

**DEPARTMENT OF THE INTERIOR****Fish and Wildlife Service****50 CFR Part 17**

[FWS-R6-ES-2008-0026; 92210-1117-0000-B4]

RIN 1018-AV78

**Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Contiguous United States Distinct Population Segment of the Canada Lynx****AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), designate revised critical habitat for the contiguous United States distinct population segment of the Canada lynx (*Lynx canadensis*) (lynx) under the Endangered Species Act of 1973, as amended (Act). In total, approximately 39,000 square miles (mi<sup>2</sup>) (101,010 square kilometers (km<sup>2</sup>)) fall within the boundaries of the revised critical habitat designation, in five units in the States of Maine, Minnesota, Montana, Wyoming, Idaho, and Washington.

**DATES:** This rule becomes effective on March 27, 2009.

**ADDRESSES:** Comments and materials received, as well as supporting documentation used in the preparation of this final rule, are available for public inspection, by appointment, during normal business hours, at the Montana Ecological Services Office, 585 Shepard Way, Helena, MT 59601; telephone 406-449-5225. The final rule, environmental assessment, and economic analysis are available on the Internet at <http://www.regulations.gov> and at <http://mountain-prairie.fws.gov/species/mammals/lynx/criticalhabitat.htm>.

**FOR FURTHER INFORMATION CONTACT:** Mark Wilson, Field Supervisor, Montana Ecological Services Office (see **ADDRESSES** section) (406-449-5225); Lori Nordstrom, Field Supervisor, Maine Field Office (207-827-5938); Tony Sullins, Field Supervisor, Twin Cities Ecological Services Office (Minnesota) (612-725-3548); or Mark Miller, Field Supervisor, Upper Columbia Fish and Wildlife Office (Washington) (509-891-6839).

**SUPPLEMENTARY INFORMATION:****Background**

It is our intent to discuss only topics relevant to the revised designation of critical habitat in this rule. For more information about the listing of the

Canada lynx, refer to the final listing rule published in the **Federal Register** on March 24, 2000 (65 FR 16052), the clarification of findings published in the **Federal Register** on July 3, 2003 (68 FR 40076), the proposed rule to designate revised critical habitat rule published in the **Federal Register** on February 28, 2008 (73 FR 10860), and the notice announcing the availability of the draft economic analysis (DEA), draft environmental assessment, and reopening the comment period that published on October 21, 2008 (73 FR 62450).

**Species Information**

Canada lynx are medium-sized cats, generally measuring 30 to 35 inches (in) (75 to 90 centimeters (cm)) long and weighing 18 to 23 pounds (8 to 10.5 kilograms) (Quinn and Parker 1987, Table 1). They have large, well-furred feet and long legs for traversing snow; tufts on the ears; and short, black-tipped tails.

Lynx are highly specialized predators of snowshoe hare (*Lepus americanus*) (McCord and Cardoza 1982, p. 744; Quinn and Parker 1987, pp. 684-685; Aubry *et al.* 2000, pp. 375-378). Lynx and snowshoe hares are strongly associated with what is broadly described as boreal forest (Bittner and Rongstad 1982, p. 154; McCord and Cardoza 1982, p. 743; Quinn and Parker 1987, p. 684; Agee 2000, p. 39; Aubry *et al.* 2000, pp. 378-382; Hodges 2000a, pp. 136-140 and 2000b, pp. 183-191; McKelvey *et al.* 2000b, pp. 211-232). The predominant vegetation of boreal forest is conifer trees, primarily species of spruce (*Picea* spp.) and fir (*Abies* spp.) (Elliot-Fisk 1988, pp. 34-35, 37-42). In the contiguous United States, the boreal forest types transition to deciduous temperate forest in the Northeast and Great Lakes and to subalpine forest in the west (Agee 2000, pp. 40-41). Lynx habitat can generally be described as moist boreal forests that have cold, snowy winters and a snowshoe hare prey base (Quinn and Parker 1987, p. 684-685; Agee 2000, pp. 39-47; Aubry *et al.* 2000, pp. 373-375; Buskirk *et al.* 2000b, pp. 397-405; Ruggiero *et al.* 2000, pp. 445-447). In mountainous areas, the boreal forests that lynx use are characterized by scattered moist forest types with high hare densities in a matrix of other habitats (e.g., hardwoods, dry forest, non-forest) with low hare densities. In these areas, lynx incorporate the matrix habitat (non-boreal forest habitat elements) into their home ranges and use it for traveling between patches of boreal forest that support high hare densities where most foraging occurs.

Snow conditions also determine the distribution of lynx (Ruggiero *et al.* 2000, pp. 445-449). Lynx are morphologically and physiologically adapted for hunting snowshoe hares and surviving in areas that have cold winters with deep, fluffy snow for extended periods. These adaptations provide lynx a competitive advantage over potential competitors, such as bobcats (*Lynx rufus*) or coyotes (*Canis latrans*) (McCord and Cardoza 1982, p. 748; Buskirk *et al.* 2000a, pp. 86-95; Ruediger *et al.* 2000, p. 1-11; Ruggiero *et al.* 2000, pp. 445, 450). Bobcats and coyotes have a higher foot load (more weight per surface area of foot), which causes them to sink into the snow more than lynx. Therefore, bobcats and coyotes cannot efficiently hunt in fluffy or deep snow and are at a competitive disadvantage to lynx. Long-term snow conditions presumably limit the winter distribution of potential lynx competitors such as bobcats (McCord and Cardoza 1982, p. 748) or coyotes.

**Lynx Habitat Requirements**

Because of the patchiness and temporal nature of high-quality snowshoe hare habitat, lynx populations require large boreal forest landscapes to ensure that sufficient high quality snowshoe hare habitat is available and to ensure that lynx may move freely among patches of suitable habitat and among subpopulations of lynx. Populations that are composed of a number of discrete subpopulations, connected by dispersal, are called metapopulations (McKelvey *et al.* 2000c, p. 25). Individual lynx maintain large home ranges (reported as generally ranging between 12 to 83 mi<sup>2</sup> (31 to 216 km<sup>2</sup>)) (Koehler 1990, p. 847; Aubry *et al.* 2000, pp. 382-386; Squires and Laurion 2000, pp. 342-347; Squires *et al.* 2004b, pp. 13-16, Table 6; Vashon *et al.* 2005a, pp. 7-11). The size of lynx home ranges varies depending on abundance of prey, the animal's gender and age, the season, and the density of lynx populations (Koehler 1990, p. 849; Poole 1994, pp. 612-616; Slough and Mowat 1996, pp. 951, 956; Aubry *et al.* 2000, pp. 382-386; Mowat *et al.* 2000, pp. 276-280; Vashon *et al.* 2005a, pp. 9-10). When densities of snowshoe hares decline, for example, lynx enlarge their home ranges to obtain sufficient amounts of food to survive and reproduce.

In the contiguous United States, the boreal forest landscape is naturally patchy and transitional because it is the southern edge of the boreal forest range. This generally limits snowshoe hare populations in the contiguous United States from achieving densities similar to those of the expansive northern

boreal forest in Canada (Wolff 1980, pp. 123–128; Buehler and Keith 1982, pp. 24, 28; Koehler 1990, p. 849; Koehler and Aubry 1994, p. 84). Additionally, the presence of more snowshoe hare predators and competitors at southern latitudes may inhibit the potential for high-density hare populations (Wolff 1980, p. 128). As a result, lynx generally occur at relatively low densities in the contiguous United States compared to the high lynx densities that occur in the northern boreal forest of Canada (Aubry *et al.* 2000, pp. 375, 393–394) or the densities of species such as the bobcat, which is a habitat and prey generalist.

Lynx are highly mobile and generally move long distances (greater than 60 mi (100 km)) (Aubry *et al.* 2000, pp. 386–387; Mowat *et al.* 2000, pp. 290–294). Lynx disperse primarily when snowshoe hare populations decline (Ward and Krebs 1985, pp. 2821–2823; O'Donoghue *et al.* 1997, pp. 156, 159; Poole 1997, pp. 499–503). Subadult lynx disperse even when prey is abundant (Poole 1997, pp. 502–503), presumably to establish new home ranges. Lynx also make exploratory movements outside their home ranges (Aubry *et al.* 2000, p. 386; Squires *et al.* 2001, pp. 18–26).

The boreal forest landscape is naturally dynamic. Forest stands within the landscape change as they undergo succession after natural or human-caused disturbances such as fire, insect epidemics, wind, ice, disease, and forest management (Elliot-Fisk 1988, pp. 47–48; Agee 2000, pp. 47–69). As a result, lynx habitat within the boreal forest landscape is typically patchy because the boreal forest contains stands of differing ages and conditions, some of which are suitable as lynx foraging or denning habitat (or will become suitable in the future due to forest succession) and some of which serve as travel routes for lynx moving between foraging and denning habitat (McKelvey *et al.* 2000a, pp. 427–434; Hoving *et al.* 2004, pp. 290–292).

Snowshoe hares comprise a majority of the lynx diet (Nellis *et al.* 1972, pp. 323–325; Brand *et al.* 1976, pp. 422–425; Koehler 1990, p. 848; Apps 2000, pp. 358–359, 363; Aubry *et al.* 2000, pp. 375–378; Mowat *et al.* 2000, pp. 267–268; von Kienast 2003, pp. 37–38; Squires *et al.* 2004b, p. 15, Table 8). When snowshoe hare populations are low, female lynx produce few or no kittens that survive to independence (Nellis *et al.* 1972, pp. 326–328; Brand *et al.* 1976, pp. 420, 427; Brand and Keith 1979, pp. 837–838, 847; Poole 1994, pp. 612–616; Slough and Mowat 1996, pp. 953–958; O'Donoghue *et al.* 1997, pp. 158–159; Aubry *et al.* 2000, pp. 388–389; Mowat *et al.* 2000, pp.

285–287). Lynx prey opportunistically on other small mammals and birds, particularly during lows in snowshoe hare populations, but alternate prey species may not sufficiently compensate for low availability of snowshoe hares, resulting in reduced lynx populations (Brand *et al.* 1976, pp. 422–425; Brand and Keith 1979, pp. 833–834; Koehler 1990, pp. 848–849; Mowat *et al.* 2000, pp. 267–268).

In northern Canada, lynx populations fluctuate in response to the cycling of snowshoe hare populations (Hodges 2000a, pp. 118–123; Mowat *et al.* 2000, pp. 270–272). Although snowshoe hare populations in the northern portion of their range show strong, regular population cycles, these fluctuations are generally much less pronounced in the southern portion of their range in the contiguous United States (Hodges 2000b, pp. 165–173). In the contiguous United States, the degree to which regional lynx population fluctuations are influenced by local snowshoe hare population dynamics is unclear. However, it is anticipated that because of natural fluctuations in snowshoe hare populations, there will be periods when lynx densities are extremely low.

Because lynx population dynamics, survival, and reproduction are closely tied to snowshoe hare availability, snowshoe hare habitat is a component of lynx habitat. Lynx generally concentrate their foraging and hunting activities in areas where snowshoe hare populations are high (Koehler *et al.* 1979, p. 442; Ward and Krebs 1985, pp. 2821–2823; Murray *et al.* 1994, p. 1450; O'Donoghue *et al.* 1997, pp. 155, 159–160 and 1998, pp. 178–181). Snowshoe hares are most abundant in forests with dense understories that provide forage, cover to escape from predators, and protection during extreme weather (Wolfe *et al.* 1982, pp. 665–669; Litvaitis *et al.* 1985, pp. 869–872; Hodges 2000a, pp. 136–140 and 2000b, pp. 183–195). Generally, hare densities are higher in regenerating, earlier successional forest stages because they have greater understory structure than mature forests (Buehler and Keith 1982, p. 24; Wolfe *et al.* 1982, pp. 665–669; Koehler 1990, pp. 847–848; Hodges 2000b, pp. 183–195; Homyack 2003, pp. 63, 141; Griffin 2004, pp. 84–88). However, snowshoe hares can be abundant in mature forests with dense understories (Griffin 2004, pp. 53–54).

Within the boreal forest, lynx den sites are located where coarse woody debris, such as downed logs and windfalls, provides security and thermal cover for lynx kittens (McCord and Cardoza 1982, pp. 743–744; Koehler 1990, pp. 847–849; Slough 1999, p. 607;

Squires and Laurion 2000, pp. 346–347; Organ 2001). The amount of structure (e.g., downed, large, woody debris) appears to be more important than the age of the forest stand for lynx denning habitat (Mowat *et al.* 2000, pp. 10–11).

#### Future of Lynx Habitat

In 2003, we determined that climate change was not a threat to lynx within the contiguous U.S. DPS because the best available science we had at that time (Hoving 2001) was too uncertain in nature (68 FR 40083). Since that time, new information on regional climate changes and potential effects to lynx habitat has been developed (e.g., Gonzalez *et al.* 2007, entire; Knowles *et al.* 2006, pp. 4545–4559; Danby and Hick 2007, pp. 358–359), and this new information suggests that climate change may be an issue of concern for the future conservation of lynx because lynx distribution and habitat is likely to shift upward in elevation within its currently occupied range as temperatures increase (Gonzalez *et al.* 2007, pp. 7, 13–14, 19). This information, combined with the information in Hoving 2001, still needs to be evaluated further to determine how climate change might affect lynx and lynx habitat. We are evaluating this information in the 5-year review we are conducting for lynx.

At this time, we find it appropriate to designate critical habitat for the lynx in areas occupied by the species that currently contain the physical and biological features essential to the conservation of the lynx. Revisions to the critical habitat designation may be necessary in the future to accommodate shifts in the occupied range of the lynx. The revised critical habitat units in this rule include higher-elevation habitats that lynx would be able to continue to use if lynx distribution or habitat shifted upward in elevation.

#### Previous Federal Actions

For more information on previous Federal actions concerning the lynx, refer to the final listing rule published in the **Federal Register** on March 24, 2000 (65 FR 16052), the clarification of findings published in the **Federal Register** on July 3, 2003 (68 FR 40076), and the final rule designating critical habitat for lynx published in the **Federal Register** on November 9, 2006 (71 FR 66007). On July 20, 2007, we announced that we would review the November 9, 2006, final critical habitat rule after questions were raised about the integrity of scientific information used and whether the decision made was consistent with the appropriate legal standards. Based on our review of

the previous final critical habitat designation, we determined that the critical habitat designation was improperly influenced by then deputy assistant secretary of the Interior Julie MacDonald and, as a result, may not be supported by the record, may not be adequately explained, or may not comport with the best available scientific and commercial information. On January 15, 2008, the U.S. District Court for the District of Columbia issued an order stating the Service's deadlines for a proposed rule for revised critical habitat by February 15, 2008, and a final rule for revised critical habitat by February 15, 2009. Consequently, our proposed rule was signed on February 13, 2008, and submitted to the **Federal Register**. The proposed rule was subsequently published in the **Federal Register** on February 28, 2008 (73 FR 10860). We initiated a 5-year review of the status of lynx on April 18, 2007 (72 FR 19549).

#### Summary of Comments and Recommendations

We requested written comments from the public on the proposed revised designation of critical habitat for the lynx during two comment periods. The first comment period, associated with the publication of the proposed revised rule (73 FR 10860), opened on February 28, 2008, and closed on April 28, 2008. Five informal public meetings were held during this comment period in Washington (2), Minnesota (2), and Maine (1). We also requested comments on the proposed revised critical habitat designation, associated DEA, and draft environmental assessment during a second comment period which opened October 21, 2008, and closed on November 20, 2008 (73 FR 62450). During this comment period, we held a public hearing on November 7, 2008, in Kalispell, Montana, and one on November 13, 2008, in Cody, Wyoming. We contacted appropriate Federal, State, and local agencies; Tribes; scientific organizations; and other interested parties and invited them to comment on the proposed rule, DEA, and draft environmental assessment.

During the comment period for the proposed rule that was open between February 28, 2008, and April 28, 2008, we received a total of 338 comment letters. For the comment period open from October 21, 2008, to November 20, 2008, we received 184 comment letters and 17 comments at the two public hearings. Comments were received from Federal, State, Tribal and local governments, non-government organizations, private businesses, and individuals.

In accordance with our policy published on July 1, 1994 (59 FR 34270), we solicited expert opinions from 17 knowledgeable individuals with scientific expertise that included familiarity with the species, the geographic region in which the species occurs, and conservation biology principles. We received responses from three of the peer reviewers. The peer reviewers had differing assessments of our methods and conclusions and provided additional information, clarifications, and suggestions to improve the final critical habitat rule. Peer reviewer comments are addressed in the following summary and incorporated into the final rule as appropriate.

We reviewed all comments received from the peer reviewers and the public for substantive issues and new information regarding critical habitat for the lynx, and we addressed them in the following summary.

#### Peer Review Comments

(1) *Comment:* Some peer reviewers commented that Federal lands should be included in the final rule due to their importance for lynx in the Distinct Population Segment area and because designation would provide clarification to land managers as to the importance of conserving those lands. The general public also submitted comments noting this issue.

*Our response:* We agree that that in all units except Unit 1 (where Federal lands make up a very small portion of the designation), Federal lands are an essential component of the revised critical habitat designation. We have designated critical habitat on Federal lands, as described in this final rule.

(2) *Comment:* Some peer reviewers and other commenters stated that our criteria (especially regarding evidence of occupancy and reproduction) for defining lynx critical habitat were too narrow or arbitrary, and resulted in omission of areas they consider important to lynx conservation, particularly the Selkirk and Kettle Mountains, the Southern Rockies/Colorado, and a slightly more extensive area in Minnesota. Other general comments addressed expanding the Greater Yellowstone Area (GYA) to include Grand Teton National Park and southwest Wyoming to protect a corridor for dispersal. Other comments noted the GYA should not be included in critical habitat because it is isolated from populations in Canada. Several peer reviewers noted that it has not been established that the Southern Rockies population is isolated, and therefore this area should be considered critical

habitat. Additionally, we received comments recommending we designate critical habitat according to the lynx recovery outline, which included the areas of concern noted above by peer reviewers in addition to areas considered secondary or peripheral to recovery.

General comments also were concerned with our criteria, asserting we should not restrict our designation solely to areas with confirmed evidence of the presence of reproducing lynx populations because lynx surveys have not been adequate to detect all reproducing lynx populations. General comments also questioned why critical habitat designation was restricted to areas of confirmed evidence of reproducing lynx populations and that our revised critical habitat designation should be extended to all occupied areas, areas currently managed for lynx, all habitats supporting snowshoe hares, and unoccupied areas in the historic range of the lynx.

*Our response:* Critical habitat is defined in section 3 of the Act as: (1) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (a) essential to the conservation of the species and (b) which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. Not all locations with records of lynx presence are essential for the conservation of the species; lynx are a wide-ranging species, and areas containing periodic records that lack evidence of reproducing populations are not considered essential to the species (see Criteria Uses to Identify Critical Habitat section below). In that section of the proposed and final revised critical habitat rules, we describe in detail the parameters used for delineating areas that contain the physical and biological features essential to the conservation of lynx, as required by the definition of critical habitat when considering occupied areas. We also determined that occupied areas containing the features essential to the conservation of lynx support the majority of recent lynx records and evidence of breeding lynx populations since 1995.

We relied on records since 1995 to ensure that the revised critical habitat designation is based on the best available data that most closely represents the current status of lynx in the contiguous United States and the

geographic area occupied by the species. We recognize that adequate surveys to confirm the presence of lynx populations have not occurred everywhere throughout the species' range; however, no information was provided to us during the public comment periods to suggest where there might be locations with undetected breeding populations that we should more closely evaluate for designation as critical habitat other than the areas we already considered. We determined that the additional areas suggested by commenters are secondary or peripheral areas not essential to the conservation of the lynx.

While reviewing our original critical habitat proposal published on November 9, 2005 (70 FR 68294), we determined that habitat in the GYA contained the physical and biological features essential to the conservation of lynx; in addition, the GYA has a long history of lynx presence and reproduction, and its geographic location connects lynx populations in Canada to lynx habitat in Colorado and Utah. However, we designated areas within the GYA that contain the physical and biological features essential to lynx in sufficient quantity and spatial arrangement as demonstrated by their consistent use by lynx. The entire GYA may be permanently or intermittently occupied by lynx. Lynx may expand into Grand Teton National Park and additional areas in southwestern Wyoming not in the current critical habitat designation, but we have no indication that the habitat contains the physical and biological features essential to the species in necessary quantities to support populations of lynx.

The methodology we used in defining areas for lynx critical habitat did not mirror that used for the lynx recovery outline, but did reflect the biological concepts considered in the recovery outline. We used the best scientific information available in determining which areas contained the features essential for the conservation of lynx. As explained on pages 10869 to 10871 of the proposal to revise critical habitat (February 28, 2008; 73 FR 10860), the areas we determined to be essential for the conservation of lynx do not include all the areas identified in the recovery outline. The criteria we used for determining areas essential to the conservation of lynx for the revised critical habitat designation are based on the critical habitat requirements of the Act, which are more selective than those used for delineating the recovery areas in the lynx recovery outline. The recovery outline more broadly

encompasses older records of lynx and gave less weight to direct connectivity with Canada, although in the recovery outline it was recognized that maintaining connectivity with Canadian lynx populations was important. Furthermore, the areas in the recovery outline were mapped conceptually, include substantial areas that do not contain the physical and biological features essential for lynx or are both unoccupied and not essential for lynx conservation, and therefore do not meet the definition of critical habitat. We refined our mapping for the purposes of designating critical habitat in order to meet the statutory requirements associated with critical habitat. As a result, areas determined to be essential to the conservation of lynx for the purposes of critical habitat did not include all the areas delineated in the recovery outline.

The Kettle Range in north-central Washington historically supported lynx populations (Stinson 2001, pp. 13–14), and boreal forest habitat within the Kettle Range appears to contain habitat for lynx; however, there is no evidence that the Kettle Range is currently occupied by a reproducing lynx population (Koehler 2005 entire); therefore, it did not meet the methodology we used for determining occupancy (see Criteria Used To Identify Critical Habitat in the proposed rule, February 28, 2008; 73 FR 10860). In addition, while the Kettle Range contains physical and biological features important to lynx, its spatial configuration and quantity of habitat do not appear to be sufficient to support a breeding population of lynx.

In the Southern Rockies, it is still uncertain whether a self-sustaining lynx population will become established as a result of Colorado's reintroduction effort (Shenk 2007, p. 18). We recognize that this reintroduction has been an effort to recover the lynx in Colorado; however, the Southern Rockies contain marginal habitat, are on the southern limit of the species' range, and have not been shown to support a breeding population of lynx. Therefore, we find that habitat in Colorado is not essential to the conservation of species.

(3) *Comment:* Some peer reviewers commented that wildfire prevention and suppression activities would not be precluded by critical habitat designation and that areas occurring within the wildland-urban interface (WUI) should not be excluded or exclusions should be limited to narrowly defined areas in the immediate vicinity of structures. Some general comments stated that WUI areas should be included in critical habitat because urban interface concerns could

be used as an excuse to allow developmental sprawl and meet timber harvest quotas. Commenters raised concerns that lynx habitat management would increase wildfire risk to forests and communities and requested that WUI areas be excluded from critical habitat designation. Other commenters noted that recent forest fires eliminated PCEs in some areas, so removal of those lands from critical habitat designation is justified. Other commenters requested that additional critical habitat be designated as buffers against fire-produced habitat loss.

*Our response:* Areas within the WUI are designated as lynx critical habitat as described in this rule. Wildfire is not thought to be a threat to lynx, and often results in beneficial effects when burned areas regenerate into lynx foraging habitat. As described in the final rule listing the lynx (March 24, 2000, 65 FR 16052), natural fire plays an important role in creating the mosaic of vegetation patterns, forest stand ages, and structure that provide good lynx and snowshoe hare habitat, particularly in the western Great Lakes region and in the western mountain ranges of the United States (Agee 2000, pp. 47–56).

Currently, WUI areas are defined by a variety of methods varying from the defensible space immediately surrounding structures out into forest areas within several miles of communities. The designation of critical habitat will not prohibit protection of defensible space around homes or the WUI. The regulatory provisions of critical habitat affect actions on Federal lands or with a Federal nexus. We expect that a majority of urban interface fuels projects would occur under the authority of the U.S. Forest Service (USFS). The Northern Rockies Lynx Management Direction (NRLMD) amending the National Forest's management plans to protect lynx addresses additional fuels reduction projects in areas within the WUI. In our analysis of the NRLMD (USFWS 2007, pp. 67–68) during section 7 consultation with the USFS, we determined that even with additional fuels reduction, the management in the NRLMD would provide for the recovery of lynx in these areas. Areas burned may still contain the physical and biological features essential to lynx; those areas still represent boreal landscapes supporting a mosaic of differing successional forest stages.

We are designating all habitat that meets the criteria for critical habitat, i.e., known to be occupied at the time of listing and containing the physical and biological features essential to the conservation of the species. Neither the

Act nor the implementing regulations provide for designating additional areas as buffers.

(4) *Comment:* Some peer reviewers suggested that the proposed revised rule incorrectly characterized lynx foraging habitat, particularly in the western critical habitat units, by failing to highlight the importance of mature, multistoried forest stands for lynx in this area.

*Our response:* Recent studies have shown that mature, multistoried stands are important foraging habitat for lynx in Unit 3, and they are likely important in Units 4 and 5 as well. We have added language to clarify this in the final rule.

(5) *Comment:* Some peer reviewers felt that statements in the proposed revised rule concerning the low sensitivity of lynx to forest management practices were misleading.

*Our response:* The statement in the proposed revised rule raised by commenters relates to “matrix habitat,” which is habitat that surrounds patches of foraging and denning habitat. Matrix habitat, by definition, is habitat that is crucial for preserving the ability of lynx to move between foraging and denning areas. However, the vegetative condition and structure of matrix habitat is not relevant to its value. For this reason, we do not foresee the need for prescriptive management for lynx in matrix habitat beyond maintaining the ability for lynx to move through this habitat to access other habitat types within a home range. We do recognize that lynx are sensitive to forest management practices in foraging and denning habitat and that forest management activities can have significant positive and negative impacts on lynx depending on the nature and timing and activities.

(6) *Comment:* Some commenters expressed that seasonal differences in lynx habitat preference is poorly articulated in the proposed revised rule. One commenter pointed out that lynx starvation in northwestern Montana during late winter-early spring is tied to the abundance and quality of winter habitat (mature, multistoried forest) and is the primary issue for lynx conservation in this area.

*Our response:* Lynx use a variety of habitat types and conditions during the year, which is why we drew the boundaries of the critical habitat units to include entire landscapes of boreal forest in a variety of successional stages that account for year-round habitat needs.

(7) *Comment:* Several peer reviewers and other commenters noted the important role that private lands play in lynx conservation and stated that the final rule should better define the

degree to which private lands contribute to lynx persistence.

*Our response:* Through the process of developing our proposed revised rule and subsequent modifications, we determined which lands contain features essential to the conservation of lynx. Private lands were included because of their value for lynx conservation. The relative contribution of private lands to lynx conservation varies between the five revised critical habitat units. Unit 1 is almost entirely comprised of private land, and therefore private lands provide almost the entire lynx habitat in this area. Conversely, Units 4 and 5 have relatively little private land, with Federal lands providing the bulk of lynx habitat. Units 2 and 3 have a mix of private, Federal, and State lands. We recognize the essential nature of private lands for lynx conservation where we are designating those lands as critical habitat. We have retained private lands in this final designation in all cases except where we determined, under section 4(b)(2) of the Act, that the benefits of excluding specific areas were greater than the benefits of including those areas in the designation (see Application of Section 4(b)(2) of the Act for more information).

(8) *Comment:* Some peer reviewers indicated that the statement in the proposed revised rule that snowshoe hares must be present over a large proportion of the landscape in order for that landscape to support lynx is incorrect. Reviewers cited the presence of lynx in the GYA and Northern Rockies as examples of lynx populations that exist despite the landscape not being dominated by forest types supporting snowshoe hares.

*Our response:* While we still highlight that the proportion of the landscape that supports snowshoe hares is important, we acknowledge that the proportion of the landscape that must support snowshoe hares in order to support lynx is not known with certainty. Lynx populations may persist in some mountainous areas despite snowshoe hares occurring in relatively small and isolated patches. We have clarified this point in this final rule.

(9) *Comment:* One peer reviewer recommended that the primary constituent element (PCE) identified for lynx be broadened to include multistoried stands of mature conifers with boughs that touch the snow surface, as these are important foraging habitats in Montana and elsewhere in the West.

*Our response:* We agree, and we have provided clarification to that portion of the PCE in this final designation.

(10) *Comment:* One peer reviewer stated that the definition of denning habitat in the proposed revised rule was not broad enough to capture all of the den sites used by lynx in Montana.

*Our response:* The description of denning habitat in the proposed revised rule captures the type of habitat most used by lynx for denning in the contiguous United States. We believe that our description adequately captures lynx denning habitat for the purposes of delineating critical habitat in Montana and in other critical habitat units.

(11) *Comment:* Several peer reviewers and one commenter provided views on the relative importance of Tribal lands for lynx conservation. Some thought we should have included some Tribal lands in the proposed revised rule. We received several comments, primarily from Tribes, recommending that all Tribal lands be excluded.

*Our response:* In accordance with Secretarial Order 3206, “American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act” (June 5, 1997); the President’s memorandum of April 29, 1994, “Government-to-Government Relations with Native American Tribal Governments” (59 FR 22951); Executive Order 13175 “Consultation and Coordination with Indian Tribal Governments;” and the relevant provision of the Departmental Manual of the Department of the Interior (512 DM 2), we believe that fish, wildlife, and other natural resources on Tribal lands are better managed under Tribal authorities, policies, and programs than through Federal regulation wherever possible and practicable. Such designation is often viewed by Tribes as an unwanted intrusion into Tribal self governance, thus compromising the government-to-government relationship essential to achieving our mutual goals of managing for healthy ecosystems upon which the viability of threatened and endangered species populations depend.

We contacted all Tribes potentially affected by the proposed revised designation and met with some of them to discuss their ongoing or future management strategies for lynx. Several Tribes subsequently submitted letters requesting exclusion based on their sovereign rights and concerns about the economic impact and effects on their ability to manage natural resources. As described in our proposed revised rule, we believe that conservation of lynx can be achieved without including Tribal lands within the revised critical habitat units. We determined that these lands are not essential to the conservation of lynx, but also, many of the Tribes have

management plans that provide for lynx habitat needs. The Tribal lands included in the proposed revised designation are found only in the Maine, Minnesota, and Montana units and the size of the areas are relatively small (approximately 223, 187, and 898 km<sup>2</sup>, respectively [86, 72, and 347 mi<sup>2</sup>]). We are excluding these Tribal lands from this final designation under section 4(b)(2) of the Act. See Exclusions Under Section 4(b)(2) of the Act for a discussion of why these lands have been excluded.

*(12) Comment:* Some peer reviewers and commenters recommended we use lynx analysis unit (LAU) boundaries as defined by some agencies to define the critical habitat boundaries, because they used habitat-based processes to identify the best lynx habitat.

*Our response:* We agree. After receiving numerous comments to this effect, we solicited lynx habitat data and LAU boundary data from Federal and State agencies, as well as private companies in and around the proposed revised critical habitat in Units 2, 3, 4, and 5. We then revised the critical habitat boundary to more closely reflect where lynx habitat occurs and followed LAU boundaries to the extent practicable (e.g., where doing so would not leave out significant lynx habitat or include significant areas of non-lynx habitat). These potential modifications were announced to the public when we announced the availability of the DEA and the draft environmental assessment (73 FR 62450) on October 21, 2008.

*(13) Comment:* Some peer reviewers questioned the need to consider climate change in a critical habitat designation. Other peer reviewers and commenters stated the need to designate critical habitat in high elevation habitats that are currently unsuitable for lynx occupancy but may become suitable with climate changes. Other commenters stated that climate change will render some proposed areas unsuitable; therefore, these areas should not be included in the designation. One commenter requested an analysis of climate change effects on each of the microclimates included in the Minnesota proposed critical habitat.

*Our response:* We acknowledge that climate change could change the suitability of lynx habitat in the future. However, we are required to designate critical habitat based upon the best available scientific and commercial data at the time that we finalize the designation. At this point in time, reliable projections of future climate in lynx habitat in the contiguous United States are not available. However, for mountain-dwelling species like lynx, we conclude that higher elevation habitat is

likely to become increasingly important in the face of climate changes. Designated critical habitat units include the highest-elevation habitat in the areas, and these areas would likely become more important to the extent lynx distribution and habitat shift upward in elevation as temperatures increase. High elevation habitat was included in the proposed designation, and we have determined it is appropriate to include these areas in the final designation.

#### *General Issues and Responses*

*(1) Comment:* We received numerous comments concerning possible restrictions imposed by critical habitat designation on economic, recreation, forest management, predator control, infrastructure, and energy transmission activities on private and public lands. Some commenters are concerned the designation provides a mechanism for increased third party litigation, and some asserted the designation of critical habitat constitutes an uncompensated taking of private property and is therefore illegal.

*Our response:* Critical habitat has a direct regulatory impact on the actions of Federal agencies only. Therefore, a critical habitat designation on private land has no regulatory impact on actions carried out by landowners unless they seek Federal funding or a Federal permit to carry out those actions. For example, if landowners must obtain a permit from the U.S. Army Corps of Engineers (Corps) under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) to carry out an action on their land, the Corps must consult under section 7 to evaluate the effects that the permitted activity may have on critical habitat. Even then, the designation may only have a substantial impact on the activity if it is likely to result in the destruction or adverse modification of the critical habitat. It is the responsibility of the Federal agency, not the private landowner, to initiate the consultation with the Service.

The Act prohibits Federal agencies from carrying out actions that would destroy or adversely modify critical habitat. A Federal action (e.g., winter recreation, energy transmission, mining, or road construction) that is not likely to cause destruction or adverse modification of lynx habitat may not be materially affected by a critical habitat designation. Federal action agencies must evaluate the potential effects of each action on its own merits. If a Federal action would result in destruction or adverse modification of lynx habitat, the Service would suggest reasonable and prudent alternatives to

avoid the destruction or adverse modification of critical habitat.

Section 4(a)(3) of the Act requires that critical habitat be designated for listed species. The designation of critical habitat for lynx may increase the number of lawsuits brought forward by citizens opposed to certain actions. Although this is possible, these lawsuits may only have merit if the Federal agency that is funding, authorizing, or carrying out the action does not adequately consider its potential effects to critical habitat, or consult, as appropriate, with the Service in making its final decision.

The promulgation of a regulation does not take private property unless the regulation denies the property owners all economically beneficial or productive use of their land. Further, in accordance with Executive Order 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we analyzed the potential takings implications of designating critical habitat for the lynx in a takings implications assessment (TIA), which is available on request. The conclusion in the TIA was that the possibility for take of private property due to designation of critical habitat for lynx is remote.

*(2) Comment:* We received several comments stating that the proposed critical habitat designation area should be smaller, or that no critical habitat should be designated. These comments contained little explanation to support the recommendations. Other comments indicated that the area designated for critical habitat in Minnesota was too small to be significant to lynx survival.

*Our response:* Section 4(a)(3) of the Act requires that critical habitat be designated for listed species. The lynx was listed as a threatened species under the Act on March 24, 2000 (65 FR 16052). Under section 4(b)(2), the Act requires that a critical habitat designation be made on the basis of the best scientific data available and after taking into consideration the economic impact and any other relevant impact of specifying any particular area as critical habitat. In order for us to consider excluding a particular area from a critical habitat designation based on economic or other relevant impacts, we need geographic specificity and supporting documentation that can be analyzed. The comments did not provide this information, making analysis for exclusion or explanation of inclusion impossible. In general, after considering the data available, we proposed areas for critical habitat that represented the breadth of ecological settings and sufficient number of

populations to satisfy the biological requirements of the lynx and the statutory requirements of the Act.

We believe that the 8,200 mi<sup>2</sup> (21,238 km<sup>2</sup>) of land in Minnesota proposed for critical habitat is a significant part of the designation. The high-quality lynx habitat proposed in the Minnesota unit comprises 20 percent of the total area proposed for critical habitat in the contiguous United States. In addition, the Minnesota unit is the only area in the Great Lakes region with strong, long-term evidence of the persistence of lynx populations. As we explained in detail in the Criteria Used To Identify Critical Habitat section in the proposed rule, the inclusion of the Minnesota unit is important in applying the conservation principles of representation, resiliency, and redundancy to the critical habitat designation for lynx. Focusing lynx conservation efforts, including critical habitat designation, on areas with a long-term presence of reproducing lynx and connectivity to populations in Canada has the greatest chance of ensuring the continued persistence of lynx in the contiguous United States.

(3) *Comment:* One commenter indicated that indirect effects of State and local regulations may follow critical habitat designation.

*Our response:* We recognize that State and local governments have the authority to promulgate regulations or local rules related to a critical habitat designation. However, listed species and their habitats are protected by the Act regardless of whether they are in areas designated as critical habitat. The draft economic analysis (DEA) addressed the potential for newly promulgated regulations or rules resulting from our critical habitat designation; none were anticipated. Therefore, we do not anticipate additional regulatory restrictions as a result of State or local regulations.

(4) *Comment:* Comments included concerns about increased threats to lynx and lynx habitat due to development, vegetation management by Federal agencies that destroys snowshoe hare habitat, and the introduction and proliferation of wolves.

*Our response:* Critical habitat designation identifies the specific areas within the geographical area occupied by the species that contain the physical and biological features essential to the conservation of the species, and which may require special management considerations or protection. Designation of critical habitat helps focus conservation and recovery activities. The designation of critical habitat by itself does not achieve conservation or recovery of a species,

nor does it prohibit development or forest management activities that alter snowshoe hare habitat. The Act does not automatically restrict all uses of critical habitat, but only imposes restrictions under section 7(a)(2) on Federal agency actions that may result in destruction or adverse modification of critical habitat. Each Federal action, including development, permitting, funding, and forest management, would be evaluated by the involved Federal agency, in consultation with the Service, in relation to its impact on the critical habitat. If, after evaluation and consultation, it is concluded that a proposed action is likely to result in the destruction or adverse modification of critical habitat, the Service is required to suggest reasonable and prudent alternatives to the action that would avoid the destruction or adverse modification of critical habitat.

