

**Back Bay National Wildlife Refuge  
2000  
Bluebird Nest Box Surveys Summary Report**

by  
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(Bio. Tech.)

August 11, 2000  
(Revised: August 22, 2000)

## **2000 Bluebird Surveys Summary Report**

### **2000 Bluebird Survey Participants:**

Prior to June 1, 2000: A. Pitterson, Volunteer  
Shaa Benson, Volunteer  
After June 1, 2000: Michael C. Farrell, Biological Technician (Project Leader)  
Eric Duran, Biological Intern  
Andrew Campomizzi, Biological Intern  
YCC's

### **Items Purchased for Bluebird Project:**

- eyehooks and eyes = used to secure the boxes
- hooks = used to secure the boxes
- PVC pipe = used to make a mirror pole for feature surveying efforts

### **Items Needing to be Purchased for the Bluebird Project:**

- wood = to make new boxes
- spray paint (black, brown, or khaki green) = to renumber the boxes
- numbers stencil = to renumber the boxes

### **2000 Active Bluebird Nest Box Annual Summaries:**

- Field 1 (Old Hunt Club Site) = page 3
- Field 2 (Reforestation Site) = page 4

### **Active Bluebird Nest Box Summaries:**

- Field 1 (Old Hunt Club Site) 1<sup>st</sup> year used: page 5
- Field 2 (Reforestation Site) 1995-2000: page 6

### **Bluebird Nest Box Location Field Maps:**

- Field 1 (Old Hunt Club Site): page 7
- Field 2 (Reforestation Site): page 8

**Written Summary of 2000 Bluebird Survey Events:** page 9

**Written Summary of Maintenance Needed on Bluebird Boxes:** page 12

**Directions on How to Build a Bluebird Nest Box:** page 14

**Back Bay National Wildlife Refuge**  
**2000 Active Bluebird Nest Box Annual Summary**

Field 1 (Old Hunt Club Site)

As of July 5, 2000

Box #	Date	Species	Observations
2	3-25-00	Bluebird	Adult birds building nest
2	4-1-00	Bluebird	2 eggs both adults present
2	4-15-00	Bluebird	5 eggs
2	4-21-00	Bluebird	5 eggs
2	6-2-00	Bluebird	Box on Ground; Infested w/ants; No nest material
3	6-21-00	?	Pine straw nest material
3	7-5-00	?	Pine straw nest material
3	8-2-00	?	Pine straw nest material (Wasp Invasion)
8	6-21-00	?	Pine straw nest material
9	6-2-00	Chickadee	Moss nest material (old): Nest removed
10	6-2-00	Chickadee	Moss nest material, 1 dead chick (older): Nest removed: Cause of death, unknown
13	6-2-00	Carolina Wren	1 adult present, 4 chicks (pink/fuzz)
13	6-21-00	Carolina Wren	Chicks Fledged: Old Nest Removed
13	7-5-00	?	Pine straw nest material
15	7-5-00	?	Pine straw nest material
18	7-5-00	Bluebird	5 eggs
18	7-18-00	Bluebird	5 healthy chicks
18	8-2-00	Bluebird	Old nest, chicks fledged

**Field Productivity:**

Active Boxes in 2000: 8

Total # of Bluebird Nests: 2

Total # of Eggs Laid: 10

Estimated # of Hatchlings: 10

Estimated # of Fledglings: 10

**Back Bay National Wildlife Refuge**  
**2000 Active Bluebird Nest Box Annual Summary**  
 Field 2 (Reforestation Site)  
 As of July 5, 2000

Box #	Date	Species	Observations
2	5-12-00	Bluebird	2 eggs
2	5-19-00	Bluebird	5 eggs
2	6-1-00	Bluebird	5 chicks (pink/fuzz), adults present
2	6-21-00	Bluebird	Chicks Fledged: Nest Removed
3	5-19-00	Sparrow	5 chicks
3	6-1-00	Sparrow	Grass nesting material (old): Nest Removed
3	6-21-00	Titmouse	4 eggs
3	7-5-00	Titmouse	2 dead chicks, infestation of ants; nest removed
GS04/16 (8)	5-19-00	Sparrow	(possible bird misidentification)
GS04/16 (8)	6-1-00	Carolina Wren	Adult present, 2 + chicks: height of box and structure of nest made it impossible to identify the total number of chicks (adult bird identified after leaving nest)
GS04/16 (8)	6-21-00	Carolina Wren	Chicks fledged; Nest removed
9	5-19-00	?	Moss and sticks nesting material
9	6-1-00	?	Pine straw nest (old)
10	6-1-00	?	Pine straw nest (old): Removed
10	7-5-00	?	Old leaves nesting material
13	7-5-00	?	Pine straw nesting material
15	7-5-00	Bluebird	1 egg
15	7-11-00	Bluebird	(curiosity check) 4 eggs
15	7-18-00	Bluebird	4 eggs
15	8-2-00	Bluebird	4 healthy chicks
15	8-11-00	Bluebird	3-4 dead chicks w/ blue plumage: Nest removed

