

APPENDIX A

LYNX OCCURRENCE DATA

SIGHTING REPORTS (Visual and Tracks)

Western Washington:

In Washington, there are approximately 22 documented reports for lynx on the west side of the Cascade crest, most of these are from the Mount Baker-Snoqualmie National Forest (MBS). There are ten recent reports (1985 through 1992) around Mount Baker and Baker Lake, including a verified report (Zender 1991) of tracks from an adult lynx that was accompanied by two immature lynx. Additional reports include an animal that was trapped in 1972, a female lynx reported by the Washington Department of Wildlife in 1951, two records in and around Mount Rainier National Park, two unconfirmed sightings on the Olympic Peninsula, a verified report of tracks and a sighting west of the MBS, and four reliable reports of tracks in the North Cascades National Park near Ross Lake. With the exception of the Ross Lake sightings, all of the reports are located at least 40-50 miles west of the Cascade crest. There are also 50 trapping records for western Washington, including ten verified specimens (WDFW 1993; Washington State Archives; *in litt.* National Museum of Natural History[NMNH]). Unfortunately most of the trapping records are identified by county and cannot be tied to a specific location or habitat type. The sightings in Washington are mapped in Attachment G_{WA}.

Oregon:

McKelvey et al (2000) listed 12 verified reports and a total of 72 lynx occurrences for Oregon, but currently there are nearly 100 lynx sightings (visual observations and tracks) that have been reported (Attachments F). Most of these reports were from the Mt. Hood, Willamette, Umpqua, Rogue, Fremont, Deschutes, Ochoco, Malheur, Umatilla, and Wallowa-Whitman National Forests. A third of all the sighting reports are verified or reliable sightings. There are 25 sighting reports of lynx on the west side of the Cascade crest, mainly from the mountain hemlock and Pacific silver fir vegetation zones on the Mt. Hood and Willamette National Forests. There is a confirmed report of a juvenile female (1974) and two highly reliable recent reports (1998 and 1999) from the Willamette National Forest. Four sightings of good reliability have been reported since 1993, on the Mt. Hood and Willamette National Forests; this includes a report of an adult and juvenile lynx observed together, in January 2000. In the Klamath Basin of southern Oregon, there are nine sighting reports, including one confirmed report, and three high reliability reports. Of those records where the locations are known, most occurred in riparian areas near mountain hemlock and/or lodgepole pine vegetation types with the remaining in/near fairly dense vegetation with a water source nearby. State and federal agency biologists continue to collect reports of lynx observations throughout Oregon and Washington, and there are several reports pending further investigation.

Follow-up on a lynx report from Modoc County, California (about 25 miles south of Klamath Falls, Oregon) recently resulted in verifying what appears to be the first documented lynx taken in the state (USFWS, L. LeCaptain, pers. comm). The individual who shot it (D. Craig, pers. comm) was

interviewed; he killed the lynx in 1983 and sold it to a neighbor (now in a private collection). He claims he trapped and released a lynx in the same general area in the early 1960's and that his father also trapped five or six lynx there from 1905 to 1910. Apparently, the lynx was reported to the Modoc NF, but they presumed it was a large bobcat and did not follow-up on the report. There are now two sighting reports recorded from northern California, one of which has been verified.

Sighting Reports and Reliability Ratings - Oregon:

The Service evaluated the reliability of sighting reports in Oregon and assigned a rating to each one based on the quality of detailed provided by the observer, distance from the animal, etc. Guidance for rating the reliability of lynx sightings was developed (Attachment EE) and all of the reports were recorded on a standard form. The sighting records are arranged according to their reliability ratings in Attachment F and appear on a map in Figure 1.

Sighting Locations:

A few of the lynx sightings in Oregon warrant further discussion. McKelvey et al. (2000) suggest that some of the lynx records in Oregon were likely from dispersing or transient individuals because they were trapped in anomalous habitats. However, Squires and Laurion (2000) document that resident lynx in Montana and Wyoming regularly engaged in exploratory movements outside of their established home ranges, into anomalous habitats, and subsequently returned to their home range. Lewis and Wenger (1998) documented similar behavior in Idaho. The (relocated) lynx in Colorado also exhibited this pattern (pers. comm. G. Patton, USFWS). Lynx trapped in anomalous habitats in Oregon may have also been engaged in exploratory movements as most of the lynx sightings reported in Oregon are not from anomalous habitats and are not considered likely to be dispersing/transient individuals.

One of the lynx that McKelvey et al. (2000) refer to as being in “anomalous” habitat was taken near Drewsey, Oregon in January, 1993. Natural Resources Conservation Service snow survey data shows that when the lynx was killed, the snow pack was three times the average depth for that month. The location where the lynx was shot consists of more than six square miles of dense, shrubby lowland riparian vegetation extending in a wide, flat swath along the Malheur River as it emerges from conifer forests on the Malheur NF. Small mammals and birds are numerous in the riparian area. Lynx commonly forage in riparian willow/alder thickets (Bailey et al 1986, Murray et al 1995, Parker et al 1983, Poole 1994) so this site is similar to lynx habitat used in other areas. The value of streams and moderate slopes was also recognized by McKelvey et al. (2000) who found that lynx use increased significantly with increasing stream density and decreasing slope. The extreme winter weather conditions in 1993 may have caused movement to lower elevations in response to the greater energetic cost of traveling in unusually deep winter snow and/or the lynx may have exploited snow conditions that gave it an advantage while hunting in the productive riparian areas along the Malheur River.

Two other lynx sightings in “anomalous” habitats are mentioned by McKelvey et al. (2000); one in northeast Oregon near the confluence of Fence Creek and the Imnaha River (March 1964), and the other in western Oregon near Albany (October 1974). Both sites are within riparian corridors that may have been used for connectivity, exploratory movements, and/or for alternate foraging opportunities. The Fence Creek/Imnaha site is within riparian vegetation (willows), about six miles from typical lynx

habitat on the Wallowa-Whitman NF (R. Anderson, USFS, pers. comm.). Carnivores moving to/from Idaho are likely to travel along/across the Imnaha River enroute to other areas. There have been eight lynx sightings (R. Anderson, Wallowa-Whitman NF, in litt. 1998) and fifteen wolverine sightings reported in the vicinity of the Imnaha River (Copeland and Edelman 1998). The two radio-collared wolves that recently traveled into Oregon from Idaho, were relocated near Baker (J. Cordova, FWS, 2000), which is southwest of the Imnaha River and where they originated in Idaho. The juvenile female lynx that was killed in western Oregon was near the confluence of the Willamette and Santiam River, which originates in lynx habitat near Santiam Pass, on the Willamette NF. Since this was a juvenile lynx, it may be evidence of reproduction in Oregon. This animal may have been dispersing/exploring/traveling down the Santiam River to the Willamette River and heading towards the Coast Range, which is highly prominent from that point on the landscape.

