



PACKWOOD SUBAREA PLAN

Existing Conditions Report

Public Review Draft
February 23, 2022



How to Comment

Comments on the Draft Existing Conditions Report are due on March 31, 2022.

You may submit comments to the Lewis County Community Development staff on the Packwood Subarea Plan by:

Email

mindy.brooks@lewiscountywa.gov

U.S. Mail

Community Development, Planning Division
2025 NE Kresky Avenue
Chehalis, WA 98532
Attention: Mindy Brooks

For more information

Visit the website



<https://lewiscountywa.gov/departments/community-development/rezones/comprehensive-plan-and-development-regulation-amendments/packwood-subarea-plan/>

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Table of Contents

Chapter 1: Introduction and Context	
A. Subarea Plan Overview	1
B. Existing Conditions Summary	4
C. Next Steps	4
Chapter 2: Area History	
A. Pre-European Settlement (pre 1850)	5
B. Post-European Settlement (1850-1929)	6
C. Modern History (1900-today)	8
D. Historic Properties	12
Chapter 3: Land Use	
A. Zoning	13
B. Land Use	15
C. LAMIRDs	21
Chapter 4: Demographics	
A. Population	23
B. Employment	25
Chapter 5: Housing	26
Chapter 6: Transportation	
A. Roads	30
B. Packwood Airport	32
Chapter 7: Public Facilities and Services	
A. Sewage	34
B. Potable Water	36
C. Stormwater	38
D. Broadband	38
E. Fire and Life Safety	40
F. Education	41
Chapter 8: Natural Resources	
A. Resource Lands	43
B. Environmental Resources	45
Chapter 9: Recreation and Tourism	
A. Parks and Open Space	54
B. Tourism	58

References	59
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Figures

1. Packwood Subarea Plan Timeline	2
2. Lewis County PUD Broadband	39
3. Cowlitz River Access Project Conceptual Design (2020)	54

Tables

1. Historic Properties	12
2. Packwood Subarea Plan Study Area Zoning	13
3. Allowed Use within Lewis County Zones	17
4. Packwood LAMIRDs	21
5. Soil Summary	48
6. Stream Summary	49

Maps

1. Packwood Subarea Plan Study Area	3
2. Packwood Zoning	14
3. Packwood Land Uses	16
4. Packwood LAMIRDs	22
5. Packwood Voting Precinct Map	24
6. Big Bottom Voting Precinct Map	24
7. Owner Occupied Housing in Packwood	27
8. Packwood State and County Roads	31
9. Packwood Airport	33
10. DRAFT Packwood Sewer Project Vicinity Map	35
11. Lewis County Water District No. 3	37
12. Fire District 10, Packwood	41
13. White Pass School District Map	42
14. Packwood Resource Lands	44
15. Water Features and Flood Area	51
16. Aquifer	52
17. Slopes and Land Hazards	53
18. Parks and Open Space	57

Chapter 1: INTRODUCTION AND CONTEXT

The Growth Management Act in Washington allows subarea plans as an optional element, where the subarea plan is consistent with the Lewis County Comprehensive Plan (RCW 36.70A.085). A starting point for any comprehensive planning effort is to establish the factual basis from which the plan is developed. This existing conditions report forms the factual basis for the Packwood Subarea Plan.

A. Subarea Plan Overview

A subarea plan is a road map that guides how a specific geographic area, like Packwood, grows and develops over the next 20 years.

Background

As described in Chapter 2: History, Packwood has been a small town since the 1950's and was a growing community until the forestry industry changed in the 1990's and mill operations were consolidated to Randle in 1998. This resulted in a significant decline in the town's population and multiple businesses closed.

In 2014, Lewis County studied the possibility of applying an Urban Growth Area (UGA) to Packwood. The study was done to assess the availability of sewer to support urban densities of development. The study found that the existing infrastructure could not support increased densities and a UGA was not applied.

In 2019, Lewis County studied the possibility of changing zoning in an area east of the Cowlitz River along Skate Creek Road. The intent was to allow greater density, one housing unit per one acre, to direct development away from the river's floodplain. The plan was not forwarded to the Board of County Commissioners for adoption.

During 2020 and 2021, Packwood saw a significant increase in tourism. The Packwood Visitor's Center reported results and found that in 2019, 1,903 visitors signed in. That number jumped to 3,979 in 2020 and 6,275 in 2021. 2021 also saw an increase in residential housing sales and property values. The increased growth and renewed interest by the community to self-determine how Packwood develops and changes over time, led to the Packwood Subarea Plan project.

Subarea Plan Purpose

A subarea plan is a type of long range plan for a limited geographic area within the county. A subarea plan includes a community vision and specific goals and policies for topics like land use,

natural resource protection, transportation, and public services and facilities. The plan gets adopted as an amendment to Lewis County Comprehensive Plan and is used to determine updates to zoning, development regulations, and capital facilities specific to the subarea geography.

The outcome of the subarea plan is not predetermined, it is developed by the community in partnership with Lewis County. The subarea plan serves as a framework or guide for how Packwood grows and changes.

Timeline

The subarea plan sets a vision for a 20-year planning horizon. The Packwood Subarea Plan is being established for 2023-2043. The plan may be periodically updated, along with periodic updates to the Lewis County Comprehensive Plan.

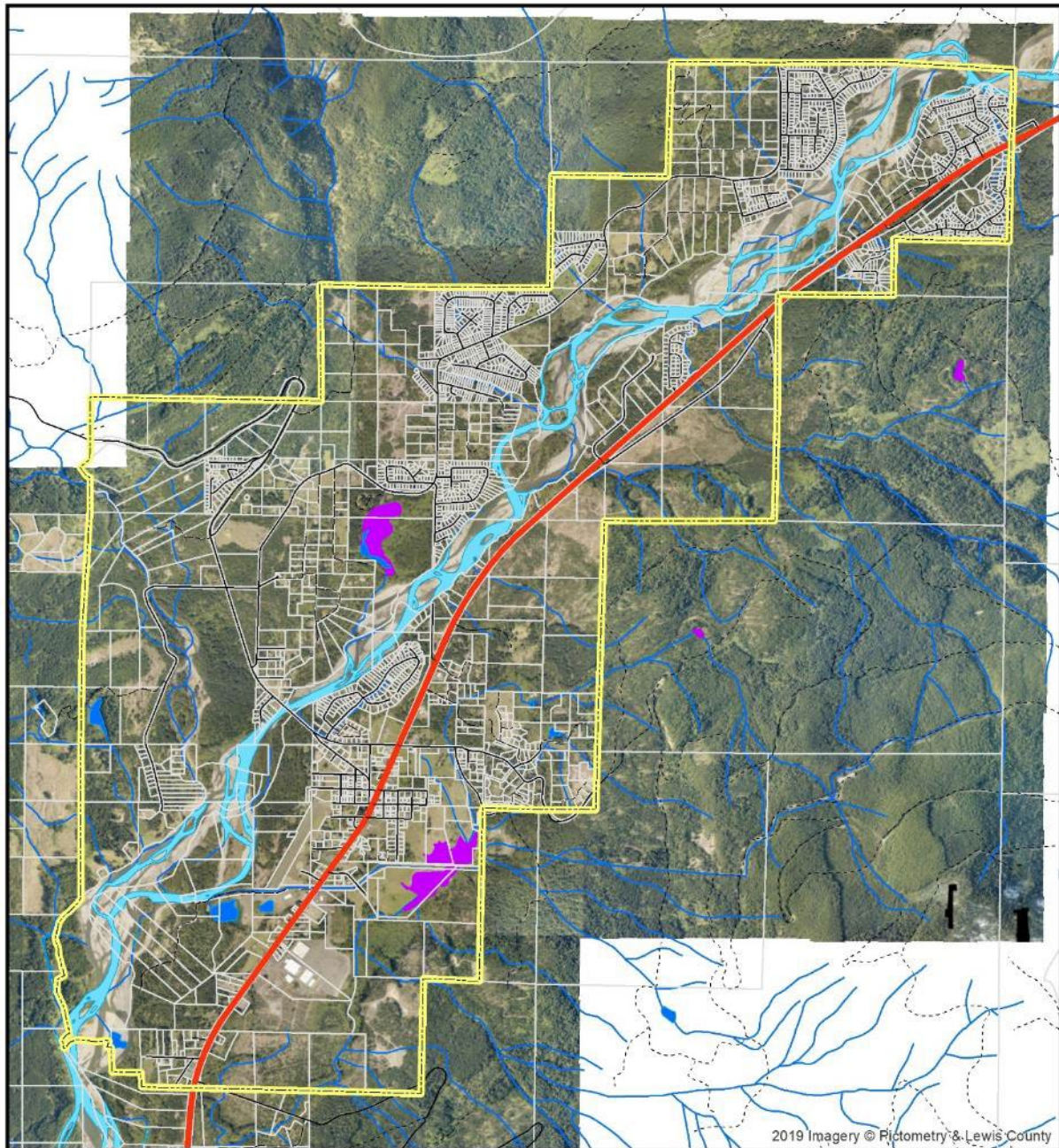
Creation of the Packwood Subarea Plan is anticipated to take approximately 18 months, beginning in November 2021 and completing in winter 2023.

Figure 1: Packwood Subarea Plan Timeline

2021	2022			2023	Future
<i>Fall</i>	<i>Winter</i>	<i>Spring</i>	<i>Summer</i>	<i>Fall</i>	<i>Ongoing</i>
Project Kick Off	Existing Conditions	Community Vision	Goals & Policies	Next Steps	Implementation

Study Area

The geography for which existing conditions are reported may be larger than the resulting subarea plan geography. It is important to encompass all potential lands that may be a subject of planning in the existing conditions report. The study area is shown in Map 1. The study area starts at US Forest Road 48 in the south and includes U.S. Highway 12 to approximately Coal Creek Drive in the north. The existing residential neighborhoods of Timberline, High Valley, Goat Rocks and Downtown are included. Also included is the old mill industrial site and the mixed use area near Blakely Road. The full study area is 5,800 acres in size, including the river channel.



Packwood Subarea Plan

Study Area Geography

- Study Area
- Highway 12
- Roads
- Parcels
- River Channel
- Ponds/Lakes
- Wetlands
- Stream Centerline



This map was created by Lewis County Geographic Information System. The accuracy of the map has not been verified and should be used for informational purposes only. Any possible discrepancies should be brought to the attention of Lewis County GIS. State Plane Washington South FIPS 4602 North American Datum 1983 North American Vertical Datum 1988 (Topography)

Updated 10/27/2021
 Planning Division, Community Development



Map 1: Packwood Subarea Area Plan Study Area

B. Existing Conditions Summary

Existing conditions are a snapshot in time. *[To be added.]*

C. Next Steps

Existing conditions are reasonably expected to remain the same over the short-term, one to two years. It is anticipated that the Packwood Subarea Plan will be completed by the spring of 2023. If during the course of developing subarea plan, any of the factual basis changes substantially, this existing conditions report will be revised.

Technical Review

Existing conditions are primarily based on input from technical experts. County staff solicited information to be included in the existing conditions report and ask experts to review the draft document. As the existing conditions report is reviewed, comments from technical experts are used to revise the document.

The technical experts that provided input and reviewed the report include:

Todd Chaput, Program Manager, Economic Alliance of Lewis County
Betsy Dillin, Senior Utility Engineer, Lewis County
Paul Farris, Superintendent, White Pass School District
Dave Garoutte, White Pass Country Museum
Kathleen Goyette, Director of Marketing, White Pass Ski Area
Timothy J. Haderly, Principal Scientist/Owner, Loowit Consulting Group, LLC
Nikia Hernandez, District Ranger, Gifford Pinchot National Forest
Terry Jouper, Elections Supervisor, Lewis County Auditor Office
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John Roe, Airport System Manager, Lewis County
Gene Seiber, Packwood Visitor Center
Terry Wildy, Chief of Interpretation, Education and Volunteers, Mount Rainier National Park
Barbara Wright, Fire Department District 10

Public Involvement

The community of Packwood represents a source of local knowledge that is invaluable to the planning process. The public is encouraged to review the existing conditions and provide comments. Information provided by the public is used to revise the document.

Chapter 2: AREA HISTORY

Packwood is a mountain community in Washington State, located along Highway 12, surrounded by the Gifford Pinchot National Forest at an elevation of 1,290 feet. The community is ten miles from Mount Rainier National Park, ten miles from the Goat Rocks Wilderness, 48 miles from Mt. St. Helens National Volcanic Monument, and 20 miles from White Pass Ski Area. Humans have lived in the area for thousands of years. This section presents an overview of the area's history.

A. Pre-European Settlement (pre 1850)

Native American use of the Packwood area has been documented through a number of archaeological investigations. Demonstrated use of the study area was found as early as 9,000 to 10,000 years ago (Mack et. al, 2010). Early occupants of the upper Cowlitz River Valley were highly mobile foraging people who likely did not build permanent shelters or settlements in the area.

Between about 4,000 years ago and 2,500 years ago adaptations shifted toward greater reliance on mass harvest and storage of key resources, particularly anadromous fish. At the same time, there was an increase in the use of more sedentary residences and the establishment of village settlements within the Cowlitz River valley. The valley was abundant in wolverine, marmots, lynx, beaver, bear, deer and other fur-bearing animals. The Cowlitz River was the upper spawning area for coho, Chinook salmon, steelhead, grayling (mountain whitefish) and cutthroat trout. Huckleberries, three varieties, were an abundant food source, along with salal, wild strawberries, red elderberries, thimbleberries, salmonberries, trailing blackberries and Oregon grape. Camas, lily bulbs, wild celery, wood sorrel and wild onion were also an important food source. Together these are known as the "first foods."

In the early 1800's, the study area was home to a band of Táytnapam known to settlers as "Poniah's band" after the name of the village headman. The village at Packwood was called *Chawachas* (Smith 2006) and following Ichishkiin language conventions, the Táytnapam band would have called themselves the *Chawachas-táma*. Táytnapam descendants are today members of both the Cowlitz Indian Tribe and the Confederated Tribes and Bands of the Yakama Nation.

Fur trade began in 1819, when trappers and traders employed by the Montreal-based North West company arrived in the Upper Cowlitz area. A large map hand-drawn by Ross in 1821, and now in the British Library, shows a native village in the vicinity of Packwood (Boyd 2011). Simon Plamondon, a Québécois employee of the North West Company, traveled into the "big bottom country" of the upper Cowlitz in 1820 (Plamondon 1952; Irwin 1982). The Hudson's Bay

Company bought out the North West Company in 1821 and the Cowlitz Farm, in the vicinity of Toledo, was established in 1838.

In the 1840's, Columbus Kiona (also spelled Ki-wa-ya) and George Washington Spearcheachen (also spelled She-pe-he-han, Spahahkin or "Spearhawken") were two well-known Native Americans who were located in the Randle area and traded at the Cowlitz Farm (Roblin, 1919).

Malaria in the 1830s, measles at the Cowlitz Farm in 1848 and smallpox in 1853 reduced the Táytnapam population by as much as 85%, including those who left to avoid the epidemics.

B. Post-European Settlement (1850-1929)

The Cowlitz River valley from Packwood to Randle, was known by European settlers as "the Big Bottom", shortened from Bill Bullrush Bottom in reference to the bulrushes that grew along the river. In 1858-59, James Longmire and William Packwood lead an expedition to find a low pass to connect the Puget Sound with the Oregon Trail. They were led by guides from the Nisqually Tribe. On an exploration in 1861, they descended Skate Creek with government engineer W.W. DeLacy and five Nisqually Indian packers and found a native village on the banks of the Cowlitz River (*Pioneer and Democrat*, 1861). Although a pass was not established, significant coal beds were found south and east of the Tatoosh Mountain range that peaked further exploration. William Packwood filed a coal mining claim 1861, returning from time to time until the early 1890's.

A census by the Washington Superintendent of Indian Affairs in 1879 recorded 105 people, described as the "Upper Cowlitz Klickitat" living in the area; the census recorded 71 people in 1880. The name "Klickitat" was often erroneously applied to anyone who spoke Norther Sahaptin (Ichishkíin) dialect, which included the Táytnapam. The federal census in 1900 identified 35 Native American people living in the upper Cowlitz River area, most listing their occupations as farmers or farm laborers. This sharp decrease in population was likely because of outmigration due to dispossession of lands by settlers, racism, economic incentives to work in other places and the effects of the Dawes Act.

In the spring of 1882, William Joerk (also spelled York), a German merchant, was documented as the Big Bottom's first white settler. He had located in the gold fields on the upper Sacramento River in California, but financial troubles resulted in his relocation to Washington. By the time Joerk reached the Big Bottom, disease and outmigration significantly decreased the number of native peoples. Of the hundreds of natives who were documented to have trapped for the Hudson's Bay Company in 1833, York found only a few families that remained including those of George Washington Spearcheachen, Columbus Kiona, Jim Yoke (or the Yokechenot family) and the Santanas family (Roblin 1919).

K'usi-k'usi-yas, located in the area now known as Chapman's Prairie, was a meadow used by local native people as a horse pasture. Joerk found the valley but made the mistake of assuming that since the clearing was not filled with Douglas fir and maple, it must be deficient in fertility. In 1883, Joerk settled near the prairie and spent a lifetime grubbing out the tough maple forest. (The site became the Evan Blankenship cattle ranch and is now the Victor Khvoroff ranch.)

The first Northern Pacific Railroad Company survey of the upper Cowlitz area was in 1867, a second in 1878, and a third and final survey in 1880 (PCSP 1954; McClure and Mack 2008).

Despite the fact that no roads approached the Big Bottom, the area gained interest. In 1883 Thomas Dalton arrived and squatted in an area near Randle. In 1884, a man named Brockway came to the valley. He did not settle, but his cleared farm was later possessed by a Frenchman known as Louie. In 1884, John Kehoe arrived, followed by Pat and Frank Muldoon, John Osborn and Richard Ormsby. In 1885, Rufus T. Siler and his sister Louisa arrived marking the first white female settler of the Big Bottom. Siler also brought the first herd of cattle. The first white family, Chilcoat, came in 1887 (Walker Tompkins, et.al. 1933).

