# WOLVERINE MINE

# WILDLIFE PROTECTION PLAN

# 2012 ANNUAL MONITORING REPORT

# QML - 0006

Prepared for:

Wolverine Mine Wildlife Technical Committee

Yukon Energy, Mines and Resources

Prepared by:

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# 1 Introduction

Yukon Zinc Corporation's (YZC) Wolverine Mine is located in the southeast Yukon within the Kaska Traditional Territory (Figure 1-1). Commencing in spring 2009, YZC actively implemented wildlife protection measures and monitoring programs as per *Wildlife Protection Plan V2009-01* (*WPP*). The *WPP* was approved in April 2009 by Yukon Energy, Mines and Resources under Quartz Mining License QML-0006 Section 12.3. The *WPP* describes YZC's commitments for minimizing and managing impacts from routine mine activities, presents a framework for the wildlife monitoring programs, provides the process of improving mitigation and management measures through the process of adaptive management, and outlines reporting requirements.

The purpose of the 2012 monitoring program was to gather data on the state of wildlife during the initial stages of the operations phase, and compare it to baseline data to identify any potential impacts from the mining activities. This report provides an overview of the Wolverine Mine site activities in 2012, and a detailed summary of the activities and wildlife monitoring programs that were completed in 2012.

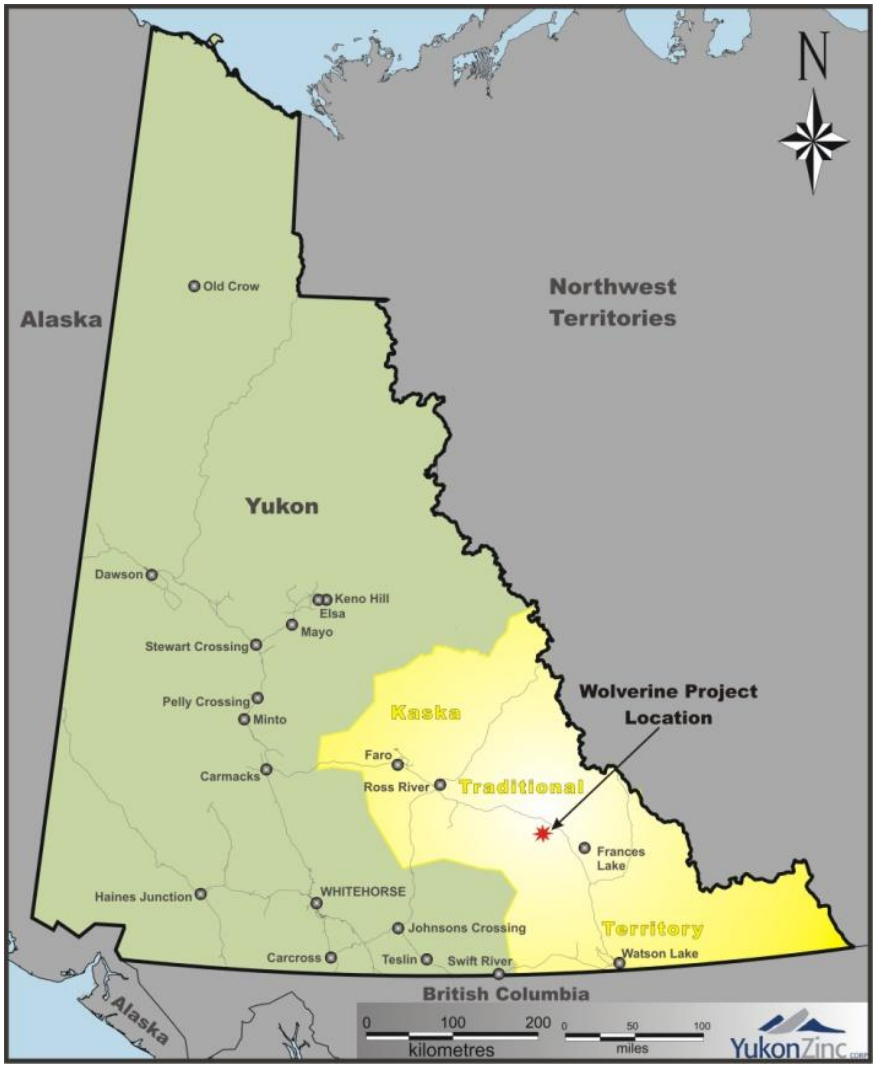


**Figure 1-1: Wolverine Mine Location, Yukon**

## 1.1 Project Development and Operations

The focus of YZC's activities in 2012 was to continue the development of the Wolverine Mine for operation.

Mine surface infrastructure construction and underground mine development continued into 2012, and included the following activities:

- Access road improvements (i.e., grading, ditching, culvert installation, slope stabilization and progressive reclamation);
- Operation of quarry area (i.e., crushing activities at KM 11);
- Construction of a concrete batch plant within the Industrial Complex (commenced in September, 2011 and ceased in March of 2012);
- Decommissioning of surface sump 3;
- Construction of tailings storage facility Stage 2 Dam;
- Pilot test work on a water treatment system for tailings storage facility water;
- Repair of Ditches 3 and 4 along the southern most toe of the Industrial Complex;
- Underground mine ramp and stope development; and,
- Achievement of commercial production in March, 2012. Tailings were either discharged to the tailings storage facility, or thickened and utilized underground as paste backfill.

# 2 Summary of 2012 WPP Programs

Provided below are summaries of the activities completed in 2012 that fulfill YZCs commitments outlined under *WPP Section 4: Wildlife Protection Procedures,* including wildlife safety training and consultation with the local outfitting concession holder, as well as a meeting/tour of site with the Wildlife Technical Committee.

## 2.1 Wildlife Safety Training

Under *WPP Section 4.1: Protection Procedure 1*, YZC committed to providing mine personnel and contractors with wildlife safety training. During site orientation training for all new employees, contractors and visitors, wildlife protection measures and reporting requirements were outlined. Specific wildlife safety training sessions (total of 104) were delivered during full orientations to all on-site personnel (including contractors) by the YZC Environmental Department at the Wolverine Mine throughout 2012 on a bi-weekly basis.

The training sessions focused on the importance of wildlife protection, both for the wildlife and the safety for those working/living in camp, and emphasized the need to follow the wildlife protection policies that were implemented on site.

As in 2010 and 2011, questions and open discussions during the training programs centered on the presence of 'nuisance wildlife' (e.g., foxes, coyotes, and ravens) on site, and approaches to minimize wildlife attraction, including:

- Maintaining a tidy work area and keeping pick-up trucks free of miscellaneous garbage and debris;

- Following the 'No Littering' and 'No Feeding of Wildlife' policies, with discussions surrounding the rationale behind them;
- Being an active participant in the waste management program on site;
- Ensuring spill kits are adequately replenished so that spills of hydrocarbons and antifreeze (animal attractant) are collected and disposed of in a timely manner; and,
- The importance of reporting wildlife observations and locations where wildlife are seen most frequently at the mine site.

## 2.2 Consultation with Local Outfitting Concession Holder

Consultation with the local outfitting concession holder, Teslin Oufitters, was completed by YZC on June 16, 2012 as identified by the *WPP Section 4.2: Protection Measure 3*. The outcome of YZC's contact with Teslin Outfitters indicated that YZC's operational activities were outside of Teslin Outfitters active outfitting areas for 2012, and therefore their activities would not be compromised.

## 2.3 Site Visit with Wildlife Technical Committee

On June 26th, 2012, members of the Wildlife Technical Committee (WTC) visited the Wolverine Mine to tour the site and discuss the efforts made to-date toward fulfilment of the Wildlife Protection Plan, and the results from the programs executed in 2011. The WTC members and participants that were present included: Ted Charlie (Ross River Dena Council), Charlie Dick (Ross River Dena Council), Frankie Magun (Liard First Nations), Sam Donnessey (Liard First Nations), Matt Clarke (Liard Regional Biologist), Ryan Drummond (Liard Regional Wildlife Technician), and Sandra Bob (YZC Community Liason Coordinator). The site visit was initiated with a presentation of the program results by Robin McCall (YZC Environmental Superintendent), where discussion was generated and suggestions made. Following the presentation, the group toured the Mine Site eliciting further discussion and suggestions. Table 3-1 provides a summary of the suggestions made during the site visit.

**Table 2-1: Suggestions made by WTC site visit on June 26th, 2012**

| Program | Proposed Suggestion |
|---|---|
| **Wildlife Records Program** | It was noted that this information was quite useful as a source of wildlife presence, and was consistent with some of the known seasonal wildlife movements in the area (e.g., Caribou). A suggested use was identifying specific sections along the Access Road where wildlife movements are more common. Signs to indicate these sections to drivers (particularly large ore trucks) could be installed to help prevent potential 'road strikes'. Even though there had not been any road strikes to date, extra precaution should be taken. |
| | Because of the usefulness of the information, more emphasis could be placed on gathering more incidental data. It was therefore suggested that wildlife recording logs could be placed in the YZC ore trucks (14 in total), and handed into the environmental department at the end of each month. The focus would therefore be placed on wildlife presence along the road, which could better identify the sections of the road most commonly used by wildlife (see above). |
| **Winter Wildlife Records Program** | It was suggested that the existing (and future) data could be better presented as "# of observations per KM" since it could be easily compared from year to year, |

| Program | Proposed Suggestion |
|---|---|
| | and with other similar wildlife tracking efforts in the area, since this is common practice. |
| **Tailings Monitoring Program** | The group was informed that migratory duck species were observed occupying the tailings facility during early spring when it was the only open body of water in the area. Several deterrents were used by YZC to some success, particularly the fake predatory owls that were positioned on the 4 barge anchor poles surrounding the facility. It was then suggested that a fake Peregrine Falcon, combined with Falcon calls from an 'auditory machine', may be an ideal deterrent, since they are a common predator of waterfowl species in the area. |
| | A net to cover the pond was also tabled, but was deemed impractical due to the size of the pond, and the fact that the pipes and the pump barge within the pond will be moved on a regular basis to cater for tailings deposition, important to managing the integrity of the dam and facility on a whole. |
| **Metal Levels in Vegetation, or Forage Species** | It was noticed that all of the sampling locations within the 'Money Creek Reference Area' (MCRA) were clustered in the relatively same area, and that a more representative data set should include sampling locations in other parts of the MCRA. It was suggested that some of these locations include the top and other side of the mountain since they would be more isolated from any potential impacts from mine activities. |
| | The group was informed that of the 3 forage species, Lichen proved to more statistically reliable (for making comparisons between areas and with time), since the entire plant was being sampled (unlike Willow) and could be found in abundance in all areas (not just around creeks like Horsetail). This finding was supported by previous studies on impacts from mines that also used Lichen as a bio-indicator. It was therefore suggested that Lichen be the sole forage species for monitoring metals moving forward. |
| | Sampling Lily Pads was suggested as an additional forage species to be analyzed for metals, since they were fed on by wildlife species in the area (e.g., Moose). However, since heavy effort was already being placed on monitoring impacts to the water quality through the Monitoring and Surveillance Program, as well as Metal Mines Effluent Regulations, it was deemed to be redundant. |
| **Metal Levels in Small Mammals** | Item 1. In 4) above applies with this sampling as well, since it was conducted in the same area. |

| Program | Proposed Suggestion |
|---|---|
| | The group was informed that of all the small mammals species captured, the Redback vole was the most reliable species for monitoring metal levels due to its relatively high abundance/population in all 3 survey areas, ecological importance, and ease of identification. In order to reduce the overall impact from the research effort, it was suggested that the Redback vole be used as the sole bio-indicator species for the program moving forward. However, to avoid jeopardizing the biodiversity data collected from the previous monitoring efforts, it was suggested that 'live traps' be used as well, the only concern being that the change in trapping effort could affect the outcome (i.e., trap success may differ). |

# 3 Wildlife Monitoring Programs

The wildlife monitoring programs that continued in 2012 as outlined in *WPP Section 5* include:

- Wildlife Records Program
- Winter Wildlife Monitoring Program
- Tailings Facility Monitoring

The description for each program includes the study area, sampling locations, methods, and results. Recommendations for program modifications are included in Section 3.7.

## 3.1 Wildlife Research Permit

A *Wildlife Research Permit* was not required since trapping of small mammals for The Small Mammal Metals Program was not conducted in 2012.

## 3.2 2012 Finlayson Caribou Composition Survey

In 2012, YZC contributed $10,000 CAN to the Finlayson Caribou Composition Survey. The results from this survey can be made available upon request from Alain Fontaine, Regional Biologist from the Liard Region, Yukon Government. In recognition of the importance of continuing the Finlayson Caribou Composition Survey moving forward and maintaining a consistent data set on such a meaningful species to the Yukon, and Canada on the whole, YZC committed to a $10,000 CAN donation to the effort undertaken in 2013.

## 3.3 Wildlife Records Program

The Wildlife Records Program consists of reporting of wildlife observations and incidents within the mine site area and along the access road. The information collected from this program provides incidental data on wildlife occurrences to identify existing and/or potential issues and/or areas of concern in relation to project components. Detailed methods for reporting wildlife incidents and observations are provided in *WPP Appendix C*.

### 3.3.1 2012 Wildlife Observations

Wildlife observations were reported to site management, crew supervisors, and/or recorded in the wildlife logs located in various locations around site. In 2012, 23 wildlife species (Table 3-1)

were documented in proximity to the exploration camp, mine site, camp complex, tailings facility, landfill, and access road. Table 3-2 provides a summary by month of all reported wildlife observations in 2012. The 2012 wildlife log for the incidental wildlife observation program is provided in Appendix A. Based on information from these observations, signs suggesting drivers to "slow" or reduce speed to "40 KM" were established at sections along the Access Road where wildlife were most frequently observed (e.g., KM 9-11, KM 23-25). As suggested by the Wildlife Technical Committee, wildlife logs will be provided to concentrate haul truck drivers to record wildlife sightings in 2013.

**Table 3-1: Wildlife species list from 2012 reported wildlife observations**

| Common Name | Scientific Name | Common Name | Scientific Name |
|---|---|---|---|
| Woodland Caribou | *Rangifer tarandus caribou* | Porcupine | *Erethizon dorsatum* |
| Moose | *Alces alces* | Snowshoe Hare | *Lepus americanus* |
| Red fox | *Vulpes vulpes* | Ptarmigan | *Lagopus* sp. |
| Grey Wolf | *Canis lupus* | Bald Eagle | *Haliaeetus leucocephalus* |
| Lynx | *Lynx canadensis* | Sandhill Crane | *Grus canadensis* |
| Beaver | *Castor sp.* | Eagle sp. | Unspecified species |
| Black Bear | *Ursus americanus* | Savannah Sparrow | *Passerculus sandwichensis* |
| Red Squirrel | *Tamiasciurus hudsonicus* | Hawk Owl | *Surnia ulula* |
| Chipmunk | *Tamias* sp. | Raven | *Corvus corax* |
| Marten | *Martes americana* | Goose sp. | Unspecified species |
| Grizzly Bear | *Ursus arctos* | Duck sp. | Unspecified species |
| Golden Eagle | *Aquila chrysaetos* | | |

**Table 3-2: Summary of reported wildlife observations within the Wolverine Mine area in 2012**

| Species | No. Observations by Project Component | | | | |
|---|---|---|---|---|---|
| | Robert Campbell HWY | Access Rd (KM 1-24) | Tailings Pond/Airstrip/Landfill (KM 24-27) | Camp & Industrial Complex (KM 27-29) | Exploration Road/Camp (KM 29-32) |
| ***January*** | | | | | |
| Fox | | 1 | 4 | 6 | |
| Lynx | | 1 | | | |
| Caribou | | | | | 26 |
| Ptarmigan | | | 20 | 30 | |
| Wolf | | 1 | | | |
| Moose | | 2 | | | |
| ***February*** | | | | | |
| Ptarmigan | | | 40 | | |
| ***March*** | | | | | |
| Fox | | | | 7 | |
| Ptarmigan | | 6 | | | |
| Wolf | 1 | 1 | | | |
| ***April*** | | | | | |
| Fox | | | | 2 | |
| Ptarmigan | | | 10 | | |
| Golden Eagle | | 1 | | | |
| Snowshoe Hare | | 1 | | | |
| ***May*** | | | | | |
| Fox | | | 2 | 1 | |
| Ptarmigan | | 32 | 1 | | |
| Wolf | 1 | 1 | | | |
| Hawk Owl | | | 2 | | |
| Chipmunk | | 3 | 1 | | |
| Woodpecker | | | | 1 | |
| Porqupine | | | 1 | | 1 |
| Duck sp. | | | | 4 | |
| Raven | | | 1 | | |
| Eagle | | | | 1 | |
| Snowshoe Hare | | 2 | | | |
| ***June*** | | | | | |
| Grizzly Bear | | 1 | | | |
| Porqupine | | 1 | | | |
| Caribou | | | 5 | | |
| Beaver | | 1 | | | |

| Species | No. Observations by Project Component | | | | |
|---|---|---|---|---|---|
| | Robert Campbell HWY | Access Rd (KM 1-24) | Tailings Pond/Airstrip/Landfill (KM 24-27) | Camp & Industrial Complex (KM 27-29) | Exploration Road/Camp (KM 29-32) |
| ***July*** | | | | | |
| Fox | | | | 1 | |
| Caribou | | 2 | 2 | | |
| Wolf | | | 3 | | |
| Marten | | | | 1 | |
| Black Bear | | 1 | | | |
| Porcupine | | | | 1 | |
| ***August*** | | | | | |
| Fox | | | | 2 | |
| Bald Eagle | | | | | 1 |
| Porcupine | | | 1 | | |
| Grizzly Bear | | | | | 1 |
| Caribou | | | 1 | | |
| ***September*** | | | | | |
| Fox | | | 1 | 3 | |
| Sandhill Crane | | 40 | 1,201 | | |
| Grizzly Bear | | | 1 | 1 | |
| Bald Eagle | | 1 | | | |
| Red Squirrel | | 2 | | | |
| Savannah Sparrow | | | | 4 | |
| Porqupine | | | | 1 | |
| Black Bear | | | | 1 | |
| Duck sp. | | | 5 | | |
| Caribou | | | 1 | | |
| ***October*** | | | | | |
| Duck sp. | | | 2 | | |
| Moose | | 6 | 6 | | 2 |
| Marten | | | 2 | | |
| ***November*** | | | | | |
| Snowshoe Hare | | 1 | 1 | | |
| Ptarmingan | | 12 | | | |
| Goose | | 1 | | | |
| ***December*** | | | | | |
| Snowshoe Hare | | 1 | | | |
| Ptarmingan | | 20 | 30 | | |

### 3.3.2 2012 Wildlife Incidents

Twenty-two wildlife related incidents occurred in 2012. Each incident was reported to site management as soon as they occurred, and reports were completed for incidents, as warranted. Table 3-3 provides incident date, the wildlife involved, the nature of each incident and whether or not a report was filed. Eight of the 22 incidents were of migratory duck species observed in and around the tailings pond during early spring, a time when there is no other open body of water in the area. A sounding-canon, which lets off random 'bangs' throughout the day, was set-up on the tailings barge. This did help to deter ducks, but was not sufficient, as ducks seemed to get used to the bangs and were no longer bothered by it. Models of predatory bird species (Owls) that were placed on the anchor beams surrounding the Tailings Facility had a better effect than the sounding canon, but also proved not to be totally sufficient. This was explained during the site visit held on June 26th, where it was suggested by the WTC members that a model Peregrine Falcon, combined with a Falcon auditory machine, would serve as a more effective deterrent (see Table 2-1). It is therefore the intent of YZC to purchase these items and position them at the tailings prior to the spring of 2013. Apart from the Ptarmigan and Raven fatalities on March 29th and July 20th, respectively, there were no incidents that caused harm to wildlife or a major safety concern.