To a private property owner, the designation of critical habitat becomes important only when undertaking an activity that is authorized, funded, or completed by a Federal agency. Conservation actions, however, are not limited to Federal agencies. Lynx are protected on Federal and non-Federal lands through prohibitions and constraints of section 9 of the Act, regardless of critical habitat designation. Although consultation with the Service is not specifically stated in the Act, non-Federal activities, including development and forest management, may require permitting by the Service if an action would result in a taking of the species as described under section 9 of the Act.

Other predator species could affect lynx negatively by competing for resources, direct predation of lynx, or both. Lynx are vulnerable to competition for prey because of a selective diet that relies heavily on snowshoe hare. Wolf prey competition is unlikely based on the minor inclusion of small mammals in their diet. Wolves could have a positive influence on lynx by killing coyotes that compete with lynx for rabbits and hares. Predation of lynx by wolves has not been identified as a threat to the species.

(5) *Comment:* We received several comments requesting additional hearings, public meetings, or an extension of the public comment period. Some commenters stated that public participation was precluded by not adequately notifying landowners about the proposal and not having a completed economic analysis at the time the proposed rule was published. Some commenters felt that access to listing documents, including maps, was not convenient and that the **Federal**

**Register** was an inadequate mechanism for notifying the public of the proposal.

*Our response:* We made a concerted effort to provide public notice of this rulemaking. Because of the large scope of the proposed designation it was not possible to contact each landowner. However, we issued a widely-disseminated news release regarding our proposal, and published legal notices in major newspapers in areas involved in the proposal. We published **Federal Register** notices, including the critical habitat proposal, reopening of the comment period, and notice of availability of draft documents. We sent hundreds of letters, cards, and e-mails to State and Federal agencies, Tribal governments, local governments, private individuals, private companies, non-government organizations, and elected officials announcing the proposal, document availability, and public meetings and hearings. We also issued press releases concurrent with **Federal Register** notice announcements. A web page of lynx critical habitat materials and information has been maintained at <http://mountain-prairie.fws.gov/species/mammals/lynx/criticalhabitat.htm>.

We received several requests for public hearings during the initial comment period for the proposed rule. Hearings were conducted as required under section 4(b)(5)(E) of the Act. Public hearings on the published proposal were held on November 7, 2008, in Kalispell, Montana, and November 13, 2008, in Cody, Wyoming. Open houses and meetings on the published proposal were held on March 25, 2008, Duluth, Minnesota; April 23, 2008, Bloomington, Minnesota; May 20, 2008, Grand Marais, Minnesota; March 25, 2008, Twisp, Washington; and April 2, 2008 and November 10, 2008, Old Town, Maine. In the proposed rule we provided contact information for four Service Field Offices for anyone seeking further information on the proposed revised critical habitat designation. Therefore, we believe that we made a conscientious effort to reach all interested parties and provide avenues for them to obtain information concerning our proposal and supporting documents.

We recognize the scale of the maps published in the **Federal Register** made it difficult to accurately identify whether particular parcels of land were included within the proposed designation. However, the descriptions that began on page 10881 of the proposed rule (73 FR 10860; February 28, 2008) were provided to assist the public in understanding exactly which lands were proposed as critical habitat.

We acknowledge that a draft economic analysis (DEA) was not available to the public at the time of publishing the proposed rule in the **Federal Register**. We considered it important to release the proposed rule to the public for review and comment as soon as possible. The DEA was released for public review as soon as it was completed. The comment period was then reopened for 30 days, and the public had an opportunity to submit comments on both the proposed rule and the accompanying DEA.

(6) *Comment:* A commenter stated that the proposed critical habitat rule misrepresented the legal boundaries of Cook County townships in Minnesota leading to a lack of citizen participation. A commenter stated that we misrepresented critical habitat effects on private property, specifically that designation imposes a take permit system for non-Federal activities on private land, thereby limiting public participation and violating the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 *et seq.*).

*Our response:* We disagree on both issues. We believe that detailed and sufficient information was provided to the public that clearly delineated boundaries for critical habitat. The proposal included a statement on page 10882 that critical habitat does not include towns or populated areas as they now exist. The term “now exist,” is a function of the municipal boundaries that are not delineated by the Service but established, in most cases, by non-Federal, local entities. Numerous areas in Minnesota, including in Cook County, are not included in the critical habitat area. More detailed information on the boundaries of the proposed critical habitat was included on pages 10881 through 10895, with specific delineations for Minnesota on pages 10886 and 10887.

Regulatory implications for private lands were clearly stated in the proposed rule. The designation of critical habitat for the lynx does not affect land ownership or establish a conservation area, does not allow the government or public to access private lands, and does not require (although it encourages) implementation of restoration, recovery, or enhancement measures by a landowner for the lynx. In situations where a landowner seeks Federal agency funding or authorization of an activity that may affect the lynx or its critical habitat, the Federal agency is responsible for complying with section 7 of the Act to determine the impacts of its action on the lynx and its critical habitat. If Federal authorization or

funding of the proposed private action is likely to result in the destruction or adverse modification of lynx critical habitat, the Service and the Federal action agency, in coordination with the landowner as an applicant, would cooperate in the development of a reasonable and prudent alternative that avoids that outcome and meets other specific criteria set forth in the regulations. The designation of critical habitat does not institute a permit requirement for the private landowner whose activity results in the take of a listed animal species. Any appropriate permitting became necessary at the time the lynx was listed in 2000.

As stated in the response to Comment 5, we made a conscientious effort to reach all interested parties and provide avenues for them to obtain information, including an environmental assessment for NEPA compliance, and submit comments concerning our proposal.

(7) *Comment:* Many commenters did not believe that the lynx qualified as a threatened species. Some commenters thought the species should be delisted, and others thought it should be listed as endangered. Some commenters believe that designation of critical habitat is necessary to recover lynx, but that designation of critical habitat prior to completion of a lynx recovery plan or other lynx conservation guidance is premature. Other commenters were concerned about the effectiveness of critical habitat designation and the ineffectiveness of single species management. Commenters stated that critical habitat designation was in conflict with Federal mining laws, and that other Federal agencies were not complying with the Endangered Species Act, Multiple-use Sustained-yield Act of 1960 (16 U.S.C. 528 *et seq.*), and others. Some commenters stated that the 2005 critical habitat rule was supported by the record and should not be changed.

*Our response:* The lynx was listed as a threatened species under the Act on March 24, 2000 (65 FR 16052). Section 4(a)(3) of the Act requires that critical habitat be designated for listed species. This rule addresses the required critical habitat designation; listing actions are not part of the critical habitat rule.

On January 15, 2008, the U.S. District Court for the District of Columbia ordered the Service to complete a final rule for revised critical habitat by February 15, 2009. A recovery plan need not be completed before critical habitat is designated, but is useful in guiding the designation if one exists. The drafting and finalization of a recovery plan for lynx has not been feasible due to work load and economic constraints. However, the lynx recovery outline was

used to guide the proposed revised lynx critical habitat designation. The areas we considered in our methodology for defining critical habitat for the lynx did not mirror the exact areas identified in the recovery outline, but did reflect the biological concepts considered important in the recovery outline. We used the best science available in determining areas that contained the features essential for the conservation of lynx. Designation of critical habitat does not in itself bring about recovery, but designation of critical habitat can help focus conservation and recovery activities for listed species by identifying areas essential to conserve the species. Specific management recommendations for areas designated as critical habitat are most appropriately addressed in subsequent recovery and management plans.

We agree that research is important, and that managing for a single species may not provide the maximum benefit for a biological community or an ecosystem as a whole. The purpose, however, of this rulemaking is to comply with a directive of the Act to designate areas with the biological and physical features necessary for the conservation of the lynx.

An analysis of the possible contradictions of statutes or the compliance of Federal agencies with relevant or unrelated laws is not within the purview of this critical habitat rule.

While some believe that our previous designation was satisfactory, we reviewed the previous critical habitat rule for the lynx (71 FR 66007; November 9, 2006) after questions were raised about the integrity of the scientific information used and whether the decision made was consistent with the appropriate legal standards. We determined that it was necessary to revise the critical habitat designation based on that review.

(8) *Comment:* Some commenters questioned the presence of primary constituent elements (PCEs) for lynx in specific areas proposed as critical habitat, and recommended that the proposal be refined. Specific areas cited included the shore of Lake Superior, State of Wyoming, existing and proposed mining areas, and matrix habitat. Other commenters asserted that the boundaries we used (such as the 4,000-foot (ft), 1,219-meter (m)) elevation contour or highways were arbitrary and overly broad.

*Our response:* We reviewed available maps, peer and public comments, and biological information received during the public comment period. Subsequently, portions of units that did not contain the PCE or where

development was concentrated were removed from the final designation. Any developed areas and the land on which structures are located inside critical habitat boundaries are excluded from critical habitat designation as is described in this final rule. In some areas, unit boundaries were expanded to incorporate adjacent lynx habitat that had been inadvertently left out of the proposed critical habitat.

Designated critical habitat areas in Wyoming (Greater Yellowstone Area (GYA)—Unit 5) have confirmed records of reproducing lynx and contain lynx habitat similar to the Northern Rockies. Lynx are generally associated with the Rocky Mountain Conifer Forest vegetation class in Wyoming, which is dominated by subalpine fir, Engelmann spruce, and lodgepole pine. As described in detail in the proposed rule on page 10866, lynx habitat in the GYA is typically found in a widely scattered mosaic of matrix habitat. Individual lynx adjust their home range to incorporate land that is not typical lynx foraging habitat, but is used primarily for travel. The need for matrix habitat designated as critical habitat is most pronounced in the GYA, but matrix habitat is important in all designated areas to retain unimpeded movement of lynx between patches of suitable foraging and denning habitats.

Roads and other human-made structures were used as boundaries for critical habitat where they clearly delineated areas with confirmed records of lynx reproduction and the presence of PCEs. In the Washington State Unit, the 4,000-ft (1,219-m) elevation contour is used to delineate the critical habitat boundary because the features essential to the conservation of lynx, the majority of lynx records, the evidence of reproduction, and the boreal forest types are found above 4,000 ft in Washington State.

*(9) Comment:* Comments were received questioning why changes were made from the previous (2005) rule. Specific changes noted were the identification of lands requiring special management; inclusion in the current proposed rule of lands previously exempted under sections 4(b)(2) and 3(5)(a) of the Act; and the expansion of critical habitat beyond the boundaries of Voyageurs National Park and the Boundary Waters Canoe Area in Minnesota.

*Our response:* As explained in the “Previous Federal Actions” section on page 10863 of the February 28, 2008 proposed rule, we determined that it is necessary to revise the November 9, 2006, final critical habitat rule as a result of questions that were raised

about the integrity of scientific information used in the 2006 designation and whether the decision made was consistent with the appropriate legal standard. As a result, we reconsidered all the lands that were designated, lands that were not designated under section 3(5)(a) of the Act, and lands excluded under section 4(b)(2) of the Act in the 2006 designation.

*(10) Comment:* Some commenters indicated that designation provides little or no additional benefit beyond the listing itself, and that critical habitat is not necessary because conservation occurs through other existing means such as the Lynx Conservation Assessment and Strategy (LCAS), National and State Forest Plans, and other actions. Other commenters expressed their support for critical habitat because the designation provides for educational and research opportunities, recreation, and economic and forest management benefits.

*Our response:* Compliance with section 4(a)(3) of the Act necessitates that critical habitat be designated for listed species. It is true that a species and habitat upon which it depends are protected under provisions of the Act whether critical habitat is designated or not. However, a critical habitat designation identifies lands on which are found the physical and biological features essential to the conservation of the species that may require special management considerations, and areas outside the geographical area occupied by the species at the time of listing that are essential to the conservation of the species. The identification of these essential areas is important to guide management and provide for the recovery of the species.

As explained in detail in the Benefits of Designating Critical Habitat section of this final rule, the consultation provisions under section 7(a) of the Act constitute the regulatory benefits of critical habitat. Federal agencies must consult with the Service on discretionary actions that may affect a listed species, and in addition, analyze the effects of an action to critical habitat. The analysis of the effects to critical habitat is a separate and different analysis from that of the effects to the species, and may provide greater regulatory benefits to the recovery of a species than listing alone.

Since the lynx was proposed for listing in 1999, the U.S. Forest Service (USFS), Bureau of Land Management (BLM), and National Park Service (NPS) have been instrumental partners with the Service in conservation and recovery of the lynx, and in the

development of the Lynx Conservation and Assessment Strategy (LCAS) (Reudiger *et al.* 2000). The LCAS constitutes the best available information on conserving lynx, and identifies potential risk factors to lynx and lynx habitat and management guidance to reduce these risks. The Service and USFS are signatories to an agreement protecting lynx on national forest lands until all Land Resource Management Plans (LRMPs) for the relevant forests are amended to include the direction consistent with the LCAS. The National Forests in Units 2, 3, and 5 have all amended their forest plans, and the Okanogan-Wenatchee National Forest in Unit 4 is in the process of amending its LRMP. No Federal lands are included in the critical habitat designation in Unit 1.

During the critical habitat designation process, we evaluated national forest areas to determine if they meet the definition of critical habitat (i.e., if they contain physical or biological features essential to conservation of the lynx and if these essential features may require special management or protection). National forest lands included in this final rule were found to have the essential features for lynx. The essential features on lands covered by management programs or plans that have been revised or amended to adopt the LCAS do require special management or protection, and therefore meet the definition of critical habitat in section 3(5)(A) of the Act.

Lands proposed as critical habitat can be excluded from a final critical habitat designation under section 4(b)(2) of the Act where conservation is addressed by existing protective actions and the benefit of exclusion outweighs the benefit of inclusion, unless the failure to designate such area will result in the extinction of the species concerned. The “Benefits of Excluding Non-Federal lands with Conservation Partnerships” section in this rule details our analysis of excluding or including non-Federal lands.

Critical habitat designation serves to educate the public and State and local governments regarding the potential conservation value of certain areas. Clearly delineating areas helps focus and promote conservation direction and actions. Critical habitat educational benefits, in general, may be redundant with other actions requiring significant public involvement, e.g., habitat conservation plans (HCPs). It is not possible to state broadly that research, recreation, and economies are benefitted by critical habitat designation. A listing under the Act itself focuses research on the species and habitat needs.

Recreation benefits are relative to the type of activity and location. Recreation or aesthetic benefits may come in the form of unquantifiable personal enjoyment or satisfaction. Ancillary benefits and costs to local economies were considered and described in the DEA to the extent data were available.

(11) *Comment:* Some commenters questioned the adequacy of the Environmental Assessment (EA) and other aspects of our compliance with NEPA. They felt that the draft EA is lacking information, does not address recovery, and does not address the full range of alternatives. Some recommended an alternative that includes all core areas. Some felt that we should prepare an Environmental Impact Statement (EIS) on this action.

*Our response:* We have complied with the requirements of NEPA for this critical habitat designation for lynx. An EIS is required only in instances where a proposed Federal action is expected to have a significant impact on the human environment. We prepared a draft EA and a DEA of the effects of the proposed designation to determine whether designation of critical habitat would have significant impacts. A notice of availability for public review of the draft EA and DEA was published on October 21, 2008 (73 FR 62450). The draft documents have been available since that date on our Web site and by request from the Service's Montana Field Office. We accepted public comment for 30 days after the posting. Following consideration of public comments, we prepared a final EA and determination that critical habitat designation does not constitute a major Federal action having a significant impact on the human environment. That determination is documented in our Finding of No Significant Impact (FONSI). Both the final EA and FONSI are available on our Web site (see **ADDRESSES** section of this rule).

The EA was prepared for this rule to identify alternatives, identify and analyze significant issues, and determine whether additional analysis was required in an EIS. Two alternatives were considered in the EA: the No Action (Baseline) Alternative and the Proposed Action. Two other alternatives were considered but not brought forward for analysis. The two alternatives not considered further were: (1) Critical habitat designation of all areas within the geographic range of the lynx in the contiguous United States, and (2) designation of all recovery areas (including core areas) as described in the lynx recovery outline. These alternatives were not carried forward because the Act specifies that, except in

circumstances determined by the Secretary, critical habitat shall not include the entire geographic area that can be occupied by the species, and the recovery outline was not analyzed as an alternative because it did not meet the criteria for critical habitat defined in the proposed rule. For example, the recovery outline identified the Kettle range in Washington State as a core area, but the area has no recent, verified evidence of the presence of a breeding lynx population, and does not meet the criteria as defined in the proposed rule. We developed the proposed alternative using the best available scientific information to reflect the biological concepts considered important in the recovery outline, and included identified core areas that have verified records of long-term lynx occupation and reproduction.

The designation of critical habitat itself is not a recovery action, but identifies geographic areas that have the primary biological and physical elements necessary for conservation of lynx and that may require special management. We recognize that designation of critical habitat may not include all of the habitat area that may eventually be determined to be necessary for the recovery of a species. Critical habitat designations made on the basis of the best available information will not control the direction and substance of future recovery plans or planning efforts.

(12) *Comment:* We received a request to clarify that reservoir water bodies are not included in the critical habitat designation.

*Our response:* The clarification that reservoirs are not included in the designation has been included in the final rule.

(13) *Comment:* Several commenters recommended that we work with Canada to limit trapping in Canada to conserve lynx and preclude the need for critical habitat designation.

*Our response:* We agree that, where applicable, international cooperation on conservation issues is important. Lynx, as listed in the contiguous United States, are considered a unique conservation entity. At this time, the lynx is not listed as an endangered or threatened species in Canada. Lynx are harvested in Canada, and managed under local and provincial game laws that include quotas determined by the population status. At the time of listing in 2000, a lack or inadequacy of regulatory mechanisms and habitat alteration were considered the primary risks to the persistence of lynx in the contiguous United States. Overutilization by trapping and hunting

was not considered a major threat to the species (65 FR 16078), and limiting trapping would not preclude the need to designate critical habitat.

(14) *Comment:* According to the Maine Department of Inland Fisheries and Wildlife, the Maine Unit was defined using many unverified records. Some lynx locational information given to the Service by the Department did not meet the accepted verification criteria as stated in the proposed critical habitat rule (page 10870). The critical habitat designation in Maine would be smaller if only verified records were used.

*Our response:* As we explained on pages 10869–10870 of the proposed rule (73 FR 10860, February 28, 2008), we used snow track records to determine the area occupied by lynx in Maine, which are considered unverified records, in addition to other types of verified records, because of the stringent protocols used in confirming the tracks as lynx and the minimal number of species in Maine with which lynx tracks could be misidentified (McCullough 2006).

(15) *Comment:* Some commenters thought that the Lynx Conservation Assessment and Strategy (LCAS) (Ruediger *et al.* 2000), Northern Rockies Lynx Management Direction, and the Southern Rockies Lynx Management Direction are inadequate as conservation tools and therefore should not be used as a justification to exclude these areas from the designation. Specifically, the LCAS does not provide for landscape continuity.

*Our response:* Lands covered by the LCAS are not being excluded from critical habitat designation. The LCAS (Ruediger *et al.* 2000) assists Federal agencies in planning activities and projects in ways that benefit lynx or avoid adverse impacts to lynx and lynx habitat. Conservation agreements between the Service and the USFS and BLM commit the land management agencies to using the LCAS in determining the effects of actions on lynx until Management Plans are amended or revised to adequately conserve lynx. At the time it was written, the LCAS provided the highest level of management and protection for lynx. Since the LCAS was written, new information has become available and research continues that should be taken into account by land managers. Some of this new information was taken into account by the USFS in revising plans under programmatic plan amendments (Northern and Southern Rocky Mountain Lynx Amendments). All National Forests in the critical habitat designation, except the Okanogan-Wenatchee in Washington State,

amended their LRMPs to include the newer lynx direction. The amendment process for the Okanogan-Wenatchee is under way. We analyzed the amendment actions and determined that the management under them would provide for the recovery of lynx in the geographic areas covered (USFWS 2007, entire).

The identified National Forest lands in the final rule were found to have the essential features for lynx. The essential features, on lands covered by management programs or plans that have been revised or amended to adopt the LCAS, do require special management or protection, and therefore meet the definition of critical habitat pursuant to section 3(5)(A) of the Act. In addition, the consultation provisions under section 7(a) of the Act constitute the regulatory benefits of critical habitat. Federal agencies must consult with the Service on discretionary actions that may affect a listed species, and, in addition, analyze the effects of an action to critical habitat. The analysis of the effects to critical habitat is a separate and different analysis from that of the effects to the species, and considers the effects of an action on the larger landscape scale of the critical habitat unit as a whole.

*(16) Comment:* Some commenters indicated that the proposal is based on past survey results and not on biological or ecological principles. In addition, some indicated that past records of lynx presence are insufficient in identifying occupied areas, and that lynx survey results are inconsistent from State to State and from agency to agency.

*Our response:* As required by section 4(b)(2) of the Act, we base our critical habitat designations on the best scientific data available. Our criteria for determining the areas occupied by lynx are described in the "Criteria Used To Identify Critical Habitat" section on pages 10869–10870 of the proposed rule. We used available data providing verified evidence of the occurrence of lynx and evidence of the presence of breeding lynx populations as represented by records of lynx reproduction. We find that evidence of breeding populations is the best way to verify that the PCEs are present in sufficient quantity and spatial configuration to meet the needs of the species, and qualify as critical habitat. We focused on records since 1995 to ensure that the critical habitat designation is based on the data that most closely represents the current status of lynx in the contiguous United States and the geographic area occupied by the species. We restricted the

available lynx occurrence dataset by accepting only verified recent lynx records, because we wanted reliable data for the purposes of evaluating areas and features for critical habitat designation. As described in our response to Comment 14, above, in Maine we also accepted unverified records in the form of snow tracks because of the stringent protocols used in confirming the tracks as lynx and the minimal number of species from which lynx tracks could be misidentified in Maine.

*(17) Comment:* We received comments requesting clarification of the criteria used for determining a "self-sustaining population" in the proposed rule, and why definitions for "self-sustaining populations" differ from our Environmental Assessment for the rule and other Federal agency conservation strategies such as the LCAS and National Forest Plans.

*Our response:* Our use of the term "self-sustaining population" in the proposed rule relates to populations that are able to maintain a stable or naturally oscillating population structure composed of breeding individuals derived from wild mating and births (rather than introduced animals). A population that has demonstrated robustness to natural fluctuations in prey abundance is a key to determining that it is established. Our use of the term "self-sustaining" may differ from other agencies' use due to the different objectives for conservation strategies. The draft environmental assessment contained a section on Criteria for Defining Essential Habitat that deferred to the proposed critical habitat rule; a definition of "self-sustaining" or "occupied" was not provided in that document. The objective of the LCAS is to achieve conservation of the species on USFS lands while maintaining other uses of forest lands important to the mission of the USFS. The objective of critical habitat is to identify the habitat that is occupied by the species or essential to its conservation, that contains the physical and biological features essential to the species, and that may require special management considerations or protection.

*(18) Comment:* Some commenters thought that private or State lands should be included or excluded based on conservation and management agreements.

*Our response:* We determined that the benefit of excluding State lands in Washington that are managed under the Washington Department of Natural Resource's (DNR) Lynx Habitat Management Plan and lands in Maine that are enrolled under the Healthy

Forest Reserve Program (HFRP) outweighs the benefit of designating them as critical habitat, as allowed under section 4(b)(2) of the Act. As we describe in detail in the Exclusions Under section 4(b)(2) section of this rule, the Washington DNR Lynx Habitat Management Plan and the HFRP in Maine provide certainty that the physical and biological features essential to the conservation of lynx will be conserved. These programs are in place, funding has been committed, and the specific intent of both programs is the conservation and management of lynx; as a result we have a high degree of certainty that both programs will be implemented and that they will be effective in conserving lynx habitat.

We are not excluding any other areas from the designation except Tribal lands, which we are excluding pursuant to Secretarial Order Number 3206, as described in the proposed rule. We have determined that no other lands will be excluded. We considered exclusions for industrial forest lands in Maine and Montana included in draft conservation agreements, lands owned by Plum Creek Timber Company in Maine and Montana, and private and county lands in Minnesota. We value the partnerships we have with these various landowners, and recognize that their cooperation will be necessary to achieve recovery of the lynx. We are not excluding these lands due to the lack of certainty that the plans would effectively conserve the physical and biological features essential to lynx. Additionally, a possibility exists that section 7(a)(2) consultation on a future project having a Federal nexus on any of these lands might result in a determination that an action would result in the destruction or adverse modification of lynx critical habitat.

We are not excluding Montana Department of Natural Resources and Conservation lands in Montana that are under a draft Habitat Conservation Plan for lynx and other listed species, nor are we excluding Plum Creek lands in Maine that are part of the proposed Moosehead Lake Concept Plan, because both of these efforts are still in development and there is a lack of certainty that either effort will be completed. However, we recognize the extensive planning and development that have already been invested in both of these efforts to achieve conservation of lynx and other species.

*(19) Comment:* Linkage corridors are important to protect.

*Our response:* We agree that providing protection for travel and dispersal are important for maintaining lynx populations over time. Critical habitat is

designated for the conservation of the primary constituent element (PCE) essential to the conservation of the lynx and necessary to support lynx life history functions. The PCE comprises the essential features of the boreal forest types that provide, for example, prey, reproduction and denning habitat, and snow conditions that give lynx their competitive advantage. Critical habitat provides habitat connectivity for travel within home ranges, and exploratory movements and dispersal within critical habitat units.

Critical habitat in the final rule was delineated to encompass occupied areas with verified reproduction and containing features essential to the conservation of the lynx to provide connectivity within the particular regional unit and to maintain direct connectivity with lynx populations in Canada. Lynx populations in the contiguous United States are influenced by lynx population dynamics in Canada, and many of these populations in Canada are directly interconnected with U.S. populations; therefore, retaining connectivity with the larger lynx population in Canada is important to ensuring long-term persistence of lynx populations in the United States.

*(20) Comment.* At a public meeting for the lynx critical habitat in Spokane, the Service stated that the actual “core” for lynx is in Canada. This contravenes our proposal that there are at least five “critical” or “core” areas in the northern United States.

*Our response:* The bulk of the lynx population is in Canada, which can be considered the “core” of its range. However, in the lynx recovery outline (Service 2005), we use the term “core” to define the areas with the strongest long-term evidence of the persistence of lynx populations in the contiguous United States. The recovery outline, however, was not meant to address critical habitat designation and did not identify the primary constituent element for lynx that require special management. For the purposes of critical habitat designation, we refrained from using the term “core areas” to avoid confusion with the definitions used in the recovery outline (see the Relationship to Recovery Outline section). In the Criteria Used to Identify Critical Habitat section of the final rule, we clarified how the areas proposed were determined. We referred to the recovery outline to identify the different geographic areas important to the persistence of reproducing populations of lynx in the contiguous United States. We then focused our strategy on boreal forest landscapes of sufficient size to encompass the temporal and spatial

changes in habitat and snowshoe hare populations to support interbreeding lynx populations or metapopulations over time. We also considered the need for connectivity among habitat patches within a geographical area, and connectivity with the larger, more robust Canadian lynx populations. Based on the defined criteria for critical habitat, the units roughly coincide with five of the six “core” areas identified in the recovery outline.

*(21) Comment:* Plum Creek Timber Company requested that their properties in Montana and Maine be excluded from the designation based on multiple legal and policy grounds, including: (1) Landowner conservation agreements that Plum Creek is party to provide habitat protections beyond what would be achieved by critical habitat designation; (2) economic impacts to Plum Creek warrant exclusion under Section 4(b)(2) of the Act; and (3) technical and legal reasons, such as that some of the Plum Creek lands in the designation are not lynx habitat or do not exhibit the primary constituent element (PCE), and therefore were erroneously included in the proposed rule.

*Our response:* We respond to Plum Creek’s comments in a number of different places in this rule. We analyzed the benefits of exclusion and inclusion of Plum Creek lands based on their proposed participation in private lands draft agreements (Maine Forest Products Council and Montana Partnership) in the Exclusions under Section 4(b)(2) of the Act section of this rule. We determined that the benefits of exclusion do not outweigh the benefits of inclusion of Plum Creek lands, and that the lands should remain in the critical habitat designation. Our economic analysis found no basis for excluding Plum Creek lands due to economic factors, including impacts associated with development at Moosehead Lake in Maine. Little economic impact, to Plum Creek and other private landowners, would exist due to the designation of critical habitat. Significant economic impacts to Plum Creek existed due to the listing of lynx; however these impacts would occur regardless of critical habitat designation. Our specific responses to Plum Creek’s comments on our economic analysis can be found in comments #14, 15, 20, 21, and 32 below.

We also evaluated Plum Creek’s request to exclude lands based on its willingness to develop a habitat conservation plan for its proposed Moosehead Lake development. We acknowledge that Plum Creek has experience creating and implementing

conservation plans, but this experience does not justify an exclusion where the State of Maine’s re-zoning has yet to be completed and no specific subdivision or development plans have been submitted to us for review. Given that the development of a habitat conservation plan and an incidental take permit has not been completed, we cannot rely on it as a basis for exclusion. Finally, we note that Plum Creek, like others who have requested exclusions, participates in forest certification programs, such as Sustainable Forestry Initiative (SFI). Although participation tends to demonstrate a commitment to resource stewardship, we were not provided with required endangered species or lynx management plans for review. Therefore, we were unable to determine, with reasonable certainty or specificity, the degree to which land management practices currently being employed benefit the lynx or its habitat.

Plum Creek asserts that some of their land does not contain the PCE for lynx, does not qualify for critical habitat protection, and has been erroneously included in the critical habitat designation. Plum Creek specifically mentioned the Olney Block, a property in northwestern Montana, as having too little lynx habitat to be considered essential to the species. Plum Creek has real estate development plans for this area and fears that designation would have a negative impact on their plans. In considering the suitability of the Olney Block property, we referred to our criteria for identifying the PCE for lynx. Boreal forest habitats are the landscapes characterizing PCE for lynx. Individual areas within a boreal forest system may contain one or more of the following:

(a) Presence of snowshoe hares and their preferred habitat conditions, which include dense understories of young trees, shrubs or overhanging boughs that protrude above the snow, and mature multistoried stands with conifer boughs touching the snow surface;

(b) Winter snow conditions that are generally deep and fluffy for extended periods of time;

(c) Sites for denning that have abundant coarse woody debris, such as downed trees and root wads; and

(d) Matrix habitat (e.g., hardwood forest, dry forest, non-forest, or other habitat types that do not support snowshoe hares) that occurs between patches of boreal forest in close juxtaposition (at the scale of a lynx home range) such that lynx are likely to travel through such habitat while accessing patches of boreal forest within a home range.

Lynx are a species that uses habitat at a landscape scale, relying on a landscape of interconnected habitats to travel long distances. For example, lynx home ranges often encompass well over 100 square kilometers (39 square miles). Within this home range, lynx may have to traverse between multiple patches of habitat that provide suitable prey density and denning areas. An individual may have to cross “matrix” habitats that do not provide foraging or denning opportunities, which is why, in the critical habitat designation, we consider matrix habitat to be essential to lynx. Matrix habitat holds a potential lynx home range together. Lynx occupancy of an area cannot be achieved without the potential for the establishment of a home range.

In Plum Creek’s habitat analysis, they assert that the Olney Block and other areas do not contain a high enough percentage of “lynx habitat” to be considered essential (they do not define lynx habitat in a way that would allow us to determine if they are using our definition of occupied habitat). Plum Creek did not assess how the habitat within the Olney Block interacts with habitat outside of the parcel on adjacent State land to provide for the potential for lynx occupancy. We characterize habitat within the Olney Block, that does not provide high prey densities or denning habitat, as matrix, and consider it essential to the conservation of lynx that live there, because it provides connectivity of foraging and denning habitat across a large area. Therefore, we are including Plum Creek lands in the final designation.

### Economic Issues and Responses

#### *General Comments on Methodology and Scope*

(1) *Comment:* One commenter expressed concern regarding the validity of the DEA because its conclusions are inconsistent with the August 2006 DEA of Critical Habitat Designation for the Canada Lynx. A comment highlighted that, while the 2006 DEA estimates impacts of \$175 million to \$889 million, the 2008 DEA quantifies impacts of only \$2.82 million for just the administrative costs of section 7 consultation. Because impacts are significantly greater in the 2006 analysis, the commenters assert that the 2008 analysis understates economic impacts.

*Our response:* The 2006 DEA quantified present value impacts of \$99.5 million to \$259 million in areas proposed for critical habitat designation, applying a 7 percent discount rate; the \$175 million to \$889 million estimate refers to undiscounted impacts and is

therefore not directly comparable to the present value impacts in the 2008 DEA. There are several reasons why the values in the 2006 and 2008 analyses differ. First, the impact estimates being compared across the reports in this comment are associated with differing scopes of lynx conservation efforts. The 2006 DEA aggregated and presented the estimated impacts of all future impacts of lynx conservation, including both listing and critical habitat related conservation, as “coextensive” impacts. Coextensive impacts of \$99.5 million to \$259 million in the 2006 analysis also included impacts associated with overlapping protective measures of other Federal, State, and local laws that aid habitat conservation. The 2008 DEA separately measures: (a) The baseline (without critical habitat) impacts of lynx conservation; and (b) the incremental impacts specifically associated with the critical habitat designation. The present value incremental impacts expected to result solely from the critical habitat designation are estimated to be approximately \$1.49 million and are associated with administrative effort for section 7 consultations. All other lynx conservation impacts are estimated to occur regardless of critical habitat designation. The commenter’s description of estimated administrative consultation costs in the 2008 DEA of \$2.82 million is incorrect; that estimate does not appear in the 2008 DEA. Other differences between the 2006 and 2008 DEA are described in Chapter 1, on pages 1–1 through 1–3, of the 2008 analysis.

(2) *Comment:* One commenter expressed concern about the potential for critical habitat to increase delays on the processing and environmental review of Federal permits: for example, projects that require a 404 permit under the Clean Water Act.

*Our response:* Section 2.3.2 of the DEA describes the potential for critical habitat designation to result in time delays for permit applications. In the case that critical habitat triggers a delay, it would be considered an incremental impact of the critical habitat designation. The DEA does not, however, forecast that this will be an outcome of the critical habitat designation. To the extent that the presence of critical habitat does result in time delays for projects, the DEA understates the incremental impacts of the critical habitat designation.

(3) *Comment:* Multiple comments provided on the DEA stated that it acknowledges the potential for the designation to have indirect effects, such as the enforcement of State and local laws, but fails to quantify the

associated costs. One commenter stated that, because the DEA does not quantify such indirect costs, the conservation benefits of these indirect regulatory methods should not be used in the analysis of the overall benefit of critical habitat designation. One commenter asserted that a critical habitat designation can increase attention and concern regarding potential environmental impacts of a project and may lead other permitting agencies to examine a proposal more carefully and take restrictive action that they otherwise would not. Another commenter stated that the DEA acknowledges the potential for a “stigma” effect but does not quantify associated impacts, which would have a greater impact on private landowners than the direct effects.

*Our response:* Section 2.3.2 notes that, in some cases, a critical habitat designation may trigger lynx conservation under other State or local laws. The section goes on, however, to describe that no State or local laws were identified in the study area for which critical habitat would trigger additional compliance. As described in Sections 5.1 and 5.5, planning departments in counties containing critical habitat were surveyed to assess whether the designation would affect permitting of development activities. Section 2.3.2 also recognizes that, in some cases, public perception of critical habitat designation may result in limitations of private property uses above and beyond those associated with anticipated project modifications and uncertainty related to regulatory actions. Public attitudes regarding the limits or restrictions of critical habitat can cause real economic effects to property owners, regardless of whether such limits are actually imposed. To the extent that potential stigma effects on real estate markets are probable and identifiable, these impacts are considered indirect, incremental impacts of the designation. It is unknown, however, whether lynx critical habitat will result in long-term stigma effects to property owners; as the public becomes aware of the true regulatory effect imposed by critical habitat, any impact of the designation on property values would be expected to decrease.

(4) *Comment:* One commenter stated that assumptions about future behavior based on past performance in the DEA are not accurate. The commenter suggests that a small sampling of private property owners to explore their aspirations for future land use would provide a reality check to the

assumptions made in the economic analysis.

*Our response:* The DEA does not rely solely on historic trends to forecast future behavior of landowners. Private landowners were contacted to discuss their ongoing and forecast land management; a list of private landowners that provided information to inform the analysis is included in the References section of the DEA.

(5) *Comment:* One commenter stated that the DEA describes 36 percent of the proposed critical habitat in Koochiching County, Minnesota, as being of unknown ownership. The commenter notes that, according to the Koochiching County Assessor, there is no land within the county of unknown ownership. Another commenter stated that the DEA identifies over 1 million acres of third-party-certified county-tax-forfeit forest land as being of unknown ownership in northeast Minnesota. The commenter asserts that the designation of critical habitat without first understanding the economic impacts of such a designation should not be allowed.

*Our response:* As described in the landowner type categories of Exhibit 1–2 of the DEA, no land is categorized as being of unknown ownership. Exhibit 5–2 misleadingly included a category “area under unknown ownership.” This label is corrected in the final rule to clarify that these lands are considered as being under private ownership, although the specific landowners are not identified. Regarding the tax forfeit land in northeast Minnesota, Exhibit 1–2 identifies 753,327 acres of land identified as “Local Public Ownership.” These are tax-forfeit public lands owned by the State and managed at the county level. A significant portion of these lands are managed for timber and are analyzed as such in the DEA.

(6) *Comment:* One commenter stated that the DEA ignores that private land rights are eroding through partial regulatory takings and assumes that there is no risk that regulatory infrastructure will be used to further diminish private land values.

*Our response:* The DEA considers the extent to which lynx conservation may affect private land values. Chapter 5 of the DEA describes impacts to private land values associated with avoiding or minimizing impacts to the lynx and its habitat of proposed development projects. Specifically, as described in Section 5.5, the analysis assumes that where development is limited for the purposes of lynx conservation, a portion of the value of the parcel associated with its potential for future development is lost. As noted in the DEA, however, only one forecast project

was identified (the Moosehead Lake Land Use Concept Plan in Maine) for which information on both the scope and scale of the development and on potential lynx conservation recommendations were available to forecast impacts on land values.