The Northern Pacific Railroad scouted the area between 1867 and 1890; and the North Coast Railroad from 1905 to 1909. But no railroad was built. Mail reached the white settlers through two post offices. The first was Vance, established southeast of Randle in 1885. Volunteer carriers brought the mail in by horseback from the Mossyrock settlement farther west.

In 1893, the first money was appropriated for road building to Randle. Two years later, the road was continued to the post office of Lewis (also known as Sulphur Springs), at the "far end" of the bottom in what is now called Packwood. Also in 1893, the first school was started near the junction of Vance Road and the first school teacher was Mary Siler.

On November 15, 1896, the Cowlitz River flooded killing six people at Riffe, destroying numerous homes (including the first house, built by William York), devastating crops, and killing livestock. This was the first documented flood. It is notable that river flooding, a natural and important function, is not documented until it negatively impacted white settlements located in the floodplain.

The name "Packwood", used for the town and a lake, is based on William Packwood, although he never settled in the area. The town was known as Sulphur Springs from 1890-1910 and Lewis from 1910-1930. The Lewis Post Office was renamed Packwood in 1931, to avoid confusion with Fort Lewis, Washington.

The main economy of European settlers in the study area between the 1880's and 1930's was subsistence farming and ranching. This can be seen in the occupations listed for residents in the various federal censuses over time.

C. Modern History (1900-today)

The study area falls within lands designated as the Pacific Forest Reserve by Proclamation of President Benjamin Harrison in 1893. The Pacific Reserve was absorbed by the larger Mount Rainier Forest Reserve in 1897. Initially these lands were administered by the General Land Office, Department of the Interior.

The post office of Sulphur Springs, on a homestead opposite the mouth of Johnson Creek, opened in 1890. The town of Randle was established the same year and for the next 20 years was the primary place for residents to purchase goods and supplies. In 1910 there was an influx of workers to Packwood who were hired for the construction of a hydroelectric project at Packwood Lake. Businesses started near the workers' camp. August Snyder and Hugo Kuhnhausen platted a ten-acre site as the new town, originally named Lewis for the president of the hydroelectric company.

The extraction and processing of forest products developed slowly at first, providing temporary, short-term employment for local men. Men in the Randle and Packwood area initially had to go to work for logging companies in the western part of the County. The earliest commercial timber work in the Packwood/Randle area (ca. 1900-1930) was shingle bolt cutting. There was a huge extra-local market for cedar shingles for roofing. Crews would cut cedar trees along the Cowlitz and Cispus Rivers and tributaries, and then buck the logs up into shingle bolts, which were floated down the Cowlitz to mills in the Toledo or Kelso areas (Crowell 2007; Sparkman and Boyer 1995). This was short-term, temporary employment providing supplemental income.

On June 16, 1914, the government opened more than 23,000 acres of Rainier National Forest for settlement. The area included what today is the housing developments around Packwood such as Goat Rocks, High Valley Park, Packwood Heights, Skate Creek Terrace, Skyline and Timberline Village. Many new settlers came into the area at that time.

It was not until the 1930s, when a lumber sawmill was opened in Packwood, that commercial logging began to develop in the area and there was a shift in the County's economic emphasis toward forest products, including full-time local jobs. The first big commercial timber sales on national forest lands near the study area occurred during World War II (McClure and Mack 2008). After the war, there was a huge increase in commercial timber harvest.

In 1899, Mount Rainier National Park was withdrawn from the Forest Reserve. It was the fifth national park in the US. The park was instantly popular, with visitation growing from around 2,000 in 1906 to nearly 35,000 in 1915. The proximity of the park to the Seattle/Tacoma area made it a destination.

In 1905, Congress transferred the Forest Reserves to the Department of Agriculture, and established the Forest Service to administer the Federal forest lands (McClure and Mack 2008). In 1907, those lands in the Upper Cowlitz watershed became part of the Rainier National Forest.

The first ranger station in the Packwood area was established in 1908, in a cabin on the former Ed Dixon homestead (Cannon Road area). In 1928, the US Forest Service leased property and structures were built in 1928 and 1929 for the Packwood Ranger Station. National Forest boundaries were re-adjusted in 1933, when the area was added to the Columbia National Forest (now Gifford Pinchot National Forest). During the early 1930's, District Ranger Bill Sethe oversaw expansion of the ranger station, including construction of a ranger's residence, a two-room telephone operator's cabin, and barn in 1931; a crew house, woodshed, and garage in 1932; a three-car garage and a woodshed/laundry building in 1933; and a four-room guard residence and woodshed/laundry building in 1935. By 1935, the complex consisted of 14 buildings, and in 1936 the site was finally purchased.

The Great Depression had a negative economic effect on the people of Lewis County and the small community of Packwood. The Emergency Conservation Work (ECW) administration established Camp Packwood (F-33) within the community of Packwood in 1933. The camp was located on private land about 800 feet southwest of the Packwood Ranger Station. Civilian Conservation Corps (CCC) Company 2919 was assigned to the camp in 1934 and 1935. Under direction of the Forest Service, CCC enrollees performed a variety of work projects within the Packwood Ranger District, including road and trail construction, public campground improvements, and the construction of fences, guardrails, and telephone lines. An inspection report from 1935 indicates 212 men worked for the CCC here (Bowen 1935). In 1936 and 1937 the camp also housed older men enrolled in the Emergency Relief Administration (ERA) work program. Administration of the camp was transferred to the National Park Service later in 1937.

Emphasis of forest management in the 1930s was fire protection. To facilitate communication for fire suppression, 116 miles of telephone lines connected the Packwood Ranger Station to surrounding lookouts and guard stations. Access throughout the district included 411 miles of trail and 26 miles of road. Also in the 1930, recreation was increased including development of the La Wis Wis Campground, resort at Packwood Lake and smaller campgrounds at Johnson Creek, Coal Creek, Soda Springs and Chambers Lake. Construction of the Cascade Crest Trail through Goat Rocks was completed in 1937. The final segment of the trail was opened on August 19, 1954.

In the 1940's, forest management activities included at least six commercial timber sales made to local logging companies and individuals. One large sale in 1943, the Smith Creek Timber Sale, was the first major commercial sale in the Packwood area and this was done to support wartime shipbuilding.

When World War II began, the work on the highways stopped as funds were diverted to the war effort. The Civilian Conservation Corp ended as men enlisted in the services. While that impacted the local community, the need for wood stimulated timber harvest.

The road to Packwood was U.S. Route 410 and added to the federal highway system in 1926. In 1931, the road was added to the Washington State highway system, although it did not cross the Cascade Mountains until 1951 with the opening of White Pass. Federal and state appropriations and completion of the highway is one of the most important factors allowing for modern population growth near Packwood.

The emphasis on timber production within the national forest continued through the 1950's. Local sawmills, including the Puget Sound Plywood Company mill in Packwood, became more dependent upon a regular supply of logs through federal timber sales. In 1952, more than a million dollars of Federal revenue was generated from timber sales in the Packwood and Randle Districts, with \$160,000 of timber sale receipts returned to Lewis County for the upkeep of roads and schools (Jacobson 1953). In 1958, nearly 44 million board feet of timber was from within Packwood District. The following year, the annual cut exceeded 57 million board feet, from 79 individual timber sales, and set a new record at 10 million board feet over the allowable sale quantity. Lewis County received \$625,000 in timber sale receipts from both Packwood and Randle Districts, the highest amount ever (*The Daily Chronicle* 1960b).

In 1953, White Pass Ski Area was opened and was an important recreational draw to the Packwood area. After WWII, the country was enjoying more wealth and leisure than it had seen for years and there was interest in the wilderness area for recreation grew. In 1957, the Forest Service launched "Operation Outdoors" to expand and improve upon public recreational facilities (Williams 2000). La Wis Wis Campground, the most popular campground within the Packwood District, was expanded in 1959, and a new facility, River Bar Campground, opened to the public. In 1960, the Multiple Use Sustained Yield Act marked this transition in values. Mt Rainier National Park saw increased funding for development of roads and day use locations.

Construction of the Mayfield hydroelectric dam, by Tacoma Power on the main stem of the Cowlitz River in 1963, also significantly impacted population growth. Mossyrock Dam was constructed upstream of Mayfield Dam in 1968. Cowlitz Falls Dam, owned by Lewis County PUD, was built upstream of Mossyrock Dam in 1994. These dams provided electricity and flood control to the county; however, the dams also had a critical impact on native fish.

Historically, large numbers of adult coho (*Oncorhynchus kisutch*), chum (*O. keta*), and Chinook salmon (*O. tshawytscha*), steelhead (*O. mykiss*) and cutthroat trout (*O. clarki*) returned seasonally to the Cowlitz River. Estimates from 1948 indicated that the Cowlitz River produced 244,824 total adult salmonids with a spawning escapement of 82,681 (HARZA 2000). Mayfield Dam included both upstream adult and downstream juvenile passage facilities when built. But the

Mossyrock Dam was too tall to include upstream passage. As a result, anadromous fish were blocked from accessing the upper Cowlitz River and production from the lower Cowlitz River hatcheries was emphasized to mitigate for lost anadromous fish production. Cowlitz Falls Fish Facility was built by Bonneville Power Administration in 1996. Downstream collection at this facility has provided an ability to re-introduce anadromous salmonids to the upper Cowlitz River basin.

In 1964, the Packwood Lake Hydroelectric Project was built and included a drop structure with a pipeline to transmit water to a power generating facility in Packwood. In 1964, timber harvest levels on the Packwood Ranger District were set at 67 million board feet, and then reduced to 51 million board feet by 1966. A single timber sale in the Coal Creek drainage, sold in March 1966, included 22.8 million board feet of timber. Newspaper reports called it "the last of the big timber sales" (*The Daily Chronicle* 1966). In 1967, the allowable cut dropped to 43 million board feet.

Between 1969 and 1976, as a result of the National Environmental Protection Act and the National Forest Management Act forest management practices again shifted the focus of the area from timber production to ecosystem management. New staff in the fields of biology, fisheries, hydrology, soil science, and recreation management were hired. This trend in focus continued through the 1980's. However, in the late 1980's the district saw its highest volume of timber sales; 700 million board feet in 1990. Sales declined dramatically after that triggered by political factors and another shift in emphasis towards ecosystem restoration. The most publicized of these was the listing of the northern spotted owl as threatened in 1990. By 1992, there were dozens of lawsuits filed against the National Forest Service and several court injunctions related to timber harvests (Williams, 2009). Timber harvests were reduced to pre-WWII levels by 1995.

The reduction in the supply of Forest Service timber led to a 50 percent decrease in overall timber harvests within Lewis County between 1988 and 1996 (Tobe 2002). This decline in harvest, increased mill mechanization, and foreign competition ultimately played a role in the closure of the Packwood Lumber Mill in November 1998. The closure came after the union representing the workers in three Lewis County mills voted to reject pay cuts. The Packwood community lost 220 jobs at the mill and resulted in the out-migration of a large number of younger working families (2002). By the year 2000, the year-round population of the Packwood community was estimated at about 645 people; approximately half of the houses in the community were either seasonal rentals or vacation homes. With the loss of population came the closure of the Packwood Elementary School, the pharmacy, and two restaurants. The Packwood Ranger Station permanently closed in 2003. The estimated number of full time residents in 2010 was down to 342.

D. Historic Properties

There are buildings in Packwood that are historically significant and eligible for recognition.

Table 1: Historic Properties in Packwood, WA

Property ID	Name	Address	Resource ID	Determination
53418	Packwood Elementary (owned by White Pass Country Historical Society)	12990 Highway 12,	42288	Eligible
56134	Packwood Timber Management Assistant's Residence	110 Snyder Road,	44950	Eligible
56135	Packwood Protective Assistant's Residence	121 Snyder Road	44951	Eligible
56147	Woodshed, Protective Assistant's Residence	121 Snyder Road	44963	Eligible
56152	Woodshed/Laundry, Packwood PA Residence	121 Snyder Road	44968	Eligible
56136	Packwood Bunkhouse	13068 U.S. Highway 12	44952	Eligible
56150	Woodshed/Laundry, Packwood Ranger's Residence	13070 U.S. Highway 12	44966	Eligible
56133	Packwood Ranger's Residence	13070 U.S. Highway 12	44949	Eligible
26118	Packwood Hotel	104 Main St	19966	None
722614	Penstock	Packwood	7022791	None
26119	Jim Yoke's Cabin ¹	Turner Road	19967	None
715980	Lake Creek Bridge	Lake Creek Road	688248	None
722626	Transmission Line	Packwood	702808	None
612998	None	12880 Highway 12	560254	None
49042	Huntington Home	Near airport	39151	None
722635	Tailrace	Packwood	702818	None

1: This structure may no longer exist.

Source: Washington Department of Archaeology & Historic Preservation. Washington Information System for Architectural & Archaeological Records Data (WIDAARD). <https://dahp.wa.gov/project-review/wisaard-system>

Chapter 3: LAND USE

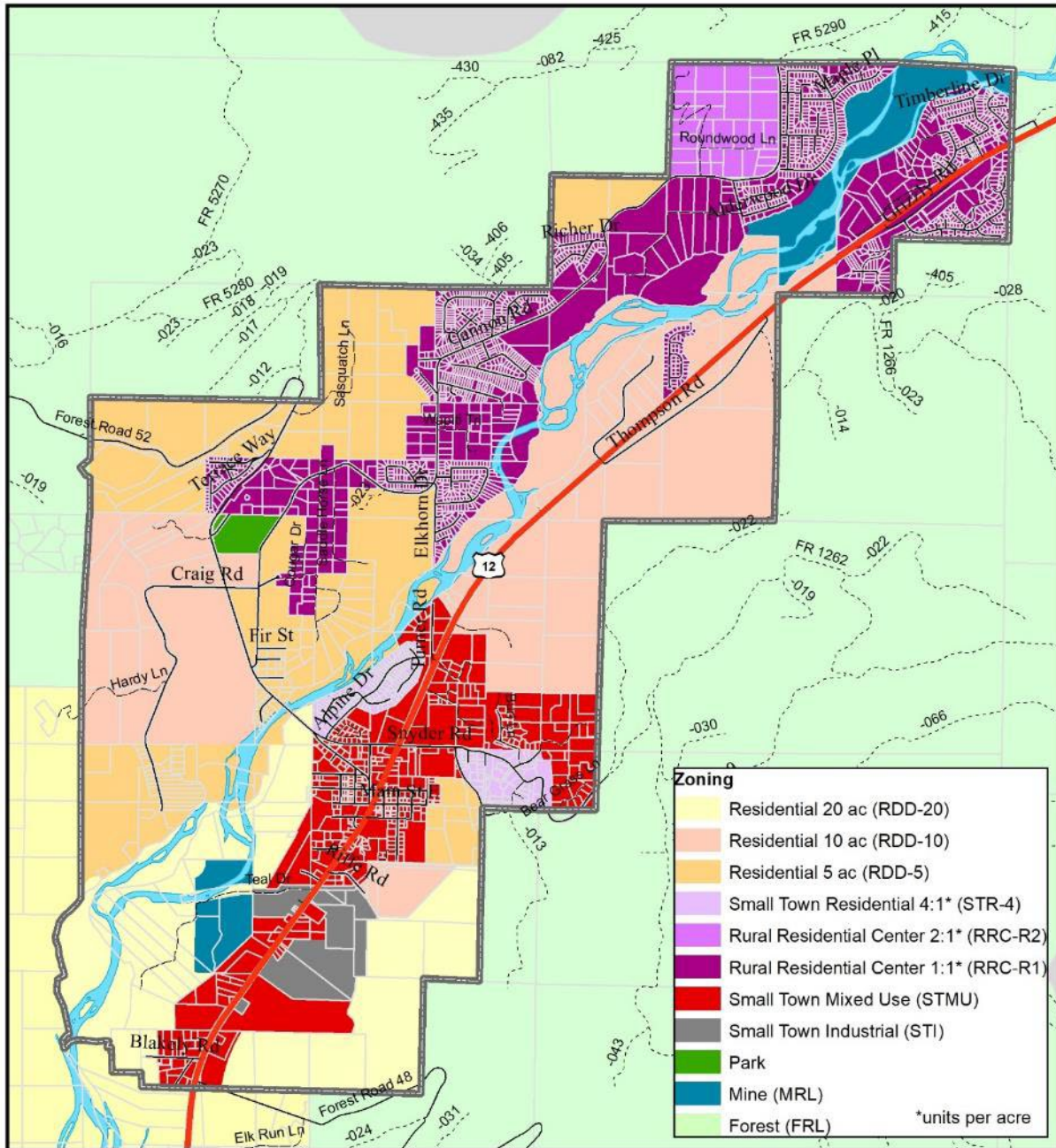
Packwood is a historic logging town with land use patterns that reflect the single dwelling residential development and commercial uses that supported the population living here. Although the mill in Packwood closed and consolidated to Randle, people have continued to live in Packwood and the development patterns have not changed significantly.

A. Zoning

Zoning includes a mix of limited areas of more intense rural development (LAMIRDs) and rural development patterns. Map 2 shows the existing zoning. Table 2 is the acreage of each zone within the study area.

