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Loney Meadow Restoration Project Monitoring: Loney Meadow Amphibian Surveys 2019

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Report for
SYRCL

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OVERVIEW

Loney Meadow and the surrounding meadow complex were surveyed for the presence of amphibian species of interest as part of a larger effort to document habitat conditions in the Loney Meadow area prior/post to stream bank restoration activities. Surveys were conducted throughout Loney Meadow and adjacent wetland meadow complexes to determine presence and life stages of amphibian species. Observations were compared across surveys from pre and post stream bank restoration activities. Repeat visual encounter surveys were conducted prior to restoration in June of 2015 and July of 2016, and post restoration in July and August of 2019.



Figure 1: Surveys in Main Meadow

Meadow and stream channel surveys were conducted in Loney Meadow following survey protocols in Heyer et al. (1994). Both day and night surveys were conducted with four surveyors using combined methods such as visual observation, dip netting, and auditory surveys to maximize potential detection of herpetofauna. During each survey, surveyors walked across the meadow at equal intervals, zig-zagging along a transect corresponding to the longest meadow axis. All visible and accessible stream channels were also walked in pairs or in groups of three, with surveyors on each bank and one or two surveyors in the channel. In both the meadow and stream channels, surveyors used dipnets and D-nets to sweep vegetation and aquatic habitat for individuals. Upon observation of species, locations were marked and survey time was stopped during processing and identification. Survey effort was calculated for each survey by the total survey time multiplied by the number of surveyors. Prior to and following surveys, all equipment and field gear was decontaminated following accepted protocols (Daszak, Cunningham, and Hyatt 2001; Johnson et al. 2003; Phillott et al. 2010).

SITES

In 2019, Loney Meadow and several adjacent lentic ponds or lake habitats nearby surveyed (Figure 1, Figure 2). Each site was visited during clear and sunny conditions, and was thoroughly surveyed.

The stockpond, Bullpen Lake, and unnamed pond (NE) and (E) did not appear to have changed in structure or condition between visits and since previous visits in 2016.

