1. **Species:** Canada Lynx (*Lynx canadensis*)

2. **Status:** Table 1 summarizes the current status of this species or subspecies by various ranking entity and defines the meaning of the status.

**Table 1.** Current status of *Lynx canadensis*

| Entity | Status | Status Definition |
|---|---|---|
| NatureServe | G5 | *Species is Secure*<br>At very low risk or extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats. |
| CNHP | S1 | *Species is Critically Imperiled*<br>At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors. |
| Colorado State List Status | Endangered; SGCN, Tier 1 | Included in the Colorado Threatened and Endangered Species list. |
| USDA Forest Service | ESA Section 7 | ESA Section 7 consultation requirement for activities that may affect the species. |
| USDI FWS[b] | FT | Federally listed as Threatened |
| USDI FWS Critical Habitat | None | No occurrence of designated critical habitat within the planning area. |

[a] Colorado Natural Heritage Program.
[b] US Department of Interior Fish and Wildlife Service.

The 2012 U.S. Forest Service Planning Rule defines Species of Conservation Concern (SCC) as "a species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long-term in the plan area" (36 CFR 219.9). This overview was developed to summarize information relating to this species' consideration to be listed as a SCC on the Rio Grande National Forest, and to aid in the development of plan components and monitoring objectives.

## 3. Taxonomy

Genus/species *Lynx canadensis* is accepted as valid.

## 4. Distribution, abundance, and population trend on the planning unit [12.53.2,3,4]:

In 1999, the Colorado Parks and Wildlife initiated a lynx recovery program intended to augment any existing populations in the Southern Rockies with transplants from Canada and Alaska to re-establish a self-sustaining breeding population. The augmentation program resulted in a total of 218 lynx being transplanted into the San Juan Mountains during 1999-2006.

Lynx reproductive rates in Colorado have varied greatly since kittens were first documented in 2003. After den visits identified 16 kittens in 2003, researchers found 39 kittens in 2004; 50 kittens in 2005; 11 kittens in 2006; 11 kittens in 2009; 14 kittens in 2010. During the 2006, 2009 and 2010 seasons, DOW field crews documented that Colorado-born lynx had successfully produced third-generation Colorado

kittens. In 2010, researchers estimated that between 30 and 40 percent of female lynx bore litters of kittens (Colorado Parks and Wildlife 2010). Recent kittens produced by two female lynx on the Rio Grande National Forest during the 2015 breeding season represent the first documented reproduction since 2010 (R. Ghormley, pers. comm. 2015).

The RGNF represents a large portion of the core area for lynx reintroduced to Colorado, with approximately 85% of the 218 lynx reintroduced to Colorado from 1999-2007 being released on the planning area. The vast majority of lynx within Colorado remains and reproduces in the high-elevation spruce-fir zone in the southwestern portion of the state, including the RGNF. Currently, lynx continue to utilize and reproduce on the RGNF, and local spruce-fir habitats remain essential to their eventual recovery and delisting (USDA Forest Service 2014).

Lynx habitat within the planning area was most recently modeled and mapped in 2011. Vegetation characteristics provide the criteria for identification of both primary and secondary habitats (Appendix A).Approximately 867,241 acres are classified as lynx primary habitat, 170,847 acres are delineated as secondary habitat (Figure 1), and 6,299 acres are identified as unsuitable habitat (USDA Forest Service 2011). A total of four linkage areas have also been delineated. Lynx habitat on the Rio Grande National Forest extends across administrative boundaries within the greater San Juan Mountains area and includes the San Juan and Grand Mesa, Uncompahgre, and Gunnison (GMUG) National Forests. Individual lynx that utilize the Rio Grande National Forest are known to have used all or any one of these units in the greater San Juan Mountains area (Theobald 2011). Connective habitat between administrative units in the San Juan Mountains and beyond is essential for facilitating movement of Canada lynx across the landscape.

Aerial surveys to detect insect and disease influences indicate widespread mortality in spruce forest and to a lesser extent other forest types within the planning area. Data from flights conducted from 2010-2014 show that approximately 782,137 acres of suitable lynx habitat were affected by spruce beetle mortality, while about 221 acres were affected by mountain pine beetle mortality (Figure 1). Severity of mortality varies across the landscape, ranging from less than one tree per acre (TPA) to over 100 TPA in some areas.

