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Social Assessment for the Colville National Forest CROP Program

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Abstract

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A qualitative social assessment targeted salient issues connected to the Colville National Forest creating opportunities (CROP) research program that examines forest management alternatives for small-diameter stands in northeastern Washington. Research spanned various communities in three counties and investigated the diversity of fundamental values people attach to small-diameter stands, beliefs about appropriate forest management directions, and perceived impacts from the CROP program. To focus on people's knowledge of and interest in small-diameter stand management, semistructured interviews (n=76) were conducted in person with local residents and other people associated with the Colville National Forest. Breadth and depth of interviewees' value orientations and forest use were explored to develop a comprehensive inductive analysis of the social complexity surrounding the CROP program. Seven distinct groups were differentiated to develop a social typology that juxtaposed positions, perceptions, and preferred small-diameter stand-management alternatives. Several themes emerged. Practical implications of these themes are offered as guidelines to resource managers to improve public involvement as the decisionmaking process moves to public forums.

Keywords: Social assessment, qualitative methodology, natural resource conflict, public involvement, collaborative learning, Colville National Forest.

Preface

Social assessments are viewed with a great deal of skepticism by many resource managers. Just what is a social assessment and what good is it? The authors of this paper spend a considerable amount of time and energy talking to natural resource managers and others throughout the region and the country about social assessments, but the quizzical looks we often get in response do not seem to have abated much over time. In the spirit of the adage that a picture is worth a thousand words, we are publishing this paper as an example of a land management-related social assessment.

This assessment was conducted for the Colville National Forest in northeastern Washington. Its intended purpose was to provide data and insights on the social environment surrounding the forest in support of an innovative public involvement process known as collaborative learning. Both the assessment and the collaborative learning process were aimed at helping the agency and its interested public make decisions about the management (or perhaps nonmanagement) of so-called CROP (creating opportunities research program) stands in the forest. CROP stands are dense, heavily stocked stands of small-diameter trees that originated after stand-replacing fires in the early part of the 20th century. These stands have been the subject of much controversy and often less-than-successful management efforts for several decades.

Our purpose in publishing this paper is twofold: First, to provide an example of an indepth, *focused* social assessment for an audience wider than just the Colville National Forest; and second, because the social dynamics described are hardly exclusive to this particular forest, to capture insights that could be useful to managers and others with responsibilities or interests in other public land management arenas.

Before moving to an overview of the organization of the material presented here, one additional point needs to be made on the nature of this assessment. As noted above, this is a *focused* social assessment. Although we interviewed a broad array of stakeholders forestwide and beyond, our purpose was to aid decisionmaking for one specific set of issues. This paper is no substitute for an assessment that might be conducted, for example, in support of forest plan revision or for dealing with large, multiforest issues.

The first section reviews the CROP program, characteristics of CROP stands, and objectives and methodology of this social assessment. Other background information is provided to give readers a clear picture of the geographic context, the sociopolitical climate in 1997-98, and a description of local wood products industries.

The second section further details the social structure of the tri-county area and of the individuals and organizations in greater Spokane interested in forest policy. Stakeholder groups, the Forest Service, and affected Native American tribes are described from data collected in personal interviews.

Issues identified by interviewees are explored in the third section. Perceived impacts of management directions are differentiated.

The fourth section identifies themes emerging from the social assessment. Guidelines are provided to incorporate these themes and other findings into national forest management, the CROP research program, and subsequent public involvement processes.

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Introduction

Purpose of the Study

CROP Stand Description

Since the early 1980s, Colville National Forest (CNF) managers have been concerned with the quantity and conditions of small-diameter, overstocked stands across the forest. Most of these stands originated from fires in the early 1900s, particularly during 1920-36. CROP, an acronym for creating opportunities, commonly denotes the research program and characteristics associated with these stands in 60- to 80-year age classes. Previously, CROP stands were described as immature and overstocked stands (IMOS) through a 1973 forestwide inventory; "thickets" was a term used in the mid-1980s for the same stand characteristics (USDA Forest Service 1994).

Generally defined as stands having trees in the 4- to 7-inch diameter at breast height (dbh) classes, CROP stands have less than 10.5 thousand board feet (mbf) per acre and more than 400 trees per acre (tpa). They comprise 110,430 acres of the CNF (USDA Forest Service 1994). CROP-like stands with slightly higher average diameter classes and similarly overstocked conditions are estimated to at least double the total forest acreage of stagnated small-diameter stands. Although many people characterize CROP stands as "dog-haired lodgepole pine," they actually are quite diverse in tree species and plant associations across the landscape (table 1).

Forest managers' continual attention to CROP stands have several components. Studies on IMOS and thickets have targeted primarily the underproductive growth and submerchantable wood products associated with these stands. On-the-ground activities aimed to reduce overstocking and improve tree vigor by hypohatching[1] and bulldozer thinning[2] techniques. More recently, forest managers in the greater Inland West

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[1] *Hypohatching* refers to the killing of trees with a hypohatch, a commonly used tool for this purpose during the 1970s. It was a hatchlike device used to inject a silviacide into the cambium of a tree to kill it as a part of a timber stand improvement prescription.

[2] Bulldozer thinning projects were motivated in part by a JOBS program through the U.S. Department of Commerce to provide work for unemployed persons.

Table 1—Acreage of major tree species and plant associations, CROP stands, Colville National Forest, 1993

Species and association	Acres	Percent
Tree species:		
Western larch	35,390	32.0
Lodgepole pine	55,552	50.3
Douglas-fir	14,144	12.8
Other	5,344	4.8
Total	110,430	100.0
Plant associations:		
Western redcedar	37,022	33.5
Douglas-fir	17,252	15.6
Subalpine fir	26,965	24.4
Western hemlock	21,583	19.5
Lodgepole pine	2,374	2.1
Grand fir	5,233	4.7
Total	110,429	100.0

Source: USDA Forest Service 1994.

region have focused on ecosystem management and forest health,[3] which take a combined landscape-level, successional, and multiple resource perspective to evaluate management directions. Willits et al. (1996: 1), for example, analyze the following diverse management goals under various silvicultural treatments for small-diameter stands in the CNF:

- create late successional forest structure
- decrease forest health risk from fire, insects, and disease
- improve wildlife habitat by providing large green trees and snags
- improve stand aesthetics by decreasing stand density

The results of modeling stand development over 50-, 100- and 150-year simulations postulates that some silvicultural intervention in small-diameter stands will produce trees greater than 20 inches in dbh (Willits et al. 1996) and will achieve management objectives beyond traditional timber growth and yield goals.

Frustration has grown over the years about the continual study, discussion, and lack of funds appropriated to CROP stand management. Many residents of adjacent communities expressed concern about the potential risks associated with older, less vigorous stands and the lack of resources available to the Forest Service to implement silvicultural practices mitigating these risks. Thus, a unique research program specifically tailored to Colville National Forest CROP stands emerged.

[3] The authors acknowledge the complex, controversial, and subjective concept of "forest health." Critical debate over the definition of forest health is more appropriately discussed in other forums (e.g., Kolb et al. 1994, National Research Council 1998, O'Laughlin, et al. 1993, Sampson and Adams 1994).

CROP Research Program

In 1996, the U.S. Congress set forth funding and legislation to initiate a comprehensive research program implementing silvicultural treatments for densely stocked, small-diameter tree stands in the CNF. Goals and objectives, current and future research directions, monitoring practices, and end products of the CROP program are identified in a research plan (Quigley 1997) that involves multiple collaborators: the USDA Forest Service Pacific Northwest (PNW) Research Station, the Colville National Forest, Washington State University, and the University of Idaho. The overall research goal is "to provide information and technology that allows land managers to better understand CROP and CROP-like stands and implement treatments that maintain or restore ecological functions and processes while providing sustainable flows of forest products to enhance community stability" (p. 3). Research objectives are organized into three categories: (1) landscape-level information, (2) links between landscape dynamics and stand-level management, and (3) stand-level management.

This first phase of the CROP research program centers on the Fritz demonstration project in the Kettle Falls District of the CNF. This area was part of the 1929 Dollar Mountain fire and includes many acres of CROP stands that are representative of other sites in the CNF. Comprehensive studies were begun at the Fritz demonstration project during fiscal years (FY) 1997 and 1998, which will examine harvesting efficiencies, silviculture and stand damage, soils, fuels, insects and disease, economics, and technology transfers (Quigley 1997: 7-8). Also during FY98, additional studies were begun that targeted public involvement processes and regionalization[4] of temporal vegetation patterns.

During FY98, a second site for additional research was chosen: the South Deep watershed in the Colville District. This area also represents CROP conditions across the CNF so that research results may be generalized.

A complex, comprehensive research program was set in motion by congressional legislation, which takes an interdisciplinary, adaptive management approach to increase forest managers' knowledge of CROP stands through implementation and monitoring practices (Quigley 1997: 2).

Collaborative Learning Role

One element of the CROP research program is public involvement, which has prompted the Forest Service to enter a cooperative agreement with researchers from Washington State University, Department of Natural Resource Sciences. This research team employs an innovative process–collaborative learning (Daniels et al. 1996)–to facilitate a potentially contentious public involvement process surrounding the CROP program and its proposed treatments. Based in soft systems inquiry, collaborative learning provides a process for people to address diverse views of the forest and its management decisions by increasing their understanding of complex, problematic situations (Wilson and Morren 1990). At the core of this process lie objectives to identify ways to improve situations and to address conflict constructively, rather than striving for unrealistic consensus among stakeholders. Pragmatic management alternatives and open dialogue among multiple parties are key outcomes from a successful collaborative learning public involvement process.

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[4] Regionalization is a process that subdivides large land areas into ecological subregions. Ecological subregions are mesoscale groupings of land units (in this case, watersheds) that are influenced by the same higher order climate and disturbance regimes and share similar geology and landform features.

Social Assessment Role

Social assessment is a stand-alone research project, yielding qualitative descriptions and analysis of a particular situation. In the larger CROP program and research effort, social assessment is the foundation on which collaborative learning is constructed to fit particular places, people, and resource management needs.

To prepare collaborative learning facilitators at the CNF for the people and relevant issues they might encounter, a focused social assessment was designed to explore the interests in the CROP program and stand treatments by local residents and other associated stakeholders. Unlike typical social impact assessments, which often describe material impacts on a community (e.g., poverty, crime rates, community infrastructure) of an event (e.g., siting a hydroelectric project), this research concentrated on understanding the diversity of fundamental values attached to the forest, beliefs about appropriate forest management, and perceived impacts from the CROP program. Data and analysis from the social assessment helped facilitators design and conduct collaborative learning training sessions for CNF staff and public involvement workshops. Furthermore, the social assessment provided the Forest Service with social data for subsequent National Environmental Policy Act (NEPA) processes and documents concerning the CROP program.

This social assessment investigated the impacts of small-diameter stand management on individuals, communities, and Native American tribes neighboring the CNF. Specifically, it differentiated people's perceptions of CROP stand conditions, ecological properties, economic variables, environmental concerns, and preferred management directions.

Social Assessment Objectives

The following five objectives outline the social assessment strategy used to aid the collaborative learning public involvement process and national forest planners:

1. Gather current socioeconomic data for the region.
2. Identify individuals and groups having interests and concerns about small-diameter stands and CNF management.
3. Learn firsthand about the impacts of CNF management on people's lives (e.g., daily routines, employment, cultural practices, recreation, national forest use, interaction with the Forest Service).
4. Analyze the commonalities and differences across multiple stakeholders, forest uses, values placed on the forest or CROP stands, and positions on issues relevant to CROP management.
5. Produce a report that provides an organizing structure to understand various stakeholder groups and issues, identifies potentially contentious issues with insight into fundamental differences, and suggests practical implications for CNF staff and public involvement facilitators.

Background

Geographic Context

The tri-county region that includes Ferry, Pend Oreille, and Stevens Counties is in the northeastern corner of Washington bordering Idaho to the east and Canada to the north (fig. 1). The CNF comprises about 1.2 million acres of the three counties, thereby accounting for almost one-third of the total land base.

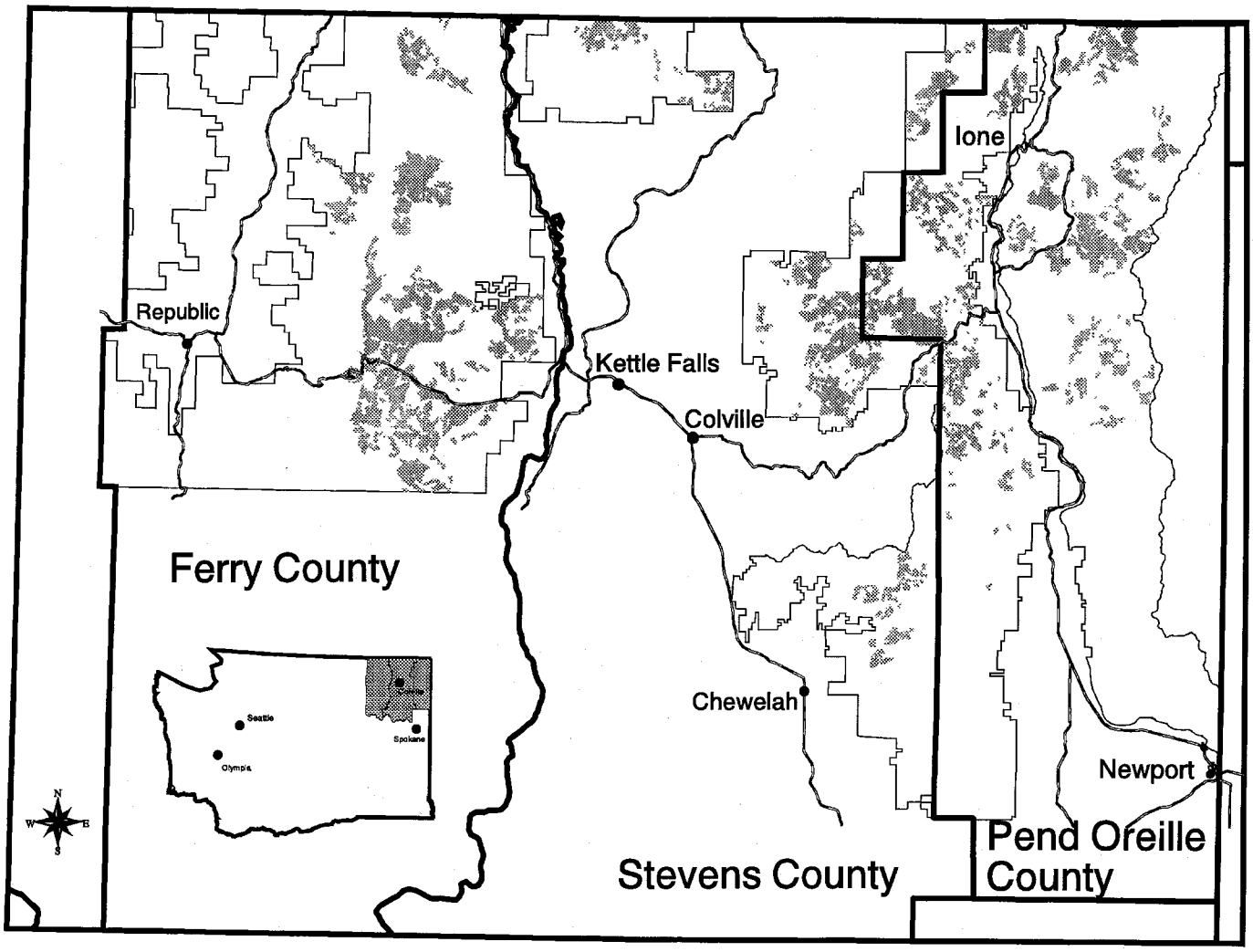

Figure 1–Locations of CROP stands in the Colville National Forest.

Table 2 displays the distribution of land classes across each of the three counties and compares the area to neighboring Spokane County and the state. The three counties have a significantly lower percentage of land in “other lands” (primarily urban centers, rangelands, and farmlands) compared to Spokane County and the state, which emphasizes the high concentration of Forest Service-administered lands and non-industrial private forest land ownership. Ferry County has less than 30 percent of its land held in private ownership; similarly, about one-fourth of Pend Oreille County’s land is in private ownership. Stevens County, however, has just over one-half of its land in private ownership. This distribution has severe implications in taxation and local control of land uses, which factor into concerns of the residents about national forest management (Larsen 1998).

Table 2—Percentage of area by county and land class, 1992

Land class	Counties				
	Ferry	Pend Oreille	Stevens	Spokane	Washington
	Percent				
Forest Service administered lands	33.7	58.4	13.9	0.0	21.5
State timberland	1.5	3.8	10.2	1.7	4.8
Forest industry timberland	3.8	10.8	13.0	2.3	10.8
NIPF timberland	37.7	16.7	31.8	19.8	10.2
Native American timberland	30.9	.2	5.9	0	3.1
Other lands	23.2	10.3	31.0	76.3	52.7
Total	100.0	100.0	100.0	100.0	100.0

Source: McGinnis et al. 1997.

The largest town in the three counties is Colville (pop. about 6,000 in 1998) in north-central Stevens County. Colville is 70 miles northwest of Spokane, which can be defined as an isolated trade center for the tri-country region (ICBEMP 1998). Notable north-south divisions occur in each of the three counties. The Colville Indian Reservation comprises the south half of Ferry County, whereas the north half includes the county seat of Republic and a mix of private ownership and the CNF. The northern half of Stevens County includes the larger communities of Kettle Falls, Colville, and Chewelah as well as several smaller communities farther north that depend on Colville for major services. The southern half of Stevens County has additional small communities having stronger ties to greater Spokane and the Spokane Indian Reservation. Newport, the county seat, is located in the southern half of Pend Oreille County; residents here and in surrounding communities typically travel to Spokane for major services. Communities in northern Pend Oreille County are closer to Colville than Spokane for access to major services.

The CNF Supervisor's Office and one ranger district are in Colville. The other four ranger districts are at Republic, Kettle Falls, Sullivan Lake (in Metaline Falls), and Newport.

Socioeconomic Context

Demographics—Changes in total population from 1920 to 1990 are shown in table 3 for the tri-county region and Washington. The state shows continuous growths whereas the counties depict boom and bust episodes most likely linked to the cyclical nature of natural resource industries.

Table 3—Population trends in selected eastern Washington counties and the state, 1920-90[a]

Area	1920	1930	1940	1950	1960	1970	1980	1990
Ferry Co. (pop.)	5,143	4,292	4,701	4,096	3,889	3,655	5,811	6,295
Change (percent)[b]	—-	(16.5)	9.5	(12.9)	(5.1)	(6.0)	59.0	8.3
Pend Oreille Co. (pop).	6,363	7,155	7,156	7,413	6,914	6,025	8,580	8,915
Change (percent)	—-	12.4	0.0	3.6	-6.7	-12.9	42.4	3.9
Stevens Co. (pop).	21,605	18,550	19,275	18,580	17,884	17,405	28,979	30,948
Change (percent)	—-	(14.1)	3.9	(3.6)	(3.7)	(2.7)	66.5	6.8
Washington (pop. in millions)	1,373	1,568	1,740	2,379	2,853	3,413	4,132	4,867
Change (percent)	—-	14.2	11.0	36.7	19.9	19.6	21.1	17.8

[a] Numbers in parentheses are decreases.

[b] Change from previous census figure.

Sources: U.S. Department of Commerce 1921, 1932, 1943, 1952, 1963, 1973, 1982, 1997.

Tables 4 and 5 provide more detail on the demographics, employment, and income distribution across the three counties, neighboring Spokane County, and the state. Generally, working age people are less represented in the three counties than in Spokane County, which has a more diversified economy. Many people leave the tri-county area in search of work, owing to limited local labor markets, and either relocate to other areas or commute to greater Spokane.

In terms of racial diversity, Washington tends to be overwhelmingly racially and ethnically homogenous (89 percent white). With the exception of Ferry County (which includes the Colville Indian Reservation with Native Americans representing 18 percent of its population), the CNF counties (including Spokane County) are even less racially diverse than the state. Furthermore, people of Hispanic origin are underrepresented in northeastern Washington compared to the state. These demographic distributions have become slightly less racially diverse since the 1990 U.S. census with Washington being 88 percent white but having an increased proportion of people of Hispanic origin (see appendix 3).

Earnings by place of work show several interesting differences across counties and in comparison to the state. All counties except Ferry share the same top three industries, albeit in slightly different order: manufacturing, services and government. Pend Oreille's top paying employer is government, for the state and Spokane County it's the service sector, and for Stevens it's manufacturing. Ferry County appears to have an overwhelming concentration of people earning their livelihood from the government sector; however in a closer look, over one-third of the county's earnings are undisclosed. Services and mining sectors account for the bulk of this undisclosed amount, thus comprising major industries for Ferry County.

Table 4—Comparison of demographic characteristics by selected eastern Washington counties and the state, 1997

	Counties				
Demographic	Ferry	Pend Oreille	Stevens	Spokane	Washington
Total population	7,256	11,271	39,243	404,650	5,610,362
	Percentage of total population				
Sex:					
Male	52.5	49.9	50.3	48.8	49.8
Female	47.5	50.1	49.7	51.2	50.2
Age:					
Less than 18 years	30.9	29.0	30.9	26.2	25.9
18-64 years	58.2	57.5	56.9	60.6	62.5
Over 64 years	10.8	13.5	12.2	13.2	11.5
Race:					
White	80.9	97.1	93.0	94.4	89.2
Black	.3	.2	.3	1.7	3.5
American Indian, Eskimo, or Aleut	18.3	2.3	5.9	1.6	1.8
Other	.5	.4	.8	2.4	5.5
Hispanic origin:					
Not of Hispanic origin	98.2	98.0	97.9	97.2	93.9
Hispanic origin	1.8	2.0	2.1	2.8	6.1

Source: U.S. Department of Commerce 1997.

Table 5—Comparison of income and employment for selected eastern Washington counties and the state, 1995

Income and employment	Counties (total population)								Washington (5,447,720)	
	Ferry (7,180)		Pend Oreille (10,755)		Stevens (37,680)		Spokane (401,992)			
	Thousand dollars	*Percent*	*Thousand dollars*	*Percent*	*Thousand dollars*	*Percent*	*Thousand dollars*	*Percent*	*Thousand dollars*	*Percent*
Personal income:	102,960		167,351		572,763		8,271,093		129,159,234	
Nonfarm	98,265	95.4	167,974	100.4	567,108	99.0	8,253,325	99.8	127,912,288	99.0
Farm	4,695	4.6	(623)[a]	-.4	5,655	1.0	17,768	.2	1,246,946	1.0
Earnings by place of work:										
Farm	4,695	7.4	(623)	-.8	5,655	1.9	17,768	.3	1,246,946	1.4
Nonfarm—	58,482	92.6	76,983	100.8	292,820	98.1	5,792,256	99.7	89,802,079	98.6
Agriculture, forestry, fishing, services	1,220	1.9	564	.7	4,116	1.4	29,640	.5	1,239,916	1.4
Mining	D	D	487	.6	3,904	1.3	22,010	.4	1,080,649	1.2
Construction	2,258	3.6	5,676	7.4	15,130	5.1	429,339	7.4	5,967,240	6.6
Manufacturing—	9,117	14.4	21,533	28.2	87,926	29.5	843,435	14.5	15,457,553	17.0
Durable goods	9,040	14.3	D	D	80,015	26.8	669,941	11.5	11,313,863	12.4
Nondurable goods	77	.1	D	D	7,911	2.7	173,494	3.0	4,143,690	4.6
Transportation, pub. utilities	D	D	2,648	3.5	16,294	5.5	377,243	6.5	6,313,734	6.9
Wholesale trade	257	.4	452	.6	5,281	1.8	382,723	6.6	5,817,446	6.4
Retail trade	4,600	7.3	7,888	10.3	30,359	10.2	664,035	11.4	9,012,726	9.9
Finance, insurance, real estate	804	1.3	2,087	2.7	6,246	2.1	375,061	6.5	5,197,863	5.7
Services	D	D	9,255	12.1	59,391	19.9	1,604,826	27.6	24,443,237	26.8
Govt., govt. enterprise	18,848	29.8	26,393	34.6	64,173	21.5	1,063,944	18.3	16,171,715	17.8

Table 5—Comparison of income and employment for selected eastern Washington counties and the state, 1995 (continued)

Employment, total full- and part-time (no.)	Counties (total population)									
	Ferry 2,694		Pend Oreille 3,520		Stevens 14,482		Spokane 228,581		Washington 3,122,034	
	No.	*Percent*	*No.*	*Percent*	*No.*	*Percent*	*No.*	*Percent*	*No.*	*Percent*
					Jobs					
Employment, by industry:										
Farm	232	8.6	261	7.4	1,321	9.1	2,344	1.0	78,529	2.5
Nonfarm—	2,462	91.4	3,259	92.6	13,161	90.9	226,237	99.0	3,043,505	97.5
Agriculture, forestry, fishing, service	82	3.0	58	1.6	241	1.7	2,040	.9	56,366	1.8
Mining	D	D	16	.5	124	.9	394	.2	5,679	.2
Construction	106	3.9	237	6.7	689	4.8	13,975	6.1	174,259	5.6
Manufacturing	272	10.1	480	13.6	2,547	17.6	23,146	10.1	356,043	11.4
Transportation, pub. utilities	D	D	101	2.9	540	3.7	9,641	4.2	137,270	4.4
Wholesale trade	17	.6	29	.8	225	1.6	12,136	5.3	157,516	5.0
Retail trade	369	13.7	540	15.3	2,197	15.2	41,097	18.0	533,068	17.1
Finance, insurance, real estate	94	3.5	147	4.2	582	4.0	18,374	8.0	227,146	7.3
Services	D	D	620	17.6	3,487	24.1	70,788	31.0	885,160	28.4
Govt., govt. enterprise:	757	28.1	1,031	29.3	2,529	17.5	34,646	15.2	510,998	16.4
Federal, civilian	167	6.2	121	3.4	427	2.9	4,361	1.9	69,702	2.2
Military	29	1.1	44	1.2	154	1.1	5,900	2.6	75,150	2.4
State and local	561	20.8	866	24.6	1,948	13.5	24,385	10.7	366,146	11.7

Table 5—Comparison of income and employment for selected eastern Washington counties and the state, 1995 (continued)

	Counties (total population)									
	Ferry		Pend Oreille		Stevens		Spokane		Washington	
Income										
Derivation of total personal income:	*Thousand dollars*	*Percent*	*Thousand dollars*	*Percent*	*Thousand dollars*	*Percent*	*Thousand dollars*	*Percent*	*Thousand dollars*	*Percent*
Net earnings	59,689	58.0	79,542	47.5	331,878	57.9	5,147,034	62.2	85,970,449	66.6
Transfer payments--	29,445	28.6	58,418	34.9	145,419	25.4	1,702,034	20.6	21,061,162	16.3
Income maintenance	3,742	3.6	8,496	5.1	14,911	2.6	154,171	1.9	1,843,179	1.4
Unemployment insurance	1,841	1.8	2,631	1.6	8,402	1.5	58,428	.7	911,089	.7
Retirement and other	23,862	23.2	47,291	28.3	122,106	21.3	1,489,431	18.0	18,306,894	14.2
Dividends, interest, rent	13,826	13.4	29,391	17.6	95,466	16.7	1,422,029	17.2	22,127,623	17.1
Per capita incomes:	*Dollars*	*Percent*	*Dollars*	*Percent*	*Dollars*	*Percent*	*Dollars*	*Percent*	*Dollars*	*Percent*
Personal income	14,340		15,560		15,201		20,575		23,709	
Net earnings	8,313	58.0	7,396	47.5	8,808	57.9	12,804	62.2	15,781	66.6
Transfer payments--	4,101	28.6	5,432	34.9	3,859	25.4	4,234	20.6	3,866	16.3
Income maintenance	521	3.6	790	5.1	396	2.6	384	1.9	338	1.4
Unemployment insurance	256	1.8	245	1.6	223	1.5	145	.7	167	.7
Retirement and other	3,323	23.2	4,397	28.3	3,241	21.3	3,705	18.0	3,360	14.2
Dividends, interest, rent	1,926	13.4	2,733	17.6	2,534	16.7	3,537	17.2	4,062	17.1

D = not shown to avoid disclosure of confidential information. Estimates are included in totals.

