

Swanson Lakes Protocol: Data form and details

Habitat Point Data Form – Swanson Lakes Wildlife Area (Steppe and Grassland, Scabland Shrubland, and Big Sagebrush Steppe)					
Observer:					
e-mail:		Phone 1:		Phone 2:	
Additional observers:					
Day:		Month:		Year:	
Time:					
Point #:		Accuracy (meters):		Did you revise the location?:	
Specific location (UTM or lat-long)	NAD:	Zone:	UTM-E:		UTM-N:
	Latitude:			Longitude:	
Photos N:		Photos E:		Photos S:	
Photos W:					
Other photos:					
Biological Soil crust rank:			Soil surface rank:		
Total plant cover:			Total shrub cover:		
Big and rigid sagebrush cover:			Rabbitbrush cover:		
Native perennial grass cover:			Invasive cover:		
Non-native cover:					
Additional notes or details:					
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General header information

Observer: The primary observer should be identified by full name

e-mail: Provide the observer's e-mail address.

Phone 1: Provide the observer's phone number.

Phone 2: Provide a second number for the observer, if there is one.

Additional observers: List the names of additional observers.

Day: List the day of the month.

Month: List the number for the month of the survey.

Year: List the year (full 4 digits).

Time: List the time with a 24-hour clock (e.g., 13:30 = 1:30 PM).

Location details

Point #: Provide the number of the point (e.g., SL36).

Accuracy (meters): Provide the estimated GPS accuracy displayed on your GPS unit or Smartphone (in meters).

Did you revise the location?: Answer with a 'yes' or a 'no'. The basic reason for revising the location is that the exact point happened to be on, or close to, a border between ecosystem types. For example, if the point happens to fall in a deep soil shrubsteppe ecosystem, but within a couple meters of a shallow soil shrubsteppe ecosystem, it would be best to move the point further into the deep soil area so that the ecological integrity assessment will be consistent for the identified ecosystem type. It is important in this situation to record the 'corrected' location.

Specific location (UTM or lat-long): Provide a specific location for the center of the survey plot using a GPS unit or smartphone. If the location is recorded as a UTM coordinate, you should select NAD83 (North American Datum 83) in the "Settings" on your GPS unit. The UTM coordinate system also has a "zone" associated with different geographical areas: always zone 11 for Swanson Lakes Wildlife Area. You should record: 1) UTM-E (UTM easting), and 2) UTM-N (UTM northing), for example: 395627 east and 5275124 north. If the location is recorded as a latitude-longitude (lat-long), each coordinate should be recorded as accurately as possible, preferably using degrees and decimals, rather than degrees, minutes, and seconds.

Photo details

It will be helpful to have a permanent record of what the plot looked like when you did your sampling. In most ecosystems this can be accomplished by taking 4 digital photographs while standing at the center of the plot. Generally use the widest angle possible (usually the default setting) and try to hold the camera about 1.5 meters above the ground (normal height while standing). Frame the photos so that the horizon is about $\frac{3}{4}$ up from the bottom of the photo. In a forested environment, the average base of the trees should be approximately in the vertical middle of the photo. Take one pointing north (N or 360°), east (E or 90°), south (S or 180°), and west (W or 270°). In wetland ecosystems, take representative photos of the system, not necessarily at standard directions. The same guidance about framing still applies.

Before you upload the images it is preferable to rename each of the files with the Wildlife Area abbreviation provided followed by the plot number and the word North, East, South, OR West (for example: SLWA36_East.jpg). An example of an appropriate photo follows.



Photos N, E, S, and W: Record the number and/or order in which photos are taken so that they can be correctly assigned. They should be uploaded in order.

Other: Record the number, order, and/or subject of additional photos. For example, try to photograph the dominant species of grass (native and/or introduced).

Ecosystem characteristics

You will be estimating vegetation and soil characteristics for different parameters. For each of these the best estimate should be provided using the following guidelines as well as the guidebook with sample photographs. All cover values should be estimated into a 'bin' ranging from **0%** (plant group of interest is absent) to **76-100%** (plant group covers a high percentage of the plot). One way to visualize this is to imagine yourself taking 100 steps on the plot. If a key feature appears (say, bunchgrass) at the tip of your shoe on 7 occasions, then the estimated cover is 7%. Anything that is not plant cover should be bare ground, biological soil crust, rock, or dead plant material that is flattened and essentially part of the surface layer.

Specific Characteristics You Will Be Estimating

Rank: Biological soil crust (general condition of biological soil crust). Biological soil crusts are the community of organisms living at the surface of dry soils. Major components are cyanobacteria, green algae, microfungi, mosses, liverworts and lichens. They are often difficult to detect, but are frequent in eastern Washington.

A = Exposed soil usually covered with a biological crust unless it is too steep or vegetated to support a crust

B = Biological crust on exposed soil is common, but its continuity is broken (there are gaps in the presence of soil crust in undisturbed soil).

C = Biological soil crust present in protected areas but minor component elsewhere

D = Biological soil crust, if present, is only in protected areas

Rank: Soil surface (general condition of surface). This condition ranking should consider the current and historical impacts of disturbance. Some of these effects may be apparent, but others (old ruts) will be somewhat concealed by vegetation.

A = No unnatural soil disturbance such as rutting and/or livestock trails are present. The only disturbance visible is that caused by native wildlife (e.g., burrows, soil mounding by gophers, and slender game trails).

B = Soil disturbance, rutting, and/or livestock trails may be present, but barely noticeable.

C = Soil disturbance, rutting, and/or livestock trails are common, but site is still functioning somewhat naturally.

D = Soil disturbance, rutting, and/or livestock trails are abundant and the natural functioning of site is severely degraded

Plant (vegetative) cover

All estimates of percent plant cover use the same % cover “bins” listed below:

Code	Description
0	Plants are absent on the plot
1	Plants are present, but comprise <1% cover (only a few plants present).
5	1-5% cover
10	6-10% cover
25	11-25% cover
50	26-50% cover
75	51-75% cover
100	>75% cover

- Total plant cover (shrubs and herbaceous plant cover combined. Do not include trees).
- Total shrub cover (all shrubs combined). This includes all shrubs growing on the site of any height.
- Big and rigid sagebrush (fire-intolerant shrubs). These are shrubs that tend to decrease when faced with frequent fire.
- Rabbitbrush (shrubs that increase under disturbance). These shrubs tend to increase when grazing pressure is high and/or following fire.
- Native perennial grass (Bluebunch wheatgrass, Idaho fescue, Sandberg’s bluegrass, Needle-and-thread, etc.). These species make up the foundation of the herbaceous component of a healthy ecosystem.
- Invasive plants (Cheatgrass, Japanese brome, knapweed, etc.). These species are typical in systems faced with disturbance.
- Non-native plants (crested wheatgrass, intermediate wheatgrass, smooth brome, cheatgrass, Japanese brome, knapweed, etc.). These species are typical in systems with disturbance or planted with non-native species as a result of farm programs.

Additional notes

Note: Record other items that did not fit in specific categories. This is also an opportunity to mention specific issues related to the ecosystem plot. For example, it would be useful to mention sources of disturbance such as the presence of livestock.