

Migratory Bird Treaty Act Implementation in Restoration and Maintenance Projects

City Nature, Land Stewardship Division, Portland Parks and Recreation, City of Portland
March, 2024

Purpose:

This document provides information about nesting bird species in Portland and guides habitat management decisions so as to not violate the spirit and intent of the Migratory Bird Treaty Act (MBTA) of 1918. The MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service. Recommendations for avoiding take include how to alter project timing, selection, design and maintenance to avoid active bird nests throughout a variety of habitats, as well as what to do if an active nest is found within a project area. A larger document, *Best Management Practices: Avoiding Impacts on Nesting Birds Version 3.0 –May 2017*, should be consulted for more detailed information.

How to Use this Document:

This document is filled with information to help keep you in compliance with the MBTA, including:

- Timing of nesting seasons
- Types of habitats use by nesting birds
- How to conduct a bird nesting survey
- What do to if a nest is found within your project area

Successful use of this document should include following the 5 steps below:

- **Step 1:** Identify the type of vegetation management you want to conduct either by plant species or by management type (i.e. snag removal, brush removal, mowing, etc).
- **Step 2:** Read the guidelines in this document relevant to your desired vegetation management situation and try to plan vegetation management around key nesting seasons.
- **Step 3:** If avoidance of nesting season is not possible, conduct a survey twice, the first time should be 5-7 days before vegetation management is conducted. The second time should be 1-3 days before vegetation management is conducted. Use attached survey form to document that a survey has been conducted and if nests were found.
- **Step 4:** If a nest is found, follow guidance below for marking and preserving a buffer around the nest based on the species found. Use the attached form to monitor the nest and determine when it is ok to recommence vegetation management activities.
- **Step 5:** If a nest is not found during the surveys, proceed with vegetation management with care, taking time to look for birds that flush and listen for aggressively territorial birds. If a nest is found at any time while work is being conducted, stop work, flag and create a buffer around the nest and alert the ecologist assigned to the site. The ecologist with document and monitor the nest and decide when it ok to recommence work.

Nesting Seasons:

- **Non-nesting Season: August 1 – January 31**
- **Nesting Season:** The nesting season can be divided into two major time- frames:
 - **Early Nesting Season: February 1 – April 15**

- Raptors (owls, eagles, falcons and hawks), herons, geese, and hummingbirds are early nesters. Great-horned owls are exceptionally early nesters and may lay eggs in January. Many early nesters have longer breeding cycles and most will not complete breeding until June or July.
- **Primary Nesting Season: April 15 - July 31** - This includes songbirds and the majority of species. Willow flycatchers, streaked horned lark, and barn swallows are late nesters, often extending to the end of August.

February 1 – April 15	April 15 - July 31	August 1 – January 31
Early Nesting Season	Primary Nesting Season	Non-nesting Season
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Habitats Used by Nesting Birds:

*See Appendix 1 and 2 for recommendations for timing and methods for implementing management of specific plant species and vegetation management types during the various nesting seasons.

- **Trees:** Stick nests of hawks, crows, and jays placed in tree canopies are among the most conspicuous and familiar signs of nesting birds in the City. These are the easiest to detect and the easiest to avoid.
- **Shrubs:** The majority of nesting birds build a cup nest in dense vegetation in the shrub layer, often close to the ground. These species – sometimes called “tangle nesters” – complicate reasonable efforts to avoid taking protected birds. Willow flycatcher, a species in decline, actually builds nests in Himalayan blackberry, an invasive plant species heavily managed in the City.
- **Ground:** Many species place a well concealed nest on the ground in either open areas or forested habitats. Examples include meadowlarks, harriers, killdeer and Wilson’s warblers.
- **Cavity:** Rather than concealing a nest in vegetation, dozens of local species use cavities. These are often in dead or dying trees but can also be in the ground or in a variety of structures in the urban environment. Tree swallows, Bewick’s wrens and downy woodpeckers are common cavity nesters.
- **Streambanks:** The northern rough-winged swallow and the belted kingfisher are “cut bank” nesters, meaning they use holes excavated in streambanks for nesting. Sometimes northern rough-winged swallows even use holes on steep slopes of dirt stockpiles.
- **Structures:** Many birds use human-made structures for nesting. In addition to using bird boxes and platforms that are intended for such use, birds will nest on bridges, under house eaves, on building ledges, utility and light poles, on railroad tracks and even on gravel roads.

