This report was funded by the Bonneville Power Administration (BPA), U.S. Department of Energy, as part of BPA's program to protect, mitigate, and enhance fish and wildlife affected by the development and operation of hydroelectric facilities on the Columbia River and its tributaries. The views in this report are the author's and do not necessarily represent the views of BPA.

For additional copies of this report, write to:

Bonneville Power Administration
Public Information Center - CKPS-1
P.O. Box 3621
Portland, OR 97208

Please include title, author, and DOE/BP number from the back cover in the request.

FOREST INVENTORY
PETER J. JOHNSON WILDLIFE MITIGATION UNIT
CRAIG MOUNTAIN, IDAHO

FINAL REPORT

Prepared by:

Steven W. Narolski

Idaho Department of Fish and Game
Coeur d' Alene, ID

Prepared for:

U. S. Department of Energy
Bonneville Power Administration
Environment, Fish and Wildlife
P.O. Box 3621
Portland, OR 97283-3621

Project Number 92-069
Contract Number DE-FG79-92BP62547

DECEMBER 1996

EXECUTIVE SUMMARY

A forest inventory was conducted on the 59,991-acre Peter T. Johnson Wildlife Mitigation Unit (WMU) during the summers of 1993 and 1994. The WMU, located 25 miles south of Lewiston, Idaho, was purchased by Bonneville Power Administration (BPA) in 1992 as partial mitigation for Dworshak Dam and Reservoir. BPA transferred title of the WMU to the Idaho Department of Fish and Game (IDFG) in 1995 for long-term management.

Much of the plateau on the WMU has been heavily logged in the past, with a high grade prescription. The majority of remaining sawtimber occurs on steep, mostly inaccessible canyonlands surrounding the plateau (Edgewater Timber Services 1990).

Every site capable of supporting coniferous forest vegetation was inventoried by IDFG personnel, regardless of whether it was currently supporting a forest. Results of the inventory indicated that approximately 27,828 acres of the 59,991 WMU are capable of supporting a coniferous forest. The current timber volume on the WMU is estimated at 103.04 MMBF. Douglas fir provided the most volume (45 .O MMBF), followed by grand fir (3 3.9 MMBF), and Ponderosa pine (13.8 MMBF).

A total of 617 individual stands were delineated by forest habitat type. Douglas fir/ninebark was the most common (136 stands), followed by grand fir/twinflower (100 stands), and Douglas fir/snowberry (83 stands).

Management and monitoring actions are recommended for the long-term management of forest resources on the WMU.

Table of Contents

List of Tables

List of Figures

FOREST INVENTORY
PETER T. JOHNSON WILDLIFE MITIGATION UNIT
CRAIG MOUNTAIN, IDAHO

"Forestry is the holistic management of forest ecosystems. It is a process of structuring states of ecosystem organization to allow multiple benefits to accrue perpetually, while maintaining ecosystem integrity." - Samuel H. Austin, circa 1994.

"Forestry is the judicious use of silviculture management practices for sustained use of forested lands accomplished in a manner that will preserve the environment, enhance the quality of human life by supplying (wood) products, provide quality wildlife habitat, and conserve our nation's vital water resources." - Kenneth J. Lull, circa 1994.

"Civilization and management are a state of mutual and interdependent cooperation between human animals, other animals, plants and soils... Within the limits imposed by plant succession, the soil, the size of the property, and the gamut of the seasons, the landholder can 'raise' any wild plant, fish, bird, or mammal he wants to." - Aldo Leopold, circa 1949.

INTRODUCTION

The 59,991-acre Peter T. Johnson Wildlife Mitigation Unit (WMU) was purchased by Bonneville Power Administration (BPA) in 1992 as partial mitigation for wildlife losses associated with the 1971 construction of Dworshak Reservoir. Upon completion of an environmental assessment, BPA transferred fee-title of the WMU to the Idaho Department of Fish and Game (IDFG). The WMU, located in the Craig Mountains, is now managed by IDFG as part of the larger 76,114-acre Craig Mountain Wildlife Management Area (CMWMA) (Figures 1 and 2).

The primary objective of this report, as outlined in BPA contract number DE-FG79-92BP62547, is to determine the quantity and quality of existing forest habitat types on the WMU. Products from this effort include a description of the ecological condition, a map of habitat types, and an inventory of forest resources on the WMU lands.

This forest inventory was funded by BPA and IDFG. The purpose of this and other resource inventories (plant and wildlife) is to assess the current resources condition of the WMU and to provide necessary information to generate a long-term management plan for this area.

This report provides base line information on the current condition of all property within the WMU that is identified as capable of supporting a natural forest, and also includes preliminary recommendations for the management of forest resources within the Unit. This information will be used to develop a management plan that is consistent with the IDFG's long-term goals for the WMU.

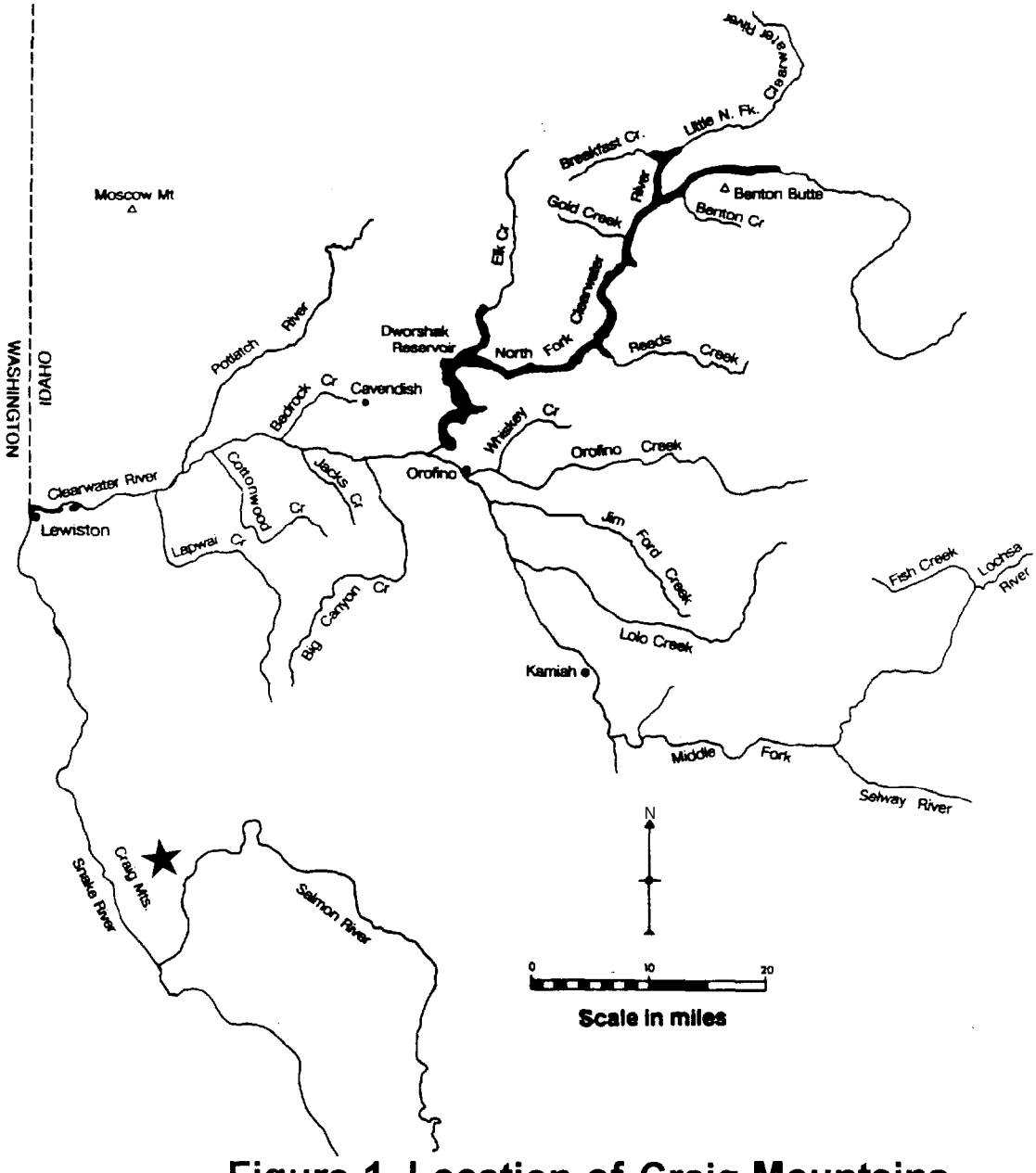


Figure 1. Location of Craig Mountains.

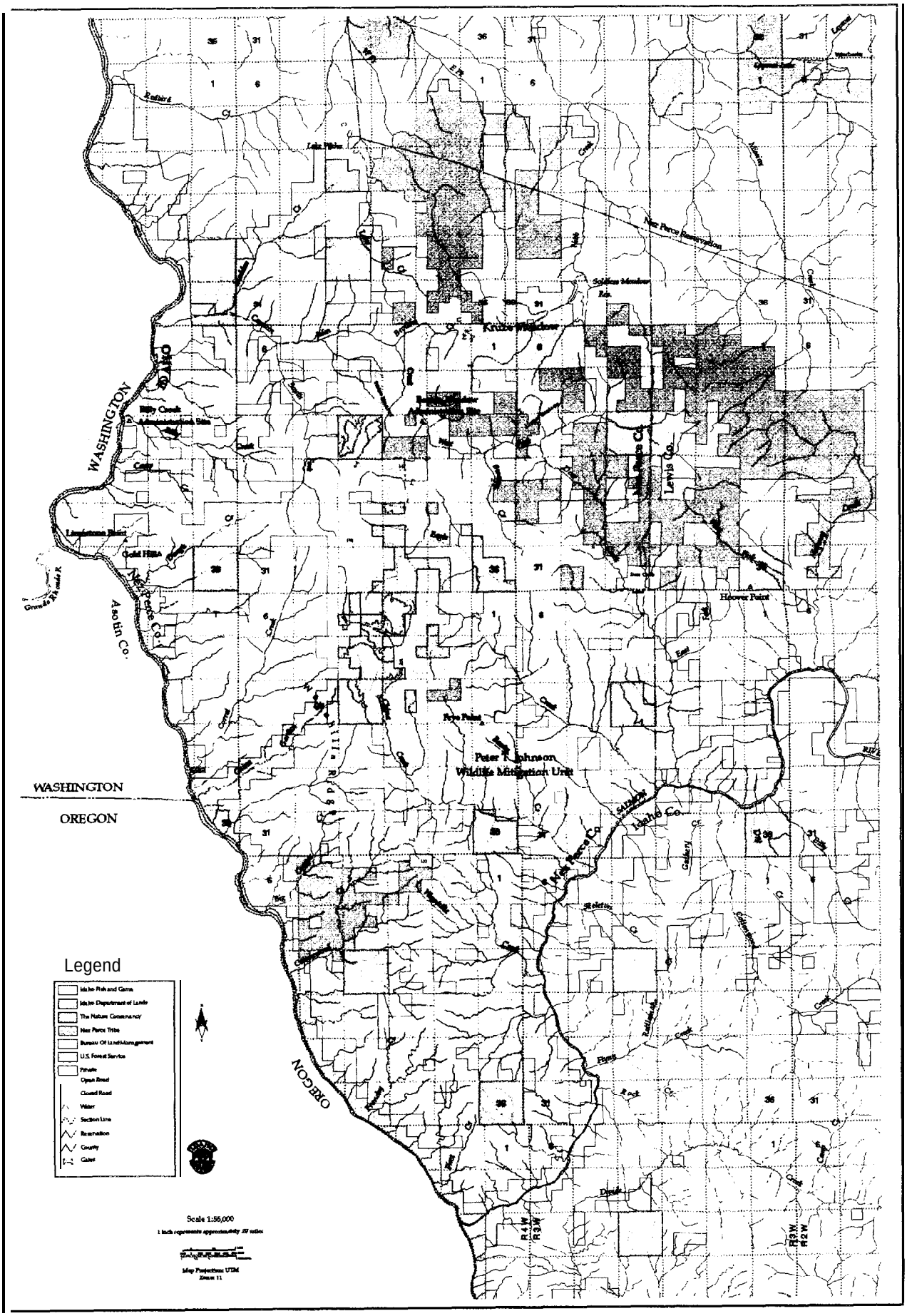


Figure 2. Craig Mountain Wildlife Management Area

SITE DESCRIPTION

The WMU is located 25 miles south of Lewiston, Idaho. It is comprised of approximately 60,000 contiguous acres spread over 159 state grid legal sections, located immediately north of the confluence of the Snake and Salmon Rivers. It occurs within the inland maritime climatic region and possesses a mix of grass and brush-covered slopes, along with western montane forests (Steele and Pfister 1990). Elevations within the WMU range from approximately 800 feet to over 5,300 feet above mean sea level.

All slope aspects are found within the WMU. The topography ranges from flat, wet meadows to dry, steep mountainous breaks. There are columnar basalt rock outcrops and talus slides distributed throughout the WMU. As classified within the state's Forest Practices Act, Class I (fish bearing) and Class II (non-fish bearing) streams and a man-made reservoir can be found within the vicinity of the WMU. Anadromous and resident fish species such as brook trout and chinook salmon can be found in streams within the area.

Annual precipitation ranges from 15 to 28 inches. Sumrners are hot and dry, with temperatures exceeding 100 degrees F. Annual frost-free periods vary from less than 70 to 200 days in length on average, with lower elevations staying warmer but drier longer. The WMU is situated in a transition zone between xeric and more mesic forest habitat types.

Soils

Although glaciation has not occurred within Nez Perce County in recent geological history, the effects of glaciation to the north contributed to the composition of the parent soil material. As these glaciers melted, floods spread over central Washington. Winds then picked up the finer particles, or loess, and subsequently deposited them over the WMU. Some areas of loess deposition are many feet deep (SCS 1976).

Another factor contributing to soil development within the WMU was the eruption of Mount Mazama located roughly 400 miles to the southwest over 6,000 years ago. Many volcanic plumes were borne easterly from these eruptions, leaving deep soil layers of over two feet composed of fertile decomposed ash.

In the valleys or draws, alluvium mainly from loess has washed down slope and is layered over an older basalt substrate.

Five major soil associations are found within the WMU (SCS 1976). These are defined by the following two broad categories.

1. Areas dominated by moderately deep to very deep, light colored, medium textured, gently to strongly sloping soils:
   - Cramont-Wapshilla Association
   - Culdesac-Cramont Association

2. Areas dominated by shallow to very deep, medium and gravelly medium textured, moderately steep to very steep soils:
   - Klicker-Rock Outcrop Association
   - Lickskillet-Rock Outcrop Association
   - Wapshilla-Culdesac Association

A complete description of these associations is provided in Appendix A.

Transportation System

A well-developed transportation system currently exists across much of the WMU. There are currently approximately 55 miles of gravel-covered roads within the WMU open to public travel. It is estimated there are about twice as many unimproved roads restricted to administrative use only. Because of numerous past logging entries, there is a well-developed system of logging skid trails in the forested areas of the WMU.

Most roads were constructed to facilitate logging and other extraction activities beginning in the 1940s. Some older roads were developed from trails to access homesteads or boomtowns, such as Zaza. Most of the main roads used today are maintained by Nez Perce County.

There is little evidence of major road failures on the WMU. Point source sedimentation from a few roads, however, has contributed to stream degradation. Erosion has been exacerbated by grazing and off-road vehicle use. When many of the roads were constructed, they were not intended for use as public thoroughfares or to withstand any measurable volume of traffic.

Historic Forest Conditions

Climatic changes over long periods of time have influenced plant species migrations, invasions, competition, and what we consider stable communities (Smith 1983). Examination of pollen from sites across the Pacific Inland Northwest indicate there have been oscillations in temperature and moisture regimes.

Test core drilling at Blue Lake, just north of the WMU revealed a periodic shift from a preponderance of ponderosa pine to Douglas fir over the past 4,300 years. That study also revealed some additional insight to the role fire has played in shaping the local vegetative landscape.

Every contemporary plant species within the forest community has evolved around a wildfire cycle. There is considerable disagreement as to what was the actual length of minor and major wildfire cycles. The duration between wildfires was influenced by the topography, aspect, association with adjacent hydrologic features, and forest vegetation. In general, the intervals between wildfires before the arrival of European settlers was an average of 5-20 years (Steele et al. 1986).

In the wake of the 1994 wildfire seasons, it is now speculated that the drier ponderosa pine and Douglas fir forest communities found along the southern aspects, canyons, and topographic breaks, probably reflects a 6-10 year minor wildfire cycle (B. Shiplett, Pers. Comm. 1994). The more moist upland or higher elevation forests where grand fir, Douglas fir, lodgepole pine, western larch, and ponderosa pine dominate, probably incurred a 7-19 year minor cycle. Both zones experienced a 60-year major fire cycle (Steele et al. 1986).

The typical forest stand within the WMU historically developed mostly open canopies comprised of old growth ponderosa pine and Douglas fir, with minor amounts of western larch on the more mesic sites. The riparian areas and some northern aspects contained grand fir and spruce in addition to ponderosa pine and Douglas fir. There were few large tracts of what is classified as dense- or closed-canopied interior forest blocks greater than 100 acres. The forest floor was kept essentially clear of brush or other plants by wildfires (Barrett 1979; Steele et al. 1986; O'Laughlin et al. 1993).

Influence of Man

Native American artifacts and camp sites are found throughout the WMU. It is reasonable they would have used fire to rejuvenate grasslands and animal forage sites, or as a tool in hunting big game.

Europeans settled the WMSJ from the late 1800s to the early 1900s, establishing homesteads and mine sites throughout the area. Wildfires, even with suppression efforts of modem society, still impacted many acres with canopy-replacing events, such as the China Creek Fire of 1967 (IDL 1994). Although handled by various agencies and private concerns, the responsibility for fire suppression is currently delegated to the Idaho Department of Lands' Craig Mountain Fire Protection District.

From the 1930s through the 1950s, the current WMU was pieced together parcel by parcel by Ross and Nelson Howard. The resulting Howard Ranch encompassed some 61,000 acres. After World War II, a major effort was made to develop road access into more of the WMU to facilitate logging strategies of that era. The land passed from the Howards' to Pene Land Company to Aetna Life Insurance Corporation during the 1980s (Edgewater 1990).

Currently, the property is accessed year round by a maintained county road to the old settlement of Zaza. Motorized access beyond West Fork Deer Creek in winter may be limited to

over-snow vehicles only, depending on winter severity. At Black Pine Comer the county road forks and loops to Winchester, a town of approximately 250 people. An extensive road system is in good condition and has been in use since development began in the early 1900s. The majority of the steepest canyons are not roaded.

Evidence from the oldest logging entries indicates that, at the time of settlement, the forest was comprised mostly of large-diameter ponderosa pine and Douglas fir. Overstory stocking levels varied from 8 to 20-plus thousand board feet (MBF) per acre and was reflective of an ecosystem molded from periodic wildfires.

Approximately ten years ago, while owned by the Pene Land Company, the WMU was heavily logged with a high-grade prescription. Most of the valuable and larger trees were removed, leaving predominantly smaller, submerchantible, diseased, lower-value, and shade-tolerant species such as grand fir. Because of these past logging activities, poletimber stands comprised mainly of lodgepole pine can be found over much of the upland plateau within the WMU. The mid-1980's entry also affected the understory plant community, encouraging shade-tolerant grand fir regeneration along with assorted brush species, native grasses, and some noxious weeds.

Edgewater Timber Cruise

A timber cruise was conducted on the WMU by Edgewater Timber Services in 1990. The whole area was cruised using a 20 basal area factor, with one plot measured per 10 acres. The volume was calculated using the US Forest Service's Northern Region log height ratio tables. A relaskop was used to collect these measurements.

This timber cruise looked exclusively at the sawlog volume and defect for Aetna Realty Investors, Inc., (Edgewater Timber Services, 1990). The Edgewater cruise identified approximately 19,327 acres as timberlands. Of this amount, 16,404 acres were identified as having been heavily logged, having generally flat terrain, and still containing some small areas of above-average sawtimber stocking. The remaining 2,923 acres were identified as possessing the greatest remaining sawtimber concentrations and were comprised of mostly steep terrain with some areas of questionable access (not taking into account helicopter logging).

The Edgewater cruise found that over the 19,327 acres, the average sawlog volume was 3.67 MBF per acre with Douglas fir, grand fir, and ponderosa pine predominating the overstory sawtimber volume with an average, defect of approximately 12% per species. A summary of the Edgewater cruise is shown in Table 1.

Table 1. Non-Department timber cruise results (Edgewater 1990)

Area	Acres	Species	Average Defect (%)	Total Net Vol. (MBF)
Heavily logged	16,404	AF	13	524
		DF	13	12,258
		GF	14	17,536
		WL	12	2,017
		LP	12	3,427
		PP	13	6,116
		ES	9	2,024
				43,902
unlogged	2,923	AF	6	14
		DF	12	15,075
		GF	13	2,622
		WL	12	1,147
		PP	11	8,059
		E S	7	6 2
				26,979
TOTAL	19,327		12	70,881

INVENTORY

Every site evaluated as capable of supporting coniferous forest vegetation was inventoried, regardless of whether it was currently supporting a forest. The information generated provides a base line from which to develop management strategies that will complement the Department's long-term management goals being developed for the WMU.

Field Equipment

Standard field data collecting equipment was used in order to gather the vital quantitative measurements which would more thoroughly describe the characteristics of the forest component.

The following field equipment was used to collect forest measurements:

- Spiegel Relaskop (American scale)
- Silva Ranger compass
- 6.8 feet pace pole marked in one foot increments
- Crown densiometer (convex and concave mirror types)
- Suunto 16" increment borer
- 75' loggers tape with diameter on reverse side in 1/10th inch

True color aerial flight lines were obtained from two sources in order to gain coverage over the entire WMU. The flight lines were taken in May and October, 1992 respectively. The latter flight line was contracted in order to supplement what wasn't covered by the older one. Both flight lines were in similar scale, at 1: 15,480.

Hard plastic photo holders were used to protect each photo while used in the field. This, in addition to US Geological Survey topographic quadrangles, served as the sources for delineating forest stand boundaries and ascertaining actual field locations.

Methods

Every acre of the WMU was reviewed photogrammetrically. All contiguous and homogenous forest stands of at least ten acres in size were delineated and sampled within each of the 200+ sections within the WMU. It was determined that sampling units of less than ten acres would not produce statistically different information across the entire Craig Mountain landscape. Each stand was digitized into IDFG's Geographic Information System (GIS) and labeled.

A minimum of four sample plots were randomly distributed at predetermined distances within each stand boundary. Compass bearings were used to reduce sampling bias for plot locations.

In the canyon regions of the WMU, a determination was made whether there was adequate stocking present to define a viable forest stand. In general, canyon forests were understocked, possessing less than ten percent canopy closure, non-commercial due to juxtaposition and wood quality, and comprised of ponderosa pine, Douglas fir, and assorted hardwoods including red alder and black cottonwood,. and other species, such as Pacific yew.

At each plot location, fixed and variable plot information was recorded, along with general site description. Only conifers were sampled in the variable and fixed plots. The presence of deciduous plants was noted, but not sampled further.

Using a relaskop, a variable plot was performed at each plot location to measure the overstory. Basal area factors of 10, 20, or 40 were options depending upon stocking levels for each stand. Every target conifer over seven inches (DBH) was identified as to species, actual height, last ten-year's growth increment, live crown ratio, and physical defect(s).

Each forest component contained two digits. The first indicated whether the tree was alive or not. The second identified the trees as an overstory or understory tree, whether it was a wildlife snag, a site tree, or if it had some obvious identifiable pathogen.

One tree per plot was also selected as the best representative or site tree and was sampled for its total age. An increment borer was used to drill the tree, removing a 1/4 inch core from the up slope side at DBH. Since it takes any given tree a certain amount of time to grow the initial 4.5 feet, a corresponding number of years were added per species to derive the tree's true total age as shown in Table 2.

Table 2. Years added to tree cores drilled at DBH by species.

Species	Abbreviation	Years Added
Ponderosa pine	PP	7
Lodgepole pine	LP	7
Western larch	WL	10
Douglas fir	DF	10
Grand fir	GF	15
Subalpine fir	AF	15
Englemann spruce	E S	15
Pacific Yew	PY .	25

These "add-on" years were derived by cutting down a representative number of saplings for each species and quantifying the number of years it took to grow to DBH. It was assumed that most trees occupying a position in the forest overstory (dominant, co-dominant, intermediate, or suppressed) had originated in a relatively open-grown environment. Therefore, only saplings growing in a similar canopy closure of less than 11% were sampled. Most species growing under denser canopies were more likely to be suppressed and were not sampled.

A 1/300th-acre circular fixed plot was measured at each site, to assess the advanced coniferous understory. Each tree within the fixed plot was identified as an understory component by species and measured for DBH (if over 4.5'), actual age, the length in feet of the most recent 10-year leader, total tree height, and live crown ratio.

Each plot was surveyed for canopy closure, using a hand-held crown densiometer. The percent slope, aspect, forest habitat type (cover type and associated plant union), was identified and averaged for the entire stand. The average elevation was derived from a USGS topographic 7.5 minute quadrangle.

Data were collected at each sample plot via linear transect interception counting by various size classes within each stand for downed woody fuels by size class. That data was expanded to the stand level using techniques employed by the U.S. Forest Service (USFS 1974).

Downed woody debris was measured and counted at each plot in various size classes and sample transect lengths. Each transect originated at the plot center and was oriented along a compass bearing of 360 degrees. When downed and detached woody debris intersected along the sample transect, it was recorded in that size class. The number of dead and detached woody debris in the 0.00-0.25 inch and 0.26-1.00 inch size classes were counted along a set six-foot transect; 1 .01-3.00 inch downed woody material were measured along a 12-foot transect. Downed logs 3.00 inches and greater were measured along a 35-foot line and were reported as either sound or rotten. If a log could be broken with some physical prodding, it was considered rotten.

Specific site information was taken at each plot which included the relative percent understory ground cover occupied by brush, forbs, grass, litter and/or woody debris, and bare or rocky ground.

Other subjective notes were also made, such as identifying pathological problems, dominant non-coniferous plant species, rock outcrops, the number of stumps by species and diameter class that would fall into a 1/100th-acre circular plot, or any other noteworthy observations relevant to the inventory. A sample of the data collection card can be found in Appendix B.

The field data collected were analyzed using several different computer software programs. The quantification of the overstory and understory stocking was done with Mason, Bruce, & Girard's Stand Inventory System (SIS), versions 3.4 and 4.0, and checked with the IDL's Litz Cruise Program. Their Stand Projection model (SPS) was also used for prognosis in future management applications. The Oregon State University's SNAP II strategic planning model was also consulted for specific recommendations. Downed woody fuels were quantified with formulas generated by the US Forest Service's Intermountain Region (USFS INT-16 1974). Understory ground cover was quantified with simple arithmetic with Lotus l-2-3 spreadsheets.

The SIS software incorporated Clearwater regional tree data accrued by Potlatch Corporation on sites far more productive than what is found within the WMU. Linear regressions were run on selected Nez Perce Tribal form class data. The results, in turn, were inserted into the WMU data set on approximately 10,000 data records.

RESULTS

Department Inventory

Number of forested acres:

The forest inventory provided 100% coverage of all forest or potentially reforestable stands within the WMU. Through the use of aerial photogrammetry and helicopter inspection, it was determined that 50 sections within the WMU were classified as non-forest; 109 sections were classified as capable of supporting a coniferous forest, including approximately 27,828 acres with 103.04 MMBF. Table 3 lists the legal sections of forested lands on the WMU.

Table 3. Legal sections containing forested and non-forested tracts.

Section Type	Township-Range	Section(s)
Non-forested	29N-03W	6, 7
	29N-04W	1, 2, 3, 11, 12
	30N-03W	5, 6, 7, 18, 19, 20, 29, 30, 31, 32
	30N-04W	4, 9, 12, 17, 20, 21, 24, 26, 27, 28, 33, 34, 35
	31N-03W	3, 10, 15, 16, 19, 21, 22, 23, 25, 26, 27, 28, 29, 30, 32
	31N-04W	13, 23, 24, 32, 34
Forested	30N-04W	1, 2, 3, 10, 11, 13, 14, 15, 22, 23, 25, 26
	31N-03W	2, 4, 5, 6, 7, 8, 9, 17, 18, 20, 31
	31N-04W	1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 14, 15, 21, 22, 25, 26, 27, 28, 31, 33, 35, 36
	32N-03W	3, 4, 5, 6, 7, 8, 9, 10, 15, 17, 18, 19, 20, 21, 22, 26, 27, 28, 29, 30, 31, 32, 33, 34
	32N-04W	1, 2, 3, 4, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
	33N-03W	31, 32
	33N-04W	21, 22, 26, 27, 34, 35, 36

Non-commercial Classification:

Of the 109 sections within the WMU that were classified as capable of supporting a coniferous forest, 1,806 acres within 3 1 forest stands have been identified as non-commercial forest. These areas occur on the northerly aspects of the steep breaks towards the Snake-Salmon River

confluence, or along the lower reaches of the canyons in the same vicinity. In general, the canopy closure is less than ten percent, but in some cases will exceed 50 percent. Because of steep topography and proximity to the nearest road systems, in concert with the potential impact of any future timber harvesting using contemporary techniques, these areas should remain unlogged. The northerly aspects of these non-commercial stands are comprised mainly of Douglas fir with moderate to heavy levels of dwarf mistletoe infestation.

Overstory Composition:

There were seven coniferous species of the Family *Pinaceae* found in the overstory. All are indigenous to the Pacific Inland Northwest. Another gymnosperm, pacific yew of the Family *Taxaceae*, is also present but was not sampled, even though there has been some recent commercial value associated with this plant due to the cancer fighting agent, Taxol, derived from the bark. Examples of this species were found in Eagle 'Creek and Deer Creek.

Lodgepole pine is the only coniferous species of this group that is relatively short lived, with a physiological maturity of approximately 80 years. Most of its cones are also serotinous, or open only after being exposed to prolonged high temperatures, for example by wildfires.

Table 4 displays data on DBH, total height, and total defect, from which the total stand volume was derived.

Table 4 . Overstory coniferous species & MBF found within the WMU.

Species	DBH Range	Height Range	Total MBF	% Defect Seen
Douglas fir	8-44	20-115	44,997.2	5.3%
Grand fir	8-51	24-115	33,920.8	5.3%
Lodgepole pine	8-26	26-95	4,146.6	3.9%
Ponderosa Pine	8-48	20-116	13,765.2	5.4%
Western Larch	8-26	35-113	3,565.0	1.0%
Engelmann Spruce	8-23	30-85	2,357.1	4.2%
Subalpine fir	8-15	34-81	287.9	7.0%
TOTAL MBF SAMPLED			103,040.1	
AVERAGE % DEFECT SEEN				5.1%

Douglas fir is one of the most valued coniferous tree species in the Pacific Northwest. Much of the dimensional lumber used for building construction is derived from this species. It is the most common species found within the WMU and typically grows in mild to humid climates with characteristically dry summers. It can be found scattered throughout all elevational gradients within

the WMU, but is most successful above 3,000 feet above mean sea level. It is found in association with all other coniferous species within the WMU, and individuals greater than 40 inches DBH were noted. Trees of this species were found to rarely exceed 90 feet in height. This species is fairly hearty and resistant to climatic changes, but is susceptible to assorted root rots, top kill defoliation from western spruce budworm *(Choristoneura occidentalis* Freeman) or tussock moth (*Orgyia pseudotsugata* McDonald), and dwarf mistletoe. The cones have characteristic "rat tails" protruding from between each scale (USFS 1965).

Grand fir is the second most common coniferous species found within the WMU. It is found throughout the upland plateau as a climax component, and by definition, is living on its ecological edge of existence. By that, it is meant that this species is most susceptible to climatic changes or shifts, which will result in induced stress and the subsequent manifestation of any of a series of pathogens. Although this species is found mainly within the upland plateau, it can also be found in riparian stringers or draws down to about 3,000 feet above mean sea level. Few individuals were found above 30 inches DBH and over 90 feet tall. When stressed from moisture competition, nutrients, or for sunlight, the most likely pathogens found attacking this species were brown cubical root rot, western spruce budworm, and Douglas fir tussock moth (*Orgyia pseudotsuga* McDonald) (USFS 1965).

Lodgepole pine is one of the more common species found within the upland plateau on colder, moist sites, usually above 3,000 feet. It is the only coniferous species found within the WMU that has a physiological maturity measured in terms of its biological life span. While most other coniferous species can live for centuries, this species matures and dies in about $0 years. It is a pioneer species, usually occupying a site after a catastrophic fire. Its cones are mostly serotinous or open only after being exposed to intense heat or fire. This species regenerates in very thick or "dog-hair" groves, literally outcompeting any other coniferous competition or other vegetation. The bole taper is very gradual, lending it for use as house logs or dimensional lumber. Tree height of a mature individual was about 80 feet with the average diameter around 10" at' DBH. A host of pathogens affect it, including western gall rust *(Endocronartium harknessii),* dwarf mistletoe, mountain pine beetle *(Dendroctonusponderosae),* and atropellis canker (*Atropellis piniphila*) (USFS 1965).

Ponderosa pine is a valuable component in one of the most diverse and important habitats found within the WMU (Finch 1993). The oldgrowth forest associated with this species used to be widely distributed across the WMU as well as the region. It is a dry-site species usually found predominantly on southern aspects, and throughout the elevational range found within the WMU. A typical oldgrowth tree might reach well over 100 feet in height and over 40 inches in diameter. An individual that had windthrown across a draw over two decades ago was found to be over 55 inches at DBH and estimated at 140 feet in length. This species is particularly long lived, with a potential life expectancy of over five centuries. Once individuals of this species develops the characteristic thick, corky bark, fire has little adverse effect upon the trees. Tree density decides how susceptible this species is to pathological attack. Pathogens found on this species included western gall rust, dwarf mistletoe, a fungal dwarf mistletoe look-a-like called *Elytroderma deformans* and western pine beetle *(Dendroctonus brevicomis).*

Western larch is found on cooler sites, associated with more moisture, and resides in a higher elevational band (from 2,800-5,200 feet). It is found in conjunction with all other species and specific site occupancy is more contingent on available local seed sources, such as the Deer Creek drainage. This species also is of a bole form class with little taper. The tallest individuals were just over 100 feet in height with the largest DBH around 16 inches. This species can live for a relatively long period of time. It is another species that pioneers a site usually after a catastrophic disturbance. This species is fairly pathogen resistant with only mistletoe observed on it, although *Fomes pinicula* and red ring rot (*Phellinus pini*) have been found on western larch outside of the WMU.

Englemann spruce is a species that is restricted to the upland plateau, specifically in riparian areas. It thrives in a cold and humid environment, usually with a very short growing season. It was found above 3,500 feet in elevation, usually on northerly aspects. The tallest individual was only 60 feet with a DBH of 12 inches. It grows in association with subalpine fir and grand fir. This species does not self prune branches very well and has a moderate-to-poor bole form class. This species has a moderate life span upwards of 150-200 years. The only pathogen found on this species was the Cooley spruce gall adelgid (*Adelges cooleyi*), although it is presumed that the western spruce budworm (*Choristoneura occidentalis*) also defoliates individuals periodically.

Subalpine fir was the least frequent species found within the WMU. Like Englemann spruce, it is found in association with the upland plateau riparian zones. The tallest individual'was only 65 feet high with. a DBH of 14 inches. It is very limby to the ground and possesses a poor form class. It is a slow-growing species that is adapted to grow in frost pocket situations. Both laminated root rot and cubical root rot were found infecting individuals of this species.

Forest Habitat Types:

A forest habitat type describes the potential synecological development of a site through secondary succession following disturbance (Cooper 1987). The habitat type is a classification unit of a given site to support potential climax species. This is based upon many limiting factors; including climatic attributes, soil/edaphic qualities, and topography.

The habitat type classification provides important information for management decisions and to assess a site's vegetative potential. The notion of categorizing all forest stands into smaller groups leads to more effective management of the forest component.

There were at least three standards available for use in identifying the forest cover types developed in this region (Daubenmire and Daubenmire 1968; Pfister et al. 1977; and Cooper et al. 1987). Even though the simplicity of Daubenmire's habitat typing was attractive, it was deemed too broad. Pfister's work was more specific to western Montana. The second approximation of recent classification completed by Cooper et al. (1987) was selected as best suited for this effort. This habitat classification allows the user to identity the type from existing coniferous stocking instead of having to speculate what might eventually develop on the site. This was ideal for working with those stands that were greatly disturbed because of past management activities, including logging.

During this inventory, sampling did not attempt to go beyond the habitat type due to the lack of indicator species resultant from the level of disturbance within the WMU.

Table 5 displays the habitat types identified and the number of stands on the WMU. The typing code refers to data recorded while performing the inventory. Each plot was evaluated for its specific habitat type. Some sites were disturbed far beyond the point of being able to determine definable understory plants. In these cases, the general series code was assigned to the stands.

Table 5. Forest habitat types found within the WMU.

Typing Code	Habitat Type Abbreviation	Common Names	Total No. of Stands
500	ABGR	Grand fir series	79
505	ABGWSPBE	Grand fir/white spirea	5
506	ABGR/PHMA	Grand fir/ninebark	18
515	ABGR/VAGL	Grand fir/blue huckleberry	64
520	ABGR/CLUN	Grand fir/queencup beadlily	51
590	ABGR/LIBO	Grand fir/twinflower	100
660	ABLA/LIBO	Subalpine fir/twinflower	4
920	PICO/VACA	Lodgepole pine/huckleberry	8
200	PSME	Douglas fir series	6
210	PSME/AGSP	Douglas fir/bluebunch wheatgrass	1
260	PSME/PHMA	Douglas fir/ninebark	136
270	PSME/VAGL	Douglas fir/blue huckleberry	37
310	PSME/SYAL	Douglas fir/snowberry	83
340	PSME/SPBE	Douglas fir/white spirea	4
400	PIEN	Englemann spruce series	2
100	PIPO	Ponderosa pine series	3
130	PIPO/AGSP	Ponderosa pine/bluebunch wheatgrass	1
170	PIPO/SYAL	Ponderosa pine/snowberry	5
190	PIPO/PHMA	Ponderosa pine/ninebark	1
-0-	???	Unidentifiable habitat types (81 & 84)	10

Grand Fir Series

Thisrepresents the most diverse and vegetatively productive series within the WMU (Steele et al. 198 1). Forest stands of this series. mainly occupy sites within the upland plateau and along riparian areas. The climate is relatively moderate and contributes to the abundant diversity of plant species associated with the series (Steele et al. 1987).

By definition, grand fir resides on these sites on its ecological edge of existence. Grand fir is inherently susceptible to minor climatic variations or other events that induce stress associated with moisture, nutrient, or sunlight competition.

On moist sites, grand fir is the major&colonizer within the understory. Where sites are more xeric, Douglas fir represents a greater portion of the advanced coniferous regeneration. Lodgepole pine, Englemann spruce, and a liited amount of subalpine fir are found on the colder sites while ponderosa pine and western larch are found on the warmer sites (Steele et al. 1987).

The following habitat types were identified and sampled within this series, and are listed from more xeric to more mesic: GF/white spirea, GF/ninebark, GF/blue huckleberry, GF/queencup beadlily, and GF/ twinflower.

Most often, the understories of the series is lush with brush, forbs, and grasses, depending upon the amount of disturbance incurred upon the site. Brush is usually tall (greater than four feet) and dense, even in fairly closed canopies (greater than 70%).

Lodgepole Pine Series

Stands of this minor series are described most obviously by their almost-pure composition of lodgepole pine, both in the canopy and understory. They tend to be located within the upland plateau on higher elevations and on cooler, moist sites.

They are resultant of four different scenarios: 1) sites where frequent, widespread, stand-replacing wildfires have eliminated the seed source of other species; 2) sites where shade-tolerant competitors are removed from frequent light underburns; 3) sites where excessively dense stands competitively exclude regeneration of shade-tolerant competitors; and 4) sites that are intrinsically unsuitable for regeneration and establishment of other conifers (Cooper et al. 1987). The contribution of volcanic ash in concert with erosion events have contributed to the dominance of lodgepole pine on these sites.

The only habitat type identified within the WMU for this series was lodgepole pine/blue huckleberry habitat type. and only two forest stands fell into this category. It is more likely that the level of disturbance incurred across the WMU from past logging has disguised the true classification of these stands from some other habitat type, likely something in the grand fir series.

Douglas Fir Series

This series is most noteworthy for the two species dominating the overstory, mainly Douglas fir and ponderosa pine. The stands can occur over talus rock, scree, dense brushy understories, or park-like grass conditions. About one-half of all forest stands were classified under this series.

These stands were found from the steep breaks off either side of Wapshilla Ridge right up through the upland plateau. Most of the series are associated with a slightly more mesic site than

the typical xeric sites found in conjunction with the ponderosa pine series. In this coniferous forest transitional zone,. the northern aspects appear to mitigate for the limited annual precipitation, along with possible subsurface springs, to lend itself towards Douglas fir occupying the site.

Habitat types of this series found within the WMU include Douglas fir/bluebunch wheatgrass, Douglas fir/ninebark, Douglas fir/blue huckleberry, Douglas fir/snowberry. A few stands were disturbed to the point of beiig unable to determine what plant union was associated with the series.

'Ponderosa pine-is the other species present and occupying the overstory, although it was observed that stands off of Wapshilla Ridge were almost pure Douglas fir stands. While some fire scars were noted on the bases of trees in a few stands, a suitable reason for ponderosa pine not being found in greater percentages within those stands could not be determined. It is possible that a lack of seed source along with local edaphic characteristics and the past couple of centuries worth of wildfires might explain this situation. It is also conceivable that some stands are farther along in successional development.

The understories were usually brushy with ninebark and snowberry most often found, usually 2-4 feet in height. In some cases, a grassy understory of bluebunch wheatgrass and/or Idaho fescue was noted. When the canopies were dense, some advance coniferous regeneration was noted, mainly Douglas fir, since it is relatively shade tolerant. When the canopies were more open, some ponderosa pine regeneration was also found. Other understory vegetation noted included Oregon grape, rose, ocean spray, and when higher in elevation, blue huckleberry.

It is plausible that the Douglas fir/blue huckleberry habitat type was really a grand fir habitat type, but due to the intense disturbance factor, did not promote grand fir regeneration or overstory stocking.

It is likely that this series produced the stands of oldgrowth ponderosa pine and Douglas fir that are some of the most important habitats missing from the WMU landscape today (Finch and Ruggiero 1993).

