

Appendix A. Semi-structured Interview and Coding Protocols

Interview Guides

The following interview protocols were used for Forest Service interviewees, community interviewees, and timber industry interviewees.

Forest Service Interviewee Protocol

1. Can you tell us briefly about your background and your position in the Forest Service?
 - 1a. How long have you been in this position at this duty station?
 - 1b. How long have you been with the agency?
 - 1c. Have you had other roles previously or worked in other units?
2. Where do you live?
 - 2a. Where do most federal agency employees at this duty station live?
 - 2b. How often do you work remotely from home?
3. Do you interact at all with non-agency people in [insert community name] either through your job or outside of work?
4. From your perspective, how has implementation of the NWFP impacted the local community?
 - 4a. In your view, what is the general perception of the NWFP within sectors of the community that are more connected to the National Forest?
 - 4b. How has the NWFP impacted the National Forest over the last 30 years?
5. To the best of your knowledge, how do you think the role of the Forest Service in the community changed over the last 30 years?
6. What, if any, changes have you seen in agency priorities in the last 5 years?
 - 6a. How has your forest's approach to wildfire management changed over the past 5 years?
7. Is your district contracting for more non-commercial activities since you started your position?
 - 7a. What types of contracting and agreements does your forest typically use for restoration work (such as stewardship contracting, Good Neighbor Authority, etc.)?
 - 7b. What bottlenecks make contracting difficult?
8. Has there been a change in the amount of collaboration in your forest since you started your position?
 - 8a. Has the nature of this collaboration changed? Please describe.

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

- 8b. Please list some of [name of National Forest]'s most crucial partner organizations.
9. To what extent do each of the following drive the relationship between the local community and [name of National Forest]?
- 9a. timber
 - 9b. non-timber forest products
 - 9c. hunting/fishing
 - 9d. recreation
 - 9e. nature/aesthetics
 - 9f. other
10. Have you seen changes in the volume or number of timber sales since you started your position?
- 10a. Can you please elaborate on those changes?
11. Do you have trouble getting bids on timber sales?
- 11a. How many do you typically get?
12. Who usually purchases your timber sales and where are they based?
13. What non-timber forest products are most important to [name of National Forest]?
- 13a. Does the NWFP impact management of those NTF products?
14. Have there been any disturbances to [name of National Forest] over the last 5 years, such as wildfires, disease/insect outbreaks, or floods, that were exceptional in scale or led to drastic changes in management?
- 14a. Was there anything you think your unit could have done better to prepare for or respond to this?
- 14b. Do you salvage log?
15. Do you think that commercial timber sales on this district are contributing to hazardous fuels reduction, and helping to reduce wildfire risk? Please explain.
16. What does your forest do to manage for resilience?
17. In your view, does the NWFP promote or hinder resilience-based management? Please explain.
18. Does your district prioritize the inclusion of Tribal perspectives and interests in planning and decision making on your forest?
- 18a. How does the NWFP enable or impede into that prioritization?

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

19. Does your National Forest/Ranger District have a plan for implementing the WSC investments?
 - 19a. Can you describe the plan broadly?
 - 19b. What barriers or challenges does the forest face in implementing the plan?
 - 19c. How, if at all, does this activity intersect with the NWFP?
20. Has the WCS impacted the number and type of partners that interact with the agency?
 - 20a. Has it impacted how partners interact with the agency? Please explain.
21. Have wildfire management priorities changed since the Wildfire Crisis Strategy was launched?
 - 22a. Has the WCS impacted the timber program in terms of timber targets?
 - 22b. Integration with the fuels program/individual fuels projects?
 - 22c. Changes in the number or size of timber sales on the district? Please explain.
 - 22d. Changes in the focal species or size-classes of timber that is harvested on this district?
23. Has the WCS impacted NEPA or other planning processes in this district? Please explain.
24. Have WCS investments in the adjacent National Forest impacted your ability to conduct fuels management or other management activities in this district?
 - 24a. If so, how?
25. Will the WCS investments have long term impacts on how the agency manages the forest on this district?
26. What are the broader impacts of WCS on the forest management infrastructure or processes within the local area/region?
 - 26a. How have WCS investments impacted the contractor pool?
 - 26b. Have WCS investments impacted (or are they projected to impact) wood/biomass processing infrastructure associated with this district?
 - 26c. Have WCS investments changed public perception about forest management, the agency, or desired future conditions?
27. Has the Wildfire Crisis Strategy impacted any other aspects of work on your forest (open)?
28. If you consider longer-term management plans the agency is implementing (such as updates to the Northwest Forest Plan or the 10-year wildfire crisis strategy) along with your own insights on where your forest is heading, what do you envision (within the context of what we have discussed today) changing the most about your forest and how it is managed over the next 10 years?
 - 28a. Do you think the NWFP should still be focused on managing for spotted owl habitat?

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

29. Anything else we didn't discuss that you feel is important for me to know?

Community Interviewee Protocol

1. Can you tell us briefly about your background and how your work relates to this community?

1a. Where do you live?

1ai. If local: How long have you lived in this community?

1aii. If not local: How long have you worked in this community?

1b. Have you had previous roles relevant to this community?

2. Are you familiar with the Northwest Forest Plan?

2a. If yes, please explain your perception of it.

3. Have employment opportunities in this community increased or decreased over the last 30 years?

3a. What changes have happened within the timber industry?

3b. What other industries have changed during this same time period?

4. Has the availability and affordability of buying or renting a home increased, decreased, or stayed the same over the last 30 years?

5. How has the number of services changed [stores, health, restaurants, schools, etc. in the nearby community]?

5a. How has the quality of these services changed?

6. Has the number of people who commute to work somewhere outside the community changed [increase/decrease/no change]?

6a. Where do people commute to?

7. Have there been changes in recreational, leisure, or socializing opportunities?

7a. For children?

7b. For adults?

8. Have there been any changes in the amount of school funding this community receives?

9. Have there been any changes in the number of families with children living in this community?

9a. Do young people stay in town or come back to have families?

9ai. Why/why not?

10. Are there new people moving here?

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

- 10a. How would you describe people who move here?
- 10b. What draws them here?
- 11. Are there other changes in the community I have not asked about?
 - 11a. Have these changes affected the community positively or negatively?
- 12. Have people responded to/tried to solve any of these problems as a community? ,
 - 12a. Does this community have any local non-profits that are engaged with social or economic problems?
- 13. To what extent are each of these aspects of the National Forest most important to the local community?
 - 13a. timber
 - 13b. Non-timber forest products
 - 13c. Hunting/fishing
 - 13d. Recreation for locals
 - 13e. Nature/aesthetics
 - 13f. Tourism
 - 13g. Water
 - 13h. Wildfire management
 - 13i. Other, please explain.
- 14. How would you describe the relationship between community and federal agency staff?
 - 14a. How does the community view the agency [FS or BLM]?
 - 14b. How does the community view the current forest management policies?
- 15. Is there a forest collaborative that is working with the Forest Service to increase the pace and scale of forest management?
 - 15a. If yes – how long has it been around?
 - 15b. Is it mostly community or agency driven?
 - 15c. Has it been successful?
 - 15d. What are some accomplishments?
- 16. If there were fewer restrictions on logging in federal lands, how would this affect the forest or the community?
- 17. If there were fewer restrictions on management generally in federal lands, how would this affect the forest or the community?
- 18. What non-timber forest products are important to your community?
- 19. What are the most popular types of recreation on the National Forest?

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

20. Have there been any significant disturbances to [name of National Forest] over the last 5 years, such as wildfires, disease/insect outbreaks, or anything else?

20a. How did it affect the community?

20b. Was there anything you think the agency could have done to better prepare for or respond to this?

20c. How did the community respond?

21. Do you think the agency does enough to protect its resources and adjacent private property from wildfire? (Y/N)

21a. In your opinion, what wildfire mitigation strategies the agency has used have been successful?

21b. In your opinion, what wildfire mitigation strategies do you think have been unsuccessful or unnecessary?

21c. Has the community taken any action on their own initiative that either has or has not involved the Forest Service?

22. How much of a priority do you feel the following objectives are to the federal agency in managing [name of National Forest]:

a. Incorporating science into its planning process

b. Incorporating public opinions into its planning process

c. Considering the socioeconomic wellbeing of local communities

d. Managing for climate change

e. Managing for wildfire resilience

23. Please indicate if you agree, disagree, or neither agree nor disagree to the following statements:

a. People in this community are concerned about the local impacts of climate change

b. The federal agency and other organizations involved in managing [name of National Forest] are taking action to make the community more resilient to climate change

c. The NWFP makes the forest more resilient to climate change

24. What [if any] of the above changes that you have described in this interview do you feel are directly related to the Northwest Forest Plan?

25. If you consider the longer-term management plans you're aware of (such as the Forest Service's 10-year Wildfire Crisis Strategy, etc.) along with your own insights on where the community and [name of National Forest] is heading, what do you envision (within the context of what we have discussed today) changing the most over the next 10 years about the forest and your community?

26. Anything else we didn't discuss that you feel is important for me to know?

Mill Interviewee Protocol

I. Introductory questions

1. Would you please tell me your job title and briefly describe your position?
2. How long have you worked at this mill or in the timber industry?
3. Would you mind sharing where you live (in relation to the mill/work location)?

II. Mill characteristics

I'd next like to talk about the mill, its history, and current operations.

1. When was the mill built?
2. Has it been operating continuously since that time?
 - a. If not, why not?
 - b. When did it most recently start operating again and why?
3. Who owns this mill now and where are they based (if not known ahead of interview)?
4. What types of products do you produce here?
5. What tree species do you use/process?
 - a. Preferred species and why?
 - b. Other species used and why less desirable?
6. About what percentage of the wood that you process comes from each of these different tree species?
7. What are the upper and lower age/diameter limits on logs you process here?
(not necessary to ask for biomass mills)
8. Do you harvest/process small material (e.g., biomass, what type and dbh) and if so, what do you do with that material?
9. What would be your total annual processing capacity (in terms of board feet/cubic meters/etc.) assuming the mill were operating at full capacity (typically defined as three worker shifts)?
10. What annual capacity are you currently operating at (2022/2023)?
 - a. If you are not currently operating at full capacity, would you mind telling me, why not?
 - b. When was the last time you did so?
11. What is the potential (from your perspective) for expanding your operations in the future?

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

- a. What would need to change for/ what stands in the way of expansion?

III. Timber sourcing

1. Is most of the harvesting done in-house, or do you contract with others to harvest?
2. Does the company that owns this mill also own private timberlands that help supply wood to the mill?
 - a. If yes, where are those lands located?
 - b. Roughly what percentage of the mill's wood supply comes from the timberlands it owns?
3. Do you contract with the USFS to purchase logs or complete restoration work?
 - a. Why or why not?
 - b. Which national forests do you obtain supply from?
4. About what share of your total supply is from USFS lands?
 - a. From other public lands?
 - b. Other private corporate lands (apart from lands you own)?
 - c. Family forest lands?
 - d. Tribal lands?
 - e. Can you talk a little bit about how your public lands sourcing has changed over the last 30 years? (E.g., were you sourcing more from public lands or from different National Forests?)
5. Is all of your wood supply from in-state?
 - a. If not, what percentage comes from out of state?
6. How far away does your supply generally come from (e.g., miles/driving time/counties or region of state)?

IV. Workforce

1. How many employees do you have currently:
 - a. Has employment increased/decreased or stayed steady since the 1990s?
 - b. How about since the 2020 (or the Pandemic)?
2. About what percent of your permanent employees reside in this municipality?
 - a. In the county?
 - b. In a neighboring county?
 - c. Elsewhere in state?
 - d. Out of state?
 - e. Does this vary based on employee type (permanent/seasonal/contractor)?
3. Does place of residence tend to vary by job type or whether the employee is permanent vs. temporary vs a contractor?

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

4. How many employees does it take to operate at full capacity?
 - a. If the current number of employees is below full capacity, what is limiting you from hiring more employees?
5. Has the composition and nature of the mill workforce at this mill changed over the time that you have worked here? If so, how?
 - a. Job types
 - b. Number of workers
 - c. Where workers reside
 - d. Race/ethnicity?
6. What has caused these changes in the workforce?
7. What kinds of workforce-related challenges do you face, if any?
 - a. How do you think these might be overcome?
8. How does this mill contribute to the economy of local communities today?
 - a. Is this different from its contributions to the economy of local communities in the past?
 - i. If so, how?

V. The regional timber industry & the WCS

In 2022 the Forest Service released a ten-year strategy for protecting communities from wildfire and improving forest resilience to wildfire. The plan calls for increasing fuels treatments on national forests in the western U.S. by millions of acres, and maintaining those treatments over the long term.

Here in (OR/WA/N CA), the agency is investing in scaling up treatments on the X, Y, Z national forests and surrounding public, private, and Tribal lands over the next few years. (Provide an example if possible, ie in central OR they aim to treat over 50,000 acres by late 2024).

- Washington: Okanogan Wenatchee NF & Colville NF
 - Oregon: Mt. Hood NF, Deschutes NF, Fremont-Winema NF
 - Northern California: Klamath NF, Six Rivers NF, Shasta Trinity NF, Plumas NF, Modoc NF
1. During the last five years, when you have purchased timber sales or logs from Forest Service lands, how often was the purchase explicitly associated with a wildfire risk reduction project?
 2. Do you anticipate obtaining a greater wood supply from national forests and/or surrounding lands over the next few years from this increase in fuels treatments under the WCS, or have you already?
 - a. If yes, will your mill be able to handle this increase?
 - b. If not, what would need to change to make this possible?

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

3. Do you think that existing mill infrastructure in (WA, OR, N CA) is sufficient to support the Forest Service in achieving its WCS goals of reducing wildfire risk by scaling up fuels treatments?
 - a. Why or why not?
 - b. What would need to change, if not?
4. Do you think an increase in wood supply to mills from scaling up fuels treatments on national forests and surrounding lands will have economic benefits for local communities?
 - a. If yes, please describe.
 - b. If no, why not?

VI. Northwest Forest Plan

1. Are you familiar with the Northwest Forest Plan?
 - a. If yes, what is your understanding of what it is?
2. Has the Northwest Forest Plan impacted your sourcing and operating? If so, how?
3. How does your relationship with the USFS compare with your relationship with the state or with BLM?
4. How do the sales at each of these agencies differ?
5. [ask if they are local] Has the Northwest Forest Plan impacted this community in general?
6. [ask if they are local] What changes have you noticed in this community over the last 30 years (e.g., new people moving in or leaving, changes in other industries, housing availability, etc.)?

VI. Wrap-up

1. Is there anything else that you think I should know about how mills are contributing to wildfire risk reduction in Oregon?
2. Can you recommend other mills that you think it would be informative for us to talk to?
 - a. If yes, can you provide contact information for who we should speak with?
3. Questions for me?

Coding schema for interviews

Table A.1. Community Protocol

Theme	Question	Codes (General)
Interview Type	1. Can you tell us briefly about your background and how your work relates to this community?	Interviewee Type, Employment
Interview Type	1a. Where do you live?	Interviewee Type.

