

## Conducting Census at Iona Island Bird Observatory (IIBO)

Using a standardized census system to monitor bird abundance, diversity, habitat use, and migration timing can provide information on a variety of birds that are typically not caught in mist nets. Combining the use of a standardized passive monitoring system with a standardized mist-netting operation provides a well-rounded system to monitor the birds present at IIBO. A census route which passes through the variety of habitats in the count area has been established at IIBO to achieve these goals.

Census should be conducted on each day of monitoring, barring extreme weather conditions, along the prescribed route shown in Figure 1. The census route should be conducted for 1 hour and 30 minutes, beginning precisely one hour after sunrise. This "window" for census is significant as suitable light levels and high bird activity generally occurs at this time. Special conditions for which census may be delayed or aborted include electrical storm, heavy rain or extremely high winds (Beaufort Scale  $\geq 7$ ).



Figure 1. IIBO station map showing the census route (red), count area (white outline), the census start and end points, and the net locations (yellow lines).

Only observers who can identify at least 75% of the expected species at IIBO by sight and sound can be "Census Lead" (see the species list on census form below), but anyone is welcome to join in the "Assist/Orientation" slot. Personnel are encouraged to be honest and accurate in assessments of abilities. It should be noted that this system is only useful for trend monitoring when the protocols are followed exactly. Volunteers should not view it as a competition to get the most birds, as this can introduce bias into the long-term data. Census should be done by different observers on different days

whenever feasible, as this will also reduce potential for bias.

### **The Census Datasheet**

Census observers must record all species detected on the census route and their total counts as well start and finish times using eBird, or on the IIBO Census Form (see below). All birds seen or heard in the Count Area (Figure 1) can be counted as well as any birds seen flying. The observer is allowed to stray off the main path to a maximum distance of 10 metres to confirm identification.

The census taker must use binoculars and record observations as they go. Pishing may be used to attract birds on census if necessary to confirm identification. Birds must not be double-counted, so the census taker should take note of bird locations and movements during the census. Birds found caught in the mist nets are also not counted. Census takers are encouraged to keep moving and not dwell in any one area for too long. All birds should be recorded, even if unidentified (record to group when possible, e.g. "Sparrow sp."). Flocks of birds too large to count the number of individuals should be tallied in groups of 5 or 10, or more, depending on the flock's size. Estimated numbers should be reported as the middle point of the probable range (e.g., 125 for a range of 100-150, or 300 for a range of 100-500).

Prior to starting census, the observer should stop by the banding hut and alert the BIC that they are starting or be in contact via text message.

### **Using eBird for Census**

We recommend submitting all census observations into eBird. You can conduct census using the eBird app or by writing down the species you see and then entering your data into eBird later. When entering your count data into eBird, make sure you select "Travelling" count and use the "Iona Island Bird Observatory" hotspot as the location. Try to enter your species and subspecies as specifically as possible (i.e., if you know it's an Audubon's Warbler enter that, but if you are unsure whether it is a Myrtle or Audubon's then just write Yellow-rumped Warbler). Enter any comments and breeding codes for individuals where applicable. Please have one dedicated person for the census checklist. Please submit your checklist, then send the checklist URL (ie: [www.ebird.org/checklist/S#####](http://www.ebird.org/checklist/S#####)) to the Bander-in-Charge via text/email.

When submitting your eBird data, please also share your list with the Iona Island Bird Observatory account, IIBO@WR, so that we can access the checklists later on.