McKelvey et al. (2000) also correlated the dates that several Oregon specimens were collected with patterns of lagged synchrony in Canadian populations. The majority of National Museum of Natural History (NMNH) lynx specimens from Oregon and Washington were submitted by bounty hunters (C. Ludwig, NMNH, pers. comm.). The U.S. Biological Survey only collected specimens in Oregon from 1893 - 1915 (Verts and Carraway 1998). Federal, state, county, and independent bounty hunters were active during the same time period (C. Ludwig, NMNH, pers.com.). In Oregon, mammal collections made for museums tended to be sporadic and opportunistic at best, so it is not possible to conclude that museum collection efforts were consistent or uniform in any state during any time period (Verts and Carraway 1998; C. Ludwig, NMNH, pers.com.). Fluctuations in the fur market also caused trapper effort to vary depending on demand, so correlations between the collection of lynx specimens in Oregon and lagged synchrony with Canadian populations are questionable and may be entirely coincidental.

Climatic factors may also influence lynx occurrence patterns. Meslow and Keith (1971) found that snowshoe hare survival and reproduction correlate with weather. Stenseth et al. (1999) suggested that lynx population dynamics are consistent with regional climatic factors that result in groups of population dynamics corresponding to three climate-based geographic regions. If snowshoe hare survival correlates with weather, weather cycles influence lynx/hare populations, and lynx depend on hare, then lynx in Oregon and western Canada would respond to the same weather cycles in the Pacific-maritime region at roughly the same time. Lynx movement into anomalous habitats may relate to local weather patterns rather than lagged synchrony with high Canadian cycles.

Application of Sighting Data

Sighting data are a valuable source of information for rare species (Agee et al. 1989; Stoms et al. 1993; Palma et al. 1999). Palma et al. (1999) mapped lynx sightings and found that they were associated with a predictable set of habitat conditions, suggesting underlying ecological processes and not simply spurious correlations. Using a similar approach, the Service mapped lynx sightings in Oregon and Washington and overlaid these onto Kuchler (1964) vegetation maps and lynx habitat maps produced by the NFs (excluding the Olympic, Siskiyou, and Siuslaw NFs) and National Parks (Attachments G_{WA} and GG). The USFS maps were based on the USFS lynx habitat mapping criteria that was being used by the NFs in 1999. According to these maps, there were approximately 8,276 square miles of

potential lynx habitat in Oregon. The acreage figures were unavailable for several NFs, BLM, and tribal lands, so the amount of potential habitat would exceed this estimate. The majority of lynx sightings overlap areas that were mapped as currently suitable/potential lynx habitat by the NFs. A few clusters of sightings were noted on the west side of the Cascades on the Willamette NF and in the vicinity of Mt. Hood; on the east side near Bend and Fort Klamath; and in various locations throughout the Blue Mountains, especially near Granite and Tollgate, in eastern Oregon.

APPENDIX B

ADDITIONAL LYNX OCCURRENCE INFORMATION

Published Information

The *Atlas of Oregon Wildlife* (Csuti et al. 1997), *The Mammals of North America* (Hall and Kelson 1959), and *The Mammals and Life Zones of Oregon* (Bailey 1936) all acknowledge lynx occurrence in Oregon and all depict range maps of lynx that include both the Cascade and Blue Mountain regions of the state (Attachment A). In *Mammals and Life Zones of Oregon*, Bailey (1936) refers to lynx specimens taken at Fort Klamath, Bend, North Fork John Day River, Granite, and Kiger Creek, Oregon; all are kept at the National Museum of Natural History (NMNH) and were collected between 1897 and 1927 by predator bounty hunters (C. Ludwig, NMNH, pers. Comm.), except the one taken from Kiger Creek, in 1916. Six of the specimens are females, one is male, and one is unknown. Other known lynx specimens taken in Oregon include: a lynx taken by predator bounty hunters near Granite in 1927 (the specimen is at Slater Museum of Natural History, University of Puget Sound); two lynx taken near Lehman Hot Springs (Olterman and Verts 1972); a large female lynx that was shot by a predator bounty hunter in 1964, along the Innaha River in northeast Oregon (the pelt is in the private collection of Wendell Weaver)(Coggins 1969); a juvenile female lynx that was shot in 1974 (Verts and Carraway 1998) near the confluence of the Santiam and Willamette Rivers (the specimen is at Oregon State University); and a male lynx taken in 1993, near Drewsey, Oregon (the specimen is at the Natural History Museum, University of Kansas) (Verts and Carraway 1998). Recently, a lynx pelt was discovered in Pendleton, Oregon as it was being auctioned off as a bobcat hide. Closer examination of the pelt proved it to be a lynx, based on the fully black-tipped tail and long, black ear tufts (USFS, K. Ramsey, pers. comm.); it apparently originated from the Blue Mountains and was taken sometime around the 1930's.

The Complete Field Guide to American Wildlife (Collins 1959) and *Peterson's Field Guide to the Mammals* (Burt and Grossenheider 1976) also include range maps of lynx in the Cascade and Blue Mountain regions of Oregon. *Mammals of the Pacific States* (Ingles 1965) lacks a range map, but the text indicates that lynx range extends south into the higher parts of the Cascades and Blue Mountains of Oregon. *Land Mammals of Oregon* (Verts and Carraway 1998) includes lynx as a boreal species with montane populations in Oregon that is distributed statewide or nearly so. Unfortunately, Verts and Carraway (1998) only detail the distribution of museum specimens examined, so it more accurately portrays the distribution of the activities of mammal collectors rather than the actual distribution of the species in Oregon (Jobanek 2000). Nellis (1971) reported that resident populations of lynx likely occur in Oregon, while Faulkner (1971) identified lynx as an unprotected predator in a review of Oregon Fish and Game Codes.