(7) *Comment:* According to one commenter, the DEA assumes that the only costs imposed on private landowners by critical habitat designation result from administrative effort in conducting section 7 consultation. This assumption ignores future costs for lynx management activities resulting from section 7 consultation. Further, the DEA quantifies costs of lynx management activities already under way and assumes that these plans will be models for conservation efforts in the remaining proposed habitat. The analysis does not, however, quantify costs of implementing these management plans on the 40 percent of habitat that is not covered by existing plans.

*Our response:* As described on page ES–2, the DEA quantifies only administrative costs associated with section 7 consultation as incremental impacts of the critical habitat designation. While future consultations are forecast to result in project modifications across the land use activities considered in the report, these project modifications are expected to occur regardless of the critical habitat designation. The Service has not described additional project modifications that may be solely attributable to the designation of critical habitat. With regard to the 40 percent of lands not covered by existing lynx management plans, the DEA does not consider it reasonably foreseeable that all landowners across the areas proposed for critical habitat will adopt lynx management plans following a designation of critical habitat. As described in Chapter 4, the analysis considers where lynx management plans may be applied in the future. Specifically, Section 4.3.3 highlights the potential conservation efforts of future lynx management guidelines for private lands in Maine. These potential guidelines differ significantly from the conservation efforts described in existing lynx management plans (e.g., the LCAS and NRLMD), evidencing that these private lands would not necessarily apply existing lynx management plans.

(8) *Comment:* A commenter stated that the DEA described ancillary benefits of lynx critical habitat that are considered to the extent they result in observable impacts on markets. However, the analysis does not quantify

these impacts. For example, while reduced economic welfare to snowmobilers associated with increased crowding on trails is quantified as a cost, the analysis doesn't quantify welfare gains to participants in non-motorized recreation associated with reduced noise and air pollution.

*Our response:* Section 6.2 considers welfare impacts associated with restrictions on snow mobile trail expansions. Scenario 2 of this analysis assumes that limiting future trail expansions increases crowding on existing trails resulting in decreased utility per snowmobile trip. As such, the analysis does not assume there is a net decrease in snowmobiling but a change in the distribution of the occurrence of snowmobiling. As a result, while some participants engaged in non-motorized recreation in some areas may experience welfare gains (i.e., areas where trails are precluded), others may experience welfare losses (areas in which the existing trails are more crowded). Further, data regarding the distribution of non-motorized recreators in these areas were not available.

(9) *Comment:* One comment from the Confederated Salish and Kootenai Tribes of the Flathead Nation stated that the DEA lacked specific information for areas proposed for exclusion from the critical habitat designation.

*Our response:* The DEA separates any costs anticipated to occur on areas proposed for exclusion from critical habitat designation. Sections 4.4, 4.5, and 8.5 quantify the pre- and post-designation administrative costs of section 7 consultations on these lands proposed for exclusion, and Section 4.4 quantifies the post-designation baseline impacts to the Passamaquoddy Tribe related to their involvement in the Maine Healthy Forest Reserve Program (Unit 1).

#### *Comments on Timber Issues*

(10) *Comment:* One commenter stated that the DEA predicts 142 lost jobs due to restrictions on pre-commercial thinning from the designation of critical habitat for the lynx. The comment asserts that this estimate fails to take into account the ancillary employment that will be lost in related markets, such as housing, sawmills, and local retail.

*Our response:* As described in Section 4.4.1, the analysis employs a regional economic modeling tool, IMPLAN, to estimate the number of jobs lost in the regional economy due to reduced pre-commercial thinning levels. IMPLAN translates the lost revenues associated with reduced pre-commercial thinning levels into changes in demand for goods and services in related economic sectors

in the regional economy. Thus, the estimated 142 lost jobs in proposed critical habitat unit 4 (presented in Exhibit 4–10) represents the effect of reduced pre-commercial thinning on the regional economy and not just pre-commercial thinning jobs. Additionally, reductions in pre-commercial thinning levels are baseline lynx conservation efforts; no further reductions in pre-commercial thinning levels are estimated to occur due to the designation of critical habitat for the lynx.

(11) *Comment:* Two commenters questioned why the Washington Department of Natural Resources (WDNR) foregone revenue impacts are high relative to those of other timber managers. Out of the \$13.5 million in foregone timber revenue estimated in the DEA, \$11.3 million is associated with WDNR, although it covers a relatively small portion of the critical habitat area. Further, logging is precluded on a considerable portion of the WDNR lands, because the timber rights were purchased for conservation. The commenter questions whether non-lynx-related logging restrictions on the WDNR lands, such as stream buffers, HCPs, and a log import ban, were included in the foregone revenue estimates.

*Our response:* Economic impacts associated with public land were based on communication with the landowners regarding the specific conservation efforts they are applying and the resulting economic implications. Post-designation baseline impacts specifically associated with WDNR lands are described in Section 4.5.2 of the analysis. According to the WDNR, lynx conservation efforts on their land in proposed critical habitat resulted in removing land from active timber management. Specifically, 30 percent of the approximately 105,000 acres of WDNR land in proposed critical habitat is removed from active timber management, resulting in economic impacts of \$1.06 million annually. While other public landowners implementing lynx management plans have employed lynx conservation efforts, such as restricting pre-commercial thinning, they have not removed land completely from timber production for the purposes of lynx conservation. As a result, the economic impacts of lynx conservation on WDNR lands are greater than on other lands implementing lynx management plans.

(12) *Comment:* F.H. Stoltze Land and Lumber commented that it provided information on the potential indirect and direct impacts of critical habitat designation on their lands in previous

comment periods but none of that information was used in the DEA.

*Our response:* The potential direct and indirect impacts of critical habitat designation provided by F.H. Stoltze Land and Lumber Company (Stoltze) during the public comment period for the proposed rule are summarized in subsection 4.3.6 of the DEA. The section further describes that Stoltze's assumptions regarding how the Service may regulate their lands for the purposes of lynx conservation are not consistent with the assumptions made in the DEA. First, Stoltze quantifies the impacts of the enforcement of lynx conservation on their lands similar to that described in the Lynx Conservation Assessment and Strategy (LCAS). There is no precedent for the Service to request these types of lynx conservation efforts on private lands, nor has the Service indicated it intends to do so in the future. Second, ongoing negotiations regarding lynx management guidelines between the Service and private timber landowners indicates that lynx conservation guidelines for private landowners may differ significantly from the LCAS (see Section 4.3.3 of the analysis which describes the Service's recommendations with respect to lynx management guidelines on private timberland in Maine). Further, Stoltze assumes the Service may regulate their land management via section 7 consultation regarding 404 permits or fire hazard mitigation projects in critical habitat. To date, no consultations have taken place regarding these activities. All section 7 consultations on private timberlands in Unit 4 have been for special use permits and none has required any lynx conservation efforts or denied access to private lands. The Service has not indicated that this is expected to change following a critical habitat designation of these lands.

(13) *Comment:* One commenter asserted that the DEA does not consider that private forestland owners will be forced to seek alternative uses, Federal lands will lose valuable management tools, and Montana will lose its forest products infrastructure to lynx habitat.

*Our response:* The assertion that private timberland owners may have to seek alternate land uses due to lynx conservation is predicated on the assumption that these landowners would be required to implement conservation efforts for the lynx similar to those specified in the LCAS. For the reasons described in Section 4.3.6, the DEA does not assume this is a reasonably foreseeable assumption. The DEA does, however, consider the economic impacts of restricting the pre-commercial thinning management tool

on Federal lands, where section 7 consultation requirements apply, in subsection 4.4.1, and the effect on the regional forest products industries.

(14) *Comment:* A comment from Plum Creek provided information on the costs of its ongoing and forecasted lynx conservation efforts. In the baseline, Plum Creek stated that absent critical habitat designation they expect to continue to conduct experimental pre-commercial thinning on approximately 200 ac (81 ha) per year at a present value cost of \$230,000 (assuming an internal rate of return of 8 percent and a 15 percent discount rate). The company also intends to continue to contribute to research in Maine and Montana for lynx and snowshoe hare whether or not critical habitat is designated, at a cost of \$150,000 (\$10,000 per year discounted at 3 percent). Plum Creek further expects to implement mitigation measures for road construction at a cost of between \$110,000 and \$250,000 per year absent critical habitat. In addition, slower speed limits are expected to result in social welfare impacts to motorists. The commenter noted that not enough information is available, however, to quantify these costs.

*Our response:* While Section 4.3.6 of the DEA summarized Plum Creek's 2006 economic impacts estimates, impact estimates provided in their comment on the October 2008 DEA are different. As a result, these baseline impacts as estimated by Plum Creek are new information on their baseline lynx conservation efforts and are provided in the final economic analysis. The impacts described by Plum Creek are not entirely additive with the baseline impacts as quantified in the DEA. The DEA does include impacts associated with private landowner funding of lynx-related research in the baseline. The analysis does not, however, break out the fraction of those costs borne specifically by Plum Creek. Because of this, and because Plum Creek's estimated impacts are not broken down by their land ownership in Maine and Montana, the final economic analysis provides this information to decision makers but does not update its estimate of baseline impact. This comment does not, however, change the estimated incremental economic impacts associated with the critical habitat designation.

(15) *Comment:* Plum Creek further commented that the Montana and Maine Lynx Agreements would only be implemented on private lands in the absence of critical habitat designation. The implementation of these plans would cost approximately \$230,000 for

distributing information, hosting annual workshops, and supporting lynx research and monitoring. The associated benefits to the lynx of implementing these plans would be lost in the case that critical habitat is designated on these lands and should therefore be considered incremental costs of the critical habitat designation.

*Our response:* As private landowners have funded lynx conservation research in the past, the DEA includes impacts of this continued funding as baseline impacts of lynx conservation. In the case that the critical habitat designation results in private landowners ceasing to fund lynx-related research, baseline impacts are overestimated in the DEA and any benefits associated with these investments in lynx-related research would be foregone. Information is not available, however, to describe benefits or improvements in lynx conservation resulting specifically from the investments of these private landowners in lynx-related research.

#### *Comments on Development Analysis*

*(16) Comment:* A comment on the DEA stated that the value of private property should not be based on that of similar properties as landowners may have differing objectives for their land use. The comment further states that the DEA understates or ignores the cost of environmental measures on private land ownership.

*Our response:* As described in Section 5.3.2, the analysis assumes that privately-owned property values within critical habitat include silvicultural rents, the growth premium, and the option value for future development. Where future development is precluded from a parcel, the reduction in land value equals the sum of growth premium and option value (i.e., the property value is reduced to its silvicultural rents). The associated land values for these properties described in the analysis were determined by assessors and consider the potential future uses of the property; they are not based on comparison to land use decisions on other properties.

*(17) Comment:* One commenter stated that the DEA shows a 49 percent increase in the building permits from 2000 to 2007 in Koochiching County, Minnesota, a county with declining population. The commenter asserts that this is an inaccurate portrayal of building activity. In fact, before this time, the county was operating an under-funded inspection and permitting system. The county hired an additional appraiser who instructed owners of existing, un-permitted structures to obtain building permits in this time

period. Building permits issued in this period are therefore not indicative of actual construction activity.

*Our response:* Correspondence with the Koochiching County Assessor's Office has confirmed that two additional appraisers were hired between 2000 and 2007 and that these hires resulted in an unknown number of additional un-permitted structures obtaining permits in 2007. The 2000 and 2007 building permit figures in Exhibit 5-2 of the DEA may therefore not be representative of development activity during those years in Koochiching County. In fact, development activity is likely less than that described in the analysis. Section 5.5.2 of the final economic analysis therefore indicates that development pressure in Koochiching County is anticipated to be minimal.

*(18) Comment:* According to one comment, the baseline impacts of lynx conservation associated with the proposed development at Moosehead Lake, Maine, are overestimated as some level of development restriction would occur even in the absence of lynx protections, as the DEA notes on page ES-3.

*Our response:* Section 2.3.1 of the DEA describes the baseline as "the existing state of regulation, prior to the designation of critical habitat, which provides protection to the species under the Act, as well as under other Federal, State and local laws and guidelines." Regarding the proposed Moosehead project, the analysis only quantified impacts of the Service's conservation recommendations related to the lynx, although a portion of these may be implemented even absent the lynx. Impacts of these conservation efforts are appropriately assigned to the baseline in the analysis. Conservation associated with the Moosehead project that did not overlap potential lynx conservation recommendations is not quantified in the DEA.

*(19) Comment:* One commenter stated that the DEA mischaracterizes the easements under the 1964 Forest Roads and Trails Act. The commenter suggested removing this language, as this information is mistaken and not relied upon in the DEA. Specifically, the commenter asserted that the analysis describes that the U.S. Department of Agriculture has proposed to change language in the 1964 Forest Roads and Trails Act broadening the scope of the Act to include road uses for residential and commercial development. In fact, they are considering a draft amendment to certain easements owned by Plum Creek that would simply clarify, not change, the scope of those easements as they already cover road use for

residential and commercial development. Because there is no expansion of access rights, just a clarification, the matter should have no economic impacts that affect the DEA.

*Our response:* Given this information on the 1964 Forest Roads and Trails Act, and the fact that this does not change the assumptions made or the estimated economic impact, the language involving the Forest Roads and Trails Act is removed in the final economic analysis.

*(20) Comment:* One private landowner, Plum Creek, commented that the critical habitat is likely to affect development in Maine and Montana. In the case that Maine's Land Use Regulatory Commission (LURC) treats the critical habitat area as if it were a Fish and Wildlife Protection Subdistrict, proposed developments within critical habitat would require an additional permit. Furthermore, meeting LURC's burden of proof that proposed developments will not harm the natural environment may prohibit these developments. Additionally, if Clean Water Act section 404 permits are required for development in Maine critical habitat areas, development projects may be modified or precluded as a result of section 7 consultation. Plum Creek commented that if critical habitat is designated, they will likely abandon their Land Use Concept Plan at Moosehead Lake (Moosehead Lake Plan). Lands in the Concept Plan are valued at \$189.6 million to Plum Creek and the conservation easements were valued at \$469,000 in benefits for the local residents and \$9.2 million in benefits for Maine residents. In total, public benefits of the balance easement were quantified at between \$10.8 and \$19.2 million. These benefits would be foregone in the case that critical habitat is designated.

*Our response:* As described in Section 5.5.1, the DEA quantifies impacts related to two scenarios. At the low end, lynx conservation related to the Moosehead Lake Plan in Maine is assumed to follow LURC's written recommendations; at the high end, the analysis assumes lynx conservation will follow more stringent recommendations provided by the Service. The DEA did not consider a scenario in which Plum Creek abandons the Moosehead Lake Plan entirely. The final economic analysis therefore provides the information regarding potential economic impacts of this scenario. While there are costs (foregone benefits) to Plum Creek and to the public of abandoning the plan, there may also be an economic benefits Plan that offsets the cost estimates presented by Plum

Creek. The alternative use scenario of these lands absent the Moosehead Lake Plan is largely uncertain. As a result, it is difficult to predict what sorts of economic costs and benefits would be associated with the alternative uses of the land. These issues are discussed in greater depth in the final economic analysis.

(21) *Comment:* Plum Creek commented that designation of critical habitat in Montana may prompt local land use agencies to impose minimum lot sizes on subdivision developments. According to Plum Creek's analysis, requiring that future Plum Creek developments in proposed critical habitat have lot sizes greater than 20, 160, and 640 acres would result in losses of \$0.44 million, \$74.2 million, and \$243.1 million, respectively. Plum Creek bases their lot size assumptions on existing growth policies for counties in Montana. Specifically, at the high end, Missoula County's Seeley Lake Regional Plan identifies lynx as a species of concern and recommends a land use density of one dwelling per 640 acres.

*Our response:* With regard to development in Montana, Section 5.5.3 of the DEA describes that, although no modifications to development projects have occurred in the past to benefit the lynx, it is possible that future permitting requirements may become more stringent as a result of critical habitat designation. Communication with Montana county planners, however, indicated that few are likely to modify their minimum lot size requirements in response to critical habitat designation. Further, it is unclear whether any minimum lot size requirements would be baseline or related to critical habitat. The Seely Lake Regional Plan example is an existing (baseline) protection and already imposes its minimum lot size. This would therefore not be considered an incremental impact of critical habitat designation in the DEA. As such, the final economic analysis presents the results of Plum Creek's study of impacts to development on their Montana lands, but does not include these estimates in the total impacts of the critical habitat designation as they are considered too speculative.

#### *Other Comments on the Draft Economic Analysis*

(22) *Comment:* A comment on the DEA asserted that impacts to recreation were underestimated because the analysis did not take into consideration that congested trails, resulting from the closure of 29 miles of trails, may decrease winter tourism and recreation. This will increase pressure on local

police and hospitals and reduce the amount of jobs in the tourism industry.

*Our response:* Section 6.2 describes impacts to snowmobiling activities due to potential restrictions on trail use and new trail construction. The analysis does not state that 29 miles of trail in Loomis State Forest within Unit 4 will be closed; only that 29 miles of the Washington State's 3,000 to 3,500 miles of snowmobile trails fall within the Loomis State Forest. With respect to costs from increased snowmobile congestion, under a high-bound estimate, the DEA assumes the cost of lost social welfare of \$109,000 for Unit 4 due to increased trail congestion. These impacts are considered baseline as part of Okanogan-Wenatchee National Forest's implementation of the LCAS. In addition, though implementing the LCAS will preclude the creation of new trails, most snowmobile riding in the Loomis area occurs on ungroomed trails.

(23) *Comment:* According to one comment, the incremental impact to mining activity in Unit 2 of \$10,900 is not credible because of the size and economic contribution of this industry in this region.

*Our response:* The taconite mining industry, and more recently the non-ferrous mining industry, has been significant contributors to the local and regional economy in northern Minnesota. Lynx-related conservation efforts associated with mining activities are assumed to occur regardless of critical habitat designation and are therefore appropriately assigned to the baseline. That is, incremental impacts are low because the critical habitat is not expected to affect mining activity beyond the existing level of lynx conservation.

(24) *Comment:* According to one comment, the DEA underestimates impacts to grazing activities by failing to take into consideration that farmers with allotments on public lands may have to either decrease the number of cows they graze, or overgraze land adjacent to the critical habitat designation. These changes in grazing activity would in turn cause job losses in the regional retail and service industries.

*Our response:* As stated in paragraph 320 of the DEA, we found "no evidence that grazing (is) a factor threatening lynx." Section 7 consultations for grazing activities under the LCAS have resulted in few conservation recommendations and no project modifications. Paragraph 360 further states that, "(o)pportunity for grazing has not been affected by the implementation of the lynx management

plans and conservation recommendations made during section 7 consultation." Therefore, the DEA assumes that, beyond the costs of consultation, grazing activities will not be affected by critical habitat.

(25) *Comment:* One comment stated that hunting, as an economic activity, seems to have been overlooked in the DEA. Road construction in wetlands requires consultation and road access is fundamental to the economy of Northern Minnesota's recreational hunting industry. The commenter further asserted that the value of land as deer hunting property seems to have been similarly overlooked.

*Our response:* Impacts to hunting and trapping activities are included in section 6.4 of the analysis and are primarily costs associated with establishing education programs and enforcing trapping regulations to avoid incidental take of lynx. The DEA assumes that the opportunity to hunt will not be diminished due to critical habitat. With respect to road construction in wetland areas and road access in northern Minnesota, a section 7 consultation may require modifications to a road project (i.e., culverts and other habitat crossing measures), however, critical habitat designation will not preclude road access.

(26) *Comment:* A comment provided on the DEA stated that the analysis does not mention boating as a potentially affected activity although Unit 2 contains most of Minnesota's 17,000 lakes of over one acre. Construction of boat docks, for example, is likely to trigger a section 7 consultation.

*Our response:* The Service does not list boating, or construction of boat docks, as a threat to the lynx or its habitat in any of its lynx management documents, nor has this activity been the subject of consultation in the past. There is therefore no indication that this activity will be affected by lynx conservation in the future.

(27) *Comment:* The Small Business Administration (SBA) commented that the Initial Regulatory Flexibility Analysis (IRFA) is inadequate to provide a factual basis for certifying that the proposed critical habitat designation will not have a significant impact on a substantial number of small entities. First, the IRFA does not provide sufficient information to adequately forecast costs associated with section 7 consultations involving small entities. In the case that critical habitat is designated, past section 7 consultations initiated by small entities to avoid jeopardy must then be re-opened to account for newly designated critical

habitat. Second, the IRFA only considers the administrative costs of re-opening past consultations and fails to consider costs small entities could face if required to modify projects to avoid adverse modification of critical habitat. In addition, the IRFA incorrectly assumes that no new section 7 consultations will occur as a result of the proposed critical habitat because the critical habitat designation only covers areas currently occupied by the species. Finally, the SBA stated that the IRFA does not provide any estimates of costs of consultations with private landowners under section 10 of the ESA to obtain an incidental take permit that may result from critical habitat designation. The SBA further stated that the Service must prepare a Final Regulatory Flexibility Analysis (FRFA) if it finalizes the critical habitat designation for the lynx.

*Our response:* The DEA does include costs of project modifications associated with forecast section 7 consultations. These project modifications are all expected to be recommended regardless of the critical habitat and are therefore assigned to the baseline impacts quantified in the analysis. Further, the DEA does forecast new consultations (not just re-openings) following the designation of critical habitat; however, these new consultations are expected to occur regardless of whether critical habitat is designated. The lynx conservation quantified is expected to occur regardless of the critical habitat designation because, as described on page ES-2 of the draft economic analysis and in the activity-specific chapters, of the broad scope and scale of existing lynx conservation that already occurs across the study area even absent critical habitat. First, the Service does not expect the conservation direction of existing lynx management plans, which cover 60 percent of the proposed critical habitat, to be altered following a critical habitat designation. Second, the Service has not identified any additional project modifications that it may recommend via section 7 consultation following a critical habitat designation above and beyond what has been recommended in the past to address potential jeopardy issues. As a result, the Service has not indicated that any regulatory changes would occur due to critical habitat designation. In terms of potential indirect impacts of critical habitat designation, the draft economic analysis notes in the Foreword (Section 1.1) that significant uncertainty is associated with the analysis due to the dynamic nature of land use planning, ongoing

discussion regarding lynx conservation with private timberland owners, and whether particular land use activities are risk factors. As described in Appendix A, the IRFA is based on the incremental impacts expected to be generated specifically by the designation of critical habitat. As a result, the baseline impacts of forecast section 7 project modifications are not relevant to the IRFA because they are not engendered by the critical habitat rulemaking. In addition, critical habitat does not necessarily increase the need for section 10 incidental take permits. In surveying landowners and land managers, the economists who wrote the DEA did not identify any basis for assuming critical habitat designation would result in landowners developing habitat conservation plans, which are typically associated with the issuance of section 10(a)(1)(B) incidental take permits. We completed a FRFA and it is made available with the final economic analysis concurrently with this final rule.

*(28) Comment:* Multiple commenters stated that the DEA is unbalanced because it focuses almost exclusively on the economic costs of critical habitat designation but does not analyze expected benefits. One commenter asserted that the protection of critical habitat would likely provide broader ecological benefits for myriad other species and ecosystem functions. One commenter stated the analysis should consider the property value benefits as a result of the creation of open space areas. Another commenter stated that the DEA should be considered a cost analysis only, because it focuses only on one side of the total impacts.

*Our response:* Where sufficient information is available, the DEA attempts to measure the net economic effects of species conservation efforts. The analysis does not attempt to measure net costs of broader social benefits that may result incidentally from species conservation. The primary purpose of the rulemaking is the potential to contribute to the conservation of the lynx. The direct benefits of the rule are primarily biological; weighing these benefits to lynx conservation against the expected cost impacts is part of the requirement of section 4(b) of the Act. Therefore, we use cost estimates from the DEA as one factor against which biological benefits are compared during the section 4(b)(2) weighing process. We are also interested in weighing indirect benefits of critical habitat designation, if they can be verified (we know they will occur), measured economically, and built into a net DEA. However, many potential

indirect benefits resulting from critical habitat designation cannot be verified or measured economically. In future, as economic reports of conservation benefits to people and communities are completed, we may be better able to analyze this type of data.

*(29) Comment:* One commenter requested that the Service consider the on-the-ground benefits of the Montana Lynx Conservation Agreement in comparison with the benefits of critical habitat designation. The commenter asserted that the outreach, education, research, and implementation activities proposed under the agreement provide greater lynx conservation than any actions achievable by the Service through critical habitat designation.

*Our response:* We analyzed the benefits of inclusion of lands included in the Montana Partnership Conservation Agreement against benefits of exclusion (see Exclusions Under Section 4(b)(2) of the Act section; Unit 3). We found that these lands should be included in the critical habitat designation, mainly because of uncertainty of implementation and effectiveness of commitments included in the agreement (which is still a draft), and because the agreement provided no commitment to implement on-the-ground habitat management of habitat for lynx.

*(30) Comment:* One commenter stated that the DEA did not consider the Southern Rockies habitat area and therefore the Service has not fulfilled the requirement to show that the benefits of excluding the Southern Rocky Mountains outweigh the benefits of designating habitat in the region.

*Our response:* The Southern Rockies did not meet our criteria for defining critical habitat. The areas we determined to be essential for the conservation of lynx (see Criteria Used to Identify Critical Habitat section of this rule) contain the physical and biological features essential to lynx and have relatively recent (post-1995) records and evidence of breeding lynx populations. The Southern Rockies were not included in the proposed critical habitat, and therefore, no consideration was given to excluding those lands from critical habitat.

*(31) Comment:* One commenter stated that the Service has not issued any regulations or other binding documents regarding how to approach the ESA 4(b)(2) balancing in assessing whether stimulating private conservation agreements has greater conservation benefits than designating certain private lands as critical habitat.

*Our response:* In designating critical habitat, we are bound by the Act, and

regulations at 50 CFR 424.12. We agree that we have not issued new regulations regarding how to approach section 4(b)(2) critical habitat exclusion analysis. However, we are currently following our February 12, 2008, Draft Critical Habitat Exclusions Guidance. This guidance was developed in response to critical habitat case law, which documents the Courts' interpretations of the requirements of the Act. This rule is also consistent with the October 3, 2008, opinion from the Solicitor titled, "The Secretary's Authority to Exclude Areas from a Critical Habitat Designation under Section 4(b)(2) of the Endangered Species Act."

(32) *Comment:* According to one comment, the Service cannot lawfully maintain that the designation of critical habitat would not result in any incremental economic impacts because recent court decisions, *Gifford Pinchot Task Force v. FWS* (9th Cir. 2004) and *Arizona Cattle Growers Association v. Kempthorne* (D. Az. 2008), and an October 2008 Solicitor's Opinion, indicate that critical habitat is a more stringent ESA Section 7 compliance standard than the jeopardy standard.

*Our response:* The DEA weighs the economic effects of critical habitat designation separately from effects of listing of the species. This separation of effects is termed an "incremental" analysis. The DEA includes analysis of known effects resulting from critical habitat designation, including those related to potential adverse modification of critical habitat.

#### *Summary of Changes From Proposed Rule*

We did not propose changes to 50 CFR 17.11(h) in the proposed rule because we were not proposing any substantive changes to the entry for Canada lynx on the List of Threatened and Endangered Wildlife. However, in this final rule, we are revising the entry for Canada lynx at 50 CFR 17.11(h) to correct some typographical errors; the current entry includes Colorado and Idaho twice in the "Historic Range" column.

In preparing the revised final critical habitat designation for the lynx, we reviewed and considered comments from the public and peer reviewers on the proposed revised designation of critical habitat published on February 28, 2008 (73 FR 10860). We published a notice announcing the availability of the DEA and draft environmental assessment on October 21, 2008 (73 FR 62450). As a result of comments received on the proposal, comments received on the DEA, comments

received on the draft environmental assessment, we made the following changes in our final designation:

(1) We reevaluated the proposed revised critical habitat units based on peer review, public comments, and biological information received during the public comment period. Collectively, we excluded approximately 4,468 km<sup>2</sup> (1,725 mi<sup>2</sup>) of land from this revised final critical habitat designation. Table 1 provides differences in the amount of area proposed for designation and the areas designated in this final rule. We excluded Tribal lands per Executive Order 3206 (see Tribal Lands Excluded from Lynx Critical Habitat section below), and non-Federal lands with existing, implemented, and effective lynx management plans (see Exclusions Under Section 4(b)(2) of the Act section below).

(2) We removed portions of units that did not contain the primary constituent element (PCE), and areas where existing development was concentrated, from the final designation based on available maps. In some areas, unit boundaries were expanded to incorporate adjacent lynx habitat that had been inadvertently left out of the proposed boundary. These changes from the proposed boundary were noted in the notice of availability of the DEA and draft environmental assessment published in the **Federal Register** (73 FR 62450, October 21, 2008).

(3) We have clarified the primary constituent element to reflect the importance of mature multistoried forest stands with conifer boughs that touch the snow surface. These mature stands are especially important as lynx habitat in the northern Rocky Mountains.

(4) We have modified the textual description of areas that are not included in critical habitat.

#### **Critical Habitat**

Critical habitat is defined in section 3 of the Act as:

(i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species and

(b) That may require special management considerations or protection; and

(ii) Specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Conservation, as defined under section 3 of the Act, means the use of all methods and procedures that are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the prohibition against Federal agencies carrying out, funding, or authorizing the destruction or adverse modification of critical habitat. Section 7(a)(2) of the Act requires consultation on Federal actions that may affect critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by private landowners. Where a landowner requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) would apply.

For inclusion in a critical habitat designation, the habitat within the geographical area occupied by the species at the time of listing must contain the physical and biological features that are essential to the conservation of the species, and be included only if those features may require special management consideration or protection. Critical habitat designations identify, to the extent known using the best scientific data available, habitat areas that provide essential life cycle needs of the species (i.e., areas on which are found those physical and biological features essential to the conservation of the species, as defined at 50 CFR 424.12(b)). Under the Act, we can designate critical habitat in areas outside of the geographical area occupied by the species at the time of listing only when we determine that those areas are essential for the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of

the best scientific and commercial data available. Further, our Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (59 FR 34271), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106-554; H.R. 5658)), and our associated Information Quality Guidelines provide criteria, establish procedures, and provide guidance to ensure that our decisions represent the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When determining which areas should be designated as critical habitat, our primary source of information is generally the information developed during the listing process for the species. Additional information sources may include the recovery outline or the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, or other unpublished materials and expert opinion or personal knowledge.

Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designation is unimportant or may not promote the recovery of the species.

Areas that support populations, but are outside the critical habitat designation, will continue to be subject to conservation actions implemented under section 7(a)(1) of the Act. They are also subject to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, as determined on the basis of the best available information at the time of the Federal agency action. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans, or other species conservation planning efforts if new information

available to these planning efforts calls for a different outcome.

#### Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas occupied by the species at the time of listing to designate as critical habitat, we consider the physical and biological features that are essential to the conservation of the species and that may require special management considerations and protection. We consider the physical and biological features to be the primary constituent elements (PCEs) laid out in the appropriate quantity and spatial arrangement for the conservation of the species. These include, but are not limited to:

1. Space for individual and population growth and for normal behavior;
2. Food, water, air, light, minerals, or other nutritional or physiological requirements;
3. Cover or shelter;
4. Sites for breeding, reproduction, and rearing (or development) of offspring; and
5. Habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

#### *Boreal Forest Landscapes (Space for Individual and Population Growth and Normal Behavior)*

Lynx populations respond to biotic and abiotic factors at different scales. At the regional scale, snow conditions, boreal forest and competitors (especially bobcat) influence the species' range (Aubry *et al.* 2000, p. 378-380; McKelvey *et al.*, 2000b pp. 242-253; Hoving *et al.*, 2005 p. 749). At the landscape scale within each region, natural and human-caused disturbance processes (e.g., fire, wind, insect infestations and forest management) influence the spatial and temporal distribution of lynx populations by affecting the distribution of good habitat for snowshoe hares (Agee 2000, pp. 47-73; Ruediger *et al.* 2000, pp. 1-3, 2-2-2-6, 7-3). At the stand-level scale, quality, quantity, and juxtaposition of habitats influence home range size, productivity, and survival (Aubry *et al.* 2000, pp. 380-390; Vashon *et al.* 2005a, pp. 9-11). At the substand scale, spatial distribution and abundance of prey and microclimate influence movements, hunting behavior, den, and resting site locations.

All of the constituent elements of critical habitat for lynx are found within large landscapes in what is broadly

described as the boreal forest or cold temperate forest (Frelich and Reich 1995, p. 325, Agee 2000, pp. 43-46). In the contiguous United States, the boreal forest is more transitional rather than true boreal forest of northern Canada and Alaska (Agee 2000, pp. 43-46). This difference is because the boreal forest is at its southern limits in the contiguous United States, where it transitions to deciduous temperate forest in the Northeast and Great Lakes and subalpine forest in the west (Agee 2000, pp. 43-46). We use the term "boreal forest" because it generally encompasses most of the vegetative descriptions of the transitional forest types that comprise lynx habitat in the contiguous United States (Agee 2000, pp. 40-41).

At a regional scale, lynx habitat is within the areas that support deep snow for extended periods and that support boreal forest vegetation types (see below for more detail). In eastern North America, lynx distribution was strongly associated with areas of deep snowfall and 100-km<sup>2</sup> (40-mi<sup>2</sup>) landscapes that had been previously treated with herbicides and had a high proportion of regenerating forest (Hoving 2001, pp. 75, 143). Hoving *et al.* (2004, p. 291) concluded that the broad geographic distribution of lynx in eastern North America is most influenced by snowfall, but within areas of similarly deep snowfall, measures of forest succession become more important factors in determining lynx distribution. In the Rockies, lynx habitat relationships appear to be less tied to early successional forest stages, with high use, especially in the critical winter season, in mature multistoried forest stands where conifer branches reach the snow surface and thereby provide hare forage (Squires *et al.* 2006).

Boreal forests used by lynx are generally cool, moist, and dominated by conifer tree species, primarily spruce and fir (Agee 2000, pp. 40-46; Aubry *et al.* 2000, pp. 378-382; Ruediger *et al.* 2000, pp. 4-3, 4-8-4-11, 4-25-4-26, 4-29-4-30). Boreal forest landscapes used by lynx are a heterogeneous mosaic of vegetative cover types and successional forest stages created by natural and human-caused disturbances (McKelvey *et al.* 2000a, pp. 426-434). In many places periodic vegetation disturbances stimulate development of dense understory or early successional habitat for snowshoe hares (Ruediger *et al.* 2000, pp. 1-3-1-4, 7-4-7-5). In Maine, lynx were positively associated with landscapes altered by clearcutting 15 to 25 years previously (Hoving *et al.* 2004, p. 291). In other places, such as the northern Rocky Mountains, mature

multistoried conifer forests as well as dense regenerating conifer stands provide foraging habitat for lynx (Squires *et al.* 2006).

The overall quality of the boreal forest landscape and juxtaposition of stands in suitable condition within the landscape is important for both lynx and snowshoe hares in that it can influence connectivity or movements between suitable stands, availability of food and cover and spatial structuring of populations or subpopulations (Hodges 2000b, pp. 184–195; McKelvey *et al.* 2000a, pp. 431–432; Walker 2005, pp. 79). For example, lynx foraging habitat must be near denning habitat to allow females to adequately provision dependent kittens, especially when the kittens are relatively immobile. In north-central Washington, hare densities were higher in landscapes with an abundance of dense boreal forest interspersed with small patches of open habitat, in contrast to landscapes composed primarily of open forest interspersed with few dense vegetation patches (Walker 2005, p. 79). Similarly, in northwest Montana, connectivity of dense patches within the forest matrix benefited snowshoe hares (Ausband and Baty 2005, p. 209). In mountainous areas, lynx appear to prefer flatter slopes (Apps 2000, p. 361; McKelvey *et al.* 2000d, p. 333; von Kienast 2003, p. 21, Table 2; Maletzke 2004, pp. 17–18).

Individual lynx require large portions of boreal forest landscapes to support their home ranges and to facilitate dispersal and exploratory travel. The size of lynx home ranges is believed to be strongly influenced by the quality of the habitat, particularly the abundance of snowshoe hares, in addition to other factors such as gender, age, season, and density of the lynx population (Aubry *et al.* 2000, pp. 382–385; Mowat *et al.* 2000, pp. 276–280). Generally, females with kittens have the smallest home ranges while males have the largest home ranges (Moen *et al.* 2005, p. 11, Burdett *et al.* 2007, p. 463). Reported home range sizes vary greatly from 31 km<sup>2</sup> (12 mi<sup>2</sup>) for females and 68 km<sup>2</sup> (26 mi<sup>2</sup>) for males in Maine (Vashon *et al.* 2005a, p. 7), 21 km<sup>2</sup> (8 mi<sup>2</sup>) for females to 307 km<sup>2</sup> (119 mi<sup>2</sup>) for males in Minnesota (Moen *et al.* 2005, p. 12), and 88 km<sup>2</sup> (34 mi<sup>2</sup>) for females and 216 km<sup>2</sup> (83 mi<sup>2</sup>) for males in northwest Montana (Squires *et al.* 2004b, pp. 15–16).

### Forest Type Associations

#### Maine

Lynx were more likely to occur in 100 km<sup>2</sup> (40 mi<sup>2</sup>) landscapes with regenerating forest, and less likely to occur in landscapes with recent clearcut

or partial harvest, (Hoving *et al.* 2004, pp. 291–292). Lynx in Maine select softwood-dominated (spruce and fir) regenerating stands (Vashon *et al.* 2005a, p. 8). Regenerating stands used by lynx generally develop 15–30 years after forest disturbance and are characterized by dense horizontal structure and high stem density within a meter of the ground. These habitats support high snowshoe hare densities (Homyack 2003, p. 63; Fuller and Harrison 2005, pp. 716, 719; Vashon *et al.* 2005a, pp. 10–11). At the stand scale, lynx in northwestern Maine selected older (11- to 26-year-old), tall (4.6 to 7.3 m (15 to 24 ft)) regenerating clearcut stands and older (11- to 21-year-old) partially harvested stands (A. Fuller, University of Maine, unpubl. data).

#### Minnesota

In Minnesota, lynx primarily occur in the Northern Superior Uplands Ecological Section of the Laurentian Mixed Forest Province. Historically, this area was dominated by red pine (*Pinus resinosa*) and white pine (*P. strobus*) mixed with aspen (*Populus* spp.), paper birch (*Betula papyrifera*), spruce, balsam fir (*A. balsamifera*) and jack pine (*P. banksiana*) (Minnesota Department of Natural Resources [Minnesota DNR] 2003, p. 2).

