just our limited resource lands, but also areas such as important habitat, areas at high risk for wildfire and groundwater limited areas to look at how previous or existing regulations have or have not served to steer residential development away from areas prioritized for resource protection, away from areas with significant development constraints and risks, and towards areas more suited for residential development considering serviceability and safety.

DLCD staff believe that completion of a "pilot" analysis in counties that are willing to share the required assessor's data would provide valuable insight into the relationship of cumulative dwelling approvals and area agriculture. Staff hope to provide such a project soon if sufficient staff resources are available.

As an example, staff has provided an preliminary analysis for this report which looks dwelling development in Deschutes County over time based on assessment records from the county. Deschutes was selected as a portion of the analysis had already been completed by the Department of Agriculture for another purpose and Deschutes County was willing to share their assessment data.

Figure 15a below shows:

- areas of Deschutes County zoned for resource (EFU, forest and mixed farm-forest zones on nonfederal lands),
- dwellings built before 1986, or before all county comprehensive plans were acknowledged,
- dwellings built between 1986 and 1993, and
- dwellings built after 1993, or after the effective date of HB 3661 which established many of the dwelling types and review standards in resource zones that we have today[34].

This data indicates that there are 5,036 existing dwellings in resource zones in Deschutes County. Since 1994, a total of 1,701 dwelling approvals in resource zones have been reported to DLCD in Deschutes (including M49 dwelling authorizations).

Figure 15b shows dwelling development in Deschutes County in relation to important habitat areas identified by ODFW. This figure serves to illustrate how a large portion of the resource land is also within a Priority Wildlife Connectivity Area. This report contains a discussion on these areas and the role that the farm and forest conservation program has in protecting wildlife habitat, particularly in forest and rangeland areas.

[34] 1993 HB 3661 (paste in quote)

Figure 15c shows dwelling development in Deschutes County in relation to OWRD Groundwater Administrative Areas. In this case, it is the Upper Deschutes Groundwater Mitigation Program Area. There are no restrictions on new uses in this area, but mitigation may be required for impacts to flows and senior rights. Other Groundwater Administrative Areas in the state include Groundwater Withdrawal Areas, Critical Groundwater Areas, Groundwater Limited Areas and other Restrictively Classified areas. New uses may be limited in these areas. The figure illustrates that resource-zoned areas in the southeastern portion of the county are not within the Groundwater Management Area.

At the time of drafting this report, the Statewide Wildfire Hazard Map had not been adopted and associated GIS files were not available for analysis. When they do become available it will be useful to review historical dwelling development trends relative to high hazard areas.

As noted above, the department has been working with ODF on coordinating an analysis that looks at changes in resource land cover types over time relative to resource zoning. This is another project that could help us understand how trends in residential development within areas protected for farm and forest use relates to changes in land cover. Being able to identify when (and therefore under what regulations) dwellings have been permitted can help us understand how the program has performed in achieving a balance between conservation and development goals.

DLCD staff believe that completion of a "pilot" analysis in three or four counties where the required assessor's data is available would provide useful insight into the relationship of dwelling approvals and area agriculture and hopes to provide such an analysis soon if sufficient staff resources are available.

Fig.15a, Dwellings on resource land in Deschutes County, 2022

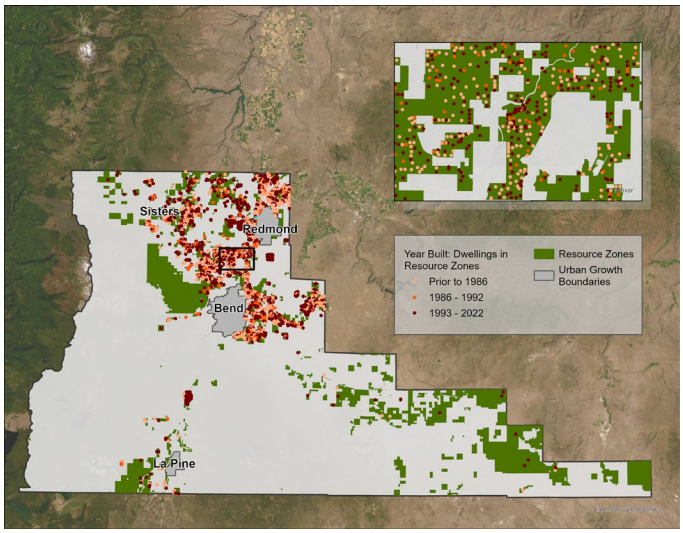


Fig. 15b, Dwellings on resource land and within Priority Wildlife Connectivity Areas in resource zones, Deschutes County, 2022

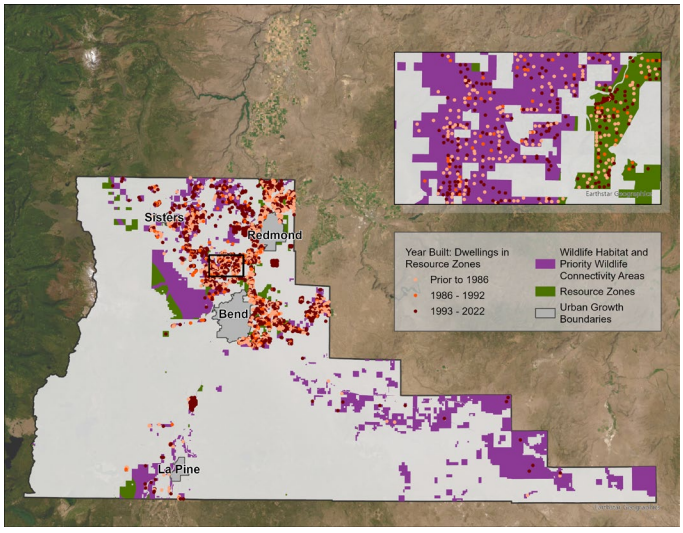
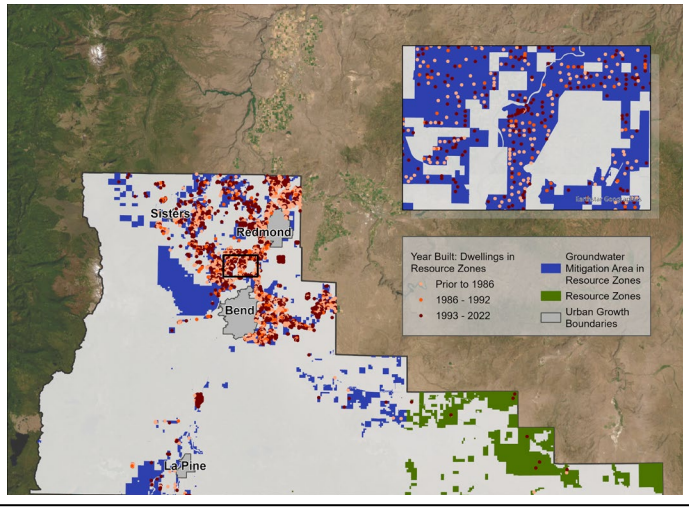


Fig. 15c, Dwellings on resource land and within Groundwater Management Areas in resource zones, Deschutes County, 2022



Land Use Approvals on Agricultural Land: Nonresidential Uses

In addition to zone changes and UGB expansions, land zoned EFU, forest or mixed farm-forest is also converted to nonfarm and nonforest uses that are permitted by statute or is converted through development rights established by Measures 37 and 49.

The Legislature has recognized that some farm-related and non-farm uses are appropriate in EFU and mixed farm-forest zones. In 1963, the first statutory EFU zone included just six nonfarm uses. The legislature has added additional uses almost every session since the inception of the program. Appendix 6 contains a list of historical additions. Today more than 60 uses other than farm use are allowed in an EFU zone.

'Sub-1 Uses': Uses that the legislature has determined are compatible with resource uses subject to standards. Counties must apply these uses as established by the legislature.

'Sub-2 Uses': Must demonstrate through a local review that they are compatible with farm and forest uses. Counties may adopt more restrictive versions of these uses or choose not to permit them.

Nonfarm uses are divided into two categories, "sub-1" uses or uses that the legislature determined to be compatible with surrounding farm and forest uses, and "sub-2 uses" which are evaluated on a case-by case basis to determine if the proposal is compatible with resource operations in the surrounding area. For sub-2 uses, a county must find that the proposal will not force a significant change in or significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest uses (ORS 215.296). This is commonly referred to as "the farm impacts test". Allowing some nonfarm uses and dwellings assumes that farm zones can accommodate a certain number of nonfarm uses or dwellings without affecting the overall stability of an agricultural area.

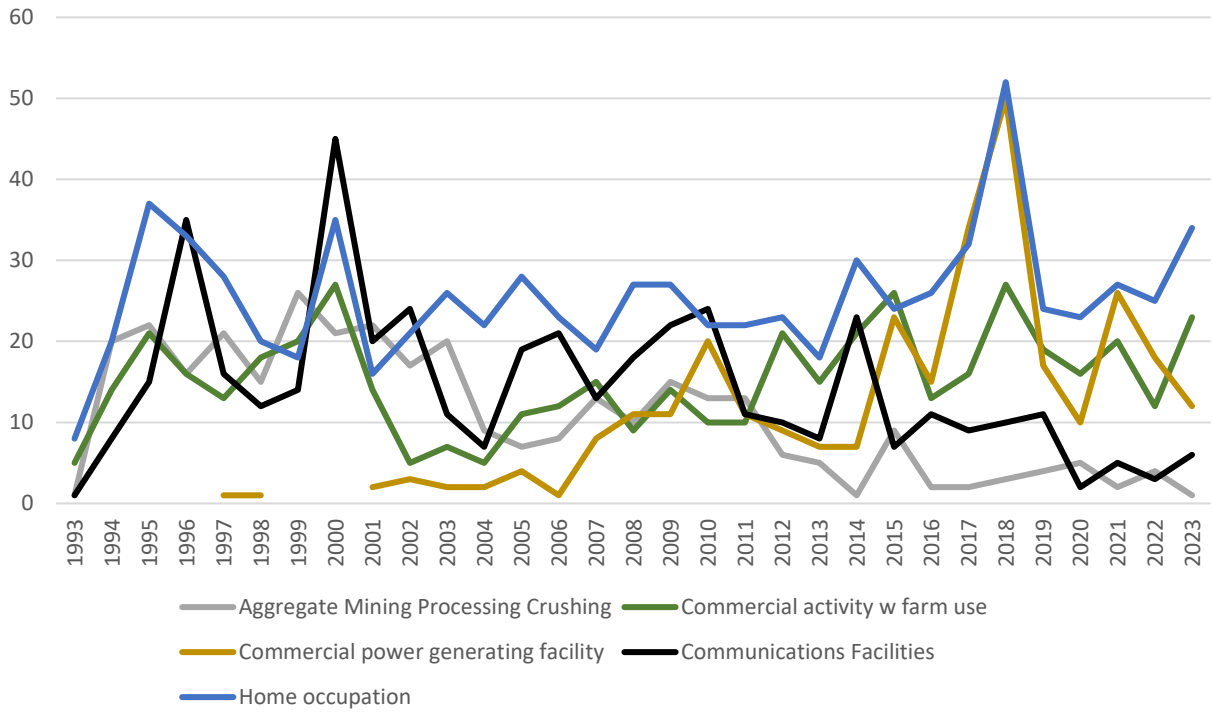
1,000 Friends of Oregon released a report in 2020, "Death by 1000 Cuts: A 10-Point Plan to Protect Oregon's Farmland," that contains a more detailed analysis of conflicts and impacts to agriculture from the accumulation of nonfarm uses within working agricultural areas. Potential impacts to the agricultural economy can occur in a variety of ways: impacts to individual farmers, impacts to farm practices, and impacts to the wider farming community. Farmers may spend their personal time working to resolve conflicts with residential neighbors due to issues like noise, odors, spraying and trespass and traffic. At a more landscape-level impacts can occur when the number of farms decline beyond a certain point. A critical mass of farm operations is required in each area to maintain supporting businesses and social networks that provide mentorship, provide opportunities for knowledge sharing, and maintain an informal economy (borrowing equipment or veterinary supplies). That critical mass of farmers is also required to financially support critical local service providers like diesel mechanics, feed stores and nearby facilities such as co-packing plants and meat processors.

"Cumulative impacts" can result from individually minor but collectively significant development taking place over a period of time.

As shown in Appendix 1 table 5, the most approved nonresidential nonfarm uses in 2022 and 2023 were home occupations, commercial activities in conjunction with farm use, commercial power generating facilities, agri-tourism events, and wineries. This is in line with historic trends, with **home occupations**,

commercial activities in conjunction with farm use and **commercial power generating facilities** being among the five most permitted nonfarm uses in exclusive farm zones since 1993. These uses are addressed individually below.

Fig. 16, Top five nonfarm, nonresidential approvals on EFU 1993-2023



Unlike dwelling approvals, the average number of permit approvals issued for nonfarm, non-residential uses in 2022 and 2023 was below both the 5-year and 10-year averages. However, there has been a wider margin of inter-annual variability with a low of 26 approvals in 1993 and a high of 244 approvals in 2018. As Figure 16 illustrates, certain uses have gone through periods of more and less frequent approvals.

Home Occupations

Home Occupations were established as a use in exclusive farm use (EFU) zones in 1977. In 1983 the authorization for Home Occupations was expanded to other zones and additional limitations were placed on the use. At that time, Home Occupations in EFU zones were only permitted within dwellings and buildings supporting accepted farm practices. Additionally, Home Occupation approvals were required to be reviewed annually by the issuing jurisdiction for continued compliance with the conditions of approval. In 1985, the authorizing language for Home Occupations in ORS 215.213 was changed to reference ORS 215.448, effectively broadening the types of structures associated with these uses. In 1995, the requirement for annual review for permit compliance was removed from ORS 215.448.

At the state level, Home Occupations are vaguely defined as a use that occurs in dwellings or other buildings normally associated with exclusive farm use zones and operated by a resident or employee of a

resident of the property. Home Occupations are limited to employing five full-time or part-time persons. Counties may choose to adopt more restrictive standards for this use and many have.

Given the ambiguity and breadth of the definition of a Home Occupation, a very wide variety and intensity of activities are approved as Home Occupations in EFU zones: hair salons, firearms dealers, tasting rooms, medical offices, events venues, daycares, art galleries, etc. Appendix 2, Table 19 contains a list of various categories of uses approved as Home Occupations.

The most common Home Occupation approval is for bed & breakfasts and short-term rentals. These lodging uses have become a more frequent approval representing 30% of all nonfarm use approvals over the past ten years. The Court of Appeals issued a notable decision in 2022[35] ruling that, if counties choose to allow short-term rentals in resource zones, they are not allowed on farm or forest land without a permit review addressing the farm impacts test[36]. In this instance, both the Land Use Board of Appeals ('LUBA') and the Court of Appeals explicitly declined to address whether or not a short-term rental could be conditionally permitted as an accessory use through a home occupation approval. This is worth mentioning as an example of the legal uncertainty related to the broad definition of Home Occupation in statute and rule. Home Occupations have been a frequent topic of review by LUBA since the early 1990s. It has been suggested by farmland protection advocates that clarifying and limiting the definition of Home Occupation in EFU zones would alleviate confusion and uncertainty related to the scope of uses allowed.

Table 13, Top ten Home Occupation approval types in EFU zones, 1993-2023

Home Occupation Type	Use Approvals	Percent of historic Home Occupation approvals, 1993-2023
Lodging (B&B, STR)	172	22%
Cottage industry	60	8%
Automotive sales, maintenance and repair	47	6%
Construction and trade services	47	6%
Food processing	41	5%
Other services	35	4%
Home office	32	4%
Firearms sales	30	4%
Events facilities	29	4%
Personal services	29	4%

Commercial Activities in Conjunction with Farm Use ('CACFU')

Like Home Occupations, CACFUs are very broadly defined in statute at ORS 215.213 (2)(c) and 215.283 (2)(a). There is no definition in statute or rule describing the requirements for a nonfarm business to be

[35] 1,000 Friends of Oregon v. Clackamas County. 320 Or App 444

[36] ORS 215.296(1), "A use allowed under ORS 215.213 (2) or (11) or 215.283 (2) or (4) may be approved only where the local governing body or its designee finds that the use will not: (a) Force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; or (b) Significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use."

"in conjunction with farm use" and there are no standards associated with this use in statute or rule[37] that limit the scope or scale of the use when it is reviewed as a CACFU other than that the proposal must demonstrate compliance with the farm impacts test at ORS 215.296. CACFUs are also a frequent topic at the LUBA and there exists a body of caselaw informing the interpretation of what constitutes a CACFU. Appendix 2, Table 20 contains a list of various categories of uses approved as CACFUs.

Table 14, Top ten CACFU approval types, 1993-2023

CACFU Type	Use Approvals	Percent of historic CACFU approvals, 1993-2023
Winery	76	16%
Processing	57	12%
Alcohol (not including wine)	44	9%
Equipment sales and repair	42	9%
Other	38	8%
Storage	24	5%
Seed processing/cleaning	23	5%
Farm Stand	21	4%
Retail Sales	17	4%
Events	13	3%

Twenty-five percent of CACFU approvals have been related to the production of alcohol and tasting rooms. Seventeen percent of CACFUs have been for farm product processing and preparation. Nine percent of CACFUs have been for businesses involved in the sales or repair of farm equipment. Appendix 2, table 20 contains a full list of CACFU approvals by type.

Uses Approved in Multiple Ways

Some types of activities may be approved in a variety of ways which makes it difficult to adequately report on the volume of use approvals being issued. For example, events are one of the top-ten Home Occupation uses and also one of the top ten CACFU uses.. Events are permitted at farm stands, under agri-tourism and other commercial events permits, as outdoor mass gatherings, as home occupations, as commercial activities in conjunction with farm use, as temporary uses, at private parks and at wineries, cideries and breweries. DLCD does not collect data on the frequency or intensity of events permitted other than events permitted under the provisions for agri-tourism and other commercial events. If one were only to review the number of approvals issued for agri-tourism and other commercial events, one would significantly underestimate the number of events and event facilities which have been permitted on farmland. Table 15 above provides examples of other types of uses that are permitted in a variety of ways on farmland.

[37] The one exception are standards for wineries approved as CACFUs. ORS 215.456 explicitly authorizes wineries to be reviewed as CACFUs in the alternative to being reviewed under the standards for wineries at ORS 215.452 or 215.453. ORS 215.456 does contain standards to be applied to wineries reviewed under the CACFU pathway.

The flexibility in Home Occupations and Commercial Activities in Conjunction with Farm Use allow counties to approve a wide variety of proposals for commercial uses at various sizes and scales as illustrated in Appendix 2, tables 19 and 20.

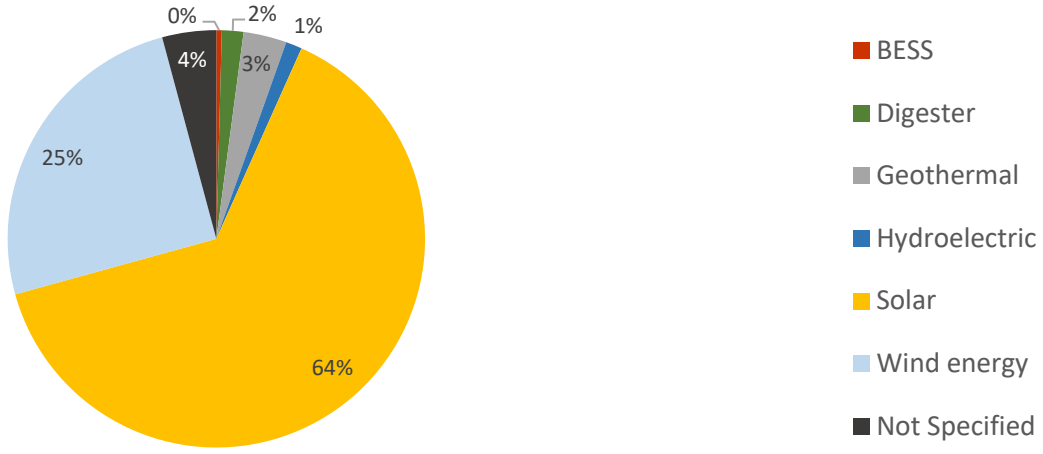
Table 15, Examples of use approvals through various permitting paths in EFU zones, 1993-2023

Use Type	Chapter 215 (Specific Provisions)	Commercial Activity in Conjunction with Farm Use (CACFU)	Home Occupation
Wineries	201	76	9
Cideries	6	7	1
Breweries	1	7	6
Meadery/Distillery	n/a	20	7
Events*	103	13	29
Farm stand	112	21	3
**Does not include events permitted at wineries, cideries, breweries, as mass gatherings, as temporary uses, at private parks or at farm stands*			

Power Generating Facilities

Since 1993, 306 commercial power generating facilities have been permitted on farmland. The majority of these facilities have been approved in the last five years and have been for solar power generating facilities.

Fig. 17, local commercial power generating approvals on EFU by type, 1993-2023



The increase in energy footprint on farmland, together with new major transmission line corridors to bring that energy to market, has raised questions and concerns about potential impacts to farm operations, wildlife habitat, scenic viewsheds, and tourism. Other concerns have been raised about the need for a state energy policy and more proactive state and regional roles in the siting of major transmission line corridors and energy facilities that may have regional impacts. At the same time Oregon is committed to the important role renewable energy development will play in addressing climate change. A balance is

needed that affords renewable energy developers a degree of security in pursuing certain development sites over others while protecting our limited supply of working farmland.

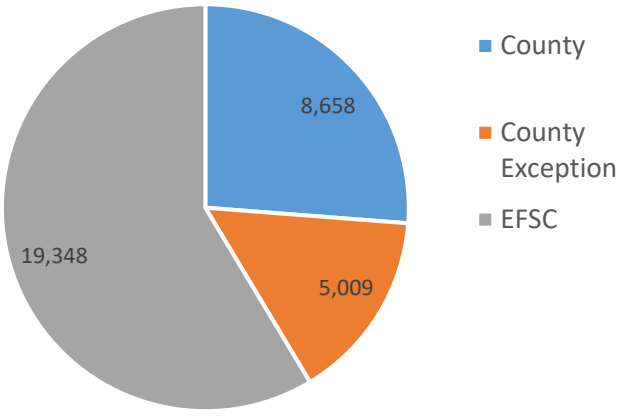
Solar Power Generating Facilities

Solar energy development is rapidly growing in Oregon. By 2023, Oregon's installed solar capacity was 1,819 MW with more than 300 MWs being added in 2023 (Solar Energy Industries Association, September 2024). Many utility-scale solar facilities are opting to locate on land protected under EFU zoning due to proximity to high voltage powerlines and substations with interconnection opportunities, lower land acquisition or lease costs, availability of unobstructed sunlight, and ease of development due to clearing and flatter slopes.

These facilities may seek land use approval in three different ways:

1. Conditional use applications reviewed by a county pursuant to LCDC's Agricultural Lands rule (OAR chapter 660, Division 33),
2. Post acknowledgment plan amendments reviewed by a county that include an exception to Goal 3 pursuant to OAR chapter 660, Division 4; and
3. Site Certificates granted by the Oregon Energy Facility Siting Counsel (EFSC) that include an exception to Goal 3 pursuant to ORS 469.504(2).

Fig. 19, Solar acres permitted on EFU by jurisdiction



All solar review processes require the permitting authority, either EFSC or the local jurisdiction, to make a determination of the farmland classification of the property hosting the solar facility. There are three farmland classifications: 'high-value farmland' as that is defined in ORS 195.300, 'arable farmland' which is land that is cultivated or suitable for cultivation, and 'nonarable farmland', which is not suitable for cultivation and generally consists of lower capability class rangeland. DLCD's rules at OAR 660-033-0130(38) limit solar projects to occupying 12 acres of high-value farmland, 20 acres of arable farmland and 320 acres of nonarable farmland.

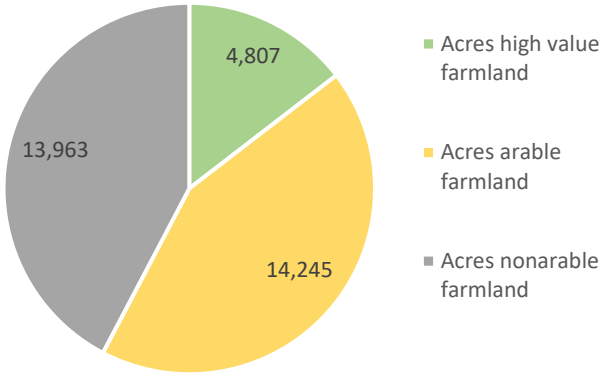
Local Review Pursuant to OAR 660-033-0130:
Smaller utility scale power generation projects may be reviewed by the local jurisdictions in what is referred to as a 'conditional use review' process. LCDC initially adopted rules specifically for siting solar facilities on land zoned for exclusive farm use in 2011. These rules have been adjusted over time but remain fundamentally designed to encourage solar development on land with lower capability for agricultural use rather than on high-value farmland or irrigated croplands. Recognizing that taking a large amount of agricultural land out of production within an agricultural area has the potential to significantly

impact the local agricultural economy[38], DLCD's rules at OAR 660-033-0130(38) are also designed to limit the cumulative conversion of farmland to solar use in an area.

Oregon Board of Agriculture Policy Resolution on Energy Facility Siting:

In 2018 the Board of Agriculture adopted a Policy Resolution (included as Attachment 3) concerning the siting of energy transmission and generation facilities on agricultural land wherein they express concern about the conversion of high-value and productive farmland to energy facility development. The resolution notes that DLCD's rules do not preclude the serial development of solar facilities or the placement of solar facilities on productive cropland and specifically recommends that LCDC evaluate and monitor the effectiveness of its rules for siting energy facilities on land zoned for exclusive farm use. The information provided herein may be used by the Commission in evaluating the effectiveness of its rules in encouraging renewable energy development at appropriate locations on less productive agricultural lands and upholding the policy intent of Goal 3 to preserve agricultural lands.

Fig. 18, Solar Acres Permitted on EFU (EFSC, Local Exception, Local Permit), by Farmland Classification, 2011-2024



Impact to Farmland:

Since 2011, more permits have been issued by local jurisdictions for projects on high-value farmland than on arable or nonarable land. However, larger solar projects have been approved on nonarable farmland resulting in more nonarable acreage converted to solar use than high-value or arable farmland. This can be viewed as an indication that DLCD's solar rules have had the desired effect of encouraging solar development towards nonarable rangeland. However, as noted in Table 11 below, more acres (24,357 acres) have been approved for solar development under processes that do not require compliance with DLCD's solar rules than have been approved subject to OAR 660-033-0130(38) (8,658 acres). This occurs when an applicant demonstrates through the review process that there are reasons that Goal 3 should not apply, commonly known as an "exception."

Goal 3 Exception Review:

When a proposed project does not meet the acreage thresholds established by LCDC in rule, the developer may seek an exception based on reasons that justify why statewide planning Goal 3 should not apply to the development. A goal exception for medium-sized projects that remain subject to local jurisdiction may be considered by a County through the exceptions process established pursuant to ORS 197.732 and statewide planning Goal 2. Alternatively, a Goal exception may be granted by the Energy Facility Siting Council (EFSC) for larger projects or projects which choose review under EFSC through the

[38] It is generally accepted that a certain critical mass of agricultural production is required to support food systems facilities, infrastructure and ancillary businesses like co-packing plants, transportation and logistics providers, feed stores, and diesel mechanics.

Site Certificate review process subject to a different set of criteria. In this way, a solar project may receive approval to occupy more rangeland, cultivated farmland, or high-value farmland than would be allowed under the Division 660 rules adopted by the Land Conservation and Development Commission (LCDC).

Since 2011, 34 solar projects have been granted Goal 3 exceptions through either a county or the EFSC exceptions process. While more permit approvals have been issued pursuant to DLCD's solar siting rules, far more solar capacity and acreage associated with larger projects has been permitted under an exceptions process. Seventy-four percent of the area approved to be occupied by solar projects has been approved subject to a local or EFSC Goal 3 exception (24,357 acres out of 33,015 acres). More of these exceptions have been issued to allow projects on arable, cultivated land than on high-value or nonarable farmland. Table 11 below contains detailed information on the number, acreage and farmland classification of solar projects approved since 2011.

Table 16, overview of certain regulatory thresholds for solar projects in Oregon

	Subject to local jurisdiction. May choose review by EFSC (ORS 469.230(8)(a)).		Subject to EFSC jurisdiction
	Goal exception not necessarily required	Goal Exception Required	
	Farmland used, occupied or covered under OAR 660-033-0130(38)	Farmland used, occupied or covered under OAR 660-033-0130(38) and/or as described at ORS 215.416	"Energy Facilities" under ORS 469.300
High-value farmland	up to 12 acres	13-240 acres	>240 acres
Cultivated farmland	up to 20 acres	21-2560 acres	>2560 acres
Nonarable farmland and other land	up to 320 acres	320-3840 acres	>3840 acres

Note: There are nuances in the language found in various chapters of statute and DLCD and EFSC rules which are not addressed here. This table is provided as a generalized overview.

Energy Facility Site Council (EFSC):

In lieu of seeking approval through the local jurisdiction, energy developers may seek permit approval through the Oregon Energy Facility Siting Council (EFSC) under their standards for review. While facilities over a certain size are *required* to obtain site certificate approval from EFSC, other developers may choose to do so voluntarily though none have yet chosen to do so. EFSC may grant a Goal exception through their site Certificate review process subject to the criteria found at ORS 469.504(2). Although similar to LCDC's Division 4 rules, ORS 469.504(2) does not require an analysis of potential alternative sites that would not require an exception.

Table 17, Solar projects permitted on EFU by farmland type occupied and review authority, 2011-2024[39]

Solar Projects Permitted on EFU (Including Exceptions), 2011-2024			
Review Authority	**Farmland Type**	**Number of Projects**	**Use Area (acres)**
county	high value farmland	93	1,008
county	arable farmland	24	770
county	nonarable farmland	39	6,880
	TOTAL LOCAL PURSUANT TO DLCD RULES	156	8,658
county exception	high value farmland	9	743
county exception	arable farmland	9	1,374
county exception	nonarable farmland	4	2,892
	TOTAL LOCAL EXCEPTIONS	22	5,009
EFSC exception	high value farmland	4	3,056
EFSC exception	arable farmland	6	12,101
EFSC exception	nonarable farmland	2	4,191
	TOTAL EFSC EXCEPTIONS	12	19,348
Total	Total high value farmland	106	4,807
Total	Total arable farmland	39	14,245
Total	Total nonarable farmland	45	13,963
TOTAL EFSC & Local EFU Approvals		**167**	**33,015****
**Projects permitted 01/01/2011 through 12/31/2021. County permits as reported to DLCD through the Farm & Forest Decision Reporting Database pursuant to ORS 197.065 and through the Post Acknowledgement Plan Amendment Reporting Database. Farmland type based on permit record findings. High-value Farmland as defined in ORS 195.300.* ***33,015 acres is equivalent to 52 square miles*			
Note: Seven (7) approvals for solar projects on EFU were issued by counties prior to 2011 with a use footprint of 427 acres. Farmland classification information for these projects is not available.			

Because EFSC's jurisdictional authority for solar projects is based on the acreage occupied by a solar project, larger projects are reviewed by EFSC rather than the local jurisdiction. DLCD's rule thresholds limiting the acres of each type of farmland that can be occupied by a solar project are designed for projects reviewed at the local level. Solar projects that are EFSC jurisdictional occupy more acres than the thresholds allowed in DLCD's rules and necessarily require a Goal 3 exception. For example:

- DLCD's rules do not permit a solar project to occupy more than 20 acres of arable farmland and a project proposing to use more than 20 acres of arable farmland requires an exception.
- Any solar project occupying more than 2,560 acres of arable land is subject to EFSC jurisdiction.

[39] In comparing these numbers from those included in the last report the following should be noted: The EFSC Site Certificate approval for the Boardman Solar Project was terminated and the associated acreage (753 acres) was removed from reported high value farmland acres. This resulted in a decrease in acres of high value farmland approvals by EFSC. Several projects which had previously been approved at the local level pursuant to DLCD rules sought approvals for expansion which required local exceptions. In these cases, the entire project acreage was moved to the "county exception" category and the previously approved acreage was removed from the "county" category.

- Solar projects occupying between 21 and 2,560 acres of arable land may seek a goal exception through the county or through EFSC.

Since 2011, EFSC has issued twelve Site Certificate approvals for solar projects involving exceptions and occupying just over 19,000 acres[40]. While more projects have been reviewed by local jurisdictions than by EFSC, the projects reviewed by EFSC are larger and impact more acres of farmland than projects reviewed by counties.

As of September 20th, 2024, EFSC had an additional 8 solar projects under review proposed to occupy more than 40,875 acres of farmland. This is more than the total area permitted for solar development over the past 10 years.

Local and EFSC Solar Approvals: Table 11 above summarizes all solar approvals issued by local jurisdictions and EFSC since 2011, both issued pursuant to DLCD's rules and involving exceptions. As context for these acreage numbers, as discussed further below in this report, a total of 43,000 acres have been re-zoned from EFU to other urban and rural uses since 1987, including re-zonings related to urban growth boundary (UGB) expansions. As shown in Table 11 above, more than three-quarters of that amount of farmland (33,015 acres) has been approved for conversion to solar development since 2011. EFSC currently has 8 projects under review with a combined footprint of an additional 40,875 acres.

Table 18, Acres of solar approved on EFU by county, 2011-10/2024

County	arable (acres)	HVFL (acres)	nonarable (acres)	Total (acres)
Grant			8	8
Josephine	12			12
Washington		12		12
Linn	32	35		67
Sherman	100			100
Yamhill		106		106
Polk	7	117		124
Baker			125	125
Jackson	65	134		199
Marion	12	334	5	351
Umatilla	6	412		418
Malheur	426		73	499
Deschutes		3	543	546
Harney			560	560
Clackamas	111	411	100	622
Klamath	414	368	105	887
Jefferson	17		1,128	1,145
Gilliam		2,417		2,417
Crook		4	4,742	4,746
Wallowa	5,307	7		5,314
Lake	90		6,574	6,664
Morrow	7,646	447		8,093
Grand Total	14,245	4,807	13,963	33,015

Regional Impact:
The amount of farmland impacted by solar development varies significantly across the state. Table 12 summarizes the area permitted for solar development by county. Of note and not included in these data tables, applications for solar facilities proposed to occupy more than 11,400 additional acres in Morrow County have been filed with EFSC as of September 20, 2024. More than 8,000 acres of solar projects have been approved or are operating in Morrow County. If current applications are approved, nearly 20,000 acres of farmland in Morrow County would be converted to solar

[40] This data is for approvals that are currently effective. These numbers do not include approvals which have been terminated.

use. **It is important to continue to track and consider the potential cumulative impact conversion of large acreages to solar development may have to a county's or a region's agricultural land base and economy.**

Tourism, Hospitality and Agri-tourism

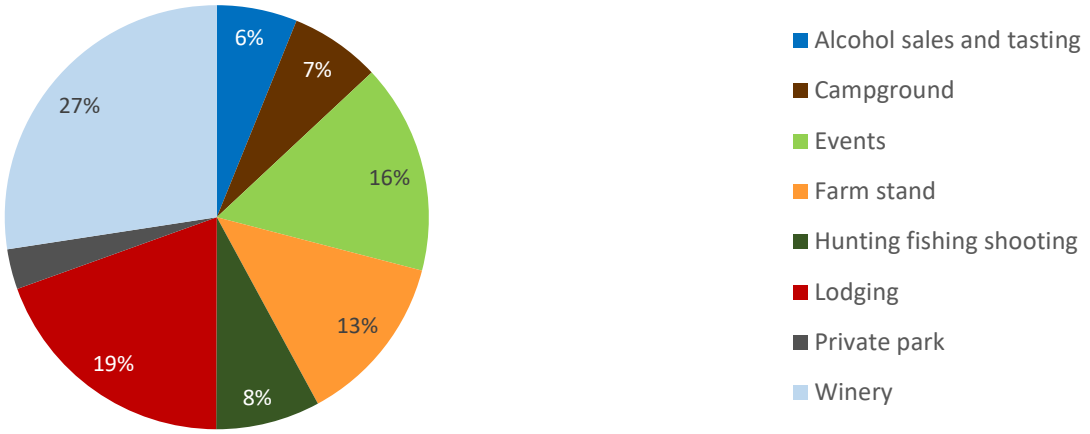
In conversations about EFU zoning, people use the word "agri-tourism" to mean several different things. There is no definition for agri-tourism in statute or rule. An understanding of what constitutes agri-tourism can vary from person to person. Agri-tourism is often described as some form of commercial enterprise that links agricultural production with tourism. In referring to "agri-tourism", a person may mean u-picks, corn mazes, tours, classes, roadside stands, petting zoos, tasting rooms, farm-to-table dinners, guest ranches, on-farm markets, etc. Sometimes in referring to "agri-tourism" a person may simply be referring to tourism or hospitality uses that take place in a scenic rural environment like bed and breakfasts, campgrounds, hunting preserves, parks, trails, concerts, festivals, etc. This report has selected specific uses to analyze as discussed below.

Agri-tourism can provide an alternate stream of income that helps farmers and can promote awareness of locally produced food. When conducted on a farm operation, these types of activities allow visitors to experience and learn about Oregon agriculture while providing additional income for farmers. As illustrated in Figure 21, these types of tourism and hospitality businesses have been growing in popularity over the past decade. USDA reports $16M in 2017 revenue earned from Oregon agri-tourism and recreational services (hunting, fishing, farm or wine tours, hayrides, etc.) (USDA NASS 2017). This represents an increase of 51 percent over 2012 revenues ($10.6M). The 2017 data excluded wineries, although they were included in previous years, which suggests agritourism revenue growth may have been even greater during that period.

However, the burgeoning industry has its share of controversy as tourism and hospitality operators and neighboring farmers negotiate a series of challenging conflicts, such as noise, litter, dust, trespass, traffic, parking, and spraying. In addition to the potential for conflict with neighboring agricultural operations, there have been some concerns about the cumulative impact of multiple tourism operations on farm practices in an area. The department has received public comment expressing particular concern that farmland is being purchased for the purpose of developing lodging and tourism uses rather than farming and that competition with hospitality and tourism businesses has had an upward pressure on land prices putting high-quality farmland out of reach for new or small farmers.

A variety of tourism-related businesses are currently allowable in farm zones. In resource zones, siting both agri-tourism and other allowable tourism and hospitality uses happens under defined circumstances to address potential impacts to neighboring farm and forest operations. Many agri-tourism uses, like farm stands and u-pick operations, are a part of "farm use" and are allowed uses in EFU zones. For some uses, the legislature has already determined that a use is compatible with surrounding farms if certain objective standards are applied. These are referred to as sub-1 uses. Table 19 below provides some examples of activities which may be permitted as farm uses or sub-1 uses.

Fig. 20, Select tourism, hospitality & agri-tourism use permits on EFU, 1993-2023



For other allowable uses, compatibility is determined through application of the "farm impacts test" during permit review of the proposed tourism activity. This is essentially a good neighbor test where an applicant identifies farm and forest operations in the surrounding areas and evaluates how their proposal might impact those operations.

Table 19, non-exhaustive examples of agri-tourism uses allowed on EFU *without* a farm impacts test

	Allowable Use					
Type of Activity	**Farm Use** ORS 215.203	**Dog testing Trials** ORS 215.283(1)(x)	**Farm Stands** ORS 215.283(1)(o)	**Outdoor Mass Gathering or Temporary Use Permits** ORS 433.735 to 433.770	**Expedited AT Events Permit** ORS 215.283(4)(b)	**Wineries, Breweries & Cider Businesses** ORS 215.449, 215.541, 215.452, 215.453
Recreation				Open-ended		
Education	Farm tours, demonstrations		Farm product demonstrations and classes	Open-ended	Farm skills classes	Wine, beer or cider tasting, tours
Agri-tainment	Horse training clinics and schooling shows	Dog Trials	Corn mazes, hay rides, harvest festivals, petting zoos, etc.	Open-ended	Seasonal festivals & farm-related events	Open-ended: concerts, dances, etc. up to 18 days at small winery, up to 25 days at large winery
Food Service			Farm-to-fork dinners, tastings	Catered food	Farm-to-fork dinners	Some food service for events and tasting rooms. 2 meals for B&B guests
Lodging						B&B
Sales	Products grown and harvested on-site: U-picks, U-cuts, CSA pick-up		Raw & processed farm products, limited other retail sales			Wine, beer or cider and incidentals
Celebratory Events			Farm-themed birthdays or picnics	Concerts, festivals, fairs, carnivals, etc.		Weddings, retreats, concerts, etc.

Table 21 provides some examples of activities which might be permitted as sub-2 uses subject to the farm impacts test. Counties may choose to offer these uses or not and may apply additional or more restrictive criteria to these uses.

Figures 20 and 21 shows numbers of approvals of certain tourism, recreation and hospitality related permits from 1993 to 2023. Again, it is challenging to define what might be considered a tourism related use. Figures 20 and 21 analyzes permits involving lodging or private camping, events, farm stands, alcohol tasting and recreation-focused activities such as hunting preserves. These uses were selected to generally reflect the types of uses USDA includes in their reporting.

Other uses which could be considered tourism or hospitality oriented like golf courses, public parks and youth camps were not included. These numbers also do not include permits for personal service businesses like permits for spas or massage studios or retail sales outlets like bakeries. "Farm use" activities such as u-pick operations, u-cut operations, CSA pick-ups, farm tours or horse schooling shows are not reported to DLCD. DLCD does not track approvals for farm uses in EFU zones. These types of tourism and hospitality farm uses are not addressed below.

Table 20, Select tourism, hospitality and agri-tourism uses permitted on EFU, 1993-2023[41]

Specific Use Category	Permit Pathways Used	Permits Issued
Winery and wine tasting	CACFU, home occupation, winery	286
Lodging	guest ranch, home occupation STR or B&B	198
Events	dog trials, agri-tourism events, CACFU events venue, home occupation events venue, private park events venue, outdoor mass gathering*	167**
Farm Stand sales and events	farm stand, CACFU farm stand, home occupation farm stand	136
Hunting and fishing preserves and shooting ranges	private park hunting or fishing preserve or shooting range	83
Campground	private campground	72
Alcohol sales and tasting	brewery business, cider business, CACFU alcohol sales and tasting, home occupation alcohol sales and tasting	64
Private Parks	private park	32

*Events are also authorized at wineries, cideries, breweries, farm stands, and as temporary use approvals. DLCD does not collect data on events permitted in these ways.
** This number indicates 167 permit approvals have been issued. DLCD does not have data on the number, frequency or intensity of events authorized under these approvals.

[41] Note that this list reports specific types of development approved under various permit pathways. Counties do not always report the specific development approved. For example many counties report the type of private park which was developed such as a motorcross track, a hunting preserve or an events venue.

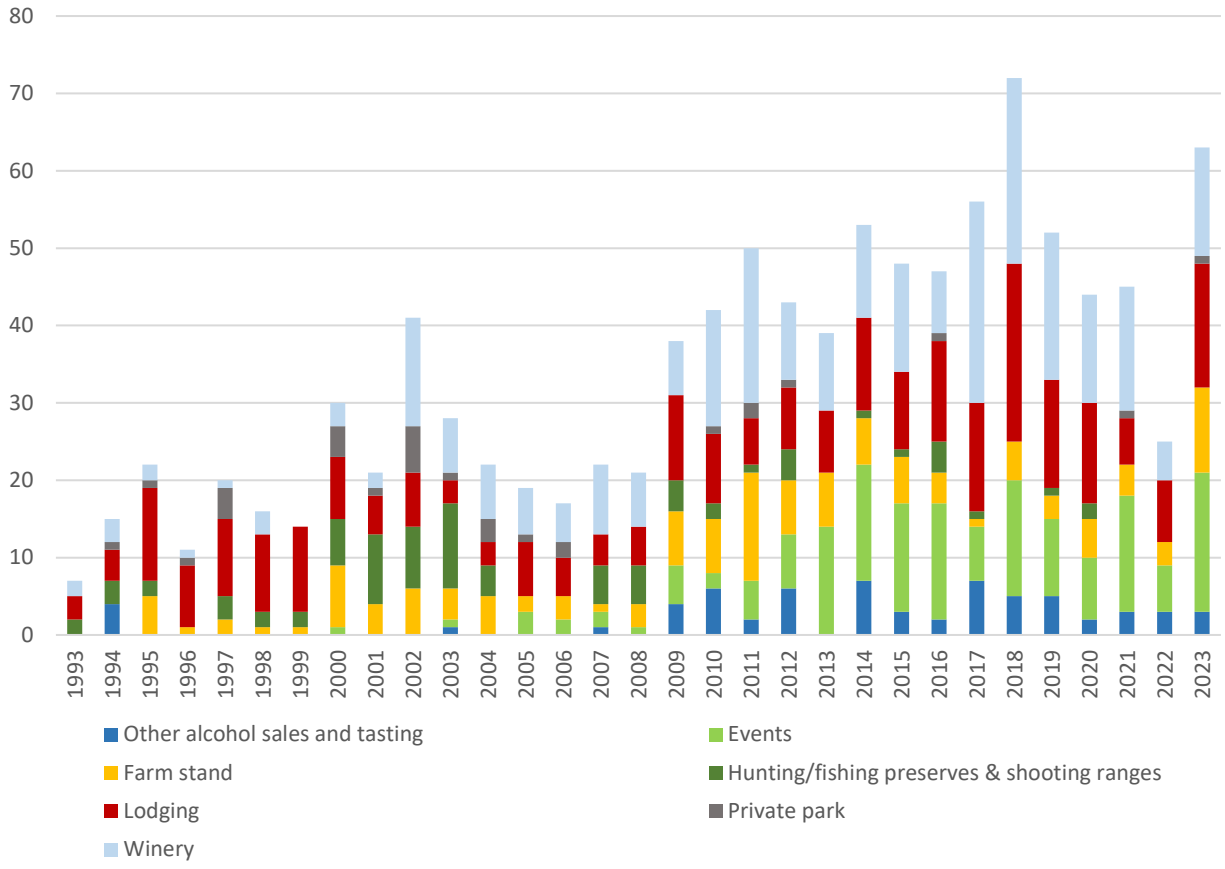
Table 21, non-exhaustive examples of agri-tourism uses allowed on EFU *with* a farm impacts test

	Allowable Use							
		CACFU ORS 215.283(2)(a)	**Home Occupation** ORS 215.448	**Private Park/ Hunting Preserve** ORS 215.283(2)(c)	**Private Campground** ORS 215.283(2)(c)	**Guest Ranch** ORS 215.461	**AT Events Permit: one to eighteen 72-hour events** ORS 215.283(4)(a), (c) and (d)	**Large Winery Restaurants or Large Winery Events** ORS 215.453(5)
Type of Activity	**Recreation**	Essential products or services that support the agricultural community		Low-intensity uses: trail riding, fishing, hunting, shooting, frisbee, etc.	Low-intensity uses (trails, etc.)	Fishing, hunting, trail riding, etc.		
	Education		Farm skills classes, cooking classes, etc	Educational signage, viewing platforms		Farm skills classes	Farm skills classes	Wine, beer or cider tasting, tours
	Agri-tainment		Farm crafts, cooking classes, etc.				Seasonal festivals & farm-related events	Open-ended: concerts, dances, etc. More than 25 days of events
	Food Service		Home food processing, Breakfast for B&B			Meals for guests	Farm-to-fork meals	Food service for events & tasting rooms, B&B meals, restaurant at large wineries open more than 25 days
	Lodging		B&B		Camping in tents, yurts	Up to 25 units		B&B
	Sales							Wine, beer or cider and incidentals
	Celebratory Events							Weddings, concerts, retreats, etc.