In 2013, a study was initiated to investigate how lynx respond to forests heavily influenced by spruce bark beetles in the San Juan Mountains of southern Colorado. The purpose of the study is to address the key management questions associated with the maintenance of suitable habitat for lynx and primary prey species in relationship to natural disturbance processes such as bark beetles and wildfire, and to an expected increase in post-beetle forest management activities, such as timber salvage (USDA Forest Service 2014). Movements and habitat use by 4 radio-collared lynx (2 male, 2 female) for the period February 2014 – July 2015 show that portions of the planning area are currently being used for foraging and denning (with successful production of young). Preliminary results suggest that bark beetle mortality does not appear to be currently influencing lynx distribution or reproduction (R. Ghormley, pers. comm. 2015).

**Table 2. Known Occurrence Frequency within the Planning Area**

| | |
|---|---|
| **Known Occurrences in the past 20 years** | Numerous |
| **Year Last Observed** | 2015 |

5. **Brief description of natural history and key ecological functions [basis for other 12.53 components]**:

Canada lynx habitat in Colorado primarily occurs in the subalpine and upper montane forest zones. Recent analysis of radio-collared reintroduced lynx in Colorado indicates that the majority of the habitat used occurs between 9,900 – 11,620 feet (Theobald and Shenk 2011). Forests in these zones typically contain deep winter snows and are dominated by subalpine fir, Engelmann spruce, aspen, and lodgepole pine. A preference for these forest types, particularly spruce-fir associations, has been documented by radio-telemetry and tracking techniques associated with lynx reintroduced to Colorado (Theobald and Shenk 2011). Other habitats used by reintroduced lynx include spruce-fir/aspen associations and various riparian and riparian-associated areas dominated by dense willow (Shenk 2009).

Throughout North America, the distribution of lynx is closely tied to habitats that support an abundant population of snowshoe hare (Koehler 1990, Aubry et al. 2000). These habitats are generally defined as regenerating stands that contain dense, small-diameter stems that provide both food and horizontal cover (Koehler 1990, Aubry et al. 2000). In Colorado, both small diameter lodgepole stands and mature spruce-fir stands support the highest density of snowshoe hares, although the latter may be of more importance on a year-round basis due to the long-term persistence and distribution of mature spruce-fir stands (Ivan 2011). Reintroduced lynx in Colorado are also utilizing red squirrels, cottontails, and other alternate prey items. Red squirrels are closely associated with mature forest conditions, and would occur sympatrically with snowshoe hare as an important alternate prey species (Buskirk et al. 2000). The increased use of riparian-willow systems by reintroduced lynx during late summer and fall is also considered to be associated with alternate prey sources (Shenk 2009).

Canada lynx breed from March through April in the northern portion of their range, with kittens usually borne in May through June (Mowat et al. 2000). Births by reintroduced lynx in Colorado occurred in late May to mid-June (Shenk 2006). All den sites found in Colorado have occurred within the spruce-fir zone on steep, north-facing slopes and are most often associated with substantial amount of large diameter woody debris (Merrill 2005, Shenk 2009). The average elevation at Colorado den sites is 11,004 feet (Shenk 2009). Disturbances such as insects and disease and windthrow contribute to the downed log component and are therefore important for reproduction and protection for the kittens (Aubry et al. 2000). For denning habitat to be functional, however, it must be in or adjacent to quality foraging habitat. Because lynx may frequently move their kittens in the first few months, multiple nursery sites are needed that provide kittens with overhead cover and protection from predators and the elements (Ruediger et al. 2000). Downed logs and overhead cover must also be available throughout the home range to provide security when kittens are old enough to travel.

