

4. A Nest of a Western Screech-Owl *macfarlanei* subspecies

1) Definition

A nest of a Western Screech-Owl macfarlanei subspecies (Otus kennicottii macfarlanei) means the nest and its supporting structure that either (1) is currently occupied by a Western Screech-Owl to hold its eggs or offspring, or (2) is habitually occupied and still capable of holding eggs or offspring of a Western Screech-Owl (Figure 13).

Note: The Western Screech-Owl *macfarlanei* subspecies is often referred to as the “Interior” subspecies of Western Screech-Owl in British Columbia.



Figure 13. Western Screech-Owl at nest cavity. (Photo: Kevin Alexander)

2) Species Description

The Western Screech-Owl *macfarlanei* subspecies is slightly larger than a robin, with yellow eyes and a dark beak (Figure 14). Its ear tufts are noticeable when raised, but when they are flattened, the head appears round. It is generally gray overall, with under parts marked with blackish streaks and thinner bars. This owl is nocturnal; it is best identified at night by its calls. Two common calls are a series of short whistles of the same pitch that accelerate in tempo and a short trill followed by a longer trill.

The Western Screech-Owl *macfarlanei* subspecies is a *Species at Risk* under the *Forest and Range Practices Act* and is Red-listed in British Columbia. It is designated as *Endangered* by COSEWIC.



Figure 14. Western Screech-Owl *macfarlanei* subspecies. (Photo: Jared Hobbs)

3) What to Look For

The Western Screech-Owl *macfarlanei* subspecies nests mainly in low-elevation (360–840 m) deciduous, coniferous, or mixed woodlands close to water (i.e., riparian areas). Upland habitats, up to 500 m away from riparian nesting areas, may be used for roosting and foraging. In the Okanagan Valley and Boundary, this species frequents narrow riparian zones dominated by water birch, black cottonwood, or trembling aspen. Pairs are resident throughout the year on nesting territories that range in size from 5 to 10 ha. Because cavities are needed for both nesting and roosting, a breeding territory must contain at least two suitable cavities.

Table 15 summarizes what to look for when identifying a nest of a Western Screech-Owl *macfarlanei* subspecies. Table 16 provides information to consider when conducting primary forest activities or range practices near a Western Screech-Owl *macfarlanei* subspecies nest.

Table 15. Western Screech-Owl *macfarlanei* subspecies nests: what to look for.

Western Screech-Owl <i>macfarlanei</i> subspecies Nest Description
<ul style="list-style-type: none">• Nests in cavities, both naturally occurring and those excavated by woodpeckers.• Cavities with entrance openings close to the owl's body size (about 7 cm in diameter) are preferred.• Nests can occur from 1 to 12 m above the ground.• Nest trees are:<ul style="list-style-type: none">○ living or dead;○ black cottonwood, Douglas-fir, water birch, and trembling aspen (other tree species may also be used); and○ often > 25 cm dbh.

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Table 16. Information to consider when conducting primary forest or range activities near a nest of a Western Screech-Owl *macfarlanei* subspecies.

Information to Consider
<ul style="list-style-type: none">• Establish a windfirm forested retention area centred around the nest tree. If this spatial configuration is not practical, maintain forest connectivity (where possible) between the retention patch and adjacent forested habitat. Ensure this connectivity corridor is as wide as possible to minimize edge effects (e.g., predation, windthrow risk), and to provide additional security cover, perching, and hunting opportunities.• Retain large-diameter black cottonwood and Douglas-fir, especially those with existing woodpecker cavities and in forested riparian areas (see Table 15).• Maintain some vegetation (where possible) around the nest tree for security cover, and perching and roosting sites, if the nest tree is isolated in an opening (i.e., meadow, clearing, or cutblock). This cover may include:<ul style="list-style-type: none">○ advance regeneration,○ shrubs,○ deciduous trees, and○ non-merchantable trees (especially standing dead trees or trees with existing cavities and [or] evidence of internal decay).• Avoid constructing roads, trails, or other structures within a wildlife tree patch or other forested retention area that is located around the nest tree.• Dead or decayed trees are often targeted by firewood cutters. Place a “Wildlife Tree Sign” on nest trees to educate the public and others about their high ecological value.• Use livestock attractants and range developments to keep livestock away from nest tree and foraging habitat.• Note: Because of potential worker safety concerns, dead and defective trees that are considered for retention must either be located within a suitable-sized retention patch or have a danger tree assessment conducted by a certified wildlife/danger tree assessor. Consult the Wildlife Tree Committee of British Columbia website for information and links relevant to dangerous tree assessment (see Section 5).

