



Coastal Western Screech-owl Surveys and Habitat Assessment for Habitat Acquisition Trust Victoria, BC

PREPARED FOR:

Mr. Adam Taylor
Executive Director
Habitat Acquisition Trust (HAT)
PO Box 8552 Victoria BC V8W 3S2

PREPARED BY:

Tania Tripp, M.Sc., R.P.Bio.
Sr. Wildlife Biologist
Madrone Environmental Services Ltd.
1081 Canada Ave.
Duncan, BC V9L 1V2

tania.tripp@madrone.ca

1 (250) 746-5545

&

Jill Robinson, M.Sc. and Adam Taylor, B.A.
Habitat Acquisition Trust (HAT)

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Over 50 people contributed to the success of this project. We would like to acknowledge and thank all of the keen volunteers that donated their Friday and Saturday nights to go look for owls and to learn about this species at risk. Crew leaders consisted of: Tania Tripp, Adam Taylor, Jill Robinson, Christian Engelstoft, Katie McCreesh, Helen Davis, Ann Nightingale, Jared Hobbs, Ben van Drimmelen, Wendy Tyrrell, and Agnes Lynn

Additional in-kind project support was provided by BC Ministry of Environment (Leah Ramsay and Dave Fraser; species specialists).

Detailed habitat assessments were conducted by Jill Robinson, Tania Tripp, and Kevin Robinson (no relation to Jill). During the site visits, local residents and landowners were extremely supportive of, and interested in the project, and allowed access to their property.

HAT has a history of educating local residents regarding conservation values, and motivating private landowners to undertake meaningful land stewardship programs. They have been an active partner in many island campaigns to acquire and protect properties with important conservation values including Species at Risk. The information collected through this project is necessary to assist recovery of the species and associated ecosystems at risk.

1 Introduction

Madrone Environmental Services Ltd. (Madrone) was contracted by Habitat Acquisition Trust (HAT) to lead the Western Screech-Owl component of their project "**Habitat Stewardship & Protection for Endangered Molluscs, Turtles, Snakes, and Screech Owls.**" This project was funded by the Habitat Stewardship Program (HSP) as an 2014-15 Habitat Stewardship Project.

The overall project goal is to identify sites suitable for the protection and/or improvement of habitat for the Western Screech-owl (*Megascops kennicottii kennicottii*). This subspecies was recently uplisted to Threatened due to its small and declining number of mature individuals (COSEWIC 2012). It is presently SARA-listed under Schedule 1 as Special Concern (based on COSEWIC 2002) and is awaiting a decision regarding its reclassification to Threatened. As per the national document "State of Canada's Birds", special attention is needed for bird species showing substantial population declines which have not yet reached critical status.

1.1 Overview of Western Screech-Owl

The Western Screech-Owl (*Megascops kennicottii*) is non-migratory species that occurs along the Pacific Coast of North America, from southern Alaska to central Mexico (Cannings and Angell 2001). In Canada, this species occurs only in British Columbia (BC). There are two subspecies: *M. k. kennicottii*, along the coastal mainland and Vancouver Island, and *M .k. macfarlanei*, in the southern BC interior (COSEWIC 2002).

This species is historically known to have been locally abundant over many parts of its range in BC (Campbell *et al.* 1990). All populations of this species are now believed to be in decline due to loss of habitat as a result of forest harvesting and land development (Cannings and Angell 2001; Fraser *et al.* 1999).

Species Status

The interior subspecies has a Federal listing of "Threatened" (COSEWIC 2002) and is provincially "red-listed" (BC Conservation Data Centre 2015). Coastal Western Screech-Owls (*Megascops kennicottii kennicottii*) have recently had their Federal conservation status increased from a species of Special Concern (COSEWIC 2002) to Threatened (COSEWIC 2012) .

As well, based on observed declines reported in Alaska, it is assumed that it has likely also declined in the northern part of its range (between southern BC all the way up the coast to Alaska).

Description and Behaviour

The Western Screech-Owl is a small owl, with tufted ears, yellow eyes and streaked markings. Adults vary from 19 to 25.5 cm in length and 100 to 305 g in mass; with females generally being larger and heavier than males (Cannings and Angell 2001). The primary song consists of a series of short whistled hoots (notes) more closely spaced at the end of the series that is similar to a "ball bouncing more and more rapidly over

a frozen surface” (Johnsgard 1988, Tripp 2004). Listen on-line at www.allaboutbirds.org

This nocturnal raptor preys on mammals, fish, insects, invertebrates, and other birds. It is also prey for other avian predators, such as the Barred Owl (*Strix varia*) (COSEWIC 2002).

Habitat

Western Screech-Owls use a variety of habitats for roosting and nesting including; mature forests, 50 to 60 year old open Douglas-fir (*Pseudotsuga menziesii*) forests, dense young Douglas-fir forests, black cottonwood (*Populus trichocarpa*) and woodlands bordering marshes, ponds, wet areas or fields. Although the general habitat needs for nesting and roosting overlap, nesting requires cavities that are typically associated with older forest. In contrast, a roost tree for security cover during the day could consist of old or young trees. On southern Vancouver Island, they are often found roosting amongst the bushy crowns of young (<50 years) Douglas-fir or in the thick branches of Western red cedars (pers. obs.).

