

City of Vancouver Bird Friendly Landscape Operational Guidelines

Attachment C



Rufous Hummingbird

Photo by Tom Middleton

What you need to know about...

Work Windows
Habitat Types
Vegetation Structure

Native Plants
Invasive Plants
Mowing Regimes

Snags and Downed Wood
Leaf Litter and Brush Piles
Structures for Birds





Western Sandpiper

Photo by Catherine Jardine

Application and Intent

The *Bird Friendly Landscape Operational Guidelines* are intended for use by public land operations and maintenance staff, stewardship groups and landscape industry personnel. These guidelines are to be used in conjunction with other regulations, policies and guidelines. Prior to any maintenance activity, personnel should ensure that they are in compliance with current municipal, provincial and federal regulations that protect birds and their nests, including the BC Wildlife Act, the Species at Risk Act, and the Migratory Birds Convention Act, 1994.

Due to the complex interactions between birds, their environment and people, these guidelines are not comprehensive and do not address all possible operational activities that may impact birds. It may be necessary to consult a qualified environmental professional on a site-by-site basis to ensure birds, their nests and their eggs are protected.

These guidelines are part of the *Vancouver Bird Strategy* adopted on January 21, 2015. In keeping with the Vancouver Greenest Action Plan, Vancouver recognizes the role it has to play in creating the conditions for native birds to thrive in the city. *Bird Friendly Design Guidelines: Explanatory Note* are also available for consideration and includes references to scientific literature if more information is required.

In Canada's Pacific Coast region, habitat loss due to human settlement, industry and forestry has caused a 35% decline in characteristic bird species since 1970.

It is imperative that action be taken to reduce the impact of urbanization on birds by protecting the variety of habitat types that birds depend upon. By enhancing bird habitat in our parks and gardens, Vancouver can become a safer place for birds and a greener, more livable city for people.

Over **250** species of resident, migratory and over-wintering birds are regularly observed in Metro Vancouver.



Resident Birds
live in the area year-round
e.g. Steller's Jay
Photo by Tom Middleton



Migratory Birds
live in the area in the summer
e.g. Wilson's Warbler
Photo by Robyn Worcester



Over-wintering Birds
live in the area in the winter
e.g. Barrow's Goldeneye
Photo by Robyn Worcester

Unlabeled photos courtesy Stanley Park Ecology Society and Wikimedia Commons.

Work Windows

Many activities can disturb birds, however the primary focus of this document is on reducing disturbance caused by landscape management activities including vegetation clearing, invasive species management, snag removal and mowing. One of the best ways to reduce disturbance to birds from these activities is to avoid or reduce vegetation management during the bird breeding season when birds are less able to adapt to changes in their environment. The nesting season is not the same for all species so if a particular species is known to nest in the area under consideration, a qualified environmental professional should be consulted to establish that species' nesting season and recommend proper management actions. The primary breeding bird season is from March 1 to August 15 and disturbance should be avoided or minimized during these months. The raptor nesting season is from November 1 to August 31 and areas where raptors are known to nest or are likely to nest should be avoided.



Great Blue Heron
Photo by Robyn Worcester

Note: it is your responsibility to be aware of and comply with provincial and federal legislation protecting birds and their nests including the BC Wildlife Act and the Migratory Birds Convention Act, 1994.

It is impossible to avoid maintenance during all of the primary breeding bird season and the raptor nesting season, so when maintenance needs to occur during these times it is recommended to avoid, to the extent possible, areas where breeding birds and raptors are known or suspected to nest. Bird nest surveys should be conducted prior to vegetation management activities, especially vegetation clearing and invasive species management, to ensure the safety of birds and their nests.

BIRD BREEDING AND SPECIES OF SIGNIFICANCE WORK WINDOWS

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
		Primary Breeding Bird Season									
								Least Risk Work Window			
		Raptor Nesting Season									
		Great Blue Heron Nesting Season									
	Band-tailed Pigeon restrict noise and disturbance to 100m or more from nests										
	Western Screech Owl restrict noise and disturbance to 200m or more from nests										
			Olive-sided Flycatcher minimize disturbance around active nests								
			Purple Martin minimize disturbance around active nests								
			Marbled Murrelet work must be limited to 30m from active nests								
			Barn Swallow minimize disturbance around active nests								
	Surf Scoter minimize disturbance to intertidal zones										



Habitat Types

- Maintain a mix of habitat types including: coniferous forest, deciduous/mixed forest, shrubland, meadow, freshwater wetland, riparian and coastal shoreline.
- Protect rare habitat types; prioritize the conservation of riparian, wetland and shoreline habitat.
- On larger sites (at least 4 hectares) maintain a minimum of three distinct habitat types, for example: forest, shrub and meadow.
- Maintain shrub and forest habitat along wetland riparian zones.
- On backshores, the area behind high-tide, prioritize the maintenance of deciduous forest.