Preliminary research suggests lynx in Minnesota generally use younger stands (less than 50 years) with a conifer component in greater proportion than their availability (R. Moen, University of Minnesota, unpubl. data). Lynx prefer predominantly upland forests dominated by red pine, white pine, jack pine, black spruce (*P. mariana*), paper birch, quaking aspen (*P. tremuloides*), or balsam fir (R. Moen, unpubl. data).

#### Washington

In the North Cascades in Washington, the majority of lynx occurrences were found above 1,250 m (4,101 ft) (McKelvey *et al.* 2000b, p. 243, 2000d, p. 321; von Kienast 2003, p. 28, Table 2; Maletzke 2004, p. 17). In this area, lynx selected Engelman spruce (*P. engelmannii*)-subalpine fir (*A. lasiocarpa*) forest cover types in winter (von Kienast 2003, p. 28, Maletzke 2004, pp. 16–17, Koehler *et al.* 2008, p. 1518). Lodgepole pine (*P. contorta*) is a dominant tree species in the earlier successional stages of these climax cover types. Seral (intermediate stage of ecological succession) lodgepole stands contained dense understories and therefore received high use by snowshoe hares and lynx (Koehler 1990, pp. 847–848; McKelvey *et al.* 2000d, pp. 332–335). Douglas-fir, ponderosa pine forests, openings, recent burns, open canopy

and understory cover, and steep slopes were all avoided habitat types (Koehler *et al.* 2008, p. 1518).

#### Northern Rockies

In the Northern Rocky Mountains, the majority of lynx occurrences are associated with the Rocky Mountain Conifer Forest or Western Spruce-Fir Forest vegetative class (Kuchler 1964, p. 4; McKelvey *et al.* 2000b, p. 246) and occur above 1,250 m (4,101 ft) elevation (Aubry *et al.* 2000, pp. 378–380; McKelvey *et al.* 2000b, pp. 243–245). The dominant vegetation that constitutes lynx habitat in these areas is subalpine fir, Engelman spruce and lodgepole pine (Aubry *et al.* 2000, p. 379; Ruediger *et al.* 2000, pp. 4–8–4–10). Mature multi-storied stands are used preferentially in winter (Squires *et al.* 2006). As in the Cascades, lodgepole pine is an earlier successional stage of subalpine fir and Engelman spruce climax forest cover types.

#### a. Snowshoe Hares (Food)

Snowshoe hare density is the most important factor explaining the persistence of lynx populations (Steury and Murray 2004, p. 136). A minimum snowshoe hare density necessary to maintain a persistent, reproducing lynx population within the contiguous United States has not been determined, although Ruggiero *et al.* (2000, pp. 446–447) suggested that at least 0.5 hares per hectare (ha) (0.2 hares per acre (ac)) may be necessary. Steury and Murray (2004, p. 137) modeled lynx and snowshoe hare populations and predicted that a minimum of 1.1 to 1.8 hares per ha (0.4 to 0.7 hares per ac) was required for persistence of a reintroduced lynx population in the southern portion of the lynx range.

The boreal forest landscape is naturally dynamic and usually contains a mosaic of forest stand successional stages. In some areas, particularly in the eastern portion of the DPS, stands that support high densities of snowshoe hares are of a young successional stage and are in a constant state of transition to other more mature stages. Conversely, if the vegetation potential (or climax forest type) of a particular forest stand is conducive to supporting abundant snowshoe hares, it likely will also go through successional stages that are unsuitable as lynx foraging (snowshoe hare habitat) or lynx denning habitat (Agee 2000, p. 62–72; Buskirk *et al.* 2000b, pp. 403–408) as part of a natural forest succession process. For example, a boreal forest stand where there has been recent disturbance, such as fire or timber harvest, resulting in little or no understory structure is unsuitable as

snowshoe hare habitat for lynx foraging. That temporarily unsuitable stand would regenerate into suitable snowshoe hare (lynx foraging) habitat within 10 to 25 years, depending on local conditions (Ruediger *et al.* 2000, pp. 1–3—1–4, 2–2—2–5). This continuation of this natural dynamism exhibited in boreal forest succession is crucial for lynx survival due to their dependence on intermediate successional stages in many areas. In places where lynx are dependent on mature forest stages, forest stand turnover still occurs, but on a longer time scale requiring the ability to recruit new mature forest stands as others are lost to fire, insect infestation, or human activities.

Forest management techniques that thin the understory may render the habitat unsuitable for hares and, thus, for lynx (Ruediger *et al.* 2000, pp. 2–4—3–2; Hoving *et al.* 2004, pp. 291–292). Stands may continue to provide suitable snowshoe hare habitat for many years until woody stems in the understory become too sparse, as a result of undisturbed forest succession or management (e.g., clearcutting or thinning). Thus, if the vegetation potential of the stand is appropriate, a stand that is not currently in a condition that is suitable to support abundant snowshoe hares for lynx foraging or coarse woody debris for den sites would develop into suitable habitat for snowshoe hares (and thus lynx foraging) with time. Therefore, we consider those forest areas with the potential, through natural succession, to produce high quality snowshoe hare habitat to be lynx habitat, regardless of the stage of forest succession that area is currently in.

As described previously, snowshoe hares prefer boreal forest stands that have a dense horizontal understory to provide food, cover and security from predators. Snowshoe hares feed on conifers, deciduous trees, and shrubs (Hodges 2000b, pp. 181–183). Snowshoe hare density is correlated to understory cover between approximately 1 to 3 m (3 to 10 ft) above the ground or snow level (Hodges 2000b, p. 184). Habitats most heavily used by snowshoe hares are stands with shrubs, stands that are densely stocked, and stands at ages where branches have more lateral cover (Hodges 2000b, p. 184). In Maine, the snowshoe hare densities were highest in stands supporting high conifer stem densities (Homyack 2003, p. 195, Robinson 2006, p. 69). In north-central Washington, snowshoe hare density was highest in 20-year-old lodgepole pine stands where the average density of trees and shrubs was 15,840 stems per ha (6,415 stems per ac) (Koehler 1990,

p. 848). In Montana, lynx use in winter corresponded to stands with a high number of large mature trees with branches that reached the snow surface (Squires *et al.* 2006, p. 15). Generally, earlier successional forest stages support a greater density of horizontal understory and more abundant snowshoe hares (Buehler and Keith 1982, p. 24; Wolfe *et al.* 1982, pp. 668–669; Koehler 1990, pp. 847–848; Hodges 2000b, pp. 184–191; Griffin 2004, pp. 84–88); however, sometimes mature stands also can have adequate dense understory to support abundant snowshoe hares (Griffin 2004, p. 88). In Montana, lynx favor multistory stands, often in older-age classes, where the tree boughs touch the snow surface but where the stem density is low (Squires *et al.* 2006, p. 15).

In Maine, the highest snowshoe hare densities were found in regenerating softwood (spruce and fir) and mixed-wood stands with high conifer stem densities (Fuller and Harrison 2005, pp. 716, 719, Robinson 2006, p. 69). In the north Cascades, the highest snowshoe hare densities were found in 20-year-old seral lodgepole pine stands with a dense understory (Koehler 1990, pp. 847–848). In montane and subalpine forests in northwest Montana, the highest snowshoe hare densities in summer were generally in younger stands with dense forest structure, whereas in winter, snowshoe hare densities were as high or higher in mature stands with dense understory forest structure (Griffin 2004, p. 53).

Habitats supporting abundant snowshoe hares must be present in a sufficient proportion (though not necessarily the majority) of the landscape to support a viable lynx population. Broad-scale snowshoe hare density estimates are not available for the areas being designated as lynx critical habitat. Available snowshoe hare density estimates are helpful in determining where snowshoe hares exist, but each estimate is specific to both a location and a point in time. Due to intrinsic, rapid fluctuations often seen in snowshoe hare populations, density estimates can not be considered definitive for any particular area. If enough data were gathered for a specific area over several years, these data could be used to calculate an average density (with margins of error included).

#### *b. Snow Conditions (Other Physiological Requirements)*

Snow conditions also determine the distribution of lynx and snowshoe hares. Deep, fluffy snow conditions likely restrict potential competitors such as bobcat or coyote from effectively

encroaching on or hunting in winter lynx habitat. Snowfall was the strongest predictor of lynx occurrence at a regional scale (Hoving *et al.* 2005, p. 746, Table 5). In addition to snow depth, other snow properties, including surface hardness or sinking depth, are important factors in the spatial, ecological, and genetic structuring of the species (Stenseth *et al.* 2004, p. 75).

In the northeastern United States, lynx are most likely to occur in areas with a 10-year mean annual snowfall greater than 268 cm (105 in) (Hoving 2001, p. 75). The Northern Superior Uplands section of Minnesota receives more of its precipitation as snow than any section in the State, has the longest period of snow cover, and the shortest growing season (Minnesota DNR 2003, p. 2). Mean annual snowfall from 1971 to 2000 in this area was generally greater than 149 cm (55 in) (University of Minnesota 2005 webpage).

Information on average snowfall or snow depths in mountainous areas such as the Cascades or northwest Montana is limited because there are few weather stations in these regions that have measured snow fall or snow depth over time. An important consideration is that the topography strongly influences local snow conditions. For example, in the Cascades, at the Mazama station, average annual snowfall from 1948 to 1976 was 292 cm (115 in) (Western Regional Climate Center 2005 webpage). In Montana, at the Seeley Lake Ranger Station, average annual snowfall from 1948 to 2005 was 315 cm (124 in), while at the Troy station the average total snowfall from 1961 to 1994 was 229 cm (90 in) (Western Regional Climate Center 2005 webpage).

#### *c. Denning Habitat (Sites for Reproduction and Rearing of Offspring)*

Lynx den sites are found in mature and younger boreal forest stands that have a large amount of cover and downed, large woody debris. The structural components of lynx den sites are common features in managed (logged) and unmanaged (e.g., insect damaged, wind-throw) stands. Downed trees provide excellent cover for den sites and kittens and often are associated with dense woody stem growth.

Sub-stand characteristics were evaluated for 26 lynx dens from 1999 to 2004 in northwest Maine. Dens were found in several stand types. Modeling of den site variables determined that tip-up mounds (exposed roots from fallen trees) alone best explained den site selection (J. Organ, Service, unpubl. data). Tip-up mounds may purely be an index of downed trees, which were

abundant on the landscape. Horizontal cover at 5 m (16 ft) alone was the next best performing model (J. Organ, unpubl. data). Dead downed trees were sampled, but did not explain den site selection as well as tip-up mounds and cover at 5 m (16 ft). Lynx essentially select dense cover in a cover-rich area for denning.

In the North Cascades, Washington, lynx denned in mature (older than 250 years) stands with an overstory of Engelmann spruce, subalpine fir, and lodgepole pine with an abundance of downed woody debris (Koehler 1990, p. 847). In this study, all den sites were located on north-northeast aspects (Koehler 1990, p. 847). In northwest Montana, the immediate areas around dens were in a variety of stand ages but all contained abundant woody debris including downed logs, blowdowns, and rootwads, and dense understory cover (Squires *et al.* 2004b, Table 3). Information on den site characteristics in Minnesota has not yet been reported (Moen *et al.* 2005, p. 8).

#### *Primary Constituent Element for the Canada Lynx*

Within the geographical area occupied by the lynx at the time of listing, we must identify the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protections. The physical and biological features are primary constituent elements (PCEs) laid out in a specific quantity and spatial arrangement to be essential to the conservation of the species.

Based on the above needs and our current knowledge of the life history, biology, and ecology of the species, we have determined that the primary constituent element for lynx critical habitat is:

1. Boreal forest landscapes supporting a mosaic of differing successional forest stages and containing:

a. Presence of snowshoe hares and their preferred habitat conditions, which include dense understories of young trees, shrubs or overhanging boughs that protrude above the snow, and mature multistoried stands with conifer boughs touching the snow surface;

b. Winter snow conditions that are generally deep and fluffy for extended periods of time;

c. Sites for denning that have abundant coarse woody debris, such as downed trees and root wads; and

d. Matrix habitat (e.g., hardwood forest, dry forest, non-forest, or other habitat types that do not support snowshoe hares) that occurs between

patches of boreal forest in close juxtaposition (at the scale of a lynx home range) such that lynx are likely to travel through such habitat while accessing patches of boreal forest within a home range.

This critical habitat designation is designed for the conservation of the physical and biological features essential to the conservation of the lynx and necessary to support lynx life history functions. The physical and biological features, described in the PCE defined above, comprise the essential features of boreal forest that (1) provide adequate prey resources necessary for the persistence of local populations and metapopulations of lynx through reproduction; (2) act as a possible source of lynx for more peripheral boreal forested areas; (3) enable the maintenance of home ranges; (4) incorporate snow conditions for which lynx are highly specialized that give lynx a competitive advantage over potential competitors; (5) provide denning habitat; and (6) provide habitat connectivity for travel within home ranges, exploratory movements, and dispersal within critical habitat units. Lynx use habitat at a landscape scale, which means that no single locality (small scale) contains all of the required habitat elements that lynx need to ensure survival and reproduction. Therefore, individual portions of each unit (for example, an individual forest stand) may not contain all of the PBFs listed above, however, each unit, as a landscape, does contain each of the PBFs and it is the landscape as a whole that contains the PCE.

#### **Special Management Considerations or Protections**

When designating critical habitat, we assess whether the areas occupied by the species at the time of listing contain the physical and biological features that are essential to the conservation of the species, and whether these features may require special management considerations or protections.

Lands within the revised critical habitat will require some level of management to address the current and future threats to the lynx and to maintain and protect the physical and biological features essential to the conservation of the species. In all units, special management will be required to ensure that boreal forest landscapes provide a mosaic of forest stands of various ages to provide abundant prey habitat, denning habitat, and connectivity within the landscape. The designation of critical habitat does not imply that lands outside of critical habitat do not play an important role in

the conservation of the lynx. Federal activities that may affect areas outside of critical habitat, such as forest management, development, and road construction, are still subject to review under section 7 of the Act if they may affect lynx, because Federal agencies must consider effects to lynx and effects to critical habitat independently. The take prohibitions of section 9 of the Act (e.g., harm, harass, capture, kill) also continue to apply both inside and outside of designated critical habitat.

Special management direction for lynx has been applied to public lands in much of the lynx DPS. The U.S. Forest Service (USFS), Bureau of Land Management (BLM), National Park Service (NPS), and the Service developed a Lynx Conservation Assessment and Strategy (LCAS) (Ruediger *et al.* 2000, entire) using the best available science at the time specifically to provide a consistent and effective approach to conserve lynx and lynx habitat on Federal lands (Ruediger *et al.* 2000). The overall goals of the LCAS are to recommend lynx conservation measures, to provide a basis for reviewing the adequacy of USFS and BLM land and resource management plans with regard to lynx conservation, and to facilitate conferencing and consultation under section 7 of the Act. The LCAS identifies an inclusive list of 17 potential risk factors for lynx or lynx habitat that may be addressed under programs, practices, and activities within the authority and jurisdiction of Federal land management agencies. The risks identified in the LCAS are based on effects to individual lynx, lynx populations, or to lynx habitat. Potential risk factors the LCAS addresses, that may affect lynx productivity, include: Timber management, wildland fire management, recreation, forest/backcountry roads and trails, livestock grazing, and other human developments. Potential risk factors the LCAS addresses, that may affect lynx mortality, include: Trapping, predator control, incidental or illegal shooting, and competition and predation as influenced by human activities and highways. Potential risk factors the LCAS addresses, that may affect lynx movement, include: Highways, railroads and utility corridors, land ownership pattern, and ski areas and large resorts. Other potential large-scale risk factors for lynx addressed by the LCAS include: Fragmentation and degradation of lynx refugia, lynx movement and dispersal across shrub-steppe habitats, and habitat degradation by nonnative and invasive plant species.

The LCAS used the best available information in 2000 to ensure that the appropriate mosaic of habitat is provided for lynx conservation on Federal lands. Although the LCAS was written specifically for Federal lands, many of the conservation measures could be pertinent to non-Federal lands. To facilitate project planning and allow for the assessment of the potential effects of a project on an individual lynx, the LCAS directs Federal land management agencies to delineate Lynx Analysis Units (LAUs). The scale of an LAU approximates the size of area used by an individual lynx (25 to 50 mi<sup>2</sup> (65 to 130 km<sup>2</sup>)). The LCAS recognizes that LAUs will likely encompass both lynx habitat and other areas (e.g., lakes, low elevation ponderosa pine (*Pinus ponderosa*) forest, and alpine tundra). Habitat-related standards the LCAS provides to address potential risks include:

1. If more than 30 percent of lynx habitat in an LAU is currently in unsuitable condition, no further reduction of suitable condition shall occur as a result of vegetation management activities by Federal agencies;
2. Within an LAU, maintain denning habitat in patches generally larger than 5 ac (2 ha), comprising at least 10 percent of lynx habitat;
3. Maintain habitat connectivity within and between LAUs;
4. Management actions (e.g., timber sales, salvage sales) shall not change more than 15 percent of lynx habitat within an LAU to an unsuitable condition within a 10-year period;
5. Pre-commercial thinning will only be allowed when stands no longer provide snowshoe hare habitat; and
6. On Federal lands in lynx habitat, allow no net increase in groomed or designated over-the-snow routes and snowmobile play areas by LAU.

With the listing of the lynx in 2000, Federal agencies across the contiguous United States range of the lynx were required to consult with the Service on actions that may affect lynx. The LCAS assists Federal agencies in planning activities and projects in ways that benefit lynx or avoid adverse impacts to lynx or lynx habitat (Ruediger *et al.* 2000). If projects are designed that fail to meet the standards in the LCAS, the biologists using the LCAS would arrive at an adverse effect determination for lynx.

A Conservation Agreement between the USFS and the Service (U.S. Forest Service and U.S. Fish and Wildlife Service 2000) and a similar Agreement between the BLM and the Service (Bureau of Land Management and U.S.

Fish and Wildlife Service 2000) committed the USFS and BLM to use the LCAS in determining the effects of actions on lynx until Forest Plans were amended or revised to adequately conserve lynx. A programmatic biological opinion pursuant to section 7 of the Act confirmed the adequacy of the LCAS and its conservation measures to conserve lynx, and concluded that USFS and BLM land management plans, as implemented in accordance with the Conservation Agreements, would not jeopardize the continued existence of lynx (U.S. Fish and Wildlife Service 2000).

In 2005, the USFS and the Service renewed the conservation agreement (U.S. Forest Service and U.S. Fish and Wildlife Service 2005) because the original agreement had expired. In the 2005 agreement, the parties agreed to take measures to reduce or eliminate adverse effects or risks to lynx and its occupied habitat pending amendments to Forest Plans. The LCAS is a basis for implementing this agreement (U.S. Forest Service and U.S. Fish and Wildlife Service 2005). The 2005 agreement was renewed on October 20, 2006, and expires December 31, 2010, unless renewed. The BLM continues to adhere to their original agreement although it expired in December 2004.

Lynx conservation depends on management that supports boreal forest landscapes of sufficient size to encompass the temporal and spatial changes in habitat and snowshoe hare populations to support interbreeding lynx populations or metapopulations over time. At the time it was written, the LCAS provided the highest level of management or protection for lynx. The LCAS conservation measures address risk factors affecting lynx habitat and lynx productivity and were designed to be implemented at the scale necessary to conserve lynx. This level of management is appropriate for Federal lands, because they account for the majority of high-quality habitat in the United States, and also because the inadequacy of regulatory mechanisms to conserve lynx on these lands was the primary reason for listing the lynx as a threatened species under the Act. New information has become available since the LCAS was written, and should be taken into account by land managers. Kolbe *et al.* (2007) and Bunnell *et al.* (2006) published information on the effects of snowmobiling on lynx, and Squires *et al.* (2006) documented the importance of multilayered stands as snowshoe hare habitat. Ongoing research in Minnesota and Maine has resulted in information that contributes to our understanding of lynx and

snowshoe hares (e.g., Moen *et al.* 2004; Hoving *et al.* 2005; Homyack *et al.* 2007; Fuller *et al.* 2007). In some regions of Wyoming, Washington and Maine, research continues. As new information becomes available, it should be added to that in the LCAS.

The USFS considered some of the new information discussed above when it proposed to revise 18 Forest Plans under a programmatic plan amendment called the Northern Rocky Mountain Lynx Amendment (NRLA) (U.S. Forest Service 2007). Some of the LCAS standards were changed to guidelines because the Service determined that some risk factors were not negatively affecting the contiguous U.S. DPS of lynx as a whole. Since publication of the LCAS, lynx studied in the United States have been shown to use a variety of sites and conditions for denning. Lynx denning sites are not believed to be a limiting factor in Montana and Maine study areas (Service 2007, pp. 48–49). Earlier assessments also concluded that, in most geographic areas, denning habitat was not likely limiting to lynx, and existing forest plan direction would not result in adverse effects (Hickenbottom *et al.* 1999). After evaluating Bunnell *et al.* (2006, entire) and Kolbe *et al.* (2007, entire), we determined that the best information available did not indicate that compacted snow routes increase competition from other species to levels that adversely impact lynx populations in the NRLA area (Service 2007, pp. 55). Since the LCAS was written, new information revealed the importance of multi-storied stands for lynx (Squires *et al.* 2006). On the basis of the above information, the USFS included a standard for conserving multi-storied stands in the NRLA. This LCAS does not contain this standard.

In addition to diverging from the standards in the LCAS because of new information, the NRLA also deviated from the LCAS by allowing additional fuels reduction projects in areas within the wildlands-urban-interface (WUI). In our analysis of the NRLA, we determined that the management in the NRLA area would provide for the recovery of lynx in these areas by addressing the major reason we listed the lynx in 2000—the lack of guidance for conservation of lynx in Federal land management plans. Consultation under section 7 of the Act was completed for the NRLA in 2007, and it is now official land management direction for the National Forests that adopted it.

In Maine, lynx populations occur in extensive boreal forest landscapes where large, contiguous stands of young, regenerating spruce-fir habitat

are prevalent and support high densities of snowshoe hares. Historically, habitat was likely created by natural forest disturbances, fire, insects and disease, and windthrow. Most of the lynx in Maine occur on private, industrial forest lands. Large-scale, industrial forest management has created the current habitat, and future forest management that produces extensive stands supporting high hare densities is needed to support lynx populations. The Service developed *Canada Lynx Habitat Management Guidelines for Maine* (McCullough 2007, entire). These guidelines specify the special management—recommendations on land use, forest conditions, landscape conditions, and silviculture requirements—needed to support lynx populations based on the best available science (see discussion of Healthy Forest Reserve Program for further details).

#### Criteria Used To Identify Critical Habitat

As required by section 4(b)(2) of the Act, we used the best scientific data available to designate critical habitat. In order to determine those specific areas occupied by the species at the time it was listed on which are found those physical or biological features essential to the conservation of the species, as required by section 3(5)(a)(i) of the Act, we reviewed the approach to the conservation of the lynx provided in a recovery outline (Service 2005, entire); information from State, Federal and Tribal agencies; and information from academia and private organizations that have collected scientific data on lynx.

The focus of our strategy in considering lands for designation as critical habitat was on boreal forest landscapes of sufficient size to encompass the temporal and spatial changes in habitat and snowshoe hare populations to support interbreeding lynx populations or metapopulations over time. These factors are included in the PCE for lynx. According to the recovery strategy, areas that meet these criteria are considered “core habitat areas” for lynx (USFWS 2005, p. 4); however, for critical habitat, we have refined areas based on evidence of breeding populations. As stated in the proposed rule, the areas we consider essential to the conservation of lynx have the physical and biological features essential to lynx in sufficient quantity and spatial arrangement, as evidenced by consistent occupancy and reproduction by lynx. We focused on consistency of lynx presence and reproduction, because areas with these characteristics represent resiliency

during population lows, which is key to the species’ survival. Areas that meet these criteria contrast with areas that may serve as temporary habitat for unsuccessful dispersers during population highs, but do not support lynx reproduction, and therefore are not likely to play a role in lynx conservation. Individual lynx maintain large home ranges; the areas identified as having features essential to the conservation of the lynx are large enough to encompass multiple home ranges. A secondary consideration is that, in addition to supporting breeding populations, these areas provide connectivity among patches of suitable habitat (e.g., patches containing abundant snowshoe hares), whose locations in the landscape shift through time. Areas that have historical records of lynx, but no record of reproduction, and that support lynx during dispersal movements, are considered “secondary areas” (USFWS 2005, p. 4). Areas outside core and secondary areas that have sporadic records of lynx are considered “peripheral areas” (USFWS 2005, p. 4).

We reviewed available information that pertains to the habitat requirements of this species and its principal prey, the snowshoe hare. This information included data in reports submitted by researchers holding recovery permits under section 10(a)(1)(A) of the Act; research published in peer-reviewed articles, presented in academic theses, agency reports and unpublished data; and various Geographic Information System (GIS) coverages (e.g., land cover type information, land ownership information, snow depth information, topographic information, locations of lynx obtained from radio-or GPS-collars and locations of lynx confirmed via DNA analysis or other verified records).

In designating critical habitat for the lynx we used the best scientific data available to evaluate areas that possess the physical and biological features essential to the conservation of the species and that may require special management considerations or protection. In evaluating areas as critical habitat, we first conducted a two-part analysis: (1) We relied on information used during listing of the species, and any available newer information, to delineate the geographic area occupied by the species at the time of listing, and (2) used the best available scientific information to determine which occupied areas contain the physical and biological features essential to the conservation of the lynx.

In determining the geographic area occupied by the species, we utilized data providing verified evidence of the

occurrence of lynx and evidence of the presence of breeding lynx populations as represented by records of lynx reproduction. We find that evidence of breeding populations is the best way to verify that the physical and biological features essential to lynx are present in sufficient quantity and spatial configuration to meet the needs of the species, and qualify as critical habitat. We eliminated areas from consideration in two ways: (1) Areas outside the known historical range and (2) data older than 1995 were not considered valid to our assessment of occurrence and reproduction of lynx. We used data on the known historical range of the lynx (e.g., McKelvey *et al.* 2000b, pp. 207–232; Hoving *et al.* 2003, entire) to eliminate areas outside the historical range of the species.

We then focused on records since 1995 to ensure that this critical habitat designation is based on the data that most closely represents the current status of lynx in the contiguous United States and the geographical area known to be occupied by the species at the time of listing. Although the average lifespan of a wild lynx is not known, we assumed that a lynx born in 1995 could have been alive in 2000 or 2003, when the final listing rule and the clarification of findings were published. Data after 1995 were considered valid. Recent verified lynx occurrence records were provided by Federal research entities, State wildlife agencies, academic researchers, and private individuals or organizations working on lynx (K. Aubry, Pacific Northwest Research Station, unpubl. data; S. Gehman, Wildthings Unlimited, unpubl. data; S. Gniadek, Glacier National Park, unpubl. data; S. Loch, Independent Scientist, and E. Lindquist, Superior National Forest, unpubl. data; K. McKelvey, Rocky Mountain Research Station; unpubl. data; Minnesota DNR 2005 Web site; R. Moen, University of Minnesota, Natural Resources Research Institute, unpubl. data.; J. Squires, Rocky Mountain Research Station, unpubl. data; J. Vashon, Maine Department of Inland Fisheries and Wildlife, unpubl. data).

We used only verified lynx records, because we wanted to rely on the best available data to evaluate specific areas and their features for critical habitat designation. The reliability of lynx occurrence reports can be questionable because the bobcat, a common species, can be confused with the lynx, which is similar in appearance. Additionally, many surveys are conducted by snow tracking in which correct identification of tracks can be difficult because of variable conditions affecting the quality

of the track and variable expertise of the tracker. Our definition of a verified lynx record is modified from McKelvey *et al.* (2000b, p. 209)—(1) an animal (live or dead) in hand or observed closely by a person knowledgeable in lynx identification, (2) genetic (DNA) confirmation, (3) snow tracks only when confirmed by genetic analysis (e.g., McKelvey *et al.* 2006, entire) or (4) location data from radio or GPS-collared lynx. Documentation of lynx reproduction consists of lynx kittens in hand, or observed with the mother by someone knowledgeable in lynx identification, or snow tracks demonstrating family groups traveling together, as identified by a person highly knowledgeable in identification of carnivore tracks. However, we made an exception and accepted snow track data from Maine because of the stringent protocols used in confirming tracks as lynx and the minimal number of species in the area with which lynx tracks could be misidentified (McCullough 2006, entire).

To define critical habitat according to section 3(5)(A) of the Act, we then delineated, within the geographical area currently occupied by the species at the time of listing, areas containing physical and biological features essential to the conservation of the lynx. The physical and biological features (as defined above under Primary Constituent Elements) were determined by including recent lynx records, evidence of breeding lynx populations, the boreal forest type that is currently occupied by lynx in that particular region, and direct connectivity with lynx populations in Canada. Lynx populations in the contiguous United States are influenced by lynx population dynamics in Canada (Thiel 1987; McKelvey *et al.* 2000a, p. 427, 2000c, p. 33). Many of these populations in Canada are directly interconnected with United States populations and are likely a source of emigration into the contiguous United States; lynx from the contiguous United States are known to move into Canada. Therefore, we assume that retaining connectivity with larger lynx populations in Canada is important to ensuring long-term persistence of lynx populations in the United States. We assume that, regionally, lynx within the contiguous United States and adjacent Canadian provinces interact as metapopulations. Where available, data on historic average snow depths and bobcat harvest provided additional insight for refining and delineating appropriate boundaries for consideration as critical habitat.

In the North Cascades and Northern Rockies, the features essential to the

conservation of lynx, the majority of lynx records, evidence of reproduction, and the boreal forest types are typically, though not always, found above 4,000 feet (ft) (1,219 meters [m]) in elevation (McKelvey *et al.* 2000b, pp. 243–245; McAllister *et al.* 2000, entire). Thus, we limited the delineation of critical habitat to lands above this elevation unless we had habitat data indicating that suitable habitat exists below this elevation. Additionally, in the North Cascades, features essential to the conservation of the lynx and the majority of the lynx records and evidence of reproduction occur east of the crest of the Cascade Mountains.

Based on comments received, the availability of better maps and inspection of aerial photos, we adjusted some boundaries of the areas proposed for critical habitat to better reflect the distribution of lynx habitat. The boundaries are modified in Units 2 (Minnesota), 3 (northern Rockies), and 5 (GYA) to better reflect the location of the PCE through the use of new habitat mapping data obtained from State and Federal agencies and private industry. Boundaries in Units 1 (Maine) and 4 (Washington) remained the same with the exception of 4(b)(2) exclusions (discussed in Exclusions Under Section 4(b)(2) of the Act section below).

Given the scale of the critical habitat units, it was not feasible to completely avoid inclusion of water bodies, including lakes, reservoirs and rivers, grasslands, or human-made structures such as buildings, paved and gravel roadbeds, parking lots, and other structures that lack the PCE for the lynx. These areas, including any developed areas and the land on which such structures are located, that exist inside critical habitat boundaries, are excluded by text and are not designated critical habitat. Therefore, Federal actions limited to these areas would not trigger section 7 consultation, unless they affect the species or primary constituent element in adjacent critical habitat.

When considering what areas to include as critical habitat, we focused closely on areas with reliable evidence of lynx occurrence and reproduction since 1995. For example, because there is no verified evidence of lynx occupation or reproduction in New Hampshire or western Maine since 1995, we did not consider these areas to have the physical and biological features essential to lynx. In addition, while evaluating information for the critical habitat proposal, we received bobcat harvest data for Minnesota showing abundant bobcat harvest and a lack of lynx presence in the area west of the critical habitat unit in Minnesota,

which suggests the western portion of the area preliminarily delineated as core habitat in Minnesota may not be of high quality for lynx.

We determined that the Kettle Range in north-central Washington does not contain the physical and biological features essential to lynx in viable quantity and spatial arrangement, and therefore we did not include it in our proposed or final revised critical habitat rules. The Kettle Range historically (through the 1970s) supported lynx populations (Stinson 2001, pp.13–14). However, although boreal forest habitat within the Kettle Range appears to contain high quality habitat for lynx, there is no evidence that the Kettle Range is currently occupied by a reproducing lynx population (Koehler 2005 entire). In particular, while we continue to receive sporadic reports from the area, we have no information to suggest a lynx population has occupied the Kettle range since 1995, so it did not meet our criteria for consideration as critical habitat. Therefore, we did not include the Kettle Range in our critical habitat designation.

Native lynx were extirpated from their historic range in Colorado and southern Wyoming in the Southern Rocky Mountains by the time the lynx was listed in 2000. In 1999, the State of Colorado began to reintroduce lynx. Subsequent to the release, lynx have dispersed to many areas of varying habitat quality, such as to the Great Plains in Nebraska, the Wasatch Range in Utah, and San Juan Mountains of New Mexico. Although it is too early to determine whether the Colorado introduction will result in a self-sustaining population, the reintroduced lynx produced kittens in the early years of the program. Over the last several years, reproduction has been very low, suggesting that the population may not be viable (Shenk 2007, p. 1) and that absent ingress from Canadian populations to the north, viability of any of the contiguous U.S. lynx populations may be suspect (Murray *et al.* 2008). Due to the distances lynx must cover to reach the southern Rockies from other occupied and reproductive populations, we are still unable to conclude that this region has the necessary habitat to maintain a lynx population. We determined that the marginal habitat in the Southern Rockies, and habitat not within the historical range of lynx where these animals have dispersed outside of Colorado, are not essential to the conservation of lynx because they likely lack the quantity and spatial arrangement of physical and biological features essential to the species.

Many areas within the contiguous United States have one or more individual lynx records with no evidence of persistent, reproducing lynx populations. It is possible, though unlikely, that some of these areas may support undocumented persistent populations of lynx. However, most of these records are likely a result of wide-ranging dispersal events, occur in habitat that is less suitable for lynx than in the core areas, and are mostly disjunct from areas that contain persistent lynx populations. We consider these areas as secondary or peripheral (as defined in the Recovery Outline), and their role in sustaining persistent lynx populations is unclear; such areas may provide habitat to dispersing lynx, especially when populations are at a cyclic high. The areas we consider essential to the conservation of lynx have the PCE, which provide for the ability to maintain and produce lynx during population lows. Due to their lack of demonstrated ability to provide the PCE for conservation of the species, we do

not believe that secondary and peripheral areas meet the definition of critical habitat for lynx.

Secondary and peripheral areas contain only periodic records of lynx over time, and they lack evidence of reproducing lynx populations. Habitat suitability for lynx has not been assessed throughout the secondary and peripheral areas, so we are not certain whether the essential features (i.e., PCE) are present. However, the relative lack of lynx records over time, and, in particular the lack of evidence of reproducing populations, may suggest that habitat (snowshoe hare densities, in particular) has not been adequate historically, nor is it currently adequate, to support reproducing lynx populations. Additionally, some of the peripheral areas are naturally disjunct and support few historical records of lynx.

**Critical Habitat Designation**

We are designating five units as critical habitat for the lynx (Table 1). The critical habitat units described below constitute our best assessment at

this time of areas: (1) We determined to be occupied at the time of listing, (2) that contain the physical and biological features (i.e., the primary constituent element in the appropriate spatial arrangement and quantity) essential for the conservation of the species, and (3) that may require special management considerations or protection. The five areas designated as critical habitat are Unit 1 in northwestern Maine, Unit 2 in the Arrowhead region of Minnesota, Unit 3 in Montana and Idaho, Unit 4 in the North Cascades of Washington, and Unit 5 in the Greater Yellowstone Area of Wyoming, Montana, and Idaho. To further understand the location of these designated areas, please see the associated maps found within this final rule (also available at our Web site: <http://mountain-prairie.fws.gov/species/mammals/lynx/>). Table 1 shows the critical habitat unit areas, area that was proposed for designation, approximate area being excluded from the designation, land ownership, and the approximate area being designated as critical habitat.

TABLE 1—CRITICAL HABITAT UNITS DESIGNATED FOR THE LYNX

Critical habitat units	Area proposed for designation km <sup>2</sup> (mi <sup>2</sup> )	Excluded area km <sup>2</sup> (mi <sup>2</sup> )	Land ownership	Area designated km <sup>2</sup> (mi <sup>2</sup> )
Unit 1: Maine .....	27,539.1 (10,632.9)	2,884.0 (1,113.5)	Private, State, Federal .....	24,597.5 (9,497.2)
Unit 2: Minnesota .....	21,305.4 (8,226.1)	202.6 (78.2)	Federal, Private, State .....	20,888.4 (8,065.1)
Unit 3: Northern Rocky Mountains (MT and ID) .....	29,276.5 (11,303.7)	956.6 (369.4)	Federal, Private, State .....	26,162.9 (10,101.6)
Unit 4: North Cascades .....	5,179.7 (1,999.9)	424.7 (164.0)	Federal, Private .....	4,755.0 (1,835.9)
Unit 5: Greater Yellowstone Area .....	27,427.4 (10,589.8)	0 (0)	Federal, State, Private .....	24,606.1 (9,500.5)
Total .....	110,728.1 (42,752.4)	4,467.9 (1,725.1)	.....	101,009.9 (39,000.3)

We provide a brief description of all units, and reasons why they meet the definition of critical habitat for the Canada lynx. The section that follows explains our decision to exclude certain lands pursuant to Section 4(b)(2) of the Act.

*Unit 1: Northern Maine—24,597 km<sup>2</sup> (9,497 mi<sup>2</sup>)*

Unit 1 is located in northern Maine in portions of Aroostook, Franklin, Penobscot, Piscataquis, and Somerset Counties. This area was occupied by the lynx at the time of listing and is currently occupied by the species. Lynx in northwestern Maine have high productivity: 91 percent of available adult females (greater than 2 years)

produced litters, and litters averaged 2.83 kittens (Vashon *et al.* 2005b, pp. 4–6). This area contains the physical and biological features essential to the conservation of the lynx as it is comprised of the primary constituent element and its components laid out in the appropriate quantity and spatial arrangement. This area is also important for lynx conservation because it is the only area in the northeastern region of the lynx’s range within the contiguous United States that currently supports breeding lynx populations and likely acts as a source or provides connectivity for more peripheral portions of the lynx’s range in the Northeast. Timber harvest and management is the dominant land use within the unit;

therefore, special management is required depending on the silvicultural practices conducted (68 FR 40075; July 3, 2003). Timber management practices that provide for a dense understory are beneficial for lynx and snowshoe hares. In this area, other habitat-related threats to lynx are lack of an International conservation strategy for lynx, traffic, and development (68 FR 40075).