**Table 3-3: 2012 wildlife incidents**

| Date | Wildlife Involved | Nature of Incident | Wildlife Incident Report Completed |
|---|---|---|---|
| 29-Mar-12 | Ptarmigan | Mortality - cause unknown | Yes |
| 24-Apr-12 | 6 ducks and 4 gulls | Observed at Tailings Pond. No mortality or injury - bear bangers were released until the birds flew away. | Yes |
| 25-Apr-12 | 4 ducks | Observed at Tailings Pond. No mortality or injury - bear bangers were released until the birds flew away. | Yes |
| 28-Apr-12 | 5 Golden-eye ducks | Observed at Tailings Pond. No mortality or injury - bear bangers were released until the birds flew away. | Yes |
| 13-May-12 | 5 ducks | Observed at Tailings Pond. No mortality or injury - bear bangers were released until the birds flew away. | Yes |
| 15-May-12 | 60 ducks | Observed at Tailings Pond. No mortality or injury - bear bangers were released until the birds flew away. | Yes |
| 16-May-12 | 8 ducks | Observed at Tailings Pond. Shot off two pen bear bangers, all ducks flew away. | Yes |
| 17-May-12 | 1 duck | Observed at Tailings Pond. Shot off three shots and the duck flew away. | Yes |

| Date | Wildlife Involved | Nature of Incident | Wildlife Incident Report Completed |
|---|---|---|---|
| 18-May-12 | 4 ducks | Observed at Tailings Pond. Shot off one shot all four started to fly away but two landed back. Shot off two more shots and got cannon going to deter ducks. | Yes |
| 25-May-12 | Grizzely sow and cub | Sighted at KM 22. No mortality or injury - bears wandered away . | No |
| 02-Jun-12 | Wolf | Sighted near Camp within Industrial Complex. No mortality or injury - wandered away. | No |
| 02-Jul-12 | Black Bear | Sighted at KM 26. No mortality or injury - ran away after bangers set off. | No |
| 03-Jul-12 | Grizzly Bear | Sighted walking past propane tanks and headed down valley. No mortality or injury - wandered away. | No |
| 4-Jul-12 | Grizzly Bear | Sighted by the South Camp. No mortality or injury - bear wandered away. | No |
| 12-Jul-12 | Grizzly Bear | Garbage was strewn everywhere at UG truck shop - possible bear incident. Garbage was cleaned up and underground workers were educated that feeding animals is against the law. | No |
| 19-Jul-12 | Wolf | Wolf sighted at Pilot Water Treatment Plant and was acting aggressive (may have been kicked out of pack) - used bear bangers to scare away. | No |
| 20-Jul-12 | Raven | Mortality - possible vehicle strike. | Yes |
| 22-Jul-12 | 2 Black Bears | Sighted at KM 29 - used whistle bear banger to scare off toward wolverine lake | No |
| 23-Jul-12 | Wolf (same Wolf as above) | Observed at Landfill and was acting very aggressive - shot wolf with a rubber bullet. Wolf never returned. | Yes |
| 19-Aug-12 | Porcupine | Found its way into the tailings pond on side of liner - dropped a rope ladder down for it to climb out. | Yes |
| 26-Aug-12 | Young black bear | Allowed bear to walk away. | No |
| 03-Nov-12 | Fox | Accessed garbage behind kitchen. Improved garbage storage/disposal system (triple bag food waste, increase pick-up frequency, flatten boxes to make more room). | No |

## 3.4 Winter Wildlife Monitoring

The study areas for the Winter Wildlife Monitoring Program include the Mine Site Study Area (MSSA), Putt Creek Study Area (PCSA), and Money Creek Study Area (MCSA). The MSSA encompasses the Wolverine Mine plant site, including mine portal, tailings facility, camp complex, industrial complex, airstrip, and landfill. The PCSA encompasses the access road that connects the mine site to the Robert Campbell Highway. The MCSA (referred to in the *WPP* as the Money Creek Reference Area or MCRA) is the reference control site for the program and encompasses the Money Creek watershed, located south of the main mine site area.

### 3.4.1 2012 Summary and Monitoring Schedule

Winter Wildlife Monitoring for 2012 occurred from January to March and recommenced October to December. Surveys were performed for each transect on average of 3 times during the year. This comparably low frequency to previous years was mainly due to poor snow conditions (i.e., low precipitation) at the end of the year. The longer transects (e.g., MCSA-WT01, MCSA-WT02 and MSSA-WT05) require the use of a snowmobile to safely traverse the terrain. Attempts were made in December to sample these 3 transects, which ended up significantly damaging the snowmobiles because of the low amount of snow available.

Field monitoring was conducted according to methods detailed in *WPP Appendix E*. All sampling was carried out by trained YZC personnel. Table 3-4 provides details on each transect and the 2012 monitoring dates. As mentioned in the *2011 WPP Annual Report*, transect MCSA-WT02 was replaced by MCSA-WT03, and therefore is not included in the table below.

**Table 3-4: 2012 winter transects summary and monitoring dates**

| Study Area | Transect ID | POC Coordinates | | POT Coordinates | | Transect Length (m) | 2012 Monitoring Dates |
|---|---|---|---|---|---|---|---|
| | | Easting | Northing | Easting | Northing | | |
| MCRA | MCSA-WT01 | 444059 | 6805764 | 442561 | 6807991 | 1400 | 07-Feb |
| MCRA | MCSA-WT03 | 442561 | 6807991 | 443443 | 680212 | 3000 | 07-Feb |
| MSSA | MSSA-WT01 | 439000 | 6811459 | 437381 | 6812665 | 2000 | 27-Jan, 26-Feb, 23-Mar, 28-Dec |
| MSSA | MSSA-WT02 | 438474 | 6812355 | 439661 | 6811320 | 1100 | 27-Jan, 26-Feb, 23-Mar, 28-Dec |
| MSSA | MSSA-WT03 | 441972 | 6809022 | 442606 | 6808088 | 800 | 1-Feb, 31-Mar, 30-Oct, 26-Nov, 25-Dec |
| MSSA | MSSA-WT04 | 440513 | 6810504 | 441041 | 6809862 | 800 | 17-Feb, 1-Mar, 30-Oct, 14-Nov, 12-Dec |
| MSSA | MSSA-WT05 | 440222 | 6810352 | 442661 | 6807797 | 3100 | 27-Mar |
| PCSA | PCSA-WT01 | 452486 | 6816714 | 452914 | 6818695 | 2020 | 25-Feb, 26-Mar, 21-Nov, 8-Dec |
| PCSA | PCSA-WT02 | 450450 | 6812277 | 450600 | 6814375 | 2100 | 6-Feb, 24-Mar, 6-Nov |
| PCSA | PCSA-WT03 | 450673 | 6811319 | 450450 | 6812277 | 1000 | 6-Feb, 24-Mar, 6-Nov |
| PCSA | PCSA-WT04 | 450554 | 6814048 | 450967 | 6813940 | 430 | 28-Feb, 26-Mar, 21-Nov |

MSSA = Mine Site Study Area; PCSA = Putt Creek Study Area; MCSA = Money Creek Study Area; POC = Point Of Commencement; POT = Point Of Termination

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### 3.4.2 2012 Winter Transect Results

The 2012 field program documented wildlife sign observed along the monitoring transects. A summary of these observations (i.e., location and count/km) is presented in Figure 3-1 to Figure 3-13 for each species, including Rock Ptarmigan, Marten, American Red Squirrel, Short-tailed Weasel, Vole Sp. (species unknown), Snowshoe Hare, Lynx, Wolf, Wolverine, Red Fox, Moose, and Woodland Caribou, respectively (raw data set can be found in Appendix B). The y-axis on each graph was changed to reflect count per km for more reliable comparisons between years and transects, as suggested by the WTC (see Table 2-1). Other observations (e.g., temperature, wind, snow depth, time of last snow fall) were also recorded for all transects monitored, as prescribed in the *WPP* and is also provided in Appendix B. The 2012 observations are compared to the 2009, 2010 and 2011 observations in the figures below for the purposes of evaluating trends in the data year to year. Blank count graphs indicate that the species was not identified in the monitoring year for that transect.