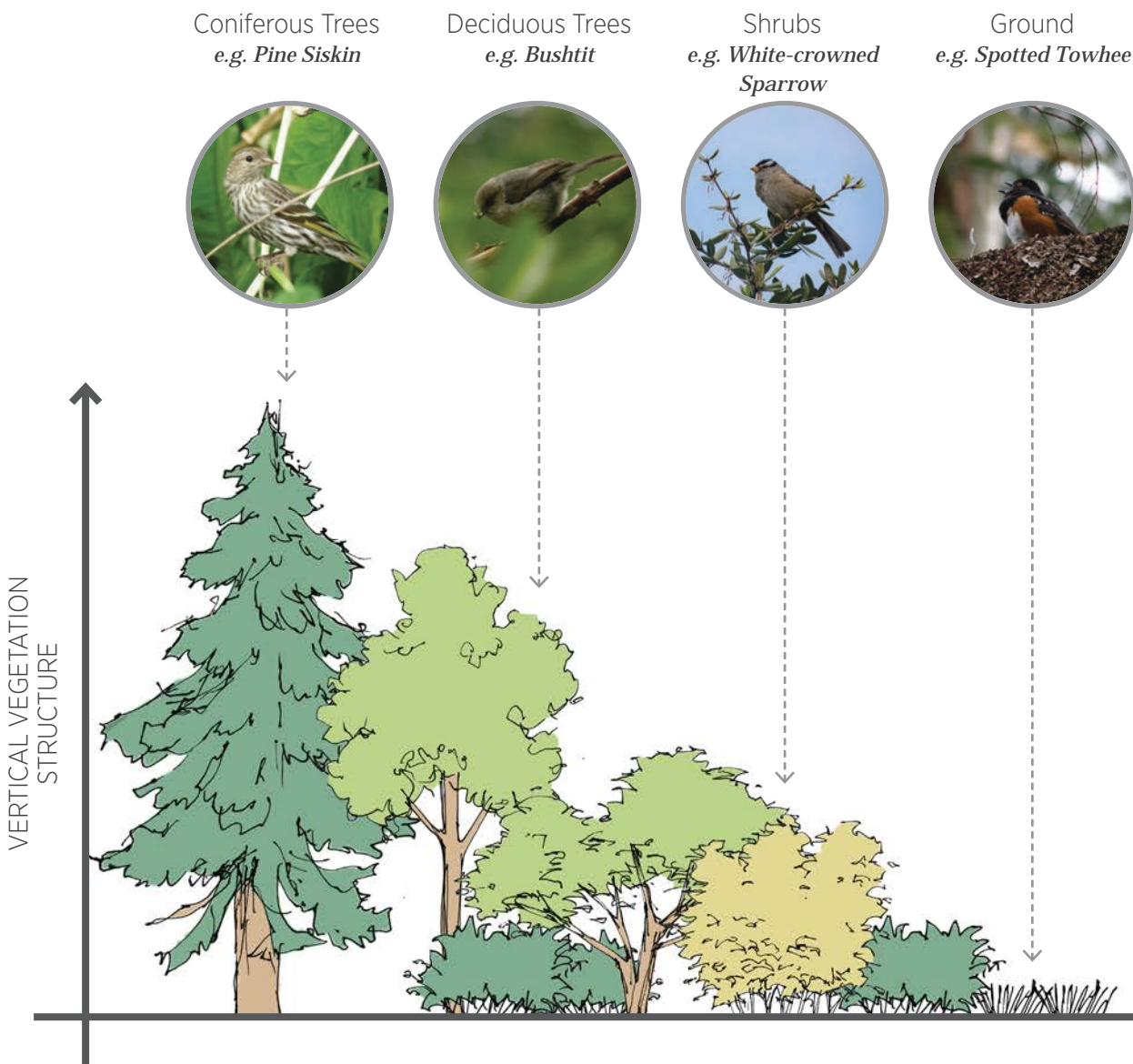
FEATURES	HABITAT TYPES				
	FOREST	SHRUB	MEADOW	FRESHWATER WETLAND	SHORELINE/ BACKSHORE
Minimum Area	3 - 8.5 ha	0.5 - 3.0 ha	0.5 - 1.0 ha	0.05 - 0.25 ha	15 - 30 m setback from high water mark
Canopy Coverage	60 - 80%	20 - 40%	10 - 20% along edges	10 - 20% within 15 - 30m setback	60 - 80%
Understorey Coverage	70%	60 - 80%	10 - 20% along edges	10 - 20% within 15 - 30m setback	70%
Herbaceous Coverage	10 - 20%	20 - 40%	80%	25%	10 - 20%
Coniferous to Deciduous Ratio in the Canopy	Conifer Forest >75% Conifer	50:50	30:70	30:70	50:50
	Deciduous Forest <75% Conifer				
Examples of Birds found in Habitat Type	CONIFEROUS: Pacific Wren, Brown Creeper, Golden-crowned Kinglet DECIDUOUS: Wilson's Warbler, Bushtit, Purple Finch	Spotted Towhee, Song Sparrow, Black-headed Grosbeak	Savannah Sparrow, Horned Lark, Violet-green Swallow	Barn Swallow, Marsh Wren, Red-winged Blackbird, Willow Flycatcher	Great Blue Heron, Bald Eagle, ducks, shorebirds