*Unit 2: Northeastern Minnesota—20,888 km<sup>2</sup> (8,065 mi<sup>2</sup>)*

Unit 2 is located in northeastern Minnesota in portions of Cook, Koochiching, Lake, and St. Louis Counties, and Superior National Forest. In 2003, when we last formally reviewed the status of the lynx,

numerous verified records of lynx existed from northeastern Minnesota (68 FR 40076, July 3, 2003). The area was occupied at the time of listing and is currently occupied by the species. Lynx are currently known to be distributed throughout northeastern Minnesota, as has been confirmed through DNA analysis, radio- and GPS-collared animals, and documentation of reproduction (Moen *et al.* 2004, entire; Minnesota DNR 2005, entire; S. Loch, unpubl. data; Minnesota Department of Natural Resources, unpubl. data). This area contains the physical and biological features essential to the conservation of the lynx as it is comprised of the primary constituent element and its components laid out in the appropriate quantity and spatial arrangement. This area is essential to the conservation of lynx because it is the only area in the Great Lakes region for which we have evidence of recent lynx reproduction. It likely acts as a source or provides connectivity for more peripheral portions of the lynx's range in the region. Timber harvest and management is a dominant land use (68 FR 40075). Therefore, special management is required depending on the silvicultural practices conducted. Timber management practices that provide for a dense understory are beneficial for lynx and snowshoe hares. In this area, lack of an International conservation strategy for lynx, fire suppression or fuels treatment, traffic, and development are other habitat-related threats to lynx (68 FR 40075).

Specific sections of land encompassing a mining district in Minnesota known as the Iron Range are not included in this revised designation because they do not contain the physical and biological features essential to the conservation of lynx. In much of the Iron Range, mining has removed all vegetation and much of this area was subsequently flooded. Areas that are still vegetated and not flooded are extensively fragmented by the mined areas and haul roads. We used the "GAP Land Cover—Tiled Raster" dataset (Minnesota Department of Natural Resources 2002) to identify sections that are heavily influenced by mining activities. Areas described as "Barren" and "Mixed Developed" in the GAP dataset seemed to correspond to areas that were mined or extensively disturbed by mining-related activities (e.g., service roads), based on aerial photos (National Agricultural Imagery Program 2003). Further inspection of aerial photos indicates that additional sections exist with extensive effects of mining, beyond that indicated by the

GAP data, which is based on 10–15-year-old satellite imagery. These disturbed areas are not included in this final designation and are reflected in the final maps provided with the rule and in the unit boundary description.

*Unit 3: Northern Rocky Mountains*  
26,163 km<sup>2</sup> (10,102 mi<sup>2</sup>)

Unit 3 is located in northwestern Montana and a small portion of northeastern Idaho in portions of Boundary County in Idaho and Flathead, Glacier, Granite, Lake, Lewis and Clark, Lincoln, Missoula, Pondera, Powell and Teton Counties in Montana. It includes National Forest lands and BLM lands in the Garnet Resource Area. This area was occupied by lynx at the time of listing and is currently occupied by the species. Lynx are known to be widely distributed throughout this unit and breeding has been documented in multiple locations (Gehman *et al.* 2004, pp. 24–29; Squires *et al.* 2004a, pp. 7–10 and 2004b, pp. 8–10). This area contains the physical and biological features essential to the conservation of the lynx as it is comprised of the primary constituent element and its components laid out in the appropriate quantity and spatial arrangement. This area is essential to the conservation of lynx because it appears to support the highest density lynx populations in the Northern Rocky Mountain region of the lynx's range. It likely acts as a source for lynx and provides connectivity to other portions of the lynx's range in the Rocky Mountains, particularly the Yellowstone area. Timber harvest and management is a dominant land use (68 FR 40075); therefore, special management is required depending on the silvicultural practices conducted. Timber management practices that provide for a dense understory are beneficial for lynx and snowshoe hares. In this area, fire suppression or fuels treatment, lack of an International conservation strategy for lynx, traffic, and development are other habitat-related threats to lynx (68 FR 40075).

*Unit 4: North Cascades* 4,755 km<sup>2</sup> (1,836 mi<sup>2</sup>)

Unit 4 is located in north-central Washington in portions of Chelan and Okanogan Counties, and includes BLM lands in the Spokane District. This area was occupied at the time lynx was listed and is currently occupied by the species. This unit supports the highest densities of lynx in Washington (Stinson 2001). Evidence from limited recent research and DNA shows lynx distributed within this unit, with breeding being documented (von Kienast 2003, p. 36; K. Aubry, Pacific

Northwest Research Station, unpubl. data; B. Maletzke, Washington State University, unpubl. data). Although there appear to be fewer records in the portion of the unit south of Highway 20, few surveys have been conducted in this portion of the unit. This area contains boreal forest habitat and the components essential to the conservation of the lynx. Further, it is contiguous with the portion of the unit north of Highway 20, particularly in winter when deep snows close Highway 20. The northern portion of the unit adjacent to the Canadian border also appears to support few recent lynx records; however, it is designated wilderness, so access to survey this area is difficult. This northern portion contains extensive boreal forest vegetation types and the components essential to the conservation of the lynx. Additionally, lynx populations exist in British Columbia directly north of this unit (E. Lofrothe, British Columbia Ministry of the Environment, unpubl. data).

This area contains the physical and biological features essential to the conservation of the lynx as it contains the primary constituent element and its components laid out in the appropriate quantity and spatial arrangement. This area is essential to the conservation of lynx because it is the only area in the Cascades region of the lynx's range that is known to support breeding lynx populations. Timber harvest and management is a dominant land use; therefore, special management is required depending on the silvicultural practices conducted. Timber management practices that provide for a density understory are beneficial for lynx and snowshoe hares. In this area, Federal land management plans have not been amended to incorporate lynx conservation. The lack of an International conservation strategy for lynx, traffic, and development are other habitat-related threats to lynx (68 FR 40075).

*Unit 5: Greater Yellowstone Area* 24,606 km<sup>2</sup> (9,500 mi<sup>2</sup>)

Unit 5 is located in Yellowstone National Park and surrounding lands in southwestern Montana and northwestern Wyoming. Lands in this unit are found in Gallatin, Park, Sweetgrass, Stillwater, and Carbon Counties in Montana, and Park, Teton, Fremont, Sublette, and Lincoln Counties in Wyoming. This area was occupied by lynx at the time of listing and is currently occupied by the species. The area contains the physical and biological features essential to the conservation of the lynx. The GYA is

naturally marginal lynx habitat with highly fragmented foraging habitat. For this reason lynx home ranges in this unit are likely to be larger and incorporate large areas of non-foraging matrix habitat. In this area, fire suppression or fuels treatment, lack of an International conservation strategy for lynx, traffic, and development are other habitat-related threats to lynx (68 FR 40075). Therefore, special management is required depending on the fire suppression and fuels treatment practices conducted and the design of highway development projects.

### Effects of Critical Habitat Designation

#### Section 7 Consultation

Section 7 of the Act requires Federal agencies to ensure that actions they fund, authorize, or carry out are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat. Decisions by the Fifth and Ninth Circuit Court of Appeals have invalidated our definition of "destruction or adverse modification" (50 CFR 402.02) (see *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service* 378 F.3d 1059 (9th Cir 2004) and *Sierra Club v. U.S. Fish and Wildlife Service et al.*, 245 F.3d 434, 442F (5th Cir 2001)), and we do not rely on our regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the Act, we determine destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the PCEs to be functionally established) to serve its intended conservation role for the species.

Under section 7(a)(2) of the Act, if a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must analyze the effects of their action on the listed species. If the action may adversely affect listed species, the Federal agency must enter into consultation with us. As a result of this consultation, we may document compliance with the requirements of section 7(a)(2) through our issuance of:

1. A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or
2. A biological opinion for Federal actions likely to adversely affect listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a

listed species or destroy or adversely modify critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. We define "Reasonable and prudent alternatives" at 50 CFR 402.02 as alternative actions identified during consultation that:

- Can be implemented in a manner consistent with the intended purpose of the action,
- Can be implemented consistently with the scope of the Federal agency's legal authority and jurisdiction,
- Are economically and technologically feasible, and
- Would, in the Director's opinion, avoid jeopardizing the continued existence of the listed species or destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinstate consultation on previously reviewed actions in instances where we have listed a new species or subsequently designated critical habitat that may be affected and the Federal agency has retained discretionary involvement or control over the action (or the agency's discretionary involvement or control is authorized by law). Consequently, Federal agencies may sometimes need to request reinstatement of consultation with us on actions for which formal consultation has been completed, if those actions with discretionary involvement or control may affect subsequently listed species or designated critical habitat.

Federal activities that may affect the lynx or its designated critical habitat will require section 7(a)(2) consultation under the Act. Activities on State, tribal, local, or private lands requiring a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or involving some other Federal action (such as funding from the Federal Highway Administration, the Federal Aviation Administration, or the Federal Emergency Management Agency) or a permit from us under section 10(a)(1)(B) of the Act) will also be subject to the consultation process under section 7(a)(2) of the Act. Federal actions not affecting listed species or critical habitat, and actions on State, tribal, local or private lands that are not Federally funded, authorized, or carried

out, do not require section 7(a)(2) consultations.

#### Application of the "Adverse Modification Standard"

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the PCEs to be functionally established) to serve the intended conservation role for the species. Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features to an extent that appreciably reduces the conservation value of critical habitat for lynx. Generally, the conservation role of lynx critical habitat units is to support viable core area populations.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation.

Activities that, when carried out, funded, or authorized by a Federal agency, may affect critical habitat, and therefore, should result in consultation, include, but are not limited to:

1. Actions that would reduce or remove understory vegetation within boreal forest stands on a scale proportionate to the large landscape used by lynx. Such activities could include, but are not limited to, forest stand thinning, timber harvest, and fuels treatment of forest stands. These activities could significantly reduce the quality of snowshoe hare habitat such that the landscape's ability to produce adequate densities of snowshoe hares to support persistent lynx populations is at least temporarily diminished.

2. Actions that would cause permanent loss or conversion of the boreal forest on a scale proportionate to the large landscape used by lynx. Such activities could include, but are not limited to, recreational area developments; certain types of mining activities and associated developments; and road building. Such activities could eliminate and fragment lynx and snowshoe hare habitat.

3. Actions that would increase traffic volume and speed on roads that divide lynx critical habitat. Such activities could include, but are not limited to, transportation projects to upgrade roads or development of a new tourist destination. These activities could reduce connectivity within the boreal forest landscape for lynx, and could

result in increased mortality of lynx within the critical habitat units, because lynx are highly mobile and frequently cross roads during dispersal, exploratory movements, or travel within their home ranges.

In matrix habitat, activities that change vegetation structure or condition would not be considered an adverse effect to lynx critical habitat unless those activities would create a barrier or impede lynx movement between patches of foraging habitat and between

foraging and denning habitat within a potential home range, or if they would adversely affect adjacent foraging habitat or denning habitat. For example, a pre-commercial thinning or fuels reduction project in matrix habitat would not adversely affect lynx critical habitat, and would not require consultation. However, a new highway passing through matrix habitat that would impede lynx movement may be an adverse effect to lynx critical habitat, and would require consultation. The

scale of any activity should be examined to determine whether direct or indirect alteration of habitat would occur to the extent that the value of critical habitat for the survival and recovery of lynx would be appreciably diminished.

If you have questions regarding whether specific activities may constitute destruction or adverse modification of critical habitat, contact the Supervisor of the appropriate Ecological Services Field Office (see list below).

State	Address	Phone number
MAINE .....	1168 Main Street, Old Town, Maine 04468 .....	(207) 827-5938
MINNESOTA .....	4101 East 80th Street, Bloomington, Minnesota 55425 .....	(612) 725-3548
MONTANA .....	585 Shepard Way, Helena, Montana 59601 .....	(406) 449-5225
WASHINGTON AND IDAHO .....	11103 E. Montgomery Drive, Spokane, Washington 99206 .....	(509) 893-8015
WYOMING .....	5353 Yellowstone Road, Suite 308A, Cheyenne, Wyoming 82009 .....	(307) 772-2374

All of the units designated as critical habitat, as well as specific areas that have been excluded, contain features essential to the conservation of the lynx. All units are within the geographical range of the species, and all are currently occupied by the species based on based on surveys and research documenting the presence and reproduction of lynx (68 FR 40076, July 3, 2003). Under section 7 of the Act, Federal agencies already consult with us on activities in areas currently occupied by the lynx, or if the species may be affected by the action, to ensure that their actions do not jeopardize the continued existence of the lynx.

**Application of Section 4(a)(3) of the Act**

The Sikes Act of 1997 (Sikes Act) (16 U.S.C. 670a) required each military installation that includes land and water suitable for the conservation and management of natural resources to complete an integrated natural resource management plan (INRMP) by November 17, 2001. An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found on the base. Each INRMP includes:

- An assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species;
- A statement of goals and priorities;
- A detailed description of management actions to be implemented to provide for these ecological needs; and
- A monitoring and adaptive management plan.

Among other things, each INRMP must, to the extent appropriate and

applicable, provide for fish and wildlife management; fish and wildlife habitat enhancement or modification; wetland protection, enhancement, and restoration where necessary to support fish and wildlife; and enforcement of applicable natural resource laws.

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108-136) amended the Act to limit areas eligible for designation as critical habitat. Specifically, section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) now provides: “The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.”

There are no Department of Defense lands with a completed INRMP within the critical habitat designation, and therefore, no analysis of potential exclusions under section 4(a)(3) of the Act is necessary.

**Application of Section 4(b)(2) of the Act**

Section 4(b)(2) of the Act states that the Secretary must designate or revise critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part

of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the statute, as well as the legislative history, is clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

Under section 4(b)(2) of the Act, in considering whether to exclude a particular area from the designation, we must identify the benefits of including the specific area in the designation, identify the benefits of excluding the specific area from the designation, and determine whether the benefits of exclusion outweigh the benefits of inclusion. If, based on this analysis, we determine that the benefits of exclusion would outweigh the benefits of inclusion of an area, we can then exclude the area only if such exclusions would not result in the extinction of the species.

Under section 4(b)(2) of the Act, we must consider all relevant impacts, including economic impacts. We consider a number of factors in a section 4(b)(2) analysis. For example, we consider whether there are lands owned or managed by the Department of Defense (DOD) where a national security impact might exist. We also consider whether the landowners have developed any conservation plans for the area, or whether there are conservation partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, we look at any tribal issues, and consider the government-to-government relationship of the United States with tribal entities.

We also consider any social impacts that might occur because of the designation.

We determined that lands managed under the Maine Healthy Forest Reserve Program and lands managed by the State of Washington Department of Natural Resources (WADNR) should be excluded from the final designation based on the management plans that govern activities on these lands. Tribal lands have also been excluded from the final designation based on Secretarial Order 3206, "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act" (June 5, 1997).

### Benefits of Designating Critical Habitat

The process of designating critical habitat as described in the Act requires that the Service identify those lands on which are found the physical or biological features essential to the conservation of the species that may require special management considerations or protection, and those areas outside the geographical area occupied by the species at the time of listing that are essential to the conservation of the species. In identifying those lands, the Service must consider the recovery needs of the species, such that, on the basis of the best scientific and commercial data available at the time of designation, the habitat that is identified, if managed, could provide for the survival and recovery of the species.

A critical habitat designation may be beneficial—identification of areas that are essential for the conservation of the species can, if managed, provide for the recovery of a species. The process of proposing and finalizing a critical habitat rule provides the Service with the opportunity to determine the physical and biological features essential to the conservation of the species within the geographical area occupied by the species at the time of listing, as well as to determine other areas essential for the conservation of the species. The designation process includes peer review and public comment on the identified physical and biological features and essential areas. This process is valuable to land owners and managers in developing conservation or management plans for identified areas, as well as any other occupied habitat or suitable habitat that may not have been included in the Service's determination of essential habitat.

A critical habitat designation may provide a regulatory benefit. The consultation provisions under section 7(a)(2) of the Act constitute the regulatory benefits of critical habitat. As

discussed above, Federal agencies must consult on discretionary actions that may affect critical habitat and must avoid destroying or adversely modifying critical habitat. Federal agencies must also consult on discretionary actions that may affect a listed species and refrain from undertaking actions that are likely to jeopardize the continued existence of such species. The analysis of effects to critical habitat is a separate and different analysis from that of the effects to the species. Therefore, any difference in outcomes of these two analyses represents the regulatory benefit of critical habitat. For some species, and in some locations, the outcome of these analyses will be similar, because effects on habitat will often also result in effects on the species. However, the regulatory standard of impacts to the species, and impacts to critical habitat, are different.

An analysis of effects on the species requires a determination of whether the impact will jeopardize the species' survival; an analysis of effects to critical habitat requires a determination of whether the impact will adversely modify the habitat in a way that will affect both the conservation of the species, and its recovery. This difference in regulatory standards was emphasized in the Ninth Circuit's decision in *Gifford Pinchot Task Force v. FWS* (9th Cir. 2004). Therefore, critical habitat designations may provide regulatory benefits additional to the listing of a species that focus on recovery of the species.

Two limitations to the regulatory effect of critical habitat exist. First, a section 7(a)(2) consultation is required only where an action is authorized, funded, or carried out by any Federal agency; if there is no Federal action, the designation of private lands as critical habitat does not restrict any actions that destroy or adversely modify critical habitat. Second, the designation only limits destruction or adverse modification. By its nature, the prohibition on adverse modification is designed to ensure that the conservation role and function of those areas that contain the physical and biological features essential to the conservation of the species or of unoccupied areas that are essential for the conservation of the species are not appreciably reduced. Critical habitat designation alone, however, does not require property owners to undertake affirmative actions to promote the recovery of the species.

Once an agency determines that consultation under section 7(a)(2) of the Act is necessary, the process may conclude informally if a proposed Federal action is not likely to adversely

affect critical habitat. However, if it is determined through informal consultation that adverse impacts are likely to occur, the Federal agency initiates formal consultation. Formal consultation concludes when we issue a biological opinion on whether the proposed Federal action is likely to result in destruction or adverse modification of critical habitat, or result in jeopardy to the species.

A biological opinion that concludes no destruction or adverse modification of critical habitat will occur as a result of the action may contain discretionary conservation recommendations to minimize adverse effects to the physical and biological features essential to the conservation of the species. We only suggest reasonable and prudent alternatives to the proposed Federal action only when our biological opinion results in an adverse modification determination.

As stated above, the designation of critical habitat does not require that any management or recovery actions take place on the lands included in the designation. Even in cases where consultation has been initiated under section 7(a)(2) of the Act, the end result of consultation is to avoid jeopardy to the species and/or adverse modification of its critical habitat, but not necessarily to manage critical habitat or institute recovery actions on critical habitat. Conversely, voluntary conservation efforts implemented through management plans institute proactive actions over the lands they encompass and are often put in place to remove or reduce known threats to a species or its habitat; therefore implementing recovery actions.

We believe that, in many instances, the benefit of critical habitat designation is low compared to the conservation benefit that can be achieved through conservation efforts or management plans, especially when the likelihood of a Federal action occurring is low. The conservation achieved through implementing Habitat Conservation Plans (HCPs), Safe Harbor Agreements, or experimental populations established under section 10 of the Act or other habitat management plans or agreements is typically greater than what we achieve through multiple project-by-project, section 7(a)(2) consultations involving consideration of critical habitat. Management plans may commit resources to implement long-term management and protection to particular habitat for at least one and possibly additional listed or sensitive species. Section 7(a)(1) commits Federal agencies to utilizing their authorities in furtherance of the purposes of the Act,

and in carrying out conservation of listed species. Beyond that, Section 7(a)(2) consultations commit Federal agencies to preventing adverse modification of critical habitat caused by a particular project, and not to providing conservation or long-term benefits to areas not affected by the proposed project. Implementation of an HCP, management plan, or agreement that considers enhancement or recovery as the management standard may often provide as much or more benefit than a consultation for critical habitat designation.

Critical habitat designation may provide educational benefits. Designation of critical habitat serves to educate landowners, State and local governments, and the public regarding the potential conservation value of an area. This helps focus and promote conservation efforts by other parties by clearly delineating areas of high conservation value for the affected species. In general, critical habitat designation always has educational benefits; however, in some cases it may be redundant with other educational effects. For example, HCPs have significant public input and may largely duplicate the educational benefits of a critical habitat designation. Including lands in critical habitat also would inform State agencies and local governments about areas that could be conserved under State laws or local ordinances.

#### **Benefits of Excluding Non-Federal Lands With Conservation Partnerships**

Most federally listed species in the United States will not recover without the cooperation of non-Federal landowners. More than 60 percent of the United States is privately owned (National Wilderness Institute 1995), and at least 80 percent of endangered or threatened species occur either partially or solely on private lands (Crouse *et al.* 2002, p. 720). Stein *et al.* (1995, p. 400) found that only about 12 percent of listed species were found almost exclusively on Federal lands (90 to 100 percent of their known occurrences restricted to Federal lands) and that 50 percent of federally listed species are not known to occur on Federal lands at all.

Given the distribution of listed species with respect to land ownership, conservation of listed species in many parts of the United States is dependent upon working partnerships with a wide variety of entities and the voluntary cooperation of many non-Federal landowners (Wilcove and Chen 1998; Crouse *et al.* 2002; James 2002). Building partnerships and promoting

voluntary cooperation of landowners are essential to our understanding the status of species on non-Federal lands, and necessary for us to implement recovery actions such as reintroducing listed species and restoring and protecting habitat.

Many non-Federal landowners derive satisfaction from contributing to endangered species recovery. We promote these private-sector efforts through the Department of the Interior's Cooperative Conservation philosophy. Conservation agreements with non-Federal landowners (e.g., HCPs, safe harbor agreements) enhance species conservation by extending species protections beyond those available through section 7(a)(2) consultations. In the past decade, we have encouraged non-Federal landowners to enter into conservation agreements, based on the view that we can achieve greater species conservation on non-Federal land through such partnerships than we can through regulatory methods (61 FR 63854, December 2, 1996).

Many private landowners, however, are wary of the possible consequences of attracting endangered species to their property. Mounting evidence suggests that some regulatory actions by the Federal Government, while well-intentioned and required by law, can (under certain circumstances) have unintended negative consequences for the conservation of species on private lands (Wilcove *et al.* 1996; Bean 2002; Conner and Mathews 2002; James 2002; Koch 2002; Brook *et al.* 2003). Many landowners fear a decline in their property value due to real or perceived restrictions on land-use options where threatened or endangered species are found. Consequently, harboring endangered species is viewed by many landowners as a liability. This perception results in anti-conservation incentives, because maintaining habitats that harbor endangered species represents a risk to future economic opportunities (Main *et al.* 1999; Brook *et al.* 2003).

According to some researchers, the designation of critical habitat on private lands significantly reduces the likelihood that landowners will support and carry out conservation actions (Main *et al.* 1999; Bean 2002; Brook *et al.* 2003). The magnitude of this outcome is greatly amplified in situations where active management measures (such as reintroduction, fire management, control of invasive species) are necessary for species conservation (Bean 2002). We believe that the judicious exclusion of specific areas of non-federally owned lands from critical habitat designations can

contribute to species recovery and provide a superior level of conservation.

The purpose of designating critical habitat is to contribute to the conservation of threatened and endangered species and the ecosystems upon which they depend. The outcome of the designation, triggering regulatory requirements for actions funded, authorized, or carried out by Federal agencies under section 7(a)(2) of the Act, can sometimes be counterproductive to its intended purpose on non-Federal lands. Thus, the benefits of excluding areas that are covered by effective partnerships or other conservation commitments can often be high.

#### **Benefits of Excluding Lands With HCPs or Other Management Plans From Critical Habitat**

The benefit of excluding lands with approved HCPs from critical habitat designation includes relieving landowners, communities, and counties of any additional regulatory burden that might be imposed by critical habitat. Many HCPs take years to develop, and upon completion, are consistent with recovery objectives for listed species that are covered within the plan area. Many conservation plans also provide conservation benefits to unlisted sensitive species. Imposing an additional regulatory review as a result of the designation of critical habitat may undermine conservation efforts and partnerships designed to proactively protect species to ensure that listing under the Act will not be necessary. Our experience in implementing the Act has found that designation of critical habitat within the boundaries of management plans that provide conservation measures for a species is a disincentive to many entities which are either currently developing such plans, or contemplating doing so in the future, because one of the incentives for undertaking conservation is greater ease of permitting where listed species will be affected. Addition of a new regulatory requirement would remove a significant incentive for undertaking the time and expense of management planning. In fact, designating critical habitat in areas covered by a pending HCP or conservation plan could result in the loss of some species' benefits if participants abandon the planning process, in part because of the strength of the perceived additional regulatory compliance that such designation would entail. The time and cost of regulatory compliance for a critical habitat designation do not have to be quantified for them to be perceived as an additional Federal regulatory burden

sufficient to discourage continued participation in developing plans targeting listed species' conservation.

A related benefit of excluding lands covered by approved HCPs from critical habitat designation is the unhindered, continued ability it gives us to seek new partnerships with future plan participants, including States, counties, local jurisdictions, conservation organizations, and private landowners, which together can implement conservation actions that we would be unable to accomplish otherwise. We have found that potential participants are not inclined to participate in such management plans when we designate critical habitat within the area that would be covered by such a management plan, thus having a negative effect on our ability to establish new partnerships to develop these plans, particularly plans that address landscape-level conservation of species and habitats. By excluding these lands, we preserve our current partnerships and encourage additional conservation actions in the future.

We also note that permit issuance in association with HCP applications require consultation under section 7(a)(2) of the Act, which would include the review the effects of all HCP-covered activities that might adversely impact the species under a jeopardy standard, including possibly significant habitat modification (see definition of "harm" at 50 CFR 17.3), even without the critical habitat designation. In addition, all other Federal actions that may affect the listed species would still require consultation under section 7(a)(2) of the Act, and we would review these actions for possibly significant habitat modification in accordance with the definition of "harm" referenced above.

#### **Tribal Lands Excluded From Lynx Critical Habitat**

Tribal lands included in the proposed designation were those of the Houlton Band of Maliseet Indians, Aroostook Band of Micmac Indians, Passamaquoddy Tribe, and Penobscot Indian Nation in Maine (Unit 1), Grand Portage Indian Reservation and Vermillion Lake Indian Reservation in Minnesota (Unit 2), and the Flathead Indian Reservation in Montana (Unit 3). In the proposed rule, we requested comments on whether Tribal lands in the Northern Rockies, Maine, and Minnesota need to be included pursuant to Executive Order 3206. The amount of Tribal lands proposed was relatively small in size (totaling approximately 224 km<sup>2</sup> (86.3 mi<sup>2</sup>) in Maine, 203 km<sup>2</sup> (78.2 mi<sup>2</sup>) in Minnesota, and 957 km<sup>2</sup> (369.4 mi<sup>2</sup>) in Montana). We contacted

and met with a number of Tribes to discuss the proposed designation, and we also received comments from numerous Tribes requesting that their lands not be designated as critical habitat because of their sovereign rights, in addition to concerns about economic impacts and the effect on their ability to manage natural resources.

#### **Benefits of Inclusion**

The primary benefit of including Tribal lands in the lynx critical habitat designation would be education that could be exchanged on land management methods that would benefit the species.

Potentially, some activities could be authorized, funded, or carried out by a Federal agency, which would require consultation and perhaps action modification to ensure that the physical and biological features essential to lynx are not destroyed or adversely modified.

#### **Benefits of Exclusion**

Tribal lands are small in size relative to the large landscape required to sustain the lynx population in these areas. The larger landscape in Maine is comprised of lands managed for commercial forestry, and in Minnesota and Montana the larger landscape is managed by the USFS, which revised its forest plans to address the needs for lynx. Therefore, although these Tribal lands support lynx habitat and the PCE, they have a minor role in lynx conservation compared to the commercial forestlands in Maine and National Forest lands in Minnesota and Montana. Due to the management plans and practices that are designed to avoid adverse effects to lynx and lynx habitat, and that are already in place on Tribal lands, it is highly unlikely that activities approaching the threshold of adverse modification of critical habitat would occur.

Secretarial Order 3206, "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act" (June 5, 1997) states that, "Critical habitat shall not be designated in such areas unless it is determined essential to conserve a listed species". The President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951); Executive Order 13175 "Consultation and Coordination with Indian Tribal Governments;" and the relevant provision of the Departmental Manual of the Department of the Interior (512 DM 2) also emphasize that Tribal lands should be evaluated to determine whether their inclusion in a critical habitat designation is essential to the

species. Therefore, we believe that fish, wildlife, and other natural resources on Tribal lands are better managed under Tribal authorities, policies, and programs than through Federal regulation wherever possible and practicable. Such designation is often viewed by Tribes as an unwanted intrusion into Tribal self governance, thus compromising the government-to-government relationship essential to achieving our mutual goals of managing for healthy ecosystems upon which the viability of threatened and endangered species populations depend.

Exclusion of Tribal lands may be warranted because Tribes are already committed to conserving lynx. Through Federal grant programs, the Passamaquoddy Tribe is conducting surveys and habitat models for lynx and snowshoe hare, the Houlton Band of Maliseet Indians is conducting lynx surveys, the Grand Portage Tribe is assessing lynx habitat on reservation lands, and lynx habitat is protected through a comprehensive conservation plan on the Flathead Reservation in Montana. Information from these efforts will be used to inform management plans or strategies to promote the conservation of lynx on Tribal lands. Additionally, we received general comments from Tribes voicing their commitment to ensuring that lynx remain a viable part of the ecosystem.

#### **Benefits of Exclusion Outweigh Benefits of Inclusion**

We believe that conservation of lynx can be achieved on Tribal lands within the critical habitat units through the cooperation of Tribes, and without designating them as critical habitat. The large area of the lynx critical habitat designation is sufficient to conserve the species without the addition of Tribal lands. Therefore, Tribal lands are not essential to the conservation of the species, and Tribal lands in Units 1, 2, and 3 have not been designated as critical habitat pursuant to section 4(b)(2) of the Act.

In addition to the fact that Tribal lands are not essential to lynx, the management plans and activities being implemented on Tribal lands are likely to ensure continued conservation of lynx. Given the importance of our government-to-government relationship with Tribes, the benefit of maintaining our commitment to the Executive Order by excluding these lands outweighs the benefit of including them in critical habitat.

Exclusion of Tribal lands from the final designation of critical habitat for the lynx will not result in the extinction of the species because the Houlton Band

of Maliseet Indians, Aroostook Band of Micmac Indians, Passamaquoddy Tribe, Penobscot Indian Nation, Grand Portage Indians, Vermillion Lake Indians, and Flathead Indian Reservation Tribes implement programs for the conservation of the species, and physical and biological features essential to it, on occupied areas. Moreover, the jeopardy standard of section 7(a)(2) of the Act and routine implementation of conservation measures through the section 7 process also provide assurances that the species will not go extinct. The protections afforded to the lynx under the jeopardy standard will remain in place for the areas proposed for exclusion from revised critical habitat.

#### *Exclusions Under Section 4(b)(2) of the Act*

The Secretary can consider the existence of conservation agreements and other land management plans with private, State, and Tribal entities when making decisions under section 4(b)(2) of the Act. The Secretary may also consider voluntary partnerships and conservation plans, and weigh the implementation and effectiveness of these against that of designation. Consideration of relevant impacts of designation or exclusion under section 4(b)(2) may include, but is not limited to, any of the following factors: (1) Whether the plan provides specific information on how it protects the species and the physical and biological features, and whether the plan is at a geographic scope commensurate with the species; (2) whether the plan is complete and will be effective at conserving and protecting of the physical and biological features; (3) whether a reasonable expectation exists that conservation management strategies and actions will be implemented, that those responsible for implementing the plan are capable of achieving the objectives, that an implementation schedule exists, and that adequate funding exists; (4) whether the plan provides assurances that the conservation strategies and measures will be effective (i.e., identifies biological goals, has provisions for reporting progress, and is of a duration sufficient to implement the plan); (5) whether the plan has a monitoring program or adaptive management to ensure that the conservation measures are effective; (6) the degree to which the record supports a conclusion that a critical habitat designation would impair the benefits of the plan; (7) the extent of public participation; (8) NEPA compliance; (9) demonstrated track record of implementation success; (10)

level of public benefits derived from encouraging collaborative efforts and encouraging private and local conservation efforts; and (11) the effect designation would have on partnerships. Our analysis of exclusions that landowners requested is included below.

#### *Unit 1 (Maine)*

##### **Maine Healthy Forest Reserve Program**

In 2003, Congress passed the Healthy Forest Restoration Act. Title V of this Act designates a Healthy Forest Reserve Program (HFRP) with objectives to: (1) Promote the recovery of threatened and endangered species, (2) improve biodiversity, and (3) enhance carbon sequestration. In 2006, Congress provided the first funding for the HFRP, and Maine, Arkansas, and Mississippi were chosen as pilot states to receive funding through their respective Natural Resources Conservation Service (NRCS) State offices. NRCS and the Service determined that the most efficient way to complete Section 7 consultations and to deliver regulatory assurances required by the HFRP was by developing programmatic biological opinions for each of the participating States. A programmatic biological opinion provides a framework for determining effects of the action and quantifying incidental take, and describes baseline conditions, the net conservation benefit, and terms and conditions when reviewing projects selected for future funding. Based on a successful pilot program, in 2008, the HFRP was reauthorized as part of the Farm Bill.

In 2006 and 2007, NRCS offered the HFRP to landowners in the proposed Canada lynx critical habitat unit in Maine to promote development of Canada lynx forest management plans. The value of such planning to lynx recovery is identified in the Service's Canada Lynx Recovery Outline (USFWS 2005):

- *Objective 1:* Retain adequate habitat of sufficient quality to support the long-term persistence of lynx populations within each of the identified core areas and Recovery Action; and
- *Recovery Action 1.* Establish management commitments in core areas that will provide for adequate quality and quantity of habitat such that there is a reasonable expectation that persistent lynx populations can be supported in each of the core areas for at least the next 100 years. On non-Federal lands in the core areas, develop and implement best management practices and long-term management

agreements for lynx with key State, private, or Tribal forest managers.

Five landowners are enrolled in the HFRP—the Passamaquoddy Tribe (27,414 ac; 11,094 ha), The Nature Conservancy (182,086 ac; 73,688 ha), the Forest Society of Maine as conservation easement holder for the Merriweather LLC-West Branch Project (284,276 ac; 115,042 ha), Katahdin Forest Products (136,550 ac; 55,260 ha), and Elliotsville Plantation Inc. (54,327 ac; 21,985 ha). Collectively, the landowners have signed contracts (with NRCS) committing to developing lynx forest management plans on 684,653 ac (277,069 ha), which is 10 percent of the 6.8 million ac (2.7 million ha) of the proposed critical habitat in Maine. Lynx maintain large home ranges; therefore, forest management plans at large landscape scales will provide substantive recovery benefits to lynx.

NRCS requires that lynx forest management plans must be based on the Service's "Canada Lynx Habitat Management Guidelines for Maine" (McCullough 2007, entire). These guidelines were developed from the best available science on lynx management for Maine and have been revised as new research results became available. The guidelines require maintenance of prescribed hare densities that have resulted in reproducing lynx populations in Maine. The guidelines are:

1. Avoid upgrading or paving dirt or gravel roads traversing lynx habitat. Avoid construction of new high speed/high traffic volume roads in lynx habitat. Desired outcome: Avoid fragmenting potential lynx habitat with high traffic/high-speed roads.
2. Maintain through time at least one lynx habitat unit of 35,000 ac (14,164 ha) (~1.5 townships) or more for every 200,000 ac (80,937 ha) (~9 townships) of ownership. At any time, about 20 percent of the area in a lynx habitat unit should be in the optimal mid-regeneration conditions (see Guideline 3). Desired outcome: Create a landscape that will maintain a continuous presence of a mosaic of successional stages, especially mid-regeneration patches that will support resident lynx.
3. Employ silvicultural methods that will create regenerating conifer-dominated stands 12–35 ft (3.7–10.7 m) in height with high stem density (7,000–15,000 stems/ac; 2,800–6,000 stems/ha) and horizontal cover above the average snow depth that will support greater than 2.7 hares/ac (1.1 hares/ha). Desired outcome: Employ silvicultural techniques that create, maintain, or prolong use of stands by high populations of snowshoe hares.

4. Maintain land in forest management. Development and associated activities should be consolidated to minimize direct and indirect impacts. Avoid development projects that occur across large areas, increase lynx mortality, fragment habitat, or result in barriers that affect lynx movements and dispersal. Desired outcome: Maintain the current amount and distribution of commercial forest land in northern Maine. Prevent forest fragmentation and barriers to movements. Avoid development that introduces new sources of lynx mortality.

5. Encourage coarse woody debris for den sites by maintaining standing dead trees after harvest and leaving patches (at least .75 ac; .30 ha) of windthrow or insect damage. Desired outcome: Retain coarse woody debris for denning sites.

Notably, HFRP forest management plans must provide a net conservation benefit for lynx, which will be achieved by employing the lynx guidelines, identifying baseline habitat conditions, and meeting NRCS standards for forest plans. Plans must meet NRCS HFRP criteria and guidelines and comply with numerous environmental standards. NEPA compliance will be completed for each plan. NRCS held public informational sessions about the HFRP and advertised the availability of funds. Plans must be reviewed and approved by NRCS with assistance from the Service. The details of the plans are proprietary and will not be made public per NRCS policy.

Plans must be developed for a forest rotation (70 years) and include a decade-by-decade assessment of the location and anticipated condition of lynx habitat on the ownership. Some landowners are developing plans exclusively for lynx, and others are combining lynx management (umbrella species for young forest) with pine marten (umbrella species for mature forest) and other biodiversity objectives. There will be broad public benefits derived from these plans, including benefits to many species of wildlife that share habitat with the lynx. Most landowners are writing their own plans. The Nature Conservancy, however, contracted with the University of Maine, Department of Wildlife Ecology to develop a lynx-pine marten plan that will serve as a model for lynx/biodiversity forest planning, and be shared with other northern Maine landowners.

