ODLT – Trout Creek Ranch Point Count Protocol

Background

As with many wet meadows throughout the region of Southern Oregon and Northeastern California known as the SONEC, wet meadows at Trout Creek Ranch (TCR) are maintained via flood irrigation. In early spring, these meadows provide important stopover habitat for waterfowl and waterbirds. Until fairly recently, most work around wet meadows in the SONEC has centered on meeting migratory and breeding waterfowl needs. Currently, efforts in some areas have expanded to acknowledge the structural needs of diverse breeding bird species including Bobolink, Wilson's Phalarope, Savannah Sparrow, and Western Meadowlark.

Additionally, due in large part to the availability of water, and water carrying irrigation infrastructure, a considerable amount of woody riparian habitat in Harney County is associated with wet meadows. Woody riparian habitat is important for many neotropical migrants, including Willow Flycatcher, Yellow Warbler, and Yellow-breasted Chat. Yellow-billed Cuckoo historically occurred in the Harney Basin, but changes in available habitat are assumed to have resulted in their extirpation in Oregon.

Survey History

In 2022 Bird Alliance of Oregon (BOA, formerly Portland Audubon) and Oregon Desert Land Trust (ODLT) began discussing bird monitoring at theTCR property. The meadows of TCR are located between the Pueblo and Trout Creek Mountains and provide valuable wet meadow habitat to the south of Steens Mountain. One of the goals of the survey is to establish baseline data on bird communities (presence/absence, relative abundance, and diversity) in the TCR wet meadows. Secondarily, birds are an excellent metric for understanding the success of management objectives or to inform adaptive management. This is, in part, because of their high levels of activity around sunrise.

In 2023, BAO worked with ODLT staff to establish two point count routes in the core wet meadow habitat. To do this, BAO generated random points on a map in ArcGIS. Points were eliminated if they were less than 150 m from the edge of the wet meadow boundary. Points were also eliminated if they were less than 300m from other points. All remaining points were ground-truthed. From these we were able to create one point count route with 11 points and one route with 12 points. Additionally, we created a route in the Spring Creek area. This route consists of seven points. The primary goal of monitoring at Spring Creek is associated with creating a long-term monitoring project at this nexus of several diverse habitat types.

In 2024, BAO obtained funding for Autonomous Recording Units (ARUs). Because of this, we redesigned the routes in each area of TCR. The new wet meadow route consists of two levels of data collection. The first level is stopping at five points (where we have ARUs) and conducting 5-minute point counts. The second level is keeping an eBird track and documenting all species along the route, from the time a volunteer enters the wet meadows until they exit the meadow. In the Spring Creek area, the route travels through sagebrush and along the spring, stopping at two points (with ARUs). While these datasets will have some overlap, the point count and ARU data will be used for more immediate baseline and monitoring. The eBird data creates a long-term easily repeatable dataset that is feasible to collect long-term.

Field Methods

Timing and Schedule:

Many point count protocols focus on multiple rounds conducted from May to June, though in accordance with the Breeding Bird Survey Guidelines, we've extended our counts into July. Thus, three rounds of surveys will be run from mid-May to early-July, a minimum of 10 days apart. There are two routes: Wet Meadows Route and the Spring Creek Route. It is feasible to do both routes in one day, but could be ideal to run each route on separate days in order to count birds when they are most active.

Pre-survey logistics and preparation:

Equipment*:*

- GPS unit (or mapping app on smartphone)
- Timer (digital or phone)
- Binoculars
- Range finder (optional but very helpful for distance estimates)
- Clipboard
- Data Forms
- Pencil
- Waterproof boots or waders
- Insect repellent

Procedure:

Weather: Evaluate weather conditions each morning before beginning counts. Do NOT conduct the survey if wind speeds exceed 5 mph, or if it is raining. Surveys could be conducted during light drizzle if birds are active. Surveys may be temporarily suspended during showers and resumed after rain has stopped and birds have resumed activity.

Timing: Begin counts between sunrise and 6am and conclude by 10am. Each route should be completed in a single morning.

Conducting the survey: For full protocol see "Conducting the Point Count" and "Conducting the eBird Count" below. Point counts will be conducted for 5-minutes, recording birds on a "point map" with distance bands. The eBird list will be recorded as a traveling count.

Data Management and Analysis:

Data storage: Point Count data will be stored in a Shared Google Drive. Data may eventually be uploaded to Wildtrax as part of a combined project with ARUs.

Analysis methods: Summarize the maximum number of detections from the three surveys for each species at each count station, then calculate trend over time comparing station and unit results per year. A summary of surveys accomplished, birds detected, and habitat metrics should be provided at the end of the calendar year. After three years, analyze summaries such as relative abundance.

Conducting the point count:

• Navigate to the survey point using the GPS unit.