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Interview Type	1ai. If local: How long have you lived in this community?	Interviewee Type
Interview Type	1aai. If not local: How long have you worked in this community?	Interviewee Type
Interview Type	1b. Have you had previous roles relevant to this community?	Interviewee Type
NWFP	2. Are you familiar with the Northwest Forest Plan?	Yes, No, A Little
NWFP	2a. If yes, please explain your perception of it.	Positive, Negative, Free List
Employment	3. Have employment opportunities in this community increased or decreased over the last 30 years?	Quantity Change, Employment Sector
Employment	3a. What changes have happened within the timber industry?	Quantity Change, Employment Sector
Employment	3b. What other industries have changed during this same time period?	Quantity Change, Employment Sector
Housing	4. Has the availability and affordability of buying or renting a home increased, decreased, or stayed the same over the last 30 years?	Quantity change, Quality
Services	5. How has the number of services changed [stores, health, restaurants, schools, etc. in the nearby community]?	Quantity change, Quality
Services	5a. How has the quality of these services changed?	Quality
Employment	6. Has the number of people who commute to work somewhere outside the community changed [increase/decrease/no change]?	Quantity Change
Employment	6a. Where do people commute to?	Location list
Socializing	7. Have there been changes in recreational, leisure, or socializing opportunities?	Quantity Change
Socializing	7a. For children?	Quantity Change
Socializing	7b. For adults?	Quantity Change
Education	8. Have there been any changes in the amount of school funding this community receives?	Quantity Change
Education	9. Have there been any changes in the number of families with children living in this community?	Quantity Change
Demography	9a. Do young people stay in town or come back to have families?	Yes, No,
Demography	9a.i. Why/why not?	Open
Demography	10. Are there new people moving here?	Yes, No
Demography	10a. How would you describe people who move here?	Open
Demography	10b. What draws them here?	Open
Community Change	11. Are there other changes in the community I have not asked about?	Open
Community Change	11a. Have these changes affected the community positively or negatively?	Positive, Negative, Free List

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Community Change	12. Have people responded to/tried to solve any of these problems as a community?	Open
Community Change	12a. Does this community have any local non-profits that are engaged with social or economic problems?	List
Relationship with Forest	13. To what extent are each of these aspects of the National Forest most important to the local community? A. timber	A lot, a little, somewhat, not at all
Relationship with Forest	13b. Non-timber forest products	A lot, a little, somewhat, not at all
Relationship with Forest	13c. Hunting/fishing	A lot, a little, somewhat, not at all
Relationship with Forest	13d. Recreation for locals	A lot, a little, somewhat, not at all
Relationship with Forest	13e. Nature/aesthetics	A lot, a little, somewhat, not at all
Relationship with Forest	13f. Tourism	A lot, a little, somewhat, not at all
Relationship with Forest	13g. Water	A lot, a little, somewhat, not at all
Relationship with Forest	13h. Wildfire management	A lot, a little, somewhat, not at all
Relationship with Forest	13i. Other, please explain.	A lot, a little, somewhat, not at all
Relationship with Forest	14. How would you describe the relationship between community and federal agency staff?	Quality
Relationship with Forest	14a. How does the community view the agency [FS or BLM]?	Open, Theme list
Relationship with Forest	14b. How does the community view the current forest management policies?	Positive, Negative, Free List
Relationship with Forest	15. Is there a forest collaborative that is working with the Forest Service to increase the pace and scale of forest management?	Yes, no
Relationship with Forest	15a. If yes – how long has it been around?	Year
Relationship with Forest	15b. Is it mostly community or agency driven?	Community, Agency
Relationship with Forest	15c. Has it been successful?	Free list
Relationship with Forest	15d. What are some accomplishments?	Free list
Relationship with Forest	16. If there were fewer restrictions on logging in federal lands, how would this affect the forest or the community?	Open
Relationship with Forest	17. If there were fewer restrictions on management generally in federal lands, how would this affect the forest or the community?	Open

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Relationship with Forest	18. What non-timber forest products are important to your community?	Open, Free list
Relationship with Forest	19. What are the most popular types of recreation on the National Forest?	Free list
Wildfire and Climate Change	20. Have there been any significant disturbances to [name of National Forest] over the last 5 years, such as wildfires, disease/insect outbreaks, or anything else?	Free list
Wildfire and Climate Change	20a. How did it affect the community?	Free list
Wildfire and Climate Change	20b. Was there anything you think the agency could have done to better prepare for or respond to this?	Yes, no
Wildfire and Climate Change	20c. How did the community respond?	Free list
Wildfire and Climate Change	21. Do you think the agency does enough to protect its resources and adjacent private property from wildfire? (Y/N)	Yes, no
Wildfire and Climate Change	21a. In your opinion, what wildfire mitigation strategies the agency has used have been successful?	Free list
Wildfire and Climate Change	21b. In your opinion, what wildfire mitigation strategies do you think have been unsuccessful or unnecessary?	Free list
Wildfire and Climate Change	21c. Has the community taken any action on their own initiative that either has or has not involved the Forest Service?	Free list
Relationship with Forest	22. How much of a priority do you feel the following objectives are to the federal agency in managing [name of National Forest]: a. Incorporating science into its planning process	High priority, medium priority, low priority
Relationship with Forest	b. Incorporating public opinions into its planning process	High priority, medium priority, low priority
Relationship with Forest	c. Considering the socioeconomic wellbeing of local communities	High priority, medium priority, low priority
Relationship with Forest	d. Managing for climate change	High priority, medium priority, low priority
Relationship with Forest	e. Managing for wildfire resilience	High priority, medium priority, low priority

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Wildfire and Climate Change	23. Please indicate if you agree, disagree, or neither agree nor disagree to the following statements: a. People in this community are concerned about the local impacts of climate change	Yes, no
Wildfire and Climate Change	23b. The federal agency and other organizations involved in managing [name of National Forest] are taking action to make the community more resilient to climate change	Yes, no
Wildfire and Climate Change	23c. The NWFP makes the forest more resilient to climate change	Yes, no
NWFP	24. What [if any] of the above changes that you have described in this interview do you feel are directly related to the Northwest Forest Plan?	Free list
Future	25. If you consider the longer-term management plans you're aware of (such as the Forest Service's 10-year Wildfire Crisis Strategy, etc.) along with your own insights on where the community and [name of National Forest] is heading, what do you envision (within the context of what we have discussed today) changing the most over the next 10 years about the forest and your community?	Free list
Other	26. Anything else we didn't discuss that you feel is important for me to know?	Free list

Table A.2. Agency Interview Protocol

Theme	Question	Codes (General)
Interview Type	1. Can you tell us briefly about your background and your position in the Forest Service?	Interviewee Type
Interview Type	1a. How long have you been in this position at this duty station?	Quantity
Interview Type	1b. How long have you been with the agency?	Quantity
Interview Type	1c. Have you had other roles previously or worked in other units?	Duty stations, positions
Interview Type	2. Where do you live?	Place
Agency/Community Relationship	2a. Where do most federal agency employees at this duty station live?	Place
Agency/Community Relationship	2b. How often do you work remotely from home?	Days/Week
Agency/Community Relationship	3. Do you interact at all with non-agency people in [insert community name] either through your job or outside of work?	Yes, No, other

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Agency/Community Relationship	4. From your perspective, how has implementation of the NWFP impacted the local community?	Yes, No, other
Agency/Community Relationship	4a. In your view, what is the general perception of the NWFP within sectors of the community that are more connected to the National Forest?	Open
Forest Management	4b. How has the NWFP impacted the National Forest over the last 30 years?	Free List
Forest Management	5. To the best of your knowledge, how do you think the role of the Forest Service in the community changed over the last 30 years?	Free List
Forest Management	6. What, if any, changes have you seen in agency priorities in the last 5 years?	Free List
Forest Management	6a. How has your forest's approach to wildfire management changed over the past 5 years?	Free List
Contracting and Partnerships	7. Is your district contracting for more non-commercial activities since you started your position?	yes, no
Contracting and Partnerships	7a. What types of contracting and agreements does your forest typically use for restoration work (such as stewardship contracting, Good Neighbor Authority, etc.)?	contract type
Contracting and Partnerships	7b. What bottlenecks make contracting difficult?	Free List
Contracting and Partnerships	8. Has there been a change in the amount of collaboration in your forest since you started your position?	quantity change
Contracting and Partnerships	8a. Has the nature of this collaboration changed? Please describe.	quality
Contracting and Partnerships	8b. Please list some of [name of National Forest]'s most crucial partner organizations.	free list
Agency/Community Relationship	9. To what extent do each of the following drive the relationship between the local community and [name of National Forest]?	a lot, somewhat, a little, none
Agency/Community Relationship	9a. timber	a lot, somewhat, a little, none
Agency/Community Relationship	9b. non-timber forest products	a lot, somewhat, a little, none
Agency/Community Relationship	9c. hunting/fishing	a lot, somewhat, a little, none
Agency/Community Relationship	9d. recreation	a lot, somewhat, a little, none
Agency/Community Relationship	9e. nature/aesthetics	a lot, somewhat, a little, none
Agency/Community Relationship	9f. other	a lot, somewhat, a little, none

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Timber Sales	10. Have you seen changes in the volume or number of timber sales since you started your position?	quantity change
Timber Sales	10a. Can you please elaborate on those changes?	quality
Timber Sales	11. Do you have trouble getting bids on timber sales?	yes, no
Timber Sales	11a. How many do you typically get?	quantity
Timber Sales	12. Who usually purchases your timber sales and where are they based?	free list
Forest Management	13. What non-timber forest products are most important to [name of National Forest]?	Free List
Forest Management	13a. Does the NWFP impact management of those NTF products?	yes, no
Wildfires and Climate Change	14. Have there been any disturbances to [name of National Forest] over the last 5 years, such as wildfires, disease/insect outbreaks, or floods, that were exceptional in scale or led to drastic changes in management?	yes, no, type
Wildfires and Climate Change	14a. Was there anything you think your unit could have done better to prepare for or respond to this?	yes, no
Wildfires and Climate Change	14b. Do you salvage log?	yes, no
Timber Sales	15. Do you think that commercial timber sales on this district are contributing to hazardous fuels reduction, and helping to reduce wildfire risk? Please explain.	yes, no
Wildfires and Climate Change	16. What does your forest do to manage for resilience?	free list
Wildfires and Climate Change	17. In your view, does the NWFP promote or hinder resilience-based management? Please explain.	yes, no
Partnerships	18. Does your district prioritize the inclusion of Tribal perspectives and interests in planning and decision making on your forest?	yes, no
Partnerships	18a. How does the NWFP enable or impede into that prioritization?	yes, no
Wildfire Crisis Strategy	19. Does your National Forest/Ranger District have a plan for implementing the WSC investments?	yes, no
Wildfire Crisis Strategy	19a. Can you describe the plan broadly?	free list
Wildfire Crisis Strategy	19b. What barriers or challenges does the forest face in implementing the plan?	Free List
Wildfire Crisis Strategy	19c. How, if at all, does this activity intersect with the NWFP?	yes, no, list
Wildfire Crisis Strategy	20. Has the WCS impacted the number and type of partners that interact with the agency?	yes, no
Wildfire Crisis Strategy	20a. Has it impacted how partners interact with the agency? Please explain.	yes, no

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Wildfire Crisis Strategy	21. Have wildfire management priorities changed since the Wildfire Crisis Strategy was launched?	yes, no
Wildfire Crisis Strategy	22a. Has the WCS impacted the timber program in terms of timber targets?	yes, no
Wildfire Crisis Strategy	22b. Integration with the fuels program/individual fuels projects?	yes, no
Wildfire Crisis Strategy	22c. Changes in the number or size of timber sales on the district? Please explain.	yes, no
Wildfire Crisis Strategy	22d. Changes in the focal species or size-classes of timber that is harvested on this district?	yes, no
Wildfire Crisis Strategy	23. Has the WCS impacted NEPA or other planning processes in this district? Please explain.	yes, no
Wildfire Crisis Strategy	24. Have WCS investments in the adjacent National Forest impacted your ability to conduct fuels management or other management activities in this district?	yes, no
Wildfire Crisis Strategy	24a. If so, how?	yes, no
Wildfire Crisis Strategy	25. Will the WCS investments have long term impacts on how the agency manages the forest on this district?	yes, no
Wildfire Crisis Strategy	26. What are the broader impacts of WCS on the forest management infrastructure or processes within the local area/region?	yes, no
Wildfire Crisis Strategy	26a. How have WCS investments impacted the contractor pool?	yes, no
Wildfire Crisis Strategy	26b. Have WCS investments impacted (or are they projected to impact) wood/biomass processing infrastructure associated with this district?	yes, no
Wildfire Crisis Strategy	26c. Have WCS investments changed public perception about forest management, the agency, or desired future conditions?	yes, no
Wildfire Crisis Strategy	27. Has the Wildfire Crisis Strategy impacted any other aspects of work on your forest (open)?	yes, no
Future	28. If you consider longer-term management plans the agency is implementing (such as updates to the Northwest Forest Plan or the 10-year wildfire crisis strategy) along with your own insights on where your forest is heading, what do you envision (within the context of what we have discussed today) changing the most about your forest and how it is managed over the next 10 years?	Free List
NWFP	28a. Do you think the NWFP should still be focused on managing for spotted owl habitat?	Yes, No, other
Other	29. Anything else we didn't discuss that you feel is important for me to know?	Free List

Table A.3. Interviewee Summary

Case Study	Interviewee Type	Number of Interviews	Number of Interviewees
Packwood-Randle	Agency	4	4
	Community	13	14
	Mill	1	1
<i>Subtotal</i>		<i>18</i>	<i>19</i>
Naches	Agency	6	6
	Community	16	19
	Mill	1	1
<i>Subtotal</i>		<i>23</i>	<i>26</i>
Upper Hood River Valley	Agency	5	5
	Community	16	17
	Mill	1	1
<i>Subtotal</i>		<i>22</i>	<i>23</i>
Southern Tillamook	Agency	4	5
	Community	13	14
	Mill	2	2
<i>Subtotal</i>		<i>19</i>	<i>21</i>
High Cascades	Agency	5	5
	Community	14	16
	Mill	2	2
<i>Subtotal</i>		<i>21</i>	<i>23</i>
Gold Beach	Agency	4	4
	Community	11	11
	Mill	1	1
<i>Subtotal</i>		<i>16</i>	<i>16</i>
Mt. Shasta/Weed	Agency	5	6
	Community	13	14
	Mill	2	2
<i>Subtotal</i>		<i>20</i>	<i>22</i>
Smith River	Agency	5	5
	Community	13	13
	Mill	2	2
<i>Subtotal</i>		<i>20</i>	<i>20</i>
Total		160	170

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Total Agency Interviews: 38

Total Agency Interviewees: 40

Total Community Interviews: 109

Total Community Interviewees: 118

Total Mill Interviews: 12**

Total Mill Interviewees: 12**

**One mill interview conducted by USFS personnel as part of a joint project between the University of Oregon and the USFS, Region 6. We also used data from one interview of a Forest Service employee collected by USFS, Region 6.

Appendix B. Secondary Data Analysis

Inventory of Services and Amenities

We used publicly available information to compile our data, primarily using the following three sources and databases: data obtained via ArcGIS, Google My Map, and PolicyMap. A brief note on our use of each of these platforms follows.

While some datasets didn't require the use of placenames, others (e.g. licensed real estate brokers) required placenames to identify residents. These are the placenames we included in these cases.

Table B.1. Placenames used in each case study for Google Searches and database inquiries

Case Study	Incorporated Cities, CDPs, and communities
Packwood-Randle	Packwood, Randle
Naches	Cliffdell, Nile, Naches, Gleed, Eschbach, Rimrock Retreat, Tampico
Upper Hood River Valley	Parkdale, Mount Hood, Dee
Southern Tillamook	Pacific City, Neskowin, Cloverdale, Pleasant Valley, Beaver, Hebo
Prospect-Butte Falls	Prospect, Butte Falls
Gold Beach	Gold Beach, Pistol River, Wedderburn, Nesika Beach
Mount Shasta	Mount Shasta, Weed, Lake Shastina
Smith River-Gasquet	Gasquet, Hiouchi, Smith River

Tourist Amenities Inventory

Vacation Rental Homes- Raw Count

Individual listings from Airbnb and VRBO were compared to each other and to local hotels in the area. Websites were accessed 10/17/2024. Searched for homes available flexible dates in January 2025 to get most availability.

Services and Attractions

Golf Courses/Ski Area/Amusement Parks

These are defined as places that would motivate people to visit the town for vacation, and that are also outdoor facilities. Ski areas within 45-minute drive of the boundary were included.

Google Map Search Terms: “Golf Course,” “Ski Resort,” “Amusement Park.” Within these search terms, sites were additionally assessed to determine whether they meet criteria of having a substantial ski development (lodge, lifts, etc).

Packwood-Randle

Golf Courses: Maple Grove Golf, High Valley Country Club

Ski Resort: White Pass Ski Area

Naches

Ski Resort: White Pass Ski Area

Upper Hood River Valley

Ski Resort: Cooper Spur, Mt Hood Meadows, Mt Hood Skibowl, Timberline Lodge

Southern Tillamook

Golf Course: Neskowin Beach Golf Course

High Cascades

Golf Course: none

Ski Areas: none

Gold Beach

Golf Course: Cedar Bend

Amusement Park: Prehistoric Gardens

Mt. Shasta-Weed

Golf Courses: Lake Shastina Golf Resort, Weed Golf Club

Ski Resort: Mt. Shasta Ski Park

Smith River-Gasquet

Golf Course: Del Norte Golf Course

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Marinas

Marinas are counted separately from recreation outfitters because they provide a distinct set of services, including docks and places for boat entry.