Landowners who are enrolled with NRCS commit to a 10-year contract. Landowners must complete their lynx forest management plans within 2 years of enrollment. The first plans will be

completed in fall 2009. The majority (50 to 60 percent) of HFRP funds are withheld until plans are completed. By year 7, landowners must demonstrate on-the-ground implementation of their plan. NRCS will monitor and enforce compliance with the 10-year contracts. At the conclusion of the 10-year cost share contract, we anticipate that Safe Harbor Agreements or other agreements to provide regulatory assurances will be developed by all landowners as an incentive to continue implementing the plans.

We completed a programmatic biological opinion for the HFRP in 2006, that assesses the overall effects of the program on lynx habitat and on individual lynx, and provides the required incidental take coverage. Separate biological opinions will be developed under this programmatic opinion for each of the five enrollees. These tiered opinions will document environmental baseline, net conservation benefits, and incidental take for each landowner. If additional HFRP funding is made available to Maine in the future, new enrollees will be tiered under this programmatic opinion. This programmatic opinion will be revised as new information is obtained, or if new rare, threatened, or endangered species are considered for HFRP funding.

Commitments to the HFRP are strengthened by several other conservation efforts. The Nature Conservancy (TNC) land enrolled in the HFRP is also enrolled in the Forest Stewardship Council (FSC) forest certification program, which requires safeguards for threatened and endangered species. The Forest Society of Maine is under contract to manage a conservation easement held by the State of Maine on the Katahdin Forest Management lands, which is also enrolled in the HFRP. This easement requires that threatened and endangered species be protected and managed. The Forest Society of Maine also holds a conservation easement on the Merriweather LLC—West Branch property, which contains requirements that threatened and endangered species be protected and managed. These lands are also certified under the Sustainable Forestry Initiative (SFI) and FSC, which require that there be programs for threatened and endangered species. The Eliotsville Plantation, Inc. lands enrolled in the HFRP are held in a trust, which specifies the lands preserve wildlife species. The Passamaquoddy enrolled lands are managed as trust lands by the Bureau of Indian Affairs, and projects occurring on those lands

are subject to NEPA review and section 7 consultation.

#### Benefits of Inclusion

The primary benefit of including an area within a critical habitat designation is the protection provided by section 7(a)(2) of the Act, which directs Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a threatened or endangered species and do not result in the destruction or adverse modification of critical habitat. Consultation has already occurred on these lands, and it included consideration of lynx habitat. The regulatory benefit of designating critical habitat on the HFRP lands would be minimal because there are few Federal actions to trigger the consultation provisions under section 7(a)(2) of the Act. Forestry activities are exempt from the Clean Water Act, and few landowners in Maine obtain Federal funding for projects on their lands. Since the lynx was listed in 2000, there have been two formal consultations on lynx in Maine (the HFRP biological opinion and a highway project) and about 73 informal consultations; however, there have been no consultations on Federal actions on The Nature Conservancy, West Branch Project, Eliotsville Plantation, Inc., and Katahdin Forest Management lands. The Passamaquoddy Tribe, through the Bureau of Indian Affairs, has informally consulted with the Service on four timber sales during this time period, resulting in determinations that the projects were not likely to adversely affect lynx because the harvests would create early successional habitat beneficial to lynx. Consultations in northern Maine have been mostly on small Federal actions (less than 15 ac; 6 ha) that have few consequences to lynx, which require large landscapes of 35,000 ac (14,164 ha) or more; therefore, the results of these informal consultations were that the projects would have no effect on lynx or would not likely adversely affect lynx.

A potential benefit of critical habitat designation would be to signal the importance of these lands to Federal agencies, scientific organizations, State and local governments, and the public to encourage conservation efforts to benefit the lynx and its habitat. By publication of the proposed rule, we are educating the public of the location of core lynx habitat and areas most important for the recovery of this species. In addition, designation of critical habitat on HFRP enrollee lands could provide some educational benefit through the rulemaking process.

### Benefits of Exclusion

A Federal nexus on HFRP lands is rare, and development is unlikely because conservation easements exist on many of these lands. Section 7(a)(2) review will not provide benefits to the physical and biological features essential to the conservation of lynx, because most Federal projects in northern Maine are small and will not benefit habitat at a geographic scale meaningful for lynx conservation. Therefore, the regulatory protection provided through the section 7(a)(2) process for critical habitat would be minimal. The HFRP goes beyond the standard of adverse modification to provide a net conservation benefit. The conservation measures for the lynx included in the HFRP plans are affirmative obligations that address the physical and biological features, represent the best available science, and provide a net conservation benefit to the species by ensuring the quality and quantity of unfragmented lynx habitat on the landscape.

Excluding these 684,653 acres of HFRP lands from critical habitat designation would help strengthen partnerships and promote other aspects of recovery for the lynx. Since the lynx was listed in 2000, it has been difficult for us to effectively address lynx conservation across the forest landscape in northern Maine because of the numerous private industrial forest landowners with whom coordination is required. HFRP contracts will contribute to the conservation of the physical and biological features essential to the conservation of the lynx in approximately 10 percent of the proposed critical habitat unit. Proactively developing conservation programs for lynx across large ownerships can be a more effective recovery strategy than project-by-project planning in a landscape where a section 7 is rarely applicable. Lynx require large home ranges, and lynx and snowshoe hare habitat occurs in a habitat mosaic across the landscape that changes with time and space as the forests age or disturbances occur (e.g., insect outbreaks or timber management). The HFRP plans address landscape-level planning and actions for forestry-related activities within the context of lynx-specific guidelines, which can facilitate lynx recovery. The HFRP contracts operate under a programmatic biological opinion under section 7(a)(2), enabling a coordinated, multi-landowner approach to lynx conservation on private lands.

HFRP contracts build on the ongoing partnership between the Service, Maine

Department of Inland Fisheries and Wildlife, and the HFRP enrollees. The contracts provide assurances to the Service that individual landowners will address the habitat requirements of lynx and facilitate the consideration and implementation of lynx conservation needs at a broad landscape scale. Although the HFRP contracts are for 10 years, lynx plans are required to address forest management for the next 70 years. Several incentives encourage enrollees to continue their plans after the conclusion of the 10-year contract:

- Enrollees will be offered Safe Harbor Agreements or other mechanisms to extend incidental take coverage and regulatory assurances beyond the 10 year period. Most of the enrollees are in forest certification programs and have conservation easements.
- HFRP plans meet the requirements of certification programs and easement requirements to document how they will manage for federally listed species.
- Future HFRP funding may be available to promote continued management on these lands.
- Landowners may be reimbursed at a graduated rate of up to 100 percent for land put under conservation easements of 30-year and 99-year duration.

Most HFRP enrollees have a long track record of conservation in Maine. The Nature Conservancy has been working with us and other conservation partners since the 1970s. The Forest Society of Maine is a conservation easement holder in northern Maine, and has been working with us since the late 1990s. We have a long partnership with the Passamaquoddy Tribe that includes consulting on Tribal silvicultural projects, cooperative research, review of forest management plans, and implementation of Service conservation recommendations. Many of the HFRP enrollees contribute as members to the University of Maine Cooperative Forest Research Unit (CFRU). The CFRU has funded numerous lynx and snowshoe hare studies that have advanced our understanding of lynx population dynamics and habitat relationships. Landowners have facilitated research and surveys by allowing access to their lands and logistical support. The positive experiences from HFRP enrollment will promote continued support for funding and continued lynx research.

Some of the enrolled lands could be sold, and it may be argued that new owners may not participate in long-term lynx management. However, new landowners could benefit from the incidental take coverage offered by HFRP or future Safe Harbor Agreements

as a result of HFRP plans. Lands under conservation easements would require planning for federally listed species, and new landowners would have an incentive to continue to implement plans to meet their easement requirements. Many of the owners have SFI or FSC certifications, which have similar requirements for State and federally listed species planning. Therefore, substantial incentives exist for a new landowner to honor existing lynx management plans.

Some landowners do not trust that the regulatory effect of critical habitat designation is limited, and they do not want an additional layer of Federal regulation on their private property. They are concerned that additional State regulations or local restrictions may be imposed as a result of the designation of critical habitat. HFRP enrollees are some of the largest landowners in Maine. We need the cooperation and partnership of these landowners to achieve recovery of lynx in Maine. If designation causes their alienation, it would be counterproductive to designate on their lands.

### Benefits of Exclusion Outweigh Benefits of Inclusion

We believe there would be minimal benefit in designating lands enrolled in the HFRP as critical habitat for the lynx within Unit 1. We evaluated the proposed exclusion of approximately 684,653 ac (277,069 ha) of lands enrolled in the HFRP. Inclusion of these lands would result in few benefits; minimal consultation under section 7, and minimal education related to lynx conservation would be realized.

The HFRP lynx management plans will be effective and directly address the physical and biological features essential to lynx by incorporating the Service's lynx conservation guidelines. These conservation actions and management for the lynx and the physical and biological features essential to it within large landscapes exceed any conservation value provided as a result of regulatory protections that have been or may be afforded through critical habitat designation. The exclusion of these lands from critical habitat will help preserve partnerships developed with the landowners. Most of the HFRP enrollees have a demonstrated track record of working with the Service and helping to fund lynx research. The HFRP plans will have a high probability of implementation due to the 10-year contract with NRCS and significant incentives (e.g., Safe Harbor, requirements of forest certification and conservation easements, continued funding and possibly additional funds),

and could continue for a 70-year period. Funding is assured because development of lynx forest management plans and initial implementation is being paid for by NRCS. HFRP plans provide a high degree of public benefit for lynx and other wildlife that share their habitat.

The benefits of excluding HFRP lands from critical habitat outweigh the benefits of retaining these lands as critical habitat. Educational benefits can be realized by designation of critical habitat designation, which informs the public via the rulemaking process. However, education has already been realized through the HFRP. The best scientific information regarding the long-term conservation of lynx is being used and shared with landowners to assist in the development of their plans. We participate in the delivery of this information. We will continue to review Federal actions under Section 7(a)(2) of the Act, although the only likely Federal action we foresee on the lands enrolled in HFRP will be on the consultation required for development of the individual plans. A programmatic biological opinion has already been prepared and it addresses lynx habitat in detail.

The HFRP provides an opportunity for us to work in partnership with five landowners across several landscape scales and ownerships. The HFRP demonstrates that our lynx management guidelines are a flexible, outcome-based approach to addressing lynx recovery in northern Maine that can be adapted to a variety of landowner types and landscapes. The HFRP lynx forest management plans will employ state-of-the-art habitat mapping, apply the best available science, and have a high likelihood of being carried out. We believe that the benefits of excluding HFRP enrollee lands outweigh the benefits of inclusion, particularly because these landowners have committed to developing long-term lynx habitat plans and on-the-ground management affecting large landscapes.

#### **Exclusion Will Not Result in Extinction of the Species**

Exclusion of 684,653 ac (277,069 ha) from Unit 1 of this revised critical habitat designation will not result in the extinction of the species, because the HFRP plans provide for the conservation of the species and the physical and biological features essential to it. The jeopardy standard of section 7(a)(2) of the Act and routine implementation of conservation measures through the section 7 process also provide assurances that the species will not go extinct. The protections

afforded the lynx under the jeopardy standard will remain in place for the areas excluded from revised critical habitat.

#### **Maine Forest Products Council Conservation Partnership Agreement**

The Maine Forest Products Council (MFPC) is a trade organization representing the Maine forest products community, whose 350-member companies include landowners, loggers, truckers, paper mills, and lumber processors. The MFPC advises its members on Federal and State regulatory issues. The 28 MFPC private commercial forest landowners in the area of critical habitat own 74 percent of the lands proposed for lynx critical designation in Maine. Other participants in the partnership include Maine Department of Inland Fisheries and Wildlife (MDIFW) and the Service. Beginning with our first proposal to designate critical habitat for lynx in 2006, MFPC submitted draft conservation agreements with the intent to document its members' ongoing partnership with wildlife agencies responsible for lynx management and conservation.

We assessed the benefits of inclusion and the benefits of exclusion of MFPC members' lands, based on the most recently submitted draft conservation agreement, and determined that these lands do not meet our criteria for exclusion from critical habitat. Our analysis follows below.

The MFPC and its landowner members have supported lynx recovery by allowing researchers from MDIFW, the Service, and the University of Maine (UMaine) access to their private property to conduct lynx surveys and research, and by providing logistical assistance (e.g., lodging, field maps) to the lynx researchers. Thirteen of the 28 landowners are contributing members to UMaine's Cooperative Forestry Research Unit (CFRU). Since 2000, the CFRU members have contributed more than \$515,000 to support 9 research projects assessing the effects of forest management on snowshoe hares and Canada lynx. We have supported many of these projects, which form a large part of the scientific basis for lynx recovery in Maine. This partnership reinforces MFPC member funding and support for continued lynx research through CFRU.

Under a draft partnership agreement, the MFPC would encourage funding for the UMaine CFRU to complete landscape-level lynx habitat mapping across MFPC member lands using satellite imagery and state-of-the-art lynx and hare habitat models developed

by UMaine. MFPC would also encourage funding for updates to the habitat maps, and members would assist with verification of the mapping product. At this time, high-quality maps of lynx habitat across mixed ownerships do not exist. Mapping of this quality would enable landscape-level habitat analyses and planning for lynx, snowshoe hare and many other species. Mapping would document the shifting mosaic of habitat, guide opportunities for management, and project future habitat conditions under different silvicultural scenarios.

The Draft MFPC Agreement would enable the MFPC, MDIFW and the Service to collaboratively develop multi-species landscape-scale planning guidelines that would assist in the development of management recommendations for lynx in relation to other wildlife species. MFPC participation is important to ensure that guidelines are acceptable to forest industries. These guidelines would be a useful resource for the land managers to inform their management decisions for the conservation of lynx and other wildlife.

The Draft MFPC Agreement would provide educational benefits by establishing mechanisms to broaden the understanding of lynx habitat management and disseminating the best available scientific information on lynx throughout all levels of the forest products industry. Existing training programs for foresters, loggers, and land managers would be expanded to include lynx education components. Web sites, newsletters, professional meetings and forums would provide information on lynx research and management. The Draft MFPC Agreement would document a management process to review research results and facilitate dissemination of results to Maine's forest managers. The Draft MFPC Agreement would create an annual lynx conservation workshop and experimental testing of silvicultural techniques. An annual report would be provided to all partners summarizing lynx conservation activities and achievements. This form of education and training is anticipated to result in a substantial improvement in the understanding of lynx habitat requirements among members of the forest products industry. Education is generally considered a benefit of designating critical habitat in that it educates the public and others about the potential conservation value of an area.

The Draft MFPC Agreement could help achieve lynx recovery, as identified in the Service's Canada Lynx Recovery Outline (USFWS 2005); however,

actions not made mandatory in the Draft Agreement would have to be completed to realize some of the conservation benefits identified in the Recovery Outline, which include:

- Objective 1: Retain adequate habitat of sufficient quality to support the long-term persistence of lynx populations within each of the identified core areas and Recovery Action, and
- Recovery Action 1. Establish management commitments in core areas that will provide for adequate quality and quantity of habitat such that there is a reasonable expectation that persistent lynx populations can be supported in each of the core areas for at least the next 100 years. On non-Federal lands in the core areas, develop and implement best management practices and long-term management agreements for lynx with key State, private, or Tribal forest managers.
- Recovery Action 2. Maintain baseline inventories of lynx habitat in each core area, monitoring changes in structure and the distribution of habitat components.
- Recovery Action 4. Identify habitat facilitating movement between each core area and lynx populations in Canada.
- Recovery Action 6. Identify population and habitat limiting factors for lynx in the contiguous United States. Continue and complete studies necessary to gather basic information on the ecological requirements, distribution, population size, and trends in each of the core areas and as possible for secondary areas. Identify the risk to lynx populations posed by forest management techniques and human induced mortality from factors such as roads, trapping, and hunting. Address these factors as necessary to ensure the long-term persistence of lynx populations in core areas.

Under the Draft MFPC Agreement, the parties would work collaboratively to improve lynx habitat management on industrial forest lands based on scientific research. Such measures might include development of landscape-scale habitat maps; experiments to evaluate the feasibility, practicality, and effectiveness of research recommendations; and development of multi-species landscape-scale planning guidelines. The Draft Agreement does not prescribe measures, however, for directly managing or protecting the physical and biological features essential to the conservation of lynx. The MFPC would work to support the implementation of management measures based on research if recommendations are

operationally feasible, economically viable, and biologically meaningful.

#### Benefits of Inclusion

The primary benefit of including the area addressed by the Draft MFPC Agreement within a critical habitat designation is the protection provided by section 7(a)(2) of the Act, which directs Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a threatened or endangered species, and do not result in the destruction or adverse modification of critical habitat. The regulatory benefit of designating critical habitat in Maine is currently low, because few Federal actions trigger the consultation provisions under section 7(a)(2) of the Act. Forestry activities are exempt from the Clean Water Act, and few industrial forest landowners engage in activities that involve Federal funding or authorization. Since the lynx was listed in 2000, there have been two formal consultations on lynx in Maine (the HFRP biological opinion and a highway project) and about 73 informal consultations. Consultations in northern Maine have been mostly on small Federal actions (less than 15 ac; 6 ha) that have few consequences to lynx, which require large landscapes of 35,000 ac (14,164 ha) or more; therefore, the results of these informal consultations were that the project would have no effect on lynx or would not likely adversely affect lynx.

At this time, we are aware of two proposals that may affect large landscapes on MFPC member lands and will trigger consultation under section 7(a)(2). In 2008, we initiated consultation with the Army Corps of Engineers on a large wind power project. In 2007, we provided comments as requested by the Maine Land Use Regulation Commission on a large-scale development project that would occur on a MFPC member's land in Unit 1—Plum Creek's Moosehead Concept Plan. This project included a request for a zoning change to allow development of approximately 1,000 house lots, 2 large resorts, and possibly wind power projects on up to 2,023 ha (5,000 ac) in critical habitat Unit 1. As mitigation, Plum Creek is offering a combination of fee title sale and a conservation easement on 174,015 ha (430,000 ac) of undeveloped lands. The easement would require that threatened and endangered species conservation be addressed as part of Plum Creek's Sustainable Forestry Initiative certification program. Aspects of wildlife and special areas management would be overseen by a Management

Advisory Team, which would include representation from the Service. If the concept plan is approved by the State, projects requiring Federal permitting would likely be initiated within several years. We would review the Plum Creek projects under the concept plan through Section 7 consultation with Army Corps of Engineers or other Federal permits or funding.

Federal actions have occurred on MFPC lands, and because of this, it is possible that section 7 consultations will occur in the future. Although a Federal nexus on projects in this area is rare, designation of critical habitat could provide a conservation benefit for lynx habitat.

A potential benefit of critical habitat designation would be to signal the importance of designated lands to Federal agencies, scientific organizations, State and local governments, and the public to encourage conservation efforts to benefit the lynx and its habitat. Critical habitat designation educates the public about the location of core lynx habitat and areas most important for the recovery of this species.

The Draft MFPC Agreement could encourage members to support a 5-year position at UMaine and CFRU (about \$50,000 annually). The person in this position would help complete habitat mapping, which would require \$300,000 to \$500,000 of additional funds. This person would also coordinate the outreach and research specified in the Draft Agreement. However, this funding is not assured. CFRU dues paid by member landowners are needed to support the research commitments of the Draft MFPC Agreement, and not all MFPC members within critical habitat Unit 1 are contributing members of the CFRU. Plum Creek is the only MFPC member to potentially pledge funds (\$6,000 annually for the next 5 years). None of the other MFPC member companies have made funding commitments. No certainty exists for implementation of important aspects of the Draft MFPC Agreement.

The Draft Agreement does not require specific land management actions to be taken by landowners. The MFPC landowners each manage their properties differently, and own different amounts of property in different stand conditions. The MFPC is an umbrella organization with no authority over its members, and can only encourage its members to voluntarily act to meet the guidelines in the Draft Agreement. Individual landowners would not be actual parties to the agreement. No commitment would be made through

the agreement to allow the Service access to member lands in order to monitor lynx or effects of management on lynx, and existing easements that MFPC relies on were not provided for review during this analysis. All of these factors indicate that benefits to lynx by excluding these lands are very speculative.

We compared the HFRP, which we found met our criteria for exclusion under section 4(b)(2), with the MFPC Draft Agreement, which we found did not meet our criteria for exclusion. For instance, both conservation vehicles adopt a 10-year timeframe for required contracts; however contracts under the HFRP are binding and ramifications for breach exist, and the MFPC Agreement is voluntary with no consequences for termination, which could happen at any time. Additionally, the HFRP contemplates conversion of the 10-year contract to an easement, as discussed earlier. Participants in HFRP, like many MFPC members, are enrolled in forest certification programs. We find that participation in the certification programs demonstrates some commitment to responsible resource management; however, we were not provided with endangered species or lynx management plans, which are required under forest certification programs, to review. We could not evaluate the efficacy of the programs or potential benefits to the lynx or its habitat. The HFRP commitment is that contractually-bound parties will likely meet their obligations to provide lynx management plans. Because neither the MFPC, nor its Draft Agreement commit or bind its members in any manner, participation in a certification program, though laudable, is less relevant for our evaluation.

#### Benefits of Exclusion

The Draft MFPC Agreement would commit partners to monitoring lynx habitat, contributing to lynx research, developing lynx management guidelines, promoting education, and conducting outreach across the lands of 28 corporate forest landowners. These commitments would strengthen partnerships and promote other aspects of recovery for the lynx. The Draft Agreement would have a duration of 10 years (extendable in 5-year increments); however, it would allow for unilateral termination. MFPC would prepare an annual report summarizing the actions taken to implement the agreement.

Since the lynx was listed in 2000, it has been difficult for us to effectively address lynx conservation across the forest landscape in northern Maine because of the numerous private

industrial forest landowners with whom coordination is required. It is important to proactively develop conservation programs for lynx across large landscapes. Lynx require large home ranges, and lynx and snowshoe hare habitat occurs in a habitat mosaic across the landscape that changes over time and space as the forests ages or disturbances occur to forest stands (e.g., insect outbreaks or timber management). Conservation easements (that restrict development) exist on approximately 809,374 ha (2,000,000 ac) in the area covered by the Draft MFPC Agreement. Some of the landowners have requirements to manage for federally listed species under forest certification programs.

The Draft MFPC Agreement covers 2,036,378 ha (5,032,000 ac), 74 percent of critical habitat Unit 1—an area larger than the State of New Jersey. The Draft Agreement could enable a coordinated, multi-landowner approach to lynx conservation on these private lands. This opportunity would not occur under typical consultation scenarios. The Draft Agreement would provide an opportunity to engage nearly all of the large private landowners in a dialogue concerning the recovery needs of the lynx. The Draft MFPC Agreement could facilitate the consideration of voluntary lynx conservation actions at a landscape scale across land ownership boundaries.

The conservation measures for lynx included in the Draft MFPC Agreement would support research needed to understand the effects of forest management in Maine on the physical and biological features essential to the conservation of lynx, provide a means to assess and monitor habitat, and provide an opportunity to develop management strategies for lynx and other wildlife species.

The Draft MFPC Agreement could build on the ongoing partnership between the Service, MDIFW, UMaine, CFRU and other partners. The Draft MFPC Agreement would be in place for 10 years, but could be renewed. Several incentives, for MFPC landowners to maintain this partnership for a longer period of time, include:

- The Service (at considerable cost) could designate critical habitat if landowners did not live up to the terms of the Agreement or if the physical and biological features essential to lynx began to diminish.

- Some landowners cite the Draft MFPC Agreement as part of their lynx conservation program in order to meet the requirements of certification programs and easement requirements for managing for Federally listed species.

- Funding (e.g., HFRP) may be available as an incentive to promote development of individual lynx forest management plans.

Some MFPC landowners have a track record of partnership with State and Federal conservation agencies in Maine. About half of the 28 landowners contribute as members to the CFRU. MFPC landowners have enabled this research by allowing access to their lands and logistical support; access is crucial and could be terminated by landowners if critical habitat is designated on their lands. This Draft Agreement could reinforce the continued support of MFPC landowners for funding and continued lynx research through CFRU.

Forest management on MFPC lands must meet the requirements of the Maine Forest Practices Act. This Act has resulted in the forest products industry changing to forestry methods (e.g., partial harvesting) that may be detrimental to creation of habitats that support high snowshoe hare densities. We are working with landowners and the Maine Forest Service to discuss the problems of the Maine Forest Practices Act and to encourage conservation measures that will benefit lynx.

Some landowners do not trust that the regulatory effect of critical habitat designation is limited, and they do not want an additional layer of Federal regulation on their private property. They are concerned that additional State regulations or local restrictions may be imposed as a result of the designation of critical habitat. MFPC landowners manage the largest forest acreage in Maine; several own more than 404,686 ha (1 million ac). Maintaining the cooperation of these landowners would be helpful in achieving recovery of lynx in Maine. The MFPC has indicated that they will not provide many of the benefits described in their Draft Agreement if critical habitat is designated on their members' lands.

As discussed in more detail in our final economic analysis, Plum Creek submitted a public comment indicating that they will likely abandon the Moosehead Concept Plan if critical habitat is designated in Maine. A report submitted with Plum Creek's public comments describes the economic impacts to the public and to Plum Creek in terms of potential economic benefits lost if the project is abandoned. In their public comment, Plum Creek summarized the economic impacts that would result from abandoning the Concept Plan (see page 5–19 of the final economic analysis). Plum Creek stated that a recent report valued lands in the Concept Plan at \$189.6 million to Plum

Creek. Conservation easements were valued at \$469,000 in benefits for the local residents and \$9.2 million in benefits for Maine residents. In total, public benefits of the balance easement were quantified at between \$10.8 and \$19.2 million. Our final economic analysis does not sum Plum Creek's estimated impacts with the incremental impacts of critical habitat designation because the 2007 conservation recommendations from LURC and the Service with regard to the Moosehead Concept Plan are unlikely to be affected by the designation of critical habitat, there is uncertainty regarding whether these costs will be realized, and there may also be economic benefits of not going forward with the Moosehead Concept Plan that offset the cost estimates presented by Plum Creek. If Plum Creek abandons the Concept Plan, the alternative uses of the land are largely uncertain, and we, therefore, have not predicted what sorts of economic costs and benefits would be associated with those uses. The final economic analysis estimates the potential post-designation baseline economic impacts of lynx conservation efforts in Unit 1 to range from \$8.6 to \$9.5 million at a 7 percent discount rate on an annualized basis.

#### **Benefits of Inclusion Outweigh Benefits of Exclusion**

We find that the benefits of including MFPC lands in the designation outweigh the potential benefits of exclusion. Despite the lynx conservation benefits that might arise from the partnerships that could be built or strengthened through the Draft MFPC Agreement, it provides no commitment to implement on-the-ground habitat management to conserve the physical and biological features essential to the conservation of lynx, nor is there certainty that funding will be committed for research and landscape-level lynx habitat mapping across MFPC member lands.

Section 7(a)(2) consultation on future, unforeseen projects within MFPC member lands, that are authorized, funded, carried out by Federal agencies, might result in a determination that the action will result in the destruction or adverse modification of lynx critical habitat.

Overall, the MFPC Agreement is a draft document that lacks funding, does not identify funding necessary to complete commitments (such as research projects), lacks concrete management measures, and only commits to voluntary actions. While we recognize that there is great partnership potential promised through this Draft

Agreement, we find that excluding 74 percent of a critical habitat unit based on this potential does not meet our criteria for exclusion.

Although potential economic impacts associated with the Moosehead Concept Plan have been provided to us by Plum Creek, based on our final economic analysis and because of the uncertainty regarding whether Plum Creek will abandon the project and what economic costs and benefits would be associated with alternative uses of the land, we do not believe that this final designation will result in any substantial and disproportionate economic impacts. The Secretary is not excluding MFPC lands from critical habitat based on economic impacts.

We recognize that designating MFPC member lands as critical habitat may weaken existing partnerships between the Service and MFPC and its member landowners; however, we will continue to work with private landowners to further lynx conservation.

#### **Unit 3 (Northern Rockies—Montana and Idaho)**

##### **Montana Partnership Conservation Agreement**

Subsequent to publication of the proposed rule, a consortium of private lands timber companies partnered to develop the Montana Partnership Conservation Agreement (MPCA). Partners to the agreement include F.H. Stoltze Land and Timber Company, Plum Creek Timber Company, Inc., and Stimson Lumber Company, Inc. The finalized agreement would be signed only if private lands in Montana were not included in the lynx critical habitat designation, and would affect lands in critical habitat Units 3 and 5.

We assessed the benefits of inclusion and the benefits of exclusion of these lands, and determined that these lands do not meet our criteria for exclusion from critical habitat. Our analysis follows below.

The landowners involved in the MPCA have supported lynx recovery by allowing researchers from USFS, Rocky Mountain Research Station, University of Montana, and others access to their private property to conduct lynx surveys and research and by providing logistical assistance (e.g., lodging, field maps) to lynx researchers. Plum Creek Timber Company has supported lynx research by donating funds to specific projects. We supported many of these projects, which form a large part of the scientific basis for lynx recovery in the mountain west. The Draft MPCA Agreement would reinforce MPCA funding and support for continued lynx

research. There is no assurance that MPCA funding and logistical support for lynx and snowshoe hare research will continue if critical habitat is designated on MPCA member lands.

The Draft MPCA Agreement calls for member landowners and the Service to collaboratively develop habitat management best management practices that would assist in the development of management recommendations for lynx in relation to other wildlife species. As the land managers, MPCA participation is important to ensure that guidelines will be accepted. These guidelines would be a useful resource to inform management decisions for the conservation of lynx and other wildlife.

The Draft MPCA Agreement documents a management process for reviewing research results and facilitating dissemination of results to Montana's private forest managers. The Draft Agreement includes creation of an annual lynx conservation workshop during which information exchange would occur between MPCA landowners, the Service, and other industrial and small-lot forest owners and forest products producers. An annual report would be provided to all partners summarizing lynx conservation activities and achievements.

The Draft Agreement would provide educational benefits by establishing mechanisms to broaden the understanding of lynx habitat management and disseminating the best available scientific information on lynx throughout all levels of the forest products industry. Existing training programs for foresters, loggers, and land managers would be expanded to include lynx education components. Web sites, newsletters, professional meetings and forums would provide information on lynx research and management. The MPCA signatories would coordinate an annual lynx workshop to discuss research results and identify actions that may contribute to the conservation of lynx habitat while preserving Montana's working forest; the workshop would serve to inform the Service on changes in the industry and landowner forest management practice trends. This form of education and training could result in an improved understanding of lynx habitat requirements among members of the forest products industry.

Under the Draft Agreement, participating parties would work collaboratively to improve lynx habitat management on industrial forest lands based on sound science and education of forest managers and others. Such measures might include development of landscape-scale habitat maps; experiments to evaluate the feasibility,

practicality, and effectiveness of research recommendations; and development of habitat management guidelines. However, the Draft Agreement would not prescribe measures for directly managing or protecting the physical and biological features essential to the conservation of lynx. The MPCA would support the implementation of management measures based on research if recommendations are operationally feasible, economically viable, and biologically meaningful.

The Draft Agreement would commit participating parties for at least 10 years (extendable in 5-year increments). The landowner signatories would prepare an annual report summarizing the actions taken to implement the agreement.

#### **Benefits of Inclusion**

The primary benefit of including an area within a critical habitat designation is the protection provided by section 7(a)(2) of the Act, which directs Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a threatened or endangered species and do not result in the destruction or adverse modification of critical habitat. The regulatory benefit of designating critical habitat on lands subject to the Draft MPCA Agreement in Montana is currently low, because few Federal actions trigger the consultation provisions under section 7(a)(2) of the Act. Since the lynx was listed in 2000, there has been one formal consultation on lynx on private lands in Montana. This formal opinion covered activities under the USDA Natural Resources and Conservation Service's Forest Stand Improvement Practices program. Under this programmatic formal consultation, five second-tier site-specific consultations have occurred. In addition, approximately two informal consultations occurred in Montana for private lands activities, involving road access requests across USFS lands to private lands.

Federal actions have occurred on MPCA lands, and because of this, it is possible that section 7 consultations will occur in the future. Although a Federal nexus on projects in this area is rare, designation of critical habitat could provide a conservation benefit for lynx habitat.

A potential benefit of critical habitat designation would be to signal the importance of designated lands to Federal agencies, scientific organizations, State and local governments, and the public to encourage conservation efforts to benefit the Canada lynx and its habitat.

The Draft Agreement would not require specific land management actions to be taken by landowners. The MPCA landowners each manage their properties differently and own different amounts of property in different stand conditions. The MPCA can only serve as a vehicle to promote partnerships and educate forest owners so that they may voluntarily act to fulfill the conservation objective of the Draft Agreement. Individual MPCA landowners' land management decisions or activities to fulfill the Agreement are voluntary. No commitment would be made through the agreement to allow Service access to member lands in order to monitor lynx or effects of management on lynx. All of these factors indicate that benefits to lynx by excluding these lands are very speculative.

#### **Benefits of Exclusion**

The Draft MPCA Agreement would commit partners to developing voluntary lynx management guidelines and conducting education and outreach across private timberlands in Montana. These commitments would strengthen partnerships in lynx recovery and could result in better management of the physical and biological features essential to lynx.

The Draft Agreement would enable a coordinated approach to landowner education and conservation. This opportunity might not occur under section 7 consultation. The Draft Agreement would provide an opportunity to engage several large private landowners and many small wood products companies in a dialogue concerning the recovery needs of the lynx. The Draft Agreement could facilitate the consideration of voluntary lynx conservation actions at a landscape scale across land ownership boundaries.

The MPCA signatory landowners are the three largest landowners in the critical habitat Units 3 and 5 in Montana, and collectively own approximately 35 percent of the critical habitat area in Montana. Designating critical habitat might provide additional protection for lynx, because some actions are known to trigger consultation through the Section 7(a)(2) process. The actions included in the Draft Agreement provide an opportunity to develop management strategies for lynx.

One MPCA landowner (Plum Creek) has a long track record of partnership with State and Federal conservation agencies in Montana. The Draft Agreement would reinforce MPCA landowners' continued support for funding and continued lynx research.

Some Montana forest landowners have a negative perception of critical habitat, and believe that designating critical habitat on their lands would result in negative consequences to them. They do not want an additional layer of Federal regulation over their private property. They are concerned that additional state regulations or other local restrictions may be imposed as a result of the designation of critical habitat. Designation on MPCA lands could make working cooperatively or effectively on lynx conservation with landowners more difficult. If MFPC members' lands are designated, the Draft Agreement would not be implemented and commitments to education and lynx guidelines would be no longer be offered.

Plum Creek Timber Company and F.H. Stoltze Land and Lumber Company submitted public comments containing their own economic analysis of critical habitat designation for the lynx (see pages 5–26 of our final economic analysis for more details). Although the economic analyses provide valuable information on potential development impacts in Unit 3, they cannot be incorporated into our final economic analysis because their assumptions differ from those applied in our analysis. Stoltze's economic analysis estimates the lost development option value on its land, assuming that critical habitat designation would preclude future development, to be \$120 million. Plum Creek's economic analysis estimates that the greatest impact of critical habitat designation will be a reduced ability to develop their lands in the future. Assuming that Plum Creek would sell its land over a 20-year period, it estimates the total value at risk associated with the designation of critical habitat to be approximately \$138 million (discounted at 7 percent). Plum Creek also submitted technical comments providing information on the locations and extent of Plum Creek land holdings and anticipated development projects within Unit 3. Although there may be increased regulatory stringency in certain Montana Counties as a result of critical habitat designation, the locations, size, and value of future development proposals is uncertain, as is the frequency with which they will occur in future years. Absent additional information on the specific land use restrictions that may be imposed, the cost of those restrictions, and their relation to lynx conservation, no impacts to development activities are quantified for Unit 3.

### Benefits of Inclusion Outweigh Benefits of Exclusion

We find that the benefits of including MPCA lands in the designation outweigh the potential benefits of exclusion. Despite the lynx conservation benefits that might arise from the partnerships that could be built or strengthened through the Draft MPCA Agreement, it provides no commitment to implement on-the-ground habitat management to conserve the physical and biological features essential to the conservation of lynx, nor is there certainty that funding will be committed for research and landscape-level lynx habitat mapping across MPCA member lands.

Section 7(a)(2) consultation on future, unforeseen projects within MPCA member lands, that are authorized, funded or carried out by Federal agencies, might result in a determination that the action will result in the destruction or adverse modification of lynx critical habitat.

Overall, the MPCA Agreement is a draft document that lacks funding, does not identify funding necessary to complete commitments (such as research projects), lacks concrete management measures, and only commits to voluntary actions. While we recognize that there is great partnership potential promised through this Draft Agreement, we find that excluding a significant portion (33 percent) of one critical habitat unit (and a small portion of another) based on this potential does not meet our criteria for exclusion.

Although potential economic impacts associated with lands owned by Plum Creek and Stoltze have been provided, based on our final economic analysis and because of the uncertainty regarding the specific land use restrictions that may be imposed, the cost of those restrictions, and their relation to lynx conservation, we do not believe that this final designation will result in any substantial and disproportionate economic impacts. The Secretary is not excluding MPCA lands from critical habitat based on economic impacts.

We recognize that designating MPCA member lands as critical habitat may weaken existing partnerships between the Service and MPCA and its member landowners; however, we will continue to work with private landowners to further lynx conservation.

#### Unit 4 (North Cascades—Washington)

##### Washington Department of Natural Resources Lynx Habitat Management Plan for DNR-Managed Lands

The Washington Department of Natural Resources Lynx Habitat

Management Plan for DNR-managed Lands (WDNR LHMP) encompasses 126,212 ac (197 mi<sup>2</sup>) (51,076 ha/511 km<sup>2</sup>) of WDNR-managed lands distributed throughout north-central and northeastern Washington in areas delineated as Lynx Management Zones in the Washington State Recovery Lynx Plan (Stinson 2001, p. 39; WDNR 2006, pp. 5–13). The WDNR LHMP was finalized in 2006, and is a revision of the lynx plan that WDNR has been implementing since 1996 (WDNR 1996, entire). The 1996 plan was developed as a substitute for a species-specific critical habitat designation required by Washington Forest Practices rules in response to the lynx being State-listed as threatened (WDNR 2006, p. 5). The 2006 WDNR LHMP provides further provisions to avoid the incidental take of lynx (Martin 2002, entire; WDNR 2006, p. 6). WDNR is committed to following the LHMP until 2076, or until the lynx is delisted (WDNR 2006, p. 6). WDNR requested that lands subject to the plan be excluded from critical habitat.