Ponderosa Pine Series

Pure stands of ponderosa pine were found within the upland plateau east of Soldiers Meadows down to the southern aspects in the steep canyons of the southern part of the WMU. These sites are extremely dry with skeletal soils and generally occur below 4,000 feet in elevation, although range from 1,000 to 5,000 feet within the WMU.

Ponderosa pine is the only coniferous species found within the series, although it is conceivable that a rogue Douglas fir might have become established under shaded and moderate conditions. If even some occasional Douglas fir regeneration was found over a large acreage, the stand was more likely a Douglas fir series than a ponderosa pine series.

This series is sustained and renewed by periodic cool understory fires. The corky bark of this species insulates the cohort's cambium from drying out during the fire events. Stands that were found to be over 100 basal feet per acre were usually infested with some pathogen such as western pine beetle.

This series is considered one of the most widely distributed and important habitats within the Rocky Mountain range. It is also considered to be the least productive on the basis of vegetative biomass or consumptive wood production.

Natural selection of the stand is on an individual basis, and is most favorably compared to selective or uneven-aged forest management.

Unknown Serieg

Some stands were evaluated as being capable of supporting a coniferous forest, given the site characteristics and other evidence noted in comparison to other similar forested sites. However, due to any combination of reasons, a forest was not presently occupying the site.

In some situations, stumps were found but could not be identified as to specific species. Also, the level of disturbance upon the site, whether from recent logging, intensive cattle grazing, wildfires, or other causes, made it difficult to make this determination (Cooper 1987).

GIS Mapping Codes (Forest Cover Groups):

While a forest habitat type is a classification of site potential, the forest cover codes adopted for use in geographic information system (GIS) cover type mapping represents a snapshot or static time view of what currently exists on a site. It is not a true measure of the site's potential as much as a description of what currently occupies the site. Since plant succession takes time to occur, many forest stands sampled could be at any stage of development and share the same habitat type classification, yet be identified with different forest cover types due to species composition, canopy closure, or understoty composition.

Table 6 is a list of macro-groupings or forest cover groups modified from those used for the second generation of geographical information system (GIS) remote mapping and forest stand photogrammetric coding for the WMU. The additions were made due to ground conditions identified through reconnaissance. These codes have been used for stand delineation and grouping, which will be directly incorporated into the GIS layer information:

Tabie 6. Forest cover groupings used for GIS layer information.

Code	# Stands	Description of Major Canopy Species, Size, & Stockine
AF20	2'	Subalpine Fir poletimber <10% canopy closure
AF21	1	Subalpine Fir poletimber 1 O-3 9% canopy closure
AF23	1	Subalpine Fir poletimber >70+% canopy closure
AF31	1	Subalpine Fir small sawtimber 10-39% canopy closure
DF10	20	Douglas Fir regeneration <75 trees/acre
DF11	13	Douglas Fir regeneration 76- 149 trees/acre
DF20	7	Douglas Fir poletimber <10% canopy closure
DF21	28	Douglas Fir poletimber 10-39% canopy closure
DF22	9	Douglas Fir poletimber 40-69% canopy closure
DF30	20	Douglas Fir small sawtimber <10% canopy closure
DF3 1	101	Douglas Fir small sawtimber 1 l-3 9% canopy closure
DF32	64	Douglas Fir small sawtimber 40-69% canopy closure
DF33	21	Douglas Fir small sawtimber >70+% canopy closure
DF41	2	Douglas Fir small large sawtimber 1 O-3 9% canopy closure
DF42	1	Douglas Fir small large sawtimber 40-69% canopy closure
DF43	2	Douglas Fir small large sawtimber >70+% canopy closure
ES30	1	Engelmann Spruce small sawtimber <10% canopy closure
ES3 1	1	Engelmann Spruce small sawtimber 10-39% canopy closure
ES32	1	Engelmann Spruce small sawtimber 40-69% canopy closure
GF10	7	Grand Fir regeneration <75 trees/acre
GF11	9	Grand Fir regeneration 75-149 trees/acre
GF12	2	Grand Fir regeneration 150-349 trees/acre
GF20	5	Grand Fir poletimber <10% canopy closure
GF21	29	Grand Fir poletimber 10-39% canopy closure
GF22	21	Grand Fir poletimber 40-69% canopy closure
GF23	11	Grand Fir poletimber 70+% canopy closure
GF30	4	Grand Fir small sawtimber <10% canopy closure
GF3 1	26	Grand Fir small sawtimber 10-39% canopy closure
GF32	29	Grand Fir small sawtimber 40-69% canopy closure

Table 6. Forest cover groupings used for GIS layer information. (continued)

Code	# Stands	Description of Major Canopy Species, Size, & Stocking
GF33	33	Grand Fir small sawtimber >70+% canopy closure
LP10	18	Lodgepole Pine regeneration <75 trees/acre
LP11	16	Lodgepole Pine regeneration 75- 149 trees/acre
LP20	4	Lodgepole Pine poletimber <10% canopy closure
LP21	12	Lodgepole Pine poletimber 10-39% canopy closure
LP22	6	Lodgepole Pine poletimber 40-69% canopy closure
LP23	6	Lodgepole Pine poletimber >70+% canopy closure
LP31	2	Lodgepole Pine small sawtimber 10-39% canopy closure
LP32	4	Lodgepole Pine small sawtimber 40-69% canopy closure
LP33	2	Lodgepole Pine small sawtimber >70+% canopy closure
PP10	8	Ponderosa Pine regeneration <75 trees/acre
PP11	3	Ponderosa Pine regeneration 75- 149 trees/acre
PP20	5	Ponderosa Pine poletimber <10% canopy closure
PP21	3	Ponderosa Pine poletimber 10-39% canopy closure
PP22	2	Ponderosa Pine poletimber 40-69% canopy closure
PP30	16	Ponderosa Pine small sawtimber <10% canopy closure
PP31	40	Ponderosa Pine small sawtimber 10-39% canopy closure
PP32	10	Ponderosa Pine small sawtimber 40-69% canopy closure
PP33	1	Ponderosa Pine small sawtimber >70+% canopy closure
PP40	1	Ponderosa Pine larger sawtimber <10% canopy closure
PP41	1	Ponderosa Pine larger sawtimber 10-39% canopy closure
WL30	1	Western Larch small sawtimber <10% canopy closure
WL31	1	Western Larch small sawtimber 10-39% canopy closure
WL33	1	Western Larch small sawtimber >70+% canopy closure

TOTAL 617 Stands

Stands with an open canopy of less than 10% canopy closure or less than 75 trees per acre are candidates for reforestation. Poletimber stands with stocking greater than 149 trees per acre are precommercial thinning candidates, and so on. When there was a negligible overstory with canopy closure of less than 11 percent but possessing some level of understory coniferous stocking, the advanced regeneration classification was used.

There was no attempt to identify other non-forest cover groups beyond those listed above. The intent was to develop a layer of information for the GIS model that addressed forest cover group characteristics. The coniferous species occupying the majority of the canopy was selected to represent each phototype. All seven main species (ponderosa pine, Douglas fir, lodgepole pine, grand fir, western larch, Engelmann spruce, and subalpine fir) were utilized to describe each phototype.

Poaderosa Pine Phototypes:

This group had the smallest number (approx. 6%) of stands classified. There was substantial evidence from existing stumps that this group was probably more widespread in the past but has been reduced in frequency because of past logging activities and wildfire suppression.

This grouping could be found along the southern aspects close to draws, along ridge tops, and in the northeastern portion of the WMU.

Four forest habitat types were found within the cover group: ponderosa pine/bluebunch wheatgrass (*Agropyron spicatum)* habitat type, ponderosa pine/Idaho fescue (*Festuca idahoensis*) habitat type, ponderosa pine/snowberry (*Symphoricarpos albus*) habitat type, ponderosa pine/ninebark (*Physocarpus malvaceus*) habitat type. Where indicator species were not found or the site was disturbed beyond recognition, the stand was classified to series.

Douglas Fir Phototypes:

Almost 47% of those forest stands sampled, where the overstory was mainly comprised of Douglas fir, were placed into this grouping, which-was well represented throughout the WMU. Douglas fir was also observed as reproducing successfully in the understory as a characteristic of this grouping, in part due to its tolerance of shade. This type was found along the upland plateau, in the canyons, and within the breaks off of Wapshilla Ridge.

There were four forest habitat types found within this category: Douglas fir/bluebunch wheatgrass habitat type, Douglas fir/ninebark habitat type, Douglas fir/blue huckleberry (*Vuccinium globulare*) habitat type, and Douglas fir/snowberry habitat type. Where indicator species could not be found or the site was disturbed beyond recognition, the general forest habitat type was used.

Lodgepole Pine Phototypes:

Those forest stands (approx. 11%) where the majority of the overstory component was represented by lodgepole pine fit into this grouping. These stands were mainly found upon the upland plateau. The stands in this grouping are usually homogenous, and may possess a sterile to fully stocked understory, usually of grand fir.

There was only one forest habitat type noted for this grouping: lodgepole pine/blue huckleberry habitat type. In most cases, where a homogenous to nearly homogenous overstory of lodgepole pine was found, the presence of grand fir successfully reproducing in the understory allowed the sampler to key out these stands into the grand fir habitat types. It is likely that there are no true lodgepole pine habitat types within the WMU. But due to the level of site disturbance attributed to either logging, wildfire suppression, grazing, or site preparation after logging, the true habitat type was undiscernible.

Grand Fir Phototypes:

Approximately 29% of the stands. possessed grand fir as a the majority species in the overstory. There were some virtually pure stands of grand fir found within the WMU. Even though grand fir represents a climax component within this grouping, grand fir usually does not occur in pure stands locally (USFS Agri. No. 271 1965). The likelihood that a mixed conifer stand would subsequently arise from a catastrophic event or logging entry is quite reasonable and would reflect expected natural stand development progression.

The forest habitat types found within this type include: grand fir/white spirea (Spirea *betulifolia*) habitat type, grand fir/ninebark habitat type, grand fir blue huckleberry habitat type, grand fir/queencup beadlily *(Clintonia uniflora)* habitat *type,* grand fir/ twinflower *(Linnaea borealis)* habitat type. In addition to the main union understory plants found in conjunction with each respective habitat type, other common flora found included Oregon grape and mountain maple.

Mued Conifer Phototypes:

The rest of the phototypes represent a small percentage of the phototypes left over and not previously described. Approximately 8% of the existing forest stands sampled, mainly within the upland plateau but also extended down stringers into some of the canyons as noted in the Deer Creek drainage, comprise this category. This grouping was also found along- riparian areas including subalpine fir, western larch, and Englemann spruce in the forest overstory.

Understory Advanced Regeneration:

The following coniferous species shown in Table 7 were found in the forest understory while performing the 1/300th-acre, fixed-plot sample. Any conifer less than eight inches at DBH was considered an understory tree. Total height DBH was sampled, along with relative vigor, live crown ratio, and other subjective information. It was noted whether a stand was suppressed and in need of *some* precommercial thinning.

Table 7. Advanced coniferous regeneration found in the understory within the WMU.

Species	Stocking Range (Trees/Acre\
Douglas fir	O-600
Grand fir	0-1,200
Lodgepole pine	O-900
Englemann spruce	O-300
Ponderosa pine	o-3 00
Western larch	O-300

Grand fir was found in the greatest percentage in the understory. This is due to past management practices, fire suppression, and the shade-tolerant nature of the species. This species is also living on its ecological edge of existence (USFS No. 271 1965) usually as a climax species within the WMU. This contributes to the species' susceptibility to various pathogens when stressed by climatic or environmental changes such a drought or nutrient tie-up (USFS 1984). Many trees observed possessed minimal live crown ratios due to long-term suppression and are inherently potential disease vectors.

'Douglas fir was also found regenerating in dense canopy conditions. This species seemed to be in healthier condition on the whole.

Where the forest canopy had been radically opened to less than 25%, lodgepole pine and ponderosa pine were found regenerating. Ponderosa pine was found on the drier sites. with predominantly southern aspects while lodgepole pine was found on the upland plateau on more mesic and colder sites. Western larch would also have been found regenerating only where there was a nearby seed source and where there was good site preparation (bare mineral soil exposed) and ample amounts of direct sunlight.

Understory Ground Cover Structure & Composition:

The understory ground cover was sampled to further describe the understory composition. In this sample, the key element measured was the total amount of ground cover produced by non-coniferous plants. In addition, other key elements associated with ground cover, such as the presence of litter or logging slash, rock, and bare ground, were quantified. Table 8 summarizes the results by major habitat type. Individual stand data is found in Appendix E.

Downed Woody Fuels:

Knowing the downed woody fuel load can help manage landscape integrity and provide for prescribed fire. It can also be used as a measure of the amount of organic material available for reentry into the nutrient cycle or the amount of this habitat component available for those animal species requiring downed logs or slash.

Tonnage of downed woody fuels were greatest where recent logging had occurred. Slash piles, stumps from transportation system construction, downed logs, tree tops, and limbs represented the kinds of downed woody debris found during the inventory.

Table 8. Understory ground cover by habitat type.

Plant Union Habitat Type	Average Percent Cover of Brush	Brush Ht.	Forbs	Grass	Litter	Bare
Grand fir series	18.7	1.5	34.7	53.5	7.2	5.7
Grand fir/white spirea	28.4	2.4	50.0	40.2	5.5	4.2
Grand fir/ninebark	36.7	2.8	45.8	42.8	5.3	10.6
Grand fir/blue huckleberry	30.7	1.8	44.3	38.0	10.8	8.6
Grand fir/queencup beadlily	25.7	1.7	38.9	41.0	14.3	6.1
Grand fir/twinflower	27.7	1.5	40.5	35.5	19.1	5.5
Lodgepole pine/huckleberry	4.6	0.6	17.6	75.0	2.3	4.9
Engelmann spruce series	0 . 0	0.0	44.0	47.5	5.0	2.0
Subalpine fir/twinflower	20.4	1.6	60.3	23.6	10.3	5.9
Douglas fir series	9.3	1.2	29.2	56.3	1.1	13.7
Douglas fir/bluebunch wheatgrass	2.5	1.5	31.5	65.0	0.0	3.8
Douglas fir/ninebark	48.0	3.0	43.1	41.9	8.5	7.2
Douglas fir/blue huckleberry	46.1	2.8	34.2	43.1	9.3	14.5
Douglas fir/snowberry	30.2	1.7	35.1	51.3	6.6	7.2
Douglas fir/spirea	24.4	1.9	43.8	38.1	10.3	7.8
Ponderosa pine series	14.2	1.0	30.0	53.3	4.5	12.1
Ponderosa pine/bluebunch wheatgrass	3.8	0.3	32.5	48.8	0.0	18.8
Ponderosa pine/snowberry	13.3	0.6	10.8	78.0	3.5	7.8
Ponderosa pine/ninebark	57.5	5.0	30.8	65.0	0.0	3.4
Unidentifiable habitat types	6.25	0.5	18.0	50.3	0.0	21.9

The greatest hazard in down woody fuel accumulation is in the smaller-size classes as well as vertical distribution of any downed woody debris. When these fines break down or are burned off, typically it is good to leave the. remaining woody material for re-entry in the nutrient via slow breakdown. It also provides habitat for predators and other ground-dwelling wildlife.

A range of 0.00440.890 tons of fuel per acre was found across the WMU, usually comprised of mid-size (3-7 inch) downed woody material. The average woody fuel loading was 6.63 tons per acre. A full report for 'each stand is recorded in a tier of the GIS system for the WMU (APPENDIX H). This does not include the tons of woody debris left on site in the logged over areas in the form of tree stumps. A normal forest may contain 5-l 5 tons per acre of downed woody fuel,

but would be made up of larger-sized material. To leave less downed woody debris may eventually lead to soil nutrient depletion since log decay is a fundamental source of re-entry into the nutrient cycle.

Forest Pathogens:

Subjective observations about pathogens noted were made while performing the inventory. -Only when there was an obvious physical symptom present did a closer examination take place to determine the pathogen(s). Phenotypically healthy trees were not examined further.

Observations of pathogens on the ground were also supplemented by the Idaho Department of Land's pest condition summaries (Idaho Department of Lands 1990, 1991, 1992, 1993, 1994 et al.). IDL used pheromone traps and other techniques in order to map significant pathological outbreaks, which was beyond the scope of the inventory project.

Table 9. Forest pathogens found within the WMU (1993-l 994).

Coniferous Species	Pathogen	Infestation Level
Douglas fir	Dwarf Mistletoe	Moderate to Heavy
	DF Engraver Beetle	Light
	Armillaria Root Rot	Light to Moderate
Lodgepole Pine	Dwarf Mistletoe	Moderate to Heavy
	Western Gall Rust	Moderate
	Mountain Pine Beetle	Light
	Atropellis Canker	Light
Grand fir	Brown Cubical Root Rot	Moderate
	Balsam Wooley Adelgid	Light
	Yellow Rust	Light
Ponderosa Pine	PP Mistletoe	Light
	W. Pine Beetle	Light to Moderate
	Western Gall Rust	Light
Englemann Spruce	Cooley Spruce Adelgid	Light
Subalpine fir	Laminated Root Rot	Light
	Brown Cubical Root Rot	Light to Moderate
Western larch	Dwarf mistletoe	Light

Major pathological issues for consideration in the development of a forest management plan are the presence of Douglas fir dwarf mistletoe ***(Arceuthobium douglasii)***, lodgepole pine dwarf mistletoe ***(Arceuthobium campylopodum*** sub. ***campylopodum),*** brown cubical root rot in Grand fir

and subalpine fir (*Phaeolus schwinitzii* Pat.), and Armillaria root rot in Douglas fir *(Armilluria mellea Vahl. ex Fr.).*

All four pathogens have life cycles that are activated when stress is induced into a forest stand (USFS 1984). In order to break the cycle of these pathogens, vigor has to be restored to the forest stand, either through eradication of the infested trees and/or stand conversion to some less susceptible coniferous stock (USFS 1984).

Statistical Analysis of Results:

Statistical analysis of the project sampling indicated a range of confidence from 78-95%. Roughly 2,200 plots with over 10,000 sample points were measured. The average mean MBF per acre with 95% confidence intervals was 3.70 plus or minus 1.25 MBF. For the exercise of establishing baseline information, only doubling or tripling funding and plot sampling would have significantly increased statistical confidence.

DISCUSSION

Comparisons and differences can be found between the cruise performed by Edgewater Timber Services (ETS) and results found within this report. ETS found the-average volume per acre to be 3.67 MBF over 19,327 acres with an average defect of 12.0%. This inventory estimated the average volume per acre to be 3.70 MBF over 27,828 acres with 5.1% seen defect.

ETS estimated the volume using US Forest Service Region One volume tables which may have overestimated the actual volume due to local taper. It was suggested that the local taper was greater than the better sites which the volume tables are based upon.

It is more likely that the actual defect is closer to ETS's estimate and may have been based upon local mill scaled defect which includes unseen deductions. What was noted in this inventory is consistent with seen defect deductions locally.

With the addition of over 8,000 acres, some virgin stands with per acre volumes over 9.0 MBF were included along with stands possessing no merchantable volume due to older wildfires, but were capable of supporting a forest. In the end, it is coincidental that the volume estimated were so similar.

The vegetative cover types differ from the forest habitat type for two reasons. First, the habitat type refers to potential synecological climax of the site (Cooper 1987). Second, the cover type has been artificially altered because of the amount and type of logging executed within the WMU in the past five decades. Also, some coniferous species, even if dominant in the overstory, represent early seral or pioneer species that will eventually be replaced with climax conifers through succession.

In a more natural setting without impacts or influences from logging, grazing, and unnaturally intense wildfires, the forest would resemble conditions similar to the post-World War II era including older, scattered, large diameter trees, mainly ponderosa pine and Douglas fir. There would have been earlier forest seral stages with pockets of advanced understory regeneration supplying vertical structure and diversity below the forest canopy on the upland flats and along the steeper southern aspects. The draws and northern aspects would probably be in a later seral stage, but the understory would still be largely open. Only the riparian areas would probably contain tall brush and dense vegetation.

The data suggests that the forest component within the WMU is in a state of disarray. There are an unusually higher number of shade-tolerant species in both the forest canopy and understory. Not only are they living on their ecological edge of existence and are inherently susceptible to a host of pathological attacks, they also form a green fuel ladder from the forest floor to the canopy, creating an opportunity for a catastrophic canopy-replacing event. Due to the intensity of the recent logging entry, the forest canopy is noncontiguous and fragmented.

Because of past logging practices and the active suppression of wildfire from the ecosystem, the current conditions found within the forest from a landscape basis does not represent what historically occurred naturally. In general, the forest has been directed or managed into a later successional stage where overstory species are more susceptible to environmental stress and assorted pathogens are presently active in various intensities.

Ponderosa pine, lodgepole pine, and western larch are early pioneer species. As the first conifers to occupy a site, they are more resistant to environmental changes and are thereby more resistant to pathological attacks. By definition, later seral stage or climax species exist usually at their ecological edge to survive. Any major or extended fluctuation in the environment usually weakens these species and creates avenues for pathogens to manifest themselves (Spurr and Barnes 1980).

The IDFG needs to determine what the desired future condition or goal is for the forested component within the WMU. Once the desired future condition has been determined, the IDFG can decide how to convert the WMU to this condition and at what rate.

Much effort has been invested in reviewing the current status of forests across the state. In general, past management practices, specifically timber harvest and fire suppression, have created forests with species compositions that are different from what was found here before European settlers arrived in the mid-1800s: Where large-diameter pines once dominated the forests, they have been replaced by dense stands of firs. These forests are more susceptible to insects, diseases, and wildfires, especially during drought conditions (O'Laughlin 1993).

Intensive management probably can help remedy unhealthy or unnatural forest stand conditions, by selecting for those species, such as ponderosa pine or western larch, that are inherently more resilient to environmental stress. Short-term impacts associated with such intensive management practices may have a lesser overall impact to sensitive native wildlife species than

allowing current forest pathogens at epidemic levels to remain unchecked. (Hutto, Hejl, Preston, Finch 1992).

Past management activities have created three existing prominent stand conditions that challenge the ability of the IDFG to implement or realize its long-term goals - 1) widespread pathogens have been aggravated by the numerous high-grade timber harvest entries within the WMU existing at epidemic levels, such as mistletoe; 2) the frost pockets and low stocking levels associated with the upland riparian areas; and 3) those areas in a non- or under-stocked condition because of previous logging techniques accompanied with under-managed, over-intensive grazing.

RECOMMENDATIONS

Monitoring

'Prior to the adoption of any single or multi-faceted management strategy, some level of future forest monitoring has to be designed and initiated. The current inventory will be valid for up to a maximum of ten years. There are a host of contemporary sampling techniques currently considered valid: 100%, strip cruise, fixed-area plot sample, proportional plot cruise, and 3P sampling.

The focus of any monitoring should be towards those components that fluctuate within the life of a forest stand, such as pathogen incidence, weather-related or other catastrophic events, and stand stocking/vigor.

It is impractical and statistically unnecessary to 100% sample every acre or every stand after the initial inventory has been completed. It is not cost effective nor realistic, though it will result in an accurate measure of the forests after a significant investment of time and money (Atterbury 1994).

A strip cruise is one practical approach to quantifying changes (pathogen outbreaks, etc.) in forest conditions through a random sample. The problem with this technique is that it is hard to replicate information unless plot centers and transects are marked well, which is equally time consuming, costly, and inefficient given the amount of ground to cover and realistic qualified manpower, whether through in-house efforts or via contract (Atterbury 1994).

Fixed-area plots are an effective way to measure a set area. If plots are equally and randomly distributed throughout a sample area, results can be generated that are well within acceptable statistical confidence intervals. If these plots are permanently established and the locations from roads or trails monumented properly, these plots can be re-visited periodically to measure changes in forest conditions effectively (Husch 1972). This type. of fixed-area plot sampling is known as continuing forest inventory (CFI). If proper protocol is adhered to, impacts from samplers is made negligible and the results representative of forest conditions.

Proportional plot sampling is one of the most widely used sampling techniques professional foresters rely upon for quick and reliable results. This includes **prism sampling** and describes the relationship between the diameter of a tree and its distance to plot center. This sampling technique only measures merchantable sawlog or fiber volume, being somewhat biased towards larger-diameter trees. Like the strip cruise technique, in order to validate the results over time, plots would have to be monumented and transects well marked, which is as impractical as similar techniques (Atterbury 1994).

It is recommended that permanent continuing forest inventory or CFI-type plots be established during the next ten years. These plots should be located in a manner that makes relocation as easy as possible. It is recommended that these plots be established at a fixed distance

of 330 feet or five chains either northwest or southeast from any section corner that occurs within the WMU. It is estimated that there are at least 100 possible plot locations available under this scenario.

Management Alternatives Review

The IDFG should consider all major alternatives concerning future forest management in deciding which should be prescribed for the WMU, i.e., no logging, no broadcast burning, no reforestation, etc. The following section examines four main alternatives for management on the project property. Predicted impacts of individual alternatives on wildlife are the conclusions of the author. It is reasonable that the selected alternative may be a combination of these alternatives, dependent upon site and long-term forest management objectives.

Whatever strategies or systems are selected, they should incorporate ecosystem or landscape management, including the entire WMU, which should include the existing Craig Mountain Wildlife Management Area. The IDFG can choose to manage the property for whatever long-term goals it establishes. See Table 10 for comparisons of issues by alternative.

ALTERNATIVE #1 - NO ACTION

.A "no-action" alternative is to not conduct any further forest stand management activities. The forest component would remain in the current condition, widely diverging from historic norms because of previous logging objectives. Major pathogens, such as dwarf mistletoe, would continue to infect the understory of susceptible species. This cycle would prevent the forest from attaining any semblance of a pre-settlement structure as described in the previous section.

With the forest in disarray, the current levels of pathogens would probably increase. Although there might be a net increase in actual wood fiber production across the WMU, actual saw-timber production would most likely remain static or actually decrease.

Conditions would favor canopy-replacing wildfires. Some oldgrowth, mainly Douglas fir would continue to exist within the WMU. However, it is reasonable that nutrient tie-up or an amount of organic and trace elements bound to the higher amount of biomass in the form of more tree stems per acre would occur forest wide, increasing stress which would manifest itself in a major pathogen epidemic (Stoszek 1984; Mattson and Addy 1975). Shade-tolerant coniferous species, such as grand fir, would continue to regenerate in the understory, increasing the probability of a canopy-replacing fire developing from a simple ground fire.

This alternative would favor those wildlife species that prefer older, seral-stage habitats. It would also provide habitat for wildlife that are attracted to pathological infestations like blue grouse using mistletoe brooms for a food source. As long as security cover was maintained, big game would also not be adversely affected by this alternative. Aside from some woodpecker species, it is unlikely that old growth-dependent species would derive much benefit from existing stands.

ALTERNATIVE #2 - PRESCRIBED BURNING & WILDFIRES

All plant species within the WMU have evolved around a fire cycle. Allowing fire to run through forest stands whether by prescription or by natural events, would move the WMU back into a more natural condition. Fire, by itself, may reduce the incidence of some major pathogens, like root rot, while not impacting others, such as dwarfinistletoe.

While it is reasonable that fire will stimulate earlier seral species to regenerate after impact, it is equally likely that fire would greatly alter the forest canopy structure. Without major investments to create firebreaks, any fire would most likely run from at least draw to ridge.

Prescribed bums would reduce the understory stocking. Any bum would have to be considered a site preparation, which should be followed with a reforestation effort, whether by direct seeding or planting tree stock.

This alternative would benefit those species that require habitat resulting from recently burned over acreage. Snag dwellers, big game, woodpeckers, rodents, and raptors would be obvious benefactors.

ALTERNATIVE #3 - EXTENSIVE FOREST MANAGEMENT & PRESCRIBED BURNING

By definition, extensive forest management is a process where any forest management practice is supported or affected by timber harvest. That is, whether ground scarification or sanitation logging occurs, the resulting stand condition is driven by the extraction activities. Another way of looking at this is to consider that generating a profit, whether biologically or revenue, from the entry drives the activity - what is left afterwards is almost an afterthought.

This type of management tends to consist primarily of selective thinning. While it can be designed to promote any specific forest component, more often than not economics drives any action. This alternative could also be referred to as a high-grade logging entry. Since the WMU was treated in a similar manner, there are ample examples of what the results of such a prescription might be.

This alternative tends to favor shade-tolerant species,. although it could conceivably be tailored to emphasize retaining older trees.

Prescribed fires, whether in treating slash piles or cool underbums, would work to reduce slash hazard abatement and produce some site preparation for coniferous regeneration.

ALTERNATIVE #4 - INTENSIVE FOREST MANAGEMENT & PRESCRIPTION FIRES

This alternative develops strategies using aggressive forest management in order to attain the desired end results. Logging and related activities are designed to create or remedy conditions through a selection of silvicultural choices.

Table 10. Alternative forest management strategy comparison.

strategy Impact8 and Issues	No Action	Prescribed Burning and Wildfires Only	Extensive Forest Mgnt. and Rx Fire	Intensive For& Mgmt. and Rx Fire
Mistletoe in Douglas Fir and Lodgepok Pine	continues to spread and infects like understory species	Rills understory, but leaves most infected overstory	Reduces infected overstory, and kills understory	Eliminates disease in forest stand.
Reforestation of upland riparian area8	Encroachment occurs over longer period of time, hindered by frost and grazing	If followed with tree planting effort, rapid reoccupation	If followed with tree planting effort, rapid reoccupation	If followed with tree planting effort, rapid reoccupation
Re-establish oldgrowth component at *earlier* **seral stage**	Will most likely endure canopy replacing fire, may not get preferred species mix	Will most likely loose existing overstory, understory may not come in with preferred species unless artificially planted.	Does not open canopy enough to increase direct sunlight and to establish early seral species, may loose some vigorous overstoty trees, fuels reduced	Selects for preferred overstory species, and prepares site for either natural or artificial regeneration.
Protect remaining oldgrowth	Highly susceptible to canopy replacing wildfires	May prevent some stands from total canopy loss	Light thinning can reduce competition ofremaining cohorts	Would reduce overstory and remove most oldgrowth candidates
Provide wide distribution of seral stages	stands will continue in disarray, diminishing earlier seral component	Will produce more earlier seral stages	Will produce greater number of middle seral stages; may not promote pine regeneration	If designed strategically, can present widest spread of seral types.
Otber forest pathogens	Continues to promote stress conditions that aggravated pathogens	May reduce certain root diseases, may increase bark beetle, tussock moth, and budworm populations	May aggravate root diseases, may decrease bark beetle problems	Should reduce incidents of all stresses, but may increase ground compaction

strategy Impacts and Issues	No Action	Prescribed Burning and Wildfires Only	Extensive Forest Mgnt. and Rx Fire	Intensive Forest Mgmt. and Rx Fire
Cumulative effects: a) sediment water quality b) air quality c)forest structure	Existing point sources would probably not get . worse and might heal. No change in air quality. Forest remains in disarray.	Short-term increase inscdimentation. Air quality degradedduring burning corridors. Forest structure will paltiallyretumto normal parameters.	Short-term increase in sedimentation. Air quality degraded during burning corridors. Forest structure partially return to normal parameters.	Short-term increase in sedimentation. Air quality degraded during burning corridors. Forest structure given best chance to return to natural state.

Grazing

The issue of livestock grazing as a management tool within the WMU's management plan may be controversial. Research studying impacts to neotropical birds suggest that grazing is probably more harmful than helpful (Bock et al. 1993).

Grazing, depending upon the animal unit months (AUMs) or cow/calf pairs applied to an allotment, can substantially reduce evapotranspiration from grasses, forbs, and shrubs. It reduces low-lying ground fuels that could allow a surface fire to jump into a forest crown. If managed properly, grazing can also‘assist coniferous regeneration by reducing competition from other plants.

The downside of grazing from a forest management perspective can include riparian area degradation and the subsequent perpetuation of frost pockets, increased sedimentation to watersheds, increased soil compaction, exclusion of desired vegetation if grazing is excessive, and direct physical damage to trees.

The issue is further complicated by the presence of noxious weeds. By precluding grazing and attempting to return the WMU to a-condition more closely resembling what existed before the intrusion of European settlers, particularly through the use of fire, there is the possibility that current and future invading weeds could become more well established. It is equally possible that grazing assists in the spread of selected noxious weeds.

Management Impacts

Ecosystems are dynamic by nature. However, impacts from modem man have adversely affected key animal habitats regionally (Rotenberry et al. 1993; Consultant 1993). Resident wildlife populations are bound to be more adaptable to changes in the ecosystem as compared with migrants

(Hoover and Wills 1987). Prior to the massive man-caused disturbances which have occurred on this property, wildlife populations and species richness were probably reflective of those forests historically present. With the intrusion of man's management to the forest, the mix of wildlife species probably shifted to adapt with the nontypical forests presently occurring within the WMU.

Even if the WMU forests were restored to conditions more resembling historical parameters, some migrant species might not respond favorably due to negative impacts in their range outside of the continental United States (Sherry and Holmes 1992). In consideration of sensitive species, whether resident or migrants, a broad view of the landscape should be considered when evaluating possible management options (Thompson 1992). Instead of creating habitat patterns that are products of incremental modification, it is suggested the thrust be towards producing habitats that would not otherwise be present because of management on adjacent property (Slocombe 1993). When added to other property owned, leased, or managed with wildlife as a priority within the Craig Mountain Wildlife Management Area, the potential "macro-system" or eco-system approach would address over 100,000 acres.

Regardless of which management alternative(s) are selected and adapted accordingly, some wildlife species will not benefit within treatment locations. Any single forest management strategy affects every wildlife species using a given site in a different way (Thompson 1992).

Results from any management activities will include modifications to the water yield from the WMU's hydrologic features. Any additional prescribed burning or logging will decrease the amount of snow intercept and resulting insulation derived from any measurable forest canopy and will accelerate snowmelt and run-off conditions, especially in rain-on-snow events (Folliott 1989). Air quality and smoke management are ever-expanding issues of concern by the general public, especially when the local airshed's major population resides at the point where most smoke will flow down in heavy air inversion conditions (Sandberg 1989).

Short-term increases in water yields to streams may be a necessary result of corrective forest management. Cumulative effects and potential gains from increased water yield are being evaluated on a statewide level (IDHW 1988, 1993). The greatest contributor to sedimentation and stream degradation is from road construction (Yee 1980; IDHW 1988, 1993). With the existing transportation system, little if any additional roading will be required to address forest health and management goals. Careful planning, road locating, and mitigating activities will nullify any adverse impacts from roading activities (Yee 1980; IDHW 1988, 1993). Adherence to the Idaho State Forest Practices Act and associated legislation will only guarantee minimal protection. Additional site-specific mitigation and reduced road construction will afford more protection from degradation. In some cases, fixing isolated point sources of sedimentation should be executed.

Airshed maintenance for the WMU is currently under the auspices of the North Idaho Airshed Cooperative (NIAC). This group is made up of public agencies and private concerns, administering air quality during the traditional fall burning season. It is likely that the NIAC will be regulating air quality year round in the near future.

Preferred Alternative(s)

In consideration of the variety of existing conditions, the intrinsic nature of the WMU, and the numerous animal species that use it, the preferred alternative should be a hybrid or combination of the four alternatives presented. Implementation of a specific alternative would be dependent on location and current forest condition(s). Specific recommendations by area follows.

It is suggested that the strategies developed under all alternatives be scheduled over a relatively short period of time, with the majority of all corrective strategies being implemented within ten years. This includes reforestation, sanitation logging, point source repair, and canopy thinnings.

Attempting to manage most previously logged and some unlogged areas within the WMU in their existing condition without additional management applied will only prolong disarray and may actually lead to further forest degradation (USFS 1984, 1991). It is here that employing Alternative 4 will achieve the desired results (Colorado 1987). Existing forest pathogens thrive because of the numerous highgrade logging entries over the past three to four decades, such as the forest stands within the. South Fork of Captain Johns Creek, on Frye Point, and east of Robert Springs. Implementation of those timber harvest prescriptions that created these conditions can also restore some semblance of historic conditions, if properly implemented.

The absence of oldgrowth ponderosa pine and Douglas fir, with the exception of those stands off Wapshilla Ridge or in the headwaters of Eagle Creek, underscores the opportunity. to use logging as the tool to restore historic forests to their prominence. These forests offered a broad range of natural communities for biodiversity (Finch and Ruggiero 1993). It is unlikely that a "hands-off approach will create the conditions for the ponderosa pine/Douglas fir forests to return (Barrett 1979). And though consumptive opportunities should not be the driving forces behind any management activity, the management strategies classified as "new forestry" which leave more diverse size and age componenents within a harvest area may be appropriately applied to certain situations within the WMU (USFS 1991, Adams 1992).

The IDFG should recognize that incorporating logging, prescribed burning, planting, thinning, or any other associated management activity to restore a forest ecosystem in disarray from previous logging is a concept that will not be readily understood by everyone (Slocombe 1993). It is a pro-active approach that, if designed correctly with all disciplines contributing, will facilitate the quickest recovery of the upland forest component back to historic conditions.

It is suggested that the major portion of the forest within the WMSJ be managed towards oldgrowth from an early seral stage (comprised-of ponderosa, western larch, and Douglas fir) using strategies from Alternatives 3 and 4. A percentage of the stands be maintained in younger ages of these early seral stages. There should also be some stands managed for later seral stages. These efforts should be concentrated in the upland northern aspects or within upland riparian areas to create some critical contiguous interior forest conditions of greater than 100 acres. Prime locations

for maintaining expansive interior forest habitat types would include Swamp Creek, Frye Point, Kruze Meadows, and Lake Creek.

It is further recommended to consider limiting-the amount of upland interior forest blocks larger than 100 acres since such conditions did not exist historically and because it is likely these forests will be created from management on adjacent ownerships because of the pattern and composition of landowners across the WMU. It will be the larger oldgrowth in an early seral stage that will be the scarce forest cover type across the Craig Mountain landscape if management is not specifically designed to provide that type in the long term.

Allocating acreage to different age and seral groups would be representative of a normal ecosystem's distribution (Hall and Bruna 1983). Across a landscape, it would be common to see different types of stands at different stages of development (USFS 1979, Spurr and Barnes 1980). 'The right formula for how many acres of each seral stage and cover type will be influenced by the existing conditions of the WMU and the desired end results, as well as the target species guilds to be managed for (Finch and Ruggiero 1993, USFS 1991, *Consultant* 1993). Only when the compilation of all inventory reports has been made into a comprehensive plan and modeling performed, will there be a clue as to the correct formula and mix.

It is equally important that in managing the forested portion of the WMU back into the desired future condition that logging will be a tool used at a decreasing rate over the course of time using strategies from either **Alternative 3** or 4.

It is recommended that the forest component within the canyons or those areas that have been classified as non-commercial not be logged, Essentially, this area is southeast of a line drawn from the southern gate on Wapshilla Ridge northeast to the mine claims in Deer Creek. Instead, a schedule of rotation for prescribed bums as suggested **in Alternative 2** within these areas should be developed.

It is suggested that the non-commercial forest lands be broken up into definable units, probably by drainage. Cool spring bums will create the best setting for vegetative rejuvenation of those preferred *species,* such *as* Oregon *grape (Berberis repens Lid.),* common chokecherry *(Prunus virginiana L.),* redstem ceanothus *(Ceanothus velutimus Dougl.),* and huckleberry *(Vaccinium spp. L.)* (Noste and Bushey 1987). Low intensity fires will also best protect the site from nutrient depletion and mimic natural events (Little and Klock 1985). Helicopter application will be most cost efficient, control the bum pattern effectively, and derive the best results quickest (Rothermel 1991, Reinhardt et al. 1991). A rotation of 15 years should replicate natural conditions and reduce risk to these stands.

While sedimentation and stream degradation may actually increase in **Alternative 2,** the aquatic systems will recover in union with the progression of forest succession (Minshall 1989). For those aquatic systems that are nutrient limiting, a short-term, one- or two-year flush of nutrients from the organic ash will be realized (Minshall 1989).

Following prescribed fires, it is suggested efforts be made to promote reforestation by ponderosa pine, western larch and Douglas fir via artificial seeding or tree planting, in addition to supplementing vegetative response with applications of native brush and grass seed to outcompete noxious weed occupation. Toward completing this objective, a seed cache should be established and maintained with preferred local coniferous stock collected during timber harvest operations occurring within the WMU.

Other reforestation efforts should be initialized to promote coniferous establishment as soon as feasible. Likely candidate sites include all upland riparian areas, Larabee Meadows, Frye Point, Soldiers Meadows, Kruize Meadows, Benton Meadows, and within the South Fork of Captain Johns Creek. Emphasis should be placed in planting ponderosa pine and western larch. In doing so, any number of site preparation techniques will be used, including manual scalping or the removal of sod and plants from an area to receive a seedling, herbicide application, prescribed fire, and possible tilling on gentle terrain. A possible follow-up of light livestock grazing will actually help seedling establishment by reducing moisture competition from native plants.

Across the Craig Mountain landscape, prescribed fire schedules should be developed regardless of the management alternative selected. Since the minor fire cycle ranged from 5-20 years, and since wildfires have been precluded from the subject property for over four decades, it is suggested that a rotation of 15 years be established. This would mean that unless any stands were scheduled for some sort of other forest management activity such as thinning, planting, or logging, a prescribed bum be ignited in every forest stand in the WMU within a 15-year period.

In some cases, it is recommended that a few wildfires be allowed to bum unsuppressed, further creating a wilderness appearance to part of the WMU (Horn 1991). Responses and contingency plans for all uses of prescribed fire should be adopted in conjunction with the Idaho Department of Lands, the lead state agency with the fiduciary responsibility for fire suppression.

It is recommended that grazing be considered as a tool to be used within the WMU as per biological needs and recommendations, but at appropriate reduced AUM levels (USFS 1979) and in appropriate areas. This will allow the vegetative and aquatic community responses to be unencumbered and help reduce fire hazard (Brown 1985). Grazing can help reforestation efforts if the AUMs are managed to reduce vegetative competition while avoiding animal crowding.

SUMMARY

In general, the conditions of many forest stands within the WMU are at some level of disturbance, whether because of previous logging practices, overgrazing, or man-caused intervention including wildfire suppression actions. The best approach to managing the forest component of the WMU is to review the natural conditions that existed historically and determine where it is desirous to restore those conditions or provide some modification of the historical condition for enhancement of particular wildlife values. It is important to recognize when the historical conditions are best

suited for the respective sites within the WMU and in the long term can provide critical habitat currently missing on a regional landscape perspective.