Table 2: Packwood Subarea Plan Study Area Zoning

Zone	Acres
Residential 1:20 acres (RDD-20)	734
Residential 1:10 acres (RDD-10)	1,479
Residential 1:5 acres (RDD-5)	1,104
Small Town Residential 1:4 acres (STR-4)	113
Rural Residential Center 1:2 acres (RRC-R2)	151
Rural Residential Center 1:1 acre (RRC-R1)	1,192
Small Town Mixed Use (STMU)	661
Small Town Industrial (STI)	124
Park	26
Mineral (MRL)	224
Total	5,808



Packwood Subarea Plan

Zoning

- Study Area
- Highway 12
- Roads
- Parcels
- River Channel



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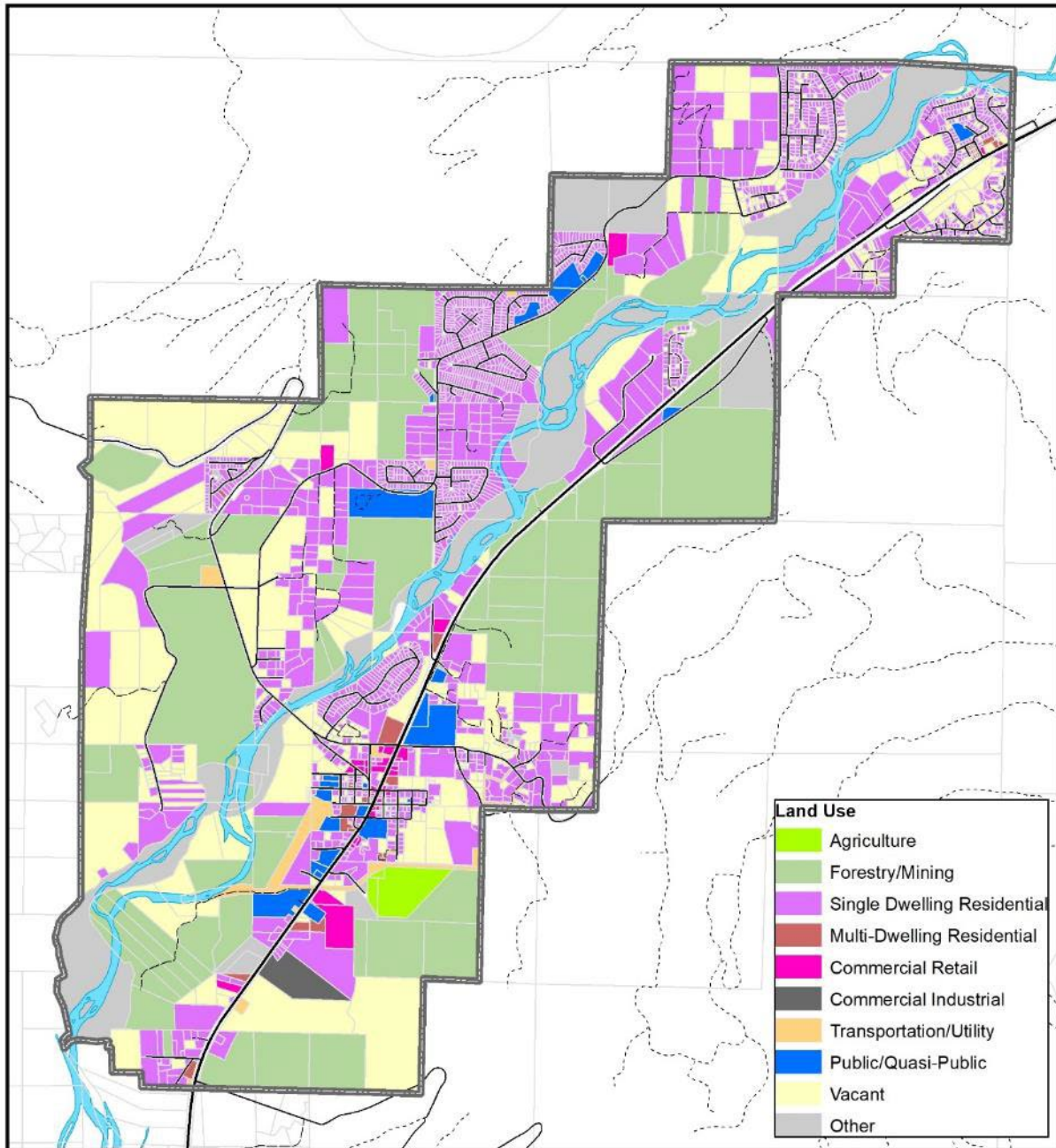
Map 2: Packwood Zoning

B. Land Use

Each zone allows a mix of uses. Lewis County Code Chapter 17.42 provides the list of uses, see also Table 3 below (zones that do not apply in Packwood are removed). Map 3 shows the land uses within the Packwood study area. Existing uses may not match the allowed use in the Table 3 below; however, existing uses are vested and allowed to stay. The use table applies to new and redevelopment, including change of use.

According to the County Assessor's data, 448 parcels, equaling 1,255 acres of the study area, are listed as undeveloped/vacant. That means that they don't have a use that is otherwise described – no forestry, agricultural, single-dwelling residential structure, commercial structure, or other structure on the property. Vacant property is zoned for allowed uses that could be established in the future.

DRAFT



Packwood Subarea Plan

Generalized Land Use

-  Study Area
-  River Channel
-  Highway 12
-  Roads
-  Parcels



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Map 3: Packwood Land Uses

Table 3: Allowed Use within Lewis County Zones

RESIDENTIAL		RDD-5	RDD-10	RDD-20	STMU	STR	STI	RRC	Park	Reference
A	Single-family residential	P	P	P	P	P	X	P	X	
B	Accessory dwelling unit	P	P	P	P	P	X	P	X	
C	Duplex	P (10-acre minimu m lot size)	P (20-acre minimu m lot size)	P (40-acre minimu m lot size)	P	P	X	X	X	
D	Multifamily housing	X	X	X	A ¹	X	X	A ¹	X	17.142.150
PUBLIC/SEMI-PUBLIC		RDD-5	RDD-10	RDD-20	STMU	STR	STI	RRC	Park	Reference
A	Cemeteries	P	P	P	P	P	X	P	X	
B	Schools	P	P	P	P	P	X	P	X	
C	Religious buildings, community centers, grange halls, and similar structures for public assembly									17.142.180
	-Up to 6,000 sq.ft.	P	P	P	P	P	X	P	X	17.142.180
	-Up to 10,000 sq.ft.	A	A	A	P	P	X	P	X	17.142.180
D	Assisted living facilities, convalescent homes, retirement facilities and similar uses									
	-Up to 6 persons, when the individuals are covered under Washington State fair housing legislation	P	P	P	P	P	X	P	X	
	-Up to 6 persons, when the individuals are not covered under Washington State fair housing legislation	SUP	SUP	SUP	SUP	SUP	X	SUP	X	
	-7 or more persons	SUP	SUP	SUP	SUP	SUP	X	SUP	X	
E	Public Facilities ²									
	-Rural Governmental Services	A	A	A	A	A	A	A	A	17.142.160
	-Essential Public Facilities, Local	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	17.142.160
	-Essential Public Facilities, Major	Amend CP								17.142.160
F	Tourist/rest stops	A	A	A	A	X	X	A	A	
COMMERCIAL/ INDUSTRIAL		RDD-5	RDD-10	RDD-20	STMU	STR	STI	RRC/	Park	Reference
A	Home-based business (cottage industries)	P/A/ SUP ³	P/A/ SUP ³	P/A/ SUP ³	P/A/ SUP ³	P/A/ SUP ³	P/A/ SUP ³	P/A/ SUP ³	P/A/ SUP ³	17.142.110, 17.142.120

B	Isolated small business	A/SUP ³	A/SUP ³	A/SUP ³	Not Applicable				X	
C	Standalone retail, sales, or professional services	Use Isolated Small Business Process			P/SUP ⁴	X	P - related to industrial or resource use	X	X	
D	Recreation service retail (Boat shop, boat & tackle shop, camping supplies, limited grocery and sundries, including storage)	A	A	A	P/SUP ⁴	X	X	P/SUP ⁴	P	
E	Restaurant	SUP	SUP	SUP	P	X	X	SUP	P	
F	Convenience grocery or fuels	P	P	P	P/SUP ⁴	X	P	X	P	
G	Clustered tourist uses	A	A	A	A/SUP ⁴	X	X	X	X	17.142.090
H	Event Center									
	-Up to 5,000 square feet	A	A	A	A	A	A	A	A	
	-Up to 10,000 square feet	SUP	SUP	SUP	SUP	SUP	SUP	SUP	SUP	
I	New regional auctioneering facility and supporting uses	SUP	SUP	SUP	X	X	SUP	X	X	17.142.050
J	Manufacturing, assembly, and process of goods	Use Isolated Small Business Process			SUP	X	P/SUP ⁴	X	X	
K	Storage, transportation and handling of goods	Use Isolated Small Business Process			SUP	X	P/SUP ⁴	X	X	
L	Mini-Storage	Use Isolated Small Business Process			A	X	X	X	X	
M	Marijuana production, processing and retail									
	-Marijuana retailers	X	X	X	SUP	X	X	X	X	17.142.140
	-Type 1 marijuana processing	SUP	SUP	SUP	X	X	SUP	X	X	17.142.130
	-Type 2 marijuana processing	X	X	X	X	X	SUP	X	X	17.142.130
	-Marijuana production	SUP	SUP	SUP	X	X	SUP	X	X	17.142.130
N	On-site treatment/ storage of hazardous waste	P - ac.	P - ac.	P - ac.	P - ac.	P - ac.	P - ac.	P - ac.	P - ac.	

O	Animal kennels, shelters, boarding, grooming and hospitals	P	P	P	A	X	P	X	X	
LODGING/ACCOMMODATIONS		RDD-5	RDD-10	RDD-20	STMU	STR	STI	RRC/SR	Park	Reference
A	Bed and breakfast	P	P	P	P	P	X	P	P	17.142.070
B	RV parks and campgrounds	SUP	SUP	SUP	P	X	X	SUP	P	16.14
C	Transient Accommodations (other than Bed and Breakfasts)	SUP	SUP	X	P	X	X	SUP	P	17.142.210
D	Master Planned Resorts	MPR	MPR	MPR	X	X	X	X	MPR	
RECREATION/PARKS		RDD-5	RDD-10	RDD-20	STMU	STR	STI	RRC/SR	Park	Reference
A	Local recreational facilities	P	P	P	P	P	X	P	P	
B	Regional recreational facilities	SUP	SUP	SUP	SUP	SUP	X	SUP	P	17.142.190
SHORELINE		RDD-5	RDD-10	RDD-20	STMU	STR	STI	RRC/SR	Park	Reference
A	Shoreline uses	Regulated under the Shoreline Master Program (SMP)								
AVIATION		RDD-5	RDD-10	RDD-20	STMU	STR	STI	RRC/SR	Park	Reference
A	Aviation facilities	SUP	SUP	SUP	X (Existing Public Airports Permitted to Expand)	X	X	X	X	17.142.060
RESOURCE		RDD-5	RDD-10	RDD-20	STMU	STR	STI	RRC/SR	Park	Reference
A	Mineral resource use									
	-Below DNR threshold	P	P	P	X	X	X	X	X	
	-New or expansion of existing approved mine area	SUP	SUP	SUP	X	X	X	X	X	17.142.200
B	Forestry uses listed in LCC 17.30.450(1) and (2)	P	P	P	P	P	P	P	P	
C	Forest resource accessory use, mills, log yards									
	-Temporary (less than 1 year/ portable)	P	P	P	X	X	P	X	X	
	-Permanent (fixed installation or more than 1 year)	P/SUP over 20 acres	P/SUP over 20 acres	P/SUP over 20 acres	X	X	P/SUP over 20 acres	X	X	
D	Agricultural uses listed in LCC 17.30.610 through .630 ⁶	P	P	P	P	P	P	P	X	
E	Standalone food or beverage manufacturing	SUP	SUP	SUP	SUP	X	SUP	X	X	

F	Storage of agricultural waste (for commercial sale or use outside of the agricultural operation)	SUP	SUP	SUP	X	X	X	X	X	
G	Composting (for commercial sale or use outside of the agricultural operation)	SUP	SUP	SUP	X	X	X	X	X	
H	Application of Biosolids ⁷	SUP	SUP	SUP	X	X	SUP	X	X	
I	Confined animal feeding operations	SUP	SUP	SUP	X	X	X	X	X	

LEGEND

RDD-5 = Rural Development District, One Unit Per 5 Acres

STMU = Small Town Mixed Use

CC = Crossroads Commercial

RAI = Rural Area Industrial

RDD-10 = Rural Development District, One Unit Per 10 Acres

STR = Small Town Residential

FC = Freeway Commercial

Park = Parks

RDD-20 = Rural Development District, One Unit Per 20 Acres

STI = Small Town Industrial

RRC/SR = Rural Res. Center/Shoreline Res.

TSA = Tourist Service Area

P = Permitted Use

SUP = Special Use Permit

P - ac. = Permitted as accessory to a permitted use

MPR = Master Planned Resort (county and state planning requirements)

A = Administrative Review

X = Prohibited

¹ - Allowed where the LAMIRD contains a centralized wastewater treatment facility with adequate capacity.

² - An Administrative or Special Use Permit is required for the centralized components of public facilities or services, and not for the provision of the service itself or the linear features of the service, such as individual water lines or roads. For example:

a. Special permitting is required for new facilities such as a Public Works road shop, a fire station, a bus facility or a water treatment plant; and

b. Special permitting is not required for a water line or road (so long as all the other applicable requirements are met), or the operation of a fire or bus service.

³ - Uses that exceed a certain size (per 17.142.120) are required to receive an administrative or special use permit.

C. LAMIRDS

The Growth Management Act (GMA) allowed counties to designate limited areas of more intense rural development (LAMIRDS), which are areas that historically developed at higher densities than are typically considered “rural” but at the time of designation the area did not have a population sufficient to warrant incorporation as a city.

Packwood has nine Type I LAMIRDS, divided into five use types, Table 4 and Map 4. Type I LAMIRDS had boundaries that were adopted based on development patterns in 1995 and those boundaries cannot change, unless an error was made in the original mapping. However, new development, including land divisions, and redevelopment within the LAMIRD boundaries are allowed.

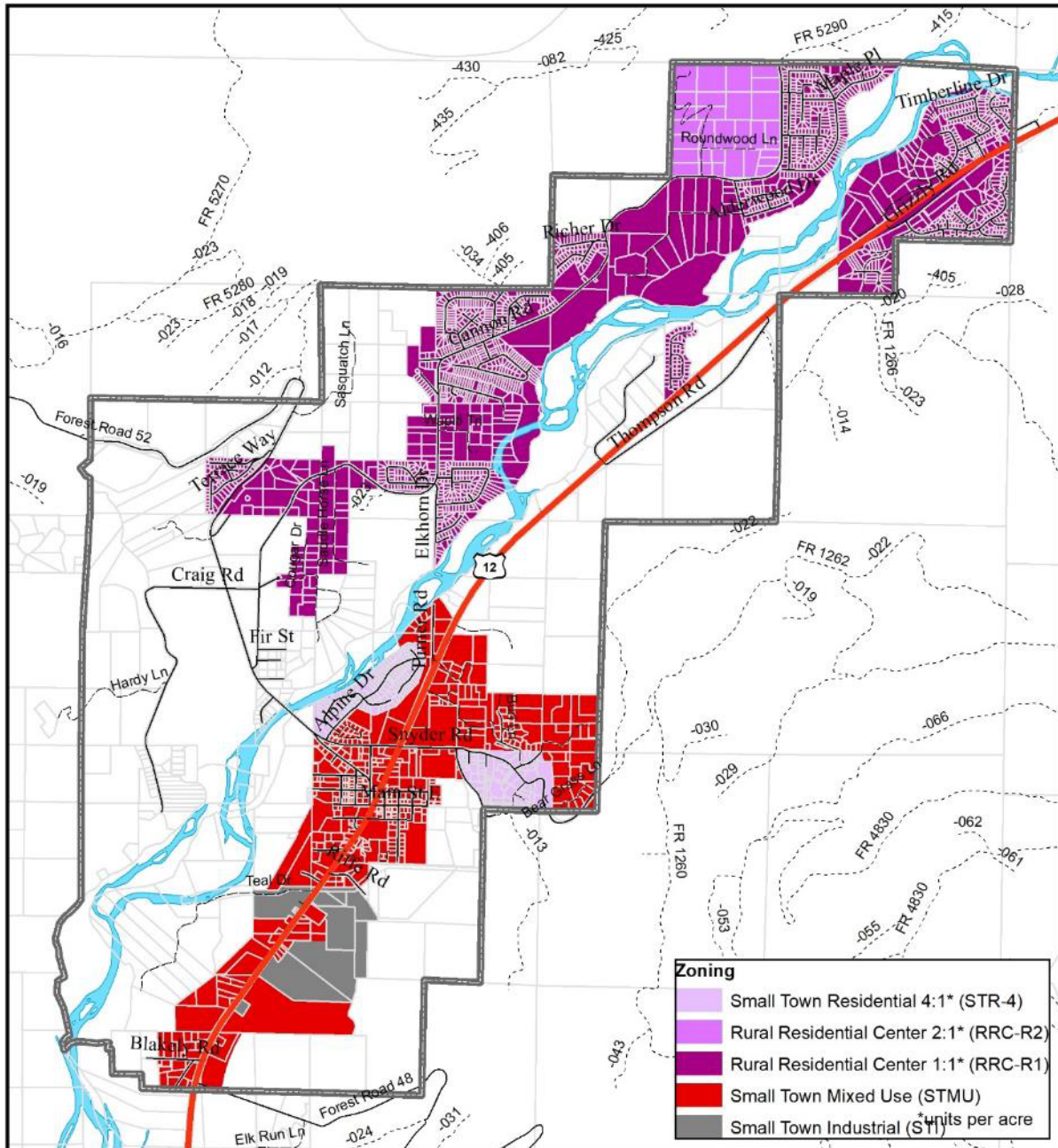
Table 4: Packwood LAMIRDS

Zone	Title	Allowed Density	Parcel Count	Total Acres	Vacant Parcels	Vacant Acres
RRC-R1	Rural Residential Center 1	1 unit / 1 acre	1,660	1,143	213	177
RRC-R2	Rural Residential Center 2	1 unit / 2 acre	31	158	9	53
STR-4	Small Town Residential 4	4 units / 1 acre	193	134	25	33
STMU	Small Town Mixed Use	N/A	423	704	111	195
STI	Small Town Industrial	N/A	16	122	2	1.5

The three residential zones – RRC-R1, RRC-R2 and STR-4 – have average developed lot sizes ranging from 2,555 square feet to 2 acres. Within the study area there are 1,868 single dwelling residential parcels, 88% of which are located within the RRC-R1 zone. The average developed lot size within the RRC-R1 is 0.5 acres or 20,000 square feet. The allowed density is half the existing density of the historically developed parcels; in other words the remaining undivided lots cannot divide to historic densities.

STMU does not have an allowed density. Minimum lot size relies on the building code. If there are both public water and sewer, then the minimum lot size is 6,000 square feet. However, that does not clarify how much development is allowed on the 6,000 square feet.

