

project nest box

School Nest Watch Program



School Nest Watch Program Guide

Western Birds

March 2012



Cover Photo by Tom Grey
Western Bluebird, juvenile

Table of Contents

Welcome to Project Nest Box	4
Project Timeline	5
The Process	5-9
Step 1: Constructing the Boxes	
Step 2: Selecting the Site Location	
Step 3: Installing Boxes on Posts	
Step 4: Field Note Sheets	
Step 5: Registering and Submitting Data	
Field Monitoring	10
Code of Conduct	
Species Identification Details	11-19
House Wren	
Tree Swallow	
Violet-Green Swallow	
Mountain Bluebird	
Western Bluebird	
Black-Capped Chickadee	
Mountain Chickadee	
Chestnut-Backed Chickadee	
House Sparrow	
History of Project Nest Box	20
Contact Information and Useful Links	21
Acknowledgements	22
Installation Instructions	23



Project Nest Box—*School Nest Watch Program* is a program designed to give students a unique first-hand experience with nature, particularly the nesting habits of local bird species.

Interested schools receive a donation of six nesting boxes. Every two weeks, the students open the boxes, take a peek inside and record their observations. The data collected is submitted online to Bird Studies Canada (BSC), a not-for-profit organization that is dedicated to **advancing the “understanding, appreciation and conservation of wild birds and their habitat.”** *Bird Studies Canada website*

As birds are a bio-indicator of environmental health, these records provide vital data for scientific study. Records from BSC are shared and combined with Provincial Nest Records Schemes providing a collective picture of the health of bird populations across Canada.

“The data, especially from nests that have been visited multiple times, have tremendous potential for monitoring the health of bird populations and the impact of human activities on birds. Some of the ways the data can be used include:

- Monitoring clutch size, hatching success, fledging success, predation rates, and other factors over time, to determine whether sufficient young are being produced to maintain healthy populations.

- Providing information on eggs laying dates to help identify safe periods for management activities such as harvesting hay or timber.

- Documenting the effects of climate change on breeding birds (e.g., changes in nesting dates, nesting success or distribution).

- Evaluating the impact of Brown-headed Cowbirds and various predators on nesting success of songbirds.

- Documenting basic breeding biology such as nesting habitat, nest site selection, incubation period, renesting, additional broods, etc.

- Documenting the breeding distribution of each species in Ontario.”**

Royal Ontario Museum, Ontario Nest Record Scheme website

Why monitor and why the need for more?

Annual intake of data increases the precision which detects changes in the distribution of the breeding birds. This information is needed for as many species as possible, each year, to monitor changes over time.

Nesting birds are valuable indicators regarding the quality of the environment that both birds and humans enjoy or endure.

Thank you for joining us and welcome to





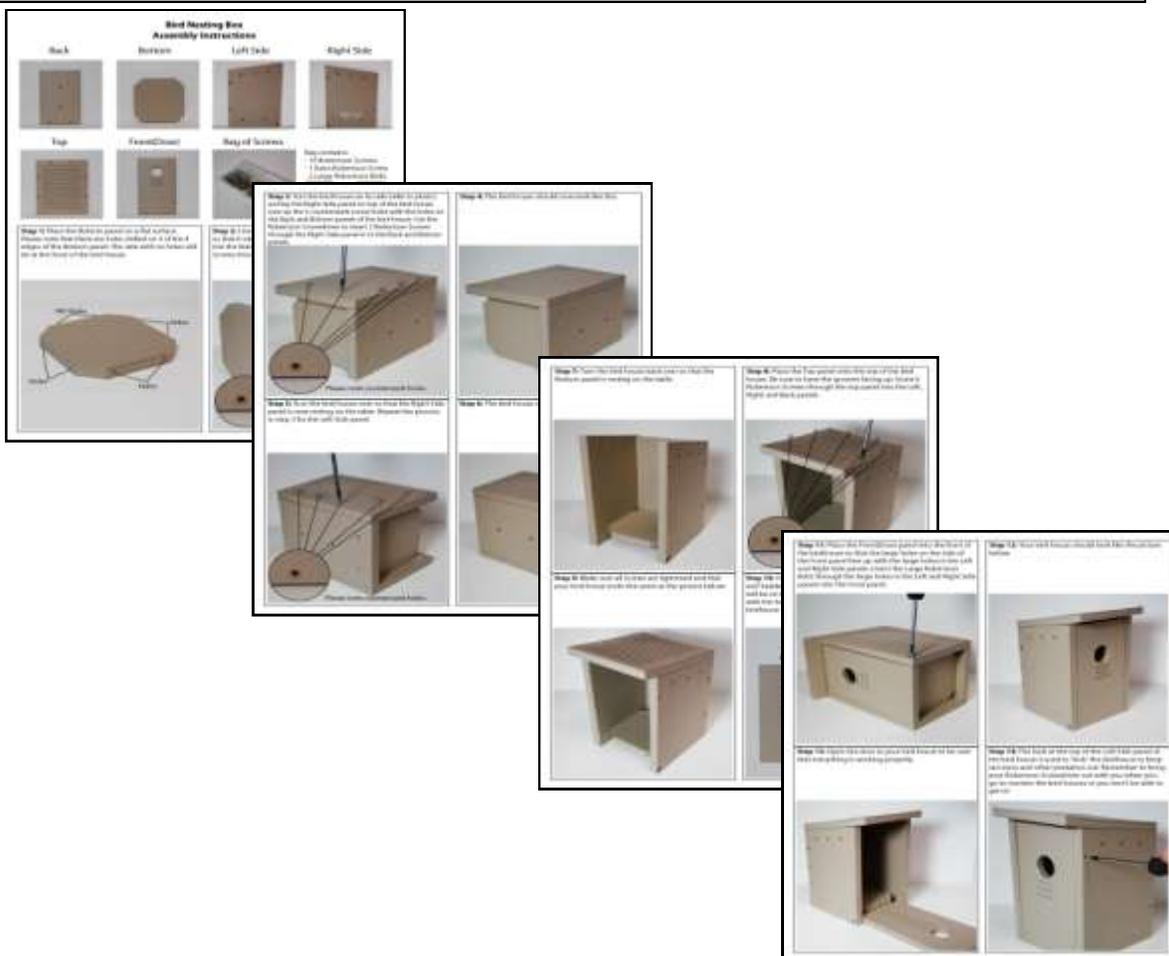
Project Timeline:

- March/April – Build boxes. Install posts as soon as the ground is soft.
Mount boxes on posts (instructions pg. 23) - recommend by second week of April.
- April – Begin monitoring the boxes two weeks after installation.
Set Earth Day (April 22) as a target date to begin monitoring.
- April through July – Monitor the boxes bi-weekly and report your observations online at http://www.birdscanada.org/dataentry/nw_login.jsp. When setting up your profile, be sure to enter the School Nest Watch Program code provided to you by the coordinator.
- September/October – Clean out the boxes, removing any nests and debris to prepare for the spring nesting season.
 - If you have new boxes to install, drive your posts and mount your boxes now so they will be ready for the spring migration.

The Process:

STEP 1: Constructing the Boxes

Construct your nest boxes using the easy-to-follow assembly instructions found on our website. The instructions are available in both English and French.



STEP 2: Selecting the Site Location

Select your nest box site locations using the suggestions on this page and the adjoining map illustrating a typical school yard.

FIELD MONITORING

HELPFUL HINTS TO ATTRACT PARTICULAR BIRDS

Swallow Will nest in most boxes regardless of the location but do not favour boxes in woodland, dense shrub or under the canopy of large trees. Select areas along the boundary fence where the gardens have few trees (6 metres from the fence) or in open areas between sports fields.

Bluebird **Like Tree Swallows, they don't like dense woodland or dense tree growth. They** favour open areas with scattered trees or shrub. Locate boxes for this bird along boundaries, especially if there are farms or parkland with extensive areas of grassland adjoining the boundary.

Chickadee Prefer areas with scattered trees and shrubs but they will also nest in woodland. Place boxes for this bird along the boundary where the gardens are well planted with trees and shrubs or where the boundary adjoins woodland or well-treed areas.

House Wren Will use boxes placed along school boundaries near well-treed gardens. They normally avoid boxes in exposed locations. This bird has a bad habit of filling nearby nest boxes with twigs and it will also puncture any eggs it finds in boxes close by. Watch for this behaviour and record it if this occurs at your school.