[a] Numbers in ( ) are negative.

Source: U.S. Department of Commerce 2000.

Jobs at various government levels employ almost one-third of the working population in Ferry and Pend Oreille Counties but only 15 to 17 percent in Stevens and Spokane Counties and the state. Other industries employing large percentages of the counties' working population include services and retail trade, which mirrors trends in Spokane County and the state. Table 6 highlights industries by communities within the tri-county region, and emphasizes strengths as well as a lack of employment diversity in some cases.

Another important variable in the struggle by communities and counties to strengthen their economies is the level of earned income (see table 5). Per capita income is significantly lower in the three counties relative to the city of Spokane and the state. Furthermore, transfer payments in the form of income maintenance, unemployment insurance, and retirement account for a high proportion of tri-county per capita personal income (29, 35, and 25 percent for Ferry, Pend Oreille, and Stevens Counties, respectively) compared to Spokane County's 21 percent and Washington's 16 percent.

Current Forest Policy Events

The Interior Columbia Basin Ecosystem Management Project (ICBEMP) is a regional effort to coordinate management strategies for lands administered by the Forest Service and the Bureau of Land Management within the Columbia River basin (ICBEMP 1997a). The project's geographic scope includes eastern Washington and Oregon, Idaho, western Montana, and northern portions of Nevada and Utah. ICBEMP currently is in the process of producing the east-side and upper Columbia River basin environmental impact statements (EIS). The former includes lands administered by the CNF. Thus, any resulting EIS record of decision and associated guidelines will apply to management decisions and on-the-ground forest practices for the CNF. At the time of this report's publication, no record of decision has been made; however, the draft east-side EIS identified alternative 4 as the preferred alternative. Alternative 4 emphasizes active restoration of ecosystems and addresses issues such as the "risks of wildfires, fish and aquatic habitat deterioration, road-related sedimentation problems, and the spread of noxious weeds" (ICBEMP 1997b: 2). It is likely that some modifications of CROP management decisions will occur when the east-side EIS is implemented.

A distinction should be noted. The CROP program is not linked to ICBEMP. Research objectives of CROP are independent of the ICBEMP EIS process. However, any resulting records of decision for ICBEMP may modify the CROP research project so that CROP objectives comply with new resource management and restoration guidelines.

Also in process are current policy changes concerning management of roadless areas within national forest lands.

Certain species are under evaluation for potential listing as threatened and endangered under the Endangered Species Act. Those that may impact CNF management include lynx (*Lynx canadensis*), grizzly bear (*Ursus horribilis*), woodland caribou (*Rangifer caribou*), and bull trout (Dolly Varden [*Salvelinus malma*]).

Timber Extraction and Milling Context

Timber harvests, sales, and forest receipts history—The CNF harvested 30.5 million board feet (mmbf) in 1996, representing 19 percent of eastern Washington's national forest total harvest and 4 percent of the PNW Region's total harvest (table 7). First quarter harvests in 1997 decreased significantly compared to the previous year. Timber sales, however, indicate possible increases in the CNF's share of eastern Washington (44 percent) and PNW Region (6 percent) total future harvests (table 8). Also, the average value of timber harvested and stumpage prices of timber sold from the CNF are noticeably higher than for other eastern Washington national forests (Okanogan and Wenatchee National Forests).

Table 6—Employment specialization by industry category for communities, by selected eastern Washington counties, 1995

		Employment specialization by industry category										
County and town	1992 Pop.	Agriculture	Mining	Construc.	Wood Products	Other Mfg	Trans-portation	Trade	Finance Insurance,	Services	Federal Govt	Local Govt
Ferry:												
Inchelium	392	none	none	none	high	none	none	none	none	none	very high	none
Republic	1,080	med	very high	none	high	none	none	none	none	none	none	low
Pend Oreille:												
Cusick	256	none	none	med	med	none	med	none	none	none	med	med
Ione	501	none	none	none	very high[a]	none	low	none	none	low	none	low
Metaline	193	none	none	none	none	none	none	med	none	none	none	low
Metaline Falls	227	none	none	none	none	none	low	none	none	none	very high	med
Newport	1,780	med	none	low	none	low	none	none	none	none	none	low
Stevens:												
Chewelah	2,243	high	none	low	med	none	none	none	none	low	none	none
Colville	4,440	low	none	none	med	none	none	none	none	low	low	low
Kettle Falls	1,435	low	none	none	very high	none	low	none	none	none	low	none
Marcus	154	none	none	none	none	none	none	med	none	low	low	none
Northport	342	high	very high	none	very high	none	none	none	none	none	high	none
Springdale	355	very high	very high	none	med	high	none	none	none	none	none	none

[a] The single large mill in Ione closed in 1995. Employment in wood products manufacturing most likely is now characterized as low or none.

Source: ICBEMP 1998: tables 1-3 reprinted in part.

Table 7—Volume and average value of timber harvested from the Colville National Forest compared to eastern Washington and Pacific Northwest Region national forests, 1996-97

	Colville National Forest		Eastern Washington		All Pacific Northwest	
Year and quarter	Volume	Average value	Volume	Average value	Volume	Average value
	mmbf	$/mbf	mmbf	$/mbf	mmbf	$/mbf
1996:						
1	10.6	152.29	29.1	92.49	141.8	213.92
2	3.3	107.26	41.7	49.36	160.6	195.28
3	8.9	119.44	61.5	74.15	258.9	223.08
4	7.7	139.00	26.6	74.91	175.5	217.96
Total or average	30.5	134.46	158.9	71.12	736.8	214.02
1997:						
1	4.8	235.54	13.0	171.97	128.9	224.89
2	3.5	195.77	15.8	101.50	166.3	231.42
3	14.5	159.46	53.2	106.36	297.3	216.86
4	17.1	172.24	35.3	130.34	217.2	182.14
Total or average	39.9	177.19	117.3	120.21	809.6	211.82

Sources: Warren 1997, 1998.

Table 8—Volume and average stumpage price of timber sold from the Colville National Forest compared to eastern Washington and Pacific Northwest Region national forests, 1996-97

	Colville National Forest		Eastern Washington		All Pacific Northwest	
Year and quarter	Volume	Average value	Volume	Average value	Volume	Average value
	mmbf	$/mbf	mmbf	$/mbf	mmbf	$/mbf
1996:						
1	4,585.0	22.37	36,982.0	36.63	96,198.0	114.83
2	13.0	271.80	15,337.0	103.56	84,555.0	181.16
3	24,263.0	150.02	32,441.0	120.97	267,759.0	221.65
4	19,475.0	286.40	24,488.0	241.84	351,409.0	253.19
Total or average	48,336.0	192.89	109,248.0	117.07	799,921.0	218.38
1997:						
1	4,509.0	184.10	4,509.0	184.10	15,608.0	153.10
2	643.0	185.69	15,620.0	38.25	47,843.0	72.10
3	6,924.0	150,302.00	23,124.0	139.85	143,080.0	173.23
4	22,541.0	152.64	39,875.0	118.23	220,271.0	259.88
Total or average	34,617.0	156.83	83,128.0	112.79	426,802.0	205.88

Sources: Warren 1997, 1998.

Table 9 provides an overview of timber harvests across the three counties by various forest land ownerships. Timber harvests from the CNF in 1997 represented the fourth largest share of tri-county harvests. The ownerships with the top three harvest levels were small private lands (33 percent), forest industry (23 percent), and Native American lands (16 percent). Social assessment interview data provided an explanation of this distribution: it seems to be a response by private ownerships to the demand created by substantial declines in CNF timber harvests. Many residents believe private lands are being cut at unsustainable levels, which raises concerns about the future role of timber harvesting in the three counties and about the conditions of private forest lands.

Forest Service timber sales not only make raw materials available for harvest but also generate revenues, in part, for county governments and schools. Federal forest receipts consist of 25 percent of national forest timber sales revenues; natural resources trust monies come from the lease of state lands and sales of resources from state lands, in this case the Washington Department of Natural Resources; and timber excise taxes are derived from timber harvests on private lands (Washington State University 1997: 9). As timber sales and harvests have shifted from decreasing Forest Service sales to increases in private harvests, county timber receipts have been influenced. The end result is mixed: Ferry County experienced a fairly consistent amount of total receipts in 1991-94 but had a significant loss in 1995; receipts for Pend Oreille and Stevens Counties peaked in 1994 but declined in 1995 (table 10).

Industry structure and wood utilization—The distribution of mills located in the tri-county region is indicated in table 11. Stevens County hosts Boise Cascade, Stimson, and Vaagen Brothers lumber and veneer and plywood mills as well as several smaller milling operations.[5] One lumber mill in Ferry County belongs to Vaagen Brothers; the other is a smaller, specialty products lumber mill. With the 1995 closure of Vaagen Brothers' Ione lumber mill in Pend Oreille County, the only remaining mill (pulp) belongs to Ponderay Newsprint. Not represented in table 11 is a chipping facility, Ponderay Valley Fibre, also located in Pend Oreille County.

Owing to the small number of mills in the tri-county region, as well as the Inland Empire economic area[6] as a whole, some log and wood consumption data have been combined with data from other areas to avoid disclosure of confidential information. In 1996, Inland Empire lumber mills (n=9) acquired almost one-half of their logs from the farmer and miscellaneous private sector (i.e., nonindustrial private forest land owners) (table 12). Forest industry, other public, and national forests provided about 17, 10, and 9 percent raw logs, respectively. Of the total 253,635 mbf consumed by lumber mills, 85 percent came from sound logs and 15 percent from utility logs (table 13). Additionally, pulp mills in the Inland Empire (n=4) used 983,713 bone dry tons of residue.

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[5] The use of trade or firm names in this publication is for reader information and does not imply endorsement by the U.S. Department of Agriculture of any product or service.

[6] Washington Department of Natural Resources' mill surveys categorize the state into five economic areas. The Inland Empire area includes Asotin, Columbia, Ferry, Garfield, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman Counties.

Table 9—Timber harvest by selected eastern Washington counties, 1997

Ownership category	Counties				Percentage
	Ferry	Pend Oreille	Stevens	Total	
	– – – – – – Thousand board feet, Scribner log scale – – – – – –				*Percent*
Native American	37,424	—	15,583	53,007	15.8
Forest industry	6,960	33,714	37,033	77,707	23.2
Private, large	1,966	9,761	16,243	27,970	8.3
Private, small	10,538	41,007	59,484	111,029	33.1
Total, private	56,888	84,482	128,343	269,713	80.5
State	283	9,420	17,744	27,447	8.2
Other nonfederal	—	10	—	10	0.0
National Forest	10,755	8,011	16,514	35,280	10.5
Other federal	—	—	2,637	2,637	0.8
Total ownership	67,926	101,923	165,238	335,087	100.0
	– – – – – – – Percent of total timber harvest – – – – – – –				
Harvest in Ferry, Pend Oreille, and Stevens Co.	20.3	30.4	49.3	100.0	
Total, eastern Washington timber harvest	6.9	10.3	16.7		

Source: Larsen 1998.

Table 10—Forest receipts by selected eastern Washington counties, 1991-95

County and year	Federal forest receipts	Natural resource trust	Timber excise tax	Total
		Dollars		
Ferry:				
1995	461,912.36	0	327,819.15	789,731.51
1994	690,893.17	0	433,690.55	1,124,583.72
1993	848,786.02	0	313,235.89	1,162,021.91
1992	865,040.54	0	176,627.68	1,041,668.22
1991	943,445.79	0	155,232.52	1,098,678.31
Average	762,015.58	0	281,321.16	1,043,336.73
Pend Oreille:				
1995	829,265.76	0	953,534.65	1,782,800.41
1994	926,267.30	0	1,413,243.75	2,339,511.05
1993	952,383.02	0	812,979.38	1,765,362.40
1992	1,200,480.70	0	432,896.63	1,633,377.33
1991	1,011,506.01	0	323,612.09	1,335,118.10
Average	983,980.56	0	787,253.30	1,771,233.86
Stevens:				
1995	228,252.30	31,383.63	1,820,366.30	2,080,002.23
1994	328,362.22	26,252.75	2,375,692.22	2,730,307.19
1993	394,850.12	31,591.20	1,695,939.80	2,122,381.12
1992	413,007.33	17,373.94	1,106,305.34	1,536,686.61
1991	436,612.40	17,506.99	862,291.48	1,316,410.87
Average	360,216.87	24,821.70	1,572,119.03	1,957,157.60

Source: Washington State University 1997.

Table 11—Number of mills by industry in selected eastern Washington counties, 1996

County	All mills	Lumber	Veneer and plywood	Pulp	Shake and shingle	Log export	Post, pole, and piling
Ferry	3	2	—	—	—	—	1
Pend Oreille	1	—	—	1	—	—	—
Stevens	9	6	1	—	—	—	2
Total	13	8	1	1	0	0	3

Source: Larsen 1998.

Table 12—Inland Empire[a] log consumption by industry and ownership, 1996

Ownership	Lumber	Veneer and plywood[b]	Pulp and board[c]	Shake and shingle	Post, pole, and piling
	Thousand board feet, Scribner log rule				
State	12,455	—	—	—	—
National forest	23,641	—	—	—	—
Bureau of Land Management	600	—	—	—	—
Other public	25,519	—	—	—	5,330
Forest industry:					
Own wood supply	43,295	—	—	—	—
Other wood supply	26,175	—	—	—	630
Farmer, misc. private	121,950	—	—	—	2,535
All owners	253,635	—	—	—	8,495

[a] Inland Empire includes the counties of Ferry, Stevens, Pend Oreille, Spokane, Whitman, Asotin, Garfield, Columbia, and Walla Walla in extreme eastern Washington.

[b] Data combined with other state economic areas to avoid disclosure of confidential information due to few number of mills in survey.

[c] No pulp and board and no shake and shingle mills in Inland Empire responded to survey.

Source: Larsen 1998.

Table 13—Inland Empire primary wood consumption by industry and ownership, 1996

Consumption	Lumber	Veneer and plywood[a]	Pulp and board[b]	Shake and shingle	Post, pole, and piling
			Thousand board feet, Scribner log rule		
Sound logs	216,025	—	—	—	3,355
Utility logs	37,610	—	—	—	5,140
All roundwood	253,635	—	—	—	8,495
			Bone dry tones		
Residues	—	—	983,713	—	—

[a] Data combined with other state economic areas to avoid disclosure of confidential information.

[b] No pulp and board mills in Inland Empire responded to survey.

Source: Larsen 1998.

Table 14—Raw log destination and origin, selected eastern Washington counties, 1996

	Origin		
Destination	Ferry	Pend Oreille	Stevens
		Percent	
Ferry	30.7	0.8	1.0
Pend Oreille	8.1	27.2	9.5
Stevens	32.1	39.2	71.0
Okanogan	27.3	0	5.5
Idaho	0	23.0	8.1
Other	1.8	9.8	4.9
Total	100.0	100.0	100.0

Source: Washington State University 1997.

Table 14 shows the destination of raw logs originating in the tri-county region. Stevens County retains 71 percent of its own logs whereas Ferry and Pend Oreille Counties export over two-thirds of their raw logs; Stevens Counties receives about one-half of the logs exported by the other two counties. The remainder of Ferry County's logs are milled mostly in neighboring Okanogan County; Idaho mills the remainder of the Pend Oreille County logs.

Table 15 outlines wood processing alternatives given potential harvests of CROP material. Higher returns are realized in products such as laminated veneer lumber and market pulp. Lumber alternatives have a lower investment risk ratio, however. Pulp processing requires the lowest quantity of raw wood material to profitably operate a mill.

Willits et al. (1996: 10) indicate that "Douglas-fir and western larch have higher lumber yields compared to lodgepole pine; lodgepole pine submerchantable logs have higher yields of kraft pulp than sawmill residues, whereas Douglas-fir and western larch submerchantable logs have lower kraft pulp yields than sawmill residues; and lodgepole pine submerchantable logs have lower yields in thermomechanical pulp than sawmill residues." Thus, to realize profits and protect investments, lumber mills need large quantities of Douglas-fir (*Pseudotsuga menziesii* (Mirb.) Franco) and western larch (*Larix occidentalis* Nutt.). If submerchantable lodgepole pine (*Pinus contorta* Dougl. ex Loud.) is the dominant available resource, lumber mills produce fewer value products, but kraft pulp processors benefit from a strong byproduct industry using mill residue from this species.

Small-diameter harvesting systems—Although harvester-forwarder systems minimize soil degradation and damage to the residual stand, operation can be costly compared to more conventional logging systems (Willits et al. 1996). Furthermore, Barbour et al. (1995) determined that harvesting costs in cut-to-length systems can increase drastically with small decreases in average stand diameters. These harvesting systems are usually a barrier to local contractors due to the high capital investment required, and if a consistent supply of raw material is not available, higher risks are incurred to recover initial investments.

Methodology

Qualitative methods enable researchers to explore complex connections between people and forest policy by identifying and differentiating nuances not captured quantitatively. Qualitative analysis also can examine smaller units (e.g., stakeholder groups in a community or county) than typically found in published socioeconomic studies (Beckley 1998). Three general stages achieve research objectives: design, sampling, and data analysis.

Design

For this study, semistructured interviewing was the primary tool for collecting data. The semistructured nature allows for open dialogue between interviewee and interviewer, but it also attempts to keep the interview focused on topics salient to the discussion–in this case, CROP stand conditions and management concerns (McCracken 1988). Other data collection methods were considered but not used. Surveying (quantitative and open-ended) does not provide the richness of an individual's understanding and explanation of issues. Focus groups did not provide the confidentiality and anonymity to individuals as do one-on-one interviews, which researchers deemed highly important for CROP issues that might be openly contentious. Focus groups, however, might be an appropriate method to validate the social assessment findings. Ethnography was not practical for the geographic size of the study area.

Table 15—Comparison of wood processing alternatives for Inland Empire small-diameter timber

Product	Return to wood		Ratio of investment to annual income		Annual wood required
	Low price	High price	Low price	High price	
	Dollars/ft³				*Million ft³*
Oriented strand board	1.24	2.24	3.33	1.89	16.80
Stud lumber	1.10	1.31	1.39	1.17	14.00
Random-length dimension lumber	1.11	1.32	1.87	1.57	13.80
Machine-stress-rated lumber	1.24	1.45	1.73	1.48	13.80
Laminated veneer lumber	2.23	3.84	2.04	1.27	11.60
Market pulp	1.90	3.60	8.75	4.61	4.60

Source: Spelter et al. 1996.

One-on-one interviews were conducted to develop an atmosphere that was genuine and personal in order to discuss issues that might be serious, emotional, or complex. A semistructured interview guide was designed to probe four topic areas: people's attachment to the CNF and CROP program, their view of the CROP program, their perceptions of impacts from CROP management decisions on the individual and communities, and factors affecting the implementation of CROP management decisions (see appendix 1 for specific questions asked per topic area).

Sampling

The interview guide, developed in discussions with key informants concerning the CROP program and researchers' professional expertise, served as a tool to focus interviews on issues pertaining to CROP and to pursue these issues in depth. Sampling procedures had to consider the geographical scope of the whole forest, spanning five ranger districts, and stakeholders located in greater Spokane. The goal was to conduct interviews with people representing a broad and diverse range of interests and values. The sampling strategy began with key informants identified by each ranger and other Forest Service staff who interact with the public, local representatives of organizations and individuals named on the CNF key informant list, and local county and municipal representatives. Referrals were requested from each interviewee to continue probing local social networks.

Seventy-six interviews were conducted over 3 months. Interviews occurred in homes, work places, and restaurants. All interviewees were asked to meet and discuss the CROP program and their concerns about the national forest. If they declined the interview request ($n<5$), no further contact was made. At the first meeting, the researcher informed them of the voluntary and anonymous nature of the interviews (see appendix 2 for the consent form orally discussed with each person). Interviewees were asked permission for interviews to be tape recorded (two declined tape recording but accepted interviews). Tape recording was used only to improve data collection accuracy and thoroughness and to allow the researcher to focus attention on the conversation rather than taking notes. After interviews were completed, the researcher "debriefed" herself by supplementing taped conversations with observed nonverbal behavior, further clarifications on particular ideas or concepts, and unrecorded statements spoken when the recorder was not on.

All transcribed interview data were kept anonymous. Names and other identifying characteristics were removed. Excerpts used in the reports are identified only by a number assigned to each interviewee. Furthermore, the interviewee number was replaced with a “D” for some excerpts to prevent disclosure in other parts of the report.

Data Analysis

Data analysis consisted mainly of inductive tactics to organize commonalities and differences found in the interview transcriptions (Miles and Huberman 1994). Through interviewees’ own words, their perceptions of the forest, CROP stands, and management of the forest conditions were compared and contrasted to identify shared themes as well as divergent beliefs (Glaser and Strauss 1967, Strauss and Corbin 1990). The complexity that emerged from multiple stakes in CROP management and parties and issues connected to the CROP program were then categorized to inform resource managers of people’s fundamental values, positions, and perceived impacts.

Social Groups

To characterize social impacts of forest management pertaining to the CROP program, the structure of stakeholders, or interest communities, first had to be defined. The following groups of forest stakeholders were derived from inductive analysis of the social assessment data. Groups were assembled based on commonalities and differentiated by incompatibilities. Some groups overlapped (e.g., a person could be an avid recreationist while also a tribal member); other groups were distinct (e.g., an environmentalist who advocates a zero-cut policy on public lands is most likely not a timber industry manager).

Myriad components factored into each group's definition, including political philosophies, values attached to the environment, employment affiliations, leadership roles, organizational memberships, land ownership, leisure activities, and cultural identities. Some groups were represented by organized clubs, professional affiliations, tribes, or community civic bodies; other groups were fragmented but corresponded to common activities dependent on the national forest.

The following stakeholder group typology uses commonly recognized identifiers or general descriptors grounded in the connection of each group to the forest. Criteria used to categorize these stakeholder groups included interviewees' self-defined attachment to the CNF and CROP program; their knowledge and position on CROP management directions; their perception of how the CROP program may impact their families, livelihoods, communities, and living environments; and their outlook on implementation of the CROP program and challenges the program might encounter.[7] Five stakeholder groups, broadly defined, emerged from interviews:

- civic representatives
- commodity users
- environmentalists
- nonindustrial private forest land owners
- recreationists

[7] Refer to the interview guide in appendix 1 for specific questions that further clarify these topic areas.

Within each stakeholder group some diversity existed, necessitating further subgroup reductions. Subgroups sometimes voiced competing positions on forest management and policy issues, even though they shared values with others in their stakeholder group.

Besides stakeholder groups, two other social groups—Native Americans and the USDA Forest Service—were important participants in forest policy. Tribes have distinct roles in the management of federal lands held in trust, including the CNF. Tribes are domestic, sovereign governments with individual and collective laws, executive orders, treaties, and memoranda of understanding relevant to national forest policy. And, obviously, the Forest Service has a key role in decisions and activities implemented within the CNF. Their role, however, is unique to public stakeholder groups, thus necessitating a distinct category for their decisionmaking authority and land stewardship responsibility to the policy process.

The social group typology used throughout the social assessment was a tool to differentiate various themes or general positions on salient forest policy issues. Some generalizations were inevitable and overlooked diversity within each social group. In addition, individuals had overlapping interests and typically identified with more than one social group. As the following groups are defined and further used to understand competing interests in the local forest policy situation, it is important to recognize that these themes are likely to be more clearly differentiated than are the actual individuals who reside in the communities.

Detailed definitions follow for each stakeholder group and subgroup, the Forest Service, and tribes. Quotations are used generously to validate the authors' understanding of the social situation.[8] All descriptions of social groups were derived from inductive analysis of the social assessment data. Key concerns about forest management are summarized below. These descriptions provide a social structure for subsequent chapters to differentiate various positions on issues surrounding small-diameter stand management and to analyze social impacts from the CROP program.

Stakeholder Groups

Civic Representatives

This group was comprised of people holding elected, appointed, or leadership positions in the community; e.g., mayors, city council members, county commissioners, chamber of commerce members, school administrators and boards, members of the clergy, economic development council members, and leaders of local civic organizations. This group tended to support forest activities that would further economic development and the quality of life for community residents.

The strength of their individual interest in forest issues differed considerably, mostly due to other priority issues directly tied to their occupation or leadership role. But because communities and counties encounter multidimensional impacts from forest management decisions, civic representatives must consider how their organizations and constituents are directly or indirectly affected. For instance, reductions in log supplies potentially can decrease timber industry employment, thereby causing residents to tighten their spending habits and affecting local tax bases and business revenues. City governments and chambers of commerce are duly impacted. Not all impacts are as straightforward. Interconnected aspects of community economy and quality of life tied to the national forest made the task of identifying causes and effects of forest policy extremely difficult. Civic representatives grappled with this complexity, trying to optimize impacts of forest management on communities.

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[8] Indented, italicized formatting sets the quotes apart from the text. Assigned interviewee numbers are included in parentheses.

Many saw active management, including timber production, of the national forest as beneficial to the community. The tri-county area has consistently had some of the highest unemployment rates in Washington; therefore, maintaining and creating jobs was in the forefront for many civic representatives. Continued employment and economic dependence on timber would boost community well-being. In addition, many civic representatives supported the Forest Service's past actions to manage and regenerate the forest. They often were skeptical about the environmental movement that strives to curtail timber sales. They felt that active management can produce a valuable product for the communities as well as promote environmental integrity.

> *I've been to meetings where an environmentalist got up and showed pictures: "Look at the damage here and a logger did it." Well I've been in the woods all my life and I've seen a lot of things done. When a logger is done, he cleans it out, he piles his brush, and takes care of the run-off with waterbarring. In the places that have been cut, when you go back 3-4 years later you have all this new growth. And you have all kinds of animals in there, from the birds to the bears....Nature takes care of itself. (149)*

> *So the Forest Service and its impact on the community with regard to small diameter timber, if they want to literally deal with it and create a win-win situation, then they would get in the forest and get that product out. In a way that then promotes larger diameter timber by doing thinning and decent forest management. (124)*

> *The woods should be handled just like any other thing. It should be managed and logged. Shutting down the woods completely is not the right way to do it. (138)*

> *I was born and raised here. I know there came a time when we needed to clean up our act. But as [a] whole they have. Everyone talks about timber being depleted, but I can pull out pictures [from 50 years ago] and now look at those places that are green. It's been replanted through the forestry program the Forest Service does. There's far more timber on it now then there was on it 50 years ago. (148)*

Key concerns were economic stability and development, quality of life, forest aesthetics, and forest health.

