

Nuttall's Cottontail (*Sylvilagus nuttallii*) Pellet Surveys in the Southern Okanagan Valley, British Columbia, 2009



By

Dawn Marks and Vicky Young, BC Conservation Corps

BC Ministry of Environment

Internal Working Report

October 8, 2009

EXECUTIVE SUMMARY

Nuttall's Cottontail (*Sylvilagus nuttallii*) is Blue listed (S3) in British Columbia (BC CDC 2008). It is ranked Priority 2 in Goal 2 (Prevent species and ecosystems from becoming at risk) of the BC Conservation Framework (BC Conservation Framework 2009). In 2009, a 2 person BC Conservation Corps crew conducted multi-species presence/not detected inventories in the south Okanagan. During this time surveyors placed 95 Nuttall's Cottontail pellet search stations on 18 selected parcels of vacant Crown land, provincial parks and protected areas and privately protected land owned by the Nature Trust of BC (TNT). Seventy-eight Nuttall's Cottontail pellet groups were recorded at ten sites. These surveys provided basic presence/not detected information for a lower priority species like the Nuttall's Cottontail. If data beyond presence/not detected is required, a more consistent and controlled survey technique would be required.

ACKNOWLEDGMENTS

Funding for this project was provided by the BC Ministry of Environment through the BC Conservation Corps and the BC Conservation Framework. We appreciated administrative support from the BC Conservation Foundation (Barb Waters). Guidance and mentorship was provided by Orville Dyer, Wildlife Biologist with the BC Ministry of Environment. We also wish to thank Carl MacNaughton of The Nature Trust (TNT) for providing access to their properties.

Photo credits: Dawn Marks, BCCC. Photographs on the top left and the right are of Nuttall's Cottontail pellets. The photograph on the bottom left is of habitat in which Nuttall's Cottontail pellets were found.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	II
ACKNOWLEDGMENTS.....	II
TABLE OF CONTENTS	III
LIST OF FIGURES.....	1
LIST OF TABLES.....	1
LIST OF APPENDICES.....	1
INTRODUCTION	2
STUDY AREA	2
METHODS.....	4
RESULTS.....	5
DISCUSSION.....	8
RECOMMENDATIONS OR CONCLUSION	8
REFERENCES	9
APPENDICES	10

LIST OF FIGURES

Figure 1. Nuttall's Cottontail pellet 2009 Study Area within the south Okanagan, BC. 3

Figure 2. Results of BCCC 2009 Nuttall's Cottontail pellet searches. 7

LIST OF TABLES

Table 1. Sites surveyed for Nuttall's Cottontail during 2009 BCCC multi-species inventories in the south Okanagan. 5

LIST OF APPENDICES

Appendix 1. Survey Site Information 10

INTRODUCTION

Nuttall's Cottontail (*Sylvilagus nuttallii*) is Blue listed (S3) in British Columbia (BC CDC 2008). It is ranked Priority 2 in Goal 2 (Prevent species and ecosystems from becoming at risk) of the BC Conservation Framework (2009). Actions (as defined and proposed by the BC Conservation Framework) recommended for this species include:

- MO: Monitor the species or its habitat at an interval appropriate to the life history of the organism. May require research on monitoring techniques
- DA: Compile or update a detailed assessment (Status Report). May require research on threats, trends, habitat use, life history or demography.
- PP: Planning process. Includes preparing a Management Plan (usually for S3, and S4) or Recovery Strategy and Action Plan (for SX, S1 and S2 species) or update an existing plan; includes implementing and monitoring effectiveness of the plan and monitoring the effect on the population or habitat of the species.

These Nuttall's Cottontail pellet surveys were part of a larger multi-species inventory initiated by the Ministry of Environment through the BC Conservation Corps. The Corps crew conducted presence/not detected surveys for multiple grassland species throughout the Okanagan basin during the 2009 field season. During these surveys search stations were placed to help determine Nuttall's Cottontail occurrence in an area by the presence of their fecal pellets.

STUDY AREA

Surveys were conducted in the southern Okanagan Valley of British Columbia on selected crown land parcels, protected areas and properties owned by the Nature Trust of BC (TNT) (Figure 1).

