

## **Methods: Judith Scarl Rusty Blackbird surveys, 2012**

Between January and March of 2012, the Vermont Center for Ecostudies (VCE) contacted 17 landowners or land managers by email, phone, or letter. Initial contact explained the purpose of our study and requested permission to conduct Rusty Blackbird surveys on their lands. Fifteen land owners or land managers explicitly granted permission for VCE to conduct surveys. In addition, project leader Judith Scarl held a landowner meeting in April 2012; six representatives from four major Maine, New Hampshire, and Vermont landowners attended to learn about Rusty Blackbird biology, ask questions about the proposed surveys, and provide suggestions on what data would be valuable to large landowners when making conservation decisions.

Between 15 May 2012 and 21 June 2012, technicians surveyed 221 sites in Maine and 49 sites in Vermont. Sites were selected based on historical surveys conducted by the Maine Department of Inland Fisheries and Wildlife (MDIFW) in order to compare the pattern of Rusty Blackbird habitat use over time; each 2012 survey site had been surveyed by MDIFW at least once for Rusty Blackbirds in 2001-2 or 2006-7. To maximize the likelihood of detecting Rusty Blackbirds, sites at which Rusty Blackbirds had been detected historically were prioritized. At each site, technicians conducted a point count survey and a habitat survey. In addition, to further assess detection probability (the likelihood that a bird that is present will be detected during a survey), 20 sites with pre-2012 Rusty Blackbird detections were surveyed twice in 2012. We surveyed these sites 3-4 weeks apart- once towards the end of May, and once in the third week of June.

### **Point Counts (Bird Surveys)**

Point count surveys were conducted during all daylight hours (approximately 6 a.m. to 8 p.m.) in periods of good weather, with wind no greater than 18 miles per hour and no steady rain. The primary target species was the Rusty Blackbird (RUBL);

however, we also collected data on 10 other species that may occur in similar habitats: Common Grackle (COGR), Red-winged Blackbird (RWBL), Brown-headed Cowbird (BHCO), Blue Jay (BLJA), Gray Jay (GRJA), American Robin (AMRO), Olive-sided Flycatcher (OSFL), Northern Waterthrush (NOWA), Tennessee Warbler (TEWA), and Red Squirrel (RESQ).

Each point count was 14 minutes and 18 seconds long and was broken into three periods. Observers conducted repeated simple counts for all target species during each period:

Period 1: 0-2:59, passive observation  
Period 2: 3:00-3:38; 38-second playback  
3:39- 8:38, 5 minutes of passive observation  
Period 3: 8:39-9:17, 38-second playback  
9:18 to 14:18, 5 minutes of passive observation

During the first two periods, each individual Rusty Blackbird was tracked minute-by-minute. Information about wind, cloud, and insect conditions were noted at the start of each survey.

Playbacks consisted of Rusty Blackbird calls and were broadcast on either a Western Rivers Predation or Apache game caller.

### **Habitat Measurements**

We developed habitat measurements based on previous knowledge about Rusty Blackbird breeding habitat, features hypothesized to be important to Rusty Blackbirds, and landowner feedback on habitat metrics.

Observers collected the following habitat information at each survey station:

**Distance that view is unobstructed in each cardinal direction**- how far away are trees/other features that prevent the observer from seeing the entire wetland or upland?

#### Wetland Habitat (within the bounds of the wetland)

1. **Wetland Categorization:** percentage of wetland that is Palustrine Forested (PFO), Palustrine Scrub-Shrub (PSS), Palustrine Emergent (PEM), and Palustrine Unconsolidated Bottom (UB).
2. **Count of Visible Puddles-** areas of standing (stagnant) water unconnected to the wetland center and independent of wetland water.
3. **% Mud-** estimate of the percentage of the wetland covered by exposed mud visible from survey location.
4. **Number of snags-** dead standing trees in the wetland area. Estimates were appropriate for numbers greater than 50.
5. **Tussocks:** a count of the number of vegetation tussocks in the wetland area. Estimates were appropriate for numbers greater than 50.
6. **Beaver Dam Stage:** If there was a beaver dam, observers noted the STAGE of the dam (active, old, relict, or none) (Woo and Waddington 1980).
7. **Flow:** For beaver dams, observers noted the primary course/flow of water across the dam (Woo and Waddington 1980). If there was no flow, "no flow" was indicated. If no dam, "no dam" indicated.
8. **Alder Thicket Percent:** If there was an alder thicket present, observers estimated what percentage of the visible wetland was covered by alder thicket.
9. **Sphagnum:** percent of the wetland covered in sphagnum ("peat moss").
10. **Open Water:** Estimate of the approximate percentage of the wetland visible from the survey location that was open water.

#### Upland Habitat (visible uphill from the wetland)

1. **Percent Forested:** Estimate of the percent of the upland that was forested (has trees).
2. **Percent Softwood and Hardwood:** Estimate of the percent of the forested upland that was softwood and the percent of the forested upland that was hardwood.
3. **Tree Height:** Observers used a clinometer to measure to the top and bottom of a tree of average height. Observers also measured the distance to the tree. These measurements can be used to calculate tree height.
4. **Size Class:** Average size class of trees in the upland (seedling, sapling, pole, small, medium/large, multi-layered; derived from <http://www.fs.fed.us/r5/rsl/projects/frdb/tables/table114b.html>).
5. **Buffer:** Estimate of the width of the buffer (uncut trees) around the wetland.
6. **Snags:** Number of snags in the upland.
7. **Road Class:** Unimproved Dirt, Improved Dirt, Paved, or Remote ("remote" is any wetland >100 meters from a road; generally these were not surveyed).
8. **Nesting Habitat:** Observers noted whether there was a dense thicket of spruce or fir that is less than 5 meters tall.