Commodity Users

Timber, ranching, and mining are the main natural resource industries in the tri-county area. Timber extraction and processing are most relevant to the CROP program; however, ranchers and miners often shared similar management philosophies. This stakeholder group relies on the availability and access to use natural resources. To them, prudent management of forests, grazing lands, and mining resources would increase sustainable use for the long term. Their wise use philosophy in forest practices corresponded to balancing extraction with stand improvements and regeneration. It would be an active management paradigm rather than a "hands off" approach.

> *They [environmentalists] want to stop all logging. But you go out in the woods and you see these nice old trees. I don't see the purpose of cutting all those trees down. But why let them all rot and go to waste?! You should utilize them. Timber is one of our few renewable resources. You cut the old growth, yeah it might be another 100 years, but trees grow back! (150)*

> *In terms of managing federal lands for trees, water, air, animals and all those things–standing back and looking at it is not my idea of good management. (172)*

Commodity users represented a majority of residents in the rural communities surrounding the CNF. With an ingrained history and tradition of using natural resources for livelihoods and community development, timber remains a significant force in people's lives and regional economies. A cadre of subgroups represented the diversity within the natural resource commodity user stakeholder group:

- forestry consultants
- forestry technicians
- industrial wood products operations
- loggers
- mill workers
- mining operations and workers
- ranchers
- support organizations

Major private industrial wood products operations involved in processing wood fiber from the tri-county area were Boise Cascade, Ponderay Newsprint, Ponderay Valley Fibre, Stimson, and Vaagen Brothers;[9] all operated sawmills except Ponderay (manufactures pulp and newsprint) and Ponderay Valley Fibre (chipping facility). In addition, Washington Water Power operated a power generation station; however, its fuel–mill residues–were procured from a much larger region than the tri-county area.

The key concern for industrial operations was a reliable, continuous supply of raw materials. With declining sales and harvests and the decreasing log size coming from national forest lands in recent years, each operation had to make adjustments. This process included reducing their demand, retooling to accommodate small-diameter logs, procuring more logs from fee and other private forest lands, and reducing mill activity. Not only had this affected their businesses in the short term, but forest resiliency and sustainability in the long term also were jeopardized.

> *The Forest Service are not operating like they used to so it's causing everybody to rethink what they're doing. We hope at some point in time that the Forest Service will figure out what they're doing. It will never be the same again, we all recognize that. But their ineptness is causing some forest health issues because they need to remove some of that timber. It doesn't take a genius to look at the growth and yields; we're growing a lot more timber than we're harvesting. We have serious fuel buildups in the forest. (153)*

Vaagen Brothers had a particular interest in the CROP program because its Colville mill was equipped for small-diameter logs.

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[9] Vaagen Brothers had a relatively large operation in the tri-county area, but it did not have the span of mills, fee lands, and employees across the PNW Region available to Stimson and Boise Cascade. It therefore would be more accurately categorized as a small mill.

> *We are really confused and frustrated. We think we have such an answer to the problem with the forests. That's what we want to offer. But we can't get people to buy into it. Why don't we thin and make a healthier forest? We're taking the trees nobody else wants and putting value into them....We are a tool and a resource for them, not the other way around. (D)*[10]

Other industrial operations included several relatively smaller sawmills, shake mills, and pole producers. They typically were family owned. Continuous timber supply also was a concern for these operations: furthermore, if raw materials became overly scarce or prices became too high, their ability to stay profitable would be extremely difficult. Most had to develop some specialized niche in the wood products market to preserve product merchantability and business viability.

Mill workers, and loggers to some extent, experienced direct impacts from changes occurring in area mills; thus, they also were concerned about raw material supplies to the mills. Conflicting interests, though, could arise about on-the-ground activities. Mill workers and loggers typically were residents in local communities as were large industry office managers.[11] Yet, policies for industrial operations often came from corporate headquarters located outside the area. An interesting dynamic can arise between those making decisions on how to manage forest fee lands and mill operations and the local people who must face the consequences of these actions.

Loggers, forest technicians, and forestry consultants (sometimes one and the same) usually work contractually. Their key concerns revolved around continuous "jobs." Decreases in the number of sales offered by the national forest–contract and green sheet sales–reduced the demand for logging labor. To respond, they had diversified their skills from logging to other silvicultural practices or traveled outside the area to find additional logging jobs. Forestry consultants were less affected by sale reductions at the national forest because they typically contracted for work with private landowners.

Both loggers and forestry consultants, however, expressed serious concerns about management, or lack of, at the CNF. They viewed current policies as ignoring forest health issues and failing to take a preventative course to mitigate catastrophic damage to timber, watersheds, and habitat resources.

> *Their mortality far exceeds by many times what they harvest. For people who are involved with timber products and producing, they see that as a tragedy, or are sad to see a potential there not being utilized. The impact on the area communities and economies that are timber driven are pretty severe. (108)*

Another subgroup, with which many of the above commodity users were affiliated, was support organizations:

- county cattleman's associations
- county conservation districts
- Ferry County Action League
- Northwest Timber Workers

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[10] D=interviewee identifier deleted.

[11] Stimson's corporate headquarter was in Portland, Boise Cascade in Boise, and Ponderay Newsprint in Canada; Vaagen's was locally owned.

- Public Lands Users Coalition
- Washington Contract Loggers Association
- Women in Timber

These organizations were active in the local communities through educational programs, participating in public involvement for city and county governments, and representing the interests of people working in natural resource-dependent industries. In addition, these organizations often lobbied their interests at the state and national levels, either independently or through their parent organizations.

> *We formed the Ferry County Action League to promote the benefits, the good points that can happen from mining, farming and logging. Use common sense...point out the good and the bad from industry. We know the greenies have accused the industry of greed and that's part true. But we can still cut trees without causing damage. (135)*

All subgroups shared a common viewpoint, even if they disagreed on details: Natural resources play an important role in local, national, and global economies. It would be unwise, in their opinion, to ignore this role. Demand for wood products has not diminished even with electronic technology. Commodity users suggested that combining this demand with a decreasing forest land base due to population and settlement growth makes it all the more important to effectively manage the forests.

> *I believe that with our population growth and the demand for resources, we really do have to manage our forests....it means some areas will have very little management but nonetheless they should be managed. (154)*

Active management to minimize waste and loss of resources while optimizing production was their desired policy. This did not preempt protection and stewardship of non-commodity resources. Most commodity users believed that commodity resource use can occur while environmental integrity is maintained and even improved.

> *We can still have a pristine, healthy forest and still derive the resources from it. (170)*

They felt, furthermore, that timber is a renewable resource. Substituting nonrenewable resource-based products for wood products seemed, in their minds, to contradict an environmentally friendly consumption philosophy.

Forest health issues such as tree mortality, insect and disease epidemics, atypical fuel loading and fire dynamics, and vegetation and physical structural changes in the forests worried many commodity users. Most advocated active management that would intervene to mitigate potentially catastrophic disturbances, which could in the long term cause more severe damage to endangered wildlife populations and habitat, soils, riparian areas, biodiversity, and genetic heritage.

> *...many think logging is so bad, but mother nature is not as forgiving as the logging. She just takes it all. When mud starts going down the hill, that's the way it is. If we got the amount of mud in the creeks [through logging] as what happens after a fire, we'd all be in jail. That's not saying natural fire is bad. We're just mimicking it when we do logging. It's hard for people to understand that. I think one big fire here, 50,000-100,000 acres, will wake some people up. (136)*

I have a preference for using the education and experience that I have to manage the forest versus letting catastrophic events occur, repeatedly over time. And that's how nature has treated our forests over time, repeated catastrophic events. The intervals have changed since man has intervened. (154)

You can manage water, air, all those things if you actively manage. If you don't, you're going to suffer consequences. And it's usually catastrophic for the streams. (172)

Everybody's trying to manage for now and stop it. But we're not going to stop it. That forest is going to grow and die. Those people, if they believe the way they do, they should never go to a doctor. If they have cancer, they should get ate up. That's their cure. That's the same thing they're looking at in the forest. If it's got a disease and it's dying, why fix it? It's natural. Well, it's natural for them to die same as the dammed forest. It's a dumb mind set. They take their kids to the doctor when they get sick; they take their car to the mechanic. What are they thinking about? They get this mind set "we're going to keep it just like it is." Well, I'm sorry, it's just not going to happen.... go out and look. It's natural, but nature can be very cruel sometimes. (130)

They also felt that local communities and dependence of society on the environment were threatened by the failure to reduce catastrophic resource losses in terms of economics, recreation, and cultural, and spiritual experiences.

Key concerns for commodity users included commodity resource use (timber, grazing, and mining), forest health, biodiversity, and quality of life. The latter reflected their source of livelihood and the aesthetics the forest provides to the areas they live in.

Environmentalists

People in this group included those affiliated with environmental organizations as well as those taking an independent interest in the environment. Organized groups located in the tri-county area were:

- Kettle Range Conservation Group
- Pend Oreille Environmental Team

Others, located in the inland region and concerned with forest management of the CNF were:

- Audubon Society
- Greater Ecosystem Alliance
- The Lands Council[12]
- Northwest Ecosystem Alliance
- Sierra Club
- Washington Environmental Council

In general, these groups advocated for conservation, and in some cases preservation, of the environment's components, processes, ecosystems, and spiritual, cultural, and existence values. As to CNF management, environmentalists focused their attention on two levels: overall policy directions and site-specific activities.

[12] Former name was Inland Empire Public Lands Council (IEPLC).

Environmentalists strove to change policy coming from a body of laws and regulations accommodating sustainable levels of resource use and protection, policies affecting other national forests, state trust lands, and state forest practices guidelines for private lands. To do this, they advocated a conservative approach for using, extracting, and managing natural resources. Damage or irrevocable changes to the environment, they believed, could be avoided or minimized if humans let natural forces work on their own.

> *We have a lot of information, but we still don't have the answers, as a society or as scientists, to sustain forests. All we know how to do is take them apart albeit at a slower rate than we used to, and we're not making as many mistakes. But we're still taking the forest apart. The end result is loss; loss of our diversity, loss of species richness. Extinction rates are going up; water quality is going down; air quality is going down. Deforestation is behind a lot of that. That's not all public lands, but that's where we have a body of law that we can work with, that we can stand up for as citizens. (151)*

Because current national forest management includes silvicultural treatments, which are human interventions, environmental activist groups often monitor site-specific activities. These "forest watch" efforts examine the intent of managers and actual practices occurring on the ground to maintain the agency's adherence to laws and regulations.

Another issue for environmentalists was managing public lands for the greatest public good. In terms of commodity uses, many felt that opportunities and businesses catering to recreational services benefit more people and establish more sustainable economies than does timber.

> *Extracting resources on the public lands doesn't have a role. It's not a viable role on public lands, especially in the condition they are in and the pressures that continue to grow....Commercial uses of the forest should be centered around recreation. Recreation produces 38 times the revenue that logging does. And it goes back to the treasury. And it has an incredible peripheral economic benefit to the communities near the forest. Quality of life is difficult to quantify. But it's drawing all these people to this area because we're surrounded by forests. (151)*

> *But we have corporate welfare. The same thing is true with grazing. The Forest Service is a net loss on both of those. If we're going to manage it, let's go back and ask how the public is going to best benefit from the public lands. I think the general public benefits best by having recreation. (156)*

Some cited the need to have national forests supply more recreation because national parks are being overused, thereby demonstrating the large public demand for this use. Yet environmentalists were the first to caution against recreation becoming the primary use of national forests. They felt that management needs to conserve ecosystems, natural processes, and wildlife and habitat as well as moderate consumptive and nonconsumptive forest resource use.

In this report, a distinction is sometimes made between environmentalists who support a "zero-cut" policy and those who support some "light-impact" harvest activities on national forests. Zero-cut environmentalists wanted nature to be the primary regulator of the forest, thereby promoting natural conditions and processes to run their course

while minimizing human intervention. In their opinion, long-term environmental integrity and society's future well-being were in jeopardy based on current resource management practices. Thus, drastic changes to more conservative resource use and increased protection of the environment were called for.

Zero-cut environmentalists believed that these changes need to occur immediately, including putting a stop to all timber harvesting and associated road building on public lands, which they perceived to be a fundamental cause of environmental degradation. Furthermore, other types of human intervention in the ecosystem, which are part of an active management philosophy, were perceived to be unnatural, and preemptive of nature's own processes and time schedules. Human intervention, according to zero-cut environmentalists, assumes a certain liberty to use and alter the environment. This practice had negative connotations because it was largely viewed to be motivated by short-term incentives, such as market values.

Zero-cut environmentalists felt that the only policy solution that would conserve and protect vital forest resources would be banning commodity extraction of timber resources from the national forests. Common arguments appealing to this management direction claimed that (1) only 4 percent of the Nation's wood fiber comes from national forest supplies; (2) such a small percentage is willingly sacrificed by consumers; (3) the national forest timber sale program is a money loser; therefore (4) American taxpayers lose not only tax dollars but also quality forests and ecosystems; and (5) the direct benefactors of timber sales from public lands are industrial timber corporations.

> *The general feeling is that the forest is not managed for anybody except the lumber companies. There's some campgrounds, some wilderness areas. But other than that, it's whatever the lumber companies want, they get. (155)*

> *Our national forests are for the people, not just a tiny sector of the people that's providing 4 percent of our wood supply. (168)*

> *If you keep the idea of public land in the public, then it's not to be divided up by whoever bids the highest price. (122)*

This subgroup's key concerns were biodiversity, retention of genetic heritage, society's long-term quality of life and survival, and naturalness of the environment's species, structures, and processes. Without immediate and drastic changes to the status quo, zero-cut environmentalists believed that society and the environment would face unrecoverable losses.

Light-impact environmentalists preferred a less extreme change in management direction for national forests. In their view, current environmental conditions are so altered by previous human intervention, that if it is left to nature to remedy, further damage might occur. Restorative measures are needed to help nature return to a more naturally resilient state.

> *We've been managing these ecosystems for too long now to just walk away. Again I've come to that conclusion reluctantly. I believe in some instances we're going to have to do something. (118)*

They felt that timber harvesting and other silvicultural practices are part of restoration activities but may not have a long-term future. This would depend on identifying sustainable levels of multiple resource use. Light-impact environmentalists argued that prescriptive treatments must be ecologically motivated rather than market driven. They

cited the Forest Service's history of "getting the cut out" to make annual sale quantity (ASQ) targets as a policy that overlooks ecological needs to satisfy economic gains. Instead, harvests, thinnings and other active treatments in the forest should occur only to improve environmental conditions or alter its current state to better prepare it to respond to naturally occurring events. Some, for example, believed fuel levels to be abnormally high. By intervening with light-on-the-land treatments, the fuel load could be reduced; thus when fires started, the forest would experience low- to moderate-intensity burns instead of stand-replacing fires that can sterilize soils, cause extreme erosion, and eliminate habitat.

Light-impact environmentalists shared concerns with the zero-cut environmentalists but disagreed slightly on the means to achieve changes in national forest policy. Similarly, the urgency of such changes was believed important, yet light-impact environmentalists felt that their approach was more realistic given the organizational culture of the Forest Service and societal pressures placed on natural resource consumption.

Nonindustrial Private Forest Landowners

For this study, nonindustrial private forest landowners (NIPFs) comprised a group of people individually owning as little as 5 acres to as much as 3,000 acres of private forest land. They were a heterogeneous group whose level of management ranged from none to intensive silvicultural treatments. Their management objectives were as diverse as their interests. Some NIPFs had no interest in managing their stands for timber production, other than an occasional Christmas tree or firewood cut. Others wanted to encourage hiding cover for deer and elk or keep a few snags around for cavity nesting birds. Others just preferred a forested view from their family room windows. For the more intensive NIPF, some silvicultural practices were applied to extract timber or alter the structure of their stands.

The NIPFs drew on various resources for their knowledge concerning forestry. The USDI Natural Resource Conservation Service, Washington Department of Natural Resources, and Washington State University Extension Service provided a wide range of services to help NIPFs learn about forest stewardship, identify management objectives (if so desired), understand applicable regulations, implement forest management practices, and attain available funding.

> *Most NIPFs want to do the right thing–they just need to know what "right" is and how to do it; they honestly want to learn. (119)*

Some NIPFs consulted with or hired private foresters to manage their lands.

One aspect of the CROP program directed toward NIPFs is technology transfer (Quigley 1997). Through Washington State University Extension Service, funding is provided to aid NIPFs in managing their own small-diameter trees. Extending technology to these landowners benefits not only their lands but potentially the greater landscape as well.

Typical ownership of private nonindustrial forest lands was fairly young. Many purchased their lands, especially the small-acreage parcels, within their own generation. One common occurrence on these types of lands was stands that suffered frequent thinnings or harvests, leaving only submerchantable timber with deteriorated ecological properties. This added to confusion and frustration for the NIPFs, because their lands might require more active management than they thought at time of purchase to sustain desirable conditions.

I knew there would be some management involved [when we purchased this land], but how we were going to manage, I did not know. (112)

What you see a lot more in the private sector in the last 5-6 years, the overall condition of the stands on NIPF lands has declined. That's where all the wood's coming from since the national forest's curtailed their sale programs....And there's been pressure because of the increasing regulatory burdens. Those fears and the cycle right now of this area being popular to move to–you see a lot of ground converted in one way or another. It goes from a 160 acre timber land block to a whole bunch of 20 acre home sites. (171)

It therefore is up to each NIPF's discretion to manage (including no active treatments) his or her own land. The only legal constraints are county zoning and state forest practices regulations.

Adjacency to national forest lands posed an interesting dynamic to some NIPFs. Activities, or the lack of, occurring in the CNF could have direct impacts on neighboring NIPF lands. Insect, disease, and noxious weed problems, for example, easily can cross ownership boundaries. Similarly, a particular vegetation type and physical structure of one owner's stand could directly influence wildlife, riparian characteristics, fuel loading, and tree mortality for an adjacent landowner.

Reducing causes of tree mortality, on their own lands as well as in the CNF, was the key concern for most NIPFs. They preferred a visually appealing forest providing a variety of resources (commodity and noncommodity). Resource losses from natural and human-caused disturbances were viewed typically as negative impacts.

Recreationists

A variety of recreational opportunities exist in the national forest, including hunting and fishing, hiking, trail riding, snowmobiling, skiing, huckleberry picking, birding, biking, camping, all-terrain vehicle use, wilderness exploring, and more. The recreationists stakeholder group was quite diverse and voiced competing positions on forest management policies. One way to characterize the subgroups was to look at consumptive and nonconsumptive recreation: Hunting, fishing, and berry gathering corresponded to the former; hiking, trail and road use, and wilderness exploring corresponded to the latter. Nonconsumptive recreation could be subdivided into different levels of resource impact; e.g., low impact birding, moderate-impact horseback riding, and high-impact snowmobiling. The result of various impacts on and consumption of forest resources led to some conflicts among recreational subgroups. Most recreationists enter the forest to seek fun, adventure, and relaxation. But contact with people who enjoy one type of activity may disrupt the activity of others.

Conflict among recreationist subgroups was further exacerbated by other stakeholder groups. For instance, hunters objected to political activism by some environmentalists, and backpackers disapproved of some silvicultural practices used by timber harvesters.

Despite the diversity within this stakeholder group, most shared a common interest: Recreation on the national forest provides many enjoyable experiences for many people. Often, these recreational opportunities are not available to people unless they come to public lands such as national forests. Many local residents use the forest as well, often viewing it as an extended backyard. Thus, access to these lands was a key concern, especially because the national forests are public lands.

It's federal land, the federal government is us; and the people feel that we should be able to walk in the forest, ride our bikes, hunt, camp....This $5 fee and road closures are real negative from a lot of people's perspectives. (124)

Then they want to block off all these roads. I know a lot of people who are disabled. They can't go out and hike, but they like to drive out in the national forest and look. (165)

My only complaint about it is that they close so many of the roads. I know they have reasons, but it irritates me. The gates are locked, and they prohibit us natives from doing what we like to do. (116)

Other concerns included maintaining trails, roads, and facilities; transferring information about the forest and its management to recreational users; enhancing recreational opportunities without sacrificing environmental integrity of the forest; and keeping user fees at an appropriate level.

Tribes

Native American tribes have sovereign nation status and therefore were categorized differently than the aforementioned stakeholder groups. Sovereignty grants different legal and consultation rights to tribes with respect to national forest land management decisions. Three tribal governments had interests in the management of the CNF:

- Colville Confederated Tribes
- Kalispell Tribe
- Spokane Tribe

Although each tribal government is unique and had individual agreements with the CNF, they share some common interests in national forest activities and policies. For example, the tribes identified their key concerns as resources associated with their traditional use and ways of life; areas of cultural and spiritual importance; hunting, fishing, and plant gathering; and water quality.

[Our interests include] attempting to maintain, or preserve, or reestablish as much of the traditional uses as [we] can. (115)

The policymaking process, per se, was a more fundamental issue than specific on-the-ground activities. The national forest comprises lands held in trust for the tribes; certain legal rights apply to these lands.

The Colville National Forest is inside the first Colville Reservation....In the process of losing that reservation, the Colville tribes never did abrogate their rights on that land. (173)

Consultation between each tribe and the Forest Service was preferred, rather than each tribe being considered as a typical "public" in the public involvement process. Tribes have legal rights through federal laws, treaties, and agreements for lands held in trust. One aspect of these rights is consultation government to government. Therefore, if any agency, such as the Forest Service, fails to consult with a tribe in this manner, it has not met its legal obligations.

Even though some of the ranger districts and the supervisor's office had informal links to tribal representatives, a formal consultation process with each tribe was not, and is not, in place for the CNF. Each tribe wanted to develop a more collaborative relation

with the Forest Service to increase the agency's understanding of tribal rights, interests, and views on forest management. Several tribal advocates cited a general lack of understanding on the agency's part of tribes' traditional use and spiritual connection to the forest. Thus, consultation before drafting of management alternatives and decision-making would allow more flexibility to design options incorporating tribal interests. In addition to the tribes desiring the agency to actively fulfill consultation obligations, the tribes also were working to formalize this process by developing an organizational protocol within each tribe for this purpose and forming relations with the Forest Service.

Forest Service

Line officers and staff of the CNF comprised this stakeholder group for the purpose of this report. Residents of local communities were familiar with employees at the district and supervisor's offices. Their references to the Forest Service typically concerned these employees, whereas distinctions were made for Forest Service employees at regional, national, and research station offices.

The Forest Service's stake in the CROP program differed from other stakeholder groups, in large part, because the Forest Service is the lead decisionmaker for management directions in the national forest. With this role come responsibilities: some formalized through laws, regulations, agency directives, and case law; and some through informal, cooperative relations with adjacent communities, landowners, and other public land and resource managers.

Forest Service personnel span a diverse range of expertise. For example, the CNF staff included foresters, silviculturists, timber sale planners, reforestation planners, wildlife biologists, fisheries biologists, botanists, ecologists, hydrologists, landscape architects, geographic information system specialists, trail coordinators, recreation planners, wilderness specialists, archaeologists, range conservationists, geologists, mineral managers, civil engineers, fire officers, law enforcement officers, and various administrative support specialists.

Disagreements can arise over preferred management directions among different specialists. A silviculturist, for instance, may have one set of concerns about a unit and a fisheries biologist another set. To some degree, these differences are constructive in achieving interdisciplinary management goals. In other cases, rifts can occur that are damaging to the resources and to the credibility of the Forest Service. As with members of previously described stakeholder groups, the Forest Service staff shared many commonalities; however, variability–professional expertise and individual values–existed within the agency.

The CNF has five ranger districts; two districts share the same ranger and about half their staff. Each district has CROP stands, but the Kettle Falls and Colville districts have higher concentrations and focus more resources on managing these stands. The Forest Service often targets management activities at CROP stands because biological and physical characteristics fail to meet management objectives. Historic vegetation and habitat types factor into management objectives, as do riparian conditions and resiliency to disturbances, to improve vigor, minimize mortality, and increase structural diversity of the forest. Actual treatment—intervention in a stand—typically occurs on small patches across the larger landscape and over long periods.

> *Some folks get this mind set that we treat every piece of fiber....Within a watershed there's more happening that's unimpaired than what's getting treated at any time. (157)*

These objectives and treatments differ by district and across the larger landscape.

The Forest Service's motto is "Caring for the land and serving people." Thus, in addition to variables concerning the land, other decisionmaking variables included in management planning processes and treatments are of social, economic, and political natures: laws and regulations, standards and guidelines, public involvement, budget allocations, and overall political context. As forests and forest resources continue to have significant importance to the public, line and staff officers often find themselves in the middle of contentious management policy debates. Owing to the scale, multiple uses and values, and symbolic meanings attached to CROP stands across the CNF, the Forest Service recognizes that competing stakeholder interests further complicate management directions for an already complex ecological situation. Their key concerns in making decisions on why, what, where, when, and how to treat (or not treat) particular CROP stands integrates forest resiliency, watershed conditions, habitat types, biological and physical ecosystem characteristics, biodiversity, timber variables, silvicultural tools and harvesting variables, road issues, and other resource considerations.

Issues

Small-diameter stands, with the characteristics of slow growth, low crown ratios, and high trees-per-acre densities, are a familiar condition to many CNF stakeholders. Public forest managers, foresters from industrial lands, and NIPFs have attempted to manage these stands for several decades; thus, various strategies to achieve management objectives on these stands have been tested. With the CROP legislation telling the CNF to initiate silvicultural treatments through adaptive management, public discourse concerning these small-diameter stands has begun to occur.

One objective of the social assessment was to explore this discourse and learn about various stakeholders' perceptions of the CROP program. This section takes an indepth look at salient issues that stakeholders associated with the CROP program. Five broad issues comprised their interests:

- evaluating CROP research program objectives
- CROP stands: value definitions and perceived risks
- preferred stand treatments
- economic considerations
- social dynamics

Each issue involved various points of contention exemplified by the differing values attached to CROP stands by stakeholder groups and perceived impacts of the CROP program. To understand the debates surrounding the CROP program, a brief description first summarizes the issue.[13] Then, a discussion section explores the similarities and differences among the values, attachments, and positions on the issue held by the

[13] Positions identified in this chapter that correspond to stakeholder groups, tribes, and the Forest Service are somewhat generalized. This tactic focuses on commonalities rather than individual differences of members within a particular group. Differentiations are made by subgroup when significant differences surface. Some variability exists within each group.

impacted stakeholder groups. A summary matrix provides a snapshot of the complex debate over each issue by juxtaposing each group's key concerns, belief statement about the importance of the issue, and position on desirable management directions. The section concludes by noting the different emphases placed on issues by communities within the tri-county region.

All discussion of the issues and positions of the social groups emerged from inductive analysis of the social assessment data. Quotations are generously used to validate the authors' understanding of the social situation. This qualitative approach exposed various layers of social complexity surrounding the issues and the local knowledge about the CROP program and CNF management and policy.

Evaluating CROP Research Program Objectives

Description

The main objective of the CROP program is to implement silvicultural treatments on "over-crowded, slow-growing, fire-originated stands of small diameter trees" (USDA 1994). Owing to concerns about stand productivity and vigor, attention is focused on thinning, harvesting, and reintroducing fire. Silvicultural treatments are intervention strategies, ranging from no treatment to letting nature "run its own course." The following discussion outlines different preferred management directions, including perceptions by the stakeholder groups of the general CROP program and identification of their underlying concerns. Aspects in the debate included the natural evolution of these stands; the costs and benefits evaluated in terms of economic, ecological, and social measures; and the motivation to take an active management approach.