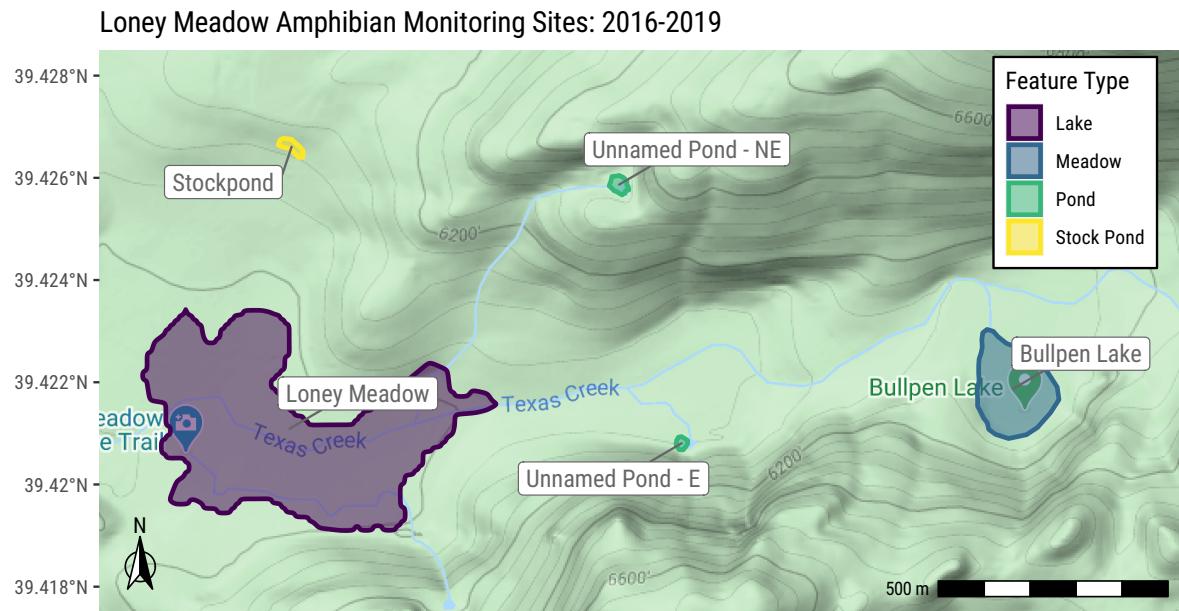


Figure 2: Map of Survey Sites

For example, the unnamed pond east of Loney Meadow appears to remain largely permanent, though the water levels fluctuate depending on the month surveyed (see Figure 3 and Figure 4).

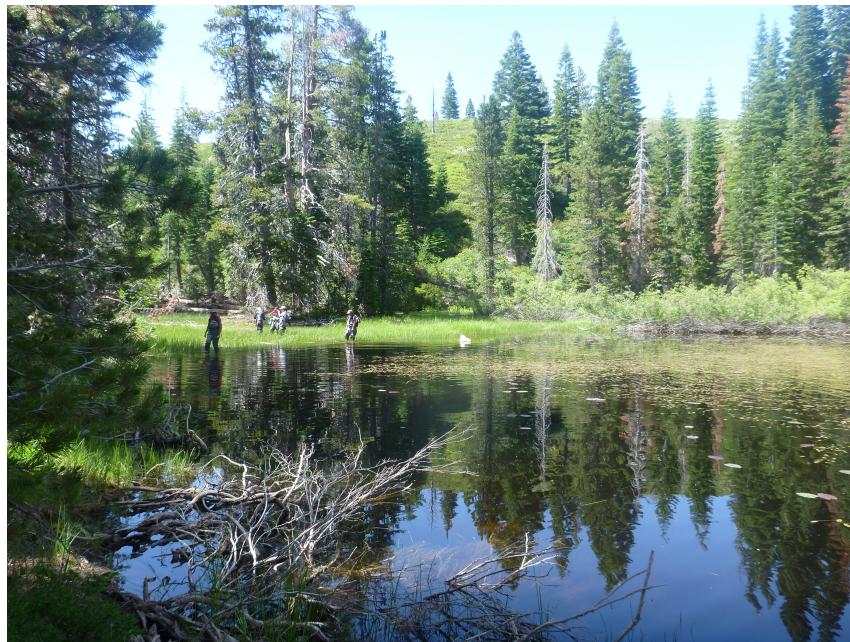


Figure 3: Lentic unnamed pond east of Loney Meadow in 2019



Figure 4: Lentic unnamed pond east of Loney Meadow in 2016

Table 1: 2019 Surveys

Site	Start Time	End Time	Surveyors	Effort (min)	Conditions	Month
Loney Meadow	1101	1430	7	1883	Clear, Sunny	7
Unnamed Pond	1522	1430	7	686	Clear, Sunny	7
Loney Meadow	900	1107	4	468	Clear, Sunny	8
Unnamed Pond	1153	1300	4	588	Clear, sunny	8

RESULTS

Surveys for amphibians were conducted in Loney Meadow on July 16 and August 21, 2019 (Table 1). Teams of two or three observers walked along wetted perimeters, stream corridors, and four or more observers were used in wet meadow areas with no clear channel.

Amphibians

In 2019, surveys found primarily Pacific chorus frogs (*Pseudacris regilla*) [PSRE] in multiple life stages (eggs, tadpoles and adults were observed), however, Southern long-toed salamanders (*Ambystoma macrodactylum signatum*) [AMMASI] larvae were observed again in the small pond just northeast of the main Loney Meadow (Figure 3). This is the same location they were observed in 2016 as well. The AMMASI larvae were observed in a small unnamed pond at an elevation approximately 100 meters higher than Loney Meadow. There was no evidence of grazing or cattle at the unnamed pond. The only other herpetofauna observed were Sierra and mountain gartersnakes (*Thamnophis couchii* [THCO] and *Thamnophis elegans elegans* [THEL]). Both of these species were observed in multiple locations within the area, similar to 2015 and 2016. There were no new species observed in 2019 that were not observed in 2015 or 2016.

