



ATTRACTING BLUEBIRDS *Fact Sheet*

Bluebirds are members of the Thrush family, *Muscicapidae*. Three species occur in North America: the Western Bluebird (*Sialia mexicana*), Eastern Bluebird (*Sialia sialis*) and Mountain Bluebird (*Sialia currcoides*).

While a few breeding records exist for Eastern and Western Bluebirds in Alberta, only the Mountain Bluebird breeds regularly in the province. Eastern Bluebirds breed throughout the eastern half of the United States and Canada. Western Bluebirds are found in British Columbia and the western United States, primarily west of the Continental Divide. There are a few records of Mountain Bluebirds hybridizing with each of the other two species.

NOTE: Sightings (current or historical) of Eastern or Western Bluebirds in Alberta should be reported to Ellis Bird Farm Ltd., the Calgary Rare Bird Hotline (237-8821) or the Provincial Museum of Alberta (453-9100 - this number can be dialed toll-free during office hours using the RITE line).

Adult male Mountain Bluebirds have sky-blue upperparts while the underparts are paler blue with gray or white on the lower belly. The adult females have blue wing and tail feathers, and are brownish gray above with white on their bellies and below their tails. In fresh fall plumage, the females' throats and breasts are tinged with reddish-orange. The juveniles are brownish gray when they leave the nest, but have small white spots on their back and irregular dusky spots on their breasts.



DISTRIBUTION AND RANGE

Bluebirds are cavity nesters. Historically, they relied primarily on old woodpecker holes for most of their nesting sites, although natural cavities and holes in clay banks were also used. Woodpeckers are primary cavity nesters and usually excavate new nest holes each year. Their abandoned cavities are then used by bluebirds and other secondary cavity nesting species. Bluebirds will also nest in unusual places: they have been recorded using twine boxes in old binders, mail boxes, oil field equipment, cliff swallow nests, old robin nests, out-buildings and stone fences.

The range of the Mountain Bluebird appears to have contracted and expanded over time. It currently extends from central Alaska in the north, to Manitoba in the east, Texas in the south and from California to British Columbia in the west. Its winter range includes the south western United States and northern Mexico.

Prior to European settlement of the prairies, Mountain Bluebirds were restricted primarily to the Rocky Mountains, foothills and aspen parkland regions of Alberta. They were also found in prairie river valleys where clay banks and sandstone cliffs provided nesting sites. Habitat for bluebirds on the prairies was enhanced with farm settlement, as treed areas increased through shelterbelt development and fire suppression. The bluebird population apparently peaked in the 1940s. Their subsequent decline has been attributed to habitat loss and the introduction of House Sparrows and European Starlings. In local areas, bluebird populations have rebounded because of the establishment of nestbox trails.

SETTING UP A BLUEBIRD TRAIL

Nestbox Construction

Nestboxes need not be elaborate, and can be of various designs and styles. However, it is important that they be constructed so they are of the proper dimensions and will keep the birds safe and dry. If possible, cedar or exterior grade 19 mm (3/4 in.) plywood should be used. Since the pieces of wood required for nestboxes are small, scrap pieces can usually be obtained from lumberyards or construction sites. Boards should be avoided because they warp and split. Do not use pressure-treated lumber.

It is important that nestboxes open for inspection and cleaning. Most bluebird trail operators in Alberta prefer the top-opening design, although side- and front-opening styles are also popular.

Nestboxes should have a floor space of at least 12.5 cm x 12.5 cm (5 in. x 5 in.) and be at least 25 cm (10 in.) deep. The entrance hole must be exactly 40 mm (1^{9/16} in.) in diameter. An entrance hole of 38 mm (1^{1/2} in.) will prevent some larger individual bluebirds from entering while holes of 42 mm (1^{5/8} in.) will allow starlings to enter. Small ventilation holes drilled in an upward angle at the top of the sides will allow a cross draft without allowing rain to enter. Drill the holes above the level of the entrance hole to prevent a draft on the nestlings. Small drainage holes or spaces in the floor will allow the exit of any water that may blow in through the entrance hole. The roof should overhang the entrance hole to provide shade and protection from rain. Perches should never be used on a bluebird box, as they may encourage House Sparrows and may facilitate magpie predation. For ease of cleaning, the floor in top opening boxes should be removable.

