

Extension Forestry  
University of Idaho

Bulletin No. 778

*A Private Landowner's Guide to Managing  
Northwest Bluebird Habitat*



*Wildlife Habitat Enhancement Series, No. 1*

*Pamela Town  
and  
Ronald L. Mahoney*

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no. 778

## *Wildlife Habitat Enhancement Series:*

**No. 1 - A Private Landowner's Guide to Managing Northwest Bluebird Habitat - Bulletin No. 778**

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### *Acknowledgments:*

We are grateful to the following people for their critical review of this publication: Alfred Larson, North American Bluebird Society; Wayne Melquist, Nongame Wildlife Manager, Idaho Fish and Game; Christine Saxton, Nongame Wildlife Technician, Idaho Fish and Game; and J. Salem, Golden Eagle Society.

*Mountain bluebird cover art:* Pennell Turner.

*Other artwork:* Lorraine Ashland.

*Production:* Yvonne Carree.

*Nesting box blueprints:* donated by the North American Bluebird Society.

*Supported by:*  
*The Renewable Resource Extension Act (RREA)*  
*Ecosystem Management Project.*

*This publication is available from:*  
*Agricultural Publications*  
*Idaho Street*  
*University of Idaho*  
*Moscow, ID 83844-2240*  
*(208) 885-7982*

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# *A Private Landowner's Guide to Managing Northwest Bluebird Habitat*

*Pamela Town and Ronald L. Mahoney*

## *Introduction*

Currently there are two species of bluebirds in the Pacific Northwest. The western bluebird (*Sialia mexicana occidentalis*) and the mountain bluebird (*Sialia currucoides*). The eastern bluebird (*Sialia sialia*) is spreading westward and has been spotted in eastern Montana. Despite the bluebirds wide distribution, these colorful birds are in jeopardy. Lack of suitable breeding sites, decreased food supplies through the application of insecticides, competition with more aggressive birds for available nest sites, and the need for primary cavity nesting birds such as northern flickers, woodpeckers, and sapsuckers to create cavities, are a few reasons for the decline of bluebird populations during the last few decades. Fortunately, landowners can sustain and increase bluebird populations through maintaining nesting boxes, planting trees, protecting existing snags and cavity trees, recruiting wildlife trees, and implementing an integrated pest management plan (IPM).

Whether you are an amateur or professional bird watcher, or a landowner dedicated to diversity and sustainability, these small blue robin-like birds can bring hours of enjoyment while assisting in insect control around your property. Managing your land with an understanding of the bluebird's habitat will ensure that future generations may experience the beauty of these birds.

## *Life history*

**Mountain bluebirds:** Males have a bright-blue back with a white belly. Females are grayish-brown with some blue on their wings, rump, and tail. Mountain bluebirds are primarily summer residents in the Pacific Northwest. Arriving in late February, they prefer open country with existing cavities close by for

nesting. Late in the summer, they head for higher elevations to flock together while fattening up on numerous insects for their migration to Texas and Mexico. Some may only migrate as far south as the deserts of eastern Oregon.

**Western bluebirds:** Western bluebirds are smaller than the mountain bluebirds. Males have a dark blue head, wings, and tail. Their breasts and back are rusty red. Females are brownish with a rust-colored breast. Western bluebirds are year-round residents in parts of the Pacific Northwest, wintering at lower altitudes within their breeding range or moving to desert and shrub areas. They prefer orchards, open conifer forests, and farms with existing cavities nearby for nesting.

With both species of bluebirds, the males arrive to the breeding site first to claim a territory. Bluebirds try to find a cavity to build a nest of loosely woven fine bark and grass. Because the bluebirds' bill is not suited for excavating nest cavities, bluebirds are dependent upon existing cavities created by primary cavity nesters such as woodpeckers and flickers. Cavities are often hard to locate because swallows, chickadees, nuthatches, squirrels, and non-native birds (European starlings and house sparrows) also use cavities for nesting. Furthermore, many open areas do not have bordering trees suitable for cavities. Fortunately, bluebirds will readily use man-made nesting boxes and entrances of these boxes can be designed to prevent larger birds from using them.

A bluebird can re-nest up to 3 times a year, normally producing only 2 broods per year. The first clutch may contain as many as 6 eggs whereas later clutches will have 5 or less. The female incubates the eggs for 12 to 14 days and soon after hatching the young bluebirds begin

developing feathers. Young birds start leaving the nest 15 to 20 days after hatching.

**Feeding:** Bluebirds primarily eat insects (Table 1), foraging within 500 meters (1,640 feet) of the nest (usually within 100 meters or 328 feet). Some studies have shown they prefer to forage in short vegetation (vegetation that does not reach the bird's belly) or on bare ground. They search for insects from perches such as trees, fences, or telephone wires. When insects are not available bluebirds feed on berries (Table 2).

