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50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Contiguous United States Distinct Population Segment of the Canada Lynx and Revised Distinct Population Segment Boundary; Final Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R6–ES–2013–0101; 4500030114]

RIN 1018–AZ77

Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Contiguous United States Distinct Population Segment of the Canada Lynx and Revised Distinct Population Segment Boundary

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service, are finalizing two actions with this rule: We are designating revised critical habitat for the contiguous United States distinct population segment of the Canada lynx (*Lynx canadensis*) under the Endangered Species Act of 1973, as amended, and we are revising the boundary of the Canada lynx distinct population segment. These revisions fulfill our obligations under two settlement agreements and address issues raised by two courts regarding our previous critical habitat designation. This rule revises critical habitat for the lynx and extends the Endangered Species Act's protections to the species wherever it occurs in the contiguous United States, including New Mexico. The effect of this regulation is to conserve the Canada lynx and its habitats in the contiguous United States under the Endangered Species Act.

DATES: This rule becomes effective on October 14, 2014.

ADDRESSES: This final rule is available on the internet at *http://www.regulations.gov* and *http://www.fws.gov/mountain-prairie/species/mammals/lynx/index.htm.* Comments and materials we received, as well as some supporting documentation we used in preparing this final rule, are available for public inspection at *http://www.regulations.gov.* All of the comments, materials, and documentation that we considered in this rulemaking are available by appointment, during normal business hours at: U.S. Fish and Wildlife Service, Montana Ecological Services Field Office, 585 Shepard Way, Suite 1, Helena, MT 59601; telephone 406–449–5225.

The coordinates or plot points or both from which the maps are generated are included in the administrative record for this critical habitat designation and are available at *http://www.regulations.gov* at Docket No. FWS–R6–ES–2013–0101, and at the Montana Ecological Services Field Office (*http://www.fws.gov/montanafieldoffice/* (see **FOR FURTHER INFORMATION CONTACT**). Any additional tools or supporting information that we developed for this critical habitat designation will also be available at the Fish and Wildlife Service Web site and Field Office set out above, and may also be included in the preamble and at *http://www.regulations.gov.*

FOR FURTHER INFORMATION CONTACT: Jodi Bush, Field Supervisor, U.S. Fish and Wildlife Service, Montana Ecological Services Field Office, 585 Shepard Way, Suite 1, Helena, MT 59601; telephone 406–449–5225. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. This is a final rule to revise the designation of critical habitat for the contiguous United States distinct population segment (DPS) of the Canada lynx (*Lynx canadensis*). Under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (ESA or Act), any species that is determined to be an endangered or threatened species requires critical habitat to be designated, to the maximum extent prudent and determinable. Designations and revisions of critical habitat can only be completed by issuing a rule. This rule also rescinds the existing State-boundary-based definition of the lynx DPS and replaces it with a definition that extends the Act's protections to lynx ''where found'' in the contiguous United States. This change ensures that lynx, which are known for their long-distance dispersal capability and tendency to occur in places well outside of typical habitats, receive the Act's protections wherever they occur in the contiguous United States, including (but not limited to) New Mexico.

On March 24, 2000, we, the U.S. Fish and Wildlife Service (Service), listed the contiguous United States DPS of the Canada lynx as threatened in 14 States (65 FR 16052). On September 26, 2013, we published in the **Federal Register** a proposed rule to rescind the State-boundary-based definition of the lynx DPS and to revise the critical habitat designation for the lynx DPS (78 FR 59430). Section 4(b)(2) of the Act states that the Secretary shall designate 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 critical habitat areas we are designating in this rule constitute our current best assessment of the areas that meet the definition of critical habitat for lynx in the contiguous United States. Here we are designating approximately 38,954 square miles (mi^2) (100,891 square kilometers (km^2)) of critical habitat in five units in the States of Idaho, Maine, Minnesota, Montana, Washington, and Wyoming.

This rule consists of: (1) Replacement of the existing State-boundary-based definition of the range of the lynx DPS with a definition that extends the Act's protections to lynx ''where found'' in the contiguous United States, and (2) a final designation of revised critical habitat for the contiguous United States DPS of the Canada lynx.

We have prepared an economic analysis of the designation of critical habitat. To consider economic impacts, we have prepared an analysis of the economic impacts of the critical habitat designations and related factors. We announced the availability of the draft economic analysis (DEA) in the **Federal Register** on June 20, 2014 (79 FR 35303), allowing the public to provide comments on our analysis. In this rule, we have responded to comments we received on the economic analysis (see Summary of Comments and Recommendations section, below).

We have prepared a National Environmental Policy Act analysis. Because this rule designates critical habitat in States within the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we prepared an analysis in accordance with the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*). We announced the availability of the draft environmental assessment in the **Federal Register** on June 20, 2014 (79 FR 35303), allowing the public to provide comments on our assessment. We have incorporated the comments and have completed the final environmental assessment and finding of no significant impact (FONSI) concurrently with this final determination.

Peer review and public comment. We sought comments from appropriate and independent specialists to ensure that our designation is based on scientifically sound data and analyses. We obtained opinions from four knowledgeable individuals with scientific expertise to review our technical assumptions, analysis, and

whether or not we had used the best available information. These peer reviewers generally concurred with our methods and conclusions and provided additional information, clarifications, and suggestions to improve this final rule. Information we received from peer review is incorporated in this final revised designation. We also considered all comments and information received from States, Tribes, Federal agencies, and the public during the comment periods.

Previous Federal Actions

For more information on previous Federal actions concerning the lynx DPS, 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 *Recovery Outline for the Contiguous United States DPS of Canada Lynx* (recovery outline; U.S. Fish and Wildlife Service 2005, entire), the final rule designating critical habitat for lynx published in the **Federal Register** on November 9, 2006 (71 FR 66008), the final rule designating revised critical habitat published in the **Federal Register** on February 25, 2009 (74 FR 8616), the 12-month finding on a petition to change the final listing of the DPS of the Canada lynx to include New Mexico published in the **Federal Register** on December 17, 2009 (74 FR 66937), and the proposed rule to revise the designation of critical habitat and the boundary for the lynx DPS published in the **Federal Register** on September 26, 2013 (78 FR 59430). These documents and others addressing the status and conservation of lynx in the contiguous United States may be viewed and downloaded from the Service's Web site: *http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A073.*

Summary of Comments and Recommendations

We requested written comments from the public on the proposed designation of critical habitat for the lynx DPS during two comment periods. The first (90-day) comment period associated with the publication of the proposed rule (78 FR 59430) opened on September 26, 2013, and closed on December 26, 2013. We also requested comments on the proposed critical habitat designation and associated draft economic analysis and draft environmental assessment during a 30-day comment period that opened June 20, 2014, and closed on July 21, 2014 (79 FR 35303). We held a public hearing in Helena, Montana, on November 25, 2013. We also contacted appropriate Federal, State, Tribal, and local agencies; scientific organizations; and other interested parties and invited them to comment on the proposed rule, the economic analysis, and the draft environmental assessment during these comment periods.

During the first comment period, we received 169 comment letters directly addressing the proposed critical habitat designation (one of which also included approximately 600 identical or nearly identical one-page form letters). During the second comment period, we received 15 comment letters (one of which transmitted 1,999 identical or nearly-identical one-page form letters) addressing the proposed critical habitat designation, the draft economic analysis, and/or the draft environmental assessment. During the November 25, 2013, public hearing, two individuals or organizations made comments on the proposed designation of critical habitat for the lynx DPS. All substantive information provided during comment periods has either been incorporated directly into this final determination or addressed below. Comments received were grouped into 49 general issues specifically relating to the proposed critical habitat designation for the lynx DPS, and are addressed in the following summary and incorporated into the final rule as appropriate.

Peer Review

In accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited expert opinions from five appropriate and independent specialists with scientific expertise that included familiarity with the species, the geographic regions in which the species occurs, and conservation biology principles. We received responses from four peer reviewers.

We reviewed all comments received from the peer reviewers for substantive issues and new information regarding critical habitat for the lynx DPS. The peer reviewers generally concurred with our methods, use of available scientific information, application of biological and ecological principles, and conclusions and provided additional information, clarifications, and suggestions to improve the final critical habitat rule. Several peer reviewers noted the challenges, given information gaps and the natural vagaries of lynx and snowshoe hare (*Lepus americanus*) population dynamics and habitats, in developing criteria to delineate critical habitat. Several also suggested that other areas should be considered or included in the designation. Peer reviewer comments are addressed in the following summary and incorporated into the final rule as appropriate.

Peer Reviewer Comments

(1) *Comment:* One peer reviewer suggested that the Primary Constituent Element (PCE) for lynx critical habitat should include a landscape- or home range-scale snowshoe hare density threshold rather than the ''presence of snowshoe hares and their preferred habitat conditions'' as defined in the proposed rule. The reviewer felt that the proposed rule lacked clarity regarding what constitutes ''low'' (or ''high'') hare densities and suggested that the Service develop working definitions of those terms to be applied at the scale of the landscape or home range.

Our Response: We appreciate the potential advantages of using landscape-scale hare density as a component of the PCE. However, the available literature does not allow us to determine minimum snowshoe hare densities necessary to maintain lynx populations across the range of the DPS. Additionally, thresholds of hare density needed to support lynx populations likely differ between the western, Great Lakes, and northeastern parts of the DPS range, and the core range of Canada and Alaska, because of significant differences in habitat quality, quantity, and spatial arrangement; climate; magnitude and periodicity of hare cycles; presence, diversity, and density of competing hare predators; and relative connectivity of DPS populations with the core population in Canada. In the proposed rule (78 FR 59440) and in this final rule (Critical Habitat section, below), we present information, where available (Maine and Minnesota), regarding the differences in hare densities between areas that support lynx populations and areas that do not. However, we do not believe it would be appropriate to apply these densities as thresholds elsewhere within the range of the DPS, especially because it appears that lynx populations in some areas (e.g., the Greater Yellowstone Area and the Northern Cascades) persist despite relatively lower hare densities while other areas with higher densities of hares, at least in some places in some years, do not support lynx populations (e.g., the Kettle/Wedge area of northeastern Washington). Therefore, at this time, we do not believe that a scientifically defensible definition of a minimum hare density exists at any scale or that one should be applied as a component of the PCE for lynx critical habitat across the range of the DPS.

(2) *Comment:* Two peer reviewers felt that our analysis of the potential effects of climate change on lynx emphasized

reductions in snowfall but said little about other potential effects. One reviewer suggested that we include more discussion of the potential effects of climate change on spruce-fir forest distribution and provided citations that suggest these forests, particularly in the Northeast, may be susceptible to climate change, and that spruce-fir forests could disappear from New England and much of the upper Great Lakes region due to drought, thermal stress, increased competition from other tree species, decreased regeneration success, and increased susceptibility to pathogens and other forest insects. Given the importance of regenerating spruce-fir forests to snowshoe hares and lynx, this reviewer believed that the climate-induced northward contraction of the range of spruce-fir forests is a threat to the conservation of the lynx DPS. The other peer reviewer felt the climate effects section was too narrow in scope because it did not address the effects of climate change on alternate prey and the behavioral flexibility of lynx to use alternate prey as climate change progresses.

Our Response: We agree that climate change is projected to cause a northward contraction of spruce-fir forests within the range of the DPS with potential negative consequences for both lynx and snowshoe hares. We have evaluated the sources provided by the reviewer and added a discussion of potential impacts of climate change on spruce-fir forests to our *Climate Change* section, below (also see our response to comment (18), below). We also agree that climate change could exert pressure on lynx to rely to a greater extent on alternate prey if it reduces future landscape-scale snowshoe hare densities. However, although alternate prey may be relatively more or less important to lynx seasonally and geographically (Aubry *et al.* 2000, p. 373), we are aware of no lynx populations that persist in areas where prey other than snowshoe hares contribute a majority of the biomass of the lynx diet. If climate change results in landscape-scale reductions in hare densities, some areas that currently support lynx populations may become less capable of doing so, and lynx could decline or disappear from these areas regardless of the diversity or abundance of alternate prey species. Such climate-induced impacts to hare habitats and populations could be accompanied by projected reductions in snow quantity, quality, and duration, thereby reducing the competitive advantage lynx have over other hare predators in the areas that currently support lynx populations. This would further diminish the likelihood that lynx could persist in areas of reduced hare density by switching to alternate prey, and lynx populations are unlikely to persist in areas where such a switch would be necessary over the long term.

(3) *Comment:* One peer reviewer supported our proposed additions of the Van Buren and Herseytown-Staceyville areas to lynx critical habitat in Maine but disagreed with our determination that western Maine (south of the area designated in this final rule) does not contain the physical and biological features necessary to sustain lynx over time and is, therefore, not essential to lynx conservation. This reviewer (a) questioned our general characterization that spruce-fir forest is a lower percentage of the landscape in western than in northern Maine and noted that balsam fir (*Abies balsamea*) volumes are estimated to be higher in some parts of western Maine than in northern Maine areas designated as critical habitat; (b) contends that, although there currently is less high-quality hare habitat in western than in northern Maine, such habitats (and, therefore, hare densities) are expected to increase in western Maine over the next 25 years while concurrently decreasing in northern Maine; (c) believes that western Maine meets many if not all of the same criteria we used in determining that the Van Buren and Herseytown-Staceyville areas warrant designation as critical habitat; and (d) hypothesizes that western Maine may increase in importance to lynx conservation given the potential for higher elevations to moderate climate change effects on snow accumulation in the Northeast.

Our Response: The latest modeling from University of Maine School of Forestry Resources indicates that the composition of Maine's northern forest will be influenced by complicated interactions between spruce budworm outbreaks and their severity, salvage forestry related to budworm outbreaks, other trends in forest management and land ownership, and climate change (Legaard *et al.* 2013 *Unpublished Report,* entire). Some projections predict a transition to a forest of more mixed composition, and especially the expansion of balsam fir (a significant component of hare/lynx habitat) on about 18 percent of the northern Maine forest (Simons-Legaard *et al.* 2013a, p. 12). This prediction is in contrast to broad predictions that spruce and fir will decline because of climate change (Iverson *et al.* 2008, pp. 400, 404). Although a trend toward expanding balsam fir (in area and timber volume) is evident in northern Maine, the modeling in the papers cited by the peer reviewer does not include western Maine. The same trends may occur there; however, this cannot be inferred from the cited studies.

Although spruce and balsam fir occur in western Maine, the quality of habitat they provide for hare and lynx depends on the size and distribution of the patches and the age of the stands. The information the reviewer cites from McCaskill *et al.* (2011, p. 25) indicates that the average balsam fir volume/acre is greatest in Franklin County (a western Maine county), but much lower in Oxford County next to New Hampshire. However, McCaskill *et al.* (2011) provide information on only the volume/acre and not the age, patchiness, and aerial extent of spruce-fir-dominated stands. An alternative explanation for high fir volume in Franklin County is that forests are more mature in western Maine where forest management may be less intense than in northern Maine and a higher proportion of the land is in small woodlot ownership.

Maps of the balsam fir volume in McCaskill *et al.* (2011, p. 25) show a particularly high volume in the Rangeley and Flagstaff Lakes region, where stands may be more mature because land parcels in these areas are typically small and privately owned, or because large areas are in State conservation ownership. Further north, especially along the Maine-Quebec border, stands may be more mature and have higher volume because of forest management practices of Maine Tribes. Balsam fir volume/acre for Somerset and Piscataquis Counties (about 40 percent of the area designated as critical habitat) are third and fourth highest in the State, respectively. However, the only area of high balsam fir volume on the map for the core lynx critical habitat area is in Baxter State Park, where stands are mature due to protection.

Balsam fir volume/acre for Aroostook County (about 50 percent of the area designated as critical habitat) is the second highest in the State, yet no single area stands out on the map as having a particularly high volume, except a thin strip along the Route 11 corridor north of Ashland, where stands may be more mature because land parcels are small and privately owned. Thus, absent the context of areal extent, spatial arrangement, and stand age, and how they relate to hare and lynx habitat quality, we conclude balsam fir volume/acre alone may not be a good surrogate for lynx habitat and does not justify the inclusion of western Maine within this final critical habitat designation.

In the proposed rule and this final rule, we acknowledge the expected decline in hare habitat in northern Maine resulting from the shift in timber harvest practices from clearcutting to partial harvesting and the seral succession of regenerating clearcuts, which currently produce high hare densities, to more mature stands that will support fewer hares. We agree that hare densities may increase in parts of western Maine over the next several decades while they are likely to decrease in parts of northern Maine. However, we are not convinced this change will result in increases in landscape-scale hare densities in western Maine or that western Maine will become essential to the persistence and conservation of lynx populations in Maine. First, if rates of harvest were the same in western as they were in northern Maine in the 1990s and 2000s, the amount of young forest created would be expected to be similar. Second, no information is provided on the extent, size, and type of cuts in western Maine, which are important factors for predicting the quality of future habitat. Third, because partial harvesting was the predominant form of forestry in the 1990s and 2000s, the regenerating young forest would be expected to support lower landscape-scale hare densities in both regions relative to the high hare densities that resulted from the extensive clearcutting of the 1970s and 1980s. And fourth, because the conifer-dominated habitats in western Maine are believed to be patchier and less contiguous than in northern Maine, landscape-scale hare densities in western Maine would be expected to be lower and less able to support lynx populations over time.

Additionally, a study suggesting a possible southwesterly shift in lynx habitat (Simons 2009, pp. 153–163) was conducted in a 2,500-mi^2 (6,475-km^2) area that is in the southwest corner of the designated critical habitat and that extends only as far south as Moosehead Lake. The study did not include western Maine, and the analysis has not been extended to western Maine or to more northern portions of the critical habitat area. Consequently, the study does not address whether the habitat is more fragmented and patchy in western Maine. Simons (2009, pp. 162–163) acknowledges that, although snowshoe hare habitat may shift southward, the potential for lynx densities to increase in western Maine may be constrained by extrinsic factors including higher populations of bobcat (*Lynx rufus;* a competitor) and fisher (*Martes pennanti;* a competitor and predator), and less suitable snow conditions.

We agree that, as with western Maine, survey information is inadequate to confirm lynx reproduction in the Van Buren and Herseytown-Staceyville areas where we have designated critical habitat. Although we are not using reproduction as a proxy for presence of the PCE, we believe that our analysis in the proposed rule supporting lynx occurrence in the Van Buren and Herseytown-Staceyville areas (78 FR 59456) also supports the likelihood of lynx reproduction in these areas, which is indicative of the value of the area to the conservation of the species. We also acknowledge the low probabilities of lynx occurrence predicted for both the Van Buren unit (which we have designated) and western Maine (which we have not) by the Hoving *et al.* (2004) model, and the higher probabilities predicted for both areas by the Hoving *et al.* (2005) model. However, we do not find either of these models to be definitive in predicting lynx occurrence because they are derived from lynx survey and forest conditions from 1994–1999, and habitat conditions are constantly changing. Even the more sensitive model (Hoving *et al.* 2005) does not predict lynx occurrence in several areas currently known to support lynx. We also note that the Hoving *et al.* (2005) model predicts small, isolated pockets of fragmented, lower quality habitat in western Maine, unlike the more contiguous habitat in northwestern Maine, the Gaspe region of Quebec, and northern New Brunswick.

We agree with the reviewer that lynx occurred in western Maine historically and that lynx have found their way to areas of suitable landscape-scale hare density in western Maine (as well as New Hampshire and Vermont). However, while we recognize that lynx currently occur in western Maine, we believe this area supports lynx only in low numbers because of the patchy distribution of suitable habitat. Lynx occupancy there appears to be in small, isolated pockets of habitat, and lynx do not seem to be occupying the high-elevation spruce-fir stands in western Maine, (although these areas have been poorly surveyed). We question whether the ''habitat islands'' of conifer habitat at high elevations that may remain in the future will be large enough and close enough to each other to maintain lynx home ranges. Additionally, as snow quantity, quality, and duration will likely decrease due to climate change, bobcats will occur at lower elevations and could shift their home ranges to higher elevations in summer, further reducing the probability that a lynx population could persist in western Maine.

For the reasons above, we do not agree that western Maine has the physical and biological features essential to lynx in adequate quantity or spatial arrangement to support a lynx population over time or that western Maine is essential to the conservation of the DPS. Therefore, we have not designated critical habitat for lynx in western Maine.

(4) *Comment:* One peer reviewer felt the Service used reasonable methods in developing the proposed critical habitat designation and that our approach was consistent with conservation biology theory addressing the dynamics of small populations supported by patchy and temporal habitats. The reviewer felt that all the information necessary to understand how we used the available data to inform our designation were contained in the proposed rule, but that it remained difficult to understand how all the information fit together in a larger way to define the distribution of the PCE and derive the proposal for critical habitat. The reviewer suggested that a challenge remains to explain the process more clearly to the public.

Our Response: We agree that it is a challenge to clearly explain the unique and complex relationships between habitat characteristics and lynx and how they influence our efforts to designate critical habitat. Our goal is to distinguish between areas that contain the physical and biological features (PBFs) essential to the conservation of the DPS in adequate quantity and spatial arrangement from other areas that may appear to contain some or all of the PBFs and in which lynx may occur occasionally but which are incapable of supporting lynx populations over time. In this rule, we explain why evidence of a landscape's ability to provide for the conservation of lynx over time is a valid and necessary biological consideration (though not the only criterion we evaluate) and why we believe it is absolutely imperative to rely on verified data and not anecdotal information when assessing the historic record of lynx occurrence and distribution (also see our response to comment (23), below). We also try to explain the limitations in our ability to accurately map lynx and hare habitats across the range of the DPS and to establish range-wide criteria for minimum hare densities; snow depth, quality, and duration; and other habitat variables, and how these limitations prevent a reasonable and accurate range-wide mapping of the individual PBFs essential to conservation of the DPS. Finally, we try to better explain how

designating areas that appear to have some or all of the PBFs in some measure would likely result in the designation of large areas that have never supported lynx other than occasional transient/dispersing individuals and that are very unlikely to ever support lynx populations regardless of designation and management regime.

(5) *Comment:* One peer reviewer commented that, although our methods for determining lynx habitat requirements and the distribution of habitats containing the PCE were reasonably well explained, we did not provide sufficient detail regarding how we used available and limited information including geographical information system (GIS) coverages of forest and habitat types, snow depth, and topographic information. Other commenters also requested clarification regarding how we used snowfall and topographic considerations when delineating proposed critical habitat.

Our Response: To a great extent, the Service relied on lynx habitat data and information compiled by our partner Federal and State agencies, most of which mapped lynx habitats on their management units in accordance with information developed by the Interagency Lynx Biology Team and articulated in the Lynx Conservation Assessment and Strategy (LCAS; Ruediger *et al.* 2000, entire). This information generally consisted of maps depicting cool, moist boreal or subalpine forests that support snowshoe hares and receive deep, powdery and persistent snow across landscapes large enough to support multiple lynx home ranges. We overlaid these areas with the geographic area occupied by lynx populations at the time of listing based on verified occurrence data. Although snow depth is thought to influence lynx distribution, other factors including snow consistency and persistence are also likely important, and we do not have enough information to support using thresholds for annual snowfall to delineate lynx critical habitat. Therefore, although snow conditions were a consideration, we did not establish or alter critical habitat boundaries based on specific thresholds for average annual snowfall, duration, or consistency. In critical habitat units 3 (Northern Rockies) and 4 (North Cascades), the majority of lynx records and the boreal forest types containing the features essential to lynx generally are found above 4,000 feet (1,219 meters). Therefore we limited critical habitat in these units to areas above this elevation, except in unit 3: (a) East of the Continental Divide, where that elevation encompasses substantial areas of grasslands that do not contain the PBFs essential to lynx, and (b) in areas where site-specific information indicated that the PBFs occurred and other criteria were met at lower elevations.

(6) *Comment:* One peer reviewer requested that the Service better articulate why denning and matrix habitats, which are not considered limiting for lynx within the DPS at large spatial scales, are considered essential and, therefore, defined as components of the PCE.

Our Response: We agree that denning and matrix habitats are not limiting to lynx within the DPS; however, a feature or habitat variable need not be limiting to be considered an essential component of a species' habitat. Both denning and matrix habitats are essential components of landscapes capable of supporting lynx populations in the DPS because without them lynx could not persist in those landscapes. Both habitats fulfill essential lynx natural-history requirements by providing ''space for individual and population growth and for normal behavior; sites for breeding, reproduction, and rearing (or development) of offspring; and habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distribution . . .'' of lynx in the contiguous United States.

(7) *Comment:* One peer reviewer felt the Service should better clarify the use of jurisdictional (e.g., National Forest) boundaries and highways to delineate critical habitat given that such anthropogenic features seldom fall along natural vegetation (habitat) boundaries.

Our Response: As described in our response to comment (6) above, we relied on habitat mapping and information from our partner agencies within the range of the DPS. In some cases, administrative boundaries were used because they encompassed habitats of similar type and extent within an area found to meet the criteria we developed for critical habitat. Roads and other human-made structures were used as boundaries for critical habitat where they clearly delineated areas with confirmed records of lynx and the presence of the PBFs essential to lynx.

After the lynx DPS was listed as threatened under the Act in 2000, Federal land managers mapped potential lynx habitats on their units based on criteria and recommendations developed by the Interagency Lynx Biology Team and articulated in the LCAS (Ruediger *et al.* 2000, entire). As vegetation mapping and habitat modeling have improved, some managers have initiated re-mapping of lynx habitat to better reflect actual on-the-ground habitat conditions.

In this rule, we have used the information from these habitat mapping refinements/improvements to adjust critical habitat boundaries to better reflect actual habitat conditions. This change has resulted in reduced reliance on administrative or other anthropogenic boundaries where better methods are available (revised mapping has not occurred on all land units within the range of the DPS). In particular, we used improved lynx habitat mapping to adjust critical habitat boundaries in the Idaho Panhandle National Forest and the Flathead National Forest in Unit 3 (U.S. Forest Service 2008a, entire; 2013a, entire); and in the Custer and Gallatin National Forests, Grand Teton National Park, and Bureau of Land Management (BLM) lands in the Pinedale and Kemmerer districts in Unit 5 (U.S. Fish and Wildlife Service 2013a, entire; 2013b, entire; U.S. Forest Service 2013b, entire). In both these units, some areas previously designated or proposed for designation as critical habitat were removed and other areas not previously designated or proposed were added to lynx critical habitat. The adjusted critical habitat boundaries now follow habitat features and not administrative or other anthropogenic features in all places where we had data that allowed such refinements.

(8) *Comment:* One peer reviewer felt that the benefits of critical habitat were presented generally for listed species but not specifically stated for lynx. The reviewer requested clarity regarding (a) the benefit of critical habitat to lynx, especially in the context of consultations under section 7 of the Act; (b) the difference between designated critical habitat and lynx habitat mapped in accordance with guidance in the LCAS, and whether (and if so, why) both are needed to recover lynx in the DPS; and (c) why critical habitat and ''mapped'' lynx habitat commonly depict different distributions of lynx habitat.

Our Response: Compliance with section 4(a)(3) of the Act requires that critical habitat be designated for listed species, if prudent and determinable. Although listed species and the habitats upon which they depend are protected under provisions of the Act whether critical habitat is designated or not, 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. The identification of these essential areas is important to

guide management and provide for the recovery of the species. The general benefits of critical habitat for listed species also apply to lynx. In the Consideration of Impacts under Section 4(b)(2) of the Act section below we define these benefits for lynx.

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 such actions on critical habitat. The analysis of the effects on 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. In terms of section 7 consultation, for activities with a Federal nexus in areas where lynx ''may occur,'' but which are not designated as critical habitat, the Service's evaluation focuses on the jeopardy standard—i.e., whether a project is likely to jeopardize the continued existence of the DPS. In designated areas, we must additionally evaluate whether a project is likely to result in destruction or adverse modification of critical habitat.

The difference between critical habitat and ''mapped'' lynx habitat is that critical habitat has been found to contain the physical and biological features essential to lynx in adequate quantity and spatial arrangement on the landscape to support a lynx population or subpopulation over time and, therefore, is essential to the conservation and recovery of the DPS. ''Mapped'' (or potential) lynx habitat is a tool for determining habitats in which lynx ''may be present'' (and therefore which may require consultation under section 7), regardless of whether the area is occupied by lynx or has the physical and biological features essential to its conservation. The ''may be present'' standard for consultation under section 7 is a lower bar than that for critical habitat designation, but it is required to address the possibility of adverse effects or take of lynx in areas not occupied by lynx populations but in which individual lynx may occasionally or intermittently occur as transients or dispersers.

Many areas of ''mapped'' or potential lynx habitat have no verified records of lynx occurrence, no evidence that they ever supported lynx over time, and are not essential to lynx conservation and recovery. The Service consults on Federal projects in these areas out of recognition that lynx are capable of dispersing long distances from areas that support populations and during such movements have historically occurred intermittently and temporarily in suboptimal, marginal, and unsuitable habitats that do not contain the physical and biological features essential to lynx and cannot, therefore, support lynx over time. Critical habitat is a subset of ''mapped'' habitat that we have determined is essential to conservation and recovery of the DPS. The remainder of mapped habitat may have some or all of the features lynx need, but not in adequate quantity and/or spatial arrangement to support lynx over time—therefore such areas are not essential to conservation and recovery of the lynx DPS.

(9) *Comment:* One peer reviewer found the structure of the proposed rule confusing because it proposed accomplishing two unrelated objectives: (a) Establishing that lynx will be protected where they occur and not based on State boundaries, and (b) revising the critical habitat designation for lynx in the contiguous United States.

Our Response: We have provided clarifying language in the **SUMMARY** and Executive Summary sections above.

(10) *Comment:* One peer reviewer noted that the term ''persistent population'' is difficult to define in the context of critical habitat and questioned whether the lynx population in Minnesota can be considered truly persistent given that lynx appeared to be absent from the State from about 1973 to 2003. The reviewer noted that the lynx population introduced to Colorado from 1999 through 2006 has persisted until the present, though its long-term persistence remains truly unknown. The reviewer suggested that the long-term persistence of lynx in Minnesota is similarly unknown, and that ''. . .the distinction of population persistence between Minnesota and Colorado as articulated in the proposed rule seems arbitrary, especially since there are probably many more lynx in Colorado than Minnesota.''

Our Response: We agree that defining ''persistent'' lynx populations in the contiguous United States is a challenge due to the imperfect historical record of lynx occurrence and the absence of reliable long-term monitoring data for most places. Another contributing factor is that most lynx habitat in the range of the DPS is suboptimal, patchy, and supports lower hare densities compared to the core of the lynx range in Canada and Alaska, thus creating the likelihood that there may be times, likely related to inadequate densities of snowshoe hares, when lynx may be absent or at very low numbers even in the best lynx habitat within the range of the DPS with the most compelling evidence of persistent lynx populations.

When we listed the lynx DPS as threatened in 2000, we noted that there were 76 verified records of lynx in Minnesota and 17 in Colorado as of 1999 (McKelvey *et al.* 1999a; 65 FR 16056, 16059). We noted at that time that (a) reproduction and home range maintenance documented in Minnesota in 1972 (Mech 1973, p. 152; 1980, p. 261), (b) consistent trapping records over 40 years (including during cyclic lows in lynx populations) in Minnesota and immediately adjacent habitat in Ontario that was similar and contiguous across the United States-Canada border, and (c) three verified lynx records in Minnesota in 1992–93, all provided some evidence of the existence of a resident population in Minnesota. However, we determined that the available data were insufficient to verify whether a resident lynx population existed in Minnesota historically or at the time of listing (65 FR 16056). In that rule, we also noted that ''The montane and subalpine forest ecosystems in Colorado are naturally highly fragmented (Thompson 1994), which we believe limits the size of lynx populations,'' and that the last verified lynx record was from 1974 (no verified records from 1975 to 1999) despite large-scale snow-tracking efforts (Carney 1993, *unpublished data,* as cited by McKelvey *et al.* 2000a, p. 231). We concluded at that time that there were ''few if any'' native lynx in Colorado at the time of listing (65 FR 16059).

In our 2003 remanded determination of status for the lynx DPS (68 FR 40076), we noted that, in addition to the evidence (above) suggesting the potential existence of a resident lynx population in Minnesota historically and at the time of listing, there were 62 additional verified lynx records from 2000 to 2003, including 6 that provided evidence of reproduction (68 FR 40088). In that rule, we concluded that, although Minnesota may not always support lynx, ''. . . northeastern Minnesota often supports a resident lynx population because there is ample boreal forest habitat directly connected with that in Ontario, there is a high number of historic lynx records, evidence of lynx reproduction and cyclically abundant snowshoe hares'' (68 FR 40088). In the same rule, we reemphasized the lack of compelling evidence that Colorado ever naturally supported a persistent, resident lynx population, stating ''. . .our original conclusion that the Southern Rocky Mountains supported an isolated resident lynx population may not be correct'' (68 FR 40081). We also

suggested that the few verified historic records in Colorado/the Southern Rockies may represent dispersing individual lynx that arrived during extreme highs in lynx populations to the north (68 FR 40081, 40091). We concluded that, if there ever had been a resident population in Colorado, a viable resident population no longer existed there and the loss of a population (if one ever existed) would most likely have been the result of natural processes because the distance and isolation of Colorado and the Southern Rockies from source populations severely reduced, if not entirely precluded the immigration that was likely necessary for a lynx population of this region to sustain itself (68 FR 40091).

We do not find support for the statement that lynx were absent from Minnesota from 1973 through 2003. Mech (1980, entire) reported trapping 37 lynx between 1972 and 1978, including one female that showed evidence of reproduction and nursing, and he also examined the carcasses of 32 other lynx trapped in Minnesota during that time. The continued occurrence of lynx in Minnesota in the late 1970s and early 1980s was supported by State records of 161 lynx harvested in the period 1977–1983 (McKelvey *et al.* 2000a, p. 223). There were only three verified lynx records in Minnesota from 1984 to 1999, but lynx harvest was closed in 1984 and no surveys or research to document lynx presence, absence, or population trend occurred during this time period (65 FR 16056).

In contrast, there are no verified records of lynx in Colorado between 1937 and 1968; single records in 1969 and 1972; and two records in 1974 (McKelvey *et al.* 2000a, p. 231), despite the unprecedented ''explosions'' (irruptions) of lynx into the northern contiguous United States in the early 1960s and again in the early 1970s (McKelvey *et al.* 2000a, pp. 219, 242). Trapping of lynx was permitted in Colorado until 1970 and would likely have reflected the presence of lynx in the State if they had been there. After 1974, and despite large-scale snow-tracking efforts (Carney 1993, *unpublished data,* as cited by McKelvey *et al.* 2000a, p. 231), there are no verified lynx records in Colorado until 1999 (McKelvey *et al.* 2000a, p. 231), when the State initiated its lynx translocation effort. The 2000 LCAS concurred with McKelvey *et al.* (2000a, p. 231) that no lynx specimens exist for Colorado from 1974 to 1999 (Ruediger *et al.* 2000, p. 4–14), but suggested that other records indicate a small number of lynx may have been present during that time (Ruediger *et al.* 2000, p. 4–14—4–15). However, the reports upon which Ruediger *et al.* based their assessment (Halfpenny and Miller 1981; Halfpenny *et al.* 1982; Thompson and Halfpenny 1989, 1991; Andrews 1992; Carney 1993) were also available to and considered by McKelvey *et al.* (2000a, pp. 230–231), and the reported lynx occurrences were found to be unverified and, therefore, anecdotal. We consider McKelvey *et al.* (2000a, entire) the best available information regarding the historical distribution of lynx based on verified occurrence data. We also concur with McKelvey *et al.* (2008, entire) regarding the imperative need to rely only on verified data when evaluating historical and current ranges of rare and elusive species like lynx. In that peer-reviewed paper, the authors provide case studies of the kinds of errors and conservation consequences that can occur if anecdotal (unverified) data are relied upon for such species. In fact, they provide as an example the potential errors that could occur if bobcats were mistakenly identified anecdotally as lynx only 1 percent of the time (McKelvey *et al.* 2008, pp. 553–554). Therefore, based on our assessment of the information above, we conclude that there is no reliable evidence that lynx were able to establish and maintain populations in Colorado or elsewhere in the Southern Rockies for much of the past century.

The best available information suggests that northeastern Minnesota has historically supported and currently supports a naturally resident and persistent lynx population, indicating that this area contains the physical and biological features essential to lynx in adequate quantity and spatial arrangement to support a lynx population over time. Therefore, it meets our definition of critical habitat. Conversely, verified evidence suggests that Colorado (as well as southern Wyoming, northeastern Utah, and northern New Mexico) did not historically support a naturally resident lynx population over time. Although this does not prove the absence (or disprove the potential presence) of the PCE from all parts of the Southern Rockies, it is one piece of evidence which suggests that these areas may not contain the physical and biological features essential to the conservation of lynx in adequate quantity and spatial arrangement to support a lynx population over time. As explained in more detail below, as well as in our response to comments (11) and (23), and in the ''*Application of the Criteria to the Southern Rocky Mountains and Certain National Forests in Idaho and Montana''* section of this final rule, we have determined that the historic record of lynx occurrence and the available information on the quantity and distribution of lynx habitat and hare densities all combine to suggest that the Southern Rockies do not contain the PCE. Therefore, these areas do not meet our definition of critical habitat.

We agree with the reviewer that the future persistence of lynx populations in Minnesota and Colorado is uncertain. However, the extensive boreal forest habitat in northeastern Minnesota, which is directly connected to similar and very extensive habitat and a persistent lynx population in immediately adjacent Ontario, supports our conclusion that future lynx persistence is more likely in Minnesota than in the patchy, marginal, and disjunct habitats in Colorado, which are isolated from other lynx habitats by more than 90 mi (150 km) of unsuitable lower-elevation habitats (McKelvey *et al.* 2000a, p. 230). We acknowledge that the Colorado population has persisted from its 1999–2006 introduction until the present. We believe that this short-term persistence is not surprising given that the translocation of a large number of healthy lynx from Alaska and Canada over several consecutive years, which were held in captivity and brought into prime health through supplemental feeding prior to their release into Colorado, is much different than the likely intermittent historical arrival of a much smaller number of potentially less-fit lynx in the Southern Rockies that were likely dispersing away from food shortages associated with cyclic hare population crashes to the north. We also concur with the conclusions of Colorado Parks and Wildlife (CPW), which acknowledged that the future persistence of the introduced population is uncertain and hinges on the assumption that patterns of annual reproduction and survival observed as of 2010 repeat themselves during the next 20 or more years (Shenk 2008, p. 16; Shenk 2010, pp. 2, 5–6, 11).

Despite the persistence of the introduced population thus far, we anticipate, based on the historical record and the patchiness and marginal quality of lynx habitat and hare densities, that Colorado and the Southern Rockies, in the absence of additional translocations of lynx from elsewhere, are unlikely to support lynx over the long term. The area's distance from source populations of lynx reduces the likelihood that this area will receive the demographic support, via dispersal and immigration from other populations, thought to be important to

the maintenance of lynx populations in the DPS. Further, climate projections suggest lynx habitat will decline here as elsewhere (Gonzalez *et al.* 2007, pp. 4, 8), making habitats in these areas even more marginal, patchy, and isolated and, therefore, even less capable of supporting lynx populations over time.