**Field Productivity:**Active Boxes in 2000: 7Total # of Bluebird Nests: 2Total # of Eggs Laid: 9Estimated # of Hatchlings: 9Estimated # of Fledglings: 5

**Active Bluebird Nest Box Summary  
2000**

Field 1 (Hunt Club Site)

This is the First Year Data Has Been Collected for This Site

<b>Box #</b>	<b>2000</b>
1	
2	Bluebird
3	?
4	
5	
6	
7	
8	?
9	Chickadee
10	Chickadee
11	
12	
13	Carolina Wren
14	
15	?
16	
17	
18	Bluebird
Unmarked	

\* Shaded boxes have not been used as of July 5, 2000.

**Notes:**

**Active Bluebird Nest Box Summary  
1995-2000**

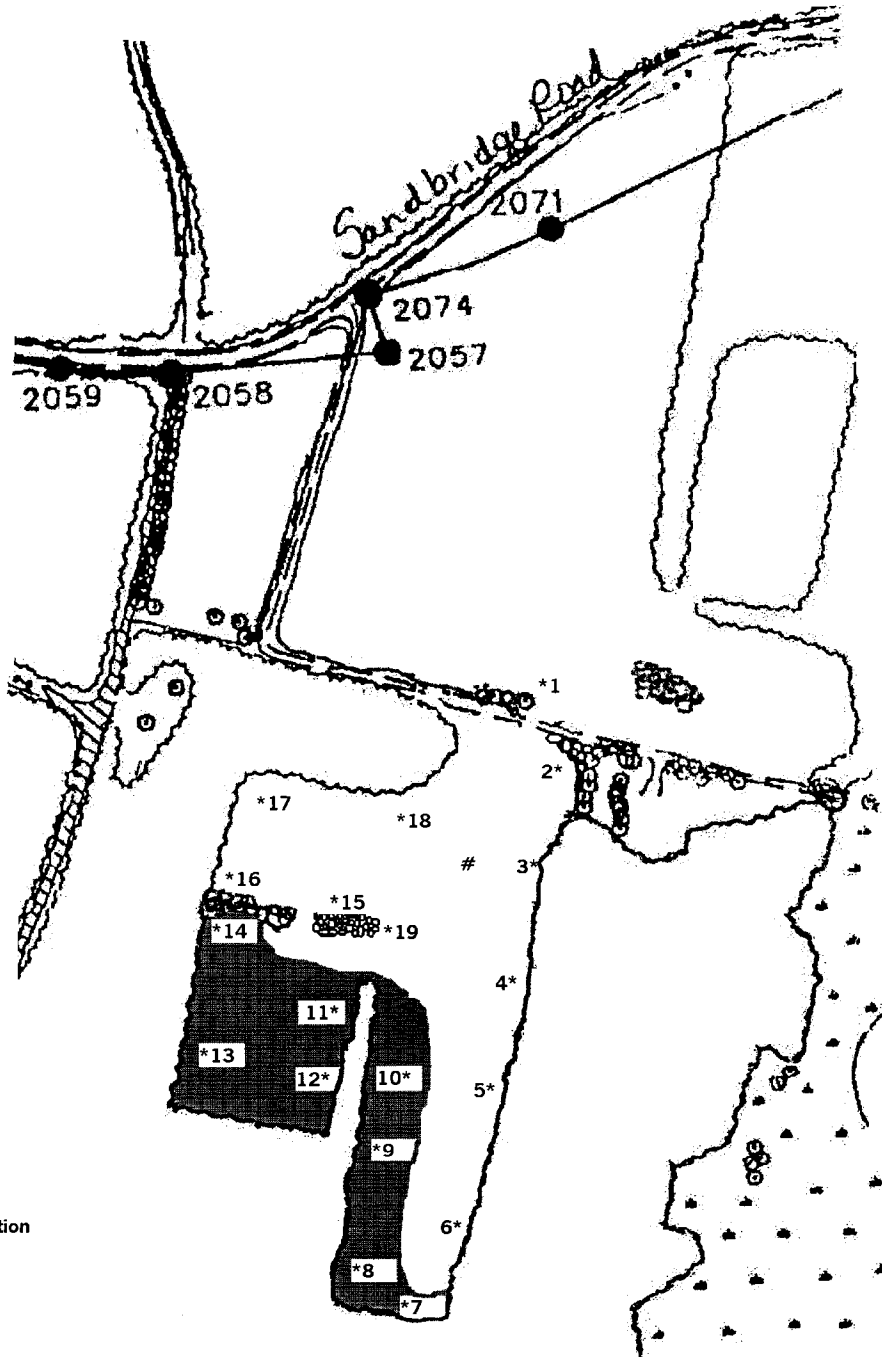
Field 2 (Reforestation Site)