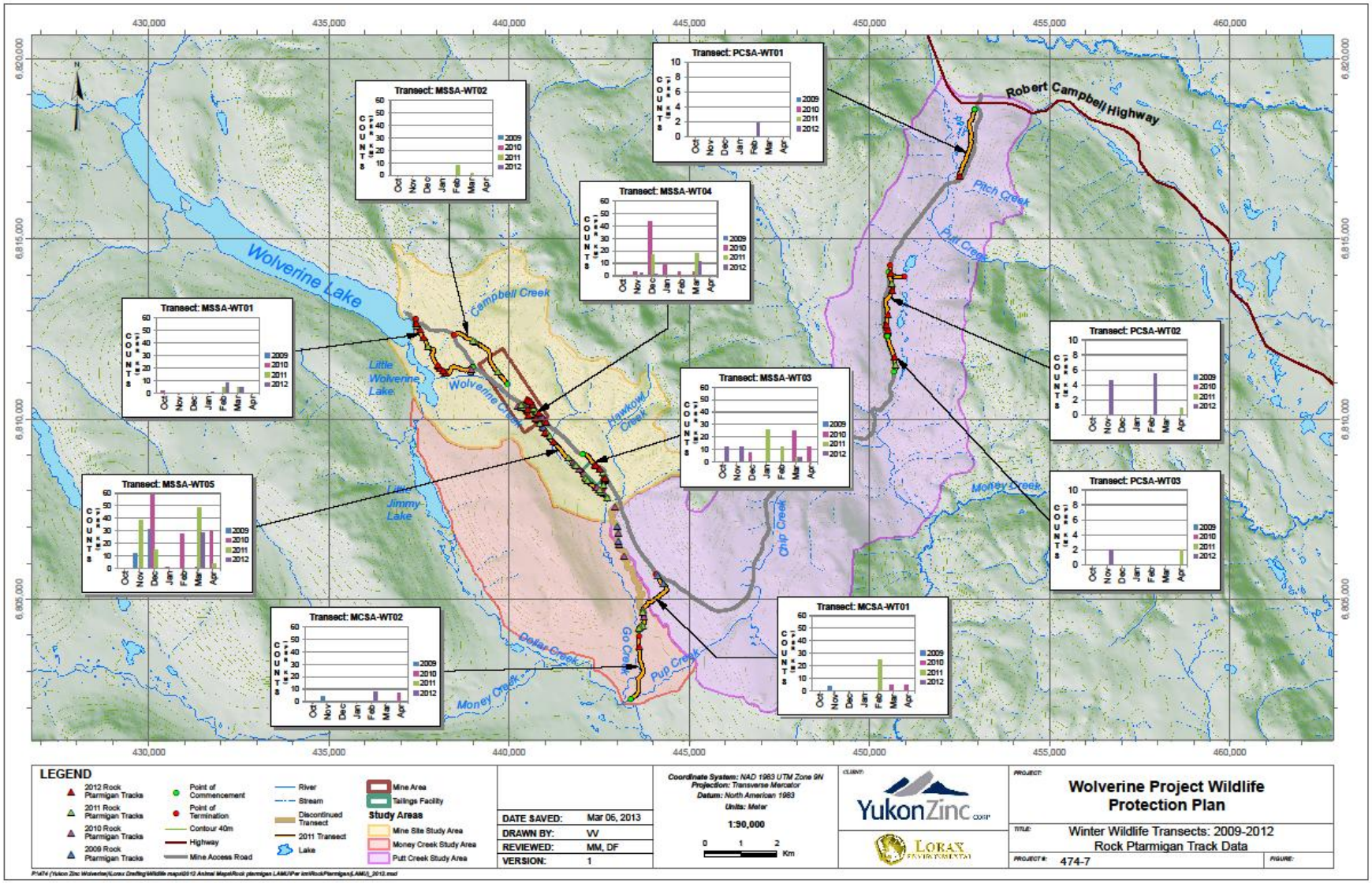


**Figure 3-1: Rock Ptarmigan: 2012 summary of location and count along established Winter Wildlife Transects**

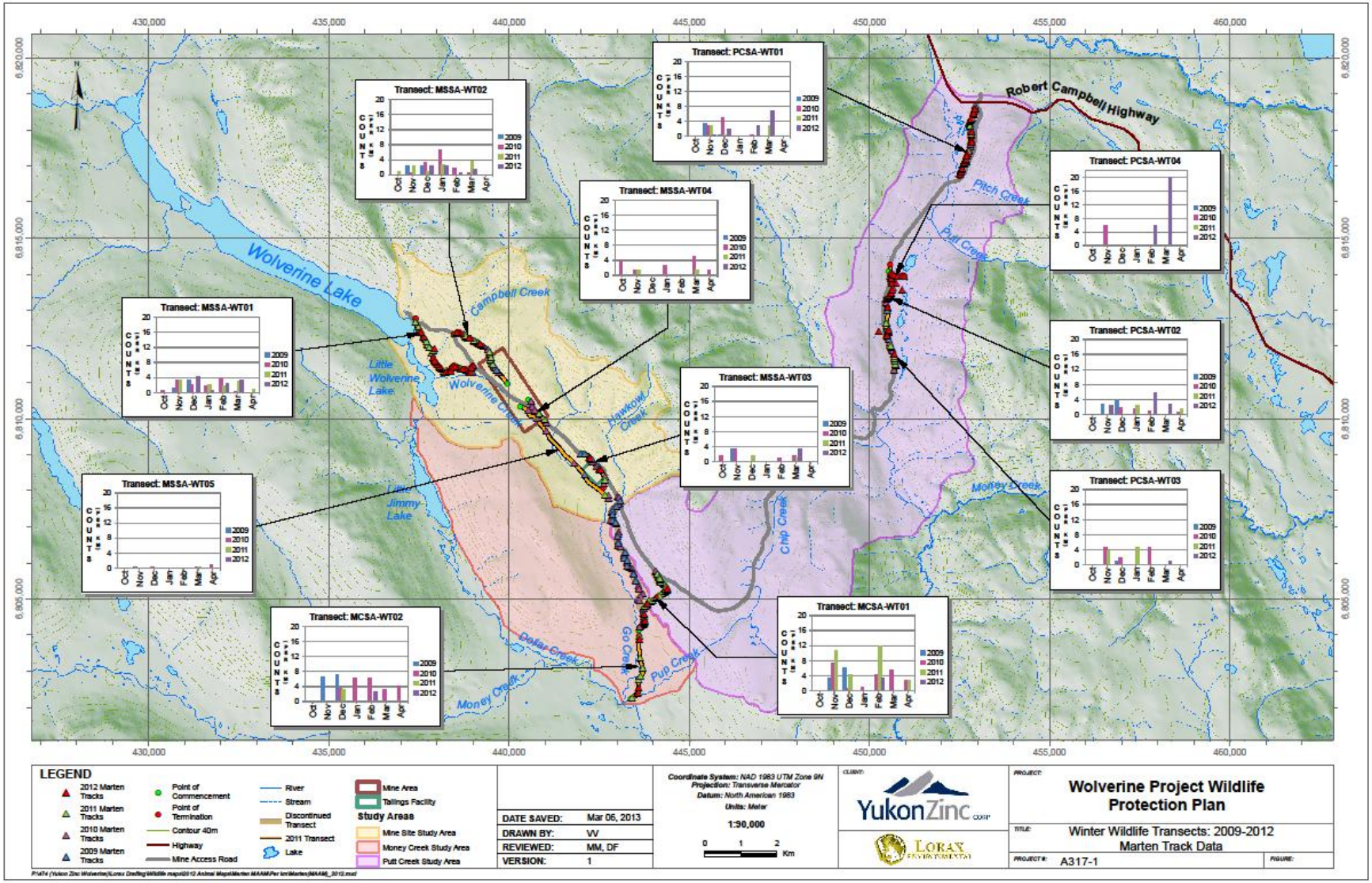


**Figure 3-2: Marten: 2012 summary of location and count along established Winter Wildlife Transects**

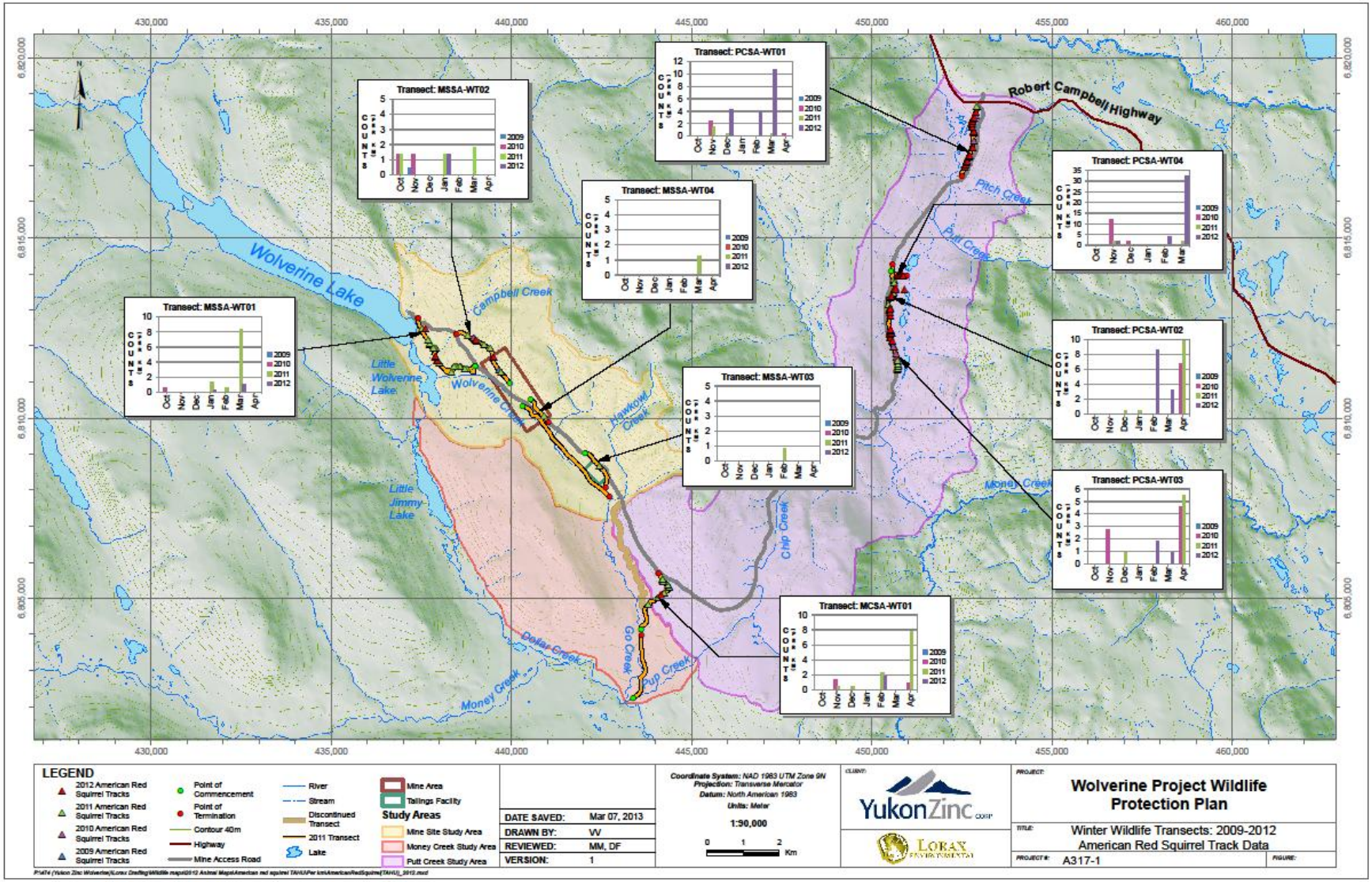


**Figure 3-3: American Red Squirrel: 2012 summary of location and count along established Winter Wildlife Transects**

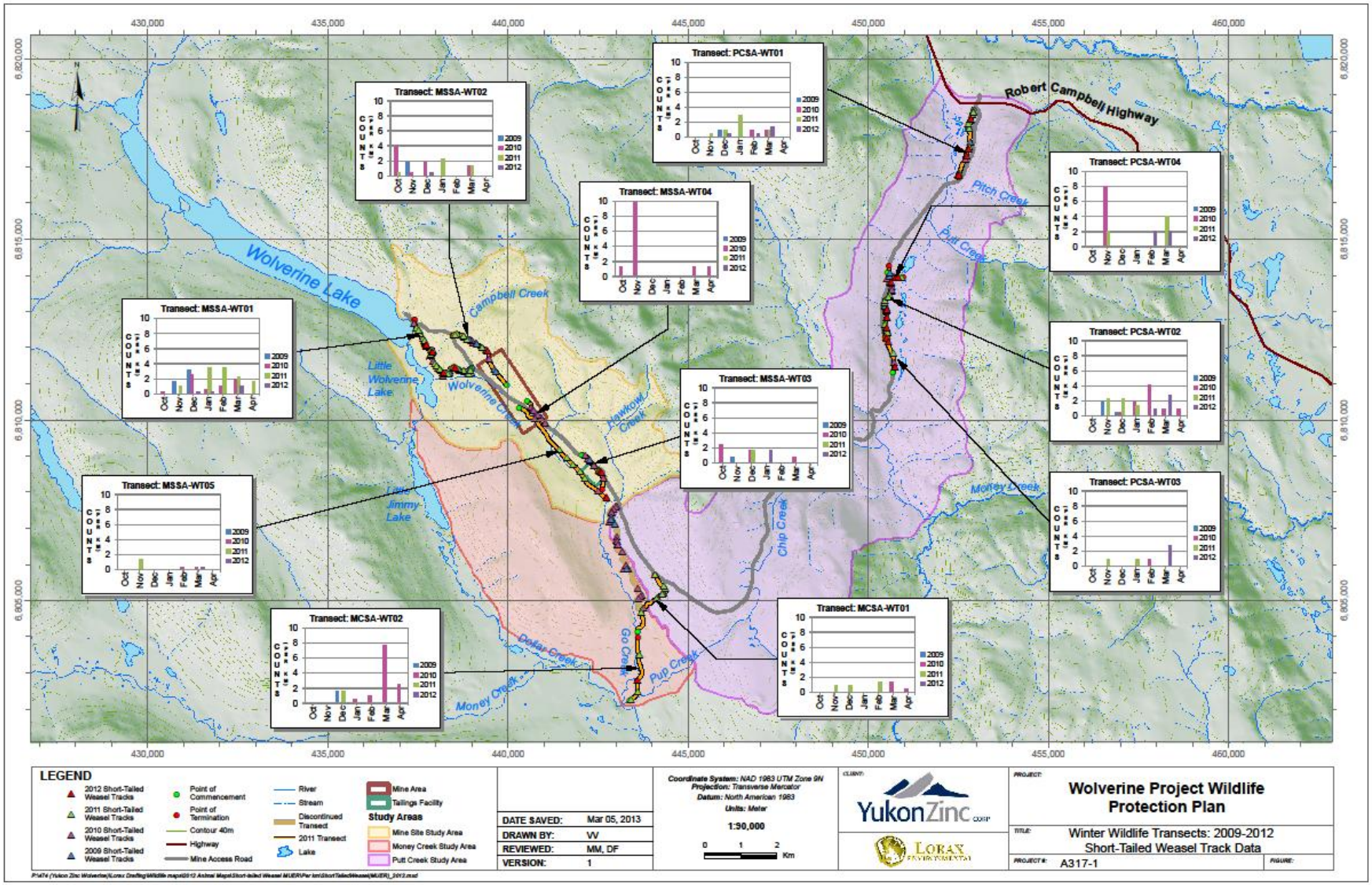


**Figure 3-4: Short-tailed weasel: 2012 summary of location and count along established Winter Wildlife Transects**

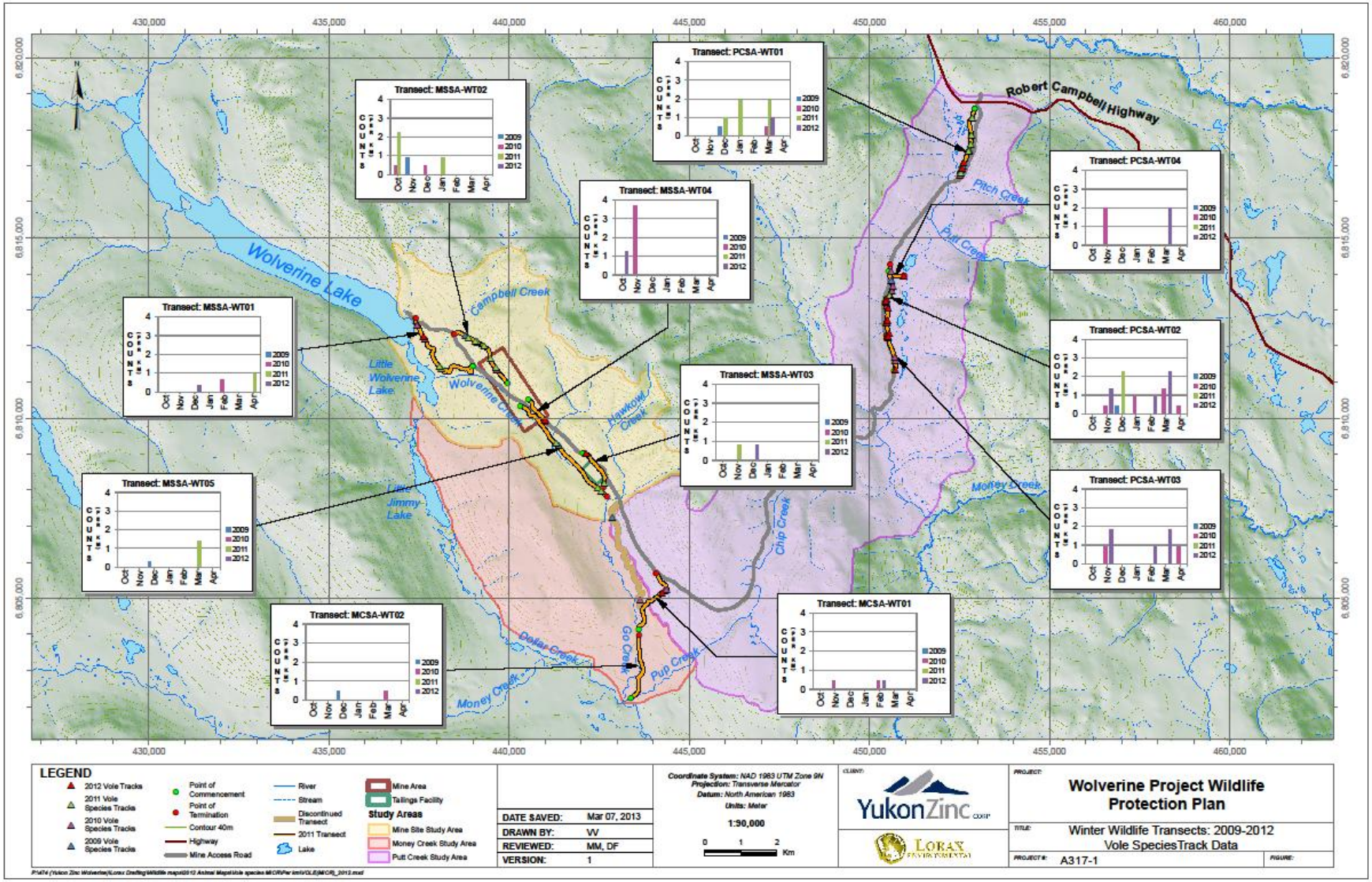


**Figure 3-5: Vole Species: 2012 summary of location and count along established Winter Wildlife Transects**

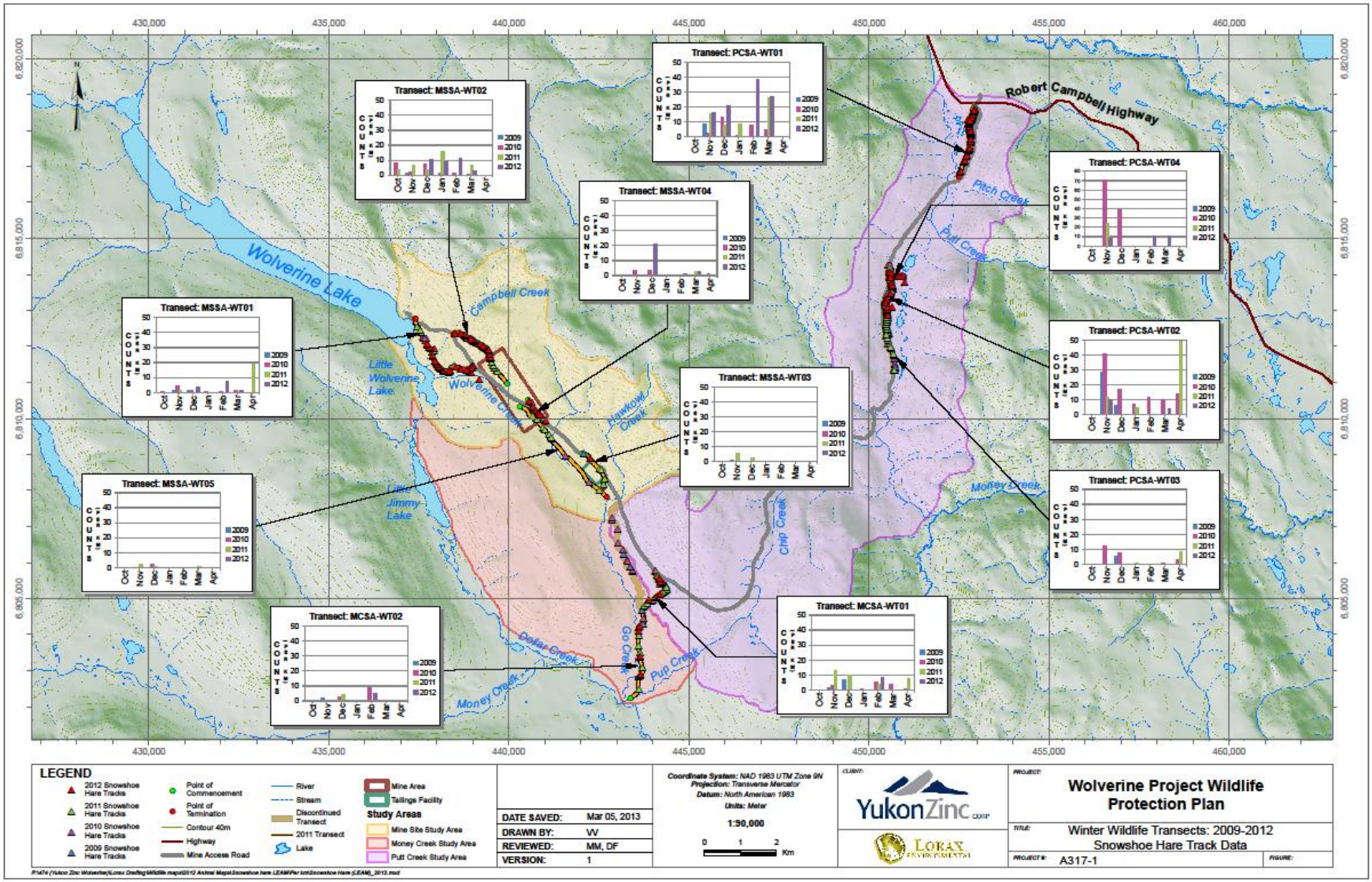


**Figure 3-6: Snowshoe Hare: 2012 summary of location and count along established Winter Wildlife Transects**

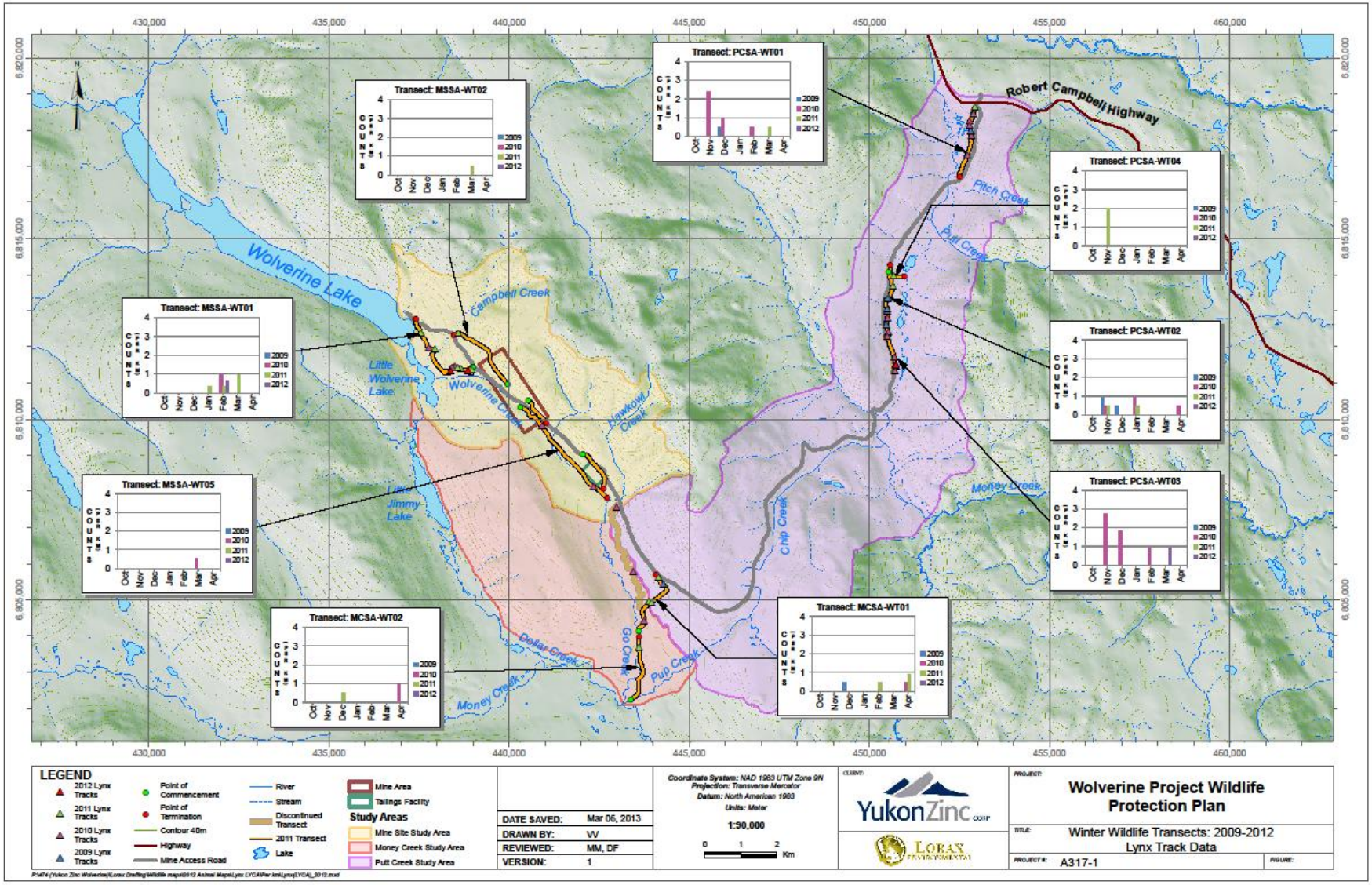


**Figure 3-7: Lynx: 2012 summary of location and count along established Winter Wildlife Transects**

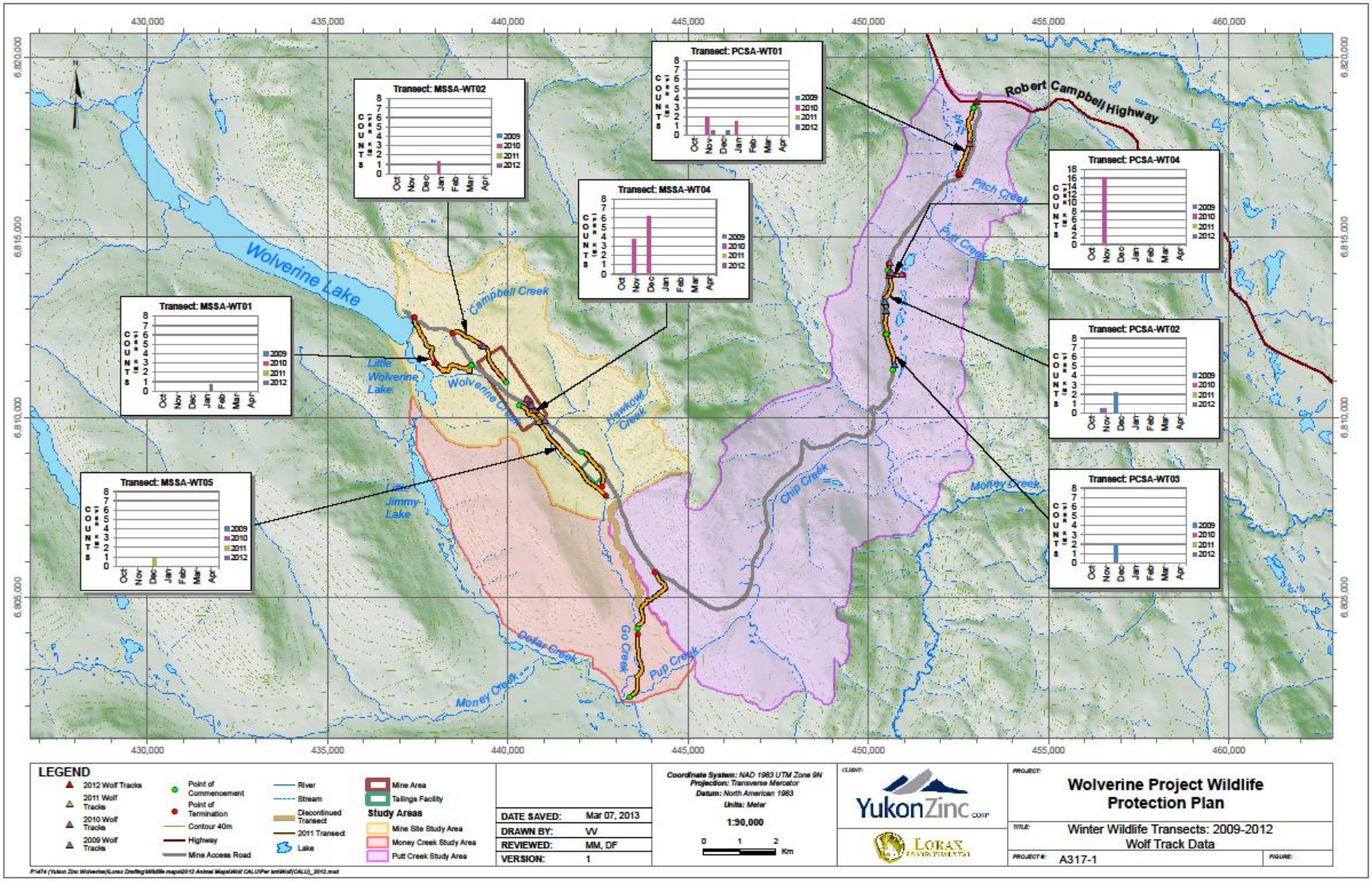


**Figure 3-8: Wolf: 2012 summary of location and count along established Winter Wildlife Transects**

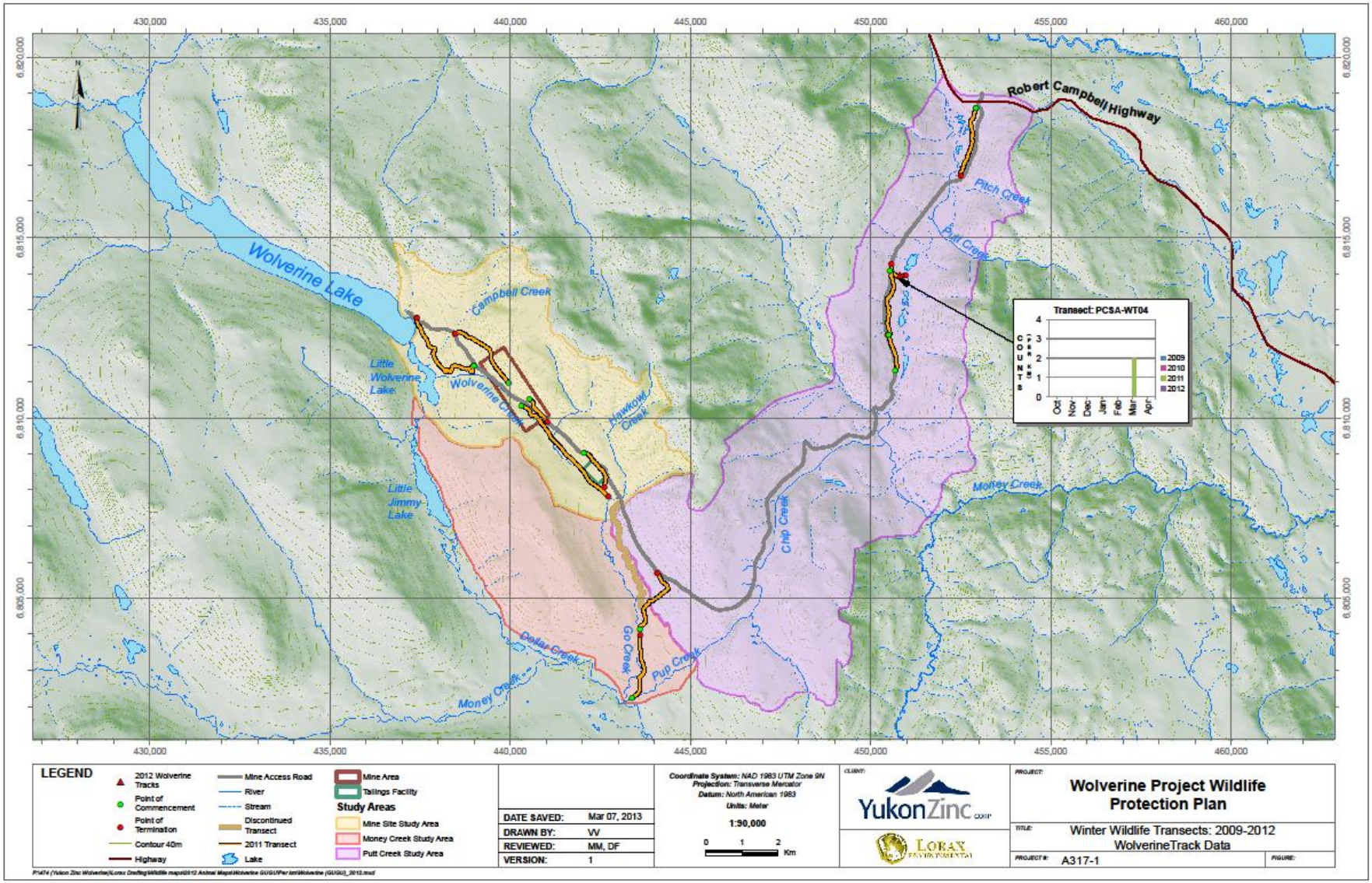


**Figure 3-9: Wolverine: 2012 summary of location and count along established Winter Wildlife Transects**

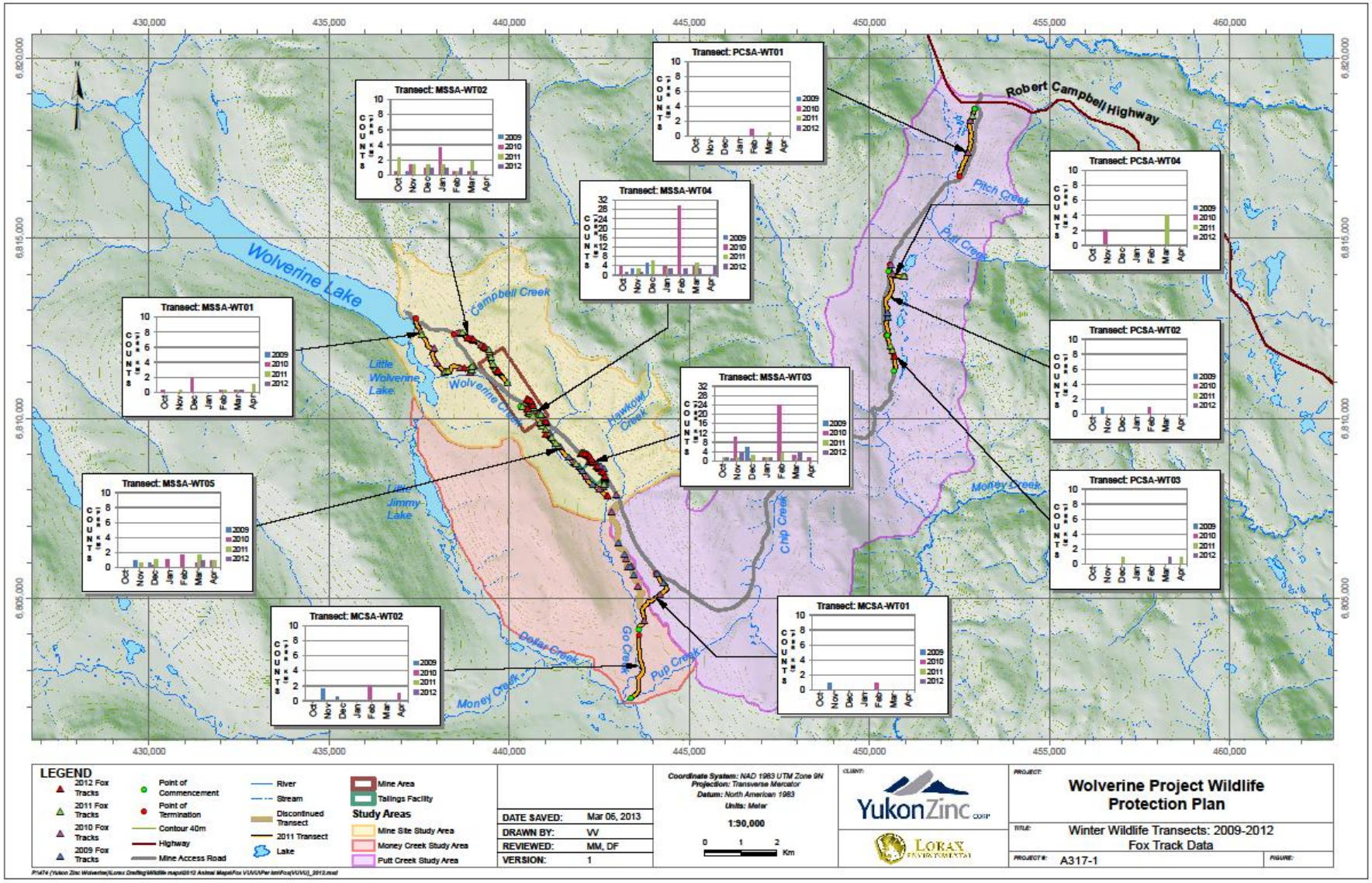


**Figure 3-10: Red Fox: 2012 summary of location and count along established Winter Wildlife Transects**

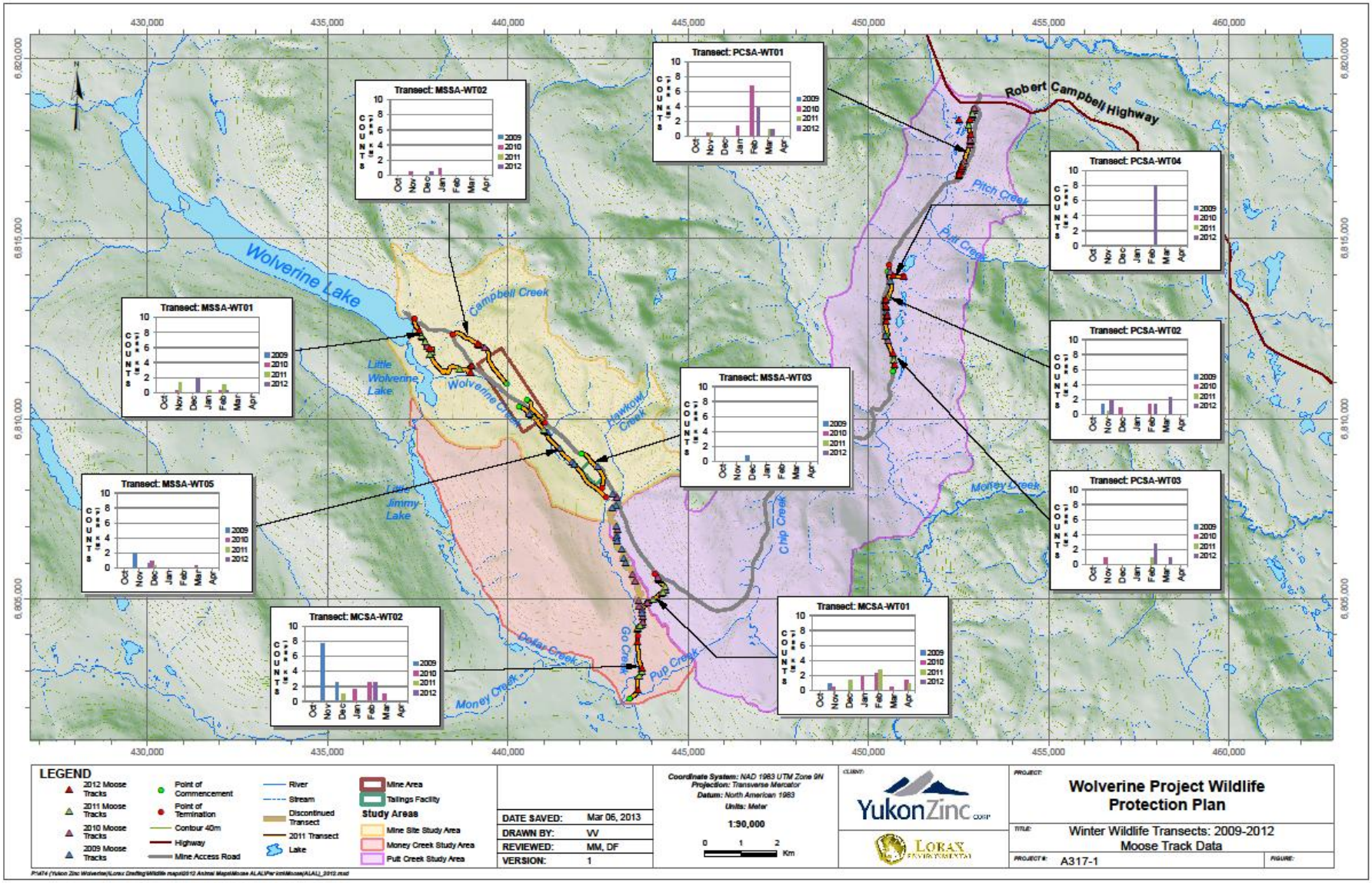


**Figure 3-11: Moose: 2012 summary of location and count along established Winter Wildlife Transects**

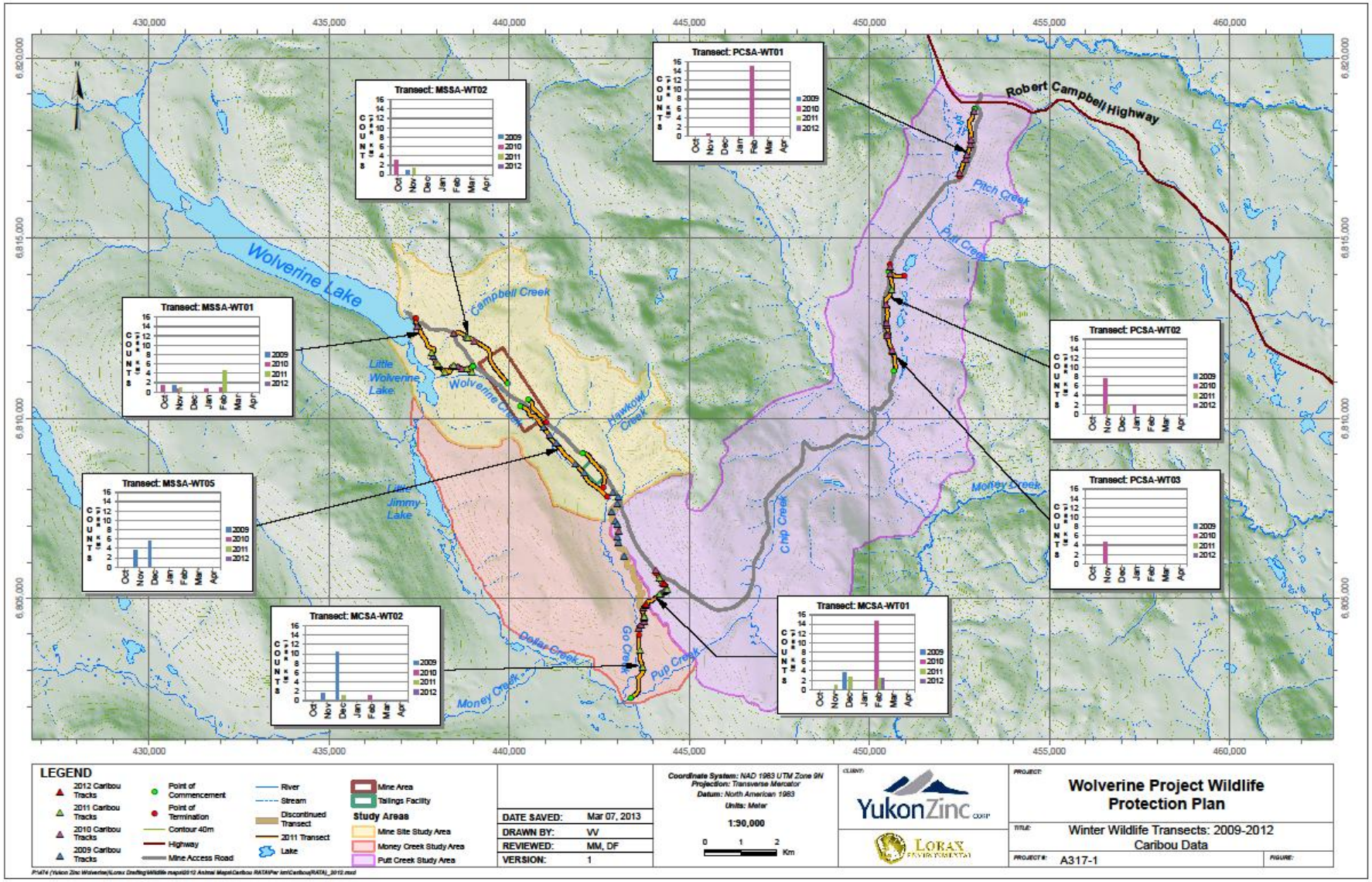


**Figure 3-12: Woodland Caribou: 2012 summary of location and count along established Winter Wildlife Transects**

## 3.5 Tailings Facility Monitoring

Bird surveys were conducted during the spring and fall 2012 at the Tailings Facility monitoring station and the three reference stations (Piper Lake, Little Wolverine Lake, and Johnson Jules Lake), as prescribed in the *WPP*. Table 3-5 describes the vegetation characteristics of the Tailings Facility Monitoring Station and the three Reference Stations, and Figure 3-13 provides a map of their respective locations.

The results from the bird surveys are summarized in Table 3-6 (Tailings Facility), Table 3-7 (Piper Lake), Table 3-8 (Little Wolverine Lake), and Table 3-9 (Johnson Jules Lake). Much like 2011, species of migratory waterfowl were observed occupying the area surrounding the Tailings Facility, as well as landing directly in the pond. As previously mentioned in section 3.2.2 (2012 Wildlife Incidents), the tailings pond was the only available open body of water during the onset of spring break-up, causing the waterfowl to be attracted to it. This occurred despite measures taken to deter the