4) Regional Information – Kootenay Boundary

In this section, we provide specific timing windows and guidance on disturbance buffers for the Kootenay Boundary Region. This information may vary from provincial guidance and may not be applicable outside of the Kootenay Boundary Region because of regional specificity.

Western Screech-Owls are British Columbia residents and are most commonly found in riparian associated habitats below 1000 m (Figure 15, Table 17). Western Screech-Owl sensitivity to disturbance varies with their existing exposure to disturbance and the level of disturbance from the proposed activity. Figure 16 provides suggested minimum buffer sizes. Table 18 supplies additional protection or alternative measures that may be needed, depending on the nature of disturbance, existing landscape and cover, or other factors.

Western Screech-Owls are most sensitive during the breeding season, which includes territory establishment and courtship stages. Each breeding season stage requires protection because this disturbance-sensitive raptor could abandon a site at any time during the entire breeding period. Please note that the following dates offer a general guide of when you might expect to see breeding season activities in the Kootenay Boundary Region; actual breeding season length will depend on the year and area.

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- Courtship and nest initiation: March 1–April 1
- Eggs present: March 31–June 1
- Young present: April 31–August 31

This creates a potential *sensitive period of March 1–August 31*, which encompasses courtship (month before nesting), nesting, and fledging.¹ Based on observations of nest stage, the length of this sensitive can be refined. The period of *least risk is October 1–February 28*.

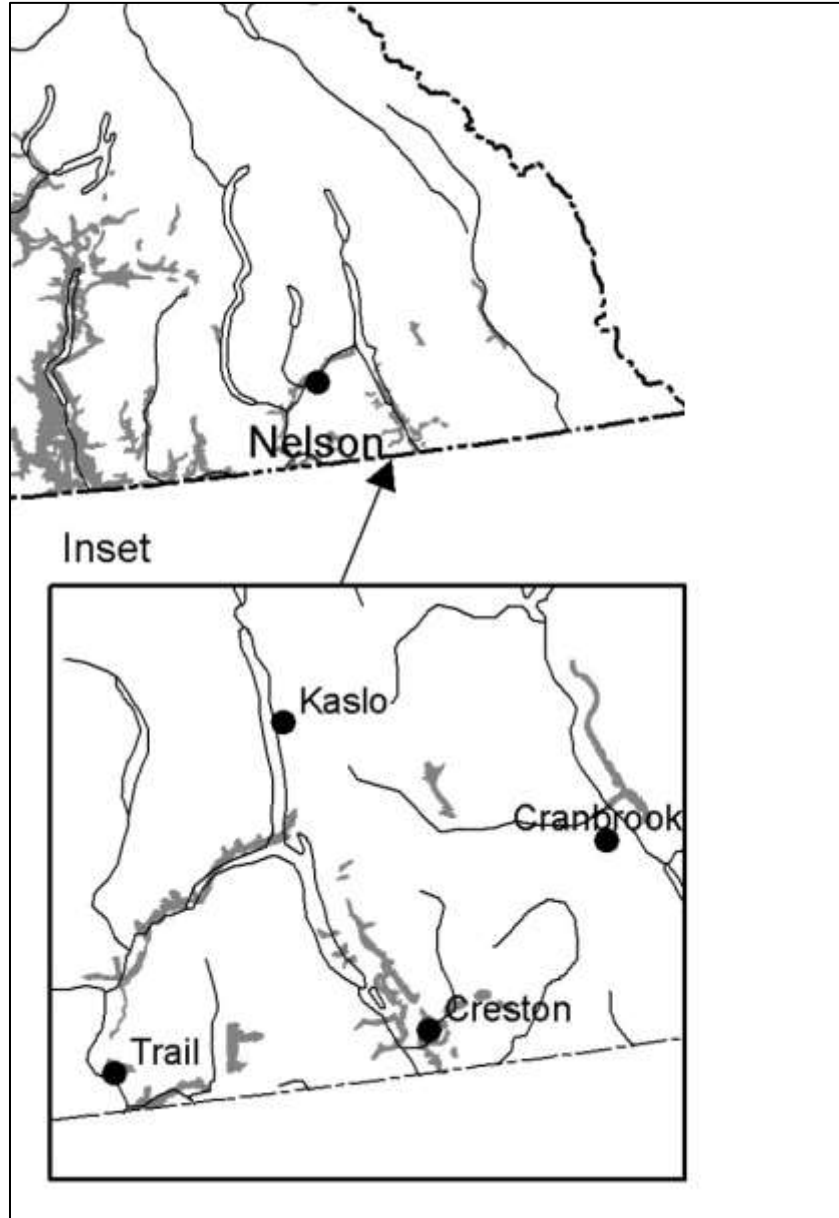


Figure 15. Distribution of the Western Screech-Owl *macfarlanei* subspecies habitat in the Kootenay Boundary Region.²

¹ Modified from Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia.