Vegetation Structure

- Preserve vertical vegetation structure by planting and maintaining native trees and shrubs.
- Create and maintain layers, including: ground cover, shrub, understory and canopy layers; preserving tall shrubs and subcanopy trees is particularly important.
- Avoid removal of mature trees that create nesting habitat for coniferous and deciduous nesting birds.
- No tree above 20cm or greater in diameter may be removed unless it is dead, diseased, dying, hazardous or causing property damage as per the Protection of Trees Bylaw 9958.
- Avoid clearing of the shrub layer, especially native shrubs within forest fragments.
- Plant and maintain shade-tolerant native ground cover and shrub plants within forest fragments to increase food and nesting opportunities for birds.
- Plant and maintain native ground cover and shrub plants at the base of isolated trees to create islands of layered vegetation.
- Plant and maintain vegetation in a stepped pattern, with large trees in the back, shrubs in the middle, and ground cover plants in the front.

Where Birds Nest



Native Plants

- Select and retain a diversity of native and non-invasive plants that provide foraging and nesting habitat for birds.
- Use a diversity of native plants that are appropriate for the soil and site-specific conditions.
- Maintain a mix of coniferous and deciduous vegetation (unless the intent is to protect a specific habitat type).
- Select a mix of native plants that provide a variety of foraging options for birds including seeds, fruit and nectar.
- Incorporate plants with persistent fruits, plants that hold their fruit into the winter, for example, Pacific Crabapple, Evergreen Huckleberry and Highbush Cranberry.

American Goldfinch

Photo by Ralph Hocken



- Incorporate plants that attract insects for birds to feed on, for example, Red Alder, Pacific Willow and Scouler's Willow.
- Incorporate plants with early flowering to ensure a reliable supply of nectar when migratory hummingbirds arrive in spring, for example, Salmonberry, Flowering Currant and Oregon Grape.

What Birds Eat

Seeds	Fruit	Nectar	Insects
<i>e.g. American Goldfinch</i>	<i>e.g. Cedar Waxwing</i>	<i>e.g. Rufous Hummingbird</i>	<i>e.g. Northern Flicker</i>



Western Hemlock

Pacific Crabapple

Salmonberry

Red Alder

Invasive Plants

- Control invasive plants without disturbing breeding birds.
- Avoid removing invasive plants during the bird-breeding season, specifically plants that are known to provide food and create nesting habitat for birds like Himalayan Blackberry.
- Other invasive plants in Vancouver where birds may be found include: English Holly, Spurge Laurel, English Laurel, Portugal Laurel, English Ivy, Reed Canarygrass and Yellow Flag Iris. Avoid removing these plants during the bird-breeding season and if removal can not be avoided during the bird-breeding season, ensure nest surveys are conducted prior to removal.
- Re-vegetate areas cleared of invasive plants with site-appropriate native or non-invasive plants that provide food, shelter and nesting habitat for birds before invasive species can re-colonize.
- Follow best management practices for invasive species removal: *Stanley Park Ecology Society Guide to Invasive Plant Management in Stanley Park*.