waterfowl from the tailings area (e.g., installing model 'birds of prey' and a sounding canon on anchor beams and barge, respectively) during this critical period. Fortunately, however, the birds were easily deterred by shooting off bear bangers into the air on each occasion, allowing only a short period of time (~30 min at most) for them to occupy the area. Further measures, as described in section 3.2.2, will be taken in 2013 to deal with this issue.

The number of surveys conducted at each station varied only slightly in 2012, with the Tailings Facility, Piper Lake reference station and Johnson Jules Lake reference station all receiving 7 surveys each, and Little Wolverine Lake receiving 6. Based on the number of species observed at each station (4 at the Tailings Pond, 16 at Piper Lake, 20 at Little Wolverine, and 28 at Johnson Jules Lake), the number of surveys conducted was determined to be sufficient. The number of species observed at each station in 2011, as a comparison, was only 7, 13, 12, and 9 at the Tailings Facility, Piper Lake, Little Wolverine Lake and Johnson Jules Lake, respectively. Similar waterfowl species were observed occupying the various stations, but only one species was observed at all four: Greater Scaup.

**Table 3-5: Location description and vegetation characteristics of the Tailings Facility Monitoring Station and the 3 Reference Stations**

| Station | Stn. No. | Station Vegetation Characteristics | | | | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location Coordinates | | Total Vegetation % Cover | Tree Layer | | Shrub Layer | | Forb Layer | | Ground % Cover | Water % Cover | |
| | | Easting | Northing | | % Cover | Species | % Cover | Species | % Cover | Species | | | |
| Tailings Facility | TRP-1 | 442737 | 6808318 | **5** | 35 | Spruce dominated | 35 | Willow dominated | 30 | Horsetail dominated | **15** | **80** | TRP-1 = Tailings Reference Point, where a photo will be taken every season moving forward |
| | BSS-1 | 442565 | 6808482 | **5** | 35 | Spruce dominated | 35 | Willow dominated | 30 | Horsetail dominated | **15** | **80** | BSS-1 = Bird Survey Station #1 |
| Piper Lake | BRS-1 | 450595 | 6810685 | **30** | 20 | Spruce dominated | 40 | Willow dominated | 40 | Lichen dominated on slopes, Horsetail dominated near waters edge | **0** | **70** | BRS-1 = Bird Reference Station #1 |
| Little Wolverine Lake | BRS-2 | 437422 | 6812159 | **20** | 30 | Spruce dominated with some stands of Poplar | 40 | Buckbrush and Willow dominated | 30 | Even distribution of Hudson Bay, Blueberry, Lichen, and horsetail | **5** | **75** | BRS-1 = Bird Reference Station #2 |
| Johnson Jules Lake | BRS-3 | 450939 | 6814248 | **10** | 30 | Spruce dominated with some stands of Poplar | 50 | Buckbrush and Willow dominated | 20 | Mainly grass moss | **5** | **85** | BRS-1 = Bird Reference Station #3 |