There is also the opportunity at other sites to create or provide other habitats to meet specific wildlife management objectives or requirements by implementing any of the alternatives previously discussed. In moving away from historic forest conditions, the IDFG may decide that it is important to support a wildlife species or guild that is threatened, endangered, or of special concern to the IDFG which requires habitat not traditionally found within the Craig Mountain landscape.

It will take imagination and flexibility of staff managers involved with the planning phase to implement various management regimes that direct the forest towards the desired condition. In the short term, relatively intensive disturbance to the forests will have to be understood and endured in order to accomplish long-term goals and benefits to wildlife, as well as to the general public. Because wildlife populations on the WMU have already adapted to heavy disturbance, the proposed activities should have minimal impact

Depending upon the strategies selected by the regional managers, efforts during the first ten years could be quite impactive, but will allow the WMU to move towards the long-range forest management goals identified within the WMU management plan. As selected parcels within the WMU are managed towards a natural system, wildlife, particularly sensitive native species, should respond in a positive fashion with regards to population diversity and numbers.

This exercise is a unique opportunity for the IDFG to adopt and apply an ecosystem approach to a highly disturbed and broad landscape. This window of opportunity will afford the IDFG the opportunities of stepping to the forefront of holistic ecosystem management as land and wildlife stewards for the constituents of the state of Idaho.

LITERATURE CITED

Adams, D.L. 1992. New Forestry in the Inland Northwest.

Atterbury Consultants, Inc. 1994. Professional Timber Cruising.

Austin, S.H. 1995. Rethinking (Ecological) Relationships.

Barrett, J. 1979. Silviculture of Ponderosa Pine in the Pacific Northwest: The State of Our Knowledge.

Bock, C.E.; Saab, V.A.; Rich, T.D.; Dobkin, D.S. 1993. Effects of Livestock Grazing on neotropical Migratory Landbirds in Western North America.

Brown, G.W. 1985. Forestry and Water Quality.

Brown, J. 1974. Handbook For Inventorying Downed Woody Material. INT- 16.

Colorado Division of Wildlife. 1987, Managing Forested land for Wildlife.

Consultant, The. 1993. Managing for Wildlife. (Adapted from an article published by the Woodland Fish and Wildlife Project).

Cooper, S.; Neiman, K.; Steele, R.; Roberts, D. 1987. Forest Habitat Types of North Idaho: A Second Approximation. INT-236.

Daubenmire, R, and Daubenmire, J. 1968. Forest Vegetation of Eastern Washington and Northern Idaho.

Edgewater Timber Service, 1990. Aetna Craig Mountain Ownership Cruise Report.

Folliott, P.F.; Gottfried, G.J.; Baker, M.B., Jr. 1989. Water Yield From Forest Snowpack Management Research Findings in Arizona and New Mexico.

Finch, D.M.; Ruggiero, L.F. 1993. Wildlife Habitats, and Biological diversity in the Rocky Mountains and Northern Great Plains.

Hall, D.O.; Bruna, J.A. 1983. A Management Decision Framework for Winnowing simulated All-aged Stand Prescriptions.

Harvey, A.E. 1990. The Importance of Residual Organic Debris in Site Preparation and Amelioration for Reforestation.

Horn, D.L. 199 1. Appropriate Suppression Response: A decision Model for Wilderness Fire Management.

Hoover, R.L.; Wills, D.L. 1987. Managing Forested Lands For Wildlife. Colorado Division of Wildlife.

Husch, B.: Miller, C.I.; Beers, T.W. 1972. Forest Mensuration.

Hutto, R.L.; Hejl, S.J.; Preston, CR.; Finch, D.M. 1992. Effects of Silvicultural Treatments on Forest Birds in the Rocky Mountains: Implications and Management Recommendations.

Idaho Department of Health and Welfare, Bureau of Water Quality. 1988. Forest Practices Water Quality Management Plan (for the) State of Idaho.

Idaho Department of Health and Welfare, Division of Environmental Quality. 1993. Forest Practices Water Quality Audit - 1992.

Idaho Department of Lands. 1985, 1990, 1994. Historic Wildfire Summaries.

Idaho Department of Lands. 1994. Rules and Regulations Pertaining to the idaho Forest Practices Act, Title 38, chapter 13, Idaho Code.

Leopold, Aldo. 1949. A Sand County Almanac: And Sketches Here and There (The Conservation Ethic).

Little, S.N.; Klock, G.O. 1985. The Influence of Residue Removal and Prescribed Fire on Distributions of Forest Nutrients.

Lucier, A. A. 1994. Criteria For Success in Managing Forested Landscapes.

Lull, K.J.; Tindall, J.A.; Potts, D.F. 1995. Assessing Nonpoint-source Pollution Risk.

Mattson, W.J.; Addy, N.D. 1975. Phytophagous Insect as Regulators of Forest Primary Production.

Minshall, G.W.; Brock, J.T.; Varley, J.D. 1989. Wildfires and Yellowstone's Stream Ecosystems.

Narolski, S.W. 1989. State of Idaho Department of Fish and Game's Forest Management On It's Ownerships--What's Happening in Forestry in the Inland Northwest.

Noste, N.V.; Bushey, C.L. 1987. Fire Response of Shrubs of Dry Forest Habitat Types in Montana and Idaho.

O'Laughlin, J. et al. 1993. Forest Health Conditions in Idaho - Executive Summary.

Peek, J.M. 1989. Another Look at Burning Shrubs in Northern Idaho.

Pfister, R: Kovalchik, B; Arno, S.; Presby, R. 1977. Forest habitat types of Montana. General Technical report INT-34.

Reinhardt, E.D.; Brown, J.K.; Fischer, W.C.; Graham, R.T. 1991. Woody Fuel and Duff Consumption by Prescribed Fire in Northern Idaho Mixed Conifer Logging Slash.

Rotenberry, J.T.; Cooper, RJ.; Wunderle, J.M.; Smith, K.G. 1993. Incorporating Effects of Natural Disturbances in Managed Ecosystems.

Rothermel, R.C. 1991. Predicting Behavior and Size of Crown Fires in the Northern Rocky Mountains.

Russell, K.W.; Thies, W.G.; Campbell, D.L.; Gara, R.I.; Littke, W.R. 1989. Effects of slash Burning on Forest Damage from Animals, Insects, Diseases, and Adverse Environment.

Sandberg, D.V. 1989. Future Concerns and Needs: Air Resource Management.

Sherry, T.W.; Holmes, R.T. 1993. Are Populations of Neotropical Migrant Birds Limited in Summer or Winter? Implications for Management.

Shiplett, B. Idaho Department of Lands, 1994. Conversation about wildfire characteristics and vegetative evolution of Craig Mt. vicinity.

Slocombe, D. Scott. 1993. Implementing Ecosystem-based Management.

Society of American Foresters, 1984. Forestry handbook, Second Edition.

Soil Conservation Service, 1976. Reconnaissance Soil Survey - Nez Perce County, Idaho.

Smith, C.S. 1983. A 4,300 Year History of Vegetation, Climate, and Fire From Blue Lake, Nez Perce County, Idaho.

Spur-r, S.; Barnes, B. 1980. Forest Ecology (Third Edition).

Steele, R.; Amo, S.F.; & Geier-Hayes, K. 1986. Wildfire Patterns Change in Central Idaho's Ponderosa Pine-Douglas fir Forest.

Steele, R.; Pfister, R.D. 1990. Western-Montane Plant Communities and Forest Ecosystem Perspectives.

Steele, R; Pfister, R.D. : Ryker, R.A. 198 1. Forest Habitat Types of Central Idaho.

Stoszek, K.J. 1984. Considerations for Design of Silviculture Measures to Reduce Western Spruce Budworm Hazard.

Thompson, F.R. III; Probst, J.R.; Raphael, M.G. 1993. Silvicultural Options for Neotropical Migratory Birds.

U.S. Forest Service, Agricultural Handbook No. 271. 1965. Silvics of the Forest Trees of the United States.

U.S. Forest Service, Agricultural Handbook No. 553. 1979. Wildlife Habitats in Managed Forest: The Blue Mountains of Oregon and Washington.

U.S. Forest Service, Cooperative Forestry and Pest Management, 1984. Forest Insect and Disease Identification and Management.

U.S. Forest Service, General Technical Report No. INT-16, 1974. Handbook For Inventorying downed Woody Material.

U.S. Forest Service, Pacific Northwest Region. 1991. Blue Mountains Forest Health Report: "New Perspectives in Forest Health".

Yee, C.S.; Roelofs, T.D. 1980. Planning Forest Roads to Protect Salmonid Habitat.

APPENDIX A:
SOILS ASSOCIATION DESCRIPTION

Cramont-Wapshilla Association

This association occupies a high plateau with. rolling topography. It occurs in the area around Soldiers Meadow Reservoir in the southern part of the county. The soils have formed in loess and weathering basalt. Elevations range from 4,000 to 4,800 feet. The mean annual precipitation is 26 to 28 inches, the mean annual air temperature is 42 to 44 degrees F, and the frost-fiee season is 80 to 100 days per year.

The major soil types within this association are: Cramont soils @ 55%, Wapshilla soils @ 20%, Zaza soils @10%, and minor types @ 15%.

Cramont soils have nearly level to moderately steep slopes., They are very deep, well drained, and contain some basalt gravel in the lower parts of the subsoils.- Wapshilla soils have moderately steep and steep slopes. They are also very deep and well drained but contain much basalt gravel and cobblestones in the subsoils. Zaza soils have moderately steep and steep south-facing slopes. They are well drained and have a shallow to basalt bedrock base.

All soils types within this association are highly to very highly erosive. The average depth to bedrock is less than 5 feet. Runoff occurs at a rapid to very rapid rate.

Habitats found on these soils are mainly forested, consisting mostly of Douglas fir, lodgepole pine, ponderosa pine, and grand fir. Some areas are grazed by livestock.

Culdesac-Cramont Association

This association occupies a high plateau with rolling topography. It occurs in the area south of Waha Lake. The soils have formed in loess, volcanic ash, and weathering basalt.. Elevations range from 4,400 to 5,240 feet. The mean annual precipitation is 26 to 28 inches, the mean annual air temperature is 40 to 44 degrees F, and the frost-free season is 70 to 100 days per year.

The major soil types within the association are: Culdesac soils @ about 40%, Cramont soils @ about 25%, and Wapshilla soils @ about 10%. The remaining 25% is comprised of Zaza soils, rock outcrops, and other minor soil types..

Culdesac soils have moderately sloping to steep north-facing slopes. They are moderately deep, well drained, and have yellowish-brown silt loam surface layers that are light weight when dry. Cramont soils have moderate to steep slopes. They are very deep, well drained, and contain some basalt gravel and cobblestones in the subsoils. Zaza soils have moderately steep south-facing

slopes. They are well drained and have a shallow to basalt bedrock base. Rock outcrops consist of basalt bedrock and stones and very shallow soil material overlying bedrock.

All soils within this association are very highly erosive. The depth to bedrock is usually less than 5 feet. Surface runoff occurs at a very rapid rate.

Most of these soils contain habitats that are forested. Some areas are grazed by livestock.

Klicker-Rock Outcrop Association

This association occupies very steep canyon slopes having considerable rock outcrops, with forested north-facing slopes and grasslands on south-facing slopes. The soils formed in loess, weathering basalt, and volcanic ash. Elevations range from 3,500 to 5,000 feet. The mean annual precipitation is 18 to 28 inches, the mean annual air temperature is 40 to 50 degrees F, and the frost-free season is 70 to 150 days per year.

The major soils types within this association are: Klicker soils @ about 30%, rock outcrop @ about 25%, Gwin soils @ about 15%, and Culdesac soils @ about 10%. Zaza soils and other minor types comprise the remaining 20%.

Klicker soils have very steep, north-facing slopes. They are very deep and have gravelly loam subsoils. The rock outcrops consist of basalt bedrock, stones, and have very shallow soil material overlying the bedrock base. Gwin soils have very steep, south-facing slopes. They have a shallow to basalt bedrock base. Culdesac soils have very steep, north-facing slopes. They are moderately deep, well drained, and have yellowish-brown silt loam surface layers that are light weight when dry. Zaza soils have very steep, south-facing slopes at higher elevations. They have brown surface layers and have a shallow to basalt bedrock base.

The soil types within this association are very highly erosive. The depth to bedrock is usually less than three feet. Surface runoff occurs at a very rapid rate with the soil somewhat impermeable.

These soils are associated mostly with forested habitats, with some having grasslands that have been used for livestock grazing.

Lickskillet-Rock Outcrop Association

This association occupies very steep canyon slopes having considerable rock outcrops, with grasslands on all slopes. The soils formed in loess and weathering basalt. Elevations range from 750 to 4,000 feet. The mean annual precipitation is 12 to 22 inches, the mean annual air temperature is 48 to 53 degrees F, and the frost-free season is 130 to 200 days per year.

The major soil types within this association are: Lickskillet soils @ about 30%, rock outcrops @ about 25%, Gwin soils @ about 15%, and Tammany Creek variant soils @ about 10%. Other minor soil types comprise the remaining 20% of the association.

Lickskillet soils have very steep, south-facing slopes below 1,800 feet elevation. They have a shallow to basalt bedrock base and have brown surface layers. Rock outcrops consist of basalt bedrock, stones, and, very shallow soil materials. Gwin soils also have very steep, south-facing slopes but are above 1,500 feet elevation, They have a shallow to basalt bedrock base and have dark grayish brown surface layers. Tammany Creek variant soils have very steep, north-facing slopes. They are very deep and have very gravelly substrata.

Soils within this association are rated as very highly erosive. The depth to bedrock is usually less than two feet. Surface runoff occurs at a very rapidrate.

The major land management activity occurring within this association has been livestock grazing.

Wapshiila-Culdesac Association

This association occupies very steep canyon slopes with no cultivation. Forested habitats occupy most slopes. These soils formed in loess, weathering basalt, and volcanic ash. Elevations range from 3,500 to 5,000 feet. The mean annual precipitation is 18 to 28 inches, the mean annual air temperature is 40 to 50 degrees F, and the frost-free season is 70 to 150 days.

The major soil types within this association are: Wapshilla soils @ about 30%, Culdesac soils @ about 20%, and Gwin soils @ about 20%. The remaining portion of this association is comprised of Zaza soils and other minor types.

Wapshilla soils are found on very steep, north-facing slopes. They are very deep and well drained and contain much basalt gravel and cobblestones in the subsoils. Culdesac soils are found on very steep, south-facing slopes at higher elevations. They have brown surface layers and are shallow to basalt. Gwin soils are found on very steep, south-facing slopes. They are shallow to basalt bedrock. Rock outcrops consist of basalt bedrock, stones, and very shallow soil materials overlying bedrock. Zaza soils are found on very steep, south-facing slopes at higher elevations.

The soil types within this association are rated as very highly erosive. The depth to bedrock is usually less than three feet. The rate of surface runoff is very rapid.

These soil types are managed mostly for growing forests, with some acreage used for livestock grazing.

APPENDIX B:
IDFG FIELD DATA COLLECTION CARDS

?LOT # - Numbered consecutively.
SPECIES - PP,DF,GF,AF,L,S,C,WP,LP,ASP,COT,.
COMPONENT - Forest component code, below.
)BH - O=seedlings, 1=<1.4", 2=<2.4", etc.
AGE - Age at DBH + growth estimator by spp
LO YR. GROWTH - Last 10 years by 1/10th".
REE HEIGHT - Estimate if top is missing.
IVE CROWN % - Live crown/total tree ht.
)EFECT - Total estimated defect in tree.
CANOPY - Average canopy closure per plot.
IABITAT CODE - Three-digit USFS coding.

WOODY DEBRIS SURVEYS

Measure the number of interects along a fixed length transect, by diameter class:

0-l"	Count along a 6' transect.
0-3"	Count along a 12' transect.
3"+	Count along a 35' transect. Note whether 7"+ are sound or rotten..

Duff is the average of two representative measurements and is recorded in inches.

COMPONENT CODES
(2 character entry)

First	Second
_=Alive	O=overstory
D=Dead	U=understory
	W=wildlife snag
	S=Site tree
	P=Pathogen or tree is dying

% OF TREE MBF BY THE LOG

Tot. # of Logs	Log Number 1	2	3	4
1	100			
2	68	32		
3	47	36	17	
4	38	29	22	11
5	33	27	20	16

1.944 x DBH = Limiting distance at 20 BAF
2.750 x DBH = Limiting distance at 10 BAF
1/5 acre plot radius = 52.7' = 52'8"
1/100 acre plot radius = 11.8' = 11'9"
1/300 acre polot radius = 6.8' = 6'10"

COVER SURVEYS

First measure the % that brush covers the plot. Record the average brush height in feet. Then record the remaining cover by %

IDAHO DEPARTMENT OF FISH & GAME
FORESTRY ASSISTANCE PROGRAM

FOREST STAND EXAM SURVEY

Cruiser _____

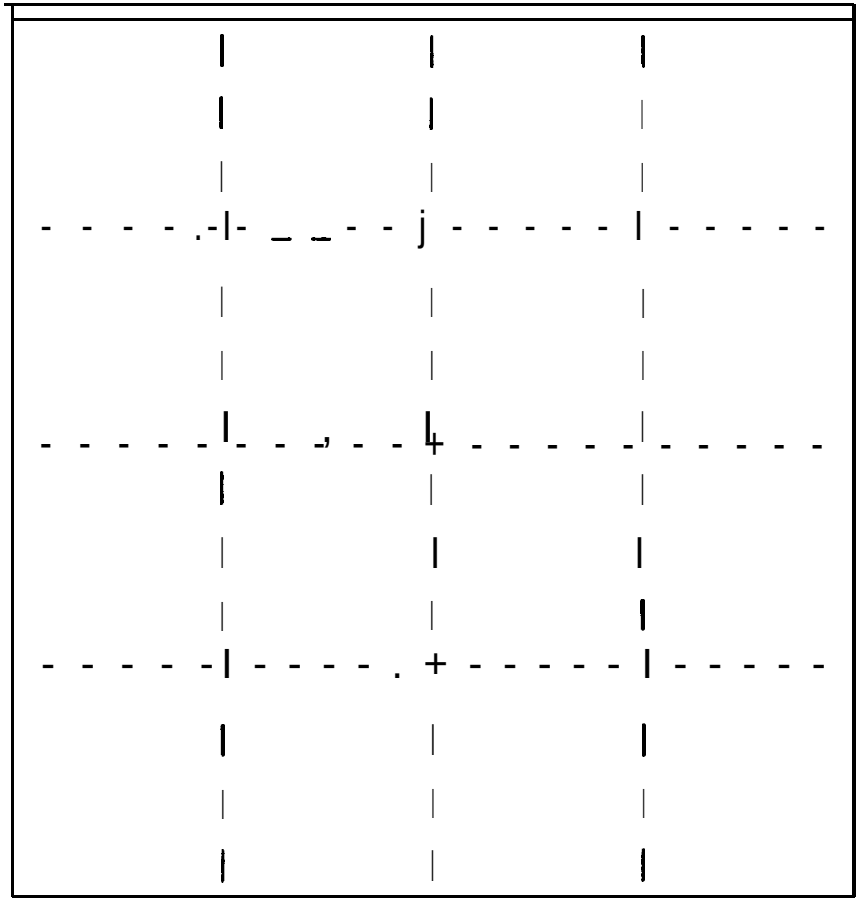
Stand _____ Date _____

BAF _____ Ave. Elevation _____

No. of Plots _____ No. of Cards _____

Ave. Slope _____ Ave. Aspect _____

Observations _____



swn - 5/93

PLOT #		
SPECIES	FOREST	
COMPONENT		
DBH		
AGE		
10 YR.GROWTH		
TREE HEIGHT		
LIVE CROWN %		
DEFECT		
CANOPY		
HABITAT CODE		
SLOPE %	STAND	
ASPECT		

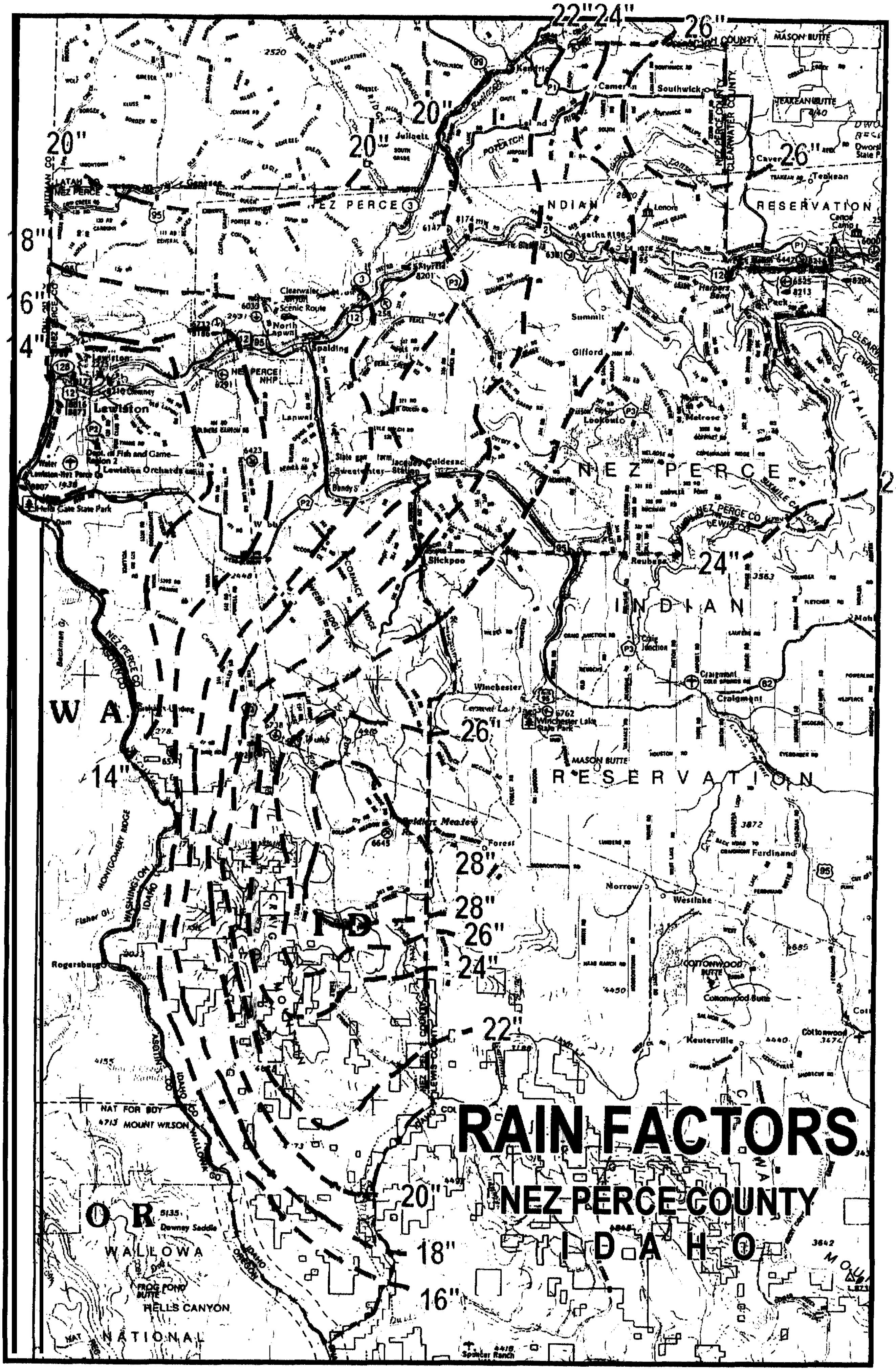
0-.25"	WOODY FUELS	SITE QUALITIES
.25-1"		
1-3"		
3-7"		
7"+		
DUFF		
% BRUSH	COVER	
BRUSH HT		
% FORBS		
% GRASS		
% LITTER		
% BARE		
NOTES		

APPENDIX C:
CONIFER CHARACTERISTICS

Species	Shade Tolerance	Potential Longevity	Ease of Propagation (natural)	soil Moisture	Frost Resistance	Drought Resistance
Douglas-fir	Intermediate	Long	Easy	Moist to dry; well drained	Medium	High
Grand fir	Tolerant	Medium	Easy	Moist	High	Low
Subalpine fir	Tolerant	Medium	Medium	Moist	High	Low
Lodgepole pine	Intolerant	Short	Easy; bare soil	Wet to dry	High	High
Ponderosa pine	Intolerant	Very long	Medium; bare soil	Moist to dry	Medium	High
Engelmann spruce	Tolerant	Medium	Easy	Moist to wet	High	Medium to low
Western larch	Very intolerant	Long	Medium; bare soil	Moist to dry	high	Medium

Source: Fazio, James R., The Woodland Steward, 1987)

APPENDIX D:
REGIONAL PRECIPITATION MAP


RAIN FACTORS
NEZ PERCE COUNTY
I D A H O
22"
24"
26"
20"
20"
20"
26"
8"
6"
4"
24"
24"
26"
14"
28"
28"
26"
24"
22"
20"
18"
16"
NEZ PERCE
INDIAN
RESERVATION
Lewiston
WA
OR
WALLOWA
HELLS CANYON
NATIONAL
Winchester
Craigmont
Kendrick
Juliaetta
Lapwai
Culdesac
Ferdinand
Cottonwood
Keuterville
MASON BUTTE
Rogersburg

APPENDIX E:
GROUND COVER SUMMARY BY STAND

Column Coding	Description
STAND	Stand identification number
AVE%BR	Average percent that brush covers the stand
AVEBRHT	Average brush height for the stand
AVE%FOR	Of the remaining area, average percent cover by forbs
AVE%GRS	Of the remaining area, average percent cover by grasses
AVE%LITT	Of the remaining area, average percent cover by litter
AVE%GRD	Of the remaining area, average percent cover by bare ground
HABTYPE	Forest habitat type (Cooper et al.)

STAND	AVE%BR	AVEBRHT	AVE%FOR	AVE%GRS	AVE%LITT	AVE%GRD	HABTYPE
30040101	40	2.75	35	47.5	1.25	8.75	260
30040102	45	3.25	40	46.275	3.75	3.333333	260
30040103	40	3.6	59.16667	29.33333	2.5	0	260
30040104	42.5	2.75	63	33.33333	2.666667	10	260
30040201	57.5	4	46.25	45	8.75	0	260
30040202	65.83333	3.833333	59.16667	28.33333	10	2.5	260
30040203	66.25	3.75	43.75	50	6.25	0	260
30040204	46.25	2.25	47.5	48.75	3.75	0	260
30040205	61.25	3	43.75	53.75	1.25	0	260
30040206	70.83333	5	40	42.5	13.33333	3.333333	260
30040207	72.33333	4.333333	59	37.5	2.666667	0.833333	260
30040208	63.75	4.25	46.25	43.75	10	0	260
30040209	68.75	4.5	56.25	38.75	2.5	0	260
30040210	66	3.6	38	57	4	0	260
30040301	50	4	40	53.75	1.25	5	260
30040302	57.5	5	30.83333	65	0	3.333333	190
30040303	31.25	2.25	30	70	0	0	100
30040304	53.75	3	46.25	42.5	0	10	260
30040305	47.5	3.5	45	51.25	3.75	0	260
30041001	31.25	2.25	21.25	35	13.75	30	260
30041002	A7 5	1	Al 25	A6 25	7.5	5	260
30041003	AA.25	2.25	26.25	72.5	0	1.25	260
30041004	46.25	2.25	47.5	48.75	3.75	0	260
30041005	35	2	38.75	57.5	1.25	2.5	260
30041006	36.25	2.25	26.25	70.33333	3.16	1.25	260
30041102	35.25	3.25	21.25	35	13.75	30	260
30041103	37.5	1.5	33.75	57.5	1.25	7.5	260
30041104	49.55	2.25	31.25	62.75	3.75	2.25	260
30041105	42.5	1.5	41.25	46.25	7.5	5	260
30041301	48.75	3.5	60	18.75	20	1.25	260
30041401	45.6	5.25	32.5	38.75	27.5	1.25	260
30041402	34.25	2.25	26.25	72.5	0	1.25	260
30041403	58.75	3.5	60	18.75	20	1.25	260
30041404	46.25	2.25	47.5	48.75	3.75	0	260
30041405	50.75	2.25	7.5	52.5	0	40	260
30041406	37.5	1.5	33.75	57.5	1.25	7.5	260
30041502	55.25	3	58.5	18.75	21.5	1.25	260
30041503	38.5	2.5	41.25	46.25	7.5	4.5	260
30042201	26.25	1.75	26.25	68.25	5.25	1.25	310
30042202	51.25	2.25	31.25	63.75	4.75	0	310
30042203	67.5	4.25	65	1.25	18.75	15	310
30042204	57.5	4.25	56.25	17.5	5	21.25	310
30042205	28	2.6	36	50	3	12	310
30042301	37.5	1.5	33.75	57.5	1.25	7.5	260
30042302	34.25	2.25	26.25	72.5	0	1.25	260
30042303	36.25	1.75	26.25	68.5	3.75	1.25	260
30042305	45	2.25	30.25	61.75	5.75	2.25	260
30042306	42.5	7.75	35	38.75	25	1.25	260
30042307	65	3.5	72.5	10	16.25	1.25	260
30042501	34.25	2.25	26.25	72.5	0	1.25	310

30042502	55.25	2.5	73.75	18.75	7.5	0	310
30042503	11.25	1.25	12.5	40	15	32.5	310
30042504	50.25	2.25	12.5	40	15	32.5	310
30042505	28.75	0.75	33.75	53.75	6.25	6.25	310
30042601	38.75	2.5	62.5	35	0	2.5	310
30042602	78.75	3.5	72.5	10	16.25	1.25	310
30042603	65	2.5	73.75	18.75	7.5	0	310
30042605	26.25	2.25	26.25	72.5	0	1.25	310
31030201	34.25	2.25	26.25	72.5	0	1.25	260
31030401	38.75	3	10	48.75	13.75	27.5	280
31030402	52.5	3.75	5	12.5	60	25	260
31030403	85	4.5	53.75	26.25	2.5	22.5	500
31030404	60	3.5	47.5	7.5	6.25	37.5	280
31030503	30.5	2.25	55.83333	36.66667	2.5	5	500
31030504	37.5	1.75	26.25	72.5	0	1.25	260
31030505	36.25	2.25	47.5	48.75	3.75	0	260
31030601	28.75	1	60	12.5	26.25	1.25	520
31030602	32.5	1.5	31.25	65	0	3.75	520
31030603	25.25	1.875	41.5	51.25	4.5	2.25	500
31030604	32.5	1.5	51.25	25	23.75	0	260
31030608	27.5	1.25	32.5	42.5	5	20	500
31030609	37.5	1.5	33.75	57.5	1.25	7.5	260
31030703	46.75	3.25	7.5	52.5	10.6666	38.3334	260
31030704	48.75	3.5	63.75	6.25	28.75	1.25	260
31030707	42.3333	3.5	72.5	10	16.25	1.25	310
31030708	38.75	0.75	62.5	35	0	2.5	310
31030801	34.25	2.25	26.25	65.3	7.133	1.25	260
31030901	65	4.25	34.375	17.5	44.375	6.25	280
31030902	62.5	4	35	41.25	10	13.75	280
31031801	23.75	1.75	22.5	76.25	0	1.25	260
31031802	37.5	1.75	33.75	57.5	3.25	4.5	260
31032001	42.5	1	41.25	46.25	7.5	5	280
31033101	1.25	0.25	6.25	87.5	1.25	5	280
31040102	11.25	1.25	12.5	40	15	32.5	260
31040103	30.5	1.25	37.5	52.5	1.25	8.75	500
31040104	33.75	1.5	20.5	71.25	5.65	2.25	280
31040105	27.25	3.25	42	50	4	2	500
31040106	22.5	1.75	32.5	55.25	12.5	1	280
31040201	37.5	2	65	6.25	11.25	20	520
31040202	18.75	3.25	68.75	27.5	3.75	0	500
31040301	35	1.75	67.5	22.5	6.25	3.75	520
31040302	22.5	1.75	32.5	56.25	12.5	0	520
31040303	22.5	1.75	32.5	56.25	12.5	0	520
31040304	9.25	2.5	25	63.75	6.25	5	520
31040401	10	0.75	27.5	60	6.25	6.25	520
31040402	30.22	0.75	27.5	60	6.25	6.25	520
31040403	26.25	1	45	36.25	8.75	10	515
31040404	33.75	1	60	12.5	26.25	1.25	520
31040405	26.25	1.25	47.5	35	8.75	8.75	515
31040406	30	1	48.75	32.5	11.25	7.5	590
31040407	20.15	0.75	27.5	58.333	7.55	6.25	520

31040408	36.25	4.25	57.5	26.25	6.25	8.75	520
31040409	35	3.5	67.5	22.5	7.5	2.25	520
31040410	37.5	2	65	6.25	11.25	20	520
31040411	22.5	1.75	32.5	56.25	12.5	0	520
31040501	29	1	52	40	6	2	515
31040502	36.25	1.5	30	61.25	3.75	5	506
31040503	11.25	1.25	12.5	40	15	32.5	260
31040801	22.5	1.75	32.5	56.25	12.5	0	506
31040802	34.25	2.25	26.25	72.5	0	1.25	260
31040804	35	1.75	67.5	22.5	6.25	3.75	515
31040805	25	1.25	32.5	42.5	5	20	500
31040806	0	0	12.5	75	12.5	0	500
31040901	28.75	1.75	72.5	23.75	3.75	0	500
31040902	32.5	1.5	51.25	25	23.75	0	280
31040903	35	1.75	67.5	22.5	6.25	3.75	506
31040904	8.75	1.25	26.25	70	6.25	0	500
31041001	32.75	2.25	33.75	57.5	1.25	7.5	506
31041002	37.5	1.5	33.75	57.5	1.25	7.5	520
31041003	8.75	0.751	26.251	70	6.25	0	500
31041004	37.5	2	65	6.25	11.25	20	515
31041005	11.25	1.25	12.5	40	15	32.5	520
31041006	37.51	1.5	33.75	57.5	1.25	7.5	520
31041007	22.5	1.75	32.5	56.25	12.5	0	520
31041008	26.5	1.75	37.5	52.5	1.25	8.75	500
31041009	15.75	0.5	32.5	53.75	7.5	6.25	500
31041102	49.55	2.25	31.25	62.75	3.75	2.25	260
31041103	38.75	1.95	48.75	36.25	6.25	8.75	280
31041104	8.75	0.75	26.25	70	6.25	0	500
31041105	37.5	2.75	41.5	31.25	7.5	21.25	500
31041107	41.25	3.25	48.75	36.25	6.25	8.75	280
31041108	37.5	1.5	33.75	57.5	1.25	7.5	500
31041201	42.5	1.666667	41.25	46.25	7.5	5	280
31041202	38.75	3.5	60	18.75	201	1.25	260
I 310413011	44.5	7.75	35	47.5	1.25	8.75	280
310413021	32.5	1.5	51.25	25	23.75	0	280
31041303	58.75	3.833333	60	28.33333	9.25	2.5	280
31041304	35.75	1.75	35	47.5	1.25	8.75	280
31041401	58.75	3	60	1a.75	201	1.25	280
31041402	41.25	2	48.75	36.25	6.25	8.75	280
31041403	66.25	3.75	41.75	52.25	6.25	0	280
31041404	39.5	4.75	10	37.5	2.5	50	280
31041405	63.75	3.75	43.75	50	6.25	0	280
31041501	30	5.5	20	15	10	50	280
31041502	37.5	0.25	33.75	52.5	0	40	280
31041503		1.5		57.5	1.25	7.5	500
31042101	72.5	3	62.5	10	25	2.5	260
31042102	66.25	2	35	18.75	46	0	260
31042103	68.75	2.25	45	13.75	40	1.25	260
31042201	53.75	3.5	12.5	31.25	23.75	32.5	260
31042202	58.75	3	60	18.75	20	1.25	280
31042203	48.75	3.5	55.5	18.75	25	1.25	260

31042204	37.5	4.75	101	37.5	2.5	50	260
31042205	42.5	3.25	7.5	52.5	0	40	260
31042301	35	2	38.75	57.5	1.25	2.5	280
31042304	37.5	1.5	33.75	57.5	1.25	7.5	500
31042401	50	3.25	7.5	52.5	0	40	280
31042402	34.25	1.5	33.75	57.5	1.25	7.5	280
31042403	37.5	4.75	10	37.5	2.5	50	280
31042404	50	3.25	7.5	52.5	0	40	280
31042503	61	4.75	40.25	5	1.25	7.5	280
31042701	45	3.25	12.5	70	0	17.5	260
31042801	48	3.8	48	40	6	6	260
31042802	40	3	36.25	47.5	3.75	12.5	260
31042803	45	3.5	30	52.5	5	12.5	260
31043301	20	2	23.75	52.5	0	23.75	260
31043401	61.25	5	25	63.75	11.25	0	260
31043402	35	2	38.75	57.5	1.25	2.5	260
31043403	6?46	?.?5	32.5	55	13.75	8.75	260
31043404	66.25	2.75	42.5	55	11.25	2.5	260
31043405			51..25	35		-.-	260
31043406	59	3.4	34	50	8	6	260
31043407	56.25	3.25	41.25	48.75	8.75	2.5	310
31043408	20	1.25	31.25	55	0	13.75	260
31043409	60	2.75	46.25	51.25	5	0	260
31043410	55	2.5	46.25	51.25	2.5	0	260
31043411	61.66667	3	40	23.33333	31.66667	5	260
31043412	37	2.2	28	59	11	2	260
31043413	80	3.25	41.25	31.25	32.5	7.5	260
31043414	75	2.25	38.75	22.5	32.5	6.25	260
3104350;.	22	4.4	7	53	4	36	280
32030301	11.25	1	12.5	81.25	2.5	3.75	310
32030302	2.5	0.5	8.75	83.75	0	7.5	920
32030303	5	0.75	22.5	67.5	7.5	2.5	920
32030304	1.25	0.25	6.25	87.5	1.25	5	260
32030401	55	1	47.5	38.75	13.75	0	5901
32030402	5	0.75	18.75	66.25	3.75	11.25	310
32030403	41.25	0.75	33.75	60	5	1.25	590
32030404	53.75	1.25	45_I	43.75	II.251	0	590
32030405	0	0	8.75	86.25	0	5	170
32030406	51.25	2.25	31.25	65	3.75	0	310
32030407	5.833333	1	17.5	75.83333	0	6.666667	920
32030408	20	0.5	28.75	18.75	52.5	0	590
32030501	0.833333	0.166667	12.5	87.5	0	1.666667	515
32030502	7.5	0.5	13.75	81.25	2.5	2.5	590
32030503	4.166667	0.666667	7	84	20	0	310
32030504			28.33333	51.66667	23.33333	0.833333	590
32030601	22.5	1	41.66667	34.16667			590
32030602	0	0	8.75	85	0	6.25	310
32030603	15	0.75	42.5	46.25	6.25	5	590
32030604	3.75	0.5	10	90	0	0	515
32030605	0	0	23.75	76.25	0	1.25	515
32030606	8.75	1	36.25	45	18.75	0	590

320306071	11.25	0.5	33.75	66.25	0	0	515
32030608	5	1	28.75	62.5	8.75	0	590
32030609	3.75	0.5	13.75	81.25	5	0	590
32030610	19.16667	1.333333	35.83333	56.66667	8.333333	0	590
32030611	1.666667	0.333333	15	35	50	0	590
32030701	18.75	1.75	28.75	28.75	38.75	3.75	590
32030702	1.25	0.25	6.25	93.75	0	0	500
32030703	15	1.5	26.25	56.25	16.25	1.25	590
32030704	16.25	1.25	7.5	73.75	16.25	2.5	310
32030705	16.25	2.5	40	46.25	13.75	0	590
32030706	2.5	0.833333	12.5	80.83333	2.5	4.166667	590
32030707	2.5	0.5	10	82.5	0.833333	6.666667	590
32030801	0	0	0	95	5	0	500
32030802	22.5	1.25	27.5	65	6.25	0	500
32030901	3.75	0.75	12.5	80	0	7.5	920
32030902	10	1	16.25	76.25	5	2.5	310
32030903	7.5	1	26.25	65	0	8.75	920
32030904	5	0.75	6.25	87.5	3.75	2.5	170
32030906	17.5	1.25	11.25	87.5	0	1.25	310
32030907	2.5	0.166667	7.5	87.5	0	5	920
32031001	18.75	1	13.75	73.75	1.25	11.25	170
32031002	10	1	12.5	82.5	2.5	2.5	310
32031003	42.5	1	18.75	70	11.25	0	170
32031004	0	0	11.25	88.75	0	0	920
32031005	22	0.8	29	56	13	2	520
32031006	35	1.75	67.5	22.5	6.25	3.75	520
32031501	10	2	16.25	70	0	13.75	3101
32031502	18.75	2.25	31.25	55	13.75	0	590
32031503	13.75	0.75	10	81.25	8.75	0	310
32031504	26.25	1.25	32.5	48.75	18.75	0	590
32031505	22.5	1	25	75	0	0	3110
32031507	0	0	6.25	72.5	1.25	20	170
32031508	8.333333	0.5	13.33333	80.83333	0	5	310
32031509	0	0	15.83333	72.5	0	11.66667	310
32031701	16.25	0.75	22.5	67.5	10	0	500
32031702	25	1.5	35	52.5	12.5	0	500
32031801	0	0	12.5	78.75	8.75	0	500
32031802	0	0	12.5	83.75	0	3.75	500
32031803	0	0	9.285714	82.85714	0	7.857143	500
32031804	12.5	0.5	32.5	53.75	7.5	6.25	500
32031805	11.25	2.25	25	63.75	6.25	5	520
32031806	5	0.75	20	65	0	15	260
32031808	1.25	0.75	22.5	71.25	6.25	0	500
32031901	5	0.75	31.25	57.5	2.5	8.75	515
32031902	6.666667	1	30.83333	60	4.166667	5	515
32031903	6.25	1.5	56.25	22.5	5	1.25	500
32031904	7	1.8	27	54	7	12	500
32032101	2.5	0.75	27.5	62.5	7.5	2.5	590
32032102	7.5	1	28.75	66.25	2.5	7.5	500
32032103	2.5	0.25	37.5	57.5	3.75	1.25	500
32032104	1.25	0.25	18.75	70	6.25	5	500