House Finch

Photo by
Ralph Hocken

*Himalayan
Blackberry leaf*

Himalayan Blackberry

DESCRIPTION: Evergreen shrub with trailing, arching stems, thick canes and curved thorns, pinkish white flowers and red to purple-black berries.

BIRDS: Heavily used by many bird species for nesting, foraging and winter cover.

MANAGEMENT: Cut canes and then remove root-crowns using a pickaxe or shovel.

REPLACE WITH: Salmonberry, Tall Oregon Grape or Salal.

English Holly

DESCRIPTION: Broadleaf evergreen shrub/tree with red berries (poisonous) and prickly leaves

BIRDS: Used for nesting and shelter.

MANAGEMENT: Hand-pulling for small plants

Mechanical removal for larger plants.

REPLACE WITH: Oregon Grape, Tall Oregon Grape, Pacific Crabapple, Arbutus or Salal.



Spurge Laurel

DESCRIPTION: Evergreen shrub with oblong leaves, yellow-green flowers and black berries.

BIRDS: Used for nesting and shelter.

MANAGEMENT: Pull or dig out whole plant by hand wearing gloves (considered toxic).

REPLACE WITH: Kinnikinnick, Salal or Oregon Grape.



English Laurel

DESCRIPTION: Evergreen shrub with green shiny leaves, smooth black bark, small white flowers.

BIRDS: Used for nesting and shelter.

MANAGEMENT: Hand pull small seedlings, wear gloves (poisonous), clip plants before flowers.

REPLACE WITH: Pacific Ninebark, Oceanspray, Red Elderberry, Salmonberry or Salal.



Portugal Laurel

DESCRIPTION: Evergreen shrub, finely toothed green shiny leaves, white flowers, black drupes.

BIRDS: Used for nesting and shelter.

MANAGEMENT: Hand pull small seedlings, clip plant before it flowers or remove spent flowers.

REPLACE WITH: Pacific Ninebark, Oceanspray, Red Elderberry, Salmonberry or Salal.



English Ivy

DESCRIPTION: Evergreen vine with lobed, waxy leaves, white flowers that ripen to black berries.

BIRDS: Watch for ground and stump nesting birds.

MANAGEMENT: Hand pull the whole plant and roots, follow with mulch. Prioritize climbing ivy.

REPLACE WITH: Kinnikinnick, Salal, False Lily of the Valley, Bunchberry, or Western Honeysuckle.



Reed Canarygrass

DESCRIPTION: Perennial grass grows to 2m tall, pale purple inflorescence, forms thick layers.

BIRDS: Used for nesting habitat by some birds.

MANAGEMENT: Dig whole plants in small patches, mow over 5 times per year for 10 years.

REPLACE WITH: Hardhack, Large-leaved Lupine or native grass species.



Yellow Flag Iris

DESCRIPTION: Robust, clumping perennial herb with yellow flowers.

BIRDS: Used by Red-winged Blackbirds for nesting.

MANAGEMENT: Dig out plants or cut seedpods after flowering.

REPLACE WITH: Hardhack, Skunk Cabbage or willow



Mowing Regimes

- Reduce mowing during the bird breeding season in parks and gardens.
- Avoid mowing during the bird breeding season in designated meadow areas.
- Mow designated meadow areas as infrequently as every 2 to 3 years.
- Mow meadows in late summer/early autumn after the bird breeding season has ended.
- Seed designated meadow areas with a mix of native herbaceous plants and non-invasive wildflowers.
- Mow along edges of meadows to create soft edges. Use hedges or fences where more defined edges are required.
- In areas where mowing is required, mow on a rotational basis and allow some areas to remain unmown for at least 6 weeks.
- Set mower blades as high as possible and as appropriate for the site conditions.