In BC, nests are usually found in cavities 1.2 to 12.2 m up a tree, on sites below 600 m elevation (Campbell *et al.* 1990). Favoured nesting cavities/holes may be appropriated from Pileated Woodpecker and Northern Flicker excavations (cavities) in Douglas-fir (*Pseudotsuga menziesii*), western redcedar (*Thuja plicata*), bigleaf maple (*Acer macrophyllum*), arbutus (*Arbutus menziesii*), grand fir (*Abies grandis*), red alder (*Alnus rubra*), Garry oak (*Quercus garryana*) and western hemlock (*Tsuga heterophylla*) (Campbell *et al.* 1990, COSEWIC 2002).

Home Range

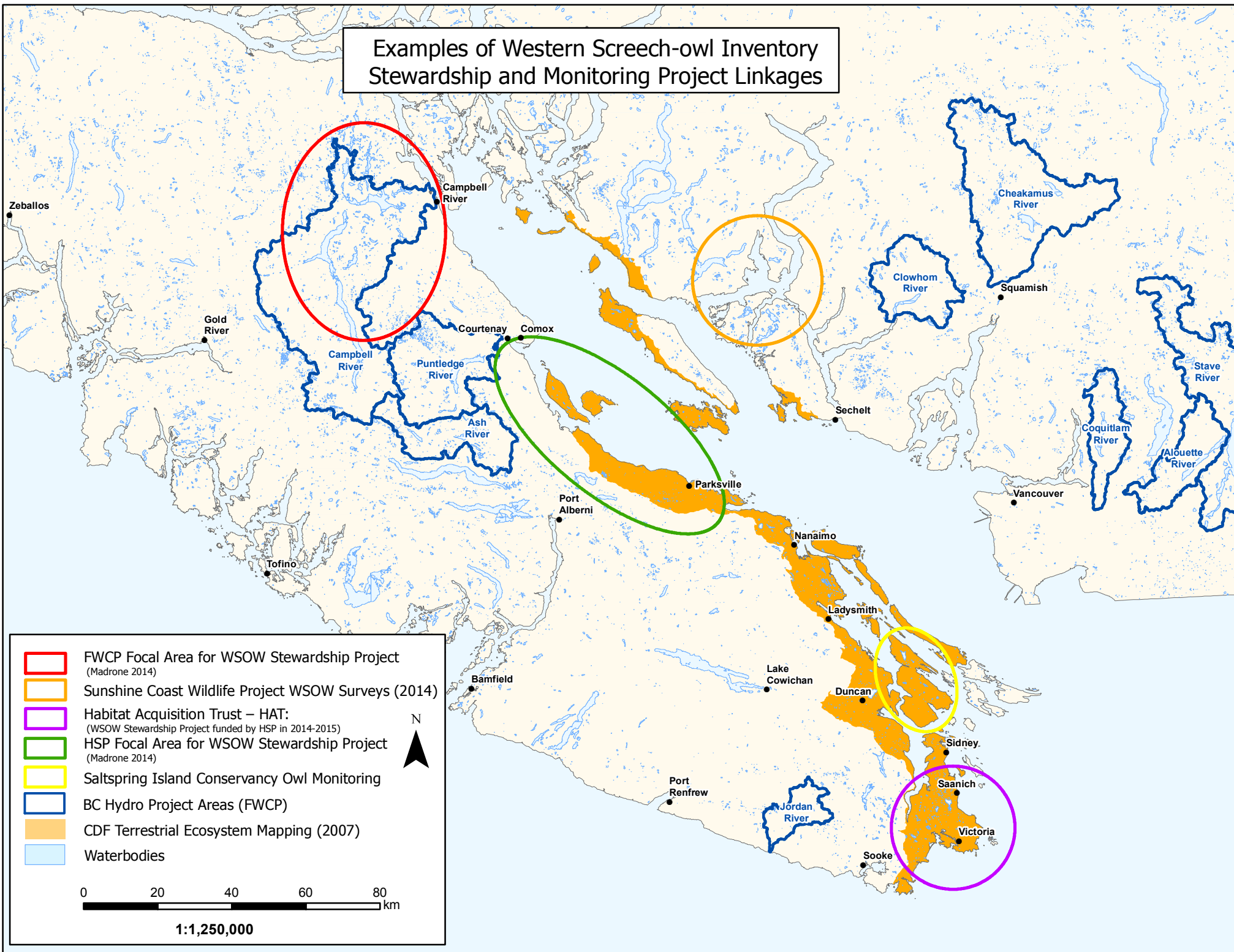
At present, few detailed home range and territory size estimate studies have been completed for this species in North America. Research by Hayward (1983) in central Idaho indicated a home range of two radio-tagged birds to be 3-9 hectares, and 29-58 hectares, respectively. A study on Western Screech-Owls in southern California calculated an average of 2.1 territories per kilometer of river channel, with a minimum average distance of 420 m between nest sites (Feusier 1989). Recent telemetry efforts in the interior of British Columbia have documented territory ranges of 112 ha (mean minimum convex polygon for five tagged males), and a mean 95% utilization distribution estimate of home range size for four owls of 49 ha (Davis and Weir 2006, and Davis and Weir 2007).