Found via searching for “marina” on Google Maps with CCD layer.

Naches: Bumping Lake Marina

High Cascades: Lost Creek Marina

Sno-Parks

Searched for Sno-Parks on Google within GoogleMyMaps, counted if within 45 minutes of boundary. Only counted if fees required.

Packwood-Randle: Orr Creek, North Fork Tieton

Naches: Sno-Park: Orr Creek, North Fork Tieton

Upper Hood River Valley: White River West (Sno-Park pass required)

High Cascades: Thousand Springs, Great Meadow

Cross-country Ski Resorts and Hut-to-Hut

Searched for “Cross-Country Ski” and “Ski Resort” in GoogleMyMaps with CCD layer, counted if within 45 minutes of boundaries. Only counted if fees required and have developed lodge or huts.

Packwood-Randle: Lower Sno-Park South Mount Tahoma Trails

Mt. Shasta: Mt Shasta Nordic Center

Upper Hood River Valley: Teacup Nordic

Music/Sports/Other Venues

Found via searching for “Music venue”, “Sports venue”, “Arena”, “Fairground” on Google Maps with CCD layer. High school stadiums and small community parks not included when found via search.

Packwood-Randle: Hampton Mill Site (home of Packwood Pro Solo and Championship Auto Race)

Naches: Jim Sprick Community Park (home of Chinook Fest), Clemens View Park and Sports Complex

Gold Beach: Rogue Playhouse (home of Ellensburg Theatre Company), Pistol River Friendship Hall (home of Pistol River Concert Association), Chetco Playhouse Live Theatre, Curry County Fairgrounds

Mt Shasta: Shastice Park, Jefferson Center for the Arts

Trailheads with Fees

In Region 6 (Oregon and Washington), there is a publicly available list of trailheads with fees:

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

https://www.fs.usda.gov/detail/r6/passes-permits/recreation/?cid=fsbdev2_027003 (accessed November 2024).

- Packwood-Randle: (4)
 - Berry Patch Trailhead
 - Blue Lake ORV Trailhead
 - Packwood Lake Trailhead
 - Walupt Lake Day Use Area
- Naches: (17)
 - Boulder Cave Picnic Site
 - Bumping Lake Boating/Picnic Site
 - Pacific Crest, Chinook Pass, Trailhead
 - Clear Lake Day Use Area
 - Crow Lake Way Trailhead
 - Deep Creek Horsecamp Trailhead
 - Fish Lake Way Trailhead
 - Horseshoe Cove Boating Site
 - Mesatchee Creek Trailhead
 - Peninsula Boating Site
 - Round Mountain Trailhead
 - Sand Ridge Trailhead
 - Scatter Creek Trailhead
 - Swamp Lake Trailhead
 - Union Creek Trailhead
 - Pacific Crest, White Pass North Trailhead
 - White Pass Horse Camp Trailhead
- Upper Hood River Valley: (11)
 - Barlow Pass Trailhead
 - Black Lake Day Use
 - Cloud Cap Trailhead
 - Elk Meadows Trailhead
 - High Prairie Trailhead
 - Laurance Lake Day Use
 - Lost Lake Resort Day Use
 - Nottingham Day Use
 - Polallie Trailhead
 - Tamanawas Falls Trailhead
 - Tilly Jane South Trailhead
- Southern Tillamook: (2)
 - Hebo Lake Picnic Site
 - West Winds Trailhead
- High Cascades (0) – No day use fees charged in Rogue River-Siskiyou
- Gold Beach (0) – No day use fees charged in Rogue River-Siskiyou

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

At time of data collection, USFS Region 5 (California) did not have a similar fee list to USFS Region 6, so information collected instead comes from other sources.

In Smith River, we collected high and medium use trailheads from Smith River on the ‘Smith River NRA Map & Guide (available here:

<https://www.fs.usda.gov/recarea/srnf/recarea/?recid=11440>).

- Smith River High Use (4)
 - Doe Flat Trail
 - Buck Lake Trail
 - Devil’s Punchbowl
 - Darlingtonia
- Smith River Medium Use (2)
 - Patrick Creek
 - Young’s Valley

Mt. Shasta had a proposal in 2022 for fee sites, which we checked against CCD boundaries.

Federal Register notice here: <https://www.federalregister.gov/documents/2022/06/28/2022-13675/notice-of-proposed-new-fee-sites>

- Trailheads
 - Bunny Flat Trailhead
 - Everitt Memorial Vista
 - Red Fir Flat
 - Snowman’s Hill
 - Parks Creek Trailhead

State Parks with Fees and County Parks with Campgrounds

State Parks

Used publicly available lists of state parks from Washington (https://parks.wa.gov/find-parks?field_counties_target_id_entityreference_filter%5B%5D=433#ResultsCount), Oregon (<https://stateparks.oregon.gov/index.cfm?do=visit.find>) and California (<https://www.parks.ca.gov/Find-a-Park>).

Packwood-Randle: None

Naches: None

Upper Hood River Valley: None

Southern Tillamook: Cape Lookout State Park

High Cascades: None

Mt. Shasta: None

Smith River: Jedediah Smith Redwoods State Park (not included in count because managed jointly with NPS as part of the Redwood State and National Parks)

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

County Parks with Campgrounds

Review county websites for parks that are within the CCD boundaries. Only county parks with campgrounds were included because these parks had amenities that could attract visitors.

In Siskiyou County (Mt. Shasta case study), there are special districts within the county that manages such areas. None of the special districts manages a campground.

Packwood-Randle (Lewis County): Cowlitz River Park

Naches (Yakima County): none

Upper Hood River Valley (Hood River County): Kingsley Campground/Day Use Area

Southern Tillamook (Tillamook County): Webb County Park/Campground, Whalen Island County Park, Woods County Park/Campground

High Cascades (Jackson County): Joseph Stewart County Park, Willow Lake County Park

Gold Beach (Curry County): Lobster Creek Park/Camp

Mt. Shasta/Weed: None

Smith River: Ruby Van Deventer County Park, Clifford Kamph Memorial Park

Public Transportation

Searched Google Maps routes via the “transit” choice, confirming with Google Search there are no potentially unlisted operators when transit did not appear via Google Maps. To be counted as public transportation, buses must have morning and evening routes to or from a larger community to account for work commutability.

Packwood-Randle: The Brown route of Lewis County Transit

(<https://lewiscountyttransit.org/bus-routes/>) offers transportation to Packwood on weekdays 6am-7pm.

Upper Hood River Valley: Columbia Area Transit (<https://www.ridecatbus.org/>) offers a bus route into Parkdale by request only, but there are no standard routes during rush hours, so this was marked as a 0 entry.

Southern Tillamook: Tillamook County Transportation District formerly offered transportation from Pacific City to other coastal cities, but this service was discontinued in 2024 due to a shortage of available drivers. Reinstatement for 2025 is unclear. Marked as a 0 entry.

Gold Beach: Coastal Express (<https://currypublictransit.org/coastal-express/>) provides transportation to other coastal cities such as Coos Bay.

Mt Shasta: STAGE (<https://www.co.siskiyou.ca.us/generalservices/page/stage-schedule>) provides transit to Yreka on weekdays.

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Smith River: Transit to Crescent City available via Oregon POINT (<https://www.oregon-point.com/>) and Redwood Coast Transit (<https://redwoodcoasttransit.org/>).

Industry

Wood Processing Facilities

The data used to develop the list of wood processing facilities used in this document were collected by the Bureau of Business and Economic Research (BBER) as part of agreements with the US Department of Agriculture, Forest Service, Pacific Northwest and Rocky Mountain Research Stations in support of the Forest Inventory and Analysis (FIA)- Timber Products Output (TPO) program. The data are stored at the BBER in the Forest Industries Data Collection System (FIDACS) database.

Citation:

BBER. 2026. Bureau of Business and Economic Research. Forest Industries Data Collection System (FIDACS). Missoula, MT: Bureau of Business and Economic Research, Forest Industry Research Program. Unpublished dataset. Data obtained January 2026.

Table B.2. Wood Processing Facilities in the NWFP Area (BBER, 2026).

Timber Processing Facility	Type of facility	State	County
Cascade Harwood	sawmill	WA	Lewis
Alta Forest Product - Morton	sawmill	WA	Lewis
Alta Forest Product - Morton	sawmill	WA	Lewis
Shasta Green Inc.	sawmill	CA	Shasta
Trinity River Lumber Co	sawmill	CA	Trinity
TRL - North Fork Lumber Co	sawmill	CA	Humboldt
Willits Redwood Company	sawmill	CA	Mendocino
Agwood Mill & Lumber	sawmill	CA	Sonoma
TRL - Schmidbauer Lumber Inc	sawmill	CA	Humboldt
Mendocino Forest Products - Ukiah	sawmill	CA	Mendocino
Redwood Empire - Cloverdale	sawmill	CA	Sonoma
Berry's Sawmill Inc	sawmill	CA	Sonoma
SPI - Shasta Lake Sawmill	sawmill	CA	Shasta

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Timber Products Company - Yreka	plywood/Veneer Mill	CA	Siskiyou
Roseburg Forest Products - Weed Veneer	plywood/Veneer Mill	CA	Siskiyou
Humboldt Sawmill Company	sawmill	CA	Humboldt
Burney Forest Products	biomass/energy	CA	Shasta
DG Fairhaven Power Company	biomass/energy	CA	Humboldt
Arcata Forest Products	sawmill	CA	Humboldt
Shasta Forest Products Inc	bark, shavings, non-pulp chips	CA	Siskiyou
Herbert Lumber Company	sawmill	OR	Douglas
Kaster's Kustom Cutting	sawmill	OR	Clackamas
Hull-Oakes Lumber Company	sawmill	OR	Benton
Monroe Oak Inc.	sawmill	OR	Yamhill
Rose City Wood Products	sawmill	OR	Coos
Oregon Overseas Timber Co., Inc.	sawmill	OR	Coos
Oregon Barrell Works	sawmill	OR	Yamhill
Yoder Sawmill	sawmill	OR	Clackamas
WPK	roundwood pulp-chip conversion	OR	Linn
Wolverine Wood Products	sawmill	OR	Coos
Slice Recovery	sawmill	OR	Coos
Shingle House Sawmill	sawmill	OR	Coos
East Fork Lumber Company Inc	sawmill	OR	Coos
MacFarland Cascade/Stella Jones	post/pole/piling	OR	Columbia
Rexius Forest By Products Inc.	bark, shavings, non-pulp chips	OR	Lane
Beaver Bark Inc.	bark, shavings, non-pulp chips	OR	Columbia
Sundance Lumber Company Inc.	sawmill	OR	Lane
Keller Lumber	sawmill	OR	Douglas
Frank Lumber Company Inc.	sawmill	OR	Linn
WKO Sawmill	sawmill	WA	Skamania

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Hampton Lumber Mills Inc. - Tillamook	sawmill	OR	Tillamook
Hampton Lumber Mills Inc. (Willamina Division)	sawmill	OR	Yamhill
Hampton Lumber Mills - Morton	sawmill	WA	Lewis
Hampton Lumber Mills - Randle Division	sawmill	WA	Lewis
Freres Lumber Company (Studmill)	sawmill	OR	Linn
Starfire Lumber Company	sawmill	OR	Lane
Zip-O-Log Mills	sawmill	OR	Lane
Freres Lumber Company - Veneer Plant	plywood/Veneer Mill	OR	Linn
Stimson Lumber Company - Clatskanie Sawmill	sawmill	OR	Columbia
Rosboro Lumber Company - Mill A	sawmill	OR	Lane
Weyerhaeuser - Cottage Grove	sawmill	OR	Lane
Weyerhaeuser - Santiam	sawmill	OR	Linn
SPI - Noti	sawmill	OR	Lane
Swanson Group - Roseburg Sawmill	sawmill	OR	Douglas
Boise Cascade - White City Veneer	plywood/Veneer Mill	OR	Jackson
Boise Building Solutions - Willamina Veneer	plywood/Veneer Mill	OR	Yamhill
Timber Products Company - Grants Pass Hardwoods	plywood/Veneer Mill	OR	Josephine
Swanson Group - Glendale Plywood	plywood/Veneer Mill	OR	Douglas
Timber Products Company - Medford Particleboard	particleboard/MDF/hardboard/composite panel	OR	Jackson
Cascade Pacific LLC	pulp/paper	OR	Linn
Roseburg - SierraPine - Medite (MDF)	particleboard/MDF/hardboard/composite panel	OR	Jackson
SPI - Studmill	sawmill	OR	Lane
SPI - Dimension Mill	sawmill	OR	Lane

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

DR Johnson – Umpqua Lumber	sawmill	OR	Douglas
DR Johnson - Lumber Riddle	sawmill	OR	Douglas
Interfor - Philomath	sawmill	OR	Benton
Northwest Hardwoods - Eugene	sawmill	OR	Lane
Douglas County Forest Products	sawmill	OR	Douglas
Hardwood Components	sawmill	OR	Marion
South Coast Lumber Company - Sawmill	sawmill	OR	Curry
RSG Forest Products - Olympic Forest Products	sawmill	OR	Columbia
Stimson Lumber - Tillamook	sawmill	OR	Tillamook
SDS Lumber Co.	sawmill	WA	Klickitat
Interfor - Molalla	sawmill	OR	Clackamas
Hampton Lumber - Warrenton Mill	sawmill	OR	Clatsop
Flakeboard - Duraflake- Albany	particleboard/MDF/hardboard/composite panel	OR	Linn
Collins Products LCC	particleboard/MDF/hardboard/composite panel	OR	Klamath
Collins Products LCC - Hardboard	particleboard/MDF/hardboard/composite panel	OR	Klamath
Biomass One, LP	biomass/energy	OR	Jackson
Murphy Plywood - Foster Veneer	plywood/Veneer Mill	OR	Linn
Swanson Group-Springfield Plywood	plywood/Veneer Mill	OR	Lane
Nordic Veneer, Inc. (Veneer)	plywood/Veneer Mill	OR	Douglas
Murphy Plywood - White City	plywood/Veneer Mill	OR	Jackson
SDS Lumber Co. - Plywood Division	plywood/Veneer Mill	WA	Klickitat
Pacific Fibre Products, Inc.	roundwood pulp-chip conversion	WA	Cowlitz
Pacific Fibre Products Inc. - North Plains Oregon	roundwood pulp-chip conversion	OR	Washington
Stimson Hardboard	particleboard/MDF/hardboard/composite panel	OR	Washington
Flakeboard- Eugene MDF	particleboard/MDF/hardboard/composite panel	OR	Lane

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

McFarland Cascade - Wilbur Pole Facility	post/pole/piling	OR	Douglas
Bear Mountain Forest Products - Cascade Locks	fuel pellet/presto logs	OR	Hood River
Bear Mountain Forest Products - Brownsville	fuel pellet/presto logs	OR	Linn
Marr Bros	bark, shavings, non-pulp chips	OR	Polk
Roseburg Forest Products - Dillard Studmill	sawmill	OR	Douglas
Roseburg Forest Products - Riddle Plywood	plywood/Veneer Mill	OR	Douglas
Roseburg Forest Products - Coquille Plywood	plywood/Veneer Mill	OR	Coos
Georgia Pacific - Halsey Paper Mill	pulp/paper	OR	Linn
Georgia Pacific - Wauna Paper Mill	pulp/paper	OR	Columbia
International Paper - Springfield Paper Mill	pulp/paper	OR	Lane
Wilson Operation & Coastal Fibre - Coos Bay	roundwood pulp-chip conversion	OR	Coos
Wilson Operation & Coastal Fibre - Toledo	roundwood pulp-chip conversion	OR	Lincoln
Wilson Operation & Coastal Fibre - Willamina	roundwood pulp-chip conversion	OR	Yamhill
Reuser Inc	bark, shavings, non-pulp chips	CA	Sonoma
Lost Creek Industries	sawmill	OR	Lane
Homestead Log home Inc.	log home	OR	Jackson
Seneca Sawmil Company- Hewsaw	sawmill	OR	Lane
Stimson Lumber Company, Forest Grove Studmill	sawmill	OR	Washington
Warrenton Fiber - Tansy Point	roundwood pulp-chip conversion	OR	Clatsop
RSG- Molalla- Band Mill	sawmill	OR	Clackamas
Goshen Forest Products	sawmill	OR	Lane
Swanson Brothers Lumber Company	sawmill	OR	Lane