Box #	1995	1996	1997	1998	1999	2000
1				Chickadee		
2		Bluebird	Bluebird	Bluebird	Bluebird	Bluebird
3					?	Sparrow Titmouse
4			Bluebird			
6						
7	Bluebird	?		Chickadee	Bluebird	
8/ GS04 16		?				Sparrow Carolina Wren
9	Chickadee/ Titmouse					?
10		Chickadee	Carolina Wren	?		?
11						
12					Bluebird	
13						?
14						
15						Bluebird
16						

\* Shaded boxes have not been used in five years as of July 5, 2000.

**Notes:**

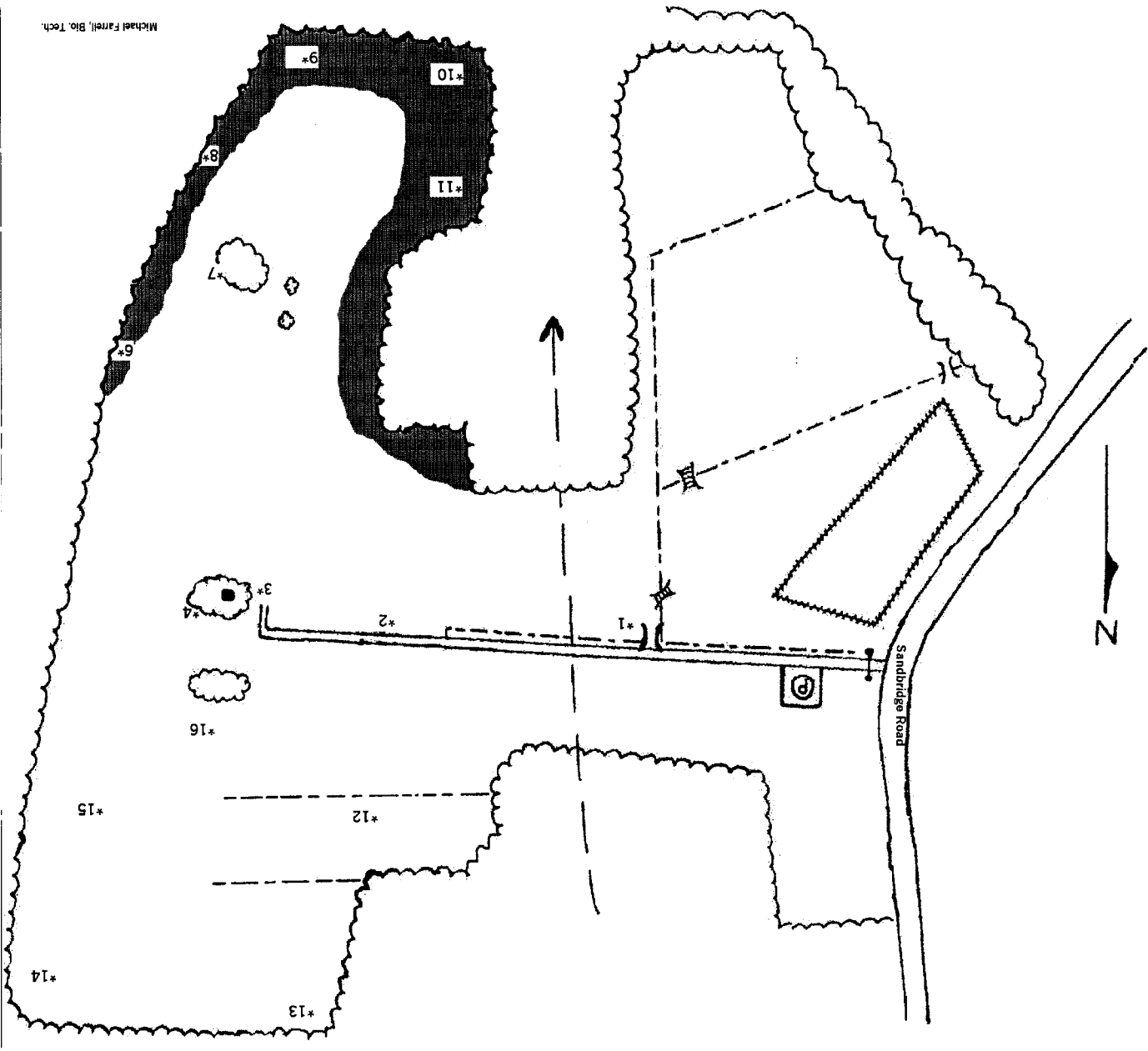
Bluebird Nest Boxes  
Field #1  
Old Hunt Club Site  
Updated: 8/2000