1.2

Project Area

The project is located in the south coast region of British Columbia within the Capital Regional District (CRD) on south eastern Vancouver Island near the city of Victoria. Part of the project takes place within a regional priority area, the Coastal Douglas-fir (CDF) biogeoclimatic zone. The focus of survey efforts and landowner contacts was within the Highlands, and Metchosin. The habitat type that is the focus of improvement and protection efforts is low elevation forest within the CDFmm.

Examples of Western Screech-owl Inventory Stewardship and Monitoring Project Linkages



1.3 Workplan Activities

Two workplan activities were identified for this project; 1) Surveys, Inventories and Monitoring, and 2) Habitat Protection. A series of project objectives was established to fulfill the goals of the workplan activities.

Surveys, Inventories and Monitoring

A series of survey stations along road transects will be established in areas previously or recently associated with use by Western Screech-Owls. Identifying Screech Owl occurrences will enable HAT to undertake actions to protect and enhance habitat. Both these actions are recommended in the Western Screech-Owl (*kennicottii* subspecies) Recovery Plan prepared by the BC Ministry of Environment (2013) to address threats posed by residential development. For each occurrence of Western Screech Owl reported or confirmed, HAT will prepare a habitat assessment and will engage private landowners with protection opportunities.

In addition, nest boxes distributed to landowners in 2000 in the Victoria area will be checked for current status. HAT and Madrone will also solicit reports of current detections from residents and the birding community.

Objectives associated with this workplan activity included:

- Conduct surveys for Western Screech-Owls in select areas of the Capital Regional District, at sites representative of suitable habitat.
- Survey for WSOW using best practices for monitoring
- Initiate and organize a volunteer program for the general public to participate in the surveys.
- Follow-up on use and condition of nest boxes installed 10-15 years ago in the Victoria area.

Habitat Protection

Protecting habitat that supports existing Western Screech Owl occurrences is an important step to enabling the persistence of this small owl in southern Vancouver Island. By first identifying existing populations, HAT can pursue land protection and habitat enhancement activities at priority areas. In locations where Western Screech owls were detected on private land, HAT will also be able to initiate landowner contact with the goal of protecting habitat. Objectives associated with this workplan activity included:

- HAT will engage landowners at sites associated with previously reported Western Screech Owls to report owl calls.
- Create a project information sheet.
- Assess habitat where WSOWs are detected and make recommendations for habitat improvement and human impact mitigation.
- Provide data in a format useful to the BC Conservation Data Centre for Element Occurrence data in order to aid in species protection and recovery.
- Report on all activities for the use of Habitat Acquisition Trust and the Habitat Stewardship Program (Environment Canada).

2 Methods

Owl inventory assessment surveys were conducted in accordance with the specifications and requirements outlined in the provincial standards (RISC 2006). Surveys took place during the appropriate time of year for this species between February and March 2015.

2.1 Project Initiation

A project initiation meeting was completed with the HAT / Madrone project team leads (Adam Taylor, Christine Engelstoft, Jill Robinson, and Tania Tripp). The purpose of the meeting was to: (a) review project objectives and methods (data forms, call broadcast call files, maps of the project area, survey protocols, equipment, etc.); (b) discuss habitat requirements and behaviour of Coastal Western Screech-owls; and (c) finalize the survey sites and transects and the associated survey schedule.

2.2 Review of Relevant Background Data

Prior to conducting surveys, a review of databases of Western Screech-Owl detection sites in the area (historical and recent) was completed to assist in selecting priority survey areas. Most of these historic sites have not been systematically re-surveyed (that we are aware of) since 2003 (Tripp 2004).

2.3 Surveys

Surveys were conducted as per the BC Resource Inventory Standards Committee (RISC) (2006) *Inventory Methods for Owl Surveys*. Only surveys for Western Screech-owl were conducted. A clean recording of a male, territorial call from southern Vancouver Island was created and used for the survey "WSOW_HAT_2015.mp3". A call broadcast data form was developed to document survey efforts and results (Appendix 1). The following is a summary of the methods applied:

1. Select transect routes based in areas proximate to previous WSOW sightings and in areas with expected suitable habitat.
2. Each survey point was located along secondary roads, every 800m.
3. Habitat features were noted at each survey site, including: UTM's, elevation, forest canopy, forest age, landscape and anthropogenic features (Appendix 1).
4. Owl surveys were conducted between a half hour before sunset and midnight. An attempt was made to conduct the survey at the same time of night, but to start from the opposite end between survey rounds (as an attempt to randomize disturbance).
5. At the beginning and end of each survey night, information on environmental conditions such as cloud cover, wind, and temperature were noted (see Survey Form in Appendix 1).
6. Conduct surveys at each point using methods below:
 - i. *At each survey point, record: start and end time, ambient noise level and precipitation class.*