Oregon Department of Fish and Wildlife (formerly Oregon State Game Commission Documents
ODFW documents recently retrieved from various libraries and archives expanded on the collected information pertaining to lynx in Oregon. An Oregon State Game Commission (ODFW) information leaflet, *Mammals of Prey of Oregon* (1963) describes the predator bounty system and various

predators found in Oregon, including lynx and bobcat (Attachment B). Another Oregon State Game Commission publication, *Oregon's Forbearing Animals* (Mace 1970), describes the fur bearers that inhabit Oregon, including lynx and bobcat, the impact of the fur trade, the need for laws to protect fur bearers, and terminating the predator bounty system. Mace (1970) included a range map of lynx in Oregon, stating that lynx range over most of the mountainous areas of the state, that they are found in the Blue/Wallowa Mountains and that a few may exist in the Cascades (Attachment C). Oregon Wildlife Commission trapping regulations depicted a bobcat on the cover in 1967; while a lynx is depicted on the cover of the 1974 regulations (ODFW 1967, 1974).

An ODFW document concerning wildlife in eastern Oregon (Gildemeister 1992) is based on oral histories that describe changes that influenced wildlife: hunting pressure, predator control, trapping, declining prey, herbicides, pesticides, habitat alteration, etc. The author interviewed long-term resident hunters and trappers who indicated that lynx were common in the early 1900's and that quite a few lynx had occurred around Pine Valley, Mount Emily, and Anthony Creek (Wallowa-Whitman and Umatilla National Forests) (Gildemeister 1992). Residents attributed lynx population declines to high fur prices, increased trapping pressure, and low squirrel and rabbit populations (Gildemeister 1992).

Oregon State University Publications

An Oregon State University publication, *Endangered Plants and Animals of Oregon* (Olterman and Verts 1972), includes lynx in a section on endangered mammals in Oregon; stating that at least since white settlement of the state, lynx have not been common in Oregon, but that if a breeding population exists, its density is extremely low and the species should be considered endangered in the state.

Oregon Natural Heritage Program Publications

Rare, Threatened and Endangered Species of Oregon (ONHP 1998) included lynx on the list of species occurring in Oregon, and ranked lynx as imperiled in the state due to rarity and/or other factors that make it very vulnerable to extirpation.

USDA Forest Service Records

Archived USFS documents also refer to lynx in Oregon and Washington. Annual Wildlife Statistical Reports from the Malheur National Forest (NF) estimated there were 15 lynx on the Forest in the early 1900's and 25 lynx on the Crow Flat District in 1923 (USDA 1910 - 1959). From 1949 to 1956, the Malheur NF continued to report lynx as a species occurring on the Forest. USDA Forest Service Annual Wildlife Statistical Reports from 1949 to 1958 (USDA 1910 - 1959) from other National Forests also reported lynx occurrence in Oregon and Washington, including the Mt. Hood, Malheur, Ochoco, Fremont, Rogue River, Wallowa, Whitman, and Willamette NF's in Oregon, and the Chelan, Gifford-Pinchot, Mt. Baker, Okanogan, Snoqualmie, and Wenatchee NF's in Washington (Attachment D). The Annual Wildlife Statistical Reports (dated between 1953 and 1958) for the Fremont National Forest (located in both Klamath and Lake counties in southern Oregon), documented lynx populations as being rare, but stationary.

A USFS memo (1941) from the Ochoco NF estimated various wildlife populations, including lynx and bobcat; the 1941 population estimate reported by the Ochoco NF was 20 lynx and 270 bobcat

(Attachment E). The Deschutes NF Wildlife Plan (USDA 1963) reported an inventory of predatory animals killed from 1924 to 1948 that also included bobcat and lynx. In a report on wild animal populations of the Mount Baker NF, in western Washington, Edson (1930) states that although there is a great preponderance of bobcat, the fact that there is still an occasional lynx in the forest seems beyond question. He recounts a lynx being taken by a trapper on the upper Skagit River in 1929, and that the same trapper saw more lynx tracks in 1930, on the Mt. Baker NF (western WA).

More recently, *Federal Research Natural Areas in Oregon and Washington* (Franklin et al. 1972) identifies lynx as occurring on the Ochoco, Malheur, and Umatilla NF's in central and eastern Oregon (and southeast Washington). *Wildlife Habitat Relationships of South Central Oregon* (USDA 1979) includes lynx as a species occurring on the Deschutes NF and indicates that the official Oregon State list of Endangered and Threatened Wildlife (ODFW 1975) classifies the lynx as "Status Undetermined", meaning there is insufficient data to reliably assess the status of lynx, but preliminary information indicates that the species may be threatened/endangered. *Wildlife Habitats in Managed Forests of the Blue Mountains of Oregon and Washington* (USDA 1979) includes lynx as a species occurring in that area (USDA 1979) as does *Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington* (1985). The *Northwest Forest Plan* (USFS 1994) includes lynx as a "Survey and Manage" species and required lynx surveys. Lastly, the Mt. Hood, Deschutes, Gifford-Pinchot, Malheur, Ochoco, Rogue River, Umatilla, Wallowa Whitman, and Winema NFs have all conducted biological assessments (1995 - 2000) to evaluate impacts to lynx because there are documented occurrences on/near these Forests and lynx may occur in various project areas.

Anecdotal Evidence - Oregon

Anecdotal evidence regarding twelve additional lynx occurrences in Oregon and Washington was found in a variety of sources, including memoirs, trapping diaries, fur trade accounts/records, oral histories, magazine and newspaper articles. In a journal kept by David Douglas (Douglas 1959), a settler from southwest Oregon, Douglas refers to wanting fox furs from the "Calapooie" tribe and killing a large female lynx in February of 1826 when he was hunting, apparently in that vicinity (presumably in the Calapooya mountains that adjoin the Umpqua and Willamette NFs). The Chief Factor of Hudsons Bay Company, John McLoughlin, wrote letters referring to "lynx skins taken from the westside" of the mountains (i.e. the Cascades) and the Cowlitz River (in western Washington) (McLoughlin 1839 - 1844). According to Hudson's Bay Company archive records, there is no doubt that lynx were trapped in western Oregon, Washington and British Columbia during the early 1800's (C. Isaak, pers. com. 2001). An article that was written about fur exports from Oregon in 1843 refers to lynx, fox, wolf, and wolverine furs, noting that lynx skins were worth up to ten shillings in London (Pipes 1925).