Legend:  
\* = Current Box Location  
# = Fenced Area  
■ = Wet Ground

Bluebird Nest Boxes  
 Field #2  
 Restoration Site  
 Updated: 8/2000

- Legend:
- \* = Current Box Location
  - = Wet Ground
  - = Dirt Road
  - - - = Drainage Ditch
  - ☁ = Protective Fence
  - ☁ = Tree/line/Tree Stand
  - ⌒ = Footbridge
  - ⌒ = Berry/Natural Walk Over
  - = Old Homestead Site
  - ⌒ = Natural Water Flow
  - ⌒ = Gate
  - Ⓟ = Parking Area



Michael Farrell, Bio. Tech.



## Summary of Events

This year we had four total bluebird nests. Three of the nests were very successful, in that all eggs hatched, and all chicks fledged. One nest (box 15 Field 2) was unsuccessful (for some unknown cause we lost 3-4 chicks). These chicks were almost of fledgling age, which was noted from the blue plumage found on the dead chicks. Some possible causes for the death of these chicks were identified as: 1) the nest was infested with mites; 2) the adult birds may have been killed; 3) the adult birds may have abandoned the nest due to the severe thunderstorms. It should also be noted that this nest was laid (late July) after the typical breeding season.

As expected the nestboxes provided housing/shelter for other species: birds, amphibians, and insects. There were nine total nests in addition to the bluebird nests. The identified birds using these boxes were chickadees, titmice, carolina wrens, and sparrows. Many boxes had nesting material in them, but no nests were actually completed.

On several occasions, cricket and green frogs occupied several different boxes. In addition to amphibians we had nesting ants and wasps (paper and mud-dauber). These species pose possible threats to bluebird nesting success and to those people surveying these boxes. One example of an ant infestation inhibiting nesting success was that Field 2 nest box #3 had an ant infestation that was believed to have resulted in the demise of the titmouse chicks occupying that nest.

The wasps were believed to have stopped several nesting attempts by bluebirds and other

surveyors must be very cautious when checking the boxes. In most cases the wasps do not attack, but on occasion a “swarm” will form. Currently box 12 (field 1) has a nest of very violent wasps, and the surveyors have not been successful in evacuating the wasp nest.

It is imperative to the bluebird project that ant and wasp infestations are removed from the nestboxes on site. The ant infestations usually could be evacuated by removing bird nesting material, or by leaving the box’s lid open for a few days, but we do have some boxes where the ants have formed colonies in the wood of the boxes, and/or in the predator guards of the nestbox. Such ant colonies must be removed by the removal of the predator guard and/or replacement of the box.

In removing wasps from the boxes, surveyors this year took great precautions to avoid contact with wasps by using two different methods for evacuating wasps. Boxes with top opening lids make it hard to knock a nest out of the boxes without full contact with the wasps. To solve this problem the surveyors removed the lid from the boxes for a couple of days, then returned to scoop the abandoned nests out of the boxes, and finally they replaced the lid. The second method used, was to simply knock the nest out of the box. To avoid contact with the wasps, long light-weight PVC piping was used to knock the wasp nests out of the boxes. We considered these methods successful for several reasons: 1) the wasps usually evacuated the boxes, at least for a couple of weeks, 2) no one surveying was stung, and 3) no harmful chemicals had to be used to evacuate the pests.