Figure 21 shows the trends in permit approvals over time. Some trends worth highlighting include:

- Event permits issued increased significantly after the legislature added "agri-tourism and other commercial events" as a new allowable use in EFU zones in 2011. This use category is discussed further below.
- Permits for alcohol sales and tasting for products other than wine (beer, cider, mead, and distilled spirits) began to increase in popularity beginning in 2009. The legislature added specific use categories for cideries in 2017 and for breweries in 2019, however there has not been a significant change in approvals for those use categories following those legislative actions.
- Starting in 2014, there has been an increase in lodging permits, primarily for short term rentals and bed and breakfast permits, which declined during the pandemic and are now trending upwards again.
- Permit approvals for hunting and fishing preserves and shooting ranges have declined since 2008.

Fig. 21, Select tourism, hospitality & agri-tourism use permits on EFU, 1993-2023

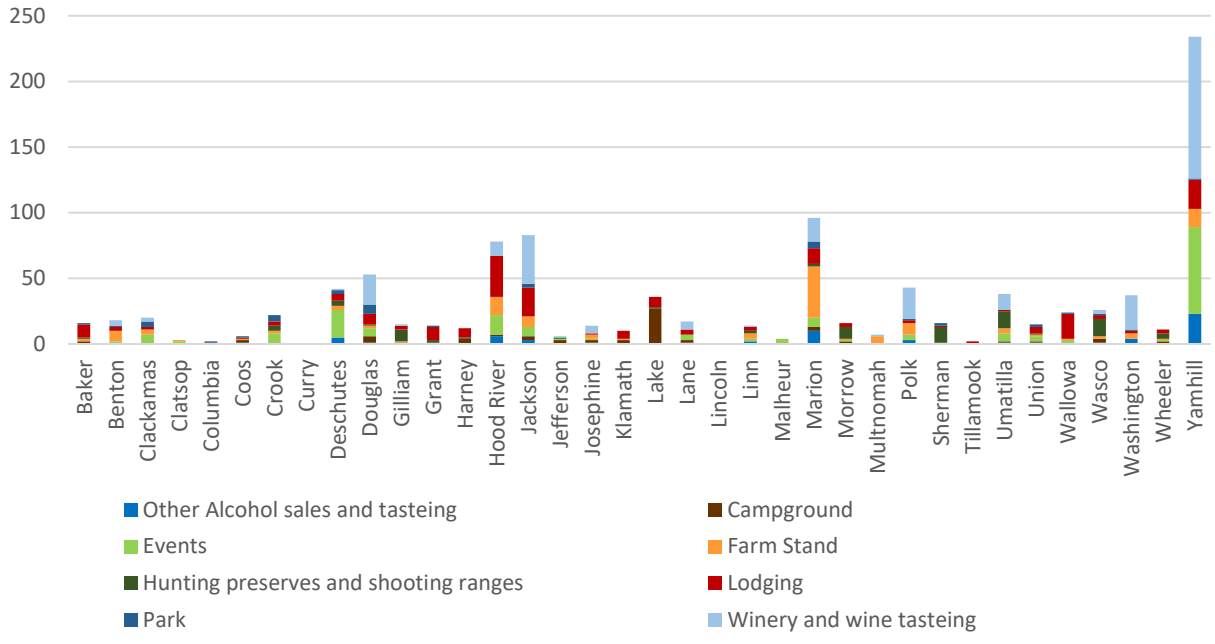


At the national level, farms and ranches in more populated counties earned more revenue from agri-tourism while farms in less populated counties were more likely to adopt agritourism[42]. Figure 22 shows the distribution of different types of tourism and hospitality related permits across the state since 1993. In Oregon, tourism and hospitality related permit approvals seem to be concentrated in Yamhill, Marion, Jackson and Hood River counties. Roughly a quarter of permits issued in the state in this category are issued in Yamhill County and consist primarily of winery and agri-tourism event permits except in Hood River County which has a more significant number of lodging approvals.

It should be noted that an analysis of the number of permits issued does not necessarily account for differences in the scale and intensity of the uses permitted. For example, a farm stand approval could be for a small, road-side cover for the sale of produce, or it could be an approval for a large-scale CACFU farm stand involving events, retail sales, various forms of seasonal entertainments and food service involving hundreds of visitors. A lodging approval could be for a single-room bed and breakfast in a farmer's home, or it could involve a private campground with many spaces. Appendix 2, tables 19 and 20 provide more detailed information on approvals by use type as well as categories of Home Occupation and CACFU use approvals.

Many of these uses are also allowable in Forest zones and all these uses are allowable in mixed farm-forest zones. However, tourism and hospitality use approvals in forest and mixed farm-forest zones amount to about a fifth of the approvals issued in EFU zones.

Fig. 22, Select tourism, hospitality & agri-tourism use permits on EFU, by county, 1993-2023



[42] Christine Whitt, Sarah A. Low, and Anders Van Sandt (2019, November). Agritourism Allows Farms To Diversify and Has Potential Benefits for Rural Communities, *Amber Waves*. https://www.ers.usda.gov/amber-waves/2019/november/agritourism-allows-farms-to-diversify-and-has-potential-benefits-for-rural-communities/

Agri-tourism and Other Commercial Events Authorized in ORS 215.213(11)/215.283(4)

There is a specific use added to EFU zones by the legislature in 2011 that authorizes agri-tourism and other commercial events that are supportive of a farm operation on the property. There are four options:

1. an expedited single event permit,
2. a single 72-hour event permit,
3. a permit for six 72-hour events (a month and a half of long-weekend events), and
4. a permit for eighteen 72-hour events (four and a half months of long-weekend events).

This use is optional for counties to adopt into their ordinances. Some counties have chosen not to allow these types of events in their communities and some counties have adopted this opportunity with additional standards. Several counties who do offer the opportunity in their ordinance have not reported any permit approvals under this pathway.

There has been some confusion related to the title of this use pathway. Some community members mistakenly believe that this particular use applies to all agri-tourism type activities, including u-pick experiences and farm stands, and have expressed concern that their county has not chosen to offer this as an option in their land use ordinances

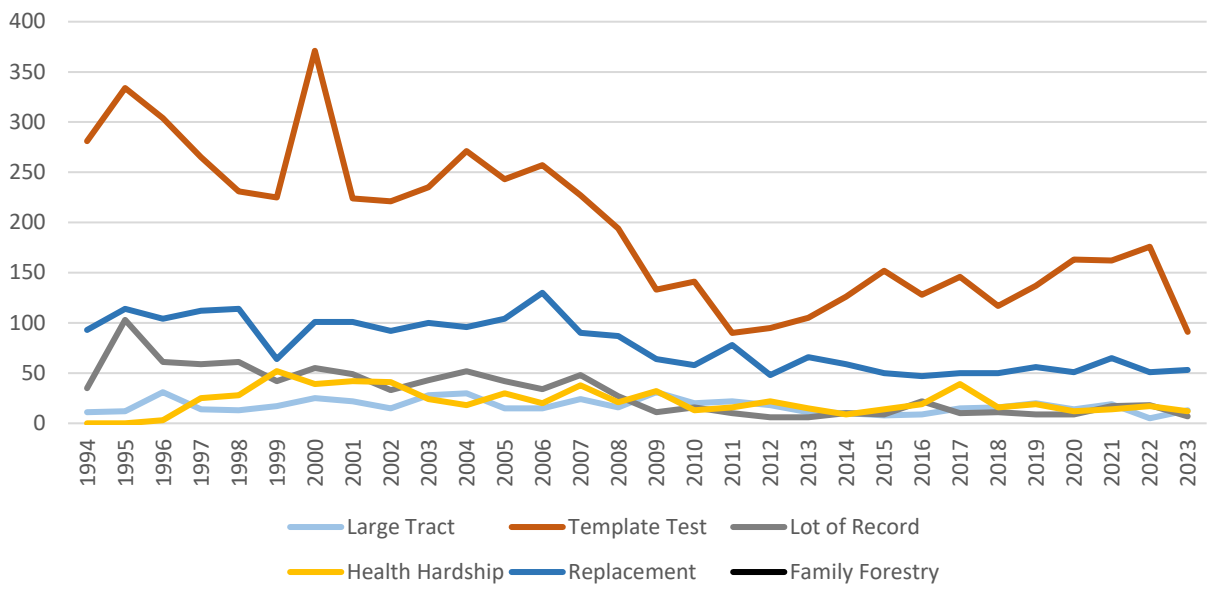
Over a hundred permits have been issued under these provisions since 2011 and it is quickly becoming one of the more commonly approved nonfarm permits in EFU zones**.** However, most of these permits (62 percent) have been issued in Yamhill County. A fifth of all agri-tourism event permits were issued recently in 2023.

VIII. Land Use Decisions on Forest and Mixed Farm-Forest Lands: Dwellings

Lands under Forest zoning are conserved to maintain the forest land base for the timber economy consistent with management of soil, air, water, and fish and habitat resources, and to provide for recreational opportunities. The legislature has chosen to allow a limited amount of residential development within Forest zone subject to certain fire siting standards. LCDC has adopted rules that require dwellings in timber lands to be sited in a way that encourages clustering of structures near existing roads.

Between 1994 and 2023, more than 10,200 dwellings of all types were approved on forest land across the state. Figure 23 shows the number of dwelling unit approvals since 1994 for the different dwelling types. Additional details on historic dwelling approvals in forest zones are provided in Appendix 2, tables 15 and 16.

Fig. 23, Total dwelling approvals on forest land by year, all counties, 1994-2021

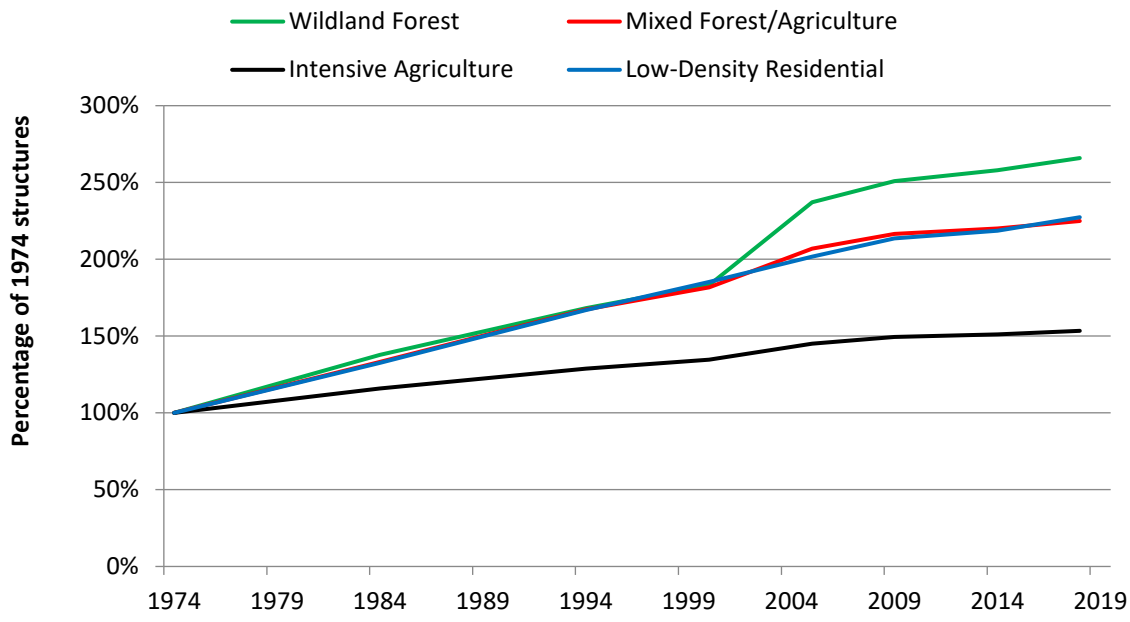


As noted above in the discussion on cumulative dwelling approvals on farmland, it would be informative to review the spatial distribution of dwelling approvals in Forest zones compared with data related to other forestland values like wildlife habitat, and compared with data on wildfire hazards. It would also be instructive to review dwelling development trends compared to changes in land cover as documented by the Oregon Department of Forestry (ODF) in their reports in land use change in Oregon and Washington[43]. This is an analysis that the department hopes to be able to provide in the future.

[43] Oregon Department of Fish and Wildlife (2020). Land Use Change on Non-Federal Land in Oregon and Washington. 2018 Update.

ODF has noted that the amount of undeveloped and less-developed wildland forest declined by seven 7 percent (693,000 acres) between 1974 and 2014. ODF concludes that the area of wildland forest impacted by dispersed residential development is greater than the area of wildland forest that was converted to other non-forest uses. It notes that fragmentation of wildland forests due to dispersed residential

Fig. 24, Percent of 1974 structures by land use in western Oregon, 1974-2018



development can impair forest functionality due to increased conflicts with resource management, diminished value for resource management, increased risk of fire and increased costs of fire suppression and diminished ecosystem services. A copy of "Land Use Change on Non-Federal Land in Oregon and Washington, 2018 Update." is included as Appendix 5.

As in farm zones, a variety of dwelling types are allowable in forest zones. Table 22 below summarizes the different opportunities for residential development in Forest zones.

In 2022-2023, 443 dwellings were approved on forestlands, which is slightly above the five- and ten-year historical averages. Appendix 1, tables 7 and 8, and Appendix 2, tables 15 and 16 have detailed information on forest dwelling approvals in 2022-2023 and historically. The bulk of approvals in 2022 and 2023 were for template test and replacement dwellings, consistent with historical trends. Since 1994, 57 percent of approvals for dwellings on forestlands have been for template test dwellings and 23 percent have been for replacement dwellings.

In 2019 the legislature authorized a new type of dwelling approval in the forest zone — a family forestry dwelling. This opportunity is for a second dwelling to be established on a parcel that is in commercial forest use with an existing dwelling. Review of a forestry management plan is a condition of this dwelling type. This opportunity became effective January 1, 2020. Only one county has reported approval of a family forestry dwelling.

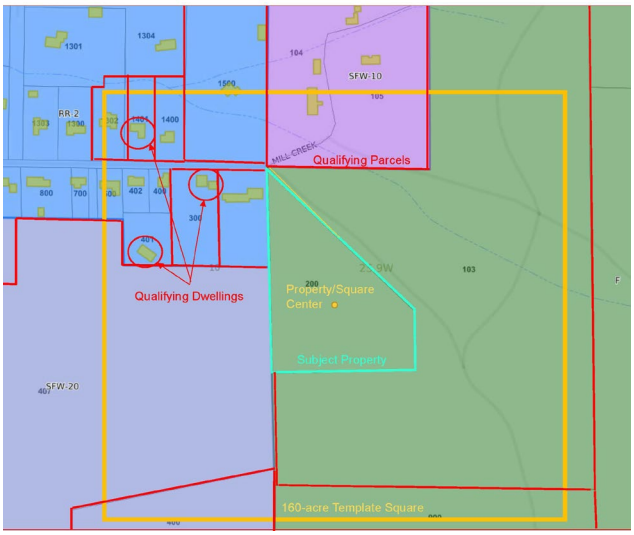
Table 22, Forest dwelling approvals, statewide summary, 2022-2023

Dwellings in Forest Zones	Summary of Opportunity*	2022	2023
Large Tract Dwelling	Located on a tract of 160-240 acres depending on the location.	5	13
Lot of Record Dwelling	Located on a parcel owned continuously since 1985 or inherited from someone who owned the parcel continuously since 1985.	18	7
Alternative/Template Test Dwelling	Parcel is located in an area of residential development and parcelization as of 1993.	176	91
Temporary Health Hardship Dwelling	Located on a parcel with an existing dwelling for a caregiver or person suffering a medical hardship.	17	12
Replacement Dwelling	Allows the replacement of a legally established dwelling.	51	53
Family Forestry Dwelling**	Allows a second dwelling to be established on a parcel with an existing dwelling that is in commercial forest use subject to a forestry management plan.	0	0
**The basic essence of the test is described here. All referenced tests have additional, more specific criteria.* ***This dwelling type became effective in 2020.*			

Template Dwellings

"Template dwellings" are allowed on forestland in areas that were subject to certain more intensive patterns of development and parcelization as of 1993. Counties may approve template dwellings where a certain number of pre-1993 dwellings and parcels were established within a 160 acre "template" centered on the parcel. Locating multiple dwellings in the same area allows for more efficient provision of fire protection and services than scattered, isolated dwellings.

Fig. 25, Example Template Test Analysis



In 2022 and 2023, 267 template dwellings were approved. This is slightly lower than the 10-year average of 140 template dwelling approvals per year. Template dwellings account for 57 percent of all dwelling approvals on forestlands since 1994. Additional information on forest template dwelling approvals is contained in Appendix 1, tables 7 and 8, and Appendix 2, tables 15 and 16.

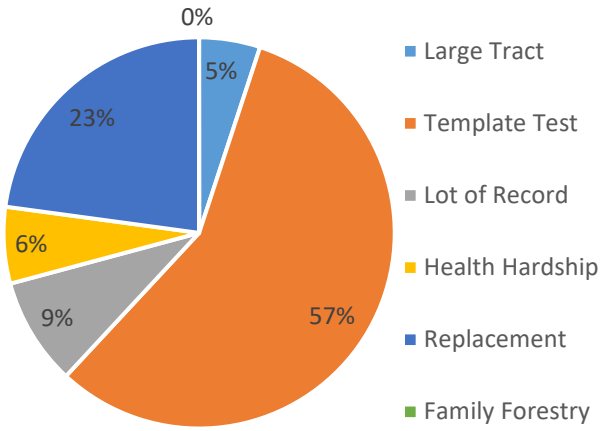
The legislature enacted HB 2225 in 2019 to address some "loopholes" in the Forest Template Dwelling Test that have contributed to the high number of approvals. The bill precluded the use of property line

adjustments to 'move' a parcel into an area where it would qualify for a dwelling and eliminated an opportunity for a property owner to secure additional template dwelling approvals on contiguous properties following the sale or transfer of a developed property. The new provisions became effective in all counties in November 2023. Any changes in approval trends because of the legislation will not become apparent until the next reporting cycle.

Large Tract Dwellings

Landowners with large amounts of forest land may construct a dwelling in a forest zone based on the acreage owned. In western Oregon, large tract dwellings must be on ownerships of at least 160 contiguous acres or 200 noncontiguous acres. In eastern Oregon, they must be on ownerships of 240 or more contiguous or 320 or more noncontiguous acres. In 2022 and 2023, 18 large tract dwellings were approved statewide. This is below the 10-year average of 14 large tract dwelling approvals a year. Additional information on forest dwelling approvals is contained in Appendix 1, tables 7 and 8, and Appendix 2, tables 15 and 16.

Fig. 26, Dwellings approved on forest land by year, all counties, 1994-2023



Lot of Record Dwellings

Forest land that has been owned by the same family since 1985 may be eligible for a lot of record dwelling. The property must have a low capability for growing merchantable tree species and be located near a public road. Twenty-five lot of record dwellings were approved in the past biennium. This is consistent with the 10-year average of 12 lot of record dwelling approvals a year. Lot of record dwelling approvals are spread evenly across the state and are on a variety of parcel sizes. Additional information on forest dwelling approvals is contained in Appendix 1, tables 7 and 8, and Appendix 2, tables 15 and 16.

Temporary Health Hardship Dwellings

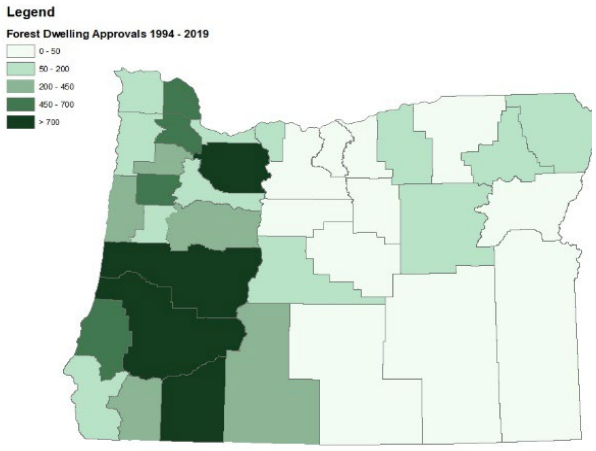
Temporary hardship dwellings are approved for relatives experiencing a medical hardship and must be removed at the end of the hardship. A temporary health hardship dwelling must be sited in conjunction with an existing dwelling and tied into an existing sanitation system. DLCD does not currently track the removal of these dwellings when they are no longer needed.

Twenty-nine health hardship dwellings were approved in 2022 and 2023, which is slightly lower than the 10-year average of 17 temporary health hardship dwelling approvals per year. Additional information on 2022-2023 and historic forest dwelling approvals is contained in Appendix 1, tables 7 and 8, and Appendix 2, tables 15 and 16.

Replacement Dwellings

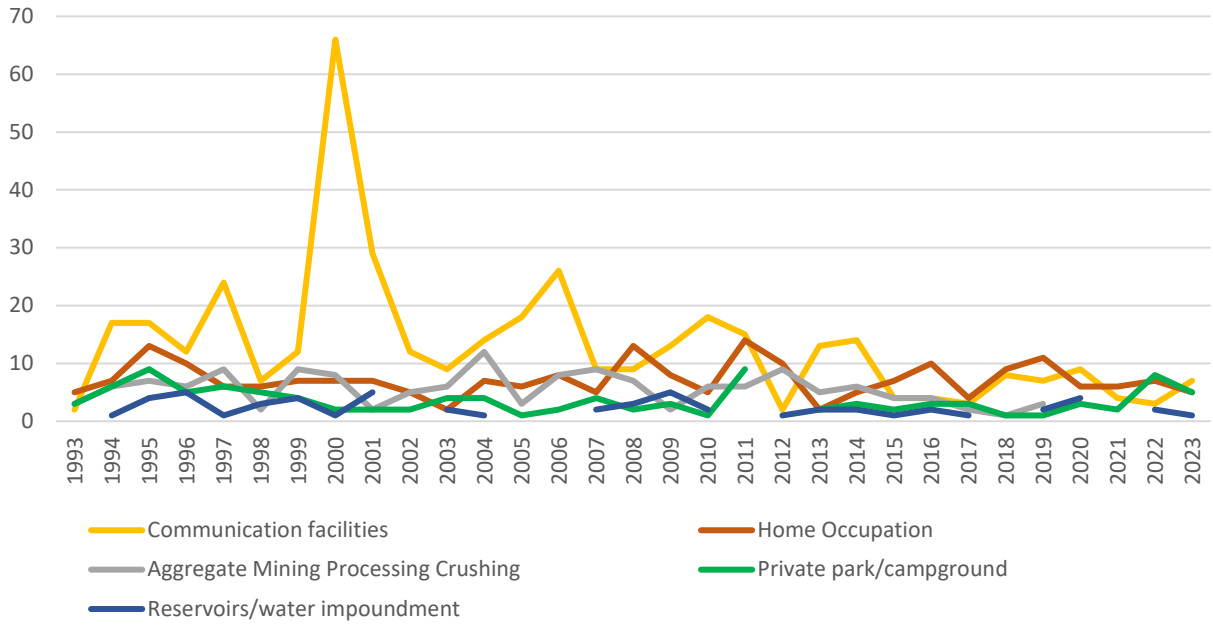
A replacement dwelling is a new home that replaces an older dwelling on a parcel. In order to be replaced, a dwelling must have certain qualifying features such as walls and a roof. A total of 104 replacement dwellings were approved in the past biennium, consistent with the 10-year average of 53 dwelling approvals per year. The dwellings that were designated to be replaced must be removed, demolished, or converted to another allowed use within three months of completion of the replacement dwelling. Additional information on 2022-2023 and historic forest dwelling approvals is contained in Appendix 1, tables 7 and 8, and Appendix 2, tables 15 and 16.

Fig. 27, Dwellings approved on forestland 1994-2021, all counties



IX. Land Use Decisions on Forest and Mixed Farm-Forest Lands: Non-Residential Uses

Fig. 28, Top five nonresource, nonresidential approvals on Forest & Mixed Farm-Forest land, 1993-2023



In addition to a range of traditional timber-related uses, the commission has recognized that some non-forest uses are acceptable in forest and mixed farm-forest zones. These uses are set forth in OAR 660-006-0025 for forest zones and OAR 660-006-0050 for mixed farm-forest zones. Mixed farm-forest zones provide opportunities for all those nonresidential uses permitted in EFU zones and those uses permitted in forest zones. Non-forest uses are subject to local land use approval and must demonstrate that they will not force a significant change in or significantly increase the cost of accepted farm or forest practices on farm or forest land, and that they will not significantly increase fire hazard risk, fire suppression costs or the risk to fire suppression personnel. Appendix 1, table 9 provides detailed data on nonresidential uses approved on forest and mixed farm-forest land in 2022 and 2023.

The most approved uses historically have included cell towers, home occupations, mining and aggregate processing, water storage facilities and campgrounds. As illustrated in Figure 28, the number of cell tower and other communications facility approvals has declined over the past decade. Over the past ten years Home Occupations have been the most approved use in forest and mixed farm-forest zones. Automotive sales, repair and maintenance and dog kennels are also frequently approved as Home Occupations in forest and mixed farm-forest zones.

Home Occupations and Lodging

The same standards for Home Occupations in farm zones apply to those in forest and mixed farm-forest zones (ORS 215.448). As noted in the section on home occupations on EFU land, because this use is vaguely defined, a wide variety and intensity of uses are approved under this category. Appendix 2, table 19 contains a list of categories of Home Occupation approvals in forest and mixed farm-forest zones.

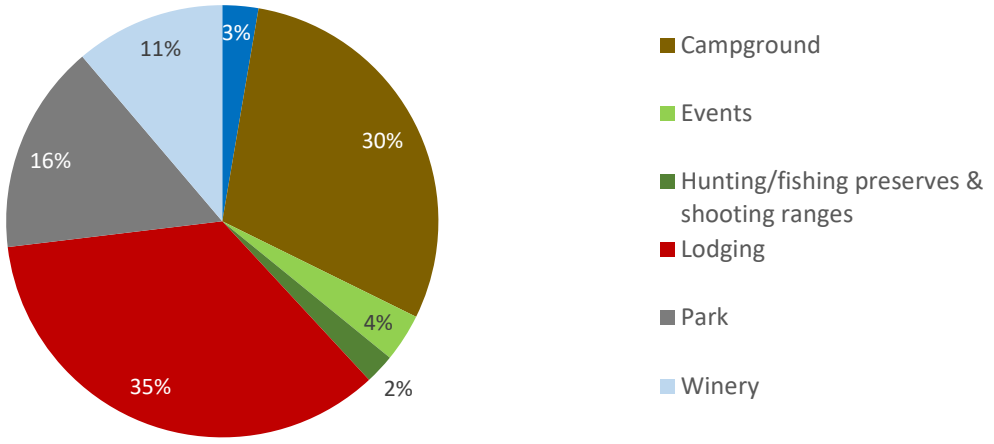
Bed and breakfasts and short-term rentals are the most frequent Home Occupation use approved in forest zones, just as they are in farm zones. This is in addition to the other lodging opportunities that are allowable in forest zones which include destination resorts, campgrounds, youth camps and lodging in conjunction with hunting and fishing.

Tourism and Hospitality uses in Forest and Mixed Farm-Forest zones

As in EFU zones, several tourism and hospitality related uses are also allowable in Forest and Mixed Farm-Forest zones. All the allowed uses in EFU zones are also allowable in mixed farm-forest zones. Forest zones provide some of the same opportunities, like campgrounds, private parks, and home occupations. Forest zones also provide different opportunities with a particular focus on hunting and fishing.

Historically, most of these types of use approvals allowable in Forest and Mixed Farm-Forest zones have been for lodging and campgrounds. Under the lodging category, 63% of approvals have been for STRs or Bed and Breakfasts, 37% have been for hunting and fishing accommodations. Unlike EFU zones, the volume of tourism and hospitality related use approvals in Forest and Mixed Farm-Forest zones has remained more consistent over time.

Fig. 29, Selected tourism & hospitality uses permitted in Forest & Mixed Farm-Forest zones, 1993-2023



Like general use approvals in Forest and Mixed Farm-Forest zones, roughly five times more approvals for the selected tourism and hospitality uses are approved in EFU zones than in Forest and Mixed Farm-Forest

zones. However, the number of permit approvals is not necessarily indicative of the scale and intensity of development.

Appendix 1, table 9 and Appendix 2, tables 18, 19 and 20 contain more detailed information on use approvals in Forest and Mixed Farm-Forest zones.

X. Minimum Parcel Sizes, Land Divisions and Property Line Adjustments

Farm Zones

In EFU zones, the minimum size for new parcels is 160 acres on rangeland and 80 acres on other farmland. These standards implement those provisions of Goal 3[44] which recognize that large blocks of land may be necessary to maintain the agricultural economy of an area. The minimum parcel size standard also serves to discourage entropic land division of farmland into smaller and smaller parcels that become less feasible for farming and more attractive for residential use.

A 2020 report by the American Farmland Trust[45] found that agricultural land in areas with patterns of scattered large-lot residential development were ninety-five times more likely to be converted to urban and high-density development over the five-year period between 2001 and 2016 than agricultural lands maintained in large, cohesive blocks of working land. This is a finding that supports Oregon's policy of maintaining resource lands in large blocks with minimum parcel sizes.

If a county can justify a lower minimum lot size that will continue to protect commercial farming in a particular area, it may be approvable by the LCDC. This is commonly referred to as adoption of a "go-below" zone. Several counties have adopted zones with these lower minimums parcel standards.

Partitions

State statute provides several options for creating new parcels smaller than the required minimum parcel size in farm zones:

- A county may authorize creation of up to two new nonfarm parcels (each containing an approved nonfarm dwelling) if the new parcels are predominantly comprised of non-agricultural soils.
- In addition, counties may approve nonfarm land divisions for certain approved conditional uses on farmland.
- Counties may also approve divisions smaller than the required minimum parcel size for parcels that span urban growth boundaries (UGBs).

[44] Goal 3 incorporates ORS 215.243 by reference as the Agricultural Land Use Policy was enacted prior to the adoption of Goal 3.

During the 2022-2023 biennium, 150 land divisions were approved, creating 207 new parcels. Sixty of the approvals were in association with a nonfarm dwelling approval and four were in association with a new conditional use approval. Table 6 in Appendix 1 contains more detail on land divisions on farmland.

Property Line Adjustments[46]

Property line adjustments are commonly employed for a variety of reasons. Some common examples include reconfiguration of a tract in preparation to sell a portion of the tract, or to align a boundary line with a natural feature like a river or creek. However, property owners may not use a property line adjustment to allow the approval of dwellings, particularly those based on an acreage standard, that would not otherwise be allowed. Parcels created because of a Measure 49 waiver may not be adjusted. Property line adjustments may not be used to separate a temporary hardship dwelling, relative farm help dwelling, home occupation or processing facility from the parcel on which the primary residential or other primary use exists.

In 2021, 235 property line adjustments were approved, followed by 226 in 2023, consistent with historical trends.

Forest Zones

Forest zoning seeks to retain forestland for commercial forest operations and natural functions such as wildlife habitat. One way this is accomplished by establishing a large minimum parcel size of 80 acres. As a result, generally, a parcel smaller than 160 acres generally cannot be divided into smaller units. Substandard land divisions are allowed in only a few circumstances; the creation of a parcel or parcels to separate one or more existing dwellings on a property, and for certain approved conditional uses. Counties may also approve a substandard division along an urban growth boundary (UGB). The most common reported reason for creating smaller parcels in 2022-2023 was to divide land with multiple existing dwellings.

A total of fifty-five land divisions were approved in forest zones in 2022 and 2023. Table 10 in Appendix 1 contains more detailed information on forest land divisions approved in 2022 and 2023.

Property Line Adjustments[47]

Property line adjustments on forest land may occur for a variety of reasons such as reconfiguration of a tract in preparation for a sale, or to align a boundary line with a natural feature like a river or creek. Property line adjustments may not be used to reconfigure a forest tract so that it qualifies for a Template Test dwelling.

[46] Property line adjustments in EFU, Forest and Mixed Farm-Forest zones are subject to the standards in ORS 92.192. These requirements are not in rule though there are rule provisions related to dwelling approvals that further limit property line adjustments.

Many of the reported property line adjustments in forest zones involve more than two tax lots. In 2022, 74 property line adjustments were approved and 92 were approved in 2023 which is consistent with historical trends.

XI. Ballot Measures 37 and 49

If a state or local government enacts a land use regulation that restricts a residential use or a farm or forest practice, and thus has the potential to reduce the fair market value of a property, then the landowner may qualify for compensation under Ballot Measure 49. Oregon voters initially passed Ballot Measure 37 in 2004, which was later modified by the Oregon legislature and approved by the voters in 2007 as Ballot Measure 49. Enactment of Measure 49 retroactively voided some Measure 37 claims. Measure 49 relief for former Measure 37 claims ended in 2011. DLCD received 4,960 Measure 49 claims and authorized 3,542 claims for residential development. The difference between claims received and authorizations issued is partly due to multiple claims being filed for contiguous properties. Under Measure 49, contiguous properties were combined into single claims.

Table 23, M49 claims by county

County	Claims	Claims Authorized	Authorized New Dwellings	Authorized New Parcels
Baker	97	66	116	58
Benton	80	57	93	53
Clackamas	863	673	1,204	855
Clatsop	52	29	46	31
Columbia	79	50	92	64
Coos	135	96	182	104
Crook	33	21	44	27
Curry	75	48	102	50
Deschutes	116	83	133	97
Douglas	168	124	208	148
Gilliam	1	0	0	0
Grant	5	3	5	5
Harney	0	0	2	2
Hood River	160	117	180	121
Jackson	349	265	450	308
Jefferson	142	86	192	119
Josephine	124	82	142	106
Klamath	139	92	195	78
Lake	1	1	2	2
Lane	327	237	473	297
Lincoln	78	62	112	51
Linn	270	182	331	222
Malheur	19	11	33	21
Marion	322	211	361	223
Morrow	0	0	9	6
Multnomah	72	50	85	40
Polk	247	168	302	184
Sherman	0	0	0	0
Tillamook	67	40	78	46
Umatilla	34	25	72	45
Union	31	19	28	20
Wallowa	38	29	63	37
Wasco	31	26	45	21
Washington	485	360	607	390
Wheeler	2	0	29	15
Yamhill	318	229	401	250
Total	4,960	3,542	6,417	4,096

Almost all of claims were resolved by granting reversionary development rights rather than providing compensation for lost property value.

Table 21 shows the number of new dwellings and new parcels authorized under Measure 49 for each county. A total of 6,238 new dwellings and 3,953 new parcels were authorized. Approximately 90 percent of Measure 49 approvals have been on land in farm and forest zones.

The information presented here is for authorizations only. DLCD does not

have the resources to track how much development has occurred because of these claims or how much development may be constructed in the future.

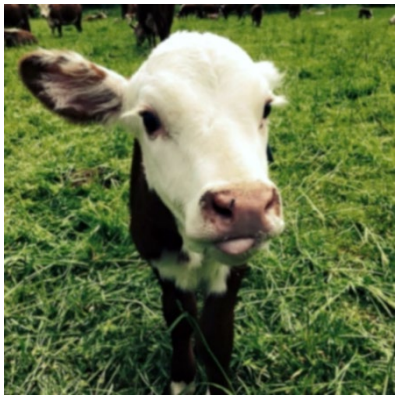
Many claimants who had completed development or who were vested in their Measure 37 projects on the date Measure 49 was enacted did not file a Measure 49 election. County approvals of Measure 37 developments are not included in this report.

XII. 2022-2023 Statutory and Rule Changes for Farm and Forest Lands

Very few changes were made to the statutes and rules implementing Goals 3 and 4 during the 2022-2023 biennium.

2023	HB 3179	Modified jurisdiction for solar photovoltaic facilities allowing counties to permit solar photovoltaic energy facilities on larger acreages.
2023	HB 3197	Requires housing development to be approved under clear and objective standards for certain lands outside of urban growth boundaries by July 1, 2025.
2023	SB 70	Expands area for consideration under the Eastern Oregon Border Region pilot project.
2023	SB 85	Requires local government to issue a land use compatibility statement for proposed concentrated animal feeding operations (CAFOs). Allows local governments to require a buffer or setback for large CAFOs adjacent to legal residences or structures that were legal when constructed.
2023	HB 2192	Modifies requirements for replacement dwellings in EFU, Forest and Mixed Farm-Forest zones.
2023	HB 2689	Adds rabbits and rabbit products to the list of farm products which may be processed at a farm product processing facility under ORS 215.255.

XIII. Conclusion



Oregon's farm and forest land protection program has successfully safeguarded vast areas of working landscapes for decades. Since counties adopted comprehensive plans in 1984, the conversion of farm and forest lands to residential and urban uses has slowed significantly.

The Legislature and LCDC have continually updated these protections to meet Oregon's changing needs and regional differences. As the state grows, it's essential to remember that agricultural and forest lands provide food, jobs, and a healthy environment for all Oregonians. These lands also support key industries, from farming and forestry to recreation and tourism.

Preserving the land needed for agriculture and forestry is vital for a thriving and sustainable Oregon.

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APPENDIX

Appendix 1, 2022-2023 Data Tables

Appendix 2, Historical Data Tables

Appendix 1, 2022-2023 Data Tables

Appendix 1, Table 1, All Dwelling approvals on Farmland, type and county, 2022-2023

County	Primary Farm			Accessory Farm			Relative Farm			NonFarm			Lot of Record			Health Hardship			Replacement		
	2022	2023	Total	2022	2023	Total	2022	2023	Total	2022	2023	Total	2022	2023	Total	2022	2023	Total	2022	2023	Total
Baker					1	1		1	1		1	1	1	4	5				2	11	13
Benton																1	2	3		1	1
Clackamas	2	5	7	1		1	3	2	5	1		1				10	4	14	31	39	70
Clatsop				1		1				1		1	1		1				2	2	4
Columbia	1	2	3							1		1	1		1				2		2
Coos											2	2		1	1					2	2
Crook	3	5	8	1	1	2				4		4				2	4	6	4	2	6
Curry																					
Deschutes										36	9	45				1		1	16	11	27
Douglas	2	1	3				17	8	25	18	8	26	3	4	7	5	9	14	28	32	60
Gilliam		1	1	2		2														2	2
Grant	1	1	2				1	1	2	2		2	3	1	4	1		1	3	2	5
Harney										3		3									
Hood River	1	1	2	5	9	14	1		1				1		1	1		1	9	8	17
Jackson	6	13	19	2	2	4	3	4	7	5	14	19	2	3	5	3	2	5	4	3	7
Jefferson	1	1	2				2		2		3	3	1	1	2	1		1	4	6	10
Josephine	1		1		1	1				1	1	2							1	1	2
Klamath	1		1							6		6	2	1	3						
Lake	5	1	6	1		1				28	18	46							11	2	13
Lane		3	3	2	1	3	3	6	9	1	3	4				2	4	6	8	16	24
Lincoln																					
Linn	1	2	3	2	2	4	3	4	7	3	2	5		1	1	6	13	19	22	20	42
Malheur		1	1		3	3	2	2	4	8	11	19	1		1		3	3	10	15	25
Marion	5		5	4	4	8	1	2	3	3	1	4		2	2	14	14	28	9	7	16
Morrow					1	1				3	4	7							3	4	7
Multnomah																1	1	2			
Polk	2	1	3		1	1	3	3	6							7	5	12	13	14	27
Sherman										4	1	5									
Tillamook				1	1	2		1	1										3	2	5
Umatilla	1		1					1	1	2	2	4					1	1	15	19	34
Union	2		2		1	1		1	1	4	4	8	1	3	4	3		3	3	3	6
Wallowa	4	1	5	1		1		1	1				1		1	1		1	2	2	4
Wasco	1	3	4				1	1	2	2	3	5									
Washington	2		2	1	1	2		2	2	2		2	2	4	6				19	13	32
Wheeler	1	1	2				1		1	2		2	1	1	2	1		1	4	2	6
Yamhill	1	1	2	1		1	1	5	6		2	2		2	2	4	6	10		1	1
Total	44	44	88	25	29	54	42	45	87	140	89	229	21	28	49	64	68	132	228	242	470

Appendix 1, Table 2, Primary farm dwelling approvals, option and county, 2022-2023

	Total			HV Income		Non_HV Income		Large Lot		Non_HV Capability	
County	Grand Total	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
Baker											
Benton											
Clackamas	7	2	5	2	4		1				
Clatsop											
Columbia	3	1	2	1	2						
Coos											
Crook	8	3	5			2		1	3		2
Curry											
Deschutes											
Douglas	3	2	1					2	1		
Gilliam	1		1						1		
Grant	2	1	1					1	1		
Harney											
Hood River	2	1	1		1			1			
Jackson	19	6	13	2			2	4	10		1
Jefferson	2	1	1					1	1		
Josephine	1	1		1							
Klamath	1	1		1							
Lake	6	5	1			2		3	1		
Lane	3		3		1		1				1
Lincoln											
Linn	3	1	2		1			1	1		
Malheur	1		1						1		
Marion	5	5		4				1			
Morrow											
Multnomah											
Polk	3	2	1			2	1				
Sherman											
Tillamook											
Umatilla	1	1		1							
Union	2	2						2			
Wallowa	5	4	1					4	1		
Wasco	4	1	3					1	3		
Washington	2	2				1				1	
Wheeler	2	1	1					1	1		
Yamhill	2	1	1		1	1					
Total	88	44	44	12	10	8	5	23	25	1	4

Appendix 1, Table 3, Primary farm dwelling approvals on Farmland, parcel size and county, 2022-2023

County	Total			0 to 10 Acres		11 to 20 Acres		21 to 40 Acres		41 to 79 Acres		80 to 159 Acres		>160 Acres	
	Grand Total	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
Baker															
Benton															
Clackamas	7	2	5	1	3		1	1	1						
Clatsop															
Columbia	3	1	2								1	1			1
Coos															
Crook	8	3	5								1	1	1	2	3
Curry															
Deschutes															
Douglas	3	2	1		1									2	
Gilliam	1		1												1
Grant	2	1	1											1	1
Harney															
Hood River	2	1	1				1			1					
Jackson	18	6	12	1	1			1			1			4	10
Jefferson	2	1	1										1	1	
Josephine	1	1						1							
Klamath	1	1										1			
Lake	6	5	1			1			1			1		3	
Lane	3		3						1						2
Lincoln															
Linn	3	1	2						1					1	1
Malheur	1		1												1
Marion	5	5		1		1		2						1	
Morrow															
Multnomah															
Polk	3	2	1	1						1			1		
Sherman															
Tillamook															
Umatilla	1	1												1	
Union	2	2												2	
Wallowa	5	4	1											4	1
Wasco	4	1	3										1	1	2
Washington	2	2				2									
Wheeler	2	1	1											1	1
Yamhill	1		1		1										
Grand Total	86	43	43	4	6	4	2	5	4	2	3	4	4	24	24

Appendix 1, Table 4, Nonfarm dwelling approvals by type and county, 2022-2023

County	Nonfarm Dwlling Approvals			Involving Partition		Acres Removed From Special Assessment		Soils Challenge Used	
	Grand Total	2022	2023	2022	2023	2022	2023	2022	2023
Baker	1		1						
Benton									
Clackamas	1	1				1			
Clatsop	1	1							
Columbia	1	1						1	
Coos	2		2						
Crook	4	4		3		90		1	
Curry									
Deschutes	45	36	9	1	2	679	29		3
Douglas	26	18	8	5	2	114	49	12	5
Gilliam									
Grant	2	2		1		345			
Harney	3	3							
Hood River									
Jackson	19	5	14		2	90	151	1	10
Jefferson	3		3				263		
Josephine	2	1	1			36	17	1	1
Klamath	6	6		1					
Lake	46	28	18		1		89		
Lane	4	1	3		1	178	47		1
Lincoln									
Linn	5	3	2			77	49		
Malheur	19	8	11	3	10	49	81	1	1
Marion	4	3	1			9	14	1	1
Morrow	7	3	4			808			
Multnomah									
Polk									
Sherman	5	4	1	4	1	30	6		
Tillamook									
Umatilla	4	2	2	2	2	18	12		
Union	8	4	4		1	96	45		
Wallowa									
Wasco	5	2	3						1
Washington	2	2		1		1			
Wheeler	2	2		2				2	
Yamhill	2		2				10		2
Total	229	140	89	23	22	2,620	862	20	25
				16%	25%			14%	28%
				20%		3,482		20%	