Regardless, unlike the long-term presence of naturally resident and persistent populations in northeastern Minnesota and elsewhere within the range of the DPS (despite times when lynx numbers were likely very low in those places), the current presence of the introduced population in the Southern Rockies does not connote that habitats there contain the physical and biological features essential to lynx in quantities and spatial arrangements adequate to support lynx populations over time. It is possible that similar introductions in other places with few historical records and which also have likely not supported naturally resident lynx populations (e.g., northern Vermont, northern Michigan, northern Wisconsin, western and central Minnesota, southwestern Montana, central and southern Idaho, southern Washington and Oregon) would achieve results similar to those observed in Colorado. However, that finding also would not confirm the presence in those places of the essential physical and biological features in adequate quantity and spatial arrangement to support lynx populations over time. We believe it would be inappropriate and speculative to designate critical habitat in such areas that, based on the historical record of verified occurrence and assessment of the available information on habitat quantity and spatial configuration, appear historically and currently incapable of supporting viable lynx populations over time. We find no evidence that such areas can contribute meaningfully (let alone be essential) to the conservation and recovery of the lynx DPS. Therefore, we have not designated critical habitat in Colorado or the Southern Rockies despite the benchmarks achieved by the introduction program there.

(11) *Comment:* One peer reviewer noted that there is scientific evidence that lynx populations in the contiguous United States are connected with those in Canada but that it is unclear (a) if the persistence of southern populations depends on their own productivity or if augmentation from Canada is truly needed, and (b) what role connectivity among southern populations plays in maintaining the overall metapopulation structure. The reviewer felt the proposed rule implied a higher degree of certainty regarding population connectivity than may be the case and contended that we stated, despite the absence of scientific evidence, that lynx use habitat ''stepping stones'' to connect Montana to the Greater Yellowstone Area (GYA). The reviewer suggested that lynx in the GYA may be maintained by pulses of lynx from populations in Canada rather than movements of animals from Montana populations, and that recognizing this uncertainty is important as it relates to lynx in Colorado. The reviewer felt the proposed rule downplayed the persistence of the Colorado population because it lacked habitat ''stepping stones'' from northern populations, and that the absence of habitat ''stepping stones'' did not prevent several lynx from the population introduced into Colorado from dispersing (northward) to the GYA.

Our Response: The best available information indicates that lynx populations in the DPS rely on augmentation from populations in Canada. Based on genetic analyses, Schwartz *et al.* (2002, entire) concluded that the persistence of lynx populations in the contiguous United States depends on dispersal from larger populations (also see response to comment (23), below). As we stated in the proposed rule (78 FR 59434), connectivity and interchange with lynx populations in Canada is thought to be essential to the maintenance and persistence of lynx populations in the contiguous United States (McKelvey *et al.* 2000b, p. 33; U.S. Fish and Wildlife Service 2005, p. 2; Interagency Lynx Biology Team 2013, pp. 34, 42, 47, 54, 60, 65; Squires *et al.* 2013, p. 187). Additionally, we are aware of no persistent resident lynx populations in the DPS that are not directly (Maine, Minnesota, northern Montana and northern Idaho, and northern Washington) or indirectly (GYA) connected to lynx populations in Canada via suitable or potentially suitable boreal or subalpine forest habitat.

We used the term ''habitat 'stepping stones' '' in the Background section of the proposed rule (78 FR 59434) to describe the relative connectivity of populations in the Rockies to larger populations in Canada. We did not state that we are certain lynx use these habitat patches, but rather that patches of habitat potentially conducive to dispersal exist between the GYA and lynx populations to the north and, as noted previously by others (e.g., McKelvey *et al.* 2000a, p. 230; Interagency Lynx biology Team 2013, p. 50), that this is not the case in Colorado, where potential lynx habitat is separate and isolated from other potential lynx habitats and, thus, from northern lynx populations by more than 90 miles (150 km) of unsuitable lower-elevation desert and sagebrush habitats. We do not know to what extent this isolation contributed to the historical inability of lynx to naturally establish and maintain viable resident breeding populations in Colorado and elsewhere in the Southern Rockies, but we believe that it is reasonable to conclude that it is a factor. We also did not state or imply that the GYA lynx population is maintained by movements of animals from Montana populations; rather, we meant that the habitats that support lynx in northwest Montana are part of a potential dispersal corridor that may provide connectivity between lynx in the GYA and populations in Canada (78 FR 59434). We agree that the extent to which lynx use any potential dispersal corridors is uncertain.

Finally, our intent is not to downplay the achievements of the introduction effort in Colorado, but rather to explain what we think the presence of the introduced lynx population does and does not tell us about whether the habitat contains the PCE and is essential to the conservation of the DPS (also see our response to comment (10), above). We acknowledged in the proposed rule that lynx are highly mobile and regularly move long distances (78 FR 59435) and that some lynx from the population introduced into Colorado dispersed widely, including north across the expanse of unsuitable habitat that separates potential lynx habitat in the Southern Rockies from lynx habitats to the north (78 FR 59434, 59448–59449). Clearly lynx from the north also occasionally reached the Southern Rockies historically, as evidenced by the few verified records for Colorado and southern Wyoming. However, we find that the best available information suggests that Colorado and the Southern Rockies do not contain the physical and biological features essential to lynx in adequate quantity and spatial arrangement to support lynx populations over time, and we have not designated critical habitat in these areas.

(12) *Comment:* One peer reviewer felt that our use of the term ''transitional'' when describing boreal forests in the range of the DPS implied that lynx habitat used by southern populations is almost ''ephemeral,'' and that our characterization that lynx habitat in the contiguous United States is transitional lacks support and is misleading.

Our Response: We use the term ''transitional'' (78 FR 59433, 59434, 59438) to describe the southern margin of the boreal forest that extends into the northern contiguous United States,

where it ''transitions'' to other more temperate forest types, which is consistent with its use in Mech (1980, p. 271), Agee (2000, pp. 40, 41, 44), the 2000 listing rule for the lynx DPS (65 FR 16052, 16056, 16081–16082), the 2003 clarification of findings (68 FR 40077), the 2007 ''Significant Portion of the Range'' clarification (72 FR 1188), the 2009 revised critical habitat rule (74 FR 8616, 8635), the 2009 12-month finding on a petition to include New Mexico in the lynx DPS (74 FR 66939), and the revised Lynx Conservation Assessment and Strategy (LCAS; Interagency Lynx Biology Team 2013, pp. 39, 44, 52). It is important that readers understand that both lynx and snowshoe hares are true boreal forest species, and that most boreal forest habitats in the northern contiguous United States become patchy and marginal for both species as these forests transition to other forest types. The transitional nature of the boreal forest at its southern extent is believed (along with competition from other hare predators) to limit the numbers of both hares and lynx, preventing either from regularly achieving densities in the contiguous United States comparable to those regularly achieved in the classic boreal forests at the centers of their ranges in north-central Canada.

Although some mature multistory forest stands may provide stable lynx and hare habitat over time (Interagency Lynx Biology Team 2013, p. 29), in many parts of the DPS range lynx and hares fare best in areas with large proportions of young regenerating early-successional stands that exist temporarily following disturbance (Aubry *et al.* 2000, p. 374; Interagency Lynx Biology Team 2013, pp. 28–29). In the absence of additional disturbance, many of these stands will, through natural forest succession, mature into stands with less dense vegetative cover at ground or snow level, providing less food and cover for hares and reducing the quality of foraging habitat for lynx. For example, much of the current higher quality hare and lynx foraging habitat in northern Maine occurs in 15- to 35-year-old dense, regenerating spruce-fir stands that were previously clearcut (78 FR 59456). As these stands continue to mature, and with timber harvest practices and regulations that have shifted away from clear-cut harvest and use of herbicides to promote conifer regeneration, hare and lynx habitats are expected to decline broadly across the area, with the lynx population projected to decline by 55 to 65 percent in the next 20 years (Simons 2009, p. 217). In a sense, then, some lynx habitats truly are ''temporary'' (Interagency Lynx Biology Team 2013, p. 29) and ephemeral.

(13) *Comment:* One peer reviewer felt we inappropriately cited a non-peer-reviewed publication (Berg and Inman 2010) to support the statement that ''. . . important foraging habitat for lynx is often more limited and fragmented in the contiguous United States than it is in the northern boreal forests of Canada and Alaska'' (78 FR 59434).

Our Response: We believe that our use of this citation is appropriate given the authors' histories of research and monitoring with regard to lynx, snowshoe hares, and other carnivores and their respective habitats. We also cited in the proposed rule (78 FR 59433) many other published references describing the marked differences between snowshoe hare (i.e., lynx foraging) habitats in the contiguous United States and those in the boreal forest of Canada and Alaska: Wolff 1980, pp. 123–128; Buehler and Keith 1982, pp. 24, 28; Koehler 1990, p. 849; Koehler and Aubry 1994, p. 84; Aubry *et al.* 2000, pp. 373–375, 382, 394; Interagency Lynx Biology Team 2013, p. 77).

(14) *Comment:* One peer reviewer felt that seasonal and geographic differences in lynx habitat were poorly described in the proposed rule and that clear articulation of how lynx habitat differs across the southern population would be helpful. As an example, the reviewer noted that the habitat used in winter by lynx in the Northern Rockies (mature multistoried forests with dense horizontal cover at ground/snow level; Squires *et al.* 2010, pp. 1648, 1653, 1656) is almost opposite the habitat used by lynx in Maine year-round (young, regenerating spruce-fir; Vashon *et al.* 2012, pp. 15–16). The reviewer felt that (a) readers should understand that management actions in Maine may have actually created lynx habitat, (b) it is unclear whether Maine could support lynx without extensive forest management with herbicide treatment, and (c) the role that herbicide treatment of forests in Maine played to create/promote the conifer infill that lynx depend on should be discussed.

Our Response: Although our introductory discussion of lynx habitat in the Background section of the proposed rule (78 FR 59434–59435) was general in nature, we provided much more detail on geographic and seasonal differences in lynx habitat in the Critical Habitat, *Physical or Biological Features* section, where we described differences in boreal forests and lynx habitat characteristics for each of the regions within the range of the DPS (78 FR 59437–59442). In that section, we specifically noted differences in lynx habitat use in winter versus summer (78 FR 59439). Similarly, we discussed in some detail in the *Special Management Considerations or Protection* section (78 FR 59445) and the Proposed Revised Critical Habitat Designation section (78 FR 59456) the influence of industrial timber management and large-scale clearcutting on lynx habitat in Maine. However, we did not discuss the role of herbicides there, so we have added that information to the Critical Habitat, *Boreal Forest Landscapes* section of this final rule, and in our response to comment (19), below, where we provide additional detail regarding historic, recent, and projected future densities of lynx in Maine.

(15) *Comment:* One peer reviewer felt that den habitat in the Northern Rockies was poorly defined and that the proposed rule did not clearly describe how lynx respond to environmental characteristics at dens at various spatial scales.

Our Response: Although our discussion of denning habitat in the Background section (78 FR 59435) was general in nature, we included a more detailed and region-specific discussion in the Critical Habitat, *Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring* section (78 FR 59441–59442), where we summarized the available pertinent information regarding lynx den-site selection for each region in the range of the DPS. However, we did not go into detail concerning lynx den selection in response to environmental cues at various spatial scales because we did not think it is germane to the discussion of critical habitat given that denning habitat is not thought to be a limiting factor for lynx anywhere within the range of the DPS.

(16) *Comment:* One peer reviewer suggested that the designation of critical habitat apparently does little to alter Federal responsibilities for the species' management but that it is unclear how designation may affect lynx management and conservation on State and Tribal lands. The reviewer felt readers need to fully understand what the inclusion in or exclusion from a critical habitat designation means to lynx conservation and management on all lands, but especially for State and Tribal lands in Montana that were considered for exclusion in the proposed rule and which we have excluded from designation in this final rule. The reviewer also felt that our rationale and justification for excluding Tribal lands and lands managed in accordance with the Montana Department of Natural Resources and

Conservation (MDNRC) Forested State Trust Lands Habitat Conservation Plan (HCP) should be better articulated and fully explained in the final rule.

Our Response: We described the general and specific regulatory benefits of critical habitat to lynx conservation in our response to comment (8), above, and in the Consideration of Impacts under Section 4(b)(2) of the Act section, below. Because a Federal action or ''nexus'' exists for all activities that may affect lynx on Federally managed lands, the regulatory benefits of consultation in accordance with section 7 of the Act are more likely to occur. Federal agencies must consult with the Service to ensure that no activity they carry out, permit, authorize, or fund will result in the destruction or adverse modification of designated critical habitat.

Activities on State, Tribal, or private lands that involve a Federal nexus must similarly undergo section 7 consultation, though it is the Federal ''action agency'' that consults with the Service. However, there is no consultation requirement for activities on State, Tribal, or private lands for which a Federal nexus does not exist. With regard to lynx, the activities most likely to impact the species or its habitats involve timber harvest, fire/fuels management, or other vegetation or silvicultural treatments—activities that most often lack a Federal nexus on State, Tribal, or private lands. When evaluating whether to designate critical habitat in such places, we assess the benefits of inclusion versus the benefits of exclusion, and we only exclude areas for which the benefits of exclusion outweigh those of inclusion. In the case of Tribal lands and State or private lands with finalized lynx management plans or habitat conservation plans (HCPs), we have determined that Tribal management, and State and private management in accordance with finalized plans or HCPs, is more beneficial to lynx than a critical habitat designation would be. One component of this analysis is the recognition that many activities that could affect lynx on these lands lack a Federal nexus, thereby precluding opportunity to achieve conservation via section 7 consultation resulting from designation. Therefore, management in accordance with Tribal forest and/or wildlife management plans and HCPs or other formal management plans on State or private lands is more likely to result in conservation of the lynx and its habitats than would be achieved via designation as critical habitat.

With specific regard to lands managed in accordance with the MDNRC HCP (as well as those for other exclusions), we have in this final rule presented our detailed evaluation of the benefits of including these lands compared to the benefits of excluding them (see Consideration of Impacts under Section 4(b)(2) of the Act, below). We have determined that the benefits of excluding MDNRC lands outweigh the benefits of including them in the lynx critical habitat designation and that doing so will not result in the extinction of the lynx DPS.

With specific regard to Tribal lands, 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 have added details on Tribal management goals and plans, land status, and lynx conservation efforts to our consideration of and rationale for these Tribal lands exclusions. See Exclusions Under Section 4(b)(2) of the Act, below, for a detailed discussion of why these lands have been excluded.

(17) *Comment:* One peer reviewer suggested there is limited anecdotal evidence that lynx in the Greater Yellowstone Area (GYA) are declining, based on the failure to trap any ''native'' lynx there in 2005–2006 (the only lynx encountered were thought to have been associated with the introduced population in Colorado).

Our Response: We do not have evidence of a decline in the GYA lynx population. Although the GYA has a long history of lynx presence and recent evidence of reproduction (Squires and Laurion 2000, entire; Squires *et al.* 2001, entire; Murphy *et al.* 2006, entire), there are relatively few verified records of lynx from Yellowstone National Park and surrounding areas (65 FR 16058, 68 FR 40090). Additionally, lynx habitat in the GYA is naturally marginal (patchier and composed in many places of drier forest types), less capable of supporting snowshoe hares (Hodges *et al.* 2009, entire), and farther from source populations than most other parts of the DPS range (68 FR 40090). Given the naturally marginal habitat in this largely protected area, we believe it is unlikely that the GYA ever supported more than a handful of lynx home ranges in any given year. We find no evidence that the GYA once supported a larger or more robust lynx population than the small one suggested by verified historic and recent records and survey efforts.

(18) *Comment:* One peer reviewer suggested that lynx habitat in the western United States has contracted significantly in the last decade from fire and insect outbreak, although these changes are fairly recent and thus not addressed in the scientific literature. The reviewer cited the almost complete die-off of Engelmann spruce (*Pica engelmanii*) from 400,000 acres (161,874 hectares) of spruce–fir forests in the San Juan Mountains in Colorado because of spruce budworm infestation, and an increase in fire activity in the Northern Rockies since the mid-1980s at elevations that largely overlap lynx critical habitat.

Our Response: Climate change has resulted in warmer and drier conditions that have increased the number and extent of wildfires in the western United States and in boreal forests in Canada, and projected climate changes suggest this trend will continue, with increases likely in the frequency of large, intense forest fires (IPCC 2014a, p. 31; IPCC 2014b, p. 4; Joyce *et al.* 2014, p. 178; Mote *et al.* 2014, p. 495). Climate change is also increasing the vulnerability of western forests to insect and tree-disease outbreaks; large-scale tree die-offs have already occurred and are likely to increase in the future, and the subalpine forests on which lynx in the western contiguous United States depend may be particularly at risk (Joyce *et al.* 2014, p. 177; Mote *et al.* 2014, pp. 495–496). However, the potential consequences of climate change for lynx populations and their habitats remain unquantified. Fire and insects have been important elements of these forests historically, helping to maintain the mosaic of forest successional stages thought to be important to lynx and snowshoe hares. We have no evidence that these factors (fires and insect outbreaks) have thus far altered lynx habitats to the extent that landscapes historically or recently capable of naturally supporting lynx populations can no longer do so, although climate projections suggest

such changes are possible in the future. If lynx habitat has indeed contracted, it may be a temporary effect, and as regeneration and regrowth of these areas progresses, they should return to lynx habitat so long as fire, insect outbreaks, and climate warming and drying have not permanently altered the vegetative capacity and climax forest potential of these sites.

(19) *Comment:* One peer reviewer felt the proposed rule was unclear whether the projected reduction in lynx habitat in Maine was due primarily to a shift in timber harvest away from clearcutting to partial harvest, or if the herbicide use that had helped create conifer-dominated stands of value to lynx and hares has also been greatly curtailed. The reviewer also wondered if the decline would be a return to historical levels of lynx habitat in Maine prior to the extensive habitat fragmentation from earlier clearcutting and herbicide treatment and suggested we clarify this relationship in the final rule.

Our Response: The current abundance of snowshoe hare habitat (and, therefore, lynx foraging habitat) in northern Maine was created by large-scale clear-cut timber harvest of about 55 percent of the forestlands in northern Maine in response to a 1973–1985 spruce budworm (*Choristoneura fumiferana*) outbreak (Simons 2009, pp. 64, 218). Some of these clearcuts were treated with herbicide to promote conifer regeneration by reducing competition from deciduous species (Scott 2009, p. 7). From about 15 years to 35 years post-harvest, these regenerating stands provide excellent cover and forage for snowshoe hares (Simons 2009, pp. 217–218), and the prevalence of such stands is credited with the rapid increase in lynx numbers in Maine in the mid-1990s and early 2000s (Simons 2009, pp. 64, 122; Vashon *et al.* 2012, pp. 56–57). As these stands mature beyond about 35 years post-harvest, hare densities begin to decline as cover and forage are reduced due to forest succession (Simons 2009, p. 217). The areal extent of these high-quality hare habitats is believed to have peaked between 2007 and 2010, and lynx numbers in Maine also likely peaked at about that time (Simons 2009, p. 142; Vashon *et al.* 2012, pp. 50, 57). With the reductions in both clearcutting and herbicide application following enactment of the Maine Forest Practices Act of 1989, it is projected that lynx densities will decline by 55 to 65 percent by 2032 (Simons 2009, p. 217). By then, the lynx population, which is thought to have peaked at between 750 and 1,000 adults in 2006, may decline by more than half to perhaps 300 adults, which is still three times as many lynx as are thought to have inhabited Maine during a population low in the 1970s (Vashon *et al.* 2012, pp. 57–60).

How these numbers compare to historic lynx numbers in Maine is uncertain. Lynx have had a relatively constant presence in Maine since they were first documented in the State in 1833 (Hoving 2001, pp. 6–38). In general, lynx likely occurred at low densities prior to European settlement, when relatively small amounts of the spruce-fir forests in the State are thought to have been composed of young stands (Lorimer 1977, entire; Vashon *et al.* 2012, pp. 45, 56), but they likely responded positively to stand-replacing fires, wind events, and insect outbreaks (Hoving 2001, p. 25). Audubon and Bachman (1852) described lynx as occurring in regenerating forest following fire in Maine, and H.D. Thoreau (1893) noted that lynx were common in the ''burnt lands.'' Lynx may have also responded to timber harvest, which by 1900 had expanded to smaller diameter spruce for a growing paper industry. It is likely, then, that lynx numbers in Maine have fluctuated since European settlement, depending on the size and distribution of natural and human disturbances and the resultant young regenerating forest stands. At times, lynx were considered very common, and in some years in the 1800s, 200–300 lynx were harvested in Maine (Hoving *et al.* 2003, p. 363).

Finally, the extent to which herbicide treatment to favor conifer regeneration contributed to the development of optimal hare habitats in regenerating clearcuts (versus regeneration in untreated stands) is unclear. Herbicide treatment is expensive, and even in the 1980s, when herbicide application was highest, less than 20 percent of clear-cut stands were treated. The areal extent of herbicide application decreased by about 78 percent in 2000–2007 compared to peak application in the late 1980s, which may reduce the amount of conifer-dominated regenerating hare and lynx habitats in the future (Scott 2009, pp. 122–123).

(20) *Comment:* One peer reviewer commented that there was an assumption in the proposed rule that lynx populations within the DPS require demographic rescue periodically from populations in Canada. The reviewer suggested that it is unknown if augmentation from northern populations is sufficient for demographic rescue and that this uncertainty was poorly articulated in the proposed rule. The reviewer also suggested that it is unknown if the lagged synchrony observed in southern lynx populations resulted from the physical movement of lynx from the north or if southern populations increased due to a related environmental factor (e.g., increased hare abundance), and that this uncertainty also was not communicated in the proposed rule.

Our Response: We agree that it is uncertain whether the demographic health of lynx populations in the DPS is reliant on augmentation from Canadian populations and, if so, to what extent, and whether current rates of interchange/immigration are sufficient to provide demographic rescue (also see response to comment (22), below). We recognized and articulated some of these uncertainties at several places in the proposed rule. For example, we stated that lynx in the contiguous United States appear to function as discrete subpopulations connected via dispersal to the larger Canadian metapopulation, that lynx disperse in both directions across the United States-Canada border, and that this interchange is thought to be essential to the maintenance and persistence of lynx populations in the DPS (78 FR 59434). We similarly stated that the degree to which regional lynx populations in the DPS are influenced by local hare population dynamics is unclear, and that lynx presence and population dynamics in the DPS appear to be more influenced by the occurrence of irruptions from Canada than by intrinsically generated hare population cycles within the DPS range (78 FR 59436).

(21) *Comment:* One peer reviewer suggested that the proposed rule assumes that peripheral southern lynx populations (outside proposed critical habitat) failed to persist due to unsuitable habitat conditions but did not mention that no large incursion of lynx has happened in the western United States in the absence of active persecution (i.e., trapping).

Our Response: We believe the best available information indicates that we have included within the final critical habitat designation all places in the contiguous United States historically and currently capable of naturally supporting lynx populations and which will provide for the conservation of lynx. We are aware that no large irruptions of lynx from Canada into the contiguous United States have been documented since the DPS was listed and harvest was prohibited throughout its range. However, in the absence of trapping, which provided most of the data upon which the history of past irruptions was constructed, and with limited monitoring of lynx populations

on both sides of the border, there is uncertainty about the number of lynx that may be moving between populations in Canada and those in the contiguous United States.

We have no evidence that lynx were disproportionately persecuted in areas outside those we have designated (secondary or peripheral areas), and lynx populations in designated areas have persisted despite being similarly exposed to hunting and trapping prior to listing. Additionally, other than relatively low levels of reported incidental trapping (with very few resulting in lynx mortality), lynx have not been persecuted in the past 14 years since listing. In that time, populations have persisted in the areas designated as critical habitat, while other areas (with the possible exception of small areas of northern New Hampshire, northern Vermont, and Maine outside the designated area) have failed to attract lynx and support establishment of populations. We interpret this as a strong indication that these secondary and peripheral areas lack one or more of the essential physical or biological features in adequate quantity and/or spatial arrangement, and that it is less likely, given the previously noted dispersal capabilities of lynx, that these areas represent good lynx habitat which lynx have been unable to locate and colonize (but see response to comment (22), below).

(22) *Comment:* One peer reviewer noted that maintaining connectivity for lynx populations in the contiguous United States may become increasingly difficult in the future due to climate and anthropogenic change, that this added risk was not discussed in the proposed rule, and that a potentially dampened hare/lynx cycle in Canada (e.g., Ims *et al.* 2008, pp. 81, 85) may cause demographic and genetic impacts to southern lynx populations over time. However, the reviewer noted that lynx from the population introduced to Colorado made documented south-to-north movements, demonstrating that connectivity with the native population in the GYA is possible.

Our Response: Climate change and other anthropogenic change (human-caused habitat degradation/loss/fragmentation) could result in smaller and more isolated lynx populations in the contiguous United States, with reduced connectivity to lynx populations in Canada. We noted in the *Future of Lynx Habitat* sections of the proposed rule (78 FR 59443) and this final rule (below) that climate change could reduce the amount and quality of lynx habitat in the DPS range, with habitat patches becoming smaller, more fragmented, and more isolated (Carroll 2007, pp. 1099–1100; Johnston *et al.* 2012, p. 11), and that lynx populations could become more vulnerable to stochastic environmental and demographic events because of smaller population sizes and increased isolation (Carroll 2007, pp. 1100–1103). However, the level at which reduced connectivity might affect the demographic or genetic health of populations in the DPS is unknown.

Schwartz *et al.* (2003, entire) documented reduced genetic variation (lower mean number of alleles per population and lower expected heterozygosity) among peripheral lynx populations compared to populations in the core of the lynx geographical range. While recognizing that small changes in genetic variation can lead to large changes in population fitness, the authors noted that the differences between core and peripheral populations in their study were small enough to suggest a lack of significant population subdivision (i.e., no indication of genetic isolation, substantial genetic drift, or potential genetic ''bottlenecks'' among DPS populations; Schwartz *et al.* 2003, p. 1814). This finding is consistent with their earlier work, which documented high levels of gene flow (the highest yet documented for any carnivore) between core and peripheral lynx populations despite large separation distances (Schwartz *et al.* 2002, pp. 520–522). Their results did not suggest that reduced genetic variation among peripheral populations was due to human disturbance (i.e., habitat loss/fragmentation on the southern periphery of the geographic range; Schwartz *et al.* 2003, p. 1814), but they did imply that the persistence of lynx populations in the contiguous United States depends on dispersal from larger (core) populations (Schwartz *et al.* 2002, p. 522).

Currently, there is no indication that the levels of connectivity and gene flow between lynx populations in the DPS and those in the core of the lynx's range are inadequate to maintain the genetic health of DPS populations. Given the noted dispersal capabilities of lynx, it appears unlikely that levels of connectivity and gene flow will become inadequate in the foreseeable future. However, because demographic rescue (demographic stability of peripheral populations achieved via immigration from other populations sufficient to offset mortality and emigration in the peripheral population) requires much higher immigration rates than does genetic rescue (McKelvey *et al.* 2000b, pp. 23–24), reduced connectivity due to climate change, habitat loss/fragmentation, or a combination of these factors, is more likely to result in demographic rather than genetic impacts to lynx populations in the DPS. But, as with gene flow, the level of diminished connectivity at which DPS populations could suffer demographic impacts is unknown. Finally, how hare and lynx population cycles may be affected by climate change remains unclear (Yan *et al.* 2013, p. 3264); therefore, estimating the magnitude of potential future demographic and genetic impacts to southern lynx populations remains elusive. If climate change does dampen hare (e.g., Ims *et al.* 2008, pp. 81, 85) and lynx population cycles, and that dampening alters the periodicity and/or reduces the magnitude of immigration from Canadian to DPS lynx populations (which is poorly understood to begin with), then demographic and genetic impacts are possible.

(23) *Comment:* Peer reviewers and other commenters presented conflicting views on whether Colorado and other parts of the Southern Rockies (southern Wyoming, northeastern Utah, and northern New Mexico) should be included in the designation. Two peer reviewers agreed with our determination that Colorado and the Southern Rockies do not contain the PCE and are not essential to conservation of the lynx DPS. One peer reviewer questioned the consistency of our logic in not designating critical habitat in Colorado and the Southern Rockies relative to its application to native lynx populations. The reviewer thought we should consider designating critical habitat in Colorado and the Southern Rockies because (a) the introduced population may currently include more lynx than native lynx populations in northwest Wyoming or Minnesota, and (b) the area used by the introduced population in the San Juan Range of Colorado is larger than the area of montane forest that supports lynx in Wyoming. One peer reviewer disagreed with our decision not to designate critical habitat in Colorado or elsewhere in the Southern Rockies and with our determination that evidence is lacking to indicate that these areas historically supported resident lynx populations. The reviewer cited Cary (1911) and Meaney (2002) as evidence that Colorado historically supported a resident lynx population. The reviewer suggested that parts of western Colorado, southern Wyoming, and northern New Mexico contain the physical and biological features essential to lynx in adequate quantity

and spatial arrangement and that high elevations in these areas may become important to lynx conservation if climate change results in upslope movement of lynx and hare habitats, as some models suggest. Many other commenters urged us to designate critical habitat for lynx in Colorado and the Southern Rockies, while others supported our proposal not to designate critical habitat in these areas.

Our Response: Neither the presence of the introduced lynx population or the large area it has used demonstrate that habitats in Colorado and other parts of the Southern Rockies contain the physical and biological features essential to lynx in adequate quantity and spatial arrangement to support lynx populations over time or that this area is essential to the conservation of the lynx DPS. We do not conclude that Cary (1911, pp. 44, 48, 165–167) and Meaney (2002, entire) provide reliable evidence based on verified lynx occurrence data that Colorado historically supported a resident lynx population.

As described above in our responses to comments (10) and (11), the verified evidence suggests that habitats in Colorado and the Southern Rockies have not historically supported viable lynx populations or subpopulations. The importance of using only verified evidence and the need to avoid using anecdotal occurrence data to assess the ranges of rare and elusive species has been amply demonstrated by McKelvey *et al.* (2008, entire; see also our response to comment (10), above). The authors cautioned that this is particularly important when target species may be easily confused with other similar but more common species; using as an example the potential biological and conservation consequences of misidentifying even a small number of bobcats as Canada lynx (McKelvey *et al.* 2008, pp. 553–554). Halfpenny and Miller (1980, p. 8) indicated that Cary's (1911) summary was based largely on (unverified, anecdotal) observations by trappers, and the authors cited Armstrong (1972) who said these ''. . . ought to be regarded with a degree of caution.'' Similarly, Meaney's (2002, entire) unpublished review for the Colorado Department of Transportation of mostly anecdotal lynx records in the State points out many of the vagaries and inconsistencies of the anecdotal data, very unlikely high numbers of lynx reported as trapped in some counties in some years, and misidentification of large, pale bobcats as lynx, but then concludes, questionably in our opinion, that ''There is no doubt that established populations of lynx occurred in the northern mountains of Colorado'' (Meaney 2002, p. 5).

Based on our evaluation of the historic record of verified lynx occurrence, we find that, although lynx clearly occurred occasionally in the Southern Rockies, there is no evidence that the Southern Rockies, including southern Wyoming, western Colorado, northeastern Utah, and northern New Mexico, historically supported lynx populations. We conclude that the few verified records from these areas were most likely transient animals dispersing during ''irruptions'' from northern lynx populations after cyclic hare population declines. As we discuss below, habitat in Colorado and the Southern Rockies is marginal, naturally fragmented, and disjunct, with poor to marginal hare densities. This, combined with its apparent historical inability to naturally supporting lynx populations, suggests that this area does not contain the PCE (see also the ''*Application of the Criteria to the Southern Rocky Mountains and Certain National Forests in Idaho and Montana*'' section, below).

Also as we described above in our response to comment (10), the persistence, thus far, of the introduced lynx population in Colorado does not demonstrate that habitats there contain the essential physical and biological features in adequate quantity and spatial arrangement to support a lynx population over the long term. Like Colorado and the Southern Rockies, many areas across the northern border of the United States contain some amounts of the essential physical and biological features and have verified records of lynx (in fact, New York, Michigan, Wisconsin, and Idaho all have more verified historic lynx records than Colorado/Southern Rockies; McKelvey *et al.* 2000a, p. 210), but no evidence they have ever supported more than occasional dispersing lynx. The historic inability of these areas to naturally support resident lynx populations indicates either (a) that the quantity and/or spatial arrangement of one or more physical or biological features is inadequate, (b) the area's distance and relative isolation from other lynx habitats and populations prevents the consistent immigration needed to provide the demographic stability that may be necessary to maintain a viable lynx population, or (c) that a combination of these factors has prevented these areas from historically supporting lynx populations over time.

The best available information does not allow us to simply measure and map each of the physical and biological features essential to lynx and thus distinguish areas that contain each in adequate quantity and spatial arrangement from other areas that do not (see also *Criteria Used to Identify Critical Habitat,* below). Nor does it allow us to determine at what specific distance and relative level of isolation from other lynx habitats and populations a particular area becomes unlikely to receive adequate demographic input (via immigration from other populations) thought to be necessary for population viability and persistence. Regardless, it is informative that Colorado and the Southern Rockies failed to attract lynx and support establishment and maintenance of lynx populations in the wake of two unprecedentedly large irruptions of lynx from Canada into the western United States in the early 1960s and again in the early 1970s (McKelvey *et al.* 2000a, pp. 219, 242). To what degree this failure resulted from the marginal quality of the habitat versus the area's distance and relative isolation is unclear. However, it is clear that, while lynx were unable to establish and maintain populations in Colorado or elsewhere in the Southern Rockies, other lynx populations in the DPS, where we have designated critical habitat, did persist, despite being exposed to similar habitat threats and harvest pressures. That is, we have no indication that habitat loss, degradation, or fragmentation or trapping pressures were greater in the Southern Rockies than in places where lynx populations persisted despite them. In fact, trapping lynx was prohibited in Colorado (1970) and Wyoming (1973) long before it was prohibited in most other States within the range of the DPS (Maine–1967, Minnesota–1984, Washington–1990, Idaho–1996, Montana–2000).

Finally, although recent climate projections suggest that snow water equivalent (the amount of water held in a given amount of snow) may decline less in Colorado than in other areas of the Southwest, it is nonetheless projected to decline by 26 percent by the end of this century (Garfin *et al.* 2014, p. 466). This will likely translate to a reduction in the areas that will continue to have snow conditions that provide a competitive advantage to lynx over bobcats and other hare predators. Additionally, when specifically modeling potential impacts of climate change on lynx, researchers concluded that potential snow and boreal forest habitat refugia were most likely to occur in the Bridger-Teton National Forest in northwestern Wyoming, the Superior National Forest in northeastern Minnesota, and across western Canada, while high-elevation parts of Colorado

are among the areas vulnerable to the loss of potential lynx habitat in the long term (Gonzalez *et al.* 2007, pp. 4, 8). Even if suitable snow conditions persist in Colorado and boreal and subalpine forests move upslope with continued climate warming, the amount of potential lynx habitat, already considered patchy and relatively isolated, will likely decrease, becoming even more patchy and isolated and less capable of supporting lynx populations over time.

For these reasons, we conclude that habitat in Colorado and other parts of the Southern Rockies is marginal, naturally fragmented, and disjunct; that it has not been historically capable of supporting natural resident lynx populations; that it has not been demonstrated to contain all of the physical and biological features essential to lynx in adequate quantity and spatial arrangement to support lynx populations over the long term (i.e., it does not contain the PCE); and that it is not essential to the conservation of the DPS. Therefore, we have not designated critical habitat for lynx in Colorado or elsewhere in the Southern Rocky Mountains.

(24) *Comment:* One peer reviewer, one Federal agency commenter, and several other commenters took exception to our description of the translocation of lynx from Alaska and Canada to Colorado as an ''introduction'' rather than a ''reintroduction.''

Our Response: As described above in our responses to comments (10), (11), and (23), we believe the weight of verified evidence suggests that Colorado did not historically support a resident native lynx population, and that the few verified records of lynx prior to the introduction of the current population were likely transient, dispersing animals. Although the translocation of lynx from Alaska and Canada to Colorado has often been referred to as a reintroduction, including in some documents by the Service, we believe it represents the establishment of a lynx population in a place that, based on our evaluation of the best available information, apparently did not support one previously and, therefore, is more accurately described as an introduced population. We have clarified the text throughout this rule to indicate that our use of the term ''introduction'' refers to the establishment of a lynx population in Colorado, as opposed to the reintroduction of individual lynx into an area where individual lynx rarely occurred historically.

Comments From States

Section 4(i) of the Act states, ''the Secretary shall submit to the State agency a written justification for his failure to adopt regulations consistent with the agency's comments or petition.'' Comments received from States regarding the proposal to designate critical habitat for the lynx DPS are addressed below. Other comments from States pertaining to other issues that may be beyond the scope of this final revised critical habitat designation (e.g., the lynx DPS's listing status under the Act, etc.) will be addressed in separate letters to the States.

(25) *Comment:* The Maine Department of Inland Fisheries and Wildlife supported our determination that the Van Buren and Herseytown-Staceyville areas of Maine, which we proposed to designate and which we have designated as lynx critical habitat in this final rule, contain the PCE and may be essential to lynx conservation. However, the agency provided its opinion that these areas were likely not occupied by lynx at the time of listing and included documentation of standardized lynx surveys conducted in northwestern Maine in 1995–1999 and 2003–2008, and other confirmed lynx occurrences from 1995–2000.

Our Response: We reviewed the survey information provided by the agency and determined that the 1995–1999 and 2003–2008 surveys did not adequately cover the Herseytown-Staceyville or Van Buren areas and, therefore, do not sufficiently demonstrate that lynx were absent from these areas at the time of listing. We have reviewed additional lynx record data that indicate lynx have occupied the Herseytown-Staceyville and Van Buren areas historically and since the lynx DPS was listed under the Act, and which demonstrate occupancy at the time of listing in adjacent towns (Hoving 2001, pp. 16, 170–179; Hoving *et al.* 2003, entire; U.S. Fish and Wildlife Service 2013c, entire). For these reasons, we find that the best available information indicates that the newly designated Van Buren and Herseytown-Staceyville areas were likely occupied by lynx at the time of listing and that these areas contain the PCE. Also see our response to comment (3), above, and *Recent Lynx Occurrence and Reproduction in Northern New Hampshire, Northern Vermont, and Eastern and Western Maine,* below).

(26) *Comment:* The Idaho Department of Lands noted that the proposed rule included 26 acres (0.04 mi^2 (0.1 km^2)) of State Endowment Trust lands in northern Idaho. The agency provided forest inventory data suggesting that most of the area consists of forest types not considered suitable for lynx and requested that these lands not be designated as critical habitat.

Our Response: Although these State Endowment Trust lands do not consist entirely of forest types considered hare and lynx foraging habitat, more than a third of the area is subalpine fir, which is considered foraging habitat. The other portion of this land is consistent with the definition of matrix habitat in the PCE, which is considered an essential feature of lynx critical habitat and is a component of the PCE. Further, while this parcel is at the edge of the designated area, it is surrounded by and contiguous with other similar forest types that also meet the criteria for critical habitat despite being composed of both foraging and non-foraging (i.e., matrix) habitats. We have determined that these State lands contain the physical and biological features (PBFs) essential to the conservation of the lynx DPS and that they are part of the landscape that has supported a resident lynx population over time. Therefore, we have determined that these State Endowment Trust lands contain the PCE, and we have included this area within the final critical habitat designation.