Other pests that people working in the field dealt with this season included: biting flies, mosquitoes, and ticks. Most of our surveyors understood that this was part of the job, but one of the initial surveyors could not cope with the ticks and it is believed that some data was miss-

logged, or completely missing from the earlier surveys, done at the beginning of the bluebird breeding season.

Despite the fact that there was some inconsistency in the beginning of the season, it can be concluded that we had a fairly successful season. This year we had the most bluebird nests to date. This may be because we had more boxes, or it may be that the birds have finally identified these boxes as adequate nesting sites.

\* Note: Michael C. Farrell is in the process of building a long mirror stick to be used for nest box checking in the near future.

\*Note: Due to high water levels from southernly winds and large amounts of rainfall the fields were excessively wet. The wet zones for average rainfall and no southernly winds have been noted on the revised maps. With this fact known surveyors must take wind direction and rain levels into consideration before driving in the fields. If someone is walking the fields due to water levels, hip waders should be worn.

## Needed Bluebird Box Maintenance

Unfortunately, there is quite a bit of work that needs to be done on the bluebird boxes.

The list includes:

### 1) Replacement of boxes:

Field1: 5, 7, 9, 12, 13, 14, 17, and 19

Field2: 2, 3, 6, and 7

\*Note: Several other boxes will need replacement in a few years, so extra boxes should be made (apr. 20 boxes total). The design instructions, for building a bluebird box, follow this maintenance report.

\*Note: Box 19 (Field1) was broken and removed, so only a metal post remains.

### 2) Relocate boxes:

Field1: 1

Field2: 1

\*Note: If boxes are relocated please renumber the boxes in a corresponding manner and update the boxes on the map.

### 3) Repaint numbers on boxes:

Field1: All Boxes

\*Note: Someone painted the current numbers on the boxes with white on black painting. This kind of painting is a predator attractant and should never have been used. These numbers should be placed in plain sight, but painted in camouflaged colors (black, brown, or khaki green).

\*Note: Box #GS04 16 in Field2 should be renumbered as #8.

## 4) Predator guard replacements:

Field2: 2, 3, 4, 6, 7, 9, and 11

\*Notes: The rounded guards harbor wasp and ant nests, therefore they need to be replaced with flat predator guards. All metal posts need to be greased, as a form of predator guard (Field1: All boxes; Field2: 1, 8, and 10).

There is some interesting literature on predator guards in the bluebird file under Bluebird Nestbox Info.

## 5) Reattach box to post:

Field1: 1

Note: Box was reattached at one point, but due to storms it was knocked down again. It was not reattached because it is in need of relocation, and ants have invaded the box, but have not evacuated the location.

## 6) Cap or fill tops of posts:

Field1: All Boxes

Field2: 1, 8, and 10

Notes: All metal posts need to have the tops filled or capped off because they are harboring ant colonies. (Box 1 Field2, especially)

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\*NOTE: Due to inclement weather rusting of nails, screws, locks, etc., and damage to the wood of boxes, other than the ones mentioned in this report may have or will occur. Such damage should be fixed before the next breeding season.

\*NOTE: Supplies purchased for this project will be placed in a box labeled bluebird supplies (with a list of what is inside), and will be placed in the Biological Bay.

\*NOTE: The final pages of this report are maps of possible box relocation sites.