STI is an industrial designation where residential use is prohibited. Land divisions are based on proposed industrial uses and availability of services, including water.



Map 4: Packwood LAMIRDs

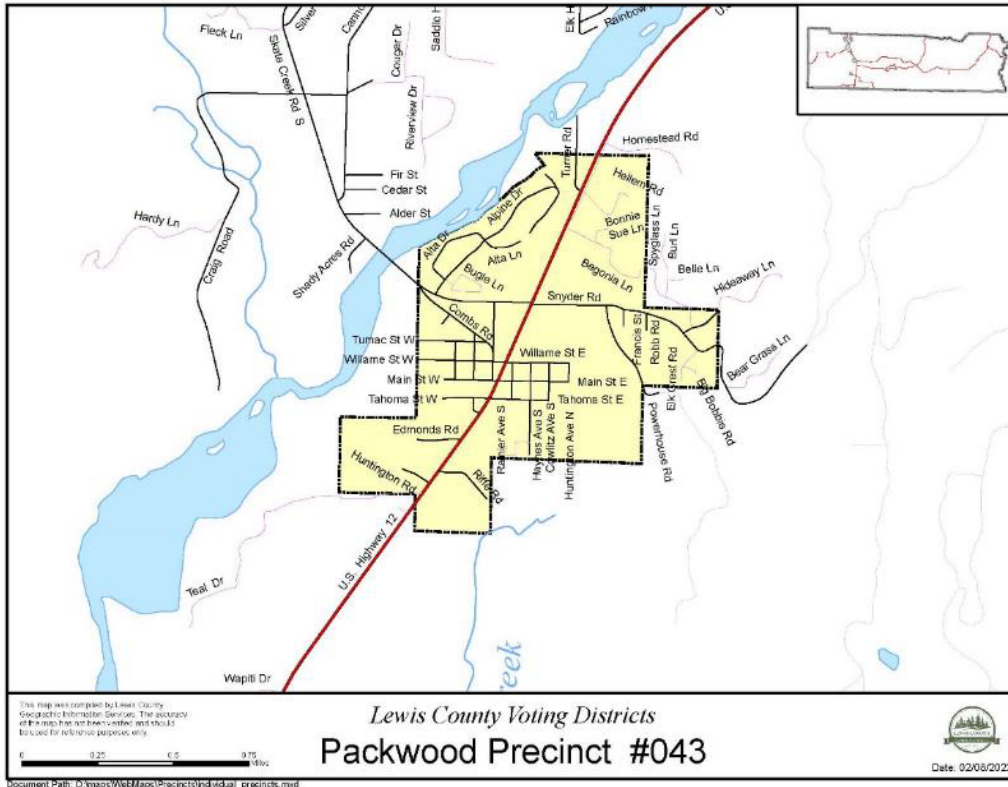
Chapter 4: DEMOGRAPHICS

Demographics explain who lives and works in the community. The US census data is the most reliable source of information. When the 2020 census data is available, this section will be updated.

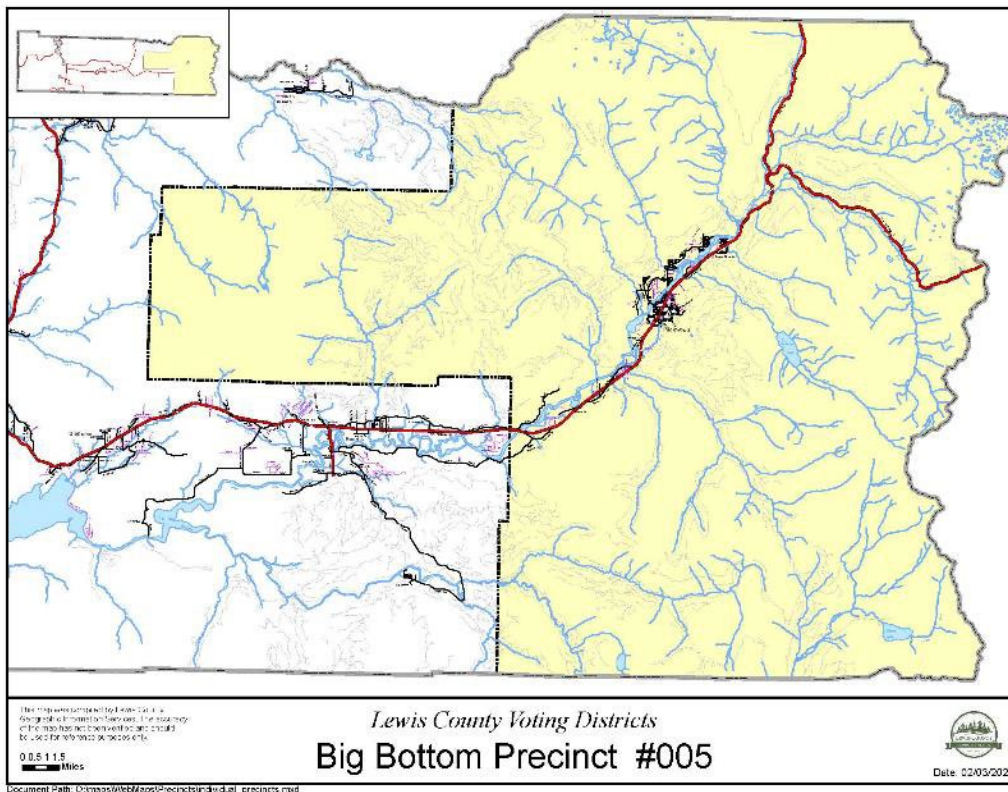
A. Population

Population is reported as the permanent residents of the geographic study area. The population of Packwood decreased significantly with the mill closure in the 1990's but has been growing since the 2010's. However, the area that is generally considered the town of Packwood is smaller than the study area. In 2000, the population of the town was 366 person. In 2010, the population of the town was 342 persons. The 2021 population of the study area is 578 persons, based on the tax assessor information mailing address.

Another important way to look at population is registered voters. Under the state law, a geography can consider incorporation if it has at least 1,500 residents. Residents in this context means people who are registered to vote because incorporation requires a vote. Voting precinct #038, Packwood, has 228 registered voters. That precinct has the same boundaries as Lewis County Water District #3 and does not include High Valley or Timberline. Those two areas are included in a large precinct #005, Big Bottom, which is 789 registered voters. Maps 5 and 6 show the two voter precincts.



Map 5: Packwood Voting Precinct Map



Map 6: Big Bottom Voting Precinct Map

B. Employment

The major employers near Packwood are Hampton Lumber Mill (Randle), National Forest Cowlitz Valley Ranger Station (Randle), White Pass Ski Resort and Mt Rainier National Park. Other than Hampton Mill, which did not respond, the other employers reported that securing employees has been difficult and the primary reason is lack of affordable near-by housing. Nikia Hernandez, Cowlitz Valley Ranger, said "We typically try to hire 25-30 seasonal employees every summer. If we cannot find candidates who live within a commuting distance it is quite common for applicants to turn down a position if there is no affordable housing available to them. This has become more and more of an issue over the years and it is directly affecting our ability to fill positions." Kathleen Goyette, White Pass Ski Area, said "lack of affordable rental properties available seasonally is of great concern to us and to our current and prospective employees."

Other employers in Packwood include Blanton IGA (grocery) and Ace Hardware, as well as Crest Trail Lodge, Packwood Prospecting, Base Camp Coffee, Cliff Droppers Restaurant, Highway Shopper Newspaper, Chevron Gas Station, Packwood Brewing Co., Sip and Stitch, Donna's Hairstyling, Packwood Timberland Library, Hotel Packwood, The Mountain Goat Coffee, Packwood Visitor's Center, Nachos Mexican Restaurant, Napa Auto parts, Fat Elk Trading Co., White Pass Sport Hut, Blue Spruce Saloon and Diner, US Postal Service, Packwood Inn, Packwood Spirits and Quilts, 76 Gas Station, Hair We Are, Packwood Station, Cowlitz River Lodge, White Pass Taqueria and Packwood Lodge. In addition there are many private businesses including construction and housing cleaning.

Chapter 5: HOUSING

Housing information was determined using the Lewis County Geographic Information System Data and parcel information from the Lewis County Assessor's Office.

Within the Packwood study area, there are 1,868 single dwelling residential parcels. The following is a summary of some of the different housing types in Packwood. The numbers are not additive and there may be overlap or gaps.

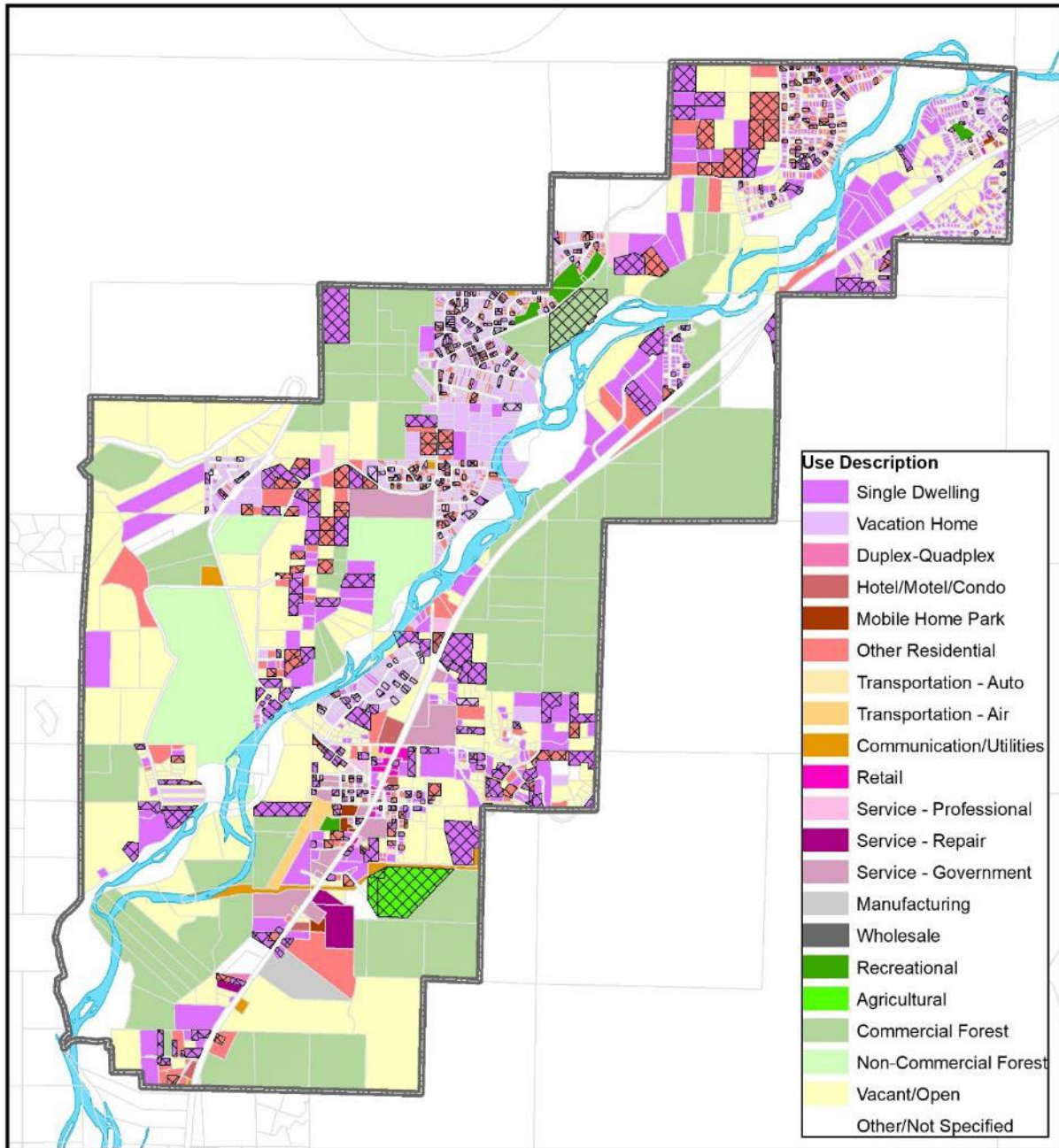
- 145 parcels are owner occupied
- 216 parcels are short-term rental
- 613 parcels are personal vacation homes
- 894 parcels are other residential uses without a specified type

The *other residential* may include personal vacation homes, short-term rentals, long-term rentals or other types of residential housing. There are 444 parcels of undivided, vacant residential land within the study area.

Map 4 shows the use types within the Packwood study area. The methodology used to determine owner occupancy and short-term rentals is described following Map 7.

There is not specific data for Packwood about the type and cost of housing. The following information is for Lewis County as a whole. The source is the *Berk Housing Study for Lewis County*, <https://lewiscountywa.gov/offices/commissioners/bocc-news/housing-summit/>. In Lewis County, 70% of the housing stock is single family residential (SFR) and the average sale price of a SFR dwelling has increased from roughly \$150,000 in 2012 to over \$350,000 in 2021. The remaining housing stock includes mobile homes (17%), multi-dwelling residential (13%) and other (0.5%), which includes RV and boat. Income levels have also increased in Lewis County; however, the median household income in 2019 was \$58,911, which is considerably less than the state median income of \$78,687. In addition, 24% of the county's population has a *very low or extreme low* income (<50% of Median Family Income).

Housing supply in Lewis County is also low. Between 2012 and 2021, there was a 69% decrease in the supply of homes for sale. In June 2021, the county had only a one month supply of housing. Typically, a region needs at least a four month supply to moderate housing cost increases. Rental unit vacancy is also low at 4.5%.



Packwood Subarea Plan

Generalized Use Type

- Study Area
- Highway 12
- Roads
- Parcels
- Owner Occupied
- River Channel

Updated 02/02/2022
 Planning Division, Community Development



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Map 7: Owner Occupied Housing in Packwood

Affordable housing means a person spends no more than 30% of their monthly income on housing. A person making minimum wage, \$13.69 per hour (2020), can afford to pay \$657 per month on housing. A person making \$38,915 per year (2019 median per capita income) can afford to pay \$973 per month on housing. The average rent for a two-bedroom apartment in Washington is \$1,229. At the time of this report, there were no long-term rentals available in Packwood. The average listing price for a single family house in Packwood is \$420,000. *Sources: US Census; realtor.com.* Multiple employers in Packwood and surrounding area have reported that lack of affordable housing, especially long-term and season rental, is a primary reason for prospective employees turning down employment.

Coupling income levels and housing availability, Lewis County residents are facing an increasing household cost burden. The sales prices of SFR is increasing faster than local income levels. In addition, 48% of renter households pay more than 30% their income on housing and 24% pay more than 50% on housing costs. This means Lewis County residents increasingly cannot afford housing.

In Washington State, property tax is calculated by appraising property at its fair market value, based on the allowed uses for the property. Fair market value is the amount of money that a buyer is willing to pay. As housing prices in an area go up or down, so does property tax.

Source: https://dor.wa.gov/sites/default/files/legacy/docs/pubs/prop_tax/homeown.pdf

Owner occupied is estimated assuming the following:

1. If the site address and the mailing address are the same, then it is assumed that the owner resides on the lot.
2. If the site address and the mailing address are different, but the cities are the same, it is assumed that the owner resides within Packwood. These were individually reviewed as follows:
 - a. If the owner is a business enterprise, then it is assumed the owner does not reside on the property. This may result in an underestimation of owner occupancy.
 - b. If the owner owns one lot and the cities match, then it is assumed the owner resides on the property.
 - c. If the owner owns more than one lot and one of the lot's site address and mailing address are the same, then it is assumed the owner resides on this lot and the other lots are not owner occupied.
 - d. If the owner owns more than one lot and none of the lots' site addresses and mailing addresses are the same, each lot was reviewed to determine if any are vacant. If any have no dwelling, it is assumed the owner does not reside on that lot.
 - e. If the owner owns more than one lots and none of the lots' site addresses and mailing addresses are the same, and none of the lots are vacant, then it cannot

be assumed which lot the owner resides on. All of the non-vacant lots are marked as owner occupied. This may result in an overestimation of owner occupancy.

It was observed while estimating owner occupancy, many people own multiple lots adjacent or near to the primary residence. The additional lots in these situations are typically vacant.

For the purposes of this report, short-term rental numbers were estimated. A search of two popular vacation rental websites (VRBO and Airbnb), cross referenced to remove duplicates, resulted in 188 short-term rental units in the Packwood study area. A search of local rental agencies resulted in 28 short-term rental units in the Packwood study area.

