TERRESTRIAL WILDLIFE 2011 MONITORING REPORT OF THE SLATE LAKES BASIN KENSINGTON GOLD MINE

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1.0 Introduction

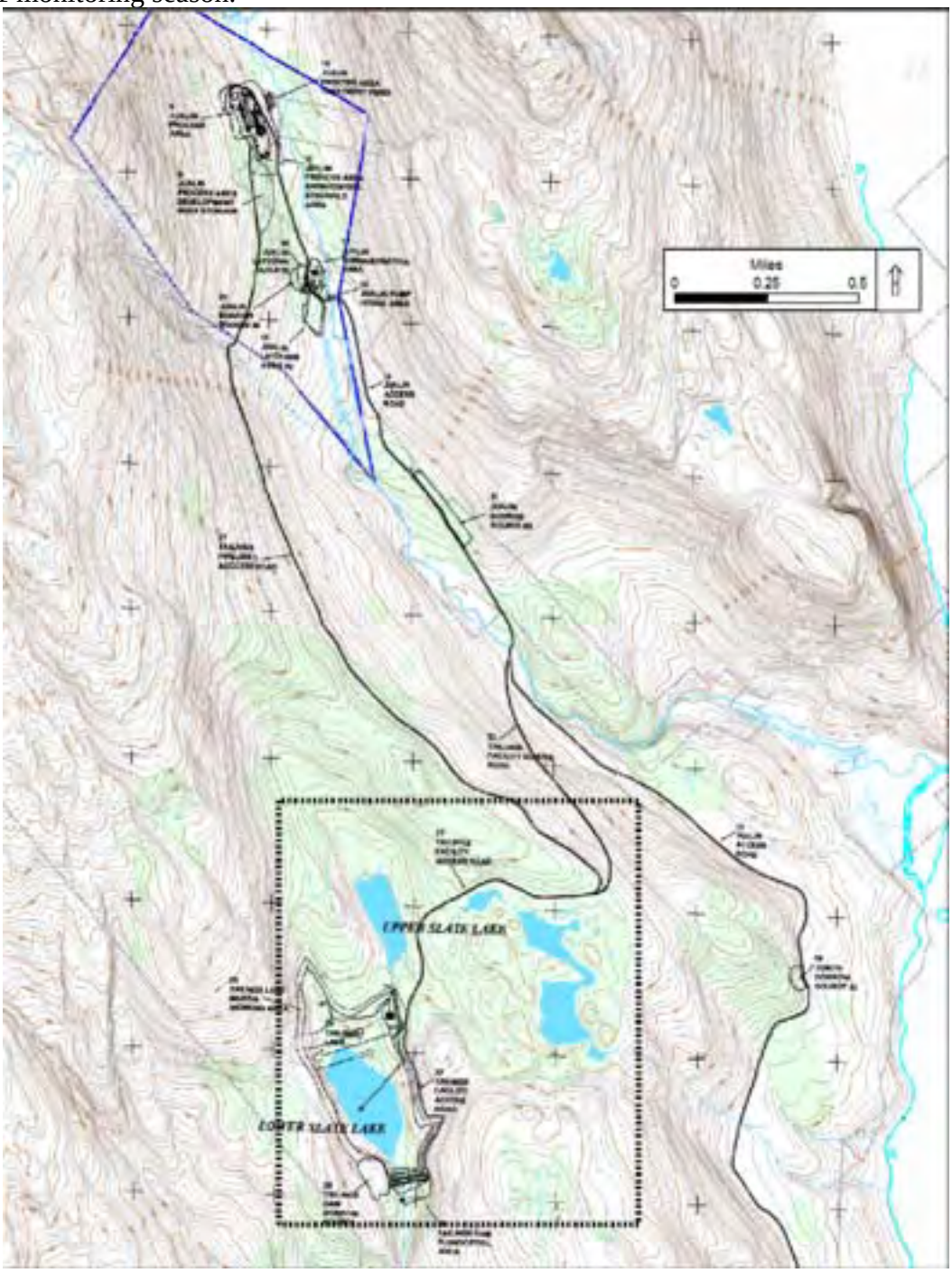
This report describes the 2011 wildlife monitoring season (June-September) in accordance with the Kensington Project Terrestrial Wildlife Monitoring Plan. Coeur Alaska and resource agencies designed this plan to monitor wildlife resources in the Slate Lakes basin. Monitoring recorded the effectiveness of mitigation during mine operations that encourages use by local wildlife.

The Kensington Gold Project Final Supplemental Environmental Impact Statement (FSEIS) (USFS 2004) documented the occurrence of wildlife species in the Slate Lakes basin prior to construction activity. Coeur Alaska conducted a baseline survey in 2005 (Living System Designs 2005). Management indicator species in the Berners Bay area include black and brown bear, Sitka black-tailed deer, Alexander Archipelago wolf, Bald eagle, red squirrel, river otter, marten, red-breasted sapsucker, brown creeper, and Vancouver Canada goose.

Sightings of wildlife or their sign within the Slate Lakes basin include moose, black bear, Canada geese, ducks, red squirrels, porcupine, river otter, old beaver cuttings, Bald eagles, boreal toads, and various mustelid species. A lack of prey, including Sitka black-tailed deer, in the Slate Lakes area is suspected to be caused by wolves.

Coeur Alaska monitored wildlife in 2006 and 2007 during the first phase of construction. There was no construction activity during 2008 and no wildlife monitoring was conducted during this period. Wildlife monitoring was resumed in early September 2009 at the start-up of constructing the Tailings Treatment Facility (TTF) and continued through 2010 summer season.

Figure 1: Slate Lakes Basin in relation to access roads and tailings facility. The access road to the tailings facility was constructed in 2006. The tailings dam was constructed between August 2009 and August 2010. The tailings facility was actively in use during the 2011 monitoring season.



1.1 Wildlife Monitoring Objectives

The objectives of the Kensington Project Wildlife Monitoring Plan are to:

- Supplement the regional resource knowledge base with site-specific data.
- Gather new information on specific wildlife habitats and species that could be affected by increased activity at the project site with specific attention to sensitive species.
- Identify concentrations of wildlife near specific resources (e.g., stream mouth marshes, anadromous streams, lakes, wetlands, bird nesting/feeding areas, large mammal crossing areas, etc.).
- Conduct wildlife observations along an established route surrounding the Slate Lakes basin on a frequent basis from spring through fall and intermittently through the remainder of the year.
- Collect data and other information that can be used to shape the subsequent year's studies and long-term monitoring.

Figure 2: The Slate Lakes Basin in 2005, prior to construction of the access road and the Lower Slate Lake TTF.

2.0 Survey Area

The wildlife monitoring survey area lies within the confines of the Slate Lake basin, an area of approximately two square kilometers, ranging in elevation from 200 meters at the mouth of Lower Slate Lake to 300 meters on the ridge to the west of Lower Slate Lake (Figure 1). Water bodies within the basin include Lower and Upper Slate Lakes to the west and the Spectacle Lakes complex to the east. Both Lower and Upper Slate Lake have steep western slopes, but much of the remaining area around Upper Slate Lake is flat with a mild slope to the east. The area around Spectacle Lake is also fairly flat. There is drainage from the southeast corner of Spectacle Lake into Berners Bay, while Fat Rat Lake drains into Upper Slate Lake (Figure 2). Upper Slate Lake drains to Lower Slate Lake via Mid-Lake Slate Creek and Lower Slate Lake drains to East Fork Slate Creek.

Prior to construction, terrestrial vegetation types around Upper and Lower Slate Lakes were fairly similar and included mixed spruce and hemlock forest to the west of both lakes and to the southeast of Lower Slate Lake. The north and east shores of both lakes were characterized by wetlands containing sedge meadow and scrub muskeg. The periphery timber of Lower Slate Lake was clear-cut by September 2005 and the TTF access road along the north of Spectacle Lakes was constructed by August 2006. The immediate vicinity of Upper Slate Lake has not been impacted by the project. The vegetation around the Spectacle Lake complex included sphagnum bogs and sedge fens with brushy, scrub forest in elevated areas. All of the lakes contained various species of aquatic vegetation, though not in high volume (Living System Designs 2005). Spectacle Lake contained the greatest concentration of aquatic vegetation, mainly in three sloughs and in Fat Rat Lake.

3.0 Methods

Kate Savage, who conducted wildlife monitoring in 2006, 2007, and 2010 established the transects that were used in all surveys. Ms. Savage relabeled these transects during the 2010 field season. These same transects were utilized in 2011 and were remarked and labeled as needed. There were 21 transects around the basin. Each was 50 meters long and ran in a north-south direction (Figure 1, Appendix A). The transects provided a systematic method for recording wildlife sign throughout the year. The north and south ends of each transect were marked with long stakes with survey flagging and GPS coordinates. GPS coordinates for each transect are located in Appendix B.

Field technicians visited each transect two to three times a month during 2011 when the area was free from snow. The following methodology was followed during each survey. Coeur Alaska wildlife technicians located the north stake of a transect and strung a 50 meter measuring tape to reach the south stake. Trained field technicians then walk the length of the tape examining the ground within one meter either side of it. Signs such as tracks, scat, or digging were recorded along with their position along the tape to the nearest 0.1 meter and whether they lay on the east or west side of the transect. In this way, the precise location of wildlife sign was recorded so that fresh wildlife sign could be

more easily separated from older, previously recorded sign. Three motion-sensor cameras (Bushnell Trail Sentry, Model 11-9300) were also placed in areas where wildlife utilization or travel appeared especially high (heavily used trails) to provide information on the number of individuals using an area (Figure 1, Appendix A).

Figure 3: Spectacle Lake basin with access road to the Tailings Facility 2010.