- ii. *Begin survey by starting WSOW playback recording. It will begin with 2 minute listening period to detect spontaneous owl calls.*
 - iii. *The owl playback will then begin and will repeat 5 times (takes about 10 minutes to play though in total). Face each cardinal point during each playback sequence.*
 - iv. *After playback completes, listen again for 2 minutes and record all observations. Assuming no owl calls, each survey will take about 15 minutes.*
 - v. *If any owl is detected, stop playing callback immediately to minimize disturbance or threat to Western Screech Owl.*
 - vi. *For each detection, record the time of the call, distance, direction of call and species, age, sex and number of individuals.*
 - vii. *Include any additional information about the call in comments section.*
7. Conduct surveys again every 2 weeks using the standardized playback methods, while avoiding survey points where Western Screech-Owls were already detected in previous surveys.
 8. In the case that a WSOW is identified as present, identify potential local stewards, and return during day to conduct habitat assessments and determine potential nest trees possible.

2.4 Habitat Assessments

Habitat suitability for the Western Screech-Owl was assessed at the 4 sites (Appendix 2 provides the field form used for the assessments). Site specific characteristics were assessed by T. Tripp at two sites and Jill Robinson at two others, and included:

- Presence of potential nesting cavities.
- Forest Structural stage.
- Vertical canopy complexity.
- Coarse Woody Debris (CWD) - The assumption being that the more CWD of various sizes and ages of decay, then the greater the population of small mammals (one type of prey for this species of owl) in the area.
- Presence of primary nesting species (cavity excavators that create potential nesting cavities for secondary nesters such as Western Screech-Owls) – Pileated Woodpecker, Northern Flicker, Hairy Woodpecker, Red-breasted Sapsucker.
- Security habitat for adults and juveniles, as per their different requirements (adults typically roost in the crowns of trees or against tree trunks with thick branch cover vs. juveniles which require thick ground cover of shrubs and regenerating trees to roost in when recently fledged and unable to fly).
- Observed predator and prey species.

- Landscape factors such as distance to water, distance to forest edge, level of site disturbance, etc.

3 Results

Three rounds of surveys were conducted 62 stations spaced 800 m apart along 9 transects, covering 51 km (Table 2). Transects names were assigned based on the main road that they followed or common name used for the area (typically based on a natural feature such as a lake or hill): Ross Durance, Bear Hill, Goward, Millstream Lake Road, Munn Road East, Highlands, Finlayson, Humpback Road, and Kangaroo Road.

Surveys for Western Screech-Owls were conducted on February 20th, 21st and 24th as well as on March 6th, 7th, 21st, and 22nd of 2015 by Madrone (Tania Tripp), Habitat Acquisition Trust (HAT) (Adam Taylor, Jill Robinson and Christine Engelstoft), and local volunteers. Total survey effort is summarized in Table 2.

Table 2. Summary of Survey Effort for Western Screech-Owls.

Number of transects visited	9
Number of survey stations	63
Number of surveys conducted (3 rounds of surveys at each station)	186
Survey hours	72
Number of Volunteers	41
Total Survey Distance covered (km)	51 km

As a result of the surveys, 4 distinct Western Screech-Owl territories were detected (Figure 2). Other species detected included Great Horned Owl, Barred Owl, and Northern Pygmy Owl (provincially blue-listed as a species of Special Concern).

Table 3. Summary of Detections from Western Screech-Owl Surveys.

Species	Number of Stations with Detections	Total Number of Detections*	Level of Effort (# of stations)	Detection Rate
Western Screech-Owl	5	5	186	2.7%
Great Horned Owl	10	12	186	6.4%
Barred Owl	5	7	186	3.8%
Northern Pygmy Owl	1	1	186	< 1%
Total	22	25	186	13%