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Chapter 6: TRANSPORTATION

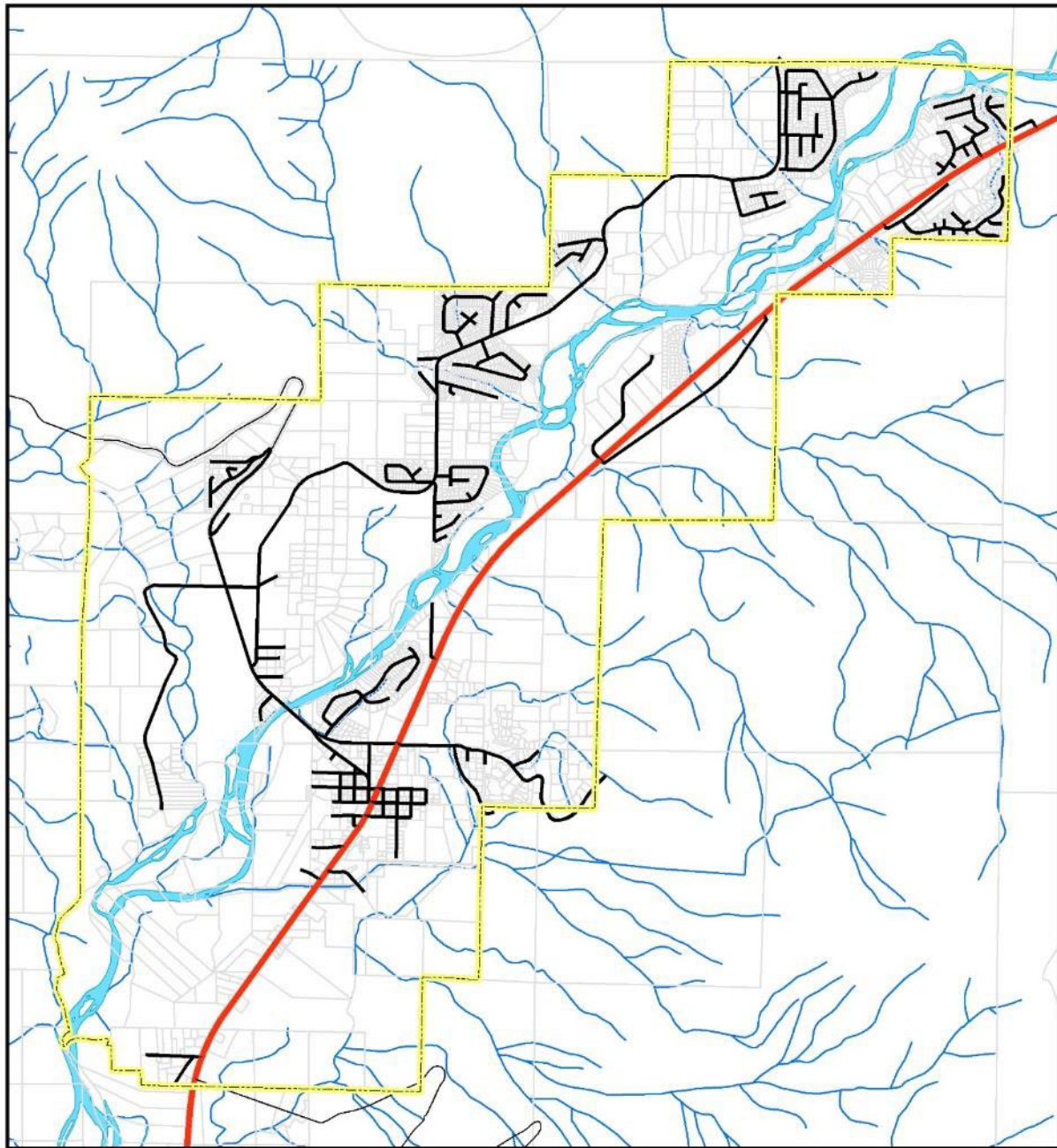
A. Roads

Washington State Department of Transportation (WSDOT) owns and maintains Highway 12, which runs through the center of the study area. Along with traffic, the right-of-way also provides area for utilities.

Lewis County maintains 29 miles of roadway in the study area (Map 8). The majority of the roads, 27 miles, are rural local collector roads and the remaining 2 miles are rural major collector. Roughly 25 of those miles are bituminous surface treatment (BST), 4 miles are hot mix asphalt (HMA) and less than 1 mile is gravel surface. In addition, there is an agreement between Lewis County and US Forest Service for the county to maintain portions of Forest Services Road No. 1260 Snyder Road, No. 1261 Powerhouse Road, and No. 1268 Coal Creek Road.

Skate Creek Road to Terrace Way is the maintenance responsibility of Lewis County and is the maintenance responsibility of the Forest Service from Terrace Way north and west. There is an agreement with Lewis County to participate in improvements to the entirety of Skate Creek Road. The Skate Creek bridge over the Cowlitz River provides the only street access to High Valley and Trails End neighborhoods, where the majority of the residential houses are located (see Chapter 5: Housing). In the winter, Skate Creek north of Dixon Creek is closed due to snow.

The other roads in the study area are private roads and maintained by the property owners.



Packwood Subarea Plan

Transportation

-  Study Area
-  Highway 12
-  County Roads
-  Skate Creek Road (Forest Service)
-  Parcels
-  River Channel
-  Stream Centerline

Updated 10/27/2021
Planning Division, Community Development



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Map 8: Packwood State and County Roads

B. Packwood Airport

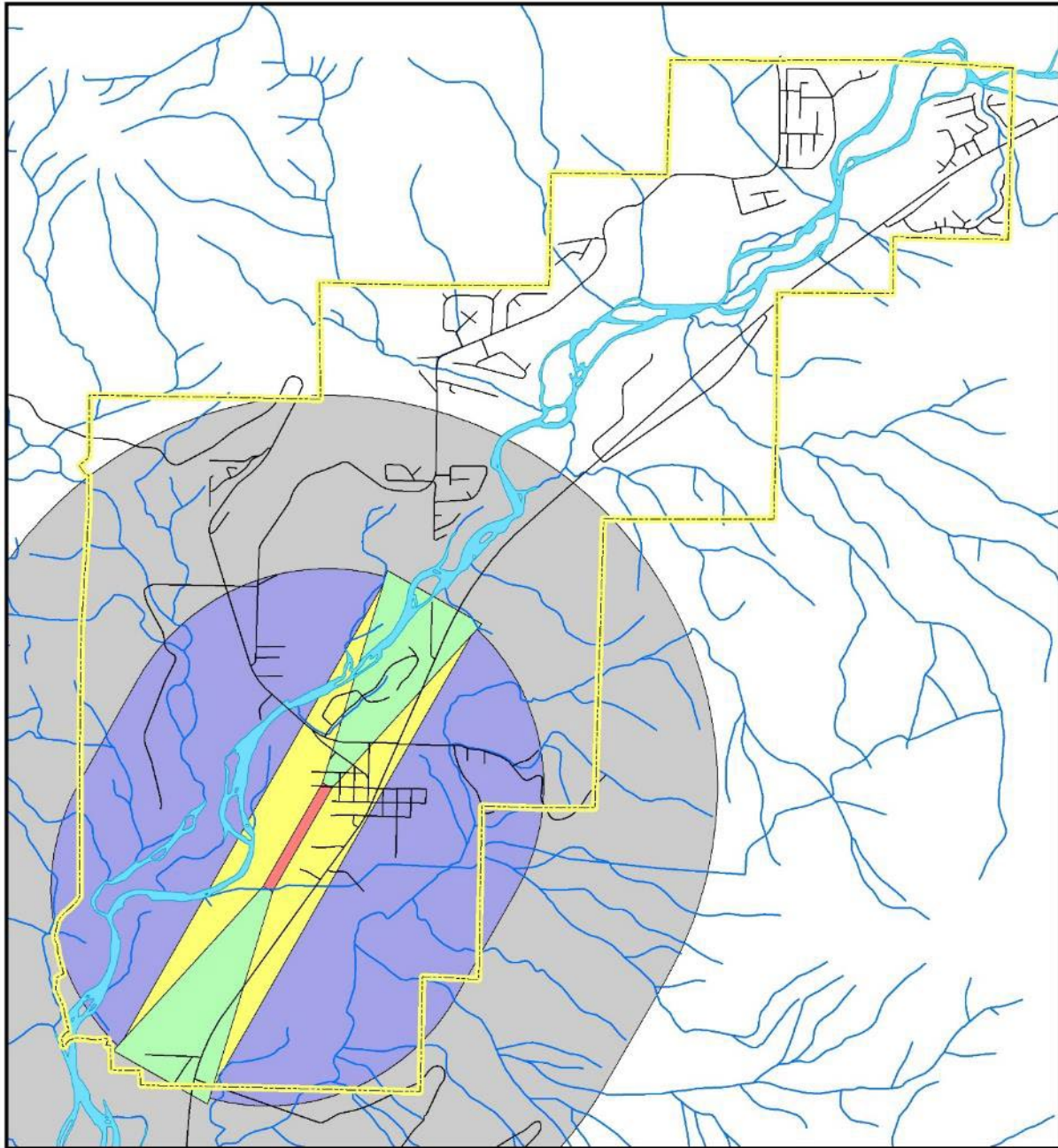
In 1946, the community of Packwood began clearing land that was donated by Howard and Irene Anderson for what became the Anderson Airfield. The airport was deeded to the State of Washington in 1949 for emergency use and fully dedicated in 1950. Ownership was transferred to Lewis County in 1982.

Airport is 36 acres of land located at 132 Main Street W. The landing strip extends from Tail Race stream to Willame St W. The 2021 the airport had 5,300 aircraft operations; the annual range is 3,200 to 8,500 operations.. Most are itinerant operations, meaning the takeoff or landing of aircraft from one airport to another involving a trip of less than 20 miles, excluding local operations. Roughly 300 itinerant operations are military.

There is an airport obstruction zone around the land strip (Map 9). The height of structures is limited. Lewis County Code Chapter 17.80 states the exact distances and maximum height requirements.

The landing strip was extended in July 2017. In 2019, a portion of the industrial area along the south of the airport was added to the airport property and the access road was relocated. The master plan will be updated in 2022, with improvements schedule for 2024 and 2025.





The airport has a direct and indirect economic benefit to Packwood. In 2000, 3,200 visitors arrived via the airport. That resulted in \$966,179 in direct economic output, which include the wage of 17 jobs associated with the airport (Washington State Department of Transportation, Aviation Division, Packwood Airport report). Indirect economic impacts were \$201,798; indirect includes hotels, restaurants, ski tickets, etc.) There are also induced economic impacts. Induced means there is a multiplier effect as money is circulated throughout the local economy. The induced outputs were \$225,847.



Packwood Subarea Plan






Portland Airport Zoning

Updated 02/02/2022
 Planning Division, Community Development

-  Study Area
-  Parcels
-  River Channel
-  Stream Centerline



Airport Obstruction Zones

-  Primary Surface
-  Visual Approach
-  Horizontal
-  Transitional
-  Critical



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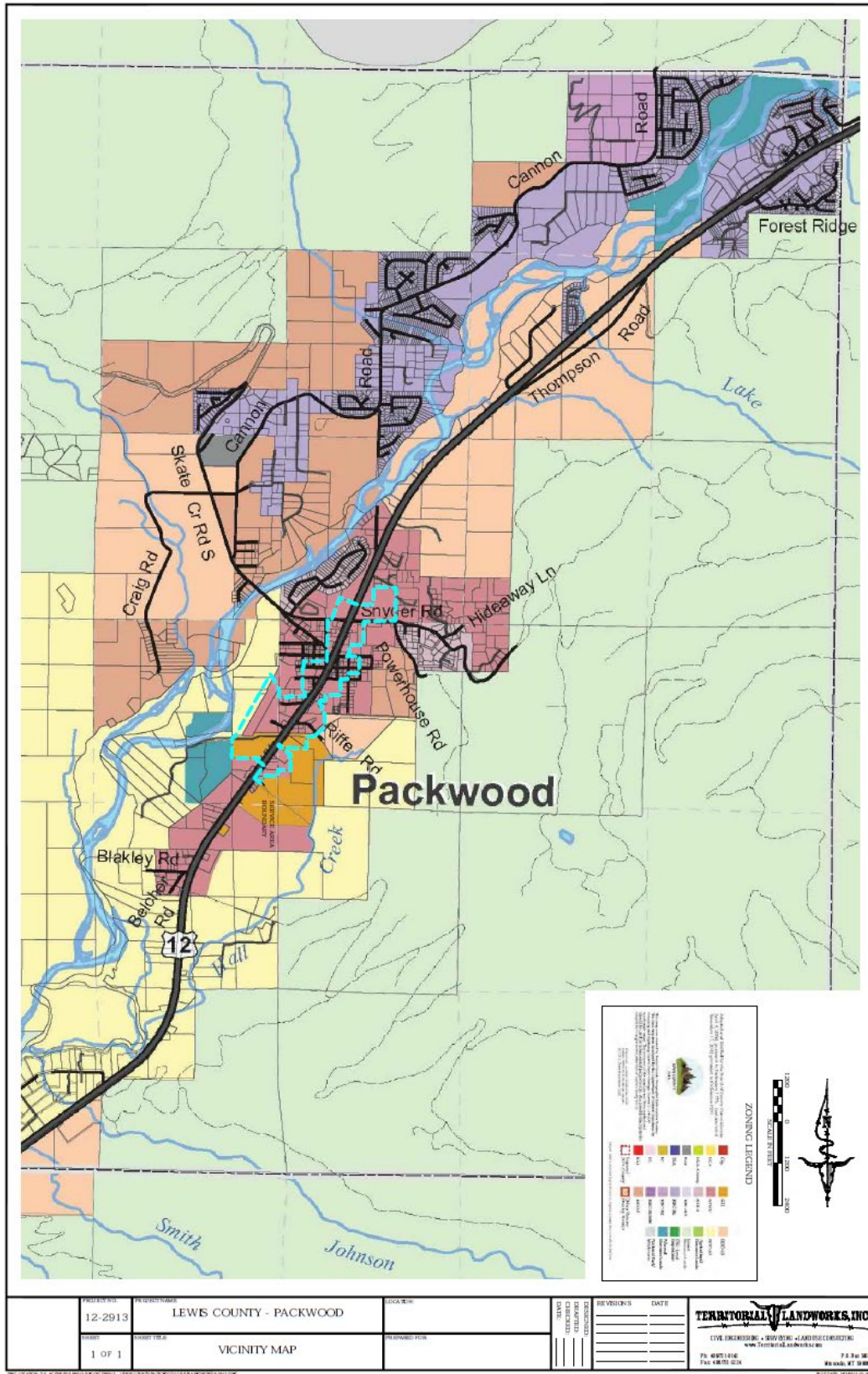
Chapter 7: PUBLIC FACILITIES AND SERVICES

A. Sewage

Packwood is currently served by private onsite septic systems. Most of the systems are conventional gravity flow septic tanks and drain fields. A large number of inadequate septic systems in the community of Packwood pose a health threat to the aquifers that provide domestic water for the area. Bacteria, virus, and nitrate contaminants from these systems can cause serious health problems.

Most of the soils in the Packwood area are highly permeable, including large areas of "Type 1A" gravely soils. Soil Type 1A is considered extremely coarse and gravelly, resulting in a high level of permeability. Since this type of soil is so permeable it provides a minimal amount of soil treatment. The Packwood downtown commercial core (Map 10) includes a large amount of wastewater discharged to the ground over a small area. Many of the existing onsite systems in the downtown core were installed before 1991, when the Lewis County Health Department began to specify that the Type 1A soils in the downtown core are too restrictive for installations of septic systems because they fail to provide adequate treatment of sewage effluent prior to the discharge to groundwater.

The lack of adequate space or resources for onsite sewage disposal systems has resulted in businesses being unable to expand or open. Also, current health regulations prohibit a large number of the residential units from replacing failing septic systems on existing small lot configurations. For those situations, a home owner would have to purchase additional land to expand their current lot size to meet health regulations, which is unrealistic or cost prohibitive in most circumstances.

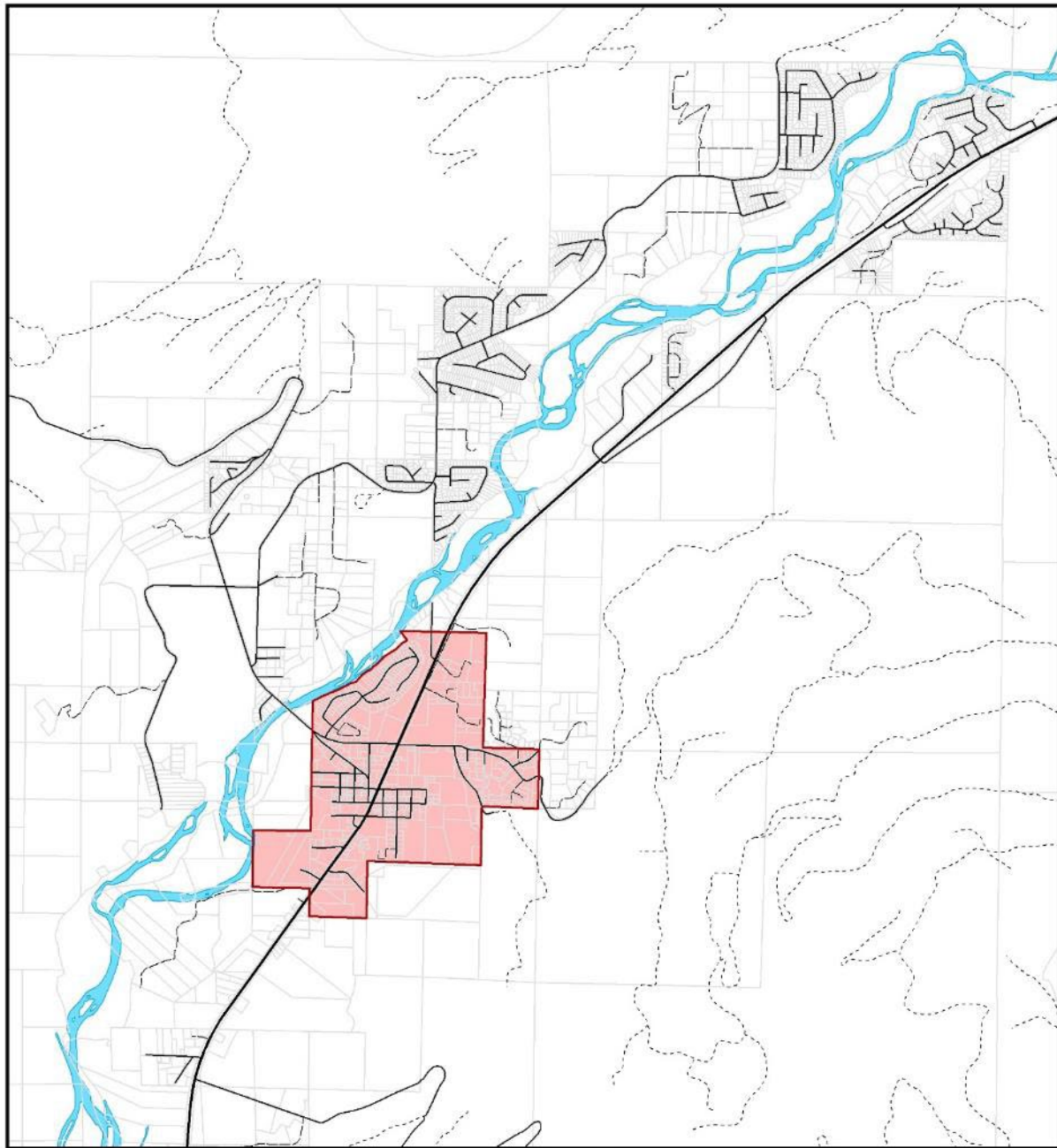


Map 10: DRAFT Packwood Sewer Project Vicinity Map

B. Potable Water





Packwood has two community wells drawing from a confined aquifer that serves approximately 231 residents. These wells are owned and operated by Lewis County Water District No. 3 and are located along US Highway 12. In addition, there are several private wells scattered in the community area. The source of water supply for these wells is often the shallow aquifer under laying the community. The deeper aquifer that the District No. 3 wells use may be contiguous with the shallow aquifer and thus subject to contamination reaching this aquifer. Map 11 shows the water district.