Exterior (no lead) paint or stain should be applied to the exterior of the box. Don't paint the interior or the entrance hole. Subdued colours, such as dull grey, green or brown, are inconspicuous and less likely to invite vandalism.

Nestbox Placement

Bluebirds hunt for their food on the ground, so boxes should be placed in pastured areas or mowed lawns where they can see their insect prey. Ideal habitat is an open, closely-cropped area bordered by trees and shrubs. Nearby trees and bushes provide the birds with perching sites. Treed areas also provide important cover for the young when they fledge.

Areas adjacent to cereal crops are less desirable for nestbox trails because it is difficult for the birds to locate their prey on the ground and because of the risk of pesticide spraying. Nestboxes should not be placed around farm buildings because of the competition and potential disturbance by House Sparrows. Boxes placed in or close to treed or brushy areas will be dominated by House Wrens, which will often destroy bluebird eggs and young. Boxes placed near water will be very attractive to Tree Swallows, which will sometimes out-compete bluebirds for nestboxes.

Boxes should be placed 1.2-2 m (4-6 ft.) above the ground facing a perching site (e.g., tree or fencepost). The male will use this perch to guard the box and to assist the young on their first flight. Boxes can be mounted on poles, trees or fenceposts. If mounted on fenceposts, boxes should face away from the prevailing wind, towards the next post. This placement will provide maximum protection from the elements and will provide the male with a perching site. It will also encourage the fledglings to take their first flight along the ditch rather than across the road and possibly into the path of an oncoming car. Boxes placed on the outside of pastures will suffer less livestock damage than those placed on the inside. Horses will rub and chew on boxes, so place them least 2 m (6 ft.) high in horse pastures.

Bluebirds are territorial when breeding and have territories of about .81 - 1.2 ha (2-3 acres). Boxes should be placed about 90 m (100 yds.) apart, since they will not usually nest closer together than that. In areas where Tree Swallow competition is high, the boxes should be set out in pairs about 1.5-4.5 m (5-15 ft.) apart.

Monitoring is the key to a successful nestbox trail. Regular monitoring can track nesting progress and keep the boxes free of House Sparrows. Avoid monitoring boxes in cold or rainy weather.

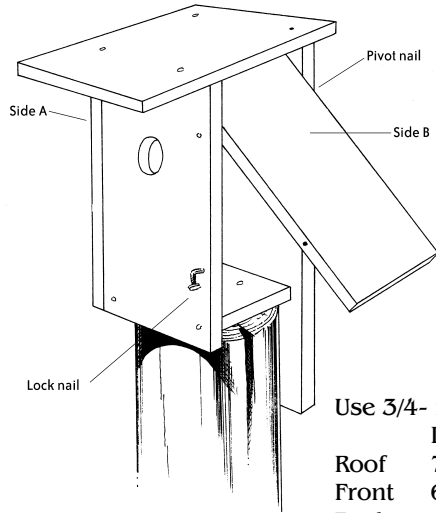
Nestboxes can be checked regularly without harm to the birds, although the birds should not be touched or handled except by those with banding permits. Caution should be exercised when monitoring boxes containing older nestlings. After about 14 days of age, the nestlings become restless and will sometimes jump out of the box prematurely if they are disturbed. Boxes should not be checked at all after the young are 15 days old. As soon as the young fledge, the box should be cleaned out.

Nestbox Plans

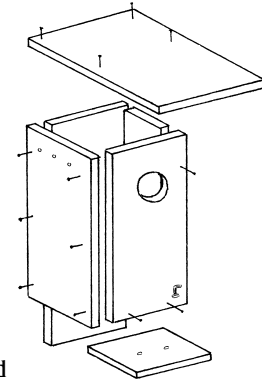
Standard Top-Opening Box

Use 3/4- in. plywood

	Inches
Roof	7 3/4 X 8
Roof Insert	5 x 5
Cleat	1 x 6 1/2
Front	6 1/2 x 10
Back	6 1/2 x 18
Floor	5 x 5
Side (front)	5 x 10
Side (back)	5 x 11

