

**Legend**

- Cedar Wetland
- Rare Plants Observed (2006 Field Survey)
  - auricled twayblade orchid *Listera auriculata*
  - boreal bedstraw *Galium kamschaticum*
  - lesser wintergreen *Pyrola minor*
- Road
- MNPAP Plant Locations
- MNPAP Identified Natural Plant Community

**Notes:** Base map: USGS 24K Topographic Map.  
 Coordinate Grid: NAD83 UTM Zone 19N, Meters

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Figure: 7-13

**Kibby Wind Power Project**

*RTE Plant Locations*

There are also two mapped deer wintering yards found in the vicinity of the Kibby Wind Power Project. Deer yards are typically found in low-lying softwood stands that offer shelter from high snow depths and winds and serve as wintering habitat for white-tailed deer. The first is a narrow band of forest located along the northern shore of Kibby Stream, starting near Hurricane Pond and extending east to Spectacle Pond. This yard is 0.6 mile (1 km) to the southeast of a proposed 34.5 kV collection line from Kibby Mountain to the substation site. The second deer wintering yard is located at the northwest corner of Jim Pond. This yard extends northwest for approximately 1 mile (1.6 km) along the Northwest Inlet, a tributary of Jim Pond. This yard is located approximately 0.6 mile (1 km) to the southeast of the proposed 115 kV transmission line (discussed in Volume V). As further discussed in Section 7.5.1, neither deer wintering yard is anticipated to be impacted by the proposed project.

### **7.3.2 Potential Impacts to Unusual Natural Areas**

Consultation with the MNAP identified the presence of a mapped Fir-Heartleaved Birch Subalpine Forest on Kibby Mountain. This natural community is ranked S3<sup>1</sup>. A section of project road and several turbines within Series A have been sited in the southern extent of this mapped natural community. Field investigations were conducted to identify the extent of this community, and in September 2006, Mr. Donald Cameron, a Botanist/Ecologist from MNAP, visited the site with TransCanada's consultants to confirm the results of these investigations. As a result of that visit, Mr. Cameron confirmed that the area proposed for development of the Kibby Project has "historically received a heavy harvest and that current tree density and size reflected to some degree the growth response following the historic harvest." Further, he concluded that the trees within the southern area of the mapped community were "considerably larger... than what is characteristic of a Fir-Heart-leaved Birch Subalpine Forest Community." Areas northward on the ridge did exhibit the characteristics of the community. Mr. Cameron concluded that the limited impacts to the southern end of the community associated with development of Series A of the wind project (Kibby Mountain) would result in only a minor impact and that the community is anticipated to continue to be viable (Appendix 7-A).

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<sup>1</sup> The state rarity ranks employed by MNAP are as follows:

- S1** Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- S2** Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- S3** Rare in Maine (on the order of 20-100 occurrences).
- S4** Apparently secure in Maine.
- S5** Demonstrably secure in Maine.
- SH** Occurred historically in Maine, and could be rediscovered; not known to have been extirpated.
- SU** Possibly in peril in Maine, but status uncertain; need more information.
- SX** Apparently extirpated in Maine (historically occurring species for which habitat no longer exists in Maine).

## 7.4 State-listed Plant Species

### 7.4.1 Existing Resources

Initial correspondence from MDIFW and MNAP resulted in the identification of five rare plant species known to occur within 1 mile (1.6 km) of the project (including the 115 kV transmission corridor) which should be looked for:

- Swarthy sedge (*Carex adusta*);
- Boreal bedstraw (*Galium kamtschaticum*);
- Giant rattlesnake plantain (*Goodyera oblongifolia*);
- Auricled twayblade orchid (*Listera auriculata*); and
- Lesser wintergreen (*Pyrola minor*).

TransCanada's consultants conducted initial field investigations in August 2005 and further species-specific surveys during August and September 2006; the report is provided in Appendix 7-C. During these surveys, the growing season was well advanced and plants were readily identifiable from vegetative, flowering, or fruiting parts; on all days of the searches, the weather was dry and was conducive to efficient and thorough searches. Searches in the ridge areas where development of the wind turbines is proposed were primarily rare species habitat-based, with particular attention paid to rich northern hardwood communities, spruce-fir and heart-leaved paper birch communities, ledge outcrops, seeps, and cedar-dominated wetlands. Otherwise, searches were directed to the locations of the proposed access roads and turbine sites, so other habitats were searched as they were encountered. As project definition developed, some areas that were searched were no longer proposed for construction activities (for example, several alternative access roads abandoned due to high potential levels of wetland impact). In addition, when it became apparent that one rare species, boreal bedstraw, was a more or less regular component of some wetlands on these mountains, additional wetland areas outside of the project footprint were also searched to document more thoroughly the extent of the populations.

Three state-listed plant species were observed within the project area, as follows: auricled twayblade, lesser wintergreen, and boreal bedstraw. All of these species are ranked as S2 (see Figure 7-13). Locations along the proposed 115 kV transmission line are addressed in Volume V.

- Auricled twayblade was not observed on Kibby Mountain or Kibby Range.
- One site for lesser wintergreen was observed on Kibby Range.
- Numerous sites for boreal bedstraw were observed on and around Kibby Mountain and Kibby Range.

Lesser wintergreen, an S2 state species of special concern, was observed in one location in the wind turbine development area, with very small numbers present. The species was found along a small perennial stream on the southeast ridge of Kibby Range. In that location, it grows on the steep bank near the water's edge, associated with various mosses and other pyrolids (e.g., shinleaf, *Pyrola elliptica*). That particular stream drains a small seep-slope, and upslope within the wetland are such species as boreal bedstraw, western sweet-cicely (*Osmorhiza berteroi*), pink pyrola (*Pyrola asarifolia*), Braun's holly-fern (*Polystichum braunii*) and the moss *Rhodobrium rosea* – all evidence of somewhat “enriched” soils and perhaps of a small inclusion of a different bedrock underlying this section. Five plants were observed in this location (one was collected for a voucher specimen).