(27) *Comment:* The New Mexico Department of Agriculture requested that the State-boundary-based DPS range remain in place and that New Mexico be specifically excluded from it. The agency believes that a geographical DPS boundary based on the habitat requirements of lynx is more appropriate than the proposed revised ''verbal definition'' of the DPS that would extend the Act's protections to lynx wherever they may occur in the contiguous United States. The agency feels that the proposed change could increase section 7 consultation requirements for actions on Federal lands in northern New Mexico, negatively affecting ranching operations that hold Federal grazing permits on Forest Service or BLM lands, and perhaps precluding or delaying range improvement and watershed restoration projects on these lands.

Our Response: Our 2000 listing rule (65 FR 16052) and our 2003 clarification of findings (68 FR 40076) used State boundaries within what we understood to be the range of lynx in the contiguous United States at that time. Subsequently, lynx associated with the introduced population in Colorado were confirmed in northern New Mexico. Revising the existing range of the DPS with this rule addresses that

inconsistency between the current range of lynx and how the lynx DPS was delineated so that the lynx DPS is now consistent with our DPS policy. Because lynx may be present in northern New Mexico, Federal land managers and agencies that may authorize, fund, or permit activities where lynx may be present should review their actions to determine whether consultation with the Service is necessary to ensure that such activities do not jeopardize the lynx DPS. However, we do not foresee a dramatic increase in section 7 consultations because most of the potential lynx habitat in New Mexico occurs on the Carson and Santa Fe National Forests, and these Federal lands managers already coordinate with the Service to avoid potential impacts to lynx and their habitats. Further, because grazing by domestic livestock is not likely to adversely affect hare or lynx habitats (Interagency Lynx Biology Team 2013, p. 85), we do not anticipate additional regulatory burdens to Federal grazing permit holders. Finally, range improvement and watershed restoration projects can include measures to conserve lynx and hare habitats, and these considerations are unlikely to preclude or substantially delay such projects.

(28) *Comment:* The New Mexico Department of Game and Fish commented that the likelihood of lynx entering and establishing a population in New Mexico remains remote, and the agency is extremely concerned that the extension of ESA protections to individual animals that may enter the State will have significant economic, cultural, and management impacts to currently lawful activities such as hunting, trapping, agency-approved wildlife management activities, and various other activities on public and private lands in northern New Mexico. The agency expressed concern that the level of these impacts may require the Service to conduct at least an environmental assessment and potentially an environmental impact statement to address them.

Our Response: We agree that it is unlikely that lynx entering New Mexico from the introduced population in Colorado will establish a self-sustaining population in New Mexico. However, because at least 60 lynx are documented to have traveled into New Mexico after their release in Colorado (Shenk 2007, p. 10; U.S. Forest Service 2009, pp. 9–10), the ''may be present'' standard for initiating section 7 consultation between the Service and Federal land managers and permitting agencies in northern New Mexico may be met for actions in these areas. Therefore, Federal land managers and agencies that carry out, fund, or permit activities that may affect lynx or lynx habitats should review their actions to determine whether consultation with the Service is necessary to ensure that these activities do not jeopardize the lynx DPS. We do not anticipate significant restrictions on otherwise lawful activities as a result of these consultations, and we expect little if any impacts to private landowners because activities on private lands would only undergo section 7 consultation if they had a Federal nexus (also see our responses to comments (8) and (16), above). Because the Act does not allow us to consider economic or social impacts when making listing determinations (such as redefining the range or boundaries of a listed species), it is not necessary, and would be inappropriate, to conduct NEPA analysis on the revision to the lynx DPS range.

(29) *Comment:* The Wyoming Game and Fish Department, the county commissions of Lincoln, Park, Sublette, and Teton Counties, the Coalition of Local Governments representing the county commissions and conservation districts for Lincoln, Sweetwater, Uinta, and Sublette Counties, the State of Wyoming Select Committee on Federal Natural Resource Management, and the Wyoming Governor's Office all oppose the designation of lynx critical habitat in Wyoming, and in particular the proposed additions of lands in Grand Teton National Park in Teton County and on BLM, State, and private lands in Sublette and Lincoln Counties. Most of these commenters contend that habitats in Wyoming, including the proposed additions, do not contain the features essential to lynx and that evidence is lacking that they are occupied by lynx or that they currently support or historically supported a resident lynx population. They believe critical habitat designation in Wyoming, including in the additional areas, will have substantial impacts on economic development and management of other resources. Several of these commenters requested that the Service (a) designate lynx in Wyoming as an experimental, nonessential population in accordance with section 10(j) of the Act, and (b) collaborate with State agencies within the range of the DPS to complete a recovery plan for lynx prior to designating critical habitat so that the recovery plan can inform the eventual designation. Several other commenters similarly oppose designation in Wyoming, including the proposed additions, and one specifically opposes designation of any lands within the Shoshone National Forest. Many other commenters support the proposed additions to critical habitat in the GYA.

Our Response: In our previous evaluations of critical habitat for lynx, we determined that habitats in the GYA, including portions of northwest Wyoming in Yellowstone National Park and the Bridger-Teton and Shoshone National Forests, contain the physical and biological features essential to the conservation of lynx, and that the area has a long history of lynx presence (70 FR 68294; 74 FR 8619, 8643–8644). As described in our response to comment (17), above, habitats in the GYA have been demonstrated to contain the essential features in sufficient quantity and spatial arrangement because they (a) have supported a small but persistent lynx population over time, and (b) were occupied by lynx at the time of listing (Squires and Laurion 2000, entire; Squires *et al.* 2001, entire; Murphy *et al.* 2006, entire). Therefore, the GYA meets our criteria for designation as critical habitat.

In northwestern Wyoming and the GYA, lynx are generally associated with the Rocky Mountain Conifer Forest vegetation class, which is dominated by subalpine fir, Engelmann spruce, and lodgepole pine, and which often occurs in a patchy distribution within a mosaic of other vegetation types that do not support snowshoe hares at densities adequate to provide lynx foraging habitat (73 FR 10866). In areas with patchily distributed foraging habitats, like those typical of the GYA, lynx home ranges incorporate extensive areas of non-foraging ''matrix'' habitats that are used primarily for travel between patches of foraging habitat (74 FR 8644). Therefore, lynx home ranges and designated critical habitat in the GYA may contain substantial areas that do not contain all of the physical and biological features essential to lynx. However, such areas are a necessary component of the landscape that does contain the features. The areas of Grand Teton National Park and the predominantly BLM-managed lands east and south of the Bridger Teton National Forest that we have added to this final critical habitat designation also include matrix habitats, but they are part of the larger landscape that has supported a resident lynx population and, therefore, contains the PCE.

Although habitat information and mapping for the areas we have added to the critical habitat designation in Wyoming were not received in time to evaluate them during the preparation of our previous designation in 2009, it was clear that lynx habitat did not stop at the boundary of the Bridger-Teton

National Forest. However, we designated critical habitat based on the best information available at the time. Since then, additional and refined habitat mapping has become available for these areas, along with recent verified use by lynx and/or information on hare habitats and abundance (U.S. Fish and Wildlife Service 2013a, entire; 2013b, entire). The areas we have added to the designation in Wyoming are natural extensions of adjacent designated lynx habitats and are part of the landscape that supports the GYA's small but persistent lynx population. We have worked closely with both the National Park Service and the BLM in Wyoming to ensure that our designation reflects the most appropriate interpretation of the best available information on lynx occurrence and habitat distribution so that our designation most accurately encompasses the areas that contain the features essential to the conservation of the lynx DPS.

Finally, the Act does not allow us to designate an existing population as a 10(j) experimental, nonessential population. The section 10(j) provision of the Act can be applied only in cases where no population currently exists and is effective only upon release of animals brought from other populations. The best available information indicates that northwestern Wyoming had a small lynx population historically and at the time of listing, and that a small number of lynx currently persist and reproduce in the State. Thus, we cannot designate the Wyoming lynx population as a 10(j) nonessential experimental population because doing so would not conform to the Act.

(30) *Comment:* The Montana Department of Natural Resources and Conservation (MDNRC) requested that we exclude lands covered by the MDNRC Forested State Trust Lands HCP from critical habitat designation in accordance with section 4(b)(2) of the Act, and the Washington State Department of Natural Resources (WDNR) requested that we similarly exclude lands covered by the WDNR Lynx Habitat Management Plan. Several other commenters requested that MDNRC lands not be excluded from designation, either because they felt these lands are essential to the conservation of the lynx DPS or because the MDNRC HCP is the subject of an ongoing court case.

Our Response: We have weighed the benefits of designating the lands covered by these plans against the benefits of excluding them, and we have determined that the benefits of excluding them outweigh the benefits of including them in the final designation. Therefore, we have excluded the lands covered by both these conservation plans from lynx critical habitat. More details regarding our analyses of the benefits to lynx of these plans are presented in the Consideration of Impacts under section 4(b)(2) of the Act section, below (and see our response to comment (16), above). The Service and the MDNRC are currently defending the HCP in a lawsuit that challenges the HCP's adequacy with regard to the conservation of grizzly bears and bull trout. The HCP's adequacy with regard to lynx conservation was not challenged in the lawsuit.

(31) *Comment:* The Washington Department of Fish and Wildlife (WDFW) agreed that the Kettle Range of northeastern Washington did not support a lynx population at the time of listing. Despite this, WDWF suggested that we consider designating the area because it may support lynx movement between larger areas of habitat in the Selkirk and Cascade Mountains, and because a lynx population could become re-established in the future because lynx harvest no longer occurs there and habitat conditions may improve as parts of the area continue to recover from large fires in the 1980s. Conversely, the Board of County Commissioners for Stevens County, Washington, supported our decision not to designate critical habitat in northeastern Washington.

Our Response: The Kettle Range in northeastern Washington historically supported a lynx population (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 area was occupied by lynx at the time of listing. The Kettle/Wedge area was included as a core area in the recovery outline despite lacking recent evidence of reproduction and, therefore, did not completely meet the core area criteria in the outline (U.S. Fish and Wildlife Service 2005, pp. 3–5, 21). Moreover, 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 provide for the conservation of lynx. Additionally, we are aware of no evidence that lynx travel between the Northern Rockies and the North Cascades via northeastern Washington. As with other areas that were not occupied at the time of listing (and described in more detail in our response to comment (32), below), we could not designate the Kettle/Wedge area as critical habitat unless we determine that the DPS could only be conserved and recovered if we were to do so (i.e., that the area is essential to the conservation of the DPS). We have not determined that this area is essential to the conservation and recovery of the DPS and we have not designated critical habitat in the Kettle/Wedge area in this final rule.

Public Comments

(32) *Comment:* We received many public comments requesting that we designate additional areas as critical habitat, including the Southern Rocky Mountains (parts of western Colorado, northern New Mexico, northeastern Utah, and south-central Wyoming), the Kettle/Wedge and other areas of northeastern Washington, Oregon, additional areas of northern Idaho and western Montana, parts of central and southeastern Idaho, additional areas in northern Minnesota, and parts of northern New Hampshire and northern Vermont. Some commenters felt we should designate critical habitat in all areas identified as ''core areas'' in the recovery outline (U.S. Fish and Wildlife Service 2005, entire), while other commenters felt that ''secondary'' and ''peripheral'' areas identified in the outline also should be designated.

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. Section 3(5)(C) also states that critical habitat ''shall not include the entire geographical area which can be occupied by the threatened or endangered species'' except when the Secretary determines that the areas are essential for the conservation of the species. The term ''conservation'' as defined in section 3(3) of the Act means ''to use and the use of all methods and procedures which are necessary to bring an endangered species or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary.''

With the exception of parts of western Colorado, where a lynx population was introduced just prior to our listing the DPS as threatened, there is no evidence that the places mentioned above were occupied by resident lynx populations at the time of listing and, for most, no

evidence that they are currently occupied by lynx or that they contain the PCE. In order to designate critical habitat in areas not occupied at the time of listing, we must determine that those areas are essential to the conservation and recovery of the DPS (i.e., that the DPS could only be conserved and recovered if we were to designate those areas). To determine what is essential to conservation and recovery, we must look at the threat for which the DPS was listed and determine whether designating unoccupied areas would contribute meaningfully to addressing and ameliorating that threat. The lynx DPS was listed as threatened due to the inadequacy, at the time of listing, of existing regulatory mechanisms and, unlike many species listed under the Act, not to any substantial documented population decline or significant range contraction (65 FR 16071–16082; 68 FR 40084–40101). We have determined that designating areas not occupied by lynx at the time of listing would not meaningfully address or ameliorate the threat for which the DPS was listed and that doing so would not improve the likelihood of recovery (the point at which the protections of the Act are no longer necessary and delisting the DPS would be appropriate). We do not find that the DPS can only be conserved and recovered if we were to designate areas not occupied at the time of listing. Because these areas are not essential to the conservation and recovery of the DPS, designating them would not comply with the Act. Therefore, we have not designated critical habitat in areas that were not occupied by lynx at the time of listing.

Parts of Colorado were occupied by an introduced population of by lynx at the time of listing. However, habitats there apparently did not historically support a resident lynx population, and we have determined that these areas likely do not contain the physical and biological features essential to lynx in adequate quantity and/or spatial arrangement to support a lynx population over time. For additional details regarding our evaluation of the historic record of verified lynx occurrence in Colorado and the Southern Rockies and of the quality of potential lynx habitats there, see our responses to comments (10), (11), and (23), above, and *Application of the Criteria to the Southern Rocky Mountains and Certain National Forests in Idaho and Montana* under the *Criteria Used to Identify Critical Habitat* section, below.

In the recovery outline, we defined six core areas for lynx as those having *both* persistent verified records of lynx occurrence over time *and* recent evidence of reproduction (U.S. Fish and Wildlife Service 2005, pp. 3–5, 20–21). However, as discussed above in our response to comment (31), the Kettle/Wedge area of northeastern Washington was included as a core area despite lacking recent evidence of reproduction and, therefore, it did not completely meet the core area criteria in the outline. We also defined the Southern Rocky Mountains of Colorado and southern Wyoming as a ''provisional'' core area because it contained an introduced lynx population that had demonstrated reproduction (U.S. Fish and Wildlife Service 2005, p. 4). Colorado otherwise does not meet the outline's criteria for core areas because prior to the introduced population it lacked persistent verified records of lynx occurrence over time. Southern Wyoming also lacked such records and also had no evidence of recent reproduction. Aside from these two areas (Kettle/Wedge and Southern Rockies), we have designated critical habitat that includes the vast majority of the other areas identified as core areas in the recovery outline.

Regardless, the methodology we used in defining areas for lynx critical habitat did not mirror that used for the lynx recovery outline, although it 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 to the conservation of lynx. 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 outline. The recovery outline more broadly encompasses older records of lynx, and 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.

(33) *Comment:* One commenter contends that, because we acknowledge that the best available information does not allow us to simply measure and map all the physical and biological features essential to lynx across the range of the DPS, we have failed to demonstrate that designated areas actually contain all the essential features and, therefore, we should withdraw the designation until we have information adequate to map only those areas that contain all of the essential features. Another commenter argued that, because we concede that the best available information does not allow specific quantification of the essential physical and biological features, it is inappropriate to use ''adequate quantity and spatial arrangement'' of these features as a prerequisite for critical habitat and we should designate all areas that demonstrate they contain some quantity of the features.

Our Response: The Act does not require that we have perfect information before designating critical habitat, only that we make our designations appropriately based on the best available information. Because we lack perfect information and tools adequate for measuring the precise distribution of all the essential features across the broad range of the DPS we must look at the history of verified lynx records, the results of lynx and hare surveys and habitat assessments, and evidence of an area's ability to support lynx over time to evaluate the historic and current distributions of habitats that contain the essential features. We have evaluated the available scientific and commercial information and believe that this critical habitat designation appropriately relies on that information to distinguish between areas that demonstrably contain the essential features in adequate quantity and spatial arrangement to support lynx populations and which, therefore, are essential to the conservation and recovery of the DPS from other areas for which such evidence is lacking.

(34) *Comment:* Several commenters stated that we failed to identify and designate critical habitat in important linkage corridors they believe are essential to the conservation of the DPS. Other commenters believe that we should designate critical habitat in northeastern Washington because it serves as an important linkage between lynx populations in the Northern Rockies of Montana and Idaho and those in the North Cascades of north-central Washington.

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 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 a competitive advantage over other hare predators. Critical habitat for lynx does provide 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 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 believed to be 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 thought to be important to ensuring long-term persistence of lynx populations in the United States. However, lynx are wide-ranging animals with a well-documented ability to make long journeys across both suitable and unsuitable habitats (68 FR 40079), and there is no evidence that human-caused factors have significantly reduced the ability of lynx to disperse or resulted in the loss of genetic or demographic interchange (65 FR 16079). As we highlighted in our response to comment (22), above, although the level of diminished connectivity at which DPS populations could be affected is unknown, we have no evidence that current levels of connectivity between lynx populations in the DPS and those in the core of the lynx's range are inadequate to maintain the genetic and demographic health of DPS populations or that this situation is likely to change in the foreseeable future. Finally, as stated above in our response to comment (31), we are aware of no evidence that lynx travel between the Northern Rockies and the North Cascades via northeastern Washington.

(35) *Comment:* Some commenters questioned the adequacy of the environmental assessment and other aspects of our compliance with NEPA. They felt that the draft environmental assessment lacked information, did not address recovery, and did not address the full range of alternatives. Some recommended an alternative that includes all core areas identified in the recovery outline. 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 environmental assessment and a draft economic analysis 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 these documents was published in the **Federal Register** on June 20, 2014 (79 FR 35303). The draft documents have been available since that date on our Web site (*http://www.fws.gov/mountain-prairie/species/mammals/lynx/index.htm*), at *www.regulations.gov,* 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 environmental assessment 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 environmental assessment and FONSI are available on our Web site and at *www.regulations.gov* (also see **ADDRESSES** section of this rule).

The environmental assessment 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.

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.

Comments on the Economic Analysis

(36) *Comment:* The Small Business Association Office of Advocacy (Advocacy) expressed concern that we improperly certified that the proposed rule would not have a significant impact on a substantial number of small businesses based on the mistaken belief that critical habitat designations only impact Federal agencies. Advocacy asserts that small businesses, especially in the forestry industry, are concerned that we are not considering the impact this designation will have on the industry, and that we should publish an Initial Regulatory Flexibility Analysis (IRFA).

Our Response: Our assessment of our responsibilities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), including the need for an IRFA, was provided in the Required Determinations—Amended section of the Notice of Availability published in the **Federal Register** on June 20, 2014 (79 FR 35308) and is reaffirmed in the Required Determinations section of this final rule (below). We evaluated the potential timber-related effects of the critical habitat designation in our environmental assessment (U.S. Fish and Wildlife Service 2014, pp. 35–44, 81–82) and both our 2008 and 2014 economic analyses (IEc, Inc. 2008, 4–1—4–39; U.S. Fish and Wildlife Service and IEc, Inc. 2014, pp. 6–15). We concluded that critical habitat designation was unlikely to result in significant impacts to timber-related activities because these activities on Federal lands or for which a Federal nexus exists already must undergo consultation, because the additional prohibition on the destruction or adverse modification of designated critical habitat is unlikely to result in additional conservation measures or restrictions, and because these activities on private lands for which there is no Federal nexus typically will not require consultation under section 7 of the Act.

(37) *Comment:* Multiple commenters stated that the economic screening analysis did not comply with ESA

Section 4(b)(2) or the 2010 Wyoming District Court decision, which enjoined the critical habitat designation in Washington State due to inadequacies that the court identified in the Service's 2009 critical habitat rulemaking. The commenter states that based on the Tenth Circuit's decision in *New Mexico Cattle Growers Association* v. *U.S. Fish & Wildlife Service,* 248 F. 3d 1277, 1285 (10th Cir. 2001), the District Court concluded that the Service cannot focus solely on the ''quantifiable discounted future incremental costs.'' One commenter noted that the screening analysis used the baseline model and considered only the incremental effects of the designation of critical habitat. The commenter stated that new Service guidance endorsing the baseline approach does not relieve the Service from the order issued by the District Court in this case. The commenter goes on to state that the approach used in the screening analysis forecloses any possibility that the Service would give meaningful consideration to Washington State Snowmobile Association's (WASSA's) Section 4(b)(2) exclusion request.

Our Response: The Service relied on both the economic screening analysis prepared for this revised designation (U.S. Fish and Wildlife Service and IEc, Inc. 2014, entire) and the Economic Analysis it prepared for the 2009 designation (IEc, Inc. 2008, entire) to evaluate the potential economic impacts from the critical habitat designation and to give meaningful consideration to the WASSA's exclusion request. The WASSA provided detailed comments about potential economic impacts, which were also considered by the Secretary when she determined whether or not to exclude any areas as a result of economics under section 4(b)(2) of the ESA.

(38) *Comment:* Multiple commenters stated that the economic analysis should consider impacts to all 41,547 square miles proposed for designation. One commenter stated that the **Federal Register** notice accompanying the DEA attempts to limit the analysis to consider just the incremental ''administrative costs of the 11 percent of the proposed critical habitat that is not already designated.'' The commenter stated that the screening analysis must include an analysis of the economic impacts of the entire designation that is being proposed.

Our Response: Section 3 of the screening analysis does consider the incremental costs of the proposed rule across all 41,547 square miles proposed as critical habitat for the Canada lynx. In that section, we concluded that section 7-related costs of designating revised critical habitat for the lynx are likely to be limited to the additional administrative effort required to consider adverse modification based in part on the fact that all areas proposed as critical habitat lands are considered to be currently occupied by the species, which provides the species significant baseline protection under the Act. We then estimated the administrative cost of addressing adverse modification during the section 7 consultation at approximately $320,000 per year based on a future consultation rate of 12 formal consultations, 101 informal consultations, and 48 technical assistances per year. Because this estimate may overstate the consultation rate for some field offices that were unable to limit the consultation history to only those areas proposed as critical habitat, it is likely conservative (i.e., it is more likely to overestimate these costs than it is to underestimate them). Section 4 of the screening analysis discusses other, non-section-7 effects of the proposed designation. These effects are only considered in newly added critical habitat, which consisted of 888 mi^2 or two percent of the proposed critical habitat. The analysis of other, non-section-7 costs was limited to newly added areas because these are areas where the revised designation may increase awareness among project proponents of the presence of the lynx and/or the need for lynx conservation. We also note that we carefully considered the Final Economic Analysis prepared for the 2009 designation (IEc, Inc. 2008, entire) when considering areas for exclusion in this final rule under section 4(b)(2) of the ESA.

(39) *Comment:* One commenter stated that the screening analysis fundamentally fails to account for proposed changes to the definition of ''destruction or adverse modification'' currently under consideration at 79 FR 27060. The commenter stated that the Service's conclusion that there will be no meaningful economic impacts is premised on the overlap between restrictions imposed under the jeopardy standard and the destruction or adverse modification standard. The commenter contended that the Service must analyze whether those assumptions hold true in light of proposed regulatory changes to the Service's definition at 50 CFR 402.02. According to the commenter, these concerns are particularly relevant with respect to fire ecology management on dry forest lands in Washington and Wyoming, as the proposed rule for revising the definition of adverse modification indicates that an activity could adversely modify critical habitat by preventing successional changes such as stand-replacing fires.

Our Response: On May 12, 2014, we and the National Marine Fisheries Service published in the **Federal Register** and invited public comment on a proposed rule to revise the definition of ''destruction or adverse modification'' of critical habitat (79 FR 27060–27066). In the proposed rule we stated: ''In proposing a new definition for 'destruction or adverse modification,' and setting out the accompanying clarifying discussion in this Preamble, the Services are establishing prospective standards only. Nothing in these proposed revised regulations is intended to require (now or at such time as these regulations may become final) that any previously completed biological opinions must be reevaluated on this basis'' (79 FR 27062). Similarly, we do not intend to evaluate the proposed revised definition's potential implications for this or other critical habitat designations, or to retroactively apply the eventual final definition to previously completed designations.

Regardless, because section 7 consultations addressing the jeopardy standard for lynx already do, and likely will continue to, focus largely on potential impacts to snowshoe hare (i.e., lynx foraging) habitats, we do not expect the revised definition to appreciably diminish the overlap between restrictions imposed under the jeopardy standard and the destruction or adverse modification standard. Additionally, fire ecology management activities discussed by the commenter are unlikely to be undertaken solely to avoid adverse modification to lynx critical habitat resulting from wildfires, but also to protect other uses of forests in which these activities would be undertaken. Therefore, even without the critical habitat designation, fire ecology management activities are likely to occur in these areas.

(40) *Comment:* Multiple commenters expressed concern about increased litigation-related costs associated with the final critical habitat rule. One commenter states that future claims may be brought against Federal agencies and developers alleging that a given project causes ''adverse modification'' of critical habitat or asserting a higher analytical burden under the NEPA as a result of a project's location in critical habitat.

Our Response: The Service does not consider the costs of litigation surrounding the critical habitat rule when considering the economic impacts of the rule itself. The extent to which litigation specifically regarding critical

habitat may add to the costs of the critical habitat designation is uncertain. While designation of critical habitat may stimulate additional legal actions, data do not exist to reliably estimate such impacts. That is, estimating the number, scope, timing, and costs of potential future legal challenges would require significant speculation.

(41) *Comment:* One commenter stated that the screening analysis fails to account for the economic impact associated with unintentional impacts on forest management practices. The commenter stated that critical habitat designations negatively impact forest management practices by either creating too much ''red tape'' or by providing litigation angles to stop forest management projects, resulting in a decrease in forest health, an increase in catastrophic wildfires, and an increase in response to those wildfires.

Our Response: The only forest management practices that may be impacted by the designation of critical habitat are those that occur on Federal lands or which require Federal funding, authorization, or permits. The Federal agency that manages the land or which funds, authorizes, or permits these activities must consult with the Service to ensure that their actions are not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of their designated critical habitats. This final rule designates critical habitat for lynx only in areas that are currently occupied by lynx and which, therefore, already undergo section 7 consultations for projects that could affect lynx. Because these consultations already focus on impacts to lynx habitats, the additional effort and cost to formally evaluate whether they will destroy or adversely modify designated critical habitat are expected to be minor and thus unlikely to result in unintentional impacts or additional economic or regulatory burdens.

We are aware of no evidence suggesting that the designation of critical habitat will cause a decrease in forest health or an increase in catastrophic wildfires and associated responses, and none was provided by the commenters. Additionally, ecosystem restoration activities intended to reduce the risk of large, stand-replacing fires generally occur outside of lynx habitat in dry and mesic forest types at lower elevations (Interagency Lynx Biology Team 2013, p. 76). Because fire management activities are generally concentrated outside of lynx habitat, we do not expect the critical habitat designation to negatively affect forest management practices intended to decrease the risk of catastrophic wildfires. Finally, as described in our response to comment (40) above, the extent to which critical habitat designation may result in increased litigation is uncertain and speculative.

(42) *Comment:* One commenter stated that the economic screening analysis should include costs of increased wetland mitigation required by the U.S. Army Corps of Engineers or by the U.S. Environmental Protection Agency in critical habitat areas.

Our Response: As stated in Section 2 of the screening analysis, we base our forecast of future consultations on the robust consultation history available for the species as well as supplemental information provided by various Service field offices that consult on lynx. The consultation record does include several consultations for wetland mitigation projects; therefore, the administrative costs related to wetland mitigation activities are included in the estimates of incremental impacts included in the screening analysis. As discussed in Section 3, based on the substantial baseline protections afforded the lynx and the close relationship between adverse modification and jeopardy in occupied habitat, the incremental costs of the critical habitat designation are unlikely to result in any project modifications incremental to (i.e., above and beyond) the baseline.

(43) *Comment:* One commenter stated that economic impacts in Wyoming will be greater than those described in the screening analysis. The commenter stated that, both in perception and reality, the threats of critical habitat designation on multiple-use lands in the expansion area chills activity and will have substantial impacts on economic development and management of other resources. According to the commenter, resource managers in the affected area note that critical habitat creates significant roadblocks for the development of projects that can benefit other wildlife species, recreational opportunities, and local and State economies. The commenter requests that the Service conduct a new economic analysis that considers the real costs of expanding critical habitat in Wyoming.

Our Response: As stated in Section 3 of the screening analysis, we expect incremental costs to be limited to administrative costs based in part on the fact that all areas proposed as critical habitat lands are considered to be currently occupied by the species, which provides the species significant baseline protection under the Act. To estimate the magnitude of incremental costs, we rely on the robust consultation history as well as outreach to relevant Service field offices and other Federal stakeholders. In addition, the screening analysis considers information from publically available sources and public comments submitted in response to the proposed critical habitat rulemaking. Other, non-section-7 incremental costs are considered in Section 4 of the screening analysis. The commenter did not provide additional, actionable data or evidence of the categories of impacts raised in the public comment that could be used to revise the screening analysis.

(44) *Comment:* One commenter stated that the fact that the screening analysis projects only 1 informal consultation per year in Washington and that the Service's Incremental Effects Memorandum (IEM) indicates that there were 195 informal lynx consultations in the State between 2008 and 2014 cannot be reconciled.

Our Response: As discussed in Section 3 of the screening analysis, geographic locations of the consultation history presented in the IEM were not readily available. Therefore, we contacted each field office to determine the subset of the consultations presented in the IEM that occur within the proposed critical habitat designation. As discussed in footnote 20 of the screening analysis, based on this follow-up, the Washington field office revised its consultation history to reflect only the subset of consultations for projects that occurred in areas proposed as critical habitat. Specifically, the Washington field office indicated that only 4 of the 195 informal consultations occurred within proposed critical habitat. This level of activity corresponds to approximately one informal consultation per year. According to the Washington field office, the relatively low consultation rate in the State of Washington is a reflection of existing conservation agreements and management plans, which minimize the administrative burden of section 7 consultation by precluding the need for action agencies to consult with the Service on each project individually.

(45) *Comment:* One commenter stated that the total cost column in Exhibit 4 of the screening analysis does not reflect the sum of the previous cost columns, and that these errors artificially deflate the related administrative costs.

Our Response: This comment reflects a transcription error. In Exhibit 4 of the screening analysis, the column titled ''Biological Assessment'' actually refers to the total cost of consultation *without* undertaking a biological assessment. Total costs in the columns titled

''Service'', ''Federal Agency'', and ''Third Party'' sum to the number in ''Biological Assessment.'' The column titled ''Total Costs'' refers to the total cost of consultation including a biological assessment. Therefore, the total cost of a biological assessment is the difference between the dollar amounts in ''Total Costs'' and ''Biological Assessment.'' When calculating total impacts, we use the amounts reported in the ''Total Costs'' column. The error in the table actually *overestimated* the costs in the ''Biological Assessment'' column but did not affect the values in the ''Total Costs'' column. Because we relied on the ''Total Costs'' column when calculating total economic impacts, there was no artificial deflation of related administrative costs.

(46) *Comment:* Several commenters stated that the screening analysis should have used administrative cost information from the ''robust consultation history'' rather than a review of consultation records from 2002 adjusted to current dollar values. Another commenter stated that an applicant's participation in a single formal consultation under Section 7 of the Act for an oil and gas project typically costs between $75,000 and $150,000. The commenter stated that, if the cost of addressing critical habitat is approximately 20 to 25 percent of the total cost of consultation, the total incremental administrative costs of consultation would be $18,750 to $37,500, as compared to the per consultation cost of $5,000 used in our analysis. The commenter also stated that the total cost of considering critical habitat in a biological assessment ranges between $10,000 and $50,000.

Our Response: The consultation history for the Canada lynx is limited to information on the number of consultations per year, by field office. The Service does not collect or track information on the costs incurred by each party participating in section 7 consultations. Accordingly, the Canada lynx consultation history does not provide any additional insights on the administrative cost of section 7 consultation.

To estimate the administrative costs associated with section 7 consultation, the screening analysis relied on the best information available. As described in Exhibit 4 of the screening analysis, the consultation cost model is based on (a) data gathered from three Service field offices (including a review of consultation records and interviews with field office staff); (b) telephone interviews with action agency staff (e.g., BLM, Forest Service, U.S. Army Corps of Engineers); and (c) telephone interviews with private consultants who perform section 7 work in support of permittees. In the case of Service and Federal agency contacts, we determined the typical level of effort required to complete several different types of consultations (i.e., hours or days of time), as well as the typical Government Service (GS) level of the staff member performing this work. In the case of private consultants, we interviewed representatives of firms in California and New England to determine the typical cost charged to clients for these efforts (e.g., biological survey, preparation of materials to support a Biological Assessment). The model is periodically updated with new information received in the course of data collection efforts supporting economic analyses and public comment on more recent critical habitat rules. In addition, the GS rates have been updated annually.

Finally, even if the estimated administrative cost of section 7 consultation were adjusted upwards to $87,500 per consultation, the sum of the upper bounds estimates for incremental administrative costs of consultation and biological assessment provided by the commenter, the total incremental impacts ($14 million) still do not approach total costs in excess of $100 million in a given year; therefore it is not considered a ''significant regulatory action'' under the Unfunded Mandates Reform Act (see *Unfunded Mandates Reform Act,* below).

(47) *Comment:* One commenter stated that the designation of critical habitat creates a regulatory assumption that snowmobiling activity will be further curtailed, thereby discouraging future investment that is needed to support continued viability and further growth of the industry. The commenter cited sworn testimony from two members of the Washington State Snowmobile Association (WASSA), which indicates that, during the brief period that the critical habitat designation was in place in Washington, the snowmobiling industry in Washington experienced measurable economic impacts. The commenter states that the screening analysis notes these concerns but fails to meaningfully address this potential impact.

Our Response: Section 4 of the screening analysis discusses potential impacts on snowmobiling in Washington. In this section, we note that in 2001, Washington State University and WASSA conducted a study estimating the annual economic contribution of the entire snowmobiling industry in Washington at approximately $92.7 million (2001 dollars). In response to the 2009 critical habitat designation, WASSA estimated that snowmobiling accounted for nearly $8.5 million in direct expenditures and $4.1 million in indirect spending in the Methow Valley, an area adjacent to designated critical habitat. As discussed in Section 4, annual data on snowmobiling participation in Washington since 2009 are not readily available. As such, existing data are insufficient to quantify the proportion of the annual economic contribution of the snowmobiling industry that may be affected by the final rule. In addition, stakeholders contacted for the 2014 economic analysis do not anticipate the proposed rule to result in any significant changes to the management of snowmobiling activities in Washington State. We also contacted the Maine and Minnesota Service field offices to determine whether or how snowmobiling activities may have been affected as a result of snowmobiling trails proposed in critical habitat designated there since 2009. According to these discussions, no significant changes in snowmobiling activities have been observed since the 2009 designation of critical habitat in Maine and Minnesota or since the preparation of the Final Economic Analysis of the 2009 designation (IEc, Inc. 2008, entire).

(48) *Comment:* One commenter stated that the screening analysis should include costs resulting from the uncertainty and risk imposed on developers of projects located in proposed critical habitat.

Our Response: Section 4 of the screening analysis discusses the possible perceptional effects of the proposed rule on private property values. Specifically, this section discusses comments and concerns submitted in response to previous critical habitat rulemakings that the designation of critical habitat may affect the value of a private property due to the public perception that the Act may preclude, limit, or slow development, or somehow alter the highest and best use of the property. To assess the likelihood of such an outcome, the screening analysis examined data on development activities in areas proposed as critical habitat where the designation of critical habitat increases awareness of the presence of the species or the need for protection of its habitat. Based on the available data, we concluded that, due to low population densities, existing zoning laws, and the distance of proposed critical habitat areas from existing development or public infrastructure (e.g., public roads), the proposed critical habitat designation is

unlikely to result in measurable perceptional effects. The commenter did not provide data or information that could be used to revise the screening analysis to consider the potential for project developers to face greater uncertainty or risk due to the proposed rule.

(49) *Comment:* Multiple commenters stated that the screening analysis omits the economic benefits of critical habitat designation. One commenter cited increased recreational use of forests as a result of decreased forest degradation as an example of these benefits. Another commenter states that this one-sided analysis has a distorting effect as readers of the analysis may interpret the results as indicating that lynx protection is ''costly'' in a net sense. The commenter stated that the screening analysis provides no discussion as to whether any efforts were expended to review the literature regarding the availability of estimates of the benefit of lynx habitat conservation.

Our Response: As stated in Section 5 of the screening analysis, the primary intended benefit of critical habitat designation for the Canada lynx is to support the species' long-term conservation. Critical habitat designation may also generate ancillary benefits, which are defined as favorable impacts of a rulemaking that are typically unrelated, or secondary, to the statutory purpose of the rulemaking (U.S. Office of Management and Budget 2003, entire). Critical habitat aids in the conservation of species specifically by protecting the PCEs on which the species depends. To this end, management actions undertaken to conserve a species or habitat may have coincident, positive social welfare implications, such as increased recreational opportunities in a region or improved property values on nearby parcels.

As described in Section 2 of the screening analysis, incremental changes in land management as a result of the designation of critical habitat are unlikely. This finding is based primarily on the fact that all areas proposed as critical habitat are considered occupied by the species and, therefore, receive baseline protection from the listing of the species under the Act. Thus, in this instance, critical habitat designation will likely add minimal conservation benefits to those already provided by baseline conservation efforts (e.g., efforts resulting from the listing of the species under the Act). For the same reason, it follows that the designation will likely add minimal ancillary benefits above those provided in the baseline.

Summary of Changes From Proposed Rule

In our proposed rule, published September 26, 2013 (78 FR 59430), we proposed to designate 41,547 mi^2 (107,607 km^2) of critical habitat for the Canada lynx DPS in five units in six States. The proposed critical habitat represented 23,811 mi^2 (61,669 km^2; 57 percent) on Federal lands, 4,129 mi^2 (10,695 km^2; 10 percent) on State lands, 13,050 mi^2 (33,800 km^2; 31 percent) on private lands, 535 mi^2 (1,385 km^2; 1 percent) on Tribal lands, and 23 mi^2 (58 km^2; 0.1 percent) on lands owned by local municipalities or in ''other'' ownership.

We received a number of site-specific comments related to critical habitat for the Canada lynx; completed our analysis of areas considered for exemption under section 4(a)(3)(B)(i) of the Act and for exclusion under section 4(b)(2) of the Act; reviewed the application of our criteria for identifying critical habitat across the range of the lynx DPS to refine our designation; and completed and carefully considered the final economic analysis of the designation as proposed. We fully considered all substantive comments from peer reviewers, States, Tribes, and the public on the proposed critical habitat rule and the associated economic and environmental analyses to develop this final critical habitat designation for the lynx DPS. This final rule incorporates changes to our proposed critical habitat based on the comments we received and to which we have responded in this document; reflects refined lynx habitat mapping provided by Federal and State partners in Idaho, Montana, and Wyoming; and considers completed final management and habitat conservation plans for lynx in Maine, Montana, and Washington.

With this final rule, we designate 38,954 mi^2 (100,891 km^2) of critical habitat for the Canada lynx DPS in five units in six States. This final designation represents 23,402 mi^2 (60,612 km^2; 60 percent) on Federal lands, 3,945 mi^2 (10,217 km^2; 10 percent) on State lands, 11,584 mi^2 (30,003 km^2; 30 percent) on private lands, and 23 mi^2 (59 km^2; 0.1 percent) on lands owned by local municipalities or in ''other'' ownership. Changes from the proposed rule are described below for each critical habitat unit.

