

Latah SWCD Spalding's Catchfly Broadcast/Direct Seeding and Monitoring Protocol Paradise Ridge/Gormsen Butte Key Conservation Area

This document outlines protocols for Latah Soil and Water Conservation District's (Latah SWCD) Spalding's catchfly seeding and monitoring efforts. Details for Latah SWCD's other Spalding's catchfly protocol and monitoring progress reports can be found on the [Latah SWCD Resources](#) web page.

In 2017, Spalding's catchfly (*Silene spaldingii*) recovery efforts using broadcast seeding began on Palouse Prairie remnants in Latah County, Idaho to support recovery efforts as detailed in the Spalding's catchfly Recovery Plan (USFWS 2007). Recovery goals include establishing 500+ individuals within the boundary of the Paradise Ridge/Gormsen Butte Key Conservation Area (Paradise KCA) (USFWS 2007). Prior to the onset of Spalding's catchfly planting efforts in 2013, zero Spalding's catchfly plants occurred within the Paradise KCA. To reach this recovery goal, broadcast seeding will be done in conjunction with Spalding's catchfly planting efforts. Direct seeding in surrounding fields will be implemented on a trial basis as well.

Broadcast seeding sites will be located based on landowner permission, accessibility, and suitable site conditions (e.g., good condition Palouse Prairie remnant or agricultural field sites that have been restored to native plant communities). Direct seeding (drill seeding) sites may occur in areas adjacent to prairie remnants within the Paradise KCA, such as surrounding Conservation Reserve Program (CRP) fields, or in other approved surrounding areas.

Seeding and Monitoring Overview:

- Seeding will be conducted in the fall/early winter (broadcast and direct)
- Monitoring transects will be set up on the initial seeding day and will be permanently marked with visible hardware to aid in plot relocation
- Seedings will be monitored annually in the spring
- Monitoring may be suspended at individual sites if seedlings or plants have been absent for 2 years or more (2 years absence for seedlings and 3+years for plants)
- Seeded site locations
 - Most broadcast seeded sites on prairie remnants within the Paradise KCA will be paired with planted sites that have shown successful establishment of Spalding's catchfly via containerized plantings
 - Aspect - previous monitoring of Spalding's catchfly within the Paradise KCA (data collected from 2013-2024) has shown that the highest survival rates occur consistently on sites located on west, northwest, and west-northwest aspects.
 - Sites to be avoided on the Paradise KCA include south aspects (thin soils, less moisture), and north aspects (often densely covered by sedge and forb communities or shrub and tree dominated on the Palouse).



Spalding's catchfly seeded transect, Paradise Ridge, 11/12/24.

Seeding and Monitoring Equipment

1. Spalding's catchfly seed
2. Spoon for spreading small amounts of seed
3. Weed-free straw mulch
4. Hand harrow
5. Permanent transect markers (rebar stakes with orange caps)
6. Daubenmire frame marked with quadrants (A 1-4, B 1-4)
7. Data sheets, old and new (Rite in the Rain paper if needed)
8. Hammer
9. Measuring tapes (large-100' minimum and mini)
10. Range pins
11. Whisker markers and nails
12. Silver tags
13. Pin flags or bamboo stakes with spray-painted tops
14. Compass (no declination set)
15. Hand lens
16. Camera
17. GPS unit
18. Extra batteries (for GPS and camera)
19. Field notebook
20. Maps
21. Permanent markers
22. Pencils



Monitoring tools

Spalding's catchfly seed is small, light and has limited availability (Figure 1). The seed used for this effort has been produced by Thorn Creek Native Seed Farm. For more details see the [Latah SWCD Spalding's catchfly Seeding Summary Report](#).



Spalding's catchfly seeds. Photo by Pat Mason.