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Packwood Subarea Plan

Water District

-  Study Area
-  Highway 12
-  Roads
-  Parcels

-  River Channel
-  Waters/Sewer Districts



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Planning Division, Community Development



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Map 11: Lewis County Water District No. 3

C. Stormwater

Stormwater is rain that runs off of surfaces. In the natural environment, most rain is captured by vegetation, infiltrated into the soil, stored in wetlands and ponds, and transported by streams and rivers. When land is disturbed, such as removal of vegetation and grading, hardened by compaction or addition of gravel, or developed with impervious surfaces such as buildings and paving, the natural processes are disrupted and additional rain runs off as stormwater. That can result in more volume of runoff to waterbodies or capture of sediments and pollutants from surfaces and impacting the quality of receiving waters.

As Packwood is unincorporated, jurisdiction for stormwater regulation falls under Lewis County Code Chapter 15.45. During land divisions, both long and short plats, construction, including new and re-development, which includes 5,000 square feet or more of impervious surface or gravel parking areas, and development that would change the point of stormwater discharge must meet the code requirements. There are exemptions including some forest and agricultural uses, development of state highways, and other uses (see LCC 15.54.100).

Generally, new and re-development needs to meet the state Department of Ecology's Stormwater Management Manual for drainage plans to reduce impacts of stormwater on receiving waters. Lewis County ensures compliance with LCC 15.45 through a permitting process, where regulated development proposals are reviewed to determine if the requirements are met.

Maintenance of stormwater facilities, such as detention ponds, are the responsibility of the property owner.

D. Broadband

Broadband high speed internet availability is limited in Packwood. In November 2019, Lewis County PUD received a \$50,000 grant from the Community Economic Revitalization Board (CERB) to study the needs and feasibility of expanding broadband access to areas within the PUD service area that currently do not have broadband access. The objective was to understand, communicate and bring together Lewis County for establishing the need for broadband throughout the PUD's service area.

In early 2020, the PUD formed the Lewis County Broadband Action Team (BAT) and worked with the BAT to launch a community-wide broadband survey to get a better understanding of what Lewis County residents and businesses want and need in broadband service. The survey also included a speed test component, so the PUD could gain a better understanding of which communities were or were not being served with broadband access. The survey was taken by

3,673 respondents (about 10% of the PUD’s customer base), and showed that 77.2% of respondents did not have access to broadband. Many of these respondents also indicated that they believe broadband to be an essential utility like power and water.

Following the conclusion of the survey, the PUD commenced an effort to design a telecommunications network and route for the PUD’s service territory that would reach all residential and commercial PUD customers. The design, which includes fiber-to-the-premises network infrastructure, is estimated to cost in excess of \$104 million. In order to meet this need, the PUD divided its service territory up into 17 “broadband service zones.” Each of the broadband service zones correspond with a PUD electrical substation area. The majority of the planned fiber optic infrastructure will be installed on the PUD’s existing network of power poles. The PUD will require state and federal funding for the costs associated with constructing the broadband infrastructure.

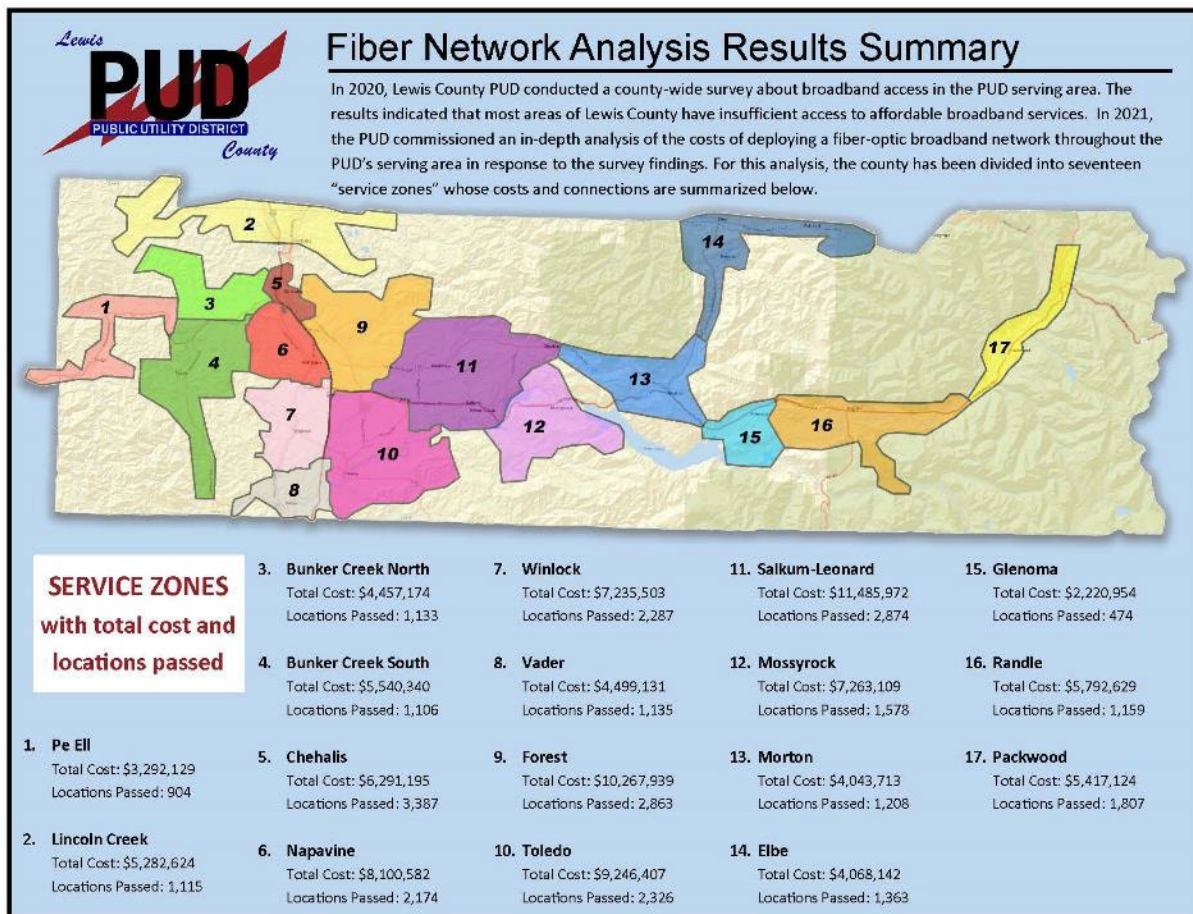


Figure 2: Lewis County PUD Broadband

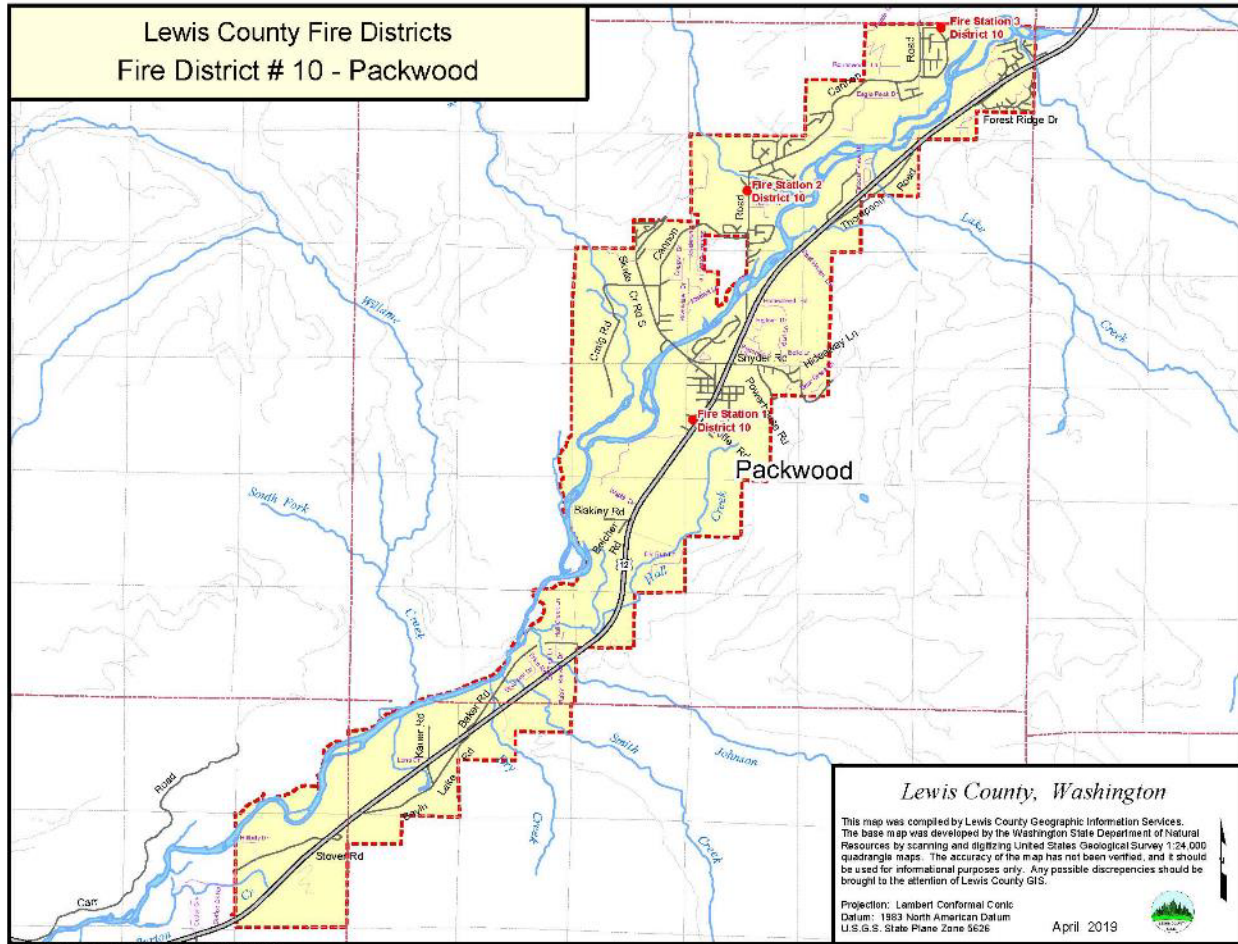
E. Fire and Life Safety

The Packwood Fire Department (Fire District 10, Map 12) has three stations located at Station #1 12953 US Hwy 12, Station #2 483 Cannon Rd and Station #3 234 Mt. View (HVP 8/11). Station #1 on Highway 12 is our main station and houses two tenders, two ambulances, two brush vehicles, one engine and one rescue vehicle. Station #3 located in High Valley, has an additional engine. Station #2 has the old Mack and air system. Station #1 was dedicated in 2000 and was fully funded by 2015.

The service area is 320 square miles including part of Skate Creek Rd and Highway 12 from White Pass and to Mile Post 120. The Department has mutual aid agreements with all of Lewis County for both EMS and fire. As well as mutual aid agreement with Department of Natural Resources for wildland fires. The Department works with the Forest Service to address fires if need and until the Forest Service get a crew out. The Department also responds to Mount Rainier National Park for both EMS and fire. Advance Life support and airlift helicopter can fly out of the Packwood Airport, located behind Station #1. EMS attends to roughly 275 calls per year. Combined structure and woodland fires are approximately 25 calls per year.

The Department is run by a Board of Commissioners with five board members, one chief and one secretary. The Department has 15 volunteers with two EMT, three AEMTs, and one EMR. All volunteers do both EMS and firefighting. Response time is 10 to 12 minutes.

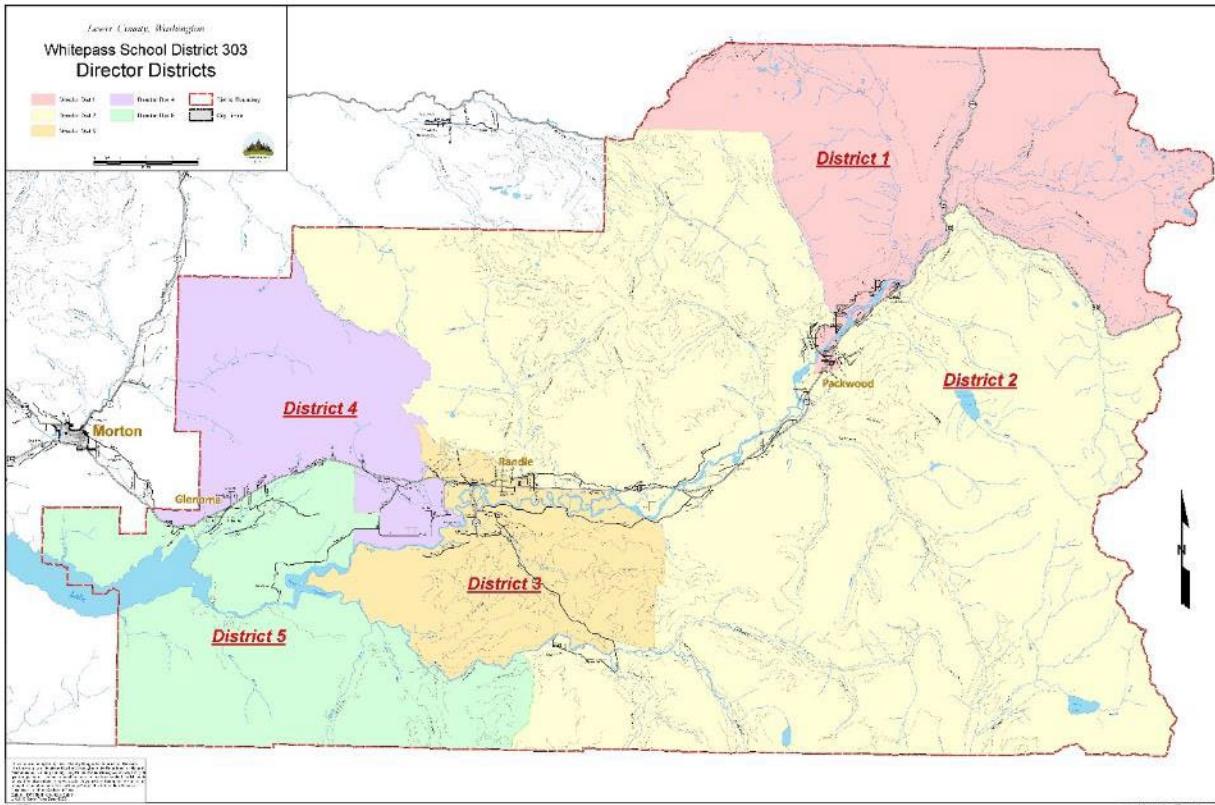
The Department is also active the community hosting two breakfasts (Memorial Day and Labor Day), an Easter Egg hunt and Tree Lighting and Spaghetti dinner in December. In addition, the Department provides Christmas dinner for four-five families. Classes for elementary age students at the fire hall are also provided where they experience smoke room, help package a patient and load in the ambulance, help with the jaws of life, spray the hoses, have a short first aid class and have PUD come and demonstrate electricity. These events are put on by the Fire Fighters Association which anyone can join.



Map 12: Fire District 10, Packwood

F. Education

The White Pass School District provides public education opportunities to the Packwood community. Map 13 shows the district boundaries. Enrollment in the district has been decreasing. In 2017, there were 405 full time students. That had decreased to 320 full time students in 2021. About 70% of the student population is on free or reduced-cost meals programs.



Map 13: White Pass School District Map

Chapter 8: NATURAL RESOURCES

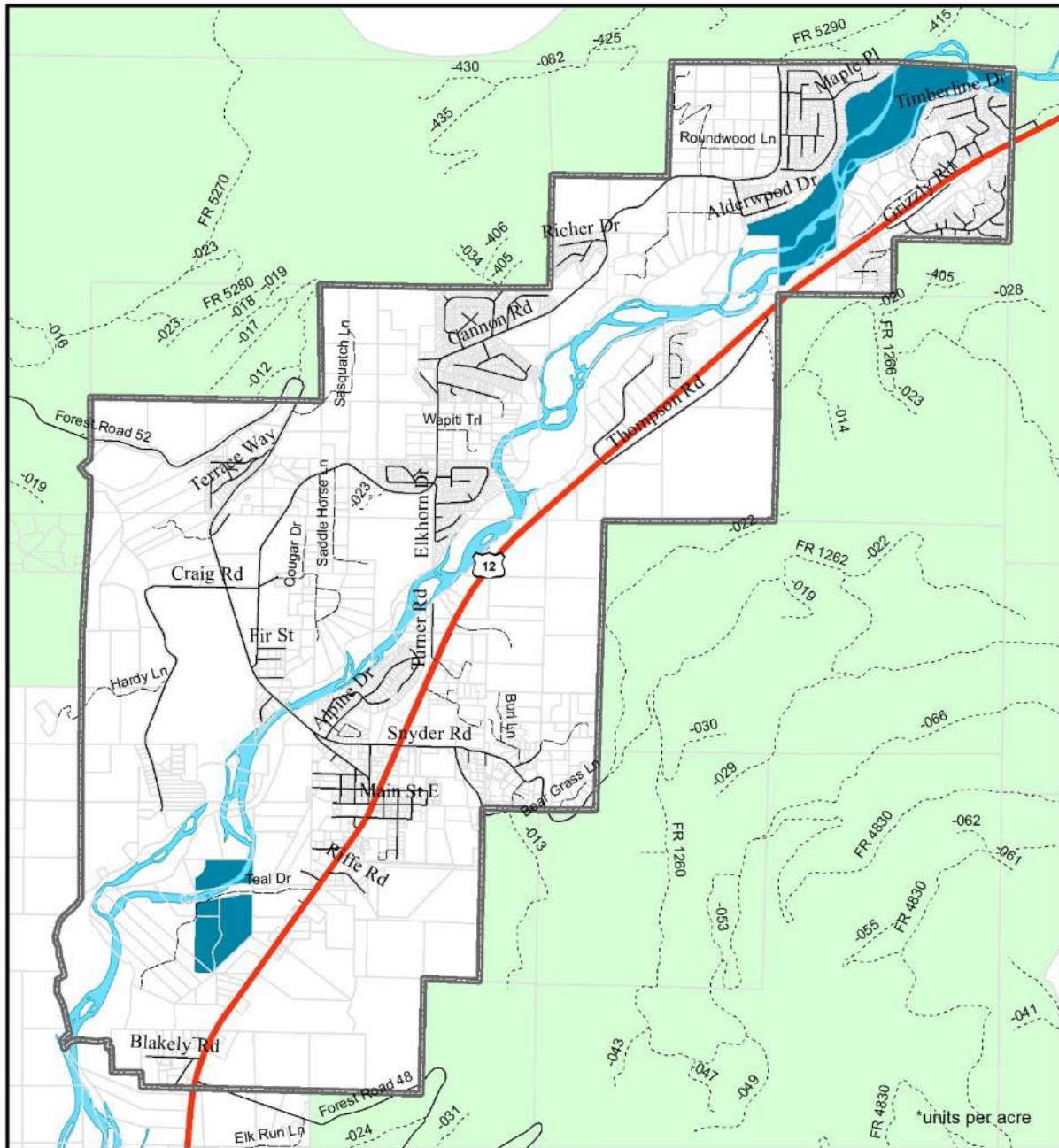
This section includes a description of the resource lands, which are areas where the natural resources are used for economic development, and other environmental resources.