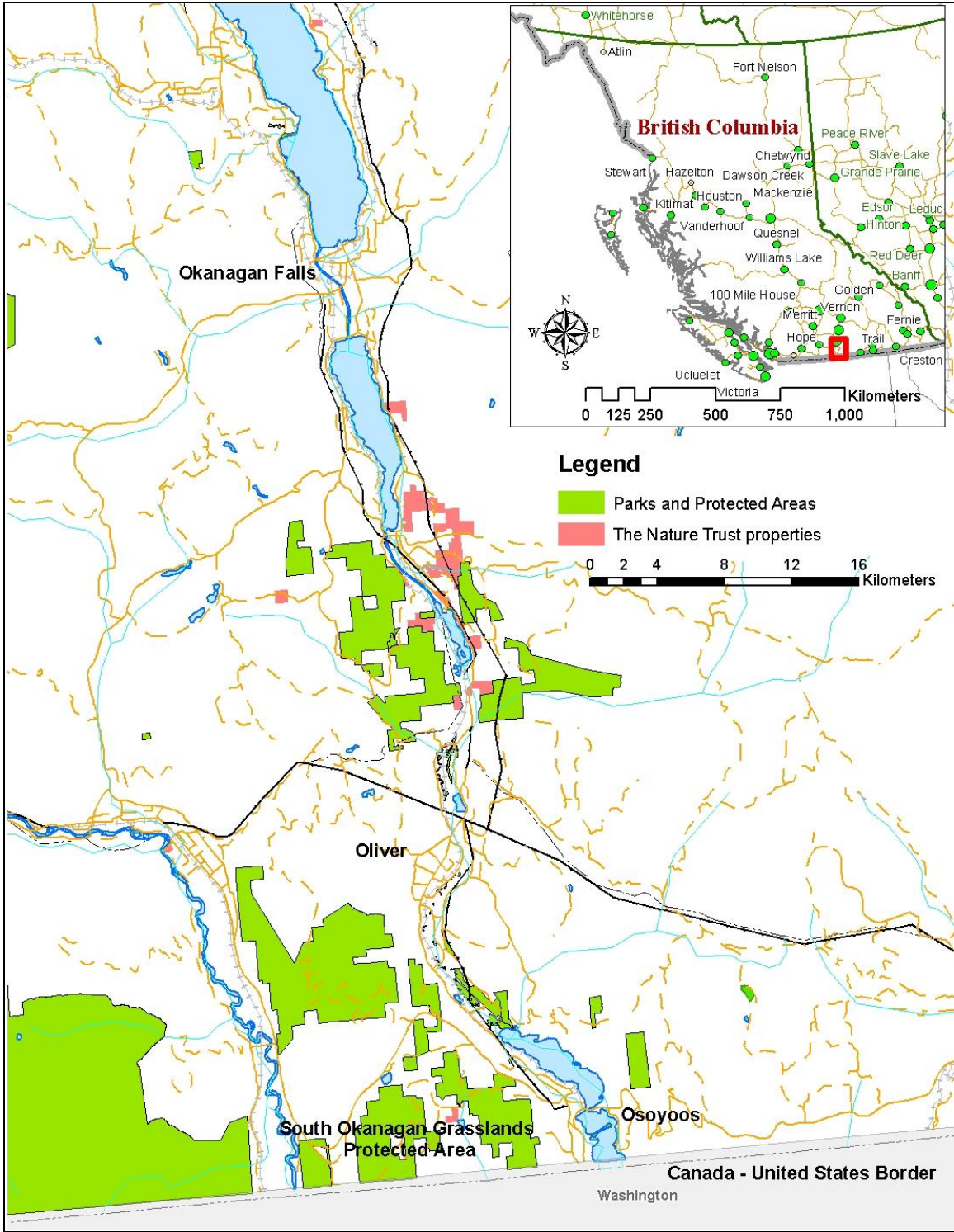


Figure 1. Study area for Nuttall's Cottontail pellets search within the south Okanagan, BC 2009.

METHODS

Surveyors were trained by Orville Dyer, Ministry of Environment Wildlife Biologist, for Nuttall's Cottontail pellet surveys on May 20, 2009. Training focused on recognizing potential Nuttall's habitat and distinguishing their fecal pellets from those of other animals occurring in the area. Nuttall's habitat included rock outcrops and gullies within sagebrush (*Artemisia* spp.) and antelope-brush (*Purshia tridentata*) shrub-steppe and open ponderosa pine plant communities. There is no overlap between these habitats for Nuttall's Cottontail and Snowshoe Hare (*Lepus americanus*) habitat so there is no potential for incorrectly identifying their pellets (Resources Inventory Committee 1998). Nuttall's pellets are spherical and cannot be confused with pellets of local ungulates, which are generally cylindrical.