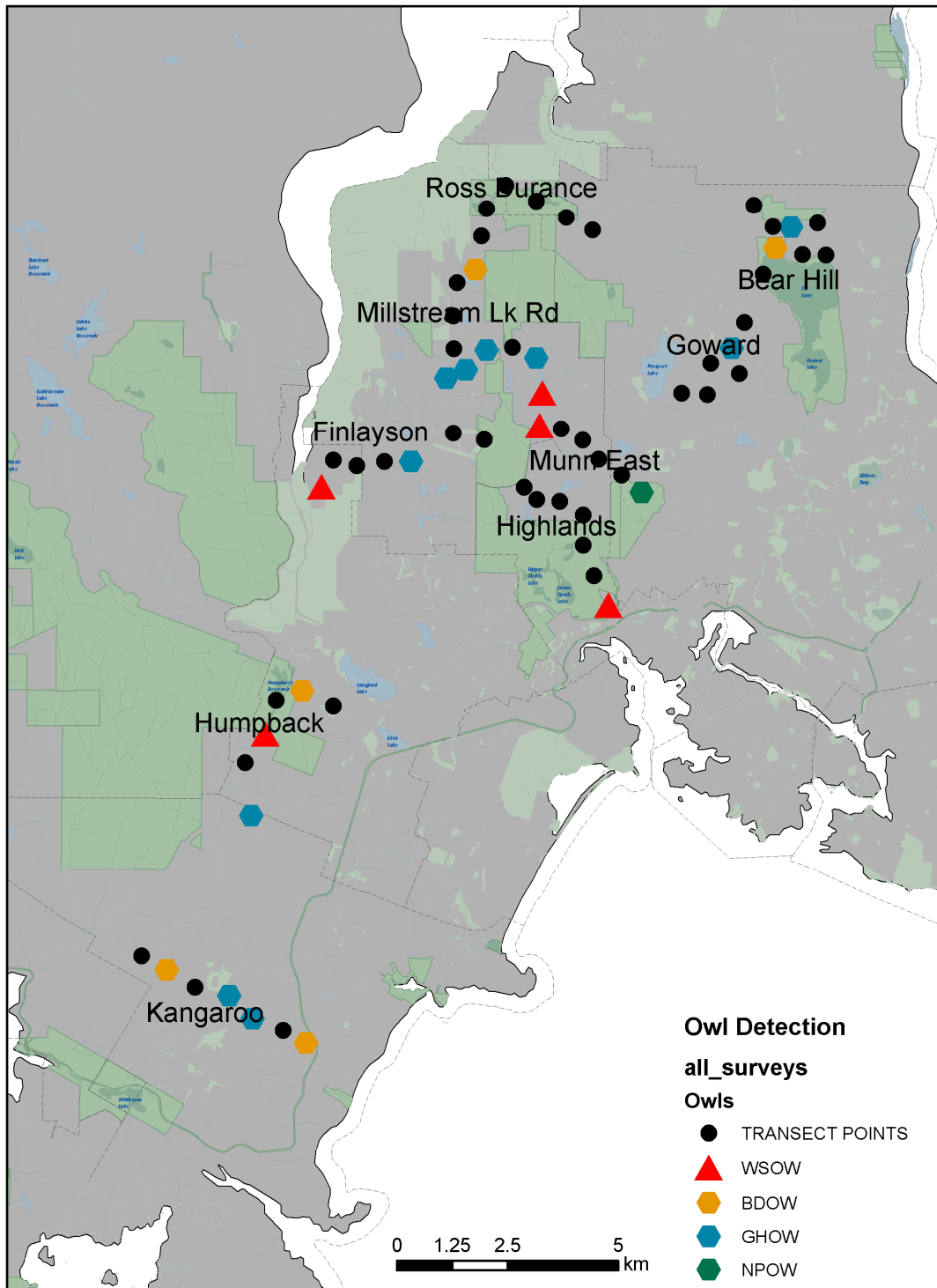


Figure 2. Results of Surveys for Western Screech-Owl in the HAT Project Area (February and March 2015) (Figure prepared by Jill Robinson).

3.1 Habitat Assessments

On completion of the surveys, the four sites associated with Western Screech-Owl detections were visited in the day to attempt to locate potential nest sites and roost trees to confirm habitat use. Where confirmation of roost sites was achieved, detailed habitat assessments were conducted, and follow-up with landowners took place.

During the habitat assessments, visual confirmation was obtained at two of the four sites (Munns Road and Finlayson Road). One visual confirmation of this species was of a breeding pair roosting together at the top of a small Western redcedar. As no owls were detected and no roost trees were located at the other two sites (Humpback and Highlands), detailed habitat assessments were not conducted. Lack of response may have been due to poor weather conditions at the time of surveys.

Based on the occupancy of these sites within the breeding season, and given that this is a non-migratory species, all are considered suitable breeding habitat. However, standardized habitat suitability ratings were completed to collect additional site information such as tree height, forest age, stand composition, etc. (see form provided in Appendix 2). Table 3 summarizes the results of the assessments completed at two of the four sites.

Foraging habitat suitability was rated 'Very High' to 'High' throughout the site. Plots with moderate to high amounts of large (>25 cm diameter) coarse woody debris (CWD) were rated higher than plots with low amounts of CWD.

All four sites are located adjacent to riparian habitat that is associated with foraging opportunities on numerous species of small songbirds and likely abundant small mammals; namely mice.

As with foraging habitat, security habitat was also rated as abundant for adults, which tend to roost in the dense crowns of coniferous trees such as Western redcedar and Douglas-fir on southern Vancouver Island. Security habitat features are present throughout the stand, and are not limiting factors for use by this species.

Habitat suitability for security for juveniles, which use thickets and dense understorey growth to perch in once out of the nest but unable to fly ('grounded'), varied between sites.