Scans with binoculars were also made from established locations to detect the presence of wildlife from a far. This method was most effective for observing waterfowl on the lakes. Lower Slate Lake was easily visible from almost any aspect and was observed on route to Transect 21 accessed by walked around the south end of the Tailings Treatment Facility. Upper Slate Lake scans for waterfowl were made from both the southern meadow and the northeastern muskeg. Viewing locations were optimum in the Spectacle Lakes area from the western edge of Lower Spectacle Lake, the southern tip of lower Spectacle Lake, which also afforded a good view of the adjacent southern slough, and the northern tip of upper Spectacle Lake.

Trained technicians under the guidance of a field biologist collected data on wildlife sign along transects to ensure that observations and data collection were as standardized and unbiased as possible. Other information collected included weather conditions and visibility and any human activity in the area. Tracks and other sign were identified using field guides including Elbroch (2003), Murie and Elbroch (2005), National Geographic

Society (1987). Species of special interest included herons, waterfowl such as Vancouver Canada Geese, and raptors such as eagles and goshawks. No special surveys to detect the presence of goshawks using standard broadcast methods were conducted in 2011.

4.0 Survey Results

Field technicians determined the presence of wildlife within the Slate Lakes basin through actual sightings, motion-sensor camera photography, and identification of signs (tracks and scat). Data collected during surveys included direct observations of wildlife species with photographs when possible, the time of day, location, and behavior. Appendix C data sheets for the 2011 season.

Images were also collected from the three motion-sensor cameras set up around the survey area. All three cameras displayed technical problems in at various times throughout the season. Additionally, due to new personnel conducting the monitoring program, camera installations were altered slightly from previous years. Many images were stored on an office computer at the Kensington site. Unfortunately this computer crashed resulting in the loss of these photographs. As a result, few images were captured during the 2011 season. The cameras were removed from the field at the end of October to avoid problems with freezing. Images captured on camera are shown in Appendix E. Images were studied in attempt to identify the same animals appearing on more than one occasion.

Wildlife signs recorded included perennial sign such as well used game trails, dens or middens, scratching posts and stripped bark as well as ephemeral sign such as tracks, scat, browsing or digs. A complete photo log of all monitoring photos during the 2011 season is located in Appendix D Tables 1 through Table 4 summarize wildlife sign by the main species present in the Slate Lakes Basin (bear, moose, goose).

4.1 Mammals

Indications of bear activity included tracks, scats and “digs”, which were most prevalent from August to the end of September (Table 2). The greatest amount of bear sign was noted at transects T8 and T14, on the west side of Spectacle Lake and at T16 and T17 which are located on the east side of Spectacle Lake (Figure 1, Appendix A). There were fewer indications of bear activity at transects closer to Upper and Lower Slate Lakes. Bear activity appears in high concentrations at those transects located adjacent to the TTF Accesss Road. It is possible that bears frequently use this corridor for travel.

There were several sightings of black bear around the Spectacle Lake basin between late May and late October 2011. It can be difficult to recognize the same animal and mine personnel are frequently unable to identify specific, identifying features of an animal, but size and coloring helped to identify what was thought to be no less than four different bears in the Spectacle Lake basin.

Moose indices included tracks, scat, browse, and bedding sites were present in all transects, with the greatest concentration found at transects T7 and T8, on the west side of Spectacle Lake, T10 on the east of Spectacle Lake and T18 and T20 towards Upper Slate Lake (Figure 1, Appendix A). Moose sign data is shown in Table 3. The concentrations of moose at these transects is consistent with the data obtained in 2010. The primary areas utilized by the moose remain largely unchanged from previous years. Moose tracks can form deep depressions in soft, wet ground that persist for month to years. A single moose can also leave a large number of signs by simply walking parallel with a transect. These factors were taken into consideration when making any conclusions about levels of activity over time.

Due to the limited number of motion sensor camera images captured, no major comparison of animals present in the images could be made nor could any analysis of mammal movement patterns be conducted. In the images, a total of two moose were observed. Both images were captured near T8 and the old beaver dam during daylight hours. The first image captured the hindquarters of an adult moose as it had passed the camera. The gender of the moose could not be determined based on the photograph. The second image shows the rack of a large bull moose in the brush.

4.2 Avian Species

The avian species identified through direct sightings or indirectly through songs or calls included both resident and migratory wading birds, non-passerine land birds, passerines and species of special interest, which include waterfowl, raptors and herons. Waterfowl were noted only on Spectacle Lake and Fat Rat Lake. In previous years, large groups of Canada geese were observed on Spectacle Lake in summer, but only small numbers were counted in 2011. The geese arrived shortly after lake ice melted in June and were observed intermittently through August. Approximately 13-15 geese were present in the basin during 2011 (Table 4). Blue-winged teal were sighted on Spectacle Lake at various times throughout the season as well as Red-Throated Loons Lesser Scaup, Ring-Necked Ducks, Mallards, and Goldeneye. A female Mallard was observed with seven ducklings and a female Goldeneye was observed with three ducklings, both on Spectacle Lake. Ducks appear to make some use of Spectacle Lakes continually during summer and fall months.

A pair of Lesser Yellowlegs appeared to be nesting near T12. Less Yellowlegs were noted in great abundance in the Slate Lakes Basin. Multiple Red-Tailed Hawks were observed around the survey area between June and August. A Belted Kingfisher was seen walking along the shores of Spectacle Lake in late September.

Bald Eagles were sighted soaring over the Slate Lakes Basin from June through September and an increased presence was noted during the Pink Salmon run. Other bird species observed during 2011 included Dark-Eyed Juncos, Stellers Jays, American Robins, Varied Thrushes, Hermit Thrushes, Yellow-Rumped Warbler, Chestnut-Backed Chickadees, Dippers, the Common Raven and Savannah Sparrows. A complete avian species list from all monitoring years is located in Appendix F.

Table 1: Number of wildlife signs on each transect (all species).

Transect	6/15/2011	6/25/2011	6/29/2011	7/7/2011	7/20/2011	8/6/2011	8/18/2011	8/28/2011	8/31/2011	9/17/2011	9/22/2011	TOTAL
T1	2	3	1	2	5	6	5	4	3	6	4	41
T2	4	3	4	1	5	6	2	2	5	1	2	35
T3	2	3	0	0	2	4	0	1	5	2	4	23
T4	3	3	3	5	8	8	8	6	4	2	4	54
T5	4	5	6	6	9	7	6	0	7	4	4	58
T6	2	3	6	4	8	9	4	6	8	4	6	60
T7	0	4	8	4	5	5	5	3	6	3	6	49
T8	2	3	7	1	6	12	6	6	6	4	4	57
T9	3	2	7	5	6	10	7	5	7	5	7	64
T10	3	3	3	4	5	5	6	4	4	4	5	46
T11	0	1	1	0	2	4	4	7	1	4	1	25
T12	3	0	4	0	4	0	0	0	4	0	0	15
T13	1	2	10	0	0	0	0	5	0	2	0	20
T14	2	2	2	0	9	6	5	0	3	10	5	44
T15	1	1	1	0	3	6	2	4	4	4	3	29
T16	2	2	4	3	3	5	4	3	3	4	2	35
T17	3	2	4	3	5	9	7	7	6	6	9	61
T18	2	4	4	5	11	8	5	0	4	1	2	46
T19	4	3	2	6	9	4	2	0	1	2	0	33
T20	3	5	3	6	8	6	3	0	8	1	3	46
T21	2	3	1	1	0	3	3	0	5	0	0	18
TOTAL	48	57	81	56	113	123	84	63	94	69	71	859

Table 2: Number of bear signs at each transect.

Transect	6/15/2011	6/25/2011	6/29/2011	7/7/2011	7/20/2011	8/6/2011	8/18/2011	8/28/2011	8/31/2011	9/17/2011	9/22/2011	TOTAL
T1	0	0	0	1	2	1	3	3	2	6	1	19
T2	0	0	0	1	1	1	0	2	2	0	0	7
T3	0	0	0	0	1	2	0	1	0	2	2	8
T4	0	0	0	1	1	2	0	3	1	2	1	11
T5	0	0	0	3	3	3	4	0	0	2	2	17
T6	1	0	1	1	2	2	0	1	1	2	2	13
T7	0	0	0	0	0	0	1	0	1	1	1	4
T8	1	0	2	0	1	2	1	5	0	4	2	18
T9	1	0	2	1	0	5	6	4	4	5	5	33
T10	1	0	0	0	2	2	3	1	1	3	2	15
T11	0	0	0	0	0	2	2	6	1	4	1	16
T12	0	0	2	0	2	0	0	0	3	0	0	7
T13	1	1	7	0	0	0	0	4	0	2	0	15
T14	1	1	1	0	6	5	4	0	2	8	2	30
T15	0	0	0	0	0	2	2	1	3	3	2	13
T16	1	2	3	3	2	5	3	3	3	4	2	31
T17	0	1	2	3	3	8	6	6	5	6	8	48
T18	0	0	0	0	0	3	0	0	0	0	0	3
T19	0	0	0	1	2	1	1	0	0	2	0	7
T20	0	2	1	0	0	0	0	0	1	0	0	4
T21	0	0	0	0	0	1	0	0	1	0	0	2
TOTAL	7	7	21	15	28	47	36	40	31	56	33	321

Table 3: Number of moose signs at each transect.