Appendix 1, Table 5, Nonresidential use approvals on Farmland, 2022-2023

Use Description	2022	2023	TOTAL
Aggregate Mining Processing Crushing	4	1	5
Agri-tourism & other commercial events	3	16	19
Airstrip		1	1
Brewery		1	1
Church		2	2
Cider business	1	1	2
Commercial activity w farm use	12	23	35
Commercial power generating facility	18	12	30
Communications Facilities	3	6	9
Community center		1	1
County fairgrounds expansion	1		1
Dog kennel	1	2	3
Dog training class/testing trials	1		1
Equine therapy	3		3
Farm stand	3	7	10
Fire service facility	2		2
Golf course	2	1	3
Home occupation	25	34	59
Irrigation reservoir/canals	1		1
Land application of reclaimed water		11	11
Landscape contracting business		3	3
Other	1		1
Outdoor mass gathering	1		1
Primary processing of forest products	1		1
Private park/campground	4	3	7
Processing of farm crops/biofuel/poultry	3	8	11
Public/private school		3	3
Residential care home		1	1
Transportation Sub 1	1		1
Transportation Sub 2	4	4	8
Utility Facility necessary for Public Sevice	2	7	9
Utility facility service lines	3		3
Wetland creation/restoration/enhancement	2	2	4
Winery	3	10	13
Youth Camp		1	1
Total	105	161	266

Appendix 1, Table 6, New parcel approvals on Farmland, parcel size and county, 2022-2023

County	Total # of approvals			Total # of resulting parcels		0 to 10 Acres		11 to 20 Acres		21 to 40 Acres		41 to 80 Acres		81 to 160 Acres		> 160 Acres		Division in conjunction with a Nonfarm Dwelling		Division in conjunction with a conditional use	
	Total	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
Baker	3	2	1	3	1	3									1						
Benton																					
Clackamas	3	1	2	1	2	1	1								1						
Clatsop																					
Columbia																					
Coos	1		1		1						1										
Crook	5	4	1	6	2	3		2								1	2	4			
Curry																					
Deschutes	6	3	3	3	3	2	2	1			1							1	2		
Douglas	19	10	9	16	11	9	7	1						3	4	3		9	3		
Gilliam																					
Grant	5	2	3	3	5							1				2	5	1			
Harney																					
Hood River																					
Jackson	5	1	4	1	4		3							1			1		2		
Jefferson	1	1		2												2					
Josephine	1		1		1										1						
Klamath	10	6	4	8	7	5	4					1		2	1		2				
Lake	5	2	3	2	3				1					2			2		1		
Lane	11	4	7	6	12	2	7		1	1	4	1		1		1			4		1
Lincoln	1	1		1				1													
Linn	5	3	2	3	3	2	2							1	1					2	
Malheur	15	5	10	10	16	8	14	2	2									5	12		
Marion	6	4	2	5	3	3	2	1						1	1					1	
Morrow	1	1		1												1					
Multnomah																					
Polk	7	4	3	4	3		1							4	2						
Sherman	5	4	1	4	1	4	1											4	1		
Tillamook																					
Umatilla	9	3	6	4	8	2	3								3	2	2	1	2		
Union	1		1		1		1												1		
Wallowa	6	2	4	3	7						1					3	6				
Wasco	5		5		6		1		1						1		3				
Washington	7	4	3	5	6	4	6			1								1	4		
Wheeler	5	2	3	2	5		2					2			1		2	2			
Yamhill	2		2		3						1				2						
Total	150	69	81	93	114	48	57	8	5	2	8	5		15	19	15	25	28	32	3	1

Appendix 1, Table 7, Dwelling approvals on Forestland by type and county, 2022-2023

County	Total			Large Tract		Template		Lot of Record		Health Hardship		Replacement	
	Total	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
Baker													
Benton	1		1								1		
Clackamas	33	13	20			9	18	1		3	2		
Clatsop	5	1	4			1	4						
Columbia	66	58	8			58	8						
Coos	44	31	13			29	12					2	1
Crook	1		1		1								
Curry													
Deschutes	18	13	5		2	7	1	2				4	2
Douglas	33	24	9	3		11	3					10	6
Gilliam													
Grant	2		2		1								1
Harney	1	1						1					
Hood River	12	6	6		1	3	3	1				2	2
Jackson	42	17	25		4	15	15	1		1	3		3
Jefferson													
Josephine	8	6	2			6	1						1
Klamath	11	8	3	1		4	2	3	1				
Lake													
Lane	27	14	13			6	4			1		7	9
Lincoln	2	2				1				1			
Linn	30	18	12			5	6			5	4	8	2
Malheur													
Marion	7	3	4			2	3			1			1
Morrow	2	1	1			1	1						
Multnomah	11	3	8		1	1						2	7
Polk	24	16	8		1	6				4	2	6	5
Sherman													
Tillamook	7	5	2			4		1	1				1
Umatilla													
Union	10	6	4	1			2	1	1	1		3	1
Wallowa	12	4	8		1	2	3	1	1			1	3
Wasco	1		1										1
Washington	29	16	13		1	5	2	6	3			5	7
Wheeler	2	1	1				1					1	
Yamhill	2		2				2						
Total	443	267	176	5	13	176	91	18	7	17	12	51	53

Appendix 1, Table 8, Template dwelling approvals on Forestland, parcel size and county, 2022-2023

County	Total			Within a Fire Protection District			Parcel Size 0 to 5 Acres		Parcel Size 6 to 10 Acres		Parcel Size 11 to 20 Acres		Parcel Size 21 to 40 Acres		Parcel Size 41 to 79 Acres		Parcel Size > 80 Acres	
	Total	2022	2023	Total	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
Baker																		
Benton																		
Clackamas	27	9	18	23	6	17	2	5	1	3	4	6	1	3	1	1		
Clatsop	5	1	4	5	1	4	1					1						3
Columbia	66	58	8	66	58	8	57	6			1	1				1		
Coos	41	29	12	40	29	11	8	7	4		10	1	4	3	2	1	1	
Crook																		
Curry																		
Deschutes	8	7	1	6	5	1	3		1	1					1		2	
Douglas	14	11	3	4	2	2	2	1	1	1	5	1	3					
Gilliam																		
Grant																		
Harney																		
Hood River	6	3	3	5	2	3	1			1		1	1		1	1		
Jackson	30	15	15	22	11	11	3	5	4	1	2	1	2	7	3		1	1
Jefferson																		
Josephine	7	6	1	5	4	1			1	1	1		4					
Klamath	6	4	2	3	3							1	1				3	1
Lake																		
Lane	10	6	4	7	4	3	3		1	2				1	1	1	1	
Lincoln	1	1		1	1		1											
Linn	11	5	6	11	5	6	2	1	1	2	1			1	1	1		1
Malheur																		
Marion	5	2	3	5	2	3	1	1		2			1					
Morrow	2	1	1	2	1	1	1	1										
Multnomah	1	1		1	1								1					
Polk	6	6		6	6		2		1		1		1		1			
Sherman																		
Tillamook	4	4		4	4						2		1				1	
Umatilla																		
Union	2		2	1		1				1		1						
Wallowa	5	2	3	5	2	3	1	1			1	1		1				
Wasco																		
Washington	7	5	2	7	5	2	2		1	1	1				1	1		
Wheeler	1		1	1		1								1				
Yamhill	2		2	2		2		1						1				
Grand Total	267	176	91	232	152	80	37	38	25	32	43	27	44	36	7	16	7	13

Appendix 1, Table 9, Nonresidential use approvals on Forest and Mixed Farm-Forest lands, 2022-2023

Use Type	2022	2023	Total Use Approvals
Aggregate Mining Processing Crushing		1	1
Cemetery	1	4	5
Commercial power generating facility	1		1
Communication facilities	3	7	10
Fire service facility	1	1	2
Fish & wildlife structures	1	1	2
Fishing/hunting lodging	1	1	2
Home Occupation	7	5	12
Nonconforming use	2	1	3
Other	1	1	2
Private hunting/fishing without lodging		1	1
Private park/campground	8	5	13
Public park	1		1
Reservoirs/water impoundment	2	1	3
Solid waste disposal site	1	1	2
Transportation Sub 2	1		1
Utility facility necessary for public service*		1	1
Winery*	5		5
Youth Camp		1	1
Annual Total	36	32	68

*Uses allowed in EFU and Mixed Farm-Forest zones but not allowable in Forest zones

Appendix 1, Table 10, New parcel approvals on Forestland, parcel size and county, 2022-2023

County	Total # of approvals			Total # of resulting parcels		0 to 10 Acres		11 to 20 Acres		21 to 40 Acres		41 to 80 Acres		81 to 160 Acres		> 160 Acres	
	Total	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
Baker																	
Benton																	
Clackamas	3	1	2	2	4	2	4										
Clatsop																	
Columbia																	
Coos	1	1		1				1									
Crook	1	1		2												2	
Curry																	
Deschutes																	
Douglas	3	2	1	2	1	1				1							
Gilliam															1		
Grant	2	1	1	1	1											1	
Harney															1		
Hood River	1		1		1		1										
Jackson																	
Jefferson																	
Josephine	3		3		6		6										
Klamath																	
Lake																	
Lane	5	1	4	2	4	1	4							1			
Lincoln																	
Linn	1		1		1				1								
Malheur																	
Marion	1		1		2		2										
Morrow																	
Multnomah																	
Polk	2	2		2		2											
Sherman																	
Tillamook	2	1	1	1	1	1	1										
Umatilla																	
Union	1	1		2												2	
Wallowa	2	1	1	1	1		1									1	
Wasco	4	4		8		8											
Washington	3	3		5		5											
Wheeler																	
Yamhill	3		3		4		2		2								
Grand Total	38	19	19	29	26	20	21	1	3	1				1	2	6	

Appendix 1, Table 11, UGB expansions and zone changes on Farm and Forest Land, by county, 2022-2023

UBG expansions, 2022-2023

Year	Jurisdiction	Acres added to UGB from EFU	Acres added to UGB from Forest	Acres added to UGB from other zones	Acres of resource lands converted	Acres removed from UGB and converted to resource zoning	Total acres added to UGB	Net acres added to UGB
2022	Stanfield	110			110	138	110	-28
2022	Phoenix			529			529	529
2022	Bend			35.3			35	35
2022	Turner			53.1			53	53
2023	Adair Village	50			50		50	50
2023	Bend			262			262	262
2023	Lyons		35		35		35	35
2023	Sublimity	7			7		7	7
2023	Talent	47			47		47	47
2023	Tangent	2.6			3		3	3
	TOTAL 2022-2023	217	35	879	252	138	1,131	993

Zone change of resource lands not involving UGB expansion, 2022-2023

Year	Jurisdiction	Zone Changed	To Rural Dev	Resource To Resource*	To Aggregate	To Natural Resource	Resource Zone Change Acres	To Resource from other zone	Net conversion of Resource Land*
2022	Coos	EFU		37			37		
2022	Coos	EFU		43.46			43		
2022	Deschutes	EFU	21.58				22		21.58
2022	Deschutes	EFU	36.65				37		36.65
2022	Deschutes	EFU	80				80		80
2022	Harney	EFU	135.42				135		135.42
2022	Jefferson	EFU	142				142		142
2022	Marion	EFU	85.6				86		85.6
2022	Umatilla	EFU			4.76		5		4.76
2022	Umatilla	EFU			8.03		8		8.03
2022	Umatilla	EFU			140		140		140
2022	Umatilla	EFU			25.8		26		25.8
2022	Union	EFU			39		39		39
2022	Coos	Forest	38.17				38.17		38.17
2022	Coos	Forest	11.44				11.44		11.44
2022	Linn	Forest	67.19				67.19		67.19
2023	Clackamas County	EFU		15			15		
2023	Coos County	EFU		5			5		
2023	Deschutes County	EFU	19				19		19
2023	Deschutes County	EFU	59				59		59
2023	Deschutes County	EFU	93				93		93
2023	Deschutes County	EFU	40				40		40
2023	Douglas County	EFU			100		100		100
2023	Douglas County	EFU	20				20		20
2023	Douglas County	EFU	6				6		6
2023	Linn County	EFU		60			60		
2023	Marion County	EFU	5				5		5
2023	Morrow	EFU	274				274		274
2023	Umatilla County	EFU			225		225		225
2023	Wallowa County	EFU	4				4		4
2023	Wallowa County	EFU	20				20		20
2023	Yamhill County	EFU	3				3		3
2023	Columbia County	Forest	49				49		49
2023	Coos County	Forest		26			26		
2023	Union County	Forest	2				2		2
	TOTAL 2022-2023	Resource	1,212	186	543	0	1,941	0	1,755

*Zone changes from EFU to Forest are not included in the net conversion totals

Appendix 2, Historical Data Tables

Appendix 2, Table 12, Dwellings approvals on Farmland, by county, 1994–2023

County	Total EFU Dwelling Approvals 1994-2021	% Approved by County	Primary Farm	Accessory Farm	Relative Farm	NonFarm	Lot Of Record	Health Hardship	Replacement
Baker	517	2%	57	36	36	46	123	26	193
Benton	220	1%	19	22	23	15	21	53	67
Clackamas	714	3%	81	55	67	34	73	259	145
Clatsop	91	0%	4	5	7	23	10	2	40
Columbia	80	0%	20	10	1	11	14	6	18
Coos	206	1%	10	8	33	8	26	23	98
Crook	1,038	5%	155	77	15	485	52	38	216
Curry	25	0%	5	0	8	10	1	1	0
Deschutes	1,463	7%	50	16	21	949	81	118	228
Douglas	2,461	12%	130	15	259	534	141	166	1216
Gilliam	60	0%	13	12	5	8	2	1	19
Grant	347	2%	32	21	23	69	49	3	150
Harney	459	2%	118	39	17	192	37	9	47
Hood River	538	3%	25	157	12	37	30	34	243
Jackson	940	4%	93	34	67	310	275	135	26
Jefferson	400	2%	76	35	16	42	34	35	162
Josephine	112	1%	8	11	6	65	9	6	7
Klamath	644	3%	106	44	38	245	29	13	169
Lake	878	4%	111	43	27	601	5	9	82
Lane	786	4%	54	26	94	65	6	123	418
Lincoln	61	0%	4	0	0	28	21	5	3
Linn	918	4%	42	50	58	78	63	324	303
Malheur	960	5%	96	35	31	234	37	45	482
Marion	1,321	6%	94	84	21	100	41	327	654
Morrow	302	1%	31	34	21	74	23	5	114
Multnomah	87	0%	8	8	11	7	5	5	43
Polk	918	4%	71	34	51	21	93	145	503
Sherman	72	0%	11	2	5	40	3	0	11
Tillamook	270	1%	14	33	18	30	1	12	162
Umatilla	910	4%	68	23	34	123	57	60	545
Union	465	2%	69	25	21	75	58	23	194
Wallowa	272	1%	55	9	15	35	63	5	90
Wasco	494	2%	75	215	17	91	15	18	63
Washington	993	5%	90	25	34	71	32	145	596
Wheeler	160	1%	23	12	7	73	8	2	35
Yamhill	880	4%	82	47	83	44	125	223	276
Grand Total	21,062	100%	2,000	1,302	1,202	4,873	1,663	2,404	7,618

Appendix 2, Table 13, Dwellings approvals on Farmland, by year, 1994-2023

Year	Total	Primary Farm	Accessory Farm	Relative Farm	NonFarm	Lot Of Record	Health Hardship	Replacement
1994	905	79	94	48	226	105	127	226
1995	972	108	66	50	259	111	145	233
1996	1,025	82	59	56	264	133	116	315
1997	1,075	91	45	80	265	125	127	342
1998	840	69	35	60	183	103	102	288
1999	790	74	39	51	164	85	81	296
2000	1,117	96	52	59	279	106	146	379
2001	849	88	24	38	216	76	111	296
2002	956	76	27	48	283	87	102	333
2003	865	95	30	34	261	54	83	308
2004	783	87	20	54	193	64	71	294
2005	744	85	24	45	227	49	84	230
2006	789	102	24	33	239	54	82	255
2007	846	94	57	59	271	63	69	233
2008	645	72	57	37	123	54	52	250
2009	540	56	31	20	111	34	61	227
2010	468	34	29	25	84	20	58	218
2011	395	50	23	18	56	15	51	182
2012	458	38	59	22	71	21	59	188
2013	461	47	47	24	69	24	31	219
2014	486	45	31	36	70	28	54	222
2015	530	51	27	30	90	21	57	254
2016	725	41	189	23	117	39	64	252
2017	578	49	43	30	109	28	85	234
2018	530	47	30	31	115	29	65	213
2019	464	35	34	28	92	22	64	189
2020	525	46	26	47	92	26	48	240
2021	601	75	35	29	115	38	77	232
2022	560	44	21	42	140	21	64	228
2023	540	44	24	45	89	28	68	242
Grand Total	19,962	1,912	1,257	1,115	4,644	1,614	2,272	7,148
5-Year Average	538	49	28	38	106	27	64	226
10-Year Average	554	48	46	34	103	28	65	231
20-Year Average	583	57	42	34	124	34	63	230
Period Average	702	67	43	40	162	55	80	254

Appendix 2, Table 14, EFU Dwelling Approvals before 1994

Year	Reporting Period	Farm Dwelling Approvals	Accessory Farm	NonFarm Approvals	Lot of Record	Replacement Dwellings	Total Dwellings Approved
1984	10/83-8/84	307	42	224			573
1985	no records reported						0
1986	9/85-8/86	230	97	264		160	751
1987							
1988	9/87-8/88	222	105	271		120	718
1989	9/88-8/89	283	81	377		103	844
1990	9/89-8/90	297	130	454		148	1029
1991	9/90-8/91	279	114	332		162	887
1992	9/91-8/92	275	103	327		119	824
1993	9/93-8/94	372	122	225	68	211	998
1984 - 1993 Totals		2,265	794	2,474	68	1,023	6,624
10-year average		283	99	309	68	146	736

* There are some discrepencies between older reports and previous year numbers documented in later reports. In these cases, numbers from later reports are included here under the assumption the numbers represent corrections

Appendix 2, Table 15, Dwellings approvals on Forestland, by county, 1994–2023

County	Total Forest Dwelling Approvals 1994-2023	% Approved by County	Large Tract	Template Test	Lot of Record	Health Hardship	Replacement	Family Forestry
Baker	52	1%	9	3	21	0	19	
Benton	104	1%	9	40	19	12	24	
Clackamas	1,061	10%	20	730	134	175	2	
Clatsop	117	1%	2	59	20	4	32	
Columbia	756	7%	3	627	16	54	56	
Coos	642	6%	9	427	22	13	171	
Crook	23	0%	13	0	1	1	8	
Curry	199	2%	49	124	17	1	8	
Deschutes	158	2%	18	101	14	4	21	
Douglas	761	7%	44	123	55	21	517	1
Gilliam	0	0%	0	0	0	0	0	
Grant	124	1%	21	40	24	0	39	
Harney	7	0%	0	0	6	0	1	
Hood River	104	1%	10	54	14	0	26	
Jackson	1,015	10%	117	608	178	78	34	
Jefferson	2	0%	1	0	0	0	1	
Josephine	356	3%	20	313	12	3	8	
Klamath	319	3%	20	145	55	9	90	
Lake	2	0%	0	1	0	0	1	
Lane	1,512	15%	18	958	21	49	466	
Lincoln	238	2%	7	180	34	6	11	
Linn	400	4%	4	211	33	85	67	
Malheur	1	0%	1	0	0	0	0	
Marion	187	2%	0	115	13	10	49	
Morrow	59	1%	6	39	2	0	12	
Multnomah	150	1%	3	50	9	3	85	
Polk	585	6%	24	277	27	53	204	
Sherman	0	0%	0	0	0	0	0	
Tillamook	80	1%	2	52	6	4	16	
Umatilla	36	0%	13	3	6	1	13	
Union	170	2%	28	23	45	7	67	
Wallowa	134	1%	21	49	26	4	34	
Wasco	15	0%	2	1	4	2	6	
Washington	506	5%	6	215	54	18	213	
Wheeler	11	0%	2	2	0	2	5	
Yamhill	392	4%	17	275	27	31	42	
Grand Total	10,278	100%	519	5845	915	650	2348	1

Appendix 2, Table 16, Dwellings approvals on Forestland, by year, 1994-2023

Year	Total	Large Tract	Template Test	Lot of Record	Health Hardship	Replacement	Family Forestry
1994	420	11	281	35	0	93	
1995	563	12	334	103	0	114	
1996	503	31	304	61	3	104	
1997	475	14	265	59	25	112	
1998	447	13	231	61	28	114	
1999	400	17	225	42	52	64	
2000	591	25	371	55	39	101	
2001	438	22	224	49	42	101	
2002	402	15	221	33	41	92	
2003	430	28	235	43	24	100	
2004	467	30	271	52	18	96	
2005	434	15	243	42	30	104	
2006	456	15	257	34	20	130	
2007	427	24	227	48	38	90	
2008	345	16	194	27	21	87	
2009	271	31	133	11	32	64	
2010	248	20	141	16	13	58	
2011	216	22	90	10	16	78	
2012	189	18	95	6	22	48	
2013	203	11	105	6	15	66	
2014	214	10	126	10	9	59	
2015	233	8	152	9	14	50	
2016	225	9	128	22	19	47	
2017	260	15	146	10	39	50	
2018	210	16	117	11	16	50	
2019	241	20	137	9	19	56	
2020	250	14	163	9	12	51	1
2021	277	19	162	17	14	65	0
2022	267	5	176	18	17	51	
2023	176	13	91	7	12	53	
Grand Total	9,835	519	5,845	915	650	2,348	1
5-Year Average	242	14	146	12	15	55	1
10-Year Average	235	13	140	12	17	53	1
20-Year Average	280	17	158	19	20	68	1

Appendix 2, Table 17, Nonresidential use approvals on Farmland, 1993-2023

Use Type	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Use Type TOTAL
Aggregate Mining Processing Crushing	1	20	22	16	21	15	26	21	22	17	20	9	7	8	13	10	15	13	13	6	5	1	9	2	2	3	4	5	2	4	1	333
Agri-tourism & other commercial events*																			1	5	10	11	7	12	4	6	8	8	12	3	16	103
Airstrip	1	5	2	1	1	4	2	3	4	5	3	2	5	3	7	3	1	2	2	1	4	1	3	4	2	2	1	2			1	77
Aquatic species/insects																									1							1
Brewery*																															1	1
Cemetery		1													1								1									3
Church	3	1	2	2	4	3	1	6	1	4		4	7	1	3	3	2	1		1		1		1	1	1					2	55
Cider business*																										2	1	1		1	1	6
Commercial activity w farm use**	5	14	21	16	13	18	20	27	14	5	7	5	11	12	15	9	14	10	10	21	15	21	26	13	16	27	19	16	20	12	23	475
Commercial power generator			1		1	1			2	3	2	2	4	1	8	11	11	20	11	9	7	7	23	15	34	50	17	10	26	18	12	306
Communications Facilities	1	8	15	35	16	12	14	45	20	24	11	7	19	21	13	18	22	24	11	10	8	23	7	11	9	10	11	2	5	3	6	441
Community center				1			2	2							1	1		2		2	1			1							1	14
County fairgrounds expansion																													2	1		3
Destination Resort		1														1											1					3
Dog kennel		4	3		3	2		1	1	2	5	6	5	5	2	5	3	2	2	1	3	2	5	2	2	1	1	3	1	1	2	75
Dog training class/testing trials																							2	1					1	1		5
Equine therapy																													1	3		4
Exploration for geothermal, oil or gas resources																										2						2
Extraction/Bottling Water					3	2		1					1	1	1		2		3					2				1				17
Farm stand*			3				1		1	6	4	5	2	3	1	3	7	6	14	7	7	5	6	3	1	5	3	5	4	3	7	112
Filming							1																									1
Fire service facility			1		2	1		1	1					1	3	1	2		1	3	1		1	1	1	1	2	2	1	2		29
Golf course		3	2	3	3	1		1	2	3								1			1	2							2	1	25
Guest Ranch*			2			2	2		4					2	2	1	2	2		1		1	1			2	1	1				26
Home occupation**	8	20	37	33	28	20	18	35	16	21	26	22	28	23	19	27	27	22	22	23	18	30	24	26	32	52	24	23	27	25	34	790
Irrigation reservoir/canals							1	5																		1		3		1		11
Application of reclaimed water							1				1		1			1	2	3	3					1			1				11	25
Landscape contracting business													1	1	1			1				3	3	1	2	3	5		2		3	26
Living history museum													1								1		1			1						4
Log truck parking								1																1								2
Model aircraft landing site																	1	1									1					3
Other				2	1			1	1		1					3		2	1	4					1	1	1			1		20
Outdoor mass gathering															1									1	1	2	1		1	1		8
Primary processing of forest products, temp.																						1								1		2
Private park/campground**	3	5	6	6	14	7	8	14	11	14	13	8	3	3	8	7	8	7	8	8	1	3	4	10	8		5	7	1	4	3	207
Processing of aggregate into asphalt or portland cement	1	2			1		1										1							1		2						9
Processing of farm crops/biofuel/poultry										3	2		1	1	2	8	5	5	6	5		2	7	20	35	29	41	11	6	3	8	200
Public Facility				1		1																										2
Public park		1	4	2	2		1	3			1		1	2	2	3		1		4	4	2	1	2	1		1		2			40
Public/private school		1	4	5	3	1	3	6	1	1		1	1	1		2	1		1	1			3	1	5	1	2	2	2		3	52
Residential care home			1		1	2		2					1		1	2	2			2	1	1	6			2	2	1	2		1	30
Room and board																1							4									5
Solid waste disposal site		1	4	2	1			2	3		3	1	2	1	1						2		5	1				1			30
Transportation Sub 1			5	4	7	3	8	3	6	6	4	3	7	7	5	7	3	3	6	2		3	2	1	3	2	3	1	4	1		109
Transportation Sub 2	1	1	1	3	5	1	2	1	7	5	6	4	5	3	5	4	3	2	4	1	4	4	7	4	1	2	1		3	4	4	98
Utility Facility necessary for Public Sevice	2	8	12	8	11	9	17	24	23	5	9	5	10	12	11	14	13	5	9	7	3	4	7	6	6	12	18	7	11	2	7	297
Utility facility service lines						1						1	1		1							3	3			3	2	3		3		21
Wetland creation				3			2	3	2	2	2		3	1	3	1	1		1				3		2	1	1			2	2	35
Winery*						2				13	6	6	6	3	9	7	6	15	17	6	6	4	8	7	18	18	14	12	5	3	10	201
Youth Camp																															1	1
Annual Total	26	96	148	143	141	108	131	208	142	139	126	91	133	116	139	153	154	150	146	130	102	135	179	151	188	244	192	127	141	105	161	4,345

Appendix 2, Table 18, Nonresidential use approvals on Forest and Mixed Farm-Forest land, 1993-2023

Use Type	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Use Type Total
Aggregate Mining Processing Crushing	3	6	7	6	9	2	9	8	2	5	6	12	3	8	9	7	2	6	6	9	5	6	4	4	2	1	3				1	151
Agri-tourism & other commercial events*																													1			1
Aids to navigation/aviation																									1							1
AirStrip			1	1						1											1											4
Cemetery								1									1										1		1	1	4	9
Church		3				1			1				1			1											1					8
Cider business*																											1					1
Commercial activities with farm use*									2							1											1		1			5
Commercial power generating facility					1				2	2							2						1	1		1	4		1	1		17
Communication facilities	2	17	17	12	24	7	12	66	29	12	9	14	18	26	9	9	13	18	15	2	13	14	4	4	3	8	7	9	4	3	7	409
Destination Resort															1			1							1							3
Dog kennel*														1	4	1											1	1				9
Exploration for and production of hydrocarbons	1	3		3	5		3	1	1	5	1	1		1	1	1	14	6		3						1						51
Exploration for minerals/aggregate																									2							2
Fire service facility				1					1				1	2	1	1				2		1			2		1			1	1	15
Firearms training Facility		1										1								1												3
Fish & wildlife structures																													1	1	1	3
Fishing/hunting lodging					1			4				2		1			3	2	3	2	2		2			1		1		1	1	27
Forest management research and experimentation facilities			1	1																	1		1			1		1	1			7
Home Occupation	5	7	13	10	6	6	7	7	7	5	2	7	6	8	5	13	8	5	14	10	2	5	7	10	4	9	11	6	6	7	5	225
Land application of reclaimed water*																		1														1
New electric transmission lines					2			2				1																				5
Nonconforming use		3	3	4	2	7	3	4		3		6									1			1		3		1		2	1	44
Other	1	3	1	2	2	4	5	1			1		1	3	1	2	1	2	1	1	2	2	1	2	1	1		1	2	1	1	47
Outdoor mass gathering															1												1					2
Permanent logging equipment repair and storage			2			1										2		1		1	1	1		2	1		1					13
Primary processing of forest products, perm.		1	1												1				1			1						2			7
Private hunting/fishing without lodging																									1	1					1	3
Private park/campground	3	6	9	5	6	5	4	2	2	2	4	4	1	2	4	2	3	1	9		2	3	2	3	3	1	1	3	2	8	5	108
Processing of farm crops/biofuel/poultry*																									1							1
Public park			2	1	2	4	2	2		1	1				3		2	1			3		1	2	1	1	1	1		1		34
Reservoirs/water impoundment		1	4	5	1	3	4	1	5		2	1			2	3	5	2		1	2	2	1	2	1		2	4		2	1	57
Residential care home										1													1									2
School*									1	1			2																			4
Solid waste disposal site						1				2	2							1	1											1	1	9
Storage structures for emergency supplies																						1										1
Transmission Tower Over 200 feet															2				5							1						8
Transportation Sub 1		1		1	3		1	5		1	1		1	8	4	8	1	1	1		2			1	3	1					44
Transportation Sub 2		2		3	1		2	3			1	1	2		1	1	1			2				1	1	2	2		1	1		30
Utility facility necessary for public service*								1		2		1					1	1	1				1				1		1		1	11
Utility facility service lines												1											1	1								3
Water intake facilities/canals for irrigation		1						3					1	1							1			1	1		1	2				12
Wildlife and fisheries resources	1		1											1																		3
Winery*						1									3		1			1	2						3	3		5		19
Youth Camp			1			1	1	1		2	1	1	2			2					2	2			1		1		1		1	20
Annual Total	16	55	63	55	65	43	53	112	53	45	31	53	39	62	52	54	58	49	57	35	42	38	27	36	30	33	45	33	25	36	32	1439

*Uses allowed in EFU and Mixed Farm-Forest zones but not allowable in Forest zones

Appendix 2, Table 19a Home Occupation approvals by category in EFU zones, 1993-2023

Home Occupation Category: EFU	Home Occupation Approvals by category, 1993-2023	Percent of historic Home Occupation approvals, 1993-2023
Lodging	172	22%
Not listed	98	12%
Cottage industry	60	8%
Automotive sales, maintenance and repair	47	6%
Construction and trade services	47	6%
Food processing	41	5%
Other services	35	4%
Home office	32	4%
Firearms	30	4%
Events	29	4%
Personal services	29	4%
Other	26	3%
Fabrication	22	3%
Equipment sales, repair and manufacturing	15	2%
Alcohol	13	2%
Professional services	12	2%
Art studios and galleries	11	1%
Retail shop	11	1%
Winery	9	1%
Daycare	8	1%
Medical office	8	1%
Trucking and transportation	7	1%
Landscaping	6	1%
Animal boarding	5	1%
Sales	5	1%
Farm Stand	3	0%
Taxidermy	3	0%
Dog Kennel	2	0%
Manufacturing	2	0%
Veterinary	2	0%
Total	790	

Appendix 2, Table 19b, Home Occupation approvals by category inForest and Mixed Farm-Forest zones, 1993-2023

Home Occupation Category: Forest & Mixed Farm-Forest	Home Occupation Approvals by category, 1993-2023	Percent of historic Home Occupation approvals, 1993-2023
Lodging	49	22%
Not listed	35	16%
Animal boarding	17	8%
Automotive sales, maintenance and repair	12	5%
Other services	12	5%
Cottage industry	11	5%
Sales	10	5%
Fabrication	9	4%
Home Office	9	4%
Firearms	7	3%
Construction and trade services	6	3%
Events	5	2%
Personal services	5	2%
Retail shop	5	2%
Winery	5	2%
Alcohol	4	2%
Food processing	4	2%
Professional services	4	2%
Daycare	3	1%
Equipment sales, repair and manufacturing	2	1%
Landscaping	2	1%
Storage	2	1%
Art studios and galleries	1	0%
Medical office	1	0%
Other	1	0%
Temporary portable facility for the primary processing of forest products	1	0%
Total	222	

Appendix 2, Table 20, CACFU use types approved, 1993-2023

CACFU Use Type	CACFU Use Type Approvals 1993-2023	Percent of historic CACFU approvals, 1993-2023
Winery	76	16%
Processing	57	12%
Alcohol	44	9%
Equipment sales and repair	42	9%
Other	38	8%
Not listed	35	7%
Storage	24	5%
Seed processing	23	5%
Farm Stand	21	4%
Retail	17	4%
Events	13	3%
Trucking and transportation	13	3%
Fertilizer and amendment manufacturing	12	3%
Manufacturing	11	2%
Education and research	8	2%
Composting	6	1%
Office	6	1%
Fabrication	5	1%
Veterinary	5	1%
Landscaping	4	1%
Wholesale	4	1%
Application	3	1%
Equine	3	1%
Feed manufacturing	3	1%
Digester	2	0%
TOTAL	475	

Appendix 2, Table 21, Total Measure 49 authorizations, by county

County	Claims	Claims Authorized	Authorized New Dwellings	Authorized New Parcels
Baker	97	66	116	58
Benton	80	57	93	53
Clackamas	863	673	1,204	855
Clatsop	52	29	46	31
Columbia	79	50	92	64
Coos	135	96	182	104
Crook	33	21	44	27
Curry	75	48	102	50
Deschutes	116	83	133	97
Douglas	168	124	208	148
Gilliam	1	0	0	0
Grant	5	3	5	5
Harney	0	0	2	2
Hood River	160	117	180	121
Jackson	349	265	450	308
Jefferson	142	86	192	119
Josephine	124	82	142	106
Klamath	139	92	195	78
Lake	1	1	2	2
Lane	327	237	473	297
Lincoln	78	62	112	51
Linn	270	182	331	222
Malheur	19	11	33	21
Marion	322	211	361	223
Morrow	0	0	9	6
Multnomah	72	50	85	40
Polk	247	168	302	184
Sherman	0	0	0	0
Tillamook	67	40	78	46
Umatilla	34	25	72	45
Union	31	19	28	20
Wallowa	38	29	63	37
Wasco	31	26	45	21
Washington	485	360	607	390
Wheeler	2	0	29	15
Yamhill	318	229	401	250
Grand Total	4,960	3,542	6,417	4,096

Appendix 2, Table 22, Farm and Forest Land included in UGBs by Year, 1989 – 2023

Year	Number of UGB Expansion Approvals	Acres added to UGBs	Acres from EFU Zones	Acres from Forest Zones
1989	25	1,445	259	100
1990	9	2,737	1,734	17
1991	21	1,480	177	70
1992	15	970	297	120
1993	22	2,277	1,390	448
1994	20	1,747	201	20
1995	15	624	219	143
1996	19	3,816	2,466	16
1997	12	668	508	40
1998	21	2,726	493	2
1999	10	927	587	72
2000	8	624	0	0
2001	4	140	11	0
2002	55	17,962	3,281	1,659
2003	10	385	124	85
2004	7	3,391	2,090	176
2005	10	739	70	8
2006	15	3,231	670	27
2007	19	292	105	65
2008	6	972	949	0
2009	7	782	686	4
2010	5	58	37	2
2011	6	2,738	1,662	699
2012	6	4,941	757	1,272
2013	7	894	559	0
2014	8	4,188	3,262	350
2015	7	1,028	79	1
2016	5	2,605	225	0
2017	10	1,845	1,192	135
2018	4	415	194	44
2019	7	2,497	1,294	0
2020	4	237	231	6
2021	7	3,727	2,820	54
2022	4	736	110	0
2023	6	404	107	35
Total	416	74,248	28,846	5,670
5-year average, 2019-2023	6	1,520	912	19

Appendix 2, Table 23, Farmland acreage rezoned, not including UGB expansions, 1989–2023

Year	Acres rezoned to Commercial*	Acres rezoned to Industrial **	Acres rezoned to Residential	Acres to Forest, Parks, Natural Resource or Open Space	**Total Acres removed from EFU through zone change**	Acres added to EFU from Other Zone
1989-2000	614	1,370	5,986	2,410	**10,380**	944,670
2001	11	31	283	67	**392**	148
2002	18	69	147	202	**436**	10
2003	21	2	283	90	**396**	77
2004	25	1,681	220	269	**2,195**	52
2005	479	772	414	988	**2,653**	21
2006	31	539	1,468	311	**2,349**	777
2007	2	342	1,704	1,115	**3,163**	2,020
2008	79	10	1,011	73	**1,173**	0
2009	6	375	396	459	**1,236**	53
2010	30	439	402	546	**1,417**	41
2011	0	288	270	199	**757**	0
2012	57	1,075	42	517	**1,691**	0
2013	0	0	380	1,316	**1,696**	0
2014	22	55	2,987	6	**3,070**	916
2015	640	569	10	204	**1,423**	8
2016	103	167	206	0	**476**	93
2017	8	157	184	432	**781**	54
2018	106	505	674	498	**1,784**	263
2019	0	248	728	166	**1,142**	0
2020	0	19	21	211	**251**	90
2021	38	407	1	265	**711**	0
2022	0	240	344	215	**799**	138
2023	29	623	196	80	**948**	26
TOTAL	**2,319**	**9,983**	**18,357**	**10,639**	**41,299**	**949,293**
5-year average, 2019-2023	13	307	258	187	**770**	51
10-year average, 2014-2023	95	299	535	208	**1,139**	159
20-year average, 2004-2023	83	426	583	394	**1,486**	228

*Public zones are counted as commercial; ** Mineral and aggregate zones are counted as industrial.

Appendix 2, Table 24, Forest and mixed farm-forest zone changes, not including urban changes, 1989–2023

Year	Acres To Commercial*	Acres To Industrial **	Acres To Residential	Acres to EFU, Parks, Natural Resource or Open Space	**Total Forest Zone Change Acres**	Acres to Forest from Other Zone
1989-2000	16	275	3,692	8,517	**12,500**	36,854
2001	0	0	232	0	**232**	0
2002	0	0	113	109	**222**	0
2003	0	0	520	113	**633**	0
2004	0	82	95	50	**227**	0
2005	0	31	101	44	**176**	50
2006	0	3	292	0	**295**	163
2007	2	5	1,269	0	**1,276**	90
2008	3	212	5	131	**351**	509
2009	0	56	2,451	0	**2,507**	27
2010	215	185	489	10	**899**	378
2011	2	0	53	162	**217**	0
2012	0	5	74	0	**79**	80
2013	18	129	0	288	**435**	0
2014	4	0	159	0	**163**	11
2015	0	197	164	0	**361**	204
2016	0	32	120	35	**187**	0
2017	16	136	32	41	**225**	432
2018	0	151	107	263	**521**	120
2019	0	165	0	0	**165**	83
2020	0	0	0	0	**0**	265
2021	0	46	0	0	**46**	211
2022	0	0	105	11	**116**	0
2023	0	49	2	26	**77**	80
TOTAL	**276**	**1,759**	**10,075**	**9,800**	**21,910**	**39,477**
5-year average, 2019-2023	0	52	21	7	**81**	128
10-year average, 2014-2023	2	72	46	47	**167**	149
20-year average, 2004-2023	13	74	276	53	**416**	135

Appendix 2, Table 25, USDA NASS Acres in Farm Use by County 1997 - 2022

Table: USDA NASS 2017 Census of Agriculture: Oregon Land In Farms by County 1997-2022

COUNTY	2022 (acres)	2017 (acres)	2012 (acres)	2007 (acres)	2002 (acres)	1997 (acres)		CHANGE 1997 TO 2022 (acres)	Percent of farm use acreage retained in farm use 1997-2022	Percent of land base in farm use	Acres zoned EFU	More acres in farm use than in EFU zoning	Less acres in farm use than in EFU zoning
BAKER	915,529	754,585	710,789	711,809	869,523	953,771		-38,242	96%	47%	802,309	113,220	
BENTON	97,598	127,626	123,975	114,558	130,203	137,465		-39,867	71%	23%	126,025		-28,427
CLACKAMAS	157,937	157,426	162,667	182,743	215,210	195,602		-37,665	81%	13%	146,192	11,745	
CLATSOP	18,471	15,070	16,382	21,198	22,234	24,341		-5,870	76%	4%	14,756	3,715	
COLUMBIA	49,276	43,379	56,668	57,758	62,398	72,700		-23,424	68%	12%	31,526	17,750	
COOS	133,255	138,171	157,496	145,675	144,077	166,082		-32,827	80%	13%	97,254	36,001	
CROOK	832,845	799,845	822,676	761,548	937,628	904,794		-71,949	92%	44%	782,225	50,620	
CURRY	44,734	70,338	63,342	74,336	70,459	90,090		-45,356	50%	4%	7,449	37,285	
DESCHUTES	153,000	134,600	131,036	129,369	138,226	131,734		21,266	116%	8%	252,567		-99,567
DOUGLAS	329,559	400,179	382,386	396,984	390,140	422,605		-93,046	78%	10%	269,315	60,244	
GILLIAM	590,917	611,920	723,405	733,387	642,996	752,067		-161,150	79%	77%	709,615		-118,698
GRANT	635,381	628,895	656,410	761,541	892,400	1,041,463		-406,082	61%	22%	833,750		-198,369
HARNEY	1,479,684	1,557,103	1,505,437	1,461,508	1,575,020	1,319,828		159,856	112%	23%	1,823,538		-343,854
HOOD RIVER	26,623	28,451	25,817	26,952	29,064	30,834		-4,211	86%	8%	30,036		-3,413
JACKSON	202,864	170,298	214,079	244,055	252,185	254,607		-51,743	80%	11%	237,487		-34,623
JEFFERSON	542,344	792,920	817,051	708,974	701,440	793,525		-251,181	68%	48%	449,867	92,477	
JOSEPHINE	30,563	27,866	28,256	37,706	32,370	37,170		-6,607	82%	3%	31,824		-1,261
KLAMATH	523,480	482,999	650,416	675,127	702,951	713,255		-189,775	73%	14%	403,985	119,495	
LAKE	765,761	755,639	657,055	692,778	747,888	737,531		28,230	104%	15%	1,050,588		-284,827
LANE	180,201	203,148	219,625	245,531	234,807	238,014		-57,813	76%	6%	192,955		-12,754
LINCOLN	26,946	29,017	30,225	31,179	32,791	35,780		-8,834	75%	4%	26,955		-9
LINN	336,063	314,947	331,316	376,483	385,589	416,737		-80,674	81%	23%	353,177		-17,114
MALHEUR	1,130,142	1,093,362	1,076,768	1,170,664	1,175,280	1,252,746		-122,604	90%	18%	1,604,278		-474,136
MARION	275,483	288,671	286,194	307,647	341,051	325,048		-49,565	85%	37%	325,685		-50,202
MORROW	1,052,805	1,126,101	1,165,126	1,104,250	1,124,593	1,165,678		-112,873	90%	81%	951,851	100,954	
MULTNOMAH	27,983	25,435	29,983	28,506	34,329	36,503		-8,520	77%	10%	20,062	7,921	
POLK	154,851	148,905	144,748	166,663	168,881	184,323		-29,472	84%	33%	177,140		-22,289
SHERMAN	402,516	524,857	513,649	514,004	507,705	451,769		-49,253	89%	76%	468,688		-66,172
TILLAMOOK	33,348	32,936	36,551	37,780	39,526	36,551		-3,203	91%	5%	36,850		-3,502
UMATILLA	1,491,922	1,352,241	1,308,312	1,447,321	1,330,932	1,403,598		88,324	106%	73%	1,080,457	411,465	
UNION	342,913	385,152	411,671	487,584	478,411	544,720		-201,807	63%	26%	237,390	105,523	
WALLOWA	504,713	520,213	452,559	527,957	518,110	606,259		-101,546	83%	25%	351,397	153,316	
WASCO	978,577	1,388,988	1,427,324	949,462	1,086,817	1,140,704		-162,127	86%	64%	757,468	221,109	
WASHINGTON	126,003	104,715	135,733	127,984	130,683	140,884		-14,881	89%	27%	130,476		-4,473
WHEELER	537,145	556,967	649,086	757,780	738,207	694,696		-157,551	77%	49%	589,694		-52,549
YAMHILL	164,347	169,357	177,365	180,846	196,298	204,739		-40,392	80%	36%	189,417		-25,070
OREGON	15,295,779	15,962,322	16,301,578	16,399,647	17,080,422	17,658,213		-2,362,434	87%	25%	15,594,248		-298,469

Appendix 3

County Acreage in Resource Zoning

County	Acres zoned EFU	Acres zoned Forest	Acres zoned Mixed Farm Forest	Total Acres in the County[1]
Baker	802,309	123,428	6	1,963,520
Benton	126,025	180,972	0	432,128
Clackamas	146,192	251,101	36,219	1,197,248
Clatsop	14,756	427,048	22,228	530,048
Columbia	31,526	314,217	13,796	421,568
Coos	97,254	606,309	4	1,021,440
Crook	782,225	119,708	437	1,906,496
Curry	7,449	189,936	133,966	1,042,176
Deschutes	252,567	81,316	0	1,931,264
Douglas	269,315	862,493	323,295	3,222,848
Gilliam	709,615	0	0	771,008
Grant	833,750	263,975	2	2,897,792
Harney	1,823,538	5,579	0	6,486,016
Hood River	30,036	80,690	0	334,208
Jackson	237,487	502,862	26,118	1,781,312
Jefferson	449,867	69,034	0	1,140,288
Josephine	31,824	208,290	15,085	1,048,704
Klamath	403,985	807,908	234,027	3,807,936
Lake	1,050,588	281,228	0	5,208,704
Lane	192,955	850,136	3	2,914,624
Lincoln	26,955	358,457	349	627,840
Linn	353,177	404,889	103,995	1,465,280
Malheur	1,604,278	0	36,045	6,328,128
Marion	325,685	107,776	17,055	755,712
Morrow	951,851	91,347	0	1,299,520
Multnomah	20,062	46,068	690	275,840
Polk	177,140	185,498	37,744	474,176
Sherman	468,688	0	0	527,104
Tillamook	36,850	477,141	9,033	706,048
Umatilla	1,080,457	814	298,993	2,057,920
Union	237,390	1	419,111	1,303,616
Wallowa	351,397	10,503	450,499	2,013,376
Wasco	757,468	78,636	0	1,523,904
Washington	130,476	209,360	0	463,552
Wheeler	589,694	156,725	0	1,098,240
Yamhill	189,417	119,305	35,556	458,176
Oregon	15,594,248	8,472,752	2,214,257	61,437,760

1 Data from United States Census Bureau

Rural Resource Lands

Research Report

Prepared by Stephanie Campbell, Rural Lands Research Fellow

OREGON
Department of
Land Conservation
& Development

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This report was prepared by Hatfield Resident Fellow Stephanie Campbell. The Hatfield Resident Fellowship, a program of Portland State University, is a rigorous, project-oriented, professional and educational experience for recent graduates designed to provide each Fellow with an opportunity to acquire leadership skills with a public service agency in Oregon.