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

SouthCoast Lumber & Pacific Laminates	plywood/Veneer Mill	OR	Curry
Humboldt Sawmill Company - Cogen	biomass/energy	CA	Humboldt
Roseburg Forest Products - Weed Cogen	biomass/energy	CA	Siskiyou
Mad River Lumber	sawmill	CA	Humboldt
Redwood Burl	log furniture	CA	Humboldt
Southport Lumber Co - North Bend	sawmill	OR	Coos
Calapooia Farms	sawmill	OR	Linn
Murphy Plywood - Rogue River	plywood/Veneer Mill	OR	Jackson
Murphy- Southerlin EWP	engineered wood products	OR	Douglas
Weyerhaeuser Chipping - Springfield	roundwood pulp-chip conversion	OR	Lane
Weyerhaeuser Longview Lumber Mill	sawmill	WA	Cowlitz
Weyerhaeuser Raymond Sawmill	sawmill	WA	Pacific
Kingsford MFG	fuel pellet/presto logs	OR	Lane
McFarland Cascade/Stella Jones - Sheridan	post/pole/piling	OR	Yamhill
Bell Lumber & Pole - Lebanon	post/pole/piling	OR	Linn
Merrill & Ring Log Exports - Rainier Oregon	concentration/export yard	OR	Columbia
Weyerhaeuser Log Exports - Coos Bay	concentration/export yard	OR	Coos
Teevin Bros. - Rainier Log Yard	concentration/export yard	OR	Columbia
Canyon Lumber Company	sawmill	WA	Snohomish
Western Forest Products US LLC	sawmill	WA	Clark
Dahlstrom Lumber	sawmill	WA	Grays Harbor
Fritch Forest Products	sawmill	WA	Snohomish
Great Western Lumber Company	sawmill	WA	Whatcom

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Hampton Lumber Mills - Darrington Division	sawmill	WA	Snohomish
Interfor - Longview	sawmill	WA	Cowlitz
Interfor - Port Angeles	sawmill	WA	Clallam
Manke Lumber Company - Sumner	sawmill	WA	Pierce
Manke Lumber Company - Tacoma	sawmill	WA	Pierce
Northwest Hardwoods - Longview	sawmill	WA	Cowlitz
Northwest Hardwoods - Centralia	sawmill	WA	Lewis
PORT ANGELES HARDWOOD LLC	sawmill	WA	Clallam
SPI - Centralia	sawmill	WA	Lewis
SPI - Aberdeen	sawmill	WA	Grays Harbor
SPI - Mt Vernon	sawmill	WA	Skagit
Willis Enterprises Inc. dba Pacific Veneer	plywood/Veneer Mill	WA	Grays Harbor
Rainier Veneer, Inc.	plywood/Veneer Mill	WA	Pierce
Port Townsend Paper Corporation	pulp/paper	WA	Jefferson
Murphy Company - Elma Veneer	plywood/Veneer Mill	WA	Grays Harbor
Stella-Jones - Rochester	post/pole/piling	WA	Thurston
Stella-Jones - Arlington	post/pole/piling	WA	Snohomish
Bell Lumber & Pole - Bellingham	post/pole/piling	WA	Whatcom
Evergreen Fibre, Inc.	roundwood pulp-chip conversion	WA	Clallam
LOCAL MANUFACTURING INC	roundwood pulp-chip conversion	WA	Grays Harbor
Northwest Fiber	roundwood pulp-chip conversion	WA	Lewis
Shearer Bros. Chipping, LLC	roundwood pulp-chip conversion	WA	Mason
RSG Forest Products Inc.	sawmill	WA	Cowlitz
Alta Forest Products-- Amanda Park	sawmill	WA	Grays Harbor
Falk Forestry Services	sawmill	CA	Sonoma
Alta Forest Products - Shelton	sawmill	WA	Mason
Pacific Coast Fiber Fuels	fuel pellet/presto logs	WA	Mason

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Nippon Dynawave Packaging	pulp/paper	WA	Cowlitz
Nothern Pacific Paper Company	pulp/paper	WA	Cowlitz
Weyerhaeuser - Olympia Export	concentration/export yard	WA	Thurston
Willis Enterprises - Oakville	roundwood pulp-chip conversion	WA	Grays Harbor
Willis Enterprises - Hoquiam	roundwood pulp-chip conversion	WA	Grays Harbor
Willis Enterprises - Everett	roundwood pulp-chip conversion	WA	Snohomish
Zena Forest Products	sawmill	OR	Polk
Frank Lumber Co. (Pellet Mill)	fuel pellet/presto logs	OR	Linn
JB Firewood Co. (MARR BROS.)	firewood (fuelwood)	OR	Polk
Wilson Operation & Coastal Fibre - Lyons	roundwood pulp-chip conversion	OR	Linn
Pacific Fibre - Molalla	roundwood pulp-chip conversion	OR	Clackamas
Goby Walnut & Western Hardwoods	sawmill	OR	Multnomah
Redwood Empire - Asti Fence Plant	sawmill	CA	Sonoma
Green Diamond - Fairhaven Export	roundwood pulp-chip conversion	CA	Humboldt
Weyerhaeuser - Longview Export	concentration/export yard	WA	Cowlitz
Isackson Sawmill	sawmill	WA	King
Pat Lydon Sawmill LLC	sawmill	WA	Clark
RSG - Gram Lumber (cedar fencing)	sawmill	WA	Cowlitz
Blue Mountain Lumber	sawmill	WA	Clallam
Egg Lake Sawmill & Shake	sawmill	WA	San Juan
Iron Mountain Sawmill	sawmill	WA	Skagit
JS Sawmilling	sawmill	WA	Whatcom
Meyers Custom Lumber	sawmill	WA	Skamania
Timberline Portable Sawmilling	sawmill	WA	Whatcom
SPI - Shelton Sawmill	sawmill	WA	Mason
SPI - Mount Vernon Cogen	biomass/energy	WA	Skagit

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

SPI - Aberdeen Cogen	biomass/energy	WA	Grays Harbor
Green Diamond – Samoa Chipping	roundwood pulp-chip conversion	CA	Humboldt
MFP - Forest Energy Mendocino	fuel pellet/presto logs	CA	Mendocino
MLC - Wood Pellets Division	fuel pellet/presto logs	WA	Pierce
Pacific NW Products, LLC	cedar products	WA	Clallam
Pacific Shingle	cedar products	WA	Clallam
J&C Shingles	cedar products	WA	Grays Harbor
DF Shingle, Inc.	cedar products	WA	Grays Harbor
Juan Contreras	cedar products	WA	Grays Harbor
West Biofuels - Hat Creek Bioenergy, LLC	roundwood pulp-chip conversion	CA	Shasta
Pacific Rim Tonewoods	sawmill	WA	Skagit
DaPaul Chip LLC	roundwood pulp-chip conversion	WA	Thurston
Gem Shavings - Shelton	bark, shavings, non-pulp chips	WA	Mason
Rayonier Log Exports - Port Angeles	concentration/export yard	WA	Clallam
Forest Concepts, LLC	biomass/energy	WA	King

Appendix C. GIS Data Sources and Methods

Case Study Community Boundaries

For case study boundaries, we used county subdivisions available from the U.S. Census Tigerline dataset. <https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-line-file.html>

Land Management

We downloaded land management and ownership data from the BLM Landscape Approach Data Portal (<https://www.blm.gov/services/geospatial/GISData>), selecting the BLM [state] Land Status- Surface Management Areas data.

Spatial data for national forests, ranger districts, ranger stations, timber sales, Forest Service priority areas, Northwest Forest Plan area, and wilderness areas were downloaded from the USDA Forest Service “FSGeodata Clearinghouse.” (<https://data.fs.usda.gov/geodata/edw/datasets.php?dsetCategory=boundaries>).

We conducted basic geostatistical analyses to tabulate percentage of case study land area for each land management type.

Appendix D. Demography

Changes in case study population characteristics since 2000

Mark D.O. Adams

Population by age-class: 2000, 2008-2012, 2018-2022

The following analysis tracks changes in the number of people counted in the 2000, 2010, and 2020 decennial Censuses that fall into one of three age cohorts: under 18; 25-44; and over 65.

Data:

- 2000 Decennial Census, release SF1, Table P012
- 2010 Decennial Census, release SF2, Table P12
- 2020 Decennial Census, Demographic & Housing Characteristics, Table P12

Methods:

Each table provides the enumeration of the number of people in each of three age cohorts; because these data are entirely from the SF1/SF2/DHC releases from the respective Decennial Censuses, they are not estimates and a confidence interval is not applicable as in the case of estimated data such as household income and workforce participation.

Results summary: See Chapter 2.

Table D.1. Population under 18 years of age

Case Study	CCD	2000	2010	2020
Packwood-Randle	Big Bottom, WA	751	397	399
Naches	Northwest Yakima, WA	2,179	1,920	1,797
Upper Hood River Valley	Dee & Parkdale, OR	877	817	724
Southern Tillamook	Beaver, Neskowin, OR	1,040	925	917
Butte Falls-Prospect	Butte Falls-Prospect, OR	655	508	490
Gold Beach	Gold Beach, OR	926	728	752
Mt. Shasta-Weed	Mt. Shasta, Weed, CA	3,083	2,817	2,468
Smith River-Gasquet	Smith River-Gasquet, CA	980	772	636
	79 federal forest land CCDs	83,034	65,116	63,355

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Population under 18 – location quotients

A location quotient of 1 indicates that a case study community has the same proportion of children in its population as the entire NWFP monitoring region population. This occurs rarely. The Upper Hood River Valley is anomalous in having a higher proportion than the region; otherwise, only Smith River-Gasquet (only in 2000) and NW Yakima are similar to the region. The remaining cases have disproportionately few children in 2000, and in some cases, like Big Bottom, the disparity grows during the 20-year interval. Four of the cases (Mt. Shasta, Smith River, Beaver-Neskowin, Butte Falls) strongly resemble the proportional representation of children found in the combined 79 rural, federal forest-dominated CCDs¹. That Gold Beach is a retirement haven is clear, with only about 6 children for every 10 that would be expected if it were similar to the monitoring region. It is on this point that Big Bottom is highly unusual – it is not a destination for retirees but has proportionately few children as Gold Beach. Demographically, it is a community that will struggle to sustain itself without in-migrants.

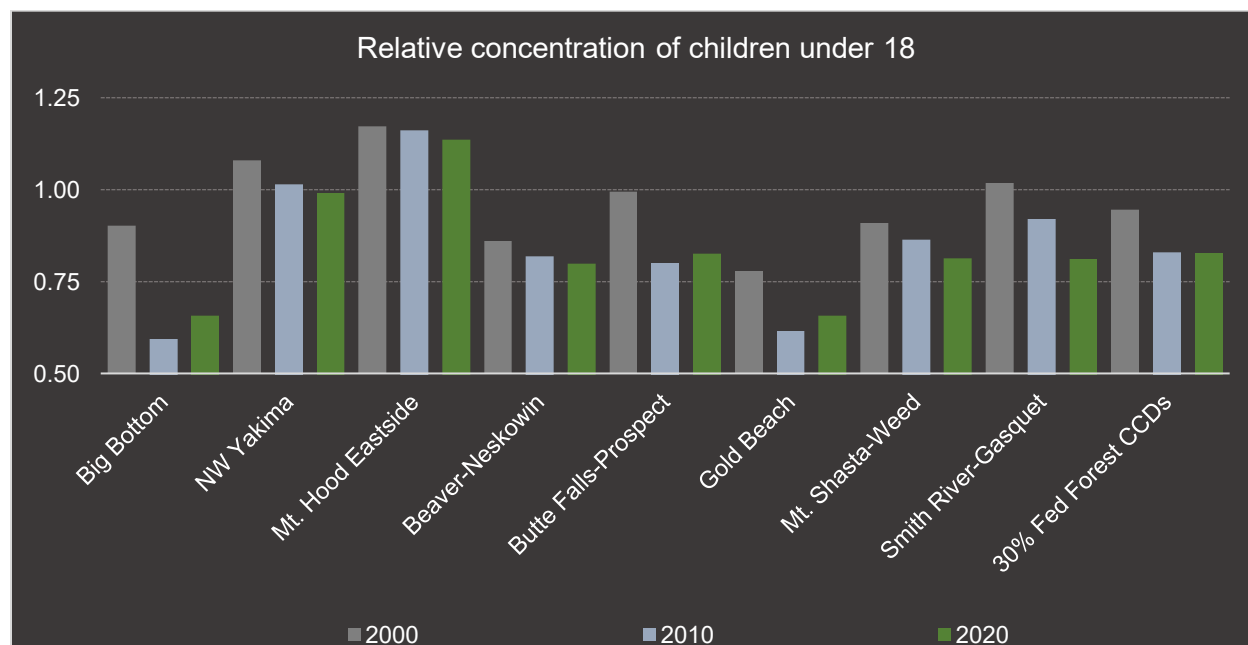


Figure D.1. Relative concentration of children under 18.

Table D.2. Population age 25-44

Case Study	CCD	2000	2010	2020
------------	-----	------	------	------

¹ Note, this sample of 79 rural, federal forest dominated CCDs within the NWFP does not include an additional 2 CCDs included in the final case study sampling frame. Those 2 CCDs were Gold Beach, Oregon and Forks, Washington. They were included in our final sample frame because although they contain less than 30% federal forestlands, they are circumscribed by federal forests and the coastline.

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Packwood-Randle	Big Bottom, WA	754	430	499
Naches	Northwest Yakima, WA	2,254	1,719	1,961
Upper Hood River Valley	Dee & Parkdale, OR	810	794	795
Southern Tillamook	Beaver, Neskowin, OR	991	890	1,101
Butte Falls-Prospect	Butte Falls-Prospect, OR	632	481	550
Gold Beach	Gold Beach, OR	926	728	752
Mt. Shasta-Weed	Mt. Shasta, Weed, CA	3,043	2,747	2,851
Smith River-Gasquet	Smith River-Gasquet, CA	899	677	697
	79 federal forest land CCDs	82,137	65,303	74,243

Population aged 25-44 – location quotients

A location quotient of 1 indicates that a case study community has the same proportion of people aged 25-44 in its population as the entire NWFP monitoring region population. None of the eight cases has a location quotient in any of the three observations as high as 1: in comparison to the monitoring region, adults 25-44 are under-represented in all of them. Most cases observe a pattern of change in which the lq value declines substantially between 2000 and 2010, indicating that the proportion of people aged 25-44 decreased more than it did in the monitoring region, followed by a slight uptick between 2010 and 2020 – also reinforcing the possibility that the proportion of these adults in the population may be stabilizing at a reduced level compared to 2000. The typical value – an lq between 0.6 and 0.8 – represents both the reality that adults in this life stage tend to gravitate towards larger cities, and a challenging future sustaining a viable labor force and dependent community institutions like schools.