• Spend five minutes at each point.
• Separate and record birds detected into two time intervals: 0-3 minutes and 3-5 minutes.
• Record all individual birds seen and heard.
• Once an individual bird is recorded, it is considered “removed” and is not recorded again.
• Estimate distances up to 200m with distance bins of 0-50m, 50-100m, >100m.

The bird survey utilizes a 5-minute, unlimited radius point count with two time intervals and four distance bands. Observations will include independent flyovers and birds flushed while approaching or leaving the point, so observers must become familiar with the detection types and detection cues listed below. Use and familiarity with 4-letter AOU code to record species is also necessary and Appendix 2 contains a list of species expected at TCR based on the first survey conducted.

Detections:
Visual (V) – bird is seen but not heard
Auditory (A) – bird is heard but not seen
Both (B) – bird is both heard and seen
Flush (L) – bird is flushed while approaching or leaving the point before/after the count
Fly – bird is associated with habitat but flying over
Carrying Nest Materials (CN) – bird carrying nest materials
Carrying Food (CF) – bird is seen carrying food
Nest site (N) – bird is visiting likely nest site
Feeding Young (FY) – young can be heard where adult landed with food
Fledgling (FL) – young bird is visible out of nest

Recording Data on datasheet:(See Appendix 1 sample)

- Fill out all squares at the top of the datasheet (see Appendix 2).
- Record start time
- Use AOU 4-letter codes for recording bird data
- Underline birds detected in the first minute Use arrows to show individual movement within the point circle.
    - Indicate information about the observation detection type with letters noted above, If you see a bird at a likely nest site add an “N”, carrying food add a “FC”, feeding young “FY”, and if you see fledglings add an “FL”
- Underline all birds detected between 3 and 5 minutes
- Record end time
- Take a photo of your datasheets and upload it to this Google Drive “Survey Data” folder. Name it with date and data point: (2024_06_21_TCR01_datasheet, 2024_06_21_TCR02_datasheet, etc).

Entering data into Google Sheets:

- Use this Google Drive “Survey Data” folder to access the sheet for your month. If one doesn’t exist, use the “Make a Copy” function under the “File” tab to create a new copy and rename it similarly to the others with your date.
- Enter data in the appropriate columns
    - *Location*: Point name/number (e.g., TCR 01)
    - *surveyDateTime:* Date and time survey conduct/started (e.g., 5/16/2024 6:07)

- *durationMethod:* 0-3-5min (timebins for the survey)
- *distanceMethod:* 0m-25m-50m-75m-100m-125m-150m-INF (describes distance bands on data sheet, with all birds over 150m in the “infinity” band)
- *observer:* Your name
- *species:* 4-letter AOU code for species you identified
- *distanceBand:* The distance band you identified the bird in (0m-25m, 25m-50m, 50m-75m, 75m-100m, 100m-125m, 125m-150m, 150m-INF)
- *durationInterval*: The timebin you detected the individual in (0-3min, 3-5min)
- *abundance*: The number of each species detected in the SAME timebin and distance
- *detection:* Seen or Heard
- *taskComments:* Any notes you have about the observation