Introduction

Problem Statement

The preservation of agricultural and forest land is a primary objective of Oregon's land use planning system. However, since the inception of Oregon's statewide land use planning program in 1973, there has been concern that there are lands currently protected for exclusive farm use (EFU), forest, or mixed farm-forest under Statewide Goal 3 (Agricultural Lands) and Goal 4 (Forest Lands) which have actually been mis-zoned due to low quality soils and limited potential for agricultural or forestry use. The rural resource land issue has been approached in several iterations over the years through extensive public review, work sessions, and pilot studies by the Oregon State Legislature and the Land Conservation and Development Commission (LCDC or the commission). These lands have been difficult to define and identify due to policy, technical, and jurisdictional issues.

Historically, these lands have been termed "marginal," "secondary," "small-scale resource," "nonresource," and "rural resource" in an attempt to describe their rural nature and lower production value. Most recently "nonresource" has been replaced by "rural resource" to underscore the land's function as a resource in some capacity. Rural resource land will be used within this document to refer to this grouping of less productive resource lands. It should be noted that rural resource lands do not require a goal exception from Statewide Planning Goals 3 or 4 and thus are not considered to be "exception" lands. Exception lands are typically designated due to the existing development patterns (e.g., platted subdivisions) that preclude viable farm and forest use while rural resource lands could be hundreds or even thousands of acres with no existing settlement pattern.

As Oregon faces continued growth, how to approach land development in an intentional and proactive manner while balancing resource protection has become an increasingly critical and challenging question. There is existing concern that Oregon's agricultural and forest economies are under threat from expanding development which can cause fragmentation of large parcels, conversion of land use and land cover, and degradation of critical habitat.[1] Furthermore, there is concern that other resource values such as protecting open space to maintain soil, air, water, and fish and wildlife resources and for recreational opportunities are not given adequate consideration. Concerns about preserving private property rights and bolstering local revenue has created political pressure to continue land conversion.[2] This report seeks to create a fact-based foundation to inform future productive discussion of the issues surrounding rural resource lands. With the current collection of new and evolving issues in land use planning, now is a critical time to move forward in addressing the rural resource lands issue.

This document synthesizes the rural resource lands issue by providing a synopsis of the history of the problem, outlining the best available scientific and technical data that can inform related policy and planning efforts, and summarizing options to further address the issue. Efforts to address the rural resource lands issue should be integrated with other resource lands protection strategies by creating standards which will serve to guide counties in identifying and zoning rural

[1] MacLaren, C.; Kimball, K.; Holmes, G.; and Eisenbeis, D., 1000 Friends of Oregon. (undated). *Too Many Homes on the Range*. <http://www.friends.org/sites/friends.org/files/reports/too_many_homes.pdf>.
[2] Hansen, T. M.; Francis, C.; Esseks, J. D.; and Williams, J. A. Jr., "Multifunctional Rural Landscapes: Economic, Environmental, Policy, and Social Impacts of Land Use Changes in Nebraska," (2007). *Theses, Dissertations, and Student Research in Agronomy and Horticulture*. 45.

lands which do not meet the definition of agricultural or forest resource lands and do not warrant protection under other Statewide Planning Goals.

Impetus for Project

A strategy identified in the Oregon Department of Land Conservation and Development's (DLCD or the department) 2014-2022 Strategic Plan is development of a "nonresource/rural resource lands" policy. LCDC's 2017-2019 Policy Agenda also includes "nonresource/other resource lands" and specifies a need for additional research and possible rulemaking:

> "Consider development of a "nonresource/other resource lands" policy that is integrated with resource lands protection strategies, including consideration of carrying capacity, environmental and habitat protection, infrastructure requirements and availability, and other factors. There are currently no standards to guide counties in identifying and zoning lands which do not meet the definition of agricultural or forest resource lands. To date, several stakeholder conversations have helped further define the issue. State agencies, in particular, are identifying issues of mutual interest."

DLCD is approaching the project by first researching the issue to provide an overview of past efforts and current interests as well as what and how data can best inform rural resource designations. The department may utilize information and data gathered during the research phase to conduct additional research or to make policy recommendations during a future rulemaking phase or it may be determined that rulemaking is unnecessary. All policy decisions will be based on best available scientific and technical data and information while being balanced with the state's goals for resource land protection. This report is the result of the research phase of the project.

Sources of Information

This report synthesizes current available information regarding rural resource lands from DLCD internal documentation and reports. Additionally, GIS data and information was collected along with accompanying relevant technical and policy context. Geospatial data collection focused on coordinating with state agencies which house information and data most pertinent to addressing rural resource land designation and carrying capacity considerations. Data provided herein was obtained primarily from DLCD, Oregon Department of Agriculture (ODA), Oregon Department of Forestry (ODF), Oregon Department of Fish and Wildlife (ODFW), Oregon Department of State Lands (ODSL), Oregon Department of Environmental Quality (ODEQ), and Oregon Water Resources Department (OWRD).

Data Gaps and Limitations

The level of accurate and applicable technical and scientific data and information available is a factor in determining the scope of department and commission efforts to protect Oregon's resource lands. This document provides a foundational rather than exhaustive list of data and information which the department and commission could apply to the rural resource lands issue.

DLCD focused on gathering statewide GIS datasets which are primarily coarse scale. Attempts were made to identify data that can be used at finer, parcel-level scales, but this data was not always available or did not exist at a consistent scale across the state, with data gaps being a common occurrence. The availability of finer scale or parcel-level data often coincides with funding associated with interest and necessity for program-based goals. Due to inherent gaps

and limitations, the datasets listed herein should serve as a basis for LCDC to make informed decisions on if and how to proceed with rural resource land policy. In many cases, qualified practitioners may need to make site specific investigations to establish accurate conditions at the parcel level.

Background

History of Issue

This section outlines an abbreviated history of the rural resource lands issue to establish the historical context for this report's analysis as well as subsequent options and recommendations.

Establishment of the Oregon Land Use Planning System

1973 SB 100 is passed, establishing the statewide Oregon land use planning program through the creation of LCDC, and its administrative branch, DLCD. Additionally, SB 101 is passed, creating statewide protections for farmland through further amendments to the EFU zone (ORS Chapter 215). One of the Oregon land use planning system's primary goals has been to protect Oregon's agricultural and timber economy and accompanying farm and forest land base through a combined strategy of tax incentives and development restrictions. From the passage of this bill came 19 Statewide Planning Goals, of which Goals 3 and 4 are most pertinent to the concept of rural resource lands. Goals 3 and 4 refer to agricultural and forest lands respectively, often referred to collectively as "Resource Lands." Oregon's resource lands protection is based on statute and administrative rules as interpreted by the Land Use Board of Appeals (LUBA) and the courts.

Statewide Planning Goal 3, "Agricultural Lands," requires identification of agricultural land, use of statutory EFU zones (ORS Chapter 215), and review of farm and non-farm uses according to statute and administrative rule (OAR chapter 660, division 33) provisions. These provisions also incorporate statutory minimum lot sizes and standards for all land divisions.

Statewide Planning Goal 4, "Forest Lands," seeks to maintain Oregon's forests to allow for tree harvesting that is consistent with sound management of soil, air, water, fish, and wildlife resources.

Marginal Lands

1983 Legislature adopts the Marginal Lands Act that established trade-off between less regulation of lower quality marginal lands and improved protection for the best or primary resource lands. Only Lane and Washington counties adopt the system.

1985 Legislature does not adopt a proposed trade-off to restrict nonfarm dwellings in return for expanded lot-of-record provisions in EFU zones. Instead, the Legislature directs the Commission to "[c]onsider adoption of rules, amendments of the goals and recommendations for legislation that will provide a practical means of identifying secondary resource land and allow specified uses of those lands."

April 1985 Commission establishes Rural Lands Advisory Committee to "review whether the application of the EFU, marginal lands and lot-of-record statutes are effective in achieving the purpose of Statewide Goal 3, to 'preserve and maintain agricultural lands.'"

Secondary Lands

1987 Legislature requires Commission to "[a]dopt and submit a definition of secondary resource lands and uses permitted on secondary resource lands."

July 1988 LCDC adopts definition of "Secondary Lands" and draft proposal for the identification and the uses and densities allowed for primary and secondary resource lands.

Oct 1988 LCDC begins process to amend Statewide Goals 3 and 4 to designate "primary" and "secondary" agricultural and forest lands and establish appropriate uses and densities for such lands.

1989 Legislature directs DLCD through budget notes to fund a Pilot Program for the testing of criteria to identify "secondary lands." Part of the notes requires that the Commission will not adopt any proposed rules as part of this program until after they are presented to the "appropriate legislative review agency."

1990 Statewide Goal 4 is amended after many public meetings, workshops, and hearings that began in October 1988. Work on Goal 3 is postponed pending completion of the "Farm and Forest Research Study." The Study will be an independent analysis of Oregon's productive farm and forest lands and will determine what actions or conditions may diminish the quality and quantity of these farm and forest lands.

1991 LCDC transmits to the Legislative Assembly the "Farm and Forest Research Study" that concluded that Oregon's current system of land use planning was failing to provide adequate protection for farm and forest lands.

1992 LCDC amends Goals 3 and 4 to distinguish between small-scale resource lands, high-value and important farm land, and forest land. LCDC adopts new administrative rules for the identification of small-scale resource lands, high-value and important farm land and forest land as well as the specific uses allowed on such lands.

1993 Legislature adopts HB 3661 establishing new lot-of-record provisions for farm and forest zones and directs LCDC to repeal goal and rule provisions regarding small-scale resource lands, closing the option for designation of marginal lands by any county other than Lane and Washington.

The Big Look and Regional Problem Solving

2005 The Big Look Task Force was created as a result of Senate Bill 82 to review the state's land use planning program. Primary conclusions included the need for a more flexible system, more responsiveness to regional variations, greater regional cooperation, a move toward a more adaptive planning model, and greater simplicity.

2009 The Big Look Task Force Report was released to the 2009 Oregon Legislature. Chapter 3 of the Report focuses on issues related to appropriate zoning of non-productive farm and forest land as well as the re-designation of these lands for other rural uses. The Big Look Task Force brought attention to the need to better define and set quantifiable limits for carrying capacity. As a result of The Big Look, the 2009 Legislature passed House Bill 2229. HB 2229 provided counties with a process for corrective remapping of rural land zoning to ensure sustainable development of rezoned lands and for prompting updates of natural resource protections. The bill created the structure for a regional problem-solving process that allowed counties to remap rural lands based on the results of regional problem solving. See ORS 215.788—794.

2012 Governor Kitzhaber signed Executive Order 12-07, known as the Southern Oregon Regional Pilot Project (SORPP), establishing a Pilot Program for Regional Farm and Forest Land Conservation. Douglas, Jackson, and Josephine counties began a regional process to develop a plan that allowed for regional variation in what lands must be planned and zoned for farm and forest use. The executive order focused specifically on the parameters and measures that should be used in determining what was, and was not, "nonresource land."

2016 Final SORPP reports were submitted to LCDC. Ultimately, participating counties were unable to reach consensus on the difficult topics included in the scope of the executive order, and were not able to establish a regional planning framework to address them.

Existing Regulatory Framework

Agricultural Land

Statewide Planning Goal 3, “Agricultural Lands,” requires identification of agricultural land, use of statutory EFU zones, and review of land uses according to statute and administrative rule (OAR chapter 660, division 33) requirements.

Agricultural lands are defined in OAR 660-033-0020(1):

> (1)(a) "Agricultural Land" as defined in Goal 3 includes:
>
> (A) Lands classified by the U.S. Natural Resources Conservation Service (NRCS) as predominantly Class I-IV soils in Western Oregon and I-VI soils in Eastern Oregon;
>
> (B) Land in other soil classes that is suitable for farm use as defined in ORS 215.203(2)(a), taking into consideration soil fertility; suitability for grazing; climatic conditions; existing and future availability of water for farm irrigation purposes; existing land use patterns; technological and energy inputs required; and accepted farming practices; and
>
> (C) Land that is necessary to permit farm practices to be undertaken on adjacent or nearby agricultural lands.

(b) Land in capability classes other than I-IV/I-VI that is adjacent to or intermingled with lands in capability classes I-IV/I-VI within a farm unit, shall be inventoried as agricultural lands even though this land may not be cropped or grazed;

(c) "Agricultural Land" does not include land within acknowledged urban growth boundaries or land within acknowledged exception areas for Goal 3 or 4.

The agricultural land definition includes land based on soil capability but also requires an in-depth analysis of whether the land is suitable for farm use, which typically requires the use of discretion by local decision makers. OAR 660-033-0030 provides additional guidance on identifying agricultural land and provides an option for the use of soil assessments that are more detailed than NRCS mapping. In addition, there is substantial case law which has served to further refine how suitability for farm use should be addressed.

Forest Land

Statewide Planning Goal 4, “Forest Lands,” seeks to maintain Oregon’s forests for tree harvesting that is consistent with sound management of soil, air, water, fish, and wildlife resources.

OAR 660-006-0005(7) defines forest lands as:

(7) “Forest lands” as defined in Goal 4 are those lands acknowledged as forest lands, or, in the case of a plan amendment, forest lands shall include:

(a) Lands that are suitable for commercial forest uses, including adjacent or nearby lands which are necessary to permit forest operations or practices; and

(b) Other forested lands that maintain soil, air, water and fish and wildlife resources.

OAR 660-006-0010 provides additional requirements for identifying forest land for a comprehensive plan and zone change amendments. NRCS is the primary source for wood production capability data. If NRCS mapping is unavailable or proven to be inaccurate, alternate data sources may be considered in the following order:

1. Oregon Department of Revenue (DOR) site class maps for Western Oregon

2. USDA Forest Service plant association guides

3. Other information determined by the State Forester to be of comparable quality.

The rule does not establish a minimum threshold for wood production capability that constitutes commercial forest use. In Just v. Linn County (60 Or LUBA 74 (2009)), the Land Use Board of Appeals (LUBA) found:

“Our cases suggest that land with a productivity of less than 20 cf/ac/yr may be unsuitable for commercial forest use unless there are factors that compensate for the land’s relatively low productivity. But land in a middle range from a low of approximately 40 cf/ac/yr to a high of approximately 80 cf/ac/yr is unlikely to be unsuitable for commercial forest use unless there are additional factors that render those moderately productive soils unsuitable for commercial forest use. Rural land with a wood fiber productivity of over 80 cf/ac/yr is almost certainly suitable for commercial forest use, even if there are limiting factors.”

The portion of the forest lands definition that addresses maintaining "soil, air, water and fish and wildlife resources" has not been further defined in rule. LUBA has determined that a lack of Goal 5 resources in a county comprehensive plan is not adequate justification, if such lands are needed to maintain soil, air, fish and wildlife resources (DLCD v. Curry County, 33 Or LUBA 728 (1997)).

Rural Resource Land

Found in ORS 215.788, the current definition for rural resource lands exists in statute by the term, "nonresource land," and is defined by what it is not:

> 215.788 Legislative review of lands zoned for farm and forest use; criteria.
>
> (4) A county must plan and zone land reviewed under this section:
>
> (a) For farm use if the land meets the definition of "agricultural land" in a goal relating to agricultural lands;
>
> (b) For forest use if the land meets the definition of "forest land" used for comprehensive plan amendments in the goal relating to forestlands;
>
> (c) For mixed farm and forest use if the land meets both definitions;
>
> (d) For nonresource use, consistent with ORS 215.794, if the land does not meet either definition; or
>
> (e) For a use other than farm use or forest use as provided in a goal relating to land use planning process and policy framework and subject to an exception to the appropriate goals under ORS 197.732 (2).

Presently, counties may designate rural resource lands through two methods. The first, and to date only process utilized, is by identifying land that does not meet the definition of "Agricultural Land" or "Forest Land" and thus is not subject to Goal 3 or 4 protection. These lands are typically designated in the county comprehensive plan as "nonresource lands" and may be developed for residential or other uses not allowed in farm and forest zones. Counties permit creation of new parcels in nonresource land zones that are smaller than typically is allowed in EFU or forest zones. Rural resource lands are still subject to the other Statewide Planning Goals which, among other matters, preclude the establishment or extension of public sewer systems and urbanization. Uses allowed on rural resource lands must also be compliant with county adopted Goal 5 inventories (e.g. wildlife habitat, wetlands, riparian corridors).

Ten Oregon counties have utilized this method to rezone land from EFU and forest. The primary purpose for nonresource designations appears to be the creation of rural residential parcels. [3] Between 2008 and 2018, DLCD identified 24 zone changes associated with nonresource designations. These zone changes did not require an exception from Statewide Planning Goals 3 or 4. Two zone changes were to rural commercial zones. Twenty-two zone changes were from EFU or forest zones to zones that list single-family residential dwellings as an outright allowed use. Residential minimum parcel sizes varied between 5, 10, and 20 acres.

[3] Clatsop, Crook, Deschutes, Douglas, Jackson, Josephine, Klamath, Linn, Lane, Wasco

The second path to rural resource land designation, which has not been used by counties, requires a more comprehensive evaluation and direct DLCD participation. Found in ORS 215.788 – 794, this option was created in 2009 as a result of the "Big Look." If used, this process would provide counties with an opportunity for corrective remapping of rural lands while considering the carrying capacity of those lands for development.

To begin the Big Look process, a scope of work for the reacknowledgement must be approved by DLCD. The process would then proceed as a legislative review of county lands to determine whether lands currently zoned farm and/or forest are consistent with the definitions of "agricultural lands" or "forest lands" as stated in the respective goals. Lands which are subject to a goal exception under ORS 197.732 must also be reviewed. After making determinations regarding what farm and/or forest lands do and do not meet the definition and analyzing carrying capacity, counties must submit findings to DLCD which will then be reviewed by LCDC in coordination with ODA and ODF.

Rural resource land designations do not require a goal exception from Statewide Planning Goals 3 or 4. However, the land is still subject to compliance with the other Statewide Planning Goals unless an exception is taken. For example, Goal 11 (Public Facilities and Services) prohibits extension of sewer service to rural areas, including rural resource lands, without an exception.

Analysis and Findings

A robust rural resource lands policy will consider: capability, suitability, and carrying capacity. Capability refers to the ability of the land to produce an agricultural or forest product. This factor is primarily governed by soils and water availability. [4] Agricultural land capability class and forest productivity thresholds are useful tools for determining at what level of capability an agricultural or forest operation is deemed feasible. Suitability, another significant factor, refers to the ability to conduct viable farm or forest operations and is intimately related to the size and position of the operation's land base in relation to surrounding uses as well as accompanying infrastructure.[5] Carrying capacity refers to the level of use which can be accommodated and continued without impairment of natural resources productivity, the ecosystem and the quality of air, land, and water resources.[6] Additionally, carrying capacity, in relation to rural resource lands, should account for impacts to water supply, energy use, transportation facilities, risk and cost of wildfire, cost of public facilities and services, and the fiscal health of local government as outlined in ORS 215.791. Finally, state land use policy ensures that rural lands remain sparsely settled and are not utilized for urban levels of development and services consistent with Goals 11 (Public Facilities and Services), 12 (Transportation), and 14 (Urbanization).

The following section of the report will address the above considerations through a (1) Farm and Forest Resource Evaluation and (2) Carrying Capacity Evaluation. To begin, the Farm and Forest Resource Evaluation considers what lands might qualify as rural resource lands based upon the land's potential agricultural capability and woody biomass productivity. The Carrying

[4] Johnson, J. Oregon Department of Agriculture. (2007). *Identification and Assessment of the Long-Term Commercial Viability of Metro Region Agricultural Lands.* < https://multco.us/file/27992/download>.
[5] Ibid.
[6] Department of Land Conservation and Development, *Statewide Planning Goals: Definitions*.

Capacity Evaluation considers how available geospatial data can inform questions of if or how to proceed with development on rural resource lands.

Two basic methodological frameworks exist for using the carrying capacity analysis. One framework would use this analysis to exclude lands from rural resource redesignation so that they would remain as farm and forest lands. The other framework would use this analysis not to exclude lands from rural resource designation but instead to limit the resulting increases in non-farm and non-forest development activity that local governments could approve on such lands. It is possible that these two methodological frameworks might be used in conjunction as well—for example, using location within an urban reserve to exclude lands, while using existence of a wildlife habitat overlay to allow less development on designated rural resource lands than on similarly-designated lands not within the wildlife habitat overlay.

Regional differences were taken into consideration due to the substantial climatic differences in lands east versus west of the Cascades. For this report, Eastern Oregon includes all the counties east of the Cascades: Baker, Crook, Deschutes, Gilliam, Grant, Harney, Jefferson, Klamath, Lake, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco, and Wheeler. All other counties are considered to be in Western Oregon.

Consulting with state agencies has been and will continue to be a critical part of the process in creating a robust rural resource lands policy. Additional stakeholder conversations will be necessary to round out an informed discussion.

Farm and Forest Resource Evaluation

As rural resource lands are primarily defined by their exclusion from definitions in Statewide Planning Goals 3 and 4, analysis was first conducted to determine which lands are agricultural or forest lands.

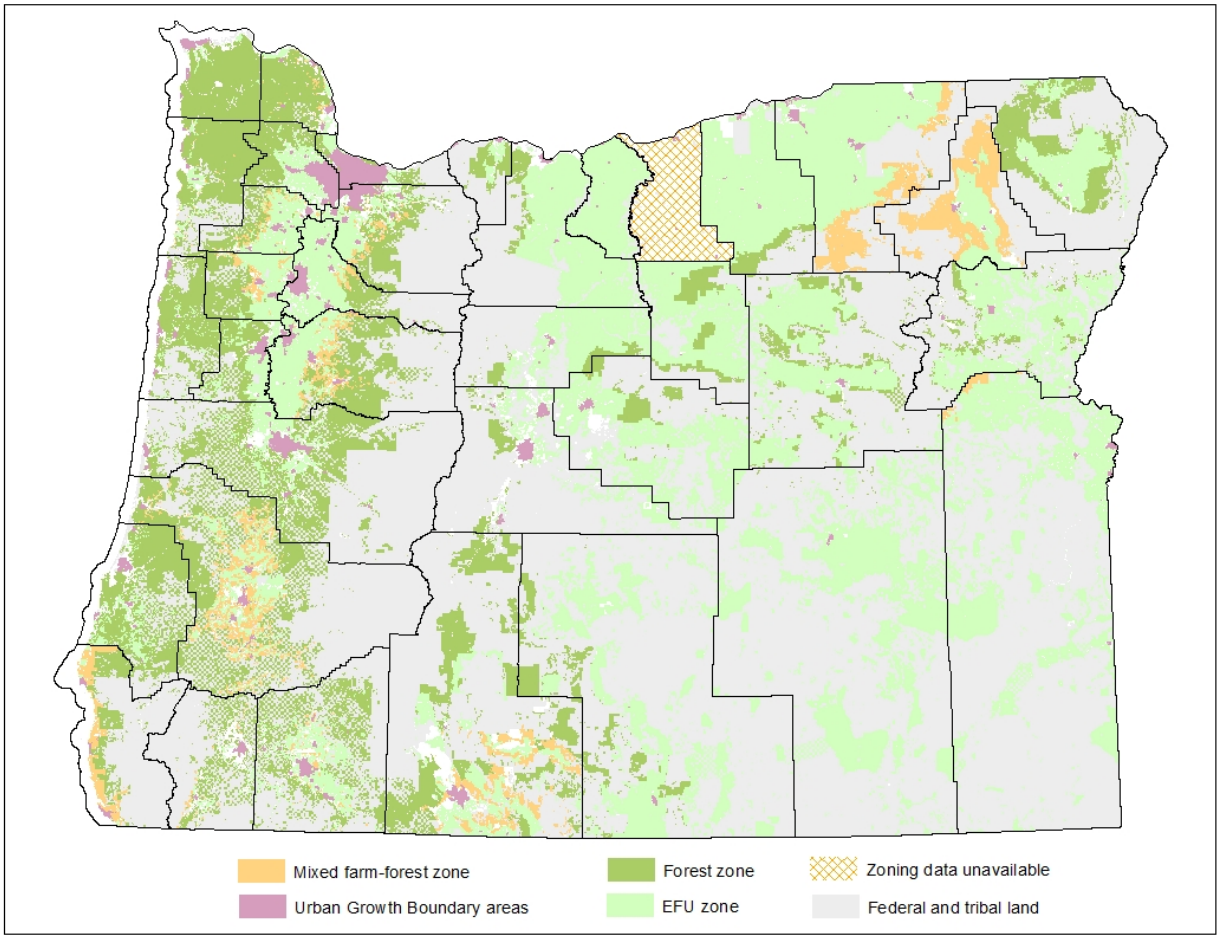
Farm and Forest Resource Evaluation goals:

1) Identify currently zoned farm and forest lands that meet capability and productivity thresholds.
2) Identify additional suitability factors that require further analysis to determine potential rural resource land designation qualifications.

Area of Analysis

Geospatial analysis began by narrowing the area of analysis to those lands which are potentially eligible for rural resource land designation. The initial area of analysis includes land currently zoned EFU, forest, and mixed farm-forest (see Figure 1).[7] Federal lands not subject to the Statewide Planning Goals were subsequently removed from the farm and forest zoning layer. Additionally, because local governments often retain farm and forest zoning as an interim measure for urbanizable lands within an urban growth boundary (UGB), such lands were also removed from the layer. The resulting narrowed layer formed the extent of the area analyzed in the following processes.

Figure 1: Exclusive Farm Use, Forest, and Mixed Farm-Forest Zoning on Non-Federal Lands



[7] Digital zoning data was unavailable for Gilliam County.

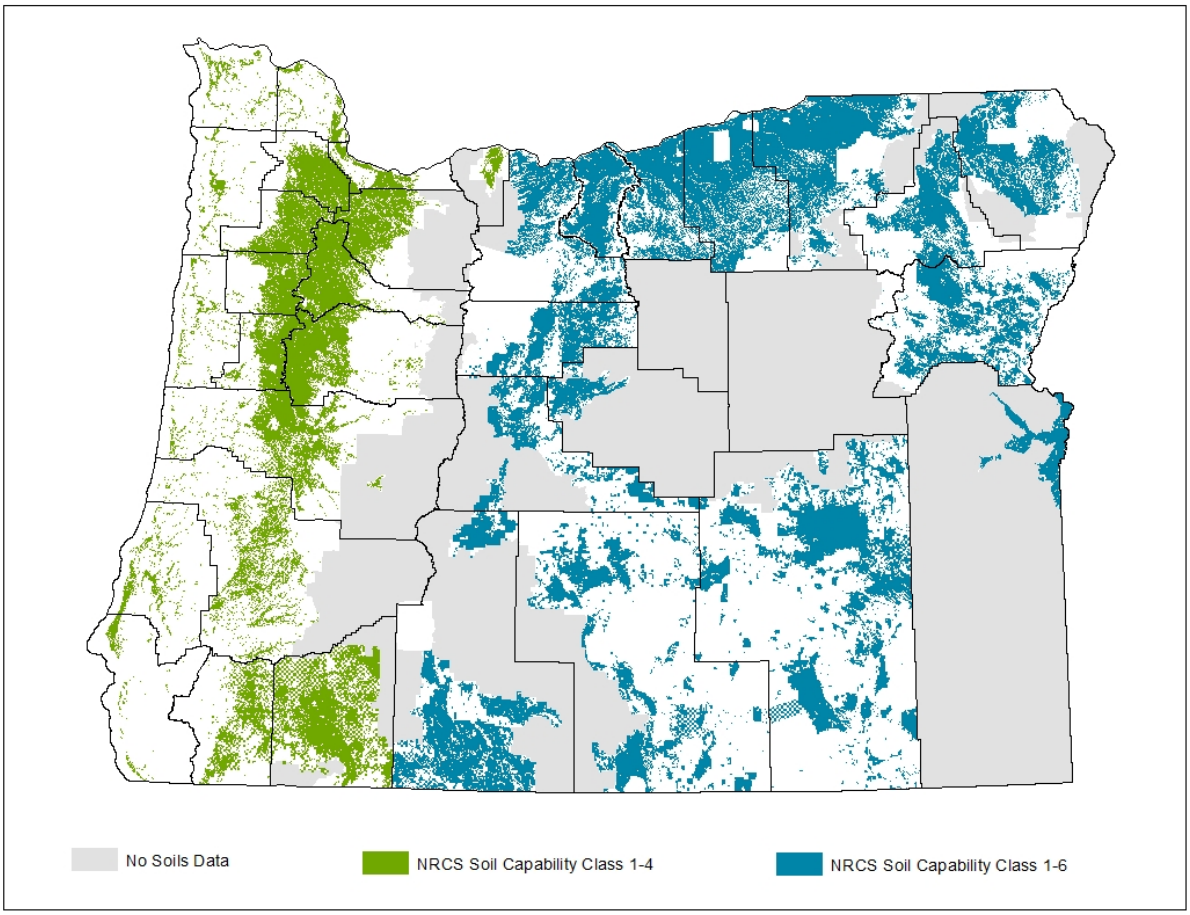
Agricultural Land

Agricultural Capability Classification

"Agricultural land" as defined by OAR 660-033-0020(1) is land composed of Class I-IV soils in Western Oregon and Class I-VI in Eastern Oregon as determined by Natural Resource Conservation Service (NRCS) soils data. Per this definition, the NRCS Gridded Soil Survey Geographic dataset for Oregon was used to determine agricultural soil capability classes for both irrigated and nonirrigated classifications. The NRCS Gridded Soil Survey Geographic is the most detailed level of soil geographic data developed by the National Cooperative Soil Survey depicting information about the types and distribution of soils across Oregon. Soil map units are linked to attributes in the National Soil Information System relational database, giving the proportionate extent of the component soils and their properties. Large areas, particularly in Eastern Oregon, have not yet been surveyed yet, although NRCS is actively working on private land in these areas which should be done in the next five years.

For the purposes of this analysis, lands were considered to be agricultural land if they had either an irrigated or nonirrigated capability class of I-IV/I-VI due to lack of consistent statewide data regarding existing, former, or potential future irrigation rights. See Figure 2 for results. The ability to irrigate soils requires a more detailed analysis when lands are proposed for rural resource designation.

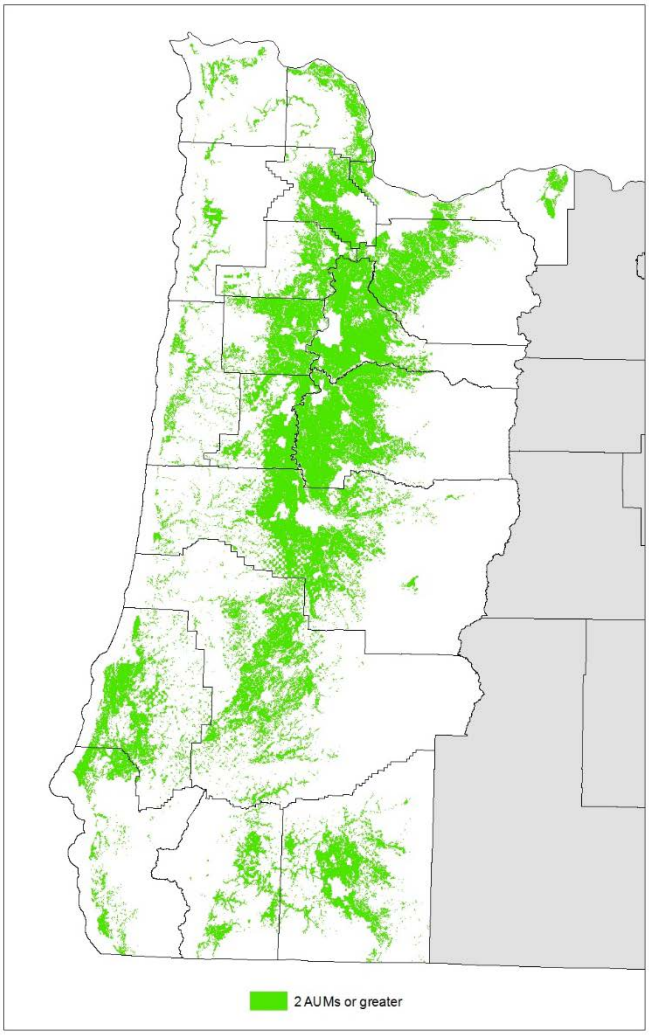
Figure 2: NRCS Agricultural Capability Classes on Non-Federal Lands



Suitability for Farm Use

In addition to NRCS soil capability classes, OAR 660-033-0020(1) further defines agricultural land as land in other soil classes that is suitable for farm use, taking into consideration soil fertility, suitability for grazing, climatic conditions, existing and future availability of water for farm irrigation purposes, existing land use patterns, technological and energy inputs required, and accepted farming practices. Land may also be suitable for farm use if it is necessary to allow farm practices to occur on nearby lands or if it is intermingled with lands in capability classes I-IV/I-VI within a farm unit. A property specific evaluation is most likely necessary to definitively ascertain whether or not a specific parcel meets the agricultural lands definition by these additional criteria, if the definition is not met by NRCS soil capability class.

Figure 3: Animal Unit Months (AUMs) for Western Oregon on Non-Federal Lands



Animal Unit Months (AUMs): Animal Unit Months are a measure of carrying capacity and land suitability for grazing and livestock production. AUMs are computed from the NRCS soils database as a way to assign pasture yields on a per acre basis for both irrigated and non-irrigated lands. Specifically, a single AUM unit denotes the amount of forage required to sustain one mature 1,000 pound cow and a calf up to 6 months of age, or equivalent (five sheep or goats, one bull or one horse), for one month. Two AUMs per acre has been considered suitable for grazing by ODA, which correlates with being capable of sustaining two cow/calf pairs, with the above stipulations, for an entire growing season. As AUMs are based on pasture yields, it is important to consider that the definition of pasture includes a high level of management which includes "periodic renovation and/or cultural treatments such as tillage, fertilization, mowing, weed control, and may be irrigated."[8] For this reason, AUMs are generally considered only applicable to Western Oregon, although there are some lands on the eastside which might have a level of management appropriate for AUM threshold application. For Eastern Oregon, pounds of forage per acre is the appropriate

[8] United States Department of Agriculture. *NRCS Range and Pasture Handbook: Glossary*. <https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17746.wba>.

measure but there has been no definitive determination as to what is a reasonable productivity threshold for grazing operations. However, ten acres per AUM is considered excellent pasture for native rangeland in Eastern Oregon. Many commercial livestock producers depend on seasonal pasture that is less productive than ten acres per AUM. Additional criteria outside of productivity threshold metrics are necessary to maintain viable livestock operations including a minimum number of acres and a variety of land types to accommodate seasonal changes. These factors may require additional consideration by counties. See Figure 3 for analysis results.

Questions also remain regarding the development of appropriate eastside threshold parameters. It will likely be necessary to work with ODA and NRCS to identify beneficial forage and determine a suitable quantitative metric threshold for eastside range productivity. Conclusions would need to be verified through on-the-ground field analysis and stakeholder input.

Prime and unique farmland: Prime and unique farmland soils are considered to be high-value farmland soils per ORS 215.710.[9] In a limited number of circumstances, land that is classified as prime or unique farmland does not have a capability class that would automatically make it agricultural land. However, these areas may be suitable for farm use. It should also be noted that NRCS has not mapped unique soils across Oregon as has been done in other states. For the purposes of this report, farmland was considered to be prime or unique regardless of whether it needs to be irrigated or drained to receive those soil designations.

High-value farmland portions of American Viticultural Areas: Portions of Oregon's American Viticultural Areas are considered to be high-value farmland per the definition in ORS 195.300(10).[10] High-value American Viticultural Area data is derived from United States Geological Survey ten-meter digital elevation models processed to identify cells with aspect, slope, and elevation values meeting certain criteria and falling within specific viticultural areas. If land falls within high-value farmland portions of the specified American Viticultural Areas, it may be suitable for farm use.

Irrigation Districts: Irrigation is critical to consider as irrigated agriculture uses an estimated 86 percent of the water diverted from surface water or pumped from groundwater sources in the

[9] Prime farmland is defined by NRCS as "land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses." Unique farmland is "land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables."

[10] ORS 195.300(10)(e) and (f): (10) "High-value farmland" means: (e) Land that is in an exclusive farm use zone and that is at an elevation between 200 and 1,000 feet above mean sea level, with an aspect between 67.5 and 292.5 degrees and a slope between zero and 15 percent, and that is located within: (A) The Southern Oregon viticultural area as described in 27 C.F.R. 9.179; (B) The Umpqua Valley viticultural area as described in 27 C.F.R. 9.89; or (C) The Willamette Valley viticultural area as described in 27 C.F.R. 9.90. (f) Land that is in an exclusive farm use zone and that is no more than 3,000 feet above mean sea level, with an aspect between 67.5 and 292.5 degrees and a slope between zero and 15 percent, and that is located within: (A) The portion of the Columbia Gorge viticultural area as described in 27 C.F.R. 9.178 that is within the State of Oregon; (B) The Rogue Valley viticultural area as described in 27 C.F.R. 9.132; (C) The portion of the Columbia Valley viticultural area as described in 27 C.F.R. 9.74 that is within the State of Oregon; (D) The portion of the Walla Walla Valley viticultural area as described in 27 C.F.R. 9.91 that is within the State of Oregon; or (E) The portion of the Snake River Valley viticultural area as described in 27 C.F.R. 9.208 that is within the State of Oregon.

state, with 40 percent of Oregon's farms relying on some level of irrigation.[11] The state requires irrigation districts to measure and report water use. Water rights in irrigation districts are managed by the district and are subject to frequent changes. The current irrigation districts GIS data layer available, provided by OWRD, is incomplete due to a lack of reporting. Further development of this dataset would provide decision makers with a better understanding of where governmental and physical water infrastructure may currently exist for agricultural uses. If land is inside an irrigation district, it may be inappropriate to designate it as rural resource land.

Irrigated Places of Use: The OWRD Places of Use dataset provides basic information on where the water right is being used and what it is being used for (e.g., irrigation, construction, recreation). All current and individually held water rights are included in the dataset except where held by irrigation districts, applications, temporary transfers, instream leases, and limited licenses. This data, updated on a regular basis, gives decision makers an understanding of where water is currently being reported as used for agricultural and forest uses. If land holds an irrigated water right, it may be inappropriate to designate it as rural resource land.

Forest Land

Woody Biomass Productivity Capability

OAR 660-006-0005(7) defines "forest lands" and 660-006-0010 provides a data hierarchy for evaluating biomass productivity capability. Productivity capability data was evaluated in this order, with data sources lower in the hierarchy used only when the primary data was unavailable:

1. NRCS productivity data
2. DOR Western Oregon site class data
3. USDA Forest Service plant association guides
4. Other information determined by the State Forester to be of comparable quality. In this case, U.S. Forest Service (USFS) Historic Vegetation was utilized as recommended by ODF.

NRCS productivity: Annual woody biomass production capability was determined through analysis of a layer provided by ODF, which contains NRCS Statewide Forest Productivity data. To compute annual wood production, productivity in cubic feet per acre per year was calculated as a weighted average, based on the percentage makeup, of the productivity ratings for the soil components which comprise a map unit from NRCS soils data. Where productivity calculations were available for multiple different tree species, the highest value was used. Unmapped areas are those that did not have a productivity rating available. A lack of productivity rating often, but not always, corresponds to non-forest areas. Non-forest areas may be capable of producing the minimum capability threshold even if they were not evaluated by NRCS for forest productivity.

Annual woody biomass production capability thresholds, 50 cubic feet per acre per year (cfay) or greater based on NRCS soils data using a weighted average calculation in Western Oregon and 20 cfay in Eastern Oregon, were selected based on information gathered during the SORPP process, input from ODF staff, and review of case law. The State of Oregon has

[11] Oregon Water Resources Department. (2017). *Oregon's Integrated Water Resources Strategy*. <https://www.oregon.gov/owrd/wrdpublications1/2017_IWRS_Final.pdf>.

consistently used a threshold of 20 cfay to define commercially viable forestland in Eastern Oregon and has either used a 20 or 50 cfay threshold to define commercial viability in Western Oregon. Current Forest Practices Act Reforestation Rules (OAR 629-610-0010) requires reforestation on any land capable of producing 20 cfay after a timber harvest has occurred. Land with a NRCS productivity rating of 20 cfay or greater for Eastern Oregon and 50 cfay or greater for Western Oregon is most likely "forest land" and not eligible for designation as rural resource lands.

DOR site class maps: For the purposes of property taxation, Oregon DOR assigned values to forestland in Western Oregon by classifying land into eight productivity classes. Oregon DOR's land productivity classifications, provided by ODF, indicate the average productivity class for 40-acre blocks of land in Western Oregon, as surveyed in the 1960s and 1970s. This data only exists for the west side and thus is not applicable to Eastern Oregon. DOR data has only been utilized when NRCS productivity data is unavailable. Land that falls within a DOR Forest classification capable of producing 50+ cfay in Western Oregon are most likely forest land as defined in OAR 660-006-0005(7) and subject to Goal 4 protection.

USDA Forest Service plant association guides: The use of USDA Forest Service plant association guides requires a field survey of plants within a specific parcel or area. The field observations would be cross-referenced with the guide in order to determine the "association type" of the field site. Using the guide, productivity could be inferred from the survey results. Plant association guides are not available statewide. Plant association guides may be useful when evaluating property specific zone change applications but have not been utilized as part of this analysis due to the need for field verification.

USFS Historic Vegetation: The U.S. Forest Service layer for Historic Vegetation comes from a 1930s forest resources survey which was later digitized.[12] The original vegetation types were sorted by ODF into "forest" and "non-forest" categories, where juniper was treated as "non-forest" for these purposes. Although this dataset does not quantitatively assess productivity, ODF considers the 1930s forest resources survey to be a high-quality data source which identifies lands that were historically capable of sustaining productive forest. USFS Historic Vegetation data should only be utilized when NRCS productivity data and DOR data are unavailable. Land that has a USFS Vegetation category of "forest" may be capable of forest productivity meeting the thresholds utilized in evaluating NRCS and DOR data.

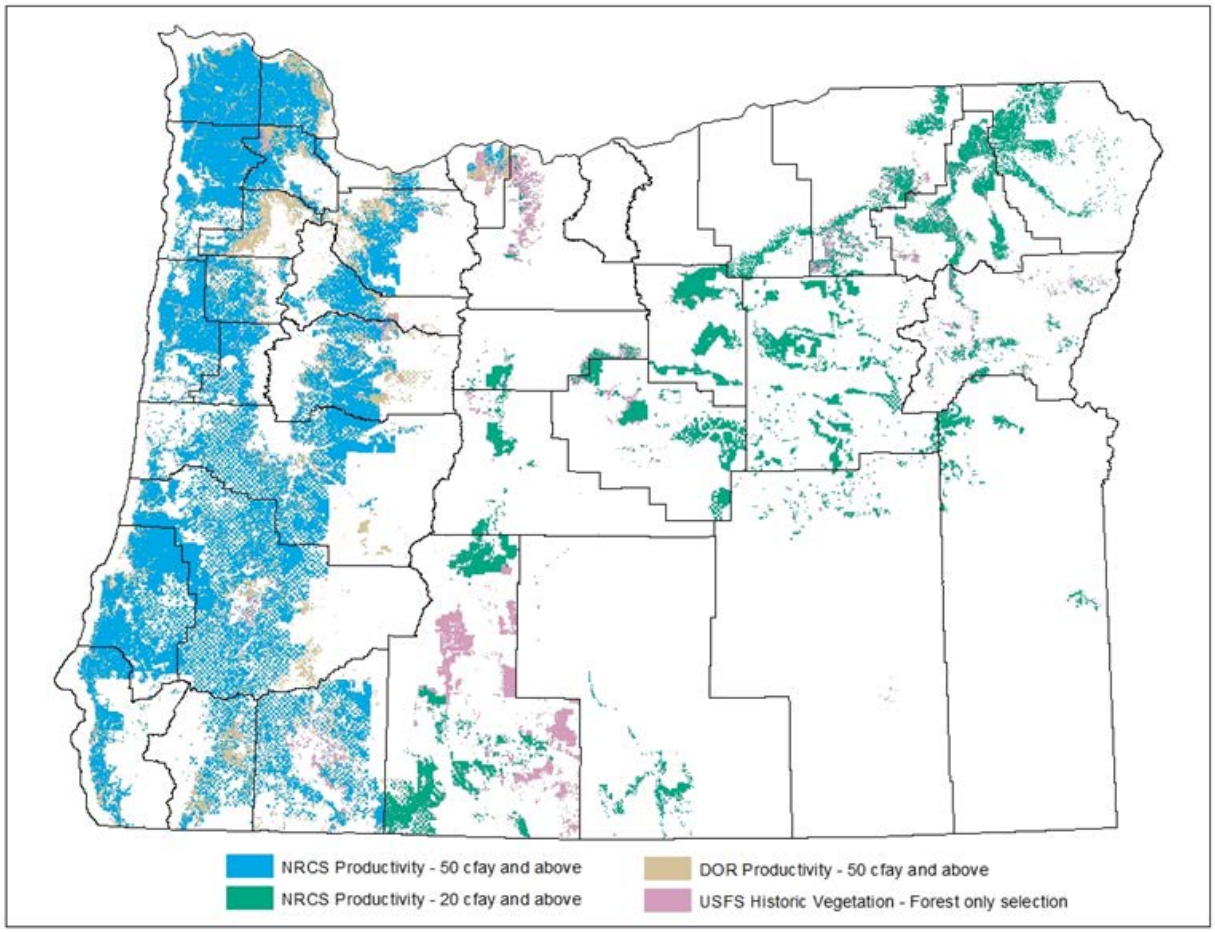
See Figure 4 for results.