IONA ISLAND BIRD OBSERVATORY CENSUS FORM

Observer: \_\_\_\_\_ Start time: \_\_\_\_\_ End time: \_\_\_\_\_

Species	Count	Species	Count	Species	Count	Species	Count
Snow Goose		Sora		Sharp-shinned Hawk		Townsend's Solitaire	
Greater White-fronted Goose		American Coot		Cooper's Hawk		Varied Thrush	
Brant		Sandhill Crane		Sharp-shinned/Cooper's Hawk		Swainson't Thrush	
Cackling Goose		Black-bellied Plover		Bald Eagle		Hermit Thrush	
Canada Goose		Semipalmated Plover		Red-tailed Hawk		American Robin	
Wood Duck		Killdeer		Owls		Cedar Waxwing	
Blue-winged Teal		Whimbrel		Belted Kingfisher		House Sparrow	
Cinnamon Teal		Long-billed Curlew		Downy Woodpecker		American Pipit	
Blue-winged/Cinnamon Teal		Sanderling		Northern Flicker		House Finch	
Northern Shoveler		Dunlin		American Kestrel		Purple Finch	
Gadwall		Baird's Sandpiper		Merlin		Pine Siskin	
Eurasian Wigeon		Least Sandpiper		Peregrine Falcon		American Goldfinch	
American Wigeon		Semipalmated Sandpiper		falcon sp.		Lapland Longspur	
Mallard		Western Sandpiper		Western Wood-Pewee		Chipping Sparrow	
Northern Pintail		peep sp.		Hammond's Flycatcher		American Tree Sparrow	
Green-winged Teal		Short-billed Dowitcher		Pacific-slope Flycatcher		Fox Sparrow	
dabbling duck sp.		Long-billed Dowitcher		Empidonax sp.		Dark-eyed Junco	
Canvasback		Short-billed/Long-billed Dowitcher		Say's Phoebe		White-crowned Sparrow	
Ring-necked Duck		Wilson's Snipe		Hutton's Vireo		Golden-crowned Sparrow	
Greater Scaup		Wilson's Phalarope		Warbling Vireo		Savannah Sparrow	
Lesser Scaup		Spotted Sandpiper		American Crow		Song Sparrow	
Greater/Lesser Scaup		Solitary Sandpiper		Northwestern Crow		Lincoln's Sparrow	
Surf Scoter		Greater Yellowlegs		American/Northwestern Crow		Spotted Towhee	
White-winged Scoter		Lesser Yellowlegs		Common Raven		sparrow sp.	
Bufflehead		Bonaparte's Gull		Black-capped Chickadee		Yellow-headed Blackbird	
Common Goldeneye		Mew Gull		Horned Lark		Western Meadowlark	
Barrow's Goldeneye		Ring-billed Gull		Northern Rough-winged Swallow		Red-winged Blackbird	
Hooded Merganser		Western Gull		Purple Martin		Brown-headed Cowbird	
Common Merganser		California Gull		Tree Swallow		Brewer's Blackbird	
Red-breasted Merganser		Herring Gull		Violet-green Swallow		Orange-crowned Warbler	
Ruddy Duck		Glaucous-winged Gull		Bank Swallow		MacGillivray's Warbler	
duck sp.		Western x Glaucous-winged Gull		Barn Swallow		Common Yellowthroat	
Pied-billed Grebe		gull sp.		Cliff Swallow		Yellow Warbler	
Horned Grebe		Caspian Tern		swallow sp.		Yellow-rumped Warbler	
Red-necked Grebe		Common Tern		Bushtit		Black-throated Gray Warbler	
Western Grebe		Red-throated Loon		Golden-crowned Kinglet		Townsend's Warbler	
Rock Pigeon		Pacific Loon		Ruby-crowned Kinglet		Wilson's Warbler	
Eurasian Collared-Dove		Common Loon		Red-breasted Nuthatch			
Mourning Dove		Pelagic Cormorant		Brown Creeper		<b>Additional Species</b>	
Common Nighthawk		Double-crested Cormorant		Pacific Wren			
Vaux's Swift		cormorant sp.		Marsh Wren			
Anna's Hummingbird		Great Blue Heron		Bewick's Wren			
Rufous Hummingbird		Turkey Vulture		European Starling			
hummingbird sp.		Osprey		Thrushes			
Virginia Rail		Northern Harrier		Mountain Bluebird			