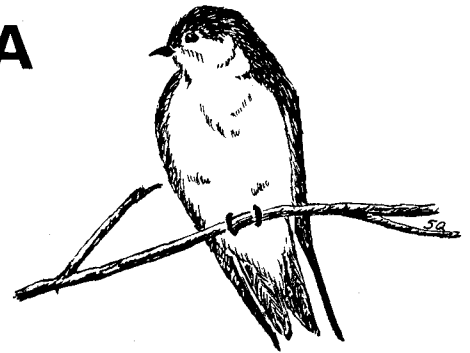


# BIRDHOUSES FOR ALASKA

## A GUIDE TO BUILDING AND PLACING BIRDHOUSES



Providing houses for swallows, chickadees, snow buntings, waterfowl, and small owls is an enjoyable hobby for any Alaskan who enjoys wildlife around their home or community. Birdhouses built according to specifications, placed in the proper habitat, and maintained regularly benefit both birds and people. But incorrectly built or maintained houses either will not be used by birds, or worse, become death traps for nesting birds. The following information is meant to help you build birdhouses suitable for Alaskan birds. More information on birdhouses can be found at your local library or bookstore.

Birds that nest in cavities are the only ones attracted to nest boxes. In Alaska, 30 bird species nest in cavities, and 21 of these will use birdhouses. Excepting Snow Buntings which nest in natural and man-made cavities in tundra areas, most cavity-nesting birds prefer to nest in holes in trees.

Tree cavities are formed by tree disease and decay and by woodpeckers. All six woodpecker species in Alaska excavate cavities for nesting and roosting. Most other cavity-nesting birds use abandoned woodpecker holes. Usually a pair of woodpeckers excavates a new hole every year. Before selecting a final nest site, a pair may start, then abandon, several holes. During fall, overwintering woodpeckers also excavate cavities for winter roosting. However, woodpeckers are only able to excavate holes in dead or decaying trees. Thus, natural cavities are sparsely distributed, particularly in young forests, in areas with low woodpecker populations, and in areas where dead trees have been cut down. In these types of areas, cavity-nesting birds often have difficulty finding nesting and roosting sites and will readily use suitable birdhouses.

Properly constructed birdhouses provide nesting and roosting birds the same protection as natural cavities in trees. This includes protection from wind, rain, cold, and nest predators (red squirrels, weasels, ravens, crows, jays, etc.).

### ALASKA'S CAVITY-NESTING BIRDS

- \* Common Goldeneye
- \* Barrow's Goldeneye
- \* Bufflehead
- \* Hooded Merganser
- \* Common Merganser
- \* American Kestrel
- Hawk Owl
- \* Boreal Owl
- \* Saw-whet Owl
- Black Swift
- Vaux's Swift
- Yellow-bellied Sapsucker
- \* Downy Woodpecker
- \* Hairy Woodpecker
- Northern Three-toed  
Woodpecker
- Black-backed Three-toed  
Woodpecker
- \* Common Flicker
- \* Tree Swallow
- \* Violet-green Swallow
- \* Black-capped Chickadee
- \* Gray-headed Chickadee
- \* Boreal Chickadee
- \* Chestnut-backed Chickadee
- \* Red-breasted Nuthatch
- Brown Creeper
- Winter Wren
- \* Mountain Bluebird
- Wheatear
- \* Starling
- \* Snow Bunting

\*These species will use birdhouses.

# IMPORTANT THINGS TO REMEMBER WHEN YOU BUILD A BIRDHOUSE:

## 1. Build a house for a specific bird

Build a birdhouse for a cavity-nesting bird that occurs in your region and lives in the habitat in which you plan to put in a birdhouse. (See Birdhouse Dimension Table to select a species.)

Build the right size house and hole dimensions. Different species of birds require different sized houses and entrance holes. Inside dimensions must be large enough to accommodate the incubating bird and a brood of growing young. Entrance hole size is especially important. If the hole is too small, the bird you built the box for won't be able to get inside. If the hole is too big, predatory birds and mammals will be able to get inside and reach the nest, and cavity-nesting birds may not use the house.

## 2. Use the proper materials

Wood is the best material for birdhouses. Other materials (like metal or plastic) may not insulate the nest enough, so eggs or young could become chilled in cold weather or overheated in warm, sunny weather. Use rough-cut wood slabs, tree sections, or 3/4-inch plywood. Never use creosote-treated wood as creosote may kill the eggs or chicks.