Conducting a Survey: If vegetation maintenance MUST occur during early or primary nesting season, a survey must be conducted BEFORE maintenance can begin.

- **Survey:**
 - The entire project area should be surveyed for nesting birds before disruptive activities begin.

- Sweep the area in a systematic pattern so as to cover it evenly, keeping in mind that birds may be nesting on a variety of substrates. Special attention should be paid to vegetation and project areas where the most impact will occur.
 - Walk slowly and quietly searching for nests or signs of nesting behavior (bird carrying nesting material, food or fecal sacs; agitated or aggressive behavior; distraction displays; courtship etc).
 - If such behavior is observed sit and watch the bird(s) and attempt to locate the nest based on the bird's behavior.
 - Keep track of these locations and revisit them if no nest is found.
 - If a bird flushes suddenly from beneath your feet or next to you while walking, it is very likely that it flushed from a nest at the last possible moment. Stop and search the ground vegetation thoroughly for nests.
 - Some project areas, such as large and densely vegetated sites, may require multiple nest searches over multiple days. The *General Avian Survey Form* (below) should be completed during the initial nest survey.
- **Buffer:** If a nest is found it should be mapped and recorded using the *Nest Monitoring Form* attached. Erect an exclusion buffer around the nest as soon as possible.
- **Monitor:** After the buffer has been erected make periodic nest-checks to determine the timing and outcome of the nesting attempt. Each nest-check should be recorded on the attached *Nest Monitoring Form*.

Minimum buffer sizes for bird nests in the Portland area. When necessary, buffer recommendations are provided for individual species. If a species is not listed, use the buffer listed for the next highest taxonomic level (family or order). These buffers were developed specifically for Portland's highly urbanized environment. Distances were determined after consulting the available scientific literature, published management documents, wildlife professionals at the USFWS, ODOT, ODFW, and American Bird Conservancy, and using our best professional judgement.

SPECIES / GUILD	MINIMUM BUFFER FOR PORTLAND'S URBANIZED ENVIRONMENT meters (feet)
Double-crested Cormorant <i>Phalacrocorax auritus</i>	50 m (160 ft)
Hérons/Egrets/Bitterns <i>Ardeidae</i>	100 m (330 ft)
Waterfowl (Ducks/Geese/Swans) <i>Anatidae</i>	30 m (100 ft)
Diurnal Raptors <i>Accipitriformes</i>	100 m (330 ft)
Bald Eagle <i>Haliaeetus leucocephalus</i>	200 m (650 ft)
Peregrine Falcon <i>Falco peregrinus</i>	400 m (1310 ft)
American Kestrel <i>Falco sparverius</i>	50 m (160 ft)
Killdeer <i>Charadrius vociferous</i>	25 m (80 ft)
Pigeons/Doves	20 m (65 ft)

<i>Columbidae</i>	
Band-tailed Pigeon <i>Patagioenas fasciata</i>	30 m (100 ft)
Owls <i>Strigiformes</i>	50 m (160 ft)
Hummingbirds <i>Apodiformes</i>	10 m (30 ft)
Woodpeckers <i>Piciformes</i>	15 m (50 ft)
Songbirds <i>Passeriformes</i>	10 m (30 ft)
Corvids (Crows, Jays) <i>Corvidae</i>	20 m (65 ft)
Cliff Swallow Colonies <i>Petrochelidon pyrrhonota</i>	25 m (80 ft)
Swainson's Thrush <i>Catharus ustulatus</i>	20 m (65 ft)
Western Meadowlark <i>Sturnella neglecta</i>	30 m (100 ft)
Streaked Horned Lark ² <i>Eremophila alpestris strigata</i>	100 m (330 ft)

Buffer Duration:

A buffer should be erected as soon as a nest is found and should remain in place until the nest fledges (the young voluntarily leave the nest and vacate the buffer area) or fails (the nesting attempt is ceased due to predation, weather or abandonment). Additionally, most birds except for raptors will not attempt to re-nest at a given location if the nest fails. Once a nest is deemed to have either fledged or failed, the buffer must be left in place as long as the young remain within the buffer area. Once they have completely vacated the buffer, it may be removed, and project activity may recommence. For many species, this be within 2-3 days of fledging. For raptors, fledglings may remain in the area for a week or more. If the fledged young remain within the project area and are not yet capable of flight, additional precautions should be taken to avoid harming them.