² Modified from the Identified Wildlife Management Strategy – Species Accounts and Measures (2004).

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Table 17. Habitat and biogeoclimatic associations of Western Screech-Owl *macfarlanei* subspecies in the Kootenay Boundary Region.^{3,4,5}

Habitat	Biogeoclimatic Zone ⁶	Biogeoclimatic Subzone/Variant
Ponderosa Pine	PP	dh1, dh2, xh1, xh2
Interior Douglas-fir	IDF	dk1, dk2, dk3, dm1, mw1, mw2, xh1, xh1a, irregular in xh2, xw
Interior Cedar-Hemlock	ICH	dw, mw2, irregular in xw

		Existing Exposure to Disturbance			
NEST SITE BUFFER		NIL Isolated site, little or no prior access	LOW Undeveloped area with occasional human use	MODERATE Near secondary logging road or minor recreation site	HIGH Near primary road, major recreation site, or human development
Disturbance Level of Proposed Activity	LOW Activities on foot. Small group, visual screening present. Livestock attractants. Examples: layout, cruising, salt licks.	100–200 m	1.5 × tree length	1.5 × tree length	1.5 × tree length
	MODERATE Light mechanized activities. Larger group/duration, no visual screening. Examples: spacing, planting, fence construction.	200–500 m	100–200 m	100–200 m	1.5 × tree length
	HIGH Mechanized activities. Examples: road construction, falling and yarding, landing sites.	200–500 m	200–500 m	200–500 m	100–200 m
	VERY HIGH Blasting, helicopter logging.	1000 m+	1000 m+	1000 m+	1000 m+

Figure 16. Recommended disturbance buffers around a Western Screech-Owl *macfarlanei* subspecies' nest, depending on existing disturbance and the disturbance level of the proposed activity.⁷

³ Adapted from BC Species and Ecosystems Explorer – Species Summary.

⁴ Atlas of the Breeding Birds of British Columbia (2015).

⁵ M. Machmer, Registered Professional Biologist, Pandion Ecological Research Ltd., pers. comm. (2018).

⁶ A Field Guide for Site Identification and Interpretation for the Nelson Forest Region (1992).

⁷ Modified from Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia.

Table 18. Additional guidance on disturbance buffers for a Western Screech-Owl *macfarlanei* subspecies nest.⁸

A Nest of a Western Screech-Owl <i>macfarlanei</i> subspecies – Guidance on Buffers
<ul style="list-style-type: none">• Increase buffer, or delay activities, if the nest is active and the bird constantly flushes away when using minimum buffers.• Consider the sight lines between the activity and the nest; in more open forests or terrain, a larger buffer may be required for these visually acute species.• During breeding season, consider adding a “quiet” buffer of an extra 100 m to the no disturbance buffer in which no unusual or sudden loud activities will occur (e.g., blasting, tree felling, chain saws, trucking, etc.).

5) Additional Information

A Field Guide for Site Identification and Interpretation for the Nelson Forest Region, Land Management Handbook No. 20:

<https://www.for.gov.bc.ca/hfd/pubs/docs/lmh/lmh20.htm>

Atlas of the Breeding Birds of British Columbia – Western Screech-Owl Species Account:

<https://www.birdatlas.bc.ca/accounts/speciesaccount.jsp?sp=WSOW&lang=en>

BC Species and Ecosystems Explorer – Species Summary for Western Screech-Owl, *macfarlanei* subspecies:

<http://a100.gov.bc.ca/pub/eswp/speciesSummary.do?id=20030>

Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia:

<https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/natural-resource-standards-and-guidance/best-management-practices/develop-with-care>

Guidelines for Raptor Conservation during Urban and Rural Development Land Development in British Columbia:

<https://www2.gov.bc.ca/assets/download/E3DEB5DA9E2A4FFA8F24F8E10FDD4C47>

Identified Wildlife Management Strategy – “Interior” Western Screech-Owl Species Account:

http://www.env.gov.bc.ca/wld/frpa/iwms/documents/Birds/b_interiorwesternscreechowl.pdf

Western Screech-Owl COSEWIC Status Report:

http://www.sararegistry.gc.ca/virtual_sara/files/cosewic/sr_western_screech_owl_e.pdf

Wildlife Tree Committee of British Columbia website:

<https://www2.gov.bc.ca/gov/content?id=D81A1EAB5A7F45688B4CBC746DB9DD05>

⁸ Guidelines for Raptor Conservation During Urban and Rural Development Land Development in British Columbia (2013).