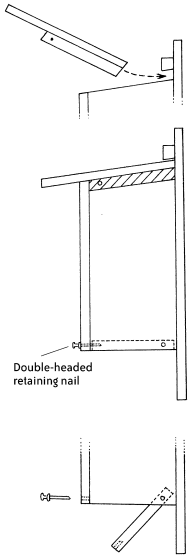


Potter Side-Opening Box



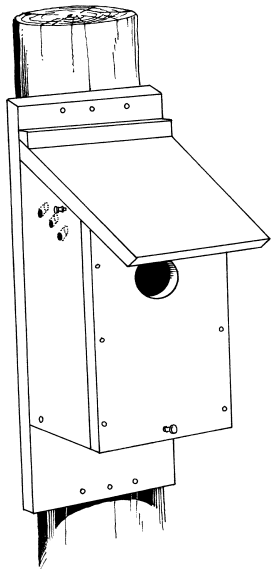
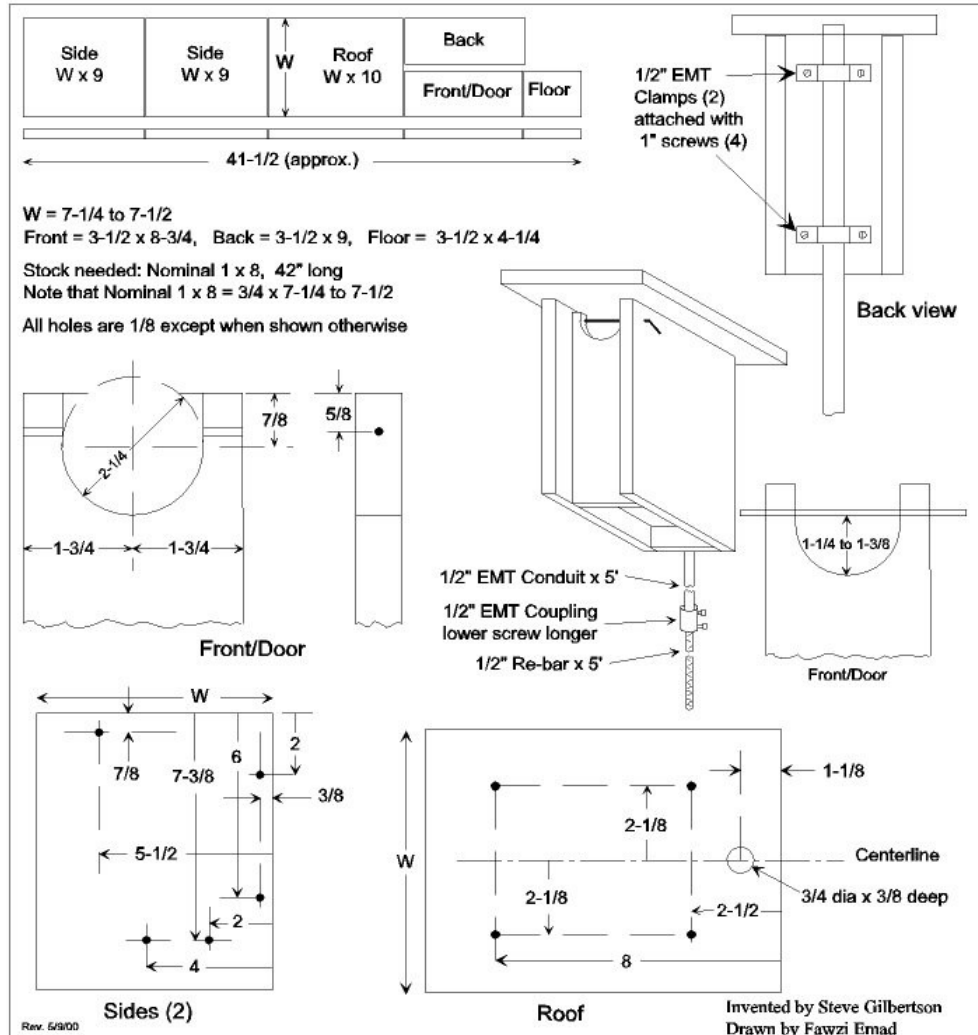
Use 3/4- in. plywood