Table 3. Summary of plot data relevant to habitat suitability of Western Screech-Owls at detection sites from 2015.

SITE INFORMATION							Ave. Height (m)			Average DBH (cm)			Suitability Rating for Western Screech-Owl*					
Site Name	Plot #	Structural Stage	Slope %	Leading Tree species	Estimated Age	Crown Closure	Remnant Vets	Dom/Co-dom	Intermediate	Remnant Vets	Dom/Co-dom	Intermediate	Wildlife Trees	Coarse Woody Debris	Nesting	Foraging	Security - Adults	Security - Juveniles
MUNNS RD STATION 6-7	1	5>>6	55%	ARB (FD)	<60 YRS	<40%	N/A	30	15	N/A	40	10	LIMITED # OF WILDLIFE TREES (SNAGS)	LOW	3	3	1	1
MUNNS RD STATION 6-7	2	5	5%	FD	<60 YRS	>50%	N/A	30	30	N/A	35	<20	LIMITED # OF WILDLIFE TREES	LOW	5	1	2	2
FINLAYSON RD STATION 7	3	5>>6	70%	FD	<60 YRS	<50%	40	30	25	>80	50	<30	LIMITED # OF WILDLIFE TREES	LOW	4	3	3	3

*Suitability ratings: 6 (nil suitability), 5 (very low), 4 (low), 3 (moderate), 2 (high) and 1 (very high) (refer to Appendix 2 for habitat assessment form and codes applied). All sites had a lack of wildlife trees within the assessed plot (30X30m) applied around the roost tree. Notes were taken on surrounding habitat as well. When we walked up and down slope at both sites, scattered wildlife trees and veteran Douglas-fir were seen within close proximity to the roost trees (within 100 m). See photos from Plot 1 and Plot 3 in Appendix 4.

3.2 Volunteers

Volunteer coordination was conducted by HAT (Jill Robinson, Stewardship Coordinator). Volunteers and crew leads met during a series of Friday and Saturday nights in February and March at the Helmken Park and Ride. Volunteers were assigned to each of the owling teams. At the initiation of the project there were four survey leads. Through training of volunteers, and appealing to highly qualified birders and professional biologists in the CRD, an additional six survey leads were added.

The participation and support from over 40 volunteers enabled us to more than double the area planned for surveys (9 transects instead of the original 4 identified). We were also able to achieve the goal of three repeat survey evenings for each transect. Each survey took 2.5 hours on average, and required 1 survey leader and on average 2 volunteers.

HAT, with support from Madrone, looks forward to continuing the search effort, and working towards enhancing Western Screech-Owl habitat in upcoming seasons.

3.3 Landowner Contacts

Landowners in areas near confirmed owl detections were contacted. The idea of introducing nest boxes received a positive response from homeowners. A total of 15 landowners were contacted as part of the stewardship outreach component of the project that was led by HAT. A project information sheet was also produced as a handout to landowners, volunteers, and interested locals (Appendix 3).

4 Discussion and Recommendations

Results from the first year of the project are very encouraging. Although four active territories might not seem like much, we were not necessarily expecting to detect any Western Screech-Owl. It is good to know that this small owl is finding a way to avoid Barred Owls and survive in our study area. Two of the four active sites were known by the author from surveys in 2003 (Tripp 2004). There is likely something different about these sites that enabled them to remain active while so many other sites have not. Perhaps there is a higher abundance and variety of prey species at these sites or adjacent to them. It could also be that something is different in the behaviour of these individuals that has enabled them to avoid Barred Owls. Or, they could be more aggressive as well as skilled at avoidance.

The two sites with visuals of owl roost sites were in atypical habitat (as per the literature) in that the owls were found on dry, steep slopes with Douglas-fir and Arbutus. Riparian habitat, however, was located immediately adjacent to the roost sites. It may be that these steep, dry sites, which are difficult to develop or log due to the terrain (rock outcrops), contain remnant veteran (old) Douglas-fir for nesting (Appendix 4).

Whatever the reason(s), it is good to know that a Western Screech-Owl population is still established in the Capital Regional District (CRD). That said, there is a lot more that can be done to assist the recovery of this species. Future activities that could be

applied to support the recovery of WSOW populations in the CRD include the installation of nest boxes to increase suitable nesting opportunities.

4.1 Nest Box Program

During the first year of this project, HAT contacted landowners that are interested in having nest boxes installed on their property where suitable habitat is present that could attract this species of small owl. The nest boxes are also suitable for Northern Saw-whet Owls and Northern Pygmy-owls (blue-listed).

The degree to which owls use nest boxes will indicate limitations in suitable nesting and roosting sites for Western Screech-Owls. Lack of use could reflect a low local population, or that nesting habitat is not a limiting factor for their use of the area (i.e., where owls are detected but not using nest boxes). Surveys to check inside nest boxes are recommended for May and June to provide an estimate of breeding success, which could be compared with other WSOW populations.