## Assembly Instructions For the Lenker Bluebird Nestbox™

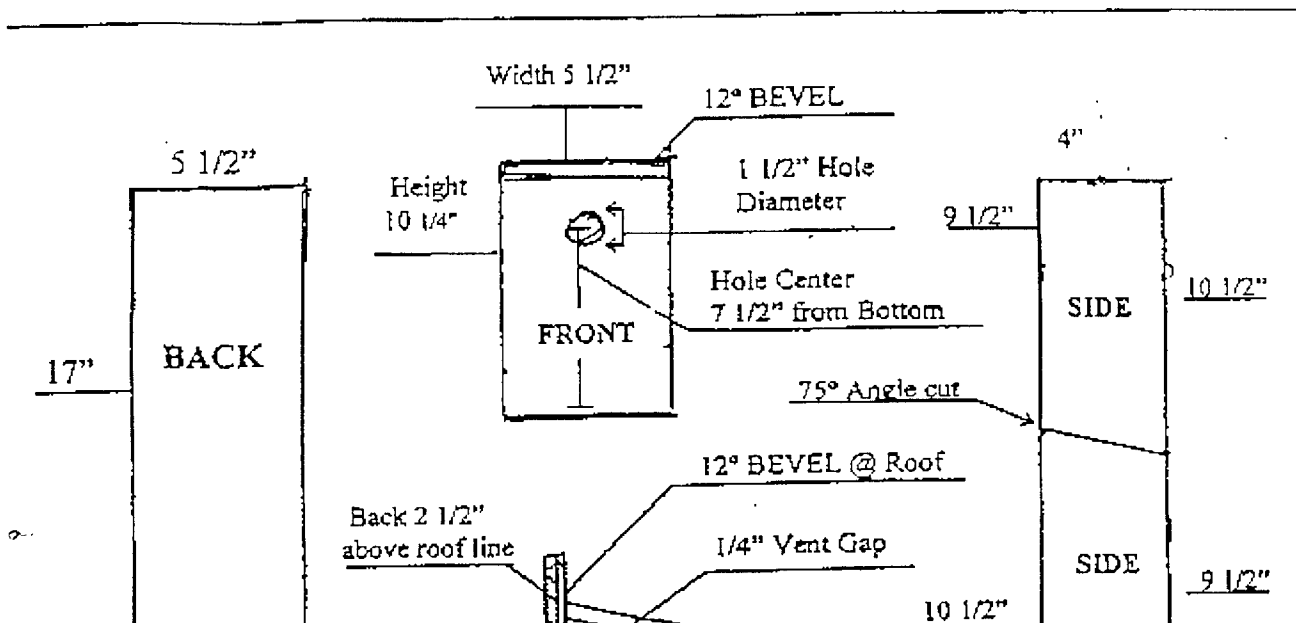
1. Cut all boards to lengths indicated and acquire all required hardware.
2. With two 1 5/8" screws fasten the front to the left side. Keep the top of the side 1/4" below the top of the front, (important for proper cross-ventilation).
3. With two 1 5/8" screws fasten the back to the side keeping the side 2 3/4" from the top of the back, (important for proper cross-ventilation).
4. Place the bottom between the front, back, and side 1/4" up from the bottom edge of the box: with one 1 5/8" screw fasten the front to the bottom; with one 1 5/8" screw, fasten the left side to the bottom; and, with one 1 5/8" screw fasten the back to the bottom.
5. Place the right side, angled side to the top, between the front and back leaving 1/4" space below the top of the front and the top edge of the side, for ventilation. Make a mark about 1" down from the top of the front. Using a square, make a mark, exactly the same height, on the back edge. This is the height where the nail or screw will be placed to make the hinge for the door. Nail in the first nail through the front and into the middle of the right edge of the side board. Next nail the second nail through the back into the right side, again into the middle of the edge. The side will open for monitoring the nestbox from this hinged opening.
6. With two 1 5/8" screws fasten the top to the back keeping the roof 1/4" above the side for ventilation. Fasten two 1 5/8" screws through the roof into the top edge of the front.
7. With a drill bit larger diameter than a #6cc nail ( or other nail to be used as the door lock) drill at a 45 degree angle downward through the front and into the door side. The door lock will be placed in this hole to secure the side and to allow easy monitoring access by removing the nail, the angled hole is required to ensure the nail does not come out on its own.
8. Make small kerfs cut with a saw or deep scratches wit a nail on the inside of the front, below the hole, in order to make a ladder, which will make it easier for the baby birds to climb to the hole to get out (fledge).