Suitability for Forest Use

Suitability for forest use is tied to woody biomass productivity but also includes "adjacent or nearby lands which are necessary to permit forest operations or practices." Adequately addressing the suitability aspect of forest land reinforces the need for a detailed local analysis due to the inherent data gaps and limitations present in geospatial analysis such as was conducted for this report.

[12] United States Forest Service. "The 1930s Survey of Forest Resources in Washington and Oregon." <https://www.fs.fed.us/pnw/pubs/pnw_gtr584.pdf>.

Figure 4: Non-Federal Forest Lands Derived from NRCS, DOR, and Historic Vegetation Data



Natural Resources

The definition for "forest lands" in OAR 660-006-0005(7)(b) includes "other forested lands that maintain soil, air, water and fish and wildlife resources." To address this portion of the definition, data presented under the following Carrying Capacity Evaluation section should be considered. Additionally, agricultural lands may provide similar natural resource benefits but this consideration is not addressed within the current definition of agricultural land.

Conclusions from the Farm and Forest Resource Evaluation

DLCD has identified several datasets that are useful in determining which lands should continue to be protected under Statewide Planning Goals 3 and 4. NRCS-derived capability and productivity data is particularly useful due to the extent and quality of the data for determining both farm and forest land, with improvements being made continuously. As stated above, the NRCS soils data will be updated within the next five years to include areas where data does not currently exist, most notably in Eastern Oregon.

Regarding grazing potential, the 2 AUMs and greater threshold denoting viable pastureland on the westside is a useful metric for analysis, although the high level of management defining

pastureland may allow for some application of this metric to lands on the eastside meeting the pasture definition. A significant data omission is eastside forage productivity threshold data. This will likely consist of working with ODA and NRCS to determine beneficial forage species and productivity levels associated with soil capabilities. Consideration should also be given to whether AUM or beneficial forage thresholds should be added to the definitions of agricultural and forest lands.

A significant opportunity exists to incorporate natural resource data into farm and forest definitions to account for the considerable benefits provided by Oregon's vital natural resources. Information in the Carrying Capacity Evaluation section may be useful in this endeavor.

Carrying Capacity Evaluation

A carrying capacity evaluation requires analysis of multiple factors to determine whether potential rural resource land should continue to be protected as resource land in order to meet other Statewide Planning Goals or whether potential rural resource lands are suitable for development and in what form and density. Unless the process in ORS 215.788-794 is utilized, counties are not required to conduct a formal carrying capacity evaluation when designating rural resource lands although they do have to demonstrate compliance with the other Statewide Planning Goals.

The rural resource lands approval option in ORS 215.788-794 does require a formal carrying capacity analysis and is the basis for evaluation of potential rural resource lands under this section. DLCD has reviewed available data that can be used to evaluate the effect of development on:

- Fish, wildlife habitat, and other ecologically significant lands;
- Water quality or the availability of water supply; and
- Natural hazards including wildfire, flooding, and landslides.

In addition, ORS 215.791 requires consideration of:

- Ensuring that development will be rural and not urban in character;
- Impacts to farm and forest uses or practices;
- Impacts to development in urban areas;
- Energy use;
- State or local transportation facilities; and
- The cost of public facilities or services and the fiscal health of a local government.

Spatial data is not readily available or easily analyzed for these factors on a statewide scale. However, possible considerations for evaluation are discussed in this section as these issues are critical to evaluating the type and form of development on rural lands.

Fish, Wildlife Habitat, and Other Ecologically Significant Lands

The protection of natural resources is considered in the definition of Forest Lands in the phrase: "other forested lands that maintain soil, air, water and fish and wildlife resources" as well as in

Statewide Planning Goal 5. Due to the wording in both the Forest Lands definition and Goal 5 there is variation in how counties apply these rules—regarding what resources should be considered, how they should be evaluated, how to determine resource significance, and how to secure protections. In addition, many comprehensive plans and the accompanying Goal 5 resource inventories across the state have not been updated since LCDC's original acknowledgement in the 1980s. As a result, the best available natural resource data is not always included in local comprehensive plans or utilized when making land use decisions. Thus rural resource designations may create conflicts between newly allowed uses and natural resources. Due to these circumstances, it may be appropriate to evaluate rural resource lands using the best available data to avoid or minimize these potential conflicts, which may include a consideration of data beyond the outdated acknowledged Goal 5 inventories. In addition, it may be appropriate to consider conservation values, including restoration of natural resources, when determining the appropriate density and location of development.

Oregon Conservation Strategy

As ODFW is the agency responsible for developing the Oregon Conservation Strategy, DLCD worked with ODFW in assessing which natural resource GIS data would be most useful to address the rural resource lands issues. Although ODFW is charged with the protection and enhancement of fish and wildlife species, the agency has very limited authority over the habitat on which fish and wildlife depend. To address these cross-boundary management issues ODFW updated the Oregon Conservation Strategy[13] in 2016 using the best available scientific information to inform fish and wildlife conservation planning efforts statewide. This statewide strategy provides a shared set of priorities with corresponding recommended voluntary actions and tools. The natural resource geospatial data referenced in this section has been selected in consultation with ODFW, using the Conservation Strategy as guidance.

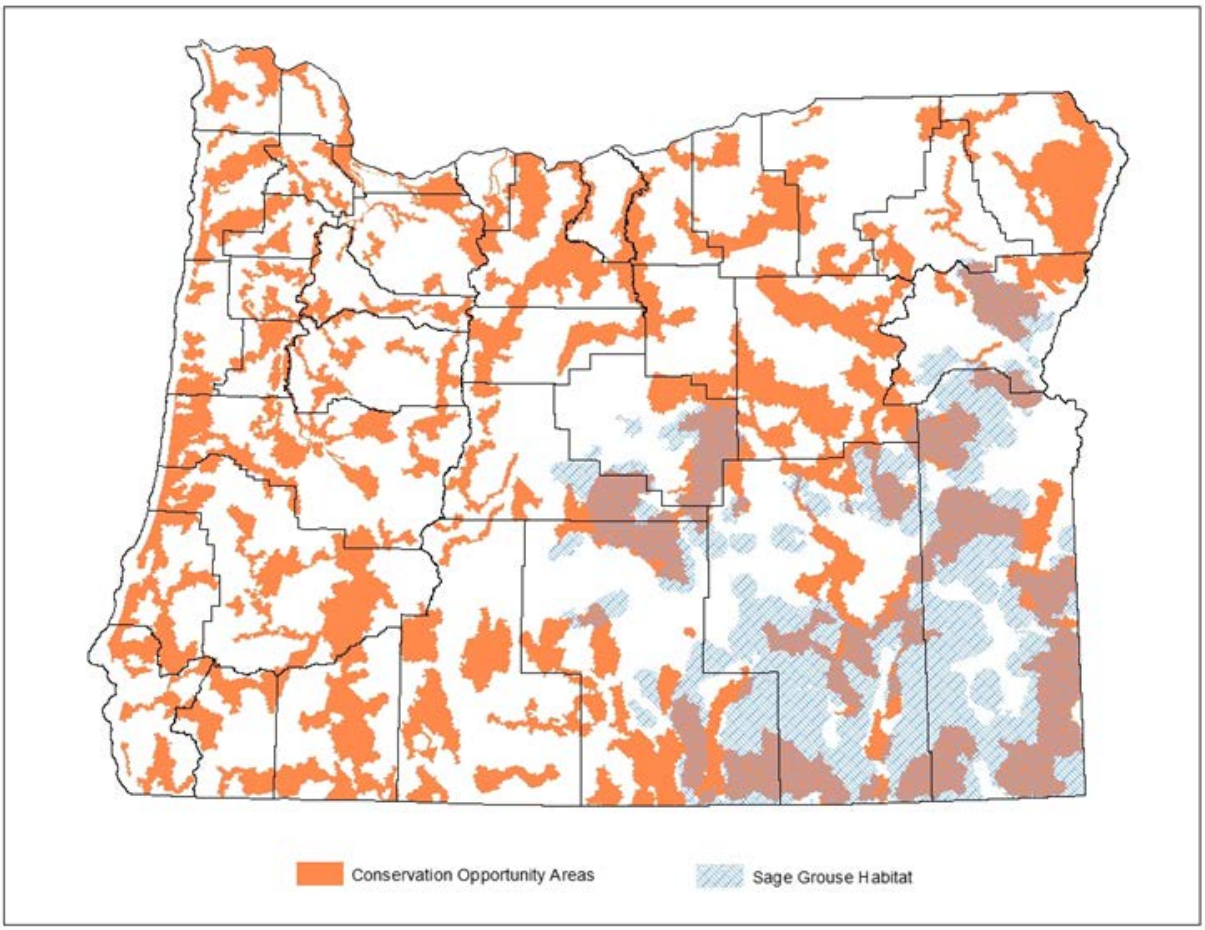
Conservation Opportunity Areas (COA): A component of the Oregon Conservation Strategy, Conservation Opportunity Areas (see Figure 5), encompass 206 priority conservation areas across the state. These areas are places where broad fish and wildlife conservation goals would best be met. COAs are generally either areas of high biodiversity, areas with unique habitat values, or areas with known restoration needs. All COAs have an associated COA profile, providing details about the area's Conservation Strategy priorities, recommended actions consistent with local priorities and ongoing conservation efforts.[14] For example, Crater Lake's COA profile details recommended conservation actions: "maintain or enhance wetland and wet meadow habitat" and "work with national and regional partners to provide Conservation Strategy outreach."

Although COAs were primarily developed to focus investments, there is precedent for using this data in making land use decisions. ORS 215.791, developed as part of "The Big Look" in 2009, requires counties designating rural resource lands to consider the 2006 version of the Oregon Conservation Strategy when evaluating whether such lands contain ecologically significant natural areas or resources. As previously mentioned, counties have not utilized "The Big Look" option when designating rural resource lands. Consideration of the current version of the Oregon Conservation Strategy when designating rural resource lands would help ensure that lands of ecological significance not identified in adopted Goal 5 inventories are zoned

[13] The Oregon Conservation Strategy site. <http://www.oregonconservationstrategy.org/>.
[14] Find COA profiles here: <http://oregonconservationstrategy.org/conservation-opportunity-areas/>.

appropriately for natural resource conservation. COAs may also be useful as a screening tool which may allow for those lands which fall inside a COA to trigger on-the ground site-specific natural resource analysis in consultation with ODFW before development may be considered. An on-site ODFW evaluation may be useful in determining the appropriate density and form of development (e.g. require large minimum lot sizes or clustering of structures to avoid sensitive habitat).

Figure 5: Conservation Opportunity Areas and Sage Grouse Habitat



Strategy Habitats: The 2016 Oregon Conservation Strategy identifies 11 Strategy Habitats[15] which focus on native habitats of conservation concern that are essential to many Strategy Species within the state. Strategy Species identifies 294 species of greatest conservation need and are defined as having small or declining populations, are at-risk, and/or are of management concern. For each Strategy Habitat and Strategy Species, information is provided in the Strategy that includes a conservation overview, data gaps, limiting factors to the species or habitat, recommended conservation actions, and available resources. To support the 10 year Oregon Conservation Strategy revision in 2016, the Institute for Natural Resources's (INR) Oregon Biodiversity Information Center (ORBIC) at Portland State University was contracted to

[15] "Oregon Conservation Strategy: Strategy Habitats." <http://oregonconservationstrategy.org/strategy-habitats/>.

use best available data and analyses to update the mapped extent and distribution of the Oregon Conservation Strategy Habitats. The objective was to comb existing data sources and use the most up-to-date and highest resolution maps available in Oregon for each Strategy Habitat, within their associated ecoregion. The results of this effort are presented in this Strategy Habitat dataset as a 30m pixel raster grid.

Strategy Habitats are useful tools to identify where potential rural resource lands may have conflicting uses with habitat that support sensitive fish and wildlife habitat (e.g., Strategy Species). Strategy Habitats may be evaluated during the consideration of eligible rural resource lands to identify those lands no longer qualifying as farm or forest land but that may have a significant conservation priority to address. This dataset can also be evaluated as part of any potential updates to existing Goal 5 resource maps and, based on the specific habitat or species, a more programmatic assessment of conflicting uses can be evaluated based on the rural resource lands proposed allowed uses. Additionally, ORBIC data, which informs much of the Conservation Strategy's geospatial data, could be useful in making more detailed spatial inquiries, although it is only available behind a $5,000 paywall, making it substantially more difficult to gain access to. Strategy Habitat data is intended to provide a broad view for these habitat types using the best available geospatial data. However, conditions may vary by site, watershed, or ecoregional level based on differences in soil, climate, and management history. Therefore, local conditions will need to be considered when determining site-appropriate conservation actions.

Oregon Fish Habitat Distribution

Oregon Fish Habitat Distribution maps provide data on the distribution of high priority fish species habitat. This data describes areas of suitable habitat believed to be used currently or historically by native or non-native fish populations. The term "currently" is defined as within the past five reproductive cycles. Historical habitat includes suitable habitat that fish no longer access and will not access in the foreseeable future without human intervention. This information is based on sampling, the best professional opinion of ODFW or other natural resources agency staff biologists or modeling. Historical habitat distribution data is not comprehensive.

While most comprehensive plans include a riparian buffer for perennial and intermittent streams, there are varying datasets and analysis used to apply appropriate protections. Assessment of current fish distribution, through the evaluation of this dataset, is a useful tool to gauge potential conflicts for streams that may have state or federally listed aquatic resources. Rural resource lands with aquatic habitats necessary for sustaining those aquatic resources for high priority fish species could apply more protective riparian protections (i.e., larger riparian buffers to avoid or minimize conflicts as a result of the new allowed uses). This dataset is useful in identifying important fish bearing streams and applying appropriate riparian buffers (i.e., Goal 5 Riparian Corridors) to avoid and minimize impacts to those aquatic resources, including many that may be listed as threatened or endangered.

Greater Sage-Grouse Habitat

Greater Sage-Grouse habitat is a distinctive wildlife resource subject to a multiplicity of threats across a wide landscape spanning several states on both public and private land. Due to the cross-boundary nature of sage-grouse management, partnership and cooperation among diverse stakeholders with accompanying voluntary conservation measures is key. In response to collaborative conservation planning for sage-grouse and the need to encourage responsible economic development, the Greater Sage-Grouse Conservation Assessment and Strategy, Oregon Sage-Grouse Action Plan, and Sage-Grouse Mitigation Program were developed. Through these planning and program efforts data were derived to map significant sage-grouse habitat and improved representation of vegetative components within sage-grouse habitat that can both be used to prioritize locations for proposed development, conservation, restoration, and mitigation actions. Specifically, the goal of these datasets is to protect essential sage-grouse habitats to meet habitat and population objectives. These data were derived based on proximity to sage-grouse leks[16] and as such may exhibit bias towards breeding and nesting areas.

To supplement this data, the Sage-Grouse Development Siting Tool[17] is an interactive application that allows prospective developers to input project data in order to get a coarse level perspective of potential project impacts to sage-grouse and their habitats. The tool utilizes best available remotely-sensed data on existing development, vegetation condition, and other land uses to provide information to help developers site projects within and adjacent to sage-grouse habitat. Prospective developers should contact the ODFW to discuss results of the Sage-Grouse Development Siting Tool and other important avoidance, minimization, and mitigation requirements contained within the Greater Sage-Grouse Conservation Strategy for Oregon (OAR 635-0140). The Oregon Sage-Grouse Data Viewer and Sage-Grouse Development Registry Viewer are also tools available through the Oregon Explorer website that are aimed at providing information about sage-grouse to help conservation and development action placement and track development actions in and around sage-grouse habitat. Additional tool(s) may be developed to provide landscape level information to help strategically place mitigation actions to increase potential benefits to sage-grouse.

Greater Sage-Grouse habitat (see Figure 5) is already considered a Goal 5 resource in the DLCD rule (OAR 660-023-0115). Maps are directly applied in county reviews unless a local jurisdiction goes through Goal 5 process, which has not yet occurred in any counties with such habitat.

Big Game Habitat

Big Game Habitat, including winter range, is already protected as a Goal 5 resource in local comprehensive plans across the state. However, many counties have not updated their big game maps since comprehensive plan acknowledgment. Additionally, comprehensive plans often do not specifically identify sensitive migration corridors. Protecting these areas is critical to maintaining habitats which sustain viable big game populations in Oregon. ODFW is working on

[16] (j) “Lek” means an area where male sage-grouse display during the breeding season to attract females (also referred to as strutting-ground). OAR 660-023-0115(3)
[17] Oregon Explorer: Sage-Grouse Development Siting Tool. <https://tools.oregonexplorer.info/OE_HtmlViewer/index.html?viewer=sage_grouse_dev_siting>.

habitat connectivity mapping which will be available within the next three years which will further identify key conservation areas to support deer and elk in Oregon.

Big Game Habitat data is broken into Western Oregon Big Game Habitat and Eastern Oregon Big Game Habitat. Western Oregon Big Game Habitat contains two datasets: 1) Columbian White-tailed Deer (CWTD) – Occupied Habitat 2015 and 2) Western Oregon Deer and Elk Habitat. Columbian White-tailed Deer (CWTD) – Occupied Habitat 2015 covers critical, year-round habitats including brushy deciduous trees and shrubs and/or oak savanna habitats providing functions and values necessary to satisfy all CWTD life history needs. Much of these habitat areas, although impacted by anthropogenic development, are the only remaining available habitat for Columbian White-tailed Deer in Oregon. Western Oregon Deer and Elk Habitat is not inclusive of all big game species but it further categorizes habitat based on how Columbian black-tailed deer, Columbian white-tailed deer and Roosevelt elk use the habitat. Generally, deer and elk need habitat which provides a combination of food, water, and security to survive and reproduce. Abundance, distribution, and connectivity of these habitats are crucial to species survival and may vary seasonally depending on a specific species dependence on migratory or non-migratory behavior to fulfill life history requirements. Habitats supporting Black-tailed deer exhibiting a predominately migratory life history are subdivided into Summer Concentration Habitat and Winter Concentration Habitat. Habitats supporting Black-tailed deer and Elk exhibiting a predominately non-migratory life history are subdivided into Year-around Major Habitat and Year-round.

Western Oregon Deer and Elk Habitat are broken down as follows:

- Peripheral Habitat are those areas where the presence of deer and elk are considered in conflict with primary land uses and are described as Impacted Areas.
- Winter Concentration Areas are seasonal concentration areas providing essential and limited functions and values (e.g. thermal cover, security from predation and harassment, forage quantity, adequate nutritional quality, escape from disturbance, etc.) for concentrated migratory deer or elk typically from November through April.
- Summer Concentration Areas are seasonal concentration areas providing essential and limited functions and values (e.g., thermal cover, security from predation and harassment, forage quantity, adequate nutritional quality, calving and fawning areas, etc.) for concentrated migratory deer or elk typically from May through October.
- Year-round Major Habitat includes areas identified and mapped as providing essential functions and values (e.g., thermal cover, security from predation and harassment, forage quantity, adequate nutritional quality, calving and fawning areas, etc.) for non-migratory deer or elk.
- Year-round Peripheral Habitat includes areas identified and mapped as providing important but not essential functions and values (e.g. cover, forage, etc.) for deer or elk.
- Impacted Areas are identified by anthropogenic development such as areas within UGBs, city limits, otherwise determined to be less suitable habitat for deer or elk because of conflicts with proximity to humans, disease, damage, or public nuisance resulting from use by local or resident deer or elk.

Eastern Oregon Big Game Habitat is comprised of two datasets: Eastern Oregon Deer Winter Range and Eastern Oregon Elk Winter Range.[18] Eastern Oregon Deer Winter Range includes a single set of polygons which encompass the general outline of deer winter range for eastern Oregon, east of the crest of the Cascades. ODFW considers Winter Range to be that area normally occupied by deer from December through April. Data are current to 2009 except for updates made in 2012 to portions of The Dalles and Heppner Districts. Eastern Oregon Elk Winter Range includes a single set of polygons which encompass the general outline of elk winter range for eastern Oregon, east of the crest of the Cascades. The Oregon Department of Fish and Wildlife considers Winter Range to be that area normally occupied by deer from December through April. The data were assembled in 2009 with updates for The Dalles District in 2012.

Big game habitat data maps were not provided as part of this report due to the complexity and overlap of big game data layers. However, this data remains available for county use and it would be beneficial for DLCD to continue working with ODFW on appropriate application methods. While most comprehensive plans include Goal 5 considerations for big game, the acknowledged maps and implementing ordinances have typically not been updated to use the best available data and apply necessary protections to avoid conflicting uses. Utilizing the most recent big game data would help support the life history needs for big game and avoid or minimize conflicts with increased development densities.

Wetlands

Wetlands provide vital ecosystem services including flood storage and water supply, water quality improvement, food-web support, wildlife and fish habitat, as well as aesthetics, recreation, education. Oregon has lost a significant portion of its wetlands to other land uses, however these habitats remain of critical importance across the state and are identified as a Strategy Habitat in the Oregon Conservation Strategy.[19] Wetlands are already identified as significant Goal 5 resources in many local comprehensive plans across the state. However, many counties have not updated wetland inventories since original adoption in the 1980s and significant wetlands on acknowledged Goal 5 maps may not reflect current data related to water quality or wildlife habitat. [20] Improved geospatial data is available to assist in evaluating priority wetland areas and how the proposed new uses from development in rural resource zones may conflict with many of the ecosystem services they provide. Datasets which should be utilized in evaluating wetland considerations includes a combination of the National Wetland Inventory (NWI), Statewide Wetland Inventory (SWI), and Local Wetland Inventories (LWI). Using more recent data in rural resource designations would help avoid conversion of wetlands and direct development to suitable locations.

The U.S. Fish and Wildlife Service has developed a National Wetland Inventory as the principal agency tasked with national wetland management. The NWI delineates the areas of wetlands and surface waters based on an aerial data gathering methodology where wetlands were identified by their vegetation, visible hydrography and geography. The NWI dataset is

[18] ODFW Data Clearinghouse. Oregon Department of Fish and Wildlife. “ODFW Deer and Elk Winter Ranger for Eastern Oregon (2012).”
[19] Oregon Department of State Lands. “Wetland Planning and Conservation.” <https://www.oregon.gov/dsl/WW/Pages/WetlandConservation.aspx
[20] Ibid.

supplemented by the U.S. Geological Survey's National Hydrography Dataset, primarily for linear wetland and water surface features. Although they may be key, certain types of "farmed wetlands" are excluded from the dataset by policy. Due to the limitations and gaps inherent in this data gathering methodology, detailed on-the-ground site inspection is recommended. This dataset is to be integrated with the Oregon Department of State Lands' Statewide Wetland Inventory.

The Oregon Department of State Lands (DSL) is currently developing a Statewide Wetland Inventory which is an amalgamation of the NWI and DSL-approved LWI as well as the U.S. Geological Survey's National Hydrological Dataset and the U.S. Department of Agriculture National Resources Conservation Service Soil Survey data. Again, due to the limitations and gaps inherent in this data gathering methodology, detailed on-the-ground site inspection is recommended.[21]

The DSL SWI should be evaluated along with other geospatial datasets referenced above, such as Strategy Habitat or COAs, to assist in prioritizing and protecting significant wetlands, such as those providing a local watershed need or critical wildlife function. Prioritizing wetlands that are of particular importance to conservation actions should be considered and those conflicting uses be avoided or minimized to reduce potential conflicts (e.g., larger buffer around significant wetland). Consideration of this dataset with the COA overlay, for example, may also provide opportunities to develop incentives to either avoid or minimize development impacts to significant wetland areas or develop incentives to address or implement the conservation priorities.

Other Goal 5 resources

Goal 5 inventories also include natural areas, open space, scenic views and sites, federal wild and scenic rivers, Oregon scenic waterways. These areas may also be ecologically important. DLCD has not identified any new data layers that would better define these areas but they should be protected in accordance with current Goal 5 requirements in state rules and county comprehensive plans and land use ordinances.

Conclusion for fish, wildlife habitat, and other ecologically significant lands

A diversity of natural resource geospatial data exists across the state, although the extent, scalability, and applicability can vary considerably. It is likely beneficial to incorporate a subset of natural resource data into farm and forest definitions to appropriately recognize the conservation values provided by these resources. It will likely be beneficial for DLCD to institutionalize collaboration and communication with ODFW and other natural resource management agencies to determine how to best integrate their data for policy implementation. DLCD can utilize current natural resources data in consultation with the respective agencies while working with these same agencies to improve data for land use planning application.

[21] Oregon Department of State Lands. "Statewide Wetlands Inventory." <https://www.oregon.gov/dsl/WW/Pages/SWI.aspx>.

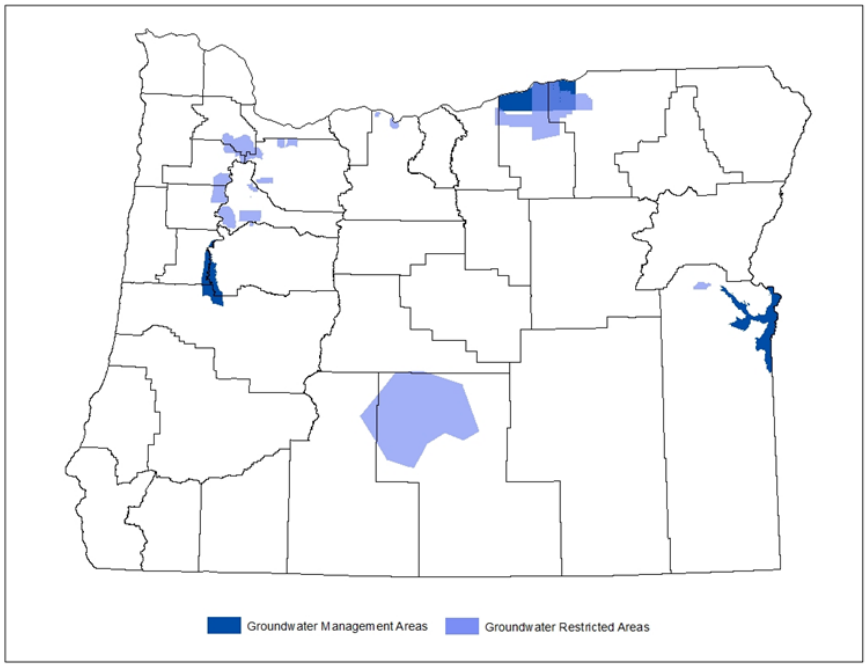
Water Quality and Quantity

Healthy watersheds and working lands are intimately connected. Degraded watersheds can negatively impact the economic viability of rangeland, farms, and forests. When sustainable management practices are employed, agricultural and forest lands provide valuable services and assets related to maintaining adequate water quality and quantity by supporting critical watershed functionality. Additionally, conversion of working lands to development can adversely influence water quality and quantity.[22] Rural development primarily affects water quality by increasing nutrient and bacterial inputs via faulty septic systems and increased road traffic.

Listed in this section are GIS datasets which may be of particular use when considering rural resource land designations.[23] Additional water availability considerations can be found in the "Agricultural Lands" section above. Development on lands which falls within multiple layers may have a greater chance of negatively impacting water quality and/or quantity and will likely trigger greater scrutiny in finer scale analyses.

<u>Groundwater Management Areas</u>

Figure 5: Groundwater Management Areas and Groundwater Restricted Areas



Oregon revised statute 468B.180 requires DEQ to declare a Groundwater Management Area (GWMA) when DEQ groundwater assessments reveal area-wide groundwater contamination problems at consistently high levels. Oregon currently has three groundwater management areas (Northern Malheur County, Lower Umatilla Basin, and Southern Willamette Valley) which exhibit widespread nitrate contamination (see Figure 6). Each area has developed a voluntary action plan to reduce nitrate concentrations in groundwater. This dataset gives decision makers an understanding of where widespread groundwater contamination currently exists and should likely trigger additional analysis regarding negative impacts on water quality indicators based on land use type and water quality issues.

[22] Sierra Nevada Alliance. (2008). *Planning for Water-Wise Development in the Sierra: A Water and Land Use Policy Guide*. <https://sierranevadaalliance.org/wp-content/uploads/2014/02/PlanningforWaterWiseDevelopment.pdf>.
[23] Merenlender, A. M. and Lohse, K. A. *Planners Guide: Chapter 9: Impacts of exurban development on water quality*. <https://ucanr.edu/sites/merenlender/files/143668.pdf>.

Groundwater Restricted Areas

The Oregon Water Resources Department has classified several areas where groundwater uses are restricted in order to prevent excessive groundwater decline, restore aquifer stability, and preserve aquifers with limited storage capacity for designated high public value uses. Limitations usually apply only to the specific aquifer that has had water-level declines or other documented issues, allowing for some occasions where groundwater may still be available at a different depth from a different aquifer. It is critical to note that water availability is dynamic as new uses for water are permitted. Even if water is shown to be unavailable, there may be conditional allowance for a limited number of specific uses to be permitted. Additionally, water availability is based on estimates with variable data reliability.[24] This dataset gives decision makers an understanding of where development may further strain water availability. Figure 6 shows the locations of groundwater restricted areas.

Natural Hazards

Local mitigation planning is vital to creating a disaster resilient Oregon. The 2015 Oregon Natural Hazards Mitigation Plan identifies eleven natural hazards in the state. For this review, natural hazards were considered based upon availability of relevant datasets. Wildfire, floodplains, and landslides were determined to be the most pertinent hazards to consider in relation to rural resource land designations. Other natural hazards such as tsunamis, earthquakes, and volcanic hazards might be useful for local planners to evaluate, depending on their respective location. Data and information associated with this section should be used to inform how to most appropriately locate and cluster rural development to avoid lands subject to natural hazards while minimizing effects on farm and forest uses and reducing costs of public facilities and services.

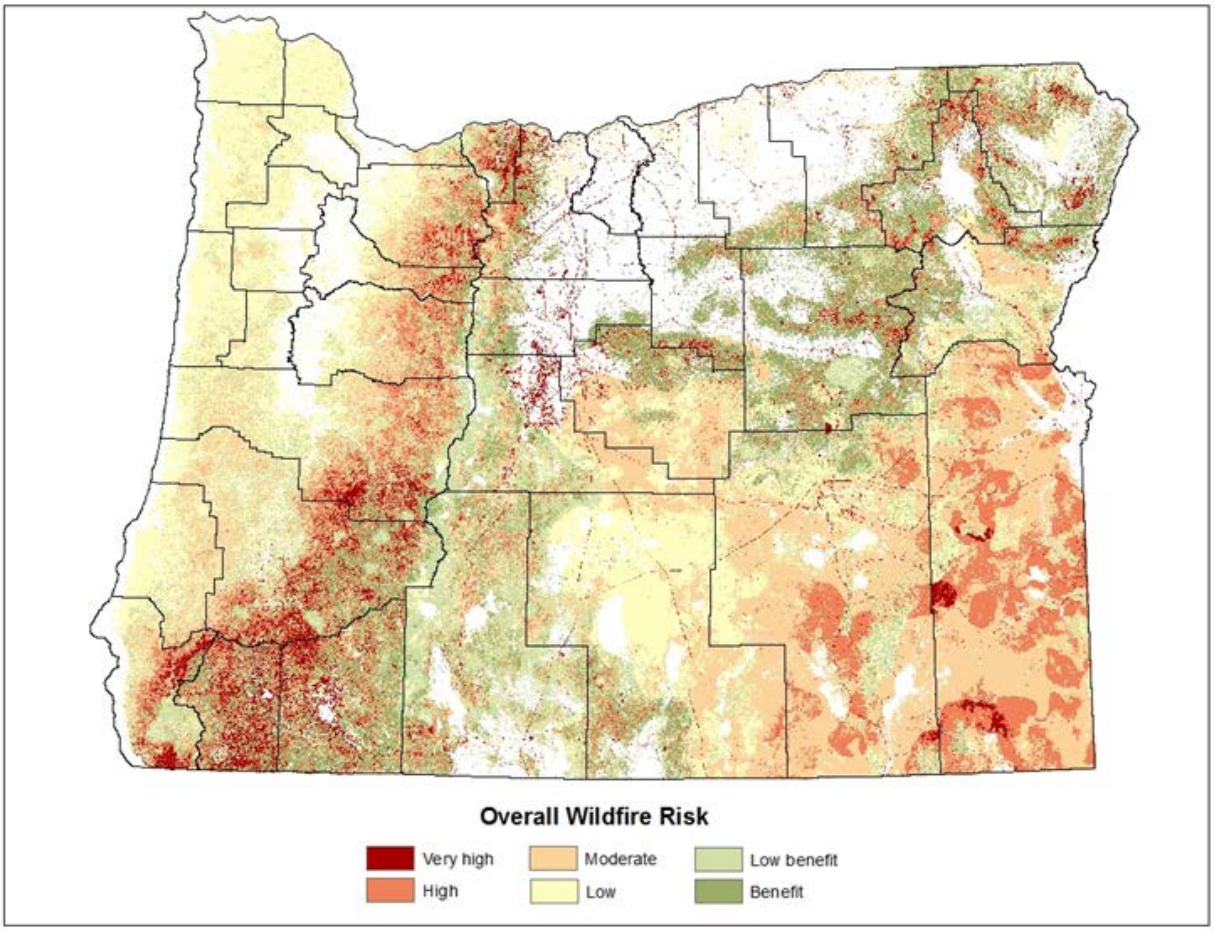
Wildfire Risk

Large, highly destructive wildfires are becoming increasingly common across the western United States including Oregon, extracting heavy economic, ecological, and social costs.[25] Additional rural development can increase vulnerability to wildfires at a time when wildfire risk is already at record heights.[26] Fire suppression is a costly endeavor with structural defense being by far the most significant of these costs.[27] The US Forest Service estimates that between 50 and 95 percent of its firefighting spending is used to defend residential structures.[28] In 2017 alone, $454 million was spent fighting wildfires across 665,000 acres statewide, with $38 million coming from state coffers.[29] Increasing development in high and very high risk areas will only serve to exacerbate rising suppression effort costs.[30] Wildfire not only causes these direct

[24] Oregon Water Resources Department. (2002). *Determining Surface Water Availability in Oregon*. <https://www.oregon.gov/OWRD/WRDPublications1/DeterminingSurfaceWaterAvailabilityInOregon.pdf>.
[25] Fox, A., 1000 Friends of Oregon. (2018). *A New Vision for Wildfire Planning: A Report on Land Use and Wildfires*. <https://www.friends.org/sites/friends.org/files/images/1kf_wildfire_paper_pdf_-_final-1.pdf>.
[26] Ibid.
[27] Fox, A., 1000 Friends of Oregon. (2018). *A New Vision for Wildfire Planning: A Report on Land Use and Wildfires*. <https://www.friends.org/sites/friends.org/files/images/1kf_wildfire_paper_pdf_-_final-1.pdf>.
[28] Ibid.
[29] Ibid.
[30] Ibid.

impacts, damaging structures and valuable resources, but can lead to secondary hazards including floods and landslides. Soil can become impermeable post-burning, increasing runoff and ultimately the risk of post-wildfire floods and landslides.[31]

Figure 6: Overall Wildfire Risk



Pyrologix, an organization contracted by the USFS to provide specialized fuel characterization and wildfire modeling services, has developed the most up-to-date, comprehensive quantitative data regarding wildfire hazard and risk to highly valued resources and assets as part of the USFS Pacific Northwest Region Quantitative Wildfire Risk Assessment. In consultation with the Oregon Department of Forestry, Pyrologix's Overall Wildfire Risk data, which can be found on Oregon Explorer, was deemed to be the most appropriate to consider in planning for rural development patterns. This dataset is the product of the likelihood and consequence of wildfire on all mapped highly valued resources and assets combined: critical infrastructure, developed recreation, housing unit density, seed orchards, sawmills, historic structures, timber, municipal watersheds, vegetation condition, and terrestrial and aquatic wildlife habitat. This dataset considers the likelihood of wildfire events encompassing more than 250 acres, the susceptibility of resources and assets to wildfire of different intensities, and the likelihood of occurrence of wildfires of each intensity. The data values reflect a range of impacts from a very high negative

[31] *Oregon Post-Wildfire Flood Playbook*. (2018). <https://silverjackets.nfrmp.us/Portals/0/doc/Oregon/PostFireFloodPlaybook_2018-09-30.pdf?ver=2018-10-04-203119-453>.

value—where wildfire is detrimental to one or more resources or assets (for example, structures, infrastructure, early seral stage and/or sensitive forests)—to positive, where wildfire will produce an overall benefit (for example, vegetation condition/forest health, wildlife habitat).[32] The Overall Wildfire Risk dataset, shown in Figure 7, can be used to determine areas where wildfire risk is high or very high. The risk of loss of life and property from wildland fire or the cost of fire suppression may be too high to justify locating additional rural development in these areas. An additional consideration in managing fire risk for rural development is Rural Fire Protection Districts (RFPDs), which delineate areas where fire and emergency medical services are provided to rural areas outside city limits. The Oregon Department of Forestry and the State Fire Marshal keep record of the state's rural and urban fire protection districts, respectively. Rural fire protection districts provide fire and emergency medical services in rural areas outside city limits. RFPDs do not always translate to adequate fire protection due to limited resources and the size of territories. These districts can also be expanded to include new developments, potentially causing further strain on existing capacity issues. Limiting rural resource land development to areas within existing RFPDs would concentrate fire protection efforts, which is critical in a time of growing wildfire threats. More information is needed to determine whether existing fire districts are currently functioning and if they have the capacity to expand.

Special Flood Hazard Areas

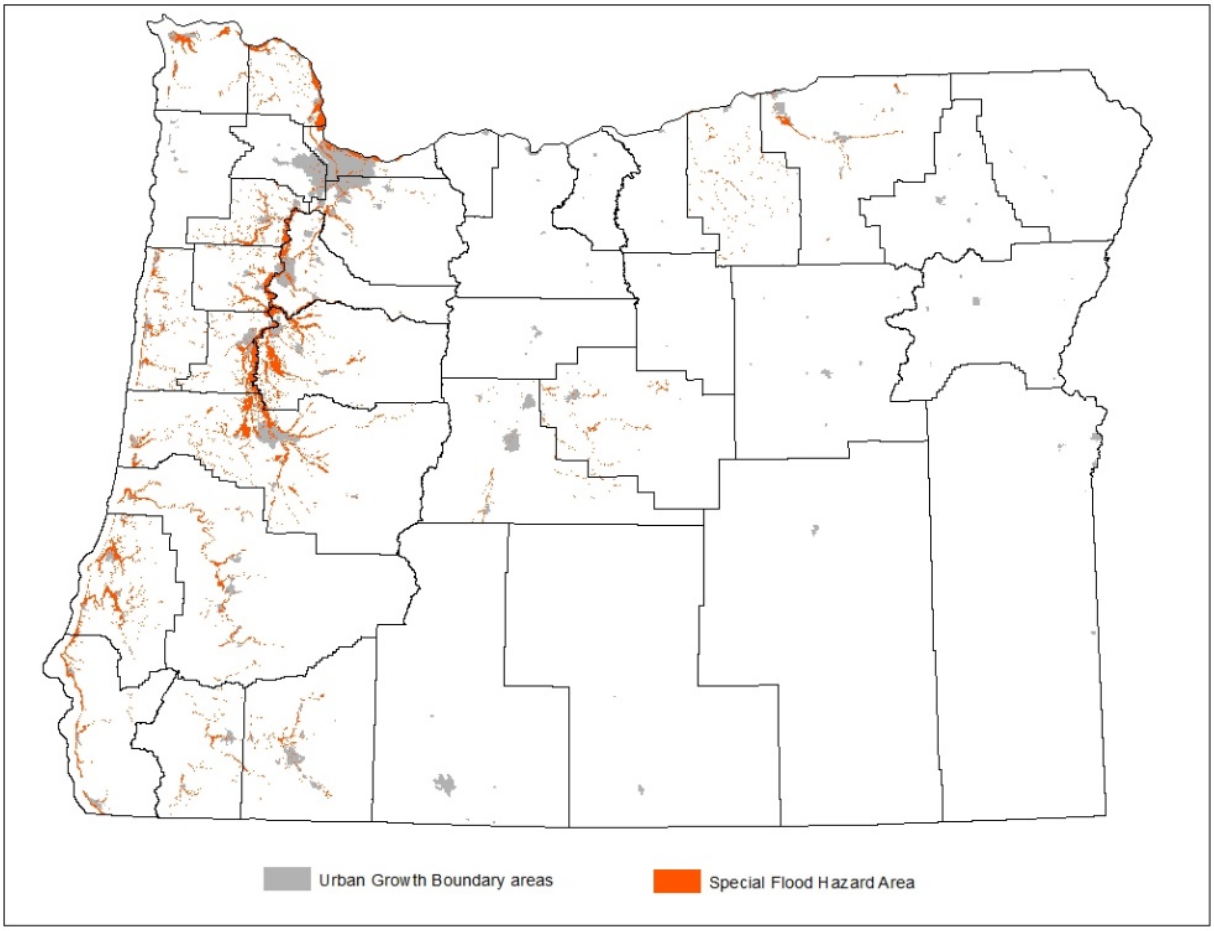
Historically, Oregon has experienced extensive flooding events, fluctuating in intensity and duration in tandem with local variability in weather, climate, and geophysical characteristics. Climate change models indicate a projected rise in extreme precipitation, resulting in an elevated flooding risk in specific basins, particularly in Western Oregon.[33] Floods alone cause property damage and loss of life but may also precipitate landslides, causing additional losses.[34]

The National Flood Hazard Layer for Oregon was developed by the Federal Emergency Management Agency's National Flood Insurance Program (NFIP). The layer contains current effective flood hazard data to support the NFIP including flood insurance zones, base flood elevations, floodways, and flood fringe areas. The majority of flood studies were conducted in the late 1970s and early 1980s and, although map updates have occurred in some locations, data gaps and limitations persist. Flooding probability is stated as a percent chance that a flood of a certain magnitude or greater will occur at a specific location in any given year. This probability is measured as the average recurrence interval of a flood in a given size and place.[35] A one percent chance of flooding at a location in any given year is commonly known as the 100-year flood and is the standard for flood regulation under the NFIP. The floodway and flood fringe together comprise the Special Flood Hazard Area (see Figure 8) which is the regulatory floodplain under the NFIP.

[32] Advanced Oregon Wildfire Risk Explorer. <https://tools.oregonexplorer.info/OE_HtmlViewer/index.html?viewer=wildfireplanning>.
[33] *Oregon Natural Hazards Mitigation Plan*. (2015). <https://drought.unl.edu/archive/plans/GeneralHazard/state/OR_2015.pdf>.
[34] Ibid.
[35] Ibid.

The National Flood Hazard layer for Oregon can be used to determine the areas most and least likely to flood. Flood hazard vulnerability and associated flood insurance costs can be mitigated by (a) not locating development inside the floodway; (b) avoiding building inside the Special Flood Hazard Area; or if building cannot be avoided, (c) building to NFIP minimum, or higher (more protective), standards in the Special Flood Hazard Area. Development includes building structures, filling, and grading.

Figure 7: Special Flood Hazard Area



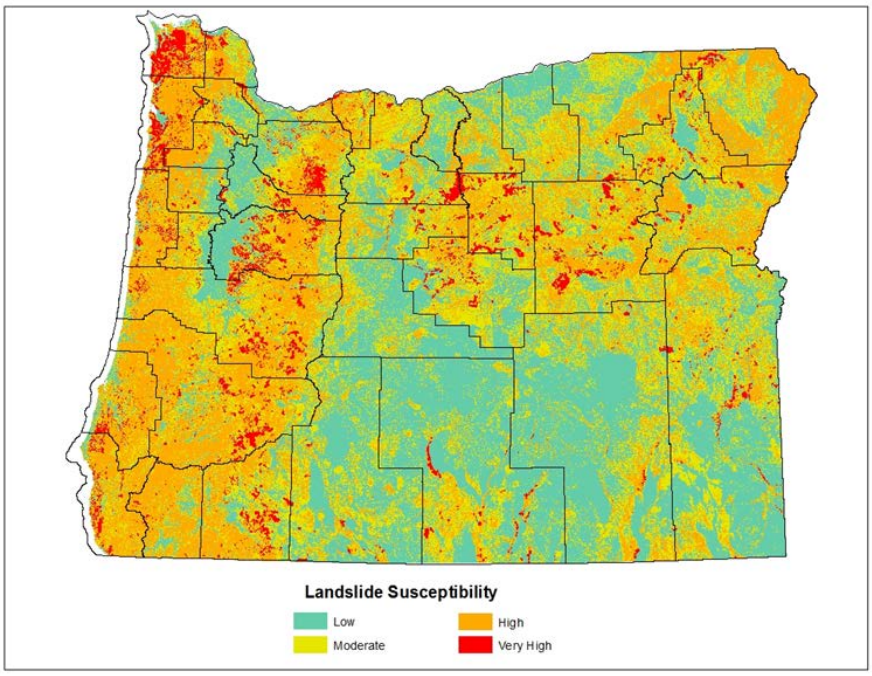
Landslide Susceptibility

Landslides are one of the most common and devastating geologic hazards in the state. Vulnerability to and costs from this hazard increase as population growth pushes development into more landslide-prone terrain. Landslides are typically triggered by ground saturation from heavy rainfall or rapid snowmelt, earthquakes, volcanoes, and human activity. Landslide susceptibility is influenced primarily by slope geometry (steepness), geologic material, and water. Due to strong correlation between precipitation and landslides, the projected increase in extreme precipitation accompanying climate change will likely result in an increase in landslide occurrence.[36]

[36] Ibid.