Use galvanized nails, as these will not rust. Birdhouses need not be painted, but the box may last longer if you paint the outside. Never paint the inside of a birdhouse. If you paint the outside, use dull (not bright or glossy) colors that blend in with the surroundings. Nest boxes that don't match the vegetation may be easier for predators to find.

## 3. Build a box that will stay dry and warm

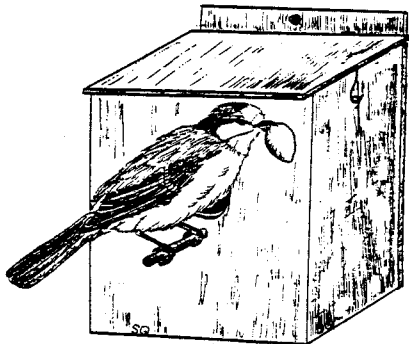
Place the roof of a birdhouse at a slight angle and extend it over the sides and front of the box. In this way, the roof will shed rain or snow and protect the entrance hole and sides from dripping water.

Drill four, 1/4-inch holes in the floor of the box to provide drainage if water seeps in.

The sides of a nest box should extend down beyond the floor so water won't leak in.

## 4. Provide ventilation

Drill small holes (1/8 to 1/4-inch diameter) through each side of the birdhouse just below the roof. This will provide better air circulation.



## 5. DO NOT add perches

Perches allow predatory birds (like jays, magpies, ravens, and crows) better access to the eggs and young in a nest box. In contrast, cavity-nesting birds rarely use perches and prefer cavities without perches.

## 6. Be sure young birds will be able to leave the nest

Roughen the inside of the nest box below the entrance hole or attach a sheet of 1/4-inch galvanized wire mesh, so fledging young can climb out easily.

## 7. Provide woodpeckers, waterfowl, and owls with nest material.

Many cavity-nesting birds will add their own nest material, but the species listed above prefer nest boxes with 2-3 inches of dry sawdust or woodchips in the bottom.

## 8. Place the box carefully

Put your birdhouse up on a sturdy pole, post, tree, or under a house eave. Freely swinging birdhouses are rarely used. Be sure to place the birdhouse at the proper height and in the right habitat for the bird you want to attract (use the information provided in this booklet). Face the entrance hole away from prevailing winds.

## 9. Don't overcrowd an area with nest boxes

Most cavity-nesting birds defend territories, so don't overcrowd an area with nest boxes for a single species. Usually, nest boxes should be placed 50 feet or more apart. Swallows, however, will tolerate neighbors and will sometimes nest in "apartment" birdhouses.

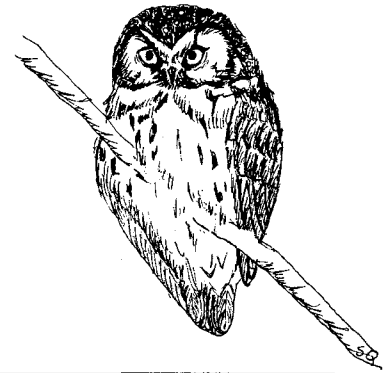
## 10. Build your nest box so that it is easily maintained

Construct the birdhouse with a roof or floor that can be easily removed so that you can reach inside to clean it.

## 11. Maintain your nest boxes

Nest boxes should be cleaned out each spring and disinfected to prevent the spread of avian diseases. Be sure to dry the inside and (if necessary) add fresh, dry sawdust or woodchips.

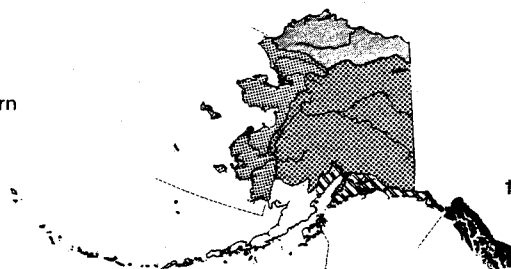
# BIRDHOUSE DIMENSIONS FOR ALASKA'S CAVITY-NESTING BIRDS.



Build a specific size birdhouse for a bird species that occurs in your region and lives in the habitat in which you plan to place the house. The right size house won't attract the desired if it's placed in the wrong habitat.