Discussion

Commodity users generally supported the CROP program and cited benefits that included improving forest conditions, diversifying timber production, increasing wildlife habitat, reducing risks of fire and insects, promoting mature stands, and generating more recreational and aesthetic opportunities. Many commodity users believed that CROP stands, if left on their own, would not realize these benefits or at least not at the magnitude possible with silvicultural treatments.

> *We will modify those stands so they continue to change in structure toward an older, more mature stand. That's one of the primary objectives. This has several advantages. One being that you develop that particular stand's structure into some particular habitat a critter needs. The second reason is that we're developing some high quality wood products in the process. At some point in time, those stands will be taken back to zero and the cycle repeats itself. If we understand the environment, and I'm not sure we do, but the researchers do think that we need a certain percent of those stands in older, mature states....To do that we have to manage the stand because they'll never get to a mature state and develop into that specific habitat. (154)*

> *So if you thin and [do] other management, you're apt to have a healthy stand that will be there much much longer. It supplies wood, material and products. Your opportunity for fire is lessened if you manage it, keep it healthy. You're protecting your watersheds that way than leaving it to fire. There's a lot of positive trade-offs, and yes there are some negatives. (172)*

> *We have a choice to let them burn or try and get something out of these lodgepole and tamarack stands. (166)*

> *It's a good idea. We need to manage these stands; turn them around and make them more productive. Either by thinning or if that's too far gone, then wipe it out and start all over again. (146)*

Even though they generally agreed with CROP program objectives, this stakeholder group vented their frustration with the timely need to treat these stands, citing the many years that the Forest Service has been studying small-diameter stands and, in their opinion, not accomplishing much on the ground.

> *You can throw dollars at it forever while you try to figure out what to do. But there's a lot of consensus within industry, non-industrial foresters and agency people that this needs some treatment. So let's start treatment and generate some revenue. A lot of these stands don't need to have complicated, convoluted timber sales. They can be laid out relatively simply and start generating some revenue and get something done to improve the situation. (171)*

> *I'm simple. If it needs fixing, you go do it. You don't go through four years of study and pay 500 people to argue over how it needs to be done. There's just way too much government, and it's gotten so out of touch. (130)*

> *The CROP program is a good program for the forest. It's been 20 years they've been thinking about it. If the [stands] were bad 20 years ago, can you imagine what they're like now? If they keep messing around, the little bit of material that can be recovered is not going to be usable for anyone. Waste not, want not. We want it, we don't want to waste it. (143)*

Although most commodity users supported the CROP program, there were some concerns about which wood product processors would benefit the most from large-scale implementation of thinning and harvests. Vaagen Brothers operated a sawmill for small-diameter logs in Colville, and a Ponderay Valley Fibre chipping operation was located in Usk. Most likely, these processors would consume a larger proportion of logs and chippable material from treated CROP stands. Other processors, citing short- and long-term supply needs for their operations and ecological benefits to the forest, would need to maintain some level of large log sales in addition to small-diameter stand treatments.

> *I've got a lot of concerns about this is all they're headed for. And we've got these other older stands that are starting to fall apart. We've got bugs in them and lots of other problems. All they're going to promote is a forest health problem. The bugs are going to keep spreading. And we're leaving those trees. We should concentrate on those stands in addition with this small stuff. That's one of my concerns as a forester: What are we accomplishing? Are we doing anything good for the stand or are we just making a timber sale? One that benefits one mill, a few loggers? But is it really helping the forest? I don't know. I don't think so. It's not releasing the stands to grow. So I've begun to have the opinion that the Forest Service is not out here to grow trees. And that's what a lot of people around here feel. (136)*

> *The CROP program is a good program. They can sell small trees...[but].... it's senseless to put up a timber sale that has four units of harvestable volume and six units of 4" material and trying to sell it on the open market. They're catering to only one facility in our area: Vaagen's. I would say all the sales are designed for Vaagen's. (172)*

Environmentalists were more skeptical of the CROP program, thinking it a furtive effort to maintain or increase timber production levels in the national forest. This timber emphasis was perceived to be another attempt to ignore the importance of conserving

nontimber resources. Biodiversity and the natural successional role of CROP stands, they believed, cannot be attained through large-scale human intervention in the forest. The CROP program symbolized human manipulation of ecosystems without regard to nature's processes and inherent values. The real question at issue seemed to be whether treating small-diameter stands would be motivated by economic desires or ecological needs.

> *The whole CROP program emphasis, whether it's thinning from below or salvage, is a futile attempt to bring back the past. An attempt to capture the glory days. Failure to recognize that–anything in that direction–is short term; it's nothing that can be sustained on any level. (118)*

> *The CROP report is skewed toward commercial usage of the forest, of dog-hair stands. Commercial use is one use of a multiple use paradigm. It's supposed to be in place, but it is the dominant theme: "If we can make any money off this stand, then it's useful. If we can't make money off this stand, then we've got to do something to it to make it commercially useful." That doesn't make sense to me. As a citizen, an owner of those lands, I watch the money go upstream, over the ridge, and then into some stockholder's pocket someplace. I don't see the money going back into the local community. I don't see progress being made. (151)*

> *If you can find a biological reason to go in and do a small amount of logging or firewood cutting, then you can do it. But it's not a situation to make money off it—no commercial cuts. (122)*

> *For me it's the philosophical reason why one does it. If the goal of CROP is to produce board feet for timber harvest, I don't know if I'm absolutely in favor of that. If the goal is to mirror natural management by fire, because fire is very mosaic as it burns the forest, then there might be reason to thin, open up some areas, and in other areas to leave that post-fire climax species. (156)*

In response to environmentalists questioning the motivation behind the CROP program, the Forest Service tended to emphasize healthy forest conditions as its primary management objectives.

> *The focus is forest health....We're trying to move the stands toward an older, more mature stand which have a lot of ecological value. You could also argue they have a lot of economic value if it's done right. So both, but the driver is definitely forest health not economics. We wouldn't compromise the forest health to achieve some economic goal. (157)*

Furthermore, the CROP program, although it corresponds to over 110,000 acres, does not aim to treat every stand. Ecologically an aggregate conversion is not desirable; economically it is not feasible.

> *It's never been our objective to eliminate all these small diameter stands....Our assumption is that we can probably tend to the stands that are relatively close to a road, not too steep. We need to use ground-based equipment. We've been operating from that perspective for about 10 years. (176)*

But caution was recommended. The Forest Service stressed a need to keep the CROP program grounded in site-specific objectives for each stand, thereby preventing a "one size fits all" implementation strategy.

> *The milling structure of this area makes it fairly conducive, but the biggest concern I have is that it doesn't become a runaway snowball. (111)*

Civic representatives raised concerns about how the CROP program would impact local communities. Quality of life issues, such as aesthetic surroundings and economic dependence on forest resources, topped their list. Moreover, because the Forest Service is a federal agency, they questioned decisions made in Washington, DC, and Portland, OR (headquarters for the Pacific Northwest Region). Fears arose over nonlocal policies and authorities dictating decisions affecting local lands. For example, civic representatives believed that the voices of local residents are discounted and unique ecosystem characteristics and site variability of the CNF are overlooked. Thus, eventual on-the-ground activities may not meet local social acceptability or achieve desired ecological objectives.

Main concerns for tribes about the CROP program revolved around legally mandated consultation rights: to involve each tribe in the decisionmaking process. They viewed themselves as groups distinct from public citizens and as having unique land trust and treaty rights. Their traditional uses of the national forest often integrated cultural, spiritual, and material aspects of resource use and stewardship. Although incorporating tribal interests into forest policy is mandated, several tribal advocates felt the Forest Service was not completely complying with legal directives.

> *They're in absolute noncompliance. There is no official consultation process between the Okanogan National Forest and the Colville National Forest and the tribal government. (173)*

Table 16 summarizes stakeholder groups' general concerns and positions about the CROP management and research program.

CROP Stands: Value Definitions and Perceived Risks

Description

CROP stands can have multiple attributes depending on views by stakeholders of CROP stands within the larger context of the national forest landscape and society's dependence on natural resources. The key issues framing the debate over specific stand treatments question whether these small-diameter stands contribute or detract from the forest in terms of ecological value (e.g., providing wildlife habitat, structural diversity, successional role), resilience to disturbances, and social impacts. The valuation by stakeholders–the relative importance of the presence and function of CROP stands–varied. This section identifies competing value differences that factored into stakeholders' preferred management directions to silviculturally treat or not treat those stands. One component that influenced the stakeholders was the perceived risk: What would communities, society, the forest, and environment risk by leaving stands in their current state? What would be risked by modifying the biophysical structure of stands? Many stakeholder groups believed CROP stands to comprise an unusually large percentage of the forest landscape. Yet, this shared recognition led to differing beliefs about how the Forest Service should proceed.

Discussion

The concept of forest health was generally believed to be a positive condition, although specific definitions of what this would mean on the ground differed by site, time span, appropriate resource use, ranges of historic ecological deviation, and so forth. Thus, different stakeholder groups often proffered competing definitions of forest health, depending on their values attached to the forest and beliefs about desirable forest management. Identifying stakeholders' perceptions of risk–what threatens maintainance or restoration of forest conditions–clarified these various definitions of a healthy forest.

Table16—General concerns of stakeholder groups about the CROP program

Stakeholder group	Key concerns	Belief statement	Position
Civic representatives	Quality of life, cultural values	Local forest conditions differ from other PNW Region national forests and within the CNF.[a] Local residents often feel alienated by decisions made in Washington, DC, and Portland, OR.	Make local decisions based on local conditions, variability, and impacts.
Commodity users	Forest health, timber	Forest and timber resources are limited, yet the demand for wood products continues to grow. Efficient use of these resources means implementing practices that promote forest health.	The Forest Service should actively manage these stands to enhance timber and other resources. Local timber supplies can be harvested in conjunction with ecologically sensitive practices.
Environmentalists	Biodiversity	CROP is another attempt to reach allowable sale quantities. If there really are too many small-diameter stands, let nature regulate change	The Forest Service needs to respect nature and natural processes; thus, they should preserve the precious resources and biodiversity left in the national forests.
Forest Service	Forest health, ecosystem elements	The feasibility to implement CROP depends on many variables: site-specific characteristics, technologies, forest health conditions, management objectives, and funding. And it must be socially acceptable.	Prescribe treatments based on site-specific characteristics and grounded in larger program and landscape objectives.
Tribes	Cultural values, spirituality	Tribes have unique standing and mandated consultation rights with federal agencies.	The Forest Service should formally consult with tribes on proposed actions. Traditional uses should be preserved for tribal members on the lands held in trust.

[a] CNF = Colville National Forest.

Commodity users believed that CROP stands handicap the forest's multiple-use resource base. In their assessment, CROP stand conditions yield marginally marketable timber resources; are underproductive, thereby reducing future merchantable timber supply; and are strongly susceptible to catastrophic losses and damage, which jeopardizes not only timber but also recreation, habitat, soil, water, air, and wilderness resources. This stakeholder group defined CROP stands as having low economic value and posing serious mortality risks. Thus, they would like the Forest Service to intervene with active management to encourage higher growth rates and minimize the likelihood of losses from insects, disease, storm breakage, and fire.

> *These fire-generated stands, most of them are 50-90 years. They are stands that have not progressed as rapidly as they should have. They're stagnant stands for the most part. Few trees are showing dominance. These stands are subject to fire all over again. If we don't treat these stands some way, they're going to go back to zero age. My guess is in the next 30-50 years, these stands will all go back to zero age class. Catastrophic fire is the most imminent and probably [will] be affiliated with an insect epidemic. (154)*

> *All of those acres aren't good for anybody; the timber's not growing, it's not good wildlife habitat. A lot of it's in good hydrological health, providing watershed protection, but that is in danger of disappearing at any moment if we get another catastrophic fire in those stands. I don't see anything positive in that situation. Something needs to happen, or something will happen sooner or later. Fire–there's no question. That's the history in this part of the world....The classic science tells us that when lodgepole gets to be 80 years old or this big around [gestures 6 to 8 inches], then it's ripe for bark beetle infestations. We've got thousands of acres of that on the Colville National Forest that's just coming to that stage. That will make a very hazardous fire situation–making what already exists that much worse. If this stuff is all of sudden dead and laying on the ground, it's a bad deal. (171)*

> *The stands are totally unproductive, and they're going to be that way until the next fire comes through. (142)*

> *...when they did logging in the early 1900s, what came back was Douglas-fir and a bunch of these small diameter stands....The Doug-fir would cause a drought stress even in the good years. And we're in a moisture limiting area...,so our pines were stressed and susceptible to beetles. (166)*

Many commodity users defined disturbances that threaten resource productivity, commodity values, and resource mortality as risks jeopardizing forest health. If these disturbances were severe, resulting in large losses of resources, they would be viewed as catastrophic to the forest as well as to the people, fish, and wildlife dependent on the forest.

> *I'm just concerned with what they're [the Forest Service] doing forestry-wise. We're going to end up with a fire up here like people have never seen. I think it's going to happen. One of these years will be our year. This is a fire ecosystem and in all those stands where it happened before, it's going to happen again. And the funding for fire fighting has gone down....And we have a lot more people living out in the woods so they concentrate their efforts protecting homes. The timber burns....I just know what's going to happen—there's so much dying stuff out there. And it's not that far from Colville. (136)*

> *It will burn again. The Forest Service knows this. It has to turn over. You can't have a lodgepole stand forever, it's a cover crop then you have the next generation. It's either going to come by fire or get all sick and die. (130)*

Commodity users believed that active management grounded in silviculture could mitigate these risks and, thus, reduce resource losses.

> *The main risk is that the entire forest dies and goes through that cycle like any garden at your house would if you let the weeds take over. Your desirable material, in this case trees, is squeezed out, you have an unhealthy forest that dies. In one sense it burns, or in another sense through bug kill. It's going to die one way or another....If it's a managed forest, treated with prescribed thinning treatments, that forest is going to be healthy for generations to come. Your wildlife is going to be thicker, everything is going to flourish. Whereas in an unmanaged, untreated forest that is left to nature, there will be little to no life there. (128)*

> *If the timber is thinned out, then if a fire does come, it goes through fast and it doesn't do too much. But if you've got too much of a fuel load, it will just devastate it. (165)*

> *There's real obvious risks. Wildfire: when you allow stands to develop to the point they're going to burn, they will burn....Sooner of later the trees die, whether it's disease, infestation....That's what sets the stage for fires. There's a natural thinning process that can be emulated. That's basically what forest management is all about. An active emulation of getting the trees to grow and keeping them healthy. (172)*

Environmentalists, however, placed more value on the intrinsic nature of the forest rather than resource productivity when compared to commodity users. Healthy forest conditions, according to environmentalists, involved nature-regulated systems, which they believed would allow for appropriate species and density stocking levels, landscape and temporal vegetation and habitat patterns, and disturbance resiliency. This nature-regulated system may at times experience low resource productivity episodes but, they felt this would be "natural" and would have a function in succession.

The concept of forest health had some negative connotations in the policy arena according to environmentalists. Due to the wide use and association with tree mortality, forest health initiatives often were viewed as a ploy to extract more timber from the national forests. They perceived forest health initiatives to be motivated by economic gains rather than by ecological improvements to the forest.

The Forest Service also was concerned about the forest health character of these stands in terms of their contribution to watersheds and the greater landscape. As an individual component and as part of the landscape, a CROP stand was valued by its ecological properties and functions. Many believed the Colville National Forest to have an abundance of CROP stands and referenced historical data on disturbances and ranges of variability (HRVs). More variability in age, size, and structure within these stands and across the landscape, therefore, would encourage higher levels of biodiversity, thereby benefitting wildlife, recreation, timber resources, and forest health.

> *We've always recognized that there's more CROP stands out there now than there ever have been historically. And it is out of alignment with what ecosystems should have....The main motivation is the ecosystem restoration. These stands have stagnated, they're dying....They just don't contribute a lot; they do contribute some. But they don't contribute a lot of the diversity, habitat for species. So we're trying to convert them to something that provides more habitat for a greater variety of species. That along with, to a lesser extent, silvicultural objectives–these stands are stagnated, they're not producing the growth. (176)*

> *They're basically very overstocked and starting to get suppressed—growth, vigor. There are stands that are not suitable for larger wildlife species because there's a lack of ability for animals to develop trails in them and forage. They are slowly losing stability—the trees are losing the amount of crown on them—the tops are starting to break out, allowing for snow damage. They are also reaching the age and character that even if we treat them, they may not respond to treatment. So if we don't do something fairly soon, we may end up with these stands for a while. (114)*

> *...many of the areas where we have CROP stands are where we have concerns about insects and fire. They're overly dense so their growth is slowed down....A lot of those stands tend to break up at an early age, things die and fall over; a lot of slash buildup....The other thing is low crown ratios, maybe 30 percent or less in crown. Then the vigor of the tree drops off over time....So a lot of the CROP stands have this structure where you have these tall, whippy trees. It doesn't take much of a disturbance to get insects, disease, fire or weather in there. So there are many silvicultural reasons why these stands come up a high priority for treatment as opposed to other stands. (157)*

Environmentalists similarly focused on the importance of forest biodiversity, but they believed that CROP stands play important ecological and successional roles to this end. They would like forest managers to recognize these roles even though timber resources may not be highly productive in this stand type.

> *I look at dog hair as...a response to location, an initial response to a stochastic event like fire or clearcutting. What happens is the lodgepole pine serves as a nurse crop to late seral and mid-successional species; it preps the soil, it holds the soil in place, it provides nutrients, habitat. To me, that's a higher value than pulp. It does everything it's suppose to do. It preps the location for the next stage in succession, which is its function. (151)*

Environmentalists also valued natural succession as opposed to managed forests, which they perceived as manipulations to naturally caused changes. They felt that the quality of naturalness would be partially compromised when humans intervene with silvicultural treatments intended to quickly move dense, stagnated stands to ones with higher growth and different biophysical structures. Many argued for forest managers to have patience and let nature run its course.

> *The lodgepole is falling over, the cedar and hemlock are coming in. It takes a long time. Those trees are slow growing and it's pretty tight. When you're managing you'd like to see a big tree in 60 years, but those trees, the way*

> *they are, [are] probably going to take over 100 years. Not quite doing it quite the way the PhD's would like it to happen. It's still going to happen. There'll be a more mature canopy there one day. I'm not worrying if things aren't happening as fast. (122)*

Civic representatives and NIPFs both evaluated CROP stands by using multiple values, including aesthetics, timber, forest cover, habitat, and other ecological properties. Civic representatives placed a high priority on deriving jobs and developing profitable, resource-dependent community economies from the national forest. CROP stands, therefore, were less desirable to them than larger diameter, higher growth stands, which were perceived to provide better recreational opportunities, quality timber production, and more visually appealing surroundings. Civic representatives believed that CROP stands do not fulfill the forest's potential to generate productive and ecologically beneficial stands. Furthermore, they associated a host of risks with CROP stands, which would jeopardize long-term community economic stability and environmental biodiversity and health.

The concern of NIPFs over CROP stands was twofold. Many NIPFs had similar stands on their lands, which were proximate to the national forest. Aesthetics, habitat, and forest health issues, therefore, often directly impacted them. Depending on each NIPF landowner's interest and management intensity, the concerns about potential risks associated with their CROP stands and those on the CNF differed. However, some NIPFs had already used silvicultural treatments on their small-diameter stands, ranging from thinning to reestablishing stands with different species. These private forest land owners offered their treatments as working examples that the Forest Service could evaluate and integrate into the CROP program. Part of the CROP program is to offer technology transfer to aid NIPFs in managing their CROP stands; thus, collaboration potential exists, helping both NIPFs and the Forest Service.

Few recreationists placed a high value on CROP stands: riding and hiking are practically impossible through such dense stands; huckleberries do not grow in closed patches; and, with the exception of lynx and their prey, most wildlife avoid such thick cover. As insects, disease, and breakage occur, these stands become even less appealing to recreationists. If wildfire were to occur at catastrophic levels, long-term recreational opportunities might suffer major losses to trail systems, road access, and wildlife and scenic appeal.

Yet, some recreationists did not recognize CROP stands as anything out of the ordinary:

> *I may have seen them, but not known what I was looking at. We just ride the trails. If they're there, I haven't noticed them. If there's [a] clearcut, that's what I notice. (116)*

Ultimately, many stakeholders agreed that fire is inevitable. But the magnitude, intensity, and frequency of acceptable wildfire raised a debate. Although most components of wildfire origin are not controllable by humans, fuel levels and stand conditions can be manipulated. The debate arose over defining specific objectives for altering or leaving conditions unchanged: the value of fire, even if of phenomenal proportion, and its material impacts. Various assessments of fire's role in the ecosystem emerged. Some referred to local fire history with the goal of mimicking fire pattens prior to large-scale

suppression efforts; others assessed current forest conditions, demands placed on forest resources, and society's level of tolerance of wildfire to analyze costs and benefits to develop appropriate preventative, suppression, or let-it-burn strategies; and yet others attempted to define natural versus unnatural aspects of fire that restore a nature-regulated fire system.

Commodity users believed CROP stands to be ripe for disturbances fostering catastrophic fires. They feared that fires could burn large portions of the forest, repeating the fire history and resource losses of the early 1900s.

> *If you want to take a worst case analysis, if you're moving to fireproofing the forest, and you may have lost the same acreage that was lost during the 20s and 30s, you're talking about reducing the Colville's million acres by 15 percent. If those fires occurred again exactly as they had, [they] would drastically affect the economy, fish, everything. (101)*

Civic representatives also worried about the impacts of large, intense fires on communities dependent on timber, aesthetics, and recreational opportunities derived from the forest as well as potential losses to homes, infrastructure, and public safety.

> *The focus has to be on the community that lives in the forest. When you talk about the small diameter timber cut, and a lot of it's not going to grow from what I've been told; it's just there. And it's also building up to be a tremendous problem in the future. We're seeing that as extreme fire danger. But with the bureaucracies and policies that we have to go through, nothing's going to be done in 5-10 years on it. And this is not 1910, this is 1997 and we have some real serious problems because of the number of people living in the area. (105)*

Several large wildfires burned on the CNF in the recent past. Civic representatives viewed the low timber salvage efforts after the fires as exacerbating the fire damage. Taking a more proactive management direction, as the CROP program proposes, appealed to this stakeholder group, because fires are inevitable but resulting losses may not need to be so severe. The CROP program would act as an insurance policy to minimize risks to the national forest's adjacent communities.

Environmentalists often attributed the origin of these stands to the large, intense fires in the early 1900s, but they also looked at the logging and forestry practices that prepared the sites for those types of fires. Thus, they felt that by letting nature, rather than humans, attend to the future condition of the forest, long-term results would be more ecologically appropriate.

> *Some of the fires that occurred here are directly attributable to the extent and intensity of past logging activities. (111)*

> *Part of the problem....is that we've been in there too often. (106)*

Environmentalists defined catastrophic losses from fires as the destruction of unique and irreplaceable gene sources, ecological history, and species extinction.

> *You can't let a crown fire get going because you'll lose that legacy in that structure. You'll either lose it to competing species or to fire. If we do nothing, we're most certainly going to lose that component, that legacy.... We know that the trees, the fish, etc., have developed site-specific traits over the years. If we don't try to protect those remnant stands, we may lose that whole genetic link. (118)*

Environmentalists supported less intensive strategies to reduce losses associated with fire. Realizing that large, high-intensity fires could be devastating to the environment as well as communities, they preferred some mitigation strategies to reduce fuel loads. This position focused on carefully reintroducing fire into ecosystems where suppression efforts in the past decades were too effective, in their opinion. Wildfire was defined as a natural part of the ecosystem and should be encouraged. Efforts to prevent fires were perceived to be motivated by concerns for something other than the environment.

> *With do nothing [management alternatives], the thing that humans fear the worst is catastrophic fire, which used to happen every 100 or 200 years. Granted the structure in the forest is different now, all the Doug-fir has come in, again it depends on the stand....If they didn't do anything, I don't see it as a huge risk. Yeah you could have some big fires come through, but once they're done, they're done. Again it's not a forest issue, it's a money issue. (106)*

> *There should be some natural fire, and if they need to protect people's homes that's fine. But we don't need to destroy the whole forest for fear there's going to be fire. (121)*

Environmentalists' positions on encouraging fire or not taking preventative tactics to reduce fire impacts, were seen by many commodity users, NIPFs, and civic representatives as wasteful of resources, damaging to the environment, and having severe impacts on communities adjacent to fire-prone forests.

> *This idea that we've got to let mother nature do its thing–but going back to bare ground, to me is not an environmentally sound approach. What happens to any endangered species in that area? What happens to their habitat? It's gone. We're looking at 150-200 years to reestablish that. (152)*

> *If the environmentalists would just shut up and let us go in there and get that timber off the ground, it would eliminate the risk of fire. When we had a big burn over here on White Mountain 7-8 years ago, that [would] never have grown as fast as it did. If the Forest Service had been allowed in there to fight it and put cat roads in there, but the environmentalists wouldn't let them do it. So they let it burn. (110)*

> *Fire's the big one [risk]. Decrease of the ability of this timber dependent community to make a livelihood. With that would go all the social implications: divorce, alcoholism, wife beating, children abuse, all that kind of crap. It makes no sense to have over a million acres available and not be able to utilize it in one sense or another. (101)*

> *People look at forests and say "it's pretty today and always going to be that way, so don't touch it." It's just a fallacy....Mother nature is not that kind and pretty all the time. (108)*

The Forest Service also anticipated a serious fire risk associated with CROP stands, past and present.

> *Fuel accumulation is certainly a contributing factor of what got us here. There was a lot of logging where a lot of fuels were left on the ground, contributing to those fires getting started and being uncontrollable because of the intensity. If we don't do something to change those dynamics, we're going to be in a cycle where those fuels build up again with the same sort of*

intense fire. The same sort of stand will come back. To some extent, that's the way things are supposed to work out there. But the spatial distribution of it; there's too much. So we're trying to get it back to where it should be. (176)

They're tall skinny trees that are overstocked, if they don't develop the diameter when the insects come in and they keep getting taller, then a good windstorm or snowstorm is going to break off the tops. It will start thinning that way. And if enough fuel builds up underneath it, it could be a fire hazard....It's an overstocked stand, as it gets older, it loses health, trees start losing their tops and fall over, buildup of fuel load, lightening comes through and starts a fire, so much fuel is going to regenerate the stand. (114)

To reduce the risk of catastrophic fire and other severe disturbances, the Forest Service preferred focusing on improving stand vigor and resiliency.

Generally, the goal is to have mixed species as opposed to pure lodgepole stands. And in a lot of areas, the bigger the tree the better. There are some species, like lynx, that like lodgepole for rabbit habitat. But that's not a very big portion. We want to keep some lodgepole, but when you have large areas of pure lodgepole, that's when the risk factors start going up. (114)

Wildfire, especially at catastrophic levels, and stand conditions exacerbating wildfire were typical concerns associated with CROP stands. Forest health was a common concept used to assess factors of growth, productivity, and resiliency. Poor forest health, in many stakeholders' opinions, could set the stage for catastrophic impacts from disturbances such as fire, insect and disease epidemics, and wind, ice, and snow storms. The degree to which forests were termed resilient and the acceptable level of the aforementioned disturbances differed by the values placed on using, experiencing, or cultivating multiple forest resources. Stakeholder groups differed in their valuations, perceived risks, and assessments of acceptable impacts. Thus, their positions on desirable forest management varied accordingly (table 17).