**Table 1. Some insects bluebirds eat in the Pacific Northwest.**

ants	dragonflies
beetles	grasshoppers
caddisflies	mayflies
caterpillars	moths
stoneflies	weevils

**Table 2. Some berries bluebirds eat in the Pacific Northwest.**

bearberry	huckleberry
blackberry	juniper
cherry	mistletoe
currant	raspberry
dogwood	salmonberry
elderberry	serviceberry
grape	snowberry
holly	sumac
honeysuckle	thimbleberry

**Population decline:** During the last few decades, bluebird populations have been declining. Some of the reasons for the decline include:

- Misuse of insecticides decreases food supplies;
- Lack of cavity trees and snags for nesting sites;
- Decline of primary nesting birds to create cavities in suitable trees; and
- Other species competing for remaining nest sites.

## Helping bluebirds

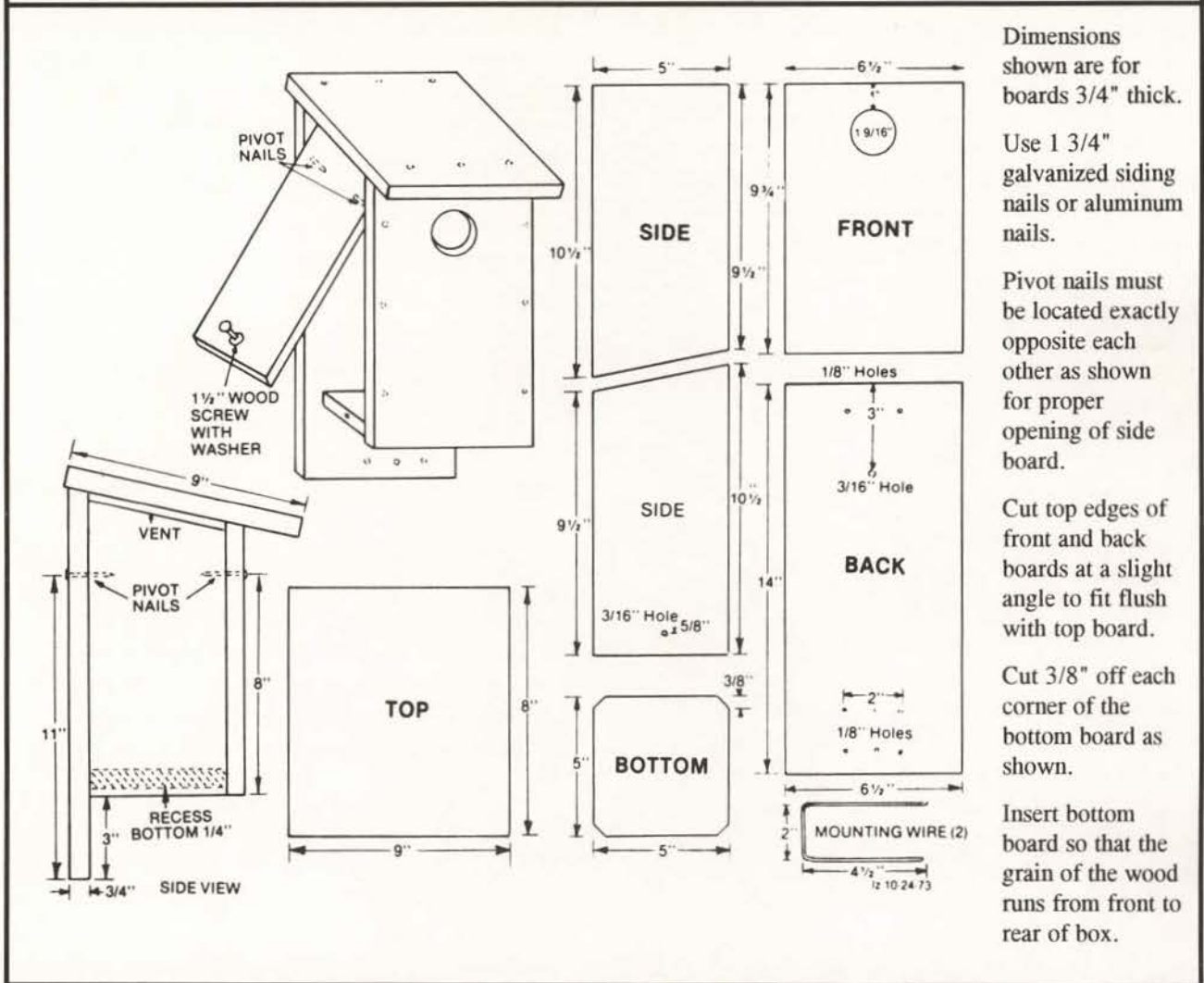
**F**inding suitable nest sites is the most severe problem bluebirds face. In the short term, if a property has the other habitat requirements but lacks cavity trees, the construction of nesting boxes is the quickest solution. These boxes take little time to construct, erect, and maintain.