Nuttall's Cottontail surveys coincided with searches for other target species. While in the field surveyors were aware of and searched for a multitude of species at once. Wandering transects were used to survey potential habitat within this multi-species inventory framework. Wandering transects have no fixed direction, distance or speed, and allow surveyors to change course to target suitable habitat that occurs sporadically across the landscape.

While surveyors were searching for other species they were aware of the potential to detect Nuttall's Cottontail pellets. Since pellets could be easily overlooked this way, surveyors also placed search stations specifically for Nuttall's Cottontail pellets. Pellet search stations were placed at semi-regular intervals 100-400 metres apart along wandering transects. At stations, surveyors searched the ground intently within a 10 metre radius of a marked waypoint. Searches targeted areas under the cover of bushes such as sage and antelope-brush, particularly near rocky outcrops and gullies, which also were searched.

At each search station the following information was recorded: date, time, location (UTM NAD 83), pellets detected (Y/N), dominant habitat codes and other comments. Recorded detections could comprise of one pellet to several pellet groups.

Surveyors used handheld Garmin GPS units (GPSmap 60Cx and GPSmap76Cx) to record search stations and detections. All UTM locations were downloaded using Garmin MapSource version 6.15, saved as .txt files and imported into a Microsoft Excel 2003 spreadsheet. Data was then uploaded into ESRI ArcMap 9.2 and saved as shapefiles.

Search area was calculated using a combination of factors. Each marked search station represented a 10 metre radius circle of searched habitat. The total area searched was calculated from the number of search stations and the area that they encompassed. In addition, detections of pellets encountered outside of search stations were assigned an area of a circle with a 5 metre radius. A smaller radius was chosen for these to prevent the overestimation of search effort and to reflect the fact that these pellet groups were encountered when not intensively searched for.

RESULTS

Ninety-five pellet stations were placed and searched on 18 dates between May 20th and September 14th. Seventy-eight Nuttall's Cottontail pellet detections were recorded (Table 1; Figure 2).

Table 1. Sites surveyed for Nuttall's Cottontail pellets during 2009 BCCC multi-species inventory in the south Okanagan.

Site Name	Date Visited	# of Stations placed	# of Nuttall's Cottontail detections	Search Effort (m ²)
TNT Schneider Property	20-May-09	5	9	2276
McIntyre Bluff P.P.	27-May-09	9	2	2904
TNT Blue Mountain Property	29-May-09 24-Aug-09	18	10	6045
SOGPA – North Kilpoola	01-Jun-09 and 16-Jun-09	9	0	2826
Oliver Wastewater Treatment Lagoon area	02-Jun-09	11	0	3454
White Lake Basin	12-Jun-09	4	0	1256
Inkaneep Provincial Park	18-Jun-09	4	0	1256
Haynes' Lease	24-Jun-09 31-Aug-09	7	0	2198
TNT Kennedy Property	18-Jun-09 24-Jun-09 24-Aug-09	4	22	2826
SOGPA – East Chopaka	26-Jun-09	3	0	942
TNT Kilpoola Lake	29-Jun-09	1	0	314
Fairview Townsite	24-Aug-09	-	8	628
SOWMA	01-Sep-09	5	2	1727
Wildlife Management Area (Black Sage Rd)	01-Sep-09	0	6	471
Vaseux Creek	08-Sep-09	3	6	1256
SOGPA – West Chopaka Nighthawk Border	10-Sep-09	4	0	1256
SOGPA – West Chopaka North of Highway 3	10-Sep-09	4	2	1256
Osoyoos West Bench	11-Jun-09	4	11	1884

	14-Sep-09			
	15-Sep-09			
Total		95 stations	78 detections	34775 m²

The search area was calculated to be 34775 m² for the Nuttall's Cottontail portion of the 2009 BCCC multi-species inventories.