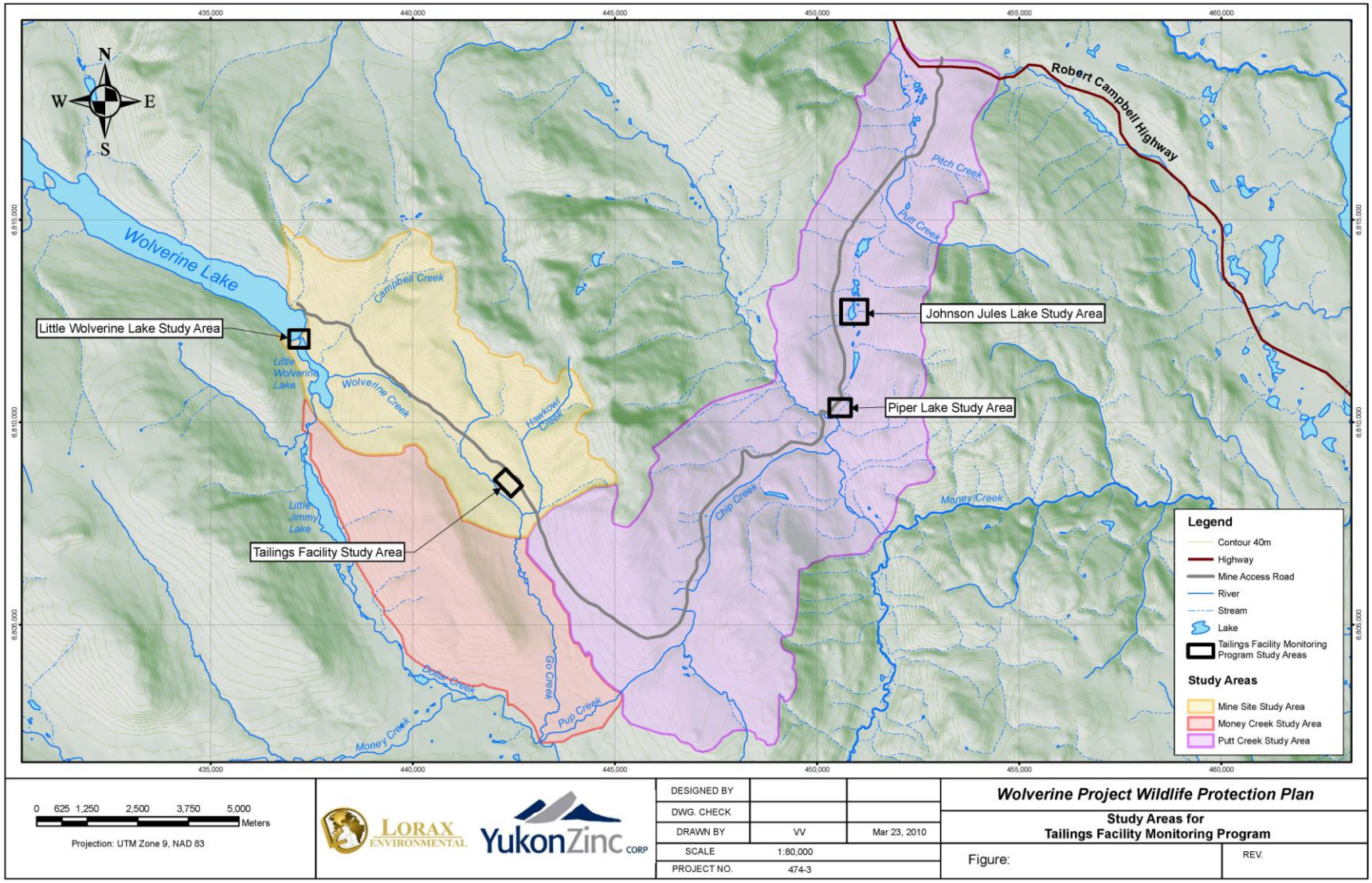


**Figure 3-13: Location of Tailings Study Area, Piper Lake Study Area, Little Wolverine Lake Study Area and Johnson Jules Lake Study Area**

**Table 3-6: Summary of 2012 results from the bird surveys conducted at the Tailings Facility Monitoring Station**

| | | | | No. of Birds | | | | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Stn. No.** | **Time (24 hour)** | **Species** | **Adult Female** | **Adult Male** | **Uncl. Adult** | **Juvenile** | **Comments** |
| **May 11th** | BSS-1 | 930 | | | | | | No birds observed |
| **May 18th** | BSS-1 | 920 | Greater Scaup (*Aythya marila*) | 3 | 1 | | | Was deterred using bear bangers |
| **June 1st** | BSS-1 | 815 | | | | | | No birds observed |
| **Aug. 31st** | BSS-1 | 710 | Ptarmigan *(Lagopus muta)* | | | 7 | | Sitting on side of road |
| | BSS-1 | 753 | Raven *(Corvus corax)* | | | 1 | | Sitting near construction watching activity |
| **Sept. 15th** | BSS-1 | 645 | | | | | | No birds observed |
| **Sept. 21st** | BSS-1 | 10:30 | Gray Jay (*Perisoreus canadensis*) | | | 3 | | Seen singing nearby, no attempt to enter tailings |
| **Oct. 8th** | BSS-1 | 758 | | | | | | No birds observed |
| **Total** | | | | **3** | **1** | **11** | **0** | **15** |

**Table 3-7: Summary of 2012 results from the bird surveys conducted at the Piper Lake Reference Station**

| | | | | No. of Birds | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Stn. No.** | **Time (24 hour)** | **Species** | **Adult Female** | **Adult Male** | **Uncl. Adult** | **Juvenille** | **Comments** |
| **May 11th** | BRS-1 | 1130 | Barrow's Goldeneye (*Bucephala islandica*) | 1 | 1 | | | Observed in area |
| | BRS-1 | 1130 | Greater Scaup (*Aythya marila*) | | | 2 | | Could not accurately identify |
| | BRS-1 | 1130 | Savannah Sparrow (*Passerculus sandwichensis*) | | | 2 | | Savannah Sparrow |
| **May 29th** | BRS-1 | 845 | Barrow's Goldeneye (*Bucephala islandica*) | 1 | 1 | | | Swimming and foraging |
| | BRS-1 | 850 | Upland Sanpiper (*Bartramia longicauda*) | 2 | 2 | | | Foraging |
| | BRS-1 | 855 | Common Goldeneye (*Bucephala islandica*) | 1 | | | | Swimming |
| | BRS-1 | 856 | Spotted sandpiper (*Actitis macularius*) | | | 3 | | Foraging |
| | BRS-1 | 858 | Sparrow (*Melospiza sp*). | | | 6 | | flying around and foraging |

| | | | | No. of Birds | | | | |
|---|---|---|---|---|---|---|---|---|
| | Stn. No. | Time (24 hour) | Species | Adult Female | Adult Male | Uncl. Adult | Juvenille | Comments |
| | BRS-1 | 905 | Swamp Sparrow (*Melospiza georgiana*) | | | 1 | | swamp sparrow foraging |
| | BRS-1 | 910 | Lesser yellowlegs (*Tringa flavipes*) | | | 7 | | Courting |
| | BRS-1 | 910 | Gray Jay (*Perisoreus canadensis*) | | | 1 | | Foraging |
| | BRS-1 | 915 | Blue-winged Teal (*Anas discors*) | | | 4 | | Swimming and foraging |
| **June 1st** | BRS-1 | 1052 | Arctic Tern (*Sterna paradisaea*) | | | 1 | | Swimming |
| | BRS-1 | 1054 | Green-winged Teal (*Anas crecca*) | | 1 | | | Swimming |
| | BRS-1 | 1105 | Baird's Sandpiper (*Calidris bairdii*) | | | 1 | | Wading/feeding |
| | BRS-1 | 1108 | Fox Sparrow (*Passerella iliaca*) | | | 2 | | Foraging |
| **Sept. 12th** | BRS-1 | 855 | Little brown bird | | | | 1 | Could not accurately identify |
| | BRS-1 | 902 | Mallard (*Anas platyrhynchos*) | | | 6 | | Swimming and foraging |
| | BRS-1 | 905 | Song bird sp. | | | 1 | | Could not accurately identify |
| | BRS-1 | 907 | Fat brown breasted bird | | | 1 | | Could not accurately identify |
| **Sept. 16th** | BRS-1 | 830 | Common Goldeneye (*Bucephala islandica*) | | | 6 | | Swimming and foraging |
| **Sept. 28th** | BRS-1 | 849 | | | | | | No birds observed |
| **Oct. 8th** | BRS-1 | 849 | Song bird sp. | | | 1 | | Could not accurately identify |
| | BRS-1 | 853 | Raven *(Corvus corax)* | | | 1 | | Observing |
| | BRS-1 | 855 | Lesser yellowlegs (*Tringa flavipes*) | | | 1 | | Sandpiper lesser yellow legs called out. |
| | BRS-1 | 911 | Raven *(Corvus corax)* | | | 1 | | Observing with other Raven |
| **Total** | | | | **5** | **5** | **48** | **1** | **59** |

**Table 3-8: Summary of 2012 results from the bird surveys conducted at the Little Wolverine Reference Station**

| | | | | No. of Birds | | | | |
|---|---|---|---|---|---|---|---|---|
| Date | Stn. No. | Time (24 hour) | Species | Adult Female | Adult Male | Uncl. Adult | Juvenile | Comments |

| | | | | No. of Birds | | | | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Stn. No.** | **Time (24 hour)** | **Species** | **Adult Female** | **Adult Male** | **Uncl. Adult** | **Juvenile** | **Comments** |
| **May 28th** | **BRS2** | 809 | Common Loon (*Gavia immer*) | 1 | 1 | | | Wading |
| | **BRS2** | 815 | Arctic Tern (*Sterna paradisaea*) | | | 10 | | Observed one catch a fish, only to be stolen away by the Eagle |
| | **BRS2** | 817 | Barrow's Goldeneye (*Bucephala islandica*) | | | 2 | | Flew and landed in bush close to shore |
| | **BRS2** | 820 | Greater Yellowlegs (Tringa melanoleuca) | | | 1 | | foraging and heard calling |
| | **BRS2** | 825 | Savannah Sparrow (*Passerculus sandwichensis*) | | | 1 | | Flirting and flying |
| | **BRS2** | 830 | Common Yellowthroat (*Geothlypis trichas*) | | | 1 | | Foraging |
| | **BRS2** | 832 | Rusty Blackbird (*Euphagus carolinus*) | | 1 | | | Foraging |
| | **BRS2** | 846 | Solitary Sandpiper (*Tringa solitaria*) | | | 1 | | Foraging |
| | **BRS2** | 855 | Ringed-neck Duck (*Aythya collaris*) | 6 | 30 | | | Swimming along shore |
| | **BRS2** | 906 | Bald Eagle (*Haliaeetus leucocephalus*) | | 1 | | | Attacked terns to steal fish |
| **June 19th** | **BRS-2** | 7:08 | Barrow's Goldeneye (*Bucephala islandica*) | 1 | 1 | | | foraging on lake |
| | **BRS-2** | 7:09 | Mallard (*Anas platyrhynchos*) | | | 4 | | Flying around lake |
| | **BRS-2** | 7:10 | Lesser yellowlegs (*Tringa flavipes*) | | | 6 | | Flying around lake |
| | **BRS-2** | 7:15 | Red-breasted Merganser (*Mergus serrator*) | | 4 | | | Flying around lake |
| | **BRS-2** | 7:20 | Gray Jay (*Perisoreus canadensis*) | | | 1 | | Announced presence |
| | **BRS-2** | 7:25 | Greater Scaup (*Aythya marila*) | | | 10 | | Flying around lake |
| **Aug. 31st** | **BRS-2** | 15:54 | Greater Scaup (*Aythya marila*) | | | 3 | | Sitting along shore. Took off shortly after spotting them |
| | **BRS-2** | 15:30 | Savannah Sparrow (*Passerculus sandwichensis*) | | | 1 | | flew from tree to tree |
| **Sept. 14th** | **BRS-2** | 8:10 | Common Loon (*Gavia immer*) | | | 1 | | Wading |

| | | | | No. of Birds | | | | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Stn. No.** | **Time (24 hour)** | **Species** | **Adult Female** | **Adult Male** | **Uncl. Adult** | **Juvenile** | **Comments** |
| **Sept. 30th** | **BRS-2** | 8:15 | Greater Scaup (*Aythya marila*) | | | 12 | | Wading |
| | **BRS-2** | 8:25 | Bald Eagle (*Haliaeetus leucocephalus*) | | | | 1 | Perched up in a snag |
| | **BRS-2** | 8:40 | Mallard (*Anas platyrhynchos*) | 1 | 1 | | | Swimming and calling |
| | BRS-2 | 8:45 | *Sandhill Crane (Grus canadensis)* | | | 70 | | Migrating overhead |
| | **BRS-2** | 10:37 | Trumpeter Swan (*Cygnus buccinator*) | | | 6 | | Swimming at far side of lake - seen between two trees. |
| | **BRS-2** | 10:47 | Common Loon (*Gavia immer*) | | | 2 | | Swimming around, one called out |
| | **BRS-2** | 10:57 | Trumpeter Swan (*Cygnus buccinator*) | | | 2 | | 2 more swans observed on far side of lake. |
| **Oct. 2nd** | **BRS-2** | 14:02 | Mallard (*Anas platyrhynchos*) | | | 3 | | Flying along shoreline |
| | **BRS-2** | 14:04 | Greater Scaup (*Aythya marila*) | | | 5 | | Wading |
| | **BRS-2** | 14:41 | Trumpeter Swan (*Cygnus buccinator*) | | | 2 | | On far side of lake |
| | **BRS-2** | 14:55 | Duck sp. | | | 40 | | Unknown flock in flight faraway. |
| | BRS-2 | 15:04 | Greater Scaup (*Aythya marila*) | | | 4 | | In flight |
| | BRS-2 | 16:10 | Greater Scaup (*Aythya marila*) | | | 5 | | In flight |
| **Total** | | | | **9** | **39** | **193** | **1** | **242** |

**Table 3-9: Summary of 2012 results from the bird surveys conducted at the Johnson Jules Lake Reference Station**

| | | | | No. of Birds | | | | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Stn. No.** | **Time (24 hour)** | **Species** | **Adult Female** | **Adult Male** | **Uncl. Adult** | **Juvenile** | **Comments** |
| **May 20th** | BRS-3 | 730 | Lesser yellowlegs (*Tringa flavipes*) | 1 | 1 | | | Nesting and courting |
| | BRS-3 | 735 | Savannah Sparrow (*Passerculus sandwichensis*) | | | 1 | | Observed |
| | BRS-3 | 737 | Common Goldeneye (*Bucephala islandica*) | 1 | 1 | | | Walking on ice |
| | BRS-3 | 743 | Belted Kingfisher (*Megaceryle alcyon*) | | | 1 | | Circling lake |

| | | | | No. of Birds | | | | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Stn. No.** | **Time (24 hour)** | **Species** | **Adult Female** | **Adult Male** | **Uncl. Adult** | **Juvenile** | **Comments** |
| | BRS-3 | 744 | Common Goldeneye (*Bucephala islandica*) | 1 | 1 | | | Flew over lake |
| | BRS-3 | 750 | Greater Scaup (*Aythya marila*) | 2 | 1 | | | Male swimming, female resting on shore |
| | BRS-3 | 750 | Rusty Blackbird (*Euphagus carolinus*) | | | 3 | | Foraging |
| **May 30th** | BRS-3 | 802 | Canada Goose (*Branta canadensis*) | | | 1 | | Wading |
| | BRS-3 | 809 | Lesser Scaup (*Aythya affinis*) | 1 | 1 | | 1 | Wading |
| | BRS-3 | 811 | Trumpeter Swan (*Cygnus buccinator*) | 1 | 1 | | | Sleeping near nest |
| | BRS-3 | 822 | Arctic Tern (*Sterna paradisaea*) | | | 1 | | Swimming/diving |
| | BRS-3 | 824 | Lesser Scaup (*Aythya affinis*) | 1 | 1 | | | Swimming |
| | BRS-3 | 832 | Greater Yellowlegs (Tringa melanoleuca) | 1 | | | | Foraging along shore |
| | BRS-3 | 833 | Common Yellowthroat (*Geothlypis trichas*) | | 1 | | | In bush eating bugs |
| | BRS-3 | 840 | Mallard (*Anas platyrhynchos*) | 1 | 1 | | | Foraging |
| | BRS-3 | 843 | Lesser Scaup (*Aythya affinis*) | 1 | | | | Flying from one end of lake to the other |
| | BRS-3 | 850 | Solitary Sandpiper (*Tringa solitaria*) | | | 3 | | Flirting/flying |
| | BRS-3 | 854 | Belted Kingfisher (*Megaceryle alcyon*) | | | 1 | | Flying around lake (laughing) |
| | BRS-3 | 856 | Rusty Blackbird (*Euphagus carolinus*) | | 1 | | | Foragin along shore |
| **June 1st** | BRS-3 | 940 | Northern Pintail (*Anas acuta*) | 1 | | | | Wading |
| | BRS-3 | 943 | Trumpeter Swan (*Cygnus buccinator*) | | 1 | 1 | | Nesting |
| | BRS-3 | 947 | Baird's Sandpiper (*Calidris bairdii*) | | | 1 | | Foraging |
| | BRS-3 | 951 | Rusty Blackbird (*Euphagus carolinus*) | | | 2 | | Flying from tree to tree |
| | BRS-3 | 955 | Blue-winged Teal (*Anas discors*) | | | 3 | | Flying over lake |
| | BRS-3 | 1000 | Dark-eyed Junco (*Junco hyemalis*) | | | 5 | | Foraging |
| | BRS-3 | 1002 | Lesser Scaup (*Aythya affinis*) | | | 1 | | Swimming |

| | | | | No. of Birds | | | | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Stn. No.** | **Time (24 hour)** | **Species** | **Adult Female** | **Adult Male** | **Uncl. Adult** | **Juvenile** | **Comments** |
| | BRS-3 | 1012 | Common Yellowthroat (*Geothlypis trichas*) | | | 1 | | Foraging on insects |
| | BRS-3 | 1018 | Solitary Sandpiper (*Tringa solitaria*) | | | 1 | | Foraging |
| **Sept. 12th** | BRS-3 | 758 | Surf Scoter (*Melanitta perspicillata*) | 2 | | | | Swimming |
| | BRS-3 | 758 | Common Goldeneye (*Bucephala islandica*) | | 2 | | | Swimming/diving |
| | BRS-3 | 758 | Northern Harrier (*Circus cyaneus*) | | | | 1 | Hovering over shore, fishing |
| | BRS-3 | 804 | Gray Jay (*Perisoreus canadensis*) | | | 1 | | Flirting/flying |
| | BRS-3 | 804 | Savannah Sparrow (*Passerculus sandwichensis*) | | | 1 | | Flirting/flying |
| | BRS-3 | 805 | Gray Jay (*Perisoreus canadensis*) | | | 1 | | Flirting/flying |
| | BRS-3 | 805 | Gray-cheeked thrush (*Catharus minimus*) | | | 1 | | Foraging |
| **Sept. 16th** | BRS-3 | 730 | Trumpeter Swan (*Cygnus buccinator*) | 1 | 1 | | | Resting near shore |
| | BRS-3 | 745 | Mallard (*Anas platyrhynchos*) | | | 2 | | Swimming |
| | BRS-3 | 755 | Common Goldeneye (*Bucephala islandica*) | | | 5 | | Swimming |
| **Sept. 28th** | BRS-3 | 859 | Surf Scoter (*Melanitta perspicillata*) | | | 2 | | Alone and quacking |
| | BRS-3 | 912 | Hoary Redpoll (*Acanthis hornemanni*) | | | 2 | | Sitting atop a tree |
| | BRS-3 | 917 | Belted Kingfisher (*Megaceryle alcyon*) | | | 16 | | Flying fast and high north across lake |
| | BRS-3 | 920 | Red-breasted Merganser (*Mergus serrator*) | | | 1 | | Swimming alone and diving |
| | BRS-3 | 927 | Buffle Head (*Bucephala albeola*) | 1 | 1 | | | Resting near shore |
| | BRS-3 | 927 | Barrow's Goldeneye (*Bucephala islandica*) | 2 | 1 | | | Swimming |
| **Oct. 8th** | BRS-3 | 1001 | Lesser yellowlegs (*Tringa flavipes*) | | | 1 | | Foraging |

| | | | | No. of Birds | | | | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Stn. No.** | **Time (24 hour)** | **Species** | **Adult Female** | **Adult Male** | **Uncl. Adult** | **Juvenile** | **Comments** |
| | BRS-3 | 1012 | Savannah Sparrow (*Passerculus sandwichensis*) | | 1 | | | Flirting/flying |
| | BRS-3 | 1012 | Common Goldeneye (*Bucephala islandica*) | | | 4 | | Swimming |
| **Total** | | | | **18** | **17** | **63** | **2** | **100** |

## 3.6 Regional Wildlife Monitoring Programs

In 2012, YZC contributed $10,000 to the Finlayson Caribou herd fall composition survey in the Ross River region conducted by Yukon Environment; reporting of the survey results are conducted by Yukon Environment and are not contained herein. On October 12th, 2012, YZC committed to continue the donation in the same amount in 2013, due to its importance in maintaining a consistent data set on this species: one that is meaningful to the Yukon and Canada as a whole.

## 3.7 Monitoring Program Recommendations for 2013 and beyond

The following changes (as proposed by the Wildlife Technical Committee – refer to section 2.3 for details) will take effect in 2013:

1) Regular drivers of Wolverine's Mine Access Road (e.g., haul trucks) will be issued YZC prepared wildlife log recording sheets to be submitted to the Environmental Department on a monthly basis, to help identify those sections of the road where wildlife occur most commonly. This will also, increase awareness of wildlife occurrence to those drivers.

2) For the Metals Levels in Small Mammals and Metals Levels in Vegetation (or Forage Species) programs, control sample locations will include those areas that are completely isolated from any potential impacts from mine related activities within the Money Creek Reference Area (MCRA).