Unit 1—We have excluded all Tribal lands, about 96 mi^2 (248 km^2), from critical habitat in this unit; this area is slightly larger than the area identified in the proposed rule (87 mi^2 (225 km^2)) due to improved mapping data provided by the Tribes. We have corrected the list of Tribes whose lands occur within the final critical habitat boundary—only Passamaquoddy Tribe and Penobscot Indian Nation lands are within the boundary, and these lands are excluded from this final designation. We have also excluded about 943 mi^2 (2,443 km^2) of private lands enrolled in the Natural Resources Conservation Service's Healthy Forest Reserve Program (HFRP). With this final rule, we designate 10,123 mi^2 (26,218 km^2) of critical habitat in this unit, which represents a 1,039-mi^2 (2,691-km^2; 9.3-percent) reduction from the proposed designation. See Consideration of Impacts under Section 4(b)(2) of the Act, below, for details regarding lands excluded from designation in this unit.

Unit 2—We have excluded about 78 mi^2 (202 km^2) of Tribal lands from critical habitat in this unit. With this final rule, we designate 8,069 mi^2 (20,899 km^2) of critical habitat in this unit, which represents a 78-mi^2 (202-km^2, 1.0-percent) reduction from the proposed designation. See Consideration of Impacts under Section 4(b)(2) of the Act, below, for details regarding lands excluded from designation in this unit.

Unit 3—We have excluded from critical habitat in this unit about 370 mi^2 (958 km^2) of Tribal lands as well as 271 mi^2 (702 km^2) of State lands managed in accordance with the MDNRC Forested State Trust Lands HCP. See Consideration of Impacts under Section 4(b)(2) of the Act, below, for details regarding lands excluded from designation in this unit. We have added about 61 mi^2 (158 km^2) of Federal land and 39 mi^2 (101 km^2) of private lands; and we have removed about 73 mi^2 (189 km^2) of Federal land, 77 mi^2 (189 km^2) of private land, and 28 mi^2 (73 km^2) of State Trust land in the vicinity of Flathead National Forest in Montana due to improved lynx habitat mapping on this National Forest (U.S. Forest Service 2013a, entire)—a net reduction of 78 mi^2 (202 km^2) in this area. However, due to improved ownership data, the final designation represents a net increase of about 136 mi^2 (352 km^2) of Federal lands in this unit. With this final rule, we designate 9,783 mi^2 (25,337 km^2) of critical habitat in this unit, which represents a 691-mi^2 (1,790-km^2; 6.6-percent) reduction from the proposed designation.

Unit 4—We have excluded about 164 mi^2 (425 km^2) of State lands managed in accordance with the WDNR Lynx Habitat Management Plan. With this final rule, we designate 1,834 mi^2 (4,751 km^2) of critical habitat in this unit, which represents a 164-mi^2 (425-km^2, 8.2-percent) reduction from the

proposed designation. See Consideration of Impacts under Section 4(b)(2) of the Act, below, for details regarding lands excluded from designation in this unit.

Unit 5—We have excluded 1.3 mi^2 (3.4 km^2) of State land managed in accordance with the MDNRC HCP. See Consideration of Impacts under Section 4(b)(2) of the Act, below, for details regarding lands excluded from designation in this unit. We have also removed about 543 mi^2 (1,406 km^2) of Federal lands, 6 mi^2 (16 km^2) of State lands, and 71 mi^2 (184 km^2) of private lands on and adjacent to the Gallatin and Custer National Forests in Montana and BLM lands in Wyoming due to improved lynx habitat mapping and information from those agencies (U.S. Fish and Wildlife Service 2013a, entire; 2013b, entire; U.S. Forest Service 2013b, entire). With this final rule, we designate 9,146 mi^2 (23,687 km^2) of critical habitat in this unit, which represents a 620-mi^2 (1,606-km^2; 6.4-percent) reduction from the proposed designation in this unit.

Overall, this final designation represents a reduction on (1) Federal lands of 409 mi^2 (1,059 km^2; 1.7 percent); (2) State lands of 184 mi^2 (477 km^2; 4.5 percent); (3) private lands of 1,466 mi^2 (3,797 km^2; 11.2 percent), and (4) Tribal lands of 535 mi^2 (1,386 km^2; 100 percent) from the area proposed for designation. With this final rule, we designate 38,954 mi^2 (100,891 km^2) of critical habitat for the Canada lynx DPS. This represents a 2,593-mi^2 (6,716-km^2; 6.2-percent) reduction from the area identified in the September 26, 2013, proposed rule (78 FR 59430).

Revised Definition of the Contiguous United States Distinct Population Segment of the Canada Lynx

In the final listing rule for the Canada lynx, dated March 24, 2000, the Service defined the contiguous United States DPS of lynx based on the international boundary with Canada and State boundaries of all 14 States in the historic and current range of lynx (65 FR 16052; 74 FR 66937). With that definition, New Mexico was not included in the listed area because no lynx occurred there, historic records did not show lynx in the State, and it lacked lynx habitat.

On December 17, 2009, the Service published a 12-month ''warranted but precluded'' finding in the **Federal Register** on a petition to expand the listing of the Canada lynx to include the State of New Mexico (74 FR 66937). That finding was made in response to an August 8, 2007, petition from a coalition of environmental groups and a 2008 settlement agreement. In the finding, the Service acknowledged that lynx associated with a lynx population introduced into Colorado were ''regularly and frequently'' crossing the State boundary between Colorado and New Mexico and that, when they did, they were no longer protected by the Act because New Mexico was not included in the listed DPS area. In 2011, as part of a settlement agreement reached in Multi-District litigation, the Service agreed to amend the listing rule to include New Mexico so that lynx entering New Mexico from Colorado would no longer lose Federal protection under the Act upon crossing the State boundary.

We have determined that lynx entering New Mexico, or any other States not currently included in the DPS as described in the 2000 final listing rule, should not lose their protection under the Act upon doing so. Therefore, with this final rule, we have rescinded the State-boundary-based definition of the range of the contiguous United States lynx DPS and replace it in regulation with a definition of the DPS range that extends the Act's protections to lynx ''where found within the contiguous United States.'' This change ensures that all lynx in the contiguous United States receive protection under the Act regardless of where they occur, including (but not limited to) New Mexico.

Critical Habitat

Background

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

(1) The specific areas within the geographical area occupied by the 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 the 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 to use and the use of all methods and procedures that are necessary to bring an endangered 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 requirement that Federal agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of 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 non-Federal 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) of the Act would apply, but even in the event of a destruction or adverse modification finding, the obligation of the Federal action agency and the landowner is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act's definition of critical habitat, areas within the geographical area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) which are essential to the conservation of the species and (2) which may require special management considerations or protection. For these areas, critical habitat designations identify, to the extent known using the best scientific and commercial data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat). In identifying those physical or biological features within an area, we focus on the principal biological or physical constituent elements (primary constituent elements such as roost sites, nesting grounds, seasonal wetlands, water quality, tide, soil type) that are essential to the conservation of the species. Primary constituent elements are those specific elements of the physical or biological

features that provide for a species' life-history processes and are essential to the conservation of the species.

Under the second prong of the Act's definition of critical habitat, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. For example, an area currently occupied by the species but that was not occupied at the time of listing may be essential to the conservation of the species and may be included in the critical habitat designation. We designate critical habitat in areas outside the geographical area occupied by a species only when a designation limited to its range would be inadequate to ensure 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 are based on 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 we are 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 plan or recovery outline for the species (if one has been completed), articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, other unpublished materials, or experts' opinions or personal knowledge.

Habitat is dynamic, and species may move from one area to another over time. 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 designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act, (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to insure their actions are not likely to jeopardize the continued existence of any endangered or threatened species, and (3) section 9 of the Act's prohibitions on taking any individual of the species, including taking caused by actions that affect habitat. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of this species. 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 (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

Physical or Biological Features

In accordance with section 3(5)(A)(i) and 4(b)(1)(A) of the Act and regulations at 50 CFR 424.12, in determining which areas within the geographical area occupied by the species at the time of listing to designate as critical habitat, we consider the physical or biological features essential to the conservation of the species and which may require special management considerations or protection. 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, or rearing (or development) of offspring; and

(5) Habitats that are protected from disturbance or are representative of the historical, geographical, and ecological distributions of a species.

We derive the specific physical or biological features essential for the lynx DPS from studies of this species' habitat, ecology, and life history as described in the Background and Critical Habitat sections of the proposed rule to designate critical habitat published in the **Federal Register** on September 26, 2013 (78 FR 59430), and in the information presented below. Additional information on the habitat, ecology, and life history of the lynx DPS can be found in the documents listed above under Previous Federal Actions. We have determined that lynx require the following physical or biological features:

Space for Individual and Population Growth and for Normal Behavior

Boreal Forest Landscapes

Lynx populations respond to biotic and abiotic factors at different scales. At the regional scale, boreal forests, snow conditions, and competitors (especially bobcat) influence the species' range (Aubry *et al.* 2000, pp. 378–380; McKelvey *et al.* 2000a, 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, forest management, and development) may influence the spatial and temporal distribution of lynx populations by affecting the distribution of high-quality 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 (vegetation community) scale, the quality, quantity, and juxtaposition of habitats influence home range location and size, productivity, and survival (Aubry *et al.* 2000, pp. 380–390; Vashon *et al.* 2005a, pp. 9–11). At the smaller substand (within-stand) scale, the spatial distribution and abundance of prey and microclimate likely influence lynx movements, hunting behavior, and den and resting site locations (Organ *et al.* 2008, entire; Squires *et al.* 2008, entire; Moen and Burdett 2009, p. 16; Squires *et al.* 2010, pp. 1648, 1654–1657).

Generally, the physical and biological features of critical habitat for lynx are found within relatively large landscapes (large enough to support multiple lynx home ranges) in what is broadly described as the boreal forest or cold temperate forest (Frelich and Reich 1995, p. 325; Agee 2000, pp. 43–46). That is, no individual small-scale area or site is likely to have all of the physical and biological features lynx need to survive. However, small lynx populations can persist in areas with relatively small areas of boreal forest habitat, as they do in the Garnet Mountains in western Montana and in the Wyoming Range in northwestern Wyoming (Squires 2014, pers. comm.). Lynx in the DPS use very large areas as home ranges that incorporate landscape

features that may be widely separated from one another to satisfy all of their life-history needs. In contrast to the extensive homogenous boreal forest found in the core of lynx range in northern Canada and Alaska, the southern terminus of the boreal forest type that extends into parts of the northern contiguous United States becomes transitional with other forest types—the Acadian forest in the Northeast (Seymour and Hunter 1992, pp. 1, 3), deciduous temperate forest in the Great Lakes, and subalpine forest in the west (Agee 2000, pp. 43–46). In this rule, 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).

Because of the transitional nature and patchy distribution of boreal forest in the contiguous United States, species that are specifically adapted to the classic boreal forest farther north, like the lynx, must contend with aspects of their habitat at the southern extent of the boreal forest for which they are not as well-adapted. For example, southern transitional boreal forests often have lower landscape snowshoe hare densities than boreal forests further north (Wolff 1980, pp. 123–128; Buehler and Keith 1982, pp. 24, 28; Koehler 1990, p. 849; Koehler and Aubry 1994, p. 84). This difference requires lynx in the contiguous United States to incorporate more land area into their home ranges than lynx do in the north to acquire adequate food (Mowat *et al.* 2000, pp. 265, 277–278). At some point, landscape hare densities become too low, making some areas incapable of supporting lynx. Larger home ranges likely require more energy output associated with greater foraging effort (Apps 2000, p. 364) and possibly increased exposure to predation and other mortality factors than lynx face in the core of their range. All of these factors likely lead to lower reproductive output and more tenuous conservation status in many parts of the DPS relative to those in Canada and Alaska (Buskirk *et al.* 2000a, p. 95).

Throughout the range of the DPS, lynx habitat occurs within boreal forest vegetation types that support relatively high landscape densities of snowshoe hares and have deep snow for extended periods. In eastern North America, lynx are strongly associated with areas of deep snowfall and large (40-mi^2 (100-km^2)) landscapes that have been heavily cut and treated with herbicides and have a high proportion of young 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. Second-order habitat selection in the Acadian forest region is influenced by hare density (a surrogate for early successional forest) and by mature conifer forest, despite its association with lower hare densities (Simons-Legaard *et al.* 2013b, pp. 573–574). In the Northern Rocky Mountains, lynx appear to be less tied to early successional forest stages; high lynx use and hare densities, especially in the critical winter season, occur in mature multistoried forest stands where conifer branches reach the snow surface and thereby provide hare forage (Squires *et al.* 2006a, p. 15; Squires *et al.* 2010, pp. 1653–1657; Berg *et al.* 2012, entire).

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 heterogeneous mosaics of vegetative cover types and successional forest stages created by natural and human-caused disturbances (McKelvey *et al.* 2000c, 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 are positively associated with landscapes that were clearcut 15 to 35 years previously (Hoving *et al.* 2004, p. 291; Simons-Legaard *et al.* 2013b, pp. 573–574), some of which were also treated with herbicides to promote conifer regeneration (Scott 2009, p. 7). In other places, such as the Northern Rocky Mountains and Greater Yellowstone Area, mature multistoried conifer forests as well as dense regenerating conifer stands provide foraging habitat for lynx (Squires *et al.* 2010, pp. 1648, 1653–1657; Berg *et al.* 2012, entire).

The overall quality of the boreal forest landscape and the juxtaposition of stands of high-quality habitat within the landscape are important for both lynx and snowshoe hares in that both can influence connectivity or movements between habitat patches, availability of food and cover, and spatial structuring of populations or subpopulations (Hodges 2000, pp. 184–195; McKelvey *et al.* 2000c, pp. 431–432; Walker 2005, p. 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 (Moen *et al.* 2008a, p. 1507; Vashon *et al.* 2012, p. 16). In north-central Washington, hare densities are 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 patches containing dense vegetation (Walker 2005, p. 79; Lewis *et al.* 2011, p. 565). Similarly, in northwest Montana, connectivity of dense patches within the forest matrix benefits snowshoe hares (Ausband and Baty 2005, p. 209). In mountainous areas, lynx appear to prefer relatively gentle 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 areas of boreal forest landscapes to support their home ranges and to facilitate dispersal and exploratory travel. The size of lynx home ranges is 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 average home range sizes vary greatly from 12 mi^2 (31 km^2) for females and 26 mi^2 (68 km^2) for males in Maine (Vashon *et al.* 2005a, p. 7), 8 mi^2 (21 km^2) for females and 119 mi^2 (307 km^2) for males in Minnesota (Moen *et al.* 2005, p. 12), and 34 mi^2 (88 km^2) for females and 83 mi^2 (216 km^2) for males in northwest Montana (Squires *et al.* 2004a, p. 13). Home range sizes of lynx in the population introduced into Colorado averaged 29 mi^2 (75 km^2) among reproductive females, 40 mi^2 (103 km^2) among attending (reproductive) males, and 252 mi^2 (654 km^2) among all non-reproductive lynx (Shenk 2008, pp. 1, 10). Based on data presented in Shenk (2008, p. 10) and combining reproductive and non-reproductive lynx, home range estimates for lynx in Colorado averaged 181 mi^2 (470 km^2) for females and 106 mi^2 (273 km^2) for males.

Forest Type Associations in the Contiguous United States

Maine

Stands of regenerating sapling (15–35 years old) spruce-fir forest that provide dense cover are preferred by both snowshoe hares and lynx in Maine

(Robinson 2006, pp. 26–36; Vashon *et al.* 2012, p. 15). Lynx are more likely to occur in large (40 mi² (100 km²)) landscapes with regenerating forest, and less likely to occur in landscapes with very recent clear-cut or partial harvest (Hoving *et al.* 2004, pp. 291–292). Regenerating stands used by lynx generally develop 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 select older (11- to 26-year-old), tall (15 to 24 feet (ft) (4.6 to 7.3 meters (m)) regenerating clear-cut stands and older (11- to 21-year-old) partially harvested stands (Fuller *et al.* 2007, pp. 1980, 1983–1985). At the home range scale, lynx also select mature conifer forest (Simons-Legaard *et al.* 2013b, pp. 572–573). Lynx may use partial harvested and mature conifer stands associated with low hare densities because of increased ease of travel and prey access along the extensive edges with high-quality (regenerating clear-cut) habitats (Simons-Legaard *et al.* 2013b, p. 574). Most of the high-quality hare and lynx habitat in northern Maine is the result of landscape-scale clear-cut timber harvesting in response to a spruce budworm outbreak in the 1970s–1980s (Simons 2009, pp. 64, 218). Some of these clearcuts were also treated with herbicides to promote conifer regeneration by suppressing deciduous tree species. Both the current amount of high-quality habitat and the lynx population in Maine are likely larger than occurred prior to European settlement, when a relatively smaller proportion of the forest was in an early successional stage (Lorimer 1977, entire; Vashon *et al.* 2012, pp. 45, 56), likely because the natural disturbance regime resulted in smaller frequent disturbances and long intervals between larger disturbances.

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). Lynx habitats in Minnesota are associated with Lowland Conifer, Upland Conifer, Mixed Conifer, and Regenerating Forest cover types, with lynx selecting the latter because it provides snowshoe hare habitat (Moen *et al.* 2008a, p. 1511; Moen *et al.* 2008b, pp. 18–29). Moen *et al.* (2008b, pp. 23–25) reported that lynx also select for the edges between different cover types, presumably because they can more efficiently capture hares along the edges between stands than in the dense interior understory of regenerating stands.

Northern Rocky Mountains (Idaho, Montana, and Northwestern Wyoming)

In the Northern Rocky Mountains, most lynx occurrences are associated with the Rocky Mountain Conifer Forest or Western Spruce-Fir Forest vegetative class (Küchler 1964, p. 4; McKelvey *et al.* 2000a, p. 246) and most occur above 4,101 ft (1,250 m) elevation (Aubry *et al.* 2000, pp. 378–380; McKelvey *et al.* 2000a, pp. 243–245). The dominant vegetation that constitutes lynx habitat in these areas is subalpine fir (*A. lasiocarpa*), Engelmann spruce, and lodgepole pine (Aubry *et al.* 2000, p. 379; Ruediger *et al.* 2000, pp. 4–8—4–10). Within the boreal forest landscape, lodgepole pine is seral to (i.e., is an earlier successional stage) subalpine fir and Engelmann spruce, which are climax forest habitat types. In winter, lynx preferentially use mature multistoried stands, predominantly spruce-fir, with dense horizontal cover and avoid clearcuts and large forest openings (Squires *et al.* 2010, pp. 1648, 1653–1656). In summer, lynx also select young stands with dense spruce-fir saplings and do not appear to avoid openings (Squires *et al.* 2010, pp. 1648, 1654–1655). Dry forest types (e.g., ponderosa pine (*Pinus ponderosa*), dry Douglas-fir (*Pseudotsuga menziesii*)) do not provide lynx habitat (Berg 2009, p. 20; Squires *et al.* 2010, p. 1655).

Washington

In the North Cascades in Washington, most lynx occur above 4,101 ft (1,250 m) (McKelvey *et al.* 2000a, p. 243, 2000d, p. 321; von Kienast 2003, p. 28, Table 2; Maletzke 2004, p. 17). In this area, lynx select Engelmann spruce—subalpine fir forest cover types in winter (von Kienast 2003, p. 28; Maletzke 2004, pp. 16–17; Koehler *et al.* 2008, p. 1518). As in the Northern Rockies, lodgepole pine is a dominant tree species in the earlier successional stages of these climax cover types. Seral (intermediate stage of ecological succession) lodgepole stands contain dense understories and, therefore, receive high use by snowshoe hares and lynx (Koehler 1990, pp. 847–848; McKelvey *et al.* 2000d, pp. 332–335). Lynx in this area avoid Douglas-fir and ponderosa pine forests, openings, recent burns, open canopy and understory cover, and steep slopes (Koehler *et al.* 2008, p. 1518).

Southern Rocky Mountains (Western Colorado, Northern New Mexico, Southern Wyoming)

Lynx in the population introduced into Colorado use high-elevation (generally above 9,500 ft (2,900 m)) mature Engelmann spruce/subalpine fir, mixed spruce/fir/aspen, and riparian/mixed riparian habitats in Subalpine and Upper Montane forest zones, and avoid lower elevation Montane forests of Douglas fir and ponderosa pine (Shenk 2006, p. 10; Shenk 2008, pp. 1–2, 12, 15; Devineau *et al.* 2010, p. 525; Ivan 2011a, pp. 21, 27). However, it remains uncertain whether these habitats can sustain a viable lynx population over time (Shenk 2008, p. 16; Shenk 2010, pp. 2, 5–6, 11). Lynx from the population introduced into Colorado also have wandered into mountainous areas of northern New Mexico that contain relatively small and fragmented areas of similar high-elevation spruce/fir and cold mixed-conifer habitats (U.S. Forest Service 2009, pp. 5–10). There is no evidence that lynx occupied these areas historically, no reproduction has been documented among lynx from the population introduced into Colorado that have traveled into northern New Mexico, and habitats in New Mexico are thought to be incapable of supporting a self-sustaining lynx population (U.S. Forest Service 2009, pp. 2, 10, 16–17).

Based on the information above, we identify boreal forest landscapes that support relatively high densities of snowshoe hares, have deep snow for extended periods, and are large enough to support multiple lynx home ranges over time to contain the physical and biological features needed to support and maintain lynx populations over time and which, therefore, are essential for the conservation of the lynx DPS.

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements

Food (Snowshoe Hares)

Snowshoe hare density is the most important factor explaining the persistence of lynx populations (Steury and Murray 2004, p. 136). Snowshoe hare density differences among areas of boreal forest in the contiguous United States are also thought to explain many lynx distribution patterns historically and at present. While seemingly all of the physical aspects usually associated

with lynx habitat may be present in a landscape, if snowshoe hare densities are inadequate to support reproduction, recruitment, and survival over time, lynx populations will not persist. Minimum snowshoe hare densities necessary to maintain lynx populations across the range of the DPS have not been determined, although Ruggiero *et al.* (2000, pp. 446–447) suggested that at least 0.2 hares per ac (0.5 hares per ha) may be necessary. Hare densities in areas known to support lynx home ranges in the contiguous United States are 0.26 hares per ac (0.64 hares per ha) in northeast Minnesota (Moen *et al.* 2012, p. 352) and 0.30 hares per ac (0.74 hares per ha) in northern Maine (Simons-Legaard *et al.* 2013b, p. 574). Hare density in Voyageurs National Park in northern Minnesota was estimated at 0.14 hares per ac (0.35 hares per ha) and does not support resident breeding lynx (Moen *et al.* 2012, pp. 352–354). In northern Maine, landscapes with hare densities less than 0.2 hares per ac (0.5 hares per ha) are not occupied by lynx (Simons-Legaard *et al.* 2013b, pp. 567, 575).

Steury and Murray (2004, entire) modeled lynx and snowshoe hare populations and predicted that a minimum of 0.4 to 0.7 hares per ac (1.1 to 1.8 hares per ha) would be required for persistence of a reintroduced lynx population in the portion of the lynx range in the contiguous United States. In areas used by the introduced lynx population in west-central Colorado, Zahratka and Shenk (2008, pp. 906, 910) reported hare densities ranging from 0.03 to 0.5 hares per ac (0.08 to 1.32 hares per ha) in mature Engelmann spruce-subalpine fir stands and from 0.02 to 0.14 hares per ac (0.06 to 0.34 hares per ha) in mature lodgepole pine stands. In ''purportedly good'' hare habitat also in west-central Colorado in the area used by the introduced population, Ivan (2011b, pp. iv–v, 71, 92) estimated summer hare densities of 0.08 to 0.27 hares per ac (0.2 to 0.66 hares per ha) in stands of ''small'' lodgepole, 0.004 to 0.01 hares per ac (0.01 to 0.03 hares per ha) in ''medium'' lodgepole, and 0.004 to 0.1 hares per ac (0.01 to 0.26 hares per ha) in spruce-fir stands.

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 of lesser value as lynx foraging habitat (i.e., times when snowshoe hare abundance is low) or lynx denning habitat (Agee 2000, pp. 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 will support fewer snowshoe hares and, therefore, lower quality lynx foraging habitat. However, that temporarily low-quality stand would regenerate into higher quality 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). The continuation of this naturally dynamic pattern of succession exhibited in boreal forests 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 reduce habitat quality for hares and, thus, for lynx (Ruediger *et al.* 2000, pp. 2–4—3–2; Hoving *et al.* 2004, pp. 291–292; Homyack *et al.* 2007, entire), at least temporarily (Griffin and Mills 2007, entire). Stands may continue to provide good 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) (Griffin and Mills 2007, entire). Thus, if the vegetation potential of the stand is appropriate, a stand that is not currently in a condition that supports abundant snowshoe hares for lynx foraging or coarse woody debris for den sites would improve as habitat for snowshoe hares (and thus lynx foraging) with time. Therefore, we consider lynx habitat to include forested areas with the potential, through natural succession, to produce high-quality snowshoe hare habitat, regardless of their current stage of forest succession.

Snowshoe hares feed on conifers, deciduous trees, and shrubs (Hodges 2000, pp. 181–183), and they prefer boreal forest stands that have a dense horizontal understory to provide food, as well as cover and security from predators. Snowshoe hare density is correlated to understory cover between about 3 and 10 ft (1 to 3 m) above the ground or snow level (Hodges 2000, p. 184). Snowshoe hares most heavily use stands with shrubs, stands that are densely stocked, and stands at ages where branches provide more lateral cover (Hodges 2000, p. 184; Lewis *et al.* 2011, pp. 561, 564–565). Generally, earlier successional forest stages provide a greater density of horizontal understory and support more snowshoe hares (Buehler and Keith 1982, p. 24; Wolfe *et al.* 1982, pp. 668–669; Koehler 1990, pp. 847–848; Hodges 2000, pp. 184–191; Griffin 2004, pp. 84–88). However, snowshoe hares can be abundant in mature forests with dense understories, particularly in the western part of the DPS range (Griffin 2004, pp. 53–54, 88; Hodges *et al.* 2009, p. 876; Squires *et al.* 2010, pp. 1648, 1653–1657; Berg *et al.* 2012, pp. 1484–1488), and such mature forests may be a source of hares for other adjacent forest types (Griffin and Mills 2009, pp. 1492, 1495–1496).

In Maine, snowshoe hare densities are highest in regenerating softwood (spruce and fir) and mixed-wood stands with high conifer stem densities (Homyack 2003, p. 195; Fuller and Harrison 2005, pp. 716, 719; Robinson 2006, p. 69). However, when exploiting high-density hare habitats, lynx focus foraging efforts in stands with intermediate hare densities and structural complexity that occurred at the edges of the highest density habitat, suggesting that lynx balance between hare abundance and accessibility (Fuller and Harrison 2010, pp. 1276–1277; Simons-Legaard *et al.* 2013b, p. 574). In northeastern Minnesota, lynx use areas with relatively higher proportions of coniferous forest, young (10- to 30-year-old) regenerating forest, and shrubby grassland, and these habitats support the highest hare densities (McCann and Moen 2011, pp. 509, 515).

In montane and subalpine forests in northwest Montana, the highest snowshoe hare densities in summer are generally in younger stands with dense forest structure, but winter hare densities are as high or higher in mature stands with dense understory forest structure (Griffin 2004, p. 53). In Montana in winter, hare and lynx use multistoried stands, often in older-age classes, where the tree boughs touch the snow surface but where the stem density is low (Squires *et al.* 2006a, p. 15; Griffin and Mills 2009, pp. 1492, 1495–1496; Squires *et al.* 2010, pp. 1648, 1653–1656). In the North Cascades of 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, pp. 847–848), and hare density was associated with large shrubs and saplings within a stand (Lewis *et al.* 2011, pp. 561, 564–565). In western Wyoming, late-seral multistoried forests support a greater abundance of snowshoe hares than regenerating even-aged forests (Berg *et al.* 2012, p. 1). Similarly, in Yellowstone National Park, where hares were rare and patchily distributed, hare presence and relative abundance are linked to mature forest stands (Hodges *et al.* 2009, p. 876). In western Colorado areas used by the introduced lynx population, Zahratka and Shenk (2008, pp. 906, 910) estimated higher hare densities in spruce-fir stands than in lodgepole pine, but Ivan (2011b, pp. iv, 71, 92) estimated hare densities as highest in stands of small lodgepole pine, intermediate in spruce-fir stands, and lowest in stands of medium lodgepole pine.

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. Landscapes with more contiguous hare habitat, or where patches of high-quality habitat occur in a matrix with patches of similar quality, support more hares than fragmented habitats or those in which patches of hare habitat occur within a matrix of poor-quality habitat (Lewis *et al.* 2011, p. 565). Broad-scale snowshoe hare density estimates are not available for all of 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 cannot 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). Lynx do not occur everywhere within the range of snowshoe hares in the contiguous United States (Bittner and Rongstad 1982, p. 146; McCord and Cardoza 1982, p. 729). This may be due to inadequate abundance, density, or spatial distribution of hares in some places, to the absence of snow conditions that would allow lynx to express a competitive advantage over other hare predators, or to a combination of these factors.

Based on the information above, we identify relatively high densities of snowshoe hares broadly and consistently distributed across boreal forest landscapes to be a physical or biological feature needed to support and maintain lynx populations over time and which, therefore, is essential to the conservation of the lynx DPS.

Snow Conditions (Other Physiological Requirements)

Snow conditions also determine the distribution of lynx and snowshoe hares. Deep, fluffy snow conditions likely restrict potential lynx competitors such as bobcat or coyote from effectively encroaching on or hunting hares in winter lynx habitat. In addition to snow depth, other snow properties, including surface hardness or sinking depth, also influence lynx foraging success and, ultimately may be important factors in the spatial, ecological, and genetic structuring of the species (Stenseth *et al.* 2004, entire). Gonzalez *et al.* (2007, pp. 4, 7) compared 496 lynx locations with snow cover over the period 1966–2005 and concluded that lynx require 4 months (December through March) of continuous winter snow coverage.

In eastern North America, snowfall is the strongest predictor of lynx occurrence at a regional scale (Hoving *et al.* 2005, p. 746, Table 5), and lynx in the northeastern United States are most likely to occur in areas with a 10-year mean annual snowfall greater than 105 in (268 cm) (Hoving 2001, p. 75; Hoving *et al.* 2005, p. 749). The Northern Superior Uplands section of northeast Minnesota, which supports a resident lynx population, receives more of its precipitation as snow than any other part of the State, and has the longest period of snow cover (Minnesota DNR 2003, p. 2). Average annual snowfall from 1971 to 2000 in this area was generally greater than 55 in (149 cm) (University of Minnesota 2013).

Information on average snowfall or snow depths in mountainous areas such as the Cascade and Northern Rocky Mountains is limited because few weather stations in these regions have measured snow fall or snow depth over time. An important consideration in mountainous areas is that topography strongly influences local snow conditions. For example, in the Cascades, annual snowfall averaged 121 in (307 cm) at Mazama, WA (elevation 2,106 ft (642 m)), and 15 in (38 cm) at Omak, WA (elevation 1,299 ft (396 m)) (Western Regional Climate Center 2013). In areas of western Montana that support lynx populations, annual snowfall averaged 90 in (229 cm) in Troy (elevation 1,950 ft (594 m)) and 120 in (305 cm) at Seeley Lake (elevation 4,200 ft (1,280 m)) (Western Regional Climate Center 2013).

Based on the information above, we identify winter conditions that provide and maintain deep, fluffy snow for extended periods in boreal forest landscapes to be a physical or biological feature needed to support and maintain lynx populations over time and which, therefore, are essential to the conservation of the lynx DPS.

Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

Denning Habitat

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.

In northern Maine, 12 of 26 natal dens occurred in conifer-dominated sapling stands, and 5 dens were found in mature or mixed multistoried forest stands dominated by conifers (Organ *et al.* 2008, p. 1515). Modeling sub-stand characteristics of these 26 dens, the authors determined that 2 variables, tip-up mounds of blown-down trees and visual obscurity at 16 ft (5 m) from the den, were most useful for predicting lynx den-site selection in managed forests (Organ *et al.* 2008, p. 1514). Lynx essentially select dense cover in a cover-rich area for denning, with blowdown, deadfalls, and root wads providing denning habitat. Coarse woody debris alone is not a useful predictor of lynx den-site selection, despite its abundance, and denning habitat is not considered limiting in northern Maine (Organ *et al.* 2008, p. 1516). Den sites in Maine often occur at the interface of two stands of different ages or in dense regenerating conifer stands, suggesting that females select den sites near prey sources to minimize time spent away from kittens while foraging (Vashon *et al.* 2012, p. 16).

In northern Minnesota, structural components of forests such as blowdown and deadfalls appear to be more important than forest cover type in determining lynx denning habitat (Interagency Lynx Biology Team 2013, p. 46). Most den sites in Minnesota are found in blowdown and are associated with small patches of uplands surrounded by low-lying wetland areas (Moen and Burdett 2009, pp. 5, 11). Although lowland conifer cover types appear to provide the forest structure used most often for denning in northern

Minnesota (Moen *et al.* 2008a, p. 1510), other forest cover types are used if they contained recent blowdowns (Moen and Burdett 2009, p. 16). Very dense horizontal cover in the immediate vicinity of the den site also appears to be a determinant (Moen and Burdett 2009, p. 16). Female lynx forage within approximately 1.2–1.8 mi (2–3 km) of den sites when kittens are at the den, and the landscape composition within the foraging radius around a den site contains more lowland conifer, upland conifer, and regenerating forest than do home ranges (Moen *et al.* 2008a, p. 1507). Denning habitat does not appear to be limiting in northern Minnesota (Moen and Burdett 2009, p. 16).

In northwestern Montana, lynx generally den in mature spruce-fir forests among downed logs or root wads of wind-thrown trees in areas with abundant coarse woody debris and dense understories with high horizontal cover in the immediate areas around dens (Squires *et al.* 2004a, Table 3; Squires *et al.* 2008, pp. 1497, 1501–1505). Few dens are located in young regenerating or thinned stands with discontinuous canopies (Squires *et al.* 2008, p. 1497). Many dens have northeasterly aspects and are farther from forest edges than random expectation (Squires *et al.* 2008, p. 1497).

In the North Cascades, Washington, lynx den 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 that study, all detected den sites occurred on north-northeast aspects (Koehler 1990, p. 847).

Lynx in the population introduced into Colorado den at higher elevations and on steeper slopes compared to general use areas, with den sites tending to have northerly aspects and dense understories of coarse woody debris (Shenk 2008, p. 2).

Den site availability, although not thought to be limiting for lynx populations in the DPS (Moen *et al.* 2008a, p. 1512; Organ *et al.* 2008, pp. 1514, 1516–1517; Squires *et al.* 2008, p. 1505), is an essential component of the boreal forest landscapes that lynx need to satisfy a key life-history process (reproduction). Therefore, based on the information above, we identify denning habitat to be a physical or biological feature needed to support and maintain lynx populations over time and which, therefore, is essential to the conservation of the lynx DPS.

Habitats Protected From Disturbance or Representative of the Historic Geographical and Ecological Distributions of the Species

Climate Change

Our analyses under the Act include consideration of ongoing and projected changes in climate. The terms ''climate'' and ''climate change'' are defined by the Intergovernmental Panel on Climate Change (IPCC). In 2014, the IPCC released its Fifth Assessment Report, which represents the current scientific consensus on global and regional climate change and the best scientific data available in this rapidly changing field. The Fifth Assessment Report largely reaffirms the conclusions of previous reports that the global climate is warming at an accelerating rate and that this warming is largely the result of human activities and the associated release of carbon dioxide and other greenhouse gases into the atmosphere (IPCC 2014a, entire).

''Climate'' refers to the mean and variability of different types of weather conditions over time, with 30 years being a typical period for such measurements, although shorter or longer periods also may be used (IPCC 2007a, p. 78). The term ''climate change'' thus refers to a change in the mean or variability of one or more measures of climate (e.g., temperature or precipitation) that persists for an extended period, typically decades or longer, whether the change is due to natural variability, human activity, or both (IPCC 2007a, p. 78). Various types of changes in climate can have direct or indirect effects on species. These effects may be positive, neutral, or negative and they may change over time, depending on the species and other relevant considerations, such as the effects of interactions of climate with other variables (e.g., habitat fragmentation) (IPCC 2007a, pp. 8–14, 18–19). In our analyses, we weigh relevant information, including uncertainty, in our consideration of various aspects of climate change.

The IPCC's Fifth Assessment Report concludes that the strongest and most comprehensive evidence of the impacts of climate change is in natural systems, where many species have responded by shifting their geographic ranges, seasonal activities, migration patterns, abundances, and species interactions (IPCC 2014a, p. 4). The report also concludes that projected climate change during and beyond the 21st Century will increase extinction risk for many terrestrial and freshwater species (IPCC 2014a, pp. 14–15). In North America, observed impacts attributable to climate change that may affect lynx habitats and distribution include upslope and northward shifts in species distributions across multiple taxa, and increased wildfire activity, fire frequency and duration in boreal and subarctic conifer forests of Canada and the western United States (IPCC 2014a, p. 31).

Previous IPCC assessments concluded that temperatures across the globe have increased by about 1.8 °Fahrenheit (F) (1 °Celsius (C)) over the last century (IPCC 2001, p. 7). The IPCC projection for eastern and western North America within the range of the lynx DPS is climate warming of 1.8 °F (1 °C) to 5.4 °F (3 °C) by the year 2050 (IPCC 2007b, p. 889). The range of warming projected over the next century runs from 3.6 °F (2 °C) to 10.8 °F (6 °C) for North America, with warming higher than this average in areas that are inland, northerly, or mountainous. The IPCC concludes that continued warming in North America, with lower snow accumulation and earlier spring snowmelt, is very likely (IPCC 2007b, p. 887). Climate history and projections from regional climate models for regions within the lynx DPS corroborate global models indicating that both eastern and western North America, including all portions of the lynx DPS, have warmed in the last century and are likely to warm 1.8 °F (1 °C) to 5.4 °F (3 °C) by the year 2050 (IPCC 2007b, p. 889). For example, in the Northern Rocky Mountains at Glacier National Park, mean summer temperatures have increased 3.0 °F (1.66 °C) between 1910 and 1980 (Hall and Fagre 2003, pp. 134–137) resulting in lower snowpack, earlier spring melt, and distributional shifts in vegetation (Hall and Fagre 2003, pp. 138–139; Fagre 2005, pp. 4–9). These changes are predicted to continue and accelerate under future climate scenarios (Hall and Fagre 2003, Fig. 7). An analysis of potential snow cover under a range of IPCC future climate scenarios and modeling of vegetation using a dynamic vegetation model indicates that potential lynx habitat could decrease by as much as two-thirds in the contiguous United States by the end of this century (Gonzalez *et al.* 2007, pp. 4, 7–8, 10, 13–14).