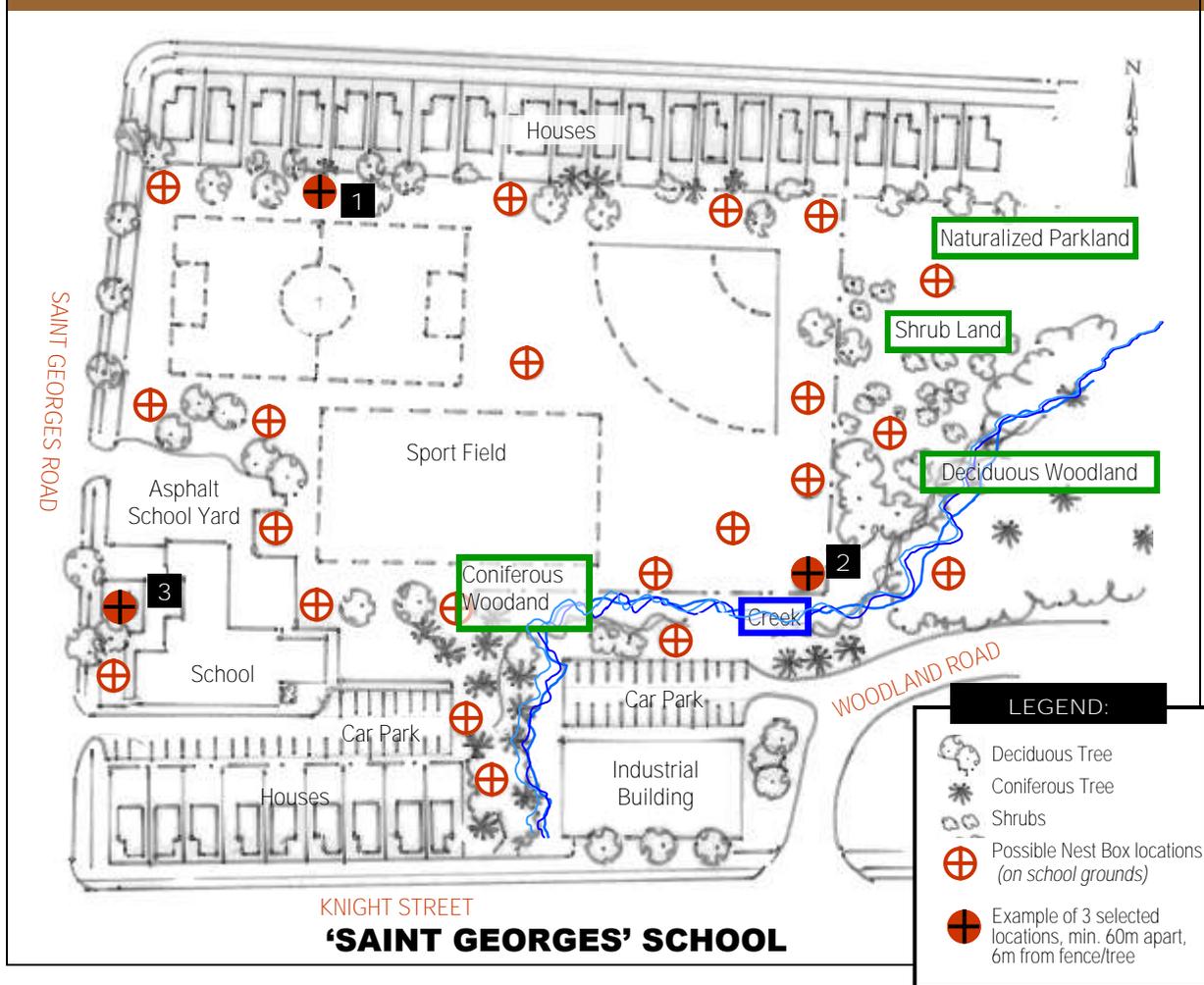
House Sparrow In urban areas, this is often the most common bird that you will record using your boxes. They will use almost any box – even ones placed a few metres from school entrances - except boxes placed in dense woodland. Although this is a bird introduced from Europe, nest records are valuable as its nesting success or failures are reliable indicators of the health of our urban environments.

STEP 3: Installing Boxes on Posts

Mount the boxes to the posts as indicated on the installation instructions found on the last page of this guide (pg.23).

This method of mounting the boxes reduces the chance of predation.





SUGGESTED SITE LOCATIONS FOR NEST BOXES ON SCHOOL PROPERTY

On the map above, suitable nest box locations are indicated as a guide. Select 3 locations, distributing the nest boxes evenly within the school grounds making the best use of any adjoining habitats. **Selected box locations should be placed a minimum of 60 metres apart.** Where possible **keep nest boxes 6 metres or more away from the edge of tree canopies and fence lines** to prevent squirrels from jumping onto the nest box roofs. The plastic tube on the post will prevent raccoons and other mammal predators from destroying the nests.