The nest box stewardship program would promote and support long-term conservation of the Western Screech-Owl. Unfortunately, the success of nest box programs cannot be determined without monitoring. Putting up the boxes is only part of the first step of the process. Checking them to see if they are successful is just as important.

Recommended activities for 2015/2016 include erecting nest boxes for owls, and working with landowners to identify sites suitable for protection in current conditions or as recruitment habitat.



Photo 1: Successful nest box from program in Campbell River funded by BC Hydro Fish and Wildlife Compensation Program (FWCP).

5 Relevant Literature

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Appendix 1: Western Screech-Owl Survey Forms

Survey Form - Owl Call Broadcast Stations

Project: Western Screech Owl Surveys

General Survey Area: _____

Survey Route Name: _____

Stn. No.	UTM Northing	UTM Easting	Elevation	Habitat description	Notes	Observers
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Description of Habitat Codes

Forest Age

OF	Old Forest
MF	Mature Forest
YF	Young Forest
Forest Canopy Composition	
C	Coniferous
M	Mixed
B	Broadleaf (Deciduous)
Landscape Features	
LK	Adjacent to a lake
WE	Adjacent to a wetland
CRK	Riparian area - adjacent to creek
RI	Adjacent to river
Anthropogenic Features	
RZ	Road survey
RU	Rural - infrequent house density
UR	Urban - frequent houses

Description of Observation Type

Sign Code	Description
V	Visual/direct observation
S	Sign such as whitewash, pellets, feathers
A	Audio - Vocalizations Detected
O	Other - provide description under notes section

Appendix 2: Detailed Habitat Assessment Form

Project Name	
Date	
UTM from GPS	Zone: Northing: Easting: (+/- m)
Survey Site Name	
Observers	
Size of Plot	(30 m plot) (<1 acre) (1-2 acres) (2-5 acres) (Specify Other)

Site Description

Biogeoclimatic Unit						
Slope grade	Flat <5%	Gentle 5-15%	Moderate 15-35%	Steep 35-100%	Very Steep >100%	
Slope position	Valley bottom	Lower slope	Mid slope	Upper slope	Ridge top	

Distance to an edge	(<25m) (25-50m) (51-100m) (100-200m) (200-500m)
Describe edge	
Distance to Water	(<25m) (25-50m) (51-100m) (100-200m) (200-500m)
Describe water type	

Vegetation and Habitat Description

Structural Stage	Sparse/Herb 1-2-3a	Shrub/Herb 3b	Pole Sapling 4	Young Forest 5	Mature 6	Old-growth 7
Dominant Age class of Forest	<8 (<140 y)		8 (140-250 y)		9 (>250 y)	
Leading tree species	Douglas-fir Fd	Hemlock Hw	W. redcedar Cw	Arbutus	Maple Mb	Alder Dr
% of canopy trees >80 cm dbh	0	~1%	1-5%	6-25%	26-50%	51-100%
Ave. Tree Ht. (Range)						
Ave. DBH (Range)						
Vertical Canopy Complexity	Nil	Very Low	Low	Moderate	High	Very High

Potential Nest Cavities	0	1	2-4	5-6	7-9	≥10
Number of snags in plot	0	0	0	1-2	3-4	≥5
Primary Cavity Nesters detected	Pileated Woodpecker PIWO	Northern Flicker NOFL	Red-breasted Sapsucker RBSA	Hairy Woodpecker HAWO		

Information Related to Foraging Habitat / Prey Availability

Observed potential prey species:
Red-legged Frogs, Tree Frogs, Insects, Small Birds, Medium-sized Birds (e.g., American Robin), Small mammals (shrews, voles, mice, rats), squirrels
Coarse Woody Debris (as habitat for prey such as small mammals) -

Factors that may influence suitability of the stand for nesting

Predators in the area? Yes / No / Unknown
Potential predators include Barred Owl / Domestic Cats / Dogs / Raccoons / Gray Squirrels
Security – Ground vegetation for fledglings (dense shrub patches and thickets)
Size of forested area:
Other factors:

Habitat Ratings

Habitat Suitability for Nesting	6 Nil	5 Very low	4 Low	3 Moderate	2 High	1 Very High
Habitat Capability for Nesting	6 Nil	5 Very low	4 Low	3 Moderate	2 High	1 Very High
Habitat Suitability for Food	6 Nil	5 Very low	4 Low	3 Moderate	2 High	1 Very High
Habitat Suitability for Security	6 Nil	5 Very low	4 Low	3 Moderate	2 High	1 Very High

Notes

Appendix 3: Western Screech-Owl Project Information Handout

Western Screech Owl Stewardship Project



HAT

Habitat Acquisition Trust | 250.995.2428 | hatmail@hat.bc.ca | www.hat.bc.ca | 825 Broughton St

Western Screech-Owls Need Help

If you are reading this information sheet it is probably because this owl lives or used to live in your neighbourhood.

Unfortunately, the Western Screech-Owl population in Greater Victoria has plummeted over the past decade, and today only a few known pairs of Screech-Owls remain.