Across their worldwide distribution, lynx are dependent on deep snow that persists for long periods of time. Warmer winter temperatures are reducing snow pack in all portions of the lynx DPS through a combination of a higher proportion of precipitation falling as rain and higher rates of snowmelt during winter (Hamlet and Lettenmaier 1999, p. 1609; Brown 2000, p. 2347; Hoving 2001, pp. 73–75; Mote

2003, p. 3–1; Christensen *et al.* 2004, p. 347; Knowles *et al.* 2006, pp. 4548–4549). This trend is expected to continue with future warming (Hamlet and Lettenmaier 1999, p. 1611; Christensen *et al.* 2004, p. 347; Mote *et al.* 2005, p. 48; IPCC 2007b, p. 850). The IPCC (2007b, p. 850) concludes that ''snow season length and snow depth are very likely to decrease in most of North America except in the northernmost part of Canada where maximum snow depth is likely to increase.'' Shifts in the timing of the initiation of spring runoff toward earlier dates in western North America are also well documented (Hamlet and Lettenmaier 1999, p. 1609; Brown 2000, p. 2347; Cayan *et al.* 2001, pp. 409–410; Christensen *et al.* 2004, p. 347; Mote *et al.* 2005, p. 41; Knowles *et al.* 2006, p. 4554). In addition, a feedback effect causes the loss of snow cover due to the reflective nature of snow and the relative heat-absorbing properties of non-snow-covered ground. This feedback effect leads to the highest magnitude of warming occurring at the interface of snow-covered and exposed areas, increasing the rate at which melting occurs in spring (Groisman *et al.* 1994a, pp. 1637–1648; Groisman *et al.* 1994b, pp. 198–200). This effect has led to the average date of peak snowmelt to shift 3 weeks earlier in spring in the Intermountain West (Fagre 2005, p. 4).

Snow accumulation and duration are expected to decline generally in the geographic areas that contain the central and eastern portion of the lynx DPS (IPCC 2007c, p. 891; Burns *et al.* 2009, p. 31). Due to the importance to lynx of prolonged periods of deep fluffy snow, current habitats that lose this feature would decline in value for lynx (Hoving 2001, p. 73; Carroll 2007, p. 1092; Gonzalez *et al.* 2007, entire). Reduced snow depth and duration may reduce lynx's competitive advantage over bobcats, which have similar ecology to lynx but are not as well-adapted to hunting hares in deep fluffy snow (Hoving 2001, pp. 23–24; Carroll 2007, p. 1102; Interagency Lynx Biology Team 2013, pp. 69, 71).

Changes in temperature and rainfall patterns are expected to shift the distribution of ecosystems northward and up mountain slopes (McDonald and Brown 1992, pp. 411–412; Danby and Hik 2007, pp. 358–359; IPCC 2007c, pp. 230, 232). As climate changes over a landscape, the ecosystems that support lynx are likely to shift, tracking the change of temperature, but with a time lag depending on the ability of individual plant and animal species to migrate (McDonald and Brown 1992, pp. 413–414; Hall and Fagre 2003, p. 138; Peterson 2003, p. 652). In the contiguous United States, researchers expect that lynx in mountainous habitat will, to some extent, track climate changes by using higher elevations on mountain slopes, assuming that vegetation communities supportive of lynx and hare habitats also move upslope (Gonzalez *et al.* 2007, p. 7).

Future of Lynx Habitat

In 2003, we determined that climate change was not a threat to lynx within the contiguous United States 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., Knowles *et al.* 2006, pp. 4545–4559; Carroll 2007, pp. 1098–1102; Danby and Hik 2007, pp. 358–359; Gonzalez *et al.* 2007, entire; Iverson *et al.* 2008, pp. 390–400; Beckage *et al.* 2008, entire; Burns *et al.* 2009, p. 31; Johnston *et al.* 2012, pp. 6–13), and much of this new information suggests that climate change is likely to be a significant issue of concern for the future conservation of the lynx DPS. These studies predict lynx and hare habitats—boreal spruce-fir and subalpine forests—and, therefore, lynx distribution, are likely to shift upward in elevation within its currently occupied range and recede northward as temperatures increase (Gonzalez *et al.* 2007, pp. 7, 13–14, 19; Beckage *et al.* 2008, entire; Jacobson *et al.* 2009, pp. 26–27, 30–31; Vashon *et al.* 2012, pp. 60, 64; Interagency Lynx Biology Team 2013, p. 69). The boreal spruce-fir forests that provide habitat for lynx and snowshoe hares is thought to be limited by summer temperatures and drought (Iverson and Prasad 2001, pp. 192–196) and, under a suite of emissions and climate change scenarios, is projected to diminish dramatically or disappear from much of the eastern United States (Iverson and Prasad 2001, p. 196; Iverson *et al.* 2008, pp. 390–400).

Climate modeling suggests that lynx habitat and populations are anticipated to decline accordingly (Carroll 2007, pp. 1098–1102) and may disappear completely from parts of the range of the DPS by the end of this century (Johnston *et al.* 2012, pp. 6–13). Climate change is expected to substantially reduce the amount and quality of lynx habitat in the contiguous United States, with patches of high-quality boreal and subalpine forest habitat becoming smaller, more fragmented, and more isolated (Carroll 2007, pp. 1099–1100; Johnston *et al.* 2012, p. 11). Remaining lynx populations would likely be smaller than at present and, because of small population size and increased isolation, populations would likely be more vulnerable to stochastic environmental and demographic events (Carroll 2007, pp. 1100–1103).

Aside from predicted elevational and latitudinal shifts in areas currently occupied by lynx, we are aware of no models that predict specific areas not currently of value for lynx that will become so as a result of climate-induced changes (e.g., Johnston *et al.* 2012, p. 11). Therefore, at this time, we find it appropriate to designate critical habitat for the lynx only in areas occupied by the DPS that currently contain the physical and biological features essential to the conservation of the lynx. Although it is not within our authority to designate critical habitat in Canada (in the event that the range of lynx recedes northward out of the contiguous United States), the revised critical habitat units in this final rule include, to the extent practicable and reasonable based on habitat potential, higher elevation habitats within the range of the DPS that would facilitate long-term lynx adaptation to an elevational shift in habitat should one occur. As climate change scenarios and ecosystem responses become more regionally certain, revisions to critical habitat may be necessary to accommodate shifts in the range of the essential physical and biological features and any corresponding shift in the range of lynx in the contiguous United States.

Primary Constituent Elements for Canada Lynx

Under the Act and its implementing regulations, we are required to identify the physical or biological features essential to the conservation of lynx in areas occupied at the time of listing, focusing on the features' primary constituent elements (PCEs). Primary constituent elements are those specific elements of the physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species.

Based on our current knowledge of the physical or biological features and habitat characteristics required to sustain the species' life-history processes, we determine, as we did in the 2009 final critical habitat rule and in the 2013 proposed rule, that the PCE specific to lynx in the contiguous United States 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 conditions that provide and maintain deep fluffy snow 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.

With this final designation of critical habitat, we have identified the physical or biological features essential to the conservation of the species, through the identification of the appropriate quantity and spatial arrangement of the features' PCE sufficient to conserve the species. For lynx, the distinction between areas that may contain *some* of each of the physical and biological features described above and areas that have *all* of the physical and biological features, each in adequate quantities *and* spatial arrangements to support populations (i.e., contains the PCE), is very important for the reasons discussed below.

Many places in the contiguous United States have (1) some amount of boreal forest supporting a mosaic of successional stages, (a) snowshoe hares and their habitats, (b) deep, fluffy snow for extended periods, (c) denning habitat, and (d) other habitat types interspersed among boreal forest patches, but which do not and cannot support lynx populations. That is, not all boreal forest landscapes supporting a mosaic of differing successional forest stages contain the physical and biological features essential to lynx in adequate quantities and spatial arrangements on the landscape to support lynx populations over time. Lynx may occasionally (even regularly, if intermittently) occur temporarily in places that do not contain all of the elements of the PCE, especially during ''irruptions'' of lynx into the northern contiguous United States following hare population crashes in Canada (as described in the proposed rule (78 FR 59433–59436) and below under *Criteria Used To Identify Critical Habitat*). Other areas may contain all the essential physical and biological features but in quantities and spatial arrangements that are inadequate to support lynx over time. For example, although evidence of lynx reproduction confirms the presence of the essential physical and biological features, short-term, sporadic, or inconsistent reproduction that is inadequate to maintain a population over time (i.e., where reproduction and recruitment are too low to consistently offset mortality and emigration over the long term) suggests that the quantity or spatial arrangement (or both) of one or more of the essential features is inadequate. These areas do not contain the PCE, are likely population ''sinks,'' and as such do not contribute to lynx conservation or recovery.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the specific areas within the geographical area occupied by the species at the time of listing contain features that are essential to the conservation of the species and which may require special management considerations or protection.

In listing the lynx as threatened under the Act due to the inadequacy of existing regulatory mechanisms to ensure the conservation of the DPS, the Service recognized the need for special management considerations or protection for lynx in the contiguous United States. The need for specific management direction and conservation measures for lynx was likewise recognized during development of the interagency Lynx Conservation Assessment and Strategy (LCAS; Ruediger *et al.* 2000, entire). The U.S. Forest Service (USFS), Bureau of Land Management (BLM), National Park Service, and the Service developed the LCAS 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. The overall goals of the 2000 LCAS were 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 identified an inclusive list of 17 potential risk factors for lynx or lynx habitat that could be addressed under programs, practices, and activities within the authority and jurisdiction of Federal land management agencies. The risks identified in the LCAS were based on effects to individual lynx, lynx populations, or to lynx habitat.

With the listing of the lynx DPS in 2000, Federal agencies across the contiguous United States range of the lynx consulted with the Service on actions that may affect lynx. The LCAS assisted Federal agencies in planning activities and projects in ways that benefit lynx or avoid adverse impacts to lynx or lynx habitat. In most cases, if projects were designed that failed to meet the standards in the LCAS, the biologists using the LCAS would arrive at an adverse effect determination for lynx. The 2000 LCAS used the best information available at the time to ensure that the appropriate mosaic of habitat would be provided for lynx conservation on Federal lands. Although the LCAS was written specifically for Federal lands, many of the conservation measures were considered equally applicable to non-Federal lands.

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 over time. At the time it was written, the LCAS recommended the most appropriate level of management or protection for lynx. The LCAS conservation measures addressed 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 lynx habitat in the contiguous United States (except in Maine), and also because the inadequacy of regulatory mechanisms to conserve lynx on these lands was the primary reason we listed the lynx as threatened under the Act in 2000.

After the LCAS was written, research on lynx, hares, and their habitats and distributions continued throughout the range of the DPS. The Service and land management agencies recognized that, as new scientific information became available, it should supplement the LCAS and be taken into account by land managers. The USFS considered such new information when it proposed to revise Forest Plans under the Northern (U.S. Forest Service 2007, entire) and Southern (U.S. Forest Service 2008b, entire) Rocky Mountains Lynx Amendments. Some of the LCAS standards were changed to guidelines because the Service determined that some risk factors were not negatively affecting the lynx DPS as a whole. For example, after publication of the LCAS, lynx in the contiguous United States were shown to use a variety of sites and conditions for denning, and den site availability is not believed to be a limiting factor for lynx in the DPS (U.S.

Fish and Wildlife Service 2007, pp. 48–49; Interagency Lynx Biology Team 2013, p. 30). Similarly, after evaluating Bunnell *et al.* (2006, entire) and Kolbe *et al.* (2007, entire), the Service determined that the best information available did not indicate that compacted snow routes increased competition from other species to levels that adversely impact lynx populations in the Northern Rocky Mountain Lynx Amendment (NRLA) area (U.S. Fish and Wildlife Service 2007, pp. 53–55). Also since the LCAS was written, new information revealed the importance of multistoried stands for lynx in western areas (Squires *et al.* 2006a, p. 15); based on this, the USFS adopted a standard in the NRLA not identified in the LCAS for conserving such stands.

Federal agencies across most of the range of the DPS have amended or revised land management plans to include specific management direction to conserve lynx and lynx habitat (Interagency Lynx Biology Team 2013, p. 88). This direction was developed in accordance with the National Forest Management Act of 1976 and the regulations that implement the statute (36 CFR 219.22), which requires public review and comment as part of the decisionmaking process. The USFS has completed such amendments or revisions to Land and Resource Management Plans in its Eastern, Northern, Rocky Mountain, and Intermountain regions. In the Pacific Northwest Region, forest plans for national forests with lynx habitat are currently being revised (Interagency Lynx Biology Team 2013, p. 4).

To address the substantial volume of new information on lynx, hares, and their habitats and distributions that has accumulated from more than a decade of continuing research throughout the range of the DPS, the LCAS was revised in 2013 (Interagency Lynx Biology Team 2013, entire). The current revision synthesizes all the available research relevant to lynx, their primary prey, and anthropogenic influences on the conservation of lynx in the contiguous United States. Most USFS Land and Resource Management Plans within the current range of lynx have been formally amended or revised to incorporate lynx and hare conservation standards and guidelines. Standards and guidelines were primarily based on those in the 2000 LCAS, but many Forests used the LCAS to develop goals, objectives, and standards and guidelines formulated or adapted for specific geographic areas or Forest units. Therefore, the Lynx Biology Team deemed it appropriate to abandon the use of prescriptive measures such as those in the 2000 LCAS because they are no longer necessary. Thus, the 2013 revision provides recommended conservation measures to be considered in project planning and implementation and which may help inform future amendments or revisions of USFS forest plans.

The 2013 LCAS revision presents the most current source of such information and will continue to inform the special management considerations necessary for conserving lynx on Federal lands. Notably, the 2013 revision concludes that recent studies in the contiguous United States generally suggest that lynx are rarer and more patchily distributed in the west and in the Great Lakes region, and more abundant in Maine, than previously thought (Interagency Lynx Biology Team 2013, p. 23). It recommends focusing limited conservation resources on those ‘‘. . . relatively limited areas that support persistent lynx populations and have evidence of recent reproduction, with less stringent protection and greater flexibility given in areas that only support lynx intermittently’’ (Interagency Lynx Biology Team 2013, p. 2).

The LCAS was developed to provide a consistent and effective approach to conserve lynx on Federal lands in the conterminous United States. In northern New England, the only place the LCAS would apply is on Federal land in the White Mountain National Forest. However, in northern New England, most lynx habitat is on private commercial timber lands, and lynx populations there occur in extensive boreal forest landscapes where large, contiguous stands of young, regenerating spruce-fir habitat are prevalent (due to past clear-cut timber harvest) and support high densities of snowshoe hares. Although lynx and hare habitats were likely created historically by natural forest disturbances (e.g., fire, insects and disease, and windthrow), the current extensive habitats in northern Maine are the result of large-scale industrial forest management. Maintaining lynx populations there will require forest management practices that produce extensive stands supporting high hare densities into the future. The Service developed Canada Lynx Habitat Management Guidelines for Maine (McCollough 2007, entire), which 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 under Exclusions, below, for further details).

Four northern Maine landowners with collective ownership of approximately 8.5 percent of occupied lynx habitat have developed lynx forest management plans through the Natural Resource Conservation Service's Healthy Forest Reserve Program. These landowners commit to employ the Service's lynx habitat management guidelines (McCollough 2007, entire), which include greater use of even-aged silviculture that creates large patches of high-quality hare habitat and landscape hare densities that will continue to support lynx. All other private lands occupied by lynx in Maine currently lack specific forest management plans for lynx, indicating a continuing need for special management considerations there.

Criteria Used To Identify Critical Habitat

As required by section 4(b)(2) of the Act, we use the best scientific data available to designate critical habitat. In accordance with the Act and our implementing regulations at 50 CFR 424.12(b), we review available information pertaining to the habitat requirements of the species and identify occupied areas at the time of listing that contain the features essential to the conservation of the species. If, after identifying currently occupied areas, we determine that those areas are inadequate to ensure conservation of the species, in accordance with the Act and our implementing regulations at 50 CFR 424.12(e), we then consider whether additional areas—outside those occupied at the time of listing—are essential for the conservation of the species (i.e., whether the species can only be conserved and recovered via the designation of additional areas). In this final rule, we are designating critical habitat only in areas within the geographical area occupied by the species at the time of listing in 2000 because we have determined that these areas are sufficient for the conservation of the lynx DPS and that designating areas that were not occupied at the time of listing would not address or ameliorate the threat for which the DPS was listed (the inadequacy, at the time of listing, of existing regulatory mechanisms). Because designating areas not occupied at the time of listing would not address the threat for which the lynx DPS was listed, doing so would not improve the likelihood of recovery (the point at which the protections of the Act are no longer necessary and delisting the DPS would be appropriate). Therefore, we have

determined that areas outside those occupied at the time of listing are not essential to the conservation and recovery of the lynx DPS (i.e., we do not find that the DPS could only be conserved and recovered if we were to designate areas not occupied at the time of listing).

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 the LCAS (Ruediger *et al.* 2000, entire; Interagency Lynx Biology Team 2013, entire); the recovery outline (U.S. Fish and Wildlife Service 2005, entire); information from State, Federal and Tribal agencies; and information from academia and private organizations that have collected scientific data on lynx. We reviewed available information that pertains to the habitat requirements of lynx 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 or 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 identify areas that possess appropriate quantities and spatial arrangements of the physical and biological features essential to the conservation of the DPS and that may require special management considerations or protection. In identifying 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) we used the best available scientific information to determine which occupied areas contain the physical and biological features in adequate quantities and spatial arrangements to support lynx populations over time, thus demonstrating that they are essential to the conservation of the lynx.

To delineate critical habitat for lynx, we must be able to distinguish across the extensive range of the species in the contiguous United States, areas that contain all essential physical and biological features in adequate quantity and spatial arrangement to support lynx populations over time (areas with the PCE, as described above under ''Primary Constituent Element for Canada Lynx'') from other areas that may contain some or all of the features but in inadequate quantities and/or spatial arrangements of one or more feature (and which, therefore, by definition do not contain the PCE). However, the scientific literature does not confer precisely what quantities and spatial arrangements of the physical and biological features are needed to support lynx populations throughout the range of the DPS. We lack range-wide site-specific information or tools that would allow us to analyze boreal forests across much of the range of the DPS and determine which specific areas contain the spatial and temporal mosaic of habitats and hare densities that lynx populations need to persist.

Delineating critical habitat for lynx is complicated by a number of factors related to (1) the animals' biology and population dynamics; (2) the biology and population dynamics of its primary prey, the snowshoe hare; (3) the patchily distributed, temporally and spatially dynamic successional habitat features that shift continually across landscapes, and which drive populations of both lynx and hares at the southern peripheries of both species' ranges; (4) our imperfect understanding of the above factors; and (5) the resulting difficulty in determining with certainty and quantifying which specific habitat features, in what specific amounts and spatial and temporal arrangements, are necessary to provide the boreal forest mosaic essential to lynx conservation. The task is further complicated by an imperfect historical record of lynx occurrence in the contiguous United States. Finally (but importantly), the differences between areas capable of supporting lynx populations over time and other areas that look like they should, but do not, are often subtle and cannot be distinguished over broad areas using traditional vegetation/habitat mapping, remote sensing (aerial photos, satellite data), or available habitat modeling techniques (e.g., see Ivan 2011a, p. 27).

As described in the *Distribution* and *Biology* sections of the proposed rule (78 FR 59433–59436), lynx populations throughout most of their range are irruptive. In central Canada where they inhabit a large, relatively homogenous boreal forest landscape, lynx respond quickly to cyclic fluctuations in hare populations. When hares are abundant, lynx respond with increased productivity and survival and, therefore, increased population sizes (Slough and Mowat 1996, pp. 955–956; Mowat *et al.* 2000, pp. 266, 272). Typically, after hare numbers peak, they begin to decline rapidly and dramatically, forcing large numbers of lynx to disperse—to abandon home ranges in areas with dwindling prey bases no longer capable of supporting the large number of lynx that resulted from the earlier prey abundance (Slough and Mowat 1996, pp. 956–957; Mowat *et al.* 2000, pp. 291–294). These periodic mass dispersal events (irruptions) appear to start at the core of the species' range in Canada and radiate outward (McKelvey *et al.* 2000a, p. 239). At the southern periphery of the lynx's range, these events sometimes result in large numbers of lynx dispersing into a variety of habitats in some areas of the northern contiguous United States in search of adequate food resources (Thiel 1987, entire; McKelvey *et al.* 2000a, pp. 239–242). Some of these dispersing lynx survive and reestablish home ranges elsewhere, but many die en route, often soon after initiating dispersal (Mowat *et al.* 2000, p. 293), and some appear to remain temporarily in areas not capable of supporting all of their life-history needs over time (Thiel 1987, entire).

Canadian populations of lynx have historically been the most reliable source for lynx populations in many areas of the contiguous United States, tending to replenish them within the DPS about every 10 years as the lynx/hare cycle ebbs and flows (McKelvey *et al.* 2000a, entire). These events can be pictured as a ''wave'' of lynx that occasionally washes over many of the northern tier of States. Over time the wave recedes, leaving remnant lynx populations or ''puddles'' of lynx in a variety of habitats. These puddles of lynx shrink over time as many lynx perish in inhospitable habitats or disperse elsewhere in search of adequate hare densities. When these waves recede, lynx may disappear abruptly from areas of unsuitable habitat or more gradually from suboptimal or marginal habitats.

In both cases, lynx perish in or leave many of the places where they occurred temporarily because the habitats in such places, due to insufficient prey densities or inadequacy of one or more other physical or biological features, are incapable of supporting them over time. In a few places in the northern contiguous United States, in landscapes with relatively high snowshoe hare densities and adequate quantities and spatial arrangements of other essential physical and biological features, the

puddles tend to persist. It is these remnant ''puddle'' areas that demonstrate the capacity to support lynx population resiliency—the ability of lynx to persist through lows in their own populations and those of their primary prey—that we have determined are essential to conservation of the contiguous United States lynx DPS.

In terms of lynx conservation, it is important to distinguish between areas that support lynx populations over time (the lasting ''puddles'') and areas in which lynx may occasionally and temporarily (even if somewhat regularly) occur during and for some time after population irruptions (the temporary or shrinking ''puddles''). The former are likely ''source'' subpopulations within the lynx metapopulation. In addition to their ability to persist through lows in hare and lynx numbers, those areas, during times of hare abundance, produce excess lynx that may either subsequently bolster the local population or disperse into adjacent areas, should habitats and hare numbers in those areas become favorable. The latter areas are likely ''sinks''—places where lynx may occasionally occur temporarily but where reproduction and recruitment, if any occur at all, are unlikely to offset mortality. Such areas do not support lynx over time or produce excess lynx and, therefore, do not contribute to the health and stability of the metapopulation.

Lynx are wide-ranging animals that regularly make long-distance movements through both suitable and unsuitable habitats. They also are habitat and prey specialists, inferring natural selection pressures favoring the ability to identify, locate, and occupy habitats conducive to survival and reproduction. The historic record shows that lynx occurred only occasionally in some parts of the southern periphery of its range in the contiguous United States during and for variable lag times after the wave-like population irruptions described above, with long periods of apparently complete absence between irruptions (McKelvey *et al.* 2000a, entire). This finding suggests that lynx dispersing from areas where hare numbers were declining arrived at many such places looking for but not finding the physical and biological features they needed to survive over the long term (Mowat *et al.* 2000, p. 293). Additionally, lynx were listed under the Act because regulatory mechanisms at the time were deemed inadequate to conserve lynx habitats in the places they did occur, not because of any documented population decline, range contraction, or large-scale habitat loss in the contiguous United States (65 FR 16052, 68 FR 40076). For the reasons given above, we conclude it is unlikely that there are areas within the DPS range that contain the PCE (i.e., adequate quantity and spatial arrangement of all essential physical and biological features) that lynx have been unable to locate and occupy. Based on surveys both within and outside of designated critical habitat and in many of the secondary areas defined in the recovery outline, and on responses from peer reviewers and discussions with other lynx researchers, we also conclude that it is very unlikely that there are other resident lynx populations within the range of the DPS that have remained undetected.

Finally, the Act indicates that the function of critical habitat is to provide for the recovery of the species. We designate critical habitat in areas that contain, based on our assessment of the best data available to us, the physical and biological features in the appropriate quantities and spatial arrangements (the PCE), to provide for the conservation of the species. For some species, critical habitat may include unoccupied areas if the currently occupied areas are not sufficient to recover the species. For other species, critical habitat may be a subset of the occupied areas, if the occupied areas have differences in quality that relate to their ability to contribute meaningfully to recovery of the species. The Act does not require that we designate critical habitat in every area that has some components or some amount of the PCE, nor does it require that we demonstrate that all other areas lack the PCE. We make these determinations on a case-by-case basis based upon the best information available as to what the species needs for recovery.

By specifically allowing revisions to critical habitat designations if and when new information becomes available, the Act recognizes the potential limitations of the best available information at any point in time. For lynx, we have determined that not all areas where lynx occasionally occur are necessary for recovery. We believe that lynx recovery in the contiguous United States can be accomplished by conserving high-quality habitat occupied by naturally resident lynx populations across the range of the DPS, and addressing the threats to lynx in those areas.

In summary, lynx have a demonstrated ability to disperse large distances in search of favorable habitats. Further, natural selection theory implies the ability of lynx to locate and occupy areas conducive to their survival and population viability. Nonetheless, due to inherent swings in densities of their primary prey, lynx regularly occur temporarily in habitats that are not capable of supporting populations over time, usually during irruptions after cyclic hare population crashes in Canada. In designating critical habitat for lynx, it is essential to distinguish between areas capable of supporting populations over time (areas with all essential physical and biological features in adequate quantities and spatial arrangements and which, therefore, demonstrably contain the PCE) and areas that may have some or all of the features but with inadequate quantities and/or spatial arrangements of one or more of them (and which, therefore, do not contain the PCE). Exactly how much of each of the physical and biological features must be present and specifically how each must be spatially arranged within boreal forest landscapes to support lynx populations over time is unknown.

In the absence of site-specific information, we do not have tools or techniques (e.g., remote sensing or vegetation mapping technologies of adequate resolution) that would allow us to distinguish across broad landscapes throughout all of the range of the DPS between those areas that contain the PCE and other areas that contain the physical and biological features but in inadequate quantity and/or spatial arrangement. Nonetheless, we use the best available information to identify where the physical and biological features occur in adequate quantity and spatial arrangement to provide for the conservation of the species. Within this context, we developed the strategy described below for identifying, delineating, and designating critical habitat for the contiguous United States DPS of the Canada lynx.

The focus of our strategy in considering lands for designation as critical habitat is 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 over time. These factors are included in the PCE for lynx. As defined in the recovery outline, areas that meet these criteria and have recent evidence of reproduction are considered ''core areas'' for lynx (U.S. Fish and Wildlife Service 2005, pp. 3–4). However, we do not consider reproduction as a proxy for the PCE in this final rule.

In determining the geographic area occupied by the species at the time of listing, we used data providing verified

evidence of lynx occurrence. 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 areas occupied by lynx populations at the time of listing. We used data on the known historical range of the lynx (e.g., McKelvey *et al.* 2000a, 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 represent 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 a valid indicator of occupancy at the time of listing. Recent verified lynx occurrence records were provided by Federal research entities, State wildlife agencies, academic researchers, Tribes, and private individuals or organizations.

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 in much of the range of the lynx DPS, can easily be confused with the lynx. 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 based on McKelvey *et al.* (2000a, 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, New Hampshire, and Vermont because of the stringent protocols, the confirmation of lynx tracks by trained, highly qualified biologists, and the absence of species in the area with tracks that could be easily misidentified as lynx (Maine Dept. of Inland Fisheries and Wildlife 2003, entire).

To define critical habitat according to section 3(5)(A) of the Act, we then delineated, within the geographical area occupied by the species at the time of listing, areas containing physical and biological features essential to the conservation of the lynx. The adequacy of the quantities and spatial arrangements of the physical and biological features (as defined above) essential to the conservation of the DPS is informed by the recovery outline for the species (as discussed below), the nature of the threats in a particular geographic area, and the conservation needs for the species in a particular geographic area.

In the North Cascades and Northern Rockies, the features essential to the conservation of lynx, the majority of lynx records, and the boreal forest types are typically, though not always, found above 4,000 ft (1,219 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 high-quality 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 occur east of the crest of the Cascade Mountains.

Application of the Criteria to the Southern Rocky Mountains and Certain National Forests in Idaho and Montana

As described above under Previous Federal Actions, the District Court for the District of Montana found several flaws with our 2009 critical habitat designation for lynx. The following section discusses the issues raised by the court.

Colorado and the Southern Rocky Mountains

The Montana District Court found, among other things, that we failed in our 2009 designation to determine whether ''areas occupied by lynx in Colorado possess the physical and biological features essential to the conservation of the species.''

In the recovery outline, we defined six core areas for lynx as those having *both* persistent verified records of lynx occurrence over time *and* recent evidence of reproduction (U.S. Fish and Wildlife Service 2005, pp. 3–5, 20–21). We also defined the Southern Rocky Mountains of Colorado and southern Wyoming (which both lack persistent verified records of lynx occurrence over time) as a ''provisional'' core area because it contained an introduced lynx population that had demonstrated reproduction (U.S. Fish and Wildlife Service 2005, p. 4). ''Provisional'' means: ''accepted or adopted tentatively; conditional; or temporary.'' In our 2009 critical habitat designation, after careful evaluation of the historic record of verified lynx occurrence in Colorado and the Southern Rockies, we determined that there was no compelling evidence that the area had ever supported lynx populations over time and that, therefore, it did not likely contain the PCE and did not meet our criteria for designating critical habitat (74 FR 8641).

For reasons that are described in more detail below (also see our responses to comments (10), (11), and (23), above), the available data do not support that Colorado and the Southern Rockies contain the physical and biological features essential to lynx in adequate quantity and spatial arrangement to support lynx populations over time, and we provide what evidence is available to determine whether the area, or any parts of it, contain the PCE.

In 1999, just prior to lynx being listed under the Act, the Colorado Division of Wildlife (now Colorado Parks and Wildlife (CPW)) began an intensive effort to establish a lynx population in Colorado, eventually releasing 218 wild-caught Alaskan and Canadian lynx from 1999 to 2006 (Devineau *et al.* 2010, p. 524). At least 122 (56 percent) of the introduced lynx died by June of 2010 (Shenk 2010, pp. 1, 5), but others survived and established home ranges in Colorado, produced kittens in some years, and now are distributed throughout forested areas of western Colorado. Some lynx from this introduced population have also traveled into northern New Mexico, eastern Utah, and southern and western Wyoming, though no reproduction outside of Colorado has been documented by these dispersers.

The CPW has determined the lynx introduction effort to be a success based on attainment of several benchmarks (e.g., high post-release survival, low adult mortality rates, successful reproduction, recruitment equal to or greater than mortality over time; Ivan 2011a, p. 21 and 2011b, p. 11), but acknowledges that the future persistence of the population is uncertain and hinges on the assumption that patterns of annual reproduction and survival observed as of 2010 repeat themselves during the next 20 or more years (Shenk 2008, p. 16; Shenk 2010,

pp. 2, 5–6, 11). However, CPW has discontinued the intensive monitoring necessary to determine if these patterns of reproduction and survival will persist over that time (Colorado Parks and Wildlife 2012, p. 1), instead embarking on a passive monitoring program to detect lynx presence (Ivan 2011c, entire).

Although parts of Colorado and the Southern Rocky Mountains clearly contain some (perhaps all) of the physical and biological features lynx need, available evidence does not indicate that the area, or any parts of it, contain the features in the quantity and spatial arrangement necessary to provide for the conservation of the species. That is, the PCE is the elements of the PBFs in adequate quantity and spatial arrangement on a landscape scale. Some areas may contain some amounts of all the PBFs, but with one or more in inadequate quantity and/or spatial arrangement and, therefore, does not contain the PCE. The Southern Rocky Mountains (western Colorado, northern New Mexico, and southern Wyoming) are on the southern limit of the species' range and contain marginal lynx habitat (74 FR 8619), are disjunct from lynx habitats in the United States and Canada (McKelvey *et al.* 2000a, p. 230; 68 FR 40090; Devineau *et al.* 2010, p. 525; Interagency Lynx Biology Team 2013, pp. 50, 54), and have patchily distributed habitat that limits snowshoe hare abundance (Interagency Lynx Biology team 2013, p. 54). Snowshoe hares and their preferred habitats are described above as part of the PCE. The nearest lynx population occurs in the Greater Yellowstone Area, which supports a small, low-density population also disjunct from other lynx populations and which is unlikely to regularly supply dispersing lynx to the Southern Rockies. We previously determined that the Southern Rockies' distance and isolation from other lynx populations and habitats substantially reduce the potential for lynx from northern populations to naturally augment or colonize the area, that the immigration necessary to maintain a local lynx population is, therefore, naturally precluded, and that the contribution of the Southern Rockies to the persistence of lynx in the contiguous United States is presumably minimal (68 FR 40100–40101).

Dolbeer and Clark (1975, p. 539) estimated 0.30 hares per ac (0.73 hares per ha) on their study area in Summit County in central Colorado. Reed *et al.* (1999, unpublished, as cited by Hodges (2000, p. 185)) reported hare densities in Colorado ranging from 0.02 to 0.19 hares per ac (0.05 to 0.46 hares per ha). In areas used by introduced lynx in west-central Colorado, Zahratka and Shenk (2008, pp. 906, 910) reported hare densities that ranged from 0.03 to 0.5 hares per ac (0.08 to 1.32 hares per ha) in mature Engelmann spruce-subalpine fir stands and from 0.02 to 0.14 hares per ac (0.06 to 0.34 hares per ha) in mature lodgepole pine stands. The authors cautioned against comparing their results to other hare density estimates, as their use of the ''mean maximum distance moved'' method may have underestimated effective area trapped (Zahratka and Shenk 2008, p. 911), potentially resulting in overestimates of hare density.

In ''purportedly good'' hare habitat also in west-central Colorado in the area used by introduced lynx, Ivan (2011b, pp. iv–v, 71, 92) estimated summer hare densities of 0.08 to 0.27 hares per ac (0.2 to 0.66 hares per ha) in stands of ''small'' lodgepole pine, 0.004 to 0.01 hares per ac (0.01 to 0.03 hares per ha) in ''medium'' lodgepole pine, and 0.004 to 0.1 hares per ac (0.01 to 0.26 hares per ha) in spruce-fir stands. The author reported that hare densities were less than 0.4 hares per ac (<1.0 hare per ha) in all stand types and all seasons and, in most cases, were less than 0.12 hares per ac (0.3 hares per ha), and no combination of survival and recruitment estimates from any stand type in any year would result in a self-sustaining hare population, though hare recruitment may have been underestimated (Ivan 2011b, pp. 95, 99).

Ruggiero *et al.* (2000, pp. 446–447) concluded that a snowshoe hare density greater than 0.2 hares per ac (0.5 hares per ha) may be necessary for lynx persistence. Steury and Murray (2004, pp. 127, 137) modeled lynx and hare populations and determined that a hare density of 0.4–0.7 hares per ac (1.1–1.8 hares per ha) would be needed for persistence of lynx translocated (i.e., introduced or reintroduced) to the southern portion of the species' range. Most hare density estimates for Colorado are well below those thought necessary to support an introduced lynx population over time (Steury and Murray 2004, entire), and many, even from areas considered ''good'' hare habitat, are lower than the density Ruggiero *et al.* (2000, pp. 446–447) considered necessary for lynx persistence. The generally low hare densities reported in most cases in what is considered good hare habitat in western Colorado and the very large home ranges (181 mi^2 (470 km^2) for females and 106 mi^2 (273 km^2) for males) reported by Shenk (2008, pp. 1, 10) suggest that even the best potential lynx habitat in the Southern Rocky Mountains is marginal and unlikely to support lynx populations over time.

Some of the lynx introduced into Colorado have dispersed into mountainous areas of northern New Mexico, which contain relatively small and fragmented areas of similar high-elevation spruce/fir and cold mixed-conifer habitats (U.S. Forest Service 2009, pp. 5–10). No evidence exists that lynx occupied these or any other areas of New Mexico historically, and habitats in New Mexico are thought to be incapable of supporting a self-sustaining lynx population (U.S. Forest Service 2009, pp. 2, 10, 16–17). In addition, the lack of connectivity with northern lynx populations (McKelvey *et al.* 2000a, p. 230; Devineau *et al.* 2010, p. 525; Interagency Lynx Biology Team 2013, pp. 50, 54), which is considered necessary for the maintenance and conservation of lynx populations in the contiguous United States (Interagency Lynx Biology Team 2013, pp. 42, 47, 54, 60, 65), further suggests that lynx in the Southern Rockies, in the absence of continued translocations or introductions of lynx, are unlikely to receive the demographic and genetic exchange needed to maintain lynx populations over time.

For these reasons, the Service has determined that the Southern Rocky Mountains likely do not possess the physical and biological features essential to lynx in sufficient quantity and spatial arrangement to sustain lynx populations over time. Therefore, we find that the habitat in Colorado and elsewhere in the Southern Rocky Mountains does not contain the PCE, is not essential for the conservation of the lynx DPS, and we are not designating critical habitat for the lynx DPS in the Southern Rockies.

We acknowledge the efforts by the CPW and recognize that wildlife introductions are, by their nature, experiments whose fates are uncertain. However, it is always our goal for such efforts to be successful and, where possible, contribute to recovery of listed species. If Colorado's introduction effort is successful (i.e., if recruitment equals or exceeds combined mortality and emigration over the next 20 years (Shenk 2010, pp. 2, 5–6, 11)), it could *contribute* to recovery by providing an additional buffer against threats to the DPS. The potential contribution of Colorado to lynx recovery does not mean, however, that the habitat there is essential for the conservation of the DPS. In other words, the lynx population in Colorado is beneficial, but not essential, for recovery.

National Forests in Idaho and Montana

The Montana District Court ordered the Service to determine specifically whether lands in the Clearwater and Nez Perce National Forests in Idaho, the Bitterroot National Forest in Idaho and Montana, the Beaverhead-Deerlodge National Forest in Montana, and additional parts of the Helena and Lolo National Forests (outside the areas currently designated) in Montana contain the physical and biological features essential for the conservation of the DPS. Although each of these areas clearly contain some (and perhaps all) of the physical and biological features lynx need, for the reasons discussed below, we find no evidence that any of the areas contain the elements in adequate quantity and spatial arrangement to provide for the conservation of lynx. We provide evidence, where available, that these areas were likely not occupied by lynx at the time of listing and are not currently occupied by lynx populations, and we summarize relevant survey results, all of which indicate that lynx do not occupy these areas or that the areas are lacking in either quantity or spatial arrangement (or both) of one or more of the essential features. We have determined that these areas do not contain the PCE, are not essential to the conservation of the lynx, and do not meet the definition of critical habitat. Therefore, based on the information summarized below, we have not included these National Forest lands in this final critical habitat designation.

In the recovery outline, the Service classified these areas (outside the portions of the Helena and Lolo National Forests designated as critical habitat) as ''secondary areas'' because they lack evidence of lynx reproduction (U.S. Fish and Wildlife Service 2005, pp. 4, 21). As described in detail below, recent surveys for lynx conducted in accordance with established and accepted protocols in many of these areas have failed to detect lynx presence, and the available evidence suggests these areas occasionally may provide temporary habitat for transient lynx dispersing from established lynx populations in the Northern Rocky Mountains of Canada, Idaho, and Montana, but that they likely do not contain all essential physical and biological features in adequate quantity or spatial arrangement to support lynx populations over time.