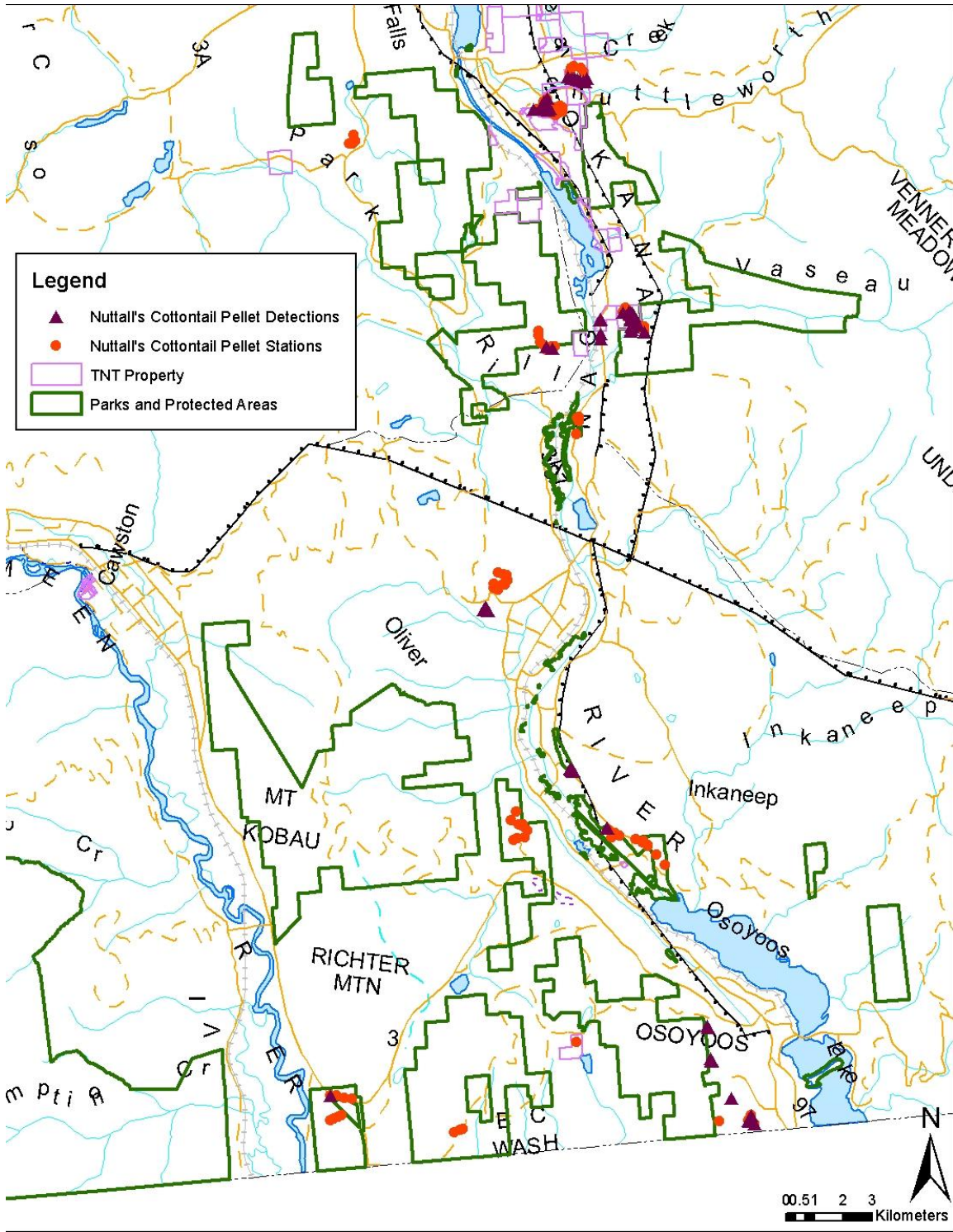


Figure 2. Results of BCCC 2009 Nuttall's Cottontail pellet searches.

DISCUSSION

The Nuttall's Cottontail pellet surveys were an opportunistic component of this project. Surveyors were trained to recognize the pellets while in the field. Search stations were limited or not conducted when surveyors were under time constraints to survey for target species with short activity periods. Pellet stations were also not conducted when surveyors were outside of suitable Nuttall's habitat.