Black-capped Chickadee
a weak excavator
Photo by Martin Passchier



Meadow and Snags
at Oak Meadows Park

Snags and Downed Wood

- Snags and downed wood provide foraging, nesting and perching habitat for birds.
- Leave naturally occurring deadfall and snags in place unless they pose a risk to human safety. If snags are a public safety concern, trim branches and leave as much trunk as possible.
- Maintain healthy trees, but turn dying trees into snags by cutting the tops to a safe height of 2-10m.
- Snags must have a diameter greater than 40cm to accommodate cavity-nesting birds. Large snags are more valuable than small snags for nesting, however, snags smaller than 40cm in diameter can provide foraging habitat.
- In areas without snags or downed wood, cut tree trunks can be installed.
- Retain deadfall and snags at different stages of decay to accommodate different cavity-nesting guilds.



Northern Flicker
a primary excavator
Photo by Mark White

Cavity Nesting Birds



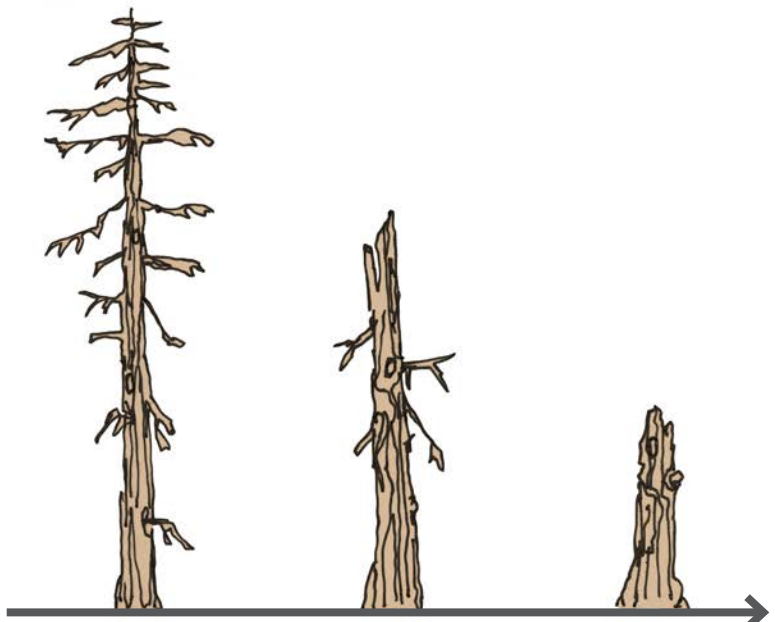
PRIMARY
EXCAVATORS
e.g. *Pileated Woodpecker*



SECONDARY
CAVITY
NESTERS
e.g. *Saw-whet Owl*



WEAK
EXCAVATORS
e.g. *Red-breasted Nuthatch*



STAGES OF DETERIORATION

Leaf Litter and Brush Piles

- Allow leaves and branches to collect naturally on the ground, within forest fragments.
- In the fall, rake leaves under shrubs to create leaf mulch for ground foraging birds.
- Create brush piles by laying down branches on top of a foundation of rock or logs, to about half a metre, and add conifer branches on top for shelter.
- If leaf litter and brush piles need to be removed, do so outside of the bird breeding season.



*Spotted Towhee
forages in leaf litter*
Photo by Robyn Worcester

Structures for Birds

- Install and maintain structures for birds such as nest boxes, platforms and perch sites where birds require refuge.
- Ensure nest boxes are spaced appropriately, at least 20 metres apart.
- Consider floating logs or floating structures on ponds and lakes where appropriate.
- Install nest boxes on a site only if proper maintenance can be assured. Work with stewardship groups to monitor nest boxes.
- To limit predation, locate nest boxes on isolated trees or on poles, away from trees.
- Clean nest boxes at least once a year after the breeding season and before winter, empty boxes may be used for shelter during the winter.
- Follow nest box design and placement guidelines outlined in *NatureScape British Columbia: Caring for Wildlife Habitat at Home*, to attract desired birds and reduce threats from nest predators.
http://www.wildbc.org/programs-workshops/Provincial_Guide_2003.pdf

Nest boxes are used by chickadees, nuthatches, swallows, wrens, owls and Wood Ducks but need to be built to specific dimensions for each species. Follow the NatureScape BC Guidelines



*Tree Swallow
at a nest box*



*Bald Eagle
at a perch site*

Floating log at Hastings Park



Nest boxes at Langara Golf Course



Wood Duck box at Langara Golf Course