The WDNR LHMP contains measures to guide WDNR in creating and preserving quality lynx habitat through its forest management activities. The objectives and strategies of the LHMP are developed for multiple planning scales (ecoprovince and ecodivision, Lynx Management Zone, Lynx Analysis Unit (LAU), and ecological community), and include:

1. Encouraging genetic integrity at the species level by preventing bottlenecks between British Columbia and Washington by limiting size and shape of temporary non-habitat along the border and maintaining major routes of dispersal between British Columbia and Washington;

2. Maintaining connectivity between subpopulations by maintaining dispersal routes between and within zones and arranging timber harvest activities that result in temporary non-habitat patches among watersheds so that connectivity is maintained within each zone;

3. Maintaining the integrity of requisite habitat types within individual home ranges by maintaining connectivity between and integrity within home ranges used by individuals and/or family groups; and

4. Providing a diversity of successional stages within each LAU and connecting denning sites and foraging sites with forested cover without isolating them with open areas by prolonging the persistence of snowshoe hare habitat and retaining coarse woody debris for denning sites (WDNR 2006, p. 29).

The LHMP identifies specific guidelines to achieve the objectives and strategies at each scale; it also describes how WDNR will monitor and evaluate the implementation and effectiveness of the HMP (WDNR 2006, pp. 29–63). WDNR has been managing for lynx for over a decade, their management strategies appear to be effective.

### Benefits of Inclusion

On WDNR State lands, it is uncommon for an action with a Federal nexus that triggers consultation under section 7 of the Act to occur; therefore, little benefit would be realized through section 7 consultation if these lands were included in the designation.

Some educational benefits to designating critical habitat for lynx on WDNR managed lands may exist. However, we believe there is already substantial awareness of the lynx and conservation issues related to the lynx through the species being listed both under the Act and Washington State law; through the public review process for the WDNR HMP, Washington's Lynx Recovery Plan and the revision of the Okanogan-Wenatchee National Forest Management Plan; lynx and snowshoe hare research being conducted by the USFS Pacific Northwest Research Station, Washington State University, University of Washington, and the University of Montana; surveys being conducted by Washington Department of Fish and Wildlife and the USFS; and State of Washington Web sites (e.g., <http://wdfw.wa.gov/wlm/diversty/soc/recovery/lynx/lynx.htm>, [http://www.dnr.wa.gov/htdocs/amp/sepa/lynx/1\\_toc.pdf](http://www.dnr.wa.gov/htdocs/amp/sepa/lynx/1_toc.pdf)).

### Benefits of Exclusion

The WDNR LHMP should provide substantial protection of features essential to the conservation of lynx on WDNR lands, and should provide a greater level of management for the lynx on these State lands than designation of critical habitat. The measures contained in the WDNR LHMP exceed any measures that might result from critical habitat designation, because the LHMP provides lynx-specific objectives and strategies for different planning scales, guidelines to meet the objectives, and monitoring to evaluate implementation and effectiveness. As a result, we do not anticipate any actions on these lands that would destroy or adversely modify the areas.

The exclusion of WDNR lands from critical habitat would help preserve the partnerships that we have developed with them through development and implementation of the 2006 LHMP and the original 1996 lynx plan, both of

which provide for long-term lynx conservation.

#### **Benefits of Exclusion Outweigh Benefits of Inclusion**

We evaluated the proposed exclusion of approximately 126,212 ac (51,076 ha) of lands managed by the WDNR. Including WDNR areas in the final designation would likely not lead to any changes in WDNR management (to further avoid destroying or adversely modifying that habitat), and therefore the benefits of inclusion are low.

We determined that the benefits of excluding these lands in Unit 4 outweigh the benefits of including these lands as critical habitat. Based on the above considerations, and consistent with the direction provided in section 4(b)(2) of the Act, we find that greater benefits to lynx exist by excluding WDNR lands from the final designation.

We find that few additional conservation benefits would be realized through section 7 of the Act, because Federal actions are uncommon on this State land. The habitat conservation measures addressing the features essential to conservation of the lynx are already being implemented on WDNR lands under the WDNR HMP, have been proven to be effective, will be in place until at least 2076, and are providing for physical and biological features essential to the conservation of the species.

#### **Exclusion Will Not Result in Extinction of the Species**

We do not believe that the exclusion of 126,212 ac (51,076 ha) from Unit 4 of this revised critical habitat designation will result in the extinction of the species, because the WDNR plans provide for the conservation of the species and the physical and biological features essential to it. The jeopardy standard of section 7(a)(2) of the Act and routine implementation of conservation measures through the section 7 process also provide assurances that the subspecies will not go extinct. The protections afforded to the lynx under the jeopardy standard will remain in place for the areas excluded from revised critical habitat.

#### **Economic Analysis**

Section 4(b)(2) of the Act requires us to designate critical habitat on the basis of the best scientific information available and to consider the economic and other relevant impacts of designating a particular area as critical habitat. We may exclude areas from critical habitat upon a determination that the benefits of such exclusions outweigh the benefits of specifying such

areas as critical habitat. We cannot exclude such areas from critical habitat when such exclusion will result in the extinction of the species concerned.

Following the publication of the proposed revised critical habitat designation, we conducted an economic analysis to estimate the potential economic effect of the designation. The draft analysis was made available for public review on October 21, 2008 (73 FR 62450). We accepted comments on the draft analysis until November 20, 2008.

The primary purpose of the economic analysis is to estimate the potential economic impacts associated with the designation of critical habitat for the lynx. This information is intended to assist the Secretary in making decisions about whether the benefits of excluding particular areas from the designation outweigh the benefits of including those areas in the designation. This economic analysis considers the economic efficiency effects that may result from the designation, including habitat protections and conservation efforts that may be co-extensive with the listing of the species. It also addresses distribution of impacts, including an assessment of the potential effects on small entities and the energy industry. This information can be used by the Secretary to assess whether the effects of the designation might unduly burden a particular group or economic sector.

This analysis focuses on the direct and indirect costs of the rule. However, economic impacts to land use activities can exist in the absence of critical habitat. These impacts may result from, for example, local zoning laws, State and natural resource laws, and enforceable management plans and best management practices applied by other State and Federal agencies. Economic impacts that result from these types of protections are not included in the analysis, as they are considered to be part of the regulatory and policy baseline.

As discussed in the October 21, 2008, notice announcing the availability of the draft economic analysis (73 FR 62450), the draft analysis estimates quantifiable discounted future incremental costs of the critical habitat designation to be \$2.09 million over 20 years (\$140,000 annually) using a 3 percent discount rate, or \$1.48 million over 20 years (\$139,000 annually) using a 7 percent discount rate. The EA also acknowledges that there may be additional costs, particularly to landowners, but these costs are too speculative to quantify at this time.

After taking into consideration public comment on the proposal, the draft

economic analysis was finalized, and we evaluated whether any area of proposed critical habitat should be excluded due to economic impacts (refer to Exclusions Under Section 4(b)(2) of the Act section above). The Secretary is not excluding any lands from critical habitat based on economic impacts. We do not believe that this final designation will result in any substantial and disproportionate economic impacts.

A copy of the draft and final economic analysis with supporting documents are included in our administrative record and may be obtained by contacting U.S. Fish and Wildlife Service, Montana Field Office (see **ADDRESSES** section) or from the Internet at <http://mountain-prairie.fws.gov/species/mammals/lynx/criticalhabitat.htm>.

#### **Required Determinations**

##### *Regulatory Planning and Review*

The Office of Management and Budget (OMB) has determined that this final rule is significant and has reviewed it under Executive Order 12866 (E.O. 12866). OMB bases its determination upon the following four criteria:

a. Whether the rule will have an annual effect of \$100 million or more on the economy or adversely affect an economic sector, productivity, jobs, the environment, or other units of the government.

b. Whether the rule will create inconsistencies with other Federal agencies' actions.

c. Whether the rule will materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients.

d. Whether the rule raises novel legal or policy issues.

OMB has determined that this rule is significant because it raises novel legal or policy issues.

##### *Regulatory Flexibility Act (5 U.S.C. 601 et seq.)*

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), as amended by the Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 802(2)), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). Although no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a

substantial number of small entities, we completed a final regulatory flexibility analysis, and our final economic analysis determines that this final rule does not result in a significant economic impact on a substantial number of small entities.

According to the Small Business Administration (SBA), small entities include small organizations, such as independent nonprofit organizations and small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents, and small businesses (13 CFR 121.201). Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than \$5 million in annual sales, general and heavy construction businesses with less than \$27.5 million in annual business, special trade contractors doing less than \$11.5 million in annual business, and agricultural businesses with annual sales less than \$750,000. To determine if potential economic impacts to these small entities are significant, we considered the types of activities that might trigger regulatory impacts under this designation as well as types of project modifications that may result. In general, the term "significant economic impact" is meant to apply to a typical small business firm's business operations.

To determine if this final revised designation of critical habitat for the Canada lynx would affect a substantial number of small entities, we considered the number of affected small entities within particular types of economic activities (e.g., timber harvesting, livestock grazing, residential and related development, recreation activities, mining, and transportation). We considered each industry or category individually. In estimating the numbers of small entities potentially affected, we also considered whether their activities have any Federal involvement. Critical habitat designation will not affect activities that do not have any Federal involvement; designation of critical habitat affects activities conducted, funded, permitted, or authorized by Federal agencies.

In our final economic analysis of this final revised critical habitat designation, we evaluated the potential economic effects on small business entities from conservation actions related to the listing of the Canada lynx and revised designation of the species' critical habitat. The activities affected by Canada lynx conservation efforts may include land development,

transportation and utility operations, and conservation on public and tribal lands. The following is a summary of the information contained in the final economic analysis:

#### a. Development

According to the final economic analysis, Canada lynx development-related costs account for less than 1 percent of forecast incremental costs, and are estimated at \$8,130 (in 2008 dollars) over 20 years. The costs consist of administrative costs of conducting consultations under section 7 of the Act on development projects. As a result of this information, we determined that the final revised designation is not anticipated to have a significant economic impact on a substantial number of small businesses with respect to development activities.

#### b. Forest Management

Potential costs to forest management in designated habitat account for another 16 percent of forecast costs. Undiscounted costs are estimated at \$233,000 (in 2008 dollars) over 20 years. The costs consist of administrative costs of conducting consultations under section 7 of the Act on forest management. These costs are expected to be borne by Federal and State governments, private timber landowners, tribal landowners, and other private landowners across the units of the designation. The administrative costs would be divided among many entities and projects over a 20-year period. As a result of this information, we have determined that the final revised designation is not anticipated to have a significant economic impact on small forest management businesses.

#### c. Recreation

Future costs associated with managing recreation account for an additional 19 percent of forecast costs. Costs are estimated to be \$285,000 (in 2008 dollars) over 20 years. The costs consist of administrative costs of conducting consultations under section 7 of the Act associated with managing recreation (i.e., reductions of snowmobile opportunities) in Unit 4 (North Cascades). Incremental costs would be incurred by State and Federal agencies. As a result of this information, we have determined that the final revised designation is not anticipated to have a significant economic impact on a substantial number of small recreation businesses.

#### d. Lynx Management Plans

Future costs associated with development of lynx management plans account for approximately one percent of forecast costs. Costs are estimated to be \$12,300 (in 2008 dollars) over 20 years. The costs consist of administrative costs of conducting consultations under section 7 of the Act on lynx management plans by Federal agencies. As a result of this information, we have determined that the final revised designation of critical habitat is not anticipated to have a significant economic impact on a substantial number of small businesses.

#### e. Mining/Oil and Gas

Future costs associated with mining and oil and gas exploration and development activities account for an additional 8 percent of forecast costs. Costs are estimated at \$115,000 (in 2008 dollars) over 20 years. The costs consist of administrative costs of conducting consultations under section 7 of the Act on mining and oil and gas projects by Federal agencies in Units 2, 4, and 5. As a result of this information, we have determined that the final revised designation of critical habitat is not anticipated to have a significant economic impact on a substantial number of small mining or oil and gas businesses.

#### *Executive Order 13211*

On May 18, 2001, the President issued E.O. 13211 on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. As described above, this rule is considered a significant regulatory action under E.O. 12866 due to potential novel legal and policy issues. OMB's guidance in M-01-27 for implementing this Executive Order outlines nine outcomes that may constitute "a significant adverse effect" when compared to no regulatory action. The final economic analysis finds that none of these outcomes will result from the critical habitat designation for lynx (refer to Appendix B). Thus, based on the information in our economic analysis, no energy-related incremental impacts associated with Canada lynx revised critical habitat are expected other than administrative costs. Costs are estimated at \$115,000 (in 2008 dollars) over 20 years. The costs consist of administrative costs of conducting consultations under section 7 of the Act on mining and oil and gas projects by Federal agencies in Units 2, 4, and 5. As such, the designation of critical habitat

is not expected to significantly affect energy supplies, distribution, or use and a Statement of Energy Effects is not required.

*Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)*

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501), the Service makes the following findings:

a. This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute or regulation that would impose an enforceable duty upon State, local, tribal governments, or the private sector and includes both "Federal intergovernmental mandates" and "Federal private sector mandates." These terms are defined in 2 U.S.C. 658(5)–(7). "Federal intergovernmental mandate" includes a regulation that "would impose an enforceable duty upon State, local, or tribal governments" with two exceptions. It excludes "a condition of Federal assistance." It also excludes "a duty arising from participation in a voluntary Federal program," unless the regulation "relates to a then-existing Federal program under which \$500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority," if the provision would "increase the stringency of conditions of assistance" or "place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding," and the State, local, or tribal governments "lack authority" to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. "Federal private sector mandate" includes a regulation that "would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program."

The designation of critical habitat does not impose a legally binding duty on non-Federal government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities receiving Federal funding, assistance, or permits, or otherwise requiring approval or authorization from a Federal agency for

an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply; nor would critical habitat shift the costs of the large entitlement programs listed above on to State governments.

b. We do not believe that this rule would significantly or uniquely affect small governments. The economic analysis discusses potential impacts of critical habitat designation for the Canada lynx on timber management, recreation, land development, mining, oil and gas development, and the development of management plans. The analysis estimates costs of the rule to be \$2.11 million at present value over a 20-year period (\$142,000 annualized) assuming a 3 percent discount rate, and \$1.49 million (\$141,000 annualized) assuming a 7 percent discount rate. Most of the impacts are expected to affect Federal agencies through administrative costs associated with consultations under section 7 of the Act. Impacts on small governments are not anticipated, or they are anticipated to be passed through to consumers. The SBA does not consider the Federal Government to be a small governmental jurisdiction or entity. Consequently, we do not believe that the designation of critical habitat for the Canada lynx will significantly or uniquely affect small government entities. As such, a Small Government Agency Plan is not required.

*Takings*

In accordance with Executive Order 12630 ("Government Actions and Interference with Constitutionally Protected Private Property Rights"), we have analyzed the potential takings implications of designating critical habitat for the lynx in a takings implications assessment. The takings implications assessment concludes that this designation of critical habitat for the lynx does not pose significant takings implications.

*Federalism*

In accordance with Executive Order 13132, the rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior policy, we requested information from, and coordinated development of, the critical

habitat designation with appropriate State resource agencies in Idaho, Maine, Minnesota, Montana, Washington, and Wyoming. We believe that this resulting final designation of critical habitat for the lynx will have little incremental impact on State and local governments and their activities. The designation may have some benefit to these governments in that the areas important to the conservation of the species are more clearly defined, and the primary constituent element of the habitat essential to the survival and conservation of the species is specifically identified. While making this definition and identification does not alter where and what federally sponsored activities may occur, it may assist these local governments in long-range planning (rather than waiting for case-by-case section 7 consultations to occur).

*Civil Justice Reform*

In accordance with Executive Order 12988, the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have designated critical habitat in accordance with the provisions of the Act. This final designation uses standard property descriptions and identifies the primary constituent element within the designated areas to assist the public in understanding the habitat needs of the lynx.

*Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)*

This final rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act. This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

*National Environmental Policy Act*

We have undertaken a NEPA analysis for this critical habitat designation and notified the public of the availability of the draft environmental assessment for the proposed rule on October 21, 2008. The final environmental assessment, as well as a Finding of No Significant Impact (FONSI), is available upon request from the Field Supervisor, Montana Fish and Wildlife Office (see **ADDRESSES** section) or on our Web site at <http://mountain-prairie.fws.gov/>

species/mammals/lynx/  
criticalhabitat.htm

Government-to-Government  
Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951), Executive Order 13175 "Consultation and Coordination with Indian Tribal Governments," and the Department of the Interior Manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. Tribal lands determined to be essential to the conservation of the lynx have been excluded from this critical habitat

designation. Please refer to our discussion of Tribal lands under the Relationship of Critical Habitat to Tribal Lands section of this final rule.

References Cited

A complete list of all references cited in this rulemaking is available on the Web site <http://mountain-prairie.fws.gov/species/mammals/lynx/> or upon request from the Field Supervisor, Montana Field Office (see ADDRESSES).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

Accordingly, we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. In § 17.11(h), revise the entry for "Lynx, Canada" under "MAMMALS" to read as follows:

§ 17.11 Endangered and threatened wildlife.

\* \* \* \* \*  
(h) \* \* \*

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
MAMMALS							
* Lynx, Canada .....	* <i>Lynx canadensis</i> .....	* U.S.A. (AK, CO, ID, ME, MI, MN, MT, NH, NY, OR, UT, VT, WA, WI, WY), Canada, circumboreal.	* CO, ID, ME, MI, MN, MT, NH, NY, OR, UT, VT, WA, WI, WY.	* T	* 692	* 17.95(a)	* 17.40(k)
* .....	* .....	* .....	* .....	* .....	* .....	* .....	* .....

3. In § 17.95(a), revise the entry for "Canada lynx (*Lynx canadensis*)" to read as follows:

§ 17.95 Critical habitat—fish and wildlife.

(a) Mammals.  
\* \* \* \* \*

Canada lynx (*Lynx canadensis*)  
(1) Critical habitat units are depicted on the maps below for the following States and Counties:  
(i) Idaho: Boundary County;  
(ii) Maine: Aroostook, Franklin, Penobscot, Piscataquis, and Somerset Counties;  
(iii) Minnesota: Cook, Koochiching, Lake, and St. Louis Counties;  
(iv) Montana: Carbon, Flathead, Gallatin, Glacier, Granite, Lake, Lewis and Clark, Lincoln, Missoula, Park, Pondera, Powell, Stillwater, Sweetgrass, and Teton Counties;

(v) Washington: Chelan and Okanogan Counties; and

(vi) Wyoming: Fremont, Lincoln, Park, Sublette, and Teton Counties.

(2) Within these areas, the primary constituent element for the Canada lynx is boreal forest landscapes supporting a mosaic of differing successional forest stages and containing all of the following:

(i) Presence of snowshoe hares and their preferred habitat conditions, which include dense understories of young trees, shrubs or overhanging boughs that protrude above the snow, and mature multistoried stands with conifer boughs touching the snow surface;

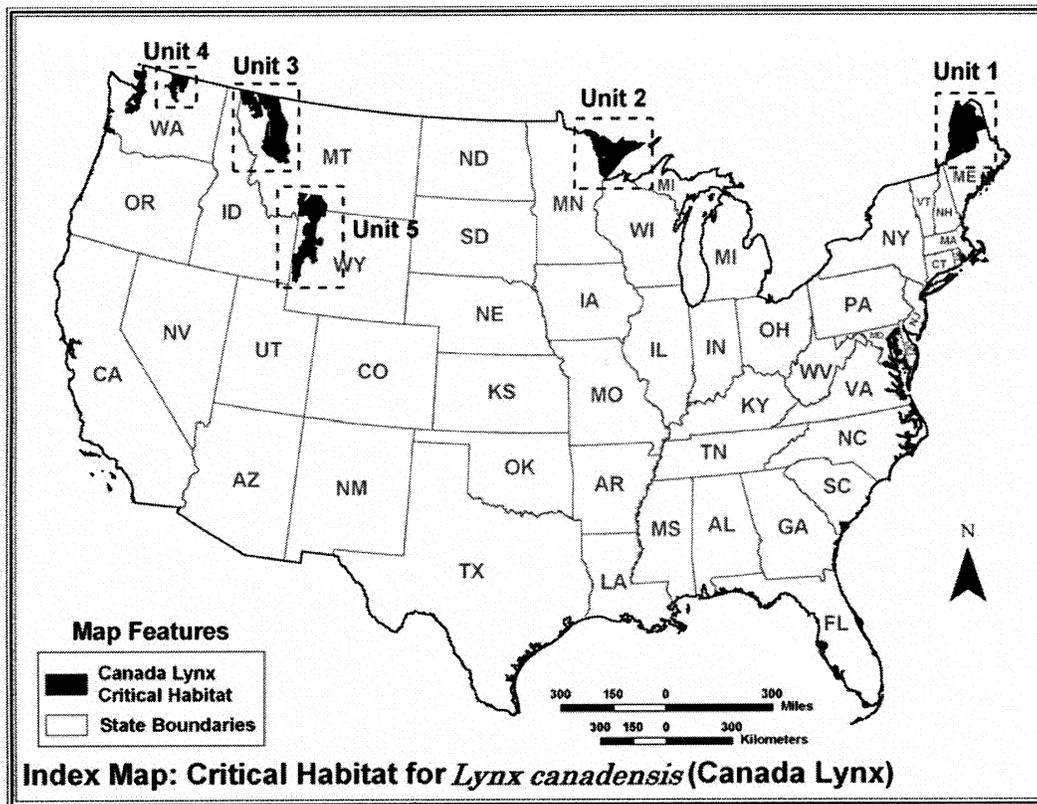
(ii) Winter snow conditions that are generally deep and fluffy for extended periods of time;

(iii) Sites for denning that have abundant coarse woody debris, such as downed trees and root wads; and

(iv) Matrix habitat (e.g., hardwood forest, dry forest, non-forest, or other habitat types that do not support snowshoe hares) that occurs between patches of boreal forest in close juxtaposition (at the scale of a lynx home range) such that lynx are likely to travel through such habitat while accessing patches of boreal forest within a home range.

(3) Critical habitat does not include waterbodies, including lakes, reservoirs, or rivers, or human-made structures existing on the effective date of this rule, such as buildings, paved and gravel roadbeds, and the land on which such structures are located.

(4) Index map for Canada lynx critical habitat follows:



(5) Unit 1: Northern Maine; Aroostook, Franklin, Penobscot, Piscataquis and Somerset Counties, Maine.

(i) Coordinate projection: UTM, NAD83, Zone 19, Meters. Coordinate definition: (easting, northing).

(ii) Polygon bounded by the following coordinates: (416400, 5140154) (417029, 5140238) (417418, 5140057) (417516, 5139824) (417280, 5139090) (417041, 5139162) (416973, 5139038) (416958, 5138720) (416760, 5138840) (416786, 5138700) (416604, 5138778) (416353, 5138495) (416673, 5138152) (424087, 5138050) (424076, 5135061) (423015, 5134950) (422555, 5134407) (422442, 5133983) (422118, 5133876) (421865, 5133501) (421909, 5132984) (421694, 5132707) (421490, 5132692) (421522, 5132487) (421285, 5132267) (421388, 5131239) (420719, 5131112) (420703, 5130486) (420446, 5130180) (420573, 5129900) (420432, 5129976) (420390, 5129836) (420961, 5129391) (420829, 5128936) (420360, 5128635) (420352, 5128196) (414078, 5128211) (413903, 5108332) (403589, 5108497) (403617, 5108750) (403932, 5109105) (404247, 5110111) (404268, 5110701) (404508, 5111058) (404209, 5111354) (404212, 5111567) (404066, 5111434) (403957, 5111630) (403609, 5111674) (403663, 5111827) (403451, 5111946) (403518, 5112081) (403288, 5112396) (403079, 5112416) (402763, 5112946) (402350,

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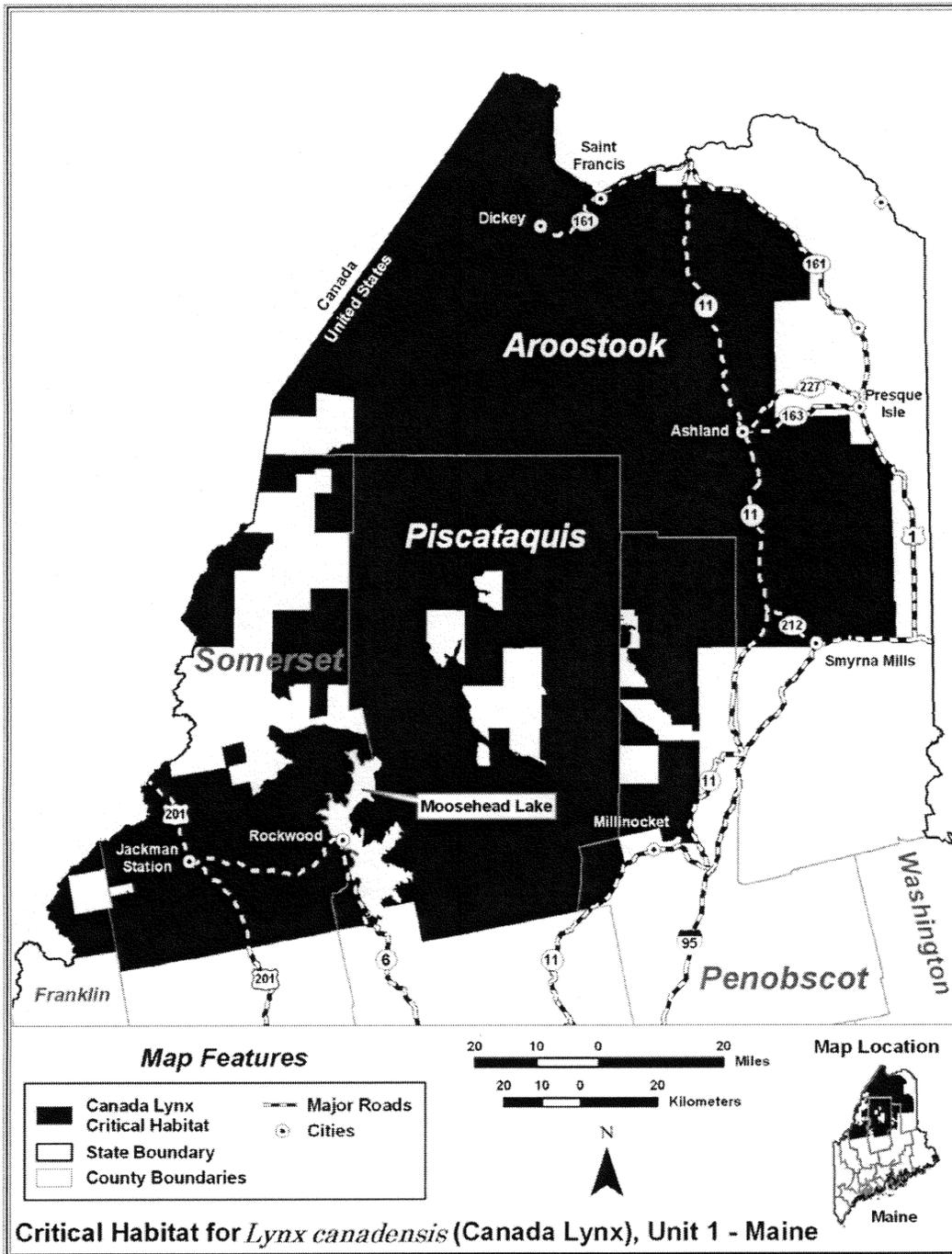
(iii) Polygon bounded by the following coordinates: (533825, 5057403) (529258, 5057508) (529477, 5058991) (528920, 5058991) (528554, 5059304) (527521, 5058377) (526106, 5058012) (524798, 5058004) (523967, 5061549) (513460, 5059043) (515203, 5052175) (514706, 5051830) (514403, 5050141) (513859, 5049105) (513289, 5048532) (512508, 5046559) (510879, 5043792) (509799, 5042887) (509161, 5042615) (508745, 5042102) (506180, 5040541) (462537, 5032002) (460414, 5042546) (453705, 5041122) (453207, 5041084) (453041, 5041247) (453005, 5041034) (453125, 5040998) (452703, 5040915) (452146, 5041594) (451850, 5042474) (452298, 5042612) (452098, 5042994) (452392, 5042931) (452263, 5043038) (452335, 5043321) (452107, 5043131) (452271, 5043471) (452719, 5043300) (452730, 5043550) (453133, 5043444) (453255, 5043674) (453558, 5043694) (453384, 5043924) (453805, 5043743) (454704, 5044291) (455038, 5043970) (455067, 5043675) (454816, 5043653) (455116, 5043137) (456199,

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5062592) (531585, 5062178) (532238, 5060764) (532143, 5060093) (533165, 5058935) (533825, 5057403), excluding the island polygons bounded by the following coordinates: (523750, 5082709) (513700, 5082738) (513599, 5072853) (523768, 5072898) (523750, 5082709), b) (479953, 5077619) (479924, 5078543) (479761, 5078587) (479731, 5078996) (479866, 5079938) (479766, 5081621) (479488, 5082258) (479182, 5082685) (478506, 5083113) (477717, 5083220) (477550, 5083439) (476922, 5083400) (476986, 5082589) (476604, 5081545) (476766, 5080941) (476421, 5079210) (476937, 5077638) (479953, 5077619) (484820, 5087152) (484919, 5081791) (485890, 5081372) (485887, 5080973) (486695, 5081006) (487907, 5080395) (487910, 5080173) (487510, 5080036) (487456, 5080423) (486815, 5080578) (486744, 5080452) (486496, 5080634) (486711, 5080406) (486496, 5080580) (486496, 5080310) (485946, 5080384) (486844, 5080142) (487174, 5080202) (487669, 5079975) (487990, 5080154) (490035, 5080167) (494410, 5077771) (494314, 5078658) (493597, 5078752) (492876, 5079197) (492831, 5087037) (493279, 5087017) (493353, 5095938) (494485, 5095926) (494601, 5096246) (494440, 5096226) (494350, 5096864) (493908, 5097136) (493864, 5097841) (493365, 5098142) (493417, 5108089) (488853, 5108054) (488567, 5107824) (488051, 5107805) (486906, 5108008) (486338, 5107874) (485869, 5108035) (483292, 5108015) (483299, 5098222) (473357, 5098151) (473353, 5098914) (473161, 5098294) (472870, 5098030) (472861, 5096680) (473842, 5095069) (473899, 5094727) (474167, 5094572) (474536, 5093901) (474778, 5093935) (474657, 5093578) (475069, 5092937) (474618, 5091608) (474913, 5091112) (474728, 5090926) (474786, 5090772) (475369, 5089715) (475228, 5089418) (475228, 5088407) (475734, 5087767) (475741, 5087560) (476768, 5086912) (477208, 5086332) (477534, 5086260) (477572, 5085709) (478422, 5085245) (478450, 5085040) (479362, 5084434) (479645, 5083957) (479440, 5087274) (484820, 5087152), excluding the island polygons bounded by the following coordinates: (467820, 5103153) (468131, 5103309) (469054, 5105153) (468756, 5105539) (468580, 5105388) (468421, 5105469) (468159, 5106182) (468368, 5106469) (468239, 5106659) (468445, 5106719) (468970, 5106448) (469369, 5105831) (469834, 5105732) (470166, 5106029) (470451, 5105824) (470627, 5105912) (470778, 5107550) (471219, 5108431) (471588, 5108493) (471521, 5109030) (471951, 5109508) (471556, 5109524) (471656, 5109872) (471935, 5109988) (472017, 5109878) (471990, 5110102) (472474, 5110119) (472818, 5110442) (472827, 5110191) (472513, 5109801) (472002, 5109592) (472406, 5109318) (472287, 5108164) (472091, 5107929) (471791, 5106847) (471521, 5106589) (471228, 5105369) (471561, 5104469) (472181, 5103992) (472713, 5103914) (473346, 5103453) (473341, 5117800) (463623, 5117895) (463664, 5109846) (464395, 5109021) (464830, 5108057) (464273, 5107543) (464353, 5106869) (465334, 5105990) (465868, 5104563) (466148, 5104243) (466698, 5103841) (467171, 5104129) (467430, 5103471) (467820, 5103153), excluding the island polygons bounded by the following coordinates: (513717, 5116742) (513718, 5116540) (514376, 5116517) (514529, 5116386) (514380, 5116088) (513719, 5116170) (513718, 5115655) (514919, 5115604) (514765, 5115421) (514620, 5115487) (514565, 5115286) (513945, 5115325) (513699, 5115190) (513711, 5114024) (514843, 5114026) (515362, 5114145)

(515600, 5114386) (515533, 5113983) (517813, 5103517) (516534, 5104235) 5122624) (479459, 5122600) (479490,  
(515327, 5113966) (515267, 5113756) (516042, 5104351) (515949, 5104522) 5122456) (480115, 5122576) (479912,  
(515582, 5113670) (515884, 5114019) (516191, 5104509) (516158, 5104712) 5122239) (479395, 5122059) (479041,  
(516058, 5113854) (516994, 5113761) (515717, 5104699) (515672, 5104971) 5121432) (478750, 5121537) (478881,  
(517213, 5113486) (517532, 5113728) (516144, 5105068) (515879, 5105499) 5121840) (478542, 5122287) (477539,  
(517487, 5113372) (517656, 5113152) (515724, 5105422) (515864, 5105252) 5122450) (477039, 5122326) (476943,  
(517849, 5113163) (517863, 5112906) (515778, 5105118) (515612, 5105120) 5120118) (479311, 5119464) (479779,  
(517583, 5112667) (516876, 5113081) (515480, 5105384) (515778, 5105957) 5118849) (480469, 5118367) (480792,  
(516668, 5112974) (516709, 5112814) (515742, 5106525) (515448, 5107126) 5118318) (480895, 5117922), and  
(516389, 5112925) (515935, 5112465) (515592, 5107646) (515804, 5107743) excluding the island polygons bounded  
(515849, 5112210) (516477, 5112181) (515744, 5107967) (518793, 5107949) by the following coordinates: (371100,  
(516485, 5111960) (516777, 5111753) (518717, 5111938) (518324, 5111938) 5047834) (372416, 5040243) (372542,  
(516486, 5111452) (516586, 5111206) (518374, 5116237) (517498, 5116242) 5040170) (372542, 5039535) (382353,  
(516447, 5110863) (516340, 5111114) (517470, 5117924) (513720, 5117929) 5041114) (381765, 5044067) (384623,  
(516504, 5110541) (516299, 5109920) (513717, 5116742), excluding the island polygons bounded by the following  
(516396, 5108705) (516077, 5108921) coordinates: (480895, 5117922) (483208, 5117969) (483166, 5127993) (478242,  
(516076, 5108549) (515915, 5108494) 5128006) (478362, 5127510) (477921, 5127090) (477988, 5126692) (477876,  
(515901, 5108814) (515836, 5108365) 5126608) (476096, 5126601) (475632, 5126339) (475646, 5125802) (476020,  
(515658, 5108258) (515711, 5108007) 5124991) (475934, 5124131) (476289, 5124172) (476690, 5123507) (477318,  
(513692, 5108005) (513670, 5098024) 5123063) (478316, 5123062) (479020, 5122862) (479240, 5122962) (479189,  
(521046, 5097931) (520991, 5098233) 5044904) (385397, 5044782) (386476, 5044994) (385969, 5045113) (385967,  
(520317, 5099019) (520426, 5099452) 5045303) (386306, 5045497) (386995, 5045096) (387743, 5045243) (387341,  
(520237, 5099969) (519460, 5100732) 5047432) (381308, 5046305) (380368, 5051014) (370847, 5049328) (371100,  
(519225, 5100795) (518258, 5102129) 5047834).  
(517684, 5102188) (517681, 5102652) (iv) Map of Unit 1, Northern Maine,  
(517811, 5102611) (517693, 5103365) follows:



## BILLING CODE 4310-55-P

(6) Unit 2: *Northeastern Minnesota; Cook, Koochiching, Lake, and St. Louis Counties.*

(i) Coordinate Projection: UTM, NAD83, Zone 15, Meters. Coordinate Definition: (easting, northing)

(ii) Polygon bounded by the following coordinates: (485851, 5386598) (487031, 5385449) (493478, 5385989) (501006, 5385538) (503370, 5386443) (503698, 5386277) (503742, 5383856) (505199, 5383680) (506669, 5382536) (507803, 5382385) (520034, 5376270) (525283, 5377047) (526934, 5376672) (527650, 5373939) (527629, 5373409) (527187, 5372687) (527496, 5372267) (526808, 5371864) (525551, 5372121) (525010, 5371520) (523215, 5371634) (522261, 5371345) (522081, 5370214) (521489, 5368900) (521544, 5368616) (521240, 5367800) (523065, 5365665) (524909, 5365241) (525502, 5364809) (531538, 5365306) (534244, 5366112) (536425, 5366133) (537774, 5364249) (538324, 5363977) (538811, 5362962) (540222, 5362390) (540234, 5361025) (538768, 5357770) (539282, 5355573) (540666, 5352664) (541724, 5350845) (542131, 5350375) (542525, 5350292) (543395, 5349087) (544997, 5345416) (545028, 5345058) (545323, 5344651) (545115, 5344603) (545106, 5344395) (545474, 5344442) (545592, 5344280) (545421, 5343871) (545491, 5343638) (545650, 5343626) (545695, 5343228) (546081, 5342644) (546125, 5342169) (546395, 5341597) (546732, 5341312) (546800, 5340975) (547025, 5341199) (546936, 5341317) (547371, 5341246) (548154, 5342103) (548944, 5342290) (549150, 5342617) (549596, 5342514) (550494, 5342903) (550754, 5343177) (553425, 5343653) (554224, 5344143) (553913, 5345066) (552701, 5345985) (552347, 5346682) (552444, 5347215) (552285, 5347274) (551818, 5348580) (552311, 5350577) (551462, 5351690) (551561, 5352365) (552277, 5352518) (552696, 5354576) (554626, 5355960) (557717, 5355297) (558107, 5354868) (558758, 5354922) (558725, 5355251) (559083, 5355662) (559588, 5355511) (559737, 5355309) (560832, 5355613) (560949, 5356227) (561296, 5356474) (561937, 5356884) (563310, 5357206) (563453, 5356161) (567846, 5355943) (568295, 5356432) (569979, 5356505) (570559, 5355277) (570742, 5355165) (570553, 5354927) (570632, 5353948) (571267, 5353643) (571818, 5352875) (574090, 5352383) (573170, 5349780) (573223, 5348638) (573647, 5347798) (573727, 5346277) (575016, 5345664) (575707, 5344274) (575905, 5344260) (576022, 5343966) (576472, 5344374) (576278, 5344623) (576361, 5344933) (577578, 5344862) (577657, 5344501) (578069, 5344130) (577339, 5343926) (577307,

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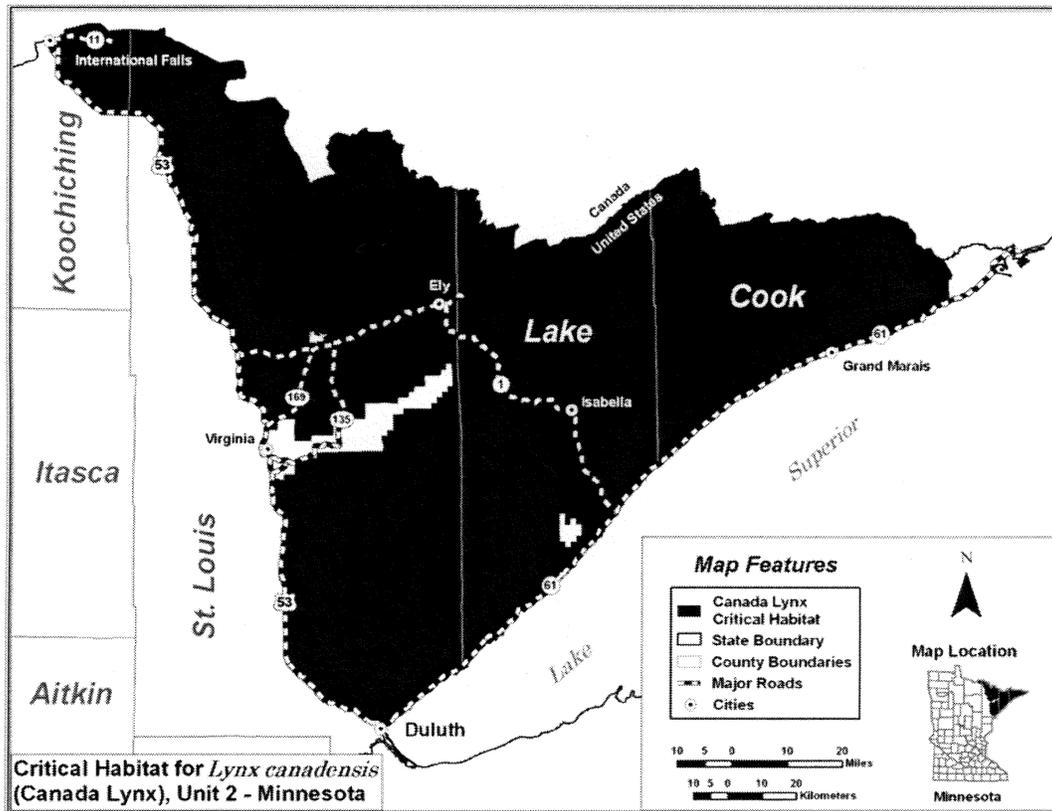
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5297486) (547390, 5297486) (547390, 5297078) (546982, 5297078) (546982, 5297486) (546582, 5297486) (546582, 5296686) (546982, 5296686) (546982, 5295075) (548604, 5295010) (548636, 5294395) (549035, 5294744) (549209, 5294714) (548991, 5294946) (549118, 5295446) (550064, 5295302) (550654, 5295491) (550627, 5295717) (550772, 5295819) (551147, 5295794) (550509, 5296142) (550590, 5296557) (550700, 5296679) (550882, 5296549) (551184, 5296886) (551806, 5297048) (551805, 5297285) (551560, 5297461) (551395, 5297158) (551015, 5297119) (550801, 5297195) (550803, 5297409) (550626, 5297206) (550226, 5297611) (549696, 5297639) (549730, 5297462) (550257, 5297179) (550060, 5296818) (549570, 5296788) (549355, 5297045) (549076,

5296918) (548901, 5297169) (548637, 5297063) (548182, 5297486) (548182, 5298287) (547782, 5298287) (547782, 5297886) (546982, 5297886) (546982, 5297486), and excluding the island polygons bounded by the following coordinates: (620214, 5238106) (620245, 5236496) (621852, 5236533) (621903, 5234896) (623485, 5234904) (623455, 5236528) (625064, 5236573) (625051, 5238228) (626640, 5238269) (626567, 5241495) (624962, 5241459) (624942, 5243061) (623327, 5243035) (623340, 5241425) (621725, 5241388) (621690, 5244578) (620112, 5244552) (620214, 5238106).