Transect	6/15/2011	6/25/2011	6/29/2011	7/7/2011	7/20/2011	8/6/2011	8/18/2011	8/28/2011	8/31/2011	9/17/2011	9/22/2011	TOTAL
T1	2	3	1	1	3	5	2	1	1	0	2	21
T2	4	2	3	0	3	5	2	0	2	1	2	24
T3	1	2	0	0	1	2	0	0	5	0	2	13
T4	3	2	0	2	4	5	2	1	1	0	3	23
T5	2	1	4	3	4	4	2	0	3	2	2	27
T6	1	3	3	2	5	3	2	3	4	2	4	32
T7	0	4	8	4	5	5	4	2	5	2	5	44
T8	1	3	5	1	5	5	3	1	6	0	2	32
T9	1	1	4	3	6	2	1	1	3	0	2	24
T10	2	3	3	4	3	3	3	3	3	1	3	31
T11	0	1	1	0	2	2	2	1	0	0	0	9
T12	3	0	2	0	3	0	0	0	1	0	0	9
T13	0	1	3	0	0	0	0	1	0	0	0	5
T14	1	1	0	0	3	1	1	0	1	2	3	13
T15	1	1	1	0	3	4	0	3	1	1	1	16
T16	1	0	1	0	1	0	0	0	0	0	0	3
T17	2	0	0	0	2	1	1	1	1	0	1	9
T18	2	4	4	5	11	5	5	0	4	1	2	43
T19	4	3	2	4	7	3	1	0	1	0	0	25
T20	3	3	2	5	8	6	2	0	7	1	3	40
T21	2	3	1	1	0	2	3	0	4	0	0	16
TOTAL	36	41	48	35	79	63	36	18	53	13	37	459

Table 4: Number of goose signs at each transect.

Transect	6/15/2011	6/25/2011	6/29/2011	7/7/2011	7/20/2011	8/6/2011	8/18/2011	8/28/2011	8/31/2011	9/17/2011	9/22/2011	TOTAL
T1	0	0	0	0	0	0	0	0	0	0	0	0
T2	0	0	0	0	0	0	0	0	0	0	0	0
T3	0	0	0	0	3	0	0	0	0	0	0	3
T4	0	1	3	2	0	1	6	2	2	0	0	17
T5	0	3	2	0	0	0	0	0	4	0	0	9
T6	0	0	2	1	1	4	2	2	3	0	0	15
T7	0	0	0	0	0	0	0	1	0	0	0	1
T8	0	0	0	0	0	5	2	0	0	0	0	7
T9	0	0	0	0	0	3	0	0	0	0	0	3
T10	0	0	0	0	0	0	0	0	0	0	0	0
T11	0	0	0	0	0	0	0	0	0	0	0	0
T12	0	0	0	0	0	0	0	0	0	0	0	0
T13	0	0	0	0	0	0	0	0	0	0	0	0
T14	0	0	1	0	0	0	0	0	0	0	0	1
T15	0	0	0	0	0	0	0	0	0	0	0	0
T16	0	0	0	0	0	0	0	0	0	0	0	0
T17	1	1	0	0	0	0	0	0	0	0	0	2
T18	0	0	0	0	0	0	0	0	0	0	0	0
T19	0	0	0	0	0	0	0	0	0	0	0	0
T20	0	0	0	0	0	0	1	0	0	0	0	1
T21	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	5	8	3	4	13	11	5	9	0	0	59

4.3 Other Sightings

Both western toads (*Bufo boreas*) and wood frogs (*Rana luteiventris*) were sighted throughout the 2011 season on numerous occasions in muskegs and small ponds. The locations of the sightings ranged throughout the Slate Lakes basin, but were predominantly sighted near transects 18 and 19. A wood frog had been observed in 2010. Prior to that, no wood frogs had been observed since 2004. Based on numerous wood

frog sightings in 2011, it appears there has been an increase in population within the basin.
Small vole-like trails, perhaps made by the deer mouse (*Peromyscus maniculatus*), were found during summer months of 2011. Porcupines were occasionally spotted along roadsides by mine employees, but tend to avoid travel though open areas where most monitoring transects were located. It is likely that smaller mammals are just as active (if not more so) in summer, but their sign (tracks) showed up more in snow. Current monitoring practices were not conducive to obtaining representative data on small mammal and rodent populations within the Slate Lakes Basin.

4.4 Human Activity

The access road to the TTF at times has considerable traffic use. Heavy equipment used the road intermittently. Noise from traffic along the access road was most noticeable at T10, T11, T13, T14, and T17. Vehicle traffic was considerably lighter on the TTF access road than it had been during the previous observation year as no damn construction occurred during the 2011 season.

5.0 Discussion

The transects were all located in open bog and fen areas around the lakes as opposed to thick brush for ease of finding wildlife sign. These flat, open areas tended to be soft and wet and the tracks of larger mammals persisted for several months. Recording tracks with a measuring tape to the nearest 0.1 meter enabled fresh sign to be distinguished from sign recorded previously. Smaller, lighter mammals do not leave visible tracks in firmer ground, but their tracks were often visible in snow. This led to some bias with apparent abundance of large mammals relative to smaller animals, but evaluating signs over time gave a better indication of all mammal activity. The combination of sign evaluation and capture of images with motion-sensor cameras also helped confirm recent animal presence. Bear sightings seemed to increase after the middle of August, unlike 2010, when few bear signs were noted in September/October. Bears typically moved from stream mouths where they fed on salmon to upland areas to feed on roots and berries before they hibernate for the winter. This would explain increased activity. Moose sightings seemed to decline in mid-August. During the fall months, moose were likely following females, avoiding previously used trails or feeding areas.

The spatial range of bears and moose overlapped considerably, although transects T17 and T14 (eastern) had more bear sign while transects T18 and T20 (west) had more moose sign. Most of the bear sign found in 2011 was in the form of scat, tracks and digging. Bear sign concentrated northeast and southwest of Spectacle Lake. Moose sign concentrated to the northwest (near Upper Slate Lake) and southwest of Spectacle Lake. Transects towards the south, furthest from the road had significantly more bear and moose sign. As was found in 2007 (Savage 2007), the presence of bear digs and scat indicated bears forage in the area, but there was little in the way of moose browse sign or scat suggesting that moose were transiting through the area rather than actively browsing there.

One of the most significant signs of wildlife use in the basin results from molting geese particularly in areas close to floating mats of vegetation near lake shores. These may be preferred for roosting and nesting, as they would not support the weight of large predators. Use of the Spectacle basin as a refuge for Canada geese was previously documented in 2000 (ABR 2000), 2004 (USFS 2004), in 2005 (Living System Designs 2005), 2006, and 2007 (Savage 2007).

The lakes typically freeze over from mid-November until mid-May and geese were thought to be present from the end of May or early June until some time in August. Construction relation human activity significantly decreased from the 2010 season, yet goose populations appeared to be significantly decreased from all previous years. It is unknown whether geese were discouraged from staying in the area due to heavy human activity in previous years or whether simply fewer geese arrived this year.

Geese retained refuge from disturbance toward the narrow "bridge" of Spectacle Lake and towards the beaver dam away from the road. Use of heavy equipment on the TTF access road in previous seasons did not appear to discourage use of the area by large mammals. Moose and bears apparently frequented the area just as often in 2006 and 2007 (Savage 2007). Some wetland and forested habitat around Lower Slate Lake was of course lost, but the main geese refuge areas around Spectacle Lake remains intact. Geese may still find refuge at the southeast corner of Spectacle Lake furthest away from all human activity. The no-fly zone over the Spectacle Lake basin, instigated through Coastal Helicopters in 2007 to minimize disturbance to geese, continued through 2011.

6.0 Conclusions

Wildlife signs within the Slate Lake Basin were significantly lower than from 2010 observations. However, it must be noted that significant changes to the monitoring program were made during this time. A shortened monitoring period likely resulted in less animal activity recorded. Additionally, Coeur Alaska personnel conducted monitoring during the 2011 season and not biologists previously familiar with the study.

As noted in previous years, a primary summer use of the area was as a refuge for molting and nesting geese. The summer of 2011 continued to show a decrease in Canada Geese populations using the Slate Lakes Basin. Approximately 13 to 15 Canada Geese were present in 2011, down from 19 in 2010 and 29 in 2009. It is not possible to determine if geese discouraged from remaining in the area due to past construction activity or if fewer arrived on site.

Bear activity within the Slate Lakes Basin appeared to be down slightly from 2010; however, this may be due to the changes in the monitoring program and may not reflect actual conditions at the site. Moose activity remained high throughout 2011. Other items of particular interest were an increase in nesting waterfowl including both Mallards and Goldeneye.

Wildlife populations within the Slate Lakes Basin generally appear healthy, and abundant. Comparisons with baseline studies conducted in 2004 and 2005, mining operations have had little impact on the abundance or habits of terrestrial wildlife in the area.

7.0 References

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Avian Species List for Slate Lakes Basin

Waterfowl

1. White-winged Scoter (*Melanitta fusca*)
2. Greater Scaup (*Aytha marila*)
3. Mallard (*Anas platyrhynchos*)
4. Canada Goose (*Branta canadensis*)
5. Ring-necked Duck (*Aythya collaris*)
6. Red-throated Loon (*Gavia stellata*)
7. Hooded Merganser (*Lophodytes cucullatus*)
8. Common Goldeneye (*Bucephala clangula*)
9. American wigeon *(Anas Americana)*
10. Blue-winged teal (*Anas discors)-S*

Common = multiple sightings through season
S = identified through sighting
C/S = identified through call or song
B = both sighted and heard

Raptors

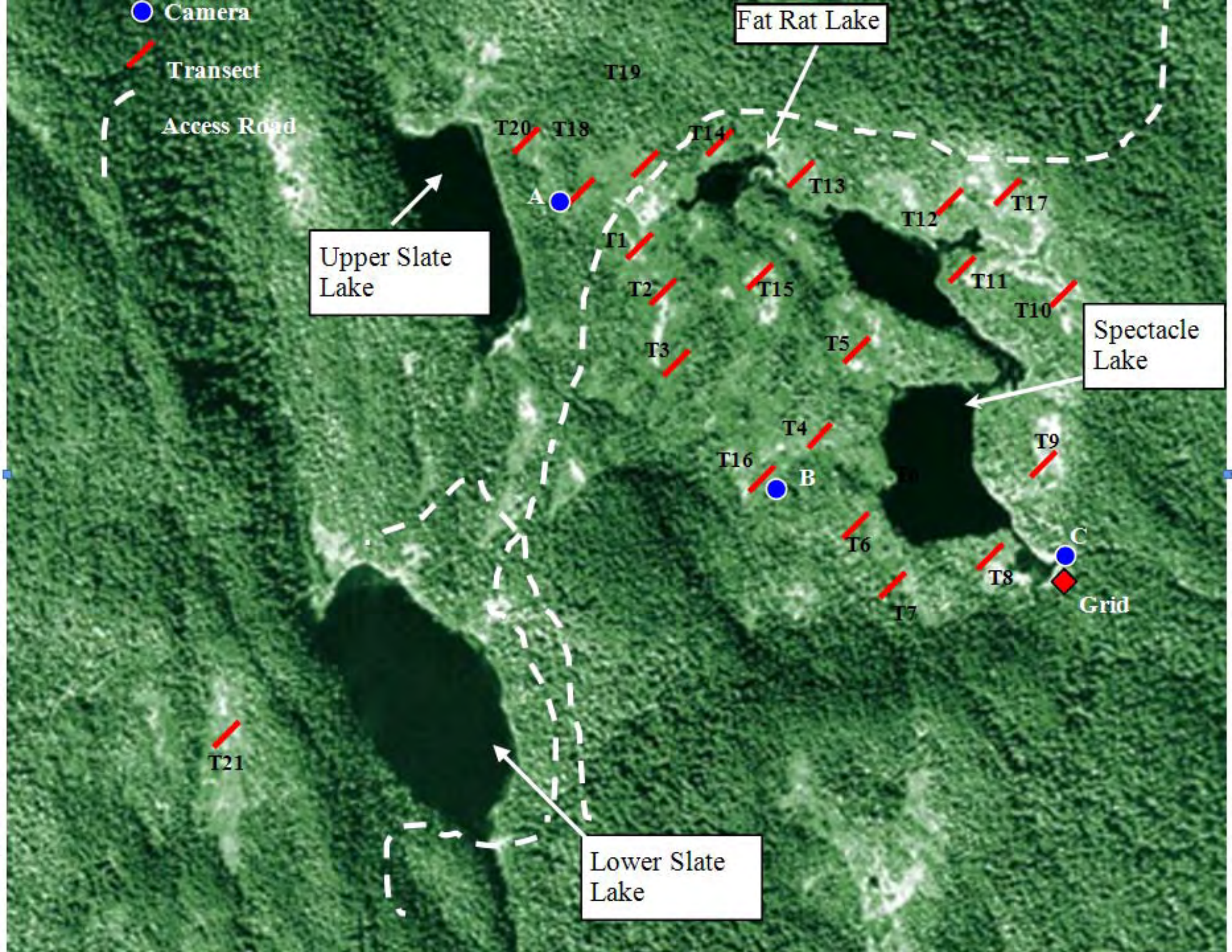
1. Bald Eagle (*Haliaeetus leucocephalus*) – Common, B
2. Red-tailed Hawk (*Buteo jamaicensis*)
3. Sharp-shinned Hawk (*Accipiter striatus*)
4. Northern Pygmy Owl (*Glaucidium gnoma*) – C/S
5. Northern harrier *(Circus cyaneus)* - C/S

Other

1. Belted Kingfisher (*Ceryle alcyon*) – Common, B
2. Steller's Jay (*Cyanocitta stelleri*) – Common, B
3. Common Raven (*Corvus corax*) – Common, B
4. Chestnut-backed Chickadee (*Poecile rufescens*) – Common, B
5. Dark-eyed Junco (*Junco hyemalis*) – Common, B
6. Winter Wren (*Troglodytes troglodytes*) – Common C/S
7. Savannah Sparrow (*Passerculus sandwichesis*) - B
8. Varied Thrush (*Ixoreus naevius*) - B
9. Pine Grosbeak (*Pinicola enucleator*) - S
10. Northwestern Crow (*Corvus caurinus*) - B
11. Red-breasted Sapsucker (*Sphyrapicus rubber*) –Common, B
12. Bohemian Waxwing (*Bombycilla garrulous*) - B
13. Least Sandpiper (*Calidris minutilla*) – S
14. Blue Grouse (*Dendragapus obscurus*)
15. Lesser Yellowlegs (*Tringa flavipes*)
16. Ruby-crowned Kinglet (*Regulus calendula*)
17. Wilson's Warbler (*Wilsonia canadensis*)
18. White-crowned Sparrow (*Zonotrichia albicollis*)
19. Rufous Hummingbird (*Selasphorus rufus*)
20. Tree Swallow (*Tachycineta bicolor*)
21. Orange-crowned Warbler (*Vermivora celata*)
22. Hermit Thrush (*Catharus guttatus*)
23. Cedar Waxwing (*Bombycilla cedrorum*)
24. Olive-sided Flycatcher (*Contopus borea*lis)
25. Solitary Sandpiper (*Tringa solitaria*)
27. Song Sparrow *(Melospiza melodia*)
28. Great blue heron *(Ardea herodias)*
29. Yellow-rumped warbler (*Dendroidica coronata*) – B

APPENDIX A

SITE MAP


Camera
Transect
Access Road
Fat Rat Lake
T19
T20
T18
T14
A
T13
T12
T17
T1
T2
T15
T11
T10
T3
T5
Spectacle Lake
T4
T9
T16
B
T6
C
T8
T7
Grid
T21
Upper Slate Lake
Lower Slate Lake

APPENDIX B

TRANSECT GPS COORDINATES

Transect GPS Coordinates

All North End Coordinates

T1N 58.81712N/135.03537W
T2N 58.81631N/135.03036W
T3N 58.81509N/135.03416W
T4N 58.81410N/135.03032W
T5N 58.81537N/135.02911W
T6N 58.81288N/135.02849W
T7N 58.81182N/135.02705W
T8N 58.81250N/135.02471W
T9N 58.81377N/135.02370W
T10N 58.81657N/135.02342W
T11N 58.81678N/135.02596W
T12N 58.81765N/135.02682W
T13N 58.81788N/135.03061W
T14N 58.81834N/135.03325W
T15N 58.81660N/135.03181W
T16N 58.81410N/135.03157W
T17N 58.81782N/135.02492W
T18N 58.81820N/135.03523W
T19N 58.81812N/135.03630W
T20N 58.81844N/135.03839W
T21N 58.80974N/135.04633W

APPENDIX C

2011 DATA SHEETS

Transect Data

Transect: _____ Date: 7/7/11 Time: ~~1130~~ 1200

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T21 1200 28	R	T	D	n		
T18 1250 5.4	R	T	m			
7	R	T	m			
22.6-23.7	R	T	m			
26.7-27.2	R	T	m			
38.6	R	T	m			
T19 1300 4.3	R	T	m			
20	L	T	m			
25.5	L	scat	toad			
26.4	R	D	Bear			
32.3	R	T	m			
42.5-43.5	R+L	T	m			
T20 1310 6.1	L	T	m			new stake needed
12	R	Sighting	Frog/toad	y		
12-13	R+L	T	m			
19.1	L	T	m			
20.8	L+R	T	m			
25.6	L	T	m			
T17 1400 14.3	L	D	B			
42.1	R	D	B			
44	R	D	B			
T11 1410 1	—					
T10 1415 8.7	L+R	T	m			needs new metal stake
10.3-18	R	T	m			
43.8	R	T	m			
45	L	T	m			
T9 1420 3.2	R	T	m			
7	R	T	m			
10.7-15.9	L+R	T	m			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T9 cont 39	L	T	unksm bird			
50	R	D	B			
T8 1435 30.2	L	T	m			
7/8/11 - T1 0900 16.3	L	T	m			
47	L	D	B			
T2 0920 86	L	T	B			x2
T3 930						needs new marking & mold stake
T16 940 5.8	L	D	B			
18.3	R	D	B			
20.6	R+L	D	B			
T4 950 14.4	L	T	m			
17.2	L	T	m			
26.2	R	D	B			
29.5	L	S	G			
31.4-33	L+R	S	G			
T6 1000 5	L+R	T	m			
15.4	R	S	G			
15.5	L	D	B			
34.5-36.5	R	T	m			
T7: 1115 0.5	L	T	m			
6	L	T	m			
18	R	T	m			
49.50	L	T	m			
T5: 1125 5	R	D	B			
8.7	R	D	B			
15	R	T	m			
23	R	T	m			
38-40	L+R	T	m			
49	R	D	B			

Stationary Observation Data

Observation Location: Spectacle Lake

Personnel: Carlo

Date: 7/8/11

Weather: high clouds/overcast 71° gonna rain

Sighting Location	Time	Species	Photo (Y/N)	Description/Notes
	1015	mosquito	n	
	1020	Seagull	n	
	1035	Bald eagle		
	1035	Canada geese		X 14-16
	1050	Red throated loon	n	

Transect Data

Transect: _____ Date: 6/29/11 Time: _____

Personnel: CwB LM Weather: overcast

	Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T21 1045	29.2 m	R	moose track	moose	n	n	
T18 1130	48.1 m	L	track	moose	n	n	
	38.7m	L+R	track	moose	n	n	
	28.0	L	track	moose	n	n	
	23	R	track	m	n	n	
T19 1145	32	R	↓	m	n	n	
	42.5	L+R	↓	m	n	n	
T20	8.3	L	T	m	n	n	
	11 - 13	L+R	T	m	n	n	
	22.7	R	Dig	Bear	n	n	
T1 1155	6	L	T	m	n	n	
					n	n	
T2 1200	13.4	L+R	T	m	n	n	
	31.6-36	L+R	T	m	n	n	
	40	L	T	m	n	n	
	29.0-29.7	R	T	bird	n	n	
T13 1405	0.5	R	Dig	bear			
	6.5-9	L	T	m			
	8.6	L	Dig	bear			
	10.7	L	Dig	bear			
	14	R	Dig	bear			
	14.3	L	Dig and scat	bear(Dig) m(Scat)			
	22	L	T	m			
	27.1	L	Dig	bear			
	43.5	R	T	m			
	47.1	R	Dig	bear			
T17 1415	6.1	L	T	Deer	n	n	
	14.6	L	Dig	Bear			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

	Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T17 cont —	24.4–25	R	T	Deer			
	44.5	R	~~T~~ Dig	Bear			
T N 1425–	33	R	T	m			
T10 – 1430	9–18	R	T	m			
	24	R	T	D			
	43.8	R	T	m			
T9 –	3.8	R+L	T	m			
	7	L	T	m			
	10 – 15	L+R	T	m			
	24.9	R	T	m			
	36.4–6	L+R	T	Sm. Bird			
	38.6	R	~~T~~ Dig	Bear			
	47.8	R	Dig	Bear			
T8 – 1450	0.1	R	D	Bear			
	4.3	L	D	B			
	22.3	L	T	Deer			
	25.9	R	T	m			
	28.7	R	T	m			
	38.4	L	T	m			
	42.8	L	T	m			
T7 – 1505	0.3	R	T	m			
	3.9	L	T	m			
	13.4–14.2	L+R	T	m			
	23.0	R	T	m			
	24.1	L	T	m			
	28.1	R	T	m			
	~~30~~ 30.9	L	T	m			
	37.8	R	T	m			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

	Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T6 1600	35.1	L	T	m			
	28.5	R	T	m			
	19.	R	S	goose			
	13.3 – 12.4	L+R	S	g.			
	14.4	L	T	m			
	3 m	L+R	T	B			
T4 – 1605	11.1	L	S	G			
	14.6	R	S	G			
	17.1	R	S	G			
T16 – 1615	23.3	R	D	B			
	29.4	L	T	m			
	5.8	L	D	B			
	18.7	R	D	B			
T5 – 1625	48	R	T	m			
	42.3	L	T	m			
	30.7	R	S	G			
	23.1	L	S	G			
	12.5	L	T	m			
	3.3	L	T	m			
T15 1640	29	R	T	m			
T12 – 1647	39.6	L	T	m			
	39.5	L	D	B			
	25.4	L	nest	Bee/ hornet/ unk			
	22.3	L	D	Bear			
	18.7	L	T	m			
T13 – 1700	21.1	L	S	G			
	35.8	R	S	B			

Stationary Observation Data

Observation Location: w side speckcle

Personnel: Carlo Lm

Date: 6/29/11

Weather: overcast 12°C

Sighting Location	Time	Species	Photo (Y/N)	Description/Notes
	15:20	Barrows Goldeneye x9	n	mother w 3 young
	15:30	Canadian Goose x 14	n	
	15:40	Ursus Americanus (Blk Bear)		
	15:41	Dark eyed junco		

Mobile Observation Data

Area Traversed: ____________________

Personnel: ____________________

Date: ____________

Weather: ____________________________

Sighting Location	Time	Species	Photo (Y/N)	Description/Notes
Sper. lake	1400	C. goose	n	
" "	1410	lesser yellow legs, Sandpiper		
" "	1415	barrows Goldeneye	y	4 Ducklings

Transect Data

Transect: T21 - T20 Date: 6/25/11 Time: 1900 - 2000

Personnel: LM Weather: OC, Calm wind

	Location	L/R	Sign Type (Track, Scat, etc) T(Track) S(Scat) D(Dig)	Species M(Moose) B(Bear)	Photo (Y/N)	Sample (Y/N)	Notes
T21 1900	13	R	T	M			
	24.6	R	T	M			
	44.8	R	T	M			
T18 1940	16.3-27.8	L/R	T	M			Moose tracks parralel to transect
	38.3	L/R	T	M			
	40.8	R	T	M			
	48	L	T	M			
T19 1950	4.2	R	T	M			
	30.6-32.6	C	T	M			
	47.4	L	T	M			
T20 2000	8.8	L	T	M			
	11-13	L/R	T	M			
	20.1	R	T	B			
	24	L	T	M			
	27.2	L	T	B			

Transect Data

Transect: T17-T7 Date: 6/26/11 Time: 0845-0945

Personnel: LM Weather: 0C, Calm, 11°C

T(Track) S(Scat) D(Dig) M(Moose) B(Bear) SB(Shorebird)

	Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T17 0845	6	L	T	Goose			
	14.5	L	D	B			
T11 0855	33.1	R	T	M			
T10 0900	9.7	R	T	M			
	14.2-17.3	L/R	T	M			
	44	L/R	T	M			
T9 0915	7	L	T	M			
	36	L/R	T	SB			
T8 0930	27.8	L	T	M			
	38	L	T	M			
	44.2	L	T	M			
T7 0940	12	R	T	M			
	21.5	L	T	M			
	27.7	L	T	M			
	30.8	L	T	M			

Transect Data

Transect: T6-T16 Date: 6/26/11 Time: 1015-1100

Personnel: LM Weather: OC, Calm, 11°C

	Location	L/R	Sign Type (Track, Scat, etc) T(Track) S(Scat) D(Dig)	Species M(Moose) B(Bear)	Photo (Y/N)	Sample (Y/N)	Notes
T6 1015	6.5	L	T	M			
	15.5	L	T	M			
	19.3	L	T	M			
T4 1030	19.7	R	S	Goose			
	27	L	T	M			
	35.4	R	T	M			
T16 1040	14.2	L	S	B			
	18.7	R	D	B			

Transect Data

Transect: T14 - T13
Personnel: LM

Date: 6/27/11
Weather: Sunny, 16°C, light wind (5mph)

Time: 1045 - 1210

	Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T14	8.2	L	T	M			
1045	14	R	D	B			
T13	22.3	L	T	B			
1100	42.8	R	T	M			
T5	3.6	R	S	Goose			
1110	21.7	L/R	T	Shorebird			
	23	L	S	Goose			
	31.2	L	S	Goose			
	45.7	L	T	M			
T15	28.5	R	T	M			
1125							
T3	24.6	L	T	M			
1145	28-30	R	T	Shorebird (SB)			
	33.3	R	T	M			
T2	14	R	T	M			
1150	23-24	R	T	SB			
	36.4	L/R	T	M			
T1	1.3	R	T	M			
1155	29-32	L/R	T	M			
	43.3	L	T	M			
T13	—						No sign
1210							

Stationary Observation Data

0945 - 1015

Observation Location: N 58.31254, W 135.02646 (above Spect. Lakes)   Date: 6/26/11

Personnel: LM   Weather: OC, Calm, 11°C

Sighting Location	Time	Species	Photo (Y/N)	Description/Notes
Spectacle Lake (100m E)	0954	Common merganser		
10m to the NW	0956	Dark eye junco x 2		

Mobile Observation Data

Area Traversed: Spectacle Lakes
Personnel: LM

Date: 6/26/11
Weather: o/c, calm wind, 11°C

From 0845-1100

Sighting Location	Time	Species	Photo (Y/N)	Description/Notes
N. 58. 31247, W 135.02342	0930	Spotted Sandpiper x2		Mating pair, appeared to be protecting a nest
N 57.91288 W 135.02303	0935	Dark eyed Junco x2		
Spectacle lakes	0850, 1030	Lesser Yellowlegs		Loud shorebird spotted multiple times
Spectacle Lake	1025	Canada geese		large flock (15) circled + landed

note - lake level too high to access T21

Transect Data

Transect: _____ Date: 9/22/11 Time: _____

Personnel: Carla Weather: breeze / overcast 7°C

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T18 1200						
25	L	T	m			
38	L+R	T	m			
T19 1203						
—		—	—	—	no sign	
T20 1207						
19	R	T	m			
24	R	T	m			
25	L	T	m			
T1 1218						
1	R	T	m			
4-5	L	T	m			
17	L	Scat	unk			hairy, prob. S. maybe bear
31	L	D	B			
T2 1221						
14	L	T	m			
34	R+L	T	m			
T3 1224						
6	L	D	B			
23	R	T	B			
30-32.5	R	T	m			
40	L	T	m			
T15 1232	~~L+R~~					
1	L	S	B			
5	R	D	B			
19	L+R	T	m			

Transect Data

Transect: _____

Personnel: _____

Date: _____

Weather: _____

Time: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T5 1240						
1.5	R	D	B			
43	L+R	T	M			
45.46	L	T	M			
50	R	D	B			
T4 1245						
5	R	T	M			
18	L	D	B			
24.8-26	L	~~D~~ T	~~B~~ M			
36	L	T	M			
T16 1250 3	L	D	B			
12	R	D	B			
T6 1300						
2	R	T	M			
10	L	~~D~~	B			
29	R	T	M			
29.5	R	D	B			
35	R	T	M			
41	R	T	M			
T7 1305						
4	R	S	B			
7	L	T	M			
11	R	T	M			
25.5	R	T	M			
27	L+R	T	M			
31	L+R	T	M			
~~T8~~						

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T8 1315						
0.5	L+R	T	M			
2	L	T	B			
21-22	L	T	M			
48	R	D	B			
T9 1325						
0.4	L	D	B			
1.5	R	T	M			
3	L	D	B			
4	L	D	B			
15	R	D	B			
24-26	L+R	D	?			small dig marks but doesn't look like bear diet
34-35	R	T	M			
T10 1330						
1-3	L+R	T	M			
6	L	D	B			
R	L	T	M			
13	L	D	B			
48	R	T	M			
T11 1335						
41	R	D	B			
T17 1340						
1.5	L	D	B			
4	L	T	M			
4	R	D	B			
6	L	D	B			
11	R	D	B			
12	L	D	B			
15	R	D	B			

Transect Data

Transect: ____________ Date: ____________ Time: ____________

Personnel: ____________ Weather: ____________

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T17 Cond 43	R	D	B			
435	L	D	B			
T14 1345						
1.5	R	T	M			
2	L	D	B			
5	L	T	M			
41	L	T	M			
50	L	D	B			

Transect Data

Transect: ________ Date: ________________ Time: ________

Personnel: ________ Weather: ____________________________

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes

Stationary Observation Data

Observation Location: ____________ Date: ____________

Personnel: ____________ Weather: ____________

Sighting Location	Time	Species	Photo (Y/N)	Description/Notes
duck				
Kingfisher				
mobile				
		woodpecker		

Transect Data

Transect:

Personnel: KA / NORMAN

Date: 9/17/2011

Weather: PARTLY CLOUDY 9°C

Time: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T10 13:35						
23 – 25,5	R	T	M			
T20 13:40						
18 – 19	R/L	T	M			
T9 13:52						
16.5	L	T	B			
24.7	(R/L)	D	B			
T1 14:01						
2M	R	D	B			
4.5	L	D	B			
6.0 / 6.8	L	D	B			
20.0	L	S	B			
32	L	D	B			
34	R	D	B			
T2 14:05						
36.9 – 37.1	R/L	T	M			
T3 14:10						
12.8 – 12.9	R	D	B			
37.6	R	T	B			
T15 14:19						
28.7 – 29	L/R	T	M			
36.4	R	D	B			
43.5	L	D	B			
48.9 – 49	R	S HUGE LOAD. FRESH	B			
T5 14:29						
1.7	R	T	M			
3.4 – 3.9	L	T	M			
24.5 – 24.7	L	D	B			
48.9	R	D	B			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T4 14:30						
24.6	L	D	B			
29.7	L	D	B			
T16 14:43						
5.3	L	D	B			
29.5-29.6	R	D	B			
31.8	L	D	B			
44.6	R	D	B			
T6 14:53						
4'-6 M	R/L	T	M			
15.7	R	D	B			
17.5	L	D	B			
28.2	L	T	M			
15:02 T7						
14.7-15	L/R	T	M			
20-22	L/R	T	M			
41.2	L	S	B			
T8 15:10						
35.2	R	D	B			
44.0	R	D	B			
48.2/48.4	R	D	B			
49	L	D	B			
T9						
0.6	L	D	B			
4.1	L	D	B			
12.5	R	D	B			
17.0-17.4	R	D	B			
27.2	L	D	B			

Transect Data

Transect: _____

Personnel: _____

Date: _____

Weather: _____

Time: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T10 15:26						
4.2	L	T	M			
22	L	D	B			
26.8-26.9	R	D	B			
40	R	D	B			
TR 15:31						
12	L	D				
32	R	D	B			
43	R	D	B			
44.3	L	D	B			
45.6	R	D	B			
48.7	R	D	B			
T11 15:38			B			
7.2	R	D				
10.6	L	D	B			
14.9	R	D	B			
35.8	R	D	B			
T14 15:45			B			
1.4	R	D				
4.5	L	D	B			
9-13	R/L	T	B			
11.6	R	D	B			
12.9	L	D	B			
22.4	R	S	B			
22.8	R	T	M			
25.5	L	D	M			
28.2	R	D	B			
43.1	L	D	B			
			B			

Transect Data

Transect: ____________ Date: ____________________ Time: __________

Personnel: ____________ Weather: ________________________________

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T12 15:54	—					
T13 16:00						
15.6	R	P	B			
20–20.2	R	D	B			

Transect Data

Transect:

Personnel: KA & NORMAN

Date: 8/28/2011

Weather: OVERCAST & LIGHT RAIN 9°C

Time: START TIME: 12:50 PM
END TIME: 15:00 PM

Location	L/R	Sign Type (Track; Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T1 12:50	R	D	B			
6.8	L	D	B			
22	L	T	M			
31.7	L	D	B			
T2 13:00						
2.2	L	D	B			
15.3	R	T	B			
T3 13:08	L	D	B			
T15 13:15						
7.3	R	D	B			
15	R	T	M			
22-23	L	T	M			
46.6	R	T	M			
T10 13:25						
6.2	L	D	B			
6.3	L	D	B			
19.1	R	D	B			
T4 13:34						
18.4	R	D	B			
20.6	R	D	B			
21	L	T	M			
25.9	R	T	B			
31	L/R	S	G			
32.4/6	L/R	S	G			
T6 13:42						
6-8	L/R	T	M			
13-20	R	T	M			
24.5	R	S	G			

Transect Data

Transect: _____

Personnel: _____

Date: _____

Weather: _____

Time: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T6 26.2	R	D	B			
27.3	L	S	G			
28.4-33.1	L	T	M			
T7						
6 13:57	L	S	G			
12.8-14.5	R	T	M			
19.9-20.4	L/R	T	M			
T8 14:00						
1	R	T	M			
16.8	R	D	B			
21 20.0	L	D → S/G	B			
26.2	L/R	T	B			
46.3	R/L	T	B			
48.1	R	D	B			
T9 14:11						
0.6	L	D	B			
10	L	D	B			
17.1-17.3	R	D	B			
24.8	R/L	T	M			
27	L	D	B			
T10 14:20						
9	L	T	M			
22.4	L	D	B			
26.3	R	T	M			
37-39	R/L	T	M			
T11 14:26						
34	R	D	B			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T17 14:30	L	D	B			
7.5–7.6	L	D	B			
11.4	L/R	T	M			
16	L	D	B			
18.2	R	D	B			
35 - 35.2	R	D	B			
39	L	D	B			
T11 14:36	R	D	B			
4.4	L	D	B			
11.6	R	D	B			
11.6	L	T	M			
12.6	L	D	B			
28–28.3	L/R	D	B			
43.1	L	D	B			
T13 14:46						
17.3–9	L	T	M			
18	L	D	B			
20.3	R	D	B			
39.6	L	D	B			
44–48	L	T	B			

Transect Data

Transect: _____ Date: 8/31/11 Time: 16 30

Personnel: Collin Wigfield-Cooke Weather: overcast 9°C feels + smells like Fall!

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T21 16 30						
2	L	T	m			
3.5-5	R	T	m			
8.4	R	D	B			
20.1	L&R	T	m			
35	L	T	m			
T18 11:00						
17	R	T L	m			
24-25	R	T	m			
37	L	T	m			
46	L&R	T	m			
T19 1105						
10	L	T	m			
T20 1115						
2	L	T	m			
4.5	L	T	m			
7-7.5	R	T	m			
12	L&R	T	m			
23	L	T	m			
24.5	R	T	m			
25	L	D	B			
28	R	T	m		W.L. Camera	Isn't catching much other than W.L. Surveyors. Consider new location for this weekend
T1 1125						
20	L	S	? unlikely, prob S. Bear?			
~~30~~ 28	L	D	B			
28.5	L&R	T	m			
T2 1135						
8-9	L&R	T+D	B			
39	L	T	m			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T2 Cont.						
42	R	D	B			
44	R	T	M			
45+	R	Sighting	Rac			big guy!
T3 1145						
23	R	T	M			
27-29	R	T	M			
34-35	R	T	M			
40	L	T	M			
40S	R	T	M			
T15 1145						
1.5	L	S	B			
7	R	D	B			
18	L	T	B			
22	L+R	T	M			
T5 1210						
0.5	R	D	~~B~~ G			
24.5	R	S	G			
25	L	S	G			
29	R	S	G			
35	L+R	T	M			
36	L+R	T	M			
49	L	T	M			
T4 1220						
7	L	S	G			
10-12	L+R	S	G			
24.5	L	D	B			
30-305	L	T	M			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T9 1335						
0.5	L	D	B			
6	L	D	B			
8	R	D	B			
13	R	D	B			
25	L	T	M			
31	R	T	M			
34-42	R	T	M			
T10 1340						
1,22	R+L	T	M			
25	L	D	B			
31-36	R	T	M			
39	L	T	M			
T11 1348						
5	R	D	B			Spruce tree dug up
T17 1355						
0.5	L+R	T	M			
3	L	D	B			
7	L	D	B			
13	L	D	B			
14	L+R	D	B			
37	R	D	B			
T14 1400						
1	L	D	B			
23	L	T	M			
48	L	D	B			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T16 1225						
4	L	D	B			
16	R	D	B			
19	L	D	B		Good T. for W.I. Camera. Also NE of T4	
F6 1235						
2	L&R	T	M			
2.5	L	T	M			
6	R	S	G			
16	L&R	S	G			
16.5	L	D	B			
20	R	T	M			
26	L	S	G			
44	R	T	M			
T7 1240						
R 1		S	B			
2	R	T	M			
2.5	L	T	M			
4	L&R	T	M			
8	R	T	M			
28	R	T	M			
T8 1300						
0.3	R	T	M			
6	R	T	M			
10	R	T	M			
22	R	T	M			
24.7	L	T	M			
40	R	T	M			

Transect Data

Transect: ________ Date: ________ Time: ________

Personnel: ________ Weather: ________

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T12 1405						
8	L	D	B			
9	R	T	M			
26	R	D	B			
27	R	D	B			

Stationary Observation Data

Observation Location: _____ Date: _____

Personnel: _____ Weather: _____

Sighting Location	Time	Species	Photo (Y/N)	Description/Notes
Shore of Speckled	lake w. of dam			
		raven		noisy
mobile obs				
	• lots of bear sign - digs, scat, track s off transect			
	• HUGE moose! by T7 Rubbing tree; almost completely out of velvet			
	• grouse near T19			
	• no sandpipers or yellowlegs for the last 3 weeks			
	• Heavy precip has brought fall to the muskeg.			
	• rain has washed out tracks, making it hard to tell old from new			
	• heavy equip. noise (2) near road transects			

MOOSE = M
TRACK = T
DIG = D
BEAR = B

Transect Data

Transect:
Personnel: KA/CaG
Date: 8/18/11
Weather: overcast/11°C
Time: 1230

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T21 1253						
14.5	R	T	M			
17	L/R	T	M			
20.9	R	T	M			
T18 13:30						
5.3	L	T	M			
6.9	L	T	M			
30.5	L	T	M			
34.3	R	T	M			
48	R	T	M			
T19 13:35	R	T	M			
18.9	R	T	M			
27	R	D	B			
T20 13:45	L	T	M			
26	L	T	M			
32.2	R	S	GOOSE			
T1 13:50						
6	L/R	T	M			
14	L	D	B			
20.7	L	D	B			
22.4	R	T	M			
32.8	R	D	B			
T2 14:00						
13.9	L	T	M			
32	L	T	M			
T3 14:05	NOTHING	NEEDS MAINT. ON ST/B	STAKE MARKERS			
T5 14:15						
1.6	L	S	B			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
7.2	R	D	B			
T5 14:30						
2m	L	D	B			
28m	L	T	B			
30.7	L	D	B			
46	R	D	B			
47	R	T	M			
48	L	T	M			
T4 14:36						
14.3	R	S	GOOSE			
13.5	L					
15.2	R					
~~17.16~~	R					
~~19~~	R/L					
30.9	L	T	M			
32.2	L	S	G			
37.1 / 39.2	R	T	M			
T6 14:45						
5.9	L	D	B			
14.5	L	S	B			
18.5	R	S	B			
25m	L	LIVE / SITE	FROM			
T6 1454						
5.4	L	T	M			
21.2	R	S	G			
38	L	S	G			
31.7	R	T	M			
T7 1500						
13	L+R	T	M			

Stationary Observation Data

TIME START : 15:20
END : 15:50

Observation Location: LAKE SHORE BY BEAVER DAM
Date: 8/16/2011
Personnel: KA/CWG
Weather: OVERCAST / °

Sighting Location	Time	Species	Photo (Y/N)	Description/Notes
LAKE SHORE BY BEAVER DAM	15:30	JUV. REDTHROATED LOON	N	white belly / greyish brown coat feathers

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T17 10:05	R	D	B			
11.5	L	T	M			
11 11	R	D	B			
16.1 / 16.1	L/R	D	B			
19.3	R	D	B			
35.2	R	D	B			
39	L	D	B			
T14 16:10						
3	R	D	B			
9-12	L/R	T	M			
21	L	S	B			
43	R	D	B			
50	R	D	B			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T7 Start 18.3	L+R	T	M			
20.7	L	T	M			
27.2	R	T	M			
4F	L	S	B			
T8 15:15						
0	L/R	D	B			
26.3-31.4	L/R	T	M			
35.5	L	S	G			
40-41	R/L	T	M			
42.4	R	S	G			
49	R	T	M			
T9 15:48						
50	L	D	B			
46.1	L	D	B			
40	L	D	B			
36.6	L	S	B			
32.7	R	D	B			
11.9	L	D	B			
6	R	T	M			
T10 15:57						
3.9	L	T	M			
21.5	R	D	B			
23.3	R	D	B			
26	L	T	B			
27	L	T	M			
30.4	R	T	M			
T11 16:00						
10.1	R	D	B			
15	L/R	T	M			
36.7	L	D	B			
41	L	T	M			

Transect Data

Transect: _____ Date: 8/6/11 Time: _____

Personnel: Collin W-G Weather: Overcast 11°C

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T21 1024 12	R	T	M			
25.1	R	T	M			
48.4	R	D	B			
TL8 1150 5.8	R	T	B			
10-14.5	L+R	T	M			
16-50	R	T	M			
20.8	R	T	M			
38.7	L	D	B			
42	R	D	B			
43.4	L	T	M (BIG!)			
45.6	L	T	M			
T19 1200 10	R	T	M			
10.8	L	T	M			
27-2	R	D x2	B			
35.3	L	T	M			
T20 1225 5.2	L	T	M			grass dying on transect B.C. of human traffic
8.6	R	T	M			game camera needs batteries
15.3	L+R	T	M			
20	L+R	T	M			
25.1	L	T	M			
40.9	L+R	T	M			
In 1240						
3.5	R	T	M			
6-9	L	T	M			
20.2	L	S	Unk hairy pred. scat			
28.7	L+R	T	M			
30	R	T	M			Running
48	L	T	M			still running

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T2, 1250						
0.8	R	D	B			
6	L	T	m			
16.5	L+R	T	m			
34.3	R	T	m			
36	L	T	m			
36.9	L	T	m			
T3 1300						
12	L	D	B			low bush B. B. thick in many
24.8	L&R	T	m			
39	R	T	m			
46.4	L&R	T + D	B			
T5 1313						
1.5	L	T	m			monster
10.2	R	T	m			
27.3	L&R	T	m			
30-33	L	T	m			
43	R	D	B			
49.5	R	S	B			
T5 1330						
1	R	D	B			
3.8	L	T	m			
13.4	R	D	B			
25		Sighting	cubs		mid front stone	broken; cubs living inside/under
26	L	T	m			
28.3	R	D	B			
35.1	L&R	T	m			
44-46	L	T	m			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T4 1335						
2	R	D	B	Y		Possible very large brown b.
4.3	R	T	M			
10.8	L	D	B			
12-16	R	S	G			
12.3	R	T	M			
15	R	T	M			
16.9	R	T	M			
28	R	T	M			
T16 1345						
3	L	D	B			
8.5	R	D	B			
20	R	D	B			
21.3	L	D	B			
48.2 & 48.6	R	D	B	Grass still laid down		from human tracks from last survey.
T6 1400						
3.2	L&R	T	M			
3-5	L&R	S	G			
10.9	L	S	G			
13	L	D	B			
13	R	S	G			
27.8	L	S	G			
31.2	L	T	M			
31.7	R	T	M			
34	L	T	B			
T7 1435						
12	R	T	DEER?			
20-25	R	T	M			
31.5	L&R	T	M			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T7 cont-						
33.4	L	T	M			
3~~6~~	R	T	M			
T8 1450						
3	R	T	M			
4.5	R	T	M			
8	R	T	M			
11.4	L+R	S	G			
15	L+R	S	G			
21	L	T	M			
29.4	R	S	G			
29.6	L	S	G			
32.1	R	T	M			
40	L	S	G			
43	R	D	B			
50	R	D	B			
T9 1510						
3	R	T	M			
7.5	R	D x3	B			
7.9	R	S	G			
8.3	L+R	S	G			
8.3	L	D	B			
10	R	S	G			
11.4	L	D	B			
25.1	R	D	B			
26-27	L	D	B			
32.7	R	T	M			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T10 1522						
2.8-3.5	L/R	T	m			
9	L	D	B			
24.8	L	D	B			
34-37	L	T	m			
40	L/R	T	m			
T11 1530						
4	R	D	B			
7	R	T	m			
8.1	R	T	m			
18	R	D	B			
T17 1540						
0.5	L	D	B			
5	L	D	B			
7.5	L	D x2	B			
24.3	R	D	B			
26.1	L	D	B			
26.9	R	D	B			
40	L	D	B			
43	R	T	m			
49.7	L	D	B			
T14 1545						
8	L	D	B			
11.8	R	D	B			
17.4	R	D	B			
23	R	S	B			
34-39	R	T	m			
47	L	D	B			

~~Stationary~~ Mobile Observation Data

Observation Location: _____ Date: _____

Personnel: _____ Weather: _____

Sighting Location	Time	Species	Photo (Y/N)	Description/Notes
muskeg edge between T17-20		B?	2	Parallel sets of tracks on W. edge of muskeg
W of Fat Rat		lots of dragonflies		
SofT6S		13 Canada geese		on land eating deer cabbage leaves
N of T9		small hawk		very clumsy on land
Stationary obs. Completed from hill top near T6.			no sightings	

note

T17
1400

Transect Data

Transect: 17 Date: 6/9/11 Time: 1400

Personnel: LM, PS Weather: Cloudy

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
6.8	L	Track	Goose (Canada)			
31.6	R	T	Moose			
46	R	T	Moose			

T17
1400

Transect Data

Transect: 17
Personnel: LM, PS

Date: 6/9/11
Weather: Cloudy

Time: 1400

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
6.8	L	Track	Goose (Canada)			
31.6	R	T	Moose			
46	R	T	Moose			

Transect Data

Transect: T11 - T6 Date: 6/9/11 Time: 1405-1545

Personnel: LM, PS Weather: OC

	Location (M)	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T11 1405	—	—	—	—	—	—	No sign.
T10 1415	8.9	L	Track (T)	Moose	N	N	
	10-17	R	T	Moose			
	46	L	Dig (D)	Bear (B)			
T9 1435	4.5-15	L	T	Moose (M)			
	33	R	T	Wading Bird (WB)			
	40	R	D	B			
T8 1450	1	R	D	B			
	27-33	L/R	T	M			
T7 1505	—	—	—	—	—	—	None
T6 1540	6-7	L/R	T	M			
	10	L	D	B			

Transect Data

Transect: T4 – T1 Date: 6/15/11 Time: 1005 – 1140

Personnel: LM, JE Weather: O/C

	Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T4 1005	24	L	T (Track)	M (moose)			
	26	R	T	M			
	33	L	T	M			
T16 1020	18	R	D (Dig)	B (Bear)			
	34-40	L	T	M			
T5 1040	23	R	T	WB (wading bird)			
	27-29	L	T	WB			
	41	L	T	M			
	43	R	T	M			
T12 1055	20	L	T	M			
	23-24	L/R	T	M			
	45	L	T	M			
T15 1115	29-32	R	T	M			
T3 1125	28-29	R	T	WB			
	32	L	T	M			
T2 1130	13	R	T	M			
	14	R	T	M			
	35	R	T	M			
	39	R	T	M			
T1 1137	30	R/L	T	M			
	33	R/L	T	M			

Transect Data

Transect: T13-T21 Date: 6/15/11 Time: 1144-1500

Personnel: LM, JE Weather: PC

	Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T13 1144	16	L	Scat	B			
T14 1155	1	R	Dig	B			
	5-13	L/R	T	M			
T18 1335	24	R	T	M			
	48.5	L	T	M			
T19 1340	4.5	R	T	M			
	20	L	T	M			
	35	R	T	M			
	47-49	L/R	T	M			
T20 1350	10	L	T	M			
	24	R	T	M			
	27-29	L	T	M			
T21 1456	15	R	T	M			
	31	R	T	M			

Stationary Observation Data

Observation Location: N.end Spectacle Lake

Personnel: LM, PS

Date: 6/9/11

Weather: O/C

Sighting Location	Time	Species	Photo (Y/N)	Description/Notes
N. Edge of lake - Spectacle	1515	Dark eyed Junco	N	
West cove of lake	1522	Goldeneye (Barrow's)	N	

Mobile Observation Data

Area Traversed: SPECTACLE LAKES
Personnel: LM, DS

Date: 6/9/11
Weather: OVERCAST w/ LIGHT RAIN

Sighting Location	Time	Species	Photo (Y/N)	Description/Notes
N. OF S. LAKE	1430	RED BREASTED SAPSUCKER		
S OF S. LAK	1420	SOLITARY SAND PIPER		
Meadow w/ T15	1445	Darke Eyed Junco		

Transect Data

Transect: T

Personnel: CWB, TBM

Date: 7/20/11

Weather: overcast

Time:

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T21 0740						
T18 0805 1.4	R	T	M			
3-5	B&L	T	M			
16.5	R	T	M			
17.9	R	T	M			
21	R	T	M			
22.7-84	R	T	M			
26.8	R	T	M			
28.8	L	T	M			
29.7	R	T	M			
32.8	R	T	M			
38.9	L	T	M			
48.3	L	T	M			
T19 0815 1-2	R	T	M			
4-5	R	T	M			
10	L	T	M			
13.7	L	T	M			
21.3	R	T	M			
27	R	T	B			
28.8	L	T D	B			
33	R	T	M			
41.7-43	R	T	M			
T20 0830 4L	L	T	M			
6.	L	T	M			
8.8	R	T	M			
21	L	T	M			
25	L	T	M			
26.6	L	T	M			
33.2	R	T	M			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
45	L	T	M			
T1 0840 1.4	R	T	B			
29.5	L	T	M			
81.5	L	D	B			
32	R	T	M			
43.5	R	T	M			
T2 0846 8.8	L	D	B			
13.3	L	T	M			
22.4	R	Puke or eggs	unk			
36.2	R	T	M			
38.4	L	T	M			
T3 846						
35.4	R	T	B			
36.5	L	T	M			
T1S 915 21.5	L	T	M			
19	R	T	M			
20	R	T	M			
T5 925 47	R	D	B			
47.2	L	T	M			
38.1	R	T	M			
24.8	L	EGG	Bird			
21-22	R	T	Bird			
21.8	L	T	M			
8.2	R	T	M			
5.8	R	D	B			
4.2	L	D	B			
T4 0933 13.2	R	S	G			
17.3	R	S	G			
18.6	R	S	G			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T4 Cont 23.5	L	D	B			
25.1	R	T	m			
29.6	L/R	T	m			
31.0	L	T	m			
34.4	R	T	m			
T16 8.4	L	T	m			
28.5	R	D	B			
30.9	L	D	B			
T6 950 09	L	T	m			
5.5	L	D	B			
6.1	L	T	m			
15.3	L	D	B			
15.3	R	S	G			
31.1	R	T	m			
34.9	L	T	m			
36.4	L	T	m			
T7 0958						
13.3	L	T	m			
14.4	L	T	m			
28.1	R	T	m			
29.4	L	T	m			
31.4	R	T	m			
T8 1008 .5	R	T	m			
6.1	L	T	m			
T 18	R	T	m			
25.5	L	T	m			
44	R	D	B			
46.8	L	T	m			

Transect Data

Transect: _____ Date: _____ Time: _____

Personnel: _____ Weather: _____

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T9 1100						
23.9	R	T	M			
26.0	L	T	M			
32.2-40	L+R	T	M			
41.3	L	RT	M			
42-43	R	T	M			
44.6	L	T	M			
T10 1110 2-3	R	T	M			
8.	L	TD	B			
23.8	R	D	B			
32-35	R+L	T	M			
36-41	L	T	M			
T11 1117 14.6	L	T	M			
42	L	T	M			
T17 1122						
0.6	L	T	M			
7	L	D	B			
17.7	R	D	B			
34.8	R	D	B			
36.7	R	T	M			
T14 14	R	D	B			
42.6	L	D	B			
27.7	R	D	B			
14.5	R	D	B			
14.3	R	S	M			
11	R	SD	M			
9	L	T	M			
8.5	L	D	B			
1	L	D	B			

Transect Data

Transect: ______

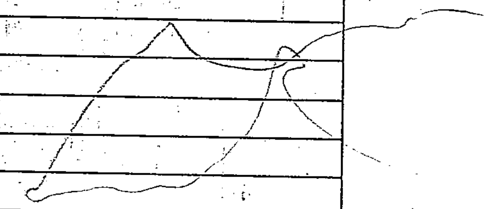
Personnel: ______

Date: ______

Weather: ______

Time: ______

Location	L/R	Sign Type (Track, Scat, etc)	Species	Photo (Y/N)	Sample (Y/N)	Notes
T12 1150						
2	R	T	m			
6.8	R	J	m			
19	L	J	m			
39	L	D	B			
T13 1158						



Stationary Observation Data

Observation Location: ______________

Personnel: ______________

Date: ______________

Weather: ______________

Sighting Location	Time	Species	Photo (Y/N)	Description/Notes
Spectecle lake	1021			
	10:25	Woodpecker		
	1030	Black bear		

Mobile Observation Data

Area Traversed: ____________

Personnel: ____________

Date: ____________

Weather: ____________

Sighting Location	Time	Species	Photo (Y/N)	Description/Notes
SPR Lake	1400	C. Goose	n	
	1410	lesser yellowlegs Sandpiper		
	1415	[illegible] Goldeneye	y	4 Ducklings
between T4-T16		frog	n	
fat rat		8 Ducklings + mother mallard		
		lesser yellowlegs		

APPENDIX D

PHOTO LOG

Coeur Alaska Kensington Terrestrial Wildlife Monitoring: Photo Log

Transect	Looking towards the TTF Access Road.
	

Goose Print.	Spectacle Lake.
	

Transect Marker Stake.	Transect.
	

Bear scat.	Looking towards Spectacle Lake
	

Moose print.	Looking towards Fat Rat Lake
	

Small toad.	Tailings Storage Facility.
	

Tailings Storage Facility	Goldeneye.
	

Upper Slate Lake.	
	

APPENDIX E

MOTION SENSOR CAMERA PHOTOS


07/14/11 05:49 PM zzzzzzzz

APPENDIX F

AVIAN SPECIES LIST

Avian Species List for Slate Lakes Basin

Waterfowl

1. White-winged Scoter (*Melanitta fusca*)
2. Greater Scaup (*Aytha marila*)
3. Mallard (*Anas platyrhynchos*)
4. Canada Goose (*Branta canadensis*)
5. Ring-necked Duck (*Aythya collaris*)
6. Red-throated Loon (*Gavia stellata*)
7. Hooded Merganser (*Lophodytes cucullatus*)
8. Common Goldeneye (*Bucephala clangula*)
9. American wigeon *(Anas Americana)*
10. Blue-winged teal (*Anas discors)-S*

Common = multiple sightings through season
S = identified through sighting
C/S = identified through call or song
B = both sighted and heard

Raptors

1. Bald Eagle (*Haliaeetus leucocephalus*) – Common, B
2. Red-tailed Hawk (*Buteo jamaicensis*)
3. Sharp-shinned Hawk (*Accipiter striatus*)
4. Northern Pygmy Owl (*Glaucidium gnoma*) – C/S
5. Northern harrier *(Circus cyaneus)* - C/S

Other

1. Belted Kingfisher (*Ceryle alcyon*) – Common, B
2. Steller's Jay (*Cyanocitta stelleri*) – Common, B
3. Common Raven (*Corvus corax*) – Common, B
4. Chestnut-backed Chickadee (*Poecile rufescens*) – Common, B
5. Dark-eyed Junco (*Junco hyemalis*) – Common, B
6. Winter Wren (*Troglodytes troglodytes*) – Common C/S
7. Savannah Sparrow (*Passerculus sandwichesis*) - B
8. Varied Thrush (*Ixoreus naevius*) - B
9. Pine Grosbeak (*Pinicola enucleator*) - S
10. Northwestern Crow (*Corvus caurinus*) - B
11. Red-breasted Sapsucker (*Sphyrapicus rubber*) –Common, B
12. Bohemian Waxwing (*Bombycilla garrulous*) - B
13. Least Sandpiper (*Calidris minutilla*) – S
14. Blue Grouse (*Dendragapus obscurus*)
15. Lesser Yellowlegs (*Tringa flavipes*)
16. Ruby-crowned Kinglet (*Regulus calendula*)
17. Wilson's Warbler (*Wilsonia canadensis*)
18. White-crowned Sparrow (*Zonotrichia albicollis*)
19. Rufous Hummingbird (*Selasphorus rufus*)
20. Tree Swallow (*Tachycineta bicolor*)
21. Orange-crowned Warbler (*Vermivora celata*)
22. Hermit Thrush (*Catharus guttatus*)
23. Cedar Waxwing (*Bombycilla cedrorum*)
24. Olive-sided Flycatcher (*Contopus borea*lis)
25. Solitary Sandpiper (*Tringa solitaria*)
27. Song Sparrow *(Melospiza melodia*)
28. Great blue heron *(Ardea herodias)*
29. Yellow-rumped warbler (*Dendroidica coronata*) – B