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

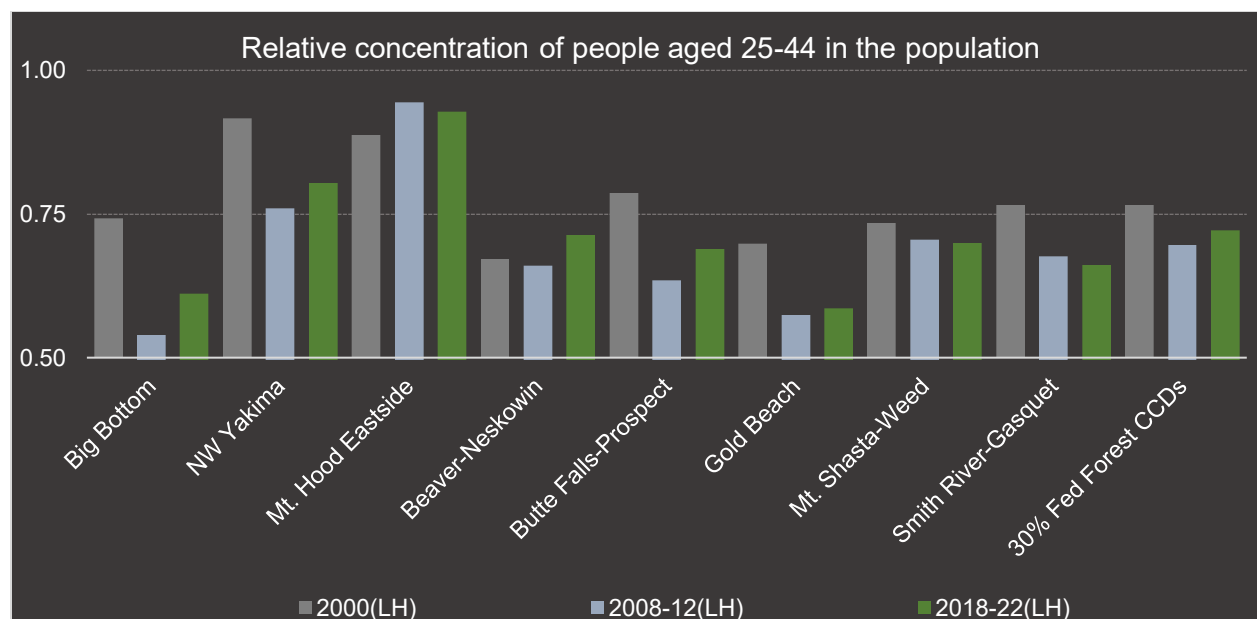


Figure D.2. Relative concentration of people aged 25-44 in the population.

Table D.3. Total population aged 65 and older.

Case Study	CCD	2000	2010	2020
Packwood-Randle	Big Bottom, WA	603	744	908
Naches	Northwest Yakima, WA	926	1,242	1,856
Upper Hood River Valley	Dee & Parkdale, OR	310	346	506
Southern Tillamook	Beaver, Neskowin, OR	978	1,099	1,565
Butte Falls-Prospect	Butte Falls-Prospect, OR	395	589	849
Gold Beach	Gold Beach, OR	1,074	1,400	1,843
Mt. Shasta-Weed	Mt. Shasta, Weed, CA	2,408	2,712	4,037
Smith River-Gasquet	Smith River-Gasquet, CA	678	696	1,078
	79 federal forest land CCDs	61,267	70,808	101,740

Population aged 65 and older – location quotients

A location quotient of 1 indicates that a case study community has the same proportion of people over age 64 in its population as the entire NWFP monitoring region population. Surprisingly, the Upper Hood River Valley case has a similar proportional representation of older adults to the entire monitoring region, which includes more than 5 million people living in metropolitan areas. More typical are lq values of 1.5 to 2.0 – 150% to 200% of the proportion found in the

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

monitoring region population. Steadily increasing lq values best fit the narrative of widespread aging of rural populations across the country. That Beaver-Neskowin and Gold Beach have higher lq values in 2000 as well as 2020 fits with the longstanding attractiveness of Oregon Coast communities to in-migrating retirees. The most intriguing case is again Big Bottom, where the proportion of older adults increases dramatically during the 2000s and then declines in the 2010s. The first decade suggests a large out-migration of people in the middle-age and younger cohorts combined with many of those remaining reaching age 65 by 2010; the second decade, as discussed above, may reflect higher-than-usual rates of outmigration (or death) of people over 65 in comparison to the region and the other cases, thus reducing the disproportionate representation of older adults relative to other age cohorts.

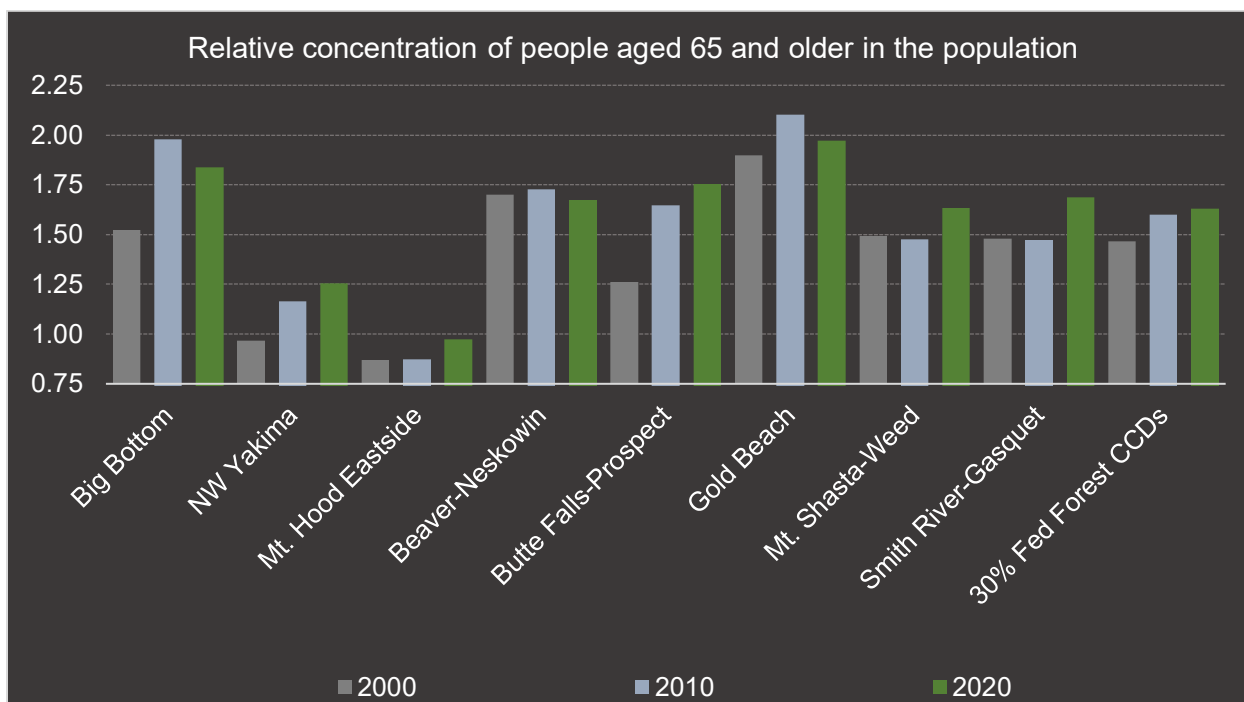


Figure D.3. Relative concentration of people aged 65 and older in the population.

Low-income population: 2000, 2008-2012, 2018-2022

The following analysis tracks changes in the estimated number of people that resided in a household defined as low-income in the 2000 decennial Census, 2008-2012 American Community Survey (ACS) 5-year estimates, and 2018-2022 5-year estimates. Low-income is defined as household with total income that is less than two times the applicable poverty threshold for the number of people in their household. For example, in 2023, the poverty threshold for a four-person household in the contiguous United States was roughly \$32,000. A household with total income of \$60,000 and four members is thus defined as low-income, and the four household members are added to the estimate of low-income individuals.

Data:

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

- 2000 Decennial Census, release SF3, Table P088
- 2008-2012 ACS, 5-year estimates, Table C17002
- 2018-2022 ACS, 5-year estimates, Table C17002

Methods:

Each table provides an estimate of the number of people in categories of income defined by a range of proportional relationships to poverty: e.g., income <50% of poverty; 50-99% of poverty; 100-124%; etc. The estimate for low-income population is calculated by aggregating all these fields except the field “200% and greater.”

Low income population: The absolute number of low-income individuals has definitely declined since 2000 in the Big Bottom and Smith River-Gasquet CCDs. It has stayed about the same in Butte Falls-Prospect. Due to estimate uncertainty, it is difficult to identify a clear trend in the other five cases.

Low-income population location quotient (LQ): The LQ transformation of the low-income population estimates clarifies whether each case study has an anomalously high or low proportion of low-income population when compared to the same proportion in the total population residing in one of the 54 counties that comprised the 25-year monitoring report socioeconomic study area. The LQ for the low-income population of the 79 CCDs that are comprised by at least 30% federal forest management agency (USFS, BLM) lands is also provided for reference. An LQ greater than 1 indicates are somewhat to very high concentration of low income population. Two of the eight cases have a dramatically reduced LQ in 2018-2022 compared to 2000: Big Bottom and Smith River-Gasquet. This means that they have become much more similar to the total 54-county population, which includes the Northwest’s major metropolitan areas. Two other cases – NW Yakima and Beaver-Neskowin – appear to have experienced steadily increasing LQ values, meaning that low-income individuals became more highly concentrated in those locations after 2000, increasing their dissimilarity from the region as a whole. The other four cases tend to share a pattern of decreasing LQ from 2000 to 2008-12, followed an increase returning the estimate to a similar value in 2018-2022 as in 2000. There is no clear trend.

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Table D.4. Total population for which income is estimated (e.g., excluding group quarters population)

Community (CCD)		2000	2008-2012	2018-2022
Big Bottom, WA	LB	3,128	2,544	1,916
	EST	3,328	2,882	2,348
	UB	3,528	3,220	2,780
Northwest Yakima, WA	LB	7,547	7,335	7,860
	EST	8,029	7,968	8,586
	UB	8,511	8,601	9,312
Dee & Parkdale, OR	LB	2,567	2,281	2,725
	EST	2,852	2,865	3,276
	UB	3,137	3,449	3,827
Beaver, Neskowin, OR	LB	4,348	4,194	5,176
	EST	4,831	4,769	5,893
	UB	5,314	5,344	6,610
Butte Falls-Prospect, OR	LB	2,419	2,425	2,364
	EST	2,629	2,645	2,631
	UB	2,839	2,865	2,898
Gold Beach, OR	LB	4,405	4,812	5,185
	EST	4,686	5,219	5,881
	UB	4,967	5,626	6,577
Mt. Shasta, Weed, CA	LB	12,560	13,100	13,760
	EST	13,362	13,635	14,479
	UB	14,164	14,170	15,198
Smith River-Gasquet, CA	LB	3,529	2,973	2,728
	EST	3,754	3,321	3,239
	UB	3,979	3,669	3,750

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

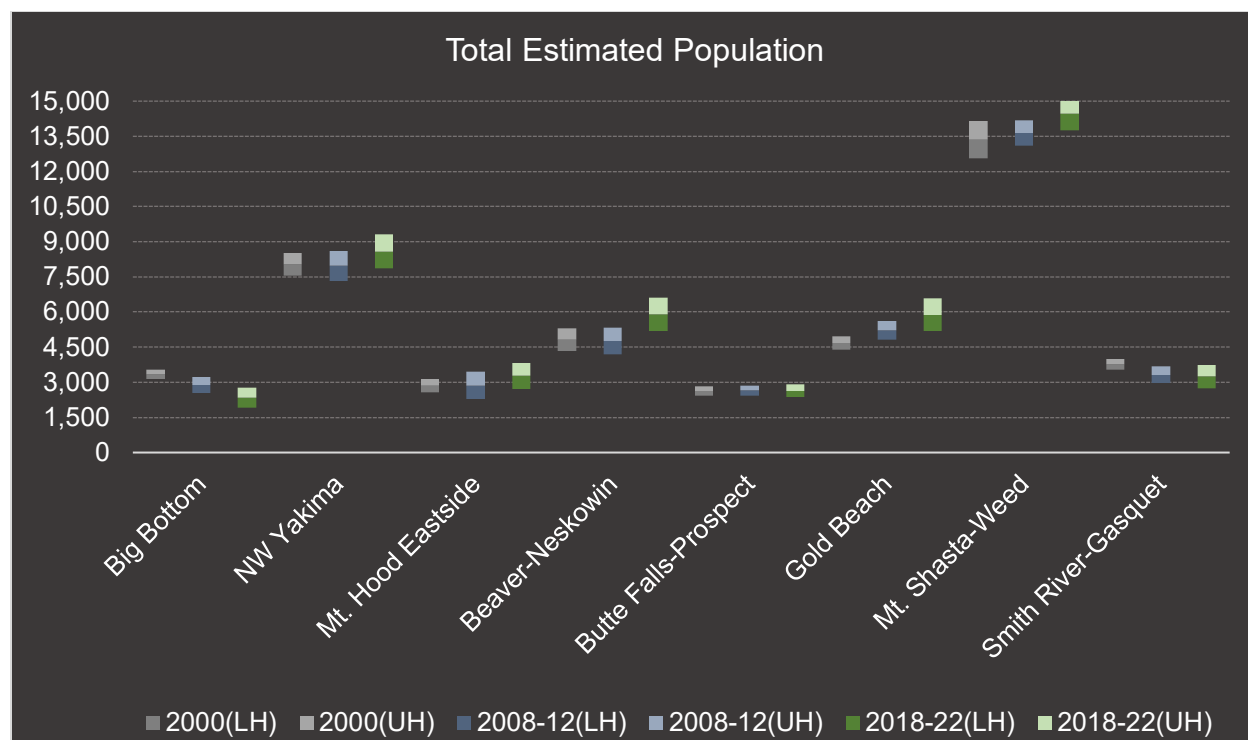


Figure D.4. Total estimated population.

Table D.5. Estimated low-income population

Community (CCD)		2000	2008-2012	2018-2022
Big Bottom, WA	LB	1,326	892	434
	EST	1,473	1,176	677
	UB	1,620	1,460	920
Northwest Yakima, WA	LB	2,007	2,028	1,985
	EST	2,230	2,779	2,496
	UB	2,453	3,530	3,007
Dee & Parkdale, OR	LB	1,049	548	827
	EST	1,166	951	1,383
	UB	1,283	1,354	1,939
Beaver, Neskowin, OR	LB	1,271	1,321	1,376
	EST	1,412	1,883	1,986
	UB	1,553	2,445	2,596
Butte Falls-Prospect, OR	LB	873	704	617
	EST	970	911	866
	UB	1,067	1,118	1,115
Gold Beach, OR	LB	1,526	1,538	1,439
	EST	1,695	1,924	1,998
	UB	1,865	2,310	2,557
Mt. Shasta, Weed, CA	LB	4,635	4,354	4,071
	EST	5,150	5,047	4,754
	UB	5,665	5,740	5,437
Smith River-Gasquet, CA	LB	1,572	878	657
	EST	1,747	1,284	958
	UB	1,922	1,690	1,259