Broadcast seeding in prairie remnants:

1. Once the site is selected, establish monitoring transect.
 - a. Mark start and end of transect with one or more of the following hardware:
 - i. Orange capped rebar
 - ii. Whisker marker
 - iii. Silver tag with plot name and "start" or "end" written on it
 - iv. Pin flags
 - b. Secure the measuring tape tightly between the start and end stake with range pins

- c. If possible, locate a bearing tree, shrub, fence post, or other permanent structure to use for start/end stake relocation. Record compass bearing and distance from marker to the start/end stake on data sheet.
2. Fill out data on plot-set up sheet including waypoints, transect length, aspect, seeding date, observer names, bearing marker data, etc. See sample data sheets in Appendices 1 and 2 below.
3. Take transect photos (start to end, end to start, ground photos)
4. Identify seeding locations along the transect.
 - a. Locate bare areas in between existing grasses and forbs
 - b. Try to avoid areas that are bare due to rodent disturbance
 - c. A light hand-held harrow may be used to clear existing thatch or weeds to prepare site for seeding
5. Place the Daubenmire frame at the 1st seed location, note Right or Left and measuring tape location, R = Righthand side of the measuring tape when looking from start to end



Example: Frame for seeding placed on right side of transect at the 18-foot marker.

6. Lightly harrow if needed to remove thatch or other plant material to ensure good seed to soil contact



7. Carefully broadcast seed in prepared areas within the Daubenmire frame



8. Note seeded locations (quadrants) on the data sheet
9. Lightly cover seeded areas with shredded straw mulch
 - o Placing a certified weed-free straw mulch over the seeded areas is beneficial for multiple reasons:
 - i. Reduces seed predation by rodents and birds
 - ii. Reduces soil moisture loss
 - iii. Limits weed encroachment in seeded zone
 - iv. Highlights seeding locations for easier site relocation, especially in the first and second years
10. Repeat until you have seeded 3-5 locations along the transect (or more if there are more spaces available). The number of frames to seed will vary by site
11. Download data and prepare data sheets for future monitoring events

Fall direct-seeding (using seed drill) in CRP or existing native vegetation:

1. Put Spalding's catchfly seed into a single box opener of no-till drill so that the seed flows out of a select number of openers.



2. Ensure that seed drill depth is set at no more than ¼ - ½" depth.
3. Carefully monitor the seed flow and mark the location of the opener distributing the Spalding's catchfly seed. Using pin flags, mark a subset of the seeded drill row (~50-feet per transect) for future monitoring.



Seeded transect monitoring protocol:

1. Return in spring or early June for annual spring monitoring
2. Relocate seeded transects
3. Record data and photo numbers on data sheets, see Appendix 2 for broadcast seeding and Appendix 3 for direct seeding data sheet examples
4. For broadcast seeded locations, using Daubenmire frame, observe seeded quadrants and count new SISP seedlings (if 1st year) or look for 1st year or 2nd year recruits; record observations, take photos and make specialized notes as needed
5. For direct-seeded locations: walk transect and locate seedlings or plants depending on monitoring timeline; during the first monitoring event, seedlings will need to be mapped along transect for future relocation; during future monitoring events, relocate previously mapped plants and record data; add plant locations for those missed during the first monitoring event; record the new plant coordinates on data sheets



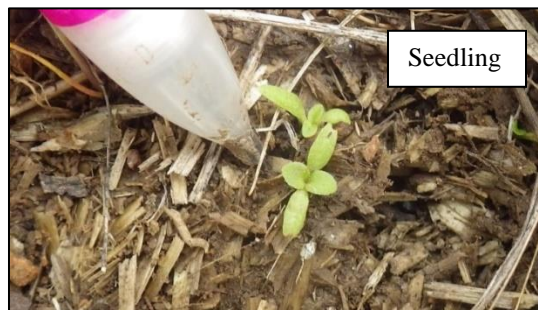
6. Record seedling/plant counts and take photos.
7. Replace transect start end location hardware as needed to ensure relocation of the plot.
8. Consider adding flagging to transect sites or Spalding's catchfly plant locations to allow for efficient late season plant checks.