In his memoirs, John Minto, one of the original settlers of the Oregon Territory, wrote of killing "eight wolves and a lynx—a tassel-eared fellow" sometime between 1850 - 1860 in the vicinity of Waldo Lake (i.e. westside of the Cascades, Willamette NF) in the Cascade Range (Minto 1908). Journals kept by Paddock (1911 - 1912), a trapper in the same vicinity, describe traps that were "snowed under" in the area around Waldo Lake* and removing a lynx from traps in February 1912. In early March, Paddock reported trapping two lynx in the vicinity of Waldo Lake; trapping four lynx in deep snow near the junction of the Middle Fork in March, catching another lynx in late March, and a fisher in April.

While trapping in the Oregon Cascades, Paddock gathered information for the State regarding the distribution of wildlife in the area he trapped so that the State would know where these animals were located (Paddock 1965). He refers to animals that were formerly plentiful, but that are now nearly extinct, such as wolf and fisher. Apparently, Paddock knew the difference between “wildcat” (bobcat) and lynx; he mentions catching “wildcat” down in the low country because there wouldn’t be any of them in the snow country (1965) and he reported trapping lynx in the snow country (Paddock 1911 -1912), as described above. Bobcat were often called “wildcat” in early Oregon (Works Projects Administration, 1940).

Lastly, old newspapers and magazines provided a few more references to lynx in Oregon. The Grant County News (1884), a Canyon City newspaper, reported that a large lynx was killed in May of 1884. The Oregon Sportsman (1914) published an article on furbearing animals that may be found in Oregon. To benefit trappers, the article includes market quotations for Oregon furs; lynx, bobcat, fisher, etc. It notes that a fisher pelt brings a high price (\$25.⁰⁰), lynx (\$17.⁰⁰); and bobcat (\$4.⁰⁰) (Attachment P). The Bend Bulletin (1923) includes information that suggests that lynx were breeding in Oregon; it announced that a lynx kitten was taken captive from its native habitat near Grizzly Mountain (near the Ochoco NF) two months earlier (in May) and that it was being raised by a local resident. A Baker City newspaper (The Democrat Herald 1950) reported that a Baker resident brought two lynx to the county clerk’s office for bounty payment, noting that the trapper had killed the lynx near McEwen, an area where he had trapped for many years.

* According to USDA Natural Resources Conservation Service snow survey data, the average winter snow depth, for January through March, in the vicinity of Waldo Lake is 72 inches (6 feet). There are several recent sightings in this vicinity.

APPENDIX C

BOUNTY CLAIM RECORDS

County - Predator Bounty Claim Registers

In addition to the sighting reports, there are 274 lynx recorded in Oregon and Washington State Bounty Claim Registers (dated 1899 - 1960); 56 of these records are from counties located on the westside of the Cascade crest in Oregon and 33 of these are from counties located on the west side of the Cascade crest in Washington. The entire pelt was brought in and was then marked by the county auditors by using one or more of the following approaches; removing all four feet, placing a slit between the eyes, punching three holes in each ear, or splitting both ears (in litt. 1952 Oregon State Game Commission). Pelts collected for bounty payment were either destroyed or were sold as furs (Wright 1982, USDA undated). Bounty records have only been obtained from three of the seven westside counties with potential lynx habitat in Washington. None of the historic bounty trapping records for Oregon or Washington and less than half of the reported lynx locations west of the Cascade crest were available at the time the Science Report was published.

Oregon:

A total of 247 records of lynx are recorded in predator bounty claim registers that have been obtained so far from twelve counties (Table 1). The records are dated anywhere from 1899 to 1960 (Attachment I). Other valuable sources of associated information, such as the unpublished field journals of US Biological Survey collectors and bounty hunters, are available for research via the NMNH and the National Archives (C. Ludwig, NMNH, pers. comm.).

Bounties recorded east of the Cascade crest in Oregon were as follows: Klamath and Lake counties border California in the south-central part of Oregon and recorded 41 lynx; Wheeler and Crook counties in the central part of the state, recorded 18 lynx; Hood River County bordering Washington in the north central part of the state recorded 9 lynx; and three counties in the northeast corner of the state, Umatilla, Union, and Wallowa recorded 123 lynx - Union had the most - 85 lynx. Of these, Klamath County had one of the southernmost verified reports in Oregon used in the Science Report. The Klamath County specimen was taken just south of Crater Lake National Park on what is now the Winema National Forest. Another specimen taken in 1983 approximately 84 miles south of the Klamath County specimen, which was not known prior to completion of the current LCAS and Science Report, was documented on the Modoc National Forest in Modoc County, California.

Table 1. Summary of Oregon State Predator Bounty Claim Records Collected as of December 2000. Shading indicates counties with records obtained so far.

County Name & Information Source	Bounty Records obtained yet or status:	Years for which data is available:	Number of lynx recorded in Bounty Claim Register
Baker County	Not yet obtained		Not yet obtained
Clackamas County	Not yet obtained		Not yet obtained
Crook County - Oregon State Archives & Bowman Museum	Yes	1899 - 1920 & 1945	13 lynx recorded
Deschutes County	Not yet obtained		Not yet obtained
Douglas County Archives	Yes	1910 to 1919	20 lynx recorded
Grant County	Not yet obtained		Not yet obtained
Harney County	Not yet obtained		Not yet obtained
Hood River County Archives	Yes	1910 to 1925	9 lynx recorded
Jackson County Archives	Yes	1952 to 1960	9 lynx recorded
Jefferson County	Not yet obtained		Not yet obtained
Josephine County Historical Society	Yes	1910 to 1921	9 lynx recorded
Klamath County Archives & Klamath Cty. Museum	Yes	1913 to 1923	13 lynx recorded
Lake County - Oregon State Archives	Yes	1909 to 1913	28 lynx recorded
Lane County - Lane County Historical Museum	Yes	1913 to 1927	18 lynx recorded
Linn County	Not yet obtained		Not yet obtained
Morrow County	Not yet obtained		Not yet obtained
Umatilla County - Oregon State Archives	Yes	1910 to 1922	21 lynx recorded
Union County Archives	Yes	1899 to 1922	85 lynx recorded
Wallowa County Archives	Yes	1901 & 1946 -1953	17 lynx recorded
Wasco County Archives	Yes/but not distinguishable	1900 - 1901	All cats listed as "wildcat"
Wheeler County Archives	Yes	1902 to 1911	5 lynx recorded

These bounty records represent geographic locations across the state (see map in Attachment J); 45 percent of the records are from northeastern Oregon, 35 percent are from central Oregon, and 20 percent are from western Oregon (west of the Cascade mountain crest). This information is summarized in individual bar graphs for each county in Attachment K.