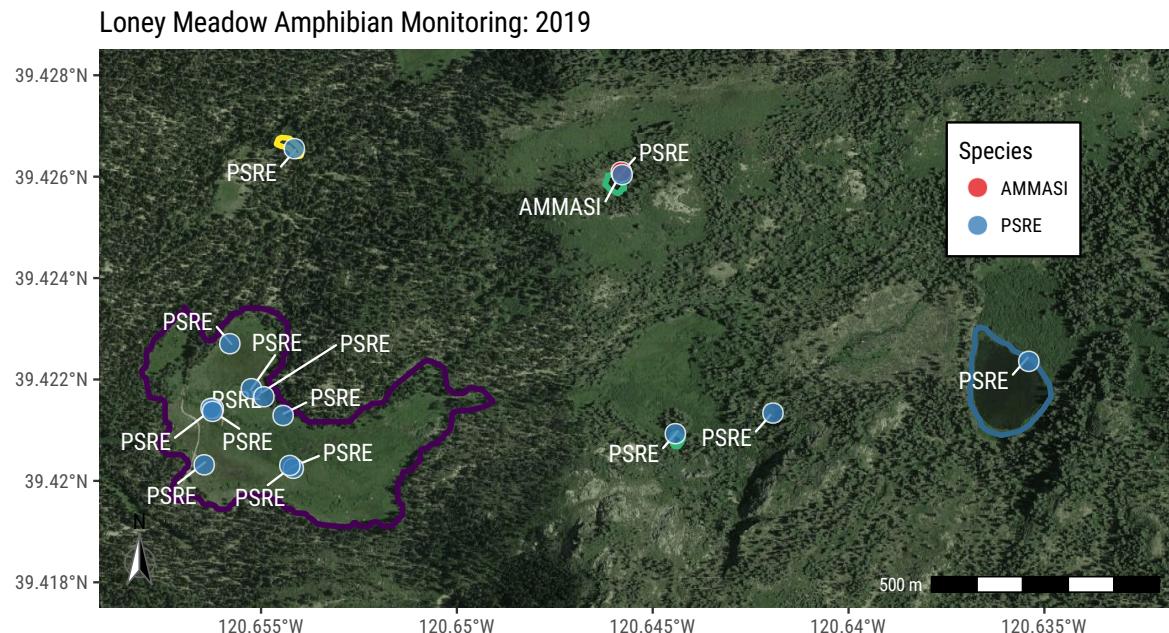


Figure 5: Map of amphibian species observations 2019.

Table 2: 2019 Observations

Species	Species Code	Stage	No. Obs	UTM E	UTM N	Month
Thamnophis couchii	THCO	Adult	1	701749	4366162	July
Pseudacris regilla	PSRE	Larvae	10	701749	4366162	July
Ambystoma macrodactylum sigillatum	AMMASI	Larvae	60	702633	4366699	July
Pseudacris regilla	PSRE	Larvae	>100	702633	4366699	July
Pseudacris regilla	PSRE	Larvae	3	701860	4366204	August
Pseudacris regilla	PSRE	Larvae	10	701929	4366042	August
Pseudacris regilla	PSRE	Adult	3	701929	4366042	August
Pseudacris regilla	PSRE	Larvae	>100	702633	4366699	August
Ambystoma macrodactylum sigillatum	AMMASI	Larvae	>100	702633	4366699	August
Fairy Shrimp	NA	Larvae	5	702633	4366699	August
Thamnophis couchii	THCO	Adult	4	702633	4366699	August

Additional Observations

In addition to herpetofauna observed in 2019, we observed spinytail fairy shrimp (*Streptocephalus sealli*) (see Dexter (1956)) in the unnamed pond (NE). Several of these shrimp were observed in the pond along the margins in the same areas the Long-toed salamanders were observed (Figure 6).



Figure 6: Spinytail fairy shrimp

References

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