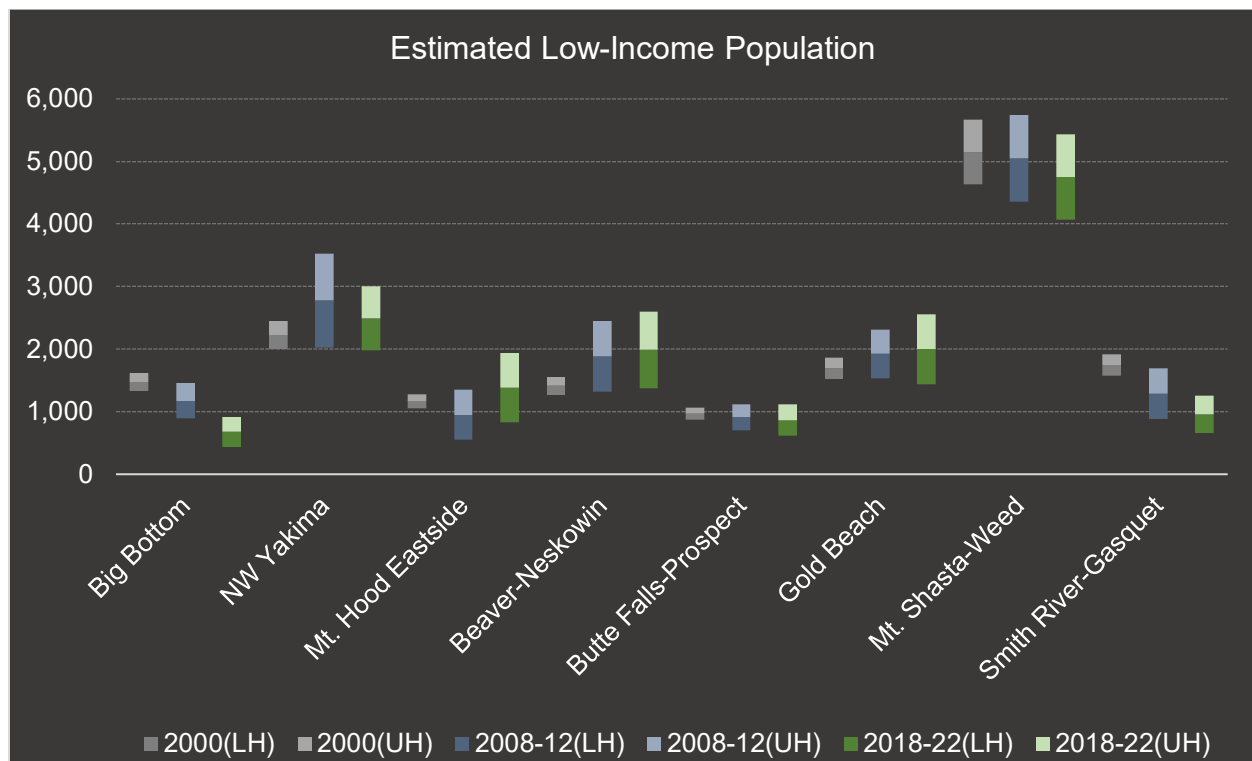


Figure D.5. Estimated Low-Income Population

Table D.6. Low-income population location quotients

Community (CCD)		2000	2008-2012	2018-2022
Big Bottom, WA	LB	1.591	1.207	1.006
	EST	1.623	1.294	1.165
	UB	1.656	1.336	1.231
Northwest Yakima, WA	LB	0.998	0.952	1.122
	EST	1.019	1.106	1.174
	UB	1.039	1.210	1.202
Dee & Parkdale, OR	LB	1.470	0.766	1.234
	EST	1.500	1.052	1.705
	UB	1.530	1.238	2.034
Beaver, Neskowin, OR	LB	1.051	1.004	1.080
	EST	1.072	1.252	1.361
	UB	1.093	1.443	1.577
Butte Falls-Prospect, OR	LB	1.326	1.000	1.160
	EST	1.353	1.092	1.330
	UB	1.380	1.150	1.431
Gold Beach, OR	LB	1.300	1.100	1.233
	EST	1.327	1.169	1.373
	UB	1.353	1.211	1.446
Mt. Shasta, Weed, CA	LB	1.385	1.059	1.203
	EST	1.414	1.174	1.326
	UB	1.442	1.277	1.436
Smith River-Gasquet, CA	LB	1.673	1.017	1.070
	EST	1.707	1.226	1.195
	UB	1.741	1.358	1.249
Communities that are > 30% Federal Forest Land	LB	1.306	1.225	1.320
	EST	1.332	1.243	1.340
	UB	1.359	1.261	1.359

Green shading: significant decrease in LQ since the prior period, indicating that low-income population was less concentrated in the community than it had been, making its proportion of low-income population either more similar to (if the prior period LQ was well above 1), or, less similar to (if the current period LQ is well below 1) than the NWFP monitoring region's proportion.

Orange shading: significant *increase* in LQ since the prior period, with the exact opposite interpretation as above.

Low-income concentrations mostly lessened between 2000 and 2008-2012. The best explanation for this is *not* an absolute decrease in the number or proportion of low-income population in the locality, but rather an increase in the proportion of low-income population for the region as a whole during the 2000s, causing the income distribution to be less spatially polarized. The 2008-2012 estimates capture nearly all of the 2007-2010 “Great Recession,” which caused much larger changes in income and employment status in urban than in rural areas. Of the eight case studies, the LQ value changes suggest that southwest Tillamook County may have had the most sustained, if moderate, increase in the prevalence of low-income populations since 2000. The Upper Hood River Valley case experienced dramatic fluctuation in the size and concentration of

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

low-income population, which may be partly attributable to data quality issues. As the absolute number of low income individuals likely declined in Big Bottom and Smith River-Gasquet, the concentration lessened correspondingly.

Unemployment: 2000, 2008-2012, 2018-2022

This analysis tracks changes in the estimated number of people age 16 and older that are *participating* in the civilian labor force but are not employed. This definition excludes from the ranks of unemployed people who are neither employed, nor actively seeking employment – such as retirees. Considering rates of workforce non-participation along with younger populations and unemployment can help pinpoint locales with a job deficit for the available and active labor pool. Coincident low rates of non-participation, high unemployment, and at least proportional representation of younger people (under age 45) indicates potentially optimal opportunity for development and job growth to have positive local economic impact.

Data:

- 2000 Decennial Census, release SF3, Table P043
- 2008-2012 ACS, 5-year estimates, Table B23025
- 2018-2022 ACS, 5-year estimates, Table B23025

Methods:

Each table provides an estimate of the number of people that are a) eligible for civilian labor force participation; b) participating, but unemployed; c) not participating.

Results summary:

In the civilian labor force: Changes in the size of the active labor force after 2000 group the cases into three distinct units. In NW Yakima and Upper Hood River Valley, the proportional increase in participants was roughly the same as in non-participants, suggesting that population growth is occurring among people who are clearly “working age” – that is, much less than 65 years old, and the balance between those working or actively seeking work, and those not seeking work, has remained relatively constant. By contrast, Beaver-Neskowin and Gold Beach exhibit a second tendency: growth in the participants is proportionally significantly slower than growth in non-participants, which is probably to be expected given that both locations are coastal retirement destinations. A third relationship exists in the two California cases and in Big Bottom: the decline in participants is proportionally larger than the decline in total eligible population: these may be places where employment opportunities have contracted faster than the population has aged after 2000, and where reversing local household economic circumstances through employment could prove most challenging.

Unemployed population:

Estimates of the unemployed population are highly uncertain due to the low sampling rate of the American Community Survey. The confidence intervals in the table and chart are thus very wide for data from 2008-12 and 2018-22. The small numbers of unemployed in most of the cases compound the interpretation challenge, since they amplify percentage changes.

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

In six cases (not NW Yakima or Gold Beach), the number of unemployed is smaller in 2018-22 than in 2000 – 70% smaller in two cases. However, this does not necessarily result from people unemployed in one data cycle being employed in the next. It can also result from people who had been unemployed exiting the labor force, by remaining in place but giving up the search for work (discouraged worker) or by moving elsewhere. There is probably only one clear-cut case of declining unemployment related primarily to increased job availability: Upper Hood River Valley, where the number of unemployed declined 70% while the number of labor force participants increased 20% and labor-force eligibles increase 23%. Smith River-Gasquet presents the opposite case: 70% decline in unemployed, but with a corresponding 8% decline in labor-force eligibles and 15% decline in labor force participants. In the latter, some of the decline is likely attributable to locals who were unemployed in 2000 or 2008-12 exiting the labor force.

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Table D.7. Population participating in the civilian labor force (people 16 and older that are not serving on active duty in the armed forces, and are either employed or seeking employment)

Community (CCD)		2000	2008-2012	2018-2022
Big Bottom, WA	LB	1,154	915	682
	EST	1,228	1,136	924
	UB	1,302	1,357	1,166
Northwest Yakima, WA	LB	3,686	3,398	3,828
	EST	3,921	3,735	4,302
	UB	4,156	4,072	4,776
Dee & Parkdale, OR	LB	1,370	1,214	1,542
	EST	1,522	1,654	1,838
	UB	1,674	2,094	2,134
Beaver, Neskowin, OR	LB	1,973	1,901	2,023
	EST	2,192	2,239	2,434
	UB	2,411	2,577	2,845
Butte Falls-Prospect, OR	LB	1,119	1,059	928
	EST	1,216	1,222	1,079
	UB	1,313	1,385	1,230
Gold Beach, OR	LB	1,994	2,141	2,076
	EST	2,121	2,484	2,464
	UB	2,248	2,827	2,852
Mt. Shasta, Weed, CA	LB	5,961	6,298	5,533
	EST	6,342	6,693	6,116
	UB	6,723	7,088	6,699
Smith River-Gasquet, CA	LB	1,564	1,263	1,082
	EST	1,664	1,466	1,407
	UB	1,764	1,669	1,732

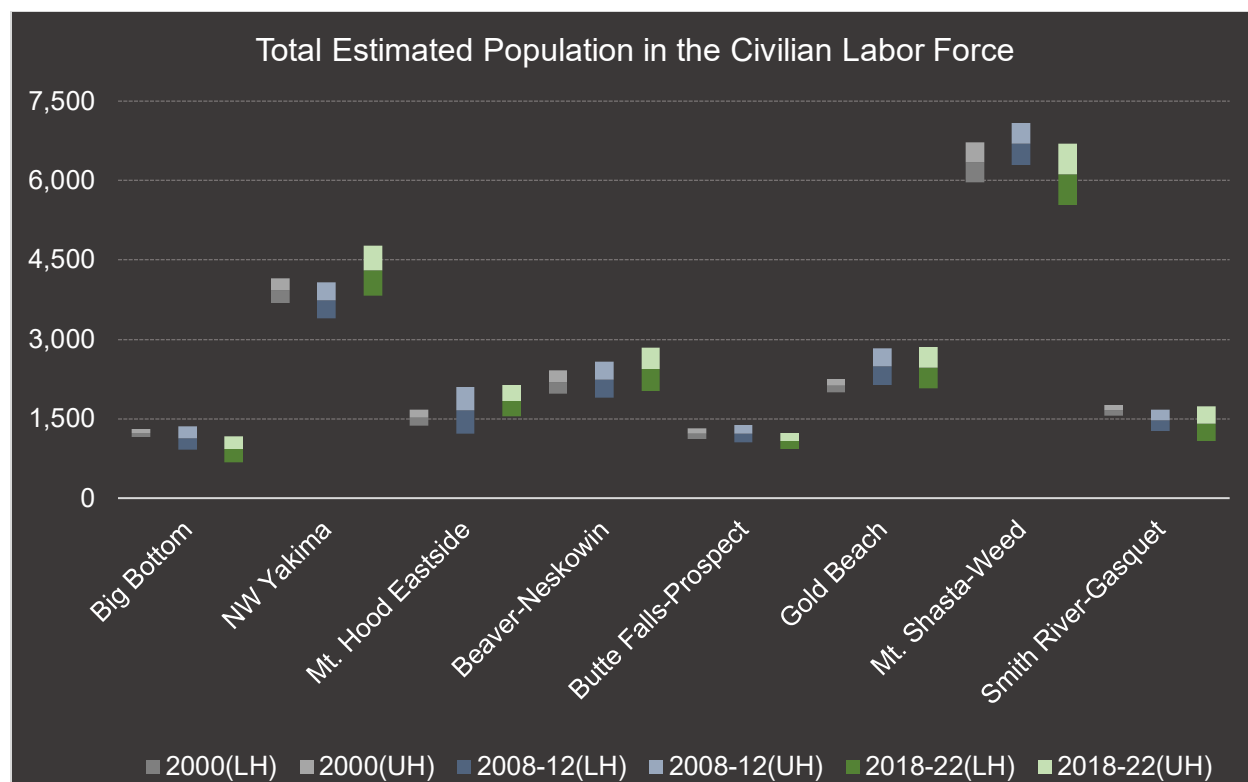


Figure D.6. Total Estimated Population in the Civilian Labor Force

Table D.8. Estimated population that is participating in the civilian labor force and is unemployed

Community (CCD)		2000	2008-2012	2018-2022
Big Bottom, WA	LB	139	9	1
	EST	160	42	48
	UB	181	75	95
Northwest Yakima, WA	LB	150	246	154
	EST	169	364	309
	UB	188	482	464
Dee & Parkdale, OR	LB	100	18	0
	EST	119	81	37
	UB	138	144	74
Beaver, Neskowin, OR	LB	89	90	18
	EST	99	196	83
	UB	109	302	148
Butte Falls-Prospect, OR	LB	79	84	16
	EST	95	125	48
	UB	111	166	80
Gold Beach, OR	LB	88	146	96
	EST	100	266	170
	UB	112	386	244
Mt. Shasta, Weed, CA	LB	498	649	236
	EST	535	846	367
	UB	572	1,043	498

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Smith River-Gasquet, CA	LB	168	42	17
	EST	198	85	56
	UB	228	128	95

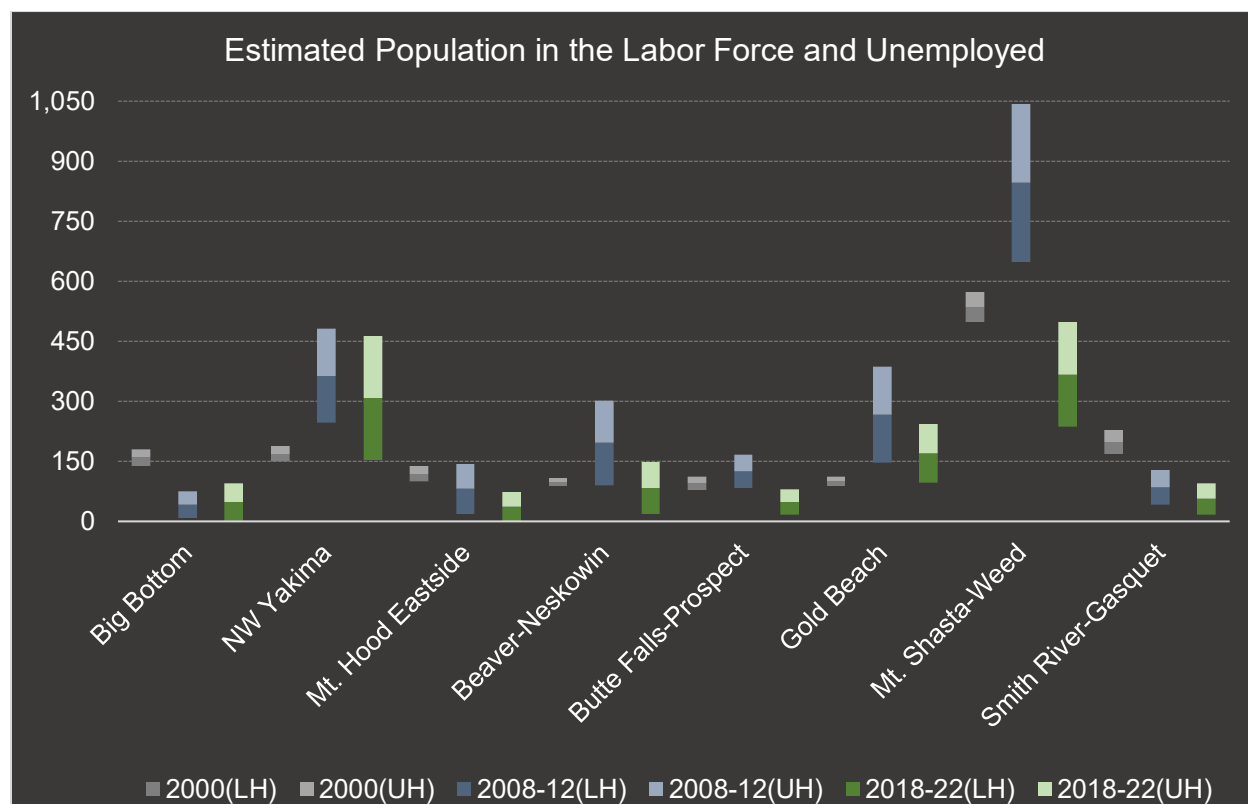


Figure D.7. Estimated Population in the Labor Force and Unemployed

Table D.9. Unemployed population location quotients

Community (CCD)		2000	2008-2012	2018-2022
Big Bottom, WA	LB	1.580	0.101	0.028
	EST	2.079	0.374	0.979
	UB	2.578	0.555	1.515
Northwest Yakima, WA	LB	0.619	0.740	0.769
	EST	0.688	0.987	1.354
	UB	0.757	1.189	1.806
Dee & Parkdale, OR	LB	1.030	0.155	0.002
	EST	1.346	0.496	0.380
	UB	1.663	0.689	0.644
Beaver, Neskowin, OR	LB	0.602	1.052	0.168
	EST	0.721	1.280	0.643
	UB	0.840	1.478	0.969
Butte Falls-Prospect, OR	LB	1.122	0.811	0.330
	EST	1.247	1.036	0.839
	UB	1.371	1.203	1.209
Gold Beach, OR	LB	0.651	0.697	0.884
	EST	0.752	1.085	1.301

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

	UB	0.854	1.371	1.591
Mt. Shasta, Weed, CA	LB	1.252	1.052	0.815
	EST	1.346	1.280	1.131
	UB	1.440	1.478	1.382
Smith River-Gasquet, CA	LB	1.586	0.340	0.300
	EST	1.899	0.587	0.750
	UB	2.212	0.770	1.020
Communities that are > 30% Federal Forest Land	LB	1.163	1.015	1.266
	EST	1.187	1.046	1.326
	UB	1.210	1.076	1.381

Green shading: significant decrease in LQ since the prior period, indicating that the unemployed population was less concentrated in the community than it had been - making its proportion of unemployed population either more similar to (if the prior period LQ was well above 1), or, less similar to (if the current period LQ is well below 1) than the NWFP monitoring region's proportion.