Washington:

Washington bounty claim registers recorded a total of twenty-seven lynx from three counties (Table 2). The records are dated anywhere from 1913 to 1930 (Attachment L). All of the records are from counties located on the westside of the Cascade Range in Washington. Records have not yet been obtained from seven additional westside counties and twelve eastside counties. All of this information is summarized in a graph in Attachment M. These records were made available by the Washington State Archives in Olympia, WA.

County Name	Years for which Records are Available	Number of Lynx Recorded in Bounty Claim Records	Comments
Clark		No lynx recorded	
Cowlitz		No lynx recorded	
King	Not Available	N/A	County reports large annual payments for bounties, but does not have records showing species taken.
Lewis	1913-1930	9 Lynx recorded	Over 1300 entries for "wildcats" Only records listing lynx separately were reported.
Pierce	Not Available	N/A	No bounty records found for this county
Skamania	1915-1917	17 Lynx recorded	10 Additional Smithsonian Specimens for this area from 1897-1898
Snohomish	Not Available	N/A	No bounty records found for this county
Thurston	1919-1930	7 lynx recorded	County auditors listed lynx and bobcat separately
Whatcom	Not Available	N/A	No bounty records found for this county

APPENDIX D

LYNX HABITAT MANAGEMENT IN OTHER AREAS

Washington State Department of Natural Resources (DNR)

The DNR issued a Lynx Habitat Management Plan in 1996. The DNR considers subalpine fir, grand fir, Douglas fir, western red cedar, western hemlock, Engleman spruce, larch, and lodgepole to provide habitat for lynx. The guidelines note that hardwoods, especially willow, are used by hares in the winter and that lynx populations may best be enhanced by providing adequate winter forage for snowshoe hares. Suitable forage (in Washington) is defined as dense coniferous and deciduous thickets that extend above the average winter snow depth. Since all lands capable of supporting forested conditions are mapped as suitable lynx habitat, tree species or plant associations were not used to include/exclude habitat by the DNR. Instead, lynx habitat is classified according to how lynx use the area, (e.g. for foraging, denning, or travel/connectivity). Less than 14 percent of the combined total of all DNR lands that are managed for lynx are in the subalpine fir plant association.

The Loomis forest (owned and managed mainly by DNR) consists of four major vegetation zones: Douglas-fir (28%), subalpine fir-lodgepole pine (27%), subalpine fir (16%), ponderosa pine (7%), and non-forested (22%). Approximately 45-60 percent (north to south, respectively) of the Okanogan lynx management zone is in the subalpine plant association. It is important to note, however, that the majority of these stands are currently dominated by lodgepole pine. The remaining area mapped as lynx habitat is typed as Douglas fir (approximately 36-54 percent north to south, respectively), and a mixture of other stand types and non-habitats. Within the Vulcan Mountain management area, approximately 50 percent of the area is subalpine fir and the remainder consists of a mixture of Douglas fir, Engleman spruce, and larch. In the “Wedge”, the primary habitat types are Douglas fir, red cedar, larch, lodgepole and Ponderosa pine. There is little or no subalpine fir in this management area. The Little Pend Oreille management area also does not contain any subalpine fir; it consists of two vegetation types, grand fir-Western hemlock (82%) and ponderosa pine (18%). Application of the revised FS mapping direction to this area would eliminate the entire area from consideration as lynx habitat, despite having been managed as lynx habitat since 1996.

Washington State Department of Fish and Wildlife

The Washington Department of Fish and Wildlife (WDFW) recently published a draft recovery plan for the Canada lynx (WDFW 2000). The plan recognizes that the historic distribution of lynx included much of the western Cascades and includes areas west of the crest as well as the southeastern corner of the state as potential habitat for recovery.

The WDFW Lynx Recovery Plan recognizes that adequate numbers of snowshoe hares is the key characteristic of lynx habitat and that forest types used by lynx vary geographically throughout their range and include both conifers and hardwoods. The main vegetation zones included in recent maps of

habitat in Washington include grand fir, western hemlock, subalpine fir, and western red cedar. The Plan notes that lynx home ranges in the Okanogan contained lodgepole pine (56%), Engelmann spruce-subalpine fir (26%), and Douglas-fir (13%). In northeastern WA, lynx use lodgepole pine about half the time, besides the other vegetation zones mentioned previously. The plan emphasizes that the importance of alternative prey species and mature forest for foraging may be underestimated.

Boise Cascade Corporation & Plum Creek Timber Companies Lynx Habitat Model (2000)

The lynx habitat model is the result of an effort to determine which habitat components are important to lynx. The model does not rely on plant associations or habitat types. Instead, delineation of denning habitat is based on canopy closure, tree size classification, forest stand size, the amount of dead/down woody debris, and the amount of foraging habitat in close proximity to potential denning habitat. The model recognizes that lynx forage quality is strongly tied to snowshoe hare habitat quality and thus measures hare habitat quality (the amount of vertical and horizontal deciduous/conifer cover) to determine the relative value to lynx. For example, the model assigns a higher forage quality value to a Douglas-fir regeneration stand than it does to a ponderosa pine sapling stand.

British Columbia

British Columbia published *A Lynx Management Strategy for British Columbia* (Hatler 1988) that describes habitat management for lynx based on the interspersed of two categories of habitat most valuable to lynx; (1) mature forest for cover/denning, and (2) younger seral habitats that support snowshoe hares and thus provide the nutritional basis for lynx population growth and expansion. The Strategy recommended addressing other forestry activities, such as fire suppression as it relates to hare population potential, size and juxtaposition of harvest units, and silvicultural treatments that affect hare production. Lynx habitat is not correlated with any particular vegetation zone, tree species, or plant association.

British Columbia Wildlife Habitat Handbook for the Southern Interior Ecoprovince (1988)

The handbook contains habitat relationship models based on a blend of literature and local professional expertise. A major premise of the handbook is that all habitat requirements must be considered. The lynx habitat model identifies year-long use in the following habitats: Douglas-fir - lodgepole pine, Engelmann spruce-subalpine fir dry forested, spruce riparian, black cottonwood riparian, and shrub wetlands. It also recognizes that lynx may occasionally be found in Douglas fir - ponderosa pine, ponderosa pine and trembling aspen. The area addressed by this plan borders the Mt. Baker-Snoqualmie and Okanogan National Forests and North Cascades National Park.