There is no evidence that the Beaverhead-Deerlodge, Bitterroot, and Nez Perce National Forests were occupied by lynx at the time of listing, or that they are currently occupied by lynx populations. To date, surveys on these National Forests, which have been conducted according to established protocols, have failed to detect presence of any individual lynx, and they provide no indication of the presence of lynx populations. Surveys described below were conducted according to National Lynx Survey (McKelvey *et al.* 1999b, entire), and winter snow-tracking survey (Squires *et al.* 2004b, entire) protocols. Snow-tracking surveys in particular, when conducted strictly according to appropriate protocols by experienced surveyors, which often results in collection of DNA and genetic verification of species identity, are highly effective at detecting lynx, even when only a few animals inhabit the survey area (Ulizio *et al.* 2007, p. 5; Squires *et al.* 2012, pp. 215, 219–222).

On the Beaverhead-Deerlodge National Forest, National Lynx Survey efforts in 1999–2001 detected no lynx (U.S. Forest Service 2002a, entire and 2002b, entire). During 2001–2005, in surveys designed to detect presence of lynx and wolverines, 11,220 mi (17,950 km) of winter snow-tracking surveys and trap route checks in the Anaconda-Pintler, Beaverhead, Flint Creek and Pioneer mountain ranges on the Beaverhead-Deerlodge National Forest detected only a single ''putative'' lynx track, and no verified tracks (Squires *et al.* 2003, p. 4; Squires *et al.* 2006b, p. 15). Additional recent snow tracking surveys (Berg 2009, entire) also failed to detect any lynx, and the author concluded that, although some pockets of habitat appeared to support high densities of snowshoe hares, ''[m]ost of the [Beaverhead-Deerlodge National Forest] was and appeared to be dry lodgepole pine, which likely is not good lynx habitat . . .'' (Berg 2009, p. 20).

During May and June of 2009, hair snares (642 snare-nights) and remote cameras (319 camera-nights) deployed in the Boulder, Flint Creek, and Pioneer mountain ranges also failed to detect any lynx (Porco 2009, entire). Additional hair snare surveys in summer 2012 similarly failed to detect lynx (Pilgrim and Schwartz 2013, entire; U.S. Forest Service 2013c, entire). Snow-tracking surveys designed to detect presence of multiple forest carnivores, including lynx, conducted by the Idaho Department of Fish and Game from 2004 to 2006 detected no lynx in the Beaverhead Mountains Section, just west of the Beaverhead-Deerlodge National Forest (Patton 2006, pp. 20–21, Table 11). We conclude that the rigorous efforts described above collectively provide strong indication that lynx do not occupy the Beaverhead-Deerlodge National Forest, and that the habitat quality and hare densities appear, based on the best available information, to be inadequate to support lynx. We find no scientific evidence that this area contains the physical and biological features essential to lynx in adequate quantity and spatial arrangement. Therefore, it does not contain the PCE and is not essential for the conservation of the lynx DPS.

On the Bitterroot National Forest, National Lynx Survey efforts in 2000–2002 and 2010–2011 detected no lynx (U.S. Forest Service 2000, entire, 2002c, entire, 2003a, entire, 2003b, entire; Pilgrim 2010, entire; Shortsleeve 2013, pers. comm.). Snow-tracking surveys designed to detect presence of multiple forest carnivores, including lynx, conducted by the Idaho Department of Fish and Game from 2004 to 2006 detected no lynx in the Bitterroot Mountains Section (Patton 2006, pp. 20–21, Table 11). Additionally, among 223 vegetation plots sampled in 2010–2012 on the Forest, only 30 (16.1%) met minimum horizontal cover standards for snowshoe hare/lynx habitat (U.S. Forest Service 2012, unpublished data). Based on the information above, we conclude that lynx do not occupy the Bitterroot National Forest, and that the habitat quality and hare densities appear, based on the best available information, to be inadequate to support lynx. We find no scientific evidence that this area contains the physical and biological features essential to lynx in adequate quantity and spatial arrangement. Therefore, it does not contain the PCE and is not essential for the conservation of the lynx DPS.

On the Nez Perce National Forest, winter snow-tracking surveys covering 448 mi (721 km) in 2007 did not detect any lynx (Ulizio *et al.* 2007, entire). The authors concluded that (1) these surveys very likely would have detected the presence of a lynx population if one occurred on the Forest, (2) that the failure to detect lynx suggests that a lynx population does not inhabit the surveyed portion of the Forest, and (3) ''[h]istorical sightings . . . may be the result of transient lynx moving through the forest, but the infrequency of such reports suggests lynx are incidental to the area'' (Ulizio *et al.* 2007, p. 5). Neither a partial hare-snare survey conducted in 2008 (though at fewer stations than recommended by the protocol) nor a partial snow-tracking survey conducted in 2009 (also less extensive than protocol) detected presence of lynx on the Forest. Snow-tracking surveys conducted according to established protocols and covering 553 mi (890 km) of forest roads were completed in 2013; these surveys also

failed to detect presence of any lynx on the Nez Perce National Forest (U.S. Forest Service 2013d, pp. 3–7). Snow-tracking surveys designed to detect presence of multiple forest carnivores, including lynx, conducted by the Idaho Department of Fish and Game from 2004 to 2006 detected no lynx in the Clearwater Region, including parts of the Nez Perce National Forest (Patton 2006, p. 9, Table 2). Based on the information above, we conclude that lynx do not occupy the Nez Perce National Forest, and that the habitat quality and hare densities appear, based on the best available information, to be inadequate to support lynx. We find no scientific evidence that this area contains the physical and biological features essential to lynx in adequate quantity and spatial arrangement. Therefore, it does not contain the PCE and is not essential for the conservation of the lynx DPS.

The paucity of verified historical records of lynx occurrence in these three National Forests, and the absence of recent verified records, despite numerous surveys designed to detect lynx presence and described in the preceding paragraphs, suggest these areas may rarely and temporarily support transient dispersing lynx (McKelvey *et al.* 2000a, pp. 224–227; Ulizio *et al.* 2007, p. 5). Based on these surveys, historical records of lynx occurrence, the vegetation sampling data described above (U.S. Forest Service 2012, unpublished data), and expert opinion on habitat quality described above (Ulizio *et al.* 2007, p. 5), the Service has determined that habitats on these three National Forests are not occupied by lynx populations and do not contain the essential physical and biological features in appropriate quantity and spatial arrangement to support lynx over time. We have determined that these areas do not contain the PCE, do not meet the definition of critical habitat, and are not essential to the conservation of the lynx DPS. Therefore, we have not included the Bitterroot, Beaverhead-Deerlodge, and Nez Perce National Forests within this final critical habitat designation.

We recognize that all of the Clearwater and Lolo National Forests, and parts of the Helena National Forest (except for the disjunct Big Belt and Elkhorn mountain ranges) are considered ''occupied'' by lynx for purposes of consultations under section 7 of the Act. Occupancy in the context of section 7 consultation is intended to inform the ''may be present'' standard under section 7 and does not imply the presence of lynx populations or that the habitats in these areas contain the physical and biological features necessary to support a lynx population over time. For section 7 purposes, occupancy is determined on a Forest-wide basis, so that two observations anywhere on a Forest confer permanent ''occupied'' status to the entire Forest, even in places where lynx have not been documented and where no lynx populations occur.

The Clearwater National Forest is in an area classified in the recovery outline as a secondary area for lynx recovery (U.S. Fish and Wildlife Service 2005, p. 21) because there is no record of consistent lynx presence on the Forest. Snow-tracking surveys designed to detect presence of multiple forest carnivores, including lynx, conducted by the Idaho Department of Fish and Game from 2004 to 2006 detected no lynx in the Clearwater Region, including parts of the Clearwater National Forest (Patton 2006, p. 9, Table 2). Wirsing *et al.* (2002, entire) studied snowshoe hare demographics on study areas within the Clearwater National Forest. They concluded that hare habitat was fragmented; good hare habitat was rare and occurred as small isolated patches; and hares occurred at extremely low densities (0.04 hares per ac (0.09 per ha)), well below the range of densities typical of other southern hare populations, had low survival rates, and had poor juvenile recruitment (Wirsing *et al.* 2002, pp. 169–175). The authors identified hare predators including coyotes, raptors, mustelids, and bobcats (Wirsing *et al.* 2002, p. 172), but identified no predation attributable to lynx. Based on the best available information, summarized above, the habitat quality and hare densities in this area appear to be inadequate to support lynx. We find no scientific evidence that this area contains the physical and biological features essential to lynx in adequate quantity and spatial arrangement. We determine that habitats on the Clearwater National Forest do not contain the PCE, are not essential for the conservation of the lynx DPS, and do not meet the definition of critical habitat. As a result we have not designated critical habitat on this national forest.

Portions of the Helena and Lolo National Forests are classified as ''core areas'' for lynx recovery because they have evidence of consistent lynx occupancy and recent records of reproduction (U.S. Fish and Wildlife Service 2005, pp. 4, 21); these areas are designated as critical habitat. Because of this lynx occupancy, both Forests are designated as ''occupied'' in their entirety for section 7 purposes, even though the remainders of these two Forests are considered secondary areas in the recovery outline (U.S. Fish and Wildlife Service 2005, pp. 6, 21) because they lack records of consistent lynx presence. The parts of these two forests that we have not designated continue to lack evidence of lynx occupancy, and surveys (described below) have failed to detect the presence of lynx populations.

On the Helena National Forest, the Big Belt (in 2002, 2003, and 2004) and Elkhorn (in 2003) mountain ranges were surveyed according to the National Lynx Survey protocol (McKelvey *et al.* 1999b, entire); no lynx were detected in any of these surveys (Pengeroth 2013, pers. comm.). On the Lolo National Forest, no lynx were detected during 941 mi (1,514 km) of snow-tracking surveys targeting lynx in the vicinity of Lolo Pass in January–March 2001 (Squires *et al.* 2004c, p. 3). More recently, over 2,600 mi (4,184 km) of forest carnivore snow-tracking surveys were conducted according to accepted protocols (Squires *et al.* 2004b, entire) by highly trained technicians from 2010 to 2013 across much of the Lolo National Forest and on some adjacent lands. These surveys resulted in 199 lynx detections over 4 years, only 1 of which occurred outside the portion of the forest designated as critical habitat in this rule (U.S. Forest Service 2013e, pp. 2–3). The single detection outside the critical habitat boundary was in an area surrounded by critical habitat but at a slightly lower elevation (U.S. Forest Service 2013e, pp. 2, 4). Based on the information summarized above, we conclude that lynx do not occupy the Helena and Lolo National Forests outside the areas we have designated, and that the habitat quality in these areas appears, based on the best available information, to be inadequate to support lynx. We find no scientific evidence that these areas contain the physical and biological features essential to lynx in adequate quantity and spatial arrangement. Therefore, it does not contain the PCE and is not essential for the conservation of the lynx DPS. As a result, we have determined that these areas do not meet the definition of critical habitat, and we have not included these areas in this final critical habitat designation.

Based on historical records and available survey data summarized above (McKelvey *et al.* 2000a, pp. 224–227; U.S. Forest Service 2000, entire; U.S. Forest Service 2002a, 2002b, and 2002c, entire; Wirsing *et al.* 2002, entire; Squires *et al.* 2003, p. 4; U.S. Forest Service 2003a and 2003b, entire; Patton 2006, entire; Squires *et al.* 2006b, p. 15; Ulizio *et al.* 2007, entire; Berg 2009, entire; Porco 2009, entire; Pilgrim 2010,

entire; U.S. Forest Service 2012, unpublished data; Pengeroth 2013, pers. comm.; Pilgrim and Schwartz 2013, entire; Shortsleeve 2013, pers. comm.; U.S. Forest Service 2013c, 2013d, 2013e, entire), the Service has determined that habitats on the Beaverhead-Deerlodge, Bitterroot, Clearwater, and Nez Perce National Forests, and on the Helena and Lolo National Forests outside those areas designated as critical habitat, are not occupied by lynx populations and were likely not occupied at the time of listing. These areas may occasionally host transient dispersing lynx, but the best available information indicates that they do not contain the physical and biological features essential to lynx in adequate quantity and/or spatial arrangement to demonstrate that they contain the PCE, and, as a result, do not meet the definition of critical habitat. We have determined these areas are not essential to the conservation of the lynx DPS, and we have not included these areas in this final designation of critical habitat for the lynx DPS.

Recent Lynx Occurrence in Northern New Hampshire, Northern Vermont, and Eastern and Western Maine

Northern New Hampshire and Northern Vermont

The historic status of lynx in New Hampshire and Vermont is poorly understood. Lynx occurred historically in central and northern New Hampshire, but there is no evidence that a resident breeding population existed there historically or recently (McKelvey *et al.* 2000a, pp. 212–214). In 2003, the Service determined that, despite a lack of breeding records, a small resident lynx population likely occurred historically in New Hampshire but no longer existed at the time of listing (68 FR 40087). A bounty program for lynx that persisted in New Hampshire until 1965, along with a lack of dispersing lynx from Quebec, and habitat loss associated with forest management practices may have contributed to the extirpation of lynx from New Hampshire (Litvaitis *et al.* 1991, pp. 70, 73–74).

Brocke *et al.* (1993, p. 14) similarly speculated that trapping mortality and the concurrent reduction in habitat resulting from large-scale timber harvest led to the extirpation of lynx from New Hampshire. Surveys conducted in 1986 in high-elevation habitats in the White Mountain region of New Hampshire detected no lynx (Litvaitis *et al.* 1991, pp. 70, 73). In 1992, an adult lynx killed by a vehicle collision in southern New Hampshire (McKelvey *et al.* 2000a, p. 213) was classified as a ''transient'' that did not belong to a resident population because hare densities where this lynx died are low and habitat conditions are considered unsuitable for home range establishment (Tur 2013, pers. comm.).

The historic record for Vermont is scant, with only five records of lynx occurring from the period 1797 to 1968 and no evidence that a population of lynx ever occurred there (Kart *et al.* 2005, pp. 101–104). Prior to the listing of the DPS in 2000, the last lynx documented in Vermont was trapped at St. Albans in 1968 (Kart *et al.* 2005, p. A4–101). Based on the best available data, summarized above, we conclude that New Hampshire and Vermont were not occupied by lynx at the time of listing.

Although results of surveys to assess the current distribution and status of lynx in New Hampshire and Vermont are not yet complete, surveys to date in New Hampshire suggest that a small number of lynx are sparsely distributed through the northern half of the State, mostly likely as scattered transient animals, and breeding has only recently been documented by a few lynx in very small areas in the northeastern part of the State. Likewise, in Vermont, several lynx have been documented as breeding within a very small area in the northeast corner of the State. Lynx occurrence in northern New Hampshire and Vermont was documented beginning in 2006, and breeding was first documented in 2009. To date, evidence of lynx reproduction in northern New Hampshire was documented in 2010 and 2011, all in the area encompassing the town of Pittsburg (Staats 2013a, pers. comm.). In Vermont, breeding was documented in 2009, 2011, and 2012, all at the Nulhegan National Wildlife Refuge (NWR) (Cliché 2013, pers. comm.).

Historic records suggest that high-elevation habitats in New Hampshire's White Mountains contained lynx (Silver 1957, pp. 302–311; McKelvey *et al.* 2000a, p. 212); however, surveys conducted during the early 1990s in the White Mountain National Forest did not detect the species (Litvaitis *et al.* 1991, p. 15; Brocke *et al.* 1993, p. 14). No lynx have been detected by White Mountain National Forest staff during winter track surveys conducted since 2003 (Prout 2013, pers. comm.). However, in March 2013, New Hampshire Fish and Game Department staff confirmed the presence of lynx tracks in high-elevation habitat located in the area near Franconia Notch. In addition, snow track surveys conducted by the New Hampshire Fish and Game Department in 2012 and 2013 detected lynx near Cambridge and Success, south of the Lake Umbagog NWR (which has lynx in its Maine portion). Additional records (2006–2013, n=6) occur as far south as Jefferson, NH, at the southern border of the Kilkenny Unit of the White Mountain National Forest. Lynx tracks have also been detected on the Pondicherry NWR, located in Whitefield, NH. Since 2006, New Hampshire has 18 confirmed records, totaling 28 individual animals.

Habitat patches that support lynx in New Hampshire are much smaller than those in northern Maine (Litvaitis and Tash 2005, Fig. 2 and p. A–298; Robinson 2006, Fig. 3.3, p. 99). Hoving estimated roughly 386 mi^2 (1,000 km^2) of lynx habitat in New Hampshire (68 FR 40086–40087). Litvaitis and Tash (2005, p. A–298), analyzing potential lynx habitat in New Hampshire based on the Hoving lynx model, reported an area of 2,000 mi^2 (5,180 km^2) with a greater than 50 percent probability of lynx occurrence. Within this area, ''enriched hare habitats'' (including high-elevation spruce-fir, clearcuts, and shrub-dominated wetlands) consisted of 342 mi^2 (886 km^2), 17 percent of the total predicted lynx habitat area. The authors concluded that ''the modest abundance of high-density hare habitat supports the notion that New Hampshire does not contain sufficient habitat to support a viable, stand-alone population of lynx. Long-term persistence of lynx in New Hampshire is probably dependent on immigrants, and the State likely represents the southern limit of lynx in eastern North America'' (Litvaitis and Tash 2005, p. A–298). Similarly, Brocke *et al.* (1993, pp. 1–14) suggested that the persistence of New Hampshire's lynx population was dependent on receiving dispersing animals. Therefore, persistence of lynx in New Hampshire relies on continuity of habitat through western Maine to the core area of lynx habitat in northern Maine.

Recent modeling to determine lynx habitat connectivity in the Northeast suggests that the Nulhegan River Basin contains Vermont's best lynx habitat (Farrell 2013, pers. comm.). The 205-mi^2 (530-km^2) basin includes 41 mi^2 (106 km^2) managed by the Service, 34 mi^2 (89 km^2) managed by the Vermont Department of Natural Resources, and 131 mi^2 (340 km^2) of private commercial timber lands (with easement). Bobcats occur in the area at moderate densities (Hoving 2001, Fig. 2.5 p. 55). Snow track surveys conducted by State and Service personnel during the winters of 2011 and 2012 (Nulhegan NWR only) and 2012 and 2013 (Nulhegan NWR and Victory Bog State Wildlife Management Area) indicate a small resident lynx population has become established on

the NWR. In areas outside of Nulhegan NWR, the presence of sporadic records indicates lynx have not established home ranges and are considered transient or absent.

Portions of northern New Hampshire and northeastern Vermont contain boreal forest landscapes with a mosaic of habitats of various ages. Although stand-level hare densities in spruce-fir forest in these areas should be similar to densities documented in northern Maine (Litvaitis and Tash 2005, p. A–297), landscape-level hare densities are likely lower because spruce-fir habitat is a lower percentage of the landscape and more fragmented than in core lynx habitat in northern Maine (Hoving 2001, Fig. 2.6, p. 56). The snow regime in northern New Hampshire and northern Vermont also appears adequate for lynx, especially in higher elevation areas, which experience deep, fluffy snow conditions that provide a competitive advantage for lynx, whereas shallower snow in lower elevations may provide competitive advantage to bobcats (Hoving 2001, Fig. 2.2 p. 51). Litvaitis and Tash (2005, p. A–263) modeled bobcat habitat in New Hampshire and concluded that most low-elevation areas that were predicted to have a higher probability of lynx occurrence were also predicted to have moderate-to-high bobcat populations. Conversely, most high-elevation areas that were predicted to have a high probability of lynx occurrence were expected to be avoided by bobcats (at least in the winter). The elevation at which snow benefits lynx versus bobcats in the Northeast is unknown and likely variable.

While historic records indicate that lynx use high-elevation areas in the Northeast, it is unknown if high elevations support high-quality foraging habitat in areas sufficiently large to support breeding individuals. The White Mountain National Forest has the most extensive high-elevation habitat in the Northeast, but only one recent record of lynx occurrence (Staats 2013b, pers. comm.).

Litvaitis and Tash (2005, p. A–298) estimated that New Hampshire contains 342 mi^2 (888 km^2) of potential Canada lynx habitat. There are no comparable lynx habitat estimates for Vermont. Because these areas occur at the southern extreme of the lynx's current distribution, where habitat is interspersed with northern hardwood forests, as well as human-dominated land cover types (e.g., developed areas, roads, agricultural fields, etc.), habitat quality (percent of conifer forest, landscape-level hare density, intensity of forest management) is likely to be lower in New Hampshire and Vermont than in designated critical habitat in northern Maine. Although potential lynx habitat in New Hampshire and Vermont is fragmented, a recently completed habitat connectivity model demonstrated 100 percent connectivity for lynx movement/dispersal between these areas and the core area of northern Maine (Farrell 2013, pers. comm.). Breeding lynx in New Hampshire and Vermont are not directly connected to Canadian populations, but they are connected to the large population in northern Maine via western Maine.

Due to the uncertainty regarding the long-term persistence of the lynx that now occur in these areas, the relative importance of these areas for conservation of the DPS is unclear. These are peripheral boreal forest areas with higher northern hardwood composition and patchier habitat (Hoving 2001, Fig. 2.6, p. 56), and they represent the southern extent of the lynx range (Litvaitis and Tash 2005, p. A–298). Northern Vermont and New Hampshire do not appear to contain adequate lynx habitat to support lynx populations; nor do lynx in these areas appear to be considered potential source populations (Litvaitis and Tash 2005, p. A–298). Although Brocke *et al.* (1993, pp. 1–14) predicted that, in the absence of trapping, New Hampshire's lynx population would be expected to increase at the very modest rate of 1.65 percent per year, this estimate did not account for other sources of lynx mortality (i.e., interspecific interactions with bobcat or vehicle mortality).

As in Colorado, northern New Hampshire and northern Vermont clearly contain habitats that include some or all of the physical and biological features lynx require (some of the components of the PCE). However, it remains uncertain whether they consistently contain the features (e.g., snow conditions that allow lynx to outcompete bobcats, or landscape-level hare densities) in adequate quantity and spatial arrangement to support lynx over time. Moreover, because neither area was occupied by lynx at the time they were listed, to designate them as critical habitat we would have to determine that they are essential for the conservation of the DPS (i.e., that the DPS could not be recovered unless these areas were designated as critical habitat). We do not believe that is the case, and we do not expect that the current small numbers of breeding lynx in these areas will result in the establishment of permanent lynx populations.

In summary, although lynx were known to occur historically in New Hampshire and Vermont, reliable evidence of the ability of these areas to support lynx populations over time is lacking. The best available data indicate that New Hampshire and Vermont were not occupied by lynx at the time of listing. If resident lynx occurred in these areas, they may have been extirpated when habitat was modified through forestry practices, a bounty program was in place that increased mortality, and the ability of animals to recolonize the area was compromised by regional-scale influences that suppressed lynx numbers in adjacent populations.

Recently, habitats in these areas have regenerated and source populations of lynx in northern Maine have increased, likely resulting in dispersal of lynx to New Hampshire and Vermont, where small numbers of breeding lynx have been documented in small areas of northern New Hampshire and northern Vermont only over the past few years (since 2009–2010). Their recent arrival and the complex ecological interactions functioning at landscape scales make it difficult to assess the long-term status of lynx in these areas, as well as their potential contribution to the conservation of the DPS. In addition, potential lynx habitat in these areas is fragmented, landscape-level hare densities are low, and bobcat densities are relatively high. Consequently, these areas are unlikely to support robust lynx populations capable of generating dispersing animals that could occupy other portions of the species' range. The persistence of lynx in New Hampshire is likely reliant upon frequent dispersers from other populations. Because habitats in Vermont are even more localized and fragmented, the same situation most likely exists there. Within these areas, the status of lynx and their habitats may deteriorate further as a result of climate change.

Considering all of the factors above, we believe that northern New Hampshire and northern Vermont do not contain the physical and biological features essential to lynx in adequate quantity and spatial arrangement to support lynx over time. As a result, we have determined these areas do not contain the PCE and do not meet the definition of critical habitat. Further, because neither area was occupied by lynx at the time of listing, to designate these areas as critical habitat we would have to determine they are essential to the conservation of the DPS (i.e., that the DPS could not be recovered unless we designate these areas). We have determined that the small areas in New Hampshire and Vermont recently occupied by a small number of breeding lynx are not essential for the conservation of the lynx DPS, and we have not designated any areas in New

Hampshire or Vermont as critical habitat in this final rule.

Eastern and Western Maine

Historically, lynx are believed to have occurred throughout Maine. Hoving *et al.* (2003, entire) assembled historical records dating to 1833 to reconstruct the past distribution of lynx in the State. Prior to 1913, lynx were found throughout the State, with the exception of coastal areas. From 1913 to 1972, records occurred in western and northern Maine. In 1936 and 1939, game wardens described lynx as rare, but present, in most districts except along the coast (Aldous and Medall 1941, as cited *in* Vashon *et al.* 2012, pp. 28, 33). From 1973 to 1999, most records occurred in western and northern Maine, although lynx also occurred in the central and eastern portions of the State. Between 1995 and 1999, the Maine Department of Inland Fisheries and Wildlife conducted snow track surveys for lynx in western and northern Maine (Vashon *et al.* 2012 pp. 34–35) and documented lynx only in northern Maine. Surveys conducted from 2003 to 2008 documented lynx in both western and northern Maine (Vashon *et al.* 2012, pp. 34–35). Snow surveys for lynx have not been conducted in high-elevation habitats in western Maine. Surveys were not conducted in eastern Maine because there was no evidence that lynx occurred there.

Hoving *et al.* (2003, p. 371) documented 39 historic records spanning 135 years of lynx kittens representing a minimum of 21 litters. Most breeding was documented in northern Maine. Prior to listing, the last documented breeding in western Maine was observed in 1995 and in eastern Maine in 1896 (Hoving 2001, p. 173). Since listing, lynx have been documented consistently in western and northern Maine and occasionally in central and eastern parts of the State (Vashon *et al.* 2012, pp. 12, 59). Lynx breeding has been documented in western, northern, and eastern Maine (the latter at a single location in 2010) (Vashon *et al.* 2012, p. 64). Lynx travel widely during dispersal and occasional forays outside of their home ranges (Vashon *et al.* 2012, pp. 22, 59; Maine Department of Inland Fisheries and Wildlife, unpublished data), which may explain occasional occurrences outside of western and northern Maine.

Portions of eastern and western Maine contain boreal forest landscapes with a mosaic of habitats of various ages, but it is uncertain whether these areas contain the PCE (i.e., the physical and biological features essential to lynx in adequate quantity and spatial arrangement to support lynx populations over time) for the following reasons. Like New Hampshire and Vermont, these areas occur at the southern extreme of the species' current distribution, where habitat is interspersed with northern hardwood forests, as well as human-dominated land cover types (e.g., developed areas, roads, agricultural fields, etc.). Therefore, habitat quality (percent of conifer forest, landscape-level hare density, intensity of forest management) is likely to be lower in eastern and western Maine than in northern Maine. Hoving *et al.* (2004, Fig. 1, p. 290) predicted a low probability of lynx occurrence in western Maine and no lynx occurrence in eastern Maine. Although potential lynx habitat in western Maine is fragmented, it is directly connected to the core area in northern Maine (Farrell 2013, pers. comm.), which we have designated as critical habitat in this rule.

Snowshoe hares were at relatively high densities in northern Maine from 2001 to 2006, but declined by about 50 percent afterward (Scott 2009, pp. 1–44; Vashon *et al.* 2012, p. 14). Lynx populations were believed to have reached the carrying capacity of the habitat in about 2006 (Vashon *et al.* 2012, p. 58). At that time, lynx were likely dispersing at greater rates into western, central, and eastern parts of the State (Vashon *et al.* 2012, Fig. 4.2, p. 59) and were likely the source of lynx in New Hampshire and Vermont.

The snow regime is adequate for lynx in western Maine, especially in higher elevations (Hoving 2001, Fig. 2.2 p. 51), but snow conditions are likely unsuitable for lynx in eastern Maine. Stand-level hare densities also should be similar to those in northern Maine (Litvaitis and Tash 2005, p. A–297), although landscape-level hare densities in western Maine are likely lower because spruce-fir habitat is a lower percentage of the landscape and more fragmented than in core lynx habitat in northern Maine (Hoving 2001, Fig. 2.6, p. 56; Robinson 2006 pp. 81–146). Hare habitat modeling in western Maine indicated patchier and more widely distributed hare habitats compared to northern Maine due to differences in the size and distribution of regenerating clearcuts (Robinson 2006, Fig. 3.3, pp. 99, 181). These areas of western Maine have a higher prevalence of northern hardwoods, which support much lower hare densities.

Carroll (2007, entire) used the Hoving lynx model as a basis to predict lynx distribution in the Northeast under several scenarios affecting forestry, trapping in Canada, and climate change. A reduced snow model predicted lynx would disappear in all of Maine and persist only in the higher elevation areas of the Adirondacks and White Mountain National Forest. However, Hoving (2001, p. 76) used different snowfall projections and models that predict lynx would continue to occur in northern Maine with reduced snow. Carroll's (2007) climate change model was based on predicted annual snowfall for 2055. Predictions were derived from the output of the Parallel Climate Model, a general circulation model developed by a consortium of researchers in support of the IPCC (Kiehl and Gent 2004, entire). The IPCC climate scenario that was used is in the intermediate to high ranges among the 35 scenarios evaluated by the IPCC. Because these predictions provided only coarse resolutions (~200 km), Carroll interpolated the percent change in annual snowfall predicted and multiplied by finer-scale data for current annual snowfall to produce a ''sharpened'' estimate of future snowfall patterns. Carroll's modelling included a lake effect and thus differed slightly in output from that used by Hoving *et al.* (2005).

Although climate change models are being refined for the Northeast, additional information is needed to understand what areas may support lynx in the future under a variety of climate change projections and to resolve high levels of uncertainty. In addition to the potentially conflicting climate models that make projecting lynx conservation into the future challenging, the biological response of lynx to climate change at the regional and stand scales is complex and poorly understood at this time. Thus, we believe it is premature at this time to draw any conclusions regarding how much of Maine is likely to remain suitable for lynx in the future as a result of climate change.

Western and eastern Maine have the highest densities of bobcats in the State (Hoving 2001, pp. 54–55). Maine is at the northern edge of the bobcat range, and their populations decline during severe winters (Morris 1986, entire; Parker *et al.* 1983, entire). In 2008 and 2009, Maine experienced two severe winters with deep snow that may have depressed bobcat populations in western and eastern parts of the State at the same time that larger numbers of lynx were dispersing from northern Maine. These conditions may have allowed lynx to establish home ranges in areas formerly inhabited by bobcats. However, whether lynx will persist in these areas as bobcat populations recover is uncertain.

As in New Hampshire and northern Vermont, some habitats in eastern and western Maine clearly contain some or all of the physical and biological features lynx require. However, it remains uncertain whether they contain the PCE. Because neither area was occupied by lynx at the time they were listed, to designate them as critical habitat we would have to determine that they are essential for the conservation of the DPS (i.e., that the DPS could not be recovered unless these areas were designated as critical habitat). We do not believe that is the case, and we do not expect that the area is needed for the conservation of the species.

In summary, although lynx were known to occur historically in eastern and western Maine, reliable evidence of the ability of these areas to support lynx populations over time is lacking. The best available data, summarized above, suggest that eastern Maine was not occupied by lynx at the time of listing. Within these areas, the status of lynx and their habitats may deteriorate further as a result of climate change. Considering all of these factors, we believe that although eastern and western Maine contain physical and biological features important to lynx, we do not find evidence that these areas contain the features in adequate quantity and spatial arrangement to support lynx populations over time. As a result, we have determined these areas do not contain the PCE and do not meet the definition of critical habitat. We have determined that these areas are not essential to the conservation of the lynx DPS, and we have not designated critical habitat in eastern and western Maine in this final rule.

When determining critical habitat boundaries, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures because such lands lack physical or biological features necessary for lynx. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Given the scale of the lynx 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 not intended to be designated as critical habitat. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this final rule have been excluded by text in this rule. Therefore, a Federal action involving these lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect the physical or biological features in the adjacent critical habitat.

The critical habitat designation is defined by the map or maps, as modified by any accompanying regulatory text, presented at the end of this document in the rule portion. We include more detailed information on the boundaries of the critical habitat designation in the preamble of this document. We have made the coordinates or plot points or both on which each map is based available to the public on *http://www.regulations.gov* at Docket No. FWS–R6–ES–2013–0101, on our Internet sites *http://www.fws.gov/montanafieldoffice/,* and at the field office responsible for the designation (see **FOR FURTHER INFORMATION CONTACT**, above).

We are designating as critical habitat areas that we have determined were occupied by lynx populations at the time of listing and which contain the physical and biological features essential to the conservation of the lynx DPS in sufficient quantity and spatial arrangement to support life-history processes essential to the conservation of lynx populations within the DPS. Units were selected for designation because they contain sufficient elements of the physical and biological features essential for supporting lynx life processes and lynx populations over time. All units contain all of the identified elements of physical or biological features in adequate quantity and spatial arrangements on the landscape and support multiple life processes that allow lynx populations to persist over time.

Final Critical Habitat Designation

We are designating five units as critical habitat for the Canada lynx DPS. The critical habitat areas described below constitute our best assessment at this time of areas that meet the definition of critical habitat. The designated units are: Unit 1 in northern Maine (Aroostook, Franklin, Penobscot, Piscataquis, and Somerset Counties); Unit 2 in northeastern Minnesota (Cook, Koochiching, Lake, and St. Louis Counties); Unit 3 in the Northern Rocky Mountains of northwest Montana (Flathead, Glacier, Granite, Lake, Lewis and Clark, Lincoln, Missoula, Pondera, Powell and Teton Counties) and northeast Idaho (Boundary County); Unit 4 in the North Cascade Mountains of north-central Washington (Chelan and Okanogan Counties); and Unit 5 in the Greater Yellowstone Area of southwest Montana (Carbon, Gallatin, Park, Stillwater, and Sweetgrass Counties) and northwest Wyoming (Fremont, Lincoln, Park, Sublette, and Teton Counties). All units were occupied by lynx populations at the time of listing and are currently occupied by lynx populations. The approximate area and ownership within each critical habitat unit is shown in Table 1, and the area and ownership by State is shown in Table 2.

TABLE 1—DESIGNATED CRITICAL HABITAT UNITS FOR CANADA LYNX BY OWNERSHIP (MI^2 (KM^2))

[Area estimates reflect all land within designated critical habitat unit boundaries]

Unit	Federal	State	Private	Other	Total
1	0 (0)	819 (2,122)	9,281 (24,039)	22 (57)	10,123 (26,218)
2	3,863 (10,005)	2,947 (7,633)	1,259 (3,260)	0 (0)	8,069 (20,899)
3	8,788 (22,761)	156 (404)	839 (2,172)	0 (0)	9,783 (25,337)
4	1,829 (4,737)	0 (0)	5 (14)	0 (0)	1,834 (4,751)
5	8,922 (23,109)	23 (60)	200 (518)	0.5 (1.3)	9,146 (23,687)
Total	23,402 (60,612)	3,945 (10,217)	11,584 (30,003)	23 (59)	38,954 (100,891)

Note: Area sizes may not sum due to rounding.

TABLE 2—DESIGNATED CRITICAL HABITAT FOR CANADA LYNX BY STATE AND OWNERSHIP (MI²/KM²)

[Area estimates reflect all land within designated critical habitat unit boundaries]

	Federal	State	Private	Other	Total
Idaho	45 (117)	0.04 (0.1)	0 (0)	0 (0)	45 (117)
Maine	0 (0)	819 (2,122)	9,281 (24,039)	22 (57)	10,123 (26,218)
Minnesota	3,863 (10,005)	2,947 (7,633)	1,259 (3,206)	0 (0)	8,069 (20,899)
Montana	10,978 (28,433)	168 (437)	979 (2,535)	0.5 (1.3)	12,126 (31,405)
Washington	1,829 (4,737)	0 (0)	5 (14)	0 (0)	1,834 (4,751)
Wyoming	6,688 (17,321)	10 (26)	60 (155)	0 (0)	6,758 (17,502)
Total	23,402 (60,612)	3,945 (10,217)	11,584 (30,003)	23 (59)	38,954 (100,891)

Note: Area sizes may not sum due to rounding.

We present brief descriptions of all units, and reasons why they meet the definition of critical habitat for the lynx DPS, below.

Unit 1: Northern Maine

Unit 1 consists of 10,123 mi² (26,218 km²) 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 (Hoving *et al.* 2003, entire; Vashon *et al.* 2012, pp. 12–14, 58–60; Interagency Lynx Biology Team 2013, pp. 39–42). This area contains the physical and biological features essential to the conservation of the lynx DPS as it comprises the PCE and its components laid out in the appropriate quantity and spatial arrangement. Lynx in northern 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; Vashon *et al.* 2012, p. 18). 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 a resident breeding lynx population and likely acts as a source or provides connectivity with Canada for more peripheral portions of the lynx's range in the Northeast.

Timber harvest and management are the dominant land uses within the unit; therefore, special management may be required depending on the silvicultural practices implemented (68 FR 40075). Timber management practices that provide for a dense understory are beneficial for lynx and snowshoe hares. In this area, climate change is predicted to significantly reduce lynx habitat and population size. Carroll (2007, pp. 1100–1103) modeled a 59 percent decline in lynx numbers in the northeastern United States and eastern Canada by 2055 due to climate change, with greater vulnerability among small, peripheral, low-elevation populations like that in Maine. Under this modeled scenario, populations would have difficulty sustaining themselves, and the lynx distribution would likely contract to the core of the population on the Gaspe Peninsula in Quebec, Canada (Carroll 2007, p. 1102). Gonzalez *et al.* (2007, p. 14) modeled potential climate-induced loss of snow and concluded that snow suitable for lynx may disappear from Maine entirely by the end of this century. Therefore, climate change represents a potential habitat-related threat to lynx in this unit.

Changing forest management practices are also likely to result in reduced hare and lynx habitat in this unit. Much of the lynx and hare habitat in this unit is the result of broad-scale clear-cut timber harvest in the 1970s and 1980s in response to a spruce budworm outbreak and the subsequent treatment of some clearcuts with herbicide to promote conifer regeneration. These clear-cut stands are now at a successional (regrowth) stage (about 35 years postharvest) that features very dense conifer cover and provides optimal hare and lynx habitats, likely supporting many more hares and lynx than occurred historically. The Maine Forest Practices Act (1989) limited the size of clearcuts, resulting in a near complete shift away from clearcuts to partial harvesting. This transition to partial harvest timber management is unlikely to create or maintain the extensive tracts of hare and lynx habitats that currently exist as a result of previous clearcutting. As the clear-cut stands continue to age, their habitat value to hares and lynx is expected to decline. Even in the absence of climate change considerations, forest succession and reduced clearcutting are expected to result in a substantially smaller lynx population in this unit by 2035 (Simons 2009, pp. 153–154, 162–165, 206, 216–220; Vashon *et al.* 2012, pp. 58–60). Therefore, the potential for forest management practices to result in reduced quantity and quality of lynx and hare habitats represents a habitat-related threat to lynx in this unit. Other potential habitat-related threats to lynx in this unit are habitat loss and fragmentation due to road and highway construction (along with associated increases in traffic volumes and/or speeds) and commercial, recreational, and wind-energy development.

In this final rule, we have not designated critical habitat on Tribal lands in this unit nor on lands managed in accordance with the Natural Resources Conservation Service's Healthy Forest Reserve Program (see Consideration of Impacts under section 4(b)(2) of the Act, below).