Lynx are known to move long distances, but open areas, whether man-made or natural, may not be used as extensively (Mowat et al. 2000). In north-central Washington, lynx typically avoided openings greater than about 300 feet wide (Koehler and Brittell 1990). However, the Southern Rockies consist of more heterogeneous forest types and their response to natural or created openings may differ (Ruggiero et al. 2000). The habitat use information for lynx in Colorado indicates that canopy closures of at least 40% are important at the site-scale, regardless of the type of cover involved (Shenk 2006). Additional analysis of radio-collared data for reintroduced lynx in Colorado indicates that the average proportion of forest (upper montane) in lynx habitat was 0.65, with the majority occurring in areas with at least 20% forested (upper montane) cover. Habitat use was also associated with distance from large patches (>50 ha, 124 ac.) of forest (upper montane) cover, with the majority of habitat within 3.35 km (2.1 mi.), and the average at 0.36 km (0.2 mi). The average proportion of grasslands was 0.16. There was little association of lynx habitat use areas with other land cover types (Theobald and Shenk 2011). This data indicates that most lynx use in Colorado is associated with larger contiguous blocks of forest that is primarily dominated by spruce-fir forest cover types.

Forested conditions between foraging and denning habitat has also been shown to facilitate movement within the home range, particularly along ridgelines where lynx commonly travel (Ruggiero et al. 1994). Linkage areas may be provided by forest stringers that connect large forested areas, or by low, forested passes that connect subalpine forests on opposite sides of a mountain range (Ruediger et. al. 2000).

Lynx reproductive rates in Colorado have varied greatly since kittens were first documented in 2003. After den visits identified 16 kittens in 2003, researchers found 39 kittens in 2004; 50 kittens in 2005; 11 kittens in 2006; 11 kittens in 2009; 14 kittens in 2010. During the 2006, 2009 and 2010 seasons, DOW field crews documented that Colorado-born lynx had successfully produced third-generation Colorado kittens. In 2010, researchers estimated that between 30 and 40 percent of female lynx bore litters of kittens (Colorado Division of Wildlife 2010).

6. **Overview of ecological conditions for recovery, conservation, and viability [12.53 7, 9?, 10, 11, 12]**:

Specific ecological conditions for recovery, conservation, and viability of Canada lynx on the Rio Grande National Forest are best described in the Southern Rockies Lynx Amendment (SRLA 2008). All key criteria in the SRLA Management Direction (Objectives, Standards, and Guidelines) should be considered for local conservation and recovery efforts but are too numerous to mention here. However, some key ecological conditions considered important on the Forest include:

- Recognition that lynx conservation and recovery is a multi-unit landscape-scale issue that involves cross-boundary coordination and consistency.
- A conservation focus on late-successional spruce-fir cover types in combination with aspen and cool-moist mixed conifer stand components represent the majority of the high-quality lynx habitat locally. High-elevation willow-riparian systems also represent high value for summer foraging use. In the post-spruce beetle environment, a focus on stands that previously were mapped as 4c structural class still contain the structural legacies, green cohorts, and understory components that most likely provide for the key life history requirements of lynx and key prey species.
- High-quality lynx analysis units (LAUs) that are well-connected within and between LAUs. Connectivity attributes that facilitate movement should be further defined and mapped across the Unit and adjoining unit landscapes.
- Recognition of high-value movement and dispersal areas that may require a management focus even when outside of existing LAUs or known occupied reproductive habitat. A local example is the North Pass area on the Saguache Ranger District that may provide for dispersal and ingress of lynx in and out of the local core area.
- Protection, maintenance, and restoration of dense understory conditions that support primary prey species (snowshoe hare), particularly when associated with late-successional spruce-fir cover types or post-bark beetle conditions in former late-successional green forests.
- In the post spruce-beetle outbreak condition, a refocus on what constitutes high-quality habitat for key prey species, lynx, and reproduction.
- Uncompacted snow conditions and management of over-the-snow vehicle route densities.

## 7. Threats and Risk Factors

The SRLA (USDA Forest Service 2008b) incorporated and addressed the following risk factors for lynx:

The LCAS [Ruediger et al. 2000] identified several specific management activities and practices termed "risk factors" for the Southern Rockies geographic area. Risk factors affecting lynx productivity included fire exclusion, grazing, and winter recreational uses that create compacted snow conditions.

- Fire exclusion has resulted in a lack of early successional stages of conifers, which provide important snowshoe hare habitat. Fire exclusion is not considered a factor locally on the Rio Grande National Forest.