Buffer Composition:

A standard buffer in an open area such as a grassy field might consist of small pin flags or tape placed at 15-20 ft. intervals, forming a virtual ring at the prescribed distance from the nest. A buffer in densely vegetated habitat or in areas with heavy pedestrian traffic might consist of metal fence posts driven into the ground at 10-20 ft. intervals along the circumference of the buffer. Caution tape may be stretched between the posts to physically enclose the area if required, however such a substantial buffer is more likely to affect nesting behavior. Project managers should ensure that all personnel working on site are aware of the nests and should provide maps of the buffer locations. This is particularly important if minimal flagging is used to delineate the buffers.

Documentation:

General Avian Survey Form (below) is available from the Bureau of Environmental Services and should be used during the initial nest survey, and for all subsequent monitoring.

Appendix 1: Specific Plant Species Management

- **Blackberry** – One of the most beneficial invasive plants for native birds. Heavily used by a myriad of species for nesting, foraging and winter cover.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – Blackberry spraying and removal is generally fine EXCEPT for areas with willow flycatchers (such as Johnson Creek, Columbia Slough and Powell Butte areas). The willow flycatcher is a sensitive species in serious decline and a late nester, often until the end of August.
 - Early Nesting Season (February 1 – April 15) – Blackberry spraying and removal is OK. Watch for Anna’s hummingbirds which are early nesters and defend their territory with displays that are easily heard and seen.
 - Primary Nesting Season (April 15 – July 31) – Avoid major spray and removal. Maintenance management and volunteer efforts are OK, but watch for song sparrow, spotted towhee and California quail nests, which are on ground or in blackberry plants. AVOID if present.
 - Remember: Willow flycatchers’ nesting season extends through August. Therefore, avoid April 15 – August 31 in riparian and wetland habitats
- **Clematis** – Growth form provides the type of cover many nesting birds are seeking. Although not well-documented, it is likely that many local species are placing nests in or under clematis clumps.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – Air gapping and root grubbing is OK.
 - Early Nesting Season (February 1- April 15) - Air gapping and root grubbing is OK. Be sure to leave vines in trees to decompose in case there is an early tree nester.
 - Primary Nesting Season (April 15 – July 31) – Air gapping is OK. Avoid root grubbing and pulling vines down. Watch for nearby active nests on the ground and in shrubs.
- **Garlic Mustard** – There is no known use of garlic mustard by nesting birds. However, garlic mustard is typically treated with spot spraying or hand pulling in the nesting season, and there may be nests nearby in other plant species.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – Spraying and hand pulling is OK.
 - Early Nesting Season (February 1- April 15) - Spraying and hand pulling is OK. Watch for ducks, killdeer or other ground nesters when treating garlic mustard along streams or along parking areas.
 - Primary Nesting Season (April 15 – July 31) – Spot spraying and hand pulling is OK. Watch for nests low to the ground. If a nest is found, leave the surrounding vegetation.
- **Hawthorne** – Cedar waxwings and American robins are two species that commonly build open cup nests in hawthornes.
 - **Management Recommendations:**

- Non-nesting Season (August 1 – January 31) – Generally removal is OK. However, if removing hawthorns in willow flycatcher areas such as Powell Butte, avoid removal **until after August 31**.
 - Early Nesting Season (February 1- April 15) – Girdling is OK. Avoid tree removal.
 - Primary Nesting Season (April 15 – July 31) – Avoid removal.
- **Holly and Laurel** – Although these invasive trees are a threat to native habitats, many birds will use them to build nests and raise young.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – This is the best time for intensive first treatments to areas with dense holly and laurel stands.
 - Early Nesting Season (February 1- April 15) – Removal is likely OK. Watch for nesting behavior and avoid if observed.
 - Primary Nesting Season (April 15 – July 31) – Avoid intensive first treatments. If removal is required, visually inspect smaller trees (i.e., under 10 feet) for small cup nests. If there are larger specimens to be removed, a more thorough survey is recommended. Watch for robin and other nests and avoid if present.
- **Ivy: Ground Ivy** – There are no native birds known to exclusively use ground ivy, but typical ground and low shrub nesters are spotted towhees and song sparrows. Pulling ivy in the primary nesting season could disturb native vegetation, or the presence of a group of people for an extended period of time could cause nest to be abandoned.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – Foliar spray and hand pulling is OK
 - Early Nesting Season (February 1- April 15) – Foliar spray and hand pulling is OK.
 - Primary Nesting Season (April 15 – July 31) - Avoid pulling and foliar spraying if possible. Hand pulling can take place, but with caution. Look and listen for winter wrens, and watch for nesting birds nearby. If there is an active nest in the area, do not work in there.
- **Ivy: Tree Ivy** – There are no native birds known to exclusively use tree ivy, though there are many that use branches on the infested tree such as robins and vireos. Pulling ivy down after cutting could pull active nests down.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – Air-gapping is OK.
 - Early Nesting Season (February 1- April 15) - Air-gapping is acceptable, but leave ivy in trees to decompose slowly.
 - Primary Nesting Season (April 15 – July 31) - Air-gapping is acceptable, but leave ivy in trees to decompose slowly. Watch for nearby active ground and shrub nests and avoid if present.
- **Knapweed, Tansy, and Thistle** – Grassland birds will use non-native, weedy areas for nesting.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – Spot spraying is OK.
 - Early Nesting Season (February 1- April 15) – Spot spraying is OK, but watch for killdeer nests on the ground. Birds will flush and perform a loud distraction display. Avoid area if present.