Species	Alaska Nesting Distribution†						Habitats Used††	Size of Birdhouse Preferred (Inside dimensions in inches)						
	N	O	W	E	S	W		S	C	E	S	E	Entrance Hole	
													Height	Width
Bufflehead			X	X	X	X	X	X	A	16	7	2-7/8*	2-3	
Common Goldeneye				X	X	X	X	X	A	24	12	4 x 5**	2-4	
Barrow's Goldeneye				X	X	X	X	X	A	9-52	6-9	3-4*	2-3	
Common Merganser				X	X	X	X	X	A	33-40	9-11	5***	2-10	
American Kestrel							X	X	B	12-15	8	3*	3	
Boreal Owl		X	X	X	X	X	X	X	C	9-18	6-7	2½ x 4½-5****	2-3	
Saw-whet Owl					X		X	X	C, D	9-18	6-7	2½*	2-3	
Common Flicker						X	X	X	B, C, E	16-18	7	2½*	2	
Hairy Woodpecker					X	X	X	X	C, E	12-15	6	1½*	3	
Downy Woodpecker		X	X	X	X	X	X	X	C, E	8-10	4	1¼*	2	
Violet-green Swallow				X	X	X	X	X	A, B	6	5	1½*	1-4	
Tree Swallow		X	X	X	X	X	X	X	A, B	6	5	1½*	1-4	
Black-capped Chickadee		X	X	X	X	X	X	X	C, E	8-10	4	1-1/8*	2	
Gray-headed Chickadee				X		X	X	X	C	8-10	4	1-1/8*	2	
Boreal Chickadee		X	X	X	X	X	X	X	C, D	8-10	4	1-1/8*	2	
Chestnut-backed Chickadee					X		X	X	C, D	8-10	4	1-1/8*	2	
Red-breasted Nuthatch					X	X	X	X	C, D	8-10	5	1-1/8*	2	
Mountain Bluebird						X	X	X	B	8	5	1-3/4*	2	
Snow Bunting	X	X	X	X	X	X	X	X	F	8	5	1½-2*	6	

- †
- No—Northern
  - ▨ Ce—Central
  - ▩ We—Western
  - Sw—Southwestern
  - ▨ Sc—Southcoastal
  - ▩ Se—Southeastern



### †† Habitats Used

- A = Near lake, river or stream in forested area
- B = Open areas (forest opening, recent burned over forests, clearcuts, agricultural areas)
- C = Mixed hardwood-coniferous forest
- D = Coniferous forest
- E = Deciduous forest
- F = Tundra areas

### ††† Entrance Hole Shape

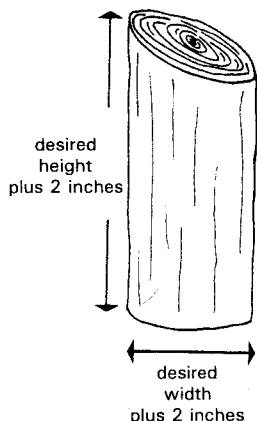
- \*Circular
- \*\*Rectangular
- \*\*\*Square
- \*\*\*\*Elliptical

# HOW TO BUILD A BIRDHOUSE

A wide variety of birdhouse plans are available. As long as you remember the 11 important points listed on page 2 and be certain to use the correct dimensions, any birdhouse plan will work. The following two are suitable for Alaskan birds. Use the height, width, and entrance hole measurements in the Birdhouse Dimension Table to adapt these plans for any species of cavity-nesting bird.

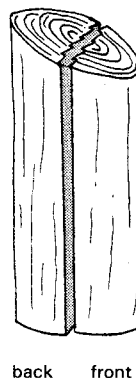
## Split Log Construction:

1.



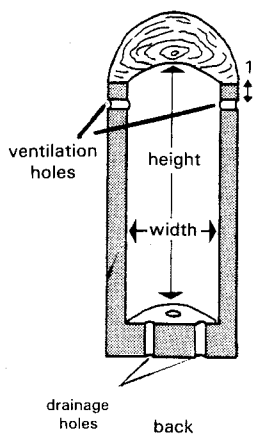
Use a section of birch, aspen, or spruce log from your firewood pile. Be sure to select a log large enough for the inside cavity dimensions required by the bird that will use the house. Cut the bottom of the log section off squarely and cut the top at a slight angle to allow a pitched roof.

2.