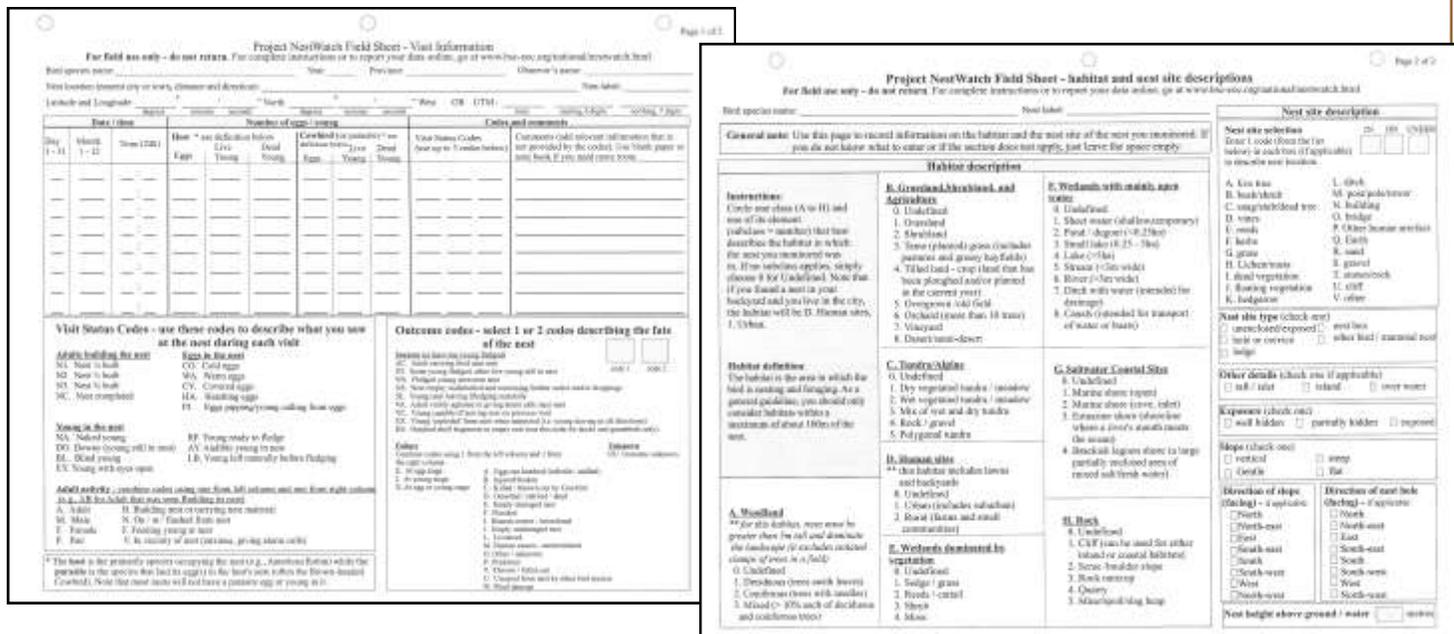
NEST BOX LOCATION ON PRIVATE PROPERTY ADJOINING SCHOOL

With the owner's written permission, particularly on small sites surrounded by natural habitat or farmland, consideration could be given to placing some of the boxes on suitable private property adjoining the school grounds. The owner's permission should include annual authority for staff and students to enter the property to carry out monitoring and maintain the boxes. Careful consideration should be given to safety issues and insurance before locating boxes away from school grounds.

School Nest Watch Program Guide—Western Birds

STEP 4: Field Note Sheets

Bird Studies Canada has developed standard forms for use while in the field monitoring the boxes. Samples of these forms are found below. Print copies off the Bird Studies Canada website at http://www.birdscanada.org/national/nw_fieldsheet.pdf. One set per box.



ITEMS RECOMMENDED FOR MONITORING NEST BOXES IN THE FIELD:

1. Clipboard, pencil, eraser, and pen.
2. Project Nestwatch Field Sheets— 'Visit Information' & 'Habitat and Nest Site Descriptions' to record observations (samples above). One set per nest box— be sure to write the box number on each sheet. On subsequent visits, be sure to use the sheet that corresponds to the box. (*Information gathered will be transferred to online recording system.*)
3. #2 Robertson screwdriver to open & close the locking screws on the nest box doors. 
4. Small mirror to view contents. (*Small mechanics or bicycle mirror which can be angled, works well.*) 
5. Extra screws (*in case you drop one and/or a magnet to locate dropped screw*). 
6. Red flagging tape to flag box if wasps are present or box needs attention. 
7. Small brush such as dish brush, scraper, and gloves. For cleaning out nest boxes at the end of the season. (*September/October*) 

STEP 5: Registering and Submitting Data

Transfer data from the field note sheets to Bird Studies Canada’s online Nest Record Scheme.

On your first visit to the site, register at http://www.birdscanada.org/dataentry/nw_register.jsp. Remember to enter your Project Nest Box—School Nest Watch Program code so that we can track how many records come from the School Nest Watch program! (Your code will be provided to you by the Program Coordinator.) Project Nestwatch is a free database system which encourages public participation. Please note: there is no fee to participate. Once registered, on subsequent visits, you may go directly to http://www.birdscanada.org/dataentry/nw_login.jsp to submit your data. Bookmark this page for quick access.

From Bird Studies Canada’s Home Page <http://www.birdscanada.org> find the registration page by selecting:

- **Get involved** (tool bar) or **Volunteer Programs** (side bar)
- CHOOSE A PROGRAM
- Project NestWatch
- creating your personal profile and Online data form

9

BIRD STUDIES CANADA: CODE OF CONDUCT

In Canada, birds mostly breed during the warmer months of the year. For many species, if an individual loses a clutch due to predation or natural causes such as flooding, it will have to wait to the following season to nest again. The privilege of observing a nest and its occupants is a wonderful feeling and it is essential that our intrusion into the birds' life does not jeopardize its nesting success. For this reason, we encourage everyone searching for bird nests to follow this code of conduct; both birds and bird watchers will benefit from your good behaviour. Thank you!

BE CAREFUL WHILE SEARCHING FOR NESTS

Some birds like the Killdeer and the Song Sparrow build their nests directly on or near the ground. Be careful while looking for nests to make sure you do not step on one of them. Many more species like the American Robin build their nests in shrubs: take good care not to dislodge any nests when moving around dense foliage. When you are looking for nests in urban areas, also make sure no cat, American Crow or Jays are following you as they are very good predators of eggs and young birds.

APPROACH NESTS WITH CARE

When you know where a nest is located (you have marked it previously with a piece of material a few metres away), it is good practice to approach it casually, as if by chance, rather than directly and deliberately. Birds are then likely to regard you as harmless and not as a predator intent on robbing the nest contents. When possible, a sitting bird should not be given a sudden fright as it may accidentally knock some of the eggs or young out of the nest if it flies off or, worse, choose to desert its nest.

CHOOSE AN APPROPRIATE TIME TO VISIT THE NEST

In general, it is best not to flush birds in failing evening light. Likewise, birds should not be disturbed in adverse weather such as cold, heavy rain, or extreme heat.