Success in detecting Nuttall's Cottontail pellets during wandering transects varied according to the other target species. Some target species required surveyors to scan along a path, or search on the ground (increasing the likelihood of opportunistic pellet detection), while others required focus above the lower layers of vegetation (making pellet spotting more difficult). This was why search stations were placed periodically where surveyors could focus their search for pellets. To prevent the overestimation of total search area habitat covered during wandering transects was not included in the search area calculated here.

Although this survey effort was opportunistic it did demand additional time from surveyors in the field and afterwards with data management and reporting. In locations where pellet stations were placed less total area was surveyed at one time for focal species.

Given the nature of these surveys extreme care must be taken to ensure results are interpreted only as presence/not detected. Properties listed in this report were not surveyed intensively for Nuttall's Cottontail pellets; only a small portion of habitat was surveyed. These types of opportunistic pellet searches may be useful for detecting the presence of Nuttall's Cottontail in new areas or determining areas to target for future conservation and research initiatives.

RECOMMENDATIONS OR CONCLUSION

- Future surveys should compare the time required for this type of survey with results to assess whether this is a valuable and efficient approach. If this is found to be an efficient approach it could prove valuable for similar grassland species of concern.
- If data beyond presence/not detected is required, a more consistent and controlled survey technique would be necessary.

REFERENCES

BC Conservation Data Centre (CDC). 2008. BC Species and Ecosystems Explorer. B.C. Minist. of Environ. Victoria, B.C. Available: <http://a100.gov.bc.ca/pub/eswp/> (accessed July 3, 2009).

BC Conservation Framework. 2009. BC Conservation Framework. B.C. Minist. of Environ. Victoria, B.C. Available: <http://www.env.gov.bc.ca/conservationframework/> (accessed July 28, 2009).

Resources Inventory Committee. 1998. Inventory for Hares and Cottontails: Standards for Components of British Columbia's Biodiversity No. 23. Province of British Columbia. Victoria, B.C. Available: <http://ilmbwww.gov.bc.ca/risc/pubs/tebiodiv/hares/assets/hares.pdf>

APPENDICES

Appendix 1. Survey Site Information

Information collected at each site was designed after the CDC data forms for submission.

TNT Schneider Property

Ownership: Private – The Nature Trust of BC

Inventory Date: May 20, 2009

Surveyors: Vicky Young, Dawn Marks, Orville Dyer

General Habitat: At the start of the survey: young dense Ponderosa pine, almost no shrub understorey, pine or orchard grass along the forest floor. Moved upslope to antelope brush (*Purshia tridentata*), bluebunch wheatgrass (*Agropyron spicatum*) rock outcrops and sparser large Ponderosa pine (*Pinus ponderosa*) where the bulk of the survey was held.

Condition: Forest near the road has been thinned.

Landscape Context: Adjacent property ownership is crown land and private land. Dirt bike trails were noted on the crown land.

Comments: This area was visited for Nuttall's Cottontail survey training. Stations were placed in five (5) locations in potentially suitable habitat. Upon arriving at an area of more suitable habitat (ridge of rocky outcrop and small gullies with cover present) stations were no longer used; rather surveyors searched continuously for Nuttall's Cottontail pellets and recorded nine (9) detections.

McIntyre Bluff Provincial Park

Ownership: Crown - Provincial Park

Inventory Date: May 27, 2009

Surveyors: Vicky Young, Dawn Marks

General Habitat: Sage (*Artemisia tridentata*), some antelope brush (*Purshia tridentata*), bluebunch wheatgrass (*Agropyron spicatum*), rocky outcrops and Ponderosa pine (*Pinus ponderosa*) are present at this site.

Condition: This land experiences recreational hiking and biking along marked trails.

Signage is also present marking areas undergoing ecological restoration, which are off limits to recreational users.

Landscape Context: McIntyre Bluff overlooks Vaseux Lake and is composed of provincial park land and other ownerships. Covert Farms is located at the base of the trail.

Comments: Nine (9) pellet search stations were placed. Nuttall's Cottontail pellets were detected at one of these stations and at one other location. The surveys followed the trail from the park boundary along Covert Farm to Rattlesnake Lake. Other target species included Tiger Beetles, Immaculate Green Hairstreak and Lark Sparrow.