Colville National Forest Land and Resource Management Plan (CNF-LRMP) - 1988

The Colville National Forest (CNF) uses Franklin's/spruce grouse (*Dendragapus canadensis*), an inhabitant of coniferous forests with dense undergrowth, as an indicator species for lynx. The Standards and Guidelines in the CNF LRMP (CNF 1988) require that 1000 acres (20%) of every 5,000 acres of extensive lodgepole pine stands in Management Areas 5, 6, 7, and 8 be maintained in the <20 year age class. Also, 50% of early age lodgepole pine stands are kept in an unthinned condition. Mature and old growth habitat for denning is retained by Management Area 1 direction and prescriptions for pine marten and pileated woodpecker habitat, which account for roughly 5% of the CNF landbase. If the

most recent FS mapping direction is applied to the CNF, many areas that had been managed for lynx since 1988 would no longer need to be managed for lynx.

Okanogan National Forest - Meadows Area Analysis (ONF)

Koehler and Brittell (1990) documented lynx occurrence in the Meadows Area of the ONF. The ONF Land and Resource Management Plan emphasizes maintaining high quality lynx habitat in 80 percent of the Meadows Area (ONF 1993). Vegetation in the area includes at least 24 plant associations, based on the ONF Plant Association Guide (Williams and Lillybridge 1983). Climax tree species include Douglas fir, Engelmann spruce, and subalpine fir. Lodgepole pine forests dominate the area (62 percent) and are held in sub-climax condition by periodic stand replacement fires. The remainder of the area is mixed conifer (26 percent) and spruce/fir (12 percent) (ONF 1993). Aspen, ponderosa pine, and whitebark pine also occur in small stands. Lynx foraging habitat in the area is defined as young stands of lodgepole pine with high stem densities and sufficient height (ONF 1993), without regard to which plant association these stands are derived from.

Kootenai National Forest Lynx Conservation Strategy (1997)

The Kootenai National Forest (KNF) Lynx Conservation Strategy was written in 1997. The strategy defines suitable lynx habitat components on the Forest as denning, foraging, travel, future forage, and future travel. Denning cover includes late seral to climax stands that have a component of 50% or more, singly or in combination, of lodgepole pine/spruce/subalpine fir component, supporting large, down, woody, material. Foraging cover for snowshoe hares is listed as dense coniferous forest (that includes a component of 50% or more, singly or in combination, lodgepole pine/spruce/subalpine fir) with a shrub component. The Kootenai NF uses habitat type groups instead of plant associations to identify denning and foraging habitat. Denning is identified as occurring in all habitat type groups; forage and travel cover occurs in the cool- moist group (stands with various mixes of Douglas-fir, lodgepole pine, larch, subalpine fir, spruce, and sometimes W. red cedar and W. hemlock), the cool-wet group (stands with mixtures of Douglas fir, lodgepole pine, spruce, and subalpine fir), and the cool-moderately dry group (usually pure stands of lodgepole pine and/or subalpine fir). All stands, regardless of size, were considered potential habitat. If the new habitat guidelines are FS applied, much of the currently identified denning and foraging habitat would no longer be managed to assure the viability of the species on the KNF.

Draft Conservation Assessment & Strategy for Canadian Lynx in Idaho (1995)

The Idaho Conservation Assessment and Strategy (ICAS) was an interagency effort (Idaho Department of Fish and Game, Idaho Department of Parks and Recreation, Bureau of Land Management, US Forest Service, and US Fish and Wildlife Service) undertaken with the intent of conserving lynx in Idaho. The ICAS identifies lynx foraging habitat as early successional forests that have high numbers of prey (especially snowshoe hare), and late-successional forests for denning. The ICAS recognizes that hares prefer densely stocked stands containing deciduous and conifer species which provide sufficient cover and forage at varying snow depths. It relies on Kuchler's potential natural vegetation classification (1964) to identify lynx habitat in Idaho. The vegetation types included as representing potential lynx habitat in Idaho are: silver fir/Douglas-fir; subalpine fir/mountain hemlock; Douglas-fir/grand fir/Douglas fir; Englemann spruce/subalpine fir; ponderosa pine/Douglas-fir; white fir/blue

spruce/Douglas-fir; subalpine fir (var. *arizonica*)/Englemann spruce, and alpine meadows. The newest habitat guidelines would clearly exclude many of the vegetation types that the interagency conservation effort identified as potential lynx habitat in Idaho.

Interagency Lynx Habitat Notebook (1999)

In 1999 the Interagency Lynx Committee (USFS, WDFW, WDNR), published a notebook to provide resource managers with a summarized source of information on lynx habitat components in Washington state. The notebook resulted from discussions and field trips into lynx habitats over a six year period. It contains photos representing a variety of habitat conditions across eastern Washington and notes that lynx use habitats according to what is available on the landscape. Forage habitats are defined as vegetation types that support snowshoe hares and generally consists of high stem densities and high vertical and horizontal cover. The notebook provides photos of good forage habitat in Douglas-fir, subalpine fir, and western hemlock-red cedar plant associations and emphasized that maintaining snowshoe hares within as many habitat types as possible across the landscape is key to lynx management.

APPENDIX E

RATIONALE SUPPORTING THE DEFINITION OF INTERMINGLED/ADJACENT HABITATS

Ward and Krebs (1985) documented an increase in daily cruising radius from 2.7 km (1.6 miles) during moderate to high hare densities, to 5.4 km (3.2 miles) during low hare densities (<0.5 hares/ha or <0.2 hares/acre). Parker et al. (1983) reported a female's daily cruising distance as 8.8 km (5.3 mi) in winter and 10 km (6 mi) in summer. In Montana, the mean daily straight-line distance traveled by male lynx averaged 2.8 km (1.7 mi)(SD = 0.4, range = 2.5-3.3 km, $n = 4$) during summer (mid-May to August 1998)(Squires and Laurion 2000). The mean of two females without young during the same period averaged 3.2 km per day (2 mi per day) (SD = 1.0, range = 2.5-3.9 km)(Squires and Laurion 2000). In Wyoming, the mean daily-travel distance of the male averaged 4.1 km (2.5 mi) during summer (range = 1.3-7.2 km, $n =$ nine consecutive travel days) compared to 2.7 km (1.7 mi) during winter (SD = 1.9, range = 0.7-9.5 km, $n = 22$)(Squires and Laurion 2000). The daily travel distance of the Wyoming female was similar during both summer (mean = 2.4 km, SD = 1.9, range = 0.3-5.2 km, $n = 8$) and winter (mean = 2.2 km, SD = 1.4, range = 0.2-3.8 km, $n = 7$) (Squires and Laurion 2000). In a southern Canadian Rocky Mountain study, minimum daily movements for female and male Canada lynx averaged 3.0 km (1.9 mi)(2.5 - 3.9 km) and 3.8 km (2.4 mi)(3.2 - 4.3 km) respectively (Apps 2000).