Preferred Stand Treatments

Description

Many variables factor into decisions on how to silviculturally treat CROP stands. The large expanse of CROP stands throughout the forest are situated on a variety of sites with respect to road proximity, slope, riparian areas, species habitat, and soils. Furthermore, diverse microsite and stand characteristics differentiate the CROP stands as a whole into a heterogeneous mix of age classes, species, and vegetation types. Treatment, thus, cannot be "one size fits all."

Many stakeholders recognized this diversity and favored site-specific treatments, ranging from thinnings from below to complete stand conversion and sometimes in combination with prescribed fire. Debates about clearcutting stands, the capacity of the trees to release when thinned, profitability in the short and long terms, fuel loading, and long-term resource sustainability factored into various treatment scenarios.

Discussion

Commodity users advocated for active intervention and management of CROP stands, emphasizing the need to reduce mortality causes and increase forest resource productivity. Timber production was a major concern; however, they believed that other resources such as wildlife habitat and hydrological conditions could benefit from silvicultural treatments. They suggested various treatments for stands viewed as stagnated and those unlikely to respond to thinning.

Table 17—Values attributed to CROP stand, by stakeholder group

Stakeholder group	Key concerns	Belief statement	Position
Civic representatives	Quality of life, timber, biodiversity	Communities are dependent on neighboring national forests for the quality of life and economic livelihoods of residents. CROP stands provide little economic value as is and pose potentially catastrophic risks. If forest conditions threaten current or future dependence levels, communities could experience a multitude of impacts or crises.	The Forest Service should prevent a forest health crisis and subsequent economic and social crises by treating CROP stands and keeping the forest productive.
Commodity users	Timber, forest health, biodiversity	CROP stands are stagnated, reduce growth, and hinder natural regeneration, thereby posing catastrophic risks. Forests could be irreparably damaged in their capability to provide habitat, healthy streams, timber, etc., if catastrophic fires occur. Active management can lessen the severity of catastrophic disturbances.	Foresters and industry can mitigate risks by implementing prudent management to promote effective and efficient use of forest resources rather than accumulating waste or loss. Intervene with thinnings and harvests to stimulate or regrow productive forests while extracting a merchantable product.
Environmentalists	Biodiversity, naturalness	CROP has its own place in forest diversity. How can humans define forest health–an unknown, ecologically determined stage–and whether current conditions are a crisis? Crises are anthropocentric evaluations. Nature should be its own regulator, not social economics.	CROP stands and forest health crises are more accurately economic crises. Don't let market demand for timber resources cause or encourage the Forest Service to harvest small-diameter stands. Let nature run its own course.
Forest Service	Forest health, biodiversity	CROP stands, in acreage, exceed HRVs;[a] they are stagnant and provide few benefits to other forest programs.	Bringing the forest back within HRVs[a] reduces catastrophic risks to other forest programs and surrounding communities. Plus, the CROP program is a legislative directive.
NIPFs[b]	(Individually defined)	CROP stands may or may not fulfill private forest landowners management objectives. Concerns about their own forest and CROP stands in the Colville National Forest can directly impact NIPFs.	The Forest Service can learn from and provide knowledge to NIPFs about treating CROP stands. Collaborative interaction benefits all parties.
Recreationists	Recreation	CROP stands provide little recreational value, look unappealing, and accumulate dead and dying snags.	Current and future recreation may be jeopardized.

[a] HRV = historic ranges of variation.

[b] NIPF = nonindustrial private forest landowners.

In a lot of these acres, the stands are in too poor of condition for thinning to provide any benefit. They're too old, too stagnant, not enough crown ratio. In some places, thinning can be utilized, something less than a large-scale clearcut. But in others, you have to start over. (171)

Take out everything that is possibly commercial–6" dbh and above–and then burn it. Slash and burn it, if you want to get back to any type of manageable stand, productive stand. (142)

When you're in a 120-year-old stand of lodgepole and you want to make it more productive, the thing to do is clearcut it and replant it...if you want to get production out of lodgepole, you have to manage it from when it's real young. (107)

You have to have a 1-2 punch. First, you reduce the fuel loading, through thinning or harvest and deal with the slash you generate. Next, you come along with prescribed fire...and start the evolution process that these stands have gone through over time. You cannot introduce fire in these stands without reducing the fuel. It's just too thick. (154)

You can use selective logging. There's no need to clearcut. [I] never could understand why they used so much clearcutting. I know of a few places where you use that, but no giant clearcuts. In root rots or other problems, you can use clearcuts as a tool on 2-3 acres. There's no reason they couldn't sustain timber. They could run a mill here forever. (130)

Clearcutting was extremely contentious because of the immediate, drastic changes to visual aesthetics and cumulative ecological impacts. Also, because of the checkerboard pattern of ownership of national forest and forest industry lands, with the latter often employing clearcutting, additional clearcuts on the former would compound impacts on other forest resources. Because of the negative connotations of clearcutting, many stakeholders preferred that this silvicultural tool be used only in small patches to treat cases of insect- and disease-infested sites. Using clearcutting to convert stands unable to release with thinning from below was a less favorable position.

Prescribed fire had several benefits according to some, but only after steps would be taken to reduce some of the fuel in these dense stands. Fire contributes to regeneration, as some NIPFs stated:

In thinnings, my feelings are to do it like nature does. Go through and take out the merchantable wood, wait 2-3 years and run a fire through it. It mimics nature. That gives it time for the potassium from the needles to leach back into the system. (152)

And, some environmentalists believed fire to be the most appropriate silvicultural tool:

There are some areas that the best thing they could do is torch it and stay out for 60 years. A lot of those stands, we've made such a mess of them. That's the only thing that wouldn't compound the issue. (106)

This issue was not wholly agreed upon by all members within stakeholder groups, as some raised concerns about smoke generation and burning potential usable wood products:

> *This discussion about increased prescribed fire is interesting, but it won't be pulled off on a large scale. The social impacts of the smoke production is going to be a problem...,especially when they know their tax dollars are paying for it. (171)*

> *A lot of the small timber should be thinned out and even take some of the bigger trees. Just manage it like it should be managed. Instead of burning it. No prescribed burning whatsoever....They tell you that smoke isn't good for the health of the people, then they want to go and set a bunch of fires and cause a bunch of smoke. That really makes sense. (165)*

Civic representatives supported a general management strategy to employ silvicultural treatments. Continuing harvests and promoting productive, multiple-use forests were the direct impacts that they perceived would result from this strategy. Thinning would produce some merchantable wood and fiber with economic benefits for local communities; timber sales would benefit the counties and general school fund; improved forest productivity would benefit long-term resource sustainability and would be conducive not only to timber but also to recreation, wildlife habitat, visuals, and aesthetics. Silvicultural treatments, in their opinions, would be proactive tools to maintain community dependence on forest resources and enhance forest conditions. Quality of life for residents in these communities adjacent to the national forest would improve and the source of many residents' livelihoods would not be interrupted with drastic changes.

Zero-cut environmentalists questioned intensive use of silvicultural treatments, equating thinning with the philosophy to manage national forests for timber as the primary goal. Instead, research and stand treatments, they believed, should focus on restoration. If any intervention were to occur, they favored stopping all logging and road building in the national forest and then concentrating on ecosystem enhancement projects.

> *So what they should be doing is: they can be decommissioning roads; they can repair damaged watersheds; they can thin in stands, e.g., lower elevation ponderosa pine and get those stands back into equilibrium....There's a tremendous amount of work to be done. And it doesn't have to be this dominant paradigm of moving forward with the same old project, just with a new sugar coating on it. "Now we're doing thin-from-below, but we're still taking out 70 percent of the basal area!" How can they say it's thinning when you're taking that much out? (147)*

Light-impact environmentalists recognized effects of past management on the forest:

> *Consistent with ICBEMP, the science is pretty compelling that fire suppression and management direction over the past several decades has created abnormal stands as far as historical structure. In some instances I would support trying to thin some of those stands to restore the HRVs. But I'm not convinced that that mimics in any way natural successional regimes. (118)*

To return the forest to a more naturally resilient condition, light-impact-environmentalists favored some silvicultural intervention. The key would be to design treatments minimizing impacts on other resources, such as reducing soil compaction and erosion, maintaining stream integrity, promoting diverse habitat, and preventing noxious weed spread. Their goal was to use light-on-the-land practices to return CROP stands within HRVs, yet maintain biodiversity and the natural ecological complexity of the environment.

> *They're [the Forest Service] saying they want to move the structure closer to old growth, to put the forest back into commercially viable species which is the overriding goal of the management regime on the forest, and to reduce the risk of fire, which is extremely problematic in view of a lot of the science emerging. There's very little proof that thinning reduces the risk of fire. Thinning not only compacts the soil, it reduces biomass, it increases the desiccation rates of the soil, it makes the fuel that much more volatile. Again, because of the habitat component it provides for prey species, there's a viability factor there that's not addressed properly in my view. (151)*

Much of the debate for environmentalists on whether to intervene centered around the ecological value of CROP stands, crop stand frequency of occurrence, and inherent differences across the larger landscape; timber sale motives; and, more abstractly, the prerogative of people to intervene in a natural system.

> *I'm not a big proponent of cutting a lot of these stands. They have a purpose too. There's all kinds of animals that live in those stands. It's a different biological condition than the larger stands. (122)*

The Forest Service's desire to thin, harvest, prescribe burn, or regenerate CROP stands was founded on a broad objective to enhance structural, age class, species, and size diversity within these stands. This general objective, however, does not necessarily translate into a single treatment applied to every CROP stand. Each stand is unique; thus, treatment prescriptions must accommodate stand characteristics and meet site specific objectives as well as the overall objective. Site, watershed, and landscape issues add up to a complex set of variables to be considered in treatment options and decisions.

NIPFs also were implementing silvicultural treatments on their small-diameter, dense, and stagnated stands. Management intensity differed greatly across these lands, as some owners were doing active and large-scale treatments and others were doing little or nothing. Time, knowledge, and money often were limiting factors. Agencies such as Washington State University Extension Service, the USDI Natural Resource Conservation Service, and the Washington Department of Natural Resources offer training and resources for NIPFs; however, each landowner has primary decisionmaking authority to use discretion about treatments within the state forest practices guidelines.

Some NIPFs, who were actively treating stands with CROP characteristics, chose to encourage fire-adapted species and to thin dense stands for greater growth and resilience. These lands could be examples of successful and failed attempts to treat CROP stands. The Forest Service could explore these treatments, according to some NIPFs, to better understand the ground-tested results they proposed for the national forest.

Recreationists often claimed their knowledge about silvicultural treatments to be limited. Yet, they hoped the Forest Service would consider the impacts these treatments could have on recreational use of the forest. Huckleberry gatherers, for instance, stated that open patches in the forest enhance berry growth; trail users preferred to avoid heavily thinned and clearcut areas; hunters liked appropriate habitat maintained for deer, elk, and bear; wilderness users preferred no signs of human intervention in these natural areas; less physically able people required adequate road access to the forest; and campground users wanted aesthetically pleasing sites.

Specific treatment prescriptions were less of a concern to local tribes. For them, adherence to federally mandated consultation, government to government, was extremely important. Use of that process would provide an appropriate mechanism for identifying preferred treatments.

Preferred silvicultural treatments, if any, are summarized in table 18. Variables that factored into the beliefs and positions held by stakeholders included assessing the contribution of CROP stands to biodiversity and natural succession, reducing mortality rates, extracting a merchantable product, and mitigating impacts on other forest resources (e.g., aesthetics, watersheds, recreation).

Economic Considerations

Three aspects of the complex economic context in which the CROP program is situated include local community economies, the role of local timber industry, and the costs involved in treating CROP stands. Each aspect is discussed separately.

Community Economies and Dependence on Forest Resources

Description—Communities in Ferry, Stevens, and Pend Oreille Counties have strong economic ties to their forested lands (Kettle River History Club 1992). Timber, as with mining and grazing, enticed Anglo settlers to this region to establish core industries that continue to play a significant role in current economies. Since their settlement, tri-county communities have experienced boom and bust cycles in all these natural resource based industries. Developing coping strategies to survive short-term market, technology, and policy fluctuations are common responses (Carroll 1995); however, these responses do not often result in large changes. Today these communities still are timber dependent.

Depending on industry specialization, isolation from trade centers, and economic diversity, each community differs in its level of timber dependency. In addition, the proportion of public land proximate to communities affects economies in property and excise tax revenues. With reductions in national forest timber sales, local economies face multiple impacts:[14] fewer people are employed in primary timber jobs, less income is generated from this sector, secondary industries do not benefit from the rollover of these dollars, secondary employment decreases, the Forest Service payments in lieu of taxes (PILT contributions) decrease, and county treasuries are reduced. Without other industries to absorb these declines, community economies struggle.

Key themes raised in discussions with local communities about their economies and forest dependence were surviving changes in the timber industry, exploring other industries to diversify and accommodate growth, and preserving unique and desirable characteristics of this region.

Discussion—Civic representatives strongly stressed the significance of timber dependence for individual communities and county services.

> *Not to be trite, but realistically every business here [is dependent on the timber industry]. Not directly, but of course retail is absolutely. Our resource base is and has always been the traditional industry.... (127)*
>
> *With the newsprint mill, there's far far more jobs in the area. The mill itself has doubled the valuation of the county. (117)*

[14] This description identifies only impacts on local timber workers and communities. The local timber industry does not operate in geographic isolation; thus, other contractors, processors, and communities may experience similar impacts.

Table 18—Desirable and appropriate silvicultural treatments for CROP stands, if desired, by stakeholder group

Stakeholder group	Key concerns	Belief statement	Position
Civic representatives	Timber, forest health	Thinning and harvesting continue the renewability of timber resources and provide jobs, tax base, and school funds.	Use proactive silvicultural tools. Don't wait for large, catastrophic fires to consume merchantable timber and diminish other forest resources.
Commodity users	Timber, forest health	Silvicultural tools such as thinning, harvests, and prescribed fire can actively reduce risks and improve forest health. Leaving it "as is" will mean only catastrophic results in time.	Thin for species and in areas that will grow upon release. Harvest and regenerate in areas beyond release. Use prescribed fire sparingly.
Environmentalists:			
"Light harvest"	Biodiversity	Thinning and harvesting have negative impacts on soil, water, and vegetation. Treatments also disturb habitat and increase noxious weeds. But, the proportion of CROP stands across the Colville National Forest poses risks unless some intervention occurs.	A thorough assessment must be undertaken to not jeopardize the ecology. Thin areas that bring forests back into HRVs.[a] But this should not include new road building or significant changes to current roads.
"Zero cut"	Naturalness	Thinning and harvesting have severe impacts on soil, water, and vegetation. They also disturb habitat and increase noxious weeds.	Silvicultural practices are too much of a gamble and risk irrevocable loss of what habitat, species, and natural conditions remain on public lands. This is our legacy to future generations. Definitely no new roads or road improvements.
Forest Service	Forest health, biodiversity	To provide structural, age, species, and size diversity–some silvicultural treatment in the form of thinning, harvesting, regeneration, and prescribed fire is necessary.	Use some combination of these treatments to achieve management objectives suggested in the CROP legislation.
NIPFs[b]	Forest health,	Private lands have been cut over repeatedly leading to less resilient species and stagnation.	Learn from private lands; don't high-grade species, keep fire-resilient species, and use selective harvest practices rather than clearcuts.
Recreationists	Recreation, aesthetics	Silvicultural treatments can improve some recreation (e.g., huckleberry picking) in the short term and increase overall aesthetics in the long term.	Small entries, no clearcuts and cleaned harvest areas reduce impacts on recreation. Close access temporarily, but reopen when safe to reenter area.
Tribes	Cultural values, spirituality	Tribes have unique standing and mandated consultation rights with federal agencies.	Consult with tribes to verify that traditional uses are not impacted by silvicultural treatments and management objectives.

[a] HRV = historic ranges of variation.

[b] NIPF = nonindustrial private forest landowners.

Little doubt surfaced about the importance of primary timber jobs and the rollover effect on secondary service industries.

> *When the action on the forest slows down, the action on Main Street slows down. (124)*
>
> *...the rollover effect is 2½ or 3½ here. (103)*
>
> *The average worker doesn't have as much in his pocket and isn't spending as much as they were. That's just because the timber related industry closed up. It basically runs the entire community. (109)*
>
> *Every little bit that happens in that industry affects not only the people that work there, but also the people that have secondary businesses: clothing stores, groceries, service stations. It's greatly impacted. (148)*
>
> *We don't really have anything economically in north Pend Oreille County to support our businesses. Since we've been pretty well closed out of the forest. (138)*

The CNF plays an important role in county economies because of its forest resources and large share of land base (and tax base) in the region. Changes in PILT contributions from the Forest Service and other land management agencies directly impact funds for county schools, utilities, and roads.

> *One of the problems as a county with a large percentage of property owned by the government, there's very little money that comes in for taxes. And with so little logging done, there's little in lieu [payment in lieu of taxes] money coming in. It's a real burden for a county as small as ours. (105)*
>
> *The whole county is impacted by the national forest because all the industry we have in the county depends on the forest. (138)*
>
> *The whole county is impacted because three-quarters of it is national forest. So when they don't put up very many sales, and we're a timber dependent economy, it's not good. The other things is now we don't have any mills in the county. So anything cut in the county is exported....Without timber, there's really nothing. (123)*

Recognizing the large degree of timber dependence and the lack of industry diversity in nonnatural resource-based sectors troubled many civic representatives, particularly those in city government and community economic development positions.

> *It's a scary deal. To sit in this little community [with] 2-3 years left in mining and then totally logging. (148)*
>
> *Gold and timber are the absolute cornerstones of that economy. But gold is a finite resource. And timber, the challenge there is–what keeps me awake at night is technology and trucking. The mill there is on borrowed time. It's not overly bleak if we only have small hiccups. (127)*
>
> *When you took a mill out of each town, you pretty much just took the life out of the town. (102)*

Economic development takes on an important meaning to these communities, which typically struggle with some of the highest unemployment rates in the state. Stimulating economic growth, diversifying, and stabilizing therefore were primary goals to bolster employment. A twofold approach was stressed: minimize losses to current levels of employment in timber and other natural resource industries, while stimulating growth in other industry sectors.

> *We're also recognizing that this is a transition period so we're looking beyond those issues....Timber is not a growth industry. (105)*

> *Tourism is and will be our big growth industry. It has to be. The timber is not going to be here forever. Boise Cascade is not going to be here forever. I hate to say that, but it's something we have to face. (134)*

One logical option for economic development in this forested region would be to expand nontimber forest resources, such as recreation and aesthetics. Promoting tourism and associated services—motels, restaurants, specialty shops, recreation outfitters and entertainment—would capitalize on the tri-county region's unique forest resources and rural character. Although this economic development seemed to offer hope to communities in the form of diversified industries and increased labor demands, it was viewed skeptically. Residents worried about lower paying jobs in the service sector, which really do not help families maintain or increase their standard of living from timber industry declines.

> *Service jobs are not in a livable scale income. (102)*

> *Let's not kid ourselves. Tourism is not high paying jobs traditionally, unless you're the owner of the establishment: a bed and breakfast, a restaurant, a gallery. (127)*

> *The whole community is timber dependent. And without it, we're obviously, everyone's not going to be able to make a living on tourism here. We need to strive for a balance.... If [the timber] industry is removed, there's nothing here to take its place. Service type industries don't cut it. Wal-Mart can only hire a certain amount of people for 12 hours/week [laughs]. (126)*

Others cited the difficulties in drawing tourists to the area. Spokane and Coeur d'Alene, the nearest urban centers and potential tourism sources, are a 2-hour drive to Stevens and Pend Oreille Counties and a 3-hour drive to Ferry County. Providing destination tourist opportunities would be the key challenge to benefitting from increased economic activity. Furthermore, tourism development must accommodate typical weather patterns, which often hamper winter access to the region.

> *What's the future of the community? Tourism? It's not here. We're not a destination. You have to have an attraction. Sure you can stop and have lunch but then you're on your way. It doesn't keep the economy going....The jobs are seasonal and tend to be low paying. (146)*

> *And tourism will never ever replace [timber jobs]. Not in this part of the world. How many people truly will choose to come here over Yellowstone? (153)*

Northern Pend Oreille and northern Ferry Counties have more challenges in developing economic opportunities than northern Stevens County, which has Colville (pop. 6,000).

You wouldn't believe how much time we think about [northern Pend Oreille County].... The answers are not quick and coming. Tourism is definitely a piece. It's a beautiful area; the river has some fun things to look at. (127)

Southern Stevens and Pend Oreille Counties border Spokane County and are closer to trade centers, they have bedroom commuter communities and lowering unemployment rates.

[Newport] is a bedroom community for the city of Spokane...a third of them commuting to Spokane daily. (102)

Successful economic development, however, is difficult to accomplish; there are neither straightforward methods nor surefire results. Furthermore, these communities struggle with other variables that complicate economic well-being. For example, enticing more private enterprise businesses to the tri-county region and overcoming infrastructure deficiencies that limit growth and access are two major obstacles for these relatively small, isolated communities.

For a while we tried to attract industry....But we're pretty much off the beaten track as far as international airports and interstates.... (134)

Worries about preserving cultural norms and rural landscapes also complicate efforts to draw new business and people to the region.

Growth of new people moving in can really change these small towns. We have new mayors, new city councils, and that scares people. That they're losing control, that their lives will change, that they will become the victim of these changes. (127)

This county has many options, but getting more people in is the challenge. The old folks especially have a hard time. They like to keep it the way it is. We would like to see the influx of new people and money. But it's a hard decision. That's the reason we moved to this county is because we love it and would like to keep it pristine....And it's probably not going to stay that way if we get hoards of people coming in. (134)

Half the cattle ranchers have disappeared. They've been replaced. Just the private developers. In each area where there was one rancher per two miles stretch, now there's over 30 homes....It's not good or bad, it's a change. If we want to stay in business, it's a challenge. (163)

And, in efforts to stimulate growth and increase employment rates, the prevalence of public assistance programs raise confounding complications (see table 5 for a summary of published data on transfer payments; e.g., income maintenance, unemployment).

Eighty-plus percent[15] *of them don't work. They're going to welfare or disability or some type of assistance. The bedroom community doesn't really work for us, because they basically just don't work!....It's a cycle and they don't try, or care, or want to work. (117)*

The more on assistance, [the more] they don't want to see jobs come. They like the way it is; they don't want to work. (130)

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[15] Interviewee's perceived measures of unemployed people may not be consistent with published data.

We had such an influx of public assistance people here. That's the industry ...that is big business in this county: to cater to those people. They buy groceries; they use the doctors; they're in the schools; they buy gas....You can hardly drive by a house that's not receiving tax dollar money in one form or another. (146)

When we have 40 percent (see footnote 13) of the population receiving some sort of benefits, or 50 percent whatever the number is, it becomes a culture all on its own. (102)

Welfare reform initiatives place additional burdens on communities.[16] Welfare recipients—a relatively higher proportion of tri-county residents compared to urban counties—were nearing the end of their benefits and being forced to seek employment. Many civic representatives deliberated the pros and cons of this situation. Reducing unemployment and income assistance payments seemed a positive outcome; however, without jobs for these people to acquire, it was uncertain what the end result would be.

Grazing, timber, mining: all those things add up to a significant impact. Because they're public and national, it means that a lot of people who don't live here have a lot of impact. That is trying at times. It's tough for your community to be told "Well you can be a ghost town. You have to move to find a job." There's some solid trends there, and it may not be spoken. I don't believe it's the government's policy, but it's cold hard economic reality. Welfare reforms with five year limits. We are solidly saying to people, whether they choose to hear it or not, you can't just live out here, exist out here, make do out here. If there's no jobs, then you'll have to go find work. (127)

There's nothing [job market] here for crying out loud. (132)

Some civic representatives looked toward the forest as a means to create jobs. The CROP program and other resource restoration projects seemed, according to local residents, an opportunity that would combine getting people (welfare recipients and others) back into productive work and improving forest conditions.

The real world in America is that we don't like people on welfare any more. We don't like people unemployed anymore. We don't like to dole out money to people anymore. Therefore, take those people and give them a doggone axe, get them out there working, and pay them a decent wage. Quit wasting time, because within a year, we're going to have extreme results of welfare reform that no one's going to like to see. They're not going to like to see people begging, people moving around the country in old jalopies like Dust Bowl days. And that's what's going to happen. (124)

...the young people should be out there, getting a shot at that...knock those trees down, get them out of there. Go out there in the summer time and take all those trees down.... They [criminals] should be out there, not sucking off the taxpayers.... (110)

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[16] Pend Oreille County typically has higher unemployment rates and thus faces compounding factors in encouraging economic development and raising residents' standards of living, compared to Stevens and Ferry Counties. However, all three counties consistently have some of the highest unemployment rates in Washington.

> *...pro-actively we're missing something by not being more engaged in creating work relative to the national forest. We see tremendous opportunities here, those of us who go out into the national forest. We're totally surrounded by national forest. I look at the trail system that has eroded, it's in need of clearing or updating. These look like jobs to me....Outside of the park or wilderness area, the national forest land is very much underutilized. (132)*

> *We shouldn't have this CROP program, we should not have overstocked lands. We've got thousands of people who should be out there working to make that land productive. Instead we put them on welfare, and pay them more than they would earn maybe. (102)*

> *I think they can make jobs in the woods. I've thought they could get these welfare people working–buy them a chain saw, get them working out there, set up a crew, slash things out, pay them $5-6/hour....They can take the profit off the product brought into the mill, whether it be chips, round cedar posts, split cedar posts. There's a lot of product up there. They could make money off it, get it cleaned up, and not have to burn as much. (117)*

Another consequence of few local employment opportunities is the "brain drain" effect where many youths are forced to leave the region to attain postsecondary education, training, and employment.

> *We, from our educational philosophy, approach the reality that kids will not be here. When they leave the high school, we plan that they will enter the job market or further their education [outside the local community]. Our premise is that they get more training, more schooling regardless what it is: community college vocational, military, university. (132)*

The CROP program takes on new meanings for communities hungry for economic development opportunities. Although no wording in the legislation links the CROP program to job creation or economic adjustment initiatives for local communities, many civic representatives viewed it in this light. Some environmentalists also evaluated the CROP program in terms of economic benefit, albeit a benefit more for industrial timber than for communities and ordinary workers.

> *This transitional economic time really hurts people. There's no doubt about that. But I would much rather subsidize a couple of guys going out with handsaws to load stuff into a pick-up than subsidize Plum Creek Timber [now Stimson] or Boise Cascade....And over the longer term we pay any number of times for [logging] to continue. We pay to build the roads; we end up paying them to take the timber off; and then when the trees are gone and the big guys are gone out of the community, when the mills are closed down and we've got this devastated landscape that nobody can use for commercial purposes and very few people can draw a tourist industry or service industry, then we lose again in terms of opportunities lost. It hurts people, towns and communities. (151)*

Making forest management choices that benefit local communities in the short and long terms, that provide responsible stewardship of national forest lands, and that follow applicable laws and regulations is a difficult, complex task. But it is within this economic and social context that the CROP program, in part, is situated.