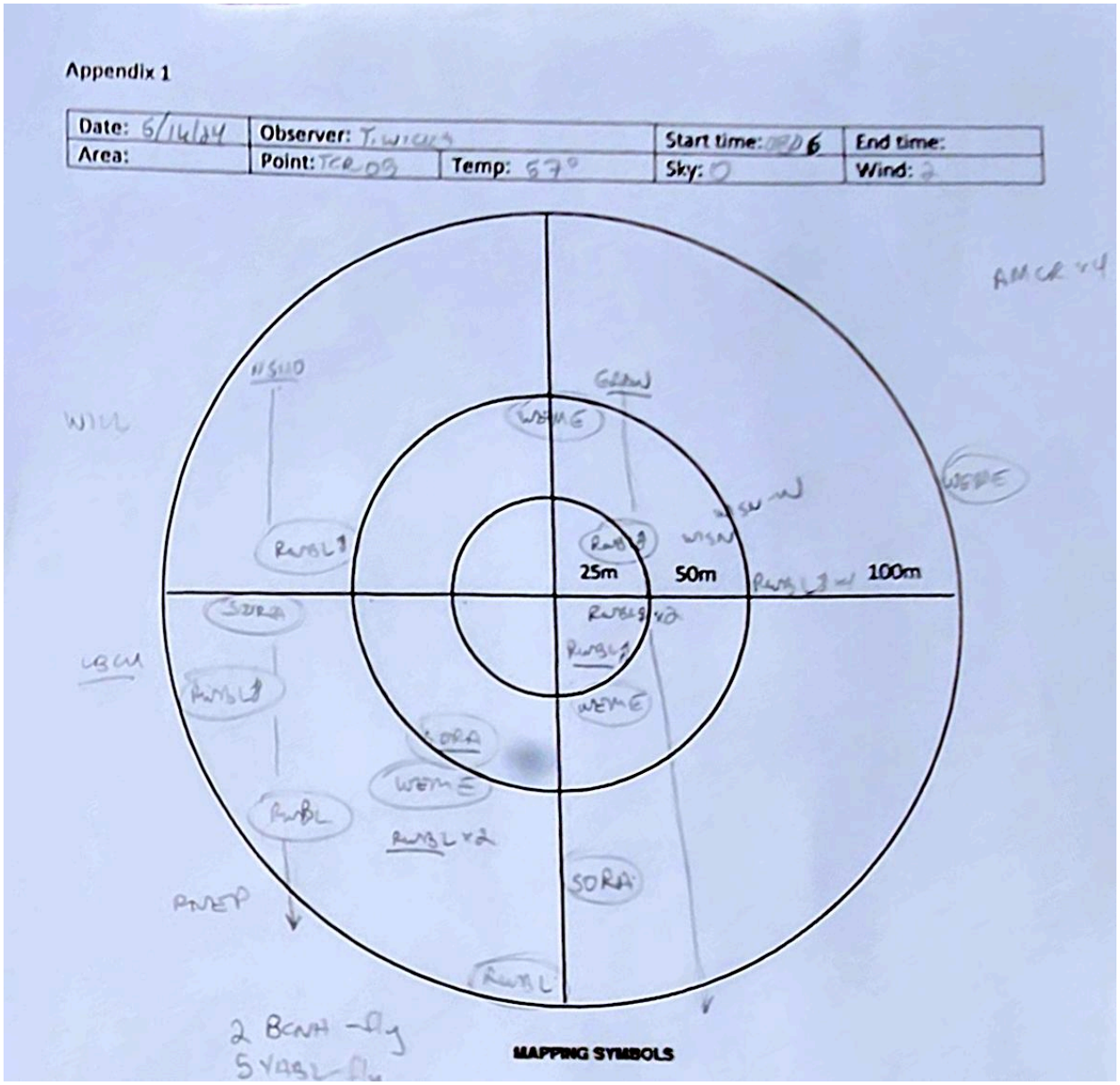
Conducting the eBird Count:

This count is essentially a running list of individuals of each species observed along the route. In the app, this count is documented as “traveling”. Do your best to record numbers of species, but it is okay to estimate! In eBird you don’t need to record detection type, only breeding information (if you can). You will start recording information as you enter the wet meadows or the spring creek field. It is important that you stop recording information as you exit each area. Please do not record birds from TCR Headquarters or the road and use either hotspot of Trout Creek Wet Meadows or Trout Creek Spring Creek. These are private hotspots. Afterward, please add the weblink of your checklist to the TCR eBird Weblinks document like below. You can copy and paste the link from your smartphone or your computer:

- 5/16 Trout Creek Ranch Wet Meadows
  https://ebird.org/checklist/S174885848

- 5/16 Trout Creek Ranch Spring Creek
  https://ebird.org/checklist/S175476733

Appendix 1


Appendix 1
Date: 6/14/24
Observer: T. Wicks
Start time:
End time:
Area:
Point: TCR 03
Temp: 57°
Sky:
Wind:
25m
50m
100m
MAPPING SYMBOLS

Appendix 2

Date:	Observer:		Start time:	End time:
Area:	Point:	Temp:	Sky:	Wind:

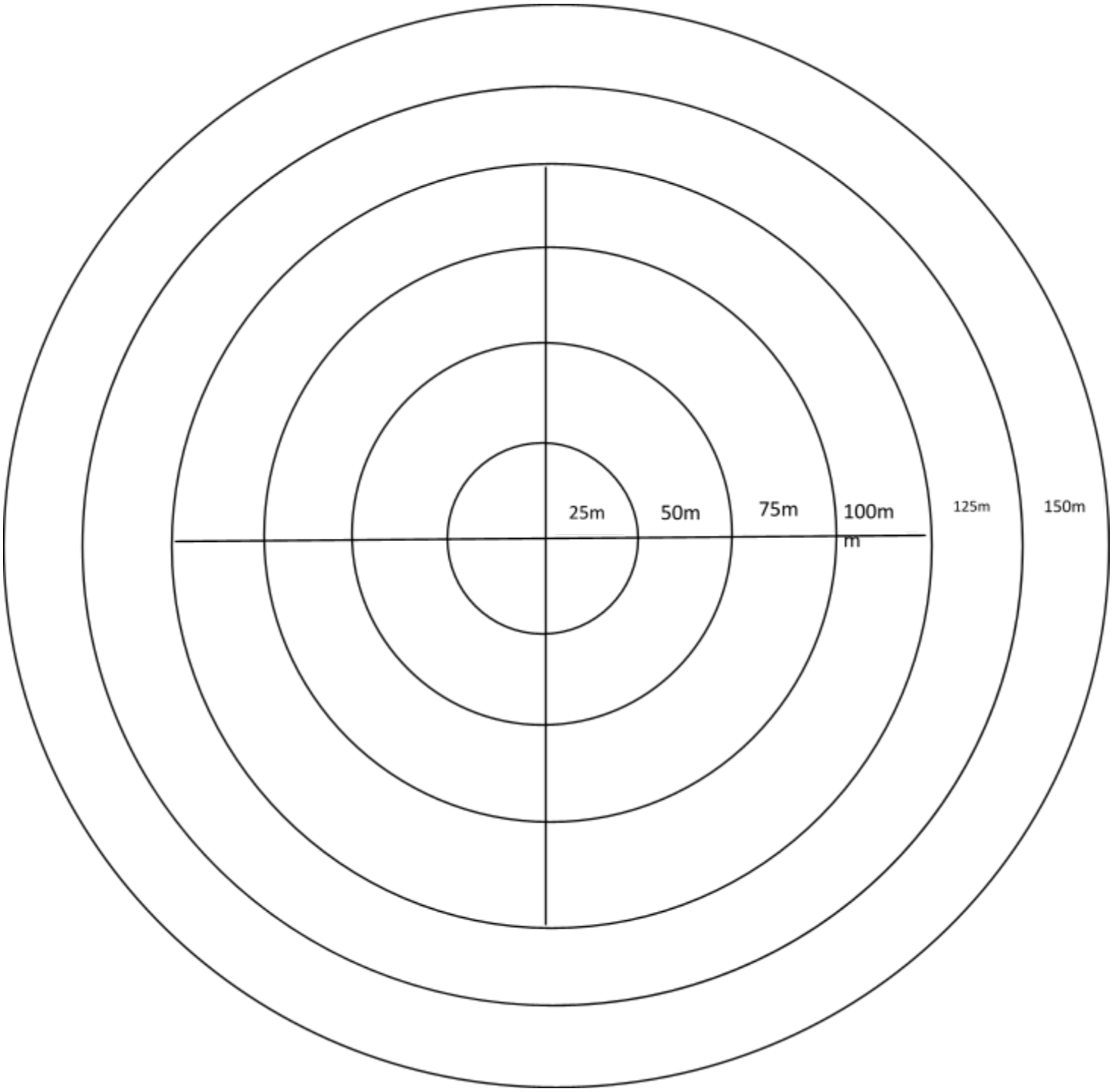


Table A2.1: WIND SPEED CODES: (Enter Beaufort Numbers on Cover Sheet, not m.p.h. or km.p.h.)

Beaufort Number	Wind Speed Indicators	Wind Speed in mph/kmph
0	Smoke rises vertically	<1/<2
1	Wind direction shown by smoke drift	1-3/2-5
2	Wind felt on face; leaves rustle	4-7/6-12
3	Leaves, small twigs in constant motion; light flag extended	8-12/13-19
4	Raises dust and loose paper; small branches are moved	13-18/20-29
5	Small trees in leaf sway, crested wavelets on inland waters	19-24/30-38

Table A2.2: SKY CONDITION CODES

Sky Code	Description
0	Clear or a few clouds
1	Partly cloudy (scattered)
2	Cloudy (broken) or overcast
4	Fog or smoke
5	Drizzle
7	Snow
8	Showers

Acceptable conditions for counting birds include sky code 0 through 2.

Table A2.3: Codes used to record detection type during bird counts

DETECTION	DESCRIPTION
A	Auditory detection
B	Both visual and auditory detection
L	Flush detection
V	Visual detection

Appendix 3

Observations from first survey:

Trout Creek Ranch Wet Meadows

May 16, 2024

5:56 AM

Traveling

2.36 miles

167 minutes

All birds reported? Yes

7 Cinnamon Teal

8 Northern Shoveler

3 Gadwall

10 Mallard

7 Northern Pintail

1 California Quail

4 Ring-necked Pheasant

2 Mourning Dove

15 Sora

2 American Avocet

3 Killdeer

6 Long-billed Curlew

17 Wilson's Snipe

16 Wilson's Phalarope

6 Willet

2 Black-crowned Night Heron

17 White-faced Ibis

2 Turkey Vulture

2 Northern Harrier

2 Swainson's Hawk

2 Short-eared Owl

1 Black-billed Magpie

8 American Crow

1 Savannah Sparrow

6 Yellow-headed Blackbird

2 Bobolink

19 Western Meadowlark

65 Red-winged Blackbird

2 Brown-headed Cowbird

1 Black-headed Grosbeak