## Latah SWCD Spalding's Catchfly seeding efforts on Paradise Ridge/Gormsen Butte KCA

## Prepared by Brenda Erhardt, updated December 7, 2021

In 2017, Latah SWCD began seeding Spalding's catchfly on prairie remnants as well as in adjacent Conservation Reserve Program (CRP) ground to determine if broadcast and/or drill-seeding are viable means of establishing Spalding's catchfly within the Paradise Ridge/Gormsen Butte Key Conservation Area (KCA). Given the sensitivity of Palouse Prairie remnants to disturbance, seeding into remnants was conducted via hand broadcast seeding methods. On CRP ground, the seed was drilled with a no-till Truax drill.

Broadcast seeding efforts were conducted on prairie remnants in fall 2017, fall 2019, and fall 2020. Approximately 2 oz. (56.71 gm) of seed was used in these small-scale trials on prairie remnants. Seeded sites were revisited in the spring following the seeding events and will continue to be monitored to determine if seedlings progress to mature plants. Spalding's catchfly seedlings have a high mortality rate (Lesica pers. comm). To date, no seedlings have survived past year one. As the data table below shows (Table 1), seedlings observed in the 1<sup>st</sup> and 2<sup>nd</sup> years of monitoring were not detected in future monitoring events as rosette, stem, or flowering plants. The seed used during the seeding events was produced by Thorn Creek Native Seed Farm and TZ tests on the seed showed high seed viability.



May 29, 2020, Spalding's catchfly seedlings in SP-9, on Paradise Ridge prairie remnant.



July 17, 2020, Spalding's catchfly seedlings at H-6, on Gormsen Butte CRP.

BROADCAST SEEDING MONITORING DATA - In Prairie Remnants											
Plot Name	Aspect	Planting Year	2018 seedling data	2019 seedling data	2020 seedling data	2021 seedling data					
SP-2	W	2017	4	0	0	n/a					
SP-4	NW	2017	24	7	0	0					
SP-6	WNW	2017	1	1	0	0					
SP-8	W	2019			4	0					
SP-9	W	2019			33	0					
C-4	NW	2017	23	7	0	0					
H-6	ridgetop	2019			234	0					
P5	W	2020				20					
P6	W	2020				44					
P7	NW	2020				103					
P8	WNW	2020				0					

Table 1. Summary of Latah SWCD Spalding's catchfly seeding monitoring efforts on Palouse Prairie remnants.

Latah SWCD Spalding's catchfly seeding summary December 7, 2021, B. Erhardt

In fall 2018, Spalding's catchfly was drill-seeded into an existing stand of native grasses and forbs on CRP ground on Paradise Ridge (J-sites). For this drill-seeding event, 2.68 oz. (75.84 gm.) of seed was used over multiple acres. To monitor this drill seeding event, four transects between 191-243 feet in length were marked for relocation during the drilling event and were monitored annually in the spring. The competition on these sites was high given that these sites had previously been established with perennial vegetation. To date, Spalding's catchfly has not been detected on these 4 transects (Ja, Jb, Jc, Jd). See Table 2. These transects will continue to be monitored for the next several years as mature Spalding's catchfly would likely be more visible within the established vegetation.



May 29, 2020. J transect location.

In fall 2019, Spalding's catchfly was seeded into a 1-acre subset of a 50-acre prairie reconstruction project site in Latah County. Site preparation methods by the landowner/operator included systematically removing the existing non-native vegetation with herbicide several times a year during the two-year site prep phase. During the drill-seeding, Spalding's catchfly seed was added to one opener of the small seed drill box in the Truax drill for application along with a mix of 10 native grasses and 15 native forbs. For this site, 1 oz (29 gm) of Spalding's catchfly seed was used. To establish the monitoring transects, we coordinated with the drill operator, flagged the location of the Spalding's catchfly seed output, and placed permanent markers at the start and end of three 50-acre transects (L1, L2, L3). See Table 2 for monitoring results. During the 2020 monitoring event, all three L transects had significant numbers of Spalding's catchfly seedlings throughout and these seedlings were mapped along the transect for future monitoring. As Table 2 shows, most of the Spalding's catchfly seedlings detected in 2020 survived and emerged as rosettes or stem plants as detected during the 2021 monitoring event. To date, this is the first instance of seedling success through the Latah SWCD Spalding's catchfly seeding efforts. These three transects will be monitored for a minimum of 2 additional years to determine Spalding's catchfly future success on this site.



June 17, 2020. L3 seeded transect.



June 17, 2020, Spalding's catchfly seedlings in L3 transect.



May 17, 2021. Spalding's catchfly rosettes and stem plants in L1 transect.

DRILL SEEDED TRANSECT MONITORING DATA - In CRP fields											
Transect Name	Aspect	Transect length (ft)	Planting Year	2019 seedling data	2020 seedling data	2021 plant data	Notes				
Ja	W	191	2018	not detectable	not detectable	not detectable	Ja-Jd were drill-seeded into an established stand of native grasses and forbs. Significant				
Jb	W	171	2018	not detectable	not detectable	not detectable					
Jc	E to N	243	2018	not detectable	not detectable	not detectable	competition exists and no detection of Spalding's				
bL	NE to NW	125	2018	not detectable	not detectable	not detectable	plants has been detected to date				
L1	NNW	49	2019		25	34	L1-L3 were drill-seeded into a prepared prairie reconstruction site with				
L2	WNW	50	2019		32	26	at the time of seeding. Spalding's catchfly seedlings were noted and mapped along 3 transects in 2020. 2021 data show returning Spalding's catchfly plants.				
L3	flat, slight S	50	2019		20	27					

Table 2. Summary of Latah SWCD Spalding's catchfly drill-seeding monitoring efforts.

## Lessons Learned:

To date, Spalding's catchfly seeding into established grass stands has been successful in achieving germination of the seeds the first year, but seedling mortality has been high, and we have not seen any seedlings mature to a 2-year-old plant on these sites. We have seen success on the L-sites where we achieved 2<sup>nd</sup> year presence of Spalding's catchfly plants following the drill-seeding into a prepared prairie reconstruction project site. More monitoring for additional years will determine long-term success of this effort.