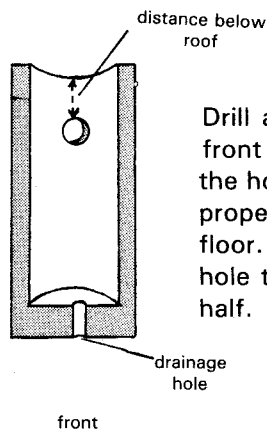


Saw the log in half vertically so that the pitched top is divided into an upper and lower section.

3.

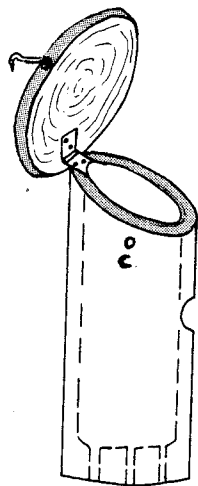


Hollow out the inside of the two halves to the required dimensions using a chisel or chainsaw. Leave the bottom of the log halves solid, but hollow out the top completely. Drill three, 1/8-inch drainage holes through the floor of the back half. Drill 1/8-inch ventilation holes through each side of the back half, 1 inch below the top.



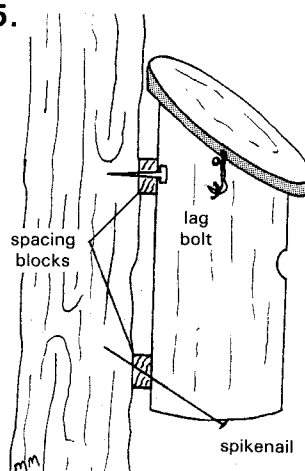
Drill an entrance hole through the front log section. Be sure to make the hole the correct size and at the proper height above the cavity floor. Drill one, 1/8-inch drainage hole through the floor of the front half.

4.



Rejoin the two halves using glue, wire, or latches. Try to seal the crack to reduce drafts through the cavity. Cut a roof for the house from a log section or board 2 inches larger in diameter than the joined sections. Hinge the roof to the top of the hollowed log with a brass or galvanized steel hinge, so that the roof extends over the edges at least 1 inch on all sides. Place latches on each side of the roof so that predators will not be able to pry off the roof.

5.

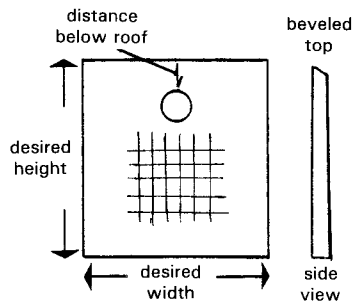


Attach your split log birdhouse to a post or tree using a lag bolt and spike nail. Spacing blocks will allow you to open the lid easily.

## Dimension-Board Construction:

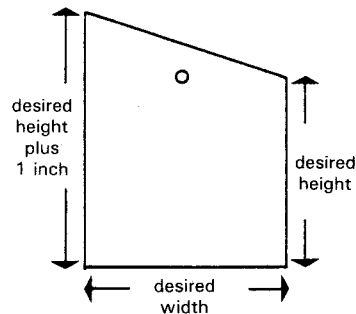
Saw 3/4-inch boards to the appropriate sizes and shapes:

### Front (Cut 1)



Cut the proper size entrance hole at the correct distance below the top. Roughen the board below the entrance, or attach 1/4-inch mesh screen so that young birds will be able to climb out. Be sure to bevel the top so the roof will fit properly.

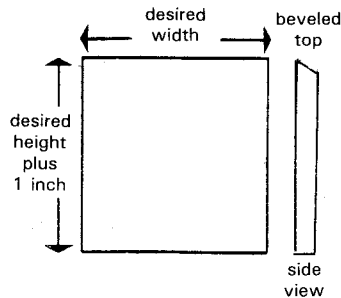
### Sides (Cut 2)



Cut the top edge of the side boards at an angle so the roof can be pitched. Drill 1/8-inch ventilation holes on each side about 1 inch from the top edge.

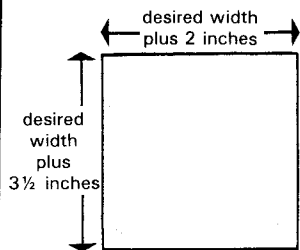
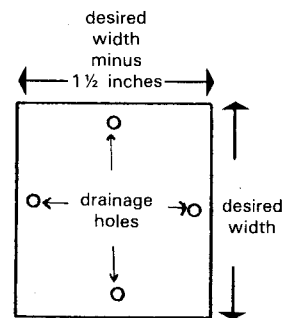
### Back (Cut 1)

The backboard must be 1 inch taller than the front to allow a sloped roof. Be sure to bevel the top of the board so the roof will fit properly.