32032201	1.25	0.25	38.75	56.25	3.75	1.25	500
32032202	8.75	1.25	41.25	38.75	12.5	7.5	505
32032203	11.25	1.25	12.5	40	15	32.5	520
32032204	48.75	3.5	60	18.75	20	1.25	260
32032601	30	2	20	40	5	35	260
32032602	32.5	2.5	15	27.5	45	12.5	520
32032603	45	3.25	15	12.5	72.5	0	500
32032604	12.5	1.25	15	65	10	10	260
32032605	32.5	2.5	15	27.5	45	12.5	500
32032701	22.5	1.75	37.5	56.25	12.5	0	520
32032702	73.75	2	58.75	25	16.25	0	515
32032703	62.5	1.75	27.5	35	32.5	5	515
32032801	18.75	1.5	15	75	10	0	515
32032802	0	0	10	77.5	12.5	0	500
32032803	3.75	0.75	15	75	10	0	500
32032901	6.25	0.75	15	66.25	18.75	0	260
32032902	50	6.5	40	151	45	7.5	5151
32032903	38.75	2	20	67.5	12.5	0	515
32032904	15	1.166667	24.16667	20.83333	38.33333	14.16667	260
32033001	8.75	3	5	93.75	0	6.25	500
32033002	21.25	3	32.5	13.75	38.75	0	590
32033003	15	2	8.75	85	2.5	3.75	590
32033004	23.33333	2.833333	35.83333	30	30.83333	3.333333	310
32033005	17.5	1.75	11.25	80	5	3.75	260
32033006	16.66667	3.666667	15	1.666667	81.66667	1.666667	590
32033007	8.5	5	7.5	73.75	15	3.75	500
32033103	8.75	0.75	26.25	70	6.25	0	520
32033105	22.5	1.75	32.5	56.25	12.5	0	520
32033106	46.25	1.75	57.5	38.75	3.75	0	590
32033107	26.25	3	71.25	2.5	13.75	12.5	500
32033110	63	2.8	66	23	11	0	520
32033201	28.75	1.25	48.75	35	7.5	8.75	260
32033202	60	2.25	63.5	28.75	5	2.5	260
320332031	31.25	1.25	26.25	8.75	201	451	515
32033204	47.5	1	28.75	62.5	2.5	6.25	505
32033205	2.75	1.25	16.25	28.75	0	55	310
32033206	37.5	1.5	33.75	57.5	1.25	7.5	310
32033207	51.25	3.75	35	46.25	6.25	12.5	506
320332081	11.25	0.5	28.75	56.25	2.5	7.5	310
32033210	38.75	2	35	16.25	22.5	26.25	515
32033211	23.75	1.75	61.25	3.75	13.75	21.25	590
32033301	25	1.75	53.75	1.25	15	30	515
32033302	52.5	2.5	13.75	72.5	2.5	11.25	260
32033303	2.5	1.5	31.25	65	0	3.75	210
32033304	37.5	1.75	16.25	52.5	2.5	28.75	260
32033401	6.25	1	23.75	70	0	6.25	310
32033402	37.5	2.75	40	31.25	7.5	21.25	506
32033403	37.5	2	58.75	36.25	5	0	515
32033404	35	1.25	46.25	42.5	2.5	6.25	310
32033501	25	1.25	32.5	42.5	5	20	506
32033502	12.5	3.25	45	35	6.25	13.75	260

32040101	35.83333	1.333333	33.33333	41.66667	23.33333	1.666667	590
32040102	10	0.5	8.75	68.75	2.5	20	310
32040103	14	1	15	81	0	4	515
32040104	11.25	1	12.5	86.25	1.25	0	590
32040105	3.75	0.5	6.25	92.5	0	1.25	310
32040106	2.5	0.5	27.5	68.75	2.5	1.25	500
32040107	62.5	2.25	70	10	20	0	590
32040108	10	1	20	77.5	0	2.5	515
32040109	45	1.5	36.25	61.25	2.5	0	590
32040110	55	2.5	42.5	43.75	13.75	0	590
32040112	1	0.2	8	92	0	0	515
32040113	0	0	8.75	87.5	0	3.75	500
32040114	17.5	1	18.75	13.75	67.5	0	310
32040115	1.25	0.25	15	82.5	2.5	0	500
32040201	67.5	2.75	32.5	50	17.5	0	280
32040202	83.75	2.5	68.75	31.25	0	2.5	310
32040203	41.25	2	48.75	36.25	6.25	8.75	260
32040204	3.75	0.25	32.5	48.75	0	18.75	130
32040205	85	1.75	40	53.75	6.25	0	310
32040206	28.75	0.75	33.75	53.75	6.25	6.25	310
32040207	32.5	2.25	61.25	33.75	5	0	310
32040208	62.5	1.25	41.25	42.5	10	6.25	310
32040209	18.75	1	16.25	53.75	0	30	81
32040210	62.5	2	63.75	26.25	7.5	2.5	590
32040211	16.25	2.5	18.75	75	0	6.25	310
32040212	56.25	1.75	45	15	38.75	1.25	515
32040213	1.25	0.25	17.5	81.25	0	1.25	505
32040214	47	2.4	57	38	5	0	590
32040216	52.5	1.25	45	28.75	21.25	5	515
32040217	0	0	21.25	58.75	0	20	310
32040218	10.83333	1.166667	34.16667	47.5	0	18.33333	500
32040219	10	1.25	28.75	70	0	1.25	500
32040220	0	0	8.75	91.25	0	0	310
32040222	32.5	1.5	46.25	28.75	11.25	8.75	590
32040223	32.5	1.75	37.5	52.5	1.25	8.75	500
32040224	42.5	1	41.25	46.25	7.5	5	280
32040225	21.25	1	40	58.75	1.25	0	310
32040226	53.75	1	67.5	17.5	2.5	12.5	590
32040301	45	7.75	35	38.75	25	1.25	310
32040302	58.75	3	60	18.75	20	1.25	310
32040304	5	1	21.25	58.75	1.25	18.75	310
32040305	26.25	2.25	30	13.75	56.25	0	515
32040306	26.25	2.25	26.25	72.5	0	1.25	310
32040307	37.5	3	43.75	10	45	1.25	590
32040308	26.25	2.5	32.5	66.25	1.25	0	310
32040309	23.75	1.5	22.5	76.25	0	1.25	310
32040310	63.75	2.75	63.75	21.25	13.75	1.25	310
32040311	71.25	3.75	77.5	6.25	16.25	0	260
32040312	11.25	0.75	27.5	46.25	0	26.25	310
32040313	71.25	4	72.5	23.75	2.5	1.25	310
32040314	48.75	3.5	63.75	6.25	28.75	1.25	310

32040315	26.25	2	21.25	72.5	0	6.25	81
32040316	5	1.51	23.75	63.75	0	12.5	81
32040317	0	0	8.75	67.5	0	23.75	81
32040402	76.25	7	72.5	22.5	5	0	260
32040403	78.75	6.75	76.25	16.25	7.5	0	260
32040404	73.75	4	75	10	10	5	260
32040405	62.5	3.5	85	15	0	0	260
32040406	53.75	5	80	11.25	7.5	1.25	260
32040801	71.25	3.25	76.25	12.5	7.5	3.75	310
32040803	27.5	2	62.5	37.5	0	3.75	310
32040804	18.75	3.25	68.75	27.5	3.75	0	340
32040805	48.75	2.75	60	18.75	20	1.25	260
32040806	66.25	3.75	43.75	50	6.25	0	260
32040808	51.25	2.25	57.5	8.75	30	3.75	260
32040809	2.5	1.5	31.25	65	0	3.75	520
32040902	81.25	7.25	83.75	8.75	6.25	1.25	260
32040903	88.75	6	86.25	7.5	3.75	2.5	260
32040904	66.25	4	52.5	42.5	0	5	260
32040905	62.5	4	56.25	30	13.75	0	310
32040906	32.5	1.5	51.25	25	23.75	0	310
32040907	51.25	2.75	53.75	42.5	3.75	0	310
32040908	80	3.75	68.75	27.5	3.75	0	590
32040909	47.5	2.5	17.5	30	50	2.5	520
32040910	26.25	1.75	31.25	31.25	37.5	0	340
32040911	25	2.75	46.25	45	0	8.75	310
32040912	66.25	2.75	47.5	21.25	30	1.25	515
32040913	22.5	1.5	27.5	67.5	0	5	310
32040914	18.75	0.75	40	42.5	0	17.5	340
32040[illegible]3151	41.25	1	30	48.75	18.75	2.5	310
32040916	0	0	33.75	40	0	26.25	81
32040917	65	2.5	73.75	18.75	7.5	0	310
32040918	0	0	31.25	40	0	28.75	81
32040919	5	0.5	21.25	41.25	0	38.75	81
32040920	41.25	2.75	53.75	25	21.25	0	500
32040921	7.5	0.5	17.5	46.25	0	36.25	81
32040922	33.75	2	35	51.25	15	13.75	340
32040923	70	4.25	76.25	7.5		1.25	590
32040924	3.75	0.75	26.25	43.75	0	30	81
32040925	33.75	1	60	12.5	26.25	1.25	590
32040926	25	1.5	75	25	0	0	500
32040927	15	1	61.25	28.75	5	5	505
32040928	22.5	0.75	40	32.5	0	27.5	310
32041001	0	0	33.33333	27.5	0	39.16667	310
32041002	33.75	1.25	61.25	31.25	5	3.75	590
32041003	0	0	43.75	35	0	23.75	500
32041004	20.15	0.75	27.5	60	6.25	6.25	520
32041005	11.25	1.25	12.5	40	15	32.5	520
32041006	22.5	1.75	32.5	56.25	12.5	0	520
32041007	37.5	1.5	33.75	57.5	1.25	7.5	520
32041101	33.75	1.75	72.5	23.75	3.75	0	500
32041102	0	0	32	29	0	39	590

32041103	45	2.25	75	25	0	0	590
32041104	51.25	2.75	60	32.5	5	2.5	590
32041202	32	0	32	30	14	24	590
32041203	22	0.4	35	59	6	0	500
32041204	37.5	1.5	43.33333	47.5	5	2.5	515
32041205	25	1.5	45	47.5	7.5	0	500
32041206	30	1	45	48.75	5	1.25	500
32041301	5	0.5	35	60	3.75	1.25	200
32041302	23	1	33	54	4	9	520
32041303	8.75	1.25	23.75	66.25	2.5	6.25	500
32041304	50	1.5	56.25	28.75	10	2.5	515
32041401	10	0.75	27.5	60	6.25	6.25	520
32041402	26.25	1	60	30	10	0	590
32041403	11.25	1	58.75	22.5	11.25	7.5	590
32041404	18.75	1	47.5	35	11.25	6.25	515
32041405	36.25	1	48.75	43.75	3.75	3.75	515
32041408	0	0	5	0	93.75	1.25	500
32041409	1.25	0.25	21.25	35	13.75	30	100
32041410	25	1	35	44	9	12	280
32041411	5	0.8	21	74	1	4	500
32041412	5	0.75	56.25	21.25	22.5	0	520
32041413	10	0.75	65	16.25	16.25	2.5	520
32041414	38.75	1	70	17.5	12.5	0	590
32041415	0	0	45	48.25	6.25	2.5	400
32041416	17.5	2.75	38.75	38.75	20	2.5	520
32041417	0	0	42.5	48.75	3.75	5	400
32041418	20	1.25	51.25	8.75	37.5	2.5	590
32041419	28.75	0.75	41.25	48.75	10	15	590
32041420	61.25	2.5	62.5	7.5	30	0	590
32041421	30	2.5	48.75	3.75	43.75	3.75	590
32041501	31.25	1.5	41.25	37.5	18.75	2.5	590
32041502	10	1.25	32.5	53.75	1.25	12.5	500
32041503	33.75	1.75	63.75	13.75	10	12.5	515
32041504	0	0	10	0	90	0	590
32041505	25	1	51.25	27.5	20	1.25	590
32041506	38.75	0.75	62.5	35	0	2.5	310
32041507	30	1	53.75	27.5	0	17.5	515
32041508	36.25	1	40	52.5	0	7.5	310
32041509	36.25	1.25	52.5	11.25	35	0	590
32041510	6.25	0.25	28.75	70	0	1.25	590
32041702	72.5	4.5	67.5	26.25	6.25	0	260
32041704	55	4.25	50	17.5	17.5	0	590
32041901	43.75	3	58.75	38.75	0	2.5	260
32041902	58.75	3.5	85	15	0	0	260
32042001	45	4	47.5	33.75	10	8.75	506
32042002	57.5	2.75	67.5	16.25	13.75	2.5	500
32042003	53.75	4	38.75	53.75	6.25	1.25	260
32042004	63	2.8	66	23	11	0	500
32042005	47.5	2.75	62.5	31.25	2.5	3.75	200
32042006	8.75	1.25	35	50	0	15	260
32042007	48	3.8	57	28	6	6	520

32042008	45	3	62.5	10	15	12.5	260
32042009	30	3	22.5	5	17.5	55	590
32042010	36.25	4.25	57.5	26.25	6.25	8.75	520
32042011	56.25	3.25	30	62.5	3.75	3.75	260
32042012	45	3.25	53.75	46.25	0	0	260
32042013	40	3.25	62.5	25	2.5	10	260
32042014	47.5	3	66.25	13.75	5	15	260
32042101	22.5	1.75	32.5	56.25	12.5	0	515
32042102	8.75	0.75	26.25	70	6.25	0	590
32042103	22.5	1.75	32.5	56.25	12.5	0	520
32042201	26.25	2	43.75	50	6.25	0	515
32042202	30	3.75	47.5	32.5	3.75	16.25	515
32042203	30	2	53.75	45	1.25	0	505
32042205	36.66667	1.666667	62.5	17.5	10	10	515
32042301	13.33333	2.833333	30	64.16667	0.833333	5	515
32042302	39	3.8	42	50	4	2	500
32042303	35	2	45	11.25	10	33.75	515
32042304	22.5	2.75	36.25	28.75	11.25	23.75	515
32042305	31.25	2.25	63.75	33.75	1.25	1.25	515
32042401	8.75	1.5	62.5	22.5	7.5	7.5	660
32042402	14	2.2	40	52	2	6	500
32042403	28.33333	3.166667	44.16667	41.66667	5.833333	8.333333	500
32042404	10	1	41.25	47.5	2.5	8.75	310
32042405	20	2.833333	37.5	49.16667	0	13.33333	500
32042406	26.25	3.25	51.25	45	1.25	2.5	515
32042502	30	2.2	56	34	3	7	515
32042503	33.75	1.75	36.25	11.25	18.75	40	590
32042504	12.5	1.5	33.75	52.5	0	13.75	200
32042505	20	2	51.25	23.75	6.25	18.75	515
32042506	20	2.25	46.25	46.25	2.5	5	515
32042507	14	2	33	50	3	14	200
32042508	10	1.75	25	56.25	0	18.75	200
32042509	20	2	35	20	15	30	590
32042510	31.25	2	43.75	47.5	1.25	7.5	500
32042511	9	0.8	31	55	0	14	200
32042512	22.5	2	40	52.5	1.25	6.25	515
32042513	5	0.75	17.5	65	0	17.5	200
32042514	37.5	1.5	43.33333	47.5	5	2.5	515
32042601	32.5	1.833333	55.83333	34.16667	5	4.166667	515
32042602	52.5	2	26.25	56.25	2.5	10	515
32042603	35	2.8	62	19	7	11	506
32042604	27.5	2.25	36.25	45	0	18.75	260
32042605	57.5	2.5	57.5	36.25	1.25	5	515
32042701	28	2.8	35	39	3	23	310
32042702	45	4.5	56.25	37.5	2.5	3.75	260
32042703	11.25	1.5	46.25	48.75	1.25	3.75	260
32042704	53.75	3.5	45	26.25	12.5	16.25	515
32042801	15	1.8	46	30	1	23	500
32042802	31.25	1.25	52.5	18.75	13.75	15	590
32042803	22.5	1.75	35	10	23.75	31.25	590
32042804	16.66667	1.333333	58.33333	27.5	4.166667	10	500

32042805	21	2.2	57	22	12	9	590
32042806	17.5	2.666667	46.66667	42.5	3.333333	7.5	506
32042807	21.25	3	51.25	25	11.25	12.5	500
32042901	36	2.8	59	37	2	2	506
32042902	26.25	1.75	37.5	53.75	0	8.75	506
32042903	26.25	3	71.25	2.5	13.75	12.5	590
32042904	35.83333	2.5	47.5	48.33333	1.666667	2.5	506
32043001	29.16667	2.333333	55.83333	36.66667	2.5	5	506
32043002	30.83333	2.833333	48.33333	40	3.333333	8.333333	506
32043003	40	2.75	36.25	33.75	0	30	260
32043004	40	2.75	41.25	42.5	0	16.25	260
32043005	41.25	1.75	30	51.25	10	8.75	280
32043006	37.5	1.5	26.25	63.75	0	10	280
32043007	48.75	3	30	56.25	0	13.75	260
32043101	56.25	2.5	31.25	31.25	27.5	10	280
32043201	25	2.25	62.5	21.25	12.5	3.75	515
32043202	37.5	2	65	6.25	11.25	20	520
32043203	15	1.25	33.5	55	0	2.5	500
32043204	5	0.25	50	7.5	40	2.5	515
32043301	8	1	56	38	6	0	660
32043302	47.5	2.25	68.75	10	17.5	3.75	660
32043303	17.5	1.5	53.75	23.75	10	12.5	660
32043304	25.83333	1.666667	71.66667	7.5	10	10	590
32043305	5	1	58.75	3.75	15	22.5	500
32043306	13.75	1.75	38.75	0	22.5	38.75	590
32043307	15	2.6	61	32	2	5	500
32043308	0	0	55	35	5	5	500
32043401	18.75	1.75	40	13.75	15	31.25	515
32043402	6.25	2.5	45	47.5	0	7.5	310
32043403	27.5	2	52.5	12.5	12.5	22.5	515
32043404	15	1.5	56.25	8.75	10	23.75	590
32043501	11.25	1.25	58.75	17.5	7.5	16.25	515
32043502	8.75	1	40	6.25	17.5	36.25	590
32043601	8.75	0.75	26.25	70	6.25	0	500
32043603	8.75	0.75	26.25	70	6.25	0	590
33033101	21.25	1	30	68.75	0	1.25	590
33033102	15	1	28.75	65	5	1.25	590
33033103	1.25	0.25	13.75	77.5	0	8.75	310
33033104	0	0	8.75	77.5	0	13.75	500
33033105	10	0.5	35	52.5	11.25	1.25	920
33033106	21	1	20	45	33	2	590
33033107	26.25	1.25	10	80	0	10	310
33033108	52.5	2.25	47.5	27.5	25	0	520
33033109	35	1.25	35	55	10	0	590
33033111	2.5	1	16.25	76.25	7.5	0	310
33033112	1.666667	0.666667	14.16667	3.333333	82.5	0	590
33033113	1.666667	0.333333	10.83333	1.666667	87.5	0	590
33033201	6.25	0.75	27.5	57.5	15	0	590
33033202	30	1.5	40	45	15	0	590
33033203	37	1	33	54	13	0	520
33033204	33.75	1.5	36.25	60	3.75	0	590

33033205	47.5	1	40	58.75	1.25	0	590
33033206	9.166667	0.833333	31.66667	31.66667	36.66667	0	590
33033207	1.25	0.25	15	68.75	0	16.25	310
33033208	0	0	6.25	77.5	0	16.25	81
33042101	81	5.4	65	31	4	0	260
33042102	80	4.6	69	20	9	0	260
33042103	85	6.5	53.75	42.5	3.75	0	260
33042104	83.75	5.5	57.5	37.5	5	0	260
33042105	58.75	8	42.5	10	10	40	506
33042106	75	3.5	45	55	0	0	260
33042107	42.5	3.25	33.75	22.5	10	33.75	506
33042108	87.5	7.5	76.25	7.5	8.75	7.5	505
33042109	66	4	58	35	1	6	260
33042110	72.5	3.75	55	35	1.25	8.75	260
33042111	36.25	1.75	60	35	1.25	3.75	260
33042112	62.5	3	57.5	41.25	0	1.25	260
33042201	53.75	3	72.5	6.25	16.25	5	515
33042202	37.25	3.8	42	50	4	2	500
33042601	36.25	2.25	51.25	43.75	0	5	500
33042602	27.5	1	32.5	52.5	6.25	8.75	310
33042603	41.25	1.5	37.5	51.25	10	1.25	590
33042604	30	1.75	41.25	11.25	47.5	0	590
33042605	67.5	2.5	53.75	42.5	3.75	0	590
33042606	30	4	46.25	31.25	22.5	0	520
33042607	40	1.5	35	32.5	30	2.5	590
33042703	26.25	1.75	38.75	53.75	2.5	5	506
33042704	37.5	1.5	33.75	57.5	1.25	7.5	506
33042705	30	2	42.5	5	21.25	31.25	590
33042706	22.5	1.75	50	46.25	2.5	1.25	590
33042707	35	2.25	57.5	20	10	11.25	590
33042708	31.25	1.5	41.25	53.75	2.5	2.5	515
33043401	30	2	50	5	15	30	590
33043402	45	3	70	15	10	5	515
33043403	31.25	2.5	56.25	16.25	12.5	15	515
33043404	20	3	55	5	15	25	260
33043501	23.75	1.25	40	30	28.75	1.25	590
33043502	16.25	1.25	30	66.25	2.5	1.25	590
33043503	12.5	1.25	20	66.25	12.5	1.25	590
33043504	5	0.5	23.75	68.75	2.5	5	500
33043505	10	0.5	38.75	55	0	6.25	100
33043506	77.5	1.75	37.5	30	30	2.5	310
33043507	40	1.25	38.75	50	23.75	2.5	310
33043508	33.75	1.75	42.5	18.75	37.5	1.25	590
33043509	45	1.75	48.75	35	15	1.25	590
33043510	33.75	2	38.75	2.5	58.75	0	590
33043511	51.25	2	58.75	8.75	32.5	0	590
33043512	62.5	2.5	65	22.5	10	2.5	590
33043513	8.75	1.25	21.25	73.75	0	5	500
33043601	37.5	1.25	42.5	36.25	21.25	0	520
33043602	25	1.25	31.25	46.25	21.25	1.25	590
33043603	6.25	0.75	17.5	76.25	3.75	2.5	590

33043604	26.25	0.75	25	12.5	62.5	0	590
33043605	46.25	1.75	57.5	38.75	3.75	0	590
33043606	2.5	0.25	11.25	87.5	1.25	0	590
33043607	0	0	13.75	0	86.25	0	520
33043611	26.25	1	31.25	38.75	30	0	520

APPENDIX F:
DOWNED WOODY DEBRIS LOADING

Column Co-	Description
STAND	Stand identification number
HABTYPE	Forest habitat type (Cooper et al.)
AVG0,25	Average tons of fuel per acre for O-0.25" wood size group
AVG25,1	Average tons of fuel per acre for 0.25-1.00" wood size group
AVG1,3	Average tons of fuel per acre for 1.00-3.00" wood size group
AVG3,7	Average tons of fuel per acre for 3.00-7.00" wood size group
AVGSOL7	Average tons of fuel per acre for 7"+ solid wood size group
AVGDEC7	Average tons of fuel per acre for 7"+ decayed wood size group
AVETOT	Average total tons of fuel per acre for the stand

STAND	HABTYPE	AVG0,25	AVG25,1	AVG1,3	AVG3,7	AVGSOL7	AVGDEC7	AVGTOT
30040101	260	14.75	1	0.25	0.5	0	0	2.372081
30040102	260	12.5	4.5	1.5	1.25	0	0.25	7.30336
30040103	260	3.25	1.5	0.75	1.25	1.25	0.25	10.29661
30040104	260	7	4	3	0.75	0	0	7.049056
30040201	260	5.75	1.5	0.75	0.75	0.25	0	4.272637
30040202	260	11.33333	4.166667	3.5	3.166667	0.166667	0.5	15.89834
30040203	260	8.25	1.75	1	1.25	0	0	5.338581
30040204	260	6	2.25	1	1	0	0.5	6.326038
30040205	260	7.75	2.75	0.5	1.75	0.25	0.25	8.95436
30040206	260	13	3	2.166667	1.5	0.5	0.5	10.45605
30040207	260	12	3	1	0.666667	0.333333	0.166667	5.50714
30040208	260	9.5	3	1.5	1	0.5	0	6.779288
30040209	260	16.25	4.5	1	0.25	0	0.25	3.741283
30040210	260	9	2.2	1.6	0.6	0	0	3.430306
30040301	260	4	0.75	0.5	0.25	0	0	1.327981
30040302	190	3.166667	0.666667	0.5	0.5	0	0	2.154318
30040303	100	1						
30040304	260	9.5	1.75	00.5	0	0	0	0.789643
30040305	260	7	2.25	1.75	2.5	0.5	0	11.77862
30041001	260	13.5	9.25	1.5	0.5	0	0	5.356593
30041002	260	25	3	3.5	2.25	1.25	0	14.59982
30041003	260	2	1	0.5	0.25	0	0	1.374016
30041004	260	14.25	6.25	2.5	2.75	0	0.25	13.18441
30041005	260	8.75	1.75	0.25	1.5	0	0.25	6.842531
30041006	260	13.25	5	1.5	0.25	0	0	3.141576
30041102	260	4.5	2.75	0.5	0.25	0	0.25	2.835378
30041103	260	14.75	1	0.25	0.5	0	0	2.372081
30041104	260	12.5	4.5	1.5	1.25	0	0.25	7.30336
30041105	260	5.5	3	1	0	0	0	1.356215
30041301	260	11.25	4	3.5	3	0.25	0.5	15.89834
30041401	260	6	2.25	0.5	0.25	0	0.25	2.701997
30041402	260	16.25	4.5	1	0.25	0	0.25	3.741283
30041403	260	1.25	1	0.5	0	0.25	0	1.361623
30041404	260	19	1.75	2	0	0.5	0	3.233141
30041405	260	7	2.25	0.5	1.25	0.5	0	7.050864
30041406	260	6.5	4.5	3	0.25	0	1	6.812248
30041502	260	4.25	0.5	0	1	0.25	0	4.560736

30041503	260	10.25	0.75	0.25	1.25	1	0	8.28392
30042201	310	5.75	0.7	0.25	0	0.25	0	1.244766
30042202	310	5.75	1.5	0.75	0.75	0.25	0	4.272637
30042203	310	13.75	6.25	2.5	0.75	0.5	0	7.327463
30042204	310	16	4	0.5	0.75	0	0	4.287288
30042205	310	6.6	3	0.8	1	0.4	0	6.163348
30042301	260	13.5	9.25	1.5	0.5	0	0	5.356593
30042302	260	17.25	0.75	1.75	1	0	0	4.541744
30042303	260	13.5	6.5	2.5	2.75	0	0.25	13.18441
30042305	260	5	0.25	0.5	0	0.5	0	2.052806
30042306	260	3.25	1.5	0.75	1.25	1.25	0.25	10.29661
30042307	260	14.75	1	0.25	0.5	0	0	2.372081
30042501	310	13.75	4.25	2	2	0.5	0	10.01558
30042502	310	11.33333	4.166667	3.5	3.166667	0.166667	0.5	15.89834
30042503	310	11.25	0.25	0	0	0.25	0	1.131445
30042504	310	1.25	1	0.5	0	0.25	0	1.361623
30042505	310	6	2.25	0.5	0.25	0	0.25	2.701997
30042601	310	16.25	4.5	1	0.25	0	0.25	3.741283
30042602	310	11.25	0.25	0	0	0.25	0	1.131445
30042603	310	8.75	4.5	3	1.25	0.75	0.25	10.3153
30042605	310	4.5	2.75	0.5	0.25	0	0.25	2.835378
31030201	260	5.75	1.5	0.75	0.75	0.25	0	4.272637
31030401	280	8	3.75	0.25	0	0	0.25	2.263993
31030402	260	2.5	1	0.5	0	0	0.5	2.248747
31030403	500	8.75	2	0.5	0	0.25	0	1.801886
31030404	280	14.25	2.75	2.75	0.25	0	0	2.841767
31030503	500	6	2.25	0.5	0.25	0	0.25	2.701997
31030504	260	2	1	0.5	0.25	0	0	1.374016
31030505	260	12.5	4.5	1.5	1.25	0	0.25	7.30336
31030601	520	4	0.5	2.5	0.25	0.25	0	2.748033
31030602	500	14.75	4.5	2.5	2.75	0	0	11.70593
31030603	500	11.4	6	3.4	1.8	0.0	0.2	12.86635
31030604	260	14.75	1.5	2	2	0.5	0	10.01558
31030605					1.5	0	0.5	7.397392
31030606	260	4.25	01.5	0.75	1.25	1.25	0.25	10.29661
31030703	260	13.25	5	1.5	0.25	0	0	3.141576
31030704	260	3.75	0.75	0.25	0	0.25	0	1.244766
31030707	310	4.75	2	0.25	[redacted]	0.25	0.0	5.122581

31030708	310	11.25	0.25	0	0	0.25	0	1.131445
31030801	260	8.75	1.75	0.25	1.5	0	0.25	6.842531
31030901	280	13.25	3.5	2.5	1.75	0.625	0	10.34839
31030902	280	14.25	2.75	0.75	0	0.25	0	2.2091
31031801	260	13.5	9.25	1.5	0.5	0	0	5.356593
31031802	260	13.5	6.5	2.5	2.75	0	0.25	13.18441
31032001	280	14	2.25	0.75	0.75	0	0	3.77974
31033101	280	14.5	0.25	0	0	0	0	0.318679
31040102	260	2	1	0.5	0.25	0	0	1.374016
31040103	500	0.75	1	0.25	1.5	0.75	0.75	10.80543
31040104	280	14.5	0.25	0	0	0	0	0.318679
31040105	500	8.75	3.25	2	4	1	0	19.12644
31040106	280	17.25	0.75	1.75	1	0	0	4.541744
31040201	520	4.5	0.25	0	1	0	0	3.619315
31040202	500	11.4	6	3.4	1.8	0.8	0.2	12.86635
31040301	520	10.25	1.5	0.75	1	0.25	0	5.213462
31040302	520	14.75	4.5	2.5	2.75	0	0	11.70593
31040303	520	8.75	4.5	3	1.25	0.75	0.25	10.3153
31040304	520	4	0.5	2.5	0.25	0.25	0	2.748033
31040401	520	1.5	1	0.25	0.5	0	0	2.15314
31040402	520	16.75	7.25	2	1	0	0.75	9.280531
31040403	515	4.75	2.75	1	0.75	0.25	0.25	5.597081
31040404	520	8.75	3	3.5	3	0	0	12.59837
31040405	515	6.25	5	0.5	1.25	0	0	6.17545
31040406	590	8	2.75	2.5	2.75	0.25	0.25	13.05703
31040407	520	7.5	1.75	1	1.25	0	0.25	6.192657
31040408	520	12	10	1	0	0	0	3.394667
31040409	520	11.2	3.8	1.6	0.8	0.4	0.2	6.745491
31040411	520	13.25	0.5	1.5	0.25	0.25	0	3.141576
31040501	515	1.8	0.8	0.8	1	0.2	0.2	5.3881
31040502	506	7.75	1.25	0.5	0.5	0	0	2.41458
31040503	260	4.75	5	1.75	0.75	0	0	4.813144
31040801	506	8.75	4.5	3	1.25	0.75	0.25	10.3153
31040802	260	5.5	3	1	0	0	0	1.356215
31040804	515	14	9	1	0	0	0	3.394667
31040805	500	4.25	0.25	1	1.5	0	0.5	7.397392
31040806	500	4.75	1	0.25	1.5	0	0	5.672716

31040901	500	16.25	4.5	1	0.25	0	0.25	3.741283
31040902	280	8.75	1.75	0.25	1.5	0	0.25	6.842531
31040903	506	4.25	0.5	0	1	0.25	0	4.560736
31040904	500	6	2.25	0.5	0.25	0	0.25	2.701997
31041001	506	10.25	0.75	0.25	1.25	1	0	8.28392
31041002	520	4.5	0.25	0	1	0	0	3.619315
31041003	500	7.5	1.75	1	1.25	0	0.25	6.192657
31041004	515	20.5	0.5	1.25	2.75	0.75	0	13.02288
31041005	520	8.75	3	3.5	3	0	0	12.59837
31041006	520	14.75	1.5	2	2	0.5	0	10.01558
31041007	520	16.75	7.25	2	1	0	0.75	9.280531
31041008	500	11.4	6	3.4	1.8	0.8	0.2	12.86635
31041009	500	8.25	3.25	2	4	1	0	19.12644
31041102	260	13.5	9.25	1.5	0.5	0	0	5.356593
31041103	280	5.75	1.5	0.75	0.75	0.25	0	4.272637
31041104	500	1.5	1	0.25	0.5	0	0	2.15314
31041105	500	14.75	4.5	2.5	2.75	0	0	11.70593
31041107	280	6.5	4.5	3	0.25	0	1	6.812248
31041108	500	17.5	7.25	2	1	0	0.75	9.280531
31041201	280	16.25	4.5	1	0.25	0	0.25	3.741283
31041202	260	5.5	3	1	0	0	0	1.356215
31041301	280	17.25	0.75	1.75	1	0	0	4.541744
31041302	280	6	2.25	0.5	0.25	0	0.25	2.701997
31041303	280	11	2	1.25	1.75	1	0	10.741
31041304	280	9.5	0.75	0.75	0	0.25	0	1.497945
31041401	280	13.5	6.5	2.5	2.75	0	0.25	13.18441
31041402	280	10.5	2.25	0	1	0.5	0	6.084062
31041403	280	10.25	1.5	0.75	1	0.25	0	5.213462
31041404	280	19	1.75	2	0	0.5	0	3.233141
31041405	280	7	2.25	0.5	1.25	0.5	0	7.050864
31041501	280	6.5	0.5	0.5	0	0	0	0.423738
31041502	280	13.25	5	1.5	0.25	0	0	3.141576
31041503	500	4.75	1	0.25	1.5	0	0	5.672716
31042101	260	7.5	2	1	0.75	0.25	1	8.004678
31042102	260	3.25	1.5	0.75	1.25	1.25	0.25	10.29661
31042103	260	4.25	4	2	1.75	1	0.75	14.09879
31042201	260	3.75	1	0.75	1	0.25	1	8.413765
31042202	280	5.75	1.5	0.75	0.75	0.25	0	4.272637

31042203	260	11	2	1.25	1.75	1	0	10.741
31042204	260	3.75	0.75	0.25	0	0.25	0	1.244766
31042205	260	5	0.25	0.5	0	0.5	0	2.052806
31042301	280	11.2	3.8	1.6	0.8	0.4	0.2	6.745491
31042304	500	10.25	1.5	0.75	1	0.25	0	5.213462
31042401	280	20.5	0.5	1.25	2.75	0.75	0	13.02288
31042402	280	14.75	1.5	2	2	0.5	0	10.01558
31042403	280	17.25	0.75	1.75	1	0	0	4.541744
31042404	280	8.75	1.75	0.25	1.5	0	0.25	6.842531
31042503	280	8.75	5.5	2.75	1	0	0.25	7.086677
31042701	260	5.75	0.5	0.25	0	0	0	0.332262
31042801	260	15.6	5	1	2.4	0.6	0.8	15.32609
31042802	260	13	6.25	2	0.75	0	0.25	6.290435
31042803	260	13.5	9.25	1.5	0.5	0	0	5.356593
31043301	260	11	7.75	2.25	0.75	0	0	5.944502
31043401	260	7.25	2	2.25	1.5	1	0	10.1289
31043402	260	3.25	1.5	0.75	0	0	0	0.765453
31043403	260	7.25	3	3.25	2	1	0	12.4945
31043404	260	5	3.25	1.5	1.25	0	0	5.917546
31043405	260	10	2.5	1.75	1.25	0.5	0	7.574935
31043406	260	5.4	3.8	3	1.6	0.2	0.2	9.172044
31043407	310	5.75	2.25	1.5	2.75	0.75	0	13.41182
31043408	260	4.75	1	0	0	0	0	0.394822
31043409	260	3.5	1	1	2	0.5	0	9.355186
31043410	260	7.25	0.5	0.5	2.5	0.5	0.25	11.70022
31043411	260	11	1.666667	0	0.666667	1	0	6.485442
31043412	260	2.4	0.6	1.2	0.8	0	0.4	4.768106
31043413	260	6.25	1.75	0.5	1	0.25	0	5.147367
31043414	260	12.5	1	0	0	0	0	0.522882
31043501	280	11	0	0.2	0	0	0.4	1.631379
32030301	310	3.75	1	0.5	2	0.75	0	10.06762
32030302	920	0.5	1	0.25	0.25	0	0	1.270147
32030303	920	9.75	1	0.75	1.75	0	0	6.779971
32030304	260	11.25	0.25	0	0	0.25	0	1.131445
32030401	590	7.5	3.25	2.25	3	0.25	0.25	13.99432
32030402	310	2	1	0.5	II	0.25	0.25	5.706359
32030403	590	4	0.5	0	0.5	0.5	0	3.690136
32030404	590	9.5	0.25	0.5	1	0.5	0	5.593038

32030405	170	0.5	0	0.25	2	0	0	7.019094
32030406	310	2.25	0.75	0	1.25	1.5	0	9.805583
32030407	920	0.833333	0.666667	1.833333	1.166667	0	0	4.848123
32030408	590	12	2.25	0.75	0.5	0.75	0.25	6.346098
32030501	515	4.166667	3.333333	1.666667	2.333333	0.333333	0	10.89285
32030502	590	2	0.25	0.75	2.5	1	0	12.47168
32030503	310	0.6	0	0.2	0.2	0	0	0.766356
32030504	590	7	1.166667	2.5	2.166667	2.166667	0.166667	16.87199
32030601	590	6	0.666667	0.5	1.833333	0	0	6.822302
32030602	310	0	0	0	0	0	0	0
32030603	590	6.75	0.75	0.5	0	0.5	0	2.23989
32030604	515	0.75	1	0.75	2.25	0.25	0	9.230662
32030605	515	1.25	0.5	0.75	0.75	0	0	3.015477
32030606	590	17.5	1.25	0.75	1.75	0.25	0	7.853583
32030607	515	6	1.5	1.5	1.75	0.5	0	8.84636
32030608	590	4.5	0.25	0	1	0	0	3.619315
32030609	590	3	0	0.5	0.75	0.75	0	5.40655
32030610	590	1.833333	0.666667	0.833333	2.833333	0.833333	0.166667	13.79065
32030611	590	22.33333	2.333333	1.666667	1.333333	0	0	6.255532
32030701	590	10.25	1.5	0.75	1.5	0.5	0	7.812868
32030702	500	0	0.25	0	1	0	0.5	5.277895
32030703	590	13	1	1.25	1.75	1.25	0.25	12.19065
32030704	310	4.5	1.5	1	0.5	0	0	2.598128
32030705	590	5.25	0.5	0	1	0.25	0	4.57726
32030706	590	1.333333	0.666667	0.166667	1.5	0	0	5.484454
32030707	590	2.333333	0.833333	0.666667	1.333333	0	0	5.134221
32030801	500	0.5	0.25	0.25	0.25	0.5	0	2.765834
32030802	500	21.25	2.5	1.75	1	1	0	8.627297
32030901	920	2.75	0.75	0.75	1.5	0	0	5.718752
32030902	310	7.25	2	0.75	1.5	0.25	0	7.054995
32030903	920	1.25	0.5	1	1.5	0	0	5.693966
32030904	170	0.25	0.5	0.5	1.25	0.5	0	6.385744
32030906	310	4.25	1	1	2.75	0.25	0	11.10052
32030907	920	1.166667	0.333333	1.666667	0.166667	0	0	1.22959
32031001	170	2.5	0	0.5	0.25	0.25	0	1.932413
32031002	310	1	1.25	0.5	1.5	0.25	0	6.635387
32031003	170	3	0.5	0.25	0.75	0	0	2.886227
32031004	920	0	0	0	0	0	0	0

32031005	520	8.4	1.8	1.2	0.6	0.2	0.8	6.633199
32031006	520	4.5	0.25	0	1	0	0	3.619315
32031501	310	1	0.75	1.5	2	0.25	0	8.526491
32031502	590	8.75	2	1.5	2.75	2.5	0	19.44759
32031503	310	4	0.25	0.5	0.75	0.5	0	4.635688
32031504	590	10	1.75	1.25	2.75	0.75	0	13.2448
32031505	310	4.5	2.75	2.25	3.5	1.5	0	18.9854
32031507	170	2.25	0.5	0	0	0.25	0	1.061814
32031508	310	2.5	1.333333	1	1.666667	0.5	0	8.288815
32031509	310	1.333333	0.166667	0.166667	0.333333	0.166667	0	1.860413
32031701	500	4.5	5.25	2.25	1.75	1	0	11.97801
32031702	500	11.25	5	2	1.5	1.75	0	13.66432
32031801	500	20	3	2	1.5	0.5	0.75	11.4433
32031802	500	6.75	0.25	0.25	0	0	0	0.269703
32031803	500	0.714286	0.285714	0.142857	0	0	0.285714	1.137624
32031804	500	11.25	2.75	21.25	0.75	1	0	13.84317
32031805	520	25	3	3.5	2.25	1.25	0	14.59982
32031806	260	5.5	3	1	0	0	0	1.356215
32031808	500	3.25	0.5	0.25	0.5	0.75	0	4.623295
32031901	515	5.25	2.75	1.5	1.25	0	0.5	7.496447
32031902	515	1.833333	3	2	1.666667	0	1.166667	11.43194
32031903	500	1	0.5	0.75	3	0	1.25	15.14191
32031904	500	11.4	6	3.4	1.8	0.8	0.2	12.86635
32032101	590	8.25	3.5	1.25	1.75	0.5	0	9.437122
32032102	500	1.25	0.75	0.25	1.5	0	0	5.5358
32032103	500	12.75	4.75	1	1.25	0	0.5	8.094876
32032104	500	3.75	2	0.75	1	0	0	4.397755
32032201	500	0.25	1.5	1.25	1.25	0	0	5.20639
32032202	505	11.5	7.25	2.75	3.75	0.75	0.5	20.68273
32032203	520	25	3	3.5	2.25	1.25	0	14.59982
32032204	260	11	2	1.25	1.75	1	0	10.741
32032601	260	7.5	0.25	0.5	0	0.5	0	2.094116
32032602	520	25	3.75	2.5	1.5	0	0.5	9.321929
32032603	500	25	6.25	2.5	1.5	0	0.5	10.11276
32032604	260	5	0.25	0.5	0	0.5	0	2.052806
32032605	500	11.75	0.5	0.75	0.25	0.25	0	2.322509
32032701	520	4	1.25	2.5	0.25	0	0.25	2.985283
32032702	515	23.25	4.25	1.25	1	0	0.25	6.456356