**Building nesting boxes:** When constructing bluebird nesting boxes remember to make the boxes the correct size and easy to clean. The nesting box in Figure 1 is specially sized for bluebirds and designed for easy maintenance. Several important features must be included to make your box attractive and safe for bluebirds.

1. Use 3/4 to 1-inch thick rough-sawn lumber. Pine, cedar, redwood, or even exterior plywood are all good for box construction. If you use pine or plywood, the exterior should be painted or stained to resist decay. Use light colors (light gray, white, tan) if the boxes will be mounted in a sunny location. Darker colors (browns or greens) may be used if they will be mounted in the shade.
2. Do not use treated wood.
3. Be sure to provide drain and ventilation holes as shown in the diagrams. This is important to keep the young bluebirds dry and prevent overheating.
4. Entrance hole should be no larger than 1 9/16 inches in diameter.
5. Do not provide a perch. Bluebirds do not need perches, and they will attract competitors to the box.

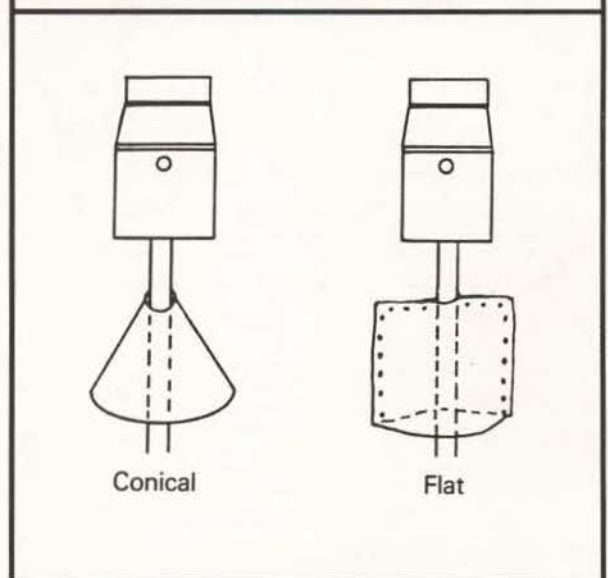


Figure 1. Blueprints for mountain and western bluebird nesting boxes.



**Placing nesting boxes:** Erect nesting boxes between November and February in areas around open fields, pastures, large lawns, and forest openings. Avoid areas where insecticides are used heavily. Secure boxes to wooden or metal posts or to tree trunks. Boxes should be within 15 feet and facing a tree, shrub or post where birds can perch. Place boxes 6 to 8 feet above the ground and 100 yards apart. When mounting boxes, make it difficult for predators to get into them. Metal posts are difficult for house cats, raccoons, and snakes to climb. Coating the metal post with grease during the nesting season can further discourage predators. Apply the grease to the 12 inches of post directly below the box. A cone-shaped or flat sheet-metal baffle placed just below the box on wooden posts can prevent predators from reaching the box (Figure 2).

Figure 2. Baffles to discourage predators.



In areas where cattle graze, pile rocks around the base of the nesting box posts so cattle are discouraged from rubbing against them.

If you place your boxes near the woods or brush piles, chickadees, nuthatches, and wrens will use them. These species, like the bluebirds, should be a welcome addition and should not be discouraged from using the boxes. These birds are entertaining to watch and are helpful in controlling insect populations. It may be possible to get bluebirds to nest in the same area by placing another box about 10 to 20 feet from the one the other bird is using.

**Checking and record keeping of the nesting boxes:** It is not necessary to check the boxes, but it is gratifying to see your boxes used.

In early March, begin checking the boxes once a week and continue to do so until late July. To check a box, tap the outside of the box before opening it so the female can leave. If no bird flies out listen for a humming: bees may find your box to be a great nesting site! (If bees do move into your nesting box, avoid the box until winter when the bees can be removed with less danger.) Carefully open the box, trying not to disturb nesting material or chicks. If your box construction does not allow for a quick and smooth opening, then do not disturb the box until you are sure it is empty. (You can still record birds you observe going in and out of the box.) If opening the box can be done quickly and carefully then look for evidence of nest building, eggs, or any other sign of bird activity. Record when nest building begins, when and how many eggs are present, and when and how many birds hatch.