TNT Blue Mountain Property

Ownership: Private – The Nature Trust of British Columbia

Inventory Date: May 29, 2009 and Aug 28, 2009

Surveyors: Vicky Young, Dawn Marks, Orville Dyer, Leah Ramsay

General Habitat: Antelope brush (*Purshia tridentata*), bluebunch wheatgrass (*Agropyron spicatum*), with rocky outcrops and depressions throughout. Ponderosa pine (*Pinus ponderosa*) and interior Douglas-fir (*Pseudotsuga menziesii* var. *glauca*) present.

Condition: Large areas of antelope-brush, some invasive plants such as cheatgrass (*Bromus tectorum*), and sulphur cinquefoil (*Potentilla recta*). Old road and wildlife trails throughout property.

Landscape Context: Larger parcel of land protected as TNT property. Vineyards and road are found below and surrounding the property.

Comments: On May 29th: thirteen (13) Nuttall's Cottontail pellet search stations were placed. Nuttall's Cottontail pellets were detected at one of these stations and at one other location. Other target species included Tiger Beetles, Immaculate Green Hairstreak and Lark Sparrow. On August 28th, five Nuttall's Cottontail pellet search stations were placed. Nuttall's Cottontail pellets were detected at four of these stations as well as four other places.

SOGPA - North Kilpoola

Ownership: Crown – Protected Area (South Okanagan Grasslands Protected Area)

Inventory Date: June 1, 2009 and June 16, 2009

Surveyors: Dawn Marks and Vicky Young

General Habitat: Sage (*Artemisia tridentata*) with bluebunch wheatgrass (*Agropyron spicatum*) and needle-and-thread grass (*Stipa comata*). Some ponderosa pine (*Pinus ponderosa*) and interior Douglas-fir (*Pseudotsuga menziesii* var. *glauca*) are present.

Condition: Disturbance from cattle. High amount of invasive plants including cheatgrass (*Bromus tectorum*), and mustard sp. are present at this site.

Landscape Context: Kilpoola North is a large protected area adjacent to Highway 3 and private land with a large gravel pit on it. A road cuts through the park to service a telecommunications station. Cattle grazing occurs on this site.

Comments: Much of this site is grassland swales and draws. This site was visited primarily to target Grasshopper Sparrows and then Half-moon Hairstreaks. When surveyors walked along hills and ridges or near rock and plentiful cover pellet search stations were placed. Over the course of two visits to this site nine (9) search stations were placed. No Nuttall's Cottontail were detected at this site.

Oliver Wastewater Treatment Lagoon Area – Crown Land

Ownership: Crown

Inventory Date: June 2, 2009

Surveyors: Vicky Young and Dawn Marks

Start Time: 11:40 End Time: 13:55

General Habitat: Antelope brush (*Purshia tridentata*) (very large in some areas), sage (*Artemisia tridentata*), rock outcrops, hills and ridges, buckwheat species (*Eriogonum niveum* and *E. heracleoides*) are present at this site. Not many nectar plants were observed. Some ponderosa pine (*Pinus ponderosa*) is present.

Condition: This area is cattle grazed. ATV/dirt bike trails are present. There is an abundance of cheatgrass (*Bromus tectorum*) at this site.

Landscape Context: Crown land adjacent to Oliver Wastewater Treatment plant lagoons.

Agricultural areas are present beyond. Stinky Lake is found to the north.

Comments: Eleven (11) pellet search stations were placed at this site. No Nuttall's Cottontails were detected. Immaculate Green Hairstreaks were also targeted at this site.

White Lake Basin (North of White Lake – Twin Lakes Rd.)

Ownership: Federal Crown land with grazing lease

Inventory Date: June 12, 2009

Surveyors: Dawn Marks, Vicky Young

General Habitat: Habitat includes hilltops and ridges, sage – bluebunch wheatgrass, lupine (*Lupinus spp.*), fine-leaved daisy (*Erigeron linearis*), and parsnip-flowered buckwheat (*Eriogonum heracleoides*).

Condition: This land is grazed.

Landscape Context: Crown land, with National Research Council, TNT and Provincial Park land beyond the surrounding area.

Comments: Four (4) pellet search stations were placed at this site. No Nuttall's Cottontail pellets were detected. These stations represent only a very small portion of habitat in the White Lake Basin. More suitable areas should still be surveyed.

