

Mad River Summer Steelhead Dive Summary 2019



*Adult Summer Steelhead Holding in lower Mad River, August 2019.
Photo by Jacob Pounds of Blue Lake Rancheria and Mad River Alliance.*



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Background and Purpose

Mad River Alliance has organized and implemented direct-observation snorkel surveys to quantify the number of adult summer-run steelhead in the Mad River since 2013. This survey is a focused effort to count adult and half-pounder summer-run steelhead to document run size. Historical data collected between 1980–2008 has also been compiled as a part of this effort. This report summarizes methods and results from 2019. Results from prior years can be found at madriveralliance.org.

Goals of the 2019 survey included the following:

1. Obtain a count of summer-run steelhead from R.W. Matthews Dam to the Kadle Hole (0.5 mile upstream of the Highway 101 bridge), 74.4 miles total.
2. Obtain private property access to reaches of the river near Pilot Creek that have not been surveyed in several years.
3. Provide dive training to community volunteers so they may learn surveying techniques and effective data collection.

Methods

In 2019, surveys were conducted on August 06 (between R. W. Matthews Dam and Highway 36), and August 08-10; 28th (Deer Creek to the Kadle Hole). Surveyors included trained volunteer snorkelers from Blue Lake Rancheria, Bureau of Land Management, California Department of Fish and Wildlife, Green Diamond Resource Company, Hollie Hall and Associates, Mad River Alliance, Stillwater Sciences, Timberland Resources Company, Wiyot Tribe, and other community volunteers.

The direct observation survey area includes approximately 75-mile stretch of river between R.W. Matthews Dam and the Kadle Hole, which encompasses the mainstem Mad River where summer-run steelhead have been historically been found. In 2019, about 68% of the survey area was monitored (50.8 river miles of the 74.4miles). Surveys excluded 20.6 miles due to: (1) lack of volunteers, (2) deteriorated river access points and locked gates on river access roads, and (3) perceived safety issues that stem from the proliferation of cannabis farms in remote areas of Humboldt and Trinity Counties. However, it is important to note that these non-surveyed areas, reaches C-G are above the known uppermost anadromous barrier (Bug Creek Barrier), at most flows.

Results

The results of the 2019 survey documented 117 adult (≥ 16 inches fork length) and 49 half-pounder (< 16 inches fork length) summer-run steelhead (Table 1, Figure 1). This resulted in an encounter rate of 2.3 adult steelhead per mile which was the lowest rate since MRA initiated surveys in 2013 (Table 1).

No adult summer-run steelhead were counted above the lower Humbug Creek flow barrier, which leads us to believe that summer-run steelhead did not migrate upstream of the barrier prior to the 2019 survey. Annual rainfall was in the “above normal” range for the water year, and higher base flows extended into June 2019. Presence of other species included Pacific lamprey and lamprey redds, freshwater mussels, western pond turtles, garter snakes, and Sacramento suckers. One green sturgeon was also seen during the survey.

Reaches H and I were initially scheduled for 08.08.2019. However, due to catastrophic mechanical failure of the put-in rig, these reaches were postponed to 08.28.2019.

2013	50	280	0	280	6	28	0	28	1	308	6
2014	53.1	322	0	322	6	92	0	92	2	414	8
2015	47.2	336	0	336	7	222	0	222	5	558	12
2016	46.5	187	0	187	4	29	0	29	1	216	5
2017	46.5	151	0	151	3	40	0	40	1	191	4
2018	54.8	147	0	147	2.7	109	0	109	2	256	3
2019	50.8	117	0	117	2.3	49	0	49	1	166	1

'P' = Data is provisional from 1980–2008, as it has not been checked since entered into the database.

'-' = No data available; no survey conducted.