MINIMIZE DISTURBANCE AT THE NEST

It is essential to minimize disturbance at nests for both ethical and scientific reasons. The first principle is that observations should not jeopardize the safety of the nest. Keep each visit brief. Any equipment likely to be wanted at the nest (e.g., notebook, field sheet, camera) should be ready before you approach. Cameras can be used but please restrain photo sessions to a reasonable time. A few minutes should allow you to gather all of the information you need. If you wish to describe the nest site and the habitat surrounding the nest, please do so from a reasonable distance or wait until the nesting attempt is completed.

MINIMIZE DISTURBANCE AROUND THE NEST

Damaged or trampled vegetation can expose a well-sheltered nest to rain, wind or predators. If possible, avoid making tracks through dew-soaked grass. On approaching a known nest, pick a route that disturbs as little vegetation as possible, stepping over or gently parting clumps of undergrowth. Avoid breaking branches or removing vegetation.

DO NOT HANDLE THE YOUNG OR EGGS

Do not handle the young or eggs. Small eggs and young are very delicate, and can be easily cracked, chilled or injured. Small nestlings are remarkably helpless and may not be able to crawl back into the nest cup if displaced, even in a nest box. Your touch will leave a scent. If you are unable to see all of the nest (to count eggs) because some chicks obscure the view, then indicate it is a minimum number in the visit comment box rather than handle the nest contents. This is not just a question of ethics. It is illegal to disturb the nests of migratory birds or be in possession of birds or eggs. If you wish to band birds or handle the nest contents you will need the appropriate federal, and in some cases, provincial permits.

RESPECT PRIVATE LAND

If you wish to search private land as part of your nest recording, gain permission first from the landowner. Remember that you are asking a favour, and explain your purpose. Many landowners will probably be interested and keen to know about what you are doing. It is very important to treat the owners and their property with the utmost respect and to follow any special requests they make.



photo by Mark Peck

House Wren

IDENTIFICATION:

A small inquisitive, stubby brown bird with an up-tilted tail and a slender, slightly down-curved beak, with a loud distinctive song. Males and females look alike and are 11-13 cm (4-5 inches).

NEST:

The male arrives first in mid-May and fills most available nest sites with dummy nests made of tightly packed twigs. The female selects one of these nests and adds a cup of plant stems, hair, rootlets, and feathers. The jammed-in twigs make it difficult to see or feel inside the nest to

check its contents. In this situation, use a mirror or gently put pressure on the pile of twigs until you create just enough space for your fingers to reach inside the nest cup to feel and record its contents.



photo by Sandra and Frank Horvath

EGGS:

Mostly 6 to 8. Pinkish-white, thickly dotted with reddish brown. Incubation is mainly carried out by the female for 13 days, but may take 14 days.

YOUNG:

Stay in the nest for 15-18 days.

BROODS:

Nests in late May or early June and are often followed by a second brood in July which may be the nest of the same male with a different female.



photo by Mark Peck

RANGE:

Breeds in most of southern and central Canada and most of the United States.



photo by Frank and Sandra Horvath



photo by Sandra and Frank Horvath

Tree Swallow

IDENTIFICATION:

Size: 13-16 cm (5 to 6¼ inches) - about the size of a House Sparrow. Males are iridescent blue-green on the back and top of head, white underparts. In females, the blue-green is replaced by dull brown, also with white underparts.



photo by Mark Peck

NEST:

A loose arrangement of dry stems of grass or weeds, sometimes pine needles, lined with a cup of fluffy often white feathers arranged so they curl over the eggs.

EGGS:

Between 4 to 6, pure white. One laid each day. After the last egg is laid, incubation takes between 14 to 16 days to hatch.



photo by Mark Peck

YOUNG:

Stay in nest box 16 to 24 days before leaving. Young **Swallow normally do not "explode" from the nest when the box is inspected.** When they leave naturally, they are instinctively very good flyers. Once they have left the nest box, they normally move away with their parents.



Male

Photo by Cheryl Warner

BROODS:

Tree Swallows are single brooded, rearing one family each year. If the first clutch of eggs laid in May is lost, they may lay a replacement clutch often in the same nest box.

RANGE:

Nest in most of Canada except in the high arctic. They are early migrants and often return to the nest boxes in mid April or early May from their wintering areas in Central and South America. Occasionally, if very cold weather occurs after they arrive, dead swallows may be found in empty nest boxes.



Female

photo by Sandra and Frank Horvath

Violet-Green Swallow

IDENTIFICATION:

Size: 13 cm (5 inches) - similar to the Tree Swallow however the white breast extends to the cheeks and above the eye with two white patches above the tail. The female is duller and less colourful than the male.

NEST:

The nest consists of small twigs, grasses and is lined with an abundance of feathers.



Male

photo by Ralph Hocken



Female

photo by Tom Grey

EGGS:

Usually 4 or 5 eggs but sets of 6 are not rare (April-May). Pure white with no markings. Incubation takes about 15 days.

YOUNG:

Stay in the nest for a period of up to 23 days.