Local Timber Industry: Roles and Responsibilities

Description—The local economies discussed here were extremely sensitive to fluctuations in the timber industry because these operations are some of the largest private industries and employers in the region. The tri-county region has a variety of milling and chipping operations to use raw logs (as covered in the "Introduction") with fundamental dependence on extracting timber for profit and deriving a merchantable wood product.

A key point of contention in the larger debate surrounding the timber industry and tri-county economies was the role of national forest timber supply. Timber historically played a primary role in local community development. Yet in the recent past, economic benefits derived from timber extraction, especially from national forests, clashed severely with the environmental movement. The tri-county region is a typical example of a larger phenomenon occurring across many western states, which have significant numbers of communities dependent on federal lands and resources but face increasing environmental regulation.

Key variables in the timber industry's establishment and continued presence in the tri-county region included a long history and tradition of using timber resources, a suitable timber-producing environment, and the precarious nature of timber supply.

Discussion—Commodity users primarily depend on timber resources to generate revenue, either at the industrial level or through independent contracting. As a renewable resource, timber extraction and regeneration can potentially continue in perpetuity—a fundamental belief held by most commodity users. And, as long as there is market demand for wood products, simply stated, there is the opportunity for commodity users to remain in the timber business.

> *I believe the three operations in this valley could harvest continually through thinning processes forever with a rotation cycle of 40 years. And you'd have a forest that is healthy forever. (128)*

Private industrial timber continues to take an active role in the policy arena to stress the mutually beneficial relation it can share with the Forest Service. It sees a need for silvicultural treatments in the CNF, especially in CROP stands but in larger diameter stands as well.

> *Letting mother nature do her thing means it will be destroyed. It will regenerate and start all over, and nobody gets any value out of it. So we're probably taking the best resource this area has to offer, the best economic–jobs-wise and socially-wise and commerce-wise–and saying "we don't want it." Others are saying "you can't have it or we don't want you to have it." (125)*

Industry has a market demand for logs; thus, it is willing to pay a price for timber resources that provide revenue to the Forest Service, which in turn, can be used to regenerate forests, enhance other forest resources, and contribute to the U.S. treasury.

> *I'm hoping that at some point in time–and it may be a ways out there–the forest industry will be able to count on the Forest Service for more timber.... The CNF is certainly one of the forests that could use that [CROP], go out and thin and deal with the fuel buildup, it would make our forest a lot healthier. (153)*

As the balance the budget amendments take hold, they will be looking for revenue. Someday the forests will be looked upon favorably as a resource, as a tool. (125)

But for industrial timber to continue its presence in local economies, it will require raw materials, appropriate equipment, adequately skilled labor, and profitability. Available raw materials tended to be the most limiting factor especially factoring in decreases in log quality (i.e., smaller average diameters) or costly restrictions placed on sale contracts, according to local industrial timber representatives. Even though Vaagen's Colville sawmill was equipped for small-diameter logs, it still required a steady supply, thus placing it in similar situations with its Republic sawmill and Boise Cascade's and Stimson's larger log-size operations.

Supply of raw materials must be reasonably consistent in two aspects: quantity and quality. Most mills procured logs from several sources; however, sales from the national forest had become increasingly unpredictable in terms of timber volumes, harvesting restrictions, and sale appeals.

Definitely the mills go to the private lands. You need to line up your supply, and the Forest Service isn't something you can count on. (166)

I do have complaints about the philosophy that says "We're not going to cut anything over 21" or 18" maximum diameter"...,which may not seem much to you, but I work in a sawmill and know what 3" really is. That's an average. Instead of getting logs in the 8-10" range, you'll be dropping to 6-7". It's a substantial drop when you average it out. (169)

It was the greatest thing in this area at one time. All this land is national forest. When I was a kid there was 25-30 mills here. There was the big one [and lots of small ones]. That was the salvation of this country up here. There was never a problem with getting resource at that time. Now there's absolutely no resource. That's basically why Vaagen's packed up and left [Ione]. They didn't see any future, and nobody could come up with a sustainable supply. (130)

Not all operations were able to persist through unsteady supply or stumpage prices.

Then [Vaagen Brothers] bought the mill in Ione, we had at that time access to a lot of public timber, but it was short term. We lost Ione two years ago because of fluctuation. (D)

When the chip market was up, they were hauling from here to Clarkston.... You'd see chippers set up all over; here one was set up at an abandoned mill. Then overnight, the price dropped and they're all gone. (120)

Because there were no timber sales, Vaagen Brothers left Ione. (123)

Less supply from the national forest produces a two-sided impact on private lands. First, more timber is harvested from these lands owing to increased stumpage values. This situation may benefit timber land owners in the short term, but many were concerned about long-term environmental effects.

The [Forest Service] need to understand that when they tighten up, the price gets run up, then the private timber owner is more inclined to cut. (124)

The forests have reduced their harvests and that impacts us because there's more for our timber. A positive is that it makes our stumpage price go up....[We're] really being hit hard, because there's no place else to get it. (120)

The small private owners are over-harvesting their ground to keep money coming in. If the Forest Service was letting timber out, they could be doing that and give the private land time to grow back. It's going to continue to get worse. (145)

Second, reduced supplies increase the competitiveness among those harvesting, hauling, and producing wood products. Loggers were unable to piece enough jobs together to have steady employment.

It's been the high competitiveness in the logging. Hard for these guys to know they have jobs ahead of them. (136)

Industrial timber operations had reduced shifts, closed temporarily, or shut mills down permanently.

The sawmill is gone. Sawmills in the Priest River area have closed down. They'll keep shutting down. That's not good for anybody. You don't need one or two big companies controlling the price of timber.... (145)

As more of the latter occurs, competition will narrow such that one mill could gain a monopoly through its product specialization.

That's why Vaagen's does well. They have a niche. They're the only ones that can compete for federal timber sales. (172)

The difference between our operation and others is that we only do logs that are under 12" in diameter and produce lumber out of them. No other mills in the area have that claim to fame. (D)

The business [Vaagen Brothers] was geared for the small log processing for this area as early as say 1966. (D)

Some individuals expressed concerns about the exclusive partnering of Vaagen's small-diameter log operation and the Forest Service's small-diameter log sales. Although other mills supported the silvicultural treatment of CROP stands by the Forest Service, they did not want other stands and larger log sales overlooked.

To go exclusively to the CROP program is being fairly exclusive in where all the timber goes. (172)

The Forest Service was aware of this concern and was not intentionally seeking to exclusively supply any particular mill. Instead, they cited the determining factor to be the condition of the forest and ecologically responsive management directions.

It is important for us to continue to supply the mills and not to play favorites. But really it's all about ecosystem management. That's what the ecosystem is supplying us right now. (176)

Timber sold from the national forest to private industry had many detractors. Environmentalists directed their concern at the historical partnering between the Forest Service and industrial timber. A connection between these parties takes on a negative connotation, symbolizing corporate interests rather than the public's greater good. Many refer to the national forest's 4-percent raw material supply to the total demand for wood fiber.

Environmentalists believed this relatively small supply easily could be sacrificed by the public through curtailing demand or absorbing associated price increases in wood products.

> *If four percent of the consumption level is all we need to give up, then I believe people would make that choice. Do what little bit of sacrificing that needs to be done to keep those lands out of the hands of corporations. (151)*

> *Right now it's four percent: fiber needs met by public lands. We could recycle and achieve several times that. If we quit subsidizing timber, we'd find alternative building materials and appropriate technologies that become economically viable. We're trying to prop up a certain segment of our society, our economy at the expense of new promising technologies that may offer a way out of this mess. It's absolutely ridiculous. It all stems from the fact that we've allowed the corporate structure in this country to achieve such power that they're able to exert influence, their will on public lands. (118)*

Any genuine concern for the environment held by those in the timber industry, according to some environmentalists, is lost in the industry's production goals and the bottom line. Although they understood and sometimes empathized with loggers, mill workers, and industrial timber's dependence on these economic incentives for livelihoods, environmentalists censured industry's practices nonetheless.

> *Hey, I'm trying to feed my kids too. If push came to shove and I owned a big stand of old trees and one of my kids needed an operation that I couldn't pay for, then I'd be out there cutting those trees down. I would have to; I would have no choice. The same holds true for the gyppo logger who subcontracts for Boise Cascade, which demands that he has to put 500 logs a day on the deck. He doesn't have time to be careful. Vaagen's does the same thing. Production is the same. If you've been in Colville in the last couple of days, I hope you've taken a good hard look at that deck [refering to the quantity of small diameter logs stacked at Vaagen Brothers mill]. It's pretty scary. What are they going to do with all those sticks? And why are there so many on that deck? It's pretty appalling. (151)*

Commodity users recognized the value of including some environmental constraints on timber industry practices. This stakeholder group took responsibility for some of their past actions.

> *Large industry was trying to get the CNF to get the cut out. Boise Cascade was just as guilty as any of them. John Osborne and those folks [The Lands Council] weren't happy with reducing the cut to 80-100 mmbf, and settling for something that could be perpetuated, now we're not getting anything. You know damn well that big industry would have installed more capacity to use up those logs to make money for their stockholders. That would have been wrong too. That's how I talk to the environmentalists too. But damn it, there has to be a middle of the road too. (135)*

Most commodity users believed the environmental movement had become too extreme, especially on federal lands, preempting beneficial forest practices that improve the forest and support local and national economies.

We, the industry, the Forest Service, we've all made mistakes, but we're learning from it. When you look at what industry is doing today–industry is doing a lot more to preserve the forest than the Forest Service is. Technology has changed; we've gotten smarter; we're trying to do the right thing, but the federal government is standing in our way sometimes. (153)

Commodity users believed that resource-based industries could function in tandem with environmental management. And they argued, to preclude local timber industries is poor resource and environmental stewardship. In view of global economies, resource supply and demands, and environmental integrity, commodity users emphasized the need for local resource managers and producers to fulfill rather than shirk their responsibilities.

It's a world economic picture. No longer can small communities or counties think that they operate economically independent of everything else. (111)

We're poor managers of our resources if we're going to chase all our resources overseas....It's a global market...Brazil, Chile, Russia. Major companies have gone there. It's not because the supply's gone, it's become reduced. The demand is still there, pushing prices up to the point where it's cheaper to go 5,000 miles to get the wood and bring it back. (172)

...there's no projections in the increase for demand in wood and paper products globally to abate. It's supposed to continue to climb with increases in human populations. So, is it rational and reasonable for the people of the U.S. to say: "Set our whole damn country aside for a park. You people over there trash your place because we want the wood off it." Is that reasonable for us to do? I don't think so....[Exporting] the demand and the impact intensifies the impact because we're shrinking the base. That's onerous because I'm a forester and know that we can utilize and produce these products locally and protect those values. I know in my heart, that it can be done. (171)

The demand will be consistent over time–I look at projections into the future and everybody shows our wood use is going to increase substantially. The demand is going to be there. And the fact that we are a net importer of wood in the U.S. says that if we can produce it here, and we should be able to produce it as cheaply without the transportation costs, then we can utilize it here. (154)

...we can either manage it and get some paper product–our paperless society has actually increased its demand....We can either get our timber products from the virgin forests in Siberia or the rain forests in Brazil or we can manage our own. If they manage it, it may take the pressure off the third world countries where they don't have as much environmental oversight. The demand's not going to go away, so we might as well manage it rather than letting it all go up in smoke and add to the carbon load. (166)

...it's hard for me to stand around, watching and waiting for this stuff to die [referring to national forest timber not being cut]. Then we'll end up down in South America where there's no environmental regulations. We should be doing things here. And that's where it's going. A lot of mills are going down there, or they're in Russia. (136)

The future of the local timber industry was a highly emotionally charged issue. Many commodity users had invested a large part of their lives and careers in the industry and local forest management. Increasing environmental regulation often was perceived to be the primary constraint on CNF timber sales and less intensive forest practices. Not only did this limit the business viability of industrial timber operations, but it also questioned the meaning of responsible forestry and land management. Many feared that local timber industries would be forced to close. Then, when log extracting and processing facilities are needed again for prudent forest management, the local communities would not have the appropriate capacity.

CROP Stand Timber Sales: Cost Variables

Description—Silviculturally treating CROP stands most likely involves some commercial thinning and harvesting. Thus, designing sale contracts that attract bidders is one task for the CROP program. Simply stated, CROP stands are not the most desirable stands to log from a timber industry perspective, due to their densities and small stem sizes. Many potential sale bidders are already frustrated with the bureaucracy and uncertainty they typically associate with Forest Service timber sales. This aspect combined with CROP stand conditions makes these sales potentially difficult to sell. Key variables discussed in this section include lumber and pulp recovery, profitability, chip markets, contract specifications, and the below-cost timber sale debate.

Discussion—CROP stands provide interesting challenges to the Forest Service, which wants to design and sell timber sale contracts, and to bidders, who want to provide a profitable logging service. Loggers, forestry consultants, and industrial operations (excluding those specializing in small-diameter lumber recovery) often characterized the CROP trees as “junk,” with low recovery values as compared to larger diameter logs.

> *There’s some of these sales, I’ve wondered what in the heck. It seems like they just want you to come in and clean up the junk. They got all the big timber marked, and they want you to come in and take all the small crap out. And you have to take some big timber to make it feasible. (150)*

> *...the type of sales they offered I couldn’t handle. The size of the timber has gone down so much, that there’s not a lot of value to it. It’s log and pulp wood. They’ve been offering some, but nothing you could make any money at. (146)*

> *The tendency has been to lay out timber sales addressing those stands but they end up making a whole sale out of this junk, just fiber. If there’s an opportunity to mix something better with this bad, that’s going to make it more attractive to purchasers too. (171)*

The Forest Service recognized this need,

> *We’ve tried to put up small sales, but there’s been no interest, no bids. Not unless there’s commercial saw logs and enough time to harvest it. (142)*

but cited forest management objectives as the driving force behind the sales offered:

> *If the ecosystem has the larger diameter logs that need to come out, we’ll do that. As we look at each ecosystem, we’re going to manage it for what we think is the right thing to do. If that’s small logs, it’s small logs. (176)*

Harvesting and milling or chipping of small-diameter logs is further complicated by the low profit margins when incorporating multiple variables.

The Forest Service put up a few sales lately that nobody bid on. They put up a couple last month, but if the logger feels he's not going to make any money on it, he's not going bid. (150)

A sale involving CROP stands typically includes some combination of logs that can be milled and chipped. With declines in chip prices, a harvester must have enough saw logs in the unit to compensate for low-valued chipping material to make a profit. Many loggers characterized CROP sales as either minimally producing a profit or simple failing to meet this objective.

I'm not mechanized and so I can't do the volume in that small timber to be profitable. And right now, the pulp market is so low. (146)

You'd starve on chips. That's some of the problem with what they're putting up. It's itty bitty stuff. It's okay to put some of that in, but the big stuff has to be there to pay for it. I've told them that if I wanted to starve to death, I'd stay home and do it instead of going out and breaking my butt. (130)

Working in dense stands also contributes to overall sale profitability. Labor by loggers intensifies as they take more time and encounter more safety issues in the multilayered canopies of CROP stands where there also is limited maneuverability. Falling trees to the ground and establishing skid trails while leaving significantly larger trees standing is an extremely difficult and costly endeavor.

They're tough sales to set up...they're thinning from below, only taking a few trees out. The trees don't hit the ground when you fall them. We did one [sale] and lost a lot of money on it. (136)

It costs money to work in these stands. If you're set up for it, you can make it work....But it will still cost you 60 percent of what the wood's worth to get it to the mill. (145)

One of the things that flooded the chip market was all this storm breakage we had in the spring. All the clean-up, there was so much of it....It's hard to make money on those jobs. When the trees are all broke or bent over and crisscrossed, you have to be real careful and take your time. (150)

Timing issues also become a profit variable if volatile changes occur in the timber market. Sale contracts require harvesting to occur within a certain time period. Yet, if log or chip prices significantly decline, the sale purchaser may not be able to recover his costs.

I've talked with the Forest Service about working with contracts to provide more flexibility–whether that's longer contract terms, or what–to capture these ebbs and flows on the market. That would make the sales more attractive to the purchaser. (171)

The timber market has been so volatile. And especially as a small operator, it might take me months to get in there and finish the job. If the timber prices change dramatically, you're stuck. A lot of the small sales don't have an adjustment clause in them. And if the pulp market falls off, you can really be stuck with a lot of low value logs....That's frustrating. It makes you real cautious on your bid–I bid real low just because of that. You have to hedge your bet. (146)

Many specifications built into timber sale contracts can affect the cost of harvesting a unit, including road building or improvements, seasonal access during active wildlife use of an area, skid trail placement, riparian buffers, equipment requirements, etc.

> *Part of what they need to do is make it more attractive to purchasers. Back off on some of the restrictions....It used to be in the sales that there was a couple of units. Some units of junk and some of good stuff. So you could afford to lose money on part of the sale because the rest of it would carry you. Now what I'm seeing is all junk. And then they throw restrictions on it that add to the cost....If they could relax those restrictions, you'd feel better about bidding more. And I understand that we have to preserve species, save some trees. You need to inject a little common sense also. (146)*

> *Some of these jobs they put up, they want you to have your skid trails 130 feet apart. It's not feasible to drag line to all those small trees. It's slow going and you can't make no money. That's why people don't bid on those sales ....and the deposits you have to put down, $2,300. Us little guys we can't tie up that money for that long. (150)*

> *I was trying to stay away from [dense, small-diameter stands] because they're hard to work for. They put a pretty high minimum bid on the timber and there's a lot of regulations on getting the timber. So it costs a lot of money to remove it. It's not worth working; you can't make money on it. (145)*

Furthermore, inaccurate timber cruising and larger volumes of cull trees can directly reduce a sale purchaser's profit.

> *The loggers complain because [the Forest Service cruise] all by computer, aerial photos ...most of the sales in the last few years have come out short, but you still pay for what you bought. The loggers are getting fed up with it. That's why they're not getting bids on very many of the sales. (144)*

> *The loggers are concerned about the Forest Service creating these small sales; they mark and measure the trees, determine how much board feet is in the trees, and when the logger takes it to the sawmill, they could possibly cull that tree....The logger has to take that loss, because he has to pay on what the Forest Service says is there. There's liability for the logger to absorb the cost. And the profit isn't that large anyway. He has to make a living. (138)*

And, with smaller volumes per sale being offered, economies of scale factor into a purchaser's profit.

> *We've had adequate supply, but it's been dramatically reduced off of the federal lands. We've had to go back into the private deliveries from private land owners as the timber sales off of national forest lands haven't been there....We used to achieve 2-10 mmbf off of one sale, the sales that we're currently operating off of are less than 1 mmbf. It just takes so many of those sales, and those sales cost so much money to both administer from the Forest Service side and our side. It's questionable that it's worth it. (D)*

Environmentalists viewed the Forest Service's national timber sale program as a net financial loss. They believed that the CNF small-diameter sales were representative of a national trend.

They're not going to make money on a small-diameter sale. So that says to me that I'm giving a subsidy through my tax dollar to support a money losing program that harms the ecosystem, that props up an artificial economy to the detriment of the future. That's short- term thinking. That mind set has dominated the use of the forest, especially places like the Colville National Forest. The Colville National Forest has been a production forest. (151)

Many commodity users, however, attributed the increasing harvest costs associated with tighter restrictions and complicated administrative procedures to environmental oversight.

My son does some logging and he says "I won't work for the Forest Service because of the environmentalists. You never know what they're going to do. And the cost of doing it is twice as much as anywhere else because of the things that have been put on by the environmentalists." (149)

A dichotomy arises because environmentalists, in the opinion of commodity users, pushed for more regulation, which cost money in Forest Service sale administration and in loggers' compliance. But now, environmentalists protest the low profitability, in some cases below-cost, of timber sales. Commodity users sensed a no-win situation.

The driving force to have that environmental oversight has raised the cost up. So the public has to realize that if we want to pay for this environmental oversight, we aren't going to have profitable sales. (166)

I've read statistics that indicated that the national forests nationwide have not made a profit since 1989. They have lost money consistently. What it all boils down to is there is too much time spent with the in's and out's instead of just getting that sale out. This isn't all their fault. The environmentalists have stuck their noses in it; they contested every sale that went up and that costs money. I don't know who's funding them. (144)

Most [of] the expenses the Forest Service faces with the reports and all those documents they have to write are created by the environmentalists. They keep accusing the Forest Service of losing money, but whose fault is it? Can't they have a simple timber sale with a 1-2 page contract? (135)

To improve the timber sale process so that the Forest Service could accomplish its management objectives and the sale purchasers could enter into a profitable contract, the latter suggested that flexibility and creative sale designs be incorporated. Bidders believed they could provide a valuable service to the Forest Service, but this service would have to earn a profit. Many felt that timber sale contracts have evolved into extremely costly, timely, and antagonizing procedures that do not accomplish on-the-ground objectives.

You used to put a lot of time and energy into trying to help the [timber sale] program...it used to be a fifty-fifty contract. It was written so it was a solution, an outcome. It wasn't how you get there, it was that you got there. It met everybody's needs and satisfied the contract obligations. Now they've grown in size and interpretations. It used to be the intent ruled the contract, now whoever wins their argument on interpretation....You have a more adversarial relationship: "Thou shalt not...." (172)

There are a lot of opportunities to reduce the sale cost, some [of] which would require innovative thinking and ability and willingness to take certain risks with regard to accountability to the basal area they leave. (101)

Another point of contention within the timber industry centered on who best benefits from small-diameter sales. The Vaagen Brothers operation in Colville was equipped to take logs to a 4.5- inch top; a unique capacity that other local sawmill competitors could not match. Thus, some industrial operators perceived a questionable partnership between the Forest Service and Vaagen Brothers. The cost-effective and light-impact cut-to-length harvesting equipment required in some CROP stands also narrowed the pool of prospective sale bidders.

The Forest Service is setting a sale for one sawmill here. And that's a conflict of interest. They're designed for Vaagen's; there's no doubt about it. And they're also designed for cut-to-length systems. Those are so expensive and most the loggers in the area can't afford them. (136)

Those sites are now being sold, but they're tailored only for people with a forwarder...if you don't have a forwarder and cut-to-length system, then you're out of luck. For the small operator who doesn't invest $1 million in machinery there's nothing. (130)

With attention focusing on the CROP program–silviculturally treating small-diameter stands–many worried about conditions in larger diameter stands being overlooked.

You talk about these small diameter sales, but what's wrong with the larger diameter sales? I'm no forester but these larger trees get to a point where they grow more slowly, acceptable to diseases; shouldn't that type of tree be thinned out especially in thick areas where they're stunting the growth of the trees around them? (138)

Although designing timber sales in CROP stands poses unique challenges, this task must be incorporated into the broader context of other CNF timber sales of different stand types, the Forest Service timber sale program, and other confounding economic, political, and social variables. Table 19 summarizes economic considerations by stakeholder groups for the CROP program.

Social Dynamics

Another complex dimension of national forest management affecting the CROP program involved the social dynamics among stakeholder groups. The following sections examine three aspects of this social context. First, stakeholder groups and tribes voice their expectations of Forest Service roles and leadership. Second, relations among each of the stakeholder group as well as tribes are described. Last, perceptions of the Forest Service's public involvement and tribal consultation process are identified.

Expectations of the Forest Service

Description—As the primary decisionmakers for the CROP program, the CNF line officers and staff have a unique role in the public involvement process compared to other stakeholder groups. As such, Forest Service decisions were perceived differently by stakeholders based on each group's relation with the agency, previous forest management decisions and results, and the larger political context. The following discussion examines the relations between the Forest Service and stakeholder groups and identifies key roles the Forest Service is expected to fulfill as national forest managers, community members, federal government employees, and professionals in their respective disciplines.

Table 19—CROP wood fiber as a commercially viable product, by stakeholder group

Stakeholder group	Key concerns	Belief statement	Position
Civic representatives	Timber	Local loggers and mills convert a marginal material into a merchantable product demanded by the wood products market. CROP also encourages higher quality wood fiber production in the Colville National Forest in the long term.	CROP has market value so let's use this merchantable product to create jobs, maintain local economies, and do some good for the forest.
Commodity users	Timber	Harvest technology, chip markets, and small-diameter saw-log technology add commercial value to CROP material. CROP stands on private industrial lands are being converted to more productive stands. This is less costly because CROP material is merchantable. It's a long-term investment in the forest that reduces economic and ecological risks.	The Forest Service should take a businesslike perspective and get some commercial value out of CROP stands while there is a market. But, to realize a profit, there has to be a mix of high-value and marginally valuable trees in the sale.
Environmentalists	Timber, quality of life	The Forest Service timber sale program already loses money. CROP sales are not profitable; they are a last grasp to subsidize the timber industry.	Only 4 percent of the national wood products come from national forests. Society can sacrifice this to preserve noncommodity resources.
Forest Service	Timber	Harvest technology, chip markets, and small-diameter saw-log technology add commercial value to CROP material. Sales, however, must accommodate other forest programs.	Some CROP sales are not being bid on. Creative solutions are needed to make sale contracts more attractive to bidders.
NIPFs[a]	Timber	A CROP market increases forest management flexibility. A chip and small-log market makes profitable the thinning and regenerating of overcut or high-graded stands.	CROP sales from the national forest strengthens markets for small-diameter logs. Also, technology transfer to NIPFs improves their management practices.

[a] NIPF= nonindustrial private forest landowners.

Discussion—With five ranger districts and the supervisor's office located in the tri-county area, the CNF staff are easily accessible to local communities. And because a high percentage of the counties' land bases is part of the national forest, activities occurring in the forest significantly impact counties, tribes, communities, and residents. Thus, the CNF staff are an integral part of the local community–socially, politically, economically, and ecologically.

In light of recent timber sale decreases and trends in less intensive management that are often viewed as direct negative impacts on communities, some residents perceived the Forest Service as inconsiderate of local needs.

> *The Forest Service was formed to manage the forest, and protect and maintain the economies of the communities that surround it. Today it's become the community's enemy. And that's not [what] it should be. (130)*

> *Ignoring these communities is unacceptable for the Forest Service....They are supposed to manage this forest for our safety also. But we're not in their formula. If a fire comes, we're gone. (133)*

> *The general community regards them with some suspicion. Not always sure they're getting accurate and straight information. (164)*

Others had a more positive view of Forest Service silvicultural practices on the ground.

> *I think what changed my mind about logging, was just recently, there's federal land right next to mine and they started to log it. I was just panicking, I thought they were going to clear cut and I just absolutely hate that, but they did an absolutely beautiful job. They left a lot of the big trees, I was really pleased. I think that's exciting and now I'm not opposed to, not as adamantly opposed to logging as I had been. (141)*

In addition, some residents valued the contributions of the Forest Service to the community in terms of leadership and employment opportunities.

> *I observe that a lot of their people are very active in community service.... They're also a major employer in this impoverished community....They bring into the community a body of educated people which we badly need.... (129)*

Still, some residents expressed their misconceptions of Forest Service stewardship of the national forest.

> *I was always under the impression that people who worked for the Forest Service were interested in protecting the trees, preserving watersheds and all that. I was surprised to find out that a lot of Forest Service people do timber sales, build roads. I was disillusioned. (140)*

Dissatisfaction with Forest Service practices had spurred some people into action, as one environmentalist stated.