Boreal bedstraw, an S2 state species of special concern, was observed in numerous locations on Kibby Range and Kibby Mountain. All of the populations were associated with spruce-northern hardwood forest and with mixed forest, and none were observed in the spruce-fir community that characterizes the summits of these mountains. The highest elevation at which populations were observed was in a seep/wetland area on the southern half of Kibby Mountain, at an elevation of approximately 2,900 feet (884 m). The two lowest elevation sites at which the species was found were at approximately 2,300 feet (701 m) on the lower slopes of Kibby Range and at approximately 1,700 feet (518 m) in elevation near Kibby Stream. Most populations located during surveys for the project are on the mid-slopes of the mountains (approximately 2,500 to 2,800 feet, or 762 to 853 m), generally just below a major topographic “break” that defines the upper slope/mid-slope interface; nearly all are in jurisdictional wetlands.

On Kibby Mountain, boreal bedstraw was observed in 23 patches in two general areas. In one of these areas several sub-populations or patches are present within a larger wetland area. The overall population at this location consists of at least several hundred plants. The difficulty of estimating population sizes is noted, because this species is rhizomatous, with often more than one stem per plant, and because it grows more or less inter-matted with other low herbs. In general, the habitats within the project area on Kibby Mountain are dominated by spruce-fir forest with few wetlands and are, therefore, not conducive to this species.

On Kibby Range, boreal bedstraw was found in over 50 patches, mostly in small seep wetlands, generally in discrete populations numbering an estimated, 25 to 100 plants at each site.

The populations in these areas constitute two element occurrences (EOs): one EO for the observations northeast of Middle Branch Kibby Stream (i.e., Kibby Mountain), and the second EO for all of the observations South of Kibby Stream (i.e., Kibby Range).

Subsequent to the completion of the surveys, a site visit was held with Mr. Donald Cameron from MNAP to review sites and habitats where rare species had been located and to discuss potential ways to avoid and minimize potential impacts. Based on this field visit, Mr. Cameron noted that the proposed wind project development has the potential to impact only a small amount of the species habitat on the mountain, as noted in correspondence provided in Appendix 7-A (MNAP 2006).

#### **7.4.2 Potential Impacts to State-Listed Plant Species**

Three state-listed plant species were observed within the project area: auricled twayblade, lesser wintergreen, and boreal bedstraw. Occurrences of lesser wintergreen and boreal bedstraw are discussed in Section 7.3.1.

One additional occurrence of lesser wintergreen, and both occurrences of auricled twayblade were found in vicinity of the 115-kV transmission line corridor, which will be discussed in Volume V.

In order to avoid impacts to lesser wintergreen, TransCanada proposes the following measures to protect this species at this location:

- Flag the small area where this species occurs, and mark the site with “sensitive resource area” signs, in order to avoid during project clearing.
- Minimize clearing of shrubby vegetation in the immediate vicinity to maintain shade.
- Exercise care in clearing to minimize foot traffic at the streambank.
- Add notation on the site plans and add to long-term vegetation management plans so that impacts will not occur in future.
- Monitor for 3 years after construction, with final report to make recommendations in regard to vegetation management.

TransCanada proposes the following measures to protect boreal bedstraw:

- Flag any populations that are within 50 feet (15 m) of the project footprint limits.
- Mark sites with “Sensitive Resource Area” signs during construction.
- Minimize tree clearing along roads near known populations.
- Design culverts and waterbars not to discharge water into populations.
- Add notation on the site plans so that impacts can be avoided in future.
- Monitor sites that are adjacent to construction once, at 3 years after construction.

With the current project layout, five wetlands that have patches of boreal bedstraw occurring in them will be impacted: one on Kibby Mountain, and four on Kibby Range. TransCanada will continue to work with the MNAP and MDIFW to ensure that all appropriate protections for rare plant species are incorporated into the final project design.

## 7.5 Rare, Threatened, and Endangered Wildlife Species

### 7.5.1 Existing Resources

Several rare species of wildlife may inhabit the project area. The project area is mountainous, with relatively high elevations. The climate in this area is considerably cooler than most of the state. These are two factors that contribute to habitat that is conducive to harboring several species that are at the southern edge of their range or are habitat specialists. These species include:

- Golden eagle (*Aquila chrysaetos*);
- Bald eagle (*Haliaeetus leucocephalus*);
- Peregrine falcon (*Falco peregrinus*);
- Bicknell's thrush (*Catharus bicknelli*);
- Canada lynx (*Lynx canadensis*);
- Rock shrew (*Sorex dispar*);
- Yellow-nosed (Rock) vole (*Mictrous chrotorrhinus*); and
- Northern bog lemming (*Synaptomis borealis*).

Through consultation with MDIFW and USFWS, surveys have been undertaken by TransCanada to provide additional information to the agencies on Canada lynx, rare raptors, rare small mammal habitat, and Bicknell's thrush in the project area. These studies have also been useful for project design and layout. A summary of these studies, with the exception of the Bicknell's thrush surveys (which are discussed in Section 7.5.3.5), follows.

#### 7.5.1.1 Canada Lynx

Initial correspondence with USFWS, dated August 30, 2005 (Appendix 7-D), identified the potential for the presence of Canada lynx (*Lynx canadensis*), a federally threatened species, within the project area. Canada lynx are medium-sized, elusive cats common to boreal forests throughout Canada and Alaska. The southern portion of their range extends into some areas of the northern United States, with known populations in Montana, Washington, Maine and possibly Minnesota. Populations in Maine have been historically variable, and are largely dependant on suitable habitat and associated snowshoe hare populations (which comprise their primary prey). Ideal habitat for lynx in Maine consists of softwood dominated or mixed regenerating forests, about 10-30 years in progress (MDIFW 2003).