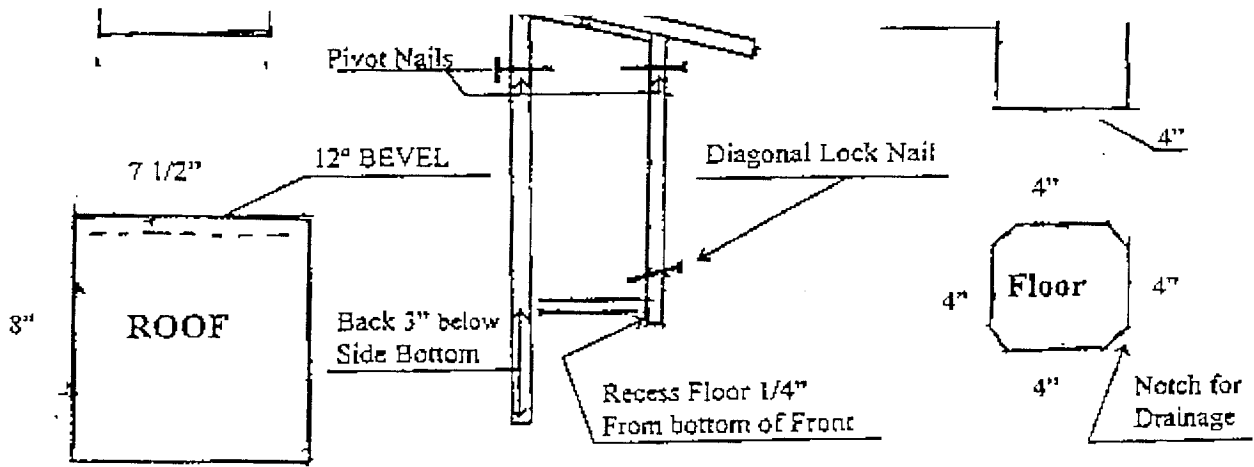
**Important Note:** Do not use pressure treated lumber, it is poisonous to birds. It is not necessary to paint or stain the nestbox. If you choose to, only do the outside. Paint and stain can also be toxic.

### Congratulations! You have completed a Bluebird Box

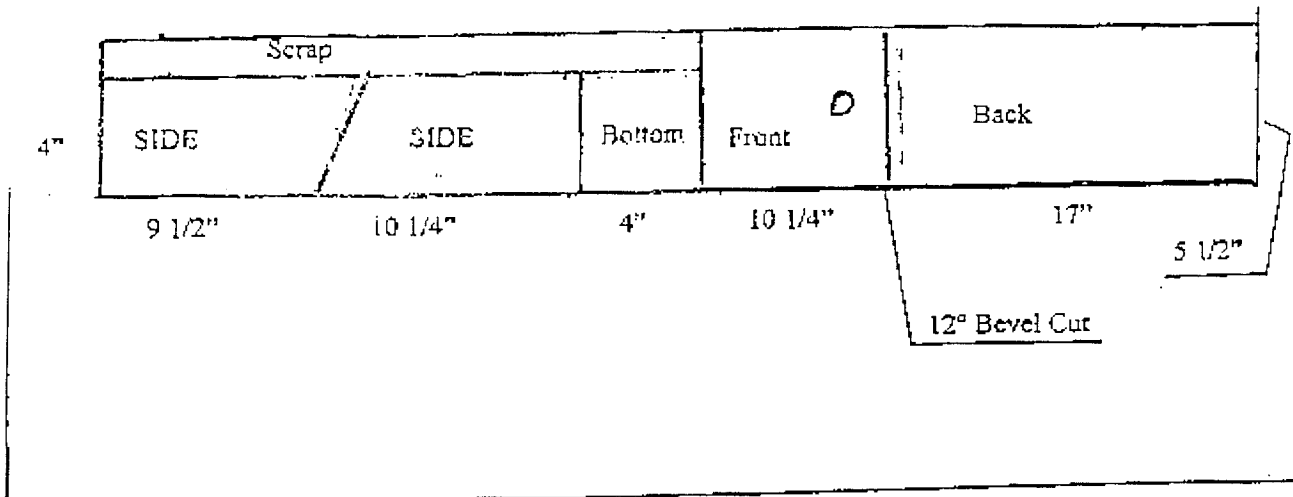
The Lenker Bluebird Nestbox™ design was developed by Jim Lenker, a founding member of the Bluebird Society of Pennsylvania (BSP). The Lenker Bluebird Nestbox™ design was reviewed and approved by the North American Bluebird Society. These plans are distributed by the BSP, to encourage the erection and proper monitoring of approved nestboxes to aid Bluebirds and other native cavity nesting species. For more information, contact the BSP at [BSPORG@AOL.com](mailto:BSPORG@AOL.com) or write us at P.O. Box 267, Enola, Pa. 17025-0267.