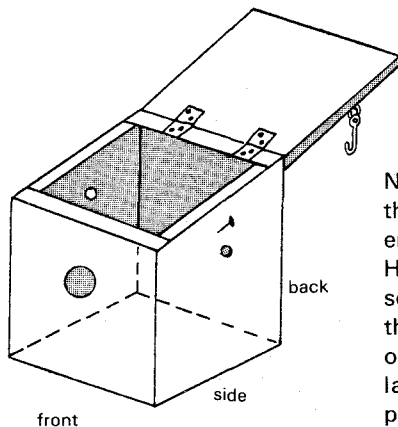
### Bottom (Cut 1)

If you use 3/4-inch boards, the bottom must be 1 1/2 inches smaller than the width of the box. Larger or smaller boards will alter the size slightly. When the box is constructed, the bottom should be surrounded by the other boards to prevent water from seeping in. Drill 1/8-inch drainage holes about 1 inch from the edge on each side.

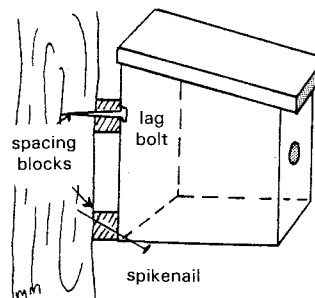


### Roof (Cut 1)

Cut the roof large enough to overlap all four sides by 1 inch.



Nail the box together so that the bottom board is enclosed by the four sides. Hinge the roof on one side so that it extends beyond the edges of the four sides of the nest box. Place a latch on the roof so predators won't be able to pry the box open.

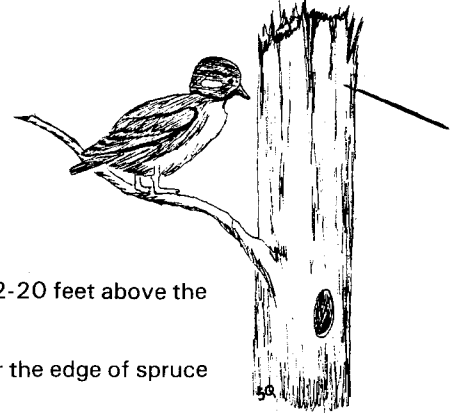


Attach the nest box to a post, tree, or house using a lag bolt and spike nail. The spacing blocks will allow you to open the box easily.

## Placing Birdhouses

Birdhouses should be placed in fall or winter, if possible. Swallows may use nest boxes set out during late May or early June, but owls, chickadees, and woodpeckers begin looking for nest sites during February, March, and April. Always face the birdhouse so the entrance is protected from prevailing winds.

**Waterfowl** nest boxes must be placed on secluded posts or trees within 100 feet of lakes, ponds, or streams with surrounding dead trees or forests. Since young ducklings must walk to the water, place the nest box where there are no major obstacles (like roads or fences) between the nest box and open water. Mergansers prefer to nest on small islands. Buffleheads and Common Mergansers will use nest boxes a few inches to a few feet above ground or water, but nest boxes near the ground are likely to be raided by foxes, weasels, or other predators. Common and Barrow's Goldeneye nest boxes should be placed 15-20 feet above the ground or water.



**Kestrel** nest boxes should be placed at the edge of a forest area or on a post in an open area 12-20 feet above the ground.

**Boreal Owls** prefer mixed spruce-hardwood forests, while Saw-whet Owls prefer to nest near the edge of spruce or deciduous forest groves.

**Woodpecker** nest boxes should be placed 6-20 feet above the ground, though Hairy Woodpecker prefer nest sites 12 feet or more above the ground. Common Flickers nest in open areas and open park-like areas while Hairy and Downy Woodpeckers prefer open deciduous forests.

**Chickadee** nest boxes should be placed on trees in wooded areas. Boreal and Chestnut-backed Chickadees prefer coniferous forests, while Black-capped Chickadees prefer deciduous woods. Chickadees nest 6-15 feet above the ground. Sawdust or woodchips may be placed in the bottom of chickadee nest boxes. Chickadees prefer split-log nest boxes.

**Nuthatch** nest boxes should be placed 6-20 feet above the ground on a tree in mixed coniferous-hardwood forest. Nuthatches prefer split-log nest boxes.