- Unmanaged grazing by domestic and wild ungulates in aspen and high elevation willow stands can degrade snowshoe hare habitat. Grazing influences on riparin willow is not considered a a broadscale factor influencing high-elevation riparian willow habitat on the Rio Grande National Forest; however, it can be a localized issue in certain areas particularly those with a meadow or grassland park interface.

- Road, trail and recreational activities that results in snow compaction may facilitate increased access into lynx habitat and competition for food resources by competitors (primarily coyotes). Over-the-snow vehicle use is noted as a local concern on the Rio Grande National Forest with use demand on the increase.

- Risk factors affecting lynx mortality include trapping, predator control activities and predation by mountain lions, and being hit by vehicles on major highways and many of the major mountain passes in the Southern Rockies Management Geographic Area. Illegal trapping methods for legal take species in lynx habitat have been noted as a concern on one occasion on the Rio Grande National Forest. Although unknown, illegal trapping is not considered a widespread concern locally. Potential mortality of lynx due to vehicle traffic on highways and/or fragmentation of habitat and impaired genetic exchange due to highways, however, have been identified as a local concern. Starvation has also been a factor locally in Colorado, especially during the early years of the reintroduction effort (Shenk 2010).

- Risk factors affecting lynx movement include barriers to movements such as major highways and associated development within rights-of-way. Private land development, especially along road corridors in mountain valleys, may also fragment habitat and impede movement of lynx. Urban expansion and development on private land has further fragmented an already patchy distribution of lynx habitat, many times in response to development or expansion of a developed recreational facility on NFS lands within lynx habitats. Currently, the Rio Grande National Forest supports four key linkage areas that highlight highway crossing and/or movement concerns. As elsewhere, traffic volume is expected to increase in the future and this concern remains valid locally. Fragmentation of habitat and additional movement impairment is also a concern locally as evidenced by the approved land exchange and proposed development at Wolf Creek Pass.

The threats and risk factors identified in the SRLA and the management direction to address them remain valid on the Rio Grande National Forest. However, a focused analysis and reevaluation on the significance of these threats and potential adjustments in management direction is warranted in the post-spruce beetle landscape. Specifically, a reevaluation of what constitutes high-quality habitat in the post-

spruce beetle environment is needed. Specific threats and risk factors in the post spruce beetle environment include:

- Inability to map suitable habitat across LAUs and adjacent national forest units due to rapid changes from spruce beetle outbreak.
- Uncertainties associated with baseline habitat condition changes due to significant natural events such as spruce beetles, and the relationship of these changes to ongoing management activities that further influence baseline conditions. Uncertainty in management activity thresholds.
- Uncertainty in what constitutes high-quality habitat in the post spruce beetle landscape, and revised management direction to address these conditions in association with vegetation management.
- A significant increase in over-the-snow vehicles, potential snow compaction and disturbance.

The most recent update to the LCAS provided a full revision, incorporating all prior amendments and clarifications, substantial new scientific information that has emerged since 2000 including related parts of the Lynx Recovery Plan Outline, as well as drawing on experience gained in implementing the 2000 LCAS (Interagency Lynx Biology Team 2013). Conservation measures were also updated and are similar to, but at times rewritten, to help address the anthropogenic influences mentioned below.

The first tier (most significant) anthropogenic influences noted in the revised LCAS include:

- Climate Change. Potential threats associated with climate change include 1) shifts in species distribution 2) changes in periodicity of the snowshoe hare cycle 3) reduction in lynx habitat and population size 4) changes in demographic rates and 5) changes in predator-prey relationships.
- Vegetation Management including effects from timber harvest, precommercial thinning, and fuels treatments.
- Fragmentation of Habitat. Primary potential threats involve vegetation patterns (anthropogenic and natural), and highways and road fragmentation.

Second tier anthropogenic influences noted in the revised LCAS include:

- Incidental trapping
- Recreation. Recreation trend is increasing significantly and the mechanism of effects include 1) habitat loss 2) disturbance 3) changes in competition for snowshoe hare prey (i.e. snow compaction) 4) winter recreation activities 5) snowmobile warming huts and Nordic trail huts, and 6) developed campgrounds.
- Minerals and energy exploration and development.
- Illegal shooting.
- Forest/backcountry roads and trails.
- Grazing by domestic livestock.