## LENKER SIDE OPENING NESTBOX PLANS



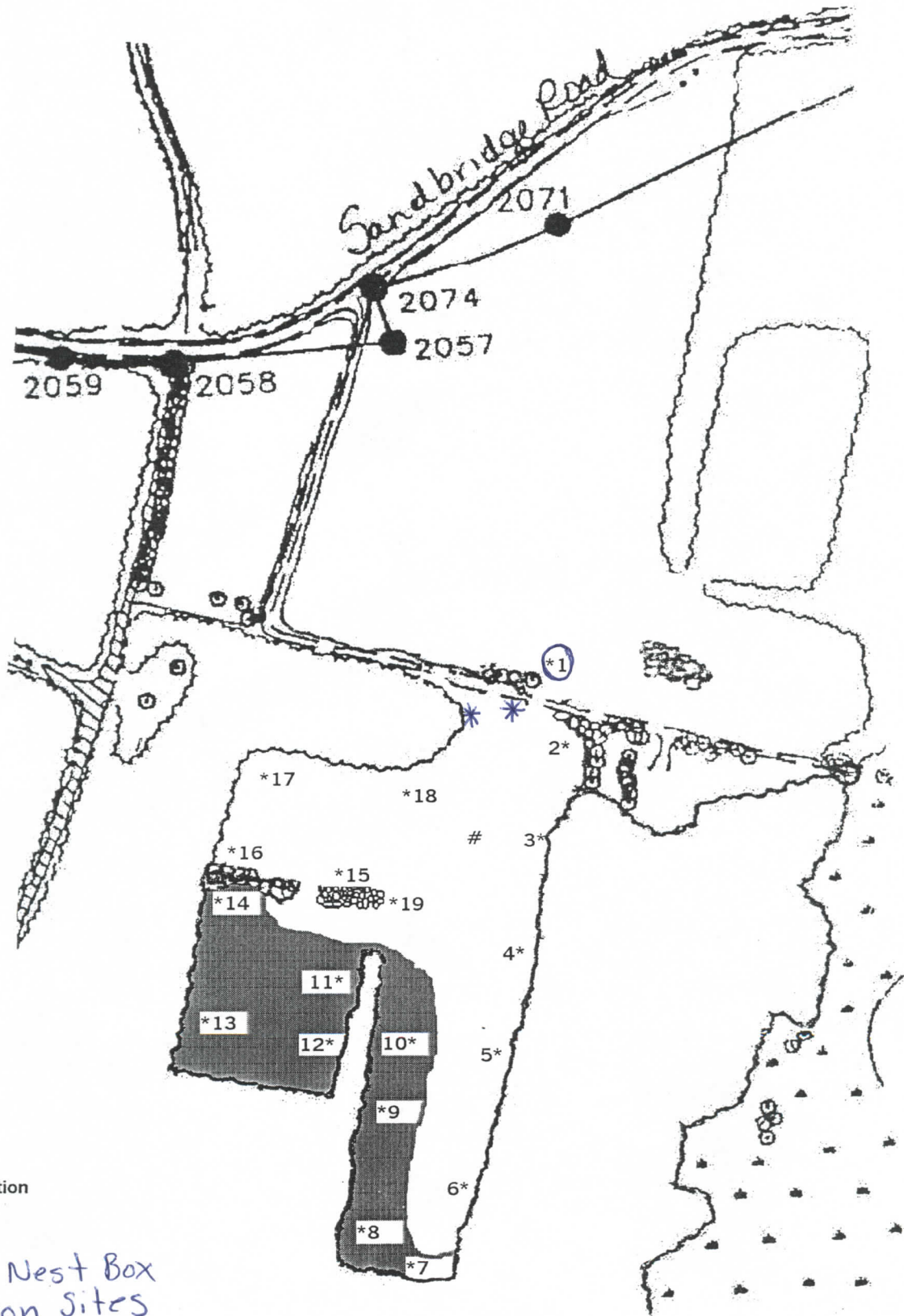


Suggested Cut Pattern from Plank Board 1" x 6" x 5' (Roof Excluded)



Permission to post this material is currently under request, special thanks to Koby Prater of Seneca, MO for making me aware and sending me the drawings and instructions.

Bluebird Nest Boxes  
 Field #1  
 Old Hunt Club Site  
 Updated: 8/2000



Legend:  
 \* = Current Box Location  
 # = Fenced Area  
 ■ = Wet Ground  
 \* = Possible Nest Box Relocation Sites  
 ○ = Box needing relocation



Bluebird Nest Boxes  
Field #2  
Reforestation Site  
Updated: 8/2000

- Legend:
- \* = Current Box Location
  - = Wet Ground
  - == = Dirt Road
  - - - = Drainage Ditch
  - - - = Protective Fence
  - ☁ = Tree/line/Tree Stand
  - ⌒ = Footbridge
  - ⌒ = Berm/Natural Walk Over
  - = Old Homestead Site
  - > = Natural Water Flow
  - ⊙ = Gate
  - Ⓟ = Parking Area
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O = Box needings relocation