The section titled “*Conservation Measures Applicable to All Programs and Activities*” within the LCAS states that the distribution of habitat across the LAU should consider daily movement distances of resident females (typically up to 3-6 miles). In the glossary of the LCAS it states denning habitat must be located within daily travel distance of foraging habitat (typical maximum daily distance for females is 3-6 miles)(Ruediger et al. 2000).

Based upon the above research data, the Appendices, and the references from the LCAS mentioned above, it is reasonable to estimate the association (intermingled and adjacent) of secondary habitat with primary habitat to be in the 3-6 mile range. It is also reasonable to assume that lynx in poorer habitat would have to travel farther in search of adequate food sources. Therefore, intermingled and adjacent habitat should include any secondary habitat within 3 miles of primary habitat (3 miles is half of the maximum daily movement of 6 miles). Also, that if secondary habitat falls within the 3 mile range, the full extent of that habitat should be included (i.e. if a portion of the secondary habitat extends out farther than the 3 mile range, then it should also be mapped as lynx habitat). Based upon movement information, areas between primary and secondary need to provide a minimum of travel cover (which would include thinned stands, shrub habitat, etc.) before secondary habitat can be considered associated with primary habitat.

APPENDIX F

THE VALUE OF OTHER VEGETATION TYPES AS LYNX HABITAT

Lynx use of lodgepole pine. Koehler et. al. (1979) stated that radio-tracked lynx in Montana used densely stocked stands of lodgepole pine almost exclusively. Additionally, he (1990) reported that home ranges contained a higher proportion of lodgepole pine and a lower proportion of Douglas-fir cover types than the overall study area (a zone surrounding the lynx locations and confined to elevations above 750 m).” He also found snowshoe hare pellet densities were greater in the lodgepole pine types.

McKelvey et al. (2000) stated that lynx showed strong selection for the lodgepole pine class in winter, with 53 percent of the telemetry locations in this class for winter and 48% in summer when using the fuels map. All other forest classes were \leq 15 percent. Using geographic information system (GIS) classifications, 39 percent of the locations in winter were in the lodgepole pine class with 33 percent in summer compared to the subalpine fir class with 25 percent of locations. McKelvey et al. (2000) showed the strong preference of lynx to the lodgepole pine types, particularly when the Fuels mapping process is used to delineate habitat. McKelvey et al. (1990) also found that one of four lynx with greater than 50 locations distributed across seasons and covering more than 500 days showed use of vegetation classes that differed significantly from availability within its home range: one lynx (#104090) selected the lodgepole pine class (based on the fuels map) in winter ($X^2 = 6.0$, $df = 1$, $p < 0.02$) and avoided the subalpine fir class (GIS map) in summer ($X^2 = 4.5$, $df = 1$, $p < 0.04$).” Visual representations of lynx preference for lodgepole pine over other vegetation types for this study can be found in Figures 10.4, 10.6, 10.7, and 10.8 of McKelvey et al (2000).

Snowshoe hare (lynx primary prey) use of lodgepole pine. Koehler (1990) and Hodges (2000) both showed younger stands of lodgepole pine (20 - 25 years old) had the highest hare densities in Washington. The Science Report indicates lodgepole pine forest types were considered to be the most important for snowshoe hares in Washington and Oregon with Engelmann spruce-subalpine fir near the bottom. This may correspond with the importance of lodgepole pine to snowshoe hares. Of the western states listed in the Science Report, studies showed that lodgepole pine was one of the primary forest type used by hares in Montana, Colorado, Washington, and Utah. A comparison between snowshoe hare abundance and lynx use also indicates the importance of lodgepole pine over subalpine fir and Douglas-fir.

Lodgepole pine life history as it may relate to lynx and snowshoe hare preference. Lodgepole pine is highly susceptible to disturbances such as wind, fire, and insects and is relatively short lived. These characteristics may provide coarse woody debris desirable for lynx denning habitat. Squires and Laurion (2000) found that the natal den in Wyoming was located in a subalpine fir forest with co-dominant lodgepole pine. The den site was described as being in an area with high horizontal cover from coarse woody debris and saplings. Koehler (1990) also described four dens in sites with high woody debris.

Lodgepole pine also tends to produce very dense early seral stands which support high densities of lynx primary and alternate prey species, snowshoe hare and red squirrel. Agee (2000) stated that many of the forest types below the boreal zone in western forests have more frequent disturbance by fire than the boreal zone (Agee 1993) and contain serotinous coned lodgepole pine allowing dense, younger lodgepole stands to develop after severe fire. Agee also stated subalpine fir and Engelmann spruce may compose the dominant tree species if fire return intervals are long enough that relatively short-lived lodgepole pine may be removed from the stands by mountain pine beetles before another fire event occurs. With the loss of the lodgepole pine stands, it is conceivable that, although lynx denning habitat may increase with an increase of coarse woody debris, snowshoe hare densities would be expected to decrease. However, this same situation would also occur as lodgepole pine stands age. Koehler (1989) found that the highest densities of snowshoe hare tracks and pellets occurred in 20 year old lodgepole pine stands (tracks = 10.9 ± 7.2) but decreased as the stands became older. These densities decreased even further from old lodgepole pine (>82 years)(tracks = 5.8 ± 3.9) to subalpine fir (>100 years)(tracks = 2.8 ± 1.9), Douglas-fir (>43 years)(tracks = 2.3 ± 2.6), and meadow (tracks = 1.4 ± 2.5).

The August 22, 2000 habitat mapping criteria allows subalpine fir habitat types that are dominated by seral lodgepole pine to be mapped as primary habitat, but climax lodgepole pine is specifically excluded from consideration. Situations where subalpine fir is a dominant tree species in the stand and lodgepole pine is both a seral species *and* a climax species (e.g. the lodgepole pine/beargrass plant association on the Deschutes National Forest) are not addressed. Based on field examination of these stands, they do provide snowshoe hare/lynx habitat and should be included, but according to the August 22, 2000 mapping criteria these areas are excluded.