Lynx in the contiguous U.S. were listed as threatened under the Endangered Species Act in 2000 primarily because regulations governing forest management activities on Federal lands were deemed inadequate, at that time, to conserve lynx and their habitats. Since listing, most Federal land managers throughout the lynx's range, including National Forests in USFS Region 2 have formally amended management plans to conserve lynx and hare habitats (USDI Fish and Wildlife Service 2013; USDA Forest Service 2008a).

Recent modeling suggests that climate change is likely to impact lynx in the DPS. Although the timing, magnitude, and consequences of climate-related impacts are difficult to predict, lynx habitats and populations in the contiguous U.S. are likely to be smaller and more isolated in the future and, therefore, more vulnerable to other threats (USDI Fish and Wildlife Service 2013).

**8. Key literature:**


Aubry, K.B., G.M. Koehler and J.R. Squires. 2000. Ecology of Canada lynx in southern boreal forests. Pp. 373-396 In L.F. Ruggiero, K.B. Aubry, S.W. Buskirk, G.M. Koehler, C.J. Krebs, K.S. McKelvey, and J.R. Squires, eds; Ecology and Conservation of Lynx in the United States. University Press of Colorado, Boulder, CO.

Buskirk, S.W., L.F. Ruggiero, K.B. Aubry, D.E. Pearson, J.R. Squires, and K.S. McKelvey. 2000. Comparative ecology of lynx in North America. Pp. 397-417 in L.F. Ruggiero, K.B. Aubry, S.W. Buskirk, S.W., G.M. Koehler, C.J. Krebs, K.S. McKelvey, and J.R. Squires, eds; Ecology and Conservation of Lynx in the United States. University Press of Colorado, Boulder, CO.

Colorado Parks and Wildlife. 2010. Success of the Colorado Division of Wildlife's Lynx Reintroduction Program. September 17, 2010. http://dnr.state.co.us/newsapp/Press.asp?PressId=6650.

Ghormley, R. 2015. RGNF Forest Wildlife Biologist. Personal communication.

Interagency Lynx Biology Team. 2013. Canada lynx conservation assessment and strategy. 3rd edition. USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Forest Service Publication R1-13-19, Missoula, MT. 128 pp.

Koehler, G.M. 1990. Population and habitat characteristics of lynx and snowshoe hares in north central Washington. Canadian Journal of Zoology. 68:845-851.

Mowat, G., Poole, K.G., O'Donoghue, M., 2000. Ecology of lynx in northern Canada and Alaska. Pp. 265-306 In: Ruggerio, L.F., Aubry, K.B., Buskirk, S.W., Koehler, G.M., Krebs, C.J., McKelvey, K.S., Squires, J.R. (Eds.), Ecology and Conservation of Lynx in the United States. University of Colorado Press, Boulder, Colorado.

Ruediger, B., J. Claar, S. Gniadek, B. Holt, L. Lewis, S. Mighton, B. Naney, G. Patton, T. Rinaldi, J. Trick, A. Vandehey, F. Wahl, N. Warren, D. Wenger, and A. Williamson. 2000. Canada lynx conservation assessment and strategy (2nd. Edition). USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Forest Service Publication #R1-00-53, Missoula, MT.

Shenk, T.M. 2009. Lynx Update, May 25, 2009. Colorado Division of Wildlife, Ft. Collins, CO.

Shenk, T.M. 2010. Wildlife research Report: Post-Release Monitoring of Lynx Released into Colorado. Colorado Division of Wildlife, Fort Collins, CO. 26 pp.

Theobald, D.M. and T.M. Shenk. 2011. Areas of high habitat use from 1999-2010 for radio-collared Canada lynx reintroduced to Colorado. Accessed online 9/12/2012 at: http://wildlife.state.co.us/Research/Mammal/Lynx/Pages/Lynx.aspx.

USDA Forest Service. 2008a. Southern Rockies lynx management direction, record of decision. USDA Forest Service, Rocky Mountain Region. 35 pp. + attachments.

USDA Forest Service. 2008b. Southern Rockies lynx management direction, final environmental impact statement: volume 1. USDA Forest Service, Rocky Mountain Region. 232 pp. + attachments.