**Bluebird** nest boxes should be placed in open areas like field edges on poles or fence posts 5-10 feet above the ground. This bird is found in only a limited area of east central Alaska and cannot be attracted in other areas.

**Swallow** nest boxes should be placed in open areas including cities, field edges, open forests, lawns, or gardens. Place the boxes 10-20 feet above the ground on posts, trees, or beneath house eaves.

**Snow Bunting** nest boxes can be placed almost anywhere in tundra habitats. Snow Buntings will nest in boxes on the ground, on posts, or on a house in alpine, wet, or moist tundra areas. However, nest boxes on the ground may allow easy access to predators.



### Unwanted Tenants

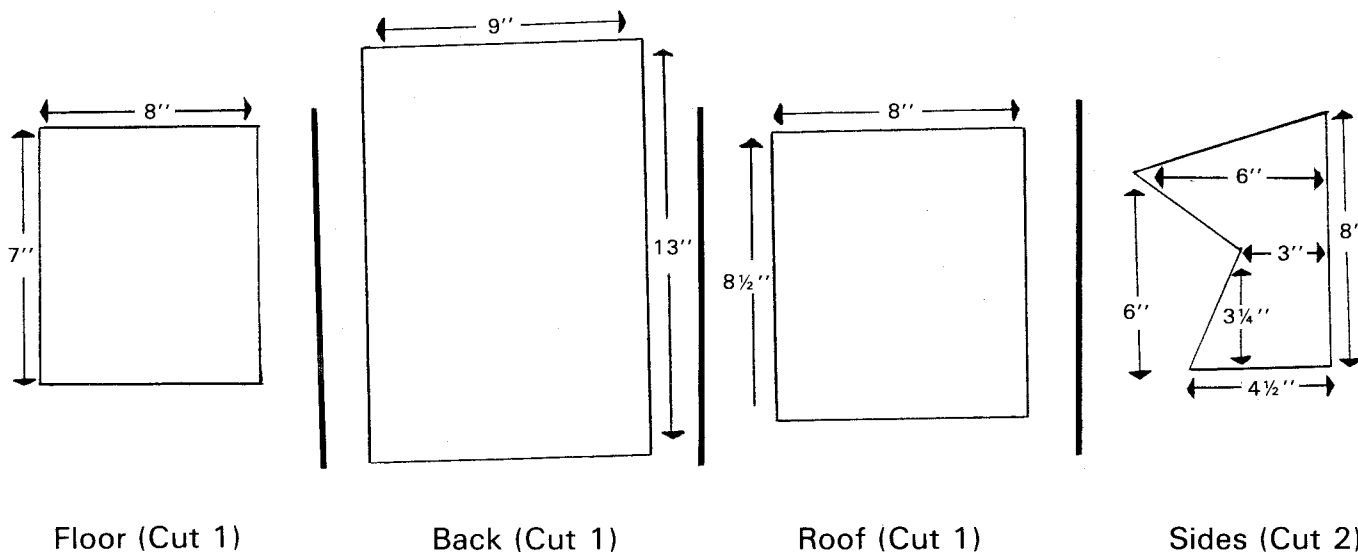
Don't let your birdhouses become homes for Starlings or House Sparrows! These birds were introduced into the contiguous United States from Europe during the mid-1800's and early 1900's. Both species spread throughout North America and have become serious agricultural and urban pests. In addition, both species compete with native North American birds for cavity-nest sites and thus may harm native bird populations. For example, nest site competition by Starlings and House Sparrows has been blamed, in part, for the population declines of the Eastern Bluebird, a cavity-nesting bird.

Only Starlings have become established in Alaska, as yet. Starling nests have been recorded in central and southeastern Alaska, and the species is regularly observed in southcoastal and western Alaska.

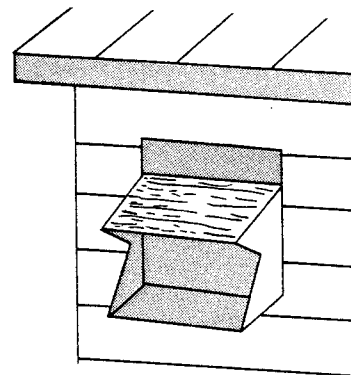
Starlings and House Sparrows will use nest boxes with entrance holes larger than 1 ½-inch diameter. Keep a careful watch on your waterfowl, owl, woodpecker, and bluebird nest boxes to be sure that Starlings and House Sparrows do not invade them. (Please report any observation of Starlings or House Sparrows to Alaska Wildlife Observations, c/o University of Alaska Museum, 907 Yukon Drive, Fairbanks, AK 99701.)