(iii) Map of Unit 2, Northeastern Minnesota, follows:

BILLING CODE 4310-55-P



(7) Unit 3: Northern Rocky Mountains; Boundary County, Idaho; Flathead, Glacier, Granite, Lake, Lewis and Clark, Lincoln, Missoula, Pondera, Powell, and Teton Counties, Montana.

(i) Coordinate Projection: UTM, NAD83, Zone 12, Meters. Coordinate Definition: (easting, northing).

(ii) Polygon bounded by the following coordinates: (122575, 5440417) (157217, 5438140) (157554, 5436275) (158180, 5436163) (158504, 5436804) (158713, 5436719) (159139, 5436012) (160089, 5436595) (160868, 5435079) (160974,

5434172) (160723, 5433948) (160290, 5434027) (159992, 5434612) (159608, 5434713) (159261, 5435273) (158988, 5435255) (158820, 5435026) (158258, 5435501) (157561, 5435545) (157729, 5433494) (157575, 5432844) (157008, 5433009) (156503, 5431934) (155967, 5431344) (155627, 5431823) (155481, 5432821) (155243, 5432481) (155020, 5432504) (154752, 5431851) (154170, 5432016) (153770, 5432907) (153555, 5432856) (152850, 5434062) (152528, 5434961) (152404, 5436295) (151760, 5436323) (151778, 5434749) (152216,

5433421) (152213, 5432441) (152439, 5432187) (152717, 5430211) (152610, 5429977) (151732, 5429741) (151989, 5429458) (152325, 5429500) (152608, 5429229) (152621, 5428818) (152205, 5427977) (152395, 5428199) (153103, 5428293) (153339, 5428221) (153721, 5427723) (154019, 5427834) (153888, 5428404) (154039, 5428965) (154428, 5429711) (154927, 5430009) (155449, 5429785) (155722, 5429395) (156561, 5429719) (156775, 5428869) (156621, 5428580) (155997, 5428207) (155890, 5427397) (156033, 5426939) (155935,

5426675) (156137, 5426261) (156427, 5426502) (156766, 5426067) (156779, 5425765) (156273, 5425825) (156096, 5426127) (155300, 5425220) (154958, 5425067) (154586, 5425370) (153840, 5424521) (154106, 5424210) (154067, 5423779) (154650, 5423848) (155034, 5422919) (154705, 5422481) (154461, 5422392) (153984, 5421141) (153345, 5421486) (153145, 5422135) (152810, 5422450) (152819, 5423034) (153064, 5423738) (152714, 5424072) (152690, 5424340) (152370, 5424533) (152331, 5424851) (151863, 5424801) (151305, 5424226) (151061, 5424190) (150786, 5423754) (150456, 5423775) (150188, 5424305) (150557, 5424660) (150152, 5424873) (150140, 5425235) (150665, 5425664) (151009, 5425732) (151264, 5425606) (151860, 5426063) (151470, 5425930) (150952, 5426235) (149565, 5425466) (149108, 5425769) (149402, 5426456) (148590, 5426774) (148572, 5427391) (148019, 5427635) (147510, 5428763) (147235, 5428772) (146980, 5429121) (146956, 5429743) (146689, 5429869) (146281, 5430816) (145966, 5431171) (145510, 5432868) (145542, 5431717) (146242, 5429130) (146027, 5428785) (145755, 5428777) (146480, 5427689) (146407, 5427339) (146607, 5426276) (146451, 5426039) (146654, 5425463) (147131, 5425021) (147068, 5424665) (147368, 5424509) (147444, 5423821) (147714, 5423528) (147666, 5423115) (148039, 5422960) (148253, 5422527) (148425, 5421423) (147889, 5421804) (147553, 5421143) (147319, 5421461) (146940, 5421351) (146548, 5422377) (146425, 5421961) (146151, 5421723) (145885, 5420849) (145431, 5421208) (144441, 5421263) (143990, 5421653) (143897, 5422112) (143424, 5422133) (143376, 5422696) (143210, 5422854) (142950, 5422606) (141796, 5423412) (141620, 5423711) (141286, 5423647) (139769, 5424314) (138998, 5424464) (138839, 5424441) (140025, 5423735) (141264, 5422652) (141366, 5422041) (142234, 5421038) (142352, 5420456) (142813, 5420035) (142904, 5419652) (142366, 5419801) (141801, 5419210) (141166, 5419490) (140537, 5419274) (140240, 5418829) (139471, 5418372) (138595, 5417465) (137785, 5418075) (137781, 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(127769, 5422118) (127589, 5422331) (128098, 5422626) (128624, 5423213) (127814, 5423025) (127967, 5423706) (127537, 5423469) (127396, 5423568) (127327, 5424034) (126840, 5424693) (127173, 5425283) (127087, 5425474) (126766, 5425247) (126890, 5425704) (126720, 5426269) (126854, 5426602) (126479, 5426480) (126375, 5426639) (126131, 5427937) (125754, 5427458) (125398, 5427637) (125729, 5427067) (125822, 5426552) (125821, 5426143) (125638, 5426017) (126061, 5425681) (125803, 5424952) (126125, 5423788) (126121, 5423140) (125779, 5422416) (125460, 5422413) (124996, 5423370) (124649, 5423197) (124466, 5423320) (124259, 5424128) (124090, 5424183) (124011, 5424024) (123783, 5424142) (123623, 5423888) (122975, 5423827) (122940, 5424445) (123424, 5425214) (123394, 5425672) (123594, 5425951) (123449, 5426649) (123737, 5427037) (123509, 5427373) (123567, 5427800) (123177, 5427788) (123066, 5428016) (123048, 5428438) (123182, 5428567) (122969, 5428809) (123148, 5429001) (122727, 5429079) (122669, 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(iii) Polygon bounded by the following coordinates: (186659, 5436276) (186882, 5435602) (186841, 5434804) (186367, 5433736) (186098, 5433685) (185655, 5434141) (184916, 5433557) (184407, 5433601) (184189, 5433886) (183498, 5433536) (182371, 5433774) (182676, 5433326) (182541, 5433096) (183135, 5433131) (184170, 5432794) (184649, 5432090) (184883, 5432465) (185373, 5432513) (186224, 5432036) (186519, 5431094) (186167, 5429769) (184779, 5428432) (185465, 5428323) (186932, 5428952) (187175, 5428882) (187574, 5428058) (188147, 5425814) (187946, 5424236) (187686, 5423653) (187225, 5423266) (186746, 5423248) (186518, 5422900) (186038, 5422623) (185049, 5422489) (184855, 5422160) (186618, 5421235) (186962, 5420884) (186956, 5420425) (186383,

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 5413469) (180913, 5413131) (181041,  
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(vii) Polygon bounded by the following coordinates: (247372, 5433204) (247373, 5433069) (247561, 5433194) (290409, 5431217) (309103, 5430543) (308865, 5423261) (317266, 5406552) (320872, 5402670) (321867, 5400760) (322070, 5397708) (321814, 5396212) (323229, 5392963) (329640, 5375469) (334120, 5364583) (357329, 5344950) (357236, 5341628) (356476, 5342206) (356151, 5341976) (356086, 5341596) (356100, 5341196) (357172, 5339352) (357086, 5336382) (358212, 5336115) (358537, 5335663) (358855, 5335810) (359345, 5335610) (359326, 5334752) (359004, 5334470) (359304, 5333847) (359278, 5332750) (360501, 5332635) (362597, 5330637) (363942, 5328776) (364008, 5328508) (363775, 5328082) (364043, 5327116) (363692, 5326447) (363773, 5325869) (364126, 5325616) (365513, 5325464) (365664, 5324305) (366175, 5323280) (366088, 5322404) (366514, 5321646) (367397, 5321371) (368164, 5321354) (368702, 5321019) (369649, 5319812) (369870, 5319192) (370359, 5318511) (371875, 5317957) (372643, 5316635) (372779, 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(252044, 5426033) (251759, 5425845) (251861, 5427788) (251687, 5427449) (251668, 5426674) (251453, 5426409) (251229, 5426966) (251252, 5427549) (251015, 5427668) (250973, 5428059) (251166, 5428965) (251924, 5430593) (251495, 5430382) (250738, 5428827) (250176, 5428390) (250245, 5429947) (250110, 5429607) (250197, 5429195) (249858, 5429170) (249589, 5429783) (249556, 5430536) (249302, 5430159) (248371, 5431627) (248359, 5431927) (248069, 5431952) (247988, 5432381) (247711, 5432437) (247231, 5433003) (247219, 5433212) (247372, 5433204), excluding the island polygons bounded by the following coordinates: (289728, 5296719) (287436, 5297700) (285628, 5297666) (286024, 5294148) (285732, 5291528) (285682, 5288116) (286591, 5288133) (286606, 5287337) (286973, 5285979) (289243, 5280109) (290182, 5278535) (291698, 5276517) (291954, 5275043) (291861, 5273905) (292665, 5273465) (293262, 5271998) (293071, 5270061) (294239, 5268378) (295509, 5267378) (296804, 5265015) (297875, 5262534) (298201, 5257310) (298100, 5256625) (298921, 5255277) (299400, 5254035) (299537, 5252787) (301306, 5255435) (303208, 5257063) (303528, 5258206) (302400, 5257730) (301508, 5256804) (299903, 5257455) (300216, 5258940) (299920, 5262572) (300583, 5263608) (299151, 5267220) (296826, 5275931) (294813, 5280214) (294077, 5283043) (293565, 5286103) (293435, 5293036) (291919, 5295055) (289728, 5296719).

(viii) Polygon bounded by the following coordinates: (326871, 5210120) (327424, 5209899) (327295, 5209641) (327488, 5209523) (328236, 5209476) (328997, 5209807) (329431, 5209438) (330142, 5209852) (330788, 5209174) (331487, 5209014) (331418, 5207714) (331705, 5207425) (332150, 5207259) (332509, 5208096) (332990, 5208145) (333602, 5207675) (333839, 5207184) (334566, 5207011) (334800, 5206680) (335436, 5206304) (335664, 5206282) (335773, 5206900) (336698, 5206851) (337026, 5206509) (337182, 5206057) (337652, 5205999) (339219, 5204579) (338270, 5202452) (338378, 5202256) (338777, 5202555) (339018, 5202445) (338860, 5201497) (338505, 5201615) (338404, 5201416) (338806, 5200500) (339318, 5200343) (339056, 5199944) (339093, 5199623) (339606, 5199216) (340049, 5198272) (339423, 5196824) (337813, 5196477) (337387, 5196235) (337028, 5195697) (337429, 5195494) (337987, 5195465) (340078, 5196167) (341546, 5195996) (342161,

5196156) (341894, 5195705) (340373, 5195393) (339781, 5195118) (339351, 5194748) (338074, 5192733) (336664, 5191832) (337701, 5191686) (338855, 5192481) (340309, 5192259) (340985, 5192328) (342117, 5193289) (342857, 5194286) (344480, 5195538) (345485, 5195151) (345197, 5194854) (345325, 5194417) (344883, 5193614) (343523, 5192265) (342396, 5191482) (342219, 5189728) (341160, 5189555) (341840, 5188464) (341997, 5187287) (343361, 5185678) (343434, 5183343) (343883, 5182132) (343578, 5181248) (343558, 5180535) (343768, 5179878) (344841, 5178317) (346229, 5177538) (343613, 5177563) (340338, 5175860) (338988, 5175747) (338002, 5175928) (336332, 5177086) (334682, 5177555) (335281, 5176288) (334989, 5175850) (333748, 5175542) (332764, 5174920) (331752, 5174630) (330840, 5173381) (327612, 5172007) (327162, 5172722) (324259, 5175167) (323118, 5175710) (322244, 5175774) (321621, 5176187) (321407, 5175875) (321146, 5176231) (320691, 5176117) (320517, 5175929) (320605, 5175613) (320225, 5175485) (320356, 5175211) (320080, 5174566) (319807, 5174611) (319554, 5175306) (318742, 5175661) (318140, 5175605) (317880, 5176202) (317714, 5175608) (316986, 5175467) (316795, 5175631) (316797, 5175388) (315957, 5175213) (315775, 5174818) (315053, 5174523) (314962, 5174716) (314753, 5174673) (313918, 5175213) (313025, 5174959) (312751, 5175139) (312740, 5175531) (312662, 5175365) (311909, 5175577) (311638, 5175404) (311465, 5175495) (310796, 5175333) (310924, 5176037) (310816, 5175684) (310294, 5175491) (309967, 5175166) (309778, 5175425) (309392, 5175455) (309113, 5175883) (308884, 5175723) (308857, 5175949) (308568, 5175954) (308557, 5176499) (308344, 5176879) (307650, 5176641) (307902, 5177411) (307052, 5176774) (307130, 5177171) (306664, 5177557) (307003, 5178407) (306322, 5177602) (305458, 5177915) (305148, 5177736) (304944, 5178125) (304778, 5178125) (304753, 5178767) (304416, 5178272) (304062, 5179052) (303866, 5178751) (303684, 5178693) (303553, 5178829) (302694, 5178412) (302848, 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5207231) (323491, 5207838) (323604,  
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5209963) (326364, 5210500) (326597,  
5210456) (326871, 5210120).

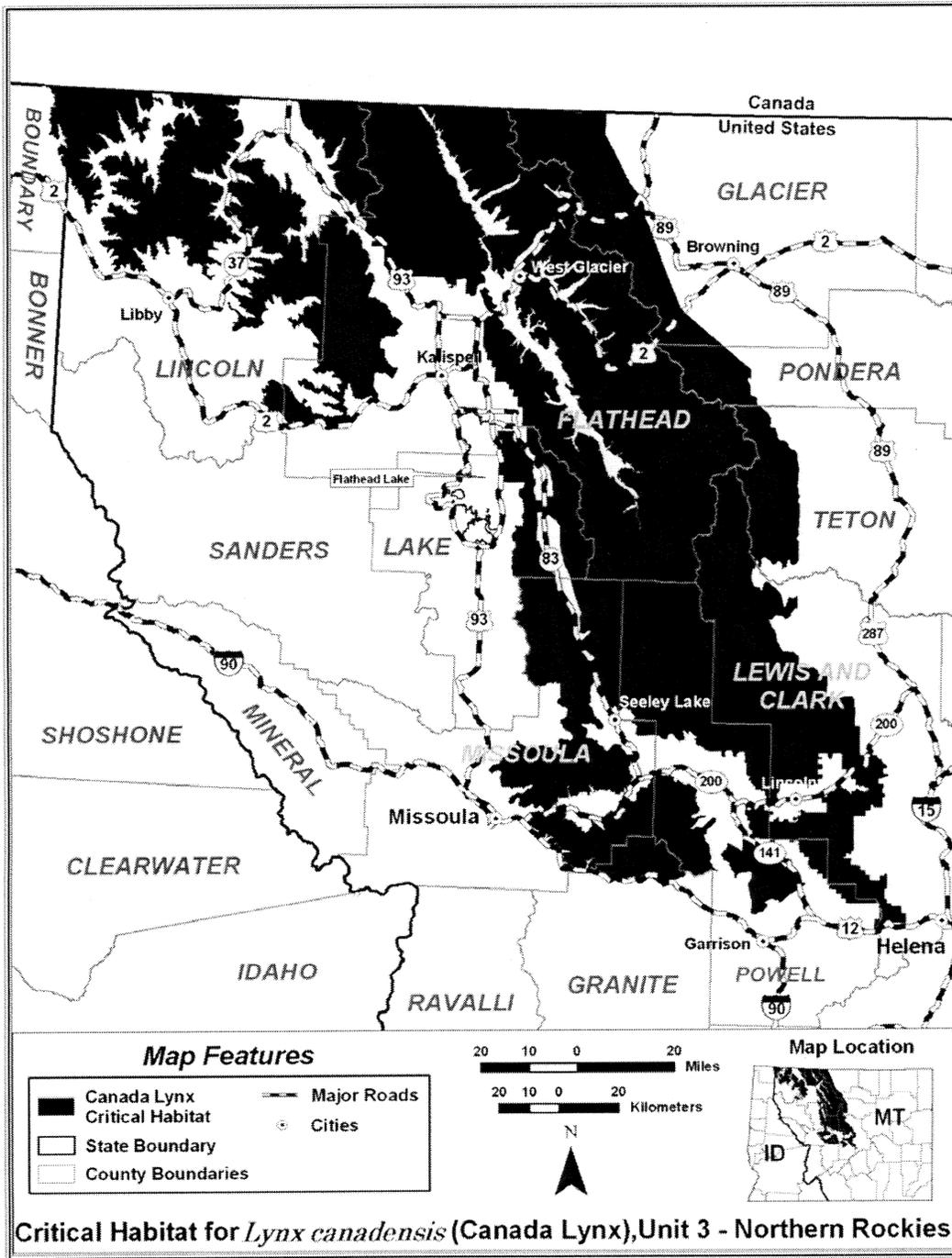
(ix) Polygon bounded by the following  
coordinates: (357993, 5186542) (358588,  
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5185555) (360879, 5185024) (361640,  
5184800) (362405, 5184016) (363210,  
5183674) (363621, 5183121) (364250,  
5182825) (365117, 5181822) (366636,  
5181373) (367466, 5179604) (367825,  
5179177) (368586, 5178758) (369478,  
5178811) (370031, 5178210) (371351,  
5178001) (372069, 5177310) (372578,  
5176486) (372957, 5176340) (373247,

5175934) (373328, 5174761) (373791,  
5174547) (373779, 5173325) (374004,  
5173224) (375044, 5173561) (375291,  
5172786) (371111, 5170010) (370266,  
5169667) (369025, 5168425) (368398,  
5168168) (366531, 5166825) (366401,  
5166867) (366143, 5167665) (365454,  
5167556) (365199, 5167370) (364949,  
5167797) (364426, 5168020) (363899,  
5168036) (362118, 5167250) (361594,  
5166882) (362607, 5166108) (362429,  
5165422) (361785, 5164897) (361029,  
5163916) (359727, 5163547) (358418,  
5162900) (357403, 5163114) (356835,  
5163523) (357138, 5164361) (357289,  
5167116) (356686, 5168938) (356102,  
5172573) (356206, 5173440) (357265,

5175133) (357357, 5176012) (357142,  
5176794) (356741, 5177146) (355315,  
5176927) (354095, 5176935) (353213,  
5176580) (352149, 5175335) (351829,  
5175187) (351668, 5175470) (351597,  
5176455) (349894, 5179318) (349596,  
5180421) (347834, 5181333) (347090,  
5182790) (347205, 5183258) (347813,  
5184035) (348549, 5184582) (349154,  
5185854) (349356, 5186755) (352291,  
5185545) (353879, 5184126) (354386,  
5186198) (354377, 5187871) (355288,  
5188953) (355398, 5188632) (356922,  
5187832) (357993, 5186542).

(x) Map of Unit 3, Northern Rocky  
Mountains, follows:

**BILLING CODE 4310-55-P**



(8) Unit 4: North Cascades; Chelan and Okanogan Counties, Washington.

(i) Coordinate Projection: UTM, NAD83, Zone 11, Meters. Coordinate Definition: (easting, northing).

(ii) Polygon bounded by the following coordinates: (239064, 5432329) (238496,

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(iii) Polygon bounded by the following coordinates: (298693, 5429619) (298783, 5429239) (299366, 5429079) (299127, 5428455) (298722, 5427998) (298993, 5426901) (298951, 5426659) (298631, 5426408) (298627, 5425843) (299386, 5425828) (299579, 5425569) (299627, 5424953) (299821, 5424801) (300581, 5424737) (300552, 5424337) (300905, 5424324) (301239, 5423934) (301352, 5421464) (300889, 5421487) (300912, 5422300) (300076, 5422341) (300071, 5421934) (299672, 5421955) (299665, 5421552) (299247, 5421569) (299259, 5421966) (298846, 5421968) (298854, 5422367) (299679, 5422356) (299787, 5424749) (298256, 5424783) (298452, 5431123) (298809, 5431111) (299124, 5430554) (298591, 5429919) (298693, 5429619).

(iv) Polygon bounded by the following coordinates: (294912, 5414454) (294614,

5414228) (294066, 5414639) (294105, 5414925) (294503, 5414901) (294912, 5414454).

(v) Polygon bounded by the following coordinates: (300905, 5410752) (300704, 5410477) (301063, 5410205) (301253, 5410196) (301422, 5410412) (301704, 5410304) (301936, 5410506) (301998, 5410266) (301599, 5410280) (301589, 5409883) (300793, 5409915) (300782, 5409507) (299160, 5409581) (299184, 5410362) (299588, 5410346) (299597, 5410764) (300006, 5410751) (300017, 5411298) (300695, 5411358) (300905, 5410752).

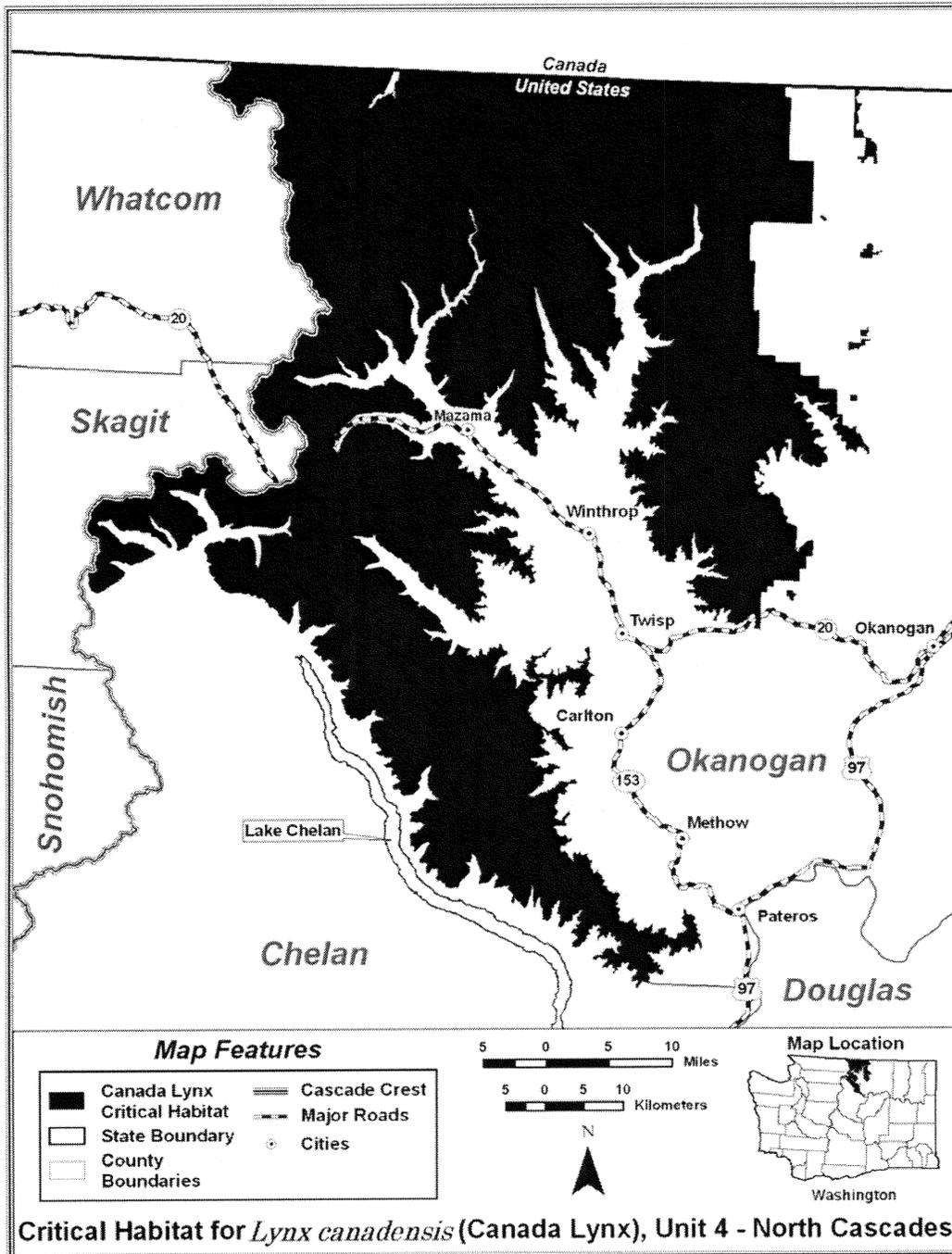
(vi) Polygon bounded by the following coordinates: (300219, 5400249) (300262, 5400081) (299974, 5399808) (300209, 5399451) (299250, 5399479) (299206, 5400251) (300075, 5400248) (300068, 5400640) (300462, 5400643) (300176, 5400403) (300219, 5400249).

(vii) Polygon bounded by the following coordinates: (300474, 5399028) (300384, 5398810) (299815, 5398831) (299892, 5398239) (299453, 5398251) (299447, 5398125) (299217, 5398224) (298927, 5397671) (298836, 5397890) (298445, 5397902) (298435, 5397644) (298204, 5397774) (297744, 5397618) (297668, 5398704) (299256, 5398659) (299267, 5399077) (300474, 5399028).

(viii) Polygon bounded by the following coordinates: (298728, 5391979) (298693, 5391159) (297893, 5391191) (297938, 5392018) (298728, 5391979) (290917, 5366509) (290903, 5366121) (290646, 5366286) (290715, 5365684) (290529, 5365525) (290092, 5365787) (290099, 5366123) (289706, 5366139) (289733, 5366950) (290530, 5366926) (290516, 5366521) (290917, 5366509).

(ix) Map of Unit 4, North Cascades, follows:

**BILLING CODE 4310-55-P**



(9) *Unit 5: Greater Yellowstone Area; Gallatin, Park, Sweetgrass, Stillwater, and Carbon Counties in Montana; Park, Teton, Fremont, Sublette, and Lincoln Counties, Wyoming.*

(i) Coordinate Projection: UTM, NAD83, Zone 12, Meters; Coordinate Definition: (easting, northing).

(ii) Polygon bounded by the following coordinates: (595623, 4836739) (595482, 4836735) (595623, 4836739) (595623, 4836739) (597176, 4842498) (595646, 4842468) (597176, 4842499) (597176, 4842498) (583329, 5057658) (583373, 5054409) (587627, 5054464) (587632, 5054204) (587885, 5054060) (587993, 5053401) (587826, 5052890) (587374, 5052447) (586926, 5052346) (586782, 5052069) (587378, 5051132) (587135, 5050819) (587508, 5049923) (587422, 5049625) (587582, 5049307) (587373, 5048884) (587413, 5047799) (586922, 5047377) (587042, 5047203) (586806, 5046744) (586885, 5046449) (586570, 5046127) (586287, 5045465) (585919, 5044467) (585979, 5044255) (587400, 5044468) (587686, 5045021) (588022, 5045044) (589008, 5045679) (589054, 5045989) (589262, 5046117) (589583, 5045981) (590048, 5046310) (590883, 5045676) (591872, 5045844) (592189, 5046408) (592891, 5046612) (593065, 5035475) (586635, 5035373) (586569, 5038605) (584962, 5038577) (585021, 5035364) (583422, 5035362) (583481, 5030527) (588290, 5030569) (588308, 5028959) (599577, 5029108) (599600, 5027498) (601216, 5027537) (601244, 5025910) (602859, 5025934) (602913, 5022698) (604471, 5022728) (604478, 5022301) (604883, 5022312) (604887, 5021912) (604484, 5021907) (604499, 5021101) (604119, 5021091) (604147, 5019885) (605742, 5019917) (605800, 5017917) (606588, 5017930) (606606, 5016313) (612249, 5016408) (612277, 5014799) (612634, 5014806) (612646, 5013576) (612300, 5013570) (612316, 5012351) (621949, 5012575) (622079, 5009427) (628461, 5009570) (628540, 5007933) (630160, 5007951) (630187, 5007140) (630592, 5007148) (630606, 5006742) (632994, 5006792) (633008, 5006385) (633398, 5006401) (633445, 5003111) (633825, 4997494) (638679, 4997525) (639089, 4985303) (614021, 4984515) (614829, 4984027) (615139, 4983462) (617102, 4982466) (618016, 4981119) (618618, 4981492) (618389, 4981204) (618504, 4980897) (618408, 4980206) (618220, 4979681) (617711, 4979026) (617770, 4978623) (617192, 4977715) (617199, 4977153) (616439, 4977220) (616029, 4977423) (615269, 4976300) (614061, 4976047) (613265, 4975194) (612776, 4975204) (612345, 4974596) (611855, 4974636) (610854, 4973696) (610832, 4973075) (611040, 4972888) (611286, 4972088) (611062, 4971673) (611052, 4970293) (610471,

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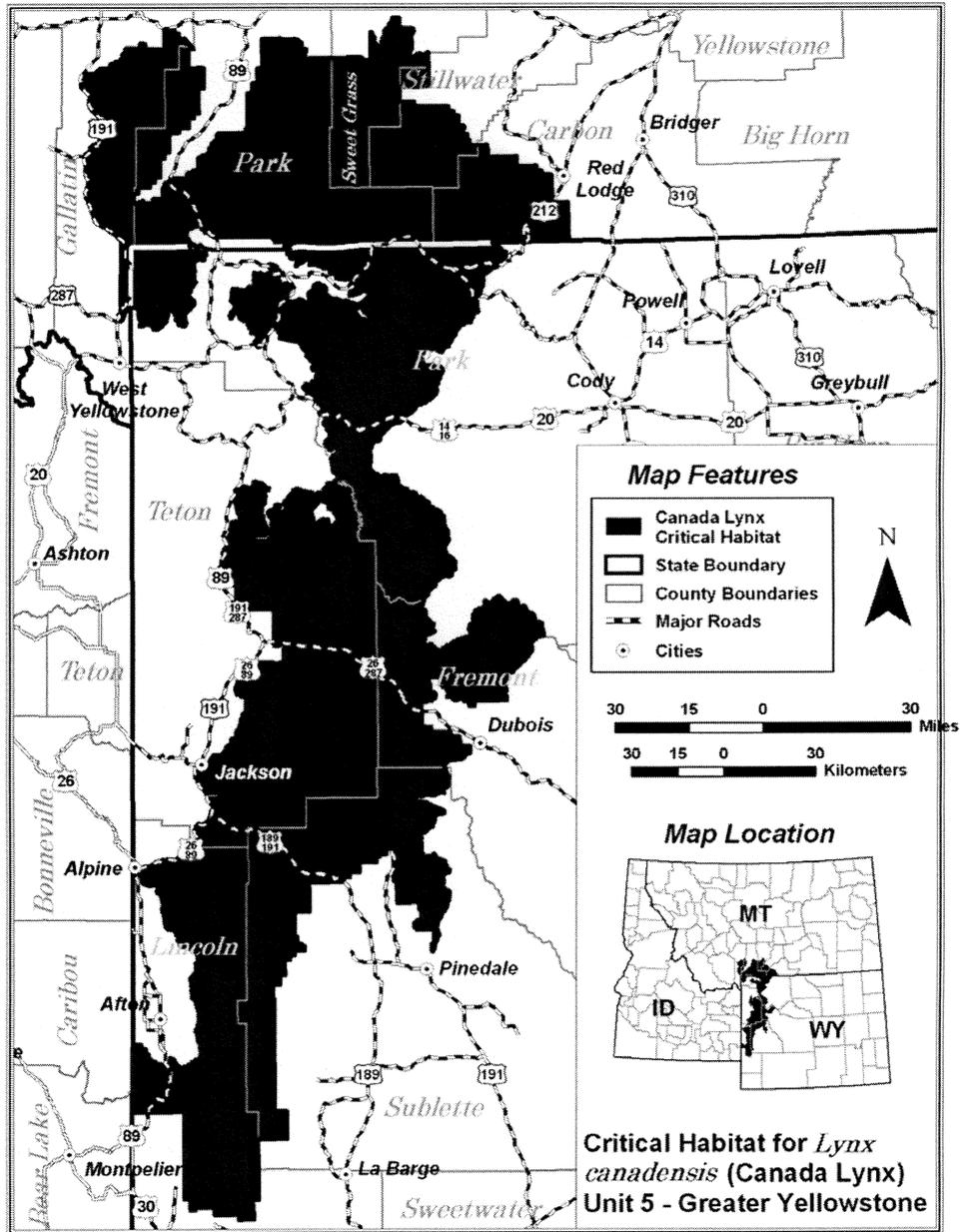
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5046830) (577536, 5047241) (577761,  
5047783) (577572, 5049101) (577708,  
5049316) (577426, 5049936) (577459,  
5050304) (577678, 5050493) (577705,  
5051142) (578545, 5051890) (578330,  
5052550) (578358, 5053440) (578953,  
5054377) (579362, 5054567) (579839,  
5054454) (579823, 5055204) (580304,  
5056095) (580862, 5056730) (580928,  
5057592) (583329, 5057658).

(iii) Map of Unit 5, Greater  
Yellowstone Area, follows:

BILLING CODE 4310-55-P



Dated: February 12, 2009.

**Jane Lyder,**  
 Assistant Deputy Secretary, Department of  
 the Interior.

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