

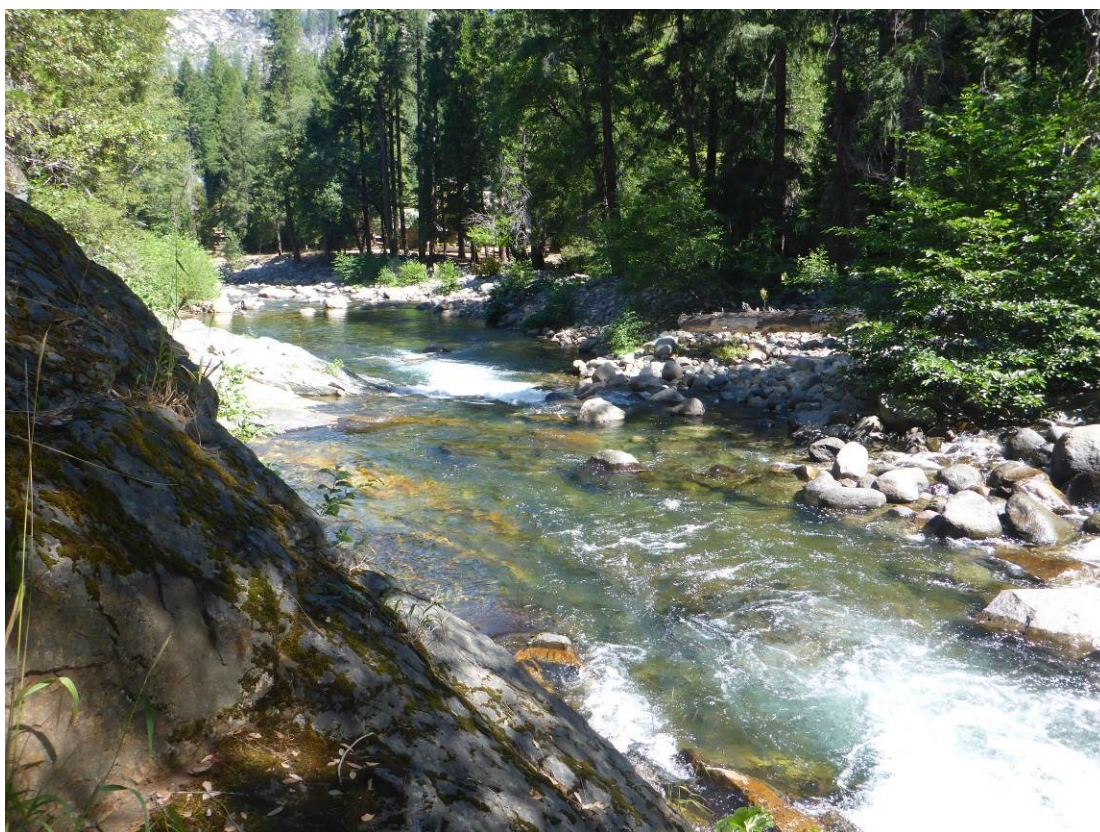
**Silver Fork American River 2013 summary report**

***June, August and October, 2013***

State of California

Department of Fish and Wildlife

Heritage and Wild Trout Program



Prepared by Cameron Zuber, Claire Buchanan, and Stephanie Hogan

## **Introduction**

The California Department of Fish and Wildlife (CDFW) Heritage and Wild Trout Program (HWTP) is responsible for evaluating, managing and monitoring wild trout fisheries throughout the state. In 2013, the HWTP conducted fisheries assessments in the Silver Fork American River to delineate the instream distribution of both wild and hatchery-reared trout. The Silver Fork American River (Eldorado and Amador counties) originates at Silver Lake at an elevation of 7200 feet and flows in a northeast direction for approximately 13 miles to its confluence with the South Fork American River near Kyburz, CA (Figures 1-2). The HWTP has been evaluating Caples Creek for designation as a Wild Trout Water since 2008 and recommended assessments incorporate the Silver Fork American River to determine whether it fits the criteria to be managed as a wild trout fishery (Mehalick 2011).

On an annual basis, the HWTP is responsible for recommending to the California Fish and Game Commission 25 miles of stream and one lake that fit the criteria for designation as a Wild Trout Water. Wild Trout Waters are those that support self-sustaining wild trout populations, are aesthetically pleasing and environmentally productive, provide adequate catch rates in terms of numbers or size of trout and are open to public angling (Bloom and Weaver 2008). Wild Trout Waters may not be stocked with catchable-sized hatchery trout. The HWTP evaluates candidate waters using a phased approach in order to systematically collect data and determine whether or not a stream or lake meets Wild Trout Water designation criteria.