Conclusion.

It appears that early seral lodgepole pine provides highly valuable habitat for both lynx and their primary prey species, the snowshoe hare. Other plant associations, besides subalpine fir, also yield early seral lodgepole pine forests that would provide suitable forage. The literature on lynx and snowshoe hare does not appear to support the exclusive use of subalpine fir or any other single climax forest type as “primary” habitat unless lodgepole pine is also present as a seral species (see the table below).

The potential availability of seral lodgepole pine should be a primary focus when attempting to provide optimal habitat conditions for lynx. Plant associations should be evaluated, along with site specific information on snow, prey, and habitat conditions. The various plant association guides for each of the National Forests in Oregon and Washington should be used to determine which plant associations provide dense stands of seral lodgepole pine and appropriate conditions for lynx/hare in each area.

PLANT ASSOCIATIONS

Many different plant associations can yield dense stands of seral lodgepole pine. The value of these stands for lynx/hare depends on local site conditions (elevation, slope, aspect, and fire history). Several of the plant associations listed below were formerly mapped as lynx habitat, but are not included in the current mapping guidance. For example, extensive areas of a grand fir plant association on the Ochoco NF are comprised of dense, seral lodgepole pine forests. These areas have some of the most abundant

concentrations of snowshoe hares found on the entire forest (D. Zalunardo, USFS, pers. comm) and they were previously mapped as lynx habitat. These sites are now excluded from consideration based on the revised (August 22, 2000) mapping direction. On the Wenatchee National Forest, many areas that lynx are known to use (M. Lenz, USFS, pers. comm.) are within the dry, Douglas-fir plant associations (R. Neiman, USFS, pers. comm). These areas provide dense, early seral lodgepole pine forests used by lynx and snowshoe hare. However, the revised mapping criteria exclude these areas, stating that “lynx do not appear to be associated with dry forest habitat types (e.g. dry Douglas-fir). These vegetation types should not be included as lynx habitat”.

The same structural conditions found in a subalpine fir plant community occur in other plant communities. Although lodgepole pine is a seral species in most subalpine fir plant associations, it is also a seral species in other plant associations. Assuming an adequate prey base and snow depth, these other plant communities should be given consideration if they provide the early seral conditions that result in good lynx/hare habitat. The application of site specific information should be used by each Forest so that the mapping criteria does not preclude the mapping of the most suitable habitat in each area.

The table below illustrates the variety of plant associations for which lodgepole pine is a seral species.

Plant Association	Plant Series	National Forest	Lodgepole pine is a seral species?	Comments
PSME/VAME	Doug. fir***	Wenatchee NF	Y	
PSME/CARU		Wenatchee NF	Y	
PSME/ARUV		Wenatchee NF	Y	
PSME/PAMY		Wenatchee NF	Y	
PSME/PAMY/CARU		Wenatchee NF	Y	
PSME/VACA		Wenatchee NF	Y	
ABGR/BENE	Grand fir**	Wenatchee NF	Y	
ABGR/BENE/CARU		Wenatchee NF	Y	
ABGR/CARU-LUPIN		Wenatchee NF	Y	
ABGR/SPBEL/PTAQ		Wenatchee NF	Y	

TSHE/ACTR	W. Hemlock	Wenatchee NF	Y	
TSHE/BENE		Wenatchee NF	Y	
ABAM/RULA	Pacific silver fir	Wenatchee NF	Y	
ABAM/VAME/CLUN		Wenatchee NF	Y	
ABAM/VAME-PYSE		Wenatchee NF	Y	
TSME/LUHI	Mtn. Hemlock	Wenatchee	Y	
TSME/VAME		Wenatchee NF	Y	
TSME/VASC/LUHI		Wenatchee NF	Y	
TSME/XETE-VAMY	Mtn. Hemlock	Wenatchee NF	Y	
TSME/VASC		Wenatchee & DeschutesNFs	Y	
Plant Association	Plant Series	National Forest	Lodgepole pine is a seral species?	Comments
TSME/VAME/CLUN		Gifford-Pinchot & Mt. Hood NFs	Y	Lodgepole pine is extremely common post-fire.
TSME/VAME/STRO		Mt. Baker Snoqualmie NF	Y	Lodgepole pine is extremely common post-fire.
TSME/VAME/XETE		Gifford-Pinchot & Mt. Hood NFs	Y	Young fire initiated stands are dominated by lodgepole

				pine with high stocking levels.
TSME/VASC		Gifford-Pinchot & Mt. Hood NFs	Y	Dense lodgepole pine is extremely common post-fire.
TSME/VAME/XETE	Mtn. Hemlock	Mt. Hood & Willamette NFs	Y	Snowpack 3 - 10 feet, lodgepole pine is prominent in burned stands
ABLA2/ARLA-POPU	Subalpine fir	Wenatchee NF	Y	
ABLA2/RHAL		Wenatchee NF	Y	
ABLA2/RHAL/LUHI		Wenatchee NF	Y	
ABLA/RULA		Wenatchee NF	Y	
ABLA2/VADE		Wenatchee NF	NO	
ABLA2/VASC		Wenatchee NF	Y	
PICO/XETE (Lodgepole is seral <i>and</i> climax)	Lodgepole pine (moist)	Deschutes, Fremont, & Winema NFs	Y	
PICO/SEDGE/LUPIN		Deschutes, Fremont, & Winema NFs	Y	
PICO/SEDGE/LUPIN/PENSTAMON		Deschutes, Fremont, & Winema NFs	Y	
Plant Association	Plant Series	National Forest	Lodgepole pine is a seral species?	Comments
MIXED CONIFER/SNOWBRUSH		Deschutes NF	Y	
MIXED CONIFER		Deschutes,		

/SEdge		Fremont, & Winema NFs	Y	
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** Extensive areas that key out as a grand fir plant association on the Ochoco NF were previously mapped as lynx habitat. These areas have some of the most abundant concentrations of snowshoe hares found on the entire forest, but are now excluded based on the revised mapping direction (D. Zalunardo, USFS, pers. comm).

***Areas where lynx are known to occur on the Wenatchee National Forest are classified as dry Douglas-fir plant associations (see Appendix C). These areas are specifically excluded by the August 22, 2000 mapping criteria which states that “lynx do not appear to be associated with dry forest habitat types (e.g. dry Douglas-fir). These vegetation types should not be included as lynx habitat.”