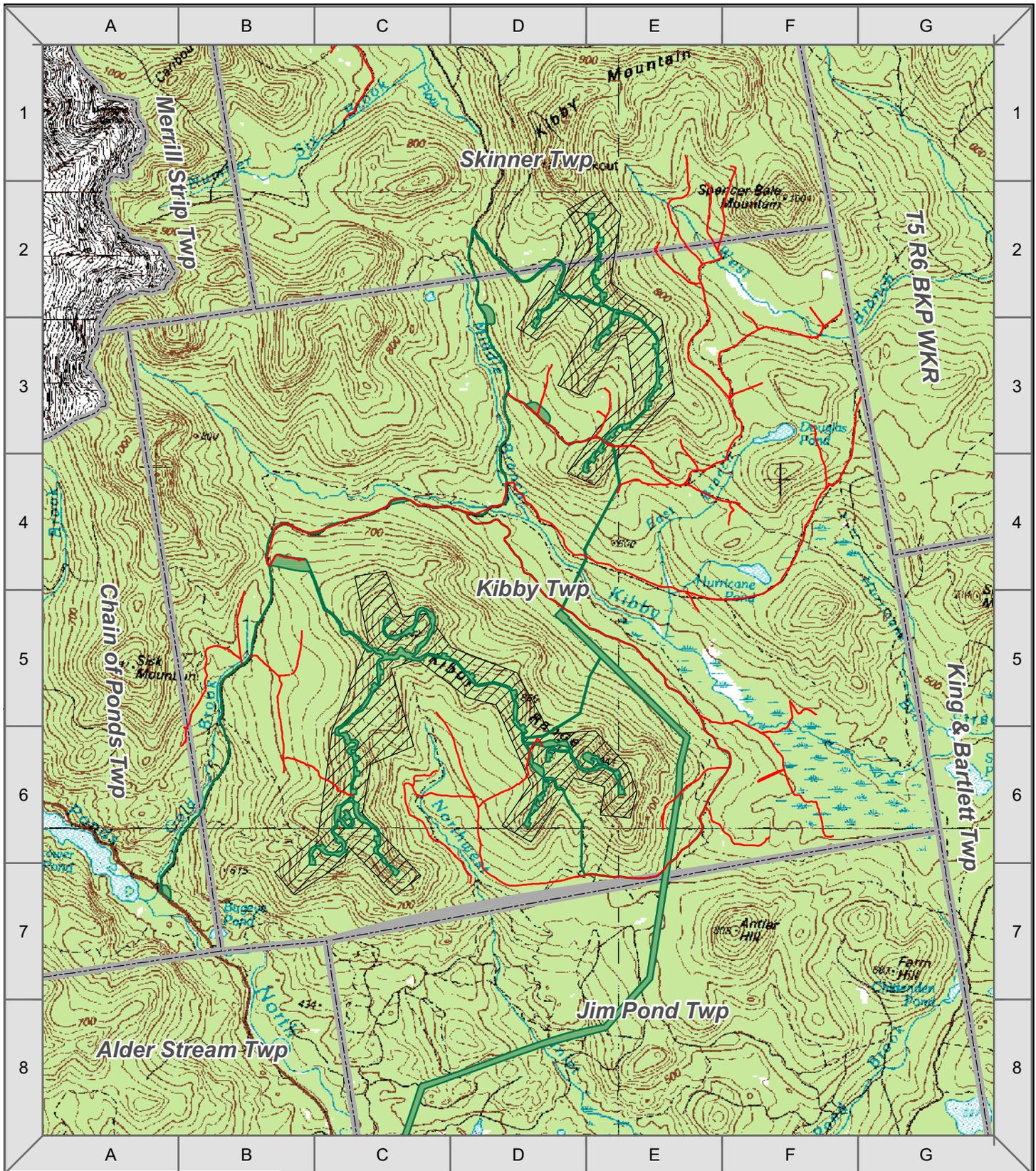
In 2000, the USFWS declared Canada lynx a threatened species under the Endangered Species Act (ESA). In Maine, the lynx is considered a Species of Special Concern by the MDIFW. Several studies have been conducted, or are underway, to assess the abundance and distribution of lynx in Maine. This effort includes radio-telemetry studies, and a multi-year winter snow track survey initiated by MDIFW in 1999 and 2003, respectively (Ray et al. 2002).

The USFWS proposed to include a large portion of the state of Maine as critical habitat for Canada lynx. This area included the northerly portion of the Kibby Wind Power Project area (Skinner Township). At this time, the USFWS has opted not to include Maine within the critical habitat area (50 CFR Part 17). Nevertheless, much of the project area occupies an area that ranks as having a high probability of harboring Canada lynx (personal communication with Wally Jakubus, MDIFW, December 15, 2005). For these reasons, the USFWS recommended that TransCanada perform presence/absence surveys for this species in the project vicinity during the winter of 2005-2006. MDIFW provided training for participants in these surveys in order to ensure optimal consistency with state-wide survey efforts.

Methods for winter 2005-2006 Canada lynx surveys in the vicinity of the Kibby Wind Power Project were based directly upon an unpublished MDIFW protocol as provided by Ms. Jennifer Vashon, lynx biologist for the MDIFW, and discussions with USFWS and MDIFW. As requested by USFWS and MDIFW, agency personnel participated in the surveys when schedules permitted.

These track surveys were conducted on all suitable existing logging roads within the general project vicinity in Kibby and Skinner townships. Roads were selected based on lack of winter use (e.g., roads that were not plowed or traversed by motorized vehicles were favored). Due to the nature of the project area, site selection was somewhat limited to available roads or trails. Therefore, some plowed roads were included in the survey in order to reach the total survey length per township recommend by the MDIFW protocol. Based on the MDIFW protocol each survey was to be performed no sooner than 24 hours after a snow event, and ideally could continue up to 48 hours following such an event. If, after a snow event, there was a wind strong enough to cover tracks, surveys were not started until 24 hours after the wind event had ended. Both the MDIFW protocol and the USFWS noted that, for the purposes of this survey, it would be acceptable to perform surveys up to 72 hours after a snowfall or wind event. Each survey was conducted by observers using snowmobiles. Generally, the observers worked separately to cover a total of 35 to 50 miles (56 to 80 km) of roads per township, per survey. Surveys were performed by driving snowmobiles slowly along roadways, while constantly visually sweeping for evidence of tracks. For plowed roads, a truck was used in some instances. Each road that was surveyed was also mapped using GPS while performing the survey. Plowed and unplowed roads were differentiated during data collection and mapping (see Figures 7-14 and 7-15).

General tracking conditions and weather data were recorded for each survey date. Numerous parameters were required to be recorded for each lynx track discovered, consistent with MDIFW protocol. These include GPS point data, track measurement, direction of travel, number of lynx (solitary versus group), track quality, photographs, behavioral data, deoxyribonucleic acid (DNA) samples (whenever possible), and habitat data. All data were collected as is described by MDIFW protocol.