DOGAMI has developed a statewide landslide inventory layer (see Figure 9) at a coarse scale to inform regional planning and analysis. The intended use of this data is to help identify regions that may be more or less regionally at risk for future landslides which public agencies can then prioritize as areas for more detailed studies to be done. This coarse scale data is derived from elevation data converted into slopes which was then analyzed along with generalized geology and mapped existing landslides. Spatial statistics were then derived from the preceding analysis to create four susceptibility classes: Low, Moderate, High, and Very High.[37]

Figure 8: Landslide Susceptibility



Although the statewide landslide inventory layer is useful for regional planning and analysis, landslide risk is best evaluated using detailed landslide susceptibility data. This finer scale data is available in a few select locations. DOGAMI is continuing to develop shallow and deep landslide susceptibility maps as resources become available. Finer scale data should be used where available.[38] Shallow landslides involve movement of a relatively thin layer of slope material and have a shallow failure plane while deep landslides involve movement of a relatively deep layer of slope material. Although there is no widely accepted depth boundary between shallow and deep landslide susceptibility, DOGAMI selected 4.6m (approximately 15 feet) as the depth boundary for their shallow and deep landslide susceptibility mapping.[39] The Shallow and Deep Landslide Susceptibility maps can be used to locate new rural developments outside of areas categorized as having high and very high susceptibility to shallow or deep landslides. This data is not appropriate for site-specific evaluations but can be used to provide regional and community-scale land use planning information.[40]

[37] Burns, W. J.; Mickelson, K. A.; and Madin, I. P. Oregon Department of Geology and Mineral Industries. (2016). *Open-file Report O-16-02: Landslide Susceptibility Map of Oregon.* < https://www.oregongeology.org/pubs/ofr/p-O-16-02.htm>.
[38] Ibid.
[39] Burns, W. J.; Mickelson, K. A. *Protocol for Deep Landslide Susceptibility Mapping*. (2016). <https://www.oregongeology.org/pubs/sp/SP-48.pdf>.
[40] Burns, W. J.; Madin, I. P.; and Mickelson, K. A. *Protocol for Shallow Landslide Susceptibility Mapping*. (2012). <https://www.co.washington.or.us/lut/planningprojects/area93/upload/sp-45-protocol-for-shallow-landslide-susceptibility-mapping-web.pdf>.

Conclusions for Natural Hazards

Wildfire, floods, and landslides are likely the most useful datasets to use in addressing carrying capacity questions as they pertain to natural hazards. Depending on location, other natural hazards might be useful for local planners to consider in considering rural resource lands designation. Data and information associated with this section should be used to inform how to most appropriately locate and cluster rural development to avoid lands subject to natural hazards and associated negative cost impacts to public facilities and services. Site specific evaluation will inform what measures can be taken to appropriately mitigate natural hazards.

Rural Character of Development

LCDC's Statewide Planning Goals and rules help ensure that rural resource land remains rural. This is generally accomplished through thresholds on the type, size, and intensities of available uses, the application of parcel sizes, and limitations on the extension of sewer systems.

While not directly applicable to rural resource lands, the administrative rule regulating newly created rural residential exception areas (OAR 660-004-0040) illustrates one tool for maintaining rural lands. The rule requires a minimum parcel size of at least ten acres unless an exception is taken to Statewide Planning Goal 14 (Urbanization).The commission concluded, for the purposes of rural residential exception areas, that ten acres is the minimum parcel size to ensure fulfillment of the state's land use policy of maintaining rural land as sparsely settled with few public services. Depending on carrying capacity constraints (e.g., big game habitat), a parcel size larger than ten acres may be appropriate in some areas.

Statewide Planning Goal 11 (Public Facilities and Services) and OAR 660-011-0060 limit the establishment or extension of sewer systems on rural lands. For rural resource lands, sewage disposal requires an on-site treatment system serving a single parcel. On-site sewage disposal systems typically require larger parcel sizes which is consistent with the parcel size limitations described above.

One technique which could be implemented in order to retain rural character would be the use of open space conservation. Open space conservation is a key piece of retaining rural character. Conservation design or open space development design standards can be used in planning by structuring development around natural features. Planning begins by designating a significant percentage, at least a quarter, of otherwise buildable land to open space in a pattern conducive to a set of prioritized goals such as preserving agricultural and outdoor recreation uses as well as protecting environmental, scenic, and cultural assets.[41] Conservation design can be incentivized through offering density bonuses, reduced fees, and/or a streamlined permitting process.[42]

[41] Horst, M. et al. Portland State University. (2018). *Analysis of Expanding Rural Residential Housing in Malheur County, Oregon*.
[42] Ibid.

Impacts to Farm and Forest Uses or Practices

Development in rural areas may increase conflicts with or hinder neighboring agricultural and forestry operations. Examples of potential conflicts include complaints about spray and odor or increased traffic on public roads needed to move agricultural and forest machinery and products. For uses that may impact farm or forest uses in EFU and forest zones, property owners must demonstrate that the proposed use will not force a significant change to farm or forest practices or significantly increase their cost.[43] The rural resource designation process in ORS 215.791 similarly requires consideration of conflicts with farm and forest uses and practices.

The rural resource designation method that has been used by counties does not require these findings. Demonstrating general compliance with Goal 3 and Goal 4 may partially address impacts to neighboring farm and forest operations but it typically does not provide the level of detail that is currently required for approving conditional uses in EFU and forest zones.

Impacts to Urban Areas

Rural resource land designations may currently occur within urban reserves surrounding UGBs. Establishing new rural resource areas in close proximity to urban areas may provide some benefits when compared to isolated development (e.g. more efficient access to public services). However, such designations may interfere with the orderly and efficient development of urban areas if they are located within urban reserves. Urban reserves are intended for future UGB expansions and rural development in those areas may negatively affect the ability of cities to efficiently plan those lands for urban use following UGB expansion.

Additionally, most Oregon cities have not adopted urban reserves, and thus expand onto rural exception lands or farm and forest lands when adding to their UGBs. Allowing additional development associated with rural resource lands within close proximity to an existing UGB may hinder the ability of a city to expand its UGB in the most efficient manner possible when needed to assure a 20-year supply of urban land. Therefore, it may be appropriate to limit new development on rural resource lands within a certain distance from an existing UGB boundary.

Energy Use

Statewide Planning Goal 13 (Energy Conservation) is primarily concerned with conserving energy through proper land use planning. Goal 13 guidelines discuss promoting energy efficient development, reuse of vacant land, minimizing use of nonrenewable energy sources, and increasing density along high capacity transportation corridors.

Rural resource designations may conflict with Goal 13 when located in isolated rural areas. Isolated development may require an increase in vehicle miles traveled, inefficient extensions of energy facilities, and overall lacks the energy efficient compact design allowed in UGBs. Consideration of energy impacts is necessary when designating rural resource areas to ensure these impacts are minimized.

[43] ORS 215.296, OAR 660-033-0130(5) and OAR 660-006-0025(5)

Impacts to State or Local Transportation Facilities
Rural resource designations have potential to increase traffic on state and local roads and may even utilize private roads for access. Evaluating potential impacts to transportation systems is vitally important for public safety and is a consideration in determining the fiscal impacts of development which are associated with needed transportation facilities. Counties have adopted road standards which may dictate when a traffic impact study is required and requirements for road improvements. Counties have also adopted fire safety design standards for roads to ensure that adequate access is provided for firefighting equipment, although these standards may not apply outside of forest and mixed farm-forest zones. The application of county road and fire standards, in conjunction with consideration with the fiscal impact of rural resource land development, would help ensure that development on rural resource lands benefits counties and future landowners.

Impacts to Other Public Facilities
Rural resource designations also have the potential to increase other public facilities costs on a myriad of public services, such as fire protection, primary and secondary schools, public water service (in areas within special districts providing water service), storm runoff, and waste disposal. It is unclear how a local government would include such considerations in its analysis of carrying capacity issues.

Conclusions and Policy Options

This report provides a summary of issues pertinent to rural resource lands policy. The report documents the availability of spatial data that can be utilized at a statewide scale and highlights areas where additional data would be useful. DLCD intends to utilize the report as a basis for future research and possible rulemaking.

Regulatory application of geospatial data is challenging due to unavoidable statewide data gaps and scale limitations on the use of data. Also there are frequent updates to datasets which restrict the ability to utilize current data when relying on static date references in statute and rule. Perfect data is never an option. Policy development should consider the best available data, focus on development of new data where essential, and recognize that some issues can only be addressed upon consideration of local conditions.

Prior to 2017, DLCD began discussions with a few key stakeholders regarding rural resource policy. During the preparation of this paper, several parties expressed interest in the rural resource lands issue but, due to DLCD capacity, only a select few public agencies were able to provide input on the contents of this report. If further work on this issue is pursued, the department and commission should begin broader outreach on this issue to ensure citizen involvement. Further discussion of these issues could occur during a formal rulemaking advisory committee. However, it may be more appropriate to continue less formal discussions using this report as a reference document. Additional discussions would be most profitable if there were a set timeline for reaching conclusions and proceeding with a formal rulemaking process.

Discussion of Policy/Tool Options

Below are several policy options or tools which the department and commission could use to address rural resource lands. The department will be reviewing these policy options before presenting any recommendations for future work on this issue to the commission.

Pursue additional research

The department could conduct additional research on several aspects of the rural resource lands issue. Prioritized recommendations for further research include:

- *Citizen involvement*: Undertake stakeholder engagement process to solicit and integrate stakeholder input to bolster implementation feasibility.
- *Eastern Oregon grazing*: Develop eastside forage threshold data to delineate farm and/or forest zones from rural resource zones. However, this is complicated because grazing requires an extensive land base to sustain an economically viable operation. Animals are rotated among a variety of land types based on changing environmental conditions such as weather, forage, topography, and season. Thus, lands with less capable soils and water constraints often play a crucial role in ranchlands management.
- *Economic considerations*: ORS 215.791 requires consideration of the costs of public facilities and services and impacts to government fiscal health in designating rural resource lands.[44] A methodology for performing this analysis would help the state and counties better understand the impacts of rural resource designations.
- *Cumulative impacts*: Research cumulative impacts of development patterns on agriculture, forestry, water quality/quantity, fish and wildlife, and/or costs of public services/infrastructure.
- *Future potential resource uses:* It is critical to note that the agricultural economy is in a state of constant evolution, especially recently with expanding technologies, emerging markets and trends, and a changing climate. A significant example is seen in the Oregon's now booming viticulture industry taking hold in soils and landscapes once thought to be agriculturally insignificant and unproductive. Aside from valuable agricultural industries, these lands could be important for renewable energy resource production such as solar arrays for energy capture as well as biomass production from current invasive species (e.g., western juniper). Further research should be done to determine what burgeoning technologies and markets are on the horizon for which rural resource lands could be used.
- *Natural resource considerations:* Work with ODFW and other natural resource management agencies to determine how to best integrate their data for policy implementation. ODFW is continuing to develop geospatial data at more refined scales to support regional land use planning, which can be evaluated for updates to Goal 5

[44] ORS 215.791

acknowledged inventories. In addition, ODFW and DLCD could evaluate opportunities to enhance conservation values on lands subject to rural resource designation.

- *Climate change considerations:* Carbon sequestration is a contributor to keeping excess carbon-based greenhouse gases out of our atmosphere. Forest and agricultural lands provide a unique opportunity to withdraw atmospheric carbon through biological sequestration in soil and biomass carbon sinks.[45] Forests, particularly, play a crucial role in sequestering carbon—with U.S. forests offsetting approximately 10 to 20 percent of the nation's carbon emissions from burning fossil fuels annually.[46] Consideration of carbon storage opportunities may be beneficial in evaluating rural resource lands.
- *Ecosystem service valuation:* Ecosystem service valuation refers to the financial value of the measurable productivity of natural systems.[47] Ecosystem service valuation provides tools for decision-makers and policy-makers to evaluate management implications through rate of return on investment calculations and cost-benefit analyses of potential policies. There is an evolving understanding worldwide that the value of ecosystems increasingly can and should be taken into account in land use planning, yet efforts to do so are in their infancy.[48] Currently, ecosystem service valuation is primarily enacted through markets and payments for ecosystem services (PES) such as sulfur dioxide trading, wetlands mitigation banking, and nutrient trading. Research should be done to determine how ecosystem service valuation can be integrated into Oregon's land use planning system and how it can be applied to rural resource lands.
- *Irrigation districts:* The current OWRD irrigation district GIS data layer could be updated to provide statewide coverage.

<u>Rulemaking</u>

Require the process in ORS 215.788-794 to be used for all rural resource land designations.

As previously mentioned, this process currently exists and provides a thorough framework for review of rural resource lands by requiring a more comprehensive evaluation of the carrying capacity of potential rural resource lands, an assessment of impacts to the cost of public facilities or services, and includes direct DLCD involvement. This option would most likely require an amendment to rule with a potential need for an amendment to statute to update the current reference to the 2006 Oregon Conservation Strategy in ORS 215.791 to the 2016 version. It may be necessary to clarify whether the entire county needs to be evaluated or only a

[45] United States Department of Agriculture Economic Research Service. "Agriculture and Climate Change." <https://www.ers.usda.gov/topics/natural-resources-environment/climate-change/agriculture-and-climate-change/>.
[46] Oregon Forest Resources Institute. "Forests, carbon and climate change." <https://oregonforests.org/Carbon_Capture>.
[47] Davis, A. I. "Ecosystem Services and The Value of Land." *Duke Environmental Law and Policy Forum*. 20. <https://scholarship.law.duke.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1045&context=delpf>.
[48] Goldstein, J. H., Caldarone, G., Duarte, T. K., et al. (2012). "Integrating ecosystem-service tradeoffs into land-use decisions." *Proceedings of the National Academy of Sciences of the United States of America*. (2012) <https://www.pnas.org/content/109/19/7565>.

portion of the county. In addition, it may be necessary to adopt further rules to define or clarify statutory requirements.

Develop additional rule requirements for rural resource land designations that do not utilize the process in ORS 215.788-794.

Under this option, land could still be designated rural resource if it did not meet the definitions of agricultural and forest land. Rulemaking could clarify undefined terms in rule, establish new standards and criteria regarding which rural lands are eligible for redesignation, and address carrying capacity issues. Possible amendments include:

- Further defining land that is suitable for agriculture. This could include:
  - Land suitable for grazing
  - High-value farmland portions of the American Viticultural Areas identified in ORS 195.300.
  - Land in an irrigation district or place of use for agricultural water
  - Prime or unique farmland

- Further defining "Other forested lands that maintain soil, air, water and fish and wildlife resources" in OAR 660-006-0005(7).

- Further addressing areas important to fish and wildlife. This could potentially require a Goal 5 update before designating rural resource lands, or use of current ODFW data and/or consultation with ODFW for site-specific evaluations.

- Addressing carrying capacity issues discussed in this report such as natural hazards, groundwater impacts, and cost of services.

- Consideration of cumulative impacts of rural resource designations, and other surrounding development, on agriculture, forestry, and wildlife.

<u>Provide guidance to counties</u>

Rural resource lands has long been an interest of local planners. Considering current development pressures, giving additional guidance at the state level could be of assistance to counties as they develop land use planning policy. A rural lands guidance document could be provided to counties could offer clarity regarding methodology and criteria for rezoning resource lands in to a new Rural Resource Lands zone. The document could provide an outline of recommendations for how to identify and appropriately develop Rural Resource Land. This type of document could be used to supplement new rulemaking or provide guidance on the current rural resource framework. However, the positive impact of a guidance document using the current framework may be limited, especially where vague language exists in state rule.

Appendix

Appendix A: Oregon Revised Statutes related to Rural Resource Lands

215.304 Rule adoption; limitations. (1) The Land Conservation and Development Commission shall not adopt or implement any rule to identify or designate small-scale farmland or secondary land.

(2) Amendments required to conform rules to the provisions of subsection (1) of this section and ORS 215.700 to 215.780 shall be adopted by March 1, 1994.

(3) Any portion of a rule inconsistent with the provisions of ORS 197.247 (1991 Edition), 215.213, 215.214 (1991 Edition), 215.288 (1991 Edition), 215.317, 215.327 and 215.337 (1991 Edition) or 215.700 to 215.780 on March 1, 1994:

(a) Shall not be implemented or enforced; and

(b) Has no legal effect.

(4) Notwithstanding subsection (3) of this section, the uses authorized by ORS 215.283 (1)(x) or (2)(n) may be established on land in exclusive farm use zones, including high-value farmland. [1993 c.792 §28; 2001 c.672 §19; 2012 c.74 §4]

(NOTE: This section was added in 1993 following LCDC adoption of "secondary lands" rules, which were effectively repealed.)

215.316 Termination of adoption of marginal lands. (1) Unless a county applies the provisions of ORS 215.705 to 215.730 to land zoned for exclusive farm use, a county that adopted marginal lands provisions under ORS 197.247 (1991 Edition), 215.213, 215.214 (1991 Edition), 215.288 (1991 Edition), 215.317, 215.327 and 215.337 (1991 Edition) may continue to apply those provisions. After January 1, 1993, no county may adopt marginal lands provisions.

(2) If a county that had adopted marginal lands provisions before January 1, 1993, subsequently sites a dwelling under ORS 215.705 to 215.750 on land zoned for exclusive farm use, the county shall not later apply marginal lands provisions, including those set forth in ORS 215.213, to lots or parcels other than those to which the county applied the marginal lands provisions before the county sited a dwelling under ORS 215.705 to 215.750. [1993 c.792 §29]

(NOTE: Marginal lands designations are only allowed in Lane and Washington counties. Land uses allowed in Exclusive Farm Use zones for those counties are found in ORS 215.213 while the rest of the state uses 215.283.)

215.788 Legislative review of lands zoned for farm and forest use; criteria. (1) For the purposes of correcting mapping errors made in the acknowledgment process and updating the designation of farmlands and forestlands for land use planning, a county may conduct a legislative review of lands in the county to determine whether the lands planned and zoned for

farm use, forest use or mixed farm and forest use are consistent with the definitions of "agricultural lands" or "forest lands" in goals relating to agricultural lands or forestlands.

(2) A county may undertake the reacknowledgment process authorized by this section only if the Department of Land Conservation and Development approves a work plan, from the county, describing the expected scope of reacknowledgment. The department may condition approval of a work plan for reacknowledgment under this section to reflect the resources needed to complete the review required by ORS 197.659 and 215.794. The work plan of the county and the approval of the department are not final orders for purposes of review.

(3) A county that undertakes the reacknowledgment process authorized by this section shall provide an opportunity for all lands planned for farm use, forest use or mixed farm and forest use and all lands subject to an exception under ORS 197.732 to a goal relating to agricultural lands or forestlands to be included in the review.

(4) A county must plan and zone land reviewed under this section:

(a) For farm use if the land meets the definition of "agricultural land" in a goal relating to agricultural lands;

(b) For forest use if the land meets the definition of "forest land" used for comprehensive plan amendments in the goal relating to forestlands;

(c) For mixed farm and forest use if the land meets both definitions;

(d) For nonresource use, consistent with ORS 215.794, if the land does not meet either definition; or

(e) For a use other than farm use or forest use as provided in a goal relating to land use planning process and policy framework and subject to an exception to the appropriate goals under ORS 197.732 (2).

(5) A county may consider the current land use pattern on adjacent and nearby lands in determining whether land meets the appropriate definition. [2009 c.873 §5]

Note: 215.788 to 215.794 were enacted into law by the Legislative Assembly but were not added to or made a part of ORS chapter 215 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

215.791 Review of nonresource lands for ecological significance; inventory and protection of ecologically significant nonresource lands; criteria. (1) If a county amends its comprehensive plan or a land use regulation mapping zoning designations under ORS 215.788 to 215.794, the county shall review lands that are planned or rezoned as nonresource lands to determine whether the lands contain ecologically significant natural areas or resources. The county shall consider appropriate goals and the "Oregon Conservation Strategy" prepared in September of 2006 by the State Department of Fish and Wildlife.

(2) The county shall maintain an inventory in the comprehensive plan of nonresource lands that contain ecologically significant natural areas or resources and establish a program to

protect the areas or resources from the adverse effects of new uses allowed by the planning or zoning changes. The county may use nonregulatory programs to protect the resources including, but not limited to, programs for the transfer of severable development interests to other lands that do not contain ecologically significant resources.

(3) If a county amends its comprehensive plan or a land use regulation mapping zoning designations under ORS 215.788 to 215.794, the county shall review lands that are planned or rezoned as nonresource lands to determine that the uses allowed by the planning or zoning changes are consistent with the carrying capacity of the lands. The county shall ensure that:

(a) The amount, type, location and pattern of development on lands redesignated as nonresource lands:

(A) Will be rural in character and will not significantly interfere with orderly and efficient development of urban areas in the vicinity;

(B) Will not significantly conflict with existing or reasonably foreseeable farm or forest uses or with accepted farm or forest practices; and

(C) Will not lead to significant adverse effects including, but not limited to, adverse effects on:

(i) Water quality or the availability or cost of water supply;

(ii) Energy use;

(iii) State or local transportation facilities;

(iv) Fish or wildlife habitat or other ecologically significant lands;

(v) The risk of wildland fire or the cost of fire suppression;

(vi) The cost of public facilities or services; or

(vii) The fiscal health of a local government.

(b) Additional residential development on nonresource lands is, to the extent practicable, located and clustered to:

(A) Minimize the effects on farm and forest uses;

(B) Avoid lands subject to natural hazards; and

(C) Reduce the costs of public facilities and services. [2009 c.873 §6]

Note: See note under 215.788.

215.794 Review of county rezoning designations; rules. (1) A county shall submit decisions on planning and rezoning designations under ORS 215.788 to 215.794 to the Department of Land Conservation and Development for review pursuant to the procedures set forth in this section and ORS 197.659.

(2) The department shall coordinate with:

(a) The State Department of Agriculture in reviewing decisions on planning and rezoning designations for lands planned for farm use or mixed farm and forest use.

(b) The State Forestry Department in reviewing decisions on planning and rezoning designations for lands planned for forest use or mixed farm and forest use.

(3) The Land Conservation and Development Commission has exclusive jurisdiction for review of a county's decision made under ORS 215.788 to 215.794.

(4) A person who participated in the proceedings leading to the county's decisions under ORS 215.788 to 215.794 may not raise an issue on review before the commission that was not raised in the local proceedings.

(5) The commission may adopt rules implementing ORS 215.788 to 215.794. [2009 c.873 §7]

Note: See note under 215.788.

Appendix B: Oregon Administrative Rules related to Rural Resource Lands

Agricultural Lands (OAR Chapter 660, Division 33)

660-033-0020
Definitions

(1)(a) "Agricultural Land" as defined in Goal 3 includes:

(A) Lands classified by the U.S. Natural Resources Conservation Service (NRCS) as predominantly Class I-IV soils in Western Oregon and I-VI soils in Eastern Oregon;

(B) Land in other soil classes that is suitable for farm use as defined in ORS 215.203(2)(a), taking into consideration soil fertility; suitability for grazing; climatic conditions; existing and future availability of water for farm irrigation purposes; existing land use patterns; technological and energy inputs required; and accepted farming practices; and

(C) Land that is necessary to permit farm practices to be undertaken on adjacent or nearby agricultural lands.

(b) Land in capability classes other than I-IV/I-VI that is adjacent to or intermingled with lands in capability classes I-IV/I-VI within a farm unit, shall be inventoried as agricultural lands even though this land may not be cropped or grazed;

(c) "Agricultural Land" does not include land within acknowledged urban growth boundaries or land within acknowledged exception areas for Goal 3 or 4.

660-033-0030
Identifying Agricultural Land

(1) All land defined as "agricultural land" in OAR 660-033-0020(1) shall be inventoried as agricultural land.

(2) When a jurisdiction determines the predominant soil capability classification of a lot or parcel it need only look to the land within the lot or parcel being inventoried. However, whether land is "suitable for farm use" requires an inquiry into factors beyond the mere identification of scientific soil classifications. The factors are listed in the definition of agricultural land set forth at OAR 660-033-0020(1)(a)(B). This inquiry requires the consideration of conditions existing outside the lot or parcel being inventoried. Even if a lot or parcel is not predominantly Class I-IV soils or suitable for farm use, Goal 3 nonetheless defines as agricultural "Lands in other classes which are necessary to permit farm practices to be undertaken on adjacent or nearby lands." A determination that a lot or parcel is not agricultural land requires findings supported by substantial evidence that addresses each of the factors set forth in 660-033-0020(1).

(3) Goal 3 attaches no significance to the ownership of a lot or parcel when determining whether it is agricultural land. Nearby or adjacent land, regardless of ownership, shall be examined to the extent that a lot or parcel is either "suitable for farm use" or "necessary to permit farm practices to be undertaken on adjacent or nearby lands" outside the lot or parcel.

(4) When inventoried land satisfies the definition requirements of both agricultural land and forest land, an exception is not required to show why one resource designation is chosen over another. The plan need only document the factors that were used to select an agricultural, forest, agricultural/forest, or other appropriate designation.

(5)(a) More detailed data on soil capability than is contained in the USDA Natural Resources Conservation Service (NRCS) soil maps and soil surveys may be used to define agricultural land. However, the more detailed soils data shall be related to the NRCS land capability classification system.

(b) If a person concludes that more detailed soils information than that contained in the Web Soil Survey operated by the NRCS, would assist a county to make a better determination of whether land qualifies as agricultural land, the person must request that the department arrange for an assessment of the capability of the land by a professional soil classifier who is chosen by the person, using the process described in OAR 660-033-0045.

(c) This section and OAR 660-033-0045 apply to:

(A) A change to the designation of a lot or parcel planned and zoned for exclusive farm use, forest use or mixed farm-forest use to a nonresource plan designation and zone on the basis that such land is not agricultural land; and

(B) Excepting land use decisions under section (7) of this rule, any other proposed land use decision in which more detailed data is used to demonstrate that a lot or parcel planned and zoned for exclusive farm use does not meet the definition of agricultural land under OAR 660-033-0020(1)(a)(A).

(d) This section and OAR 660-033-0045 implement ORS 215.211, effective on October 1, 2011. After this date, only those soils assessments certified by the department under section (9) of this rule may be considered by local governments in land use proceedings described in subsection (c) of this section. However, a local government may consider soils assessments that have been completed and submitted prior to October 1, 2011.

(e) This section and OAR 660-033-0045 authorize a person to obtain additional information for use in the determination of whether a lot or parcel qualifies as agricultural land, but do not otherwise affect the process by which a county determines whether land qualifies as agricultural land as defined by Goal 3 and OAR 660-033-0020.

(6) Any county that adopted marginal lands provisions before January 1, 1993, may continue to designate lands as “marginal lands” according to those provisions and criteria in former ORS 197.247 (1991), as long as the county has not applied the provisions of ORS 215.705 to 215.750 to lands zoned for exclusive farm use.

(7)(a) For the purposes of approving a land use application on high-value farmland under ORS 215.705, the county may change the soil class, soil rating or other soil designation of a specific lot or parcel if the property owner:

(A) Submits a statement of agreement from the NRCS that the soil class, soil rating or other soil designation should be adjusted based on new information; or

(B) Submits a report from a soils scientist whose credentials are acceptable to the Oregon Department of Agriculture that the soil class, soil rating or other soil designation should be changed; and

(C) Submits a statement from the Oregon Department of Agriculture that the Director of Agriculture or the director’s designee has reviewed the report described in paragraph (a)(B) of this section and finds the analysis in the report to be soundly and scientifically based.

(b) Soil classes, soil ratings or other soil designations used in or made pursuant to this section are those of the NRCS Web Soil Survey for that class, rating or designation, except for changes made pursuant to subsection (a) of this section.

(8) For the purposes of approving a land use application on high-value farmland under OAR 660-033-0090, 660-033-0120, 660-033-0130 and 660-033-0135, soil classes, soil ratings or other soil designations used in or made pursuant to this definition are those of the NRCS Web Soil Survey for that class, rating or designation.

Forest Lands (OAR Chapter 660, Division 6)

660-006-0005
Definitions

(7) “Forest lands” as defined in Goal 4 are those lands acknowledged as forest lands, or, in the case of a plan amendment, forest lands shall include:

(a) Lands that are suitable for commercial forest uses, including adjacent or nearby lands which are necessary to permit forest operations or practices; and

(b) Other forested lands that maintain soil, air, water and fish and wildlife resources.

660-006-0010
Identifying Forest Land

(1) Governing bodies shall identify “forest lands” as defined by Goal 4 in the comprehensive plan. Lands inventoried as Goal 3 agricultural lands, lands for which an exception to Goal 4 is justified pursuant to ORS 197.732 and taken, and lands inside urban growth boundaries are not required to planned and zoned as forest lands.

(2) Where a plan amendment is proposed:

(a) Lands suitable for commercial forest uses shall be identified using a mapping of average annual wood production capability by cubic foot per acre (cf/ac) as reported by the USDA Natural Resources Conservation Service. Where NRCS data are not available or are shown to be inaccurate, other site productivity data may be used to identify forest land, in the following order of priority:

(A) Oregon Department of Revenue Western Oregon site class maps;

(B) USDA Forest Service plant association guides; or

(C) Other information determined by the State Forester to be of comparable quality.

(b) Where data of comparable quality under paragraphs (2)(a)(A) through (C) are not available or are shown to be inaccurate, an alternative method for determining productivity may be used as described in the Oregon Department of Forestry’s Technical Bulletin entitled “Land Use Planning Notes, Number 3 April 1998, Updated for Clarity April 2010.”

(c) Counties shall identify forest lands that maintain soil air, water and fish and wildlife resources.

Appendix C: Full-Size Maps

Figure 1: Exclusive Farm Use, Forest, and Mixed Farm-Forest Zoning on Non-Federal Lands

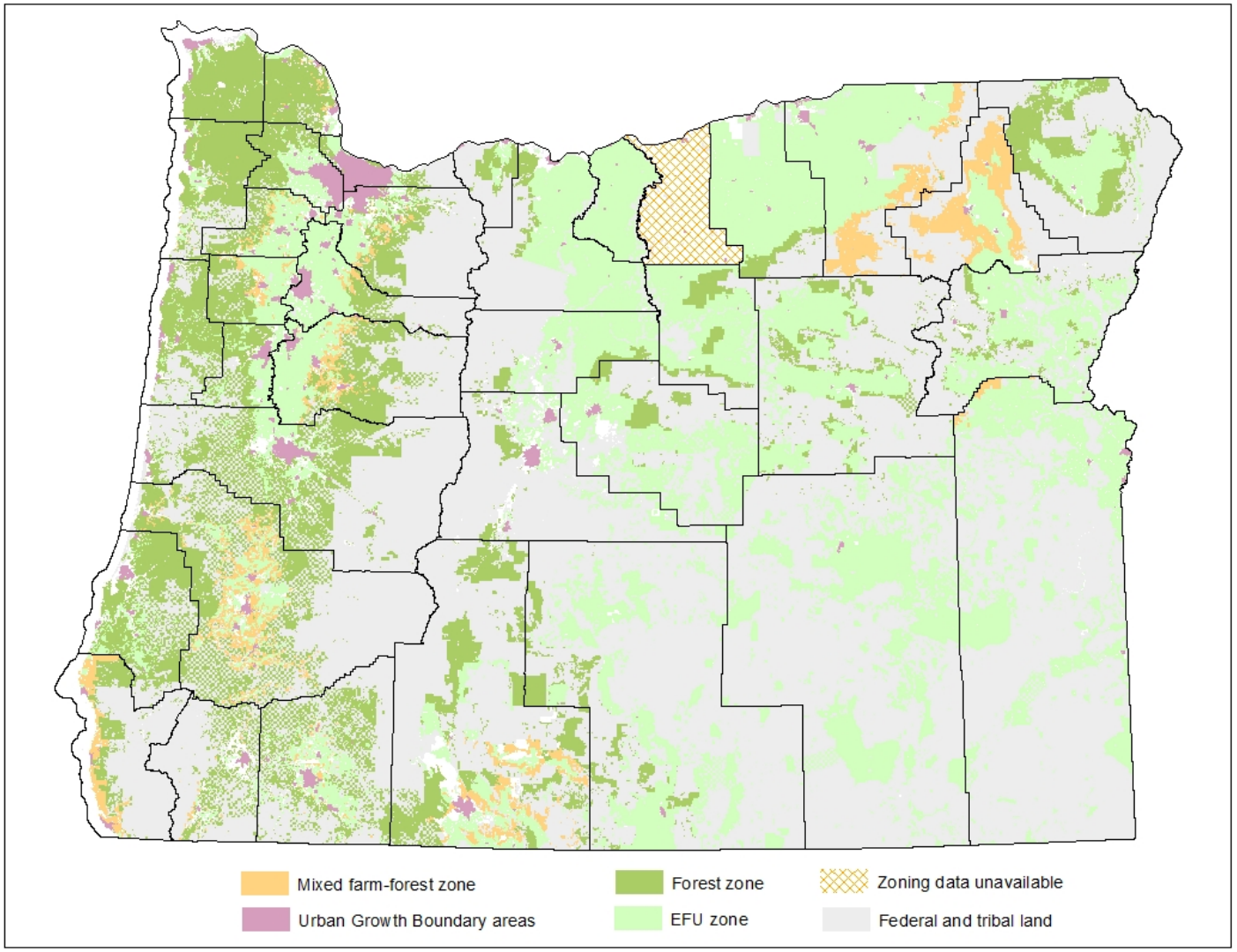


Figure 2: NRCS Agricultural Capability Classes on Non-Federal Lands

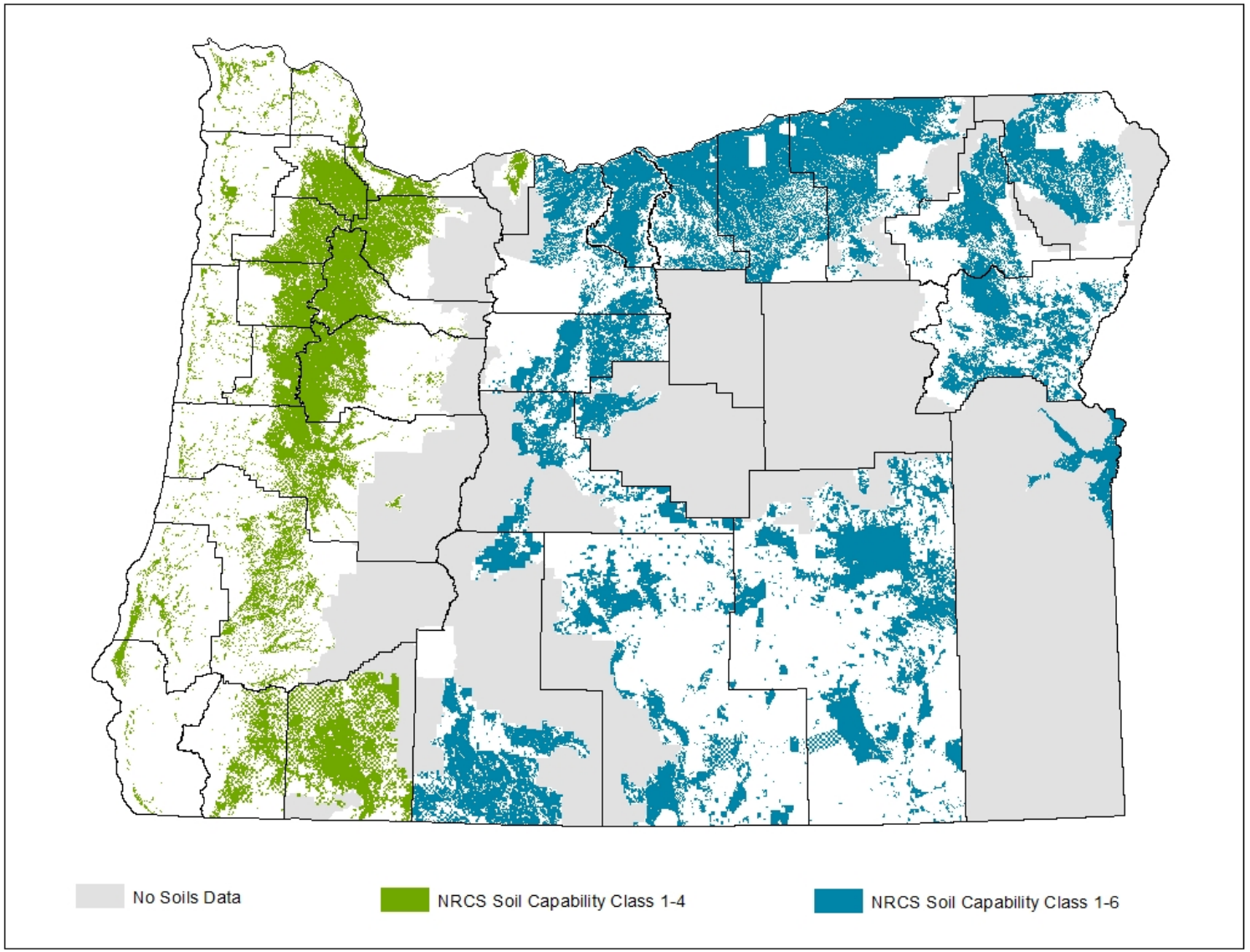


Figure 3: Animal Unit Months (AUMs) for Western Oregon on Non-Federal Lands

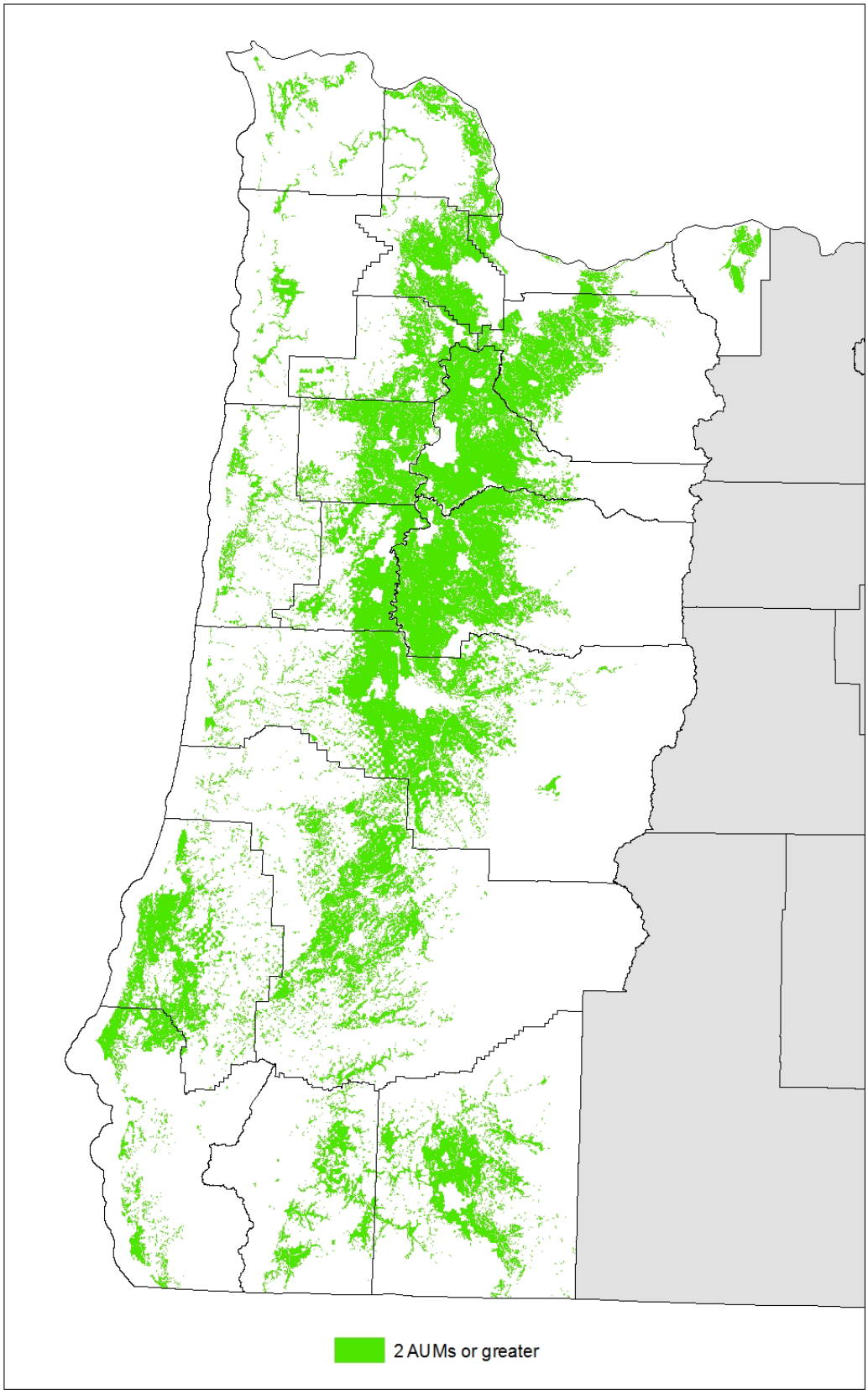


Figure 4: Non-Federal Forest Lands Derived from NRCS, DOR, and Historic Vegetation Data