32032703	515	17	2.75	1	1.25	0	0.25	6.665967
32032801	515	8.5	1.75	2	1.75	2.5	0	16.05667
32032802	500	9.25	5.5	5.5	8.75	2	0	40.89066
32032803	500	3	4	1.5	1.25	0.25	0	6.988216
3203290 I	260	4	2.75	4.5	1.25	0	0	6.691855
32032902	515	13.5	2.5	2.75	1.5	0.5	0	8.815571
32032903	515	13.25	3	1	1	0.25	0.5	7.549555
32032904	260	0.333333	0.166667	0	0	0	0	0.05823
32033001	500	1	0.5	0.25	0.25	0.25	0	1.986711
32033002	590	.	1.25	[illegible]	[illegible]	[illegible]	0	13.13739
32033003	590	0.5	0.5	1.75	0.5	0.5	0.25	2.844918
32033004	310	3	0.833333	0.333333	0.75	0.25	0.666667	6.195084
32033005	260	3	0.5	0.25			0.25	4.619164
32033006	590	21.83333	0.666667	0.166667	1.833333	0	0	6.978485
32033007	500	2.5	0.25	0.75	2.5	0	0.75	11.62173
32033103	520	14.75	4.5	2.5	2.75	0	0	11.70593
32033105	520	4.5	0.25	0	1	0	0	3.619315
32033106	590	5.5	0.25	0.25	0	0	0	0.249048
32033107	500	4.75	1	0.25	1.5	0	0	5.672716
32033110	520	25	3	3.5	2.25	1.25	0	14.59982
32033201	260	8	2.5	1.25	0.75	0	0.25	4.784315
32033202	260	12.5	4.5	1.5	1.25	0	0.25	7.30336
32033203	515	18.25	5	2	0.25	0	0.75	5.981768
32033204	505	4	0.5	0.75	0.25	0	0.25	2.194449
32033205	310	0	0.5	0.25	0	0	0	0.23725
32033206	310	2	2	1.75	0.5	0.25	0.25	4.685172
32033207	506	11.25	3.25	0.25	2	0	0.25	9.091277
32033208	310	0.75	1	0.75	0	0	0.25	1.432445
32033210	515	8	5.25	1.25	1.75	0.25	0	9.120106
32033211	590	12.5	4	3.75	0.75	0	0	5.257537
32033301	515	12.25	3	2.25	0.5	0.25	0.25	5.329042
32033302	260	8.75	1.75	0.25	1.5	0	0.25	6.842531
32033303	210	0.5	0.25	0	0	0	0	0.087345
32033304	260	4.5	2.75	0.5	0.25	0	0.25	2.835378
32033401	310	0	1	0	0	0	0	0.316333
32033402	506	13	5	1.25	0.5	0	0	3.924831
32033403	515	5.75	3	1.5	1	0	0.5	6.717324
32033404	310	2.5	1.5	0.5	0.75	0.25	0.25	5.006319

32033501	506	2.5	3	1.25	1.75	0	0.75	10.05041
32033502	200	0.75	5	2.75	0.5	0.25	0.25	6.062041
32040101	590	15.5	0.5	1.333333	1.166667	0.5	0	6.612522
32040102	310	1.25	0.25	0.25	0	0	0	0.178822
32040103	515	7.8	1	1.6	2.2	0.2	0	9.269451
32040104	590	1.5	0	0.5	1.75	0.25	0	7.114701
32040105	310	0	0.75	0.75	2.5	0.5	0	10.87212
32040106	500	0	1.25	0.5	0.75	0.25	0	4.019458
32040107	590	8.25	1.5	1.25	2	0.75	0	10.53739
32040108	515	3.75	1.5	1	1	0.75	0	6.918078
32040109	590	8.5	1	0.75	3.25	0.5	0	13.69106
32040110	590	4.75	0.5	0.75	0.75	0.5	0	4.806248
32040112	515	2.6	1	0.6	1.8	0.4	0.2	8.867194
32040113	500	2.5	1	1	3.25	0	0	11.93807
32040114	310	14.75	1.5	2	2	0.5	0	10.01558
32040115	500	4.5	1	2	1.25	1	0	8.821575
32040201	280	2.75	0.75	0	1	0.25	0	4.615033
32040202	310	0.75	0.25	0.25	0.25	0.25	0	1.903497
32040203	260	3.75	1.25	0.25	0	0	0	0.536465
32040204	130	3.70	0	0	0	0	0	0
32040205	310	[illegible]	[illegible]	0	0	0	0	0.061965
32040206	310	3.5	0.5	0.25	1.25	0	0	4.627426
32040207	310	1	0.25	0.5	0.25	0	0	1.120242
32040208	310	12.25	0	0	0	0.5	0	1.935355
32040209	81	0.25	0	0.25	0	0.75	0	2.68262
32040210	590	4.75	0.75	0.25	2.25	1	0	11.65891
32040211	310	2.25	0.25	0.5	0	0.25	0	1.140897
32040212	515	10.5	2.25	0	1	0.5	0	6.084062
32040213	505	0.5	0.5	0.25	0.75	0	0	2.844918
32040214	590	5	0.6	0.4	0.2	1.6	0	6.637526
32040216	515	4.25	0.75	1.25	1	0.75	0	6.768173
32040217	310	2.75	0.25	0.25	0	0.25	0	1.070076
32040218	500	1.666667	0.5	0.666667	0.5	1	0	5.595407
32040219	500	1.5	0	1	0.75	0	0	2.940525
32040220	310	0	0	0	0	0	0	0
32040222	590	10.75	1	1.5	0.75	0	0	3.567871
32040223	500	4.25	1	0.75	2.75	1	0.25	14.48731
32040224	280	4.5	1.5	0.5	0.25	0.25	0	2.439961

32040225	310	5	3.5	0.5	0.25	1	0	5.680296
32040226	590	5.5	1.5	0.5	1.25	0.5	0	6.788828
32040301	310	17.25	0.75	1.75	1	0	0	4.541744
t 32040302	310	9.25	1	0	0.5	0	0	2.202116
32040304	310	1	0	0	0	0	0	0.016524
32040305	515	20	1	0.75	0.25	0.25	0	2.616998
32040306	310	0.5	0	0	1	0.75	0	6.073542
32040307	590	15.5	2	0.25	1.75	1	0	10.49902
32040308	310	4.25	0.5	0	1	0.25	0	4.560736
32040309	310	0.5	0.5	0	0.25	0	0	1.032897
32040310	310	17.75	2.25	0.5	0.5	0.25	0	3.762621
32040311	260	11.75	1	0.5	1.25	0.25	0.25	6.733935
32040312	310	0	0	0	0	0	0	0
32040313	310	3.75	0.5	0	0	0	0	0.220131
32040314	310	21.5	2.25	1.25	1.5	0.5	0	8.394178
32040315	81	0	0	0	0	0	0	0
32040316	81	0	0	0	0	0	0	0
32040317	81	0.25	0	0	0	0	0	0.004131
32040402	260	7	1	0.75	0.5	0.5	0.25	5.001593
32040403	260	3	1.75	1.25	1.5	0.75	0	8.796789
32040404	260	16.75	1	0.5	0.75	0.25	0	4.217149
32040405	260	0.75	0.25	0	0.75	0.75	0	5.290288
32040406	260	15.75	1.5	1	3.25	0.25	0	13.18164
32040801	310	19	1.75	2	0	0.5	0	3.233141
32040803	310	7	2.25	0.5	1.25	0.5	0	7.050864
32040804	340	14.75	2.25	1.75	1.75	0.75	0	10.17375
32040805	260	3.75	0.75	0.25	0	0.25	0	1.244766
32040806	260	11.25	0.25	0	0	0.25	0	1.131445
32040808	260	13.25	5	1.5	0.25	0	0	3.141576
32040809	520	12	3	1	2.25	1	0	12.72771
32040902	260	11	2	1.25	1.75	1	0	10.741
32040903	260	2.5	2.25	0.75	0.25	0.5	0	3.589715
32040904	260	8.75	1.5	0.25	0.75	1.25	0	7.501856
32040905	310		1.5	0.25	0.75	0	0	3.297573
32040906	310	11.25	2.5	1.5	0.75	0.75	0	6.650038
32040907	310	2.25	1.75	0.75	1.75	0.25	0	7.759761
32040908	590	1.75	1	0	0.5	0.75	0	4.677593
32040909	520	5.75	1.25	0	1	1.5	0	9.155115

32040910	340	16.251	2	0.75	0.5	0.25	0	3.737835
32040911	310	1.251	0.5	0.251	0.5	0	0	1.990842
32040912	515	9.25	1.25	2.5	2	0.5	0.5	11.73672
32040913	310	1.5	0.25	1.25	1.25	0.75	0	7.431034
32040914	340	6	0	0	0.25	0	0	0.965612
32040915	310	9.5	0.75	0.75	0	0.25	0	1.497945
32040916	81	0	0.25	0	0	0	0	0.079083
32040917	310	3	1.75	0.75	1.5	0.5	1	11.23803
32040918	81	0	0	0	0	0	0	0
32040919	81	1	0	0	0	0	0.25	0.882992
32040920	500	5.75	0	1.5	0.75	0.75	0	5.768324
32040921	81	0.25	0.5	0.25	0	0	0	0.241381
32040922	340	1.25	1	0.5	0	0.25	0	1.361623
32040923	590	4	2.5	1.5	2	0.75	0	10.86258
32040924	81	0.25	0	0	0	0	0	0.004131
32040925	590	10.25	1.25	1.25	2.25	2	0	15.69017
32040926	500	6.5	1.25	0.5	0.25	0	0	1.527457
32040927	505	2.75	1.25	1	3	1	0	14.62069
32040928	310	1	0	0.25	1.5	0	0	5.294419
32041001	310	2.5	0.5	0.5	0.5	6.333333	0	3.245872
32041002	590	3.75	1.75	1	0.25	0	0	1.79835
32041003	500	6.25	0.5	2	1.75	1	0	10.42526
32041004	520	16.75	4.5	1.5	2.75	0	0	11.70593
32041005	520	10.25	1.5	0.75	1	0.25	0	5.213462
32041006	520	25	3	3.5	2.25	1.25	0	14.59982
32041007	520	16.75	7.25	2	1	0	0.75	9.280531
32041101	500	4.5	1.25	0.5	0.5	0.5	0	4.093815
32041102	590	0.6	0	0	0	0.2	0	0.703089
32041103	590	0.25	0.75	0	0.75	0	0	2.840787
32041104	590	7.5	0.5	0.5	1.2	0.5	0	8.238479
32041202	590	245.6	2.4	1.2		0.2	1	9.595699
32041203	500	4.6	0.2	2.2	2.2	0.2	0.8	11.92601
32041204	515	10	4.666667	1.333333	1.5	0.166667	1	11.30557
32041205	500	5.5	3.666667	1.833333	1.333333	1	0.166667	10.4954
32041206	500	1	1.5	1	2.75	1.25	0.25	15.53732
32041301	200	2.5	1.75	1.5	2	0.25	0	8.86761
32041302	520	1.4	1	0	1.2	0	0	4.498516
32041303	500	1.25	0.75	1.25	1.75	0.25	0	7.58507

32041304	515	5.5	3.5	0.75	2.25	1	0	12.69939
32041401	520	5.5	2.5	2	3.5	0.5	0	15.37788
32041402	590	14	1.75	2	2.25	0.25	0.75	12.68168
32041403	590	8.75	3	3.5	3	0	0	12.59837
32041404	515	10	4	2.25	3.25	1	0	16.87229
32041405	515	5.25	2	3	2	0.5	0	10.3331
32041408	500	16.25	1.5	1.75	0.75	1.25	0	8.228345
32041409	100	1.25	0	0.5	0.5	0	0	1.911759
32041410	280	1.2	1.4	0.2	0.6	0	0	2.605487
32041411	500	0	0.2	2	2.6	1	0	13.17308
32041412	520	5	0	0.5	2.5	0	0	8.905472
32041413	520	5.25	2.25	1.5	1.75	0.25	1.5	13.40356
32041414	590	7.75	2	2.5	0.5	0.5	0	5.017434
32041415	400	7.25	1.25	2	0.5	0	0	2.880819
32041416	520	6	0	1	1.25	2.25	0	12.54604
32041417	400	11	3	1.5	0.5	0	0	3.3382
32041418	590	9.5	1.25	2.25	6	1	0	25.52526
32041419	590	4.5	1.25	1.25	2.25	0.25	0	9.529876
32041420	590	8.25	1	1.25	1	0	0	4.313946
32041421	590	15.5	3.25	1.25	0.75	2	0	11.21077
32041501	590	7.5	1.75	0.75	1.25	0.25	0	6.113574
32041502	500	0.25	0	0	1.5	0.25	0	6.069411
32041503	515	11	1.25	0.5	1.25	0	0.5	6.800626
32041504	590	25.75	2	1.5	1.75	0.25	0	8.464405
32041505	590	6.75	1	1.5	3	0	0	11.29999
32041506	310	1.25	1.5	1.5	0.25	1	0	5.301998
32041507	515	1.25	0.75	1	1.25	0.25	0	5.77305
32041508	310	2.5	1.25	0.5	0	1	0	4.060767
32041509	590	10.25	0.75	0.25	1.25	1	0	8.28392
32041510	590	1.5	0.25	1	3.5	0.5	0	14.2837
32041702	260	7	2.5	1.25	0.5	0.25	0	3.901323
32041704	590	12.75	4	0.25	1.75	1.5	0	12.81919
32041901	260	5.75	1.25	0.5	0.75	0.25	0	4.11447
32041902	260	12.25	3	1.25	0.75	0	0.5	5.879177
32042001	506	14.5	6.75	3.5	0.5	0.25	0	6.081418
32042002	500	17.5	7.25	2	1	0	0.75	9.280531
32042003	260	15.5	3	1.25	0.25	0.25	0.5	5.066411
32042004	500	19	6.2	2.8	2.4	0.8	0.2	14.94493

32042005	260	17.75	6.5	0.75	0.75	0	0	5.186121
32042006	260	2	1	0.5	0.25	0	0	1.374016
32042007	520	11.2	3.8	1.6	0.8	0.4	0.2	6.745491
32042008	260	25	3	3.5	2.25	1.25	0	14.59982
32042009	590	14.5	4.75	3.75	1.25	0.25	2	15.05899
32042010	520	4.25	1.25	1.25	1	0	0.25	5.193403
32042011	260	12.75	3.5	2.25	1	0.25	0	6.361939
32042012	260	5.5	2	1.5	1	0	0.5	6.396859
32042013	260	14.5	4.5	0.5	0	0.25	0	2.687731
32042014	260	11.75	7.5	1.25	0.5	0.25	0	5.561478
32042101	515	8.25	3.25	2	4	1	0	19.12644
32042102	590	5.5	0.25	0.25	0	0	0	0.249048
32042103	520	10.25	1.5	0.75	0	0.25	0	5.213462
32042201	515	1.5	2	0.75	0.75	0	0.25	4.360577
32042202	515	2.25	1	0.75	0.75	0.25	0.5	5.789573
32042203	505	1	0.5	0.5	0.5	0	0.25	2.932263
32042205	515	9.666667	3	0	1.333333	0.333333	1.333333	11.50635
32042301	515	1.5	0.833333	0.666667	0.833333	0.5	0.166667	5.698097
32042302	500	1.6	0.4	0.6	1	0	0.4	5.194996
32042303	515	7.5	1.75	1	1.25	0	0.25	6.192657
32042304	515	10.25	3.75	1.5	0.5	0.25	0.25	5.295994
32042305	515	5	2.5	1.75	1.5	0	0.25	7.492316
32042401	660	13.75	4	0.75	1.5	0.75	0	9.528004
32042402	500	6	2.25	0.5	0.25	0	0.25	2.701997
32042403	500	4.666667	1.333333	1.5	1.5	0.666667	0.5	10.21572
32042404	310	0.5	0.25	0.75	0.5	0	0.5	3.79047
32042405	500	5.666667	2.833333	0.166667	0.166667	0	0	1.620281
32042406	515	14	2.5	3.25	0.25	0	0	2.916719
32042502	515	9.2	2.2	1	0.6	0.4	0.4	6.01651
32042503	590	15.75	5.25	2.25	0.5	0.25	0	5.232157
32042504	200	3.75	2.75	0.25	0	0	0.25	1.377433
32042505	515	10.75	2.75	1	1	0	0	4.829756
32042506	515	11.75	2.75	2	0.75	0	0	4.296144
32042507	200	4.2	2.8	1.2	0.8	0.6	0.2	6.880132
32042508	200	6	2.25	0.5	0.25	0	0.25	2.701997
32042509	590	14	9	1	0	0	0	3.394667
32042510	500	6.25	5.25	1.75	0.25	0	0.25	4.050545
32042511	200	4.4	2	0.8	0.2	0	0.2	2.344788

32042512	515	7.75	2.5	1.75	0.5	0	0.25	4.071882
32042513	200	1.25	I.75	0.5	0	0	0	0.732405
32042514	515	16.75	4.5	1.51	2.75	0	0	11.70593
32042601	515	261.5	1.5	1.833333	0.833333	0	1	7.460873
32042602	515	10	0.5	0	0	0	0	0.323405
32042603	506	22.2	4.4	1.8	1.2	0	0.4	7.873495
32042604	260	1.25	1.25	0	0	0	0	0.416072
32042605	515	6.5	1.25	1.5	0.25	0	0	1.84379
32042701	310	4	0.8	0.6	0.2	0	0.4	2.588487
32042702	260	17.25	3.75	1	0.75	0.25	0.25	6.119963
32042703	260	3.5	2.25	1.25	1.25	0	0	5.497343
32042704	515	17.75	3.75	1.75	2.5	0	1.25	15.03016
32042801	500	10.6	1.6	1.4	0.4	0.2	0.2	3.896852
32042802	590	17.5	6.75	2	1.75	1.25	0.5	15.18764
32042803	590	28.5	7.75	3.5	4	0	0	17.89318
32042804	500	4	2.333333	0.666667	1.333333	0.5	0	7.369198
32042805	590	16.8	5	1.6	1.6	0.4	0.4	10.6835
32042806	506	4	1.5	1	1.666667	0.166667	0	7.211032
32042807	500	20.75	7.25	1.75	2.75	0.25	0.25	14.45396
32042901	506	5	2	0.4	0.8	0.4	0.2	5.694043
32042902	506	5.75	2	2.5	0.25	0	0.5	4.117918
32042903	590	IO	4.75	2.25	3.25	0.25	0.5	16.24307
32042904	506	10.33333	2.666667	1.833333	0.5	0.166667	0.5	5.637767
32043001	506	11.75	3.333333	1.333333	1.166667	0	0.333333	6.804471
32043002	506	6.666667	2	1	1.166667	0	0.166667	5.680325
32043003	260	8.25	2.75	0.25	0.5	0	0	2.818259
32043004	260	8.5	2.25	1	0	0.25	0.25	2.901473
32043005	280	16.5	3.5	1.5	0.25	0.25	0	3.587248
32043006	280	9.25	II	0.25	0	0.25	0	1.414731
32043007	260	8.25	2.25	0	0	0	0	0.848072
32043101	280	16	4.5	2.25	0.5	2.25	0	11.93079
32043201	515	19.5	6.75	2.75	5.25	0.5	1.25	27.5885
32043202	520	3.61	0	0.5	1.5	0.25	0.25	8.533475
32043203	500				0.25	0	0	1.0824691
32043204	515	14.75	I	2.5	0.5	1.25	0	7.416174
32043301	660	3	1.2	1	2.6	1.2	0	13.91583
32043302	660	8.25	3.25	2	4	1	0	19.12644
32043303	660	5	2	1.25	2	0	1	11.50833

32043304	590	12	5.333333	2	2.666667	0	0.5	13.49333
32043305	500	50.5	7.25	2	2	0.5	0.25	13.29169
32043306	590	17	7	3	2	0	0.75	12.97539
32043307	500	6.6	3.8	0.8	2.2	0	0.8	11.96181
32043308	500	1.8	2.8	2	2	0	0.4	9.866241
32043401	515	3.25	4	1	0.25	0.5	0	4.234775
32043402	310	1.75	0.5	0.75	0.25	0	0	1.290802
32043403	515	21.75	4.5	2.5	0.75	0	0	5.173133
32043404	590	6.5	4.5	3	0.25	0	1	6.812248
32043501	515	4.75	1	1.25	2.25	0	0.75	11.18786
32043502	590	15.75	2.5	1	0.75	2	1	14.36445
32043601	500	4.25	0.25	1	1.5	0	0.5	7.397392
32043603	590	4.25	0.25	1	1.5	0	0.5	7.397392
33033101	590	2.5	2	1.75	4	0.75	0	17.69046
33033102	590	13.5	1	1	1.25	0.75	0	7.787487
33033103	310	1	0.5	0.5	0	0	0	0.332857
33033104	500	0	0		0	0	0	0
33033105	920	21.5	4.25	2.70	5	0.5	0	21.63191
33033106	590	4.4	2	0.4	0.8	0	0	3.604604
33033107	310	0.25	0	0	0	0.25	0	0.8706
33033108	520	15	4	1.5	2	0.5	0	10.65238
33033109	590	3.75	1	0.5	0.75	0.25	0	4.002339
33033111	310	2	0	0	1	0	0	3.498922
33033112	590	11	1.166667	0.833333	0.666667	0	0	3.125012
33033113	590	14.83333	1	0.833333	1.166667	0.333333	0	6.02386
33033201	590	18.75	2.5	1.25	3.5	0.25	0	14.4931
33033202	590	13.25	2.75	1.75	2.25	0.25	0	10.30713
33033203	520	9.6	0.8	2	1.8	0.8	0	10.05564
33033204	590	2.5	1.25	1.5	2	2.5	0	16.50766
33033205	590	1.25	0.75	0	1.25	0	0.25	5.456716
33033206	590	16.5	0.833333	1.333333	1	1.166667	0	8.467427
33033207	310	3.25	1	1.75	0.25	0.5	0	3.523025
33033208	81	0	0	0	0	0	0	0
33042101	260	10.4	1.8	0.8	0.8	0	0.2	4.460189
33042102	260	8.4	2	2	2.2	0	0.8	11.80176
33042103	260	7.25	3	0.5	1	0	0.5	6.425776
33042104	260	10.25	2.75	1.75	1.75	0	0.75	10.25756
33042105	506	9.25	2.5	0.5	1	0	0.25	5.434189

33042106	260	8	I	0.5	I.25	0	0	4.939034
33042107	506	II.25	6	2.75	2	0.25	I	14.2179
33042108	505	15.5	5	I.75	0.75	0	1	8.45665
33042109	260	6.6	I.4	0.6	0.6	0	0.8	5.593948
33042110	260	27.75	6	0.25	0.25	0	0	3.302089
33042111	260	I7	4.5	7.25	0.25	0	0	4.864291
33042112	260	7.5	2.5	0.5	0	0	0.251	1.9393981
33042201	515	16.5	5.25	2	0.75	0.25	0.5	7.764872
33042202	500	17.5	7.25	2	1	0	0.75	9.280531
33042601	500	4.25	2	0.5	0	0	0	0.86106
33042602	3101	3.75	0.75	0.25	0	0.25	0	1.244766
33042603	590	8.25	0.5	0	0.75	0.5	0	4.626831
33042604	590	29.25	4	1.75	0.5	0.25	0	4.901645
33042605	590	4.75	0.25	0.75	0.5	0.5	0	3.860696
33042606	520	1.5	1	0.25	0.5	0	0	2.15314
33042607	590	7.5	1.5	1.25	1	0.5	0	6.192657
33042703	506	3.5	1.25	1.25	0.25	0	0.25	2.581604
33042704	506	4	1.25	0.75	1	0.5	0	5.897574
33042705	590	19.25	6.25	2.25	3	0.25	1	17.73688
33042706	590	1.25	0	1.5	0	0	0.25	1.361623
33042707	590	16.75	4.5	1.5	2.75	0	0	11.70593
33042708	515	2.75	1.25	1	0.75	0	0	3.356596
33043401	590	15.5	5.5	2.5	2.75	0	0.25	13.18441
33043402	515	2	1	0.5	0.25	0	0	1.374016
33043403	515	15.5	5.5	2.5	2.75	0	0.25	13.18441
33043404	260	13.5	6.5	2.5	2.75	0	0.25	13.18441
33043501	590	19.5	4	I	3	0	0	12.3015
33043502	590	3	0.75	I.25	I	0	0	4.148113
33043503	590	17.75	1	0.5	I.5	0.25	0	6.833079
33043504	500	4.75	1	0.25	I.5	0	0	5.672716
33043505	100	0.25	0	0.25	0	0.25	0	0.949683
33043506	310	II.25	0.25	0	0	0.25	0	1.131445
33043507	310	2	0	0	0.5	0	0	I.765985
33043508	590	5.75	1	0.5	1.25	0.75	0	7.501261
33043509	590	1.5	0.75	0.75	0.25	0	0	1.365754
33043510	590	18.5	0.5	0.75	0.5	0	0	2.434045
33043511	590	10.25	1.5	0.75	1	0.25	0	5.213462
33043512	590	5.5	0.25	0.25	0	0	0	0.249048

33043513	500	0.5	0	0	2.25	1.25	0	12.13882
33043601	520	15.25	5.25	0.75	1.5	0.25	0	8.215269
33043602	590	4	1.25	0.75	1	0.5	0	5.897574
33043603	590	2.75	0.5	1	0.25	0.25	0	2.252878
33043604	590	20.5	0.5	1.25	2.75	0.75	0	13.02288
33043605	590	3.5	2.25	0.25	0.75	0.75	0	6.047478
33043606	590	0.75	0.5	1.25	0.25	0.25	0	2.298913
33043607	520	28	1.25	0.25	1	0.75	0	7.002448
33043611	520	4.5	1.5	1.25	1.25	0.5	0	7.009554

APPENDIX G:
PLANT AND WILDLIFE SPECIES CITED IN REPORT

Plant Species	Common
Pinus ponderosa Dougl.	Ponderosa pine
Pseudotsuga menziesii var. glauca Franco	Douglas fir
Pinus contorta var. latifolia Engelm.	Lodgepole pine
Abies grandis Lindl.	Grand fir
Abies lasiocarpa Nutt.	Subalpine fir
Larix occidentalis Nutt.	Western larch
Picea engelmannii Parry ex Engelm.	Engehnann spruce
Alnus rubra Bong.	Red alder
Populus trichocarpa T. & G. ex Hook	Black cottonwood
Taxus brevifolia Nutt.	Pacific yew
Spirea betulifolia var. lucida Hitchc.	White spirea
Physocarpus malvaceus Kuntze	Ninebark
Vaccinium globulare Rydb.	Blue huckleberry
Symphoricarpos albus Blake	Snowberry
Clintonia uniflora Kunth.	Queencup beadlily
Linnaea borealis L.	Twinflower
Agropyron spicatum Scribn. and Smith	Bluebunch wheatgrass
Festuca idahoensis Elmer	Idaho fescue
Arceuthobium douglasii	Douglas fir dwarf mistletoe
Arceuthobium campylopodum	Lodgepole pine dwarf mistletoe

Wildlife Species	Common Name
Salvelinus fontinalis	Brook trout
Oncorhynchus tshawytscha	Chinook salmon
Cervus canadensis	Elk
Odocoileus hemionus	Mule deer
Dendragapus obscurus	Blue grouse
Choristoneura occidentalis Freeman	Western spruce budworm
Orgyia pseudotsugata McDonald	Douglas fir tussock moth
Dendroctonus ponderosae Hopkins	Mountain pine beetle
Dendroctonus brevicomis Lec.	Western pine beetle
Adelges cooleyi Gill	Cooley spruce gall adelgid

APPENDIX H:
DEFINITIONS & TERMS

Basal Area	The cross-sectional area of a tree trunk measured at DBH above the ground; summed for all trees on a given stand or type and expressed on a per-acre basis.
Canopy	The umbrella of branches and foliage created from coniferous (and deciduous) trees, usually measured at a minimum height of 40 feet.
Climax Community	The culminating stage in plant (forest) succession for a given habitat, that develops and perpetuates itself in the absence of disturbance, natural or otherwise.
Community (plant)	An assemblage of plants occurring in a defined area but &noting no particular ecological status or successional stage.
DBH	Diameter of a tree measured on the upslope side of the tree, 4.5 feet off normal ground level.
Ecosystem	Any community of organisms and its environment that forms an interacting system; size and boundaries of the system are arbitrary.
Ecotone	The boundary or transition zone between adjacent plant communities; it often separates diierent habitat types.
Endemic	Confined to a particular geographic area.
Forb	An herbaceous plant that is not a graminoid.
Forest	A coniferous forest comprised of tree species indigenous to the Inland Northwestern United States. For this report, deciduous trees are excluded from this term unless specifically mentioned:

Graminoid	All grasses and grass-like plants, including sedges and rushes.
Habitat type	All land areas potentially capable of production similar plant communities (associations) at climax.
High grade (cut)	A form of selective cutting. Usually refers to a logging entry that removes the most valuable trees and leaves those trees of lesser value and/or size.
Indicator plant	A plant whose presence or coverage is indicative of certain environmental conditions. Habitat type classifications employ plants with relatively narrow ecological amplitudes to denote the presence of a given series, habitat type, or phase.
MBF	1,000 board feet
Oldgrowth Stand	A forest stand that is at or past physiological and biological maturity and exhibits some decadence; not necessarily the last or climax stage in forest succession, but represents a composition of larger diameter and older trees (minimum of approximately 150 years old for stand origin) in a Q-distribution. Species composition could be derived from an earlier seral stage of pioneer species.
Phase	A subdivision of a habitat type representing minor differences in climax or mature vegetation that may reflect environmental differences or floristic and/or historic peculiarities within the habitat type.
Riparian	Vegetation bordering water courses, lakes, swamps, and marshes.
Sanitation (cut)	A form of selective thinning where diseased, damaged, downed, decayed, or dying trees are removed, leaving the residual vigorous trees on site.
Scarification	Site disturbance where bare mineral soil is intentionally exposed in preparation direct seeding or seedling planting.
Seral	A species or community that is replaced to some degree by another 'species or community as succession occurs.

Series	A group of habitat types having the same potential climax tree species.
Site index	An indicator of forest productivity ‘as referenced by the height attained by a given tree species at a designated age (100 years for this -report).
Stand	A plant community that is relatively uniform in composition (understory and canopy species), structure (diameter or age distribution), and habitat conditions.
Stocking	A general term for the number of trees or basal area per acre relative to some desirable number or basal area for best growth and management.
Succession	A term for changes in the plant community of a given area relative to some previous state, usually changes towards some hypothetical dynamic equilibrium point or climax condition.
Synecology	The relationship of biotic communities and the interaction of the organisms which compose them.
Understory	In a forest stand, that portion of the trees below the overstory, including seedlings, saplings, and suppressed trees.
Union	A vegetation layer consisting of one or more species having similar environmental amplitudes w&bin a limited geographic area. The presence of a union is indicative of particular environmental conditions.

APPENDIX I:
FOREST STAND CHARACTERISTICS SUMMARY

Column Coding	Description
STAND	Stand identification number
NUMACRES	Number of acres within the stand
LANDUSE	Land use identification code
PHOTO	Phototype by major conifer species, size class, and stocking
PHOTO2	Aerial photo number as per flight,lines used which cover the WMU
PRECIP	Average annual estimated precipitation in inches
ELEV	Average elevation for the stand
SLOPE	Average percent slope for the stand
ASPECT	Average aspect for the stand
HABITAT	Forest habitat type (Cooper et al.)

STAND	NUMACRES	LANDUSE	PHOTO	PHOTO2	PRECIP	ELEV	SLOPE	ASPECT	HABITAT
30040101	27	CF	DF31	4-10	19	3300	75	360	260
30040102	14	CF	DF21	4-10	19	3500	75	45	260
30040103	10	CF	DF21	4-10	19	3500	75	45	260
30040104	18	NC	DF21	4-10	19	3000	75	90	260
30040201	17	CF	DF31	4-10	21	4300	40	45	260
30040202	44	CF	DF32	4-10	21	4200	60	360	260
30040203	16	CF	DF32	4-10	21	4000	45	45	260
30040204	4	CF	PP31	4-10	21	4200	40	45	310
30040205	16	CF	DF41	4-10	21	4400	55	45	260
30040206	36	CF	DF31	4-10	21	4000	55	45	260
30040207	40	CF	PP31	4-10	21	3800	65	45	260
30040206	6	CF	DF31	4-10	21	3500	35	360	260
30040209	25	CF	DF32	14-10	211	3900	65	315	260
30040210	32	CF	DF32	4-10	21	3900	60	360	260
30040301	13	CF	PP32	3-12	21	3600	75	360	260
300403021	12	CF	PP31	3-12	21	3800	60	360	190
30040303	7	CF	PP31	3-12	21	4200	70	360	100
30040304	10	CF	PP31	3-12	21	3900	80	45	260
30040305	19	CF	PP31	3-12	21	4600	30	45	260
30041001	10	CF	DF31	3-10	20	3600	70	315	260
30041002	14	CF	DF31	3-10	201	38001	701	3151	260
30041003	7	CF	DF31	3-10	20	3900	70	360	260
30041004	52	CF	DF31	3-10	20	3800	701	360	260
30041005	10	CF	DF31	3-10	20	420			)
30041006	5	CF	DF31	3-10	20	4200	70	360	260 260
300411021	16	CF	DF31	4-a	21	4000	75	45	260
30041103	26	CF	DF31	4-8	21	3100	75	45	260
30041104	119	CF	DF31	4-8	21	31001	751	360	260
30041105	14	CF	DF31	4-8	21	3200	75	45	260
30041301	10	CF	OF30	4-7	21	2500	70	360	260
30041401	7	CF	OF31	4-7	21	3800	75	90	260
30041402	3	CF	DF31	4-7	21	3600	75	90	260
30041403	30	CF	DF32	4-7	21	3600	75	360	260
30041404	40	CF	DF32	4-7	21	3600	75	360	260
30041405	115	NC	DF32	4-7	21	2900	75	45	260
30041406	37	NC	DF31	4-7	21	3200	80	45	260
30041502	44	CF	DF32	3-9	20	3700	70	45	260
30041503	16	CF	DF32	3-9	20	4000	70	45	260
30042201	9	CF	DF32	3-8	19	4100	55	360	310
30042202	13	CF	DF32	3-8	19	4100	55	360	310
30042203	17	CF	DF22	3-8	19	4200	65	45	310
30042204	38	CF	DF32	3-8	19	4200	55	360	310
30042205	26	CF	DF32	3-8	19	3900	55	360	310
30042301	50	CF	DF32	4-7	21	3800	65	360	260
30042302	7	NC	DF31	4-7	21	3900	70	90	260
30042303	16	NC	DF32	4-7	21	3800	65	45	260
30042305	24	NC	DF31	4-7	21	3300	70	360	260
30042306	7	NC	DF32	4-7	21	3800	60	45	260
30042307	8	NC	DF31	4-7	21	3300	60	45	260
30042501	23	NC	DF31	4-5	21	2500	65	360	310
30042502	15	NC	DF31	4-5	21	2500	65	315	310
30042503	19	NC	DF31	4-5	21	2600	65	360	310
30042504	20	NC	DF31	4-5	21	2600	65	360	310
30042505	17	NC	DF31	4-5	21	2900	65	315	310
30042601	45	NC	DF31	4-5	21	3300	651	45	310
30042602	10	NC	DF31	4-5	21	3800	65	45	310
30042603	20	NC	DF31	4-5	21	3900	65	45	310
30042605	10	NC	DF31	4-5	21	4100	651	901	310
31030201	10	CF	DF20	792-182	23	3500	45	180	260
31030401	68	CF	DF32	792-152	23	3700	50	45	280
31030402	127	CF	DF22	792-152	23	3500	60	360	260
31030403	19	CF	DF11	792-152	23	3300	45	90	500
31030404	81	CF	DF32	792-152	23	3600	55	45	280
31030503	56	CF	GF22	792-121	23	4300	55	45	500
31030504	8	CF	DF11	792-121	23	4200	55	90	260
31030505	72	CF	GF21	792-121	23	4500	50	90	260
31030601	138	CF	GF31	792-121	23	4900	5	180	520

STAND	NUMACRES	LANDUSE	PHOTO	PHOTO2	PRECIP	ELEV	SLOPE	ASPECT	HABITAT
310306021	53	CF	GF31	792-121	23	4600	5	225	520
310306031	36	CF	GF21	1792-121	23	4700	10	180	500
31030604	109	NC	DF21	1792-121	23	4000	55	270	260
31030608	173	NC	GF21	1792-121	23	4000	25	180	500
31030609	32	CF	DF10	792-121	23	4600	45	225	260
31030703	23	NC	DF30	792-91	23	2800	45	315	260
31030704	27	NC	DF31	792-91	23	3000	55	270	260
31030707	30	NC	DF20	792-119	23	3700	50	90	310
310307081	28	NC	DF31	792-119	23	3900	45	90	310
31030801~	155	NC	DF11	1792-119	23	3200	25	180	260
31030901	150	CF	PP32	792-152	23	3200	30	135	280
31030902	47	CF	PP32	792-152	23	2700	30	45	280
31031801	81	CF	DF31	792-119	23	2300	20	180	260
31031802	173	CF	DF30	792-119	23	2300	45	360	280
31032001	152	CF	DF30	792-118	23	2000	40	360	280
31033101	23	CF	DF31	5-12	21	2600	60	360	310
31040102	47	CF	DF20	792-93	23	3600	50	270	280
31040103	86	CF	GF21	792-93	23	3800	25	180	500
31040104	59	CF	DF10	792-93	23	4600	20	180	260
310401051	113	CF	GF31	792-93	23	4900	10	360	500
31040106	61	CF	GF21	792-93	23	4200	55	315	500
31040201	11	CF	GF12	792-64	24	5000	15	90	520
31040202	98	CF	DF11	792-64	24	4800	40	90	500
31040301	27	CF	GF22	792-64	24	4800	20	90	520
31040302	32	CF	GF22	792-64	24	4800	20	270	520
31040303	52	CF	GF22	792-64	24	4900	15	360	520
31040304	39	CF	DF21	792-64	24	5000	10	180	520
31040401	31	CF	GF21	792-38	24	5100	10	360	520
31040402	89	CF	GF21	792-38	24	5100	15	360	520
31040403~	45	CF	GF21	792-38	24	5100	10	90	515
31040404~	29	CF	DF20	792-38	24	5100	15	180	520
31040405~	53	CF	GF22 17	92-38	24	5100	20	270	515
31040406	46	CF	GF21	792-38	24	5050	5	90	590
31040407	50	CF	GF23	792-38	24	5150	5	225	520
31040408	30	CF	GF23	792-38	24	5100	15	360	520
31040409	33	CF	GF23	792-38	24	5100	15	135	520
31040410	43	CF	GF23	792-38	24	5100	15	90	520
31040411	16	CF	GF23	792-38	24	5100	10	225	520
31040501	42	CF	GF21	792-38	24	5100	15	45	515
31040502	22	CF	GF21	792-38	24	5000	60	270	506
31040503	4	CF	DF32	792-38	24	5100	60	270	260
31040801	14	CF	DF31	792-7	24	4700	70	270	506
31040802	31	CF	DF31	792-7	24	4800	65	225	260
31040804	16	CF	DF31	792-7	24	5200	5	180	515
31040805	13	CF	DF31	792-7	24	4700	65	315	500
31040806	54	CF	DF31	792-7	24	4800	60	315	500
31040901	3	CF	GF10	792-37	24	4700	35	270	500
31040902	25	CF	DF10	792-37	24	5000	35	135	280
31040903	21	CF	GF21	792-37	24	5000	30	45	506
31040904	13	CF	GF22	792-37	24	5000	30	225	500
31041001~	166	CF	GF10	(792-63	24	5000	15	270	506
310410021	56	CF	GF10	792-63	24	5000	15	90	520
31041003	87	CF	DF10	792-63	24	5050	5	360	500
31041004	21	CF	DF21	792-63	24	4900	15	180	515
31041005	19	CF	GF11	792-63	24	4900	5	135	520
31041006	65	CF	GF11	1792-63	24	4900	10	270	520
31041007	31	CF	GF11	792-63	24	4950	5	90	520
31041008	14	CF	DF10	792-63	24	4950	5	225	500
31041009	50	CF	DF21	792-63	24	4900	20	180	500
31041102	30	CF	DF10	792-63	24	4900	20	270	260
31041103	63	CF	DF21	792-63	24	5000	5	180	280
31041104	24	CF	GF11	792-63	24	5050	10	360	500
31041105~	53	CF	GF21	792-63	24	4300	55	45	500
310411071	44	CF	DF10	792-63	24	4600	60	45	280
31041108	19	CF	GF12	792-63	24	4600	60	315	500
310412011	380	NC	DF30	792-91	23	3100	20	135	280
3 10412021	60	NC	PP30	792-91	23	3800	55	315	260