**Legend**

- Surveyed Roads
- Kibby Wind Project Area
- Area to be Rezoned
- Municipal Boundary

**Notes:** Base Map: 100k USGS Topographic Map



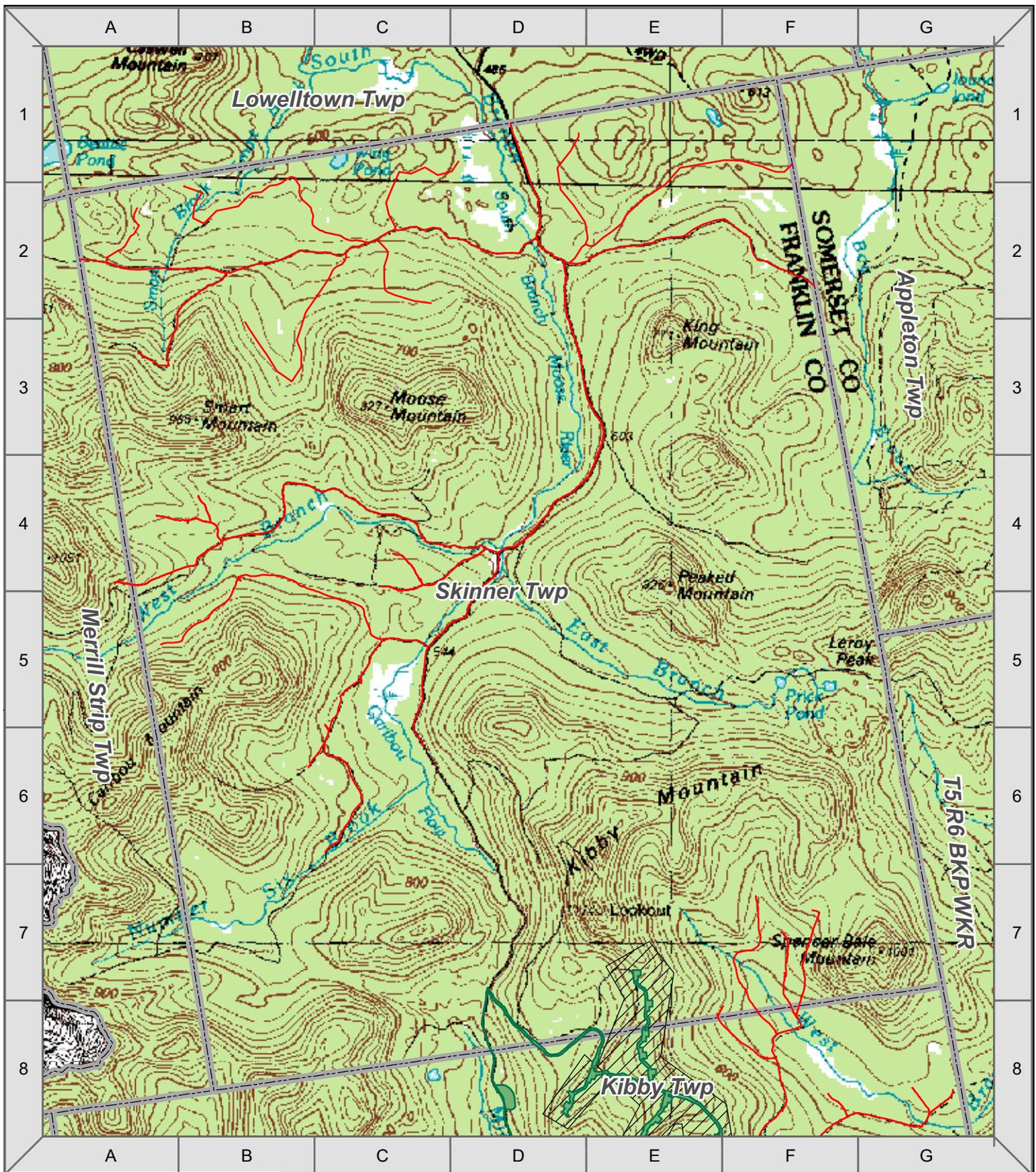
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Figure 7-14

**Kibby Wind Power Project**

*Kibby Township:  
Track Survey Roads*



**Legend**

- Surveyed Roads
- Kibby Wind Project Area
- Area to be Rezoned
- Municipal Boundary

**Notes:** Base Map: 100K USGS Topographic Map



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Meters

Figure 7-15  
**Kibby Wind Power Project**  
*Skinner Township:*  
*Track Survey Roads*

Two complete surveys were completed in Kibby Township, February 16, 2006, and March 24, 2006. No evidence of Canada lynx were observed during either survey. No fisher tracks were observed during either of these surveys. Evidence of several other furbearers including coyote, fox, marten, weasel, and raccoon was observed; all were fairly common with the exception of raccoon, which was observed only once, on February 16, 2006. The tracks of non-furbearers, such as snowshoe hare and moose, were also frequently observed. No bobcat or large canid tracks were observed during these surveys. During other activities in Kibby Township in December 2006, bobcat tracks were observed on Spencer Bale Road, near Kibby Mountain (Figure 7-16).

One complete and one partial survey were performed in Skinner Township, on March 8, 2006, and March 25, 2006, respectively. No evidence of Canada lynx was observed in Skinner Township during either survey event. Several fisher track intercepts were observed and recorded in Skinner Township (see Figure 7-17). Evidence of several other furbearers, including coyote, fox, weasel, marten, raccoon and otter was also observed in Skinner Township. Most were common, with the exception of otter and raccoon, which were each identified only once. The tracks of non-furbearers, such as snowshoe hare and moose, were also frequently observed. No bobcat or large canid tracks were observed.

TransCanada has prepared a report regarding the Canada lynx survey that has been reviewed by USFWS and MDIFW (see Appendix 7-E). TransCanada plans to conduct additional surveys during the upcoming winter to supplement the results of the prior surveys, however, it is not anticipated that the project area is a significant habitat for the Canada lynx.