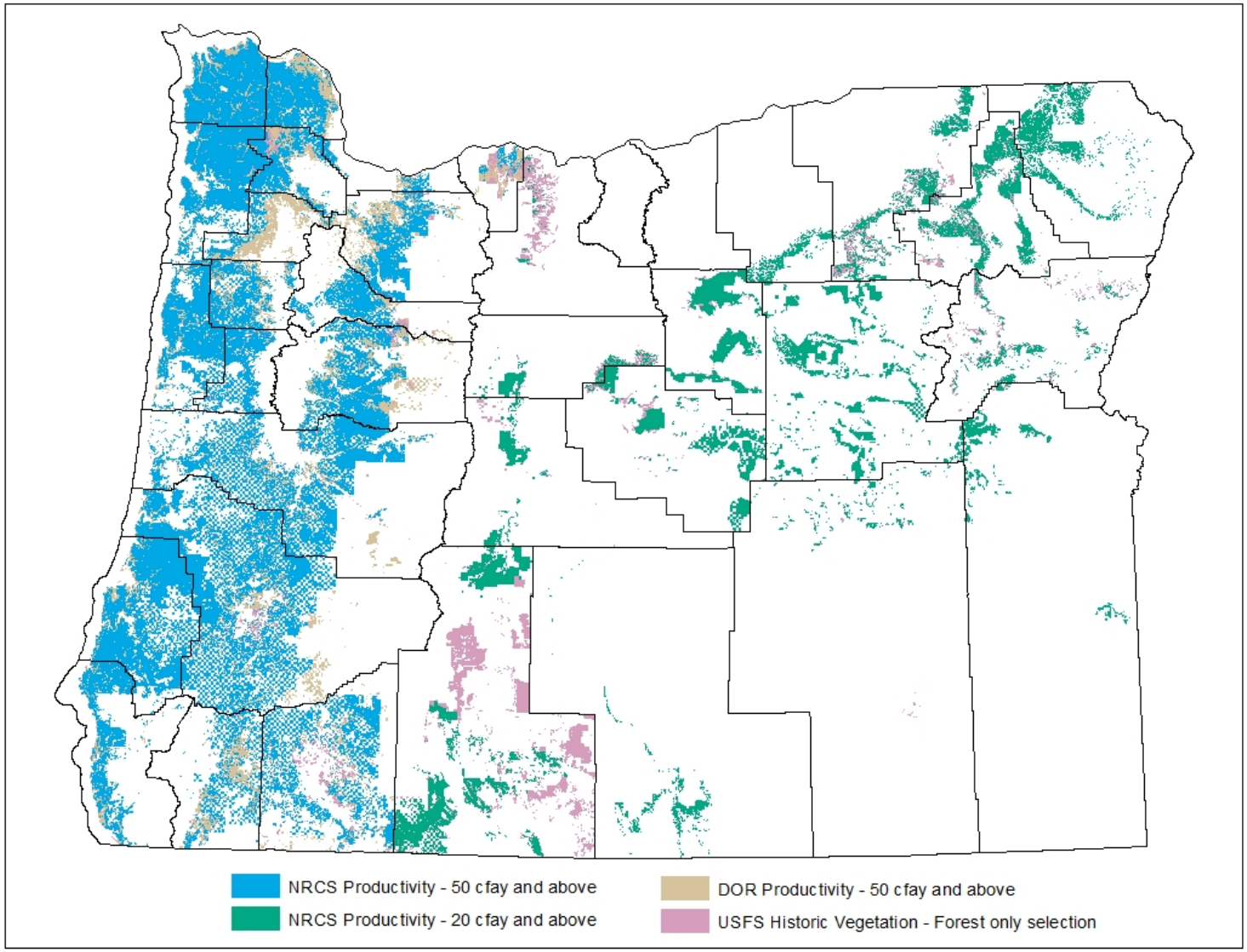


Figure 5: Conservation Opportunity Areas and Sage Grouse Habitat

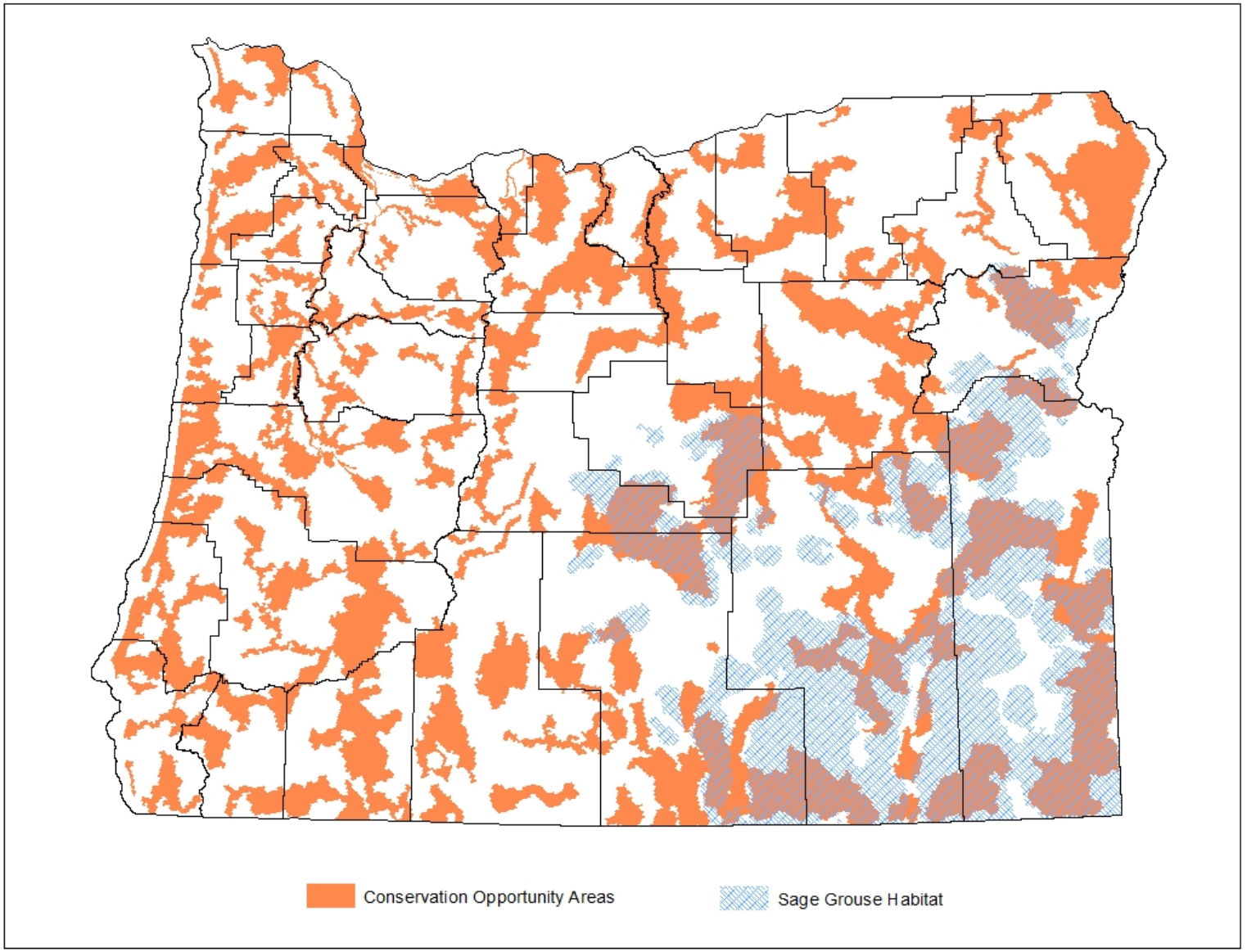


Figure 6: Groundwater Management Areas and Groundwater Restricted Areas

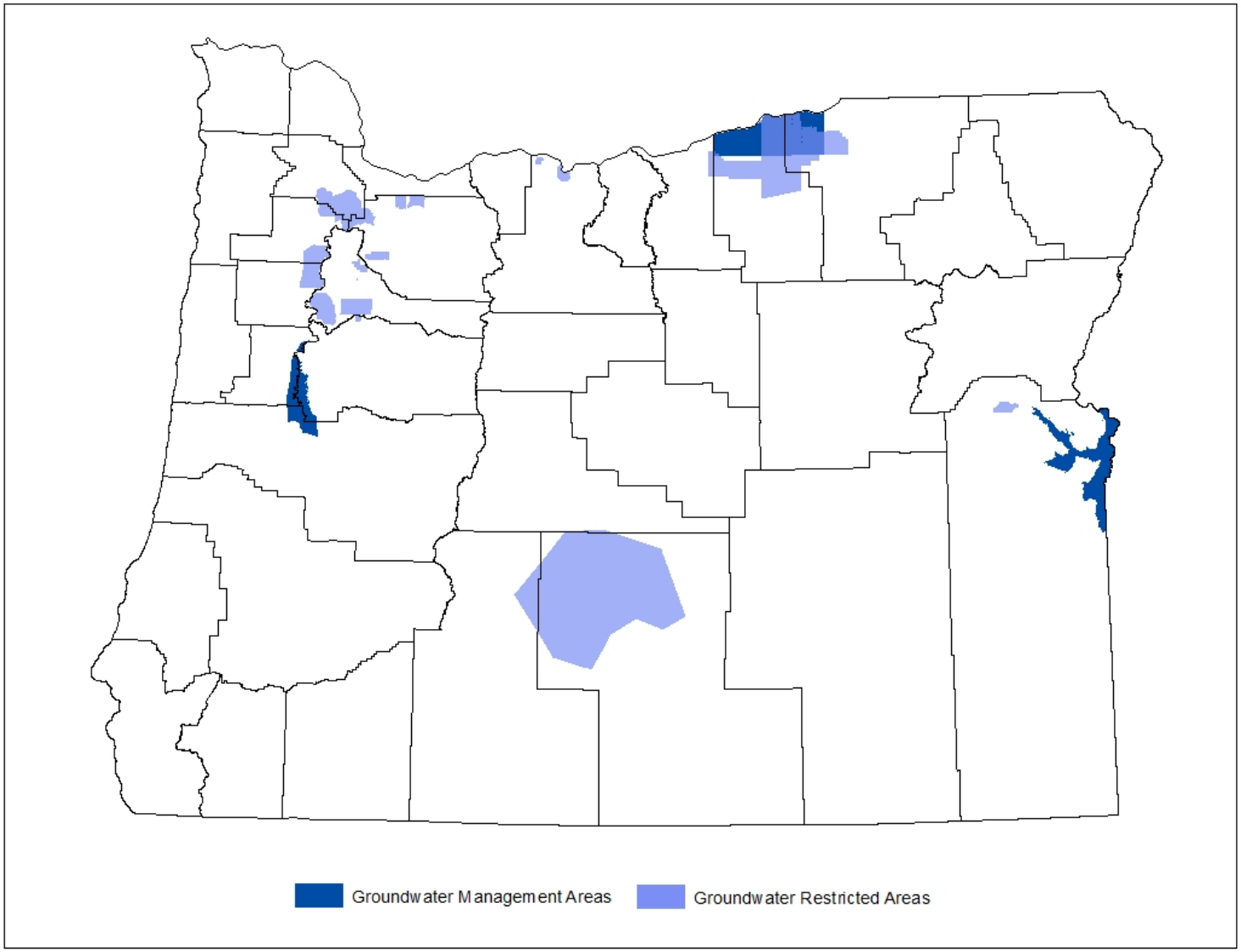


Figure 7: Overall Wildfire Risk

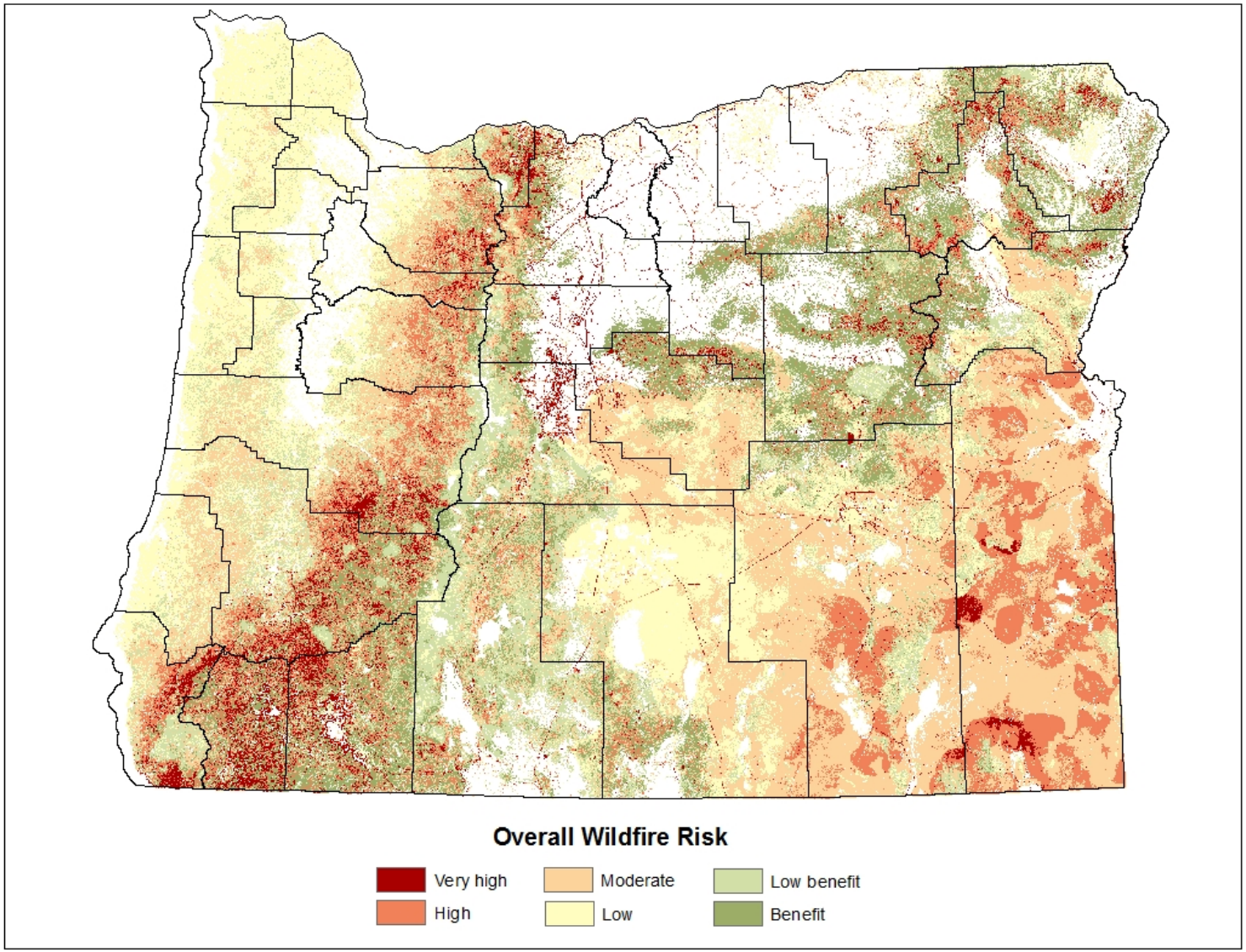


Figure 8: Special Flood Hazard Area

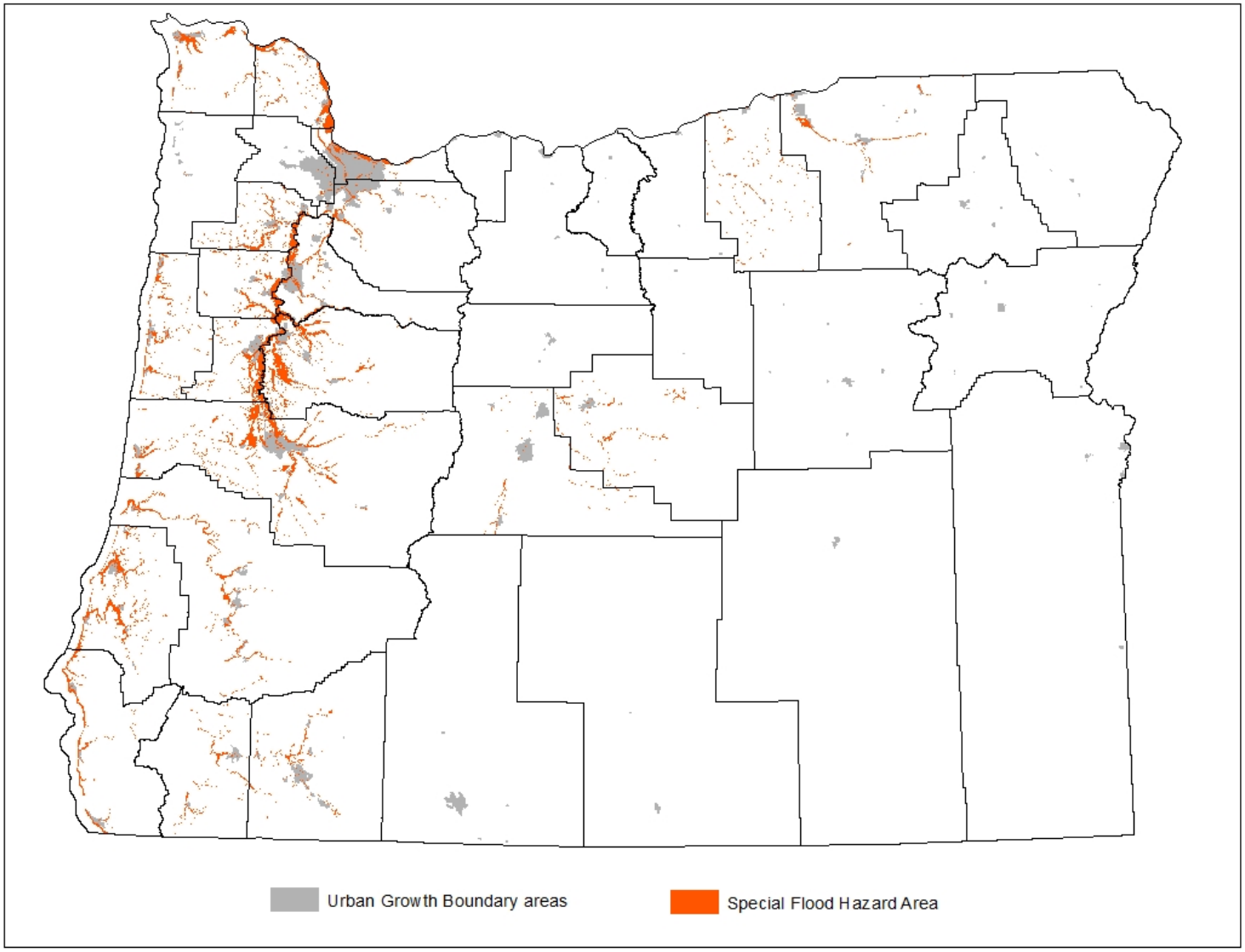
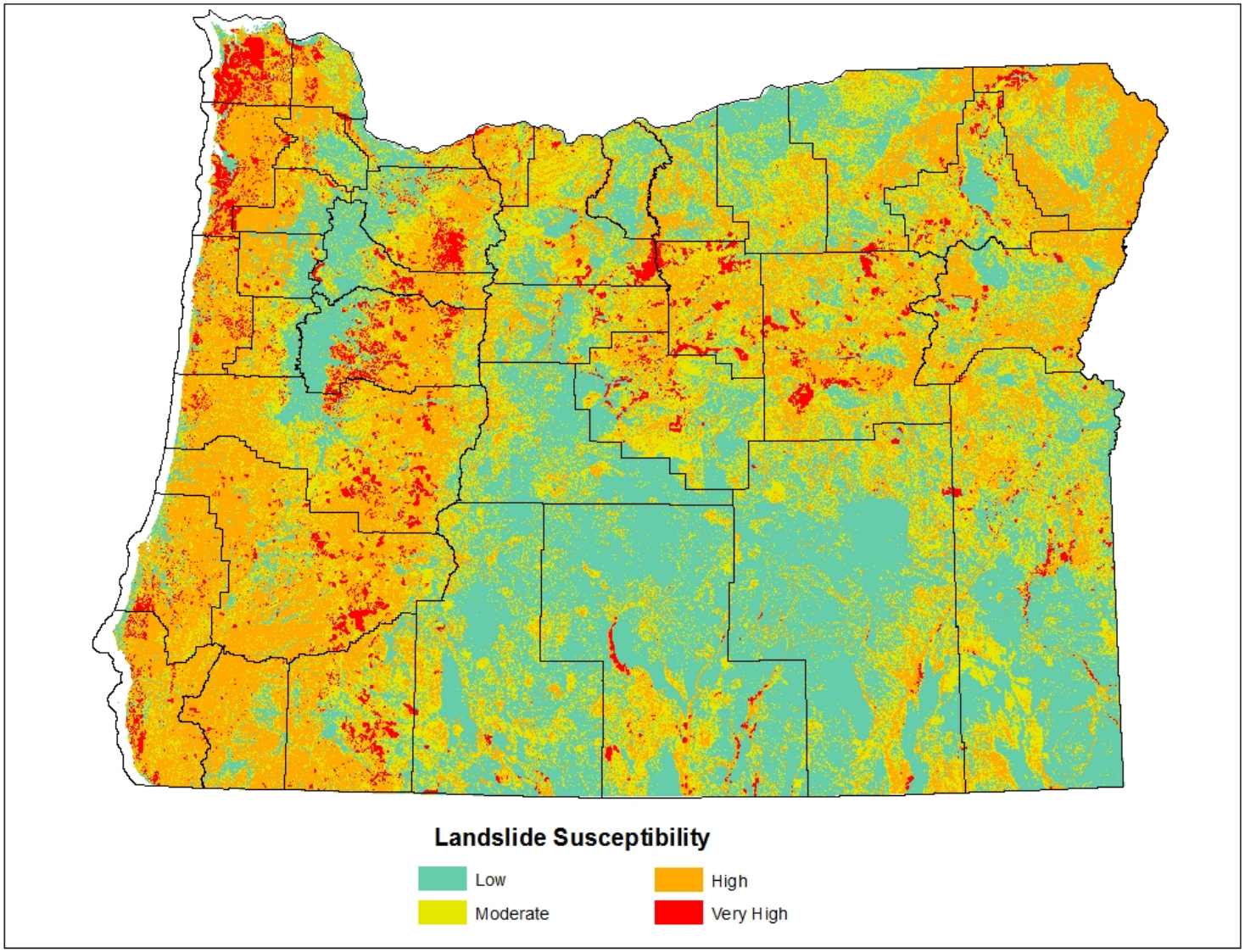


Figure 9: Landslide Susceptibility



Land Use Change on Non-Federal Land in Oregon and Washington

2018 Update

July 2018

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Executive Summary

Population Growth Drives Demand for Resource Lands

For decades Oregon and Washington have experienced substantial population growth that has driven demand for developable land. In response to growing concern surrounding increasing conversion of irreplaceable resource lands that are critical to ecosystem functionality and service delivery, Oregon enacted the Land Conservation Act and Washington the Growth Management Act.

Oregon and Washington Population Changes

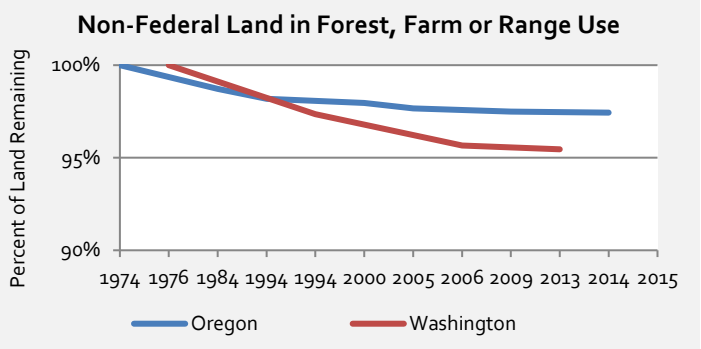
	New Residents	Change	Period
Oregon[1]	1,690,000	+74%	1974 – 2014
Washington[2]	3,247,000	+89%	1976 – 2013

[1]Oregon Office Economic Analysis, 2017, [2]Washington Office Financial Management, 2017

Land Use Laws Retain Resource Lands

Implementation of land use laws in Oregon (1984) and Washington (1994) have improved the retention of resource lands (agricultural, wildland forest, and wildland range).

- 97% of all non-Federal land in Oregon that was in resource land uses (farm, forest, or range) in 1974 remained in these uses in 2014.
- 95% of non-Federal land in Washington in these uses in 1976 remained in 2013.



In the periods following land use implementation there is a distinct slowing of the conversion of resource lands especially in Oregon. Following land use implementation the annual rate of wildland forest conversion in Oregon fell by 66%, range by 23% and intensive agricultural lands by 50%.

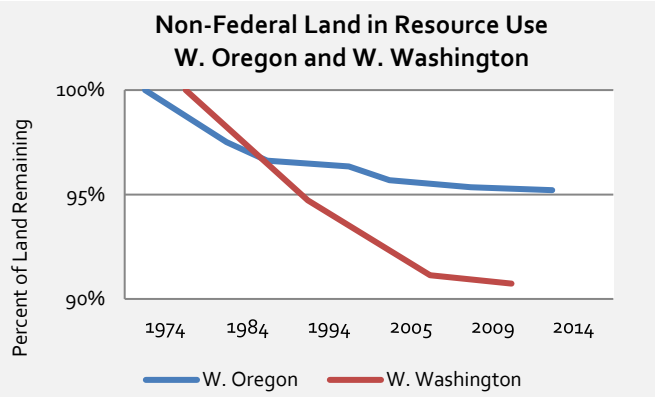
Oregon and Washington Resource Lands Converted Pre and Post Land Use Implementation

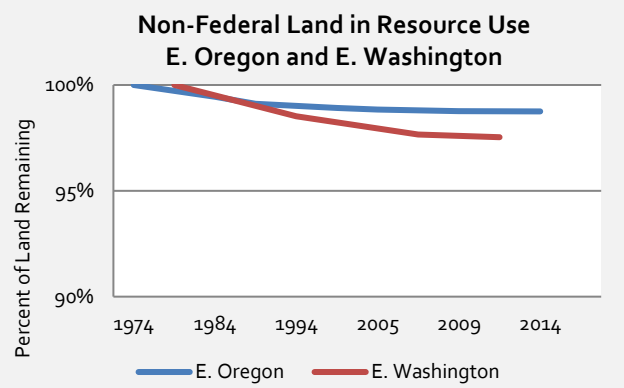
	Oregon, 1974-1984		Washington, 1976-1994		Oregon, 1984-2014		Washington, 1994-2013	
	Pre-Land Use Implementation				**Post** Land Use Implementation			
	Lands Converted	Annual Rate	Lands Converted	Annual Rate	Lands Converted	Annual Rate	Lands Converted	Annual Rate
	Thousand Acres							
Forest	-123	-12	-420	-23	-124	-4	-281	-15
Range	-133	-13	-184	-10	-151	-5	-181	-10
Agriculture	-42	-4	-101	-6	-66	-2	-32	-2
Totals	-298	-30	-705	-39	-341	-11.4	-494	-26

Region Specific Conversion

Conversion of resource lands follows population growth. More-populous western Oregon and western Washington experienced nearly twice as much resource land conversion to developed uses relative to the less-populous eastern portions of the states.

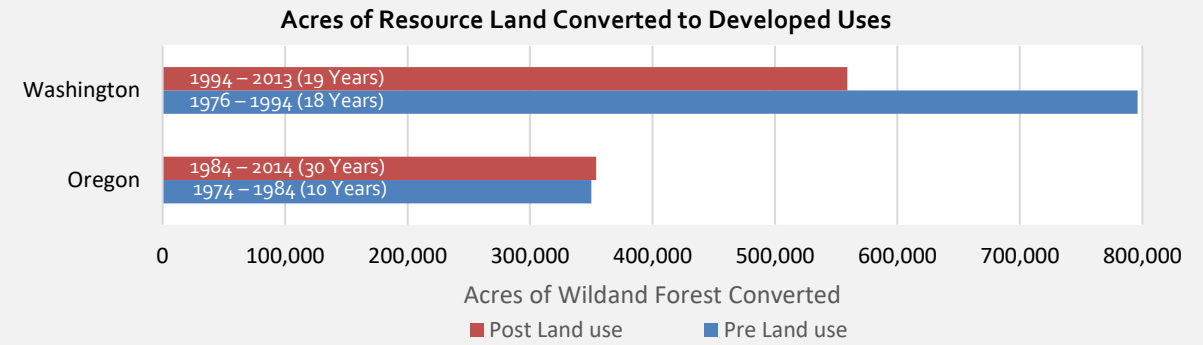
- In western Oregon, 95% of non-Federal land in resource uses in 1974 remained in 2014.
- In western Washington 91% of non-Federal land in resources uses in 1976 remained in in 2013.





Land Use Complements Resource Policy

The ability of land use planning to direct conversion and limit fragmentation of resource lands supports the vitality and productivity of resource lands as well as the functionality of ecosystems and services, social, economic, and ecologic. In this regard, Oregon has demonstrated a higher degree of success in retaining resource lands relative to Washington.



Continued Growth and Demand

Land use change will continue to be a critical concern, as Oregon and Washington's respective offices of economic and financial management predict that in the next 25 years:

- Oregon's population is projected to increase by 1,180,000 people (29 percent) and
- Washington's population is projected to increase by 1,932,000 people (26 percent).

Given this growth, there will be increased demands placed on PNW ecosystems to continue provision of critical services. Prior to land use implementation, conversion of resource lands in Oregon and Washington was vigorous and dispersed. Since implementation, conversion has been directed, supporting continuity and functionality of resource lands to the benefit of ecosystems and communities.

LAND USE CHANGE ON NON-FEDERAL LAND IN OREGON & WASHINGTON, 1974 – 2014

Verdant Resource Lands

The dynamic and varied natural landscape of the Pacific Northwest is the defining aspect of the region in many regards. The region's resource lands (e.g., forest, farm, and range) provide invaluable ecosystem services, sustain diverse renewable enterprises, and advance broad social benefits. Accordingly, there is distinct value in maintaining the integrity and functionality of the region's resource lands to ensure that the benefits they provide persist. This interest is challenged as significant regional population growth threatens to fragment resource lands and disrupt the continuity requisite to their ecological health, productivity, and functionality.

Increasing Population and Demand

Oregon and Washington have experienced significant population growth in recent decades:

State	New Residents	Change	Period
Oregon[1]	1,690,000	+74%	1974 – 2014
Washington[2]	3,247,000	+89%	1976 – 2013

[1]Oregon Office of Economic Analysis, 2017
[2]Washington Office of Financial Management, 2017

With regional growth, demands for resource land to accommodate and sustain new residents intensifies, placing increasing significance on the statutes, rules, and policies that collectively identify resource lands, moderate change, and direct development. In terms of land use statute and rule, Washington and Oregon are similar, however, administration differs in that Oregon exercises a more centralized approach relative to Washington.

In addition to law and policy, the relative health of state and local economies is a significant variable in dictating development and land use. The economic recession that followed the financial crisis of 2007 impacted economic growth and land conversion rates in Washington and Oregon. As the recession ended, development and conversion has resumed and increased in both states. The full extent of this increase is difficult to assess given the timelines of when data collection occurs relative to this analysis. New data will be necessary to more fully evaluate and discern the effect of land use laws and policies relative to economic drivers and population growth.

Report Focus

This evaluation seeks to provide an overview of how land use in both states has changed over recent decades. This report provides a macro-scale evaluation of land use change patterns using land use categories sufficient to recognize broad trends and gross policy efficacy. This report does not address micro-scale changes to ecosystem health, continuity, and functioning relative to land changes.

Land Use Policies

Oregon: Land Conservation and Development Act – 1973 (implemented mid- 1980s)

Oregon enacted the Land Conservation and Development Act in 1973, which was fully implemented statewide by the mid-1980s. The Act required all counties and incorporated municipalities to prepare comprehensive land use plans in accordance with 19 statewide planning goals specified in the Act. Resource lands were addressed through goals 3 and 4 which seek to limit and manage the loss of forest, agricultural, and range land consistently statewide.

In the course of implementation, non-Federal lands in Oregon were zoned either for resource uses (largely forest, farm, and range land) or as developable zones that were either already urbanized or adjacent to urbanized areas (predominately areas of low density residential and urban land use). Goal 14 mandated the establishment of urban growth boundaries to promote compact urban growth within these boundaries and to restrict the spread of development into forest and farm land. Development can and does still occur in resource lands through exceptions, but opportunities are limited.

GOAL 3: AGRICULTURAL LANDS
OAR 660-015-0000(3)

To preserve and maintain agricultural lands. Agricultural lands shall be preserved and maintained for farm use, consistent with existing and future needs for agricultural products, forest and open space and with the state's agricultural land use policy expressed in ORS 215.243 and 215.700.

Agricultural Land -- in western Oregon is land of predominantly Class I, II, III and IV soils and in eastern Oregon is land of predominantly Class I, II, III, IV, V and VI soils as identified in the Soil Capability Classification System of the United States Soil Conservation Service, and other lands which are suitable for farm use taking into consideration soil fertility, suitability for grazing, climatic conditions, existing and future availability of water for farm irrigation purposes, existing land-use patterns, technological and energy inputs required, or accepted farming practices. Lands in other classes which are necessary to permit farm practices to be undertaken on adjacent or nearby lands, shall be included as agricultural land in any event.

Washington: Growth Management Act – 1990 (implemented mid-1990s)

Washington passed the Growth Management Act (GMA) in 1990. The GMA was largely implemented by the mid-1990s. It required all counties and incorporated municipalities to conduct land use planning. Initial steps in the planning process required all counties to designate forest, farm, and other natural resource lands (range land was considered farm land in this process) and then to adopt local regulations to protect these lands from development. Additionally, 29 (of 39) counties were required or chose to plan fully by adopting county-wide planning policies based on 14 statewide goals specified in the Act. Each county then used its policies to develop and implement a county-level comprehensive land use plan. Included in these plans was the establishment of urban growth areas.

GOAL 4: FOREST LANDS
OAR 660-015-0000(4)

To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.

Forest lands are those lands acknowledged as forest lands as of the date of adoption of this goal amendment. Where a plan is not acknowledged or a plan amendment involving forest lands is proposed, forest land shall include lands which are suitable for commercial forest uses including adjacent or nearby lands which are necessary to permit forest operations or practices and other forested lands that maintain soil, air, water and fish and wildlife resources.

Land Use Administration in Oregon and Washington

In Washington the GMA framework provides direction to local governments, but allows flexibility regarding the specific content of comprehensive plans and implementation of development regulations. Under the GMA, land use planning at the county and city levels is assumed to be valid unless a constituent petitions a state growth management hearings board and the board rules against the local government. This aspect of the GMA decentralizes implementation and can generate more variable results across the landscape.

By comparison, Oregon's land use process is more centralized. In Oregon, one board (the Land Conservation and Development Commission) and one state agency (the Department of Land Conservation and Development) guide, review, and monitor land use planning throughout the state according to statute and rule. This centralized oversight helps ensure that local comprehensive plans and implementation are consistent with state policy and comply with the statewide planning goals.

Evaluation Methods

This evaluation compares changes in land use on non-Federal land between Oregon and Washington based on eight different land use classes (see Table 1). The study period is from the mid-1970s through 2014. To quantify land use change, interpreters evaluated 82,329 sample points distributed across non-Federal land in Oregon and Washington based on aerial imagery taken at successive dates. Each sample point was assigned one of the eight land use classes at each date. The sample point locations and the evaluation methods are consistent for all time periods. In Oregon, evaluation was carried out based on imagery from 1974, 1984, 1994, 2000, 2005, 2009, and 2014. In Washington evaluation was carried out based on imagery from 1976, 1994, 2006, and 2013.

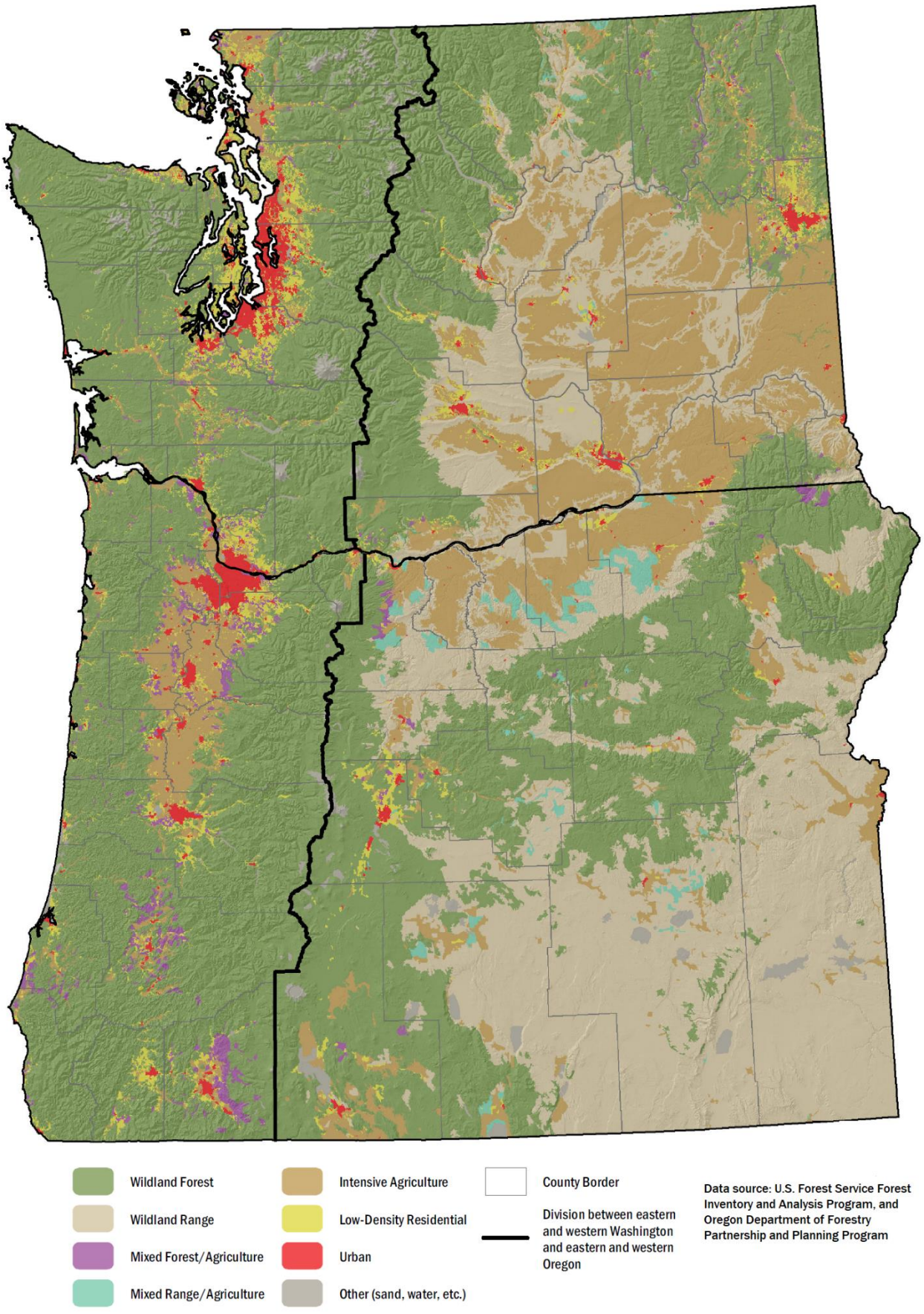
Table 1. Land Use Classes

Land Use Category	Description
Wildland Forest	- Area of land in forest use that is at least 640 acres in size and - Fewer than 5 structures per square mile on average.
Wildland Range	- Area of land in range use that is at least 640 acres in size and - Fewer than 5 structures per square mile on average.
Mixed Forest/Agriculture	- Area of land with intermixed forest and agricultural uses that is at least 640 acres in size and - Fewer than 9 non-farm-related structures per square mile on average.
Mixed Range/Agriculture	- Area of land with intermixed range and agricultural uses that is at least 640 acres in size and - Fewer than 9 non-farm-related structures per square mile on average.
Intensive Agriculture	- Area of land in agricultural use that is at least 640 acres in size and - Fewer than 9 non-farm-related structures per square mile on average.
Low-Density Residential	- An area of any size in rural residential or low-density commercial use that contains 9 or more structures.
Urban	- Area of land that is at least 40 acres in size and - Comprised of commercial, service, or subdivided residential uses with city street patterns and closely-spaced buildings.
Other (sand, rock, water, etc.)	- Area of naturally non-vegetated land that is at least 640 acres in size.

Examples of the eight land classes used in this report are identified in Figure 1 (mixed range/agriculture not shown). Figure 2 shows the distribution of these classes across Oregon and Washington and delineates the boundary between the western and eastern sides of the two states.

Figure 1 — Land Use Classes

Figure 2. Land Use: Washington 2013 and Oregon 2014



Land Use Changes

Oregon and Washington contain comparable areas of non-Federal land, with 28,706,000 acres and 31,600,000 acres respectively (see Figure 3). With growing populations, Oregon and Washington have experienced conversion of resource lands to low-density residential or urban uses.

- In Oregon 704,000 acres (2.6%) of all non-Federal land resource land (wildland forest, wildland range, intensive agriculture, mixed forest/agricultural and mixed range/agriculture uses) shifted to low-density residential or urban uses between 1974 and 2014 (see Figure 3).

- In Washington, 1,334,000 acres (4.5%) of all non-Federal resource land shifted to low-density residential or urban uses between 1976 and 2013 (see Figure 3).

The rate of conversion of resource lands has slowed in both states since implementation of land use laws. However, in this perspective a greater area of resource land conversion has occurred in Washington relative to Oregon (see Figure 4 and Table 2).

Figure 3. Non-Federal Land Conversion

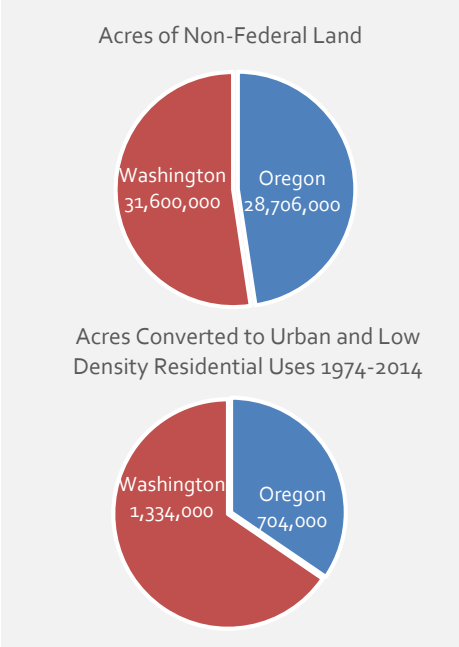
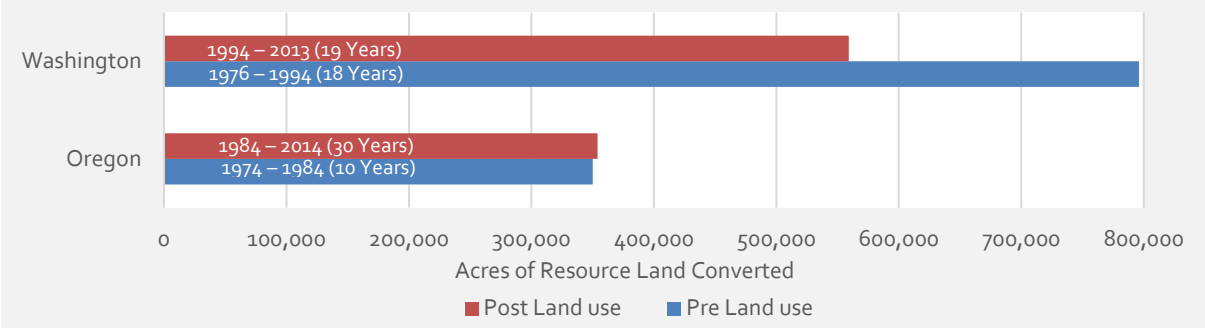


Figure 4. Area of Resource Lands Converted to Low Density Residential and Urban



In Washington, Wildland forest has been the principal resource land subject to conversion. Oregon has also experienced significant conversion of this resource as well (see Figure 5).

Figure 5. Oregon and Washington Land Use Change 1974 – 2014

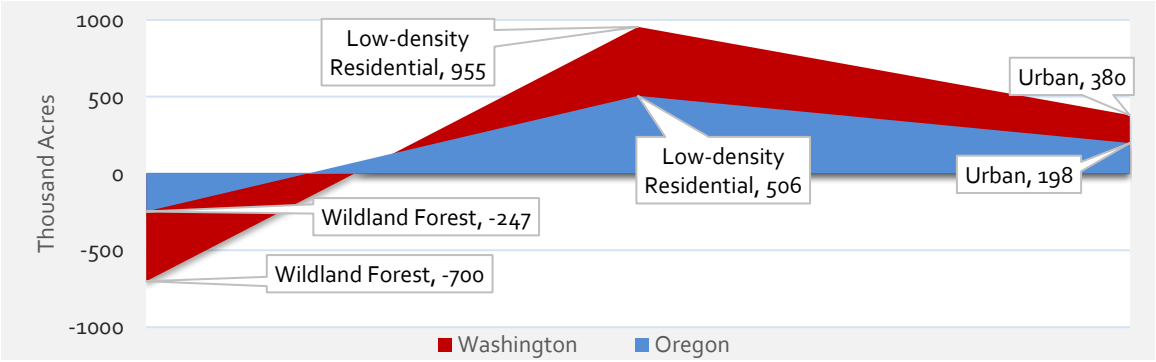


Table 2. Area and Percent of non-Federal Land in Oregon and Washington, by Land Use Class and Year

Oregon: land use class	1974		1984		1994		2000		2005		2009		2014		Change 1974-2014		Change 1984-2014*	
	Thousand acres | Percent of Non-Federal Land																	
Wildland forest	10,693	37.3	10,570	36.8	10,512	36.6	10,497	36.6	10,468	36.5	10,455	36.4	10,446	36.4	-247	- 0.9	-124	-0.4
Wildland range	9,297	32.4	9,164	31.9	9,116	31.8	9,087	31.7	9,045	31.5	9,034	31.5	9,013	31.4	-284	-1.0	-151	-0.5
Mixed forest/agriculture	959	3.3	901	3.1	877	3.1	876	3.1	864	3.0	855	3.0	853	3.0	-105	-0.4	-48	-0.2
Mixed range/agriculture	658	2.3	664	2.3	666	2.3	678	2.4	690	2.4	690	2.4	699	2.4	41	0.1	35	0.1
Intensive agriculture	5,848	20.4	5,806	20.2	5,786	20.2	5,757	20.1	5,747	20.0	5,733	20.0	5,740	20.0	-109	-0.4	-66	-0.2
Low-density residential	785	2.7	1,060	3.7	1,165	4.1	1,196	4.2	1,246	4.3	1,282	4.5	1,291	4.5	506	1.8	231	0.8
Urban	378	1.3	453	1.6	495	1.7	526	1.8	556	1.9	568	2.0	576	2.0	198	0.7	123	0.4
Other	88	0.3	88	0.3	88	0.3	88	0.3	88	0.3	88	0.3	88	0.3	0	0.0	0	0.0

*Oregon's land use laws were largely implemented by 1984

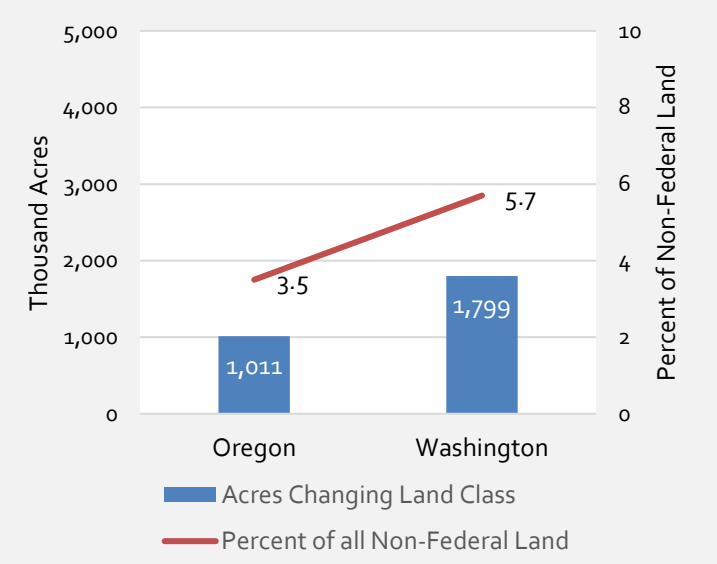
Washington: land use class	1976			1994			2006			2013		Change 1976-2013		Change 1994-2013*	
	Thousand acres | Percent of Non-Federal Land														
Wildland forest	13,653	43.2		13,233	41.9		12,991	41.1		12,952	41.0	-700	-2.2	-281	-0.9
Wildland range	6,170	19.5		5,986	18.9		5,884	18.6		5,805	18.4	-365	-1.2	-181	-0.6
Mixed forest/agriculture	545	1.7		471	1.5		407	1.3		403	1.3	-142	-0.4	-67	-0.2
Mixed range/agriculture	64	0.2		64	0.2		64	0.2		64	0.2	0	0.0	0	0.0
Intensive agriculture	9,059	28.7		8,958	28.3		8,865	28.1		8,926	28.2	-133	-0.4	-32	-0.1
Low-density residential	1,275	4.0		1,853	5.9		2,187	6.9		2,230	7.1	955	3.0	377	1.2
Urban	578	1.8		775	2.5		939	3.0		957	3.0	380	1.2	182	0.6
Other	256	0.8		260	0.8		262	0.8		262	0.8	6	<0.1	2	<0.1

* Washington's land use laws were largely implemented by 1994

A Changing Landscape - Non-Federal Land Use Change

In Washington approximately 1,799,000 acres of non-Federal land changed uses, moving from one category to another either through reduction of resource status or addition of developed use, between 1976 and 2013, (approximately 5.7% of all non-Federal land in the state). In comparison a total of approximately 1,011,000 acres of non-Federal land in Oregon changed uses between 1974 and 2014 (approximately 3.5% of all non-Federal land in the state)(see Figure 6).

Figure 6. Acres Changing Land Classification 1974 - 2014



Resource Land Conversion

Ninety-seven percent of all non-Federal land in Oregon that was in resource land uses (farm, forest, or range) in 1974 remained in these uses in 2014 (Figure 6). Ninety-five percent of non-Federal land in Washington that was in these uses in 1976 remained so in 2013.