STAND	NUMACRES	LANDUSE	PHOTO	PHOTO2	PRECIP	ELEV	SLOPE	ASPECT	HABITAT
31041301	32	CF	DF11	792-90	23	3200	55	360	280
31041302	54	CF	DF11	792-90	23	3700	55	360	280
31041303	6	CF	DF11	792-90	23	3600	55	360	280
31041304	63	CF	DF21	792-90	23	3600	55	360	280
31041401	20	CF	PP31	792-61	25	5000	10	180	280
31041402	84	CF	PP30	792-61	25	4850	40	225	280
31041403	34	CF	DF10	792-61	25	4800	45	180	280
31041404	95	CF	DF11	792-61	25	5000	5	135	280
31041405	16	CF	GF11	792-61	25	4800	40	270	280
31041501	59	CF	PP31	792-35	24	4700	50	270	280
31041502	150	CF	GF11	792-35	24	4700	50	270	280
31041503	31	CF	DF10	792-35	24	4800	301	3151	500
31042101	13	CF	DF10	792-35	24	4100	70	45	260
31042102	21	CF	DF10	792-35	24	4100	70	45	260
31042103	14	CF	DF10	792-35	24	4100	70	45	260
31042201	67	NC	DF31	792-35	23	4200	55	315	260
31042202	188	NC	DF30	792-35	23	3700	20	180	280
31042203	64	CF	DF30	792-35	23	4000	55	360	260
31042204	67	NC	DF30	1792-35	23	4000	45	135	260
31042205	31	NC	DF20	792-35	23	4000	20	180	260
31042301	212	CF	DF10	792-61	23	4000	35	135	280
31042304	84	CF	PP20	792-61	23	5000	20	180	500
31042401	156	CF	PP31	792-89	23	3800	50	45	280
310424021	11	CF	(PP31	1792-89	23	4200	55	90	280
31042403	19	CF	PP31	792-89	23	4000	50	45	280
31042404	27	CF	PP31	792-89	23	3600	60	45	280
31042503	57	NC	PP31	792-88	23	3400	55	45	280
31042701	14	CF	PP31	792-59	23	3800	60	360	280
31042801	22	CF	DF10	1792-33	21	4400	55	45	260
31042802	6	CF	DF32	792-33	21	4000	62	360	260
31042803	22	CF	DF32	792-33	21	4000	70	315	260
31043301	17	CF	DF31	792-33	21	3700	55	360	260
31043401	31	CF	DF11	3-13	21	4000	60	315	260
31043402	3	CF	DF30	3-13	21	4000	55	270	260
31043403	21	CF	DF11	3-13	21	4500	60	360	260
31043404	7	CF	DF32	3-13	21	4200	65	45	260
31043405	9	CF	DF10	3-13	21	4250	60	360	260
31043406	13	CF	DF10	3-13	21	4200	70	315	260
31043407	19	CF	DF30	3-13	21	4300	55	360	310
31043408	8	CF	DF31	3-13	21	4500	65	90	260
31043409	36	CF	DF10	3-13	21	4400	60	360	260
31043410	10	CF	PP31	3-13	21	4600	45	90	260
31043411	13	CF	DF30	3-13	21	4300	70	360	260
31043412	10	CF	DF30	3-13	21	4500	55	45	260
31043413	5	CF	DF10	3-13	21	4300	90	45	260
31043414)	28	CF	PP30	3-13	21	41001	75)	360	260
31043501	98	CF	PP30	4-11	23	3600	60	360	280
32030301	17	CF	PP21	792-160	26	4600	10	270	310
32030302	56	CF	LP10	792-160	26	4600	7	315	920
32030303	7	CF	LP22	792-160	26	4600	22	270	920
32030304	28	CF	PP10	792-190	26	4600	5	180	260
32030401	45	CF	GF33	792-160	28	4700	6	90	590
32030402	38	CF	(PP31	1792-160	28	4680	5	135	310
32030403	37	CF	DF31	792-160	28	4680	9	90	590
32030404	23	CF	DF32	792-160	28	4680	10	45	590
32030405	25	CF	PP31	792-160	28	4650	9	135	170
32030406	14	CF	DF32	792-160	28	4650	6	135	310
32030407	146	CF	LP11	792-160	28	4580	0	90	920
32030408	12	CF	GF32	792-160	28	4650	7	90	590
32030501	105	CF	LP21	792-121	28	4600	11	315	515
32030502	56	CF	GF31	792-129	28	4650	17	135	590
32030503	34	CF	PP31	792-129	28	4700	5	270	310
32030504	100	CF	LP21	792-129	28	4550	19	45	590
32030601	78	CF	LP23	292-118	28	4600	20	90	590
32030602	8	CF	PP30	292-118	28	4600	6	270	310
32030603	20	CF	GF31	292-118	28	4700	6	180	590
32030604	47	CF	LP20	292-118	28	4700	6	180	515

STAND	NUMACRES	LANDUSE	PHOTO	PHOTO2	PRECIP	ELEV	SLOPE	ASPECT	HABITAT
32030605	36	CF	LP10	292-118	28	4700	9	270	515
32030606	16	CF	LP23	292-118	28	4600	9	315	590
32030607	6	CF	LP20	292-118	28	4600	7	90	515
32030608	50	CF	LP22	292-118	28	4650	14	315	590
32030609	98	CF	LP22	292-118	28	4650	5	315	590
32030610	239	CF	GF22	292-118	28	4680	7	90	590
32030611	8	CF	LP23	292-118	28	4680	20	270	590
32030701	30	CF	GF33	292-116	28	4600	15	90	590
32030702	15	CF	GF20	292-116	28	4650	5	45	500
32030703	123	CF	GF32	292-116	28	4700	15	360	590
32030704	17	CF	PP31	292-116	28	4750	6	270	310
32030705	19	CF	AF23	292-116	28	4600	6	135	590
32030706	139	CF	GF21	292-116	28	4700	20	225	590
32030707	152	CF	GF21	292-116	28	4700	8	45	590
32030801	111	CF	LP10	792-128	28	4500	5	180	500
32030802	9	CF	LP11	792-128	28	4550	15	138	500
32030901	28	CF	LP11	792-159	28	4600	6	360	920
32030902	21	CF	DF21	792-159	28	4600	10	135	310
32030903	61	CF	LP11	792-159	28	4550	12	90	920
32030904	17	CF	PP32	792-159	28	4550	17	180	170
32030906	5	CF	LP31	792-159	28	4600	7	315	310
32030907	178	CF	DF10	792-159	28	4550	12	270	920
32031001	36	CF	PP30	792-159	28	4600	10	270	170
32031002	10	CF	DF32	792-185	28	4600	7	270	310
32031003	11	CF	PP31	792-159	28	4600	14	270	170
32031004	11	CF	LP10	792-159	28	4600	3	270	920
32031005	28	CF	GF21	792-189	28	4600	10	215	520
32031006	56	CF	GF21	792-189	28	4600	10	215	520
32031501	60	CF	PP31	792-187	28	4750	10	135	310
32031502	20	CF	GF32	792-187	28	4700	10	315	590
32031503	56	CF	DF32	792-187	28	4700	12	225	310
32031504	31	CF	LP22	792-187	28	4600	5	360	590
32031505	28	CF	LP11	792-187	28	4550	11	270	310
32031507	41	CF	PP30	792-187	28	4550	9	270	170
32031508	116	CF	LP10	792-187	28	4600	10	360	310
32031509	71	CF	LP10	792-187	28	4550	9	315	310
32031701	14	CF	GF11	792-126	28	4550	15	315	500
32031702	27	CF	DF30	792-126	28	4600	5	315	500
32031801	53	CF	DF11	792-126	28	4400	10	135	500
32031802	76	CF	LP10	792-126	28	4400	15	180	500
32031803	79	CF	LP10	792-126	28	4400	5	180	500
32031804	25	CF	LP11	792-126	28	4500	20	360	500
32031805	110	CF	LP21	792-126	28	4500	25	270	520
32031806	11	CF	PP21	792-126	28	4600	5	180	260
32031808	14	CF	LP11	792-126	28	4400	5	90	500
32031901	86	CF	LP21	792-125	28	4700	22	45	515
32031902	103	CF	LP11	792-125	28	4750	30	360	515
32031903	18	CF	LP21	792-125	28	4800	25	360	500
32031904	30	CF	PP11	792-125	28	4500	29	180	500
32032101	69	CF	DF21	792-157	27	4600	5	180	500
32032102	97	CF	DF21	792-157	27	4550	20	180	500
32032103	59	CF	DF21	792-157	27	4500	15	225	500
32032104	64	CF	GF11	792-157	27	4450	10	90	500
32032201	27	CF	LP11	792-156	27	4600	10	270	500
32032202	11	CF	DF31	792-156	27	4600	5	315	505
32032203	185	CF	LP10	792-156	27	4600	10	90	520
32032204	10	CF	GF22	792-156	24	3800	20	180	260
32032601	25	CF	PP10	792-184	27	4400	55	225	260
32032602	25	CF	PP11	792-184	27	4400	40	45	520
32032603	20	CF	DF32	792-184	27	4300	60	45	500
32032604	109	CF	PP32	792-184	27	4600	5	45	260
32032605	24	CF	DF22	792-184	27	4200	60	90	500
32032701	23	CF	GF31	792-184	26	4600	10	45	520
32032702	15	CF	DF32	792-155	26	4600	15	225	515
32032703	65	CF	GF21	792-155	26	4600	10	180	515
32032801	54	CF	DF21	792-156	26	4600	15	315	515
32032802	5	CF	GF10	792-156	26	4550	15	315	515

11124196

STAND	NUMACRES	LANDUSE	PHOTO	PHOTO2	PRECIP	ELEV	SLOPE	ASPECT	HABITAT
32032803	8	CF	LP11	792-156	26	4550	25	360	500
32032901	65	CF	PP21	792-124	26	4700	101	180	260
32032902	44	CF	DF33	792-124	26	4700	30	180	515
32032903	86	CF	DF22	792-124	26	4700	15	180	515
32032904	198	CF	PP11	792-124	26	4750	20	180	260
32033001	21	CF	GF10	792-94	26	4900	14	45	500
32033002	35	CF	GF23	792-94	26	4900	20	360	590
32033003	4	CF	GF20	792-94	26	4800	7	180	590
32033004	77	CF	PP33	792-94	261	4800	13	270	310
32033005	329	CF	DF21	792-94	26	4850	10	270	260
32033006	100	CF	GF33	792-94	26	4850	9	315	590
32033007	52	CF	GF23	792-94	26	4900	6	180	500
32033103	143	CF	DF31	792-94	26	4850	5	45	520
32033105	23	CF	GF21	792-94	26	4850	5	360	520
32033106	70	CF	GF21	792-94	26	4850	5	270	520
32033107	35	CF	GF10	792-94	26	4850	5	315	520
32033110	22	CF	GF31	792-94	26	4850	5	270	520
32033201	36	CF	DF21	792-122	25	4300	30	90	260
32033202	39	CF	DF31	792-122	25	4400	65	45	260
32033203	84	CF	DF22	792-122	25	4200	45	45	515
32033204	76	CF	PP31	792-122	25	4200	50	135	505
32033205	27	CF	PP41	792-122	25	3800	75	225	310
32033206	24	CF	PP31	792-122	25	4600	20	180	310
32033207	44	CF	DF21	792-122	25	4550	45	45	506
32033208	29	CF	PP30	792-122	25	4600	30	180	310
32033310	28	CF	DF22	792-122	25	4600	40	45	506
320332111	13	CF	GF31	792-122	25	4700	45	360	515
32033301	74	CF	GF22	792-153	24	3700	50	45	515
320333021	16	CF	DF32	792-153	24	3800	45	270	260
32033303	24	CF	PP31	1792-153	24	3800	55	135	210
32033304	15	CF	PP31	1792-163	24	3900	A5	225	260
32033401	7	CF	PP31	792-153	23	4200	15	180	310
32033402	19	CF	DF31	792-153	23	4500	301	180	506
32033403	40	CF	DF11	792-153	23	4500			
32033404	71	CF	DF31	792-153	23	4600	45	270	515 280
32033501	11	CF	PP22	792-183	24	4200	5	215	260
32033502	71	CF	DF31	792-183	24	4100	25	180	260
32040101	265	CF	GF32	292-118	28	4800	10	225	590
32040102	8	CF	DF21	292-118	28	4800	50	180	310
32040103	112	CF	LP10	292-118	28	4750	10	225	515
32040104	39	CF	DF21	292-118	28	4750	15	270	590
32040105	19	CF	LP31	292-118	28	4700	5	225	310
32040106	32	CF	LP21	292-118	28	4700	5	90	500
32040107	9	CF	GF32	292-118	28	4750	20	315	590
32040108	20	CF	GF11	292-118	28	4750	15	270	515
32040109	11	CF	GF31	292-118	28	4800	25	360	590
32040110	229	CF	GF21	292-118	28	4750	30	45	590
32040112	30	CF	LP11	292-118	28	4700	10	45	515
32040113	53	CF	LP10	292-118	28	4700	10	135	500
32040114	26	CF	LP23	292-118	28	4750	20	90	310
32040115	16	CF	LP21	292-118	28	4650	5	90	500
32040201	10	CF	DF33	792-73	28	4600	65	45	280
32040202	22	CF	DF21	792-73	28	4550	45	225	310
32040203	10	CF	DF31	792-73	28	4500	55	270	260
320402041	8	CF	PP10	792-73	28	4600	50	270	130
320402051	6	CF	PP33	792-73	28	4600	201	225	310
32040206	14	CF	PP32	792-73	28	4650	20	180	310
32040207	11	CF	DF32	792-73	28	4650	20	135	310
32040208	8	CF	PP32	792-73	28	4600	45	180	310
32040209	9	CF	LP00	792-73	28	4700	15	90	81
32040210	31	CF	DF32	792-73	28	4700	30	360	590
320403,1	4	CF	DF20	792-73	28	4750	15	360	310
32000212	78	CF	GF21	792-73	28	4800	20	315	515
32040213	6	CF	DF20	792-73	28	4900	0	180	515
320402141	275	CF	GF32	792-7 1	28	4900	20	360	590
320402161	98	CF	GF32	792-73	28	4900	15	360	515
32040217	3	CF	PP30	792-73	28	4950	10	180	310

STAND	NUMACRES	LANDUSE	PHOTO	PHOTO2	PRECIP	ELEV	SLOPE	ASPECT	HABITAT
32040218	28	CF	GF20	792-73	28	4900	15	45	500
32040219	25	CF	PP30	792-73	28	4900	15	180	500
32040220	5	CF	ES30	792-73	28	4850	5	135	310
32040222	53	CF	GF32	792-73	28	4800	20	90	590
32040223	34	CF	DF31	792-73	28	4700	20	90	500
32040224	56	CF	DF32	792-73	28	4750	20	180	280
32040225	13	CF	DF32	792-73	28	4800	5	180	310
32040226	19	CF	GF31	792-73	28	4700	10	45	590
32040301	12	CF	DF33	792-73	28	4200	65	90	310
32040302	59	CF	DF33	792-73	28	4400	60	360	310
32040304	19	CF	PP30	792-73	28	4300	60	225	310
32040305	30	CF	DF33	792-73	28	4400	25	315	515
32040306	6	CF	DF31	792-73	28	4600	15	45	310
320403071	19	CF	GF32	792-73	28	4800	25	360	590
320403081	196	CF	DF32	792-71	28	4850	15	360	310
32040309	5	CF	DF21	792-73	28	4850	30	225	310
32040310	28	CF	DF43	792-73	28	4800	60	270	310
32040311	19	CF	DF33	792-73	28	47501	65	360	260
32040312	14	CF	LP00	792-73	28	4350	55	225	310
32040313	23	CF	DF32	792-73	28	4350	40	270	310
32040314	66	CF	DF33	792-73	28	4400	70	315	310
32040315	5	CF	LP00	792-73	28	4400	40	270	81
32000316	7	CF	LP00	792-73	28	4400	60	225	81
320403171	37	CF	PP40	792-73	28	4300	70	180	81
320404.02	10	CF	WL33	792-44	25	4300	65	360	260
32040403	9	CF	DF33	792-4A	25	4200	70	3601	2601
32040404	21	CF	DF33	792-44	25	4200	60	45	260
32040405	6	CF	DF42	792-44	25	4c)00	60	3601	260
320404.06	26	CF	DF33	792-44	25	3800	65	315	260
320406.01	30	CF	DF33	1792-44	24	4200	60	360	310
32040803	7	CF	DF31	792-44	24	3900	55	180	310
32040804	10	CF	PP20	792-44	24	4000	55	360	340
32040805	10	CF	DF32	792-44	24	4100	55	360	260
32040806	7	CF	DF31	792-44	24	3400	55	270	260
32040808	17	CF	DF31	792-44	24	3200	60	3151	260
32040809	40	CF	DF32	792-44	24	3800	75	45	520
32040902	33	CF	DF32	792-44	25	39001	75	360	260
32040903	55	CF	DF32	792-44	25	4000	651	360	260
32040904	42	CF	DF31	792-44	25	4200	60	90	260
32040905	101	CF	DF33	792-44	25	4400	55	360	310
32040906	12	CF	DF33	792-44	25	4400	40	270	310
32040907	19	CF	DF32	792-44	25	4400	45	270	310
32040908	21	CF	DF32	792-44	25	4500	50	360	590
32040909	36	CF	DF32	792-44	25	4200	60	45	520
32040910	19	CF	DF33	792-44	25	4500	50	270	340
32040911	5	CF	DF32	792-44	25	4500	60	270	310
32040912	2A	CF	GF33	792-44	25	4500	55	360	515
32040913	44	CF	PP31	792-44	25	4600	45	360	310
32040914	17	CF	PP32	792-44	25	4700	45	270	340
32040915	33	CF	DF33	792-44	25	4600	50	90	310
32040916	13	CF	PP00	792-44	25	4700	25	270	81
32040917	A	CF	DF32	792-44	25	4600	50	315	310
32040918	3	CF	PP00	792-44	25	4650	50	270	81
32040919	7	CF	PP00	792-44	25	4700	35	270	81
32040920	8	CF	DF33	792-44	25	4700	30	315	500
3204092 1	3	CF	PP00	792-44	25	4750	50	270	81
32040922	5	CF	DF31	792-44	25	4700	45	270	340
32040923	19	CF	GF33	792-44	25	4700	35	270	590
32040924	8	CF	PP20	792-44	25	4850	30	270	81
32040925	19	CF	GF32	792-44	25	4900	10	45	590
32040926	26	CF	DF33	792-44	25	4700	5	90	500
32040927	13	CF	GF32	792-44	25	4700	20	270	505
32040928	94	CF	PP32	792-44	25	4800	10	180	310
32041001	49	CF	DF30	792-71	28	4700	5	225	310
32041002	28	CF	DF32	792-71	28	4750	10	225	590
32041003	13	CF	LP10	792-71	28	4650	5	90	500
32041004	108	CF	GF31	792-71	28	4800	20	360	520

11124196

STAND	NUMACRES	LANDUSE	PHOTO	PHOTO2	PRECIP	ELEV	SLOPE	ASPECT	HABITAT
32041005	47	CF	GF21	792-71	28	4700	20	270	520
32041006	84	CF	GF32	792-71	28	4850	15	360	520
32041007	50	CF	GF32	792-44	28	4600	35	315	520
32041101	48	CF	DF21	792-70	28	4900	15	225	500
32041102	19	CF	PP20	792-70	28	4700	10	225	590
32041103	34	CF	DF31	792-70	28	4900	25	90	590
32041104	5	CF	DF32	792-70	28	5000	40	270	590
32041202	9	CF	LP23	292-116	28	4700	20	180	590
32041203	8	CF	LP11	292-116	28	A650	5	316	500
32041204	62	CF	DF21	292-116	28	4850	20	90	500
32041205	74	CF	GF31	292-116	28	4800	5	180	515
32041206	36	CF	GF21	292-116	28	4850	5	45	500
32041301	48	CF	PP31	292-115	28	4600	201	1 8 0	1200
32041302	37	CF	DF31	292-115	28	4600	20	180	520
32041303	30	CF	GF30	292-115	28	4600	10	145	500
32041304	42	CF	GF32	292-115	28	45001	25	3151	515
32041401	21	CF	GF30	792-70	24	4600	25	270	520
32041402	14	CF	DF31	792-70	24	4600	25	360	590
32041403	5	CF	DF31	792-70	24	4600	5		590
32041404	4	CF	GF20	792-70	24	4600	10	225 180	515
32041405	22	CF	DF31	792-70	24	46001	11	180	615
32041408	8	CF	DF21	792-70	24	4600	20	315	500
320414091	8	CF	PP30	792-70	24	4600	9	270	100
32041 AI 0	23	CF	PP31	792-70	24	4600	25	180	280
320414111	12	CF	LP10	792-70	24	4600	15	180	500
320414121	29	CF	PP31	792-70	24	A600	16	270	520
32041413	24	CF	DF31	792-70	24	4600	12	315	520
32041414	8	CF	WL31	792-70	24)	4600	15	360	590
32041415	6	CF	AF20	792-70	241	46001	9	380	400
32041416	14	CF	DF31	792-70	24	4600	10	225	520
32041417	3	CF	LP11	792-70	24	4600	5	90	400
32041418	9	CF	GF32	792-70	24	4600	16	135	590
320414191	5	CF	AF20	792-70	24	4800	9	180	590
32041 420	26	CF	AF21	792-70	24	4600	15	315	590
32041421	36	CF	GF22	792-70	24	4600	20	45	590
32041501	6	CF	GF32	792-70	24	4600	6	90	590
32041502	3	CF	GF10	792-70	24	4600	20	90	500
32041503	5	CF	DF32	792-70	24	4600	30	90	515
32041504	24	CF	LP23	792-70	24	4600	30	270	590
32041505	18	CF	GF22	792-70	24	4600	29	90	590
32041506	9	CF	DF32	792-70	24	A800	15	180	310
32041507	22	CF	DF30	792-70	24	4600	28	135	515
32041508	6	CF	PP31	792-70	24	4800	13	180	310
32041509	53	CF	DF22	792-70	24	4600	18	135	590
32041510	19	CF	GF31	792-70	24	4600	8	45	590
32041702	24	CF	DF22	792-44	20	4200	40	360	260
32041704	16	CF	DF43	792-44	20	4200	45	315	590
32041901	10	CF	DF31	792-12	20	4600	50	135	260
32041902	12	CF	DF31	792-72	201	4600	50	360	260
32042001	11	CF	DF31	792-12	24	4700	40	45	506
32042002	30	CF	DF41	792-12	24	4700	60	360	500
32042003	14	CF	DF31	792-12	24	4700	70	315	260
32042004	117	CF	DF32	792-12	24	4700	60	360	500
32042005	19	CF	DF31	792-12	24	4700	60	315	260
32042006	25	CF	DF30	792-12	24	4700	60	135	260
32042007	37	CF	GF31	792-12	24	4700	35	270	520
32042008	52	CF	DF32	792-12	24	4700	70	360	260
32042009	62	CF	GF23	792-12	24	4700	50	360	590
32042010	30	CF	GF31	792-12	24	4700	20	360	520
32042011	12	CF	DF31	792-12	24	4700	60	45	260
32042012	34	CF	DF30	792-12	24	4700)	65	3151	260
32042013	25	CF	DF32	792-12	24	4700	55	315	260
32042014	28	CF	DF31	792-I 2	2 4	4700	55	3151	280
32042101	234	CF	GF31	792-42	24	5100	15	360	515
32042102	22	CF	GF21	792-42	24	5200	5	45	590
32042103	175	CF	GF31	792-42	24	5150	5	135	520
32042201	260	CF	DF31	792-68	24	5000	10	270	515

STAND	NUMACRES	LANDUSE	PHOTO	PHOTO2	PRECIP	ELEV	SLOPE	ASPECT	HABITAT
32042202	53	CF	DF32	792-68	24	5000	25	225	515
32042203	129	CF	DF31	792-68	24	5000	5	360	505
32042204	93	CF	GF31	792-68	24	5000	15	90	515
32042205	46	CF	GF31	792-68	24	5000	15	90	515
32042301	399	CF	LP20	792-68	27	4900	15	90	500
32042302	78	CF	AF31	792-68	27	4900	30	360	515
32042303	47	CF	GF31	792-68	27	4900	40	360	515
32042304	49	CF	DF21	792-68	27	4900	40	45	515
32042305	95	CF	GF21	792-68	27	4900	10	360	515
32042401	37	CF	DF31	792-96	28	4750	15	45	660
32042402	78	CF	DF21	792-96	28	4750	25	45	500
32042403	77	CF	LP21	792-96	28	4750	25	135	500
32042404	39	CF	PP30	792-96	28	4750	40	270	310
32042405	136	CF	DF30	792-96	28	4750	20	270	500
32042406	89	CF	DF31	792-96	28	4750	20	360	515
32042502	145	CF	DF31	792-95	28	4850	20	45	515
32042503	147	CF	LP32	792-95	28	4850	30	45	590
32042504	16	CF	PP31	792-95	28	4850	25	225	200
32042505	34	CF	LP22	792-95	28	4850	25	360	515
32042506	17	CF	LP21	792-95	28	4850	25	225	515
32042507	67	CF	PP10	792-95	28	4850	25	270	200
32042508	12	CF	PP30	792-95	28	4850	20	225	200
32042509	48	CF	LP32	792-95	28	4850	15	45	590
32042510	39	CF	LP21	792-95	28	4850	25	45	500
32042511	36	CF	PP30	792-95	28	4850	10	135	200
32042512	71	CF	LP21	792-95	28	4850	25	45	515
32042513	87	CF	DF10	792-95	28	4850	20	135	200
32042514	10	CF	GF21	792-95	28	4850	20	135	515
32042601	140	CF	GF30	792-67	27	4700	30	180	515
32042602	58	CF	DF30	792-67	27	4700	65	180	515
32042603	68	CF	DF22	792-67	27	4700	70	360	506
32042604	109	CF	PP31	792-67	27	4700	70	180	260
32042605	90	CF	GF31	792-67	27	4700	55	180	515
32042701	72	CF	DF31	792-67	25	4800	75	180	310
32042702	28	CF	DF31	792-67	25	4800	70	90	260
32042703	154	CF	DF21	792-67	25	4800	15	90	260
32042704	45	CF	DF32	792-67	25	4800	65	45	515
32042801	44	CF	LP21	792-40	25	5100	5	360	500
32042802	26	CF	DF31	792-40	25	5100	30	270	590
32042803	63	CF	GF32	792-40	25	5100	30	360	590
32042804	80	CF	DF31	792-40	25	5100	15	180	500
32042805	52	CF	GF31	792-40	25	5100	25	45	590
32042806	150	CF	DF31	792-40	25	5100	25	180	506
32042807	18	CF	GF32	792-40	25	5100	25	315	500
32042901	111	CF	DF31	792-10	23	5000	50	315	506
32042902	49	CF	DF31	792-10	23	5000	50	180	506
32042903	61	CF	DF32	792-10	23	5000	50	360	590
32042904	195	CF	DF31	792-10	23	5000	60	135	506
32043001	95	CF	PP31	792-10	22	4500	40	225	506
32043002	108	CF	DF32	792-10	22	4500	45	45	506
32043003	12	CF	DF31	792-10	22	4500	60	270	260
32043004	30	CF	DF31	792-10	22	4500	60	270	260
32043005	74	CF	DF32	792-10	22	4500	70	360	280
32043006	30	CF	DF31	792-10	22	4500	70	225	280
32043007	12	CF	DF31	792-10	22	4500	75	225	260
32043101	73	CF	DF32	792-10	21	3300	55	315	260
32043201	61	CF	GF21	792-10	25	5200	15	45	515
32043202	85	CF	GF22	792-10	25	5200	10	360	520
32043203	49	CF	PP20	792-10	25	5200	10	270	500
32043204	40	CF	GF33	792-10	25	5200	5	90	515
32043301	152	CF	LP11	792-40	25	5200	5	180	660
32043302	22	CF	GF21	792-40	25	5100	15	90	660
32043303	38	CF	ES31	792-40	25	5100	5	90	660
32043304	157	CF	ES32	792-40	25	5200	10	270	590
32043305	60	CF	GF32	792-10	25	5250	10	135	500
32043306	40	CF	GF32	792-40	25	5050	30	315	590
32043307	68	CF	DF31	792-40	25	5000	30	135	500

STAND	NUMACRES	LANDUSE	PHOTO	PHOTO2	PRECIP	ELEV	SLOPE	ASPECT	HABITAT
32043308	88	CF	LP11	792-40	25	5100	5	135	500
32043401	7	CF	PP22	792-66	25	5200	30	360	515
32043402	20	CF	PP31	792-66	25	5200	20	180	310
32043403	82	CF	GF32	792-66	25	5200	60	45	515
32043404	120	CF	GF31	792-66	25	5200	20	270	590
32043501	23	CF	DF31	792-66	25	5200	20	45	515
32043502	95	CF	GF32	792-66	25	5200	15	90	590
32043601	15	CF	LP11	792-93	25	4800	40	90	500
32043603	63	CF	GF22	792-93	25	4800	40	90	590
33033101	58	CF	GF20	292-118	25	5150	5	225	590
33033102	67	CF	DF32	292-118	25	5150	15	90	590
33033103	30	CF	WL30	292-118	25	5150	10	315	310
33033104	17	CF	LP20	292-118	25	5150	7	225	500
33033105	33	CF	LP33	292-118	25	5150	10	180	920
33033106	58	CF	DF33	292-118	25	5150	10	135	590
33033107	6	CF	PP31	292-118	25	5150	15	135	310
33033108	14	CF	DF32	292-118	25	5150	30	360	520
33033109	69	CF	DF32	292-118	25	5150	10	135	590
33033111	30	CF	PP31	292-118	25	5150	10	315	310
33033112	63	CF	GF33	292-118	25	5150	15	180	590
33033113	33	CF	PP33	292-118	25	5150	15	45	590
33033201	12	CF	LP22	792-131	28	4600	5	135	590
33033202	29	CF	DF33	792-131	28	4600	15	90	590
33033203	20	CF	LP32	792-131	28	4500	25	135	520
33033204	13	CF	LP33	792-131	28	4500	35	315	590
33033205	19	CF	LP32	792-131	28	4600	15	315	590
33033206	60	CF	DF33	792-131	28	4550	15	45	590
33033207	18	CF	PP31	792-131	28	4600	20	225	310
33033208	16	CF	LP00	792-131	28	4500	0	0	81
33042101	8	CF	DF31	292-140	26	3800	65	360	260
33042102	11	CF	DF31	292-140	26	3800	60	315	260
33042103	12	CF	DF31	292-140	26	4100	78	360	260
33042104	4	CF	DF32	292-140	26	4200	85	315	260
33042105	13	CF	DF11	292-140	26	4450	55	360	506
33042106	3	CF	DF32	292-140	26	4350	70	90	260
33042107	19	CF	GF33	292-140	26	4250	55	45	506
33042108	5	CF	DF21	292-140	26	4000	35	90	505
33042109	25	CF	DF31	292-140	26	4100	60	315	260
33042110	5	CF	DF32	292-140	26	4050	70	225	260
33042111	8	CF	PP31	292-140	26	4400	50	225	260
33042112	11	CF	PP31	292-140	26	4350	50	90	260
33042201	38	CF	GF32	792-48	26	4300	50	270	515
33042202	33	CF	GF31	792-48	26	4300	50	270	500
33042601	6	CF	DF31	792-74	28	4800	5	45	500
33042602	23	CF	PP32	792-74	28	4800	10	225	310
33042603	26	CF	GF32	792-74	28	4800	10	225	590
33042604	28	CF	GF33	792-74	28	4800	30	360	590
33042605	3	CF	GF22	792-74	28	4800	20	360	590
33042606	31	CF	GF33	792-74	28	4800	15	270	520
33042607	90	CF	GF32	792-74	28	4800	20	270	590
33042703	61	CF	DF31	792-48	28	4500	30	225	506
33042704	68	CF	DF31	792-48	28	4600	35	45	590
33042705	97	CF	GF32	792-48	28	4550	35	360	590
33042706	70	CF	DF31	792-48	28	4600	25	180	515
33042707	90	CF	GF31	792-48	28	4700	25	315	590
33042708	61	CF	DF31	792-48	28	4700	15	180	515
33043401	102	CF	DF32	792-48	26	4800	30	360	590
33043402	4	CF	DF31	792-48	26	4700	20	270	280
33043403	53	CF	GF32	792-48	26	4600	30	180	515
33043404	65	CF	DF31	792-48	26	4400	60	225	260
33043501	63	CF	GF33	792-74	27	4800	10	45	590
33043502	18	CF	GF32	792-74	27	4800	5	360	590
33043503	8	CF	GF22	792-74	27	4800	15	135	590
33043504	32	CF	DF30	792-74	27	4800	5	180	500
33043505	38	CF	PP30	792-74	27	4800	20	225	100
33043506	6	CF	DF33	792-74	27	4800	35	225	310
33043507	51	CF	DF31	792-74	27	4800	15	135	310

STAND	NUMACRES	LANDUSE	PHOTO	PHOTO2	PRECIP	ELEV	SLOPE	ASPECT	HABITAT
33043508	102	CF	GF22	792-74	27	4800	20	360	590
33043509	58	CF	GF23	792-74	27	4800	25	270	590
33043510	4	CF	GF33	792-74	27	4800	30	360	590
33043511	5	CF	GF23	792-74	27	4800	12	90	590
33043512	5	CF	GF22	792-74	27	4800	12	45	590
33043513	4	CF	GF30	792-74	27	4800	5	45	500
33043601	57	CF	GF22	1292-118	28	4750	15	90	520
33043602	12	CF	GF22	1292-118	28	4750	10	135	590
33043603	46	CF	GF22	292-118	28	4700	10	180	590
33043604	42	CF	GF22	292-118	28	4750	10	270	590
33043605	35	CF	GF23	292-118	28	4750	25	360	590
33043606	74	CF	GF31	292-118	28	4800	15	90	590
33043607	9	CF	GF33	292-118	28	4700	10	90	520
33043611	4	CF	GF32	292-118	28	4800	101	270	520

APPENDIX J:
CUBIC & BOARD FEET SUMMARY BY SPECIES & FOREST STAND

Species	Merchantability Specifications: Log Len (ft)	Min DBH	Min Top DIB	Min Piece (ft)	Tree Summary: QMD (in)	Trees (#/Ac)	Height' (ft)	Basal Area (sqft/Ac)	Crown' (% Ht)	Taper' (% Ht)	Log Summary: Logs" (#/MBF)	DIB"' (in)	Scribner Board Foot Volume Summary**: Cross (MBF/Ac)	Cross (MBF)	Net (Gross - Defect) (MBF/Ac)	Net (Gross - Defect) (MBF)
Some selected stands contain no volume.																
AF..	16	8	6	16	3.7	3.7	14	0.3	58%	18%	27.0	9.3	0.011	309.5	0.010	287.9
AFD.	16	8	6	16	8.3	0.1	75	0.0	38%	25%	23.1	9.5	0.002	62.6	0.002	62.6
DF..	16	8	6	16	5.3	148.1	18	23.0	57%	19%	18.7	10.6	1.707	**47,516.2**	1.617	**44,997.2**
DFD.	16	8	6	16	11.7	1.3	43	0.9	50%	22%	17.9	11.2	0.072	**2,013.9**	0.059	**1,649.9**
ES..	16	8	6	16	3.5	27.8	12	1.8	49%	16%	28.7	9.1	0.088	**2,460.8**	0.085	2,357.1
ESD.	16	8	6	16	**8.9**	0.1	52	0.1	39%	20%	45.1	7.7	0.002	62.3	0.002	62.3
GF..	16	8	6	16	4.2	234.8	14	22.6	55%	17%	23.0	9.8	**1.288**	**35,838.3**	1.219	**33,920.8**
GFD.	16	8	6	16	11.2	1.5	48	1.0	51%	22%	12.1	12.4	0.090	**2,5** 16.8	0.089	**2,469.9**
LP..	16	8	6	16	3.6	94.8	15	6.5	49%	17%	32.0	8.6	0.155	**4,3** 14.3	0.149	**4,146.6**
LPD.	16	8	6	16	8.7	1.0	54	0.4	38%	24%	30.6	8.6	0.014	388.0	0.014	385.7
PP..	16	8	6	16	6.1	38.9	19	8.0	58%	**19%**	15.8	11.4	0.523	**14,556.8**	0.495	**13,765.2**
PPD.	16	8	6	16	12.8	0.4	43	0.4	54%	26%	10.4	13.1	0.036	**1,006.8**	0.02 1	597.7
PY..	16	8	6	16	1.8	3.3	5	0.1	68%	2%	0.0	0.0	0.000	0.0	0.000	0.0
WL..	16	8	6	16	6.7	6.1	34	1.5	39%	16%	21.4	9.9	0.129	3,591.0	0.128	3,565.0
WLD.	16	8	6	16	10.0	0.3	46	0.1	48%	22%	22.7	9.8	0.007	195.3	0.004	112.3
Summary For all Species																
Total:						562.1		66.8					4.127	**114,832.6**	3.895	**108,380.3**
Average:					4.7		16		54%	18%	20.3	10.2				

Gross Acres: 27,828.0 **Selected** Acres:* 27,828.0

' **Average** weighted by number of trees. " Average weighted by Scribncr gross MBF. "' Average weighted by number of logs

• Based on net acres. • * Based on selected acres.

' Average weighted by number of trees. " Average weighted by Scribner gross MBF. "' Average weighted by number of logs.

• Based on net acres. • * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4.0a 11/25/96 10:51 AM

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
30041103	89	08/05/94	26.0	26.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	114.3	4.105	106.7
3004 1104	89	08/05/94	149.0	149.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	654.9	4.105	611.6
30041105	89	08/05/94	14.0	14.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	61.5	4.105	57.5
30041301	89	08/06/94	10.0	10.0	4.9	475	14	61.9	65%	21%	18.0	11.0	4.262	42.6	3.991	39.9
30041401	89	08/06/94	7.0	7.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	30.8	4.105	28.7
3004 1402	89	08/06/94	3.0	3.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	13.2	4.105	12.3
30041403	99	08/16/94	20.0	20.0	6.1	422	22	86.8	53%	19%	18.0	10.8	6.619	132.4	6.273	125.5
3004 1404	99	08/16/94	40.0	40.0	6.1	422	22	86.8	53%	19%	18.0	10.8	6.619	264.8	6.273	250.9
30041405	99	08/16/94	115.0	115.0	6.1	422	22	86.8	53%	19%	18.0	10.8	6.619	761.2	6.273	721.4
30041406	89	08/16/94	37.0	37.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	162.6	4.105	151.9
30041502	107	08/04/94	44.0	44.0	9.2	217	30	100.0	65%	17%	19.3	10.9	8.086	355.8	7.824	344.3
3004 1503	107	08/04/94	16.0	16.0	9.2	217	30	100.0	65%	17%	19.3	10.9	8.086	129.4	7.824	125.2
3004220 1	107	08/04/94	9.0	9.0	9.2	217	30	100.0	65%	0%	18.3	11.0	8.532	76.8	8.277	74.5
30042202	119	08/04/94	13.0	13.0	10.0	221	32	120.0	60%	0%	18.3	11.0	11.378	147.9	11.037	143.5
30042203	93	08/04/94	17.0	17.0	7.2	428	29	122.0	41%	14%	15.6	12.2	3.761	63.9	3.324	56.5
30042204	159	08/04/94	38.0	38.0	7.5	348	26	105.4	45%	26%	7.4	16.2	7.182	272.9	6.749	256.5
30042205	102	08/04/94	26.0	26.0	8.8	295	25	123.2	67%	24%	10.4	14.1	11.940	310.4	10.954	284.8
30042301	99	09/15/94	50.0	50.0	6.1	422	22	86.8	53%	19%	18.0	10.8	6.619	33 1.0	6.273	313.6
30042302	89	09/15/94	7.0	7.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	30.8	4.105	28.7
30042303	99	09/15/94	16.0	16.0	6.1	422	22	86.8	53%	19%	18.0	10.8	6.619	105.9	6.273	100.4
30042305	89	09/15/94	24.0	24.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	105.5	4.105	98.5
30042306	99	09/15/94	7.0	7.0	6.1	422	22	86.8	53%	19%	18.0	10.8	6.619	46.3	6.273	43.9
30042307	89	09/15/94	8.0	8.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	35.2	4.105	32.8
30042501	89	09/13/94	23.0	23.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	101.1	4.105	94.4
30042502	89	09/13/94	15.0	15.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	65.9	4.105	61.6
30042503	89	09/13/94	19.0	19.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	83.5	4.105	78.0

' Average weighted by number of trees.

" Average weighted by Scribner gross MBF.

"' Average weighted by number of logs.

• Based on net acres.

• * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4.0a 11/25/96 10:51 AM

		Stand Summary			Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
30042504	89	09/13/94	20.0	20.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	87.9	4.105	82.1
30042505	89	09/13/94	17.0	17.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	74.7	4.105	69.8
3004260 1	89	09/13/94	45.0	45.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	197.8	4.105	184.7
30042602	89	09/13/94	10.0	10.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	44.0	4.105	41.0
30042603	89	09/13/94	20.0	20.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	87.9	4.105	82.1
30042605	89	09/13/94	10.0	10.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	44.0	4.105	41.0
31030201	74	08/29/94	10.0	10.0	5.1	223	20	31.6	41%	13%	33.3	8.9	0.505	5.0	0.482	4.8
31030401	93	09/28/94	68.0	68.0	5.1	608	27	87.0	57%	22%	23.9	9.5	6.687	454.7	5.782	393.2
3 1030402	65	09/28/94	127.0	127.0	3.1	703	13	35.9	55%	10%	12.9	12.5	1.697	215.5	1.454	184.6
31030403	13	09/28/94	19.0	19.0	3.0	975	12	47.1	71%	0%	0.0	0.0	0.000	0.0	0.000	0.0
3 1030404	77	09/28/94	81.0	81.0	5.8	407	23	73.6	64%	22%	19.8	10.6	4.302	348.5	4.302	348.5
3 1030503	102	07/24/94	56.0	56.0	4.2	945	14	90.8	61%	22%	27.8	9.2	4.217	236.2	4.125	231.0
3 1030504	81	07/24/94	8.0	8.0	3.2	858	11	47.8	68%	17%	29.0	9.4	1.001	8.0	0.935	7.5
31030505		08/22/94	72.0	72.0	4.2	1,028	14	100.9	56%	17%	23.7	8.6	3.904	281.1	3.695	266.0
31030601	0	07/25/94	138.0	138.0	Stand contains no volume.											
3 1030602	87	07/25/94	53.0	53.0	3.8	727	13	58.3	60%	16%	23.7	10.0	3.046	161.5	2.835	150.3
3 1030603	85	07/25/94	36.0	36.0	4.4	544	15	56.9	56%	17%	28.9	9.2	2.120	76.3	1.996	71.9
3 1030604	79	07/25/94	109.0	109.0	4.0	631	13	54.0	56%	22%	26.2	9.5	1.739	189.6	I.592	173.5
3 1030608	85	07/25/94	173.0	173.0	4.4	544	15	56.9	56%	17%	28.9	9.2	2.120	366.7	1.996	345.3
3 1030609	61	07/25/94	32.0	32.0	2.1	441	7	10.5	71%	25%	12.7	12.1	0.243	7.8	0.229	7.3
3 1030703	89	06/15/94	23.0	23.0	4.9	475	14	61.9	65%	21%	18.0	11.0	4.262	98.0	3.991	91.8
3 1030704	89	06/15/94	27.0	27.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	118.7	4.105	110.8
3 1030707	74	06/15/94	30.0	30.0	5.1	223	20	31.6	41%	13%	33.3	8.9	0.505	15.1	0.482	14.5
3 1030708	89	06/15/94	28.0	28.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	123.1	4.105	114.9
3 1030801	81	09/28/94	155.0	155.0	3.2	858	11	47.8	68%	17%	29.0	9.4	1.001	155.1	0.935	144.9
31030901	83	09/28/94	150.0	150.0	7.4	360	26	106.6	55%	24%	18.1	10.8	13.950	2,092.6	13.909	2,086.3

' Average weighted by number of trees

" Average weighted by Scribncr gross MBF.