HAT is surveying for Western Screech-Owls this late winter/early spring, in an effort to locate and improve habitat for these small owls.

What's the Problem?

Coastal Western Screech-Owls (*Megascops kennicottii kennicottii*) face a number of threats, including predation from Barred Owls (which are a new arrival on Vancouver Island), and habitat loss. In particular, the loss of dead trees and snags, which serve as nest sites and roosts, has hurt Western Screech-Owls. *In the past 10 years, the number of Screech-Owls in Greater Victoria has declined by over 90%.*

Coastal Western Screech-Owls (*Megascops kennicottii kennicottii*) have recently had their Federal conservation status increased from a species of Special Concern (COSEWIC 2002) to Threatened (COSEWIC 2012).

As well, based on observed declines reported in Alaska, it is assumed that it has likely also declined in the northern part of its range (between southern BC all the way up the coast to Alaska).

Whose Hoo is Who?



Photo: Paul Levesque

Western Screech-Owl, Coastal population
Latin Name: *Megascops kennicottii kennicottii*

Size: 7.5 to 10 inches tall, 20 - 24 inch wingspan (slightly larger than a Robin)

Diet: Small mammals, like rodents and shrews

Preferred Habitat: In general, Western Screech-Owl populations in BC are associated with mixed forests near riparian areas (COSEWIC 2002). However, just to keep us on our toes, they can also be found on dry sites with Douglas-fir and Arbutus.

Western Screech-Owls are secondary cavity nesters that require holes in tree created either naturally or by woodpeckers. This species of small owl also uses nest boxes for both breeding and roosting (Campbell et al. 1990, Tripp and Menzies 2008).

Voice: Series of short whistled hoots, more closely spaced at end of series. Listen online at www.allaboutbirds.org.

Western Screech Owl Stewardship Project

About HAT's Surveys

During 2015, Habitat Acquisition Trust (HAT) and local volunteers will survey sites in Greater Victoria that used to have resident screech-owls. Most of these historic sites have not been systematically re-surveyed (that we are aware of) since 2003. Surveys will be conducted primarily from mid-February to the end of April to coincide with the territorial and courtship calling periods of Western Screech-Owls.

The surveys will be conducted from dusk until midnight as per standardized owl survey protocols. First, we listen for spontaneous calling of owls in the area, with the territorial call of a male Western Screech-owl played to elicit a response from this species. To minimize disturbance, once a screech-owl is detected, no further calls are played. More importantly, if Barred Owls (a known predator of small owls) are heard, no calls will be played.

At each site a standardized data form for owl surveys will be completed to keep track of our efforts and results.

Project Goals:

In the first year of the project, our goals is to survey past known Western Screech-owl sites, and to expand inventory and nest box efforts. The future, we hope to use the results of these inventory and monitoring efforts to support habitat protection, habitat improvement, and recovery efforts for this species. Project goals include:

1. Follow up with landowners who received Western Screech-Owl nest boxes in the past to determine box usage and condition.
2. Survey for Western Screech-Owl in select areas of the Capital Regional District, using best practices for monitoring.
3. Assess habitat where Western Screech-Owl are detected and make recommendations for habitat improvement and human impact mitigation.

Contact us

If you have any questions about the surveys that we will be conducting or would like to volunteer with them, or have any knowledge of recent Western Screech Owl activity, please contact us.

- Tania Tripp - tania.tripp@madrone.ca
- Adam Taylor - adam@hat.bc.ca
- Call Habitat Acquisition Trust 250 995-2428

What can you do to help?

1. Let us know if you see or hear a Western Screech-Owl - see contact information below.
2. Leave standing dead trees up if it is safe. Screech-Owls need wildlife trees for their natural nesting sites.
3. Participate in the Nest Box program - see below.

Nest Boxes for Owls

We are also looking for landowners that are interested in having nest boxes installed on their property where suitable habitat is present that could attract this species of small owl. The nest boxes are also suitable for Northern Saw-whet Owls and Northern Pygmy-owls. Unfortunately, Grey Squirrels also like to use them.

The nest box stewardship program is to promote and support long-term conservation of the Western Screech-Owl. Some of you may recall that some nest boxes were installed in Victoria and the Cowichan Valley between 2000 and 2004 with help from local landowners, Girl Guides Canada, and the Habitat Conservation Trust Fund (HCTF). I am happy to report that some of the nest boxes have been successfully used (see below photos).

Unfortunately, the success of nest box programs cannot be determined without monitoring. Putting up the boxes is only part of the process. Checking them to see if they are successful is just as important.



Sponsors

Funding for this project has been provided by the Government of Canada through the Habitat Stewardship Program, and by donors like you.



Appendix 4: Site Photos - Western Screech-Owl Confirmed Territories – Visuals of the owls confirmed



Habitat representative of the Finlayson territory where two Western Screech-owls were found roosting together at the top of a small Western redcedar with a dense crown providing security cover.



Habitat representative of the Munns Road Territory