Unit 2: Northeastern Minnesota

Unit 2 consists of 8,069 mi² (20,899 km²) located in northeastern Minnesota in portions of Cook, Koochiching, Lake, and St. Louis Counties, and Superior National Forest. In 2003, when we formally reviewed the status of the lynx, numerous verified records of lynx existed from northeastern Minnesota (68 FR 40076). The area was occupied at the time of listing and is currently occupied by the species (Moen *et al.* 2008b, pp. 29–32; Moen *et al.* 2010, entire; Catton and Loch 2010, entire; 2011, entire; 2012, entire; Interagency Lynx Biology Team 2013, pp. 44–47). 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.* 2008b, entire; Moen *et al.* 2010, entire). This area contains the physical and biological features essential to the conservation of the lynx DPS as it comprises the PCE 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 there is 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 are dominant land uses (68 FR 40075). Therefore, special management may be required depending on the silvicultural practices implemented. Timber management practices that provide for a dense understory are beneficial for lynx and snowshoe hares. In this area, climate change may affect lynx and their habitats; however, Gonzalez *et al.* (2007, p. 14) suggested that snow conditions in northern Minnesota should continue to be suitable for lynx through the end of this century. Nonetheless, because climate change may alter vegetation communities and, hence, hare densities, it still represents a potential habitat-related threat to lynx in this unit. Fire suppression or fuels treatment, habitat fragmentation associated with road-building (and associated increases in traffic volumes and/or speeds), and commercial, recreational, and energy/mineral development pose other potential habitat-related threats to lynx in this unit. Incidental capture of lynx in traps set for other species has been documented recently in Minnesota, as have lynx mortalities from vehicle collisions (U.S. Fish and Wildlife Service 2013d, unpubl. database).

In this final rule, we have not designated critical habitat on Tribal lands in this unit (see Consideration of Impacts under section 4(b)(2) of the Act, below).

Unit 3: Northern Rocky Mountains

Unit 3 consists of 9,783 mi² (25,337 km²) 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 (Squires *et al.* 2010, entire; Squires *et al.* 2012, entire; Squires *et al.* 2013, entire; Interagency Lynx Biology Team 2013, pp. 57–61). 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. 8–10, 2004b, entire, and 2004c, pp. 7–10). This area contains the physical and biological features essential to the conservation of the lynx DPS as it comprises the PCE 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 Greater Yellowstone Area.

Timber harvest and management are dominant land uses (68 FR 40075); therefore, special management may be required depending on the silvicultural practices implemented. Timber management practices that provide for a dense understory are beneficial for lynx and snowshoe hares. In this area, climate change is expected to result in the potential loss of snow conditions suitable for lynx by the end of this century (Gonzalez *et al.* 2007, p. 14). Therefore, climate change represents a potential habitat-related threat to lynx in this unit. Fire suppression or fuels treatment, habitat fragmentation associated with road-building (and associated increases in traffic volumes and/or speeds), and commercial, recreational, and energy/mineral development pose other potential habitat-related threats to lynx in this unit.

In this final rule, we have not designated critical habitat on Tribal lands in this unit nor on lands managed in accordance with the MDNRC HCP (see Consideration of Impacts under section 4(b)(2) of the Act, below).

Unit 4: North Cascades

Unit 4 consists of 1,834 mi² (4,751 km²) located in north-central Washington in portions of Chelan and Okanogan Counties and includes mostly Okanogan-Wenatchee National Forest lands as well as BLM lands in the Spokane District and Loomis State Forest lands. This area was occupied at the time lynx was listed and is currently occupied by the species (Interagency Lynx Biology Team 2013, pp. 64–65). This area contains the physical and biological features essential to the conservation of the lynx DPS as it comprises the PCE and its components laid out in the appropriate quantity and spatial arrangement. This unit supports the highest densities of lynx in Washington (Stinson 2001, p. 2). Evidence from recent research and DNA analysis shows lynx distributed within this unit, with breeding being documented (von Kienast 2003, p. 36; Koehler *et al.* 2008, entire; Maletzke *et al.* 2008, entire). Although researchers have fewer records in the portion of the unit south of Highway 20, few surveys have been conducted there. This area contains boreal forest habitat and the components essential to lynx conservation. 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 Canada 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 also contains extensive boreal forest vegetation types and the components essential to lynx conservation. Additionally, lynx populations exist in British Columbia directly north of this unit (Interagency Lynx Biology Team 2013, p. 65). This area is essential to the conservation of the lynx DPS 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 are dominant land uses; therefore, special management may be required depending on the silvicultural practices implemented. Timber management practices that provide for a dense understory are beneficial for lynx and snowshoe hares. In this area, Federal land management plans are being amended to incorporate lynx conservation. Climate change is expected to reduce lynx habitat and numbers in this unit, with potential loss of snow suitable for lynx (Gonzalez *et al.* 2007, p. 14) and the potential complete disappearance of lynx from the area by the end of this century (Johnston *et al.* 2012, pp. 7–11). Therefore, climate change represents a potential habitat-related threat to lynx in this unit. Fire suppression or fuels treatment, habitat fragmentation associated with road-building (and associated increases in traffic volumes and/or speeds), and recreational and energy/mineral development pose other potential habitat-related threats to lynx in this unit.

In this final rule, we have not designated critical habitat in this unit on lands managed in accordance with the WDNR Lynx Habitat Management Plan (see Consideration of Impacts under section 4(b)(2) of the Act, below).

Unit 5: Greater Yellowstone Area

Unit 5 consists of 9,146 mi² (23,687 km²) located in Yellowstone National Park and surrounding lands of the Greater Yellowstone Area in southwestern Montana and northwestern Wyoming. Lands in this unit are found in Carbon, Gallatin, Park, Stillwater, and Sweetgrass Counties in Montana; and Fremont, Lincoln, Park, Sublette, and Teton Counties in Wyoming. This area was occupied by lynx at the time of listing and is thought to be currently occupied by a small but persistent lynx population (Squires and Laurion 2000, entire; Squires *et al.* 2001,

entire; Murphy *et al.* 2006, entire; Interagency Lynx Biology Team 2013, pp. 57–61). This area contains the physical and biological features essential to the conservation of the lynx DPS as it comprises the PCE and its components laid out in the appropriate quantity and spatial arrangement. The Greater Yellowstone Area is naturally marginal lynx habitat with highly fragmented foraging habitat (68 FR 40090; 71 FR 66010, 66029; 74 FR 8624, 8643–8644; Hodges *et al.* 2009, entire). For this reason lynx home ranges in this unit are likely to be larger and incorporate large areas of non-foraging matrix habitat.

Timber harvest and management are dominant land uses on National Forest System lands in this unit; therefore, special management may be required depending on the silvicultural practices implemented. Timber management practices that provide for a dense understory are beneficial for lynx and snowshoe hares. Climate change is expected to reduce lynx habitat and numbers in this unit, with potential loss of snow suitable for lynx over most of the area by the end of this century, though with potential snow refugia in the Wyoming Range Mountains (Gonzalez *et al.* 2007, p. 14). Therefore, climate change represents a potential habitat-related threat to lynx in this unit. Fire suppression or fuels treatment, habitat fragmentation associated with road-building (and associated increases in traffic volumes and/or speeds), and recreational and energy/mineral development pose other potential habitat-related threats to lynx in this unit. Therefore, special management is required depending on the fire suppression and fuels treatment practices conducted and the design of highway and energy development projects.

In this final rule, we have not designated critical habitat in this unit on lands managed in accordance with the MDNRC HCP (see Consideration of Impacts under section 4(b)(2) of the Act, below).

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that any action they fund, authorize, or carry out is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species. In addition, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any agency action which is likely to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of designated critical habitat.

Decisions by the Fifth and Ninth Circuit Courts of Appeals have invalidated our regulatory 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, 434 (5th Cir. 2001)), and we do not rely on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the provisions of 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 continue to serve its intended conservation role for the species.

If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Examples of actions that are subject to the section 7 consultation process are actions on State, Tribal, local, or private lands that require 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 a permit from the Service under section 10 of the Act) or that involve some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not affecting listed species or critical habitat, and actions on State, Tribal, local, or private lands that are not federally funded or authorized, do not require section 7 consultation.

As a result of section 7 consultation, we 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 that may affect and are 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 and/or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat. We define ''reasonable and prudent alternatives'' (at 50 CFR 402.02) as alternative actions identified during consultation that:

(1) Can be implemented in a manner consistent with the intended purpose of the action,

(2) Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,

(3) Are economically and technologically feasible, and

(4) Would, in the Director's opinion, avoid the likelihood of jeopardizing the continued existence of the listed species and/or avoid the likelihood of 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 reinitiate 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 sometimes may need to request reinitiation 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.

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 continue to serve its intended conservation role for the species. Activities that may destroy or adversely modify critical habitat are those that alter the physical or biological features to an extent that appreciably reduces the conservation value of critical habitat for the lynx DPS. As discussed above, the role of critical habitat is to support life-history needs of the species and provide for the conservation of the species.

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 may affect critical habitat, when carried out, funded, or authorized by a Federal agency, are required to undergo consultation in accordance with section 7 of the Act to evaluate potential impacts to habitats essential to the conservation of the lynx DPS. These activities 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 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 No.
Maine	17 Godfrey Drive, Suite 2, Orono, ME 04473	(207) 866–3344
Minnesota	4101 American Boulevard East, Bloomington, Minnesota 55425	(612) 725–3548
Montana	585 Shepard Way, Suite 1, Helena, Montana 59601	(406) 449–5225
Idaho and Washington	11103 E. Montgomery Drive, Spokane, Washington 99206	(509) 893–8015
Wyoming	5353 Yellowstone Road, Suite 308A, Cheyenne, Wyoming 82009	(307) 772–2374

Exemptions

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

Section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) provides that: ''The Secretary shall not designate as critical habitat any lands or other geographic areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan [INRMP] 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 this final critical habitat designation.

Consideration of Impacts Under Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary shall designate and make revisions to 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 upon a determination that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless doing so would, based on the best scientific data available, result in the extinction of the species. In making that determination, the statute on its face, as well as the legislative history are clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

When identifying the benefits of inclusion for an area, we consider the additional regulatory benefits that area would receive from the protection from destruction or adverse modification of critical habitat as a result of actions with a Federal nexus; the educational benefits of mapping essential habitat for recovery of the listed species; and any benefits that may result from a designation due to State or Federal laws that may apply to critical habitat.

When identifying the benefits of exclusion, we consider, among other things, whether exclusion of a specific area is likely to result in conservation; the continuation, strengthening, or encouragement of partnerships; or implementation of a management plan that provides conservation benefits equal to or greater than those provided by a critical habitat designation.

In the case of the lynx DPS, the benefits of critical habitat include promotion of public awareness of the presence of the species and the importance of habitat protection, and in cases where a Federal nexus exists, potentially greater habitat protection for lynx due to the protection from destruction or adverse modification of critical habitat.

When we evaluate the benefits of excluding particular areas for which conservation plans have been developed, we consider a variety of factors, including but not limited to, whether the plan is finalized; how it provides for the conservation of the essential physical or biological features; whether there is a reasonable expectation that the conservation management strategies and actions

contained in a management plan will be implemented into the future; whether the conservation strategies in the plan are likely to be effective; and whether the plan contains a monitoring program or adaptive management to ensure that the conservation measures are effective and can be adapted in the future in response to new information.

After identifying the benefits of inclusion and the benefits of exclusion, we carefully weigh the two sides to evaluate whether the benefits of exclusion outweigh those of inclusion. If our analysis indicates that the benefits of exclusion outweigh the benefits of inclusion, we then determine whether exclusion would result in extinction. If exclusion of an area from critical habitat will result in extinction, we cannot exclude it from the designation.

Based on the information provided by entities seeking exclusion, as well as any additional public comments received, we evaluated whether certain lands in the proposed critical habitat were appropriate for exclusion from this final designation pursuant to section 4(b)(2) of the Act. We are excluding the following areas from critical habitat designation for the Canada lynx DPS: (1) Tribal lands, which occur in units 1, 2, and 3; (2) private lands in Maine managed in accordance with the Natural Resources Conservation Service's (NRCS) Healthy Forest Reserve Program (75 FR 6539); (3) State lands in western Montana managed in accordance with the Montana Department of Natural Resources and Conservation (MDNRC) Forested State Trust Lands Habitat Conservation Plan (HCP) (Montana Department of Natural Resources and Conservation and U.S. Fish and Wildlife Service 2010a, entire; 2010b, entire; 2010c, entire); and (4) State lands in northern Washington managed in accordance with the State of Washington Department of Natural Resources (DNR) Lynx Habitat Management Plan for DNR-managed Lands (Washington DNR 2006, entire). Table 3 below provides approximate areas of lands that meet the definition of critical habitat but which we have excluded from the final critical habitat rule under section 4(b)(2) of the Act. For additional details on these plans, see *Exclusions Based on Other Relevant Impacts,* below.

TABLE 3—AREAS EXCLUDED FROM CRITICAL HABITAT DESIGNATION FOR CANADA LYNX BY CRITICAL HABITAT UNIT

Unit	Specific area	Area in mi² (km²) excluded from final critical habitat designation
1. Maine	Tribal Lands: Passamaquoddy Tribe, Penobscot Indian Nation	95.7 (248)
1. Maine	Maine Healthy Forest Reserve Program	943.2 (2,443)
2. Minnesota	Tribal Lands: Grand Portage Reservation, Bois Forte Reservation—Vermillion Lake District.	77.9 (202)
3. Northern Rocky Mountains	Tribal Lands: Confederated Salish and Kootenai Tribes, Flathead Reservation	369.6 (957)
3. Northern Rocky Mountains	Montana DNRC Multispecies Habitat Conservation Plan	271.4 (703)
4. North Cascade Mountains	Washington DNR Lynx Habitat Management Plan	164.2 (425)
5. Greater Yellowstone Area	Montana DNRC Multispecies Habitat Conservation Plan	1.3 (3)

Consideration of Economic Impacts

Under section 4(b)(2) of the Act, we consider the economic impacts of specifying any particular area as critical habitat. To consider economic impacts, we prepared an incremental effects memorandum (IEM) and screening analysis which, together with our narrative and interpretation of effects, we consider our draft economic analysis (DEA) of the proposed critical habitat designation and related factors (U.S. Fish and Wildlife Service and IEc, Inc. 2014, entire). The analysis, dated June 11, 2014, was made available for public review from June 20, 2014, through July 21, 2014 (79 FR 35303). The DEA addressed potential economic impacts of critical habitat designation for the lynx DPS. Following the close of the comment period, we reviewed and evaluated all information submitted during the comment period that may pertain to our consideration of the probable incremental economic impacts of this critical habitat designation. Based on that evaluation, the probable incremental economic impacts of critical habitat designation for the lynx DPS are summarized below. Additional information relevant to our evaluation of incremental economic impacts is available in the final economic analysis for the designation of critical habitat for the lynx DPS (U.S. Fish and Wildlife Service and IEc, Inc. 2014, entire), available at *http://www.regulations.gov, and at our Web site: http://www.fws.gov/mountain-prairie/species/mammals/lynx/index.htm.*

Revised critical habitat for the lynx DPS is very unlikely to generate incremental economic costs exceeding $100 million in a single year (see additional discussion of this threshold in the *Unfunded Mandates Reform Act* section, below). Data limitations prevent the quantification of benefits. The economic costs of implementing the rule through section 7 of the Act will most likely be limited to the additional administrative effort required to consider adverse modification during section 7 consultations for activities with a Federal nexus. This finding is based on the following factors:

(1) All units are considered currently occupied, providing baseline protection via section 7 consultations addressing the jeopardy standard;

(2) Activities occurring within designated critical habitat with a potential to affect critical habitat are also likely to jeopardize the species, either directly or indirectly;

(3) Project modifications requested to avoid adverse modification are likely to be the same as those needed to avoid jeopardy;

(4) On Federal lands, as well as some private and State lands, ongoing conservation efforts offer additional baseline protection; and

(5) Critical habitat is unlikely to increase the annual consultation rate for two primary reasons:

(a) The existing awareness of the need to consult due to the listing of the species; and

(b) The fact that the 2009 critical habitat designation covered 89 percent of the areas designated as critical habitat in this final rule.

According to a review of consultation records and discussions with multiple Service field offices, the additional administrative cost of addressing adverse modification during the section 7 consultation process ranges from approximately $400 to $5,000 per consultation (2014 dollars). Based on

the historical consultation activity, we forecast an annual consultation rate of approximately 161 per year, resulting in costs ranging from $64,400 to $805,000 annually (2014 dollars). Thus, the incremental administrative burden resulting from the rule is well below the threshold of $100 million in a given year.

The revised designation of critical habitat for the lynx DPS is not expected to trigger additional requirements under State or local regulations. This assumption is based on the array of existing baseline protections for the lynx and the general awareness of State agencies of the presence of the species. The revised designation may cause land managers, landowners, or developers to perceive that private lands will be subject to use restrictions, resulting in costs. However, such impacts, if they occur, are very unlikely to reach $100 million in a given year.

No additional section 7 efforts to conserve the lynx DPS are predicted to result from the revised designation of critical habitat. If, however, public perception of the effect of critical habitat causes changes in future land use, benefits to the species and environmental quality may occur. Due to existing data limitations, we are unable to assess the likely magnitude of such benefits.

The majority of anticipated future consultations are expected to occur in Unit 5 (Greater Yellowstone Area). Costs resulting from public perception of the impact of critical habitat, if they occur, are more likely to occur in Unit 4 (North Cascades) and private lands located in Unit 1 (Northern Maine).

Exclusions Based on Economic Impacts

Our 2014 and 2009 economic analyses did not identify any disproportionate costs that are likely to result from the designation. Consequently, the Secretary is not exercising her discretion to exclude any areas from this designation of critical habitat for the lynx DPS based on economic impacts.

Both the current economic analysis (U.S. Fish and Wildlife Service and IEc, Inc. 2014, entire) and the final economic analysis completed for the 2009 critical habitat designation for the lynx DPS (IEc, Inc. 2008, entire) specifically addressed potential economic impacts to the Washington State Snowmobile Association (WASSA) and the groups it represents. Both analyses, incorporated here by reference in their entireties, considered the comments and regional economic assessments provided by the WASSA in response to the 2008 and 2013 proposed designations. In our analyses, we have carefully evaluated potential impacts to snowmobiling interests throughout the critical habitat designation, and specifically with regard to the concerns of the WASSA and the Wyoming State Snowmobile Association.

Snowmobiling occurs throughout the areas designated as lynx critical habitat, and understanding of the potential effects of snowmobiling on lynx continues to evolve. Concerns about potential negative impacts of snowmobiling are based primarily on the hypothesis that compacted over-the-snow trails could result in increased competition between lynx and other snowshoe hare predators, such as coyotes, in areas where deep snow would otherwise preclude or minimize such competition (Buskirk *et al.* 2000a, pp. 86–95). Research on the relationship between coyotes, lynx, and lynx habitat has provided mixed results regarding this hypothesis, with several studies showing that coyotes use compacted snow trails, but none indicating increased competition or substantial dietary overlap between lynx and coyotes (Interagency Lynx Biology Team 2013, pp. 80–82). In response to this uncertainty, the 2013 revisions to the LCAS provided more flexibility with respect to the management of recreational activities in lynx habitat, and snowmobiling stakeholders have largely expressed approval of the 2013 LCAS revisions (U.S. Fish and Wildlife Service and IEc, Inc. 2014, pp. 11–12).

Between 3,000 and 5,000 miles of trails are available for snowmobiling in Washington, of which about 200 miles (4.0–6.7 percent) occur within the revised critical habitat designation. A 2003 study estimated that the number of people participating in snowmobiling would increase 43 percent by the year 2013 (State of Washington 2003, pp. 4, 41); however, it is not clear whether this level of increase has occurred. In 2001, Washington State University and the WASSA conducted a snowmobile usage study and concluded that the annual economic impact of snowmobiling in Washington was $92.7 million dollars. In response to the 2009 critical habitat designation, WASSA estimated that snowmobiling accounted for nearly $8.5 million in direct expenditures and $4.1 million in indirect spending in Methow Valley, an area adjacent to designated critical habitat.

The WASSA, which represents about 30,000 registered snowmobilers and nearly 100 snowmobile-related businesses, has again expressed concern that critical habitat designation may generate significant economic impacts to the snowmobiling industry. Specifically, the WASSA is concerned that people will perceive that the designation will limit snowmobiling and in turn will be less likely to invest in snowmobiling equipment, that the designation will prevent an increase in over-the-snow trails thus resulting in congestion, and that the designation will present an additional regulatory burden for future attempts to expand or increase the number of trails in the area (U.S. Fish and Wildlife Service and IEc, Inc. 2014, p. 13).

Although annual data on snowmobiling participation in Washington since 2009 are not readily available, the critical habitat designation is not anticipated to adversely change snowmobiling in Washington (U.S. Fish and Wildlife Service and IEc, Inc. 2014, p. 13). We evaluated whether and how snowmobiling activities in Maine and Minnesota were affected as a result of the 2009 critical habitat designation, and we found no significant changes in snowmobiling activities have been observed there since the 2009 designation (U.S. Fish and Wildlife Service and IEc, Inc. 2014, p. 13). We have had no reports of significant economic impacts to snowmobiling interests in the other areas designated as critical habitat in 2009 (western Montana, northern Idaho, and northwestern Wyoming).

In response to our 2013 proposed critical habitat designation, the WASSA resubmitted the sector assessment study it previously commissioned on the regional economic impacts of the 2008 proposed critical habitat rule. The WASSA study assumes that lynx conservation efforts will result in an overall loss of winter visitors and tourism spending within the region. The study employs a regional input/output model, estimating the potential cost of the critical habitat designation to be $262,000 to $1,645,000 (2013 dollars) through the year 2025, assuming a seven percent discount rate. This present-value sum translates to approximately $27,000 to $168,500 on an annualized basis, assuming a seven percent discount rate.

Based on both the current economic analysis (U.S. Fish and Wildlife Service and IEc, Inc. 2014, entire) and the final economic analysis completed for the 2009 critical habitat designation for the lynx DPS (IEc, Inc. 2008, entire), we have determined that the designation of critical habitat for the lynx DPS will not result in disproportionate economic impacts to snowmobiling interests anywhere within the designated areas, and specifically with regard to those interests represented by the WASSA and the Wyoming State Snowmobile Association. We have made this

evaluation available to the Secretary for her consideration when determining whether to exercise her discretion to exclude these or other areas based on baseline and incremental economic impacts. Based on her consideration of this evaluation, the Secretary is not exercising her discretion to exclude any areas from this designation of critical habitat for the lynx DPS based on economic impacts.

Exclusions Based on National Security Impacts or Homeland Security Impacts

Under section 4(b)(2) of the Act, we consider whether there are lands owned or managed by the Department of Defense where a national security impact might exist. In preparing this final rule, we have determined that no lands within the designation of critical habitat for the lynx DPS are owned or managed by the Department of Defense or Department of Homeland Security, and, therefore, we anticipate no impact on national security or homeland security. Consequently, the Secretary is not exercising her discretion to exclude any areas from this final designation based on impacts on national security or homeland security.

Exclusions Based on Other Relevant Impacts

Under section 4(b)(2) of the Act, we also consider any other relevant impacts resulting from the designation of critical habitat. We consider a number of factors, including whether the landowners have developed any HCPs or other management 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.

Consideration of Land and Resource Management Plans, Conservation Plans, or Agreements Based on Conservation Partnerships

We consider a current land management or conservation plan (HCPs as well as other types) to provide adequate management or protection if it meets the following criteria:

(1) The plan is complete and provides a conservation benefit for the species and its habitat;

(2) There is a reasonable expectation that the conservation management strategies and actions will be implemented for the foreseeable future, based on past practices, written guidance, or regulations; and

(3) The plan provides conservation strategies and measures consistent with currently accepted principles of conservation biology.

We have determined that the following partnerships, program, and plans fulfill the above criteria, and we are, therefore, excluding from critical habitat the areas of non-Federal lands covered by them because they provide for the conservation of the lynx DPS.

Tribal Lands Conservation Partnerships

Tribal lands in Maine, Minnesota, and Montana fall within the boundaries of designated critical habitat in units 1 (Maine), 2 (Minnesota), and 3 (Northern Rocky Mountains). Tribal lands include those of the Passamaquoddy Tribe and the Penobscot Indian Nation in Maine, the Grand Portage Indian Reservation and Bois Forte Indian Reservation—Vermillion Lake District in Minnesota, and the Confederated Salish and Kootenai Tribes of the Flathead Indian Reservation in Montana. The amount of Tribal lands that occur within the final designation is relatively small in size, totaling approximately 543.2 mi^2 (1,407 km^2), which represents 1.4 percent of the total final designation.

In the proposed rule, we requested comments on whether Tribal lands in Maine, Minnesota, and the Northern Rockies should be excluded pursuant to Executive Order 3206. We also contacted a number of Tribes to discuss the proposed designation and, as they had done previously during discussions regarding the 2009 designation, the Tribes again requested 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 populations in these areas. The larger landscape in Maine comprises 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 conservation needs of lynx. Therefore, although these Tribal lands support lynx habitat and the PCE, they have a minor role in lynx conservation compared to the extensive commercial forestlands in Maine and National Forest lands in Minnesota and Montana. Due to Tribal natural resource management philosophies, 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.

Tribal lands of the Passamaquoddy Tribe and the Penobscot Indian Nation fall within lynx critical habitat in Maine. These lands represent only 0.9 percent of the total critical habitat designation in Unit 1. The Environmental Mission of the Passamaquoddy Tribe is: ''to protect the environment and conserve natural resources within all Passamaquoddy lands, waters, and the air we share'' (Passamaquoddy Tribe 2014, entire). Through Federal grant programs, the Passamaquoddy Tribe is also conducting surveys and developing habitat models for lynx and snowshoe hare, which will likely lead to better understanding and management of lynx and hare habitats on Tribal lands. The mission of the Penobscot Indian Nation's Department of Natural Resources is: ''. . . to manage, develop and protect the Penobscot Nation's natural resources in a sustainable manner that protects and enhances the cultural integrity of the Tribe'' (Penobscot Indian Nation 2014, entire). Further, the Penobscot Indian Nation's Inland Fish and Game Regulations prohibit the hunting, trapping, or possessing of Canada lynx (Penobscot Indian Nation 2012, p. 15).

Tribal lands of the Grand Portage Indian Reservation and the Bois Forte Indian Reservation—Vermillion Lake District fall within lynx critical habitat in Minnesota. These lands represent only 1 percent of the total critical habitat designation in Unit 2. The Grand Portage Band of Chippewa has been actively working on lynx conservation since 2004. In October 2007, the Band hosted an international conference on lynx research and conservation where more than 50 researchers from the United States and Canada presented results of research on lynx diet, habitat, and management. Additionally, on-reservation timber sales and harvest practices follow an integrated management plan for priority wildlife

management, sustainable economic development, and recreational uses. The Band's timber management practices benefit populations of snowshoe hares, the lynx's primary prey (Deschampe 2008, entire).

Tribal lands of the Confederated Salish and Kootenai Tribes, Flathead Indian Reservation fall within lynx critical habitat in Montana. These lands represent only 3.8 percent of the total critical habitat designation in Unit 3. The mission statement of the Tribes' Fish, Wildlife, Recreation and Conservation Division is: ''to protect and enhance the fish, wildlife, and wildland resources of the Tribes for continued use by the generations of today and tomorrow'' (Confederated Salish and Kootenai Tribes 2014a, entire). An objective of the Tribes' *Tribal Wildlife Management Program Plan* is to ''. . . develop and implement habitat management guidelines for Canadian lynx in coordination with the Forestry Department as specified in the Forest Management Plan'' (Confederated Salish and Kootenai Tribes. 2014b, p. 5). The Forest Management Plan states that ''Standards for lynx management and habitat protection are set forth in the Canada Lynx Conservation Assessment and Strategy. This strategy guides land management activity in lynx foraging and denning habitat. Lynx occurrence and populations will continue to be monitored on the Reservation'' (Confederated Salish and Kootenai Tribes. 2000, p. 285). Additionally, most lynx and lynx habitat on the reservation occur in areas with formal protective status, including: (1) The long-designated Mission Mountains and Rattlesnake Tribal Wilderness Areas, which are largely roadless and managed for wilderness qualities; (2) the South Fork/Jocko Primitive Area, which is open to use only by Tribe members and in which commercial timber harvest is prohibited; and (3) the Nine-mile Divide country, which is marginal in terms of lynx habitat, but which is also partly roadless (Courville 2014, pers. comm.).

Because of the protected status of these areas and the prohibition on activities that could impact lynx and their habitats, it is unlikely that additional special management considerations are necessary for these Tribal lands or that additional benefit to lynx would result from designating them as critical habitat.

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.

Benefits of Exclusion Outweigh the Benefits of Inclusion

Exclusion of Tribal lands is warranted because affected Tribes already take actions to avoid negative impacts to lynx and to conserve lynx and hare habitats. Through Federal grant programs, the Passamaquoddy Tribe is conducting surveys and habitat models for lynx and snowshoe hare, the Grand Portage Tribe is assessing lynx habitat on reservation lands, and lynx habitat is protected through a comprehensive conservation plan and non-development land designations 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 comments from Tribes voicing their commitment to ensuring that lynx remain a viable part of the ecosystem.

We have determined that conservation of lynx can be achieved on Tribal lands within the critical habitat units through the continuation of the cooperative partnerships between the Service and the Tribes, and without designating them as critical habitat. The management plans, activities, and land-use designations being implemented on Tribal lands described above are likely to ensure continued conservation of lynx on Tribal lands. 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. Therefore, pursuant to section 4(b)(2) of the Act, we have not designated critical habitat for the lynx DPS on Tribal lands in Units 1, 2, and 3 in this final rule.

Exclusion Will Not Result in Extinction of the Species

We have determined that exclusion of Tribal lands from the designation of critical habitat for the lynx will not result in the extinction of the species because the Passamaquoddy Tribe, Penobscot Indian Nation, Grand Portage Indians, Bois Forte Indians, and Confederated Salish and Kootenai Tribes of the Flathead Indian Reservation implement programs for the conservation of the species, and the physical and biological features essential to it, in occupied areas. The protections afforded to the lynx under the jeopardy standard will remain in place for the areas considered for exclusion from revised critical habitat. Therefore, and in light of Secretarial Order 3206 and Tribal management of lynx and their habitat, 95.7 mi^2 (248 km^2) of Tribal lands in Maine, 77.9 mi^2 (202 km^2) in Minnesota, and 369.6 mi^2 (957 km^2) in Montana have been excluded from lynx critical habitat designation in this final rule.

Maine Healthy Forest Reserve Program (HFRP)

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. Based on a successful pilot program, in 2008, the HFRP was reauthorized as part of the Farm Bill, and in 2010, NRCS published a final rule in the **Federal Register** (75 FR 6539) amending regulations for the HFRP based on provisions amended by the bill.

In 2006 and 2007, the 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. At that time, five landowners enrolled in the Maine HFRP, and collectively signed contracts (with NRCS) committing to developing lynx forest management plans on 1,069.8 mi^2 (2,770.7 km^2). However, one of the

landowners has since discontinued enrollment in the program. Because of that and other mapping refinements, the amount of land currently managed in accordance with Maine HFRP is 943.2 mi^2 (2,443 km^2), or 9.3 percent of the total designated critical habitat in Unit 1. Lynx maintain large home ranges; therefore, forest management plans at large landscape scales will provide substantive recovery benefits to lynx.

The NRCS requires that lynx forest management plans must be based on the Service's ''Canada Lynx Habitat Management Guidelines for Maine'' (McCollough 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. The NRCS held public informational sessions about the HFRP and advertised the availability of funds. Plans must be reviewed and approved by the 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. Broad public benefits will derive from these plans, including benefits to many species of wildlife that share habitat with the lynx. Landowners are writing their own plans. The Nature Conservancy contracted with the University of Maine, Department of Wildlife Ecology to develop a lynx–pine marten plan that serves as a model for lynx/biodiversity forest planning and will be shared with other northern Maine landowners.

Landowners who are enrolled with the NRCS commit to a 10-year contract. Landowners must complete their lynx forest management plans within 2 years of enrollment. Currently, two plans are completed and two are in the final stage of editing. 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. The 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 four 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 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 and FSC, which require the inclusion of programs for threatened and endangered 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.

In the final revised critical habitat designation, published in the **Federal Register** on February 25, 2009 (74 FR 8649–8652), we determined that the benefits of excluding lands managed in accordance with the Maine HFRP outweighed the benefits of including them in the designation, and that doing so would not result in extinction of the species. We affirm that determination based on the analysis below.

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 few Federal actions would 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, few formal consultations on lynx have occurred in Maine; however, no consultations have taken place regarding Federal actions on lands owned by The Nature Conservancy, West Branch Project, Elliotsville Plantation, Inc., and Katahdin Forest Management lands. The Passamaquoddy Tribe, through the Bureau of Indian Affairs, has informally consulted with the Service on several 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 and this final rule, we are educating the public of the location of core lynx habitat and areas most important for the conservation and recovery of the lynx DPS. 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 likely be minimal. The HFRP goes beyond the standard of adverse modification to provide a net conservation benefit for lynx. The conservation measures for 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 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. Participation in the HFRP will contribute to the conservation of the physical and biological features essential to lynx conservation in an area representing about 9.3 percent of the designated 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 consultation under 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 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.

Contracts committing enrollees to implement the HFRP build on the ongoing partnership between the Service, the NRCS, the 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:

(1) 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.

(2) HFRP plans meet the requirements of certification programs and easement requirements to document how they will manage for federally listed species.

(3) Future HFRP funding may be available to promote continued management on these lands.

(4) 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 the Service 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 the Service 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. Enrollees in the HFRP are some of the largest landowners in Maine. The cooperation and partnership of these landowners is needed 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 the Benefits of Inclusion

We have determined that there would be minimal benefit in designating lands enrolled in the HFRP as critical habitat for the lynx DPS within Unit 1. We evaluated the exclusion of approximately 943.2 mi² (2,443 km²) of lands enrolled in the HFRP and determined that 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 all of 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. The 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 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 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 lands managed in accordance with the HFRP 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. Therefore, in this final rule, we have not designated critical habitat for the lynx DPS on HFRP-enrolled lands.

Exclusion Will Not Result in Extinction of the Species

Exclusion of 943.2 mi² (2,443 km²) from Unit 1 of this final 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. We, therefore, exclude lands managed in accordance with the HFRP from Unit 1 of this final revised designation of critical habitat for the lynx DPS.

State of Washington Department of Natural Resources Lynx Habitat Management Plan for DNR-Managed Lands (WDNR LHMP)

The WDNR LHMP encompasses 197 mi² (510 km²) of WDNR-managed lands distributed throughout north-central and northeastern Washington in areas delineated as Lynx Management Zones in the Washington State Lynx Recovery Plan (Stinson 2001, p. 39; Washington DNR 2006, pp. 5–13). Of the area covered by the plan, 164.2 mi² (425 km²) overlaps the area designated as critical habitat. The WDNR LHMP was finalized in 2006, and is a revision of the lynx plan that WDNR had been implementing since 1996. 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 (Washington DNR 2006, p. 5). The 2006 WDNR LHMP provided further provisions to avoid the incidental take of lynx (Washington DNR 2006, p. 6). WDNR is committed to following the LHMP until 2076, or until the lynx is delisted (Washington DNR 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 (Washington DNR 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 LHMP (Washington DNR 2006, pp. 29–63). WDNR has been managing for lynx for almost two decades, and the Service has concluded that the management strategies implemented are effective.

In the final revised critical habitat designation, published in the **Federal Register** on February 25, 2009 (74 FR 8657–8658), we determined that the benefits of excluding lands managed in accordance with the WDNR LHMP outweighed the benefits of including them in the designation, and that doing so would not result in extinction of the species. We reaffirm that determination based on the analysis below.

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 LHMP, 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, www.dnr.wa.gov/htdocs/amp/sepa/lynx/1_toc.pdf*).

Benefits of Exclusion

The WDNR LHMP has provided substantial protection of features essential to the conservation of lynx on WDNR lands, and has provided a greater level of management for the lynx on these State lands than would be achieved with the designation of critical habitat. 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, the measures contained in the WDNR LHMP exceed any measures that might result from critical habitat designation. As a result, we do not anticipate any actions on these lands that would destroy or adversely modify habitats essential to the conservation of the lynx DPS. The exclusion of WDNR lands from critical habitat would help preserve the partnerships that we have developed with the State of Washington 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 the Benefits of Inclusion

We evaluated the exclusion of approximately 164.2 mi² (425 km²) of lands managed by the WDNR. Including WDNR lands managed in accordance with the LHMP 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 find that few additional conservation benefits would be realized through section 7 of the Act, because actions on these State lands rarely have a Federal nexus. The habitat conservation measures addressing the features essential to conservation of the lynx are already being implemented on WDNR lands under the WDNR LHMP, have a proven record of effectiveness, will be in place until at least 2076, and are providing for physical and biological features essential to the conservation of the species.

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 will be achieved by excluding these WDNR lands from the final designation than would be achieved by including them. Therefore, in this final rule, we have not designated critical habitat for the lynx DPS on lands managed in accordance with the WDNR LHMP.

Exclusion Will Not Result in Extinction of the Species

We have determined that the exclusion of lands managed in accordance with the WDNR LHMP from Unit 4 of this final revised critical habitat designation for the lynx DPS will not result in the extinction of the species because the WDNR plan provides 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. We, therefore, exclude 164.2 mi² (425 km²) of lands managed in accordance with the WDNR LHMP from Unit 4 of this final revised lynx critical habitat designation.

Montana Department of Natural Resources and Conservation Forested Trust Lands Habitat Conservation Plan (MDNRC HCP)

The Montana Department of Natural Resources and Conservation (MDNRC) Forested Trust Lands Habitat Conservation Plan (HCP; Montana Department of Natural Resources and Conservation and U.S. Fish and Wildlife Service 2010a, entire; 2010b, entire; 2010c, entire) was permitted in 2011 under section 10(a)(1)(B) of the Act for a period of 50 years (U.S. Fish and Wildlife Service 2011a, entire; 2011b, entire). The HCP covers about 857 mi² (2,220 km²) of forested State trust lands in western Montana. The HCP trust lands occur on both blocked and scattered parcels within three MDNRC land offices, the Northwestern, Central, and Southwestern Land Offices. Blocked lands are primarily three State Forests: Stillwater, Coal Creek, and Swan. Scattered parcels refer to all other HCP project lands outside of blocked lands. About 271.4 mi² (703 km²) of lands managed in accordance with the HCP overlap the designated lynx critical habitat in Unit 3, and about 1.3 mi² (3.3 km²) of HCP-managed lands overlap critical habitat in Unit 5. Of this total, about 73 percent (200 mi² (518 km²)) occurs in high-priority areas for lynx conservation known as Lynx Management Areas (LMAs), with the remainder in scattered blocks (Montana Department of Natural Resources and Conservation and U.S. Fish and Wildlife

Service 2010a, p. 4–365; 2010b, pp. 2-45–2-61; 2010c, p. D–67; U.S. Fish and Wildlife Service 2011a, pp. III-42–III-45).

The HCP covers activities that are primarily associated with commercial forest management, but includes grazing on forested trust lands. In addition to lynx, the HCP also covers grizzly bears (*Ursus arctos horribilis*) and bull trout (*Salvelinus confluentus*), both listed as threatened under the Act, and two non-listed fish species, the westslope cutthroat trout (*Oncorhynchus clarkii lewisi*) and the Interior (Columbia River) redband trout (*Oncorhynchus mykiss gairdneri*).