A. Resource Lands

Resource lands are agricultural, forestry and mineral lands. The lands were inventoried as part of the Lewis County Comprehensive Plan and designated as such through the zoning. Map 14 shows the resource lands in the study area.

There are no agricultural or forestry resource lands in the study area; however, agricultural and forestry uses are allowed in all zones, except Park. Please see Chapter 3: Land Use for additional information. Mineral uses are allowed in RDD-5, RDD-10 and RDD-20 and prohibited other zones in the study area.

Most of the lands surrounding the Packwood area are predominately National Forest System lands managed by the Gifford Pinchot National Forest as part of the Cowlitz Valley Ranger District. The Gifford Pinchot National Forest lands are managed for multiple use and protection of resources and contribute to the forest economy through harvesting of forest products, recreation, and restoration work. The Cowlitz Valley Ranger District produces 20-30 million board feet of timber annually which contributes to the larger timber industry of Lewis County. The surrounding National Forest and nearby Mount Rainier National Park draw people to the Packwood area to enjoy the abundant recreational opportunities in the area. Forest restoration work such as wildlife habitat restoration, stream restoration, road maintenance, invasive plant treatments, and forest thinning also contribute to the local forest economy.



Packwood Subarea Plan

Resource Lands

- Study Area
- Highway 12
- Roads
- Parcels
- River Channel
- Agricultural Resource Lands
- Forest Resource Lands
- Mineral Resource Lands



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Map 14: Packwood Resource Lands

B. Environmental Resources

Environmental resources are the river, streams, wetlands, flood area, hydric soils, steep slopes and wildlife habitat areas. Maps 15-17 show the natural resources in the study area.

These environmental resources provide functions including:

- Stream flow moderation and flood storage
- Organic inputs, nutrient cycling and food web
- Control of sediments, nutrients and pollutants
- Large wood input and channel dynamics
- Microclimate and shade
- Slope stability and erosions and landslide control
- Wildlife habitat and movement corridors

Wetlands

Wetlands are defined as *"Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."* Explicit in the definition of wetlands are positive wetland indicators of hydrology, soil (hydric soil), and vegetation (hydrophytic vegetation).

Within the study area, there are two predominant systems of wetlands including palustrine and riverine, mostly located within or closely associated with the river and streams systems. Palustrine wetlands are recognized as a system of inland, non-tidal wetlands characterized by the presence of trees, shrubs, and emergent vegetation. These wetlands include forested, scrub-shrub, and emergent vegetated wetlands as well as small ponds with shallow rooted vegetation or floating aquatic beds. Riverine wetlands include all non-tidal wetlands and deepwater habitats contained within a channel lacking trees and shrubs. The riverine wetlands are located within both perennial and intermittently flowing streams within the study area. The active channel of the Cowlitz River is the largest mapped wetland in the study area and is defined as a riverine wetland within a perennial watercourse. There are no mapped wetlands considered High Conservation Value such as bogs, riparian system, or other wetland system that contains documented presence or habitat for rare or listed plant species.

Wetlands are regulated by local (Lewis County), state, and federal regulatory agencies under the Washington State Growth Management Act (GMA) and the Federal Clean Water Act. Wetlands are considered "Waters of the United States" as well as "Waters of Washington." Development within or adjacent to wetlands is strictly controlled via Lewis County Critical Area regulations as well as the Section 401/404 of the Federal Clean Water Act. Future development within

wetlands in the study area will likely be very minor given the lengthy permitting timeline and high cost associated with impacting wetlands.

Mapped wetlands account for approximately 14.08% (818 acres) of the study area (5,808 acres) while mapped hydric soils (wet soils) account for 9.4% (544 acres) of the study area (5,808 acres) Map 9 depicts wetlands within the study area.

Geology

The study area is located within the upper Cowlitz River valley was formed by historic volcanic activity including lahars, mudflows, basaltic flows, and other volcanic related events followed by erosional and depositional episodes that added complexity to the local geology. Past and ongoing erosion along the Cowlitz River has presented problems for property owners as well as Lewis County attempting to save structures and infrastructure as the river erodes loosely consolidated sands, gravels, cobbles, and boulders. Several surface mines within the study area actively extracted and processed the valley river deposits into round aggregates, crushed aggregate, sand, concrete materials, and landscaping products.

In addition to the active channel migration zone associated with the Cowlitz River, the valley walls contain areas mapped as severe erosion hazard, very severe erosion hazard, and steep slopes. Generally these mapped areas are subject to additional geologic investigation when proposed for development to assure the developments can be designed and constructed to withstand geotechnical issues. There are also mapped landslides within the study area as well as a mapped syncline fold that extends from the southeast to the northwest just north of Skate Creek Road. A mapped fault has also been identified extending northerly within the Butter Creek valley.

Information from the Washington Geological Information Portal identifies the following geologic formations within the study area:

- Qa:** Quaternary unconsolidated or semiconsolidated alluvial clay, silt, sand, gravel, and (or) cobble deposits.
- Qad:** Quaternary till, outwash, and glaciolacustrine sediments; locally includes loess, talus, and lacustrine deposits.
- Tc:** Pliocene poorly indurated coarse sand and gravel stream terrace deposits.
- Ti:** Pliocene andesite, dacite and dacite breccia, quartz diorite, quartz monzodiorite, granite, granodiorite, quartz monzonite, and diorite stocks, plugs, domes, and dikes.
- Tv:** Pliocene rhyolitic, andesitic, and basaltic altered tuff, volcanic breccia, volcanic sandstone, welded tuff, tuffaceous conglomerate, basalt and basaltic andesite flows, dacite flows and flow breccia, agglomerates, pyroclastic rocks, dikes, domes, obsidian, and lahars.

Shallow mapped soils within the study area are generally composed of sands with varying percentages of clay, silt, gravel, and cobbles (Table 5). The majority of the mapped soils are well drained with the exception of soils located within natural wetlands and riverwash associated with the Cowlitz River. Although some of the mapped soils are mapped as prime farmland or farmland of statewide importance, in reality these soils are (1) a small percentage of the study area, (2) located in areas that are already developed, or (3) located in areas with wetland/stream development restrictions. The study area is also located at elevations ranging from 1,000 to 1,600 feet msl with a 50% probability of freezing from October 3rd to May 5th resulting in a normal growing season of less than six months in length. Other than Christmas trees, it seems a rather remote possibility that areas within the study area would be conducive to commercial production of agricultural crops.

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Table 5: Soil Summary

Soil #	Soil Name	Slope % ^A	Hydric % ^B	Farmland Classification ^C
4	Aquic Xerofluvents, overflow	0-3	10	Not prime farmland
49	Cinebar silt loam	0-8	10	All areas are prime farmland
50	Cinebar silt loam	8-15	15	Farmland of statewide importance
51	Cinebar silt loam	15-30	5	Farmland of statewide importance
92	Greenwater loamy sand	0-3	5	Prime farmland if irrigated
123	Ledow sand	0-3	6	Prime farmland if protected from flooding or not frequently flooded during the growing season
136	Nesika loam	2-5	5	All areas are prime farmland
138	Netrac sand	2-5	5	Prime farmland if irrigated
139	Netrac sand	5-15	0	
140	Nevat sand	5-15	0	Farmland of statewide importance
141	Nevat sand	15-30	0	Farmland of statewide importance
142	Nevat sand	30-65	0	Not prime farmland
144	Nevat-Rock outcrop complex	65-90	0	Not prime farmland
166	Pits	---	0	Not prime farmland
170	Puget silt loam	0-3	95	Prime farmland if drained
180	Riverwash	0-3	100	Not prime farmland
198	Schneider very gravelly silt loam	65-90	0	Not prime farmland
203	Schneider-Rock outcrop complex	65-90	0	Not prime farmland
204	Schooley silt loam	0-3	95	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
207	Siler silt loam	0-3	7	All areas are prime farmland
247	Xerorthents, spoils	0-20	0	Farmland of statewide importance

^A Typical slope of the land where the soils are located.

^B Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

^C Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops.

Streams

Mapped streams within the study area consist of the Cowlitz River and associated tributaries with the largest being the Muddy Fork, Skate Creek, and Lake Creek (Table 6). Approximately 39.9 miles of streams are mapped within the study area. The most notable stream within the study area is the Cowlitz River for both recreational uses and potential hazards associated with flooding and erosion. The Cowlitz River and Muddy Fork both originate from glacier melt associated with Mount Rainier and alpine lakes while the remaining streams in the subarea are primarily fed from localized snowmelt, alpine lakes, and springs. Glacier fed streams are subject to high suspended sediment loads during times the source glaciers are rapidly melting usually during the months of July, August, and September. Non-glacier fed streams generally run clear all year long except during times of heavy rainfall or heavy rainfall on a deep snowpack.

Table 6: Stream Summary

Stream ID	Type^A
Cowlitz River	S
Muddy Fork Cowlitz River	S
Hall Creek	S, F, Np, Ns
Lake Creek	S
Coal Creek	S
Skate Creek	S, F
Butter Creek	S, F
Hinkle Tinkle Creek	F

^A WAC 222-16-030. Includes only those reaches and tributaries within the study area boundaries.

Type S - waters inventoried as Shorelines of the State

Type F - waters that provide habitat for fish

Type Np - waters that, under normal conditions, never run dry but provide no habitat for fish

Type Ns – waters that have seasonal flow and provide no habitat for fish

Hall Creek has experienced channelization, relocation, and clearing of riparian areas due to its proximity to the core urban area of Packwood. Lake Creek originates from snowmelt from the Goat Rocks which flows into Packwood Lake, a natural lake that was dammed in 1964 to provide electricity to the local area. Water from Packwood Lake is piped to a penstock located east of the Town of Packwood where the water falls 1,800 feet and turns a turbine producing 27.5 megawatts of electricity. All of the other streams in the study area have experienced differing levels of impact ranging from channelization, relocation, diversion, urban development, and removal of riparian vegetation. Water and sediment quality within streams within the study area is quite good with the only documented water quality issue is elevated temperatures in the lower reaches of Skate Creek. Natural sediment loading in the Cowlitz River occurs quite frequently but is considered natural and not documented as a water quality issue. No sediment quality issues are documented.

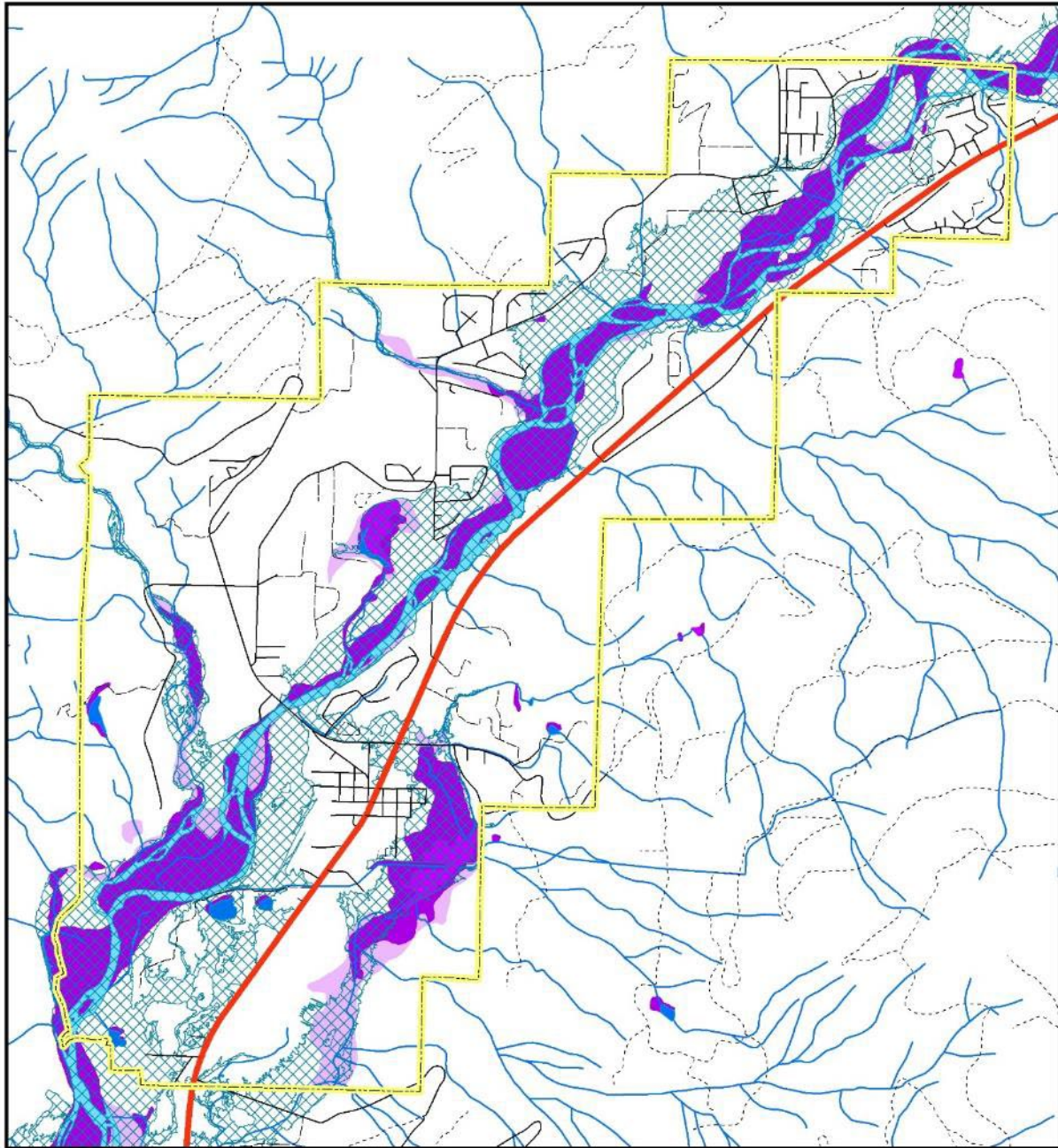
Floodplains, Floodways, and Channel Migration Zones

The Federal Emergency Management Agency (FEMA) defines floodplains as “any land area susceptible to being inundated by floodwaters from any source.” The 100-year floodplain is further defined as “an area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood.” Floodways are defined as “the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.” Generally speaking development within floodplains is allowed under strict development standards while development within floodways is prohibited.

Within the study area, the primary floodways are generally confined to the active channel of the Cowlitz River while floodplains include adjacent areas that are at or below Established Base Flood Elevations (BFE). BFE within the study area range from 1,025.6 feet on the downstream end to 1171.6 feet on the upstream end (NAVD88). Until recently, all of downtown Packwood was mapped within the 100 year floodplain but recent efforts have taken the downtown area, as well as other previously unstudied areas, out of the 100 year floodplain. The new mapping has to be reviewed and approved by FEMA before the official floodplain maps are revised.

Channel migration zones (CMZ) are defined by Lewis County as “Areas within which a river channel can be expected to migrate over time due to hydrologically and geomorphologically related processes.” CMZs are further broken into areas that have a low, moderate, or severe probability of suffering the effects of a migrating channel. Development within CMZs is generally allowed as long as geological studies are completed by experts in the field of geology, fluvial geomorphology, geotechnical engineer, or a person with similar expertise.

Mapped floodplains account for approximately 32.1% (1,863 acres) of the study area while mapped floodways account for 17.0% (988 acres) of the study area (5,808 acres). Mapped channel migration zones account for 40.3% (2,343 acres) of the study area.