Orange shading: significant *increase* in LQ since the prior period, with the exact opposite interpretation as above.

The chart of LQ values for unemployed population are challenging to interpret, because their confidence intervals are so wide, and because there are multiple explanations for declining rates of unemployment, some of which do not have positive implications for economic conditions and community well-being. The two most straightforward cases are the ones referenced on the first page: Smith River-Gasquet and Upper Hood River Valley, where concentrations of unemployment that are similarly below 1 – “low” relative to the region – in 2008-2012 and 2018-2022 follow from high concentrations of unemployment in 2000. In two cases (NW Yakima, Gold Beach) – plus the combined 79 federal forest land CCDs – the concentration of unemployed in 2018-2022 is definitely higher than in 2000, indicating that the share of unemployed people locally has either increased faster than in the entire monitoring region, or has increased while the region's share of unemployed has stayed constant or decreased. In the remaining cases, the pattern of changing concentration defies simple explanation.

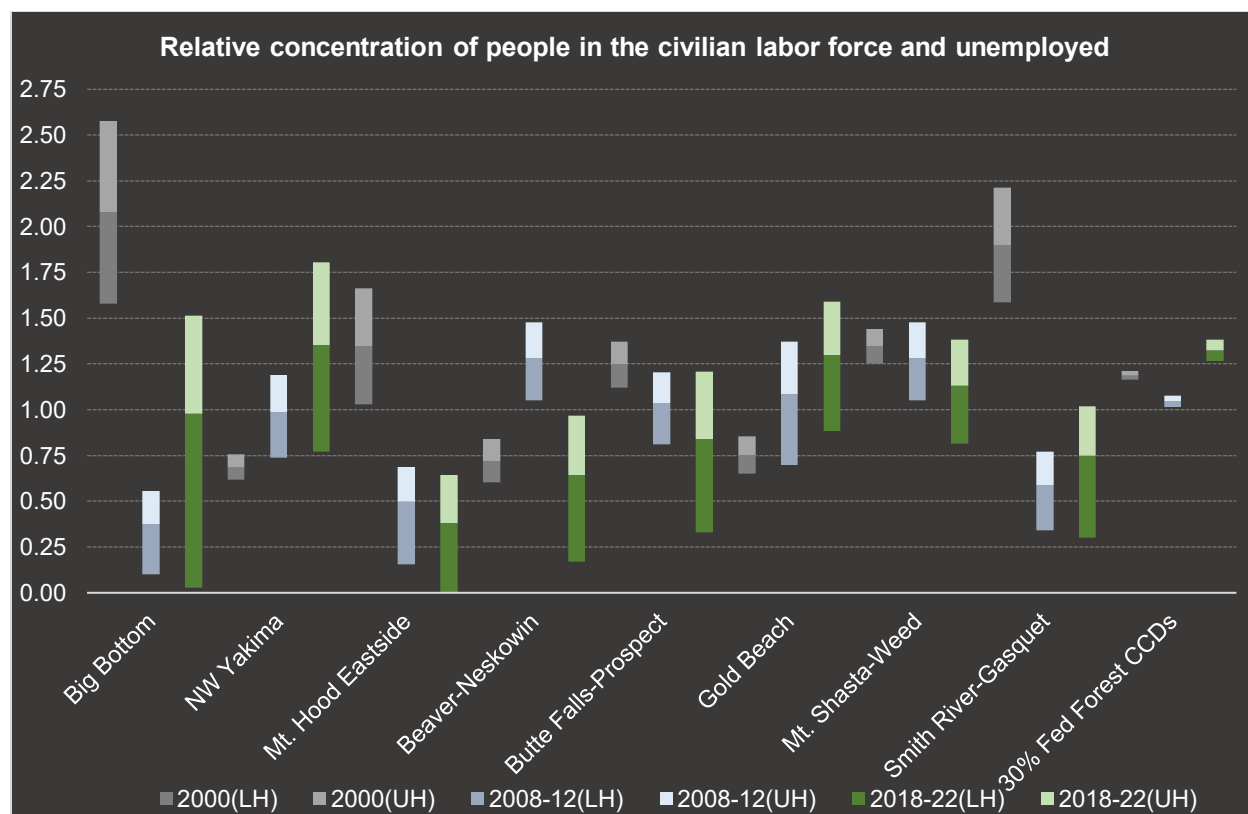


Figure D.8. Relative concentration of people in the civilian labor force and unemployed

Workforce non-participation: 2000, 2008-2012, 2018-2022

This analysis tracks changes in the estimated number of people age 16 and older that are *eligible to participate*, but are *not participating*, in the civilian labor force. All people age 16 and older, and not on active duty in the armed forces, are considered eligible. Non-participants are *not considered unemployed*. People that are actively, but unsuccessfully, searching for employment are considered labor force participants. The largest determinant of non-participation is simply older age; second is the so-called “discouraged worker” phenomenon, in which unemployed individuals give up searching for employment; they are considered to have exited the labor force. Disability, chronic health conditions, and similar factors also contribute to the rate of non-participation, but in very minor amounts. Considering non-participation and older population simultaneously can identify locations where non-participation is high but the proportion of older adults is relatively low: in these places, the number of “discouraged workers” may be substantial, and workforce/economic development efforts may be especially needed.

Data:

- 2000 Decennial Census, release SF3, Table P043
- 2008-2012 ACS, 5-year estimates, Table B23025
- 2018-2022 ACS, 5-year estimates, Table B23025

Methods:

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Each table provides an estimate of the number of people that are a) eligible for civilian labor force participation; b) participating, but unemployed; c) not participating.

Results summary:

Civilian labor force-eligible population: The size of the labor force-eligible population has likely declined slightly since 2000 in Big Bottom and Butte Falls-Prospect; it may have declined slightly in Smith River-Gasquet. In the remaining 5 case studies, total population has likely (Mt. Shasta-Weed, Beaver-Neskowin, Gold Beach), or probably (Mt. Hood Eastside, NW Yakima) increased. Big Bottom and Butte Falls-Prospect may have lost 400 to 500 eligible individuals out of a 2000 population of around 2,600 – a substantial reduction of roughly 16-18%. There are at least 1,000 additional eligible individuals in Mt. Shasta-Weed, an increase of 13% and about 500 additional in Upper Hood River Valley and Beaver-Neskowin (about 23% each).

Non-participant population: Big Bottom is the only case in which the non-participant population likely also declined, though by a smaller percentage than the eligible population decline. A dramatic proportional increase in non-participants was observed in six of the remaining cases – all except Smith River-Gasquet, where the non-participant population remained about the same size. These five divide into three trend groups: 1) Upper Hood River and Beaver-Neskowin, where the non-participant population shrank between 2000 and 2008-2012 (implying increased workforce participation) and then grew dramatically between 2008-2012 and 2018-2022 (by 27 to 36%); 2) Butte Falls-Prospect, where most of the increase occurred between 2000 and 2008-2012; 3) Mt Shasta and Gold Beach, with a small increase in the first interval and a large increase in the second. In Gold Beach, the non-participant population was half-again as large in 2018-2022 than it was in 2000, a phenomenon likely driven by the area's popularity as a retirement haven.

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Table D.10. Civilian labor force-eligible population (people 16 and older that are not serving on active duty in the armed forces)

Community (CCD)		2000	2008-2012	2018-2022
Big Bottom, WA	LB	2,485	2,341	1,743
	EST	2,644	2,655	2,179
	UB	2,803	2,969	2,615
Northwest Yakima, WA	LB	5,742	5,861	6,338
	EST	6,108	6,271	6,899
	UB	6,474	6,681	7,460
Dee & Parkdale, OR	LB	2,021	1,765	2,360
	EST	2,246	2,243	2,761
	UB	2,471	2,721	3,162
Beaver, Neskowin, OR	LB	3,545	3,527	4,255
	EST	3,939	3,941	4,817
	UB	4,333	4,355	5,379
Butte Falls-Prospect, OR	LB	2,419	2,100	1,995
	EST	2,629	2,271	2,211
	UB	2,839	2,442	2,427
Gold Beach, OR	LB	4,405	4,114	4,669
	EST	4,686	4,462	5,150
	UB	4,967	4,810	5,631
Mt. Shasta, Weed, CA	LB	10,281	11,197	11,723
	EST	10,937	11,654	12,362
	UB	11,593	12,111	13,001
Smith River-Gasquet, CA	LB	2,876	2,494	2,449
	EST	3,060	2,748	2,806
	UB	3,244	3,002	3,163

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

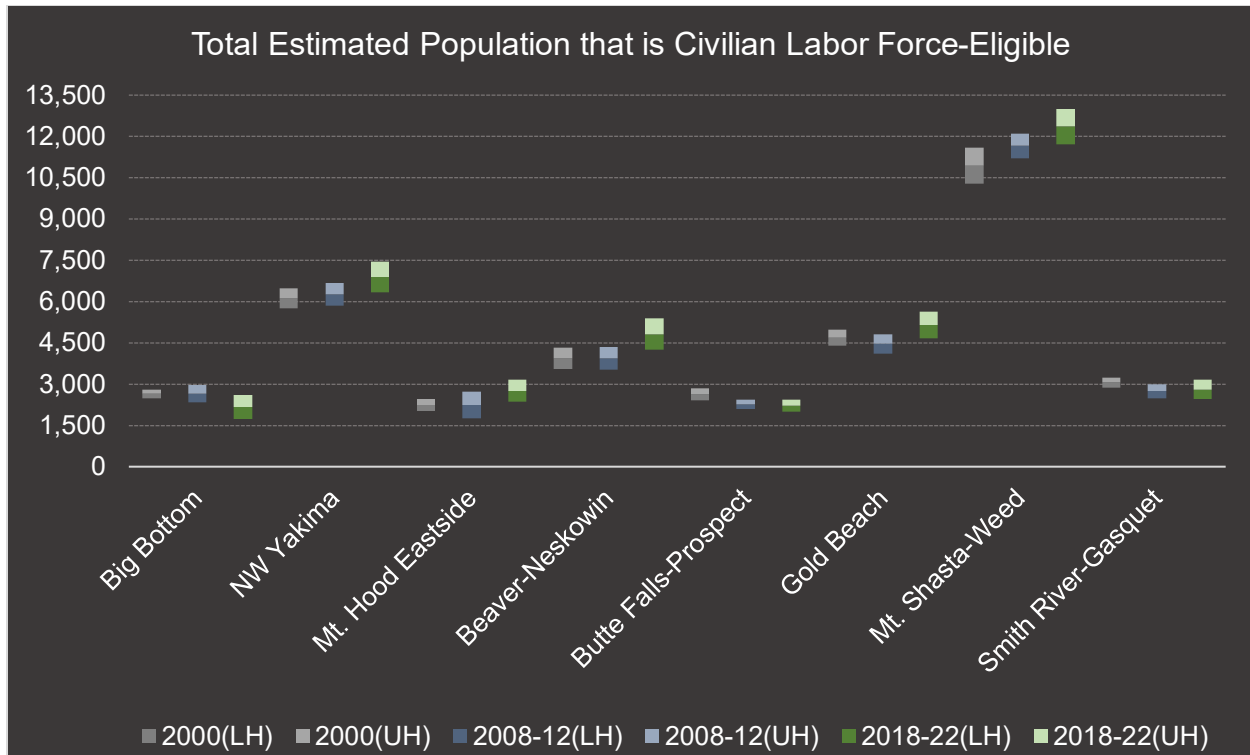


Figure D.9. Total estimated population that is civilian labor force-eligible

Table T.11. Estimated population that is civilian labor force-eligible, but not participating

Community (CCD)		2000	2008-2012	2018-2022
Big Bottom, WA	LB	1,317	1,258	934
	EST	1,416	1,519	1,255
	UB	1,515	1,780	1,576
Northwest Yakima, WA	LB	2,100	2,251	2,279
	EST	2,187	2,529	2,597
	UB	2,274	2,807	2,915
Dee & Parkdale, OR	LB	695	447	707
	EST	724	589	923
	UB	753	731	1,139
Beaver, Neskowin, OR	LB	1,677	1,426	2,016
	EST	1,747	1,702	2,383
	UB	1,817	1,978	2,750
Butte Falls-Prospect, OR	LB	791	913	937
	EST	869	1,049	1,129
	UB	947	1,185	1,321
Gold Beach, OR	LB	1,727	1,714	2,331
	EST	1,799	1,978	2,686
	UB	1,871	2,242	3,041
Mt. Shasta, Weed, CA	LB	4,503	4,522	5,705
	EST	4,595	4,961	6,246
	UB	4,687	5,400	6,787
Smith River-Gasquet, CA	LB	1,326	1,080	1,179
	EST	1,396	1,282	1,399

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

	UB	1,466	1,484	1,619
--	----	-------	-------	-------

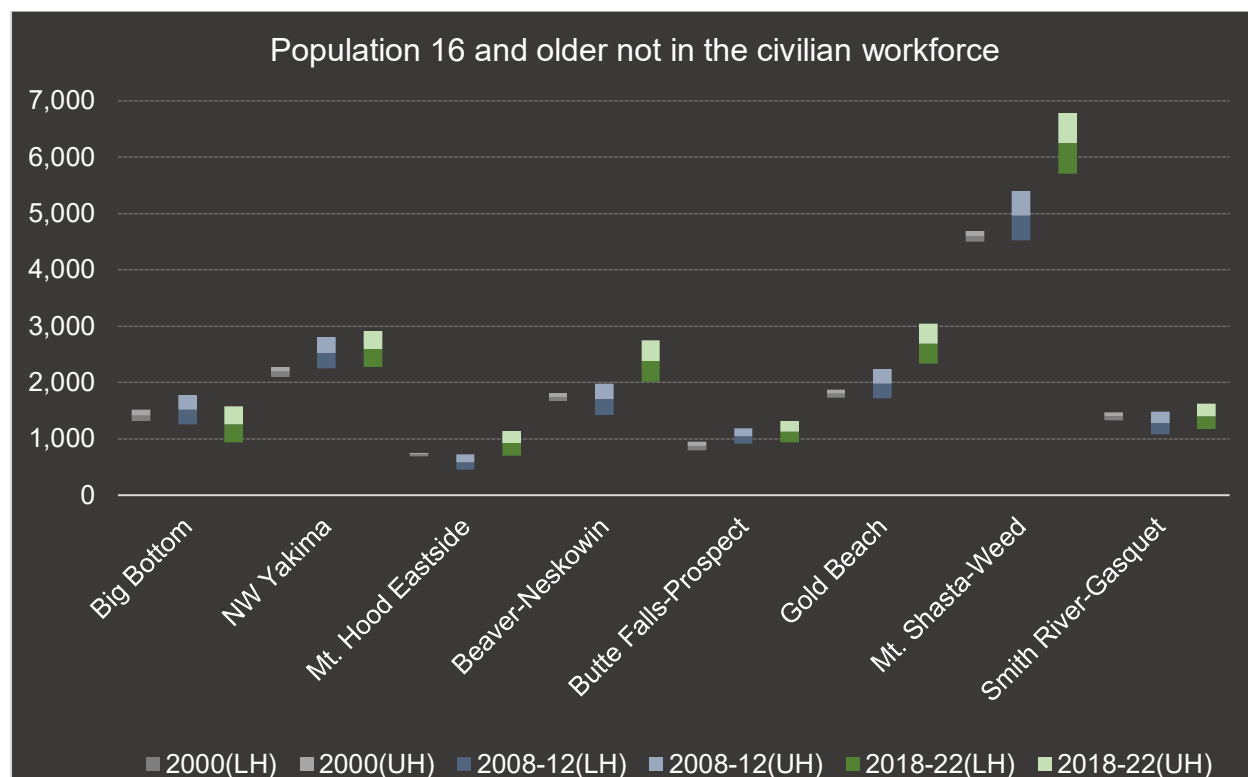


Figure D.10. Population 16 and older not in the civilian workforce

Table D.12. Population eligible but not participating in the civilian labor force location quotients