Data management

- Scan field data sheets and store on Latah SWCD network
- Transfer data to electronic spreadsheets and prepare new data sheets for the next year

- Download photos from camera and place in customer folder
- Download waypoints and make maps as needed
- Data sheets, field notes, site maps, shapefiles and photos will be stored in a monitoring folder on the Latah SWCD network in the landowner's customer folder.

Spalding's Catchfly Growth Forms



REFERENCES

Latah SWCD. 2025. Spalding's Catchfly Survival Monitoring Protocol.
<https://www.latahswcd.org/spaldingscatchfly>

Gray, K., n.d. *Silene spaldingii* (Spalding's catchfly) rosette identification handbook.

U.S. Fish and Wildlife Service. 2007. Recovery Plan for *Silene spaldingii* (Spalding's Catchfly).
 U.S. Fish and Wildlife Service, Portland, Oregon. Xiii + 187 pages.

Appendix 1. Sample plot set-up sheet for broadcast seeded transects.

SPALDING'S CATCHFLY SEEDING PLOT SET-UP SHEET				
Transect # and Location:	P6 - Seed, 10' down slope from P4	Date:	12/2/2020	
SEEDING Year:	Fall 2020			
Observers:	Erhardt and Carter			
Transect Start Waypoints:	WP 579 XXXXXX	5168703		
Transect End Waypoints:	WP 580 XXXXXX	5168709		
Transect Azimuth:	10 deg	Back Azimuth:	190 deg	
Transect Length:	30'	Aspect:	W	
PHOTOS				
Camera ID:	BE			
Azimuth (10 °) Start to End Stake	8581	SISP Seeding Area	1	
Ground (Start Stake)	8582 and 8583	SISP Seeding Area	2	
Back Azimuth (190 °) End to Start Stake	8584	SISP Seeding Area	3	
Ground (End Stake)	8585	SISP Seeding Area	4	
SITE DESCRIPTION AND NOTES				
T-post nearby will serve as bearing post for P4, P5, and P6 start stakes.				
Bearing post WP 576 - XXXXXX, XXXXXX				
T-post to P6 start - 25'5" at 340 deg, P6 is 10' downslope from P4 start stake				
Seed used - 2018 SISP seedlot 6.3 g				
Seeding Areas	Distance on tape (feet)	R or L side of tape	Location in frame (multiple)	Notes***
1	2'	L	A2, A4, B1, B2, B3, B4	
2	7'	L	A3, A4, B1, B2, B3, B4	
3	10'6"	R	A3, A4, B2, B3	
4	18'	R	A1, A2, A3, B1, B2	

Appendix 2. Sample monitoring data sheet for broadcast seeded transects:

SPALDING'S CATCHFLY SEEDING DATA SHEET								
Transect # and Location:		P6 - Seed, 10' down slope from P4				Date:		5/8/2024
Observers:		Erhardt, Embry		Waypoints:		Start - XXXXXX, XXXXXXXX End XXXXXXXX x XXXXXXXX		
Azimuth:		10 deg	Back Azimuth:	190 deg	Transect Length:	30'	Aspect:	W
Bearing marker (t-post nearby for start stake relocation):			25'5" at 340 deg		Planting Season/Year:		Fall 2020	
Camera ID:	BE	Photo #	Photos Descriptions			Photo #	SITE NOTES:	
Azimuth (10 °) Start to End Stake		387					rebar added in 2023 to start and end	
Ground (Start Stake)		386						
Back Azimuth (190 °) End to Start Stake		390						
Ground (End Stake)		388						
Seeding Areas	Frame Location		Seeding Locations in frame	SISP 2021/2022 /2023 Presence	SISP Plant Count	Growth Form*	Seedling/Plant Description/Notes 2024 Notes	
	X-coordinate (feet)	Y-coordinate (R or L of tape)						
1	2'	L	A2	A, P, P	1, 4	s, R & s	no returning plants in 2024	
			A4	A, A				
			B1	A, A				
			B2	A, P, P	3, 2	s, s	no returnir	
			B3	A, A				
			B4	A, A				