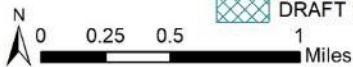


Packwood Subarea Plan

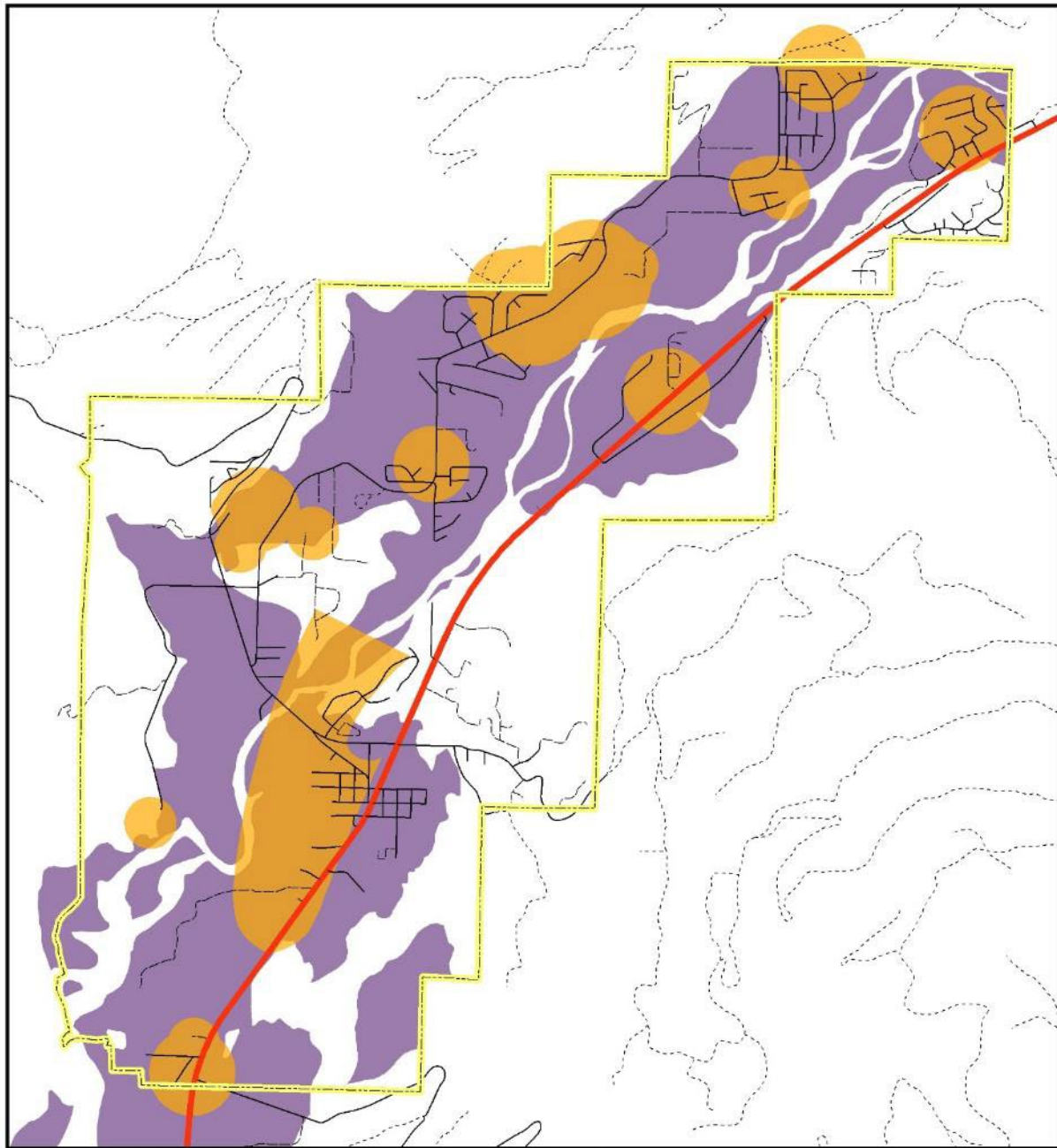
Water Features

- Study Area
- Highway 12
- Roads
- Parcels
- Stream Centerline
- River Channel
- Ponds/Lakes
- Wetlands
- Hydric Soils
- DRAFT 100 year Floodplain

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 Planning Division, Community Development



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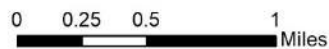
Packwood Subarea Plan

Critical Aquifer Recharge Areas

- Study Area
- Highway 12
- Roads
- Parcels
- Aquifer Recharge Category I
- Aquifer Recharge Category II

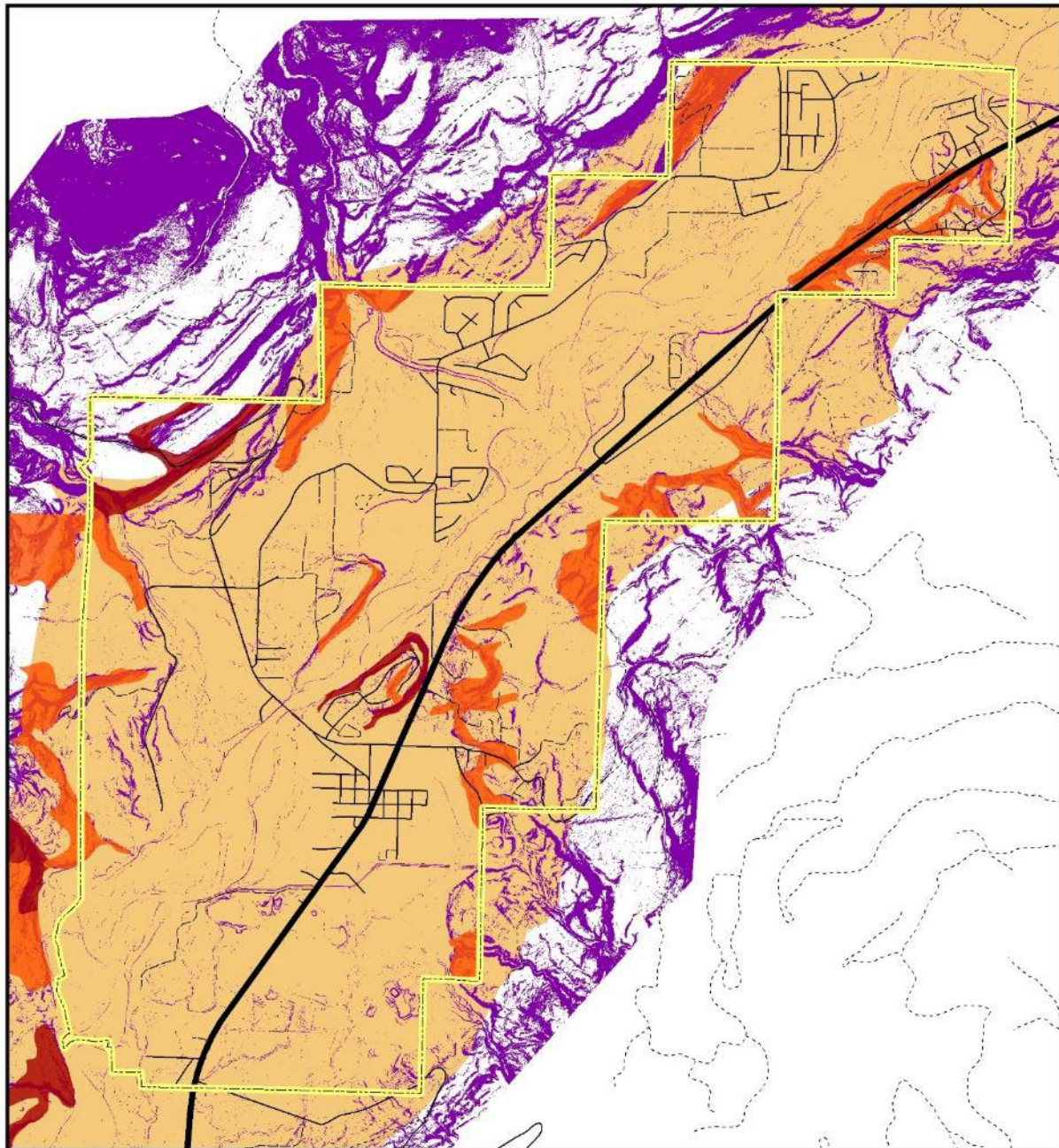


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Map 16: Aquifer Recharge Areas



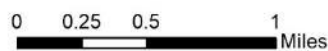
Packwood Subarea Plan

Slopes and Land Hazards

- Study Area
- Highway 12
- Roads
- Parcels
- Lahars
- Severe Erosion Hazard
- Very Severe Erosion Hazard
- Steep Slopes (>35%)



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Map 17: Slopes and Land Hazards

Chapter 9: RECREATION AND TOURISM

A. Parks and Open Space

Packwood is surrounded by the Gifford Pinchot National Forest. The town is located between Goat Rocks Wilderness Area, Tatoosh Wilderness Area, Mount Rainier National Park and White Pass Ski Resort. These areas provide year-round recreational opportunities and generate a significant amount of tourism in Packwood.

Within Packwood, there are three parks (Map 18). Skate Creek Park is located on the north side of the Cowlitz River along Skate Creek and Craig roads. The 178-acre day use park has 3 miles of trails with pedestrian access to the river. The property is bounded by Skate Creek Road to the east, Craig Road to the north and west, and the Cowlitz River to the south. Currently, the park only offers day-use activities with three miles of primary hiking trails, access to the Cowlitz River, access to Skate Creek, fishing, picnicking, wildlife viewing, and photography. There are no overnight accommodations, public water, public sewer, or developed infrastructure within the park. The park is currently owned by Washington State but it is anticipated that the property will be turned over to Lewis County in 2022.



Skate Creek Park

The Cowlitz River Access Park Project is located east of Skate Creek Road and west of Alta Drive. Access to the property will be from Alta Drive. The 5.06 acre property is owned by Lewis County is currently being updated with infrastructure and amenities. The area will provide access to the river for fishing and boating. Once completed, the park will have a site access road, parking area, vault toilet, pedestrian trail, river access, landscaping, signage, and storm water treatment. The Cowlitz River corridor provides public access open space for fishing, boating, primitive hiking, and other passive recreational activities. Much of the riverbed, floodplain, and floodway of the Cowlitz River within the study area is owned by public entities including Federal, State, and County agencies.

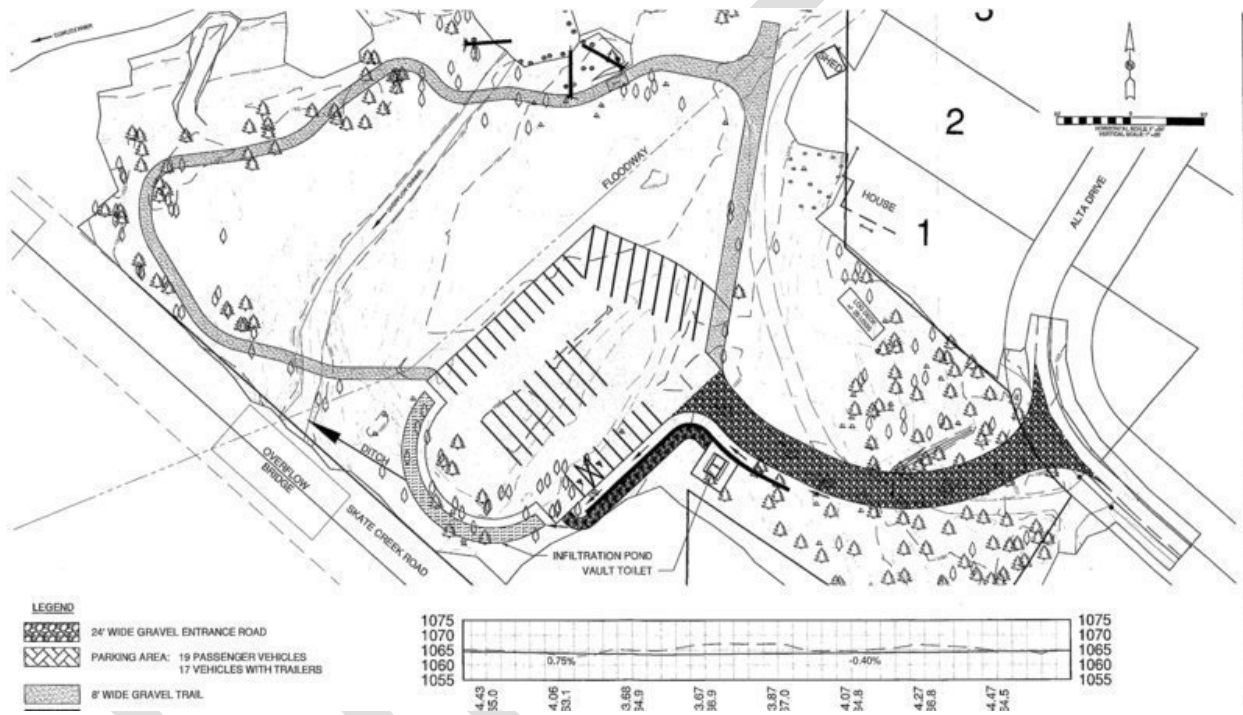


Figure 3: Cowlitz River Access Project Conceptual Design (2020)

The third park in Packwood is called the “Packwood Ballpark” and is located on Silver Road, between Skate Creek Road and Cannon Road. The 25 acre park is owned by the Lewis County PUD. It includes a ballfield as well as other open fields that can be used by public on a first come first served.

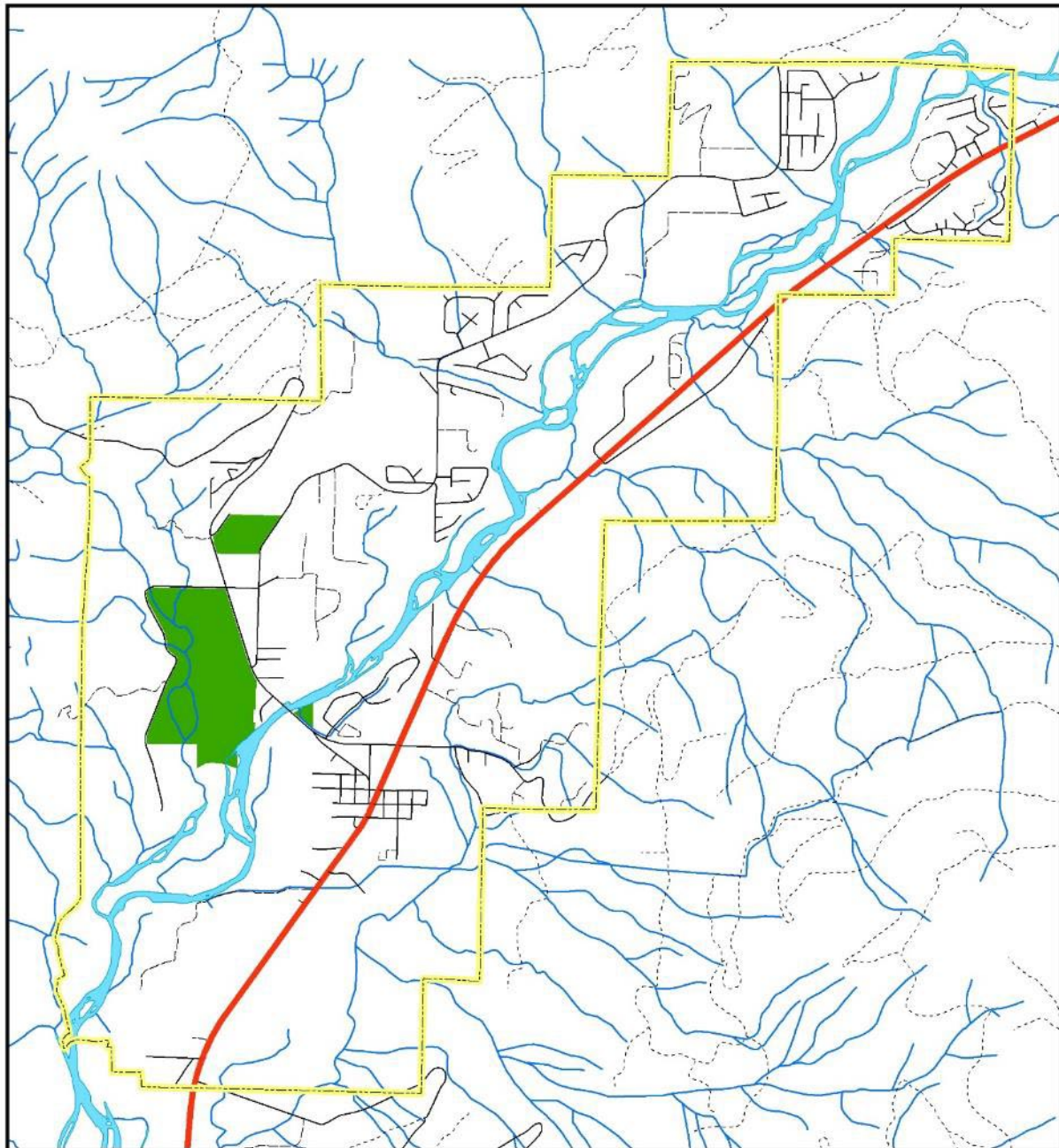


Packwood Ballpark

There are many recreational opportunities accessible from Packwood. White Pass Ski Resort includes downhill, cross-country ski and snowshoe opportunities in the winter; and the area around Leech Lake is open in the summer for hiking and fishing. White Pass reported over 210,000 visitors during the 2020/2021 ski season. On average, visitorship was previously approximately 140,000 annually. There are also three trails that begin near Packwood, including the Tatoosh Ridge Trail, Packwood Lake Trail, Pipeline Road Trail and Coal Creek Trail/Three Peaks Trail. There are multiple campgrounds nearby, including Ohanapecosh Campground in the national park, La Wis Wis Campground to the north, Packwood RV Park in town, Cascade Peaks Campground near Cora Bridge, and Shady Firs RV and Campground to the west in Randle.



White Pass Ski Resort



Packwood Subarea Plan

- Study Area
- Highway 12
- Roads
- Parcels
- Parks & Open Space



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Map 18: Parks and Open Space

B. Tourism

Tourism in the Packwood area has increased significantly during the past three years. The Packwood Visitor Center reported 1,903 visitors in 2019, 3,979 visitors in 2020 and 6,351 visitors in 2021. Approximately 90% of the visitors were from locations more than 50 miles from Packwood. The Visitor Center also tracked where people were staying in town and 56% paid local accommodations at a hotel, motel, short-term rental or campground. Mount Rainier National Park tracks traffic counts northbound on Highway 123. In 2019 there were 98,037 trips and that increased to 114,334 trips in 2021.

Lodging in Packwood generates approximately \$3.8 million in annual revenue. This number underestimates the total lodging revenue because short-term rentals are not considered a business in Lewis County. This number also does not include the revenue generated by services that support tourism including dining, retail and transportation. However, even with the amount being underestimated, Packwood's lodging revenue has tripled over the past six years. In 2019, the estimated tourism revenue for Mt Rainier National Park communities (those communities that provide access to the park, including Packwood) was estimated at a combined \$68 million.

Sources:

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Packwood Subarea Plan

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