#### **7.5.1.2 Rare, Threatened and Endangered Raptors**

Bald eagles (*Haliaeetus leucocephalus*), golden eagles (*Aquila chrysaetos*), and peregrine falcons (*Falco peregrinus*) each are protected under federal and/or state law in Maine.

The bald eagle is currently federally listed as “threatened” under the ESA, 16 USC § 460 et seq., and state-listed as “threatened” under the Maine Endangered Species Act (Maine ESA), 12 MRSA Ch. 713 subchapter 5, which is administered by MDIFW. In addition to the regulatory protections of listing status, the eagles and their nests are also protected by the Bald and Golden Eagle Protection Act, 16 USC §§ 668-668d. The designation of “Essential Habitat” through the provisions of the Maine Endangered Species Act is the legislation that defines their Essential Habitat in Maine. Specifically, the protection of this habitat is also pursuant to state law, as significant wildlife habitat (e.g., Essential Habitat) in Maine is protected under NRPA, 38 MRSA § 480-A, et seq.

The golden eagle is not federally listed but is state-listed as “endangered” under the Maine ESA. In addition to the regulatory protections of listing status, the eagles and their nests are also protected by the Bald and Golden Eagle Protection Act, 16 USC §§ 668-668d.



**Figure 7-16: Photograph of Bobcat Tracks**



**Figure 7-17: Photograph of Fisher Tracks**

The peregrine falcon is no longer listed under the federal ESA, as they were removed from the federal list in 1999. The breeding population found in Maine remains listed as endangered on the Maine ESA list. Peregrine falcons nest on cliffs, often near large waterbodies. The nests themselves are typically on ledges that are inaccessible to mammalian predators and are protected against the elements (MDIFW 2003).

Correspondence with the USFWS (Appendix 7-D) identified the potential presence of occasional transient bald eagles in the project area, although as noted above, there is no Essential Habitat for bald eagles located in the project area. Breeding bald eagles are present in northwestern Maine, and there are known recent nest sites on nearby Flagstaff and Spencer Lakes. Although the project area is possibly within these nesting eagles' home range, they typically focus their time around larger waterbodies and it is unlikely they would frequent the ridges within the project area (personal communication with Charlie Todd, MDIFW).

Currently, there are no known active golden eagle nests in Maine, though there are known historical sites. These sites are found in the mountainous western and northwestern part of the state, and include nests in both cliff and tree sites (MDIFW 2003). As these sites are no longer occupied by golden eagles, MDIFW has not designated Essential Habitat for golden eagles. MDIFW policy is to protect these historical sites by cooperative, voluntary agreements with land owners. Therefore, any project that has the potential to affect these historical sites is of interest to MDIFW, and prior to development or timber harvest in these areas, MDIFW biologists should be consulted (MDIFW 2003). In addition, historical nest site locations should be investigated and documented for inactivity.

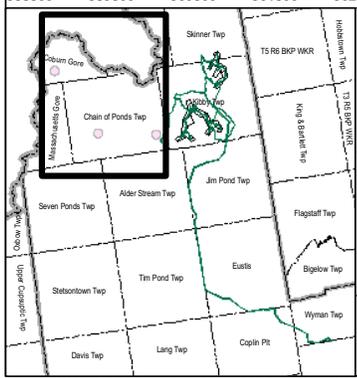
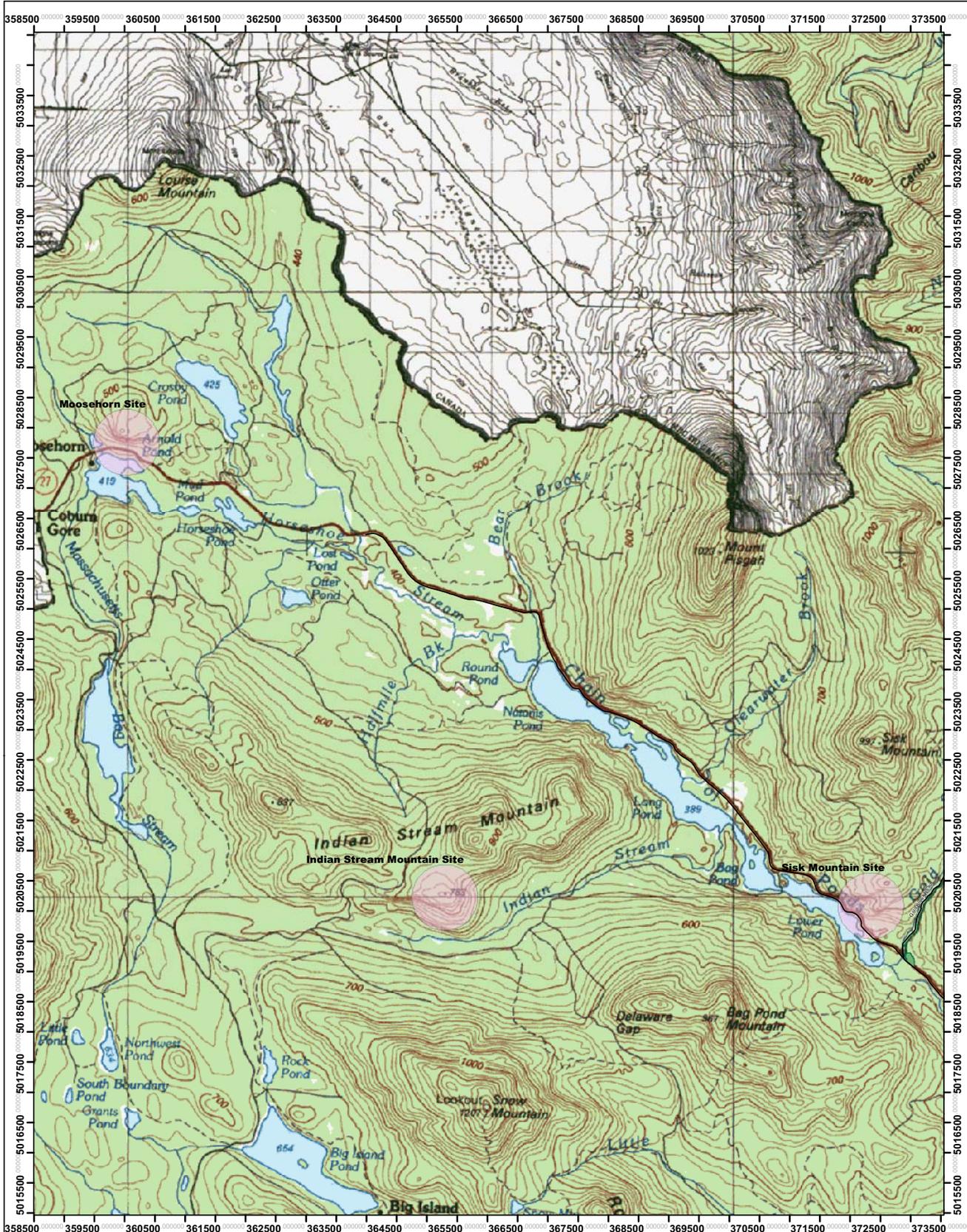
Currently, the nesting population of peregrine falcons in Maine is low and widely scattered in various cliff locations around the state. Peregrine falcons have nested on at least two cliff sites in northwestern Maine; however, these sites are greater than 10 miles (16 km) from the project location. The historic golden eagle cliff sites are considered generally suitable for peregrine falcon nesting, though the birds have not been documented using the three historic golden eagle sites that are close to the project area. Essential Habitat has not been designated for peregrine falcons in Maine. MDIFW policy is to protect nest sites by cooperative, voluntary agreements with land owners, as well as conservation easements, conservation tax abatements and incentives, and acquisition to protect important habitats. Therefore, land development projects that have the potential to affect these nest sites should undertake consultation with MDIFW biologists to assist with project planning (MDIFW 2003).