Inkaneep Provincial Park

Ownership: Crown, Provincial Park

Inventory Date: June 18, 2009

Surveyors: Vicky Young and Dawn Marks

General Habitat: Antelope brush (*Purshia tridentata*) (very large in some areas), bluebunch wheatgrass (*Agropyron spicatum*), Dalmatian toadflax (*Linaria genistifolia*). Plentiful cheatgrass (*Bromus tectorum*) and some yarrow (*Achillea millefolium*) also present. Some ponderosa pine (*Pinus ponderosa*) is present.

Condition: This area is a small roadside parcel of protected land. There is an abundance of cheatgrass (*Bromus tectorum*) at this site.

Landscape Context: This parcel is bordered by a road and privately owned lands.

Comments: This site was visited to survey for Behr's Hairstreak. There are no rocky outcrops or gullies present on this park parcel. Four pellet search stations were placed. No Nuttall's Cottontails were detected.

Haynes' Lease

Ownership: Crown, Ecological Reserve

Inventory Date: June 24, 2009 and August 31, 2009

Surveyors: Vicky Young and Dawn Marks

General Habitat: Antelope brush (*Purshia tridentata*), big sage (*Artemisia tridentata*), common rabbitbrush (*Chrysothamnus nauseosus*), cactus (*Opuntia fragilis*). Open, bare, sandy soil. Some ponderosa pine (*Pinus ponderosa*) is present. A rock outcrop is present across a fence and small dirt track.

Condition: There is an abundance of cheatgrass (*Bromus tectorum*) at this site.

Landscape Context: This site is found at the north-west end of Osoyoos Lake. It is bordered by the South Okanagan Management Area.

Comments: Seven pellet search stations were placed at this site. No Nuttall's Cottontail

pellets were detected.

TNT Kennedy Property

Ownership: Private, The Nature Trust of BC

Inventory Date: June 24, 2009 and August 24, 2009

Surveyors: Vicky Young and Dawn Marks

General Habitat: A large bench above a large lower elevation area. Rock outcrops, antelope brush (*Purshia tridentata*) (very large in some areas), bluebunch wheatgrass (*Agropyron spicatum*), needle-and-thread grass (*Stipa comate*), cactus (*Opuntia fragilis*), cheatgrass (*Bromus tectorum*), yarrow (*Achillea millefolium*), and buckwheat species (*Eriogonum*) are present at this site. Ponderosa pine (*Pinus ponderosa*) is present. Vaseux creek passes through this property (large gully/small canyon). A dirt road parallels the benches on the lower portion of the property.

Condition: Portions of this property have recently burned (between June 24 and Aug 24 visits).

Landscape Context: Bordered by federal crown land, privately owned land and the Fortis substation.

Comments: No stations were placed on June 18, surveyors were visiting the site for Behr's Hairstreak surveys and opportunistically recorded a pellet group. On June 24, surveyors walked along the upper bench towards the creek then descended through smaller bench levels and returned along the dirt road. Four (4) pellet search stations were placed. Over 19 pellet groups were detected. The portion of the upper bench near the creek and rock outcrop had several pellet groups which could be easily seen and detected without specific stations. Search stations were not placed in this area; rather as pellet groups were detected they were recorded. This site was also visited on August 24. Pellet search stations were placed and pellets were detected. Some of the data from this date was lost prior to data entry.

SOGPA - East Chopaka

Ownership: Crown – Protected Area

Date Visited: June 26, 2009

Surveyors: Dawn Marks and Vicky Young

General Habitat: Sage (*Artemisia tridentata* and *A. tripartita*), bluebunch wheatgrass (*Agropyron spicatum*) grassland with buckwheats (*Eriogonum* spp.), fine-leaved daisy (*Erigeron linearis*), arrow-leaved balsamroot (*Balsamorhiza sagittata*), lupine (*Lupinus* sp.) and bitterroot (*Lewisia rediviva*).

Comments: This area was visited for *Orthocarpus* counts and Half-moon Hairstreak surveys. Three (3) pellet search stations were placed in areas with rock and cover opportunities. No Nuttall's Cottontails were detected

TNT Kilpoola Lake Property

Ownership: Private – The Nature Trust of British Columbia

Date Visited: June 29, 2009

Surveyors: Dawn Marks and Vicky Young

General Habitat: Sage (*Artemisia tridentata*), bluebunch wheatgrass (*Agropyron*

spicatum) grassland with buckwheats (*Eriogonum* spp.), fine-leaved daisy (*Erigeron linearis*), arrow-leaved balsamroot (*Balsamorhiza sagittata*), lupine (*Lupinus* sp.) and bitterroot (*Lewisia rediviva*).