In 2013, the HWTP conducted a Phase 1 (initial resource) angling assessment in the Silver Fork American River to gather information on species composition, size class structure, catch rates and to determine trout origin (hatchery or wild).

## **Methods**

Angling assessments were conducted by HWTP personnel and volunteers on the Silver Fork American River in June, August and October, 2013 (Figures 2-3). Anglers fished in six general locations on the Silver Fork American River including:

- From the confluence with the South Fork American River upstream approximately 1.1 miles
- From the China Flat Campground upstream approximately 1.7 miles
- From Girard Creek downstream approximately 1.2 miles
- Between the Fitch Rantz Bridge and Silver Fork Campground
- From the Caples Creek confluence upstream 1.5 miles

- From Silver Lake downstream approximately 0.6 miles

Surveyors used fly fishing gear and recorded total fishing effort (hrs) and the number of fish captured by species and size. Total length was measured to the nearest inch using a calibrated landing net. All captured trout were counted by size class: small (< 6 inches); medium (6-11.9 inches); large (12-17.9 inches); and extra-large ( $\geq 18$  inches). Each trout was examined to identify whether it was of wild or hatchery origin. Fin erosion and/or deformities are common in fish raised in hatcheries and studies have shown the dorsal fins of rainbow trout (*Oncorhynchus mykiss*) are the first to erode (Arndt et al. 2001). Hatchery fish were identified primarily by closely examining the fin rays on the dorsal fin; fish with irregularities in the dorsal fin rays were presumed to be of hatchery origin (Figure 4; Mehalick et al. 2012). Other fins were also evaluated for signs of wear and/or fin ray abnormalities. If all fin rays were symmetrical and parallel, with no abnormalities, the fish was identified as wild (Figure 5; Mehalick et al. 2012).

Water and air temperature ( $^{\circ}\text{C}$ ) were recorded. Representative photographs were taken and geographic coordinates of survey boundaries were recorded using a Global Positioning System hand-held unit (North American Datum 1983). Catch per unit effort (CPUE; fish/hr) was calculated for each angler and day and was averaged across all anglers for the entire survey effort.

In addition, two volunteers from the El Dorado Chapter of Trout Unlimited participated in angler surveys to document species, catch rates, and catch sizes. Volunteers did not have GPS units for recording survey coordinates nor were they trained in differentiating wild versus hatchery trout.

## Results

During the angling assessment, a total of 64 rainbow trout and one brown trout (*Salmo trutta*) were captured in 42.8 hours of effort. An additional two rainbow trout were landed, but hook location was outside of the mouth (foul-hooked). Angler CPUE in the Silver Fork American River ranged from zero to six fish per hour with an average of 1.6 fish/hr (Table 1). Of the captured rainbow trout, 88% were believed to be of wild origin and 12% of hatchery origin. Hatchery rainbow trout were captured from the confluence with the South Fork American River upstream to Girard Creek. The one brown trout was captured in the vicinity of Caples Creek. Wild rainbow trout size class distribution was 52% small-, 46% medium- and 2% large-sized fish; hatchery rainbow trout size class distribution was 88% medium- and 13% large-sized fish; and the one brown trout captured was medium-sized (Figure 7). Water temperature ranged from 15 to 17  $^{\circ}\text{C}$  and air temperature was between 24 and 28  $^{\circ}\text{C}$ .

## Discussion

The Silver Fork American River meets some criteria for Wild Trout Water designation including the presence of wild trout populations with multiple size

classes, suitable habitat and public access; however, it is currently stocked with hatchery rainbow trout. California Fish and Game Commission policy for designated Wild Trout Waters stipulates no stocking of catchable-sized hatchery trout. The Silver Fork American River is open year-round to sport fishing from the last Saturday in April through November 15<sup>th</sup> with a bag limit of five trout per day and ten in possession (no gear restrictions); and from November 16<sup>th</sup> through the Friday preceding the last Saturday in April with a bag limit of zero trout (only artificial lures with barbless hooks may be used). The CDFW North Central Region currently manages the Silver Fork American River as a put and take fishery based on presumed high use adjacent to numerous campgrounds and road access points and stocking of hatchery rainbow trout is planned to continue. Unless stocking of hatchery fish is discontinued, the HWTP does not recommend moving to a Phase 2 (candidate) assessment for the Silver Fork American River.

## **References**

Arndt, R.E., M.D. Routledge, E.J. Wagner, and R.F. Mellenthin. 2001. Influence of raceway substrate and design on fin erosion and hatchery performance of rainbow trout. *North American Journal of Aquaculture*. 63:312-320.

Bloom, R. and J. Weaver. 2008. *The California Heritage and Wild Trout Program Handbook (Draft)*. State of California Resources Agency. Department of Fish and Game. Heritage and Wild Trout Program.