BROODS:

Violet-Green Swallows are single brooded, rearing one family each year. Once fledged, the brood will remain in the vicinity of the nest for a few days then move away.

RANGE:

Breeds in western Canada, particularly Yukon, British Columbia, and south western Alberta. In the U.S., west of the Great Plains from Alaska to Mexico.



photo by René Corado
Western Foundation of Vertebrate Zoology

Mountain Bluebird

IDENTIFICATION:

Size: 16-20 cm (6.3 to 7.9 inches). It is an all-blue Bluebird. Upper parts are a bright sky blue. Under parts, a paler blue fading to white under the tail. The female is duller and less colourful.

NEST:

The nest is constructed of loosely built grass, shredded bark, and lined with fine grasses or occasional feathers.

EGGS:

Usually 4 to 8 pale blue with no markings.
Incubation: 13-16 days, normally 14 days.

YOUNG:

Stay in the nest for 22-23 days.

BROODS:

In mild springs, Bluebirds will start nesting in mid-April. A second brood is often raised, sometimes in the same nest.

RANGE:

Mountain Bluebirds nest as frequently in prairies and open parkland as they do in the mountains. Breeding from Alaska through Western Canada, as far east as Saskatchewan then south to California and New Mexico.



Male

Photo by Christian Artuso



Female

Photo by Tom Grey



Pair

Photo by Tom Grey

Western Bluebird

IDENTIFICATION:

Size: 16-19 cm (6.3 - 7.5 inches). Male is a rich blue on its entire head including the throat, back, and wings with an orange chest and white under parts. The female is grayer with a paler orange chest and a partial white eye-ring.

NEST:

Nests are constructed of woven dry grass, straw, conifer needles, fur or cedar bark strips.

EGGS:

Range from 3-8 eggs. Eggs are a pale blue to bluish-white, with no markings. Eggs hatch after 13-14 days of incubation.

YOUNG:

Stay in the nest for 15-22 days.

BROODS:

Generally raise two broods per year.

RANGE:

Western Bluebirds prefer open woodland habitats for breeding.



Male

photo by Tom Grey



Female

photo by Tom Grey



Pair

photo by Tom Grey



photo by Mark Peck

Black-Capped Chickadee

IDENTIFICATION:

Smaller than a House Sparrow, 12-15 cm (5 ¼ inches). Basically a black and grey bird with a black cap and bib, white cheeks and upper chest with pale buff underparts and a grey back. Males, females and juveniles all have the same markings.



photo by Carolin Grandin

NEST:

Distinctive moss base with a small cup lined with plant down, hair, wool, and small feathers.

EGGS:

Occasionally 5 to 10 eggs, but 6 to 8 are more usual. Eggs have a white background, evenly marked with reddish brown spots. Occasionally the spots are concentrated at the largest end. During laying period, the eggs are buried or covered with the nest lining. The eggs hatch after 14 days incubation.

YOUNG:

Stay in the nest for 16 days. If the nest box is examined on the 15th or 16th day, the young will often explode from the nest.



photo by Mark Peck

BROODS:

Chickadees nest in mid-May and are single brooded but will re-lay if early clutches are destroyed. Sometimes they will use the same nest box or they may move to another location.

RANGE:

South and central Canada, Newfoundland to British Columbia, and the Northern United States.



photo by Sandra and Frank Horvath



photo by Jared Hobbs

Mountain Chickadee

IDENTIFICATION:

Size: 11-14 cm (4—5 1/2 inches). A typical grey and black chickadee which can be distinguished from all other chickadees by its distinct white eyebrow.

NEST:

Distinctive moss base with a small cup lined with the fur or hair of mammals. The female also makes a fur cap that she covers the eggs with when she leaves the nest.

EGGS:

Occasionally 5-12, generally 9. Eggs have a white background, marked with fine reddish spots. Some eggs in each clutch may be unspotted. The eggs hatch after 12-15 days incubation.

YOUNG:

Stay in the nest for 17-23 days.



photo by Jared Hobbs

BROODS:

Only one brood is raised each year, though if the first clutch of eggs is lost through predation, they are often replaced with a second brood in a different nest.

RANGE:

The mountains of western North America from northern British Columbia, south western Alberta to the northern California, east to south western Texas.



photo by René Corado
Western Foundation of Vertebrate Zoology



photo by Tom Grey

Chestnut-Backed Chickadee

IDENTIFICATION:

Size: 10-12 cm (4-4 1/2 inches). This chickadee has a bright chestnut coloured back, chest and sides with white cheeks, and a sooty brown cap. This is the smallest of the chickadees.

NEST:

A green moss base with a small cup mostly lined with fur, but hair, feathers or other soft available nest material is used. The fur generally accounts for half of the nest material used. Nest building takes 7-8 days and nests vary in size from 2.5 - 15cm (1-6 inches tall). Like the Mountain Chickadee, the female also makes a fur cap to cover the eggs when she leaves the nest.

EGGS:

Generally 6 or 7, sometimes as many as 11 or as few as one. White eggs with scattered fine reddish to light-brown spots. The eggs hatch after 12-18 days incubation.



photo by Tom Grey

YOUNG:

Stay in the nest for about 18-21 days.