The HCP includes a Lynx Conservation Strategy (Montana Department of Natural Resources and Conservation and U.S. Fish and Wildlife Service 2010b, pp. 2-45–2-61) consisting of a suite of lynx habitat commitments that apply to all lands in the HCP project area supporting lynx habitat and additional commitments that apply to LMAs. The HCP was finalized in 2011, and MDNRC has been implementing the HCP Lynx Conservation Strategy since the first year of implementation in 2012 (Montana Department of Natural Resources and Conservation 2013a, 2013b, 2013c, entire; 2014a, 2014b, entire). The Lynx Conservation Strategy incorporates many of the existing Administration Rules of Montana (ARMs) for forest management activities, and it describes the additional HCP commitments based on recent information and research. The Lynx Conservation Strategy minimizes impacts of forest management activities on lynx and lynx critical habitat associated with the HCP, while allowing MDNRC to meet its fiduciary and stewardship trust responsibilities. MDNRC requested that lands subject to the HCP be excluded from critical habitat.

The goal of the Lynx Conservation Strategy is to support Federal lynx conservation efforts by managing for habitat elements important to lynx and their prey that contribute to the landscape-scale occurrence of lynx. HCP commitments in the strategy are associated with two types of habitat areas: (1) lynx habitat on lands within the HCP, and (2) lynx habitat on specific LMA subunits of HCP lands where resident lynx are known to occur or likely to occupy the area periodically. The HCP includes specific objectives to achieve this goal:

(1) Minimize potential for disturbance to known den sites;

(2) Map potential lynx winter foraging, summer foraging, and temporarily non-suitable habitats;

(3) Retain coarse woody debris and other denning attributes;

(4) Limit conversion of suitable lynx habitat to temporarily nonsuitable habitat per decade in LMAs;

(5) Ensure adequate amounts of foraging habitat are maintained in LMAs;

(6) Provide for habitat connectivity where vegetation and ownership patterns allow; and

(7) Maintain suitable lynx habitat on MDNRC scattered parcels outside LMAs (Montana Department of Natural Resources and Conservation and U.S. Fish and Wildlife Service 2010b, pp. 2-45–2-61).

The Lynx Conservation Strategy through the HCP places additional conservation emphasis on geographic areas most likely to remain high-priority areas to promote lynx conservation into the future (Montana Department of Natural Resources and Conservation and U.S. Fish and Wildlife Service 2010b, p. 2-53). These HCP lands occur in primary lynx habitat types, and are thus likely to provide snow depths and vegetation species compositions necessary to provide preferred winter foraging conditions, as well as ensure that the HCP helps support Federal efforts to provide adequate amounts of suitable lynx habitat. It also describes how MDNRC will monitor and evaluate the implementation and effectiveness of the HCP (Montana Department of Natural Resources and Conservation and U.S. Fish and Wildlife Service 2010b, pp. 4-27–4-37). Prior to the HCP, MDNRC had been managing diligently for lynx for over a decade under existing ARMs. The HCP and the ARMS combined will ensure that habitat features important for conservation of lynx will occur on MDNRC's HCP-managed lands in the long term.

Benefits of Inclusion

On MDNRC HCP State lands, it is relatively infrequent 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 critical habitat designation. Some educational benefits of designating critical habitat for lynx on MDNRC HCP 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 under the Act and addressed by Montana State law; through the public review process for the MDNRC HCP; MDNRC's forest management consistency with the Lynx recovery outline (U.S. Fish and Wildlife Service 2005, entire); the HCP support of Montana Department of Fish, Wildlife, and Parks' (MFWP) lynx strategy set forth in its Comprehensive Fish and Wildlife Conservation Strategy (Montana Department of Fish, Wildlife, and Parks 2005, pp. 400–402); lynx and snowshoe hare research being conducted by the USFS Rocky Mountain Research Station and the University of Montana; surveys being conducted by MFWP and the USFS; and State of Montana Web sites (e.g., *http://fwp.mt.gov/fishandwildlife/species/threatened/canadaLynx/default.html*, *http://dnrc.mt.gov/HCP/Species.asp*).

Benefits of Exclusion

The MDNRC HCP provides substantial protection of features essential to the conservation of lynx on HCP-managed lands and provides a greater level of management for the lynx on these State lands than would be achieved with designation of critical habitat. Because the HCP provides lynx-specific objectives and strategies for different geographic locations, guidelines to meet the objectives, and monitoring to evaluate implementation and effectiveness, the measures contained in the HCP exceed any measures that might result from critical habitat designation. As a result, we do not anticipate any actions on these lands that would reduce the landscape-scale availability of important lynx and hare habitats or otherwise diminish the conservation value of these lands to the lynx DPS.

The exclusion of MDNRC HCP-managed lands from critical habitat would help preserve the partnerships that have developed between the Service and the State through development and implementation of the HCP, the existing ARMs, the Comprehensive Fish and Wildlife Conservation Strategy, and the intent of the State Forest Land Management Plan, all of which provide for long-term lynx conservation. Requiring additional redundant processes of permit applicants/holders who have already undergone an extensive Federal process to apply for a permit also appreciably undermines the benefit of HCPs for cooperators and reduces the certainty otherwise provided by a single clear plan.

Benefits of Exclusion Outweigh the Benefits of Inclusion

We have evaluated the exclusion of approximately 272.7 mi^2 (706 km^2) of lands managed by the MDNRC in accordance with the HCP. We have

determined that it is unlikely that including these HCP-managed areas in the final designation would lead to any changes in MDNRC management (i.e., no additional conservation measures would be recommended to further avoid impacts to lynx and hare habitats); therefore, the benefits of inclusion are low.

We find that few (if any) additional conservation benefits would be realized through section 7 of the Act, because activities with a Federal nexus are infrequent on these State lands. Additionally, the habitat conservation measures addressing the features essential to conservation of the lynx are already being implemented on MDNRC lands under the MDNRC HCP, have been demonstrated to be effective, will be in place until at least 2061, and are providing for the maintenance and protection of the physical and biological features essential to the conservation of the lynx DPS.

We have, therefore, determined that the benefits of excluding lands managed in accordance with the MDNRC HCP in Unit 3 and Unit 5 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 are likely to be achieved by excluding MDNRC HCP lands from the final designation than by including them.

Exclusion Will Not Result in Extinction of the Species

The MDNRC HCP (1) provides biologically meaningful and quantifiable measures for the long-term conservation of the lynx and the physical and biological features essential to it, (2) includes long-term certainty of implementation, (3) employs rigorous monitoring and reporting requirements, and (4) applies an adaptive management approach. Therefore, it is our determination that the exclusion of MDNRC HCP lands from critical habitat will not result in the extinction of the DPS. We, therefore, exclude 271.4 mi^2 (703 km^2) of lands managed in accordance with the MDNRC HCP from Unit 3, and 1.3 mi^2 (3.3 km^2) from Unit 5 of this final revised lynx critical habitat designation.

Required Determinations

Regulatory Planning and Review (Executive Orders 12866 and 13563)

Executive Order 12866 provides that the Office of Information and Regulatory Affairs (OIRA) will review all significant rules. The Office of Information and Regulatory Affairs has determined that this rule is not significant.

Executive Order 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The executive order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. E.O. 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. We have developed this rule in a manner consistent with these requirements.

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

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq.*), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA; 5 U.S.C. 801 *et seq.*), 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 effects of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). However, 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. The SBREFA amended the RFA to require Federal agencies to provide a certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

According to the Small Business Administration, small entities include small organizations such as independent nonprofit organizations; 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.

The Service's current understanding of the requirements under the RFA, as amended, and following recent court decisions, is that Federal agencies are only required to evaluate the potential incremental impacts of rulemaking on those entities directly regulated by the rulemaking itself, and therefore, not required to evaluate the potential impacts to indirectly regulated entities. The regulatory mechanism through which critical habitat protections are realized is section 7 of the Act, which requires Federal agencies, in consultation with the Service, to ensure that any action authorized, funded, or carried out by the Agency is not likely to destroy or adversely modify critical habitat. Therefore, under section 7 only Federal action agencies are directly subject to the specific regulatory requirement (avoiding destruction and adverse modification) imposed by critical habitat designation. Consequently, it is our position that only Federal action agencies will be directly regulated by this designation. There is no requirement under RFA to evaluate the potential impacts to entities not directly regulated. Moreover, Federal agencies are not small entities. Therefore, because no small entities are directly regulated by this rulemaking, the Service certifies that, if promulgated, the final critical habitat designation will not have a significant economic impact on a substantial number of small entities.

During the development of this final rule we reviewed and evaluated all information submitted during the comment period that may pertain to our consideration of the probable incremental economic impacts of this critical habitat designation. Based on this information, we affirm our certification that this final critical habitat designation will not have a significant economic impact on a substantial number of small entities, and a regulatory flexibility analysis is not required.

Energy Supply, Distribution, or Use—Executive Order 13211

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare Statements of Energy Effects when undertaking certain actions. OMB has provided guidance for implementing this Executive Order that outlines nine outcomes that may constitute ''a significant adverse effect'' when compared to not taking the regulatory action under consideration. Our economic analyses of the proposed and final rules found that none of these criteria are relevant to this analysis, and it did not identify any potentially significant effects of lynx critical habitat designation on energy supply, distribution, or use. Thus, based on information in the economic analysis, significant energy-related impacts associated with lynx conservation activities within critical habitat are not expected. As such, the designation of critical habitat is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is 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 *et seq.*), we make the following findings:

(1) 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, or 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; Aid to Families with Dependent Children 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 that receive Federal funding, assistance, or permits, or that otherwise require 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 onto State governments.

(2) We do not believe that this rule will significantly or uniquely affect small governments because it would not produce a Federal mandate of $100 million or greater in any year; that is, it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act. The FEA concludes incremental impacts may occur due to administrative costs of section 7 consultations; however, these are not expected to significantly affect small governments. Incremental impacts stemming from various species conservation and development control activities are expected to be borne largely by the Federal Government not by any other organizations that could be considered small governments. Consequently, we do not believe that the critical habitat designation would significantly or uniquely affect small government entities. As such, a Small Government Agency Plan is not required.

Takings—Executive Order 12630

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 DPS in a takings implications assessment. We conducted an economic analysis which determined that (1) the designation of revised critical habitat for the lynx is unlikely to generate costs exceeding $100 million in a single year, (2) the economic costs of implementing the rule through section 7 of the Act will most likely be limited to the additional administrative effort required to consider adverse modification, and (3) the revised designation is not expected to trigger additional requirements under State or local regulations. We also completed a Takings Implication Assessment (TIA) in which we determined that revising the designation of critical habitat for the lynx would not deny anyone economically viable use of their property or result in a direct and immediate interference with property nor in physical occupation of anyone's property. We have concluded, therefore, that this designation is not likely to result in either a regulatory or a physical taking in accordance with the Fifth Amendment of the Constitution. Based on the best available information, the TIA concludes that this designation of critical habitat for the lynx does not pose significant takings implications.

Federalism—Executive Order 13132

In accordance with E.O. 13132 (Federalism), this final rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of the proposed critical habitat designation with, appropriate State resource agencies in Idaho, Maine, Minnesota, Montana, Washington, and Wyoming. We received comments from Idaho (Office of Species Conservation, Department of Fish and Game, and Department of Lands); Maine (Department of Inland Fisheries and Wildlife); Montana (Department of Natural Resources and Conservation); New Mexico (Department of Agriculture and Department of Game and Fish); Washington (Department of Natural Resources); and Wyoming (Office of the Governor, Legislature's Select Committee on Federal Natural Resource Management, and Game and Fish Department), Fremont, Lincoln, Park,

and Sublette Counties Boards of County Commissioners and Shoshone Cooperating Agency Coalition; and the Coalition of Local Governments representing the County Commissions and Conservation Districts for Lincoln, Sweetwater, Uinta, and Sublette Counties) and have addressed them in the Summary of Comments and Recommendations section of the rule. From a federalism perspective, the designation of critical habitat directly affects only the responsibilities of Federal agencies. The Act imposes no other duties with respect to critical habitat, either for States and local governments, or for anyone else. As a result, the rule does not have substantial direct effects either on the States, or on the relationship between the national government and the States, or on the distribution of powers and responsibilities among the various levels of government. The designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the species are more clearly defined, and the physical and biological features of the habitat necessary to the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist these local governments in long-range planning (because these local governments no longer have to wait for case-by-case section 7 consultations to occur).

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) would be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require 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.

Civil Justice Reform—Executive Order 12988

In accordance with Executive Order 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and that it meets the applicable standards set forth in sections 3(a) and 3(b)(2) of the Order. We are designating critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the species, the rule identifies the elements of physical or biological features essential to the conservation of the lynx DPS. The designated areas of critical habitat are presented on maps, and the rule provides several options for the interested public to obtain more detailed location information, if desired.

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

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). 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 (42 U.S.C. 4321 et seq.)

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses pursuant to the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*) in connection with designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This position was upheld by the U.S. Court of Appeals for the Ninth Circuit (*Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)). However, when the range of the species includes States within the Tenth Circuit, such as that of lynx, under the Tenth Circuit ruling in *Catron County Board of Commissioners* v. *U.S. Fish and Wildlife Service,* 75 F.3d 1429 (10th Cir. 1996), we undertake a NEPA analysis for critical habitat designation and notify the public of the availability of the draft environmental assessment for a proposal when it is finished.

We performed the NEPA analysis, and the draft environmental assessment was made available for public comment on June 20, 2014 (79 FR 35303). The final environmental assessment and FONSI has been completed and is available for review with the publication of this final rule. You may obtain a copy of the final environmental assessment and FONSI online at *http://www.regulations.gov*, by mail from the Montana Ecological Services Field Office (see **ADDRESSES**), or by visiting our Web site at *http://www.fws.gov/montanafieldoffice/*.

In our environmental assessment, we concluded that designation of critical habitat would not have any direct effects on the environment, except through the section 7 consultation process. This is because critical habitat designation does not impose broad rules or restrictions on land use, nor does it automatically prohibit any land use activity. We also concluded that, although designation could alter or result in restrictions on some activities, mostly on Federal lands, it is not likely to result in substantial impacts to the physical or human environment. Our analysis did not identify any adverse effects unique to minority or low-income human populations in the affected areas nor the potential to cause irreversible or irretrievable environmental impacts, directly, indirectly, or cumulatively.

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's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to tribes.

Tribal lands in Maine, Minnesota, and Montana fall within the boundaries of this final designation in the Maine (Unit 1), Minnesota (Unit 2), and Northern Rocky Mountains (Unit 3) critical habitat units. Tribal lands that fall within the designation include those of the Passamaquoddy Tribe and the Penobscot Indian Nation in Maine, the Grand Portage Indian Reservation and Bois Forte Indian Reservation–Vermillion Lake District in Minnesota, and the Confederated Salish and Kootenai Tribes, Flathead Indian Reservation in Montana.

During development of the 2009 final rule, 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. During development of the 2013 proposed rule and this final rule, we also contacted the Tribes whose lands were within the proposed revised designation, and they confirmed their continued preference that Tribal lands not be designated as lynx critical habitat. As described above (see *Application of Section 4(b)(2) of the Act*—Exclusions Based on Other Relevant Impacts), we determined in the 2009 final rule and reaffirm in this rule that the benefits of excluding these Tribal lands from the final lynx critical habitat designation outweigh the benefits of including them, and that doing so will not result in extinction of the lynx DPS. Therefore, we are not designating critical habitat for the lynx on Tribal lands.

References Cited

A complete list of all references cited is available on the Internet at *http://www.regulations.gov*, *http://www.fws.gov/mountain-prairie/species/mammals/lynx/index.htm*, and upon request from the Montana Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this rulemaking are the staff members of the Montana Fish and Wildlife Office, the Maine Fish and Wildlife Office, and the New England Fish and Wildlife Office.

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; 1531–1544; and 4201–4245, unless otherwise noted.

■ 2. Amend § 17.11(h) by revising the entry for ''Lynx, Canada'' under ''Mammals'' in the List of Endangered and Threatened Wildlife 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	*Lynx canadensis*	U.S.A. (AK, CO, ID, ME, MI, MN, MT, NH, NY, OR, UT, VT, WA, WI, WY), Canada, circumboreal.	Where found within contiguous U.S.A.	T	692	17.95(a)	17.40(k)
*	*	*	*	*	*	*	

■ 3. In § 17.95, amend paragraph (a) by revising 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:

(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 conditions that provide and maintain deep fluffy snow 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 manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on October 14, 2014.

(4) *Critical habitat map units.* Data layers defining map units were created using a USA Contiguous Albers Equal Area Conic projection. The maps in this entry establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site, *http://www.fws.gov/montanafieldoffice/*, at *http://www.regulations.gov* at Docket No. FWS–R6–ES–2013–0101, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) *Note:* Index map follows:

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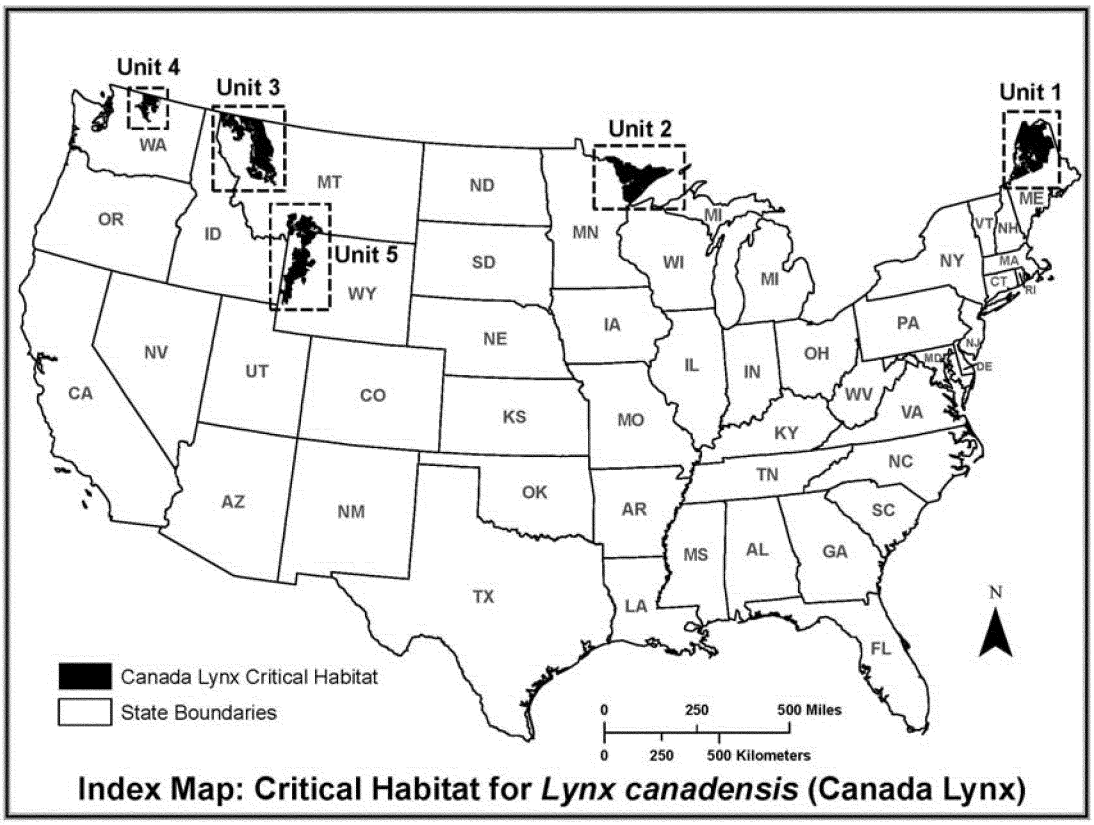
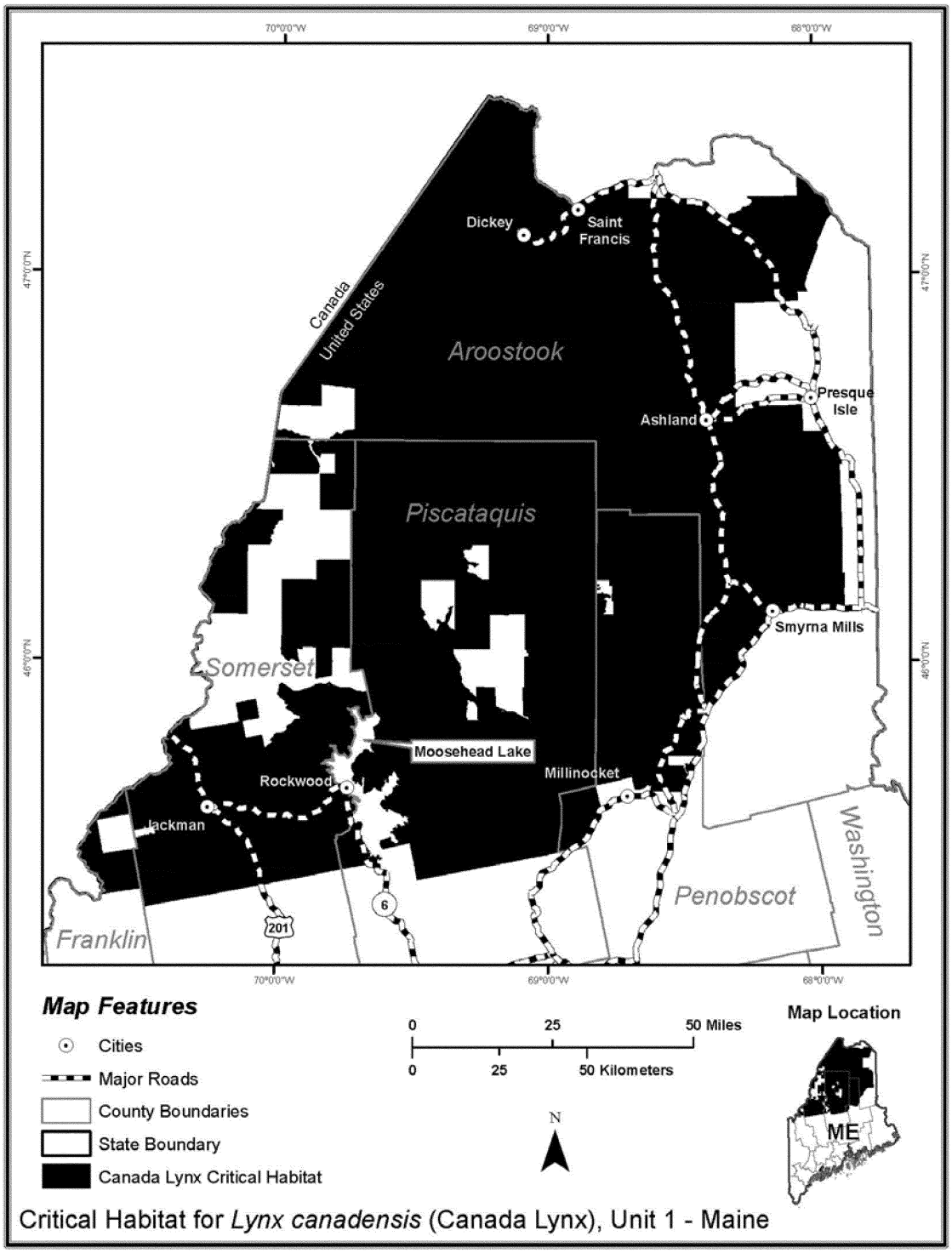


Index Map: Critical Habitat for *Lynx canadensis* (Canada Lynx)

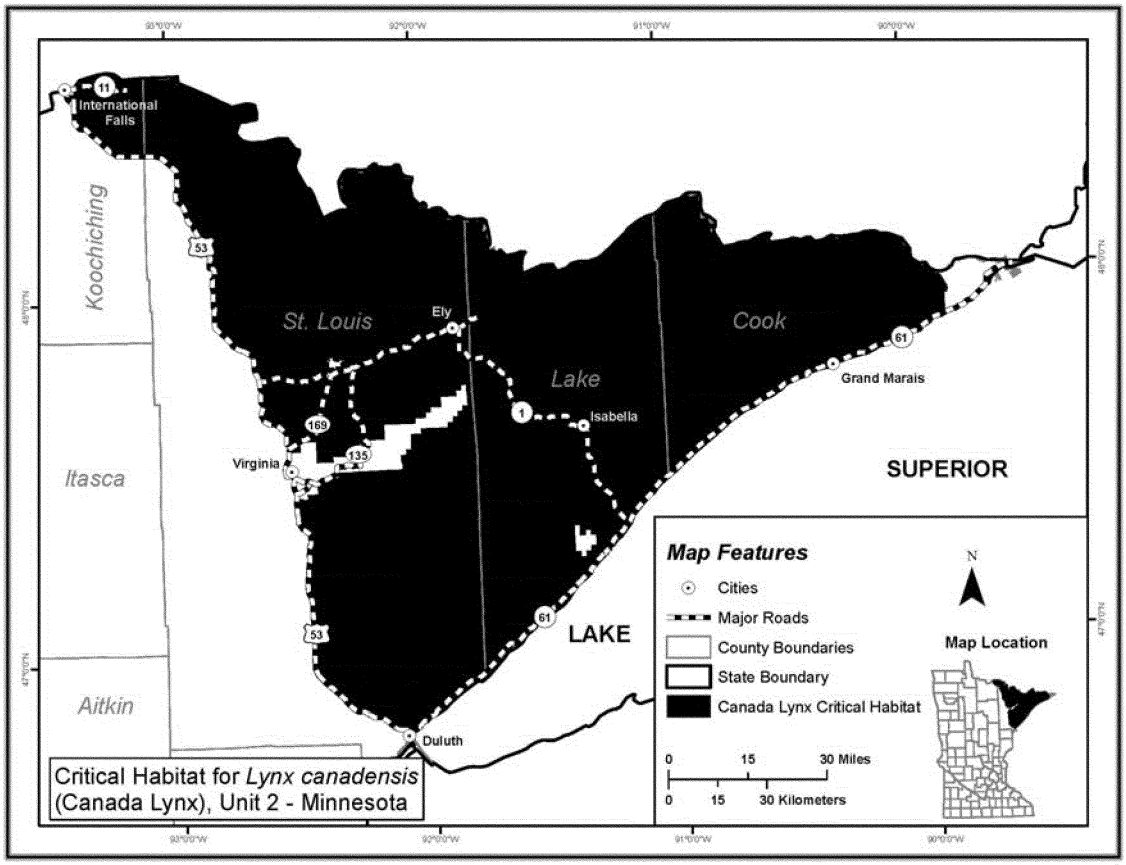
(6) Unit 1: Maine—Aroostook, Franklin, Penobscot, Piscataquis, and Somerset Counties, ME. Map of Unit 1, Maine, follows:



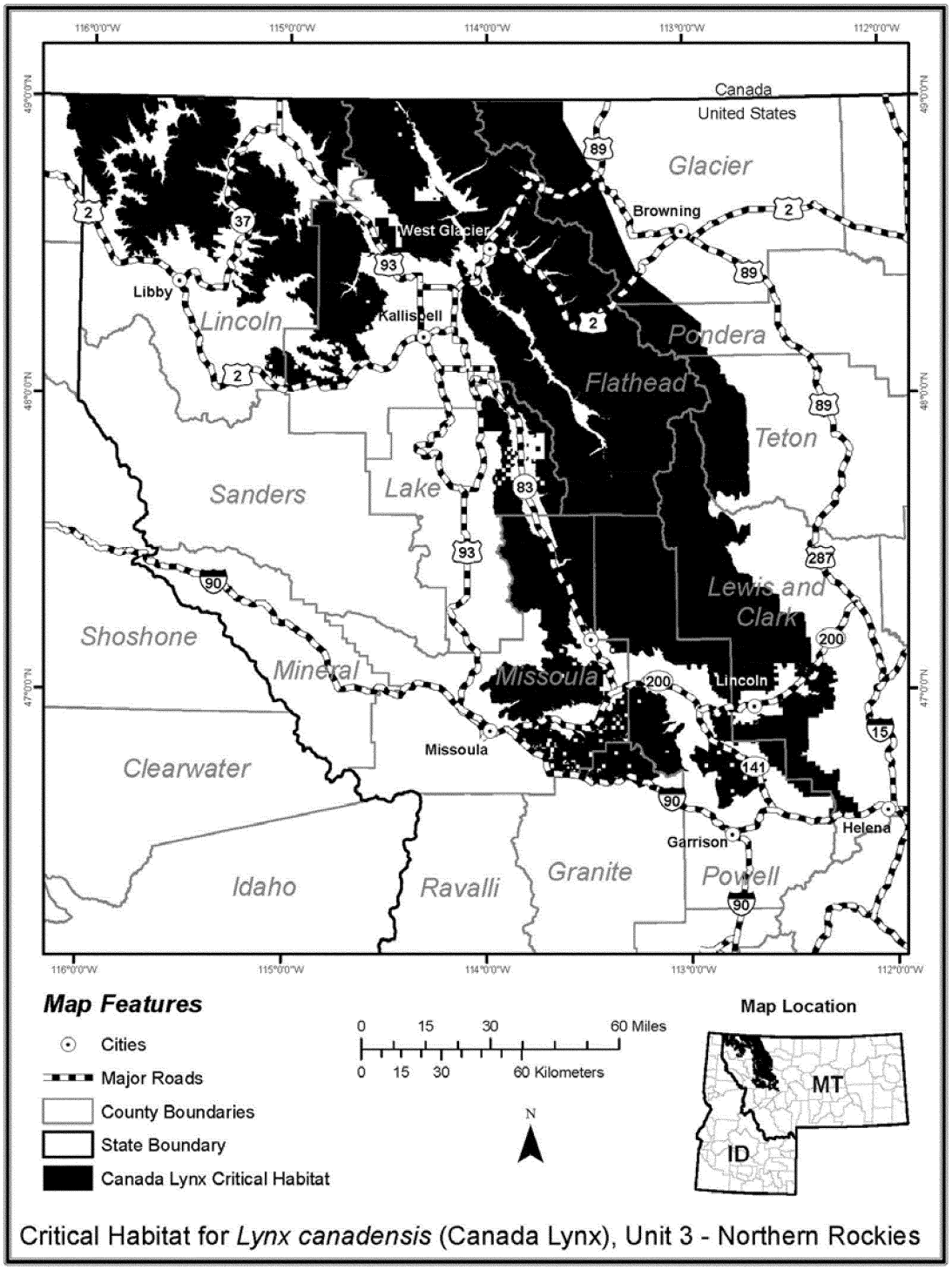
Critical Habitat for *Lynx canadensis* (Canada Lynx), Unit 1 - Maine

(7) Unit 2: Minnesota—Cook, Koochiching, Lake, and St. Louis Counties, MN.

Map of Unit 2, Minnesota, follows:

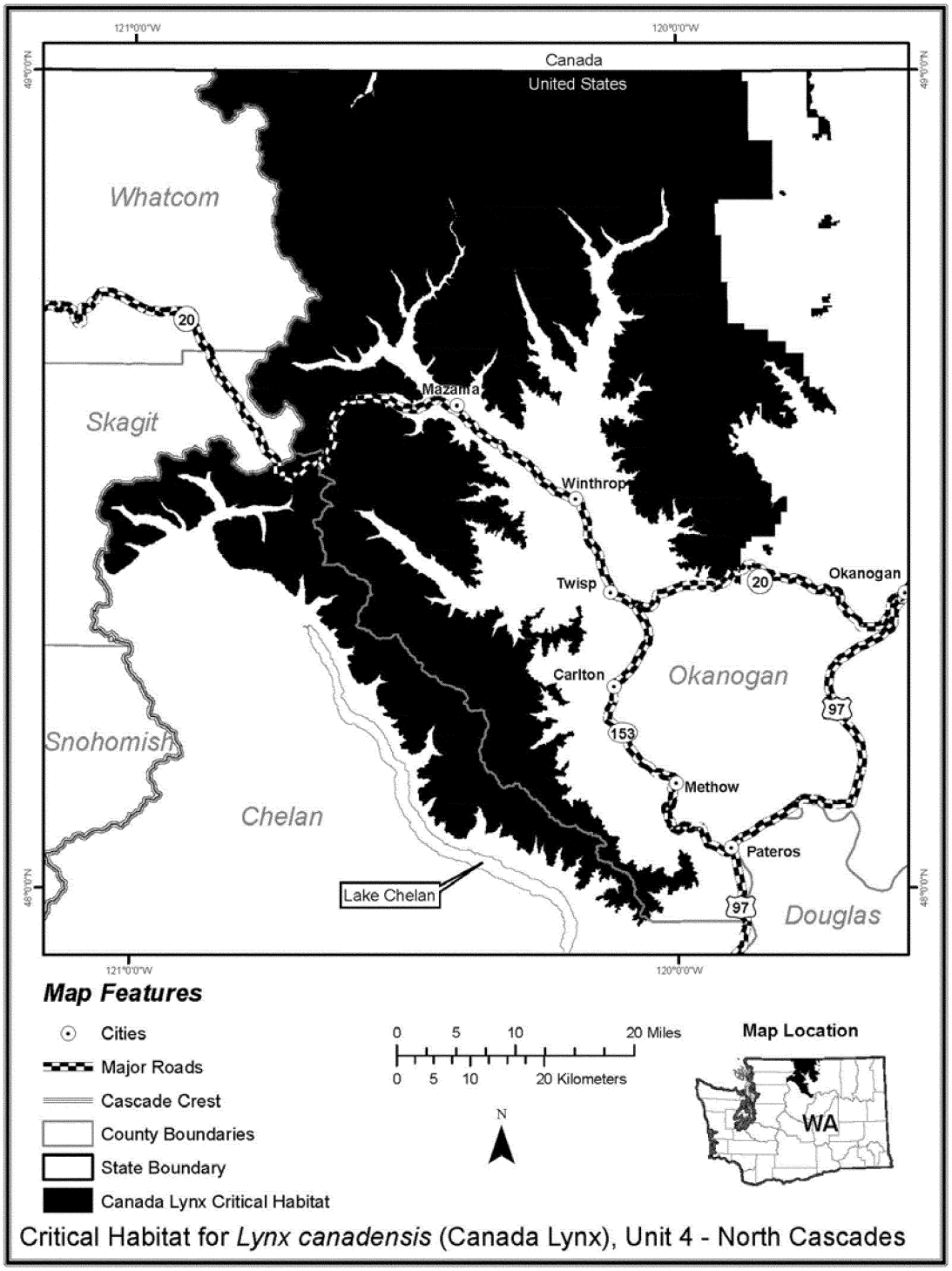


(8) Unit 3: Northern Rockies—Boundary County, ID, and Flathead, Glacier, Granite, Lake, Lewis and Clark, Lincoln, Missoula, Pondera, Powell and Teton Counties, MT. Map of Unit 3, Northern Rockies, follows:



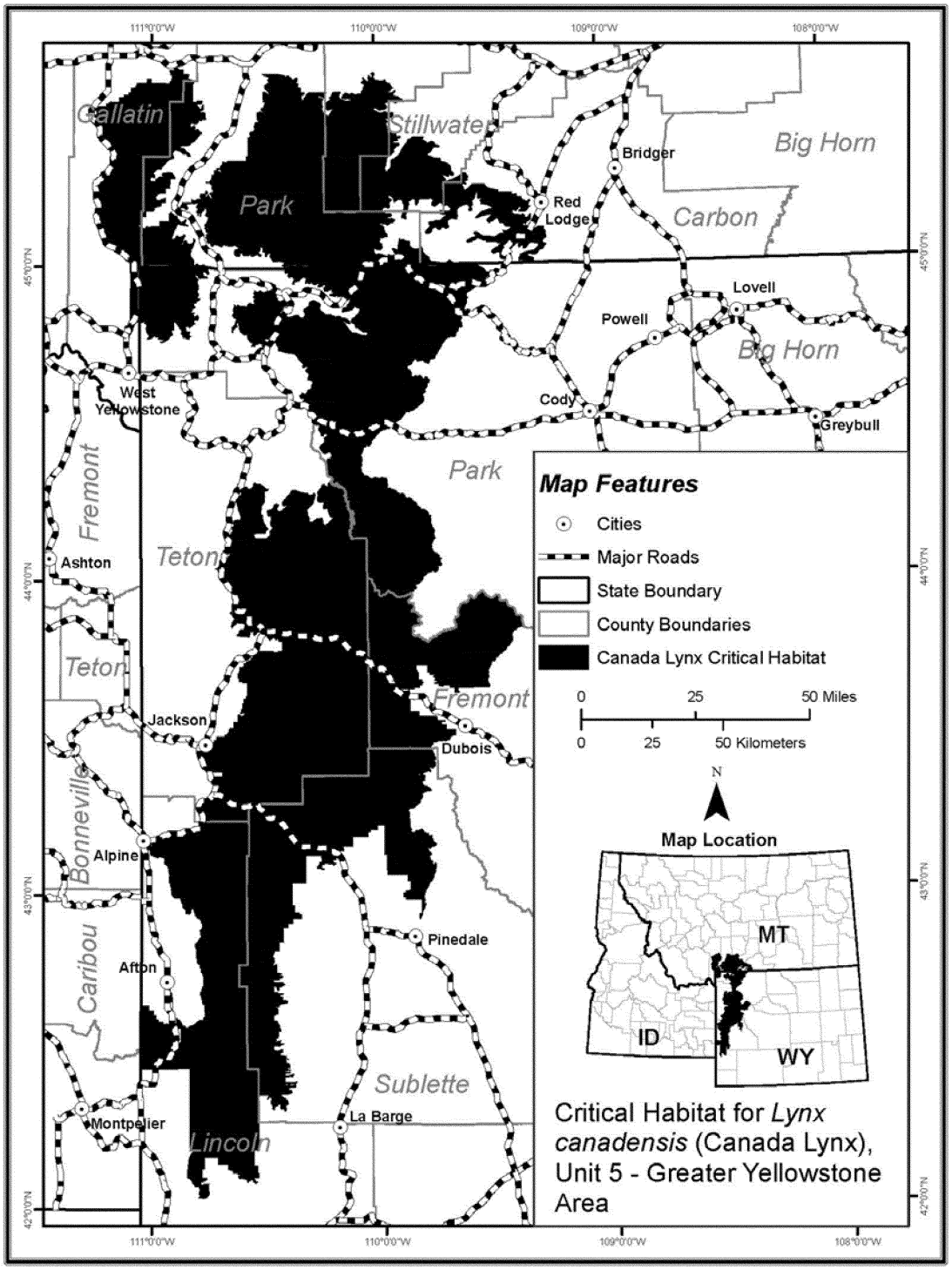
Critical Habitat for *Lynx canadensis* (Canada Lynx), Unit 3 - Northern Rockies

(9) Unit 4: North Cascades—Chelan and Okanogan Counties, WA. Map of Unit 4, North Cascades, follows:



Critical Habitat for *Lynx canadensis* (Canada Lynx), Unit 4 - North Cascades

(10) Unit 5: Greater Yellowstone Area—Carbon, Gallatin, Park, Stillwater, and Sweetgrass Counties, MT, and Fremont, Lincoln, Park, Sublette, and Teton Counties, WY. Map of Unit 5, Greater Yellowstone Area, follows:



* * * * *

Dated: August 27, 2014.

Michael J. Bean,

Principal Deputy Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 2014–21013 Filed 9–11–14; 8:45 am]

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