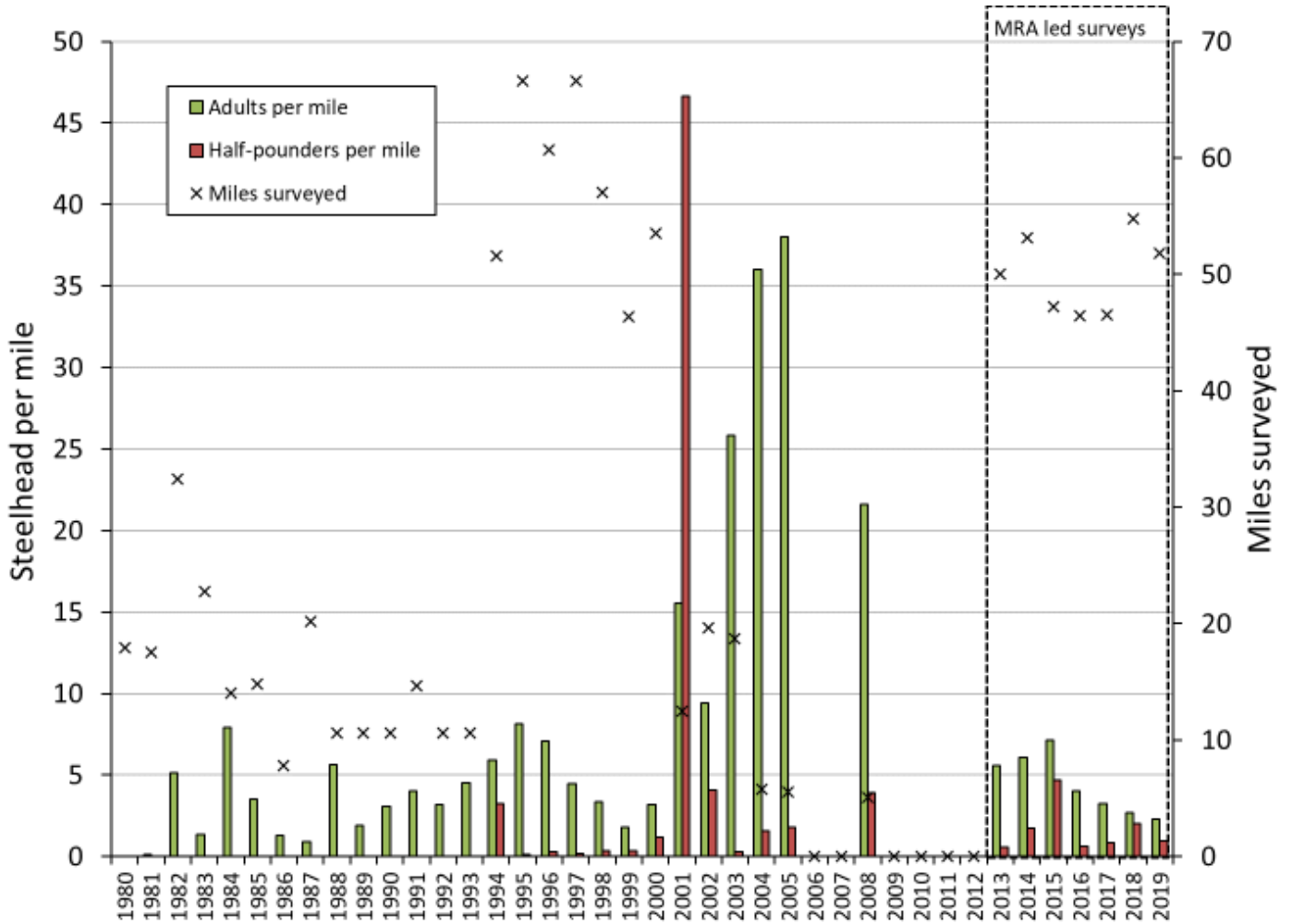


Figure 1. Summer steelhead counts between 1980–2019.

Recommendations for Future Surveys

Goals for future summer steelhead dive surveys include the following:

1. Survey the entire river from R.W. Matthews Dam to the Kadle Hole;
2. Survey all reaches within a few days;
3. Rely on trained and experienced divers for the most strenuous and difficult reaches (H and I);
4. Produce annual summary reports detailing survey effort, including distance surveyed, total count, participating entities, other observations, and considerations for future years.

Prior to the 2015 dives, the group discussed using data from the CDFW-operated Adaptive Resolution Imaging Sonar (ARIS) sonar camera to target survey dates, with the idea that survey dates will be conducted after the entire run has entered the river. Although this practice has not been implemented, comparing survey data to ARIS sonar counts near the Humboldt Bay Municipal Water District facility can be one way to determine if trends in dive counts parallel the ARIS-observed run size. Dive counts would then be used as an index of adult summer-run steelhead population abundance and to assess in-stream distribution. If resources become available, comparing these data could be an effective way of truthing run size and dive observation.

Acknowledgements

This effort would not be possible without the generous assistance and participation from all volunteers and surveyors who dedicated time towards successfully planning and implementing this survey safely and creating and editing this report. We would also like to acknowledge the private landowners and associated land managers who helped facilitate crucial access points in remote stretches of the river. Thank you to all of the volunteers and stakeholders for being a critical part of this effort. See Table 2 below for a list of participants.

Table 2. Volunteers, planners, and participants in 2019 Survey

Michelle Fuller, BLR	Elektra Mathews-Noveli, PWA	Stephen Kullmann, BLR	Pat Righter, GRDCo
Teri Moore, CADFW	John Pini, GRDCo	Matt Nannizzi, GRDCo	Michael Zontos, GRDCo
Darren Ward, HSU	Chase Cimina	Will, GRDCo	Emmanuel Cyr, Wiyot Tribe
Jacob Pounds, BLR	Nick Robinson TRC	Lauren Dusek, Stillwater	Jeremy Heidrick, Hunter Ranch
Hollie Hall, HH&A	Erin Phillips, CADFW	Zane Ruddy, BLM	Seth Ricker, CADFW
Whelan Gilkerson	Deja Malone-Persha, SRRC	Caroline Hall, MRA	Michelle Gilroy, CADFW