"' Average weighted by number of logs.

• Based on net acres.

• * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4.0a 11/25/96 10:51 AM

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (It)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
3 1030902	86	09/28/94	47.0	47.0	3.7	706	14	52.6	62%	22%	16.4	11.1	5.251	246.8	5.25 1	246.8
31031801	89	06/17/94	81.0	81.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	356.0	4.105	332.5
3103 1802	89	06/17/94	173.0	173.0	4.9	475	14	61.9	65%	21%	18.0	11.0	4.262	737.4	3.991	690.5
31032001	89	08/12/94	152.0	152.0	4.9	475	14	61.9	65%	21%	18.0	11.0	4.262	647.9	3.991	606.7
31033101	89	07/12/93	23.0	23.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	101.1	4.105	94.4
31040102	74	06/23/93	47.0	47.0	5.1	223	20	31.6	41%	13%	33.3	8.9	0.505	23.7	0.482	22.7
31040103	85	06/23/93	86.0	86.0	4.4	544	15	56.9	56%	17%	28.9	9.2	2.120	182.3	1.996	171.7
31040104	61	//	59.0	59.0	2.1	441	7	10.5	71%	25%	12.7	12.1	0.243	14.3	0.229	13.5
31040105	87	06/23/93	113.0	113.0	3.8	727	13	58.3	60%	16%	23.7	10.0	3.046	344.2	2.835	320.4
31040106	85	06/23/93	61.0	61.0	4.4	544	15	56.9	56%	17%	28.9	9.2	2.120	129.3	1.996	121.8
31040201	69	06/30/93	11.0	11.0	4.3	290	15	29.6	71%	27%	27.0	9.4	0.400	4.4	0.358	3.9
3 1040202	81	06/30/93	98.0	98.0	3.2	858	11	47.8	68%	17%	29.0	9.4	1.001	98.1	0.935	91.6
31040301	102	06/30/93	27.0	27.0	4.2	945	14	90.8	61%	22%	27.8	9.2	4.217	113.9	4.125	111.4
3 1040302	102	06/30/93	32.0	32.0	4.2	945	14	90.8	61%	22%	27.8	9.2	4.217	134.9	4.125	132.0
3 1040303	102	06/30/93	52.0	52.0	4.2	945	14	90.8	61%	22%	27.8	9.2	4.217	219.3	4.125	214.5
3 1040304	79	06/30/93	39.0	39.0	4.0	631	13	54.0	56%	22%	26.2	9.5	1.739	67.8	1.592	62. I
31040401	75	09/05/94	31.0	31.0	5.3	243	22	36.6	43%	13%	33.3	8.8	0.503	15.6	0.503	15.6
3 1040402	71	09/05/94	89.0	89.0	4.5	692	18	75.7	46%	18%	32.0	8.7	2.383	212.1	2.222	197.8
3 1040403	76	09/05/94	45.0	45.0	5.5	255	24	41.6	44%	14%	33.3	8.8	0.628	28.3	0.628	28.3
3 1040404	75	09/05/94	29.0	29.0	5.3	243	22	36.6	43%	13%	33.3	8.8	0.503	14.6	0.503	14.6
3 1040405	110	09/07/94	53.0	53.0	4.4	695	12	73.7	38%	16%	14.8	11.7	7.176	380.3	6.964	369.1
3 1040406	71	09/06/94	46.0	46.0	4.5	692	17	75.7	46%	18%	32.0	8.7	2.383	109.6	2.23 1	102.6
3 1040407	110	09/07/94	50.0	50.0	4.4	695	12	73.7	38%	17%	14.8	11.7	7.176	358.8	6.964	348.2
3 1040408	110	09/07/94	30.0	30.0	4.4	695	12	73.7	38%	17%	14.8	11.7	7.176	215.3	6.964	208.9
3 1040409	110	09/07/94	33.0	33.0	4.4	695	12	73.7	38%	17%	14.8	11.7	7.176	236.8	6.964	229.8
31040410	109	09/07/94	43.0	43.0	4.7	620	13	73.7	38%	22%	15.2	11.6	7.43 1	319.5	7.193	309.3

' Average weighted by number of trees. " Average weighted by Scribner gross MBF. "' Average weighted by number of logs

• Based on net acres. • * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4.0a 11/25/96 10:51 AM

		Stand Summary			Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Cross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
31040411	109	09/07/94	16.0	16.0	4.4	695	12	73.7	38%	22%	15.2	11.6	7.43 1	118.9	7.193	115.1
3 1040501	103	09/06/94	42.0	42.0	2.7	520	8	20.7	56%	12%	32.2	8.9	0.589	24.8	0.553	23.2
31040502	78	09/06/94	22.0	22.0	7.2	151	27	42.9	52%	16%	21.3	9.8	2.970	65.3	2.515	55.3
3 1040503	86	09/07/94	4.0	4.0	6.9	381	33	98.4	34%	14%	25.9	10.0	3.668	14.7	3.640	14.6
31040801	89	//	14.0	14.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	61.5	4.105	57.5
3 1040802	89	//	31.0	31.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	136.3	4.105	127.3
3 1040804	89	//	16.0	16.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	70.3	4.105	65.7
3 1040805	89	//	13.0	13.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	57.1	4.105	53.4
31040806	89	//	54.0	54.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	237.4	4.105	221.7
31040901		09/14/94	3.0	3.0	0.5	1,299	4	2.0	53%	10%	11.8	11.8	0.054	0.2	0.035	0.1
3 1040902		09/14/94	25.0	25.0	2.1	832	7	19.9	71%	25%	11.5	10.9	0.398	10.0	0.372	9.3
3 1040903	98	09/14/94	21.0	21.0	4.9	334	15	43.9	31%	0%	2 1.4	10.4	2.417	50.8	2.331	49.0
3 1040904	97	09/14/94	13.0	13.0	5.6	350	16	58.9	33%	0%	21.4	10.5	3.655	47.5	3.554	46.2
31041001	1994	//	166.0	166.0	0.5	339	4	0.5	53%	10%	15.0	12.2	0.018	3.0	0.012	1.9
31041002	1994	//	56.0	56.0	0.5	339	4	0.5	53%	10%	15.0	12.2	0.018	1.0	0.012	0.7
31041003	61	//	87.0	87.0	2.1	441	7	10.5	71%	25%	12.7	12.1	0.243	21.1	0.229	19.9
31041004	79	//	21.0	21.0	4.0	631	13	54.0	56%	22%	26.2	9.5	1.739	36.5	1.592	33.4
31041005	35	//	19.0	19.0	1.9	982	6	20.4	44%	9%	37.9	9.1	0.075	1.4	0.057	1.1
31041006	35	//	65.0	65.0	1.9	982	6	20.4	44%	9%	37.9	9.1	0.075	4.9	0.057	3.7
31041007	35	//	31.0	31.0	1.9	982	6	20.4	44%	9%	37.9	9.1	0.075	2.3	0.057	1.8
31041008	61	//	14.0	14.0	2.1	441	7	10.5	71%	25%	12.7	12.1	0.243	3.4	0.229	3.2
31041009	79	//	50.0	50.0	4.0	631	13	54.0	56%	22%	26.2	9.5	1.739	87.0	1.592	79.6
31041102	61	//	30.0	30.0	2.1	441	7	10.5	71%	25%	12.7	12.1	0.243	7.3	0.229	6.9
31041103	79	//	63.0	63.0	4.0	631	13	54.0	56%	22%	26.2	9.5	1.739	109.6	1.592	100.3
31041104	35	II	24.0	24.0	1.9	982	6	20.4	44%	9%	37.9	9.1	0.075	1.8	0.057	1.4
31041105	85	//	53.0	53.0	4.4	544	15	56.9	56%.	17%	28.9	9.2	2.120	112.3	1.996	105.8

' Average weighted by number of trees. " Average weighted by Scribner gross MBF. "' Average weighted by number of logs.

• Based on net acres. • * Based on selected acres.

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Cross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
31041107	61	II	44.0	44.0	2.1	441	7	10.5	71%	25%	12.7	12.1	0.243	10.7	0.229	10.1
31041108	69	II	19.0	19.0	4.3	290	15	29.6	71%	27%	27.0	9.4	0.400	7.6	0.358	6.8
31041201		08/16/94	380.0	380.0	5.4	800	16	124.9	59%	19%	16.1	9.9	8.145	3,095.1	7.598	2,887.2
31041202		08/16/94	60.0	60.0	4.9	379	12	50.3	44%	14%	11.1	11.3	3.550	213.0	3.306	198.4
31041301	78	10/12/93	32.0	32.0	4.6	196	12	22.5	40%	0%	30.7	8.7	0.982	31.4	0.966	30.9
31041302	79	10/12/93	54.0	54.0	4.1	187	10	17.5	38%	0%	29.5	8.8	0.700	37.8	0.684	37.0
3 1041303	78	10/12/93	6.0	6.0	5.8	121	18	22.5	65%	0%	30.7	8.7	0.982	5.9	0.966	5.8
31041304	78	10/12/93	63.0	63.0	5.6	115	17	20.0	65%	0%	30.2	8.9	0.812	51.1	0.796	50.2
31041401	92	//	20.0	20.0	5.4	252	17	39.6	59%	16%	16.6	Il.3	2.742	54.8	2.543	50.9
31041402	93	//	84.0	84.0	4.9	213	13	28.3	44%	14%	13.0	12.2	2.390	200.8	2.226	187.0
31041403	61	//	34.0	34.0	2.1	441	7	10.5	71%	25%	12.7	12.1	0.243	8.3	0.229	7.8
31041404	81	II	95.0	95.0	3.2	858	11	47.8	68%	17%	29.0	9.4	1.001	95.1	0.935	88.8
31041405	35	//	16.0	16.0	1.9	982	6	20.4	44%	9%	37.9	9.1	0.075	1 . 2	0.057	0.9
31041501	13	09/29/94	59.0	59.0	1.0	300	13	1.6	80%	0%	0.0	0.0	0.000	0.0	0.000	0.0
31041502	35	II	150.0	150.0	1.9	982	6	20.4	44%	9%	37.9	9.1	0.075	11.3	0.057	8.5
31041503	61	II	31.0	31.0	2.1	441	7	10.5	71%	25%	12.7	12.1	0.243	7.5	0.229	7.1
31042101	20	09/07/94	13.0	13.0	2.8	153	6	6.6	90%	30%	13.3	12.4	0.721	9.4	0.007	0.1
31042102	13	09/07/94	21.0	21.0	2.3	535	8	14.9	85%	26%	16.4	11.8	0.576	12.1	0.046	1.0
31042103	81	09/07/94	14.0	14.0	2.5	769	8	26.4	77%	25%	25.3	9.8	0.960	13.4	0.453	6.3
31042201	104	09/29/94	67.0	67.0	5.4	357	20	56.6	73%	28%	21.3	10.4	6.214	416.4	6.034	404.2
3 1042202	91	08/05/94	188.0	188.0	4.4	249	8	26.6	82%	23%	19.6	11.3	1.499	281.8	1.499	281.8
31042203	89	II	64.0	64.0	4.9	475	14	61.9	65%	21%	18.0	11.0	4.262	272.8	3.991	255.4
3 1042204	89	II	67.0	67.0	4.9	475	14	61.9	65%	21%	18.0	11.0	4.262	285.6	3.991	267.4
3 1042205	74	II	31.0	31.0	5.1	223	20	31.6	41%	13%	33.3	8.9	0.505	15.7	0.482	14.9
3 1042301	61	II	212.0	212.0	2.1	441	7	10.5	71%	25%	12.7	12.1	0.243	51.5	0.229	48.5
3 1042304	58	//	84.0	84.0	4.9	208	15	26.7	60%	16%	20.8	10.5	0.75 1	63.1	0.750	63.0

' Average weighted by number of trees. " Average weighted by Scribner gross MBF. "' Average weighted by number of logs.

• Based on net acres. • * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4.0a 11/25/96 10:51 AM

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
31042401	**150**	**09/29/94**	156.0	156.0	18.9	**9**	63	16.7	85%	**0%**	**7.9**	15.3	**2.349**	366.5	2.323	362.4
3 1042402	**150**	**09/29/94**	11.0	11.0	18.9	6	63	12.5	85%	**0%**	8.0	15.2	1.753	19.3	1.733	19.1
3 1042403	**147**	**09/29/94**	19.0	19.0,	16.3	7	60	10.0	74%	**0%**	12.3	12.8	1.233	23.4	1.233	23.4
3 1042404	148	**09/29/94**	27.0	27.0	17.0	6	**61**	10.0	73%	**0%**	**11.5**	13.4	1.293	34.9	1.293	34.9
3 1042503	**117**	**09/30/94**	57.0	57.0	5.0	388	17	51.9	66%	**0%**	9.5	14.2	2.555	145.6	2.364	134.7
31042701	**130**	**09/29/94**	14.0	14.0	6.1	248	25	50.6	63%	23%	10.8	13.5	6.269	87.8	6.269	87.8
3 1042801	64	**08/10/94**	22.0	22.0	3.6	552	11	38.8	87%	19%	27.4	9.8	0.322	7.1	0.102	2.3
3 1042802	92	**08/10/94**	6.0	6.0	7.4	231	32	68.8	26%	16%	27.6	9.5	**1.999**	12.0	1.845	11.1
3 1042803	**116**	**08/10/94**	22.0	22.0	9.4	475	36	226.5	28%	17%	25.2	10.2	6.887	151.5	6.294	138.5
3 1043301	104	**08/10/94**	17.0	17.0	8.2	514	36	190.2	35%	16%	26.5	10.2	2.547	43.3	2.357	40.1
3 1043401	92	**05/04/94**	31.0	31.0	2.2	1,761	5	46.1	80%	10%	12.6	12.5	5.294	164.1	2.047	63.4
3 1043402	**106**	**05/04/94**	3.0	3.0	14.2	41	64	45.0	53%	28%	17.1	11.2	5.327	16.0	4.936	14.8
3 1043403	85	**05/04/94**	21.0	21.0	3.2	804	8	44.5	66%	14%	19.8	10.3	2.989	62.8	1.388	29.1
3 1043404	94	**05/03/94**	7.0	7.0	15.1	48	68	60.0	49%	30%	13.9	12.3	8.364	58.5	7.528	52.7
3 1043405	**13**	**05/03/94**	9.0	9.0	2.0	547	6	12.0	88%	0%	20.0	10.8	0.234	2.1	0.234	2.1
3 1043406	**13**	**05/03/94**	13.0	13.0	3.5	397	8	26.5	79%	0%	21.5	10.3	0.993	12.9	0.993	12.9
3 1043407	**88**	**05/03/94**	19.0	19.0	3.2	625	6	35.4	89%	12%	14.8	12.2	3.196	60.7	2.55 1	48.5
3 1043408	**110**	**05/02/94**	8.0	8.0	6.3	191	15	40.8	29%	'18%	14.8	12.1	4.192	33.5	3.486	27.9
31043409	13	**05/04/94**	36.0	36.0	1.1	979	5	7.0	93%	27%	9.9	11.9	0.976	35.2	0.75 1	27.0
31043410	**113**	**05/02/94**	**10.0**	10.0	10.7	168	36	105.0	51%	21%	13.2	12.0	15.025	150.3	13.945	139.4
31043411	95	**05/03/94**	13.0	13.0	3.9	508	19	41.8	29%	33%	10.7	14.0	2.357	30.6	2.357	30.6
31043412	55	**04/26/94**	**10.0**	10.0	4.5	292	10	32.0	56%	12%	9.4	14.4	2.707	27.1	2.426	24.3
31043413	54	**05/03/94**	5.0	5.0	2.9	612	11	28.8	80%	22%	25.4	9.8	0.601	3.0	0.601	3.0
31043414	96	*05103194*	28.0	28.0	17.2	**17**	49	27.5	66%	26%	14.3	12.8	2.225	62.3	2.012	56.3
31043501	**120**	**09/29/94**	98.0	98.0	9.0	82	27	36.3	63%	27%	10.3	13.3	6.226	**610.2**	5.93 1	581.3
3203030 1	**68**	**08/23/93**	17.0	17.0	3.5	329	13	22.4	61%	**1** 8%	46.0	8.4	0.480	8.2	0.458	7.8

' Average weighted by number of trees.

" Average weighted by Scribner gross MBF.

"' Average weighted by number of logs.

• Based on net acres.

• * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4.0a 11/25/96 10:51 AM

		Stand Summary			Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
32030302	13	08/23/93	56.0	56.0	0.0	375	5	0.0	0%	0%	0.0	0.0	0.000	0.0	**0.000**	0.0
32030303	74	08/23/93	7.0	7.0	5.3	1,134	31	173.8	37%	22%	3 1.4	9.2	0.958	6.7	**0.958**	6.7
32030304	97	06/05/93	28.0	28.0	14.9	4	67	5.0	33%	29%	17.5	11.3	0.574	16.1	0.574	16.1
3203040 1	**80**	08/25/93	45.0	45.0	3.8	1,203	11	95.4	59%	19%	28.6	9.3	5.657	254.5	5.386	242.4
32030402	97	08/24/93	38.0	38.0	6.9	145	24	38.0	60%	15%	20.4	10.8	1.513	57.5	1.401	53.2
32030403	**66**	08/25/93	37.0	37.0	7.9	182	32	62.6	79%	23%	28.6	9.1	1.739	64.3	1.696	62.7
32030404	99	08/25/93	23.0	23.0	5.4	1,023	26	161.6	49%	23%	29.6	9.0	4.561	104.9	4.203	96.7
32030405	92	08/24/93	25.0	25.0	3.0	157	9	7.9	69%	26%	20.8	10.4	0.682	17.0	0.594	14.9
32030406	79	08/24/93	14.0	14.0	3.7	591	**11**	44.1	67%	16%	28.3	9.3	2.748	38.5	2.680	37.5
32030407	13	08/24/93	146.0	146.0	0.0	600	5	0.0	0%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32030408	**66**	08/25/93	12.0	12.0	4.2	1,916	19	184.7	56%	16%	32.7	8.7	5.380	64.6	4.931	59.2
3203050 1	52	09/28/93	105.0	105.0	2.1	730	6	16.9	65%	23%	23.3	9.7	0.944	99.2	0.826	86.7
32030502	**121**	09/28/93	56.0	56.0	3.4	337	10	21.6	51%	19%	33.9	8.6	1.169	65.4	1.155	64.7
32030503	93	09/29/93	34.0	34.0	13.1	23	67	22.0	52%	27%	20.6	10.3	2.459	83.6	2.384	81.1
32030504	67	09/29/93	100.0	**100.0**	3.8	1,355	21	105.0	54%	24%	23.1	9.8	1.603	160.3	1.596	159.6
32030601	72	09/21/93	78.0	78.0	4.4	1,375	29	146.1	51%	18%	28.1	8.8	2.546	198.6	2.493	194.5
32030602	**117**	09/21/93	8.0	8.0	18.0	1	64	2.5	65%	31%	14.3	12.8	0.296	2.4	0.296	2.4
32030603	109	09/22/93	20.0	20.0	3.5	1,107	11	75.3	55%	18%	20.8	10.6	4.445	88.9	4.161	83.2
32030604	64	09/22/93	47.0	47.0	1.5	990	5	12.8	66%	19%	33.3	8.6	0.328	15.4	0.28 1	13.2
32030605	13	09/22/93	36.0	36.0	0.4	450	4	0.4	60%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32030606	72	09/22/93	16.0	16.0	4.9	1,563	30	204.9	16%	13%	33.1	8.0	5.143	82.3	5.063	81.0
32030607	71	09/22/93	6.0	6.0	2.7	251	8	10.0	28%	21%	33.3	7.6	0.170	1.0	0.170	1.0
32030608	69	09/22/93	50.0	50.0	4.7	736	19	87.8	44%	14%	28.4	9.0	5.599	280.0	5.532	276.6
32030609	69	09/22/93	98.0	98.0	4.0	1,228	20	108.7	28%	22%	28.9	9.0	4.089	400.7	3.994	391.4
32030610	103	09/23/93	239.0	239.0	4.1	1,042	11	93.9	63%	25%	25.4	9.5	5.602	**1,338.9**	5.564	**1,329.7**
32030611	69	09/22/93	8.0	8.0	4.8	2,372	50	292.3	30%	22%	45.3	7.0	1.599	12.8	1.599	12.8

' Average weighted by number of trees. " Average weighted by Scribner gross MBF. "' Average weighted by number of logs

• Based on net acres. • * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4.0a 11/25/96 10:51 AM

		Stand Summary			Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DI B"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
3203070 1	111	09/29/93	30.0	30.0	3.8	1,086	10	87.4	51%	21%	27.3	9.3	8.168	245.0	8.133	244.0
32030702	79	10/12/93	15.0	15.0	4.0	85	8	7.5	95%	30%	15.4	13.1	0.399	6.0	0.382	5.7
32030703	125	10/01/93	123.0	123.0	5.2	535	19	79.2	45%	23%	29.2	9.3	3.483	428.5	3.428	421.6
32030704	70	10/01/93	17.0	17.0	4.4	1,049	17	111.6	57%	16%	29.6	9.4	1.568	26.7	1.562	26.6
32030705	50	10/01/93	19.0	19.0	5.3	506	22	77.4	81%	15%	33.3	8.8	0.475	9.0	0.475	9.0
32030706	62	10/12/93	139.0	139.0	3.8	638	11	49.2	61%	15%	29.9	9.1	0.760	105.7	0.760	105.7
32030707	110	09/29/93	152.0	152.0	4.3	528	14	52.9	68%	18%	35.9	8.7	0.514	78.1	0.496	75.4
3203080 1	13	08/10/94	111.0	111.0	1.2	450	6	3.7	91%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32030802	13	08/10/94	9.0	9.0	4.b	757	16	65.9	75%	17%	0.0	0.0	0.000	0.0	0.000	0.0
3203090 1	13	08/23/93	28.0	28.0	0.9	604	5	2.5	0%	0%	0.0	0.0	0.000	0.0	0.000	0.0,
32030902	86	08/19/93	21.0	21.0	5.0	542	15	72.6	53%	9%	26.7	10.5	0.481	10.1	0.476	10.0
32030903	199	08/23/93	61.0	61.0	1.2	679	4	5.0	0%	0%	6.7	15.4	0.952	58.1	0.824	50.2
32030904	51	08/25/93	17.0	17.0	8.4	322	39	125.1	53%	18%	18.5	11.1	4.386	74.6	4.271	72.6
32030906	79	08/26/93	5.0	5.0	3.3	1,216	13	74.3	51%	27%	17.8	11.1	1.553	7.8	1.401	7.0
32030907	13	08/26/93	178.0	178.0	2.3	401	8	11.2	54%	26%	10.0	14.2	0.255	45.4	0.255	45.4
3203 1001	83	04/19/94	36.0	36.0	2.3	1,162	6	35.0	16%	5%	33.3	10.0	0.447	16.1	0.413	14.9
3203 1002	93	08/19/93	10.0	10.0	6.5	478	24	109.8	61%	18%	23.8	9.8	5.861	58.6	5.385	53.8
32031003	69	08/19/93	11.0	11.0	2.7	1,665	6	65.0	25%	5%	27.8	10.1	2.571	28.3	2.505	27.6
3203 1004	13	08/19/93	11.0	11.0	0.0	150	2	0.0	0%	0%	0.0	0.0	0.000	0.0	0.000	0.0
3203 1005	79	04/19/94	28.0	28.0	6.5	343	19	79.8	48%	13%	38.8	9.0	2.157	60.4	2.108	59.0
3203 1006	97	04/19/94	56.0	56.0	6.2	290	17	60.0	49%	15%	23.5	9.9	6.686	374.4	6.328	354.3
32031501	95	09/15/93	60.0	60.0	4.8	182	10	22.5	45%	30%	17.2	11.1	2.312	138.7	2.280	136.8
32031502	100	09/15/93	20.0	20.0	5.1	859	21	121.1	58%	13%	24.6	9.4	1.707	34.1	1.687	33.7
32031503	65	09/15/93	56.0	56.0	4.3	919	19	92.3	48%	24%	23.8	9.7	3.249	181.9	3.213	180.0
32031504	65	09/15/93	31.0	31.0	2.8	4,311	10	178.3	58%	28%	20.5	9.9	1.307	40.5	1.307	40.5
32031505	58	09/15/93	28.0	28.0	2.1	314	7	7.5	35%	22%	23.3	9.7	0.447	12.5	0.430	12.1

' Average weighted by number of trees.

" Average weighted by Scribner gross MBF.

"' Average weighted by number of logs

• Based on net acres.

• * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4.0a 11/25/96 10:52 AM

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
32031507	87	09/16/93	41.0	41.0	14.8	12	61	15.0	61%	26%	17.0	11.3	1.445	59.2	1.445	59.2
32031508	73	09/16/93	116.0	116.0	0.6	855	4	1.7	14%	29%	33.3	7.1	0.143	16.6	0.143	16.6
32031509	13	09/16/93	71.0	71.0	0.0	150	5	0.0	0%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32031701	13	09/23/94	14.0	14.0	4.8	494	23	62.1	67%	15%	39.5	8.8	0.389	5.4	0.259	3.6
32031702	102	09/23/94	27.0	27.0	4.0	510	14	45.4	63%	24%	23.1	9.8	4.065	109.7	3.849	103.9
32031801	54	10/12/93	53.0	53.0	3.1	1,433	14	75.4	64%	21%	28.6	9.5	0.223	11.8	0.089	4.7
32031802	13	09/01/94	76.0	76.0	0.0	300	4	0.0	0%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32031803	16	09/01/94	79.0	79.0	3.4	49	23	3.1	84%	27%	22.2	9.8	0.164	12.9	0.156	12.3
32031804	13	09/23/94	25.0	25.0	1.6	900	10	12.3	76%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32031805	81	09/23/94	110.0	110.0	3.4	1,312	19	85.0	43%	25%	29.8	8.4	1.645	180.9	1.542	169.6
32031806	137	09/23/94	11.0	11.0	4.0	85	10	7.5	69%	25%	31.7	9.2	0.493	5.4	0.464	5.1
32031808	69	09/23/94	14.0	14.0	3.1	1,511	19	81.1	39%	22%	50.0	7.5	0.226	3.2	0.192	2.7
32031901	54	07/28/94	86.0	86.0	4.8	682	15	85.0	61%	14%	22.1	10.7	1.062	91.4	1.062	91.4
32031902	13	07/28/94	103.0	103.0	3.7	250	14	18.3	90%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32031903	45	07/28/94	18.0	18.0	6.2	323	21	67.7	89%	16%	15.6	12.4	0.433	7.8	0.433	7.8
32031904	78	07/28/94	30.0	30.0	5.8	237	29	42.7	37%	14%	32.6	8.7	1.174	35.2	1.042	31.3
32032101	78	08/11/94	69.0	69.0	6.0	336	26	65.6	31%	20%	33.3	8.7	2.026	139.8	1.888	130.3
32032102	79	08/11/94	97.0	97.0	2.4	541	10	17.4	65%	16%	33.6	9.4	0.627	60.8	0.528	51.2
32032103	89	08/11/94	59.0	59.0	6.4'	421	25	93.7	30%	18%	30.4	9.2	3.006	177.4	2.654	156.6
32032104	34	08/11/94	64.0	64.0	1.9	832	6	16.8	30%	6%	0.0	0.0	0.000	0.0	0.000	0.0
32032201	73	08/11/94	27.0	27.0	3.2	310	11	17.7	78%	17%	38.3	9.8	0.253	6.8	0.237	6.4
32032202	0	08/17/94	11.0	11.0	Stand contains no volume.											
32032203	89	08/11/94	185.0	185.0	5.0	575	16	77.0	53%	13%	29.7	9.1	5.063	936.6	4.822	892.0
32032204	107	08/14/94	10.0	10.0	4.0	85	9	7.5	33%	21%	23.9	10.5	0.329	3.3	0.290	2.9
3203260 1	130	09/22/94	25.0	25.0	15.5	8	64	10.0	36%	29%	16.6	11.6	1.132	28.3	1.051	26.3
32032602	69	09/22/94	25.0	25.0	7.7	269	36	86.6	46%.	16%	29.8	8.9	1.540	38.5	1.429	35.7

' Average weighted by number of trees.

" Average weighted by Scribner gross MBF.

"' Average weighted by number of logs.

• Based on net acres.

• * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4.0a 11/25/96 10:52 AM

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
32032603	98	09/22/94	20.0	20.0	5.8	434	24	80.2	55%	22%	16.4	11.3	10.154	203.1	10.154	203.1
32032604	79	09/22/94	109.0	109.0	6.6	340	16	80.0	63%	22%	26.9	9.9	4.103	447.2	4.017	437.8
32032605	13	09/22/94	24.0	24.0	5.2	1,200	26	177.5	52%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32032701	94	09/22/94	23.0	23.0	4.9	394	19	52.0	63%	13%	24.6	9.8	2.483	57.1	2.401	55.2
32032702	76	09/22/94	15.0	15.0	3.9	791	14	64.1	69%	12%	30.9	8.7	3.659	54.9	3.614	54.2
32032703	60	09/22/94	65.0	65.0	3.2	422	12	24.1	58%	24%	40.0	7.8	0.917	59.6	0.825	53.6
32032801	64	09/22/94	54.0	54.0	4.7	387	22	46.5	79%	18%	33.3	8.4	0.275	14.9	0.275	14.9
32032802	13	09/22/94	5.0	5.0	0.8	1,200	4	4.5	91%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32032803	13	09/22/94	8.0	8.0	0.8	1,200	4	4.5	91%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32032901	80	09/21/94	65.0	65.0	6.7	288	16	70.0	51%	18%	22.5	10.4	3.459	224.8	3.404	221.3
32032902	97	09/21/94	44.0	44.0	4.7	710	16	86.3	55%	32%	14.9	11.8	6.731	296.1	5.641	248.2
32032903	72	09/22/94	86.0	86.0	9.6	101	54	50.0	75%	22%	26.2	9.0	3.205	275.7	3.205	275.7
32032904	13	09/21/94	198.0	198.0	3.6	302	11	20.8	78%	30%	23.1	10.1	0.203	40.2	0.162	32.1
32033001	13	10/13/93	21.0	21.0	0.0	600	3	0.0	0%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32033002	86	10/13/93	35.0	35.0	3.3	1,840	13	107.3	78%	12%	17.2	11.0	3.169	110.9	2.990	104.6
32033003	71	10/13/93	4.0	4.0	4.0	310	10	27.5	80%	24%	27.6	9.5	0.471	1.9	0.453	1.8
32033004	60	10/13/93	77.0	77.0	6.3	509	17	109.0	54%	15%	17.8	11.3	7.670	590.6	7.308	562.7
32033005	51	10/13/93	329.0	329.0	3.5	971	10	64.6	58%	22%	26.4	9.5	2.148	706.7	1.957	643.8
32033006	101	10/14/93	100.0	100.0	6.6	743	29	174.5	53%	17%	20.7	10.0	14.385	1,438.5	13.771	1,377.1
32033007	102	10/14/93	52.0	52.0	6.9	174	25	45.1	72%	17%	17.0	11.8	1.837	95.5	1.736	90.3
32033103	87	09/13/94	143.0	143.0	6.6	365	31	87.2	57%	0%	28.1	9.0	3.395	485.5	3.243	463.8
32033105	90	09/13/94	23.0	23.0	6.9	377	31	97.2	57%	0%	27.1	9.2	4.271	98.2	4.077	93.8
32033106	87	09/13/94	70.0	70.0	6.7	361	30	87.2	57%	0%	27.3	9.2	3.425	239.7	3.225	225.7
32033107	0	09/13/94	35.0	35.0	Stand contains no volume.											
32033110	90	09/13/94	22.0	22.0	6.8	366	31	92.2	57%	0%	26.6	9.4	3.931	86.5	3.737	82.2
3203320 1	94	09/01/94	36.0	36.0	5.3	167	19	25.2	66%	23%	25.5	10.3	0.917	33.0	0.859	30.9

' Average weighted by number of trees. " Average weighted by Scribner gross MBF. "' Average weighted by number of logs.

• Based on net acres. • * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4.0a 11/25/96 10:52 AM

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB''' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
32033202	97	09/01/94	39.0	39.0	5.4	419	21	65.8	58%	18%	18.7	10.9	3.514	137.0	3.149	122.8
32033203	61	09/01/94	84.0	84.0	5.5	1,064	25	177.6	36%	13%	18.1	10.6	8.198	688.7	6.870	577.1
32033204	107	09/01/94	76.0	76.0	6.5	328	17	75.4	74%	13%	11.1	13.4	7.026	534.0	6.55 1	497.9
32033205	197	09/02/94	27.0	27.0	21.7	7	74	17.5	60%	36%	6.9	16.5	3.084	83.3	2.361	63.8
32033206	54	08/31/94	24.0	24.0	6.4	207	23	46.9	58%	13%	26.4	10.2	1.245	29.9	1.192	28.6
32033207	81	08/31/94	44.0	44.0	7.7	419	25	137.0	50%	15%	15.7	11.8	8.094	356.1	7.890	347.2
32033208	70	08/31/94	29.0	29.0	11.6	21	40	15.0	85%	19%	17.7	12.0	0.513	14.9	0.396	11.5
32033210	65	08/31/94	38.0	38.0	6.2	719	33	150.7	32%	25%	28.3	9.3	7.279	276.6	7.177	272.7
32033211	92	09/01/94	13.0	13.0	5.1	979	22	141.6	44%	14%	27.2	9.2	6.697	87.1	6.697	87.1
32033301	83	02/09/94	74.0	74.0	6.3	923	26	200.1	48%	18%	29.9	9.3	5.129	379.5	4.771	353.1
32033302	102	08/17/94	16.0	16.0	8.9	476	30	204.9	32%	18%	17.6	11.7	12.913	206.6	12.387	198.2
32033303	73	08/17/94	24.0	24.0	14.5	13	45	15.0	76%	23%	17.6	11.6	1.168	28.0	1.141	27.4
32033304	72	08/17/94	15.0	15.0	4.9	707	16	91.6	56%	12%	27.7	9.7	2.690	40.4	2.561	38.4
32033401	71	08/24/94	7.0	7.0	8.0	114	37	40.2	60%	18%	27.4	9.6	1.908	13.4	1.800	12.6
32033402	58	08/24/94	19.0	19.0	6.2	407	36	85.2	30%	18%	35.4	8.5	1.768	33.6	1.581	30.0
32033403	69	08/24/94	40.0	40.0	4.7	787	16	93.1	71%	17%	37.7	8.7	1.558	62.3	1.485	59.4
32033404	58	08/24/94	71.0	71.0	4.8	731	16	92.1	53%	12%	28.5	9.6	2.191	155.5	1.990	141.3
32033501	38	08/24/94	11.0	11.0	6.9	473	19	123.3	53%	17%	23.7	10.7	3.670	40.4	3.139	34.5
32033502	108	08/24/94	71.0	71.0	6.9	399	22	103.9	27%	14%	20.8	10.8	5.878	417.3	5.785	410.8
32040101	125	09114193	265.0	265.0	6.2	525	22	109.5	62%	16%	19.3	10.6	6.833	1,810.7	6.797	1,801.3
32040102	70	09/14/93	8.0	8.0	8.6	111	35	45.0	79%	25%	23.7	9.8	1.854	14.8	1.759	14.1
32040103	13	09/14/93	112.0	112.0	1.9	540	5	11.1	82%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32040104	75	09/27/93	39.0	39.0	4.1	664	15	61.2	69%	22%	17.3	10.3	2.540	99.1	2.045	79.7
32040105	72	09/13/93	19.0	19.0	10.7	20	42	12.5	48%	17%	22.6	11.1	0.394	7.5	0.343	6.5
32040106	33	09/13/93	32.0	32.0	3.6	182	12	12.5	89%	21%	40.0	7.5	0.283	9.1	0.269	8.6
32040107	116	09/23/93	9.0	9.0	3.2	1,762	12	98.9	63%	26%	22.8	9.8	9.116	82.0	8.783	79.0

' Average weighted by number of trees. " Average weighted by Scribner gross MBF. ''' Average weighted by number of logs.

• Based on net acres. • * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4.0a 11/25/96 10:52 AM

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Cross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
32040108	13	09/13/93	20.0	20.0	0.5	1,803	3	2.5	3%	1%	33.3	10.0	0.095	1.9	0.095	1.9
32040109	113	09/22/93	11.0	11.0	2.4	1,434	7	46.9	71%	20%	33.3	8.3	1.829	20.1	1.829	20.1
320401 10	87	09/22/93	229.0	229.0	3.5	413	8	27.5	57%	11%	24.7	9.7	2.144	490.9	2.144	490.9
32040 I12	13	09/22/93	30.0	30.0	2.4	794	12	24.7	79%	12%	33.3	8.3	0.110	3.3	0.110	3.3
320401 13	13	09/27/93	53.0	53.0	0.0	825	3	0.0	0%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32040 114	59	09/22/93	26.0	26.0	5.5	'1,214	37	198.1	48%	17%	30.7	8.3	4.137	107.6	4.137	107.6
32040 115	59	09/28/93	16.0	16.0	3.4	877	10	55.0	56%	15%	18.1	10.8	2.799	44.8	2.187	35.0
3204020 1	116	08/01/90	10.0	10.0	3.3	1,444	6	85.0	56%	29%	12.8	12.3	11.849	118.5	11.025	110.2
32040202	103	08/01/93	22.0	22.0	6.5	245	26	56.7	75%	26%	9.9	13.8	1.289	28.3	1.192	26.2
32040203	114	07/29/93	10.0	10.0	6.0	353	12	70.0	42%	16%	14.3	12.1	8.047	80.5	7.799	78.0
32040204	242	07/29/93	8.0	8.0	1.9	150	5	2.9	78%	0%	2.3	26.0	1.401	11.2	1.401	11.2
32040205	89	07/29/93	6.0	6.0	7.6	433	24	135.0	35%	15%	15.2	11.9	10.629	63.8	10.610	63.7
32040206	101	07/29/93	14.0	14.0	9.1	111	41	50.1	36%	21%	17.2	11.1	3.438	48.1	3.410	47.7
32040207	83	07/29/93	11.0	11.0	5.2	593	17	87.6	47%	12%	29.4	9.4	2.926	32.2	2.895	31.8
32040208	127	08/02/93	8.0	8.0	13.4	92	60	90.0	39%	26%	15.2	11.7	10.666	85.3	10.597	84.8
32040209	0	08/01/93	9.0	9.0	Stand contains no volume.											
32040210	105	08/02/93	31.0	31.0	3.0	1,497	9	74.1	49%	23%	29.9	9.0	3.209	99.5	3.061	94.9
3204021 1	107	08/01/93	4.0	4.0	10.3	34	52	20.0	56%	22%	36.2	8.7	0.860	3.4	0.722	2.9
32040212	87	08/02/93	78.0	78.0	5.2	772	22	115.1	36%	16%	28.2	8.9	3.368	262.7	3.100	241.8
32040213	97	08/02/93	6.0	6.0	3.3	252	8	15.0	13%	9%	33.3	9.1	0.466	2.8	0.377	2.3
32040214	103	07/28/93	275.0	275.0	3.1	783	7	41.3	33%	8%	17.6	10.5	2.777	763.6	2.773	762.5
32040216	101	07/27/93	98.0	98.0	5.8	671	23	123.4	36%	19%	36.8	9.1	2.380	233.2	2.304	225.8
32040217	102	07/28/93	3.0	3.0	7.6	87	20	27.5	46%	23%	24.2	10.7	0.299	0.9	0.299	0.9
32040218	58	07/28/93	28.0	28.0	6.1	159	29	32.5	77%	15%	0.0	0.0	0.000	0.0	0.000	0.0
32040219	13	07/28/93	25.0	25.0	6.2	168	20	35.0	60%	19%	20.1	10.6	0.873	21.8	0.862	21.5
32040220	76	07/28/93	5.0	5.0	14.0	2	44	2.5	90%	20%	25.0	11.6	0.094	0.5	0.094	0.5

' Average weighted by number of trees.

" Average weighted by Scribner gross MBF.

"' Average weighted by number of logs.

• Based on net acres.

• * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS4. 0a 11/25/96 10:52 AM

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
								Basal					Cross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB''' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
32040222	96	07/27/93	53.0	53.0	4.2	597	11	56.2	48%	12%	26.7	9.5	3.973	210.6	3.846	203.9
32040223	105	07/27/93	34.0	34.0	7.7	288	57	92.6	45%	23%	28.4	8.9	1.755	59.7	1.723	58.6
32040224	100	07/26/93	56.0	56.0	4.1	683	12	62.5	24%	11%	31.5	8.7	1.813	101.6	1.662	93.1
32040225	g o	07/26/93	13.0	13.0	4.2	944	17	92.5	39%	10%	20.8	10.3	1.383	18.0	1.346	17.5
32040226	g o	07/26/93	19.0	19.0	2.0	1,315	4	30.0	35%	17%	21.6	10.5	2.215	42.1	2.080	39.5
3204030 1	119	08/10/93	12.0	12.0	10.1	314	57	175.1	26%	30%	16.4	10.5	19.461	233.5	19.063	228.8
32040302	111	08/08/93	59.0	59.0	9.0	303	42	135.0	32%	23%	22.6	9.7	13.236	780.9	13.003	767.2
32040304	129	08/09/93	19.0	19.0	20.6	5	74	12.5	40%	35%	7.8	15.7	2.226	42.3	2.126	40.4
32040305	122	08/03/93	30.0	30.0	8.9	451	48	195.7	29%	23%	23.1	9.6	15.548	466.4	15.423	462.7
32040306	92	08/03/93	6.0	6.0	2.9	807	5	31.5	49%	11%	24.5	10.4	1.325	7.9	1.132	6.8
32040307	99	08/03/93	19.0	19.0	5.2	676	18	98.7	40%	25%	28.0	9.1	7.386	140.3	6.760	128.4
32040308	96	08/03/93	196.0	196.0	9.1	157	38	70.1	36%	17%	27.4	9.9	2.018	395.6	1.997	391.4
32040309	52	08/04/93	5.0	5.0	5.8	165	13	30.0	46%	18%	33.3	8.9	0.305	1.5	0.257	1.3
320403 10	119	08/04/93	28.0	28.0	15.1	193	74	240.0	26%	31%	8.8	13.8	52.598	1,472.8	51.353	1,437.9
32040311	109	08/04/93	19.0	19.0	6.2	594	17	125.0	14%	14%	14.6	11.3	18.223	346.2	17.995	341.9
320403 12	0	08/04/93	14.0	14.0	Stand contains no volume.											
32040313	111	08/05/93	23.0	23.0	9.3	170	32	80.0	53%	18%	15.7	11.5	7.631	175.6	7.590	174.6
320403 14	127	08/05/93	66.0	66.0	7.6	780	34	245.1	25%	35%	19.7	10.1	28.917	1,908.5	28.077	1,853.1
320403 15	0	08/05/93	5.0	5.0	Stand contains no volume.											
320403 16	0	08/05/93	7.0	7.0	Stand contains no volume.											
320403 17	124	08/10/93	37.0	37.0	26.6	2	76	7.5	41%	36%	4.5	20.0	1.529	56.6	1.488	55.1
32040402	141	07/19/93	10.0	10.0	15.0	47	83	57.6	45%	34%	12.6	12.0	11.400	114.0	11.230	112.3
32040403	150	07/19/93	9.0	9.0	9.2	114	31	52.5	42%	18%	12.6	12.2	9.998	90.0	9.891	89.0
32040404	108	07/19/93	21.0	21.0	8.9	510	46	220.4	30%	24%	24.7	9.4	23.892	501.7	23.860	501.1
32040405	112	07/20/93	6.0	6.0	8.8	95	43	40.0	83%	28%	11.5	13.0	1.957	11.7	1.844	11.1
32040406	123	07/20/93	26.0	26.0	8.5	314	43	123.3	29%	18%	23.2	9.8	11.851	308.1	11.547	300.2

' Average weighted by number of trees. " Average weighted by Scribner gross MBF. ''' Average weighted by number of logs.