3) For the Metals Levels in Vegetation (or Forage Species) program, Lichen (*Cladina stellaris*) will be used as the sole bio-marker species moving forward, and will be the only species collected for monitoring metals. This was also supported by previous studies on impacts from mines that also used Lichen as a bio-indicator.

4) Moving forward, the Redback Vole will be considered as the bio-marker species for the Small Mammal Metals Program, since no other species was captured in an abundance that provided statistical robustness when comparisons were made. This will not only increase the efficiency of the effort made to carry out the program, but will help reduce the direct impact the research effort has on the environment (since less effort will be required to catch the required quota for statistical robustness), and is in line with one of the protection policies stipulated in the Wildlife Protection Plan.

# 4 Summary

In 2012 Yukon Zinc completed the following activities required by *Wildlife Protection Plan V2009-01* under *QML-0006*:

- Performed wildlife training to all new contractors and YZC employees, focusing on the presence of 'nuisance wildlife' (e.g., foxes, coyotes, and ravens) on site, and approaches to minimize wildlife attraction;
- Hosted a site visit/tour with the Wildlife Technical Committee to discuss the efforts made to-date toward fulfillment of the Wildlife Protection Plan, and the results from the programs executed in 2011;
- Conducted incidental monitoring of wildlife in and around the Mine site;
- Conducted monitoring of winter wildlife transects from January – March, and from October – December;
- Conducted bird surveys during the spring and fall migration periods as part of the Tailings Monitoring program; and,
- Established changes to the Wildlife Protection Plan, based on findings from the various programs and recommendations from the WTC site visit, to be implemented in 2013 and beyond.

# *Appendix A*

## *Wildlife Records Program - YZC 2012 Wildlife Log*

| Date | Time | Location | Species | # of Animals | Activity |
|---|---|---|---|---|---|
| 1-Jan-12 | 1430 | 7km | lynx | 1 | crossing the road |
| 4-Jan-12 | 630 | camp | fox | 1 | fresh tracks walking under truck |
| 4-Jan-12 | 1400 | Bypass road | Ptarmigan | 30 | sitting in snow |
| 8-Jan-12 | 1545 | BH5 garbage | fox | 1 | going through and select items removed |
| 12-Jan-12 | 1400 | KM22 | fox | 1 | digging snow off road |
| 14-Jan-12 | 1200 | 26.8 | Ptarmigan | 20 | flying over road |
| 15-Jan-12 | 1528 | Landfill | Foxes | 3 | Foxes at burn pit sleeping on hill. |
| 17-Jan-12 | 1630 | Road 10-11 | Bull Moose | 2 | these were running on the road then into the forest. |
| 18-Jan-12 | 1600 | Camp | Fox | 1 | Walking up the hill by kitchen |
| 19-Jan-12 | 1525 | Camp | Fox | 1 | walking around camp. |
| 19-Jan-12 | 1500 | Procon office | fox | 1 | walking along the hill |
| 20-Jan-12 | 1300 | Wolverine Lake | Caribou | 26 | hanging out on other side of lake - very curious |
| 22-Jan-12 | 930 | yzc | fox | 1 | walking around parking lot. |
| 27-Jan-12 | 600 | YZC | Fox | 1 | walking around camp. |
| 29-Jan-12 | 1500 | 9KM | Wolf | 1 | sitting on side of road |
| 29-Feb-12 | 935 | burn pit road | Ptarmigan | 35-40 | on road. Nothing was reported in Feb. |
| 4-Mar-12 | 1330 | KM 11 | Wolf | 1 | Sitting on top of hill staring at me |
| 12-Mar-12 | 800 | 1-27km | Ptarmigan | 6 | |
| 16-Mar-12 | 1130 | Robert Campbell | Wolf | 1 | jumped off road into trees |
| 20-Mar-12 | 530 | right outside office | fox | 1 | walking around following people |
| 20-Mar-12 | 600 | office | fox | 1 | following people walking around |
| 20-Mar-12 | 600 | office | fox | 1 | following people walking around |
| 26-Mar-12 | 630 | kitchen rear | fox | 1 | sniffing around, following people |
| 25-Mar-12 | 1830 | KM28.6 | Fox | 2 | walking up the hill. |
| 26-Mar-12 | 800 | camp | Fox | 1 | walking around camp. |
| 28-Mar-12 | 1600 | KM2 | wolf | 1 | ran into the bush |
| 7-Apr-12 | 1300 | WRP | Ptarmigan | 3 | sitting around |
| 10-Apr-12 | 1600 | Airstrip | Ptarmigan | 2 | flying |
| 12-Apr-12 | 1130 | Airstrip | Ptarmigan | 5 | flying |
| 15-Apr-12 | 1100 | camp | Fox | 1 | walking around camp. |
| 18-Apr-12 | 1900 | 9 KM | golden eagle | 1 | eating a hare |
| 18-Apr-12 | 1900 | 9 KM | Hare | 1 | running |
| 20-Apr-12 | 605 | camp | Fox | 1 | walking around camp. |
| 13-May-12 | 645 | office | chipmunk | 1 | by admin window |
| 16-May-12 | 1030 | KM 2 | Wolf | 1 | walking along road |
| 18-May-12 | 1600 | Gate | Wolf | 1 | strutted |

| Date | Time | Location | Species | # of Animals | Activity |
|---|---|---|---|---|---|
| 19-May-12 | | 24.5 KM | hawk owl | 1 | sitting on the monitoring well on side of road |
| 19-May-12 | 1200 | office | eagle | 1 | fling around top of mountain circling. |
| 15-May-12 | 1500 | KM 23 | Ptarmigan | 30 | flying in group |
| 20-May-12 | 630 | 25.5 KM | Fox | 1 | on side of the road |
| 20-May-12 | 630 | 24.5 KM | Ptarmigan | 1 | on side of the road |
| 20-May-12 | 630 | 21 KM | Ptarmigan | 1 | on side of the road |
| 20-May-12 | 710 | 6 KM | Ptarmigan | 1 | on side of the road |
| 20-May-12 | 830 | 5.5 KM | Snowshoe hare | 2 | running around near the truck and then ran into the forest. |
| 20-May-12 | 945 | 9.5 KM | chipmunk | 1 | running across the road. |
| 20-May-12 | 950 | 10.2 KM | chipmunk | 1 | running across the road. |
| 20-May-12 | 955 | 14.5 KM | chipmunk | 1 | running across the road. |
| 20-May-12 | 1000 | 23 KM | chipmunk | 1 | running across the road. |
| 20-May-12 | 1005 | 26.1 KM | Fox | 1 | walking on the north side of the LTF. |
| 21-May-12 | 715 | The dry | Fox | 1 | walking in front |
| 22-May-12 | 1228 | 27.2 | woodpecker | 2 | on a tree |
| 22-May-12 | 1300 | Kitchen | porcupine | 1 | eating the boardwalk |
| 22-May-12 | 1415 | 25.3 KM | Raven | 1 | checking me out and then went after the chipmunk. |
| 22-May-12 | 1415 | 25.3 KM | chipmunk | 1 | foraging and running for his life. |
| 22-May-12 | 1530 | exploration road | porcupine | 1 | walking slowly on road |
| 24-May-12 | 1900 | Airstrip | porcupine | 1 | crossing the road |
| 24-May-12 | 2000 | Marsh below m:1 | night hawk/duck | 4 | calling / swimming in marsh. |
| 4-Jun-12 | 915 | KM 24 in valley | Beaver | 1 | working on dam |
| 10-Jun-12 | 1530 | 23 KM | grizzly bear | 1 | walking down road towards camp |
| 10-Jun-12 | 2100 | 22KM | porcupine | 1 | crossing the road |
| 12-Jun-12 | 845 | Airstrip | Caribou | 4 | foraging |
| 21-Jun-12 | 1600 | Airstrip | Caribou Bull | 1 | Eating Grass |
| 14-Jul-12 | 600 | water tower hill | Fox | 1 | walking along ridge with something in its mouth |
| 16-Jul-12 | 615 | 24.5Km | Caribou Bull | 1 | walking along road |
| 18-Jul-12 | 645 | 25Km | Wolf | 1 | hanging around WRP |
| 19-Jul-12 | 1515 | 25.2 | Wolf | 1 | Attempt to approach selenium plant |
| 19-Jul-12 | 2030 | lower bypass | Wolf | 1 | standing on sign (approaching) |
| 21-Jul-12 | 2100 | behind administratio n building | Marten | 1 | Looking mischievious |
| 22-Jul-12 | 1530 | 19Km | Caribou Bull | 1 | Foraging |
| 22-Jul-12 | 1700 | 21 Km | Black bear | 1 | mum and cub walking down valley |

| Date | Time | Location | Species | # of Animals | Activity |
|---|---|---|---|---|---|
| | | | | | towards lake |
| 24-Jul-12 | 615 | 27.5 | porcupine | 1 | on lower bypass |
| 25-Jul-12 | 1700 | 25Km | Caribou Bull | 1 | Eating Grass |
| 29-Jul-12 | 1030 | 19Km | Caribou Bull | 1 | Eating |
| 30-Jul-12 | 1600 | Airstrip | Caribou Bull | 1 | Grazing |
| 1-Aug-12 | 1145 | Wolverine Lake | Bald Eagle | 1 | fishing |
| 3-Aug-12 | 1115 | Landfill rd | porcupine | 1 | Walked up road and into the bushes |
| 4-Aug-12 | 600 | office | Fox | 1 | carrying a piece of chicken |
| 5-Aug-12 | 1900 | Exploarion Rd | grizzly bear | 2 | Male and female mating just off road |
| 7-Aug-12 | 1100 | Airstrip | Caribou Bull | 1 | wandering |
| 8-Aug-12 | 1406 | Road to office | Fox | 1 | scraching itself on the hill |
| 14-Aug-12 | 1550 | 23.5Km | Caribou Bull | 1 | eating leaves on trees. |
| 2-Sep-12 | 700 | KM 9 | Red Squirrel | 2 | heard chattering and seen runnign from tree to tree |
| 7-Sep-12 | 1400 | Tailings pond | grizzly bear | 1 | traveling the ridge above pond. |
| 8-Sep-12 | 1430 | over camp | sandhill cranes | 110 | flying over camp heading south |
| 9-Sep-12 | 830 | over camp | sandhill cranes | 50 | flying over camp heading south |
| 9-Sep-12 | 2000 | KM 29 | grizzly bear | 1 | eating berries |
| 10-Sep-12 | 1400 | valley site | sandhill cranes | 40 | at W14 Flying south |
| 10-Sep-12 | 1440 | valley site | young eagle | 1 | flying overhead at W14 |
| 11-Sep-12 | 558 | Behind kitchen | fox | 1 | eating in front of garbage can |
| 11-Sep-12 | 1030 | over camp | sandhill cranes | 150 | flying over camp heading south |
| 11-Sep-12 | 1100 | on the west side | sandhill cranes | 31 | flying south on the west side |
| 11-Sep-12 | 1135 | on the west side | sandhill cranes | 50 | flying south on the west side |
| 11-Sep-12 | 1155 | on the west side | sandhill cranes | 200 | flying south on the west side |
| 11-Sep-12 | 1159 | on the west side | sandhill cranes | 370 | flying south on the west side |
| 11-Sep-12 | 1214 | lower bypass | savannah sparrows | 4 | flying around and playing with each other |
| 12-Sep-12 | 1415 | on the west side | sandhill cranes | 200 | flying south fighting the wind on the west side |
| 12-Sep-12 | 1420 | on the west side | sandhill cranes | 260 | flying south fighting the wind on the west side |
| 12-Sep-12 | 1425 | on the west side | sandhill cranes | 30 | flying south fighting the wind on the west side |

| Date | Time | Location | Species | # of Animals | Activity |
|---|---|---|---|---|---|
| 12-Sep-12 | 1831 | on the west side | sandhill cranes | 150 | flying south fighting the wind on the west side |
| 13-Sep-12 | 720 | arctic rd | Fox | 1 | walking around |
| 26-Sep-12 | 1800 | parking lot | Fox | 1 | walking scavesing |
| 28-Sep-12 | 900 | 27.2 | porcupine | 1 | crossing the road into the valley |
| 28-Sep-12 | 1300 | Parking lot | fox | 1 | scavenging |
| 28-Sep-12 | 1 | Top of mountain | Black bear | 1 | wondering around |
| 29-Sep-12 | 1500 | 24.5 | ducks | 5 | swimming and eating in sepage pond |
| 29-Sep-12 | 2000 | dorms/ kitchen | fox | 1 | scaveging |
| 30-Sep-12 | 1230 | east side of mill | fox | 1 | heading towards truckshop |
| 30-Sep-12 | 1100 | 26.4 | caribou | 1 | grazing |
| 1-Oct-12 | 1549 | 24.5 | cow and calf | 2 | crossing road |
| 1-Oct-12 | 1532 | 24.8 | ducks | 2 | two ducks flew by |
| 6-Oct-12 | 630 | landfill | Bull Moose | 1 | grazing |
| 8-Oct-12 | 926 | KM 9 | Moose | 2 | cow and calf grazing |
| 8-Oct-12 | 1000 | KM 9 | Bull Moose | 2 | 2 bull moose fighting evidence of blood+ hoove prints onground |
| 12-Oct-12 | 0 | KM 6 | Cow moose and calf | 2 | Rushed in through bush from road |
| 18-Oct-12 | all day | 17-29 | Bull Moose+cows | 6 | Mating season |
| 25-Oct-12 | 1040 | KM 26.1 | Marten | 2 | hoping over hill |
| 29-Oct-12 | 1200 | exploration road | Moose | 2 | standing on road |
| 2-Nov-12 | 900 | KM 26 | Snoweshoe hare | 1 | darted off through bush |
| 14-Nov-12 | 758 | 19.5 Km | Ptarmigan | 8 | foraging |
| 14-Nov-12 | 800 | 20 Km | Ptarmigan | 4 | foraging |
| 20-Nov-12 | 430 | Portal | Goose | 1 | |
| 1-Dec-12 | 1900 | KM 23 | Snowshoe hare | 1 | jumping around close to creek at KM 23 |
| 4-Dec-12 | 1200 | camp access rd | Ptarmigan | 20 | Group just waddling around |
| 18-Dec-13 | 1400 | down valley | Ptarmigan | 30 | flying around among willows |