**Do not** check the boxes during the first 3 days of egg laying in the morning hours. This is when the female actually lays the eggs. Remember, when you see nest construction almost complete, start checking the boxes in the late afternoon.

**Do not** check the boxes during the last 3 days before the young birds leave the box. When the chicks are about 10 days old, do not disturb them at any time of the day. A disturbance at this time can cause the young to leave the box prematurely and increase their predation rates.

During early summer, after the young birds leave, or if you are sure a nesting box has been abandoned, clean out the old nest material so re-nesting can occur. After the last brood leaves in late summer, leave nesting material in the box over the winter. This old material provides better insulation for birds taking refuge in the boxes on cold winter nights. In February of the following year, clean and repair the boxes for the new nesting season. If a box is not used for several years move it to a new location.

### *Long-term management*

**Nesting site management:** As a property owner, you may wish to employ more "natural looking" long-term solutions. Planting poplar (*Populus* spp.) in open areas can create valuable habitat for many wildlife species. Poplar grows readily in open areas at a rapid pace and often spreads over a larger area when roots sprout new trees. Poplars mature early and commonly develop stem decays that provide cavities. Mixed-age management and species diversification is recommended to maintain continuing habitat.

Cavity trees are living trees with internal cavities. Cavities are created by disease, injury, woodpeckers, or loss of large limbs. The best cavity trees have healthy crowns and cavities protected from rain. If cavity trees are lacking, retain large trees that show cavity potential. Over-mature trees or trees with woodpecker holes, fungal infections, physical damage, dead portions, or trees stressed by mechanical damage or disease, are good candidates. Because of the long period required to produce a cavity tree, both existing and potential cavity trees should be retained provided their retention does not conflict with forest health or other managed objectives.

Snags are dead standing trees. Snags provide many of the benefits of cavity trees, such as shelter, areas for roosting, hiding, feeding, and nesting. Bluebirds nest in cavities of trees at least 10 inches diameter breast height (dbh) and 7 feet tall. Larger trees will also be used. The best cavity nesting bird management includes retaining all snags, as long as they are not hazardous. Creation of long-lasting snags can be obtained by

removing the top, including all branches of a green, living tree. Western larch (*Larix occidentalis*), ponderosa pine (*Pinus ponderosa*), Douglas-fir (*Pseudotsuga menziesii*), quaking aspen (*Populus tremuloides*), and black cottonwood (*Populus trichocarpa*) are the best native tree species for snag recruitment as they are relatively windfirm and thus remain standing longer.

Many wildlife species will benefit by leaving cavity trees and snags. In addition to cavity nesting birds, squirrels, raccoons, hawks, and owls will use these trees as a home, cover source, perching area, and feeding site. Remember, bluebirds like open areas and are territorial; therefore, cavity trees and snags should be spread across your land. Install nesting boxes while your "natural" solutions are developing.

**Food supply management:** Although the bluebird's diet is primarily insects, they do eat berries and fruits. You can improve your property's wildlife habitat by planting some of the shrubs listed in Table 2. Both bluebirds and other songbirds will benefit from these plantings.

In order to reduce the negative effects of insecticide application on bluebird populations, the implementation of an integrated pest management (IPM) plan can be applied. IPM is the practice of using cultural, biological, and specialized chemical control to insure effective and efficient pesticide use. By using an IPM plan you can reduce the impacts on song bird populations, improve ground water quality and lower pesticide application costs.

### *For More Information on this topic:*

#### **General**

Local Library  
Local Audubon Society  
Local Natural Resources Conservation Service  
Private Wildlife and Forestry Consultants  
State and County Foresters  
State Fish and Game (Wildlife) Departments  
United States Fish and Wildlife Service

#### **Organizations**

North American Bluebird Society  
P.O. Box 6295  
Silver Springs, MD 20906

National Wildlife Federation  
1400 Sixteenth Street NW  
Washington, D.C. 20036-2266

Idaho Department of Lands  
Dr. R. Ladd Livingston - IPM Manager  
P.O. Box 670  
Coeur d' Alene, ID 83814

#### **Publications**

*Pesticide Facts*  
Conservation Technology Information Center  
1220 Potter Drive - Room 170  
W. Lafayette, IN 47906-1334

*Conservation Trees*  
National Arbor Day Foundation  
Nebraska City, NE 68410

*Building a Home for Idaho's Bluebirds*  
*Backyard for the Birds* - Non-game Leaflet #3  
*Birds and Birding Routes of the Idaho Panhandle* (\$2.95)  
State Non-Game Wildlife Program  
Idaho Department of Fish and Game

*Managing small woodlots for cavity nesting birds*  
World Forestry Center  
4033 SW Canyon Road  
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