USDA Forest Service. 2011. Lynx Habitat Model and Mapping Criteria: San Luis Valley Public Lands Center, Rio Grande National Forest and San Luis Valley BLM. October 7, 2011. 34 pp. + appendices.

USDA Forest Service. 2014. Lynx and Snowshoe Hare Response to Spruce-Beetle Tree Mortality, Wildfire and Timber Salvage in Spruce-Fir Forests of Southern Colorado: Maintaining Suitable Habitat With a Landscape Restoration Focus. Draft Study Proposal, Rio Grande National Forest. J. Squires, J. Ivan, and R. Ghormley, preparers.

USDI Fish and Wildlife Service. 2005. Recovery outline: contiguous United States distinct population segment of the Canada lynx. 21 pp.

USDI Fish and Wildlife Service. 2013. Canada lynx (*Lynx canadensis*) fact sheet. Accessed online at: http://www.fws.gov/mountain-prairie/es/species/mammals/lynx/CandaLynxFactSheet_091613.pdf [07/23/2015].

## 9. Map of Suitable Habitats within the Planning Area

Mapped suitable habitats and linkage areas (described above) as well as insect and wildfire disturbances within the planning area (discussed above) are displayed in Figure 1.

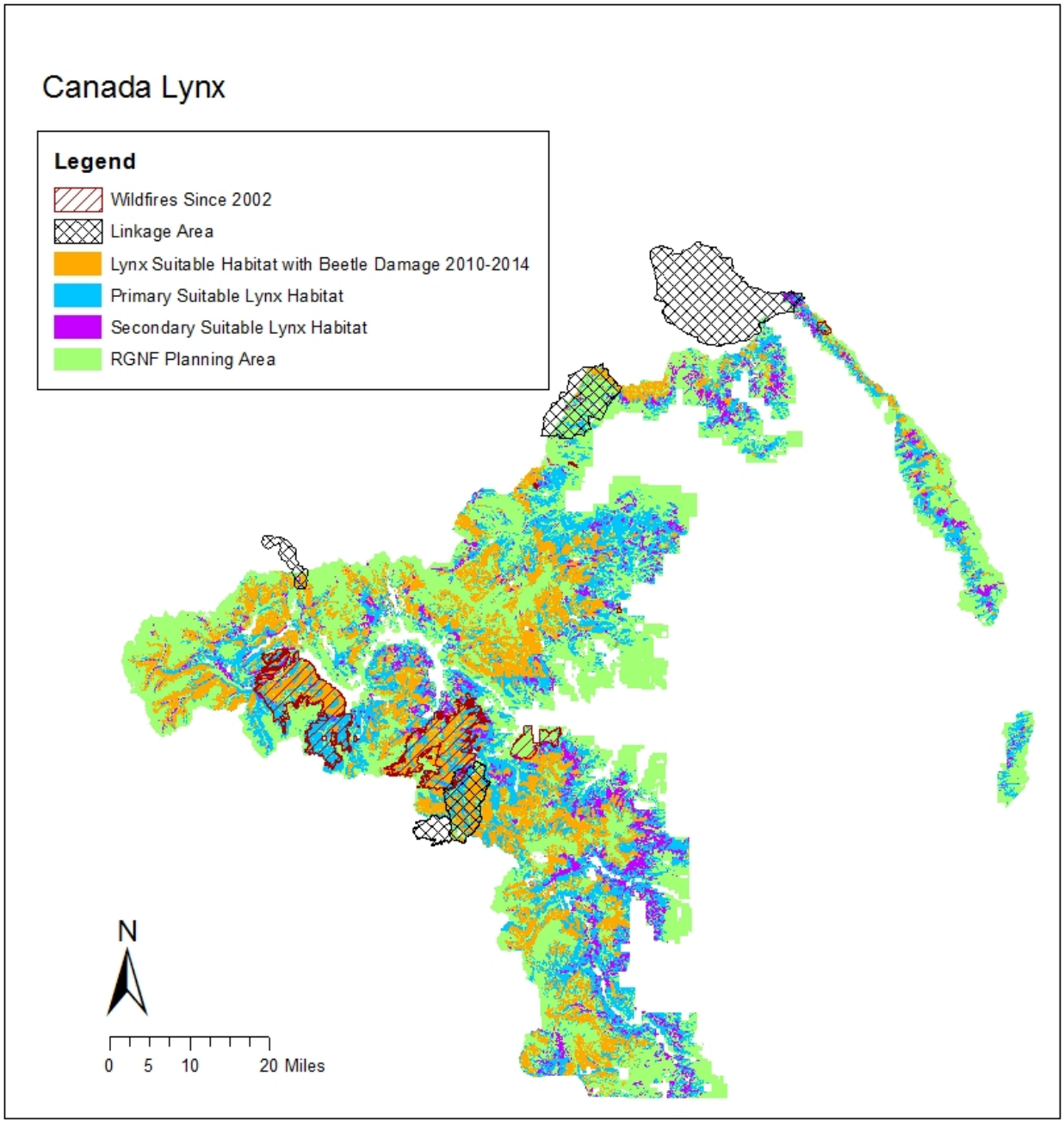


**Figure 1. Canada Lynx Mapped Suitable Habitat, Linkage Areas, and Recent Forest Beetle and Wildfire Disturbances.**

APPENDIX A. RGNF Lynx Habitat Mapping Criteria (USDA Forest Service 2011).

**1.1. Current (FS VEG Spatial) Mapping Criteria** (Note: See "Lynx Habitat Model For FS VEG Spatial" document by the San Juan National Forest (Dan Greene, 12/27/2010) for a detailed description of the model attributes, determinations, and other information).

**Lynx Habitat Model Criteria for San Juan, GMUG, and Rio Grande Forests**

**A. Primary Lynx Habitat**

1. A. Local Type = Engelmann Spruce / Subalpine Fir or Local Type = Riparian and Regional Cover Type = Engelmann Spruce / Subalpine Fir (spruce/fir classified as a riparian stand)
   B. Stand initiation of same
2. A. Local Type = Aspen with Conifer. In addition,
   There is a total of at least 5% cover of Engelmann spruce + sub-alpine fir in the top 3 dominant tree species.
   There is no ponderosa pine in the top 3 dominant tree species