BROODS:

Only one brood is raised each year, though if the first clutch of eggs is lost through predation, they are often replaced with a second brood.

RANGE:

Generally found in coniferous woodland but also found in deciduous woods and thickets. Breeds in western British Columbia along the coast and islands from the Alaskan boundary south to central California.



photo by René Corado
Western Foundation of Vertebrate Zoology



photo by Mark Peck

House Sparrow

IDENTIFICATION:

A quarrelsome brown bird with a heavy finch-like beak, though its closest relatives are African Weaver Birds. The male is 13-16 cm (5 to 6½ inches) and has a black bib, white cheek patches, brown neck and back with a grey crown and rump. The female is a nondescript pale brown slightly streaked bird, with a dull white breast.



photo by Mark Peck

NEST:

An untidy mass of material which often fills the whole nest box, consisting of grass and plant stems, feathers, and general debris including strips of plastic or other junk. It has a deep cup lined with fine grasses, hair, feathers or other soft material. Like the House Wren, it is sometimes necessary to push down the mass of nest material to check the nest contents. House Sparrows will usurp nesting Tree Swallows, building their nest on top of the **swallow's nest. They have been known to kill the female Tree Swallow** and their mummified body can be found incorporated into the nest material when the box is cleaned in the fall.



photo by Sandra and Frank Horvath

EGGS:

Occasionally 3 to 7 eggs may be laid, but commonly 5. These have a greenish-white background spotted and dotted with grey, brown or purple-black. Incubation takes 12 to 13 days, occasionally 14. Eggs are incubated by the female who may remain in the box when it is opened. Check carefully for unhatched eggs which **are more frequently found in House Sparrow's than other species.**



photo by Sandra and Frank Horvath

YOUNG:

Spend 15 days in the nest before leaving. Young House Sparrows often explode from the nest if they are disturbed on the 14th or 15th day. Also check for dead nestlings which may get buried under a replaced nest lining when a second or third clutch of eggs is laid.

BROODS:

Early nests can be found in the boxes in mid to late April. These early nests are followed by a second brood in June, and sometimes a third brood in late July or August.

RANGE:

Introduced from Europe into New York City in 1850, a little later into Quebec City and Halifax. Now ranges over most of southern and central Canada, and most of the U.S.A.



The History of Project Nest Box—*School Nest Watch Program*

Project Nest Box—*School Nest Watch Program* began in 2009 in Aurora, Ontario as an offshoot of one program developed by The Aurora Environmental Advisory Committee (EAC) Naturalization and Wildlife Working Group.

The Aurora EAC Naturalization and Wildlife Working Group is a small group of volunteer Aurora citizens with a practical interest in wildlife monitoring and conservation, chaired by David Tomlinson, Emeritus Member of the Canadian and Ontario Associations of Landscape Architecture. David is a skilled Field Naturalist with over 50 years experience in Horticulture, Landscape Architecture, Wildlife Monitoring, and Habitat Creation.

One of the major ongoing projects of the Naturalization and Wildlife Working Group is the Aurora nest box program. This is a program to construct, place, and monitor nest boxes for species such as Tree Swallow, House Sparrow, Chickadee, House Wren, and Bluebird. The goal is to protect and increase the **local bird population, provide valuable scientific research to the Royal Ontario Museum's Ontario Nest Records Scheme**, and at the same time, provide the opportunity to foster a sense of contribution to nature and community involvement.

Between 2006-2008, the Aurora EAC Naturalization and Wildlife Working Group constructed over 200 **nest boxes which are currently erected in the Town's parks and open spaces. Volunteers monitor the boxes annually and record data during the breeding seasons.**

In 2009, wishing to gain a greater picture of the health of the local bird population and knowing that the key to the future state of the environment lies in the hands of our future adults, David came up with the idea of involving school children. Partnering with a local manufacturer, CleanRiver (a division of Mid-point International Inc.), Project Nest Box – *School Nest Watch Program* was born.

CleanRiver manufactures recycling containers, bins, and cabinets made from 100% post-consumer recycled plastic. **This 'plastic wood' is cut into the various pieces required to build the nesting boxes and is shipped to interested schools in kit form for the students to assemble.**

Interested schools receive three nesting boxes which are to be located around the school property. Bi-weekly, from April through July, students open the boxes to observe and record the events that have occurred. The students study first-hand the life-cycle of the birds and the similarities and uniqueness **between each species. Data collected is submitted online to Bird Studies Canada's national database** which is shared with provincial nest record schemes.

Project Nest Box – *School Nest Watch Program* supports many curriculum guidelines in the areas of science, math (probability, graphing), geography (plotting accurate nest box location, mapping results), language arts (learning new terminology, reading about birds), to name but a few.

Most importantly, Project Nest Box – *School Nest Watch Program* instills in each student, a lifelong appreciation for nature.

Project Nest Box – *School Nest Watch Program* is a not-for-profit collaboration between David Tomlinson and the Aurora EAC Naturalization and Wildlife Working Group; CleanRiver; Bird Studies Canada; and **The Royal Ontario Museum's Ontario Nest Records Scheme.**

Contact Information:

For any questions or comments regarding Project Nest Box—*School Nest Watch Program* contact:

Sheri Rilett

Project Nest Box, Project Coordinator
c/o CleanRiver

(a div. of Midpoint International Inc.)