	Inches
Roof	7 3/4 X 8
Front	6 x 10
Back	6 x 18
Floor	4 1/2 x 5 1/4
Side A	6 x 10
Side B	4 1/2 x 10



Gilwood Nest Box Plans

(box designed by Steve Gilbertson, Minnesota)



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BREEDING BIOLOGY

Bluebirds usually arrive in Alberta in mid-March. After arriving, the males explore all potential nest sites within their territory. Their mates then make the final nest site selection and the pair begins to concentrate most of their activities around it. Nest building, which is done by the female, takes four to six days but may extend over a much longer period of time. Sometimes a nest is started, then abandoned in favour of another location. Nesting material is usually dried grass, although strips of dry bark are often used. The nest cup is usually placed at the back of the nest. The female lays one pale blue egg per day until the clutch is complete. First clutches usually consist of five or six eggs, but up to eight have been reported. Occasionally a clutch of white eggs are laid which, although unusual in appearance, are still fertile.

The entire nesting cycle usually takes seven weeks. In Alberta, the early nesters complete their clutch by early May. Incubation takes 13 to 14 days and hatching occurs from mid May to early July, with a peak in early June. The female incubates the eggs, leaving the nest regularly to feed. Hatching usually occurs over a 24 hour period and the female then broods the nestlings for about the first six days. Both parents share feeding duties, bringing food to each nestling an average of three times per hour from dawn to dusk. When the nestlings first hatch, they are fed soft bodied insects. As they get older, the diet is switched to harder-bodied species. Food items include grasshoppers, caterpillars, moths, spiders, mayflies, beetles, weevils, bugs, ants and flies. Food is obtained by foraging from an elevated perch (fence post, wire, exposed tree branch) or by hovering. If one parent is killed after the young hatch, the other can successfully raise the brood on its own.

The young which hatch naked except for the scattered gray down feathers, grow extremely quickly. Their eyes open between the fifth and eighth day, and by 13 days they are bright-eyed, alert and active. They can be sexed at 11 to 13 days.

Fledging takes place 19 to 21 days after hatching. The young leave the nest one after another, flying a short distance. If they land on the ground they are led to cover by the excited adults. The parents will return to the nest several times to see that all the young have fledged. The parents continue to feed them for a few days. Within about 10 days of leaving

the nest, they have perfected self-feeding. By 35 to 45 days they are independent but remain in a group with the parents throughout the summer and fall. Several of these family groups merge in late summer and migrate together. Most bluebirds have left Alberta by October.

If conditions are favourable (amenable weather and plenty of food), bluebirds may raise two broods per season. Often the male will care for the fledglings while the female begins the second clutch.

The lifespan of most bluebirds is about two years, although a nine year old has been recorded. Mortality of juvenile birds is about 50%. Adults usually return to within two kms of their previous nesting territory, sometimes to the very same box. Bluebirds usually pair bond for one season only, and not all bluebirds are monogamous; males will sometimes mate with other females and females will sometimes lay their eggs in the nests belonging to other bluebirds.

PREDATORS AND COMPETITORS

Animals that will compete with bluebirds for nest-boxes include wasps, bumblebees, mice, squirrels, chipmunks, House Wrens, chickadees, swallows and House Sparrows. The nests of House Wrens, chickadees and swallows are protected by law, so cannot be removed. Mammals and insects should be removed from the boxes. If problems persist, the boxes should be moved to more suitable locations.

Predators of bluebirds include crows, magpies, hawks, ants, raccoons, weasels and House Sparrows. Weasels and raccoons can usually be excluded from boxes by mounting the boxes on steel poles and placing baffles under them.

House Sparrows are both competitors and predators of bluebirds. Introduced into North America in the 1850s, these aggressive and prolific cavity nesters compete with bluebirds for nesting sites and will even kill the adult birds on the nest. To minimize problems with House Sparrows, place bluebird nest-boxes at least one km (1/2 mi.) away from farm buildings or other areas where the sparrow population is high. House Sparrow nests and eggs should be thrown out if found in a nestbox, and the male sparrow should be removed. For more information, see EBF Fact Sheet: *Starling and House Sparrow Control*.