- Primary Nesting Season (April 15 – July 31) - Spot spraying of herbicides is acceptable any time, but watch for Savannah sparrows, common yellowthroats, American goldfinches and nests in nearby shrubs and grasses. Avoid if present.
- **Knotweed** – Use by native birds is not well-known.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – This is a good time for foliar spray or injection.
 - Early Nesting Season (February 1- April 15) – This is a good time for foliar spray or injection.
 - Primary Nesting Season (April 15 – July 31) – Treatment is likely OK, but watch for nearby nests.
- **Purple Loosestrife** – Wetlands are important to many native nesting birds, and therefore, actions to control purple loosestrife may have the potential to affect them.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – This is a good time to treat loosestrife.
 - Early Nesting Season (February 1- April 15) – Herbicide application is OK until March 1. Watch for ducks in wetlands, as they tend to breed early – typically in March.
 - Primary Nesting Season (April 15 – July 31) – Avoid vegetation management. If mid-summer treatment is advised, watch for red-winged blackbirds and American goldfinch nests in plants, and watch for ducks on the ground.
- **Reed Canarygrass** – Common yellowthroats, mallards and cinnamon teal have been documented nesting in reed canarygrass in wetlands. Growing and treatment season for reed canarygrass is March through August, which may conflict with nesting birds, since it's typically mowed in May and June.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – This is a non-conflict time to cut, spray or grub.
 - Early Nesting Season (February 1- April 15) – Typical treatment (hand-spraying) is OK in March and April. Watch for nesting ducks such as cinnamon teal.
 - Primary Nesting Season (April 15 – July 31) – Avoid vegetation management. Conduct nest survey if mowing is required.
- **Yellow Flag Iris** – Red-winged blackbirds have been known to nest in patches of yellow flag iris.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – This is a good time for herbicide application and mechanical removal.
 - Early Nesting Season (February 1- April 15) – Herbicide application and mechanical removal is OK until March 1. Watch for duck nests along the shore after March 1, and avoid if present.
 - Primary Nesting Season (April 15 – July 31) – Avoid vegetation management. Watch for red-winged blackbird and duck nests along the shore and in reeds.