In 1992 and 1993, in preparation for the LURC application for its former wind power project, Kenetech performed surveys to document summer use by raptors by surveying logged areas, overlooks with good visibility, and cliff faces within or near the project area. No rare, threatened and endangered (RTE) raptors were observed during these surveys, or incidentally during other summer survey work. Kenetech also conducted raptor migration surveys in the Kibby Wind Power Project vicinity. Their work consisted of day-long surveillance during peak migration and identified numbers and species of raptors crossing the project area. The goals were to identify raptor species' relative abundance, composition, and flight characteristics (flight height,

direction, and consistency of use) in the project area. During the course of these studies, two golden eagles (paired) and one bald eagle were observed in the project area in September 1993 (NEWES 1993; U.S. Windpower 1994). Based on data from MDIFW and USFWS, at the time of Kenetech's studies there was no evidence of any active or historic nest sites for golden or bald eagles in Kibby, Skinner, or Merrill Strip Townships. Also during the course of field work, Kenetech determined that there were no suitable nesting sites for golden eagles in the project area: exposed cliffs were not prevalent in the area, and foraging opportunities were below average. They also noted that the physical characteristics of historic nest sites were very different from potential habitat found in those townships where the project was proposed.

In consideration of the status and historic presence of golden eagles in the northwestern part of Maine, TransCanada undertook a preliminary reconnaissance of the project area in April 2005 as part of the project feasibility due diligence assessment. This reconnaissance was also considered useful for refining study protocol recommendations for discussion with MDIFW. Based on location information included in the Kenetech project files, TransCanada's consultants noted that three historical golden eagle nest sites had been identified, but were no longer active by the inception of the Kenetech studies. They are located at Sisk Mountain in Chain of Ponds Township, Indian Stream Mountain in Chain of Ponds Township, and at Moosehorn in Coburn Gore (see Figures 7-18, 7-19, 7-20 and 7-21). The closest of these sites is the Sisk Mountain site, about 2 miles (3.2 km) from the project area. These three sites were observed in April 2005. Each of the sites was scanned multiple times, using binoculars and spotting scopes, over the course of 5 to 6 hours. No stick nests were visible at any of these sites, and no eagles were observed. Ravens, however, were observed to spend a significant amount of time at two of the sites. Presence of ravens is considered a strong indication that golden eagles are not present at a given location (Mark McCollough, USFWS, personal communication, February 23, 2006; Tom Hodgman, MDIFW, personal communication, February 23, 2006). Golden eagles have been known to displace ravens in other areas as well (Marquiss et al. 1978).

During fall 2005 daytime migration surveys, three bald eagles were observed in the project area by TransCanada's consultants. Bald eagles have not been observed by TransCanada's consultants in the project area during the breeding season. Two golden eagles were observed in the project area during fall 2005 daytime migration surveys. Golden eagles have not been observed in the project area during the breeding season. TransCanada's consultants also observed three peregrine falcons passing through the project area during fall 2005 daytime migration surveys. Peregrine falcons have not been observed in the project area during the breeding season.



**Legend**

- Road
- Historic Golden Eagle Site
- Kibby Wind Power Project Area

**Notes:** Base map: USGS 100k Topographic Map.  
 Coordinate Grid: NAD83 UTM Zone 19N, Meters

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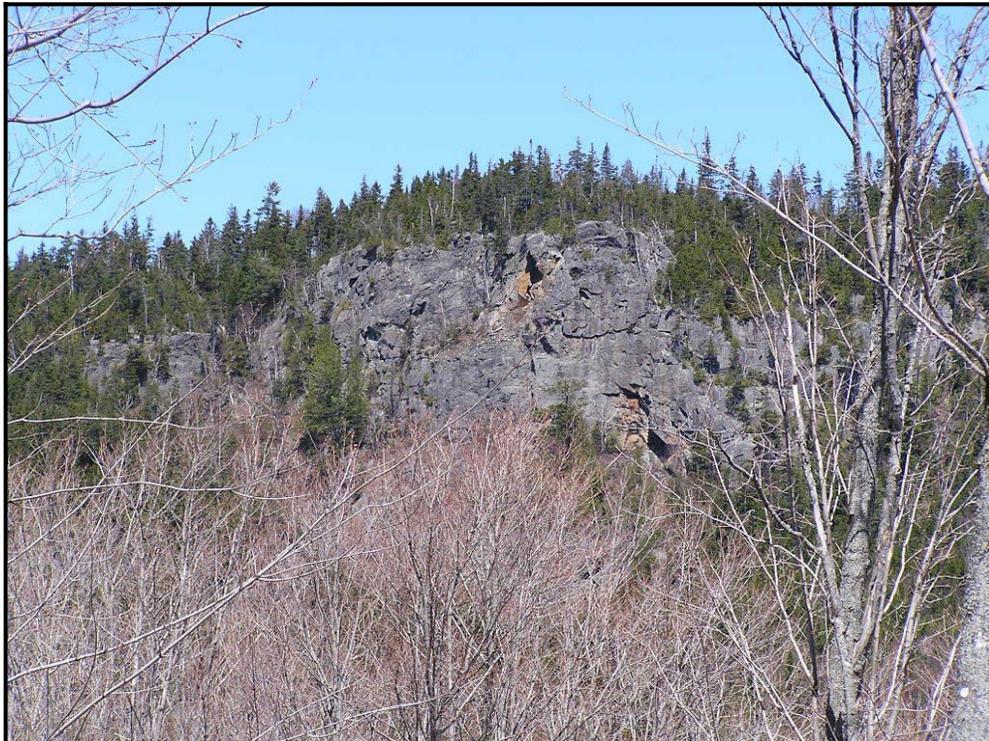
Figure 7-18