In more-populous western Oregon and western Washington, almost twice as much resource land was converted to developed uses than in the less-populous eastern portions of the states (Figure 7). In western Oregon, 95% of non-Federal land that was in resource uses in 1974 remained in these uses in 2014, and in western Washington 91% of non-Federal land that was in resources uses in 1976 remained in these uses in 2013. Less change occurred in the Eastern portions of both states.

Figure 7. Non-Federal Land Remaining in Forest, Farm, or Range Oregon 1974-2014 and Washington 1976-2013

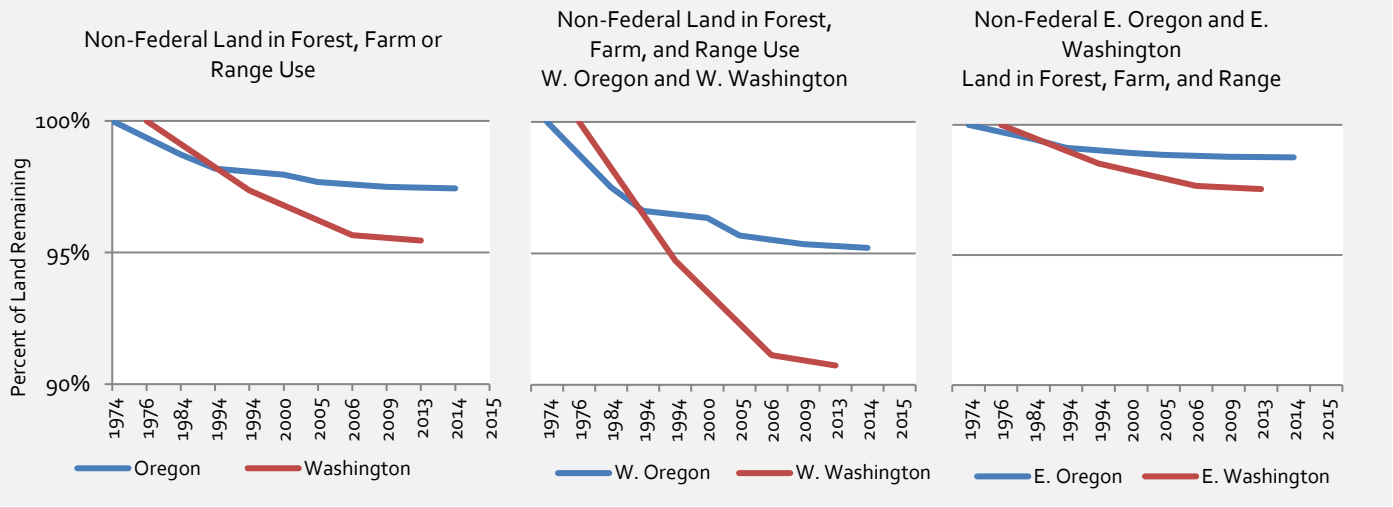
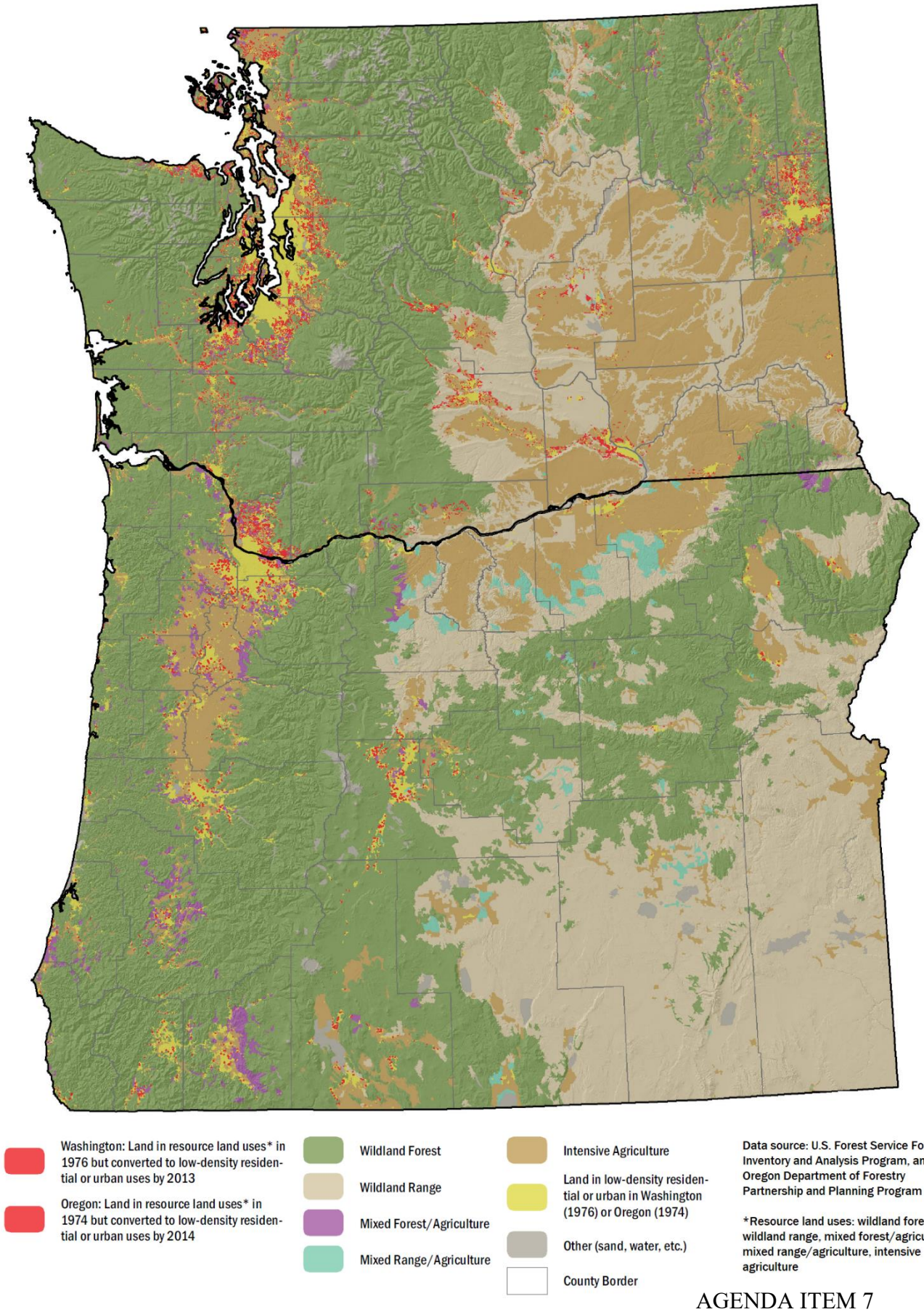


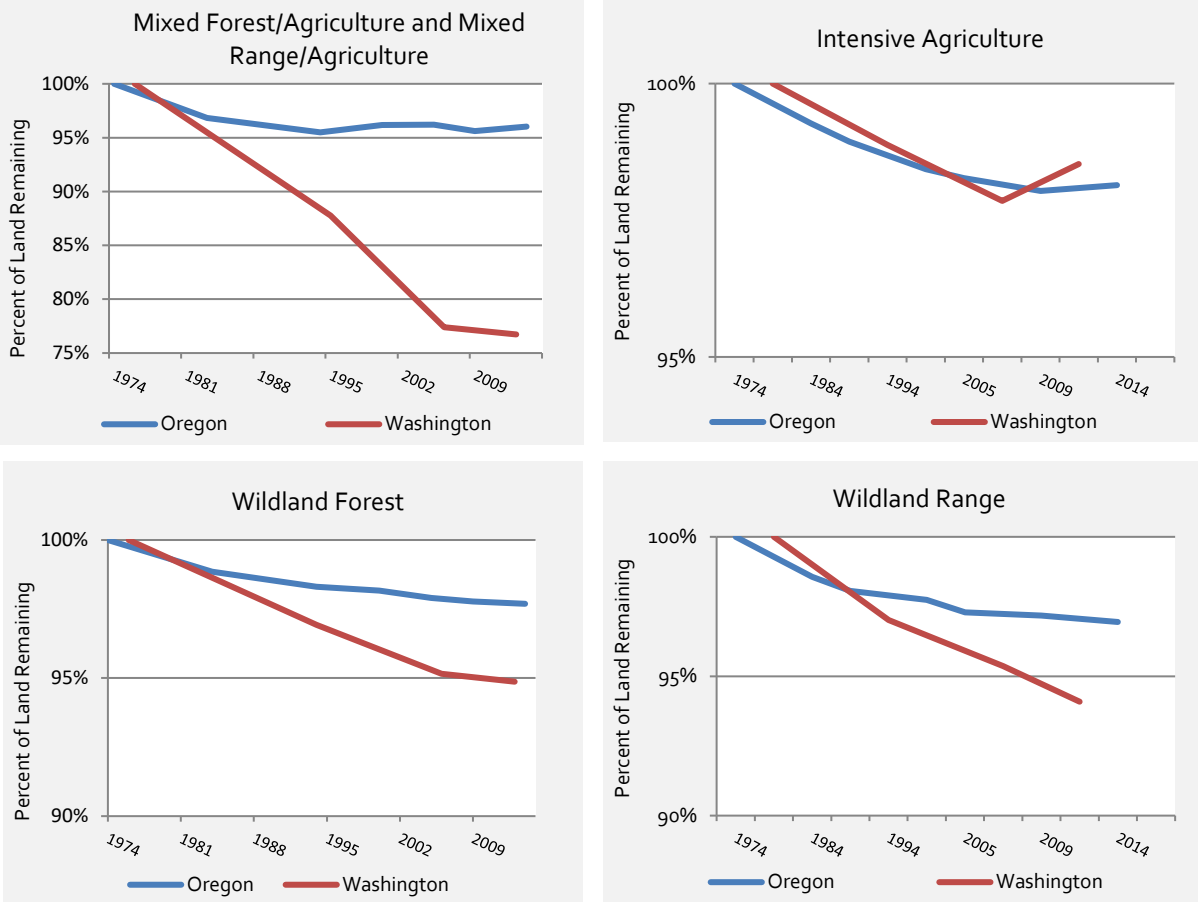
Figure 7. Changes in Land Use on Non-Federal Land: Washington 1976-2013, Oregon 1974-2014



Resource Land Use Changes By Land Use – Oregon and Washington

Both states have experienced ongoing conversion of non-Federal resource lands to more developed uses over the study period (with the exception of intensive and mixed agricultural lands, where a modest increase in agricultural use was observed in the later periods of evaluation). Washington experienced a greater loss of non-Federal resource lands relative to Oregon (Figure 8).

Figure 8. Non-Federal Rand Remaining in Resource Land Uses 1974 – 2014



The largest land use losses in Oregon and Washington occurred in wildland forest and wildland range. Together the two states experienced a combined conversion of 1,597,000 acres, an area larger than the state of Delaware. Conversely the land uses with the largest increases occurred in low-density residential and urban uses (Table 3).

Table 3. Largest Land Use Changes by State (1974-2014)

Land Use Losses			Land Use Gains		
Land Use	*State*	*Change (Acres)*	*Land Use*	*State*	*Change (Acres)*
Wildland Forest	Washington	-700,000	Low-Density Residential	Washington	+955,000
	Oregon	-247,000		Oregon	+506,000
Wildland Range	Washington	-365,000	Urban	Washington	+380,000
	Oregon	-284,000		Oregon	+198,000

Resource Land Conversion

In both states, shifts from resource land uses to low-density residential or urban uses occurred predominately on private land. Low-density residential use accounted for the majority of this conversion, increasing by 1.4 million acres total for both states (Table 4). (This macro-scale evaluation does not differentiate between specific sources of conversion such as industrial development, urban growth boundary incorporations, partitioning of resource parcels, or exceptions to resource land uses which collectively affect and impact the nature of resource lands in terms of habitat, ecosystem dynamics, and other landscape concerns.)

Table 4. Private Land Use Transitions in Oregon and Washington 1974-2014

Oregon: land use class	1974	2014	Net change 1974-2014	Net change 1974-2014
	Thousand Acres			*Percent*
Western Oregon				
Wildland forest	6,256	6,065	-191	-3.1
Mixed forest/agriculture	774	687	-87	-11.2
Intensive agriculture	1,938	1,754	-184	-9.5
Low-density residential	492	809	317	64.5
Urban	263	408	145	55.2
Eastern Oregon				
Wildland forest	2,950	2,905	-46	-1.6
Wildland range	8,258	8,013	-245	-3.0
Mixed forest/agriculture	128	116	-13	-9.8
Mixed range/agriculture	642	677	34	5.3
Intensive agriculture	3,652	3,714	62	1.7
Low-density residential	226	396	169	74.8
Urban	52	90	38	72.6

Washington: land use class	1976	2013	Net change 1976-2013	Net change 1976-2013
	Thousand Acres			*Percent*
Western Washington				
Wildland forest	5,932	5,421	-511	-8.6
Mixed forest/agriculture	333	225	-108	-32.4
Intensive agriculture	808	625	-182	-22.6
Low-density residential	863	1,406	543	63.0
Urban	331	584	253	76.6
Eastern Washington				
Wildland forest	4,690	4,529	-160	-3.4
Wildland range	5,850	5,487	-363	-6.2
Mixed forest/agriculture	173	145	-29	-16.6
Mixed range/agriculture	63	63	0	0.0
Intensive agriculture	8,161	8,219	58	0.7
Low-density residential	340	730	389	114.4
Urban	191	296	105	54.8

Wildland Forest Changes by Ownership

In both states the area of land in wildland forest use has declined, however the magnitude of conversion has varied by ownership. Industrial (active management entities) and public owners have largely retained land in wildland forest use, while non-industrial owners have accounted for most conversion (Table 5).

Table 5. Change in Area of Non-Federal Wildland Forest Based on Ownership

	Industrial	Non-industrial	Other public
	Change, in percent		
Oregon (1974 – 2014)	0	-7	-1
Western Oregon	0	-10	-1
Eastern Oregon	0	-4	0
Washington (1976 – 2013)	-1	-11	-1
Western Washington	-1	-24	-1
Eastern Washington	-1	-4	-1

Directed Growth and Comprehensive Planning

Land use planning can provide directed systematic development that reflects deliberate use of resources and consideration of dynamic social, economic, and ecological values. These values can be realized when planning and implementation occur in a comprehensive and consistent manner across regions and ecosystems (Costanza et al., 1997; Lubchenco et al., 2000; de Groot et al, 2000; de Groot et al., 2002; de Groot et al., 2003).

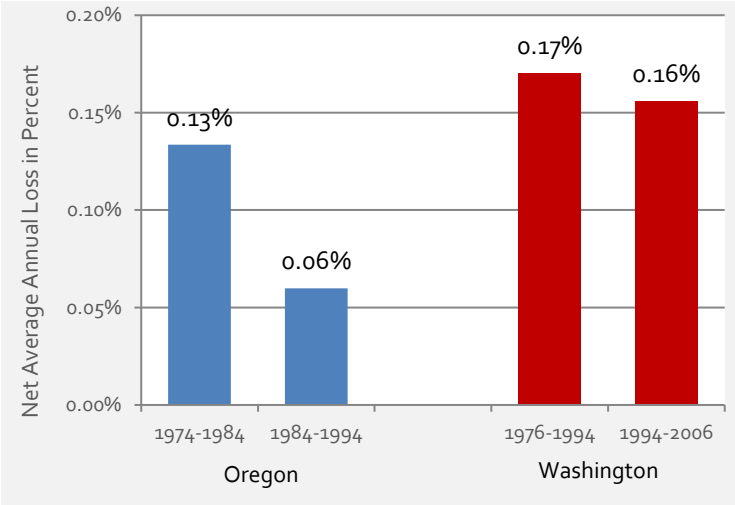
Comprehensive Planning and Conversion Rates

Conversion of private resource lands to low-density or urban land uses has slowed more in Oregon than Washington since implementation of comprehensive land use planning (Figure 9).

- In Oregon, net average annual conversion of private resource land declined by 54% after implementation of land use planning when considering the periods before and after land use plans were implemented in the 1980s.

- In Washington, net average annual conversion of private resource land declined by 6% after implementation of land use planning when considering the periods before and after land use plans were implemented in the 1990s.

Figure 9. Net Average Annual Loss of Private Resource Land Before and After Implementation of Land Use Plans

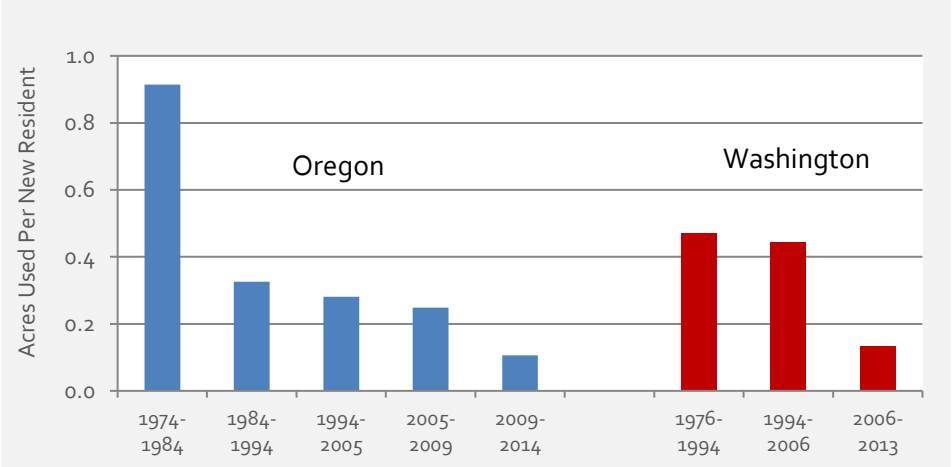


Improving Land Use Efficiency by Limiting Sprawl

Economic conditions and institutional policies are influential factors affecting the pace and nature of land use change. Where institutional policies are present, negative externalities of change, notably "sprawl," can be mediated (Lambina et al, 2001). Sprawl is described as dispersed, low-density growth that is characterized by inefficient resource use that creates social and environmental costs (Kunstler, 1993; Ewing, 1997; Downs, 1998; Burchell et al., 1998; Kahn, 2000; Bhatta and Bandyopadhyay, 2010).

Different methods are used to evaluate growth efficiency and sprawl, including examination of the per capita consumption of land as population increases (Hasse and Lathrop, 2003). In this regard, we consider the area of land shifting from resource to developed uses per new resident in Oregon and Washington. This metric reflects the relative efficiency of the two states over time in accommodating new growth, limiting sprawl, and converting resource lands to more developed uses. Oregon and Washington improved efficiency in accommodating growth with implementation of land use laws (see Figure 10).

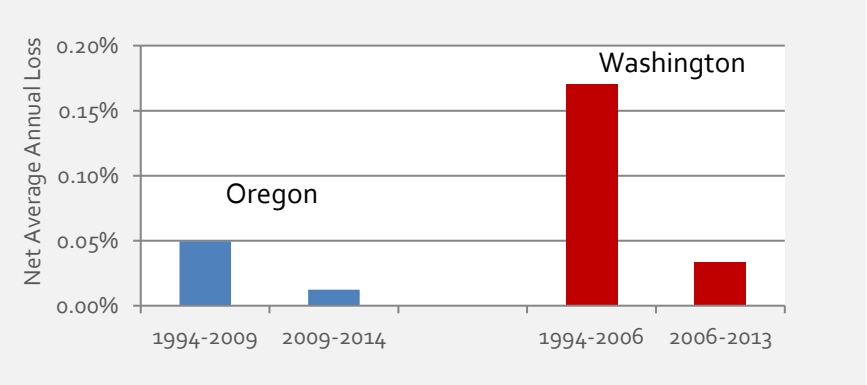
Figure 10. Average Area, Per New Resident, of Non-Federal Land Changing from Resource to Low-Density Residential or Urban Uses, Oregon 1974-2014, Washington 1976-2013



Recessionary Impact

Institutional policy alone does not determine the nature of land use change: regional economic and market conditions also exert influence on change. The most recent period of analysis reflects this conversion of resource lands significantly diminished in conjunction with the Great Recession (Figure 11).

Figure 11. Net Average Annual Loss of Private Resource Land Developed Uses Before and After Recession



Whether there is a rebound in resource land conversion rates with an improved economic environment or whether growth continues to densify cannot be determined until more recent imagery is available. This data should be available in 2019.

Ecosystem and Community Well-Being – Resource Lands and Comprehensive Planning

Human and community well-being is dynamically linked to ecosystem health by provision of ecosystem services (social, economic, and ecological) (Cairns 1993, Chivian, 2001, Chan et al. 2006). As the scale and complexity of human and ecosystem interactions increases, the reliance on resource lands and continued ecosystem functionality is increasingly critical (Chapin et al. 1997). Conversion of resource lands impairs ecosystem functionality and services such as but not limited to: water filtration, carbon and soil cycling, and provision of habitat necessary to maintain biological diversity.

Balancing development decisions with consideration of the dynamic ecosystem responses to land use change is paramount to maintaining ecosystem functionality (DeFries et al. 2004). Regionally, there are efforts to consider unique ecosystem features and functionality in land use planning. In Oregon, protection of natural resources on non-Federal land is directed via compliance with land use planning goals, such as Goals 4 and 5 that seek to recognize and retain continuity and vital features associated with unique and dynamic ecosystems such as wildland forest.

Wildland Forest

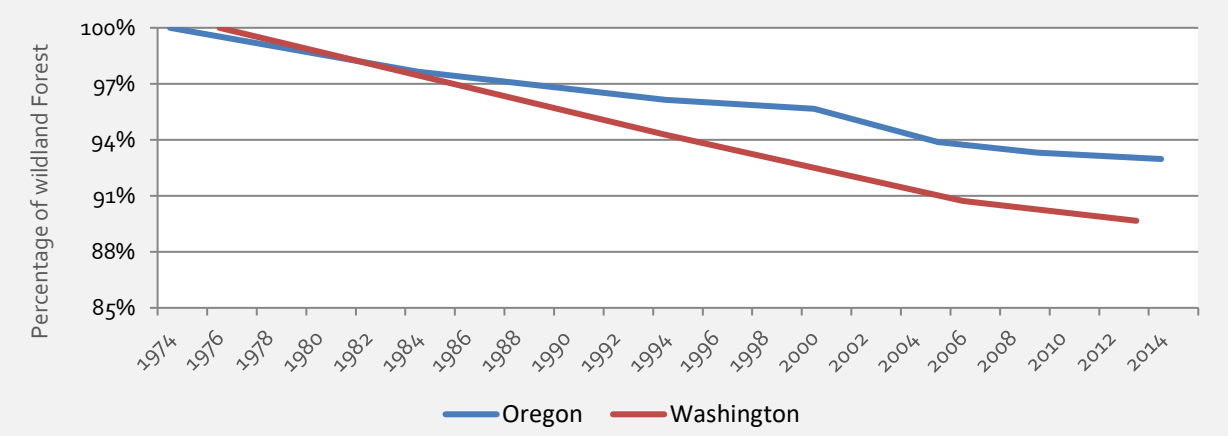
Wildland forest provides a range of services to communities, including but not limited to:

- Ecological benefits such as habitat, fertile soil, clean air, and water cycling and filtration;
- Economic goods including timber and other forest products;
- Social benefits such as recreation and existence values.

The extent and intensity to which these services are provided is dependent on maintaining continuity and limiting fragmentation as development (both suburban and exurban) challenges the ecological processes and functionality of wildland forest (Kahn, 2000; Marzluff and Ewing, 2001).

The density of residential developments is one metric for distinguishing relatively less-developed wildland forest zones from relatively more-developed wildland forest zones. In both Oregon and Washington, the amount of undeveloped and less-developed wildland forest has declined over the study period. The area of non-Federal land in wildland forest use with less than 10 residents per square mile declined by 7 percent (693,000 acres) in Oregon, and by 10 percent (1,280,000 acres) in Washington over the study period (Figure 12).

Figure 12. Non-Federal Land Remaining in Wildland Forest Use With Less Than 10 Residents per Square Mile, Oregon 1974-2014, Washington 1976-2013



This indicates that in both states, the area of wildland forest impacted by dispersed residential development is greater than the area of wildland forest that was converted to non-forest uses. Conversion and fragmentation of wildland forest impairs functionality via creation of new challenges:

- Increased conflict relative to resource management;
- Diminished value proposition for active management as cohesiveness and ability to operate is constrained;
- Increased ignition of wildfire and cost to manage wildfire;
- Diminished provision of ecosystem services: habitat, air, geochemical, and water cycling.

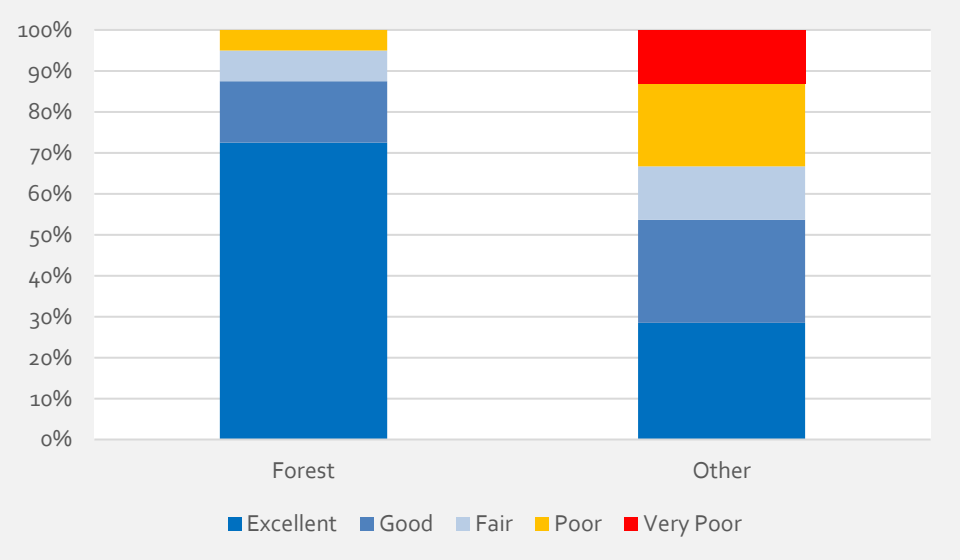
Maintaining resource continuity limits these and other negative externalities and ensures critical services such as clean water are sustained.

Resource Lands – Ecosystem Services

Water quality is inextricably linked to ecosystem and community health. Diminished water quality compromises ecosystem functioning and interactions such that habitat is undermined, biodiversity is challenged, and overall ecosystem health and resilience are undermined. Conversion of resource lands disrupts natural processes, surface area and flow, degrades water quality, and reduces vegetation cover and diversity. The changes made to the landscape through development tend to be permanent, and restoration to a natural state is difficult (Oregon Conservation Strategy, 2016).

A review of Oregon Department of Environmental Quality (DEQ) water quality index scores for sample points according to land use classification for the years 1996-2015 (Figure 13) demonstrates the relationship between land use and water quality. In particular, the prevalence of high water quality on forest lands indicates value of forest land use in this regard, and underlines the importance of avoiding conversion to alternative uses that cause deleterious effects on water quality.

Figure 13. Water Quality on non-Federal Land by Forest and Other Land Uses, Oregon 2015*



*DEQ water quality sampling point data was attributed according to land use classification, water quality scores were averaged for each point and allocated to water quality classes and land uses (1996-2015).

Recognizing the importance of wildland forest to maintaining water quality, both Oregon and Washington recognize the value of protecting this resource from development. To this end, the Oregon Board of Forestry has a stated policy to "Promote the maintenance of forestland in forest uses and promote the establishment of new forests as key elements in promoting high quality water and protection of soil productivity," and the Washington Department of Natural Resources Forest Legacy Program states that "Keeping land in traditional forest uses also aids protection of water quality, fish and wildlife habitat, cultural resources, and recreation opportunities."

Resource Lands – Ecosystem Functionality

Habitat availability and quality is a reflection of ecosystem capability as trophic cascades are a critical facet of ecosystem functionality (Ripple and Beschta, 2005). Resource lands benefit broader ecosystem functionality as their contiguous presence supports delivery of ecosystem benefits, habitat quality and quantity, and maintains connectivity, all key components of terrestrial and aquatic resource management.

In the Pacific Northwest, freshwater aquatic systems are essential habitat to multiple species, including important spawning and rearing habitat for salmonids and breeding habitat for amphibians, and invertebrates. The nature of land use in areas adjacent to aquatic systems can severely affect functionality and capability to provide adequate habitat depending on the nature of use (e.g. impermeable surfaces, pollutants, flow diversion, etc.). Where forests and other resource lands persist, habitat requirements such as water quality are more likely to be met (see Figure 13).

Beyond water quality, connectivity between aquatic habitats is an important part of garnering successful and healthy populations. Many species rely on the ability to move throughout the landscape to fulfill their needs for survival or complete their life cycles. Some species move seasonally, following food resources, moving to areas more suitable for raising young, or surviving the winter. This may mean moving north and south across thousands of miles, or higher and lower in elevation. Human-caused changes to the landscape can affect the ability of wildlife to move across terrestrial landscapes by adding obstacles, impacting critical stopover sites, and increasing habitat fragmentation (Oregon Conservation Strategy, 2016).

Patterns of land use and development within and adjacent to aquatic systems and streams supporting salmon differ between Oregon and Washington. In the 1994 – 2013 period for Washington and the 1994 – 2014 period for Oregon, stream availability for salmon within areas of wildland forest diminished, challenging connectivity and habitat serviceability and quality (see Table 6).

Table 6. Land Use Changes Along Salmon Streams, Washington (1994-2013) and Oregon (1994-2014)

	Washington	Oregon
Land Use Category	*Percentage change of fish stream length within land use category*	
Wildland Forest	-1.5	-0.6
Low Density Residential	+13.7	+7.5
Urban	+18.3	+7.3

Beyond areas proximate to streams and rivers, conversion throughout drainage basins can impact basin functioning as cumulative changes disrupt and impact the collective ecological processes associated with water movement as basin functionality and by extension ecosystem capability is influenced by multiple factors such as topography, shape, size, and soil type. Accordingly, land use change can impact drainage basin functionality where conversion introduces discordant disturbance, disrupted drainage, sources of pollution and other encumbrances (Forman, 1995).

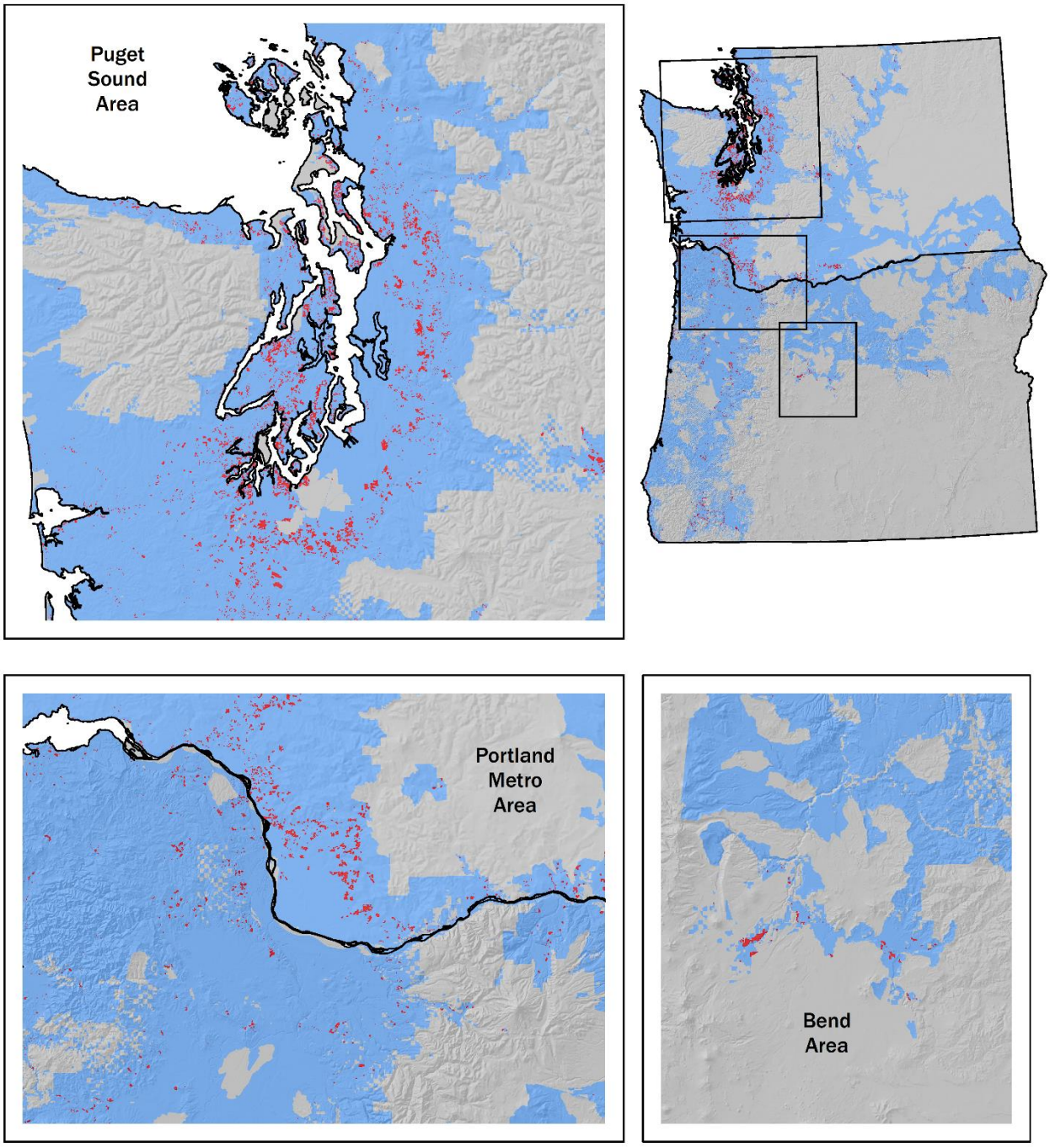
Using 1994 as baseline (change from 1994 – 2014 in Oregon and 1994 – 2013 in Washington) Washington has experienced more land use changes in drainage basins with currently utilized salmon habitat streams relative to Oregon on non-Federal land (see Table 7). Land use changes considered include loss of wildland forest to more developed land uses (low density residential and urban). These factors are important as wildland forest provides essential functions of connectivity and air and water filtration, while developed lands introduce ecosystem disturbances (Forman, 1995).

Table 7. Land Use Change on non-Federal Land Within Drainage Basins With Currently Used Salmon Streams, Washington (1994-2013) and Oregon (1994-2014)

	Washington	Oregon
	Percentage change within basins with currently used salmon streams	
Wildland Forest	-2.4	-0.6
Low Density Residential	18.6	9.9
Urban	26.1	13.6

Water quantity and quality is a critical component of a functioning ecosystem upon which species and communities are dependent. Erosion and loss of habitat challenges ecosystem functionality and the continued provision of goods, tangible and intangible. Conversion of resource lands is an inevitable function of population growth, however the subsequent impacts can be directed to minimize effects on resource and ecosystem functionality. Figure 14 highlights the breadth of land use change across drainage basins with currently used salmon streams and underlines the difference between Oregon and Washington in terms of basin area impacted.

Figure 14. Non-Federal Wildland Forest Changing to more Developed Uses in Drainage Basins of Streams with Chinook, Coho, and/or Steelhead Habitat: Washington 1994-2013, Oregon 1994-2014



Population Growth and Ecosystem Considerations

Prior to implementation of land use planning, conversion of nonfederal resource lands in Oregon and Washington was vigorous and dispersed. Since implementation, conversion in both states has been more directed, supporting retention, continuity, and functionality of resource lands. While multiple factors affect the rate, frequency, and nature of land use change, comprehensive planning holds capacity to inform and direct change to the benefit of resource lands and ecosystem functionality.

Land use change and consideration of how change impacts ecosystems will continue to be a critical concern. Oregon and Washington's respective offices of economic and financial management predict that in the next 25 years, Oregon's population is projected to increase by 1,180,000 people (29 percent) and Washington's population, by 1,932,000 people (26 percent). Given this projected growth, there will be increased demands and pressure placed on PNW ecosystems to continue provision of critical services upon which all are reliant. This underline the need to continue collect and evaluate land use change and further reinforces the value of comprehensive planning in terms of directing efficient growth, minimizing externalities, and maintaining the resource lands that are essential to ecosystem functionality.

Where to Find More Information

More detailed information about the data and techniques used in this report is available:

Forests, Farms and People: Land Use Change on Non-Federal Land in Western Oregon 1974-2009 (Lettman and others 2011) is available at http://www.oregon.gov/ODF/Documents/ForestBenefits/ForestsFarmsAndPeople1974_2009PublishedJuly2011.pdf.

Changes in Land Use and Housing on Resource Lands in Washington State, 1976-2006 (Gray and others 2013) is available at http://www.fs.fed.us/pnw/pubs/pnw_gtr881.pdf.

The Oregon Conservation Strategy: A blueprint for conservation in Oregon (2016) is available at *http://www.oregonconservationstrategy.org/*

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Appendix 6

Exclusive Farm Use Zone Uses List

Year first added to statute	HV Farmland (HVFL)	Use
		Farm/Forest Resource
1977		Propagation or harvesting of a forest product.
1977		A facility for the primary processing of forest products.
1997		A facility for the processing of farm crops or the production of biofuel as defined in ORS 315.141 or an establishment for the slaughter or processing of poultry pursuant to ORS 603.038.
		Natural Resource
1989		Creation of, restoration of, or enhancement of wetlands.
1983		The propagation, cultivation, maintenance and harvesting of aquatic species that are not under the jurisdiction of the State Fish and Wildlife Commission or insect species.
		Residential
1963	Different standards on HVFL (215.710)	Dwelling customarily provided in conjunction with farm use as provided in OAR 660-033-0135.
1979		A relative farm help dwelling.
1989	Different standards on HVFL (215.710)	Accessory Farm Dwellings for year-round and seasonal farm workers.
1979	Different standards on HVFL (215.710)	One single-family dwelling on a lawfully created lot or parcel.
1997		One manufactured dwelling, or recreational vehicle, or the temporary residential use of an existing building in conjunction with an existing dwelling as a temporary use for the term of a hardship suffered by the existing resident or a relative of the resident.
1973		Single-family residential dwelling, not provided in conjunction with farm use.
1985		Residential home as defined in ORS 197.660, in existing dwellings.
1989		Room and board arrangements for a maximum of five unrelated persons in existing residences.
1987		Replacement dwelling to be used in conjunction with farm use if the existing dwelling has been listed in a county inventory as historic property as defined in ORS

		358.480
1993		Alteration, restoration, or replacement of a lawfully established dwelling.
		Commercial Uses
1973		Commercial activities in conjunction with farm use, including the processing of farm crops into biofuel not permitted under ORS 215.203(2)(b)(L) or ORS 215.213(1)(u) and 215.283(1)(r), but excluding activities in conjunction with a marijuana crop.
1977		Home occupations as provided in ORS 215.448.
2012		Dog training classes or testing trials.
1983		Commercial dog boarding kennels or dog training classes or testing trials that cannot be established under ORS 215.213(1)(z) or 215.283(1)(x).
2001		An aerial fireworks display business that has been in continuous operation at its current location within an exclusive farm use zone since December 31, 1986, and possess a wholesaler's permit to sell or provide fireworks.
1987	No new developments on HVFL (215.710). Expansion and enhancement of existing facilities allowable.	Destination resort which is approved consistent with the requirements of Goal 8.
1989		A winery as described in ORS 215.452 or 215.453, and 215.237.
2013		A restaurant in conjunction with a winery as described in ORS 215.453 that is open to the public for more than 25 days in a calendar year or the provision of private events in conjunction with a winery as described in ORS 215.453 that occur on more than 25 days in a calendar year.
2017		A cider business as provided in ORS 215.451
2011		Agri-tourism and other commercial events or activities that are related to and supportive of agriculture, as described in ORS 215.213(11) or 215.283(4).
1993		Farm stands.
2005		A landscape contracting business, as defined in ORS 671.520, or a business providing landscape architecture services, as described in ORS 671.318, if the business is pursued in conjunction with the growing and marketing of nursery stock on the land that constitutes farm use.
1997	Not allowable on HVFL (215.710)	Guest ranch in eastern Oregon as provided in chapter 84 Oregon Laws 2010.
1995		Log truck parking as provided in ORS 215.311.

2019		A farm brewery as provided in ORS 215.449.
2018		Equine and equine-affiliated therapeutic and counseling activities.
		Mineral, Aggregate, Oil, and Gas Uses
1975		Operations for the exploration for and production of geothermal resources as defined by ORS 522.005 and oil and gas as defined by ORS 520.005, including the placement and operation of compressors, separators and other customary production equipment for an individual well adjacent to the wellhead.
1973		Operations for the exploration for minerals as defined by ORS 517.750.
1975		Operations conducted for mining and processing of geothermal resources as defined by ORS 522.005 and oil and gas as defined by ORS 520.005 not otherwise permitted under this rule.
1973		Operations conducted for mining, crushing or stockpiling of aggregate and other mineral and other subsurface resources subject to ORS 215.298.
1989		Processing as defined by ORS 517.750 of aggregate into asphalt or portland cement.
1973		Processing of other mineral resources and other subsurface resources.
		Transportation
1973		Personal-use airports for airplanes and helicopter pads, including associated hangar, maintenance and service facilities.
1987		Climbing and passing lanes within the right of way existing as of July 1, 1987.
1987		Construction of additional passing and travel lanes requiring the acquisition of right of way but not resulting in the creation of new land parcels.
1987		Reconstruction or modification of public roads and highways, including the placement of utility facilities overhead and in the subsurface of public roads and highways along the public right of way but not resulting in the creation of new land parcels.
1987		Reconstruction or modification of public roads and highways involving the removal or displacement of buildings but not resulting in the creation of new land parcels.
1987		Temporary public road and highway detours that will be

		abandoned and restored to original condition or use at such time as no longer needed.
1987		Minor betterment of existing public road and highway related facilities such as maintenance yards, weigh stations and rest areas, within right of way existing as of July 1, 1987, and contiguous public- owned property utilized to support the operation and maintenance of public roads and highways.
1987		Improvement of public road and highway related facilities, such as maintenance yards, weigh stations and rest areas, where additional property or right of way is required but not resulting in the creation of new land parcels.
1993		Roads, highways and other transportation facilities, and improvements not otherwise allowed under this rule.
1993		Transportation improvements on rural lands as allowed by OAR 660-012- 0065
		Utility/Solid Waste Disposal Facilities
1963	Different standards for transmission lines on HVFL and wind power generating facilities on HVFL(195.300).	Utility facilities necessary for public service, including associated transmission lines as defined in ORS 469.300 and wetland waste treatment systems but not including commercial facilities for the purpose of generating electrical power for public use by sale or transmission towers over 200 feet high.
1983		Transmission towers over 200 feet in height.
1997		Irrigation reservoirs, canals, delivery lines and those structures and accessory operational facilities, not including parks or other recreational structures and facilities, associated with a district as defined in ORS 540.505.
1997		Utility facility service lines.
1973	Different standards for solar on HVFL (195.300)	Commercial utility facilities for the purpose of generating power for public use by sale, not including wind power generation facilities or photovoltaic solar power generation facilities.
2019		Large photovoltaic solar power generation facility additional standards.
1979		A site for the disposal of solid waste approved by the governing body of a city or county or both and for which a permit has been granted under ORS 459.245 by the Department of Environmental Quality together with equipment, facilities or buildings necessary for its operation.

2013	Different standards for composting on HVFL (215.710).	Composting facilities on farms or for which a permit has been granted by the Department of Environmental Quality under ORS 459.245 and OAR 340-093-0050 and 340-096-0060.
		Parks/Public/Quasi-Public
2013	No new developments on HVFL (215.710). Expansion and enhancement of existing facilities allowable.	Youth camps in Eastern Oregon on land that is composed predominantly of class VI, VII or VIII soils.
2021		Child care facilities, preschool recorded programs or school-age recorded programs consistent with ORS 215.213(2)(aa) or 215.283(2)(dd).
1963	No new developments on HVF (215.710)L. Expansion and enhancement of existing facilities allowable.	Public or private schools for kindergarten through grade 12, including all buildings essential to the operation of a school, primarily for residents of the rural area in which the school is located.
1963	No new developments on HVFL (215.710). Expansion and enhancement of existing facilities allowable.	Churches and cemeteries in conjunction with churches consistent with ORS 215.441.
1973	No new developments on HVFL (215.710). Expansion and enhancement of existing facilities allowable.	Private parks, playgrounds, hunting and fishing preserves, and campgrounds.
1963		Public parks and playgrounds. A public park may be established consistent with the provisions of ORS 195.120.
1997		Fire service facilities providing rural fire protection services.
1963		Community centers owned by a governmental agency or a nonprofit organization and operated primarily by and for residents of the local rural community.
1963	No new developments on HVFL (195.300). Expansion and enhancement of existing facilities allowable.	Golf courses on land determined not to be high-value farmland as defined in ORS 195.300.
1991		Living history museum
2013		Firearms training facility as provided in ORS 197.770.
1995		Armed forces reserve center as provided for in ORS 215.213(1)(s).

1995		Onsite filming and activities accessory to onsite filming for 45 days or less as provided for in ORS 215.306.
1995		Onsite filming and activities accessory to onsite filming for more than 45 days as provided for in ORS 215.306.
1997		A site for the takeoff and landing of model aircraft, including such buildings or facilities as may reasonably be necessary.
1997		Expansion of existing county fairgrounds and activities directly relating to county fairgrounds governed by county fair boards established pursuant to ORS 565.210.
1997		Operations for the extraction of bottling water.
2001		Land application of reclaimed water, agricultural or industrial process water or biosolids, or the onsite treatment of septage prior to the land application of biosolids.
2005		A county law enforcement facility that lawfully existed on August 20, 2002, and is used to provide rural law enforcement services primarily in rural areas, including parole and post-prison supervision, but not including a correctional facility as defined under ORS 162.135 as provided for in ORS 215.283(1).