(905) 726-9658 or (888) 646-4246

sheri.rilett@cleanriver.com



Useful Links and Additional Information:

Project Nest Box kits, assembly instructions, Program Guide, and newsletters are provided by:

CleanRiver, (a div. of Midpoint International Inc.)

www.cleanriver.com

Manufacturers of custom recycling and refuse containers made from 100% post-consumer recycled plastic.



For more information on birds and Canadian nest record schemes, visit:

Bird Studies Canada www.birdscanada.org

Royal Ontario Museum, Ontario Nest Records Scheme

www.birdsontario.org



For information about Birds, visit:

Atlas of the Breeding Birds of Ontario www.birdsontario.org/atlas/maps.jsp

Interactive map showing locations of all species recorded in Canada based on data collected from nest records.

The Cornell Lab of Ornithology, *All About Birds* www.allaboutbirds.org

Detailed information on North American birds, including recorded bird calls

For information on other nature-inspired school programs, visit:

Earth Rangers

www.earthrangers.com

Ontario EcoSchools

www.ontarioecoschools.org



School Nest Watch Program Guide—Western Birds

Acknowledgements:

A Special Thank You

to the following individuals and companies who have helped to make Project Nest Watch—*School Nest Watch Program* a success.

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Bruce Buchan, CEO, CleanRiver, (a division of Midpoint International Inc.) for believing in **Project Nest Box, championing its course, providing the resources for the program's growth,** and for providing the nest box kits to each school.
www.cleanriver.com 189 Earl Stewart Drive, Unit 1, Aurora, ON L4G 6V5 888-646-4246



Danièle Bossé and Carmen Ianicello, French Immersion teachers at Lester B. Pearson P.S. in Aurora, ON for **volunteering their time to translate into French the resource guides, posters, assembly instructions, and FAQ's.** We are very thankful for their dedication and commitment to this project. Their efforts have allowed us to include French speaking and French Immersion schools into the program.

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Carolin Grandin

Tom Grey, www.pbases.com/tgrey <http://tgreybirds.com>

Jared Hobbs, MSc / RPBio, www.hobbsphotos.com

Ralph Hocken, <http://www.flickr.com/photos/23791322@N00/>

Sandra and Frank Horvath, Ontario Field Ornithologists, www.ofo.ca

Caleb K., Grade 7 student photography contest winner, St. John Chrysostom School, Newmarket, ON

Rich Mooney, <http://birdingfieldnotes.blogspot.com/>

Mark Peck, Ornithology/Department of Natural History, Royal Ontario Museum, Ontario Nest Records Scheme

Cheryl Warner, Aurora EAC Naturalization and Wildlife Working Group



BIRD NEST BOX INSTALLATION

TOOLS REQUIRED:

- Cordless Drill and 7/32" Drill Bit
- #2 Robertson Screwdriver (red handle)
- Flat Screwdriver - to pry open nest box doors if needed
- Adjustable Wrench - to tighten nuts & bolts
- 2" diameter Drivall Post Driver



(may need assistance to locate this item)

NOTE: Contact your local Municipality who may supply steel posts.

MATERIALS REQUIRED:

- 4" diameter x 3' long smooth Plastic Tube (PVC pipe)
- keeps predators from invading nest boxes
- Bird Nest Box with pre-drilled holes
- One Robertson # 8 x 1- 1/4 " Wood Screw
- Two Robertson #10-32 x 1 1/4" Machine Screws(bolt), Two Flat Washers, Two Lock Washers, and Two Nuts
- Two UV Black Multi Purpose Ties 7.5" / 191mm
- 8' long metal Fence Post or U-Post with pre-existing holes

IMPORTANT: Locate all underground services before driving the post into the ground.



USE PRE-DRILLED HOLE

1.

Pound the Post vertically into the ground with the Drivall ensuring that the end of the Post with the most holes is at the top. Go at least 2 feet deep and have 5 feet of the post exposed.

USE BOLT & NUT IF HOLES LINE UP OR SCREW INTO PLASTIC

2.

Drill two holes into the plastic tube - 1" from the top and 1" from the bottom. Drop the plastic tube over top of the Post and let it rest on ground for the time being.

3.

Using a bolt and washer, attach the nest box to the Post by matching the upper pre-drilled hole found on the back nest box panel with the top hole on the Post. Secure the box by tightening the bolt with a washer and nut from the inside of the box.

If the lower pre-drilled hole on the back panel matches up with a hole on the Post, use the second bolt, washers and nut and attach as above. If the holes do not match up, screw the wood screw through a hole in the Post directly into the nest box.

BE SURE THAT THE NEST BOX IS SECURED FIRMLY TO THE POST.

4.

Raise the plastic tube to fit snugly below the nest box. Thread the black multi-purpose ties through the pre-drilled holes in the tube and the nearest holes in the Post. Secure firmly.



LOCKING SCREW
Securing the nest box prevents casual opening. Unscrew to open box for monitoring