> *One of the reasons I became an activist was because of the mismanagement of public land that ended up destroying my water quality. (151)*

As the managers of a national forest, CNF staff encountered a range of expectations at the community level: employer, commodity provider, environmental protector, good neighbor, and professional experts. Successfully fulfilling these roles to everyone's satisfaction is an idealistic goal. Fundamental value differences exhibited by various stakeholder groups (and even among Forest Service staff), an imperfect understanding

of forest ecosystems, and a patchwork of laws, regulations, and case law complicated the policy process. But most stakeholders, including the Forest Service understood this conundrum.

> *There's some really talented, highly trained, very capable people [in the Forest Service] trying to manage things. But they're so hamstrung by demands and requirements, that nothing gets done. (108)*

> *I think the local Forest Service and local community–we kind of know they can't do too much. They're governed with what they can do. They don't agree with what they're doing either. But what can they do? (165)*

> *We have some great people in the Forest Service. I'm not saying they're at fault. They have a monster that they're trying their best to administer. Quite frankly, they're trying to satisfy all the people all the time. The only ones they're not satisfying are the stakeholders–the ones who really count–for their own jobs, security over time. (172)*

> *I don't blame the people on the ground. For the most part, their hands are tied. (153)*

> *When you're in a small community like Ione, those folks know the Forest Service as a timber producer, an employer, as well as an area where they can go hunt and fish. Now it's changing and the public doesn't know what we do anymore. We're not producing wood, [so people ask] "what are you doing up there?" It would make it a lot easier if we knew what it was we were supposed to do. (114)*

Acknowledging this difficult situation, though, did not excuse inappropriate management. Stakeholders expected responsible, professionally credible leadership by the agency.

> *There doesn't seem to be that strength of leadership anywhere, throughout the levels. (108)*

> *I wish they'd do what they think is right, what they've been taught. That's what I ask, what they went to school to learn. (130)*

> *The biggest problem with the Forest Service right now is the rules and regulations handed down from Washington, DC. And everybody is afraid of their job. They're afraid to use a little common sense and go in there and make a decent decision and follow it through. They're afraid of their supervisors. (144)*

Reasons for weakened leadership in the agency ran the gamut. Some cited the politicized decisionmaking process:

> *A lot of these folks went to school on government loans, they went into a field they had an interest in. They spent their life learning these things, they get in the field and they're managed by politicians who've probably never been in the field. That's backwards, but that's the direction things go now. (130)*

others cited the agency's top-down structure:

> *It gets worse as you go up. You're more likely to find conscientious people at the district level then at the Supervisor's Office, and certainly at the Regional Office. DC is almost hopeless. You have an entrenched bureaucracy by and large. (118)*

and still others cited the tug-of-war between environmental activism and the timber industry establishment:

> *...there's good people in the Forest Service, but they're being guided down the path of least resistance. It's easier to do some of the things the environmental community wants. And the environmental community has a lot of power in the Forest Service....I understand the pressure they're under, but they have to take a stand. And they're not. They're letting themselves get stepped on, and that might be part of their inexperience too. The old guys might have put their foot down, but the new generation is a little different. It's so political. (136)*

Many stakeholder groups attributed the lack of leadership among Forest Service line officers to job security fears. The theat of job loss owing to taking an unpopular position was thought to keep many Forest Service employees in line. This constraint not only would limit actions on the ground but weaken the credibility of the agency.

> *It's not right because professionals are afraid to tell the truth and to earn their money. I'm paying them to tell the truth and do the right thing. There's a fear of not being a team player and told to do these things. The attitude that "I have to do these things if I want to stay." It's a bunch of crap and a waste of time. (133)*

> *If you look at the different agencies in the federal government, the Forest Service has one of the proudest heritages. Why have they chosen to wither into a corner? I know why, they were afraid of losing their jobs, and some of them did. By not standing up though, it didn't do them any good anyway. (153)*

Policy decisions made at the regional and national level, were believed to supercede local Forest Service knowledge and leadership.

> *One of my major concerns is that we might start legislating local solutions. That's not good for the Forest Service. The Forest Service has to be proactive and out in front instead of being the tail that follows the dog. (154)*

> *But a lot of our local Forest Service people are good people. Their hands are tied, they get their directions from above. They have a good idea of how it should be [run], and I think they could do a hell of a job. But we manage our national forests from Washington DC, from Portland; we don't do it locally, where it should be. (170)*

On-the-ground actions suffered as well from nonlocal decisionmakers, according to some stakeholders.

> *Old Babbitt [Secretary of the Interior, Bruce Babbitt] and a few others in the White House, they don't realize what's going on out here. (162)*

Some civic representatives were increasingly skeptical of the credibility and motivation of policy makers in Washington, DC:

> *...district of criminals... (103)*

> *Al Gore, he's an environmental whacko. That's not good for our country–our county. It might be good for Iowa, but not here.... (110)*

Although many local residents made distinctions between politicians and top agency leaders in the Nation's capital and local Forest Service staff, it remains a fact that the Forest Service is a federal agency. Distrust of the federal government, therefore, was directed at local Forest Service staff in their roles as federal employees.

> *We have these government people, who have a paycheck every month trying to manage the county. [A district ranger] should not be doing that. He should be managing the forest, the [ranger district] is what he should care about–not the county or the city.... (130)*

> *A lot of people in this county are paranoid of government. A lot of them moved up here, into the woods and they don't want to see a government agent....They're real paranoid of the government especially with the Forest Service policy in the last 20 years. (107)*

> *We've all got the idea about the government–that they've got their minds already made up. It doesn't matter if it's Forest Service or what. It's supposed to be a government of the people, by the people and for the people, but these government agencies, some of them get carried away. They've got their own agendas and it don't matter what you think.... (150)*

> *The Forest Service and the people working for the Forest Service have the tendency to think it's their forest and nobody else should use it. That's the concept of the younger generation working for the Forest Service. (138)*

Other residents addressed concerns about the composition and organizational policies affecting Forest Service personnel staffing. Topping the list of unfavorable policies were the frequent transfers of line officers, especially district rangers. Many felt that this policy hinders relations between the Forest Service and communities and keeps land management activities in the early phase of the learning curve.

> *They don't know a lot of what's out there, because they change personnel. People are around for 3-5 years, maybe 10, and then they move on to someplace else. It's the seasonals, the locals who know the ground and they're not in a position of authority; they don't make the decisions. They just bring in the data and do what they're told. (147)*

> *The Forest Service administration is not long term. In any given ranger district, there's a ranger who's supposed to run it, know what's going on, supposed to manage the resource. It's impossible for any ranger to manage a district if he doesn't know the district. If you're going to keep yanking them out of here every five years, then they'll never get my support. (124)*

> *Moving people around, they don't become involved in the community because they're looking at four years to spend as a ranger and then move on to regional. It does not give them the heart that needs to be there. (102)*

> *One problem with the Forest Service is they transfer people so much. They are in an area for five years, they're just starting to understand the dynamics of the area, what works, what doesn't, then they move on....They leave a lot of smoke and embers burning behind them; unfinished stories. (166)*

Another concern involved a perceived changing of the guard. The "old guard" consisted of silviculturists and timber sale planners working to "get the cut out." Now, the proponents of the old guard, typically commodity users, were expressing doubts on the efficacy of the "new guard," or the 'ologists (biologists, botanists, hydrologists, etc.) managing the forest.

> *I grew up with the Forest Service being timber related. And then this environmental stuff comes in. The whole personnel has changed. The old people are gone, they've brought new people in who don't have nothing to do with timber. They're just writing new laws to give them something to do. (145)*

> *Typically, I think all the good people retired, they knew people. Now you have a bunch of new people that have transferred in. They're the invisible people. I don't know them; I don't care about them. (143)*

> *The foresters in the Forest Service are disappearing. The silviculturists, the old guard, are going away. It's being run more and more by wildlife biologists, landscape planners. Foresters seem to be a dying breed in the Forest Service. (136)*

Environmentalists, however, believed that a transition to a more diverse set of professionals across ecological disciplines had not received its due support throughout the agency.

> *We hear from on-the-ground resource experts, who are on the ground marking trees, doing wildlife surveys. Those people are very upset about the way things are going because the engineers and timber planners are getting all the budget. Wildlife and recreation are not getting the budget. And a lot of these folks cannot recommend not to cut a place down because it would damage a stream system, wildlife, recreation....They're ignored. (151)*

Staffing, leadership, and on-the-ground decisions exemplifed subjective components in the larger management system for the CNF. Although many aspects of forest management were typically viewed as objective, quantifiable, and scientifically sound, interactions among the Forest Service, stakeholders, and tribes could not be so neatly defined. Working on these relations would require different methods to understand and improve social situations in comparison to solving mathematical problems and determining statistical values.

Relations Among Stakeholder Groups

Description—Opinions and expectations by the public and tribes concerning the Forest Service are an important dynamic in national forest decisionmaking processes. However, other tensions among non-Forest Service stakeholder groups also guide national forest policy in various forums, including public involvement meetings, the appeals process, and federal legislative or executive directives. The Forest Service, thus, does not retain unilateral control over national forest management, and it must respond to these different values, voices, and influences in the policy arena. The following section outlines stakeholder groups' ideological distinctions, which typically factored into their different positions and led to contentious debates on issues.

Discussion—The dominant division of interests often was exemplified in debates between commodity users and environmentalists. With positions that were usually divergent, these two stakeholder groups viewed forest management from different perspectives. Relations between commodity users and environmentalists ranged from harsh criticism of one another, to strained tensions, to a desire to work through their differences, depending on the issue and the individuals involved. For example, one environmentalist describes the divisiveness between the two groups, blaming one commodity users organization in particular:

> *There's a lot of distrust in this community. There's a lot of fractionalization going on. To a great degree, the FCAL [Ferry County Action League] are playing [a] major role in it. They put out literature that calls us terrorists and of course we're always called extremists. They don't seem to want to work with us. They've charged the issue so much that there's this incredible polarization that's developed. (147)*

Another categorized environmentalists as the outsiders advocating change:

> *The Forest Service and timber industry have a vested interest in continuing the status quo. We represent a threat to both of their agendas. As a consequence, we're often ridiculed. We're a threat. (118)*

Some commodity users, similarly, placed blame on environmentalists for thwarting, in their opinion, appropriate forest management to pursue other ulterior motives:

> *And the real hard core environmental groups don't want to look at [what's really happening on the ground]....It would ruin their whole agenda if they had to look [at] facts and see there wasn't destruction. They definitely have an agenda and it's not the health of the forest. What it is, I'm not sure. (170)*

One reason these two groups have an adversarial relation is a lack of trust. Activities surrounding the CROP program had to be viewed in a historical context as well as a larger geographical and political context that included activities at other national forests. Some commodity users cited previous attempts to negotiate with environmentalists on differences surrounding CNF management activities and planning processes:

> *Once they [environmentalists] get a little bit, they shift their target. People get tired of renegotiating where you're giving and giving. (166)*

And similarly, environmentalists cited examples of broken trust in negotiating policies with commodity users:

> *At the time I didn't think [the zero-cut position] was a very workable idea. But the more I think about it, the more I think it's the only solution. The timber companies are never going to give an inch. Every time you make one agreement, they turn around and do something like the salvage rider deal. The gimmicks they come up with. They've forced people into the no cut on the national forest. They won't give anything, they just take. (155)*

Both stakeholder groups often referred to the CROP program or the debates surrounding it as "another example" of a situation elsewhere or a previous similar occurrence.

Another variable in the differences between these two stakeholders was their values about human use and stewardship of the environment. Environmentalists stated their roles as conservationists or preservers of natural systems, advocating for a nature-regulated system rather than a human-managed system. This position was in contrast to their perception of the economic profit-driven positions on forest management policies by the wood products industry and other commodity users:

> *We truly work in the public interest, not out of self interest. That's the difference between us and the industry. (151)*

Industrial operators did not contest their economic interests; however, they pointed out that this is not their only motivation to support a promanagement position. Ecological integrity for watersheds, wildlife, and vegetation as well as timber production, in their opinion, required some level of management, which in turn would serve not only ecological objectives but also produce economic and social benefits. Thus, many commodity users considered themselves environmentalists because they cared about the environment, yet they did not support the positions and ideologies of mainstream environmental activism.

> *The definition for an environmentalist and preservationist should be a logger, because those are the people that truly believe and live what these folks pretend to be. Because we do live here, we do work in the forest everyday. We know what is healthy and what's not. (128)*

> *Everything was taken out of the Forest Service hands and put into the hands of the environmentalists that I call extremists. There's some rational folks out there with good points, but there's people who believe we should never cut a tree again. They don't understand the changes over time of what trees, stands and ecosystems do and don't do. They'd rather leave that to mother nature to figure out instead of the rest of us. (172)*

> *If you took the word environmentalist, I'm probably the worst one there is in the whole world. Because I've lived here my entire life; I have more at stake than anybody does. I want to raise my family here. I want my kids to raise their kids here. I'm not here to destroy it. I don't want to do anything to hurt it. (130)*

Environmentalists responded by reiterating their concern for conserving ecological integrity, which cannot coexist with intensive land use. Their ties to the local environment, in their assessment, were just as strong as others who live in the same community and work in the woods or wood products industry.

> *We've been labeled as uncaring, irresponsible, insensitive to the needs of people, over-educated elitists, radical extremists. When almost everyone who works in forest watch, in particular, lives in a teeny tiny town someplace out in the tules....We're very directly affected by community health and by what happens to people in rural towns. (151)*

> *This isn't the urban thinking, this is how we in the rural community can sustain the environment here that we love so much. And we live here because of the quality of the environment. (147)*

Besides the debates about the direction of forest management and specific activities implemented on the ground, commodity users were threatened by other changes. Because many rural communities were founded on natural resource use, residents

faced changes in their ways of life, including skills used to earn a living, traditions passed down from previous generations, and values used to assess the meaning of "decent" and "hard" work. To many, their efforts to support themselves and their families had somehow been vilified–a shocking, perplexing, angering, and degrading situation.

> *It's a culture here. That's what the communities were built on: timber. Some of the pride in that heritage is disappearing because we've been hearing so many negative things about timber harvests in the media. (136)*

> *It's sad when you see a poster [at a child's school]...that says "Cutting down trees is bad" when their dad works at Boise. (126)*

As communities make transitions to accommodate less resource dependent economies, painful changes impact residents. Some lashed out at environmentalists who were thought to be partially at fault:

> *...those socialist environmental whackos... (103)*

Others were more subtle in their assessments of environmental activists:

> *We [the Northwest timber workers] are a grass roots group that comes together out of necessity to protect or preserve jobs using sound environmental and economical forest practices....I like to refer to us as environmentalists who work for a living. (D)*

Despite this disparity between commodity users and environmentalists, a lot of middle ground existed where many stakeholders could seek common interests and negotiable differences:

> *When we get to know each other, a lot of the polarity goes away....If we just listen to the rhetoric, the environmental activists say they don't want to cut any more trees. The reality is, that's not true. There may be a few radicals, but most say "we can't stop harvesting the trees, we just have to do it better." Their perception of us is that we're racing out there to cut the last damn tree down and can't wait to see a lovely clear cut. That's not true either. Somewhere in the middle you'll find about 80 percent of us.... (169)*

Some commodity users believed that others with shared concerns had become too extreme, overlooking opportunities to work through differences with environmentalists:

> *I think their [referring to the Ferry County Action League] intentions are honorable. And they do a lot of research. But I have concerns because it seems they have been a major player in polarizing the community. So we have the Ferry County Action League and we have the environmental community. And never shall they sit together at the same table....I don't agree with the environmental community in some ways either. But they do have some good points. We can work out some things. We can have a win-win on some things. We don't have to have a win-lose situation, and that seems to be where it's headed. That frustrates me....They're both working for the same thing, but in totally different manners. And they won't work together at all. (164)*

Other conflicts about the CROP program among non-Forest Service stakeholder groups were less pronounced. Some recreationists expressed concern about logging practices interfering with their forest use and enjoyment:

My biggest problem is with the loggers. They leave a heck of a mess. (162)

And, an interesting point was raised in one tribal representative's observation on the policy platform of some commodity users concerning rural community cultural preservation:

> *The recent movement, it's been the whole anti-government thing. It's really strong in north Idaho, Pend Oreille County. One of the ways this movement has tried to make themselves heard is with this customs and culture thing. "This is our culture, this is the way we manage our money off the land." Of course to the tribes, this is such a joke, a travesty. To those people who have been here for 100 years maybe, to talk about custom and culture, literally on the bones of the entire customs, cultures and civilizations that was here for hundreds of years...it seems a little ironic.... (115)*

In summary, most stakeholder groups were fully aware of the different positions within their group and across other groups. Furthermore, they realized that the Forest Service must contend with these multiple groups, interests, and positions. Stakeholder groups sometimes viewed the decisionmaking process as a political tug of war between special interest groups.

> *Instead of from the multiple-use or industry folks, they've [Forest Service] gotten harassment from the preservationists so they've swayed that way. It's easier. (170)*
>
> *Frankly they feel that they get run over. As soon as the environmentalists pull up an issue, boom, immediately back track. (104)*
>
> *They [the Forest Service] don't change because you have a compelling argument; they change because they think you can get them for violating NEPA or the forest plan. (118)*

Or, it was seen as a gridlocked process attempting to pacify everyone, but in doing so would produce weak, ineffective decisions.

> *They [Forest Service] try to be middle of the road, but the whole exercise is waste of a lot of money. They'll design the alternatives so they can pick one in the middle....It will usually lean a little bit more toward the environmental community because they know that's the one they'll have the biggest chance of getting a lawsuit from. (166)*
>
> *I understand what NEPA was for, the intentions were good, but to the extreme it gets utilized on the ground and gets mis-utilized by special interests groups, it prevents a lot of good management from happening, makes it a lot more expensive than it used to be, and in some cases flat out prevents things that should happen but won't happen. There's a real gridlock on federal lands.... (108)*
>
> *We created such a debate that nobody can make a decision or do anything. (125)*

These views may appear cynical, yet the prevalence of frustration with the decision-making process at the national forest was real and held potentially serious impacts for people's lives, community stability, and environmental integrity. Forest management issues, such as those surrounding the CROP program, are extremely sensitive especially in the larger context of their implications for future CNF decisions and for other national forests with similar issues.

Public Involvement and Tribal Consultation Concerns

Description—Since the enactment of NEPA (1969), the Forest Service has been required by law to involve the public in its decisionmaking process. Public involvement has evolved over the years in terms of forums, participation, input processes, and management alternatives. In addition, the appeals process to scrutinize management decisions also has targeted NEPA document inadequacies and public involvement shortcomings. As the CNF staff plan to involve the public in management activities connected to CROP stands, they must face the public's previous experience with public involvement. Key elements of successful public involvement include its efficacy to improve management decisions, its openness to incorporate their knowledge and concerns, its fairness to listen to all stakeholders, and its effectiveness to make durable decisions.

Discussion—A variety of assessments on the Forest Service's public involvement meetings existed and did not necessarily coalesce by stakeholder group. For example, one logger felt fairly satisfied with the Forest Service's effort to gain input from the public:

> *They're [the Forest Service] very open. I've been to public input meetings, they're always very courteous and try to explain what they have in mind. Real receptive to comments, even negative things. (146)*

Whereas a mill worker believed that residents of small communities were underrepresented and their voices overlooked:

> *It's always the people who live here, the rural areas, who work in the industries. We're such a small number, that our voices are not very effective. We're not the west side of the state, we're not the east side of the country. We're working people. (143)*

Many questioned the process and its ability to actually improve management decisions and on-the-ground activities. One industrial operator was wary:

> *I haven't [participated in public involvement meetings] because I wonder if they'll do any good. (135)*

while some environmentalists were distrustful:

> *...[public involvement meetings are] a farce, charade. (118)*

some commodity users remembered previous attempts to negotiate differences:

> *We went through negotiations with them–the Forest Service and the Public Lands Council–we spent a lot of time and money trying to negotiate a settlement. It never happened. The problem was that we were willing to give up on things but they [The Lands Council] weren't. They didn't have anything to lose. We had our jobs to lose....Nothing really got settled....There was nothing for their side to lose. Their jobs didn't depend on it, whereas ours do. And it's not just our jobs, it's our life. It's a culture here, the way we are. (136)*

and some civic representatives and commodity users expressed their frustrations with decisions emerging from local public involvement meetings being overridden by the federal judicial, legislative, or executive branch:

> *Why spend the money on all these studies, if the politicians make the decisions in the end? (130)*

> *I used to get really angry at that. Almost to the point where I couldn't speak about it. It's really about politics. There's people in the Forest Service who understand forest health, that understand animal habitat; they know what needs to be done and the way to do it. But they're getting directions from politicians and appointed bureaucrats who don't allow them to do their jobs....[Local Forest Service employees] say "...we feel like doctors who aren't allowed to do their jobs. How would you feel lying on the operating table for surgery, but before the surgeon could operate he had to go get public opinion on whether it was a valid surgery?" (167)*

The most prevalent concern about the public involvement process was the personal time commitment. For many, their involvement was unpaid and had to be scheduled around work, which often reduced time delegated for family, household chores, and leisure activities. Thus, choosing to participate in public involvement processes often entailed costs to their personal lives.

> *I used to spend 3-4 nights a week going to these meetings, it's discouraging. I couldn't have a job to really be involved. It got to the point where I decided I just have to raise my family. (130)*

> *I haven't commented because I didn't really feel I had the knowledge. I would like to be active but with this business and having a family, I don't have enough time. (140)*

> *I can't afford to go to every meeting. (133)*

Time available for public involvement also was viewed by commodity users as an unfair advantage held by environmentalists. The former typically believed that environmentalists receive a salary to scrutinize NEPA documents, check data on a site-specific basis, and attend public involvement meetings. Commodity users expressed their frustration over environmentalists' salaries and reimbursed expenses versus their own volunteered time and out-of-pocket expenses; they belittled environmentalists' "work" by contrasting it with their "real work," typically of a more blue-collar nature:

> *That's what [loggers, mill workers] do, they work and don't have time to be involved in the whole thing. (136)*

> *...the advisory board is always claimed to be diverse...but by the 4th or 5th meeting, you've only agency people and environmental activists because other people are out trying to make a living. They don't get paid for time they're off work or budget to travel.... They call it public involvement, but it ends up being real lopsided...it's a fallacy to say we're having all these public involvement meetings. That pacifies everybody, but to me it's a cop-out of government not trying to take responsibility for their decisions based on their management expertise and science. (166)*

> *[Environmentalists] have got a lot of people with nothing else to do. It's their job. We all have to work for a living, otherwise we'd starve to death. If we had 8-10 hours per day, we'd be more effective. I can only work on this on average 1 hour per day. My wife tells me I have a life. This is gratis, we don't get paid to do this.... (169)*

Another concern was atrophy, which often reflected people's choices in prioritizing their time; i.e., whether to spend it on forest issues or on other personal interests.

Unless there's a hot issue, people don't show up. They have to be mad about something. (116)

Regardless of the costs, time commitments, and issues, public involvement was necessary, according to all stakeholders.

You have to go; you have to be well informed; you have to participate. I'm not willing to devote the rest of my life doing this. I will if I have to, but I'd rather not. There's other things I'd rather do with my life than tear apart EAs [environmental assessments]. (118)

Public involvement processes raised unique concerns for tribes. Most sought a different venue for tribal input on national forest management policies. Tribes consider themselves sovereign governments, as defined by various treaties, executive orders, and case law. To them, consultation government to government differed from public involvement that evolved from NEPA regulations. A formal process, however, was not and is not currently in place.

The executive order requiring federal agencies to consult has not been complied with. The government-to-government executive order has not been complied with. So the opportunity to represent the tribe has been denied. (173)

Not only was this consultation intended to give tribes a voice in the decisionmaking process, but it also would provide a learning opportunity.

One of the tasks we have is to make it clear to the other agencies what the resources of importance to the tribe are. Constitutionally those federal agencies have a trust responsibility to manage those resources for the tribe. (115)

Some tribal members expressed concern about the lack of understanding by the Forest Service of the depth and multidimensional connections between Native Americans and the land, culture, and spirituality.

I have concerns that if they think the wildlife or fish concerns are addressed, then they automatically think the traditional lifestyles of the tribe are being represented. (173)

For example:

With the Indian people and society, before the European people came, members were delegated the responsibility of being managers for the resources....With their responsibility, they were expected to behave. They were expected to be knowledgeable, to consult, to coordinate. The regimental control over these people were their ceremonies. As long as they could function inside those ceremonies and be convinced they were the spiritual connection between that environment and themselves–then they could maintain that spiritual level, at that social level. If they violated any one of these, they would miss that opportunity to be that manager....That's why it's so important for the tribe to work with these people, these agencies and explain the culture–it goes beyond just looking at that stream. Because of the spiritual connection: between that environment and the Great Spirit. If

> *you violate that, you violate one heck of a lot. You violate the ceremonies, the religion, the customs, the traditions, the opportunities to manage....If I was that manager, I have my song and I have that ceremony. I have that function to make sure that I had that spiritual connection to that environment. (173)*

Without a consultation process, tribes believed that legal mandates would not be fulfilled or their interests incorporated into Forest Service polices.[17]

This process involved larger issues than the particulars of the CROP program. When asked about potential silvicultural practices implemented in CROP stands, for example, one representative of a tribe was moderately concerned about wildlife and stream disturbances, de-emphasizing changes to the stand:

> *It affects the vegetation mosaic. But in terms of it being a timber stand of greater or lesser size, or more or less health, I think not [much of an impact on the tribe]. (115)*

Developing a consultation process was taking on a new priority, and tribes were developing their own resources and protocols to interact with the Forest Service and other agencies. This, in turn, would help to avoid crisis situations where tribes might have been left out of decisions or their interests not voiced adequately.

> *Up to now, it's pretty clear that the tribe has just been treated as a member of the public. A decision is proposed under NEPA, word goes out, they take in input, react in whatever way and come out with a decision. Up to a month ago, this was how the tribe was being involved....We have dealt with them to varying degrees of success. Now that's going to change I think. (115)*

Consultation for tribes and public involvement for other stakeholders was an extremely important vehicle to input concerns and knowledge into activities occurring (or not occurring) in the national forest. By identifying successes and failures in past consultation and public involvement processes as well as by gaining a more thorough understanding of other social dynamics in the natural resource policy arena, the Forest Service may be able to improve subsequent efforts. Key to improving tribal consultation and public involvement processes is discerning relational and substantive issues. Strength in relations between the Forest Service and social groups as well as among all social groups will provide opportunity to discuss difficult issues. As relations break down, productive discussion often disintegrates into standard rhetoric, polarized positions, and emotionally charged reactions. Table 20 summarizes the complexity of this social situation.

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[17] An interesting development in the Interior Columbia Basin Ecosystem Management Project regarding tribal consultation was noted by one Forest Service employee. Because ICBEMP affects dozens of tribes, consultation had occurred between tribes and Forest Service regional offices. And this trend seems to continue. As activities arise on individual national forests, tribes appear to be contacting regional offices to voice their input.