Mehalick, S. and C. Zuber. 2012. *North Fork Stanislaus River Watershed 2012 Summary Report*. State of California Natural Resources Agency. Department of Fish and Wildlife. Heritage and Wild Trout Program. Rancho Cordova, CA.

**Weaver, J. and S. Mehalick. 2011. Caples Creek 2011 Summary Report. State of California Natural Resources Agency. Department of Fish and Wildlife. Heritage and Wild Trout Program. Rancho Cordova, CA.**



Figure 1. Vicinity map of 2013 Silver Fork American River survey location





Figure 2. Detail map of 2013 Phase 1 angling survey locations in the lower portion of the Silver Fork American River

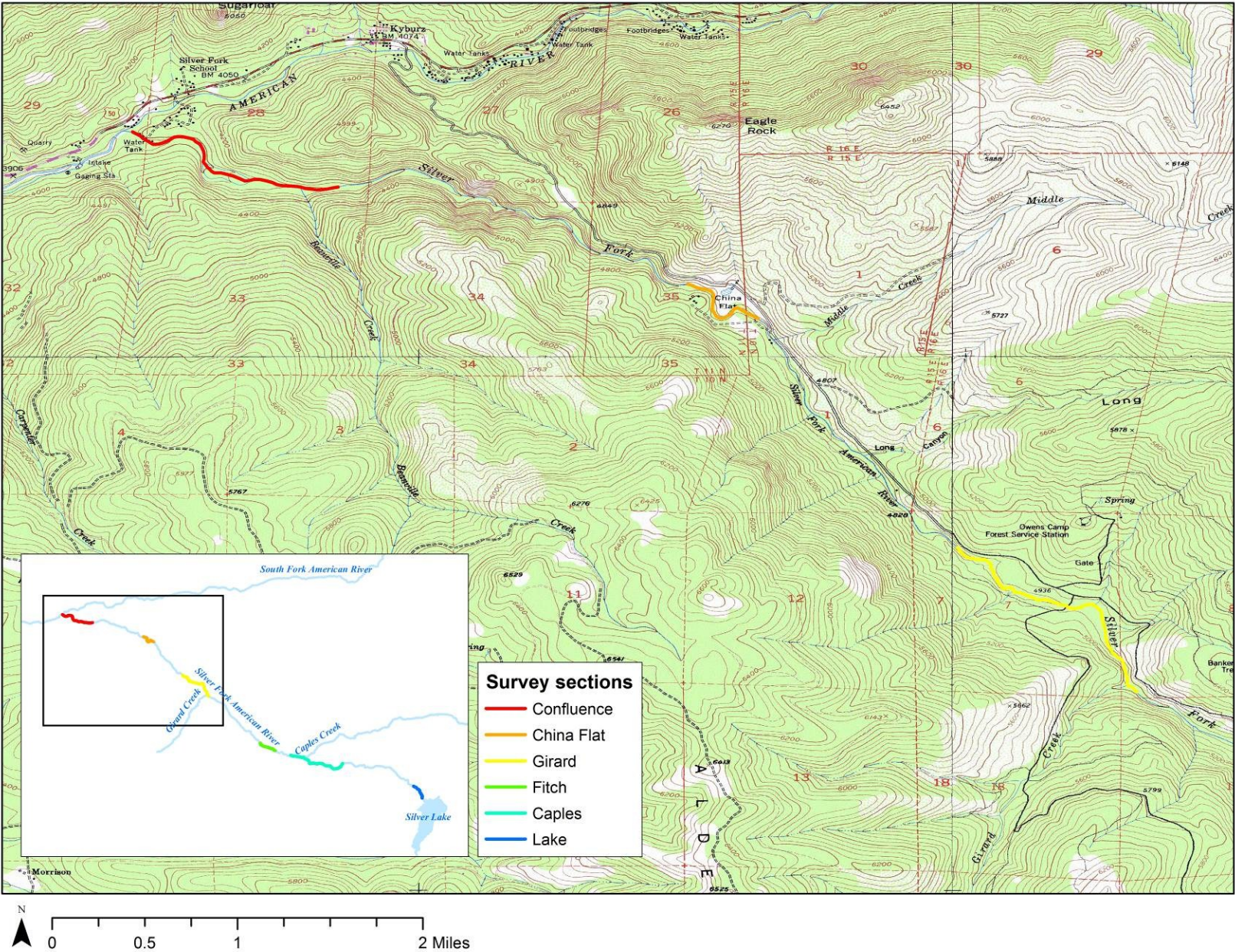




Figure 3. Detail map of 2013 Phase 1 angling survey locations in upper portion of the Silver Fork American River