Appendix 2: Specific Habitats/Management Situations

- **Live Tree Removal (Native and Non-Native)** – Native, as well as non-native, live trees can host nesting birds any time from February 1 to August 31. Many of the early nesters are larger birds (e.g., herons, raptors) with larger nests that are easier to detect early in the season prior to leaf-out.
 - **Management Recommendations:**
 - Non-nesting Season (August 1- January 31) – Tree removal and girdling is OK.
 - Early Nesting Season (February 1 – April 15) – Avoid tree removal, but girdling is OK. If trees must be removed, watch for early nesters: owls, hawks and Anna’s hummingbird (and killdeer on the ground). Scan canopies for any possible nests; if any are found seek assistance to determine if they are active.
 - Primary Nesting Season (April 15 – July 31) – Avoid tree removal, but girdling is OK.
- **Snag Removal** – Snags (standing dead trees) and standing dead wood play critical roles for many bird species. Snags attract insects, which are a vital source of food for woodpeckers and other birds. They provide perches and are often the only source of cavities for cavity-nesting birds. In general, the following steps are recommended:
 - Leave snags when possible.
 - If there is a public safety concern, trim offending branch(es), leaving as much of the snag as possible.
 - If all branches are unsafe, trim branches and leave the trunk.
 - If the trunk is very tall and considered unsafe, reduce to 20 – 40 feet tall.
 - If removal is unavoidable and there are no nearby trees appropriate for girdling, consider auguring the removed dead tree trunk into the ground. Use the tree branches for terrestrial habitat elements within the project site so that food sources and perch sites remain in the area.
 - **Management Recommendations** (if a snag must be removed, or if there is a public safety issue):
 - Non-nesting Season (August 1 – January 31) – This is the best time for snag removal.
 - Early Nesting Season (February 1- April 15) – Watch for early snag nesting birds such as owls and wood ducks, and avoid removal if possible.
 - Primary Nesting Season (April 15 – July 31) – Avoid snag removal if possible.
- **Shrub Removal (Native and Non-Native)** – Low, dense shrub cover is vitally important nesting habitat and supports more breeding birds than trees do in the Portland area. Birds will nest at a variety of heights in the shrub layer. For example, spotted towhees build nests from ground level up to about 15 feet.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – This is the best time for vegetation removal.
 - Early Nesting Season (February 1- April 15) – Watch for early nesters such as Anna’s hummingbirds in shrubs; they often produce loud visual displays near their nests. Watch for killdeer which nest on open ground and make loud displays to distract predators from the nest. Be aware of ducks or other birds flushing suddenly off the ground.

- Primary Nesting Season (April 15 – July 31) – Avoid vegetation impacts and removal.
- **Grassland Mowing and Ground Cover Removal (Native and Non-Native)** – Many species only build their nests on the ground. Some will build below dense shrub cover (e.g., Wilson’s warbler), while others will conceal their nest in grasses (e.g., Savannah sparrow, Western meadowlark). Still others will build an exposed nest on gravel or bare ground (e.g., horned lark, killdeer). Ground nesters are vulnerable to a variety of disturbances.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – This is the best time for ground cover removal or disturbance like road building.
 - Early Nesting Season (February 1- April 15) – Proceed with caution: Be aware of killdeer, often calling loudly and feigning injury when you are near their nest. Be aware of ducks or other birds flushing suddenly off the ground.
 - Primary Nesting Season (April 15 – July 31) – Avoid mowing and removal of ground cover.
- **Controlled Burn** – This is a useful technique for controlling some plant species and encouraging native grasses, however, this practice may negatively affect some birds, such as horned larks and Western meadowlarks.
 - **Management Recommendations:**
 - Non-nesting Season (August 1 – January 31) – OK to burn.
 - Early Nesting Season (February 1- April 15) – OK to burn.
 - Primary Nesting Season (April 15 – July 31) – Avoid burning.

General Avian Survey Form

Site:	Survey Type:	☐ Site Visit	☐ Species Inventory
Observer:		☐ Nesting Assessment	☐ Other:

[illegible]

1. If more room is needed, assign your note a footnote number (ex: ³) and then use the "Notes" area on the back of this form to complete the information.

Breeding Behavior Codes: S = singing adult, C = copulation, D = courtship/territorial display
M = carrying nest material, FO = carrying food or fecal sac, P = pair behavior
N = nest found, FL = fledgling(s) observed

Nest Monitoring Form

Nest ID: _____	Species: 	Observer: _____
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NEST SITE LOCATION		NEST SITE DESCRIPTION	
Site Name: _____	Nest Substrate: _____		
Coordinates: _____	Height Above Ground (cm): _____		
Nearest Address/Survey Point: _____	Surrounding Habitat (within 50m): _____		

BREEDING DATA								
Visit #	Date	Time	Nesting Stage	# Host Eggs	# Host Young	# Cwbrd Eggs	# Cwbrd Young	Notes
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								

NESTING ATTEMPT SUMMARY				
1st Egg Date: _____	Nest Outcome:	☐ Fledged	☐ Failed	☐ Unknown
Hatch Date: _____	If Failed, Why?:	☐ Depredated	☐ Parasitism	☐ Nest Destroyed
Fledge Date: _____		☐ Abandoned	☐ Weather	☐ Unknown
	Parasitized:	☐ Yes	☐ No	
Comments:				

Nesting Stage Codes:	BUILD = nest being built, LAY = eggs being laid, INCUB = incubating eggs NESTL = nestlings, FLEDG = nest fledged, FAIL = nest failed, UNK = unknown
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