Table 20—Describing the relation between the Forest Service and stakeholders, by stakeholder group

Stakeholder group	Resources of emphasis	Belief statement	Position
Civic representatives	Forest health, quality of life	Residents of communities neighboring the Colville National Forest live here for many reasons that connect them to forest resources.	A cooperative relation exists to support multiple use of the Colville National Forest. More emphasis should be placed on the severity of Colville National Forest management policy impacts on local communities.
Commodity users	Forest health timber	The Forest Service has shied from active management and bowed to environmental pressures. Local timber industries need the Forest Service, and they believe that the Forest Service needs them.	The relation has deteriorated because the Forest Service is afraid of being appealed. Forest Service employees don't want to lose their jobs by standing up for silvicultural practices that improve the forest but are criticized by environmentalists.
Environmentalists:			
"Light harvest"	Biodiversity, ecosystem elements	Local Forest Service is limited in their decisionmaking authority by top-down directives, especially allowable sale quantities. But they are receptive to the public and work with the environmental community to some degree.	Working relation is improving, but Forest Service employees are afraid of losing their jobs if they resist agency directives that overlook ecological impacts.
"Zero cut"	Biodiversity, naturalness	The Forest Service needs to change its mandate so that it can preserve unique and precious resources that can be found only in the national forests. They are our "lungs and headwaters" and are too important to degrade for short-term economic benefits.	The relation lacks trust because the Forest Service can't let go of the timber sale program regardless of its impacts on other resources.
Forest Service	All	The public includes local residents as well as all Americans. These are national forests and the Forest Service must respond to all American voices. However, local residents directly experience the impacts of Colville National Forest management activities.	The Forest Service can't be all things to all people. It has to follow all applicable laws and regulations. But it needs creative input from the public to mitigate negative impacts of management activities.
Recreationists	Recreation	The Forest Service has many informal partnerships with recreationists to maintain trails and facilities. Recreation is not always possible when forest access is restricted.	A good relation exists, but permanently closed roads and the prospect of user fees worry some recreationists.
Tribes	Cultural values, spirituality	Tribes have unique standing and mandated consultation rights with federal agencies.	The formal consultation process, government to government, has not occurred, thereby violating legal agreements.

Review By County

The tri-county region, to this point in the report, has been treated as a whole relative to social groups, issue descriptions, and perceived impacts of the CROP program. This tactic has enabled the reader to gain insight into social dynamics surrounding CROP stand management–a complexity in itself. But in doing this, variations of impacts and interests have been overlooked according to unique community circumstances, forest dependence, and social grouping distributions. The following summary provides some insight to these differences by geographic clusters within the tri-county region.

Southern Pend Oreille County

The communities of Newport, Cusick, and Usk comprise this area. Issues of particular emphasis and unique characteristics associated with this area included:

- Residents are within commuting distance to Spokane; local economies therefore are not as self-reliant as other, more isolated tri-county areas. These “bedroom” communities also are attractive to retirees who seek high quality-of-life amenities from smaller, rural communities but also want access to services, particularly medical facilities.
- Unemployment tends to be significantly higher than the state average. Public assistance in terms of welfare, medicaid, unemployment, and other transfer payments are a higher proportion of personal incomes.
- The Newport District of the CNF provides day trip recreational opportunities to the Spokane and Coeur d’Alene populations but does not have destination appeal for many tourists.
- The Pend Oreille Environmental Team is centered in this area. Members monitor activities in this district as well as the Sullivan Lake Ranger District to the north. This group focuses on developing working relations with the CNF to monitor environmental impacts in the national forest.
- Overall, the southern Pend Oreille communities have a fairly friendly relation with the Newport district staff. Residents feel the staff is accessible and willing to listen to the public. Moreover, private timber operators are moderately satisfied with the Newport timber sale program given recent federal public lands policy dynamics.

Northern Pend Oreille County

Local points of interest for the communities of Metaline Falls, Metaline, Ione, and Tiger included:

- Most large private industry has left the area, closing sawmills, factories, and mining operations. In 1995, Vaagen Brothers’ Ione mill closed. The LaFarge Cement operation also closed in the mid-1980s. Zinc and lead mining was once big business, but closed in the early 1970s; slim hopes of reopening these mines still persist. Although, the number of these facilities was never great, they were primary sources of income for residents. This area has ridden the wave of boom and bust industries since Anglo settlement. Most residents are extremely concerned about their economic future, especially in light of recent cutbacks in the Forest Service timber sale program.
- With campgrounds surrounding Sullivan Lake, the proximity of the Salmo Priest Wilderness, efforts to reestablish caribou populations, and grizzly bear habitat protection, many feel the Sullivan Lake Ranger District is following a national trend emphasizing recreation over commodity resources on federal public lands.
- Unemployment is extremely high in northern Pend Oreille County. Furthermore, almost every household receives part of their income from the public sector–either through employment with federal, state, or local government or the school systems, or from transfer payments. Many point out this situation is not sustainable.

- Frustration is high about the lack of timber sales by the Forest Service–in the Sullivan Lake District as well as in other CNF Districts and Pacific Northwest national forests. Some attribute this to local, regional, and national environmentalism; others blame the Forest Service or other federal agencies such as the U.S. Fish and Wildlife Service, which has lead authority over the ESA.
- Many see the CNF surrounding their communities, but feel it is not accessible–closed roads and few timber sales. The latter, many believe, would not only help the forest in terms of stimulating the growth and resiliency of CROP stands but also provide desperately needed jobs.

Northern Stevens County

The larger communities of Colville and Kettle Falls are located here. Farther north are Marcus and Northport; to the south are Addy and Arden.

- The Colville-Kettle Falls-Arden area is home to Boise Cascade's three milling operations, Vaagen Brothers' small log sawmill, and Stimson's sawmill. Support for the timber industry is strong and relatively unopposed by any locally organized environmental groups.
- Although Stevens County has high unemployment rates compared to the state, it is typically better off than neighboring Pend Oreille and Ferry Counties. Northern Stevens County is characterized as a "isolated trade center" (ICBEMP 1998), which means it is relatively self-sufficient and provides services to other outlying areas.
- Relations between these communities and the Colville and Kettle Falls Ranger Districts and the supervisor's office exhibit moderate tension. The timber community has attempted to cooperate and negotiate policy changes, but it often feels nonlocal environmental groups eventually usurp this process.
- CROP stand management has been a topic of discussion between the Forest Service and those in private forestry and timber industries over the past 20 years. Many are disappointed with the perceived lack of decisions and progress made to actually implement treatments in these stands.
- Concerns about the forest's resiliency to storm damage, insects and disease, and wildfire are magnified by compounding forest health problems that have accumulated over the years.

Southern Stevens County

- Chewelah lies 20 miles south of Colville and is more accessible to Spokane. It is less timber dependent and has been able to market its community to retirees who, as previously mentioned, choose proximate medical facilities and other services.
- Other communities in the southern portion of Stevens County, such as Valley, Springdale, Hunters, Loon Lake, Ford, Wellpinit, and the Spokane Indian Reservation are not adjacent to the CNF. They most likely are impacted by the national forest to a lesser degree than the communities focused on for this social assessment.

Southern Ferry County

- Part of the Colville Indian Reservation comprises the southern half of Ferry County. The Colville Confederated Tribes' priority issues were procedural rather than substantive; i.e., government-to-government consultation was the foundation to voicing their interests in national forest management decisions.
- Tribal members stress the need to recognize traditional ways of life, including cultural practices and spiritual connections to resource management and use. Many feel these elements are overlooked by public land management agencies including the Forest Service.

Northern Ferry County

Communities in this area include Republic, Malo, and Curlew.

- Timber, ranching, and gold mining form the cornerstone of this area's Anglo development. Many see these industries slowly diminishing, to their chagrin, which causes much concern about their future economic stability. Diversifying this area's economy is difficult due to their isolation from major cities, interstates, and airports.
- Unemployment is high with little foreseeable change.
- Tensions among forest stakeholders are high. The Ferry County Action League is centered in Republic, as is the Kettle Range Conservation Group. Additionally, several active representatives of the Public Lands Council live and work out of Republic. Natural resource issues quickly are polarized among these groups.
- The Republic Ranger District has drier forest types, generally, compared to the other CNF districts. Recent fires burned in this district and the adjacent Kettle Falls district, including the White Mountain fire in 1988. Wildfire is a salient issue; thus, concerns about fuel accumulation and fire prone ecosystems top residents' concerns when discussing CROP stands.

Conclusions and Policy Implications

The CROP research program focuses on stand treatments—a largely biological, ecological, economic, and silvicultural adaptive management process. However, people living in communities adjacent to the Colville National Forest, forest watch interest communities, tribes that have specific rights to these lands, the Forest Service staff who administer this national forest, and others beyond the inland West have various interests in the management of overstocked, small-diameter stands. Thus, a social component was integrated into the CROP research program by conducting a social assessment and collaborative learning public involvement activities. The result was a multidimensional, comprehensive study and action plan for learning and managing these stands.

The social assessment results, discussed in the "Social Groups" and "Issues" sections, outline the complex web of people's uses and values of the national forest as well as their perceived impacts that future forest management directions might effect. The remainder of this section weaves together several themes emerging from previous sections to explain two fundamentally different positions that most likely will shape future policy debates surrounding CROP stand management. Guidelines are proffered to help resource managers foster inclusive, open, and pragmatic relations with stakeholders and tribes.

Themes: Making Sense of the Social Complexity

1. CROP stands will undergo basic changes if silvicultural treatments are applied, but outcomes are neither clear nor simple.

Silvicultural treatments change the physical structure, species composition, age class distribution, and average diameter size of a stand. Furthermore, habitats, ecological processes, visual appearances, succession patterns, soils stability, and more are among a long list of potential impacts.

Because exact responses by the forest to a particular treatment prescription (including no treatment) are not perfectly predictable, various stakeholder groups foresee different scenarios as an effect; subjectivity thus enters the decisionmaking process. This uncertainty is further exaggerated by the stakeholders having myriad definitions of the roles and values of CROP stands. For example, these stands can be viewed as any combination of the following: densely, overstocked small-diameter trees; wildlife habitat; a component of forest structural and vegetative diversity; one stage in forest succession; timber with low productivity, low market value, and high harvest costs; stands with

low recreational value; stands associated with high mortality risks; biota protecting irreplaceable genetic legacies; unique areas within the national forest system that are becoming increasingly rare and valuable to the region, nation and world; and so forth.

The expected outcomes of treating CROP stands depend on where each person starts with their perception of CROP stands and their understanding of silvicultural treatments.

2. People evaluate these treatments through a diverse set of individual experiences, connections to the forest, knowledge sources, cultural influences, and fundamental values.

Time spent in the forest, residences proximate to forest and national forest lands, exposure to media sources, cultural backgrounds, sense of community, work experiences, professional affiliations, education, family history and traditions, recreational experiences, and more factor into a person's view of CROP stands and the need for particular silvicultural treatments. This background that each person brings to the situation is individualistic and multidimensional. Multiple connotations thus are attached to particular treatments or desirable objectives. Some will view the increased chance of storm damage in CROP stands as negative–further hindering stand growth, productivity, and resiliency to other disturbances. Others will view the same storm damage as positive–an example of natural disturbances and responses in an ever changing ecosystem.

The different backgrounds, understandings of the situation, and assessments of positive, negative, or indifferent expand the complexity of evaluating treatments and potential impacts. Ambiguity, commitment to one's positions, and debate are to be expected when proposals are made for changes (or lack of change) to natural resources and the environment that people strongly value.

3. Perceived risks associated with alternative treatments (including no treatment) are significant decision variables in people's preferred management choices.

The framing of risk is an important decision factor in evaluating potential losses: "Choices involving gains are often risk averse and choices involving losses are often risk taking" (Tversky and Kahneman 1981: 453). Regardless of a person's shared interest with a particular stakeholder group, the core of one's position on CROP stand treatments is centered on minimizing losses. For some stakeholders, the potential losses correspond to reductions in the naturalness of the forest or ecosystem, preempted nature-regulated processes, extirpation of genetic legacies, less species diversity, and resource degradations not recoverable in the short term. A no- or low-level intervention management strategy is viewed as a way to realize gains in environmental integrity; therefore these stakeholders' positions reflect a risk-averse choice by not supporting extensive silvicultural stand treatments.

Other stakeholders anticipate losses resulting from catastrophic disturbances that override the resiliency of CROP stands, such as reductions in marketable timber, increased insect and disease epidemics, increased wildfire frequencies and magnitude, severe economic and social impacts on natural resource dependent communities, and, similarly, resource degradations not recoverable in the short term. Lack of intervention in CROP stands appears to yield high losses, according to this stakeholder group; therefore, their support for silvicultural treatments is risk taking to avoid or mitigate losses.

4. Two fundamentally different positions emerge. Between these two distinct positions, however, a spectrum of mixed interests and voices exist.

As discussion in the previous themes exemplifies, two diametrically opposed positions emerge. Often the two stakeholder groups, commodity users and environmentalists (specifically the subgroup of zero-cut environmentalists), voice competing views of the situation and therefore proffer opposing positions on forest policy. In one sense, this polarization clarifies the discussion, illuminating distinct differences and simplifying the discourse. But in another sense, if the focus is on the extremes, then the complexity of the situation and those representing a spectrum of interests somewhere in the middle are overlooked.

It is not uncommon in politicized issues to lose sight of the middle ground, especially when issues are debated in the media. As resource managers, communities, interest groups, and individuals attempt to shape CROP management directions, a flexible range of alternatives representing the whole interest spectrum can be useful and beneficial to the decision process.

5. A sense of responsibility permeates people's considerations of appropriate CROP management, in terms of forest stewardship, societal needs, community stability, family, and individual livelihood.

People demonstrated sincere commitment to their positions on CROP stand management alternatives and expressed the need to make responsible decisions due to wide-ranging impacts. Although many individuals, families, and communities adjacent to the CNF likely would experience a higher degree of impacts from the CROP program, others beyond the tri-county region would be affected directly and indirectly. And, of those interviewed for this social assessment, most acknowledged the potentially far-reaching impacts and voiced the need to give serious thought to their policy positions.

6. Public participation in the forest policy decisionmaking process involves myriad factors that are of broader scope than people's geographic location, primary forest use, and short-term impacts.

Although the CROP program is a major research and management effort occurring in the CNF, it is only one component of this national forest staff's management responsibility. Similarly, community residents, tribes, and other interested parties have a variety of obligations and interests in their lives. Thus, attention given to the CROP program, often is prioritized.

For those with a high level of interest in the outcomes of the CROP program, time is set aside to participate or keep informed with developments in the decisionmaking process. Others may not participate in public involvement activities because the issues may not be deemed as important as other events in their lives at the time. And some may choose to participate in other forums where they feel their voice has more effective results.

Guidelines for Resource Managers

To incorporate social assessment findings into the CROP research program, other CNF management activities, and subsequent public involvement processes, guidelines are offered. These concepts may at first seem obvious and simple. But successful implementation of these guidelines is more challenging than first appears. Including a diverse "public" and tribes as sovereign governments in the national forest decisionmaking process is anything but easy. Therefore, learning is stressed as the overarching principal for all decisionmaking participants including the Forest Service. To begin this process, the following guidelines are identified:

- Recognize multiple stakes held by people in forest use. Social dynamics surrounding forest policy are complex due to myriad ways forests impact daily lives.

- Acknowledge the diversity of the people . Each person interprets a situation from his or her unique experiences, knowledge, interests, locality, and traditions. Collectively, the public and tribes will have conflicting perceptions and positions on forest policy.
- Understand differentiated impacts for each stakeholder group. With varied perceptions, positions, and stakes associated with forest policy, management outcomes will impact people differently.
- Strengthened relations can encourage substantive issue dispute resolution. If the resource manager's goal is to achieve policies that improve problematic situations, social relations must enable productive discourse. Thus, design of public involvement processes must be inclusive and responsive to social complexity.
- Public involvement starts with individuals who collectively expand the decision-making process. Accommodate individuals' contributions by allowing for their focus on a particular issue, respecting their ability to participate (lack of participation in formal processes does not necessarily equal disinterest), and acknowledging their prior interactions with the Forest Service.
- Invest in long-term relation building. Public involvement processes may be project-oriented, but the public and tribes often are affected by multiple projects during their tenure in the community.
- Strive for situation improvement rather than solving problems. Due to the situation complexity and myriad positions, it is unrealistic to expect consensus on forest policy decisions. However, by heightening understanding of underlying issues, removing obstacles to the learning process, and encouraging productive dialogue, improved communication clarifies the situation and promotes more informed and durable decisions.

Conclusion

The qualitative methodology used in this report enabled resource managers and others to immerse themselves in social dynamics surrounding the CROP program. At first, the presentation of data was overwhelming but this was consistent with meeting people one-on-one or collectively and listening to their concerns, expertise, experiences, philosophies, and suggestions for appropriate and desirable forest management of the Colville National Forest. Furthermore, individuals, communities, tribes, and interest groups were able to voice their expectations–grounded in their own experiences–of how the CROP program might impact themselves and others. This report documents interviewees' voices rather than attempting to legitimize their views. By accomplishing this goal, the social complexity is exposed and acknowledged, and resource managers can then begin to incorporate social variables into their policy processes.

Social assessment supplements traditional socioeconomic analysis. A qualitative approach allows researches to move beyond general demographic, geographic, and economic characterizations of a place or situation that typically use quantitative measures and statistics. Social assessment brings meaning to the numbers by integrating contextual information for accurate interpretations. Qualitative methods expose the complexity of a situation by examining the different levels of analysis, especially smaller units not accurately represented in generalized statistics (e.g., individuals, households, interest groups, and communities). Social assessment is the organizing framework to understand social groups and salient issues of a situation. Social assessment encourages a systems approach to public involvement by including people–their voices, experiences, interests, etc.–in crafting and modifying natural resource policies.

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Appendices

Appendix 1: Semistructured Interview Guide

A. Attachment to CNF and CROP Program

Individuals, communities, and Native American tribes located next to the Colville National Forest are directly affected by public forest land management policies, human activities on the land, and naturally occurring phenomena. Questions in this first section target learning about the backgrounds and histories people bring to their current thinking, use, and experience of the national forest. Once we understand the multiple, fundamental relations people share with the forest, we can begin to identify the roots of different expectations and perceptions of past, present, and future management policies. Specific familiarity with the CROP program is explored, then, to begin guiding interviews toward experiences and knowledge people have with these stands.

How long have you lived in the local area? Do you own land? If so, is it near or adjacent to the national forest?

How are forests important to you? What type of attachment do you have to the local forests, in general? the Colville National Forest, specifically? Resource use, experience, etc.?

How do forest activities involve or affect you?

Have you lived near other national forests in Washington? in other states? What experiences did you have with forest management policies or forest conditions in these other places?

Where has your knowledge and opinions about forests come from? Where do you get information about forests?

What experience or knowledge do you have regarding the CROP forest stands?

B. CROP Management

Questions now focus on probing the extent of people's knowledge, concerns, beliefs and opinions surrounding the management (including nonintervention) of CROP stands. We want people, in their own words, to describe their perception of CROP stands, whether these stands differ from or are the same as other stands on the CNF or other forest lands, and the reasons attributed to any differences. Causes behind current forest conditions may shape people's beliefs about the directions future management should take; thus, we quickly move to questions targeting desirable visions of CROP stands as well as acceptable strategies, if necessary, to achieve these goals.

How would you describe the CROP stands?

How do they compare to other parts of the CNF? to other forests in the area? How are they different? How are they the same?

What do you think led up to current stand conditions in this area?

Looking toward the future, how do you hope CROP lands look? What characteristics do you hope are part of CROP stands?

Should any management actions be taken relative to these stands?

- Are changes needed? If so, what?
- What specific management practices should the Forest Service use or not use?
- What other environmental issues or natural resources are connected to CROP management?
- What goals should guide or direct CROP management?
- Are there risks associated with these goals or management practices?

Are there any risks associated with doing nothing, in your view?

C. Impacts

Learning about the CROP program's material and emotional impacts on peoples' lives and communities provides another avenue to discern fundamental positions on management directions. We want to understand the rationale behind each person's self-defined appropriate management direction for national forest CROP stands. To accomplish this goal, we investigate the perceived impacts people attach to the CROP program.

As an example, increased commercial thinning in CROP stands has multiple impacts. Primary jobs may result for local woods workers as well as secondary community jobs stemming from a stronger timber economy. Higher levels of traffic and road use occur, however, with increased harvesting activities in the forest, which may affect soil stability, vegetation composition, wildlife habitat, recreational experiences, etc. The resulting stand structure from a commercial thinning could alter fuel availability and habitat source for insects and disease, thereby, changing the forest's resilience to wildfire. The impacts of any activity (including no action, as an option) are complex and interdependent; furthermore, preferred management directions become contradictory as people attach different values to perceived impacts.

To understand this variation on the meaning of impacts, we must uncover why people feel strongly or ambivalent about CROP management—how it affects meaningful components of their lives (jobs, families, friends, traditions, future generations, special forest places, community stability, visions of individuals' and society's coexistence with the environment, etc.).

How would CROP lands and management affect you? your family? your community? the region?

D. Implementation

This last section tries to uncover factors, especially those shaping social dynamics, that may affect implementation of CROP treatments. We want to learn about the relation between the Forest Service and stakeholders (community members?), people's trust in the ability of the Forest Service to achieve land management objectives, other interest groups that may be involved in decisionmaking processes, and perceptions of public involvement processes. These questions identify tensions among stakeholder and special interest groups that may influence CROP program implementation, regardless of biophysical conditions and technological advances.

Can these goals or future conditions for CROP stands be achieved?

If yes, who or what helps the process?

If no, who or what stands in the way?

What can the Forest Service do to improve CROP management, or forest management in general?

How would you describe the relation between the community and the Forest Service?

Have you gone to any public involvement meetings? commented on Forest Service activities (formally or informally)?

Have you ever worked for a natural resource agency? What position did you hold? What experiences did you have?

Are you affiliated with any natural resource or environmental organization? How would you describe your involvement?

E. Demographics

Interview number _____ Date _____

Current occupation _____

How long? _____

Previous occupations _____

Employment or affiliations with public land management agencies? _____

_____

Membership(s) in natural resource/environmental organizations? _____

_____

Town of residence _____

How long? _____

Other places of residence _____

National forest, public forest proximity _____

_____

Educational Attainment _____

Town where attended high school _____

Age _____

Sex _____

Ethnicity/cultural identity _____

Appendix 2: Informed Consent Form

INFORMED CONSENT FORM

Stakeholder Analysis of the CROP Program on the Colville National Forest

A research project is being conducted to investigate social and economic impacts of the Colville National Forest CROP program on local communities. The purpose of this project is to identify individuals and groups who have a stake in the CROP program and describe the effects it has on their lives, for example, their daily routines, employment, recreation, national forest use and relationship with the Forest Service. Aggregate community impacts are explored also to understand CROP benefits and disadvantages that might affect Ferry, Stevens and Pend Oreille Counties and the greater region.

The Department of Natural Resource Sciences at Washington State University supports this project. A team of researchers include Keith Blatner, Professor; Matt Carroll, Associate Professor; and Angela Findley, M.S.

The research team will gather data from personal interviews, which take approximately one hour of your time. If you approve, personal interviews will be tape recorded in order to provide the researchers with accurate notes and an opportunity to fully concentrate on the discussions.

Your benefits and risks in this project are minimal. Associated benefits may include having an opportunity to communicate experiences and views about the CROP program. Associated risks may include participation considered to be time consuming, tiring or revealing of your personal thoughts.

To minimize any risks, we assure the following rights to all participants:

- All participation in this project is entirely voluntary,
- You may refuse to answer any question at any time,
- You may withdraw from the interview at any time,
- All information obtained from this project will be kept strictly anonymous, and
- Complete interview transcriptions will be available only to the research team.

Final research reports may contain interview excerpts. However, the research team will exclude all names and identifying characteristics from those excerpts to preserve anonymity.

Thank you for your participation. Please direct any questions about the research or your rights to Keith Blatner at 509-335-1992 or Matt Carroll at 509-335-2235.

Appendix 3: Comparison Of Demographic Characteristics, 1990

Table 21—Comparison of demographic characteristics, selected eastern Washington counties and the state, 1990

Demographic	County				State
	Ferry	Pend Oreille	Stevens	Spokane	
Total population	6,295	8,915	30,948	361,364	4,866,692
			Percent		
Sex:					
Male	52.1	49.6	49.9	48.6	49.6
Female	47.9	50.4	50.1	51.4	50.4
Age:					
Less than 18 years	31.5	29.4	31.5	26.4	25.9
18-64 years	57.9	56.6	56.0	60.4	62.3
Over 64 years	10.6	13.9	12.5	13.3	11.8
Race:					
White	80.8	96.9	92.9	94.6	88.5
Black	.3	.1	.2	1.4	3.1
American Indian, Eskimo or Aleut	18.0	2.3	5.8	1.5	1.7
Asian or Pacific Islander	.4	.3	.6	1.8	4.3
Other	.6	.4	.5	.6	2.4
Hispanic origin:					
Not of Hispanic origin	98.6	98.7	98.4	98.1	95.6
Hispanic origin	1.4	1.3	1.6	1.9	4.4
Educational attainment (18+ years):					
Less than 9th grade	7.8	7.1	6.7	4.6	5.1
9th to 12th grade, no diploma	21.5	19.4	14.0	11.3	11.9
High school graduate, GED	35.0	34.8	38.3	27.8	28.3
Some college, no degree	20.3	20.8	22.4	27.9	26.3
Associate degree	4.7	6.5	7.3	9.8	7.7
Bachelor's degree	6.9	7.7	7.9	12.8	14.6
Graduate, professional degree	3.7	3.7	3.4	5.7	6.1

Table 21—Comparison of demographic characteristics, selected eastern Washington counties and the state, 1990 (continued)

Demographic	County				State
	Ferry	Pend Oreille	Stevens	Spokane	
	Percent				
Employment status (16+ years):					
In armed forces	0	.1	.2	1.5	1.4
Employed civilian	50.1	43.2	52.1	56.9	61.5
Unemployed civilian	10.1	7.6	6.2	4.5	3.7
Not in labor force	39.7	49.1	41.4	37.1	33.3
Unemployment rate (16+ years)	16.8	15.0	10.7	7.1	5.6
Class of worker (16+ years):					
Private for-profit workers	48.5	61.6	59.3	67.4	68.9
Private not-for-profit workers	2.9	4.0	5.3	9.0	6.3
Local government workers	16.7	10.9	7.1	5.7	6.0
State government workers	7.5	7.4	9.0	6.8	6.3
Federal government workers	12.5	5.5	5.2	3.2	4.2
Self-employed workers	11.8	10.2	13.5	7.4	7.8
Unpaid family workers	.1	.3	.6	.5	.4

Source: U.S. Department of Commerce 1997.

Acronyms and Abbreviations

ASQ	Annual sale quantity
CNF	Colville National Forest
CROP	Creating opportunities
dbh	Diameter at breast height
EIS	Environmental impact statement
FY	Fiscal year
HRVs	Historic ranges of variation
ICBEMP	Interior Columbia Basin Ecosystem Management Project
IMOS	Immature and overstocked stands
mbf	Thousand board feet
mmbf	Million board feet
NEPA	National Environmental Policy Act
NIPFs	Nonindustrial private forest landowners
PILT	Payment in lieu of taxes
PNW	Pacific Northwest
tpa	Trees per acre
USDA	U.S. Department of Agriculture

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The **Forest Service** of the U.S. Department of Agriculture is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

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