Community (CCD)		2000	2008-2012	2018-2022
Big Bottom, WA	LB	1.512	1.571	1.450
	EST	1.543	1.611	1.587
	UB	1.574	1.635	1.679
Northwest Yakima, WA	LB	1.011	1.116	0.994
	EST	1.032	1.137	1.037
	UB	1.052	1.153	1.073
Dee & Parkdale, OR	LB	0.916	0.711	0.815
	EST	0.935	0.742	0.921
	UB	0.953	0.762	1.002
Beaver, Neskowin, OR	LB	1.260	1.152	1.304
	EST	1.286	1.221	1.363
	UB	1.312	1.275	1.409
Butte Falls-Prospect, OR	LB	1.177	1.281	1.317
	EST	1.201	1.301	1.409
	UB	1.225	1.313	1.481
Gold Beach, OR	LB	1.303	1.229	1.415
	EST	1.323	1.249	1.437
	UB	1.342	1.261	1.458
Mt. Shasta, Weed, CA	LB	1.194	1.157	1.361

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

	EST	1.218	1.203	1.392
	UB	1.243	1.245	1.419
Smith River-Gasquet, CA	LB	1.288	1.267	1.348
	EST	1.315	1.314	1.373
	UB	1.341	1.346	1.392
Communities that are > 30% Federal Forest Land	LB	1.267	1.318	1.385
	EST	1.277	1.323	1.391
	UB	1.286	1.328	1.397

Green shading: significant decrease in LQ since the prior period, indicating that the non-participant population was less concentrated in the community than it had been -- making its proportion of non-participant population either more similar to (if the prior period LQ was well above 1), or, less similar to (if the current period LQ is well below 1) than the NWFP monitoring region's proportion.

Orange shading: significant *increase* in LQ since the prior period, with the exact opposite interpretation as above.

The location quotient transformation of the civilian labor force non-participant population estimates clarifies whether the case study unit (CCD) has an anomalously high or low proportion of nonparticipants when compared to the entire Northwest Forest Plan monitoring region population as a reference. A location quotient for the total population of the 79 CCDs that are comprised by at least 30% federal forest management agency (USFS, BLM) lands is also provided. The "LQ" value is obtained by dividing the unit's share of all non-participant population in the NWFP monitoring region footprint by its share of all civilian labor force-eligible population in the same footprint.

The LQ chart (next page) clearly divides the cases into three groups with respect to disproportionate size of the population not participating in the workforce.

- Big Bottom is an upper outlier: the proportion of local non-participants has consistently been at least 50% higher ($LQ \geq 1.5$) than the proportion in the NWFP monitoring region since 2000; the shrinking of the workforce-eligible population in the 2008-2012 to 2018-2022 decade did not mitigate this disproportion, as the nonparticipant population also shrank. These events suggest outright population loss across the age spectrum may have occurred.
- NW Yakima and Upper Hood River Valley are similar, and very different from the other six cases, in that their LQ values are consistently around 1.0 (indicating a similar proportion of participants to the reference region, which includes the metropolitan population from all of Oregon and most of Washington), or are even well below 1.0 (Hood River Valley, 2008-2012). These are places where the eligible population has been participating (employed, or unemployed and seeking employment) at "typical" rates for the entire region throughout the study period.

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

- The other five cases, and the group of 79 CCDs with at least 30% land area in federal forests, are roughly similar, with 25 to 35 percent more nonparticipants than the entire region, and an upward trend in concentration from 2000 to 2018-2022 (though variable between 2000 and 2008-2012). These places fit a general narrative of communities that are slowly, inexorably growing older, with a consequent steady decrease in participants as older people age out of the workforce.

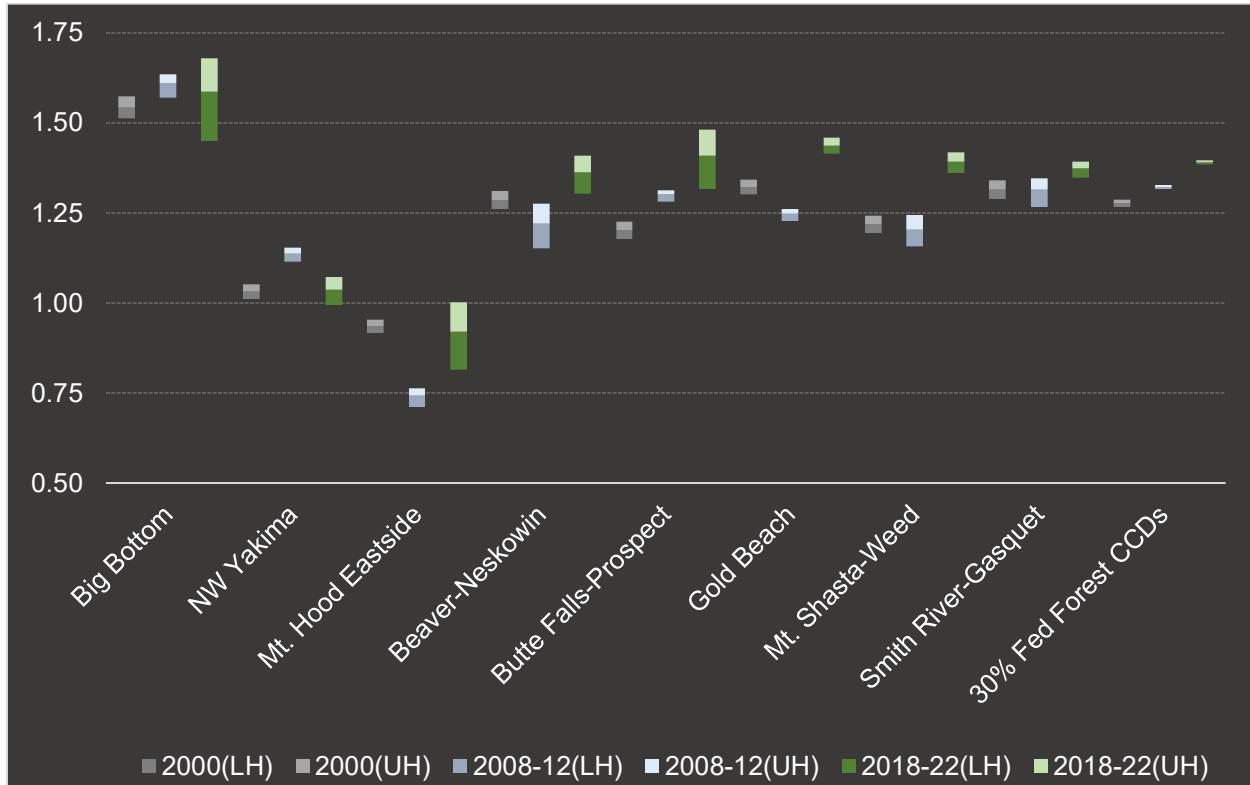


Figure D.10. Location quotient transformations of civilian labor force non-participant population estimates

Citations

U.S. Census Bureau. (2000a). Hispanic or Latino, and not Hispanic or Latino by race. *Decennial Census, DEC Summary File 3, Table DP1*. Retrieved January 31, 2026, from <https://data.census.gov/table/DECENNIALDPSF22000.DP1?q=race&t=-09:Hispanic+or+Latino&g=060XX00US060...>

U.S. Census Bureau. (2000b). Ratio of Income in 1999 to Poverty Level [10]. *Decennial Census, DEC Summary File 3, Table P088*. Retrieved January 20, 2026, from <https://data.census.gov/table/DECENNIALSF32000.P088?q=p088&g=060XX00US0601593040,0609393600,4101591...>

U.S. Census Bureau. (2010a). Hispanic or Latino, and not Hispanic or Latino by race. *Decennial Census, DEC Summary File 3, Table P9*. Retrieved January 31, 2026, from

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

<https://data.census.gov/table/DECENNIALSF12010.P9?q=race&t=Hispanic+or+Latino&g=060XX00US0601593040...>

U.S. Census Bureau. (2010b). Sex By Age. *Decennial Census, DEC Summary File 1, Table P12*. Retrieved January 20, 2026, from

<https://data.census.gov/table/DECENNIALSF12010.P12?q=P12&g=060XX00US0601593040.0609393600,410159120...>

U.S. Census Bureau. (2012). Ratio of Income to Poverty Level in the Past 12 Months. *American Community Survey, ACS 5-Year Estimates Detailed Tables, Table C17002*. Retrieved January 20, 2026, from

<https://data.census.gov/table/ACSDT5Y2012.C17002?q=C17002&g=060XX00US0601593040,0609393600,410159120...>

U.S. Census Bureau. (2020a). Hispanic or Latino, and not Hispanic or Latino by race. *Decennial Census, DEC Summary File 3, Table P9*. Retrieved January 31, 2026, from

<https://data.census.gov/table/DECENNIALDHC2020.P9?q=ethnicity&g=060XX00US0601593040,0609393600,4101...>

U.S. Census Bureau. (2020b). Sex By Age for Selected Age Categories. *Decennial Census, DEC Demographic and Housing Characteristics, Table P12*. Retrieved January 20, 2026, from

<https://data.census.gov/table/DECENNIALDHC2020.P12?q=P12&g=060XX00US0601593040,0609393600,410159120...>

U.S. Census Bureau. (2022). Ratio of Income to Poverty Level in the Past 12 Months. *American Community Survey, ACS 5-Year Estimates Detailed Tables, Table C17002*. Retrieved January 20, 2026, from

<https://data.census.gov/table/ACSDT5Y2022.C17002?q=C17002&g=060XX00US0601593040,0609393600,410159120...>

Appendix E. Historical photos used in case studies

- Anothony, A. (1940). *Boats near Gold Beach* [Photograph]. Oregon Historical Society.
<https://digitalcollections.ohs.org/boats-near-gold-beach>
- Brubaker Aerial Surveys. (1926-1936). *Gold Beach and Rouge River Mouth* [Photograph]. The Oregon Historical Society. <https://digitalcollections.ohs.org/orglot1424-album452-050>
- Clark County History. (1902). *1902 Yacolt Burn* [Photograph]. The Columbian.
<https://history.columbian.com/1902-yacolt-burn/>
- Finley, W. (1901-1940). *Fishing on the Rogue River* [Photograph]. The Oregon Historical Society. <https://digitalcollections.ohs.org/fishing-on-the-rogue-river-5>
- Flack, F. (1956). *Logging, Skidding, Gifford Pinchot National Forest* [Photograph]. National Archives Catalog. <https://catalog.archives.gov/id/7019563>
- Fritz, E. (1920). *Lumber Piling Machine. McCloud River Lumber Company* [Photograph]. UC Berkeley Library Digital Collections.
<https://digicoll.lib.berkeley.edu/record/15940?v=uv#?xywh=293%2C703%2C724%2C374>
- Fritz, E. (1920). *Unloading logs into pond at Weed Lumber Company* [Photograph]. UC Berkeley Library Digital Collections.
<https://digicoll.lib.berkeley.edu/record/15962?ln=en&v=uv#?xywh=508%2C444%2C718%2C371>
- Fritz, E. (1935). *Truck hauling in the redwoods. Hobbs, Wall & Company* [Photograph]. UC Berkeley Library Digital Collections.
<https://digicoll.lib.berkeley.edu/record/16345?ln=en&v=uv#?xywh=-773%2C-42%2C2950%2C1527>
- Gerald W. Williams Collection. (1920). *Haystack Rock and Cape Kiwanda, Pacific City, Oregon* [Photographic Postcard]. OregonDigital <https://oregondigital.org/concern/images/df66tt30k>
- Griffith, G. (1941). *Trainload of ponderosa pine logs from Rogue River National Forest near Butte Falls, Oregon* [Photograph]. National Archives Catalog.
<https://catalog.archives.gov/id/7018195>
- Historic Hood River. (1904). *Oregon Lumber Company Mill on Columbia River* [Photograph]. The History Museum of Hood River County.
<https://www.hoodriverhistorymuseum.org/oregon-lumber-company-mill-on-columbia-river/>

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

- Historic Hood River. (1907). *E.M. Holman Downtown* [Photograph]. The History Museum of Hood River County. <https://www.hoodriverhistorymuseum.org/oregon-lumber-company-mill-on-columbia-river/>
- Historic Hood River. (1967). *Cooper Spur Ski Area* [Photograph]. The History Museum of Hood River County. <https://www.hoodriverhistorymuseum.org/cooper-spur-ski-area-1967/>
- Huffman, D. (1908). *Shoreline view of Crater Lake – looking toward Sentinel Rock* [Photograph]. <https://www.craterlakeinstitute.com/index-of-images/the-nps-focus-collection/focus-08/focus-04/>
- Library of Congress Prints and Photographs Division. *View of Downstream Face of Tieton Dam, Showing Valve House and Gantry Crane* [Photograph]. Library of Congress. <https://www.loc.gov/pictures/item/wa0233.photos.169477p/resource/>
- Mitchell, E. (1910-1915). *Mt. Shasta in Winter. Cal* [Postcard]. UC Berkeley Library Digital Collections. <https://digicoll.lib.berkeley.edu/record/202476?ln=en&v=uv#?xywh=-1%2C-102%2C3035%2C2194&cv=>
- Oregon Historical Society. (1960). *United States Post Office, Gold Beach, Oregon* [Photograph]. <https://digitalcollections.ohs.org/orglot1439-fl-033>
- Patterson, F. (1935/1945). *Gold Beach, Oregon* [Postcard]. Oregon Digital. <https://www.oregondigital.org/concern/images/df66v947t?locale=en>
- Staebler, G. (1953). *This 34-inch tree is about the largest size found in the 79-year old Douglas-fir stand on high site, Randle Ranger District* [Photograph]. National Archives Catalog. <https://catalog.archives.gov/id/7049275>
- Stickney, D. (1957). *Naches Ranger Station headquarters on US 410* [Photograph]. National Archives Catalog. <https://catalog.archives.gov/id/7047877>
- Swanlund, D. (1975) *Logging by Arcata Redwood Company* [Photograph]. Save the Redwoods League. <https://www.savetheredwoods.org/about-us/newsroom/news-resources/media-historical-footage/>
- Tulare County Sesquicentennial Photograph Collection. (Late 1880s). *Early Tourists Visit Fallen Sequoia Giant* [Photograph]. Calisphere. <https://calisphere.org/item/ark:/13030/c8sn078p/>
- Watkins, C. (1870). *Mt. Shasta Summit* [Photograph]. UC Berkeley Library Digital Collections. <https://digicoll.lib.berkeley.edu/record/59154?ln=en&v=uv#?xywh=-406%2C-1%2C2310%2C1299>

The Northwest Forest Plan, 30 years of social and economic change (1994-2024)

Whitnall, J. (1920-1980). *Yakima Peak, Chinook Pass* [Photograph]. Washington Secretary of State.

<https://digitalarchives.wa.gov/Record/View/B23849668C6FC10E32A1C0F9952B8358>

Williams G. Regional Albums. (1925). *Rogue River and Crater Lake Highway bridge, Prospect, Oregon* [Postcard]. Oregon Digital.

<https://oregondigital.org/concern/images/df66v158p>

Yakima Valley Museum. (1931). *Overview of Nile Sawmill* [Photograph]. Yakima Valley Libraries. <https://archives.yvl.org/items/01cfc85a-1f34-46c5-9a33-2528e428d6dc>