## Nesting Ledges

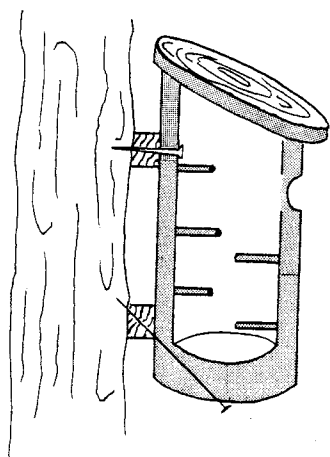
American Robins, Say's Phoebes, and Barn and Cliff Swallows will not use nest boxes, but they will nest on platforms which are open on three sides. Platform nest ledges should be 6-7 inches wide, 6-7 inches long, and at least 8 inches high.



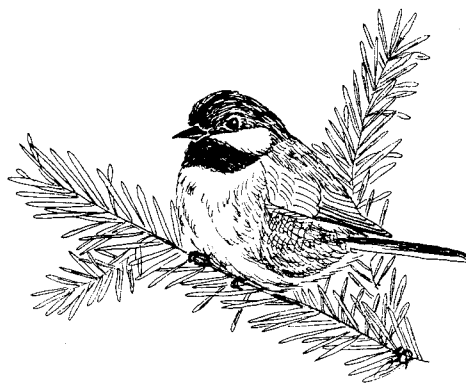
Nest ledges can be easily fastened under the eaves of houses, buildings, bridges or on trees. They may be placed near a window where the behavior of birds using it can be easily observed. Place the nest ledge 8-16 feet above the ground.



## Winter Roost Boxes



Chickadees, owls, and woodpeckers that remain in Alaska during winter use natural tree cavities and birdhouses as roosting sites. These roosting sites provide protection from wind and snow and extra insulation against the cold. Any birdhouse can provide a winter roost site if it is properly built, but better insulated birdhouses can also be constructed. Try placing perches on the **inside** of a birdhouse. During severe cold several chickadees sometimes share their body heat by roosting together in a single cavity.



# SAVE A SNAG FOR WILDLIFE

Dead trees, or snags, are valuable to a wide variety of wildlife. Unfortunately, many people assume snags are of no value and routinely cut them down. In some places, this practice has caused cavity-nesting bird and mammal populations to decline. Though nest boxes may provide alternate nesting sites for some cavity-nesting birds, they are not suitable replacements for dead trees. Here's why:

1. Snags provide **homes for woodpeckers**. Woodpeckers use snags for drumming, nesting, roosting, and feeding. Woodpeckers hammer their bills against the resonating surface of dead tree trunks to make a loud drumming sound; this is their courtship and territorial "song." Snags provide ideal feeding sites for woodpeckers as many insects live and reproduce in decaying wood. Many snags are covered with small holes made by foraging woodpeckers.

Though woodpeckers have powerful bills and neck muscles, they are only able to excavate nests in trees with soft, decaying centers. Thus, dead or dying trees are preferred excavation sites. Unlike most other cavity-nesting birds, woodpeckers rarely use birdhouses.

2. Snags with **old woodpecker holes provide homes** for swallows, chickadees, nuthatches, bluebirds, owls, and other cavity-nesting birds that are rarely able to excavate their own nest sites.

3. Snags provide ideal **hunting perches** for Red-tailed and Rough-legged Hawks, Bald Eagles, Hawk Owls, Great Horned Owls, and other raptors.