**Kibby Wind Power Project**

*Historic Golden Eagle Sites*



**Figure 7-19: Photograph of Sisk Mountain Site**



**Figure 7-20: Photograph of Indian Stream Mountain Site**



**Figure 7-21: Photograph of Moosehorn Site**

A summary of RTE raptor observations is provided in Table 7-2.

**Table 7-2: Summary of Rare, Threatened, and Endangered Raptor Species – Observations in the Project Area**

Species	Parameter	Year			
		1992	1993	2005	2006
Bald Eagle	Number	-	1	3	-
	Location	-	Unknown location	Skinner Twp.	-
	Survey Type	-	Fall migration survey	Fall migration survey	-
	Age	-	Unknown	2 adult, 1 juvenile	-
Golden Eagle	Number	-	2	2	-
	Location	-	Kibby Twp.	Skinner Twp.	-
	Survey Type	-	Incidental observation in fall	Fall migration survey	-
	Age	-	2 adults	1 adult, 1 juvenile	-
Peregrine Falcon	Number	1	3	3	-
	Location	unknown	Unknown location	Skinner Twp.	-
	Survey Type	fall migration survey	Fall migration survey	Fall migration survey	-
	Age	-	-	2 juvenile, 1 unknown	-

Subsequent to the preliminary spring 2005 observations and fall 2005 migration surveys, TransCanada’s consultants conducted bald eagle, golden eagle and peregrine falcon nest surveys during 2006 to monitor the project area and surrounding vicinity for nesting activity. Study objectives for 2006 included:

- Confirming the presence or absence of bald eagle nesting activity at any known nest sites or suitable habitat within roughly a 10 mile (16 km) radius of the project area;
- Survey the proposed transmission corridor for potential bald eagle nesting activity;
- Confirming the presence or absence of golden eagle nesting activity at any known historic nest sites within roughly a 10 mile (16 km) radius of the project area;
- Confirming the presence or absence of peregrine falcon nesting activity at suitable habitat within roughly a 10 mile (16 km) radius of the project area;

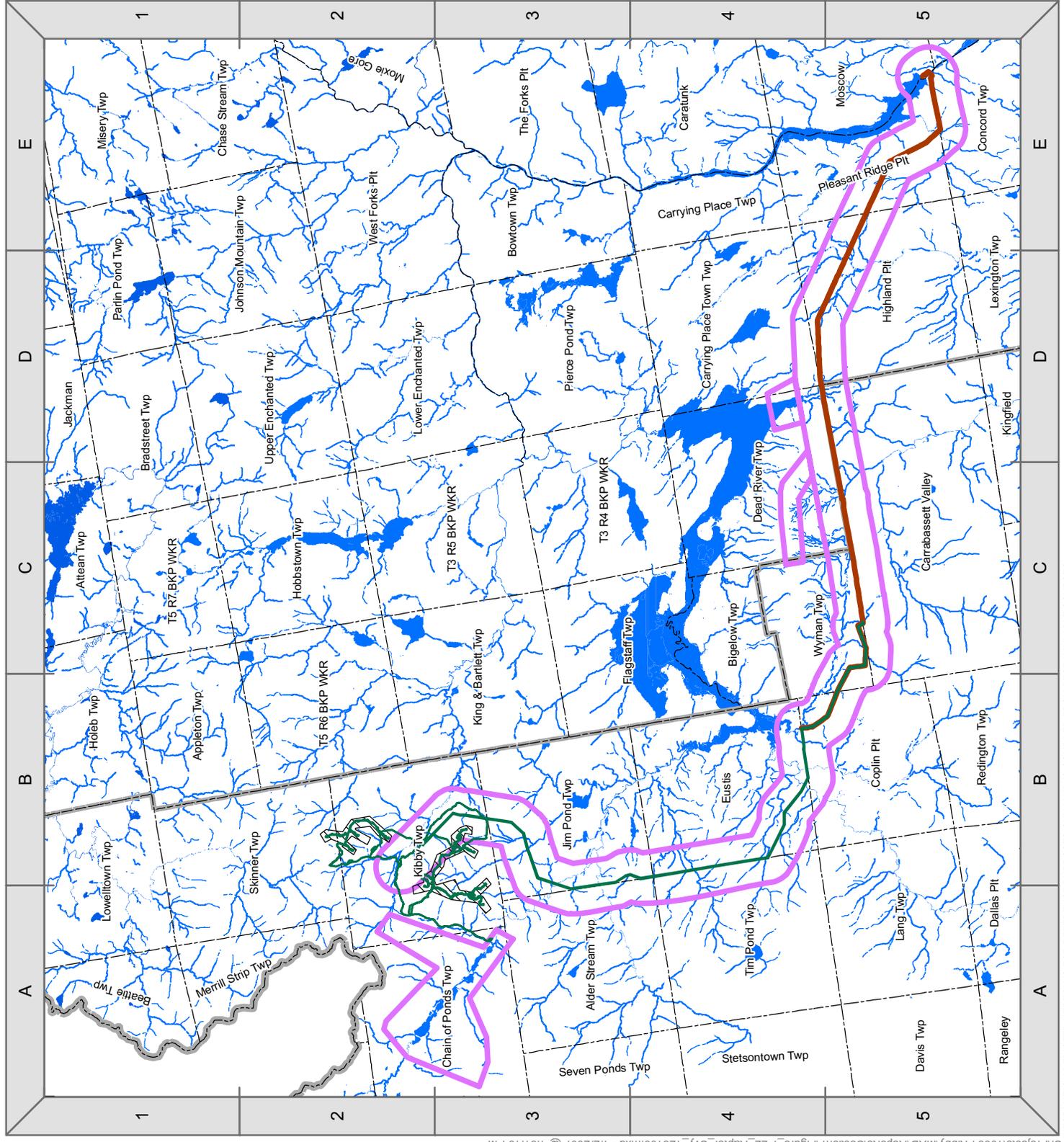
- Monitoring the Kibby Wind Power Project vicinity through incidental observations during other field surveys for bald eagle, golden eagle, or peregrine falcon activity that may indicate nesting at previously undocumented sites; and
- Mapping historic and current (if found) bald eagle, golden eagle, or peregrine nest site locations within the project vicinity.