• Based on net acres. • * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: Craig **Mt. WMA**

SIS 4.0a *11/25/96* IO: 52 *AM*

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
3204080 1	136	07121193	30.0	30.0	11.5	300	66	215.1	34%	28%	17.2	10.7	25.356	760.7	24.237	727.1
32040803	137	07/21/93	7.0	7.0	12.8	39	72	35.0	47%	30%	20.1	10.3	4.491	3 1.4	4.448	31.1
32040804	77	07/15/93	10.0	10.0	7.1	82	42	22.5	24%	13%	0.0	0.0	0.000	0.0	0.000	0.0
32040805	99	//	10.0	10.0	6.1	422	22	86.8	53%	19%	18.0	10.8	6.619	66.2	6.273	62.7
32040806	89	//	7.0	7.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	30.8	4.105	28.7
32040808	97	07/20/93	17.0	17.0	7.0	390	27	103.4	55%	21%	13.3	11.3	8.052	136.9	8.052	136.9
32040809	89	07/20/93	40.0	40.0	5.5	457	17	76.6	69%	21%	20.6	10.2	8.830	353.2	8.830	353.2
32040902	126	07/21/93	33.0	33.0	8.3	228	33	85.8	72%	16%	12.6	12.2	11.766	388.3	11.165	368.5
32040903	149	07/21/93	55.0	55.0	9.1	263	27	120.0	41%	16%	8.9	14.1	22.01 1	1,210.6	21.513	1,183.2
32040904	141	07/21/93	42.0	42.0	7.2	204	28	57.3	71%	27%	19.0	10.7	5.328	223.8	5.294	222.4
32040905	122	07/15/93	101.0	101.0	9.1	356	49	160.5	25%	22%	26.8	9.3	12.988	1,311.8	12.752	1,288.0
32040906	123	07/15/93	12.0	12.0	9.7	466	58	237.6	26%	24%	19.3	10.5	18.727	224.7	18.387	220.6
32040907	132	07/14/93	19.0	19.0	4.6	889	21	103.8	48%	12%	18.4	10.8	7.167	136.2	7.025	133.5
32040908	140	07/14/93	21.0	21.0	5.6	438	20	75.1	74%	32%	16.2	11.0	6.645	139.5	6.633	139.3
32040909	89	07/20/93	36.0	36.0	4.6	1,005	19	115.2	65%	24%	16.3	11.8	3.257	117.3	3.207	115.5
32040910	155	07/13/93	19.0	19.0	5.2	615	20	91.1	35%	16%	16.7	10.8	9.473	180.0	9.061	172.2
32040911	84	07/13/93	5.0	5.0	3.2	785	9	45.0	60%	11%	15.0	12.1	1.476	7.4	1.454	7.3
32040912	112	07/13/93	24.0	24.0	5.2	787	20	117.6	43%	14%	22.6	10.0	6.332	152.0	6.114	146.7
32040913	152	07/12/93	44.0	44.0	8.9	104	25	45.0	39%	26%	22.7	11.1	1.176	51.7	1.107	48.7
32040914	109	07/12/93	17.0	17.0	13.8	38	51	40.0	55%	24%	16.6	11.3	3.446	58.6	3.104	52.8
32040915	112	07/08/93	33.0	33.0	1.4	292	27	87.6	53%	19%	15.9	11.0	8.507	280.7	7.773	256.5
32040916	0	07/08/93	13.0	13.0	Stand contains no volume.											
32040917	115	07/14/93	4.0	4.0	1.4	296	31	87.9	54%	18%	15.2	11.3	9.393	37.6	9.112	36.4
320409 18	0	07/14/93	3.0	3.0	Stand contains no volume.											
320409 19	0	07/08/93	7.0	7.0	Stand contains no volume.											
32040920	184	07/08/93	8.0	8.0	10.0	148	34	80.0	56%	21%	13.6	12.0	10.772	86.2	10.542	84.3

' Average weighted by number of trees

" Average weighted by Scribner gross MBF.

"' Average weighted by number of logs.

* Based on net acres.

• * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4. 0a 11/25/96 10:52 AM

		Stand Summary			Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
3204092 1	0	07/08/93	3.0	3.0	Stand contains no volume.											
32040922	80	07/11/93	5.0	5.0	12.3	21	41	17.5	68%	19%	17.6	11.4	1.117	5.6	1.107	5.5
32040923	177	07/11/93	19.0	19.0.	3.9	1,057	8	87.6	51%	16%	13.9	11.6	13.649	259.3	13.585	258.1
32040924	72	07/13/93	8.0	8.0	8.0	7	20	2.5	0%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32040925	138	07/07/93	19.0	19.0	5.3	1,077	22	162.7	39%	21%	27.9	9.3	3.694	70.2	3.433	65.2
32040926	106	07/07/93	26.0	26.0	4.7	675	14	81.6	24%	9%	22.2	9.9	4.249	110.5	3.800	98.8
32040927	114	07/07/93	13.0	13.0	4.2	762	11	75.0	53%	17%	27.0	9.5	3.036	39.5	2.842	36.9
32040928	87	07/07/93	94.0	94.0	12.1	41	41	32.5	61%	19%	18.0	11.1	1.934	181.8	1.919	180.4
32041001	245	06/28/93	49.0	49.0	21.8	4	69	11.6	64%	33%	5.9	17.0	2.368	116.0	2.171	106.4
3204 1002	62	06/29/93	28.0	28.0	4.0	1,053	13	94.1	60%	15%	21.6	10.4	2.443	68.4	2.438	68.3
32041003	13	06/28/93	13.0	13.0	0.0	75	5	0.0	0%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32041004		06/28/93	108.0	108.0	3.8	734	13	51.7	60%	16%	20.2	9.2	2.955	319.2	2.757	297.8
32041005		06/28/93	47.0	47.0	4.2	1,028	14	100.9	56%	17%	23.7	8.6	3.904	183.5	3.695	173.7
32041006		06/28/93	84.0	84.0	5.3	691	18	106.2	48%	17%	19.3	9.3	6.266	526.3	5.953	500.1
32041007		06/28/93	50.0	50.0	5.3	691	18	106.2	48%	17%	19.3	9.3	6.266	313.3	5.953	297.7
32041101	37	07/22/94	48.0	48.0	1.6	2,917	5	41.2	47%	25%	32.0	9.0	2.134	102.4	2.075	99.6
32041102	68	06/29/93	19.0	19.0	4.2	855	13	83.3	61%	17%	23.1	10.0	2.463	46.8	2.459	46.7
32041103	114	07/22/93	34.0	34.0	4.9	566	14	75.0	53%	20%	22.3	10.0	5.550	188.7	5.295	180.0
32041104	136	07/22/93	5.0	5.0	3.0	1,949	7	95.0	45%	27%	21.3	10.0	9.691	48.5	9.264	46.3
32041202	73	05/17/94	9.0	9.0	3.8	1,091	21	84.7	16%	22%	39.7	8.1	1.662	15.0	1.469	13.2
32041203	97	05/17/94	8.0	8.0	1.6	1,267	7	17.5	53%	29%	20.9	10.3	0.582	4.7	0.531	4.2
32041204	68	05/12/94	62.0	62.0	7.1	223	27	61.0	77%	17%	34.6	8.9	1.330	82.5	1.231	76.3
32041205	93	05/12/94	74.0	74.0	3.6	561	9	38.8	64%	14%	33.2	9.1	1.619	119.8	1.559	115.3
32041206	105	05/17/94	36.0	36.0	2.9	1,114	7	52.4	64%	25%	27.6	9.5	3.616	130.2	3.061	110.2
32041301	86	05/25/94	48.0	48.0	6.8	105	26	26.6	38%	24%	27.9	9.6	1.850	88.8	1.625	78.0
32041302	74	05/25/94	37.0	37.0	4.2	292	9	28.0	65%	21%	27.7	9.9	1.009	37.3	0.895	33.1

' Average weighted by number of trees. " Average weighted by Scribner gross MBF. "' Average weighted by number of logs.

• Based on net acres. • • Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4. 0a 11/25/96 10:52 AM

		Stand Summary			Tree Summary					Log Summary		Scribner Board Foot Volume Summary**			
												Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
3204 1303	13	05/25/94	30.0	30.0	4.2	161	12	15.3	78%	20%	12.6	12.5	0.886	26.6	0.858	25.7
32041304	76	05/25/94	42.0	42.0	4.4	853	10	90.0	47%	18%	14.2	11.7	II.865	498.3	II.598	487.1
32041401	82	06/10/93	21.0	21.0	3.1	782	8	40.9	38%	17%	25.7	9.7	1.508	31.7	1.060	22.3
32041402	69	06/16/93	14.0	14.0	3.6	558	9	39.1	48%	22%	11.5	12.7.	4.632	64.8	4.321	60.5
32041403	67	06/15/93	5.0	5.0	3.0	1,258	14	60.7	43%	18%	16.6	10.7	2.705	13.5	2.487	12.4
3204 1404	65	06/15/93	4.0	4.0	3.2	89	10	5.0	67%	16%	0.0	0.0	0.000	0.0	0.000	0.0
3204 1405	106	06/16/93	22.0	22.0	4.2	270	12	26.2	85%	18%	25.0	9.8	0.626	13.8	0.593	13.0
3204 1408	61	06/16/93	8.0	8.0	3.7	1,778	28	136.1	22%	21%	37.8	8.1	0.845	6.8	0.845	6.8
32041409	92	06/17/93	8.0	8.0	10.9	81	40	52.5	47%	20%	26.9	10.0	2.270	18.2	2.161	17.3
32041410	94	06/22/93	23.0	23.0	7.0	104	19	28.0	64%	14%	20.9	10.5	1.961	45.1	1.867	42.9
3204141 1	13	06/22/93	12.0	12.0	1.7	256	4	4.0	70%	14%	0.0	0.0	0.000	0.0	0.000	0.0
32041412	93	06/17/93	29.0	29.0	4.2	1,125	18	108.3	51%	19%	21.2	10.2	5.666	164.3	5.217	151.3
32041413	102	06/16/93	24.0	24.0	5.1	536	11	71.5	59%	12%	20.7	10.7	6.206	148.9	6.066	145.6
32041414	69	06/22/93	8.0	8.0	2.4	1,135	7	35.8	54%	17%	29.5	8.7	1.738	13.9	1.726	13.8
32041415	13	06/22/93	6.0	6.0	2.3	84	5	2.5	70%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32041416	108	06/21/93	14.0	14.0	5.3	528	12	80.0	40%	17%	18.2	11.0	8.705	121.9	8.403	117.6
32041417	13	06/23/93	3.0	3.0	0.6	1,725	3	3.7	86%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32041418	136	06/22/93	9.0	9.0	1.6	3,757	5	50.6	54%	14%	29.9	9.0	1.767	15.9	1.685	15.2
32041419	55	06/22/93	5.0	5.0	1.8	847	7	14.5	40%	14%	38.0	8.5	0.581	2.9	0.479	2.4
32041420	113	06/23/93	26.0	26.0	1.8	3,561	4	60.0	55%	13%	27.2	9.2	4.208	109.4	4.070	105.8
32041421	91	06/23/93	36.0	36.0	2.3	2,448	9	68.4	39%	23%	33.5	8.1	1.989	71.6	1.959	70.5
32041501	95	06/24/93	6.0	6.0	5.4	810	24	128.1	65%	16%	20.5	10.2	4.314	25.9	4.118	24.7
32041502	111	06/24/93	3.0	3.0	2.5	77	6	2.5	70%	29%	15.0	12.2	0.318	1.0	0.207	0.6
32041503	69	06/24/93	5.0	5.0	6.4	661	30	150.0	59%	23%	29.8	9.2	2.538	12.7	2.265	11.3
32041504	64	06/29/93	24.0	24.0	4.6	1,787	26	205.1	31%	17%	24.4	8.9	2.596	62.3	2.596	62.3
32041505	67	06/23/93	18.0	18.0	4.5	872	20	94.3	35%	11%	27.8	9.3	2.367	42.6	2.210	39.8

' Average weighted by number of trees.

" Average weighted by Scribner gross MBF.

"' Average weighted by number of logs.

• Based on net acres.

• *Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4.0a *11125196 10:52 AM*

		Stand Summary			Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
32041506	101	06/28/93	9.0	9.0	4.6	282	11	32.5	22%	9%	32.0	9.5	1.108	10.0	1.074	9.7
32041507	122	06/28/93	22.0	22.0	11.9	7	39	5.0	49%	18%	38.7	9.9	0.168	3.7	0.119	2.6
32041508	76	06/29/93	6.0	6.0	10.6	29	37	17.5	53%	18%	15.4	11.7	0.705	4.2	0.705	4.2
3204 1509	69	06/29/93	53.0	53.0	5.2	456	22	66.6	45%	14%	30.4	9.5	1.255	66.5	1.244	65.9
32041510	84	06/24/93	19.0	19.0	2.7	640	6	25.0	46%	17%	26.6	9.4	1.680	31.9	1.566	29.7
3204 1702	120	07/25/93	24.0	24.0	8.4	271	34	105.1	45%	17%	30.2	9.4	2.230	53.5	2.108	50.6
32041704	233	07/21/93	16.0	16.0	8.2	494	22	179.9	34%	33%	10.2	13.2	33.261	532.2	33.261	532.2
32041901	78	07/07/94	10.0	10.0	5.0	427	15	58.9	53%	18%	16.1	11.6	4.092	40.9	3.726	37.3
32041902	102	07/07/94	12.0	12.0	4.8	448	17	55.2.	54%	14%	13.6	12.5	4.837	58.0	4.682	56.2
32042001	76	08/08/94	11.0	11.0	5.2	688	22	102.0	60%	16%	24.0	9.9	2.803	30.8	2.686	29.5
32042002	112	08/08/94	30.0	30.0	9.3	433	37	202.0	34%	24%	17.5	10.8	24.887	746.6	23.351	700.5
32042003	104	06/29/94	14.0	14.0	10.3	317	38	183.6	25%	22%	15.5	11.4	20.960	293.4	16.590	232.3
32042004	99	06/29/94	117.0	117.0	9.3	230	44	109.5	27%	24%	16.5	11.2	13.059	1,527.9	12.512	1,463.9
32042005	98	06/29/94	19.0	19.0	13.8	144	67	150.0	29%	29%	15.0	11.8	20.094	381.8	19.609	372.6
32042006	112	07/18/94	25.0	25.0	3.4	78	4	5.0	50%	29%	9.6	14.3	0.765	19.1	0.609	15.2
32042007	82	08/08/94	37.0	37.0	5.3	653	22	101.1	57%	18%	12.9	12.2	10.764	398.3	9.524	352.4
32042008	114	07/13/94	52.0	52.0	15.5	123	68	160.0	35%	30%	12.0	12.8	23.475	1,220.7	22.913	1,191.5
32042009	93	07/13/94	62.0	62.0	7.5	1,154	35	351.8	45%	18%	18.6	10.1	27.048	1,677.0	25.006	1,550.4
32042010	90	07/13/94	30.0	30.0	5.1	1,119	15	156.0	56%	11%	12.2	12.7	15.112	453.4	11.878	356.3
32042011	105	06/27/94	12.0	12.0	7.8	121	21	40.0	16%	8%	23.7	10.6	2.205	26.5	1.906	22.9
320420 12	129	06/27/94	34.0	34.0	4.9	88	16	11.6	86%	18%	25.0	13.2	0.143	4.9	0.122	4.1
320420 13	79	06/27/94	25.0	25.0	8.8	283	35	118.1	56%	16%	17.8	10.9	10.190	254.8	9.953	248.8
320420 14	90	07/18/94	28.0	28.0	5.8	403	23	75.2	43%	17%	21.6	10.2	4.737	132.6	4.107	115.0
32042101	87	II	234.0	234.0	3.8	727	13	58.3	60%	16%	23.7	10.0	3.046	712.9	2.835	663.4
32042102	85	//	22.0	22.0	4.4	544	15	56.9	56%	17%	28.9	9.2	2.120	46.6	1.996	43.9
32042103	87	//	175.0	175.0	3.8	727	13	58.3	60%	16%	23.7	10.0	3.046	533.1	2.835	496.1

' Average weighted by number of trees.

" Average weighted by Scribner gross MBF.

"' Average weighted by number of logs.

• Based on net acres.

• * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: Craig **Mt. WMA**

SIS 4. 0a 11125196 10:52AM

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
3204220 1	107	06/04/94	260.0	260.0	4.4	441	10	45.8	58%	19%	22.1	10.3	2.708	704.2	2.617	680.5
32042202	132	06/04/94	53.0	53.0	4.8	935	13	118.8	60%	17%	14.0	12.4	10.556	559.5	9.534	505.3
32042203	89	06/04/94	129.0	129.0	4.4	578	7	60.0	77%	27%	14.4	12.1	5.378	693.8	4.967	640.8
32042204	94	06/03/94	93.0	93.0	3.6	1,067	9	76.3	67%	13%	22.6	9.7	4.475	416.2	4.292	399.1
32042205	87	//	46.0	46.0	3.8	727	13	58.3	60%	I 6%	23.7	10.0	3.046	140.1	2.835	130.4
3204230 1	33	06/08/94	399.0	399.0	2.3	206	5	6.1	86%	18%	15.2	13.5	0.190	76.0	0.183	73.1
32042302	80	06/06/94	78.0	78.0	3.1	521	8	26.7	70%	24%	19.8	11.5	1.311	102.3	1.234	96.2
32042303	76	06/06/94	47.0	47.0	3.3	2,024	19	119.5	41%	21%	24.2	9.9	3.729	175.3	2.886	135.7
32042304	78	06/06/94	49.0	49.0	3.7	1,019	15	75.0	35%	21%	35.3	8.4	1.859	91.1	1.831	89.7
32042305	82	06/06/94	95.0	95.0	4.9	284	16	36.8	52%	17%	33.8	9.1	0.798	75.8	0.640	60.8
3204240 1	136	07/21/94	37.0	37.0	4.7	1,386	17	164.9	31%	26%	20.3	10.3	13.891	513.9	13.435	497.1
32042402	35	07/21/94	78.0	78.0	2.9	518	9	23.2	72%	19%	31.5	9.5	0.462	36.0	0.427	33.3
32042403	25	07/21/94	77.0	77.0	2.8	745	9	32.1	67%	14%	27.1	9.5	0.905	69.7	0.544	41.9
32042404	73	07/21/94	39.0	39.0	4.4	305	15	32.0	91%	21%	25.0	11.5	0.187	7.3	0.159	6.2
32042405	13	07/25/94	136.0	136.0	2.8	557	9	24.1	69%	23%	23.4	10.8	0.402	54.7	0.393	53.4
32042406	107	07/25/94	89.0	89.0	2.3	865	9	25.3	75%	24%	25.7	9.4	1.177	104.8	1.171	104.2
32042502	57	07/27/94	145.0	145.0	4.5	585	12	64.3	62%	11%	34.7	8.8	3.064	444.2	3.013	436.9
32042503	105	07/26/94	147.0	147.0	6.4	683	25	150.4	39%	19%	27.3	9.4	10.834	1,592.6	10.662	1,567.2
32042504	69	07/26/94	16.0	16.0	4.7	262	15	32.0	46%	24%	24.5	9.4	1.934	30.9	1.742	27.9
32042505	76	07/26/94	34.0	34.0	5.1	898	24	128.6	32%	14%	50.0	7.5	1.811	61.6	1.811	61.6
32042506	86	07/26/94	17.0	17.0	4.7	638	15	75.5	65%	25%	27.1	9.5	3.285	55.8	3.255	55.3
32042507	57	07/25/94	67.0	67.0	3.8	261	9	20.4	77%	20%	29.9	9.4	0.186	12.4	0.186	12.4
32042508	13	07/25/94	12.0	12.0	5.2	174	16	25.6	88%	26%	20.4	11.0	1.028	12.3	0.938	11.3
32042509	78	07/27/94	48.0	48.0	8.1	339	44	120.0	24%	20%	33.3	8.3	1.650	79.2	1.650	79.2
320425 10	74	07/25/94	39.0	39.0	3.7	497	21	37.0	37%	18%	0.0	0.0	0.000	0.0	0.000	0.0
32042511	72	07/25/94	36.0	36.0	4.0	247	12	21.1	77%	22%	21.3	10.4	0.394	14.2	0.394	14.2

' Average weighted by number of trees.

" Average weighted by Scribner gross MBF.

"' Average weighted by number of logs.

• Based on net acres..

• • Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data **Source: Craig Mt. WMA**

SIS 4. 0a *1* I/25/96 IO:52 *AM*

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Cross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
320425 12	73	07/27/94	71.0	71.0	3.2	728	12	39.7	57%	20%	34.1	8.5	0.935	66.4	0.90 I	64.0
32042513	72	07/25/94	87.0	87.0	1.9	154	6	2.9	70%	21%	33.3	9.1	0.114	9.9	0.102	8.9
32042514	85	//	10.0	10.0	4.4	544	15	56.9	56%	17%	28.9	9.2	2.120	21.2	1.996	20.0
3204260 I	24	06/08/94	140.0	140.0	2.9	728	11	34.5	69%	16%	14.6	12.4	1.474	206.3	1.248	174.7
32042602	53	06/14/94	58.0	58.0	6.8	101	19	25.4	67%	26%	13.4	12.4	2.290	132.8	2.062	119.6
32042603	135	06/13/94	68.0	68.0	10.5	226	52	137.3	22%	30%	14.4	12.0	17.047	1,159.2	15.930	1,083.2
32042604	121	06/13/94	109.0	109.0	3.6	623	11	43.5	60%	12%	i4.4	12.2	2.155	234.9	1.688	184.0
32042605	80	06/14/94	90.0	90.0	2.4	1,693	8	52.3	66%	11%	13.3	12.3	4.217	379.6	3.294	296.5
3204270 1	72	06/09/94	72.0	72.0	5.2	235	20	34.8	63%	12%	20.3	10.8	1.041	75.0	0.937	67.5
32042702	107	06/08/94	28.0	28.0	11.5	110	43	80.0	71%	23%	11.8	12.7	9.581	268.3	9.063	253.8
32042703	82	06/08/94	154.0	154.0	10.4	85	49	50.0	42%	22%	24.4	9.8	2.778	427.9	2.566	395.1
32042704	82	06/09/94	45.0	45.0	6.4	359	23	80.8	40%	24%	30.4	9.0	4.863	218.8	4.388	197.5
3204280 1	76	07/18/94	44.0	44.0	3.7	837	13	60.8	50%	17%	35.2	8.5	2.019	88.8	2.019	88.8
32042802	93	07/19/94	26.0	26.0	5.9	873	26	164.4	28%	17%	21.5	10.2	11.965	311.1	11.876	308.8
32042803	119	07/19/94	63.0	63.0	5.7	878	32	158.0	26%	16%	32.4	8.5	3.968	250.0	3.968	250.0
32042804	81	07/19/94	80.0	80.0	5.5	261	14	42.8	61%	12%	27.4	9.9	2.057	164.6	1.797	143.7
32042805	121	07/20/94	52.0	52.0	10.7	220	56	136.0	38%	23%	30.6	9.3	6.754	351.2	6.345	329.9
32042806	59	07/20/94	150.0	150.0	6.7	336	22	82.2	74%	20%	16.1	11.7	5.125	768.8	4.836	725.5
32042807	101	07/19/94	18.0	18.0	7.7	389	26	125.0	24%	12%	23.7	9.8	11.228	202.1	10.805	194.5
3204290 1	70	06/27/94	111.0	111.0	6.2	406	17	85.6	59%	19%	16.6	11.4	7.719	856.8	6.803	755.1
32042902	51	06/20/94	49.0	49.0	5.8	126	16	22.9	77%	19%	25.1	10.2	0.864	42.3	0.464	22.7
32042903	102	06/20/94	61.0	61.0	9.6	299	49	150.2	44%	20%	22.4	9.6	12.265	748.2	12.078	736.8
32042904	81	06/16/94	195.0	195.0	6.7	330	20	81.4	53%	16%	10.7	13.1	11.084	2,161.5	10.966	2,138.4
3204300 1	68	06/16/94	95.0	95.0	8.0	250	31	87.3	50%	17%	20.4	10.7	5.223	496.2	5.062	480.9
32043002	78	06/28/94	108.0	108.0	5.9	436	18	83.3	66%	14%	23.4	10.0	5.385	581.6	5.005	540.6
32043003	80	06/28/94	12.0	12.0	13.1	53	54	50.0	52%	24%	12.5	12.2	5.152	61.8	4.147	49.8

' Average weighted by number of trees. " Average weighted by Scribner gross MBF. "' Average weighted by number of logs

• Based on net acres. • * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS4.0a 11/25/96 10:52Ah4

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
								Basal					Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (It)	Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
32043004	83	06/28/94	30.0	30.0	5.9	369	18	69.5	57%	15%	22.4	10.4	5.159	154.8	4.125	123.8
32043005	111	06/28/94	74.0	74.0	8.6	174	35	70.4	52%	21%	19.0	10.4	5.679	420.2	4.686	346.8
32043006	152	06/28/94	30.0	30.0	17.1	11	70	17.5	81%	31%	10.4	13.1	2.737	82.1	1.938	58.1
32043007	84	07/07/94	12.0	12.0	13.8	33	40	35.0	64%	19%	4.9	17.0	5.37 1	64.5	4.832	58.0
32043101	96	06/28/94	73.0	73.0	6.2	293	22	62.0	68%	22%	15.6	11.0	7.863	574.0	7.283	531.7
32043201	83	06/15/94	61.0	61.0	7.5	293	39	90.2	24%	16%	26.9	9.1	5.781	352.6	5.573	340.0
32043202	85	06/15/94	85.0	85.0	5.6	422	25	72.4	65%	26%	26.9	9.2	3.736	317.5	3.736	317.5
32043203	52	06/15/94	49.0	49.0	10.6	1 6	36	10.0	80%	17%	13.0	12.9	0.366	17.9	0.366	17.9
32043204	104	06/15/94	40.0	40.0	8.7	183	38	75.0	64%	21%	22.5	9.8	7.750	310.0	6.878	275. 1
32043301	87	07/11/94	152.0	152.0	2.5	512	8	17.6	79%	21%	43.4	8.2	0.623	94.6	0.623	94.6
32043302	1 09	07/11/94	22.0	22.0	3.1	1,885	1 0	101.8	69%	20%	28.7	9.2	3.634	80.0	3.059	67.3
32043303	78	07/14/94	38.0	38.0	5.5	920	22	151.7	43%	13%	22.2	10.1	6.305	239.6	5.872	223.1
32043304	82	07/14/94	157.0	157.0	5.1	1,441	19	205.9	46%	18%	22.3	9.8	14.672	2,303.6	14.332	2,250.1
32043305	89	07/12/94	60.0	60.0	9.5	511	49	251.9	42%	23%	22.2	10.1	18.966	1,137.9	18.586	1,1 15.1
32043306	127	07/12/94	40.0	40.0	7.2	909	27	255.6	24%	15%	20.2	10.3	23.065	922.6	19.018	760.7
32043307	119	07/12/94	68.0	68.0	11.0	194	36	128.0	60%	19%	15.0	11.5	12.990	883.3	9.948	676.5
32043308	13	07/11/94	88.0	88.0	1.3	542	6	5.3	93%	21%	25.0	10.8	0.087	7.6	0.087	7.6
32043401	53	08/31/94	7.0	7.0	3.5	1,017	9	66.6	60%	21%	29.9	9.1	2.864	20.0	2.756	19.3
32043402	53	08/31/94	20.0	20.0	15.8	13	56	17.5	56%	26%	11.1	13.1	2.280	45.6	2.060	41.2
32043403	92	08/18/94	82.0	82.0	7.5	804	27	245.2	37%	16%	17.1	11.3	20.032	1,642.6	18.527	1,519.2
32043404	100	08/31/94	120.0	120.0	3.0	936	11	46.0	70%	13%	20.0	11.1	1.925	231.1	1.707	204.8
32043501	76	08/30/94	23.0	23.0	4.4	597	13	62.7	74%	23%	17.8	11.0	4.580	105.3	4.110	94.5
32043502	111	08/30/94	95.0	95.0	5.6	841	17	145.5	63%	12%	16.1	11.8	11.667	1,108.4	10.263	975.0
3204360 1	13	08/24/94	15.0	15.0	2.5	900	9	30.3	95%	0%	0.0	0.0	0.000	0.0	0.000	0.0
32043603	13	08/24/94	63.0	63.0	2.5	900	9	30.3	95%	0%	0.0	0.0	0.000	0.0	0.000	0.0
33033101	78	08/31/93	58.0	58.0	1.3	1,608	3	15.0	41%	10%	37.8	8.6	0.222	12.9	0.222	12.9

' Average weighted by number of trees.
" Average weighted by Scribner gross MBF.
"' Average weighted by number of logs.
* Based on net acres.
• * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4.0a 11/25/96 10:52 AM

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
33033 102	72	09/01/93	67.0	67.0	5.9	564	27	107.0	50%	16%	27.0	9.6	3.033	203.2	3.01 1	201.8
33033 103	98	09/01/93	30.0	30.0	2.4	233	5	7.5	1%	1%	23.6	10.5	0.592	17.7	0.534	16.0
33033 104	54	09/20/93	17.0	17.0.	10.0	5	50	2.5	70%	0%	33.3	8.6	0.137	2.3	0.137	2.3
33033 105	70	09/20/93	33.0	33.0	6.8	335	64	85.5	26%	27%	42.5	7.5	3.124	103.1	3.037	100.2
33033 106	119	09/21/93	58.0	58.0	4.6	927	18	105.4	48%	14%	21.8	10.1	7.154	415.0	6.866	398.2
33033 107	89	09/21/93	6.0	6.0	4.7	183	10	22.5	49%	10%	15.7	12.1	I.341	8.0	1.325	7.9
33033108	112	09/21/93	14.0	14.0	4.2	1,181	12	112.2	71%	15%	15.0	12.2	8.315	116.4	8.128	113.8
33033 109	113	09/20/93	69.0	69.0	6.8	147	26	37.5	68%	20%	19.1	10.4	3.124	215.5	2.937	202.7
33033111	82	09/20/93	30.0	30.0	5.1	372	12	52.5	28%	9%	19.9	10.9	3.489	104.7	3.410	102.3
33033112	95	09/20/93	63.0	63.0	4.1	1,343	28	122.2	36%	17%	19.9	9.8	5.542	349.1	5.100	321.3
330331 13	85	09/21/93	33.0	33.0	4.9	1,301	30	168.7	46%	25%	28.9	8.5	11.492	379.2	11.247	371.1
33033201	50	08/30/93	12.0	12.0	2.7	1,741	11	71.6	43%	27%	31.4	8.4	4.277	51.3	4.057	48.7
33033202	85	08/30/93	29.0	29.0	3.5	977	9	63.7	67%	28%	20.2	10.4	6.114	177.3	5.813	168.6
33033203	87	08/31/93	20.0	20.0	4.8	739	18	92.0	39%	24%	28.1	8.9	4.361	87.2	4.239	84.8
33033204	102	08/31/93	13.0	13.0	6.4	536	34	121.6	36%	21%	25.6	9.1	10.015	130.2	9.690	126.0
33033205	71	08/31/93	19.0	19.0	2.7	2,197	7	90.0	31%	11%	26.5	9.1	7.469	141.9	7.263	138.0
33033206	101	08/31/93	60.0	60.0	6.0	283	19	55.0	53%	20%	22.2	9.8	5.029	301.8	4.830	289.8
33033207	126	09/01/93	18.0	18.0	16.0	13	55	17.5	71%	27%	15.3	12.3	1.508	27.1	1.508	27.1
33033208	1993	//	16.0	16.0	Stand contains no volume.											
33042101	104	05/23/94	8.0	8.0	9.7	134	36	69.3	46%	19%	17.2	10.9	7.114	56.9	5.733	45.9
33042102	107	05/23/94	11.0	11.0	10.6	143	34	88.0	43%	21%	11.6	12.5	11.765	129.4	10.847	119.3
33042 103	113	05/23/94	12.0	12.0	13.5.	162	58	160.0	41%	26%	14.0	11.9	19.513	234.2	15.644	187.7
33042104	125	05/23/94	4.0	4.0	14.6	129	62	150.0	46%	27%	12.4	12.6	19.368	77.5	18.276	73.1
33042105	94	05/20/94	13.0	13.0	3.5	1,323	20	89.1	42%	30%	20.5	10.1	4.687	60.9	4.337	56.4
33042 106	105	05/20/94	3.0	3.0	11.2	160	40	110.4	67%	30%	13.2	12.2	15.483	46.4	14.226	42.7
33042107	95	05/20/94	19.0	19.0	8.7	467	43	192.1	30%	19%	16.6	11.0	18.817	357.5	16.959	322.2

' Average weighted by number of trees

• Based on net acres.

" Average weighted by Scribner gross MBF.

• * Based on selected acres.

"' Average weighted by number of logs.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data **Source: Craig Mt. WMA**

SIS 4.0a 11/25/96 10:52 AM

	Stand Summary				Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
													Gross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Basal Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
33042108	43	05/20/94	5.0	5.0	5.0	409	17	55.7	84%	13%	39.7	9.6	0.578	2.9	0.567	2.8
33042109	79	05/27/94	25.0	25.0	4.2	529	13	51.4	64%	11%	18.3	11.6	2.091	52.3	1.775	44.4
33042110	95	05/24/94	5.0	5.0.	9.8	230	39	121.6	59%	18%	23.8	10.2	8.487	42.4	8.124	40.6
33042111	84	05/24/94	8.0	8.0	11.7	61	47	45.0	52%	21%	18.7	11.1	3.025	24.2	2.720	21.8
330421 12	80	05/27/94	11.0	11.0	4.3	353	12	35.8	59%	12%	15.2	11.4	2.900	31.9	2.495	27.4
33042201	77	08/25/94	38.0	38.0	4.7	550	16	66.9	53%	14%	28.6	9.2	3.443	130.8	3.115	118.4
33042202	87	//	33.0	33.0	3.8	727	13	58.3	60%	16%	23.7	10.0	3.046	100.5	2.835	93.6
33042601	101	08/12/93	6.0	6.0	4.6	268	13	30.4	27%	24%	29.1	9.2	2.043	12.3	1.876	11.3
33042602	84	08/12/93	23.0	23.0	8.4	189	37	72.6	41%	16%	20.1	11.1	2.036	46.8	1.822	41.9
33042603	98	08/12/93	26.0	26.0	9.3	275	43	130.1	41%	23%	26.1	9.6	6.740	175.2	6.308	164.0
33042604	93	08/16/93	28.0	28.0	8.4	267	41	101.6	29%	22%	34.4	8.7	4.401	123.2	4.333	121.3
33042605	104	08/16/93	3.0	3.0	3.9	428	10	35.0	33%	8%	31.5	8.8	2.477	7.4	2.420	7.3
33042606	84	08/18/93	31.0	31.0	9.3	396	64	186.8	73%	25%	23.6	9.5	17.783	551.3	16.903	524.0
33042607	89	08/18/93	90.0	90.0	4.2	789	11	75.8	56%	21%	25.2	9.4	5.728	515.5	5.631	506.7
33042703	26	08/25/94	61.0	61.0	3.6	490	9	35.2	62%	21%	29.2	9.5	1.236	75.4	1.094	6 6 . 7
33042704	89	//	68.0	68.0	5.4	393	17	63.2	59%	19%	18.6	10.8	4.396	298.9	4.105	279.1
33042705	92	08/18/94	97.0	97.0	6.7	682	28	169.2	45%	21%	27.4	9.2	10.587	1,027.0	9.609	932. 1
33042706	66	08/18/94	70.0	70.0	6.0	310	15	60.0	71%	19%	29.3	9.9	2.783	194.8	2.628	184.0
33042707	81	08/18/94	90.0	90.0	6.6	553	26	130.5	52%	22%	29.0	9.3	5.407	486.6	5.361	482.5
33042708	90	08/18/94	61.0	61.0	5.3	371	12	56.6	49%	18%	22.2	10.5	3.330	203.1	2.916	177.9
33043401	96	08/31/94	102.0	102.0	4.9	496	15	65.0	47%	15%	23.4	9.9	4.145	422.8	3.979	405.9
33043402	13	08/31/94	4.0	4.0	7.5	82	50	25.0	60%	24%	26.6	9.4	0.348	1.4	0.316	1.3
33043403	96	08/18/94	53.0	53.0	6.3	603	21	130.0	40%	14%	24.8	9.6	8.742	463.3	8.388	444.6
33043404	99	08/31/94	65.0	65.0	9.9	93	53	50.0	60%	24%	26.6	9.4	2.784	181.0	2.53 1	164.5
33043501	108	08/11/93	63.0	63.0	7.4	517	42	152.5	34%	24%	28.4	9.1	5.659	356.5	5.561	350.3
33043502	93	08/11/93	18.0	18.0	8.1	208	38	75.1	47%	18%	28.6	9.2	2.044	36.8	1.972	35.5

' Average weighted by number of trees. " Average weighted by Scribner gross MBF. "' Average weighted by number of logs.

• Based on net acres. • * Based on selected acres.

Volume by Stand

CRAIG MT. WMA FOREST INVENTORY REPORT

Data Source: **Craig Mt. WMA**

SIS 4. *Oa* *11/25/96 10:52 A M*

		Stand Summary			Tree Summary						Log Summary		Scribner Board Foot Volume Summary**			
								Basal					Cross		Net (Gross - Defect)	
Stand	Age	Cruise Date	Gross Acres	Selected Acres*	QMD (in)	Trees (#/Ac)	Ht' (ft)	Area (sf/Ac)	Crown' (% tot)	Taper' (% tot)	Logs" (#/MBF)	DIB"' (in)	(MBF/Ac)	(MBF)	(MBF/Ac)	(MBF)
33043503	93	08/11/93	8.0	8.0	6.8	490	35	125.4	30%	17%	28.6	9.3	4.822	38.6	4.784	38.3
33043504	103	08/11/93	32.0	32.0	11.1	18	43	12.5	46%	I 9%	29.5	10.1	0.475	15.2	0.412	13.2
33043505	90	08/11/93	38.0	38.0	15.0	4	44	5.0	47%	23%	16.7	12.4	0.244	9.3	0.161	6.1
33043506	112	08/18/93	6.0	6.0	13.9	237	70	250.0	34%	30%	l-1.8	12.4	43.295	259.8	43.112	258.7
33043507	83	08/18/93	51.0	51.0	6.9	266	23	70. 1	49%	12%	29.1	9.9	I.354	69.0	1.282	65.4
33043508	100	08/18/93	102.0	102.0	6.0	432	36	83.4	61%	25%	33.8	8.1	4.403	449.1	4.348	443.5
33043509	98	08/18/93	56.0	56.0	6.4	448	47	101.6	50%	30%	34.4	8.0	7 . 7 2 5	432.6	7.725	432.6
33043510	100	08/13/93	4.0	4.0	6.4	1,054	37	236.7	23%	15%	29.8	9.1	3.940	15.8	3.715	14.9
3304351 1	100	08/13/93	5.0	5.0	7.9	367	46	125.3	31%	23%	34.1	8.6	3.944	19.7	3.675	18.4
330435 12	90	08/16/93	5.0	5.0	7.3	430	31	125.1	49%	19%	21.6	10.4	5.756	28.8	5.443	27.2
33043513	121	08/16/93	4.0	4.0	16.1	7	68	10.0	60%	28%	16.5	12.0	1.108	4.4	0.985	3.9
33043601	119	09/07/93	57.0	57.0	2.9	2,144	7	96.3	73%	22%	30.4	9.3	4.344	247.6	4.066	231.8
33043602	123	09/07/93	12.0	12.0	3.3	1,107	9	67.3	61%	20%	36.6	8.9	I.281	15.4	1.171	14.0
33043603	94	09/07/93	46.0	46.0	4.1	‘567	10	52.5	57%	8%	27.6	9.6	2.210	101.7	2.057	94.6
33043604	129	09/14/93	42.0	42.0	5.6	1,298	25	224.0	49%	24%	22.8	9.8	IO.671	448.2	10.488	440.5
33043605	93	09/08/93	35.0	35.0	1.7	3,272	3	50.0	82%	22%	30.5	9.1	1.700	59.5	I.675	58.6
33043606	96	09/08/93	74.0	74.0	6.3	103	17	22.5	63%	13%	16.6	11.2	2.02 I	149.5	2.003	148.2
33043607	59	09/08/93	9.0	9.0	6.1	1,492	42	301.8	37%	19%	25.7	9.0	10.575	95.2	IO.299	92.7
3304361 1	89	09/08/93	4.0	4.0	8.1	237	39	85.1	70%	20%	26.4	10.0	I.583	6.3	I.484	5.9
Summary For All Stands																
T o t a l :			**27,828.0**	27,828.0										**114,832.6**		**I08,380.3**
Average:					4.7	562	16	66.8	54%	18%	20.3	IO.2	4.127		3.895	

Gross Acres: 27,828-O Selected Acres:* 27,828.0

' Average weighted by number of trees.

" Average weighted by Scribner gross MBF.

"' Average weighted by number of logs.

• Based on net acres.

• * Based on selected acres.