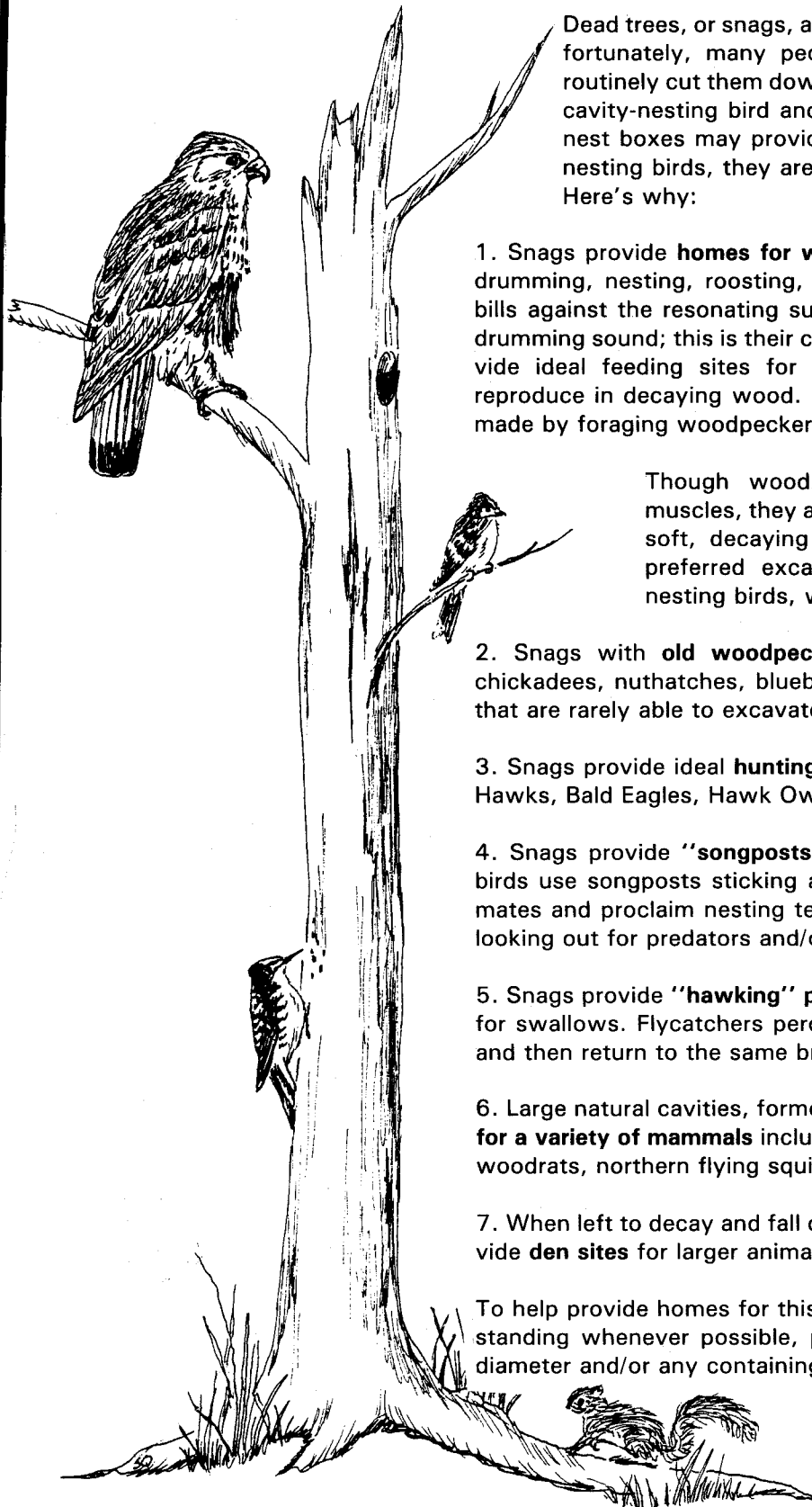
4. Snags provide "**songposts**" to a wide variety of birds. Many small birds use songposts sticking above other vegetation to sing (to attract mates and proclaim nesting territory boundaries) and to perch on when looking out for predators and/or other birds.

5. Snags provide "**hawking**" perches for flycatchers and **resting perches** for swallows. Flycatchers perch on a branch, fly out to snatch insects, and then return to the same branch to watch for other insects.

6. Large natural cavities, formed in snags by decay, often provide **homes for a variety of mammals** including marten, porcupine, bats, bushy-tailed woodrats, northern flying squirrels, and other species.

7. When left to decay and fall over naturally, large hollow snags may provide **den sites** for larger animals like mink, lynx, red fox, and wolverine.

To help provide homes for this wide variety of animals, leave dead trees standing whenever possible, particularly snags larger than 6 inches in diameter and/or any containing woodpecker holes or other cavities.



Written by Susan E. Quinlan, Nongame Biologist, Alaska Department of Fish and Game. Illustrated by Mary Moran and Susan E. Quinlan.