# *Appendix B*

# *Winter Wildlife Monitoring - Transect Data*

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MSSA-WT01 | 27/01/2012 | MA/RM | 1051 | 1342 | -15 | -12 | 5 | 2 | 0 | 0 | 48 | 63.0 | 438918 | 6811260 | MAAM | TR | 1 |
| MSSA-WT01 | 27/01/2012 | MA/RM | 1051 | 1342 | -15 | -12 | 5 | 2 | 0 | 0 | 48 | 63.0 | 438192 | 6811289 | MUER | TR | 1 |
| MSSA-WT01 | 27/01/2012 | MA/RM | 1051 | 1342 | -15 | -12 | 5 | 2 | 0 | 0 | 48 | 63.0 | 437972 | 6811531 | CALU | TR | 2 |
| MSSA-WT01 | 27/01/2012 | MA/RM | 1051 | 1342 | -15 | -12 | 5 | 2 | 0 | 0 | 48 | 63.0 | 437928 | 6811589 | TAHU | TR | 1 |
| MSSA-WT01 | 27/01/2012 | MA/RM | 1051 | 1342 | -15 | -12 | 5 | 2 | 0 | 0 | 48 | 63.0 | 437615 | 6812245 | MAAM | TR | 1 |
| MSSA-WT01 | 27/01/2012 | MA/RM | 1051 | 1342 | -15 | -12 | 5 | 2 | 0 | 0 | 48 | 63.0 | 437408 | 6812635 | LAMU | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438941 | 6811377 | MAAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438843 | 6811339 | LEAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438843 | 6811339 | LYCA | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438813 | 6811340 | LEAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438551 | 6811427 | MAAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438517 | 6811427 | MAAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438517 | 6811427 | LEAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438473 | 6811439 | MAAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438365 | 6811330 | LEAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438365 | 6811330 | LYCA | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438319 | 6811281 | MAAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438319 | 6811281 | LEAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438227 | 6811280 | LAMU | TR | 5 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438161 | 6811315 | LEAM | TR | 4 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438092 | 6811384 | LEAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438074 | 6811403 | LAMU | TR | 4 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438038 | 6811440 | LEAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438007 | 6811485 | LEAM | TR | 4 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 438007 | 6811485 | LAMU | TR | 4 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 437956 | 6811559 | LEAM | TR | 2 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 437867 | 6811726 | LEAM | TR | 1 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 437921 | 6811924 | MAAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 437921 | 6811924 | LEAM | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 437828 | 6811940 | ALAL | TR | 1 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 437764 | 6811972 | LEAM | TR | 4 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 437618 | 6812243 | LAMU | TR | 6 |
| MSSA-WT01 | 26/02/2012 | MA/RM | 1445 | 1555 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 71.0 | 437538 | 6812391 | MAAM | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 438954 | 6811398 | LEAM | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 438753 | 6811373 | VUVU | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 438704 | 6811360 | MAAM | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 438679 | 6711354 | LEAM | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 438374 | 6811386 | MAAM | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 438362 | 6811293 | MAAM | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 468330 | 6811275 | MAAM | TR | 2 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 438152 | 6811323 | LAMU | TR | 4 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 438106 | 6811396 | MAAM | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 438048 | 6811433 | MAAM | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 437998 | 6811501 | MAAM | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 437956 | 6811552 | MAAM | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 437939 | 6811568 | LEAM | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 437922 | 6811600 | MAAM | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 437882 | 6811678 | TAHU | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 437878 | 6811693 | TAHU | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 437889 | 6811866 | MUER | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 437887 | 6811858 | MUER | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 437715 | 6812067 | LEAM | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 437715 | 6812067 | MUER | TR | 1 |
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 437601 | 6812454 | TAHU | TR | 1 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MSSA-WT01 | 23/03/2012 | MA/DH | 1206 | 1310 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 78.0 | 437524 | 6812454 | LAMU | TR | 6 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 438976 | 6811448 | LEAM | TR | 6 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 438976 | 6811448 | ALAL | TR | 2 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 438976 | 6811448 | MAAM | TR | 2 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 438950 | 6811258 | ALAL | TR/B | 3 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 438950 | 6811258 | LEAM | TR | 4 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 438796 | 6811340 | MAAM | TR | 2 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 438648 | 6811370 | LEAM | TR | 2 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 438515 | 6811440 | MUER | TR | 1 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 438427 | 6811437 | MAAM | TR | 3 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 438216 | 6811268 | MAAM | TR | 1 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 437948 | 6811557 | MAAM | TR | 2 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 437883 | 6811673 | MAAM | TR | 3 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 437615 | 6812249 | MICR | TR | 1 |
| MSSA-WT01 | 28/12/2012 | TP/RM | 1235 | 1315 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 50.0 | 437524 | 6812430 | ALAL | TR | 1 |
| MSSA-WT02 | 27/01/2012 | MA/RM | 1414 | 1505 | -15 | -11 | 10 | 2 | 0 | 0 | 48 | 64.0 | 439667 | 6811307 | VUVU | TR | 1 |
| MSSA-WT02 | 27/01/2012 | MA/RM | 1414 | 1505 | -15 | -11 | 10 | 2 | 0 | 0 | 48 | 64.0 | 439481 | 6811679 | TAHU | TR | 3 |
| MSSA-WT02 | 27/01/2012 | MA/RM | 1414 | 1505 | -15 | -11 | 10 | 2 | 0 | 0 | 48 | 64.0 | 439474 | 6811710 | LEAM | TR | 1 |
| MSSA-WT02 | 27/01/2012 | MA/RM | 1414 | 1505 | -15 | -11 | 10 | 2 | 0 | 0 | 48 | 64.0 | 439456 | 6811809 | LEAM | TR | 1 |
| MSSA-WT02 | 27/01/2012 | MA/RM | 1414 | 1505 | -15 | -11 | 10 | 2 | 0 | 0 | 48 | 64.0 | 439414 | 6811905 | LEAM | TR | 4 |
| MSSA-WT02 | 27/01/2012 | MA/RM | 1414 | 1505 | -15 | -11 | 10 | 2 | 0 | 0 | 48 | 64.0 | 439311 | 6811968 | LEAM | TR | 10 |
| MSSA-WT02 | 27/01/2012 | MA/RM | 1414 | 1505 | -15 | -11 | 10 | 2 | 0 | 0 | 48 | 64.0 | 439184 | 6812057 | MAAM | TR | 1 |
| MSSA-WT02 | 27/01/2012 | MA/RM | 1414 | 1505 | -15 | -11 | 10 | 2 | 0 | 0 | 48 | 64.0 | 439025 | 6812132 | LEAM | TR | 1 |
| MSSA-WT02 | 27/01/2012 | MA/RM | 1414 | 1505 | -15 | -11 | 10 | 2 | 0 | 0 | 48 | 64.0 | 438994 | 6812172 | LEAM | TR | 3 |
| MSSA-WT02 | 27/01/2012 | MA/RM | 1414 | 1505 | -15 | -11 | 10 | 2 | 0 | 0 | 48 | 64.0 | 438923 | 6812208 | MAAM | TR | 1 |
| MSSA-WT02 | 27/01/2012 | MA/RM | 1414 | 1505 | -15 | -11 | 10 | 2 | 0 | 0 | 48 | 64.0 | 438845 | 6812230 | VUVU | TR | 1 |
| MSSA-WT02 | 27/01/2012 | MA/RM | 1414 | 1505 | -15 | -11 | 10 | 2 | 0 | 0 | 48 | 64.0 | 438655 | 6812351 | MAAM | TR | 1 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MSSA-WT02 | 27/01/2012 | MA/RM | 1414 | 1505 | -15 | -11 | 10 | 2 | 0 | 0 | 48 | 64.0 | 438613 | 6812361 | MAAM | TR | 2 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 439667 | 6811314 | VUVU | TR | 1 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 439479 | 6811690 | LEAM | TR | 1 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 439461 | 6811787 | LEAM | TR | 1 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 439432 | 6811871 | LEAM | TR | 1 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 439419 | 6811901 | LEAM | TR | 2 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 439282 | 6811993 | LEAM | TR | 10 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 439173 | 6811066 | LEAM | TR | 2 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 439029 | 6812134 | LEAM | TR | 3 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 438984 | 6812180 | LEAM | TR | 2 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 438984 | 6812180 | VUVU | TR | 1 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 438921 | 6812210 | LEAM | TR | 1 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 438651 | 6812355 | LEAM | TR | 1 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 438651 | 6812355 | MAAM | TR | 1 |
| MSSA-WT02 | 26/02/2012 | MA/RM | 1414 | 1435 | -10 | -18 | 5 | 10 | 0 | 0 | 50 | 65.0 | 438499 | 6812356 | LEAM | TR | 2 |
| MSSA-WT02 | 23/03/2012 | MA/DH | 1110 | 1200 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 54.0 | 439676 | 6811308 | VUVU | TR | 1 |
| MSSA-WT02 | 23/03/2012 | MA/DH | 1110 | 1200 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 54.0 | 439280 | 6811997 | LEAM | TR | 1 |
| MSSA-WT02 | 23/03/2012 | MA/DH | 1110 | 1200 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 54.0 | 438986 | 6812160 | LEAM | TR | 3 |
| MSSA-WT02 | 23/03/2012 | MA/DH | 1110 | 1200 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 54.0 | 438933 | 6812202 | LEAM | TR | 1 |
| MSSA-WT02 | 23/03/2012 | MA/DH | 1110 | 1200 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 54.0 | 438876 | 6812222 | MAAM | TR | 1 |
| MSSA-WT02 | 23/03/2012 | MA/DH | 1110 | 1200 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 54.0 | 438567 | 6812365 | MAAM | TR | 1 |
| MSSA-WT02 | 23/03/2012 | MA/DH | 1110 | 1200 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 54.0 | 438539 | 6812363 | MAAM | TR | 1 |
| MSSA-WT02 | 23/03/2012 | MA/DH | 1110 | 1200 | -20 | -16 | 10 | 10 | 0 | 0 | 24 | 54.0 | 438475 | 6812357 | LEAM | TR | 1 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 439670 | 6811307 | VUVU | TR | 1 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 439472 | 6811660 | LEAM | TR | 4 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 439472 | 6811660 | LEAM | TR | 4 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 439421 | 6811898 | MUER | TR | 1 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 439421 | 6811898 | LEAM | TR | 2 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 439297 | 6811980 | VUVU | TR | 1 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 439297 | 6811980 | LEAM | TR | 4 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 439187 | 6812050 | LEAM | TR | 2 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 439187 | 6812050 | MAAM | TR | 2 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 439154 | 6812069 | ALAL | TR | 1 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 439075 | 6812127 | LEAM | TR | 4 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 439002 | 6812156 | TAHU | TR | 2 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 438930 | 6812207 | LEAM | TR | 2 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 438759 | 6812297 | LEAM | TR | 2 |
| MSSA-WT02 | 28/12/2012 | TP/RM | 1200 | 1234 | -20 | -15 | 5 | 5 | 0 | 0 | 48 | 46.0 | 438534 | 6812361 | MAAM | TR | 3 |
| MSSA-WT03 | 01/02/2012 | MA/RM | 1505 | 1631 | -10 | -9 | 5 | 0 | 0 | 0 | 48 | 68.0 | 442015 | 6809015 | VUVU | TR | 1 |
| MSSA-WT03 | 01/02/2012 | MA/RM | 1505 | 1631 | -10 | -9 | 5 | 0 | 0 | 0 | 48 | 68.0 | 442505 | 6808592 | MAAM | TR | 1 |
| MSSA-WT03 | 01/02/2012 | MA/RM | 1505 | 1631 | -10 | -9 | 5 | 0 | 0 | 0 | 48 | 68.0 | 442527 | 6808575 | MAAM | TR | 1 |
| MSSA-WT03 | 01/02/2012 | MA/RM | 1505 | 1631 | -10 | -9 | 5 | 0 | 0 | 0 | 48 | 68.0 | 442535 | 6808563 | MAAM | TR | 1 |
| MSSA-WT03 | 01/02/2012 | MA/RM | 1505 | 1631 | -10 | -9 | 5 | 0 | 0 | 0 | 48 | 68.0 | 442557 | 6808546 | MUER | TR | 1 |
| MSSA-WT03 | 01/02/2012 | MA/RM | 1505 | 1631 | -10 | -9 | 5 | 0 | 0 | 0 | 48 | 68.0 | 442585 | 6808517 | MUER | TR | 1 |
| MSSA-WT03 | 01/02/2012 | MA/RM | 1505 | 1631 | -10 | -9 | 5 | 0 | 0 | 0 | 48 | 68.0 | 442652 | 6808334 | VUVU | TR | 1 |
| MSSA-WT03 | 31/3/2012 | DH | 905 | 950 | -4 | -5 | 0 | 0 | 0 | 0 | 18 | 96.0 | 442140 | 6808983 | VUVU | TR | 2 |
| MSSA-WT03 | 31/3/2012 | DH | 905 | 950 | -4 | -5 | 0 | 0 | 0 | 0 | 18 | 96.0 | 442205 | 6808931 | VUVU | TR | 1 |
| MSSA-WT03 | 31/3/2012 | DH | 905 | 950 | -4 | -5 | 0 | 0 | 0 | 0 | 18 | 96.0 | 442247 | 6808884 | LEAM | TR | 1 |
| MSSA-WT03 | 31/3/2012 | DH | 905 | 950 | -4 | -5 | 0 | 0 | 0 | 0 | 18 | 96.0 | 442234 | 6808887 | MAAM | TR | 1 |
| MSSA-WT03 | 31/3/2012 | DH | 905 | 950 | -4 | -5 | 0 | 0 | 0 | 0 | 18 | 96.0 | 442289 | 6808801 | VUVU | TR | 1 |
| MSSA-WT03 | 31/3/2012 | DH | 905 | 950 | -4 | -5 | 0 | 0 | 0 | 0 | 18 | 96.0 | 442387 | 6808699 | LAMU | TR | 3 |
| MSSA-WT03 | 30/10/2012 | TP/AK/MA | 1048 | 1131 | -20 | -18 | 0 | 0 | 0 | 1 | 24 | 11.0 | 442088 | 6809015 | VUVU | TR | 1 |
| MSSA-WT03 | 30/10/2012 | TP/AK/MA | 1048 | 1131 | -20 | -18 | 0 | 0 | 0 | 1 | 24 | 11.0 | 442645 | 6808368 | VUVU | TR | 1 |
| MSSA-WT03 | 30/10/2012 | TP/AK/MA | 1048 | 1131 | -20 | -18 | 0 | 0 | 0 | 1 | 24 | 11.0 | 442637 | 6808346 | LAMU | TR | 10 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MSSA-WT03 | 26/11/2012 | TP | 1326 | 1414 | -23 | -24 | 10 | 0 | 0 | 0 | 24 | 34.0 | 442268 | 6808836 | VUVU | TR | 4 |
| MSSA-WT03 | 26/11/2012 | TP | 1326 | 1414 | -23 | -24 | 10 | 0 | 0 | 0 | 24 | 34.0 | 442508 | 6808585 | LAMU | TR | 10 |
| MSSA-WT03 | 25/12/2012 | AK | 1511 | 1608 | -28 | -14 | 10 | 5 | 0 | 0 | 100 | 70.0 | 442584 | 6808511 | VUVU | TR | 1 |
| MSSA-WT03 | 25/12/2012 | AK | 1511 | 1608 | -28 | -14 | 10 | 5 | 0 | 0 | 100 | 70.0 | 442438 | 6808658 | VUVU | TR | 1 |
| MSSA-WT03 | 25/12/2012 | AK | 1511 | 1608 | -28 | -14 | 10 | 5 | 0 | 0 | 100 | 70.0 | 442245 | 6808891 | VUVU | TR | 1 |
| MSSA-WT03 | 25/12/2012 | AK | 1511 | 1608 | -28 | -14 | 10 | 5 | 0 | 0 | 100 | 70.0 | 442125 | 6808996 | MICR | TR | 1 |
| MSSA-WT04 | 01/03/2012 | MA | 1454 | 1520 | -16 | -16 | 10 | 5 | 3 | 0 | 24 | 47.0 | 440511 | 6810509 | VUVU | TR | 1 |
| MSSA-WT04 | 01/03/2012 | MA | 1454 | 1520 | -16 | -16 | 10 | 5 | 3 | 0 | 24 | 47.0 | 440997 | 6809922 | VUVU | TR | 1 |
| MSSA-WT04 | 17/02/2012 | MA | 1455 | 1525 | -5 | -4 | 5 | 2 | 0 | 0 | 80 | 51.0 | 440535 | 6810502 | VUVU | TR | 1 |
| MSSA-WT04 | 17/02/2012 | MA | 1455 | 1525 | -5 | -4 | 5 | 2 | 0 | 0 | 80 | 51.0 | 440807 | 6810151 | LEAM | TR | 1 |
| MSSA-WT04 | 17/02/2012 | MA | 1455 | 1525 | -5 | -4 | 5 | 2 | 0 | 0 | 80 | 51.0 | 440990 | 6809932 | VUVU | TR | 1 |
| MSSA-WT04 | 27/3/2012 | MA/DH | 1358 | 1420 | -12 | -10 | 5 | 10 | 0 | 0 | 36 | 91.0 | 440517 | 6810507 | VUVU | TR | 1 |
| MSSA-WT04 | 27/3/2012 | MA/DH | 1358 | 1420 | -12 | -10 | 5 | 10 | 0 | 0 | 36 | 91.0 | 440517 | 6810507 | LAMU | TR | 20 |
| MSSA-WT04 | 27/3/2012 | MA/DH | 1358 | 1420 | -12 | -10 | 5 | 10 | 0 | 0 | 36 | 91.0 | 440631 | 6810359 | LAMU | TR | 10 |
| MSSA-WT04 | 27/3/2012 | MA/DH | 1358 | 1420 | -12 | -10 | 5 | 10 | 0 | 0 | 36 | 91.0 | 440806 | 6810156 | LAMU | TR | 10 |
| MSSA-WT04 | 27/3/2012 | MA/DH | 1358 | 1420 | -12 | -10 | 5 | 10 | 0 | 0 | 36 | 91.0 | 440839 | 6810105 | LEAM | TR | 2 |
| MSSA-WT04 | 27/3/2012 | MA/DH | 1358 | 1420 | -12 | -10 | 5 | 10 | 0 | 0 | 36 | 91.0 | 441014 | 6809902 | VUVU | TR | 1 |
| MSSA-WT04 | 27/3/2012 | MA/DH | 1358 | 1420 | -12 | -10 | 5 | 10 | 0 | 0 | 36 | 91.0 | 441014 | 6809902 | LAMU | TR | 2 |
| MSSA-WT04 | 30/10/2012 | TP/AK/MA | 1000 | 1020 | -20 | -18 | 0 | 0 | 0 | 0 | 24 | 11.0 | 440512 | 6810514 | VUVU | TR | 1 |
| MSSA-WT04 | 30/10/2012 | TP/AK/MA | 1000 | 1020 | -20 | -18 | 0 | 0 | 0 | 0 | 24 | 11.0 | 440984 | 6809945 | MICR | TR | 1 |
| MSSA-WT04 | 14/11/2012 | MA | 1059 | 1148 | -18 | -20 | 3 | 5 | 0 | 1 | 24 | 9.0 | 440562 | 6810481 | LAMU | TR | 8 |
| MSSA-WT04 | 14/11/2012 | MA | 1059 | 1148 | -18 | -20 | 3 | 5 | 0 | 1 | 24 | 9.0 | 440595 | 6810456 | VUVU | TR | 1 |
| MSSA-WT04 | 12/12/2012 | MA | 1152 | 1303 | -12 | -19 | 10 | 6 | 2 | 0 | 18 | 47.0 | 440483 | 6810521 | LAMU | TR | 6 |
| MSSA-WT04 | 12/12/2012 | MA | 1152 | 1303 | -12 | -19 | 10 | 6 | 2 | 0 | 18 | 47.0 | 440483 | 6810521 | VUVU | TR | 1 |
| MSSA-WT04 | 12/12/2012 | MA | 1152 | 1303 | -12 | -19 | 10 | 6 | 2 | 0 | 18 | 47.0 | 440556 | 6810486 | LEAM | TR | 1 |
| MSSA-WT04 | 12/12/2012 | MA | 1152 | 1303 | -12 | -19 | 10 | 6 | 2 | 0 | 18 | 47.0 | 440637 | 6810337 | VUVU | TR | 1 |
| MSSA-WT04 | 12/12/2012 | MA | 1152 | 1303 | -12 | -19 | 10 | 6 | 2 | 0 | 18 | 47.0 | 440644 | 6810300 | LEAM | TR | 2 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MSSA-WT04 | 12/12/2012 | MA | 1152 | 1303 | -12 | -19 | 10 | 6 | 2 | 0 | 18 | 47.0 | 440744 | 6810214 | LEAM | TR | 1 |
| MSSA-WT04 | 12/12/2012 | MA | 1152 | 1303 | -12 | -19 | 10 | 6 | 2 | 0 | 18 | 47.0 | 440817 | 6810115 | LEAM | TR | 1 |
| MSSA-WT04 | 12/12/2012 | MA | 1152 | 1303 | -12 | -19 | 10 | 6 | 2 | 0 | 18 | 47.0 | 440849 | 6810100 | LEAM | TR | 3 |
| MSSA-WT04 | 12/12/2012 | MA | 1152 | 1303 | -12 | -19 | 10 | 6 | 2 | 0 | 18 | 47.0 | 440889 | 6810053 | LEAM | TR | 1 |
| MSSA-WT04 | 12/12/2012 | MA | 1152 | 1303 | -12 | -19 | 10 | 6 | 2 | 0 | 18 | 47.0 | 440904 | 6810043 | LEAM | TR | 7 |
| MSSA-WT04 | 12/12/2012 | MA | 1152 | 1303 | -12 | -19 | 10 | 6 | 2 | 0 | 18 | 47.0 | 441008 | 6809938 | LEAM | TR | 1 |
| MSSA-WT04 | 12/12/2012 | MA | 1152 | 1303 | -12 | -19 | 10 | 6 | 2 | 0 | 18 | 47.0 | 441008 | 6809938 | VUVU | TR | 1 |
| MSSA-WT05 | 27/03/2012 | MA/DH | 1533 | 1622 | -12 | -10 | 5 | 10 | 5 | 0 | 36 | 125.0 | 440492 | 6810233 | LAMU | TR | 20 |
| MSSA-WT05 | 27/03/2012 | MA/DH | 1533 | 1622 | -12 | -10 | 5 | 10 | 5 | 0 | 36 | 125.0 | 440492 | 6810233 | VUVU | TR | 1 |
| MSSA-WT05 | 27/03/2012 | MA/DH | 1533 | 1622 | -12 | -10 | 5 | 10 | 5 | 0 | 36 | 125.0 | 440530 | 6810082 | LAMU | TR | 20 |
| MSSA-WT05 | 27/03/2012 | MA/DH | 1533 | 1622 | -12 | -10 | 5 | 10 | 5 | 0 | 36 | 125.0 | 440723 | 6809985 | LAMU | TR | 5 |
| MSSA-WT05 | 27/03/2012 | MA/DH | 1533 | 1622 | -12 | -10 | 5 | 10 | 5 | 0 | 36 | 125.0 | 440987 | 6809609 | LAMU | TR | 10 |
| MSSA-WT05 | 27/03/2012 | MA/DH | 1533 | 1622 | -12 | -10 | 5 | 10 | 5 | 0 | 36 | 125.0 | 440995 | 6809546 | VUVU | TR | 1 |
| MSSA-WT05 | 27/03/2012 | MA/DH | 1533 | 1622 | -12 | -10 | 5 | 10 | 5 | 0 | 36 | 125.0 | 441220 | 6809366 | LAMU | V | 3 |
| MSSA-WT05 | 27/03/2012 | MA/DH | 1533 | 1622 | -12 | -10 | 5 | 10 | 5 | 0 | 36 | 125.0 | 442155 | 680322 | LAMU | TR | 1 |
| MSSA-WT05 | 27/03/2012 | MA/DH | 1533 | 1622 | -12 | -10 | 5 | 10 | 5 | 0 | 36 | 125.0 | 442719 | 6807851 | MUER | TR | 1 |
| MSSA-WT05 | 27/03/2012 | MA/DH | 1533 | 1622 | -12 | -10 | 5 | 10 | 5 | 0 | 36 | 125.0 | 442719 | 6807851 | VUVU | TR | 1 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 443627 | 6804230 | LEAM | TR | 1 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 443748 | 6804379 | MAAM | TR | 1 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 443734 | 6804571 | MAAM | TR | 1 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 443770 | 6804812 | RATA | TR | 4 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 443810 | 6804834 | MAAM | TR | 2 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 443870 | 6804946 | LEAM | TR | 1 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 444045 | 6805012 | LEAM | TR | 5 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 444076 | 6805027 | LEAM | TR | 2 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 444087 | 6805039 | MAAM | TR | 2 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 444141 | 6805079 | TAHU | TR | 4 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 444186 | 6805115 | LEAM | TR | 1 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 444227 | 6805140 | MICR | TR | 1 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 444374 | 6805271 | MAAM | TR | 1 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 444289 | 6805398 | RATA | TR | 1 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 444240 | 6805438 | LEAM | TR | 2 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 444201 | 6805458 | LEAM | TR | 4 |
| MCSA-WT01 | 02/07/2012 | RM/PD | 1600 | 1715 | -12 | -10 | 0 | 0 | 0 | 0 | 100 | 76.0 | 444163 | 6805565 | LEAM | TR | 2 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443443 | 6802312 | ALAL | TR | 1 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443443 | 6802312 | MAAM | TR | 1 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443548 | 6802363 | MAAM | TR | 2 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443595 | 6802476 | ALAL | TR | 2 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443585 | 6802528 | MAAM | TR | 1 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443579 | 6802789 | MUER | TR | 1 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443650 | 6802878 | LEAM | TR | 3 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443707 | 6803072 | ALAL | TR | 1 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443627 | 6803343 | LEAM | TR | 2 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443633 | 6803379 | LEAM | TR | 1 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443601 | 6803670 | LAMU | TR | 15 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443580 | 6803786 | ALAL | TR | 1 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443607 | 6803879 | MAAM | TR | 1 |