Comments: This area was visited for Half-moon Hairstreak surveys. One (1) pellet search station was placed in a rocky area with sage as cover. No Nuttall's Cottontails were detected.

Fairview Townsite

Ownership: Crown

Inventory Date: August 24, 2009

Surveyors: Vicky Young and Dawn Marks

General Habitat: Antelope brush, grasses (including bluebunch wheatgrass), mustard cheatgrass, Dalmatian toadflax, some sage, ponderosa pine, cactus, bare soil.

Condition: Invasive weeds.

Comments: Eight pellet group detections were recorded from this site.

South Okanagan Management Area

Ownership: Crown – Management Area

Inventory Date: September 1, 2009

Surveyors: Vicky Young and Dawn Marks

General Habitat: Antelope brush, sand-dropseed grass, cheatgrass, some snow buckwheat, bare sandy soil.

Condition: Grazed, weedy.

Landscape Context: Surrounding areas include vineyards and houses.

Comments: Five stations were placed here. The pellets that were found were not at a station.

Wildlife Management Area (Black Sage Rd.)

Ownership: Crown – Management Area

Inventory Date: September 1, 2009

Surveyors: Vicky Young and Dawn Marks

General Habitat: Thick antelope brush, toadflax, sand-dropseed grass, cheatgrass, some snow buckwheat, bare sandy soil.

Condition: Very dense antelope brush, some weeds.

Landscape Context: Surrounding areas include vineyards and houses.

Comments: Six detections of Nuttall's Cottontail pellets were recorded from this site. No specific stations were placed here.

Vaseux Creek

Ownership: Crown – Protected Area

Inventory Date: September 8, 2009

Surveyors: Vicky Young and Dawn Marks

General Habitat: Lower bench contains antelope brush, dense grasses (including needle-and-thread grass) and cactus. Ponderosa pine and rock outcrops.

Condition: A powerline cuts through this property. Tree falling was occurring underneath the powerline.

Landscape Context: This property is a protected area, and land to the northwest is owned

by The Nature Trust of BC. The Fortis substation is found to the southwest. Past the southern border of the park is First Nations Land.

Comments: Four pellet detections occurred on the lower bench. Two more detections occurred at stations further up the hill in ponderosa pine, rock habitat.

West Chopaka – Nighthawk Border

Ownership: Crown – Protected Area

Inventory Date: September 10, 2009

Surveyors: Vicky Young and Dawn Marks

General Habitat: Slope of sage, bluebunch wheatgrass, needle-and-thread grass, bare soil patches, common rabbitbrush and snow buckwheat.

Condition: Grazed.

Landscape Context: This property is located adjacent to Nighthawk road, Highway 3 and the Canada-US border.

Comments: Four search stations were placed at this site. No pellets were detected.

West Chopaka – North of Highway 3

Ownership: Crown – Protected Area

Inventory Date: September 10, 2009

Surveyors: Vicky Young and Dawn Marks

General Habitat: Sage, bare soil, sand-dropseed grass, timothy, ponderosa pine, purple pea sp., cactus.

Condition: Grazed.

Landscape Context: This property is adjacent to Nighthawk road and Highway 3.

Comments: Four search stations were placed at this site. Two Nuttall's Cottontail pellet detections were recorded from the first station.

Osoyoos West Bench

Ownership: Crown

Inventory Date: June 11, 2009 and September 14, 15, 2009

Surveyors: Vicky Young and Dawn Marks

General Habitat: Sage, bare soil, open weedy areas, common rabbitbrush, bluebunch wheatgrass and other unknown grass species.

Condition: Grazed, ATV/dirt bike/4WD roads crisscross this property.

Landscape Context: This property is surrounded by new development (suburban housing), parkland and the Canada-US border.

Comments: Two detections were opportunistically recorded on June 11 (not at official stations). Four stations were placed here on September 14; four pellet detections were recorded from three of those stations. On September 15, an additional five pellet groups were detected.