   There is no Gambel oak in the top 3 majority species
   B. Stand initiation of same
3. A. Local Type = Cool Moist Mixed Conifer or Local Type = Riparian and Regional Cover Type = Douglas-fir, White Fir, or Blue Spruce (in a riparian stand)
   B. Stand initiation of same
4. A. Local Type = Lodgepole. In addition,
   There is a total of at least 5% cover of Engelmann spruce + sub-alpine fir in the top 3 dominant tree species
   B. Stand initiation of same
5. Remove polygons from the selection items (1-4) if
   There is ponderosa pine in the top 3 dominant tree species
   There is Gambel oak in the top 3 majority species
6. Remove from selection if FV_LYNX_HABITAT = N (not habitat)

**B. Secondary Lynx Habitat (dependant on primary habitat)**

1. Local Type = Aspen without Conifer (pure Aspen). In addition,
   There is no ponderosa pine in the top 3 dominant tree species
   There is no Gambel oak in the top 3 majority species
   The selected stands must be within 300 meters of primary habitat
   Local Type = Aspen with Conifer. In addition,
   There is no ponderosa pine in the top 3 dominant tree species
   There is no Gambel oak in the top 3 majority species
   The percent of spruce/fir is less than 5%
2. Local Type = Riparian and willow is dominant. In addition, selected stands must be within 300 meters of primary habitat
3. Local Type = Alpine but dominated by tall willow (size class M or L). In addition, selected stands must be within 300 meters of primary habitat (handled with the non-riparian module)
4. Local Type = Upland Willow (size class M or L). In addition, selected stands must be within 300 meters of primary habitat
5. Remove from selection if FV_LYNX_HABITAT = N (not habitat)

**Note** –Qualifying stands in “stand initiation” will be identified as lynx habitat but currently not suitable. In addition, qualifying stands regenerating to trees that are not of sufficient height will be identified as lynx habitat but currently not suitable. Acres of habitat in “stand initiation” or early seral stage will be tracked by LAU in accordance with the SRLA.