Survey protocols were developed in consultation with both state and federal resource agency biologists. Data available from MDIFW were incorporated into survey mapping. The survey included general ground-based visual surveys for breeding eagles and falcons during April and May 2006, concurrent with daytime migration surveys, during which biologists watched for and documented eagle and falcon behavior indicative of nesting activities. Such behaviors include observation of paired birds, habitual observations in the same general area, observation of eagles or falcons flying with food items, and observed territorial interactions with other birds. No RTE raptors were observed during this survey. Another ground-based survey focused on observing three known historic golden eagle nest sites during April 2006. Though peregrine falcons have not been documented at these sites, these cliff sites are generally suitable habitat for falcon nesting. No golden eagle or peregrine falcon nesting was observed at these sites. In addition to the ground-based surveys, an aerial bald eagle nest survey was conducted using a helicopter, flying as low and slow as safety and practicality allowed. The aerial survey was conducted prior to leaf-on conditions, and corresponding to the period typically used by MDIFW for surveying Maine nesting pairs of bald eagles. The area surveyed included the Dead River from Chain of Ponds to the North Branch of the Dead River (Flagstaff Lake), waterbodies in close proximity to that portion of the Dead River (such as Jim Pond and Tea Pond), and the proposed transmission line route (see Figure 7-22).

The survey activities resulted in the following findings:

- No nesting of golden eagles or peregrine falcons was noted during the survey. One bald eagle nest was observed well outside of any project-related potential work area, over 20 miles (32 km) east of Bigelow Substation.
- During Spring 2006 migration surveys and 2006 breeding bird surveys, no bald eagles, golden eagles, or peregrine falcons were observed. Incidental observations continued throughout other project field efforts.
- Historic nest sites are known and were mapped in order to aid the survey efforts. One new bald eagle nest site was observed during the course of the raptor nesting surveys; however, this nest was over 20 miles (32 km) from the project area. The location coordinates of this nest have been shared with MDIFW.

The survey report can be found in Appendix 7-F.



- Legend**
- Kibby Wind Project Area
  - Area to be Rezoned
  - Existing Electrical Transmission Line
  - Survey Area
  - State Boundary
  - County Boundary
  - Town Boundary



Figure 7-22  
**Kibby Wind Power Project**  
**Aerial Raptor Survey**

**Notes:** Base Map: Municipal Boundary courtesy of MEOGIS

INFORMATION DEPICTED HEREON IS FOR REFERENCE PURPOSES ONLY AND IS COMPILED FROM BEST AVAILABLE SOURCES. TRC ASSUMES NO RESPONSIBILITY FOR ERRORS ARISING FROM MISUSE OF THIS MAP.

### **7.5.1.3 Rare, Threatened and Endangered (RTE) Small Mammals**

Consultation with MDIFW and USFWS (Appendix 7-B and 7-D) identified two recent occurrences of rock voles (also known as the yellow-nosed vole), a state special concern species, in two different locations on the side slopes of Kibby Range (see Figure 7-23). This species is typically found in areas with rocky outcrops and/or talus slopes. In addition, discussions with agency staff indicate the potential presence of habitat in the project vicinity for the northern bog lemming, a state-listed threatened species, and rock shrew, a state special concern species. Due to the sensitivity of these species to trapping activities, a determination was made, in consultation with the resource agencies, to conduct field surveys for habitat rather than trapping individuals. Where appropriate high-quality habitat is identified, TransCanada will work to avoid impacts to such habitat, thereby avoiding potential impacts to the species. Habitat surveys were conducted during the spring, summer and fall of 2006.

In determining the potential presence of appropriate field conditions for each species, the following characteristics were considered:

- Rock vole – talus slopes, rocky outcrops, and boulder strewn areas of coniferous, deciduous, and mixed deciduous-coniferous forests near flowing or subsurface water.
- Northern bog lemming – wet meadows or boggy areas with deep sphagnum, sedges, and grasses in spruce-fir forest.
- Rock shrew – wet, moss-covered rocks or boulders along streams, among talus; rock slides; in deciduous, coniferous, and mixed forests.

In addition to focused habitat surveys, field personnel were responsible for noting specific areas of such habitat within the proposed work areas associated with the project during the course of detailed surveys of the entire project area for vernal pools, wetlands and during other activities.

Based upon the surveys completed, no characteristic habitat areas for the yellow-nosed vole or rock shrew were noted within the proposed project work areas. A wetland complex on Kibby Range was identified with habitat characteristics suitable for northern bog lemming (shown in Figure 7-24). Once identified, additional field efforts were undertaken to define accurately the boundaries of the habitat area and to visit the site with MDIFW staff. In conjunction with MDIFW staff, focused reconnaissance of the area confirmed the potential for northern bog lemmings to occur in the area, through observations of small mammal runways and bright green feces in suitable northern bog lemming habitat (Figures 7-25, 7-26 and 7-27).

The northern bog lemming is widely distributed across northern North America from Alaska to Labrador and south to Washington and Maine. In Maine, it has been identified at five locations. Most of these are at elevations greater than 2,000 feet (610 m). Their preferred habitat is