| MCSA-WT03 | 02/07/2012 | RM/PD | 1440 | 1545 | -12 | -10 | 0 | 0 | 0 | 0 | 98 | 80.0 | 443591 | 6804089 | LEAM | TR | 4 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452495 | 6816727 | LAMU | TR | 4 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452495 | 6816727 | ALAL | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452502 | 6816750 | MAAM | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452539 | 6816851 | ALAL | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452563 | 6816918 | ALAL | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452584 | 6816978 | ALAL | TR | 2 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452655 | 6817134 | MAAM | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452681 | 6817261 | MAAM | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452712 | 6817329 | MAAM | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452766 | 6817460 | LEAM | TR | 4 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452818 | 6817639 | MAAM | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452814 | 6817662 | LEAM | TR | 2 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452807 | 6817757 | LEAM | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452817 | 6817845 | LEAM | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452821 | 6817876 | ALAL | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452821 | 6817876 | LEAM | TR | 6 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452816 | 6817919 | TAHU | TR | 3 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452810 | 6817929 | LEAM | TR | 4 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452811 | 6817937 | TAHU | TR | 2 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452800 | 6817969 | LEAM | TR | 6 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452786 | 6818031 | LEAM | TR | 3 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452776 | 6818084 | LEAM | TR | 4 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452771 | 6818135 | TAHU | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452759 | 6818150 | LEAM | TR | 2 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452764 | 6818168 | TAHU | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452764 | 6818168 | LEAM | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452767 | 6801818 | LEAM | TR | 10 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452767 | 6801818 | ALAL | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452775 | 6818214 | LEAM | TR | 2 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452781 | 6818230 | LEAM | TR | 4 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452783 | 6818241 | TAHU | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452788 | 6818254 | LEAM | TR | 10 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452505 | 6818284 | ALAL | SC | 1 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452829 | 6818307 | MUER | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452829 | 6818307 | LEAM | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452842 | 6818337 | LEAM | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452861 | 6818383 | BIRD | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452874 | 6818464 | LEAM | TR | 4 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452889 | 6818479 | LEAM | TR | 8 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452903 | 6818530 | LEAM | TR | 2 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452906 | 6818538 | LEAM | TR | 2 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452918 | 6818558 | MAAM | TR | 1 |
| PCSA-WT01 | 25/2/2012 | RM/MA | 1400 | 1550 | -10 | -10 | 10 | 0 | 0 | 0 | 40 | 60.0 | 452916 | 6818574 | LEAM | TR | 2 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452498 | 6816744 | MAAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452498 | 6816744 | MUER | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452504 | 6816753 | ALAL | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452528 | 6816824 | MAAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452543 | 6816885 | MAAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452557 | 6816917 | MAAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452557 | 6816917 | MICA | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452572 | 6816943 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452589 | 6817001 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 457612 | 6817146 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452617 | 6817052 | MAAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452611 | 6817058 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452607 | 6817075 | MICA | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452614 | 6817084 | MAAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452619 | 6817114 | LEAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452629 | 6817115 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452649 | 6817128 | MAAM | TR | 1 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452656 | 6817139 | LEAM | TR | 2 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452669 | 6817168 | MAAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452667 | 6817221 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452679 | 6817246 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452689 | 6817267 | MAAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452689 | 6817267 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452689 | 6817267 | LEAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452701 | 6817267 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452711 | 6817279 | MUER | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452757 | 6817419 | LEAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452769 | 6817460 | LEAM | TR | 3 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452770 | 6817474 | MUER | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452770 | 6817474 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452784 | 6817483 | LEAM | TR | 2 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452784 | 6817483 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452783 | 6817485 | LEAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452820 | 6817641 | MAAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452806 | 6817743 | LEAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452811 | 6817903 | LEAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452815 | 6817924 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452815 | 6817924 | LEAM | TR | 6 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452812 | 6817940 | TAHU | D | 3 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452891 | 6818000 | MAAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452787 | 6818019 | LEAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452787 | 6818036 | LEAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452783 | 6818055 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452775 | 6818081 | LEAM | TR | 2 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452774 | 6818141 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452774 | 6818141 | LEAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452774 | 6818169 | LEAM | TR | 3 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452780 | 6818225 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452780 | 6818225 | LEAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452781 | 6818250 | LEAM | D | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452790 | 6818255 | LEAM | TR | 10 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452799 | 6818272 | MAAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452805 | 6818277 | ALAL | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452805 | 6818277 | TAHU | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452836 | 6818319 | TAHU | TR | 3 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452869 | 6818456 | MAAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452869 | 6818456 | LEAM | TR | 13 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452893 | 6818507 | LEAM | TR | 1 |
| PCSA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452909 | 6818539 | LEAM | TR | 3 |
| PSCA-WT01 | 26/3/2012 | MA/DH | 1000 | 1115 | -12 | -15 | 5 | 5 | 0 | 0 | 18 | 62.0 | 452911 | 6818551 | MAAM | TR | 1 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452515 | 6816756 | CALU | TR | 1 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452824 | 6817911 | LEAM | TR | 1 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452820 | 6817922 | LEAM | TR | 1 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452818 | 6817939 | MAAM | TR | 1 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452808 | 6817957 | LEAM | TR | 1 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452786 | 6818014 | LEAM | TR | 2 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452780 | 6818094 | LEAM | TR | 1 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452773 | 6818119 | LEAM | TR | 1 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452773 | 6818225 | LEAM | TR | 2 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452788 | 6818252 | LEAM | TR | 1 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452730 | 6818292 | LEAM | TR | 1 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452846 | 6818330 | LEAM | TR | 2 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452859 | 6818375 | LEAM | TR | 1 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452877 | 6818416 | LEAM | TR | 1 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452871 | 6818457 | LEAM | TR | 2 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452881 | 6818469 | LEAM | TR | 10 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452896 | 6818489 | LEAM | TR | 4 |
| PSCA-WT01 | 21/11/2012 | MA/AK | 1155 | 1500 | -22 | -24 | 11 | 0 | 0 | 0 | 48 | 25.0 | 452903 | 6818512 | LEAM | TR | 3 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452536 | 6816857 | LEAM | TR | 1 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452772 | 6817480 | MUER | TR | 1 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452813 | 6817693 | MAAM | TR | 1 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452824 | 6817858 | LEAM | TR | 2 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452824 | 6817858 | LEAM | TR | 1 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452819 | 6817913 | TAHU | TR | 3 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452819 | 6817913 | TAHU | D | 2 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452819 | 6817913 | LEAM | TR | 3 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452784 | 6818011 | LEAM | TR | 2 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452762 | 6818155 | LEAM | TR | 3 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452767 | 6818191 | LEAM | TR | 3 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452788 | 6818264 | MAAM | TR | 1 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452832 | 6818289 | LEAM | TR | 3 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452847 | 6818328 | LEAM | TR | 2 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452871 | 6818411 | MAAM | TR | 1 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452871 | 6818411 | LEAM | TR | 4 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452875 | 6818460 | LEAM | TR | 4 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452875 | 6818460 | TAHU | TR | 4 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452900 | 6818500 | LEAM | TR | 3 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452900 | 6818500 | MAAM | TR | 1 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452935 | 6818564 | LEAM | TR | 12 |
| PSCA-WT01 | 12/08/2012 | RM/MA | 1214 | 1345 | -28 | -27 | 3 | 0 | 0 | 0 | 48 | 35.0 | 452992 | 6818756 | CALU | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450491 | 6812261 | MUER | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450482 | 6812299 | MAAM | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450493 | 6812302 | TAHU | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450541 | 6812335 | MICR | TR | 2 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450549 | 6812354 | TAHU | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450530 | 6812361 | TAHU | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450523 | 6812366 | MAAM | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450501 | 6812403 | TAHU | TR | 3 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450511 | 6812404 | MAAM | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450518 | 6812430 | MAAM | TR | 2 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450490 | 6812524 | MEUR | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450484 | 6812551 | LAMU | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450456 | 6812592 | LAMU | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450488 | 6812697 | ALAL | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450504 | 6812826 | ALAL | TR | 2 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450508 | 6812867 | LAMU | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450492 | 6813042 | TAHU | TR | 2 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450495 | 6813073 | MAAM | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450466 | 6813299 | MAAM | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450516 | 6813344 | MAAM | TR | 2 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450550 | 6813370 | TAHU | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450617 | 6813550 | TAHU | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450628 | 6813556 | TAHU | TR | 4 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450638 | 6813563 | TAHU | TR | 1 |
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450637 | 6813594 | TAHU | TR | 4 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCSA-WT02 | 02/06/2012 | RM/DH | 1400 | 1600 | -10 | -10 | 5 | 0 | 0 | 0 | 73 | 72.0 | 450586 | 6813905 | MAAM | TR | 4 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450480 | 6812285 | MAAM | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450515 | 6812396 | TAHU | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450516 | 6812420 | TAHU | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450508 | 6812453 | TAHU | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450505 | 6812807 | TAHU | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450505 | 6812807 | MUER | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450509 | 6812848 | ALAL | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450510 | 6812863 | ALAL | TR | 2 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450497 | 6812905 | TAHU | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450492 | 6813017 | TAHU | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450492 | 6813017 | MUER | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450498 | 6813045 | MICA | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450498 | 6813045 | MUER | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450476 | 6813081 | ALAL | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450467 | 6813114 | ALAL | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450446 | 6813194 | MICA | TR | 3 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450442 | 6813221 | MICA | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450450 | 6813264 | LEAM | TR | 2 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450471 | 6813295 | LEAM | TR | 3 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450489 | 6813314 | LEAM | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450529 | 6813362 | MAAM | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450531 | 6813405 | MAAM | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450585 | 6813453 | MAAM | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450585 | 6813453 | LEAM | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450638 | 6813563 | TAHU | D | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450618 | 6813732 | MAAM | TR | 1 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450616 | 6813754 | LEAM | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450623 | 6813794 | MUER | TR | 3 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450581 | 6813885 | MAAM | TR | 1 |
| PCSA-WT02 | 24/3/2012 | MA/DH | 1354 | 1556 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 73.0 | 450578 | 6813904 | LEAM | TR | 1 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450250 | 6812407 | MAAM | TR | 1 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450505 | 6812453 | LAMU | TR | 2 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450452 | 6812635 | MICR | TR | 1 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450488 | 6812698 | MICR | TR | 1 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450508 | 6812856 | ALAL | Rub | 3 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450508 | 6812856 | LEAM | TR | 1 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450495 | 6813025 | LEAM | TR | 1 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450491 | 6813076 | LEAM | TL | 3 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450438 | 6813200 | LEAM | TR | 1 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450453 | 6813296 | MICR | TR | 1 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450469 | 6813309 | ALAL | TR | 1 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450538 | 6813377 | MAAM | TR | 1 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450584 | 6813456 | MAAM | TR | 2 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450626 | 6813563 | LAMU | TR | 1 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450626 | 6813563 | MAAM | TR/D | 1 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450638 | 6813633 | LEAM | TR | 1 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450643 | 6813664 | LEAM | TR | 3 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450630 | 6813079 | LEAM | TR | 5 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450980 | 6813765 | LEAM | TR | 3 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450580 | 6813903 | LEAM | TR | 4 |
| PCSA-WT02 | 11/06/2012 | TP/RM | 1436 | 1630 | -10 | -11 | 10 | 0 | 2 | 0 | 32 | 13.0 | 450577 | 6814038 | LAMU | TR | 2 |
| PSCA-WT03 | 02/06/2012 | RM/DH | 1300 | 1400 | -10 | -10 | 5 | 0 | 0 | 0 | 46 | 76.0 | 450727 | 6811462 | ALAL | TR | 1 |
| PSCA-WT03 | 02/06/2012 | RM/DH | 1300 | 1400 | -10 | -10 | 5 | 0 | 0 | 0 | 46 | 76.0 | 450678 | 6811793 | ALAL | TR | 2 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSCA-WT03 | 02/06/2012 | RM/DH | 1300 | 1400 | -10 | -10 | 5 | 0 | 0 | 0 | 46 | 76.0 | 450512 | 6812223 | TAHU | TR | 2 |
| PSCA-WT03 | 02/06/2012 | RM/DH | 1300 | 1400 | -10 | -10 | 5 | 0 | 0 | 0 | 46 | 76.0 | 450491 | 6812238 | MICR | TR | 1 |
| PSCA-WT03 | 24/3/2012 | MA/DH | 1252 | 1350 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 65.0 | 450727 | 6811454 | MUER | TR | 1 |
| PSCA-WT03 | 24/3/2012 | MA/DH | 1252 | 1350 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 65.0 | 450723 | 6811461 | MUER | TR | 1 |
| PSCA-WT03 | 24/3/2012 | MA/DH | 1252 | 1350 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 65.0 | 450715 | 6811480 | LYCA | TR | 1 |
| PSCA-WT03 | 24/3/2012 | MA/DH | 1252 | 1350 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 65.0 | 450715 | 6811486 | ALAL | TR | 1 |
| PSCA-WT03 | 24/3/2012 | MA/DH | 1252 | 1350 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 65.0 | 450685 | 6811715 | VUVU | TR | 1 |
| PSCA-WT03 | 24/3/2012 | MA/DH | 1252 | 1350 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 65.0 | 450674 | 6811761 | MAAM | TR | 1 |
| PSCA-WT03 | 24/3/2012 | MA/DH | 1252 | 1350 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 65.0 | 450552 | 6812117 | TAHU | TR | 1 |
| PSCA-WT03 | 24/3/2012 | MA/DH | 1252 | 1350 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 65.0 | 450543 | 6812140 | MUER | TR | 1 |
| PSCA-WT03 | 24/3/2012 | MA/DH | 1252 | 1350 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 65.0 | 450504 | 6812232 | MICA | TR | 1 |
| PSCA-WT03 | 24/3/2012 | MA/DH | 1252 | 1350 | -16 | -16 | 10 | 5 | 0 | 0 | 48 | 65.0 | 450499 | 6812236 | MICA | TR | 1 |
| PSCA-WT03 | 11/06/2012 | RM/TP | 1353 | 1436 | -10 | -11 | 10 | 0 | 4 | 0 | 32 | 16.0 | 450707 | 6811331 | MICR | TR | 1 |
| PSCA-WT03 | 11/06/2012 | RM/TP | 1353 | 1436 | -10 | -11 | 10 | 0 | 4 | 0 | 32 | 16.0 | 450685 | 6811696 | LAMU | TR | 1 |
| PSCA-WT03 | 11/06/2012 | RM/TP | 1353 | 1436 | -10 | -11 | 10 | 0 | 4 | 0 | 32 | 16.0 | 450485 | 6812275 | MICR | TR | 1 |
| PCSA-WT04 | 28/2/2012 | MA/DH | 1420 | 1516 | -15 | -5 | 10 | 0 | 0 | 5 | 2 | 65.0 | 450572 | 6814033 | LEAM | TR | 1 |
| PCSA-WT04 | 28/2/2012 | MA/DH | 1420 | 1516 | -15 | -5 | 10 | 0 | 0 | 5 | 2 | 65.0 | 450579 | 6814029 | MAAM | TR | 1 |
| PCSA-WT04 | 28/2/2012 | MA/DH | 1420 | 1516 | -15 | -5 | 10 | 0 | 0 | 5 | 2 | 65.0 | 450628 | 6813999 | LEAM | TR | 1 |
| PCSA-WT04 | 28/2/2012 | MA/DH | 1420 | 1516 | -15 | -5 | 10 | 0 | 0 | 5 | 2 | 65.0 | 450672 | 6813963 | ALAL | TR | 1 |
| PCSA-WT04 | 28/2/2012 | MA/DH | 1420 | 1516 | -15 | -5 | 10 | 0 | 0 | 5 | 2 | 65.0 | 450748 | 6813938 | MUER | TR | 1 |
| PCSA-WT04 | 28/2/2012 | MA/DH | 1420 | 1516 | -15 | -5 | 10 | 0 | 0 | 5 | 2 | 65.0 | 450808 | 6813941 | LEAM | TR | 2 |
| PCSA-WT04 | 28/2/2012 | MA/DH | 1420 | 1516 | -15 | -5 | 10 | 0 | 0 | 5 | 2 | 65.0 | 450821 | 6813939 | TAHU | TR | 1 |
| PCSA-WT04 | 28/2/2012 | MA/DH | 1420 | 1516 | -15 | -5 | 10 | 0 | 0 | 5 | 2 | 65.0 | 450838 | 6813940 | TAHU | TR | 1 |
| PCSA-WT04 | 28/2/2012 | MA/DH | 1420 | 1516 | -15 | -5 | 10 | 0 | 0 | 5 | 2 | 65.0 | 450893 | 6813942 | LEAM | TR | 1 |
| PCSA-WT04 | 28/2/2012 | MA/DH | 1420 | 1516 | -15 | -5 | 10 | 0 | 0 | 5 | 2 | 65.0 | 450905 | 6813940 | MAAM | TR | 1 |
| PCSA-WT04 | 28/2/2012 | MA/DH | 1420 | 1516 | -15 | -5 | 10 | 0 | 0 | 5 | 2 | 65.0 | 450950 | 6813937 | MAAM | TR | 1 |
| PCSA-WT04 | 28/2/2012 | MA/DH | 1420 | 1516 | -15 | -5 | 10 | 0 | 0 | 5 | 2 | 65.0 | 450965 | 6813940 | ALAL | TR | 3 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450553 | 6814041 | LEAM | TR | 3 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450598 | 6814012 | LEAM | TR | 2 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450623 | 6813996 | MAAM | TR | 2 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450658 | 6813973 | MAAM | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450709 | 6813949 | TAHU | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450727 | 6813731 | MAAM | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450727 | 6813931 | TAHU | TR | 2 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450746 | 6813928 | TAHU | TR | 5 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450757 | 6813937 | MAAM | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450789 | 6813940 | TAHU | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450803 | 6813942 | GUGU | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450803 | 6813942 | TAHU | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450813 | 6813939 | TAHU | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450813 | 6813939 | MUER | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450829 | 6813941 | TAHU | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450840 | 6813939 | TAHU | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450848 | 6813937 | TAHU | V | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450848 | 6813937 | TAHU | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450875 | 6813934 | MAAM | TR | 2 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450899 | 6813546 | MAAM | TR | 2 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450899 | 6813546 | TAHU | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450936 | 6813943 | MICA | TR | 1 |
| PCSA-WT04 | 26/3/2012 | MA/DH | 1233 | 1330 | -12 | -15 | 5 | 5 | 4 | 0 | 18 | 73.0 | 450948 | 6813944 | MAAM | TR | 1 |
| PCSA-WT04 | 21/11/2012 | MA/AK | 1553 | 1626 | -22 | -26 | 11 | 0 | 0 | 0 | 48 | 28.0 | 450558 | 6814042 | LEAM | TR | 1 |
| PCSA-WT04 | 21/11/2012 | MA/AK | 1553 | 1626 | -22 | -26 | 11 | 0 | 0 | 0 | 48 | 28.0 | 450657 | 6813974 | LEAM | TR | 1 |
| PCSA-WT04 | 21/11/2012 | MA/AK | 1553 | 1626 | -22 | -26 | 11 | 0 | 0 | 0 | 48 | 28.0 | 450709 | 6813931 | LEAM | TR | 1 |
| PCSA-WT04 | 21/11/2012 | MA/AK | 1553 | 1626 | -22 | -26 | 11 | 0 | 0 | 0 | 48 | 28.0 | 450709 | 6813931 | TAHU | TR | 1 |

| Transect ID | Date (d/m/y) | Samplers | Start time | End Time | Weather Day b/f count (°C) | Weather day of count (°C) | Wind b/f count (km/hr) | Wind day of count (km/hr) | Precip b/f count (cm) | Precip day of count (cm) | Time since last snowfall (hrs) | Average Transect Snow Depth (cm) | Easting | Northing | Species Code | Sign Type | # of Sign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCSA-WT04 | 21/11/2012 | MA/AK | 1553 | 1626 | -22 | -26 | 11 | 0 | 0 | 0 | 48 | 28.0 | 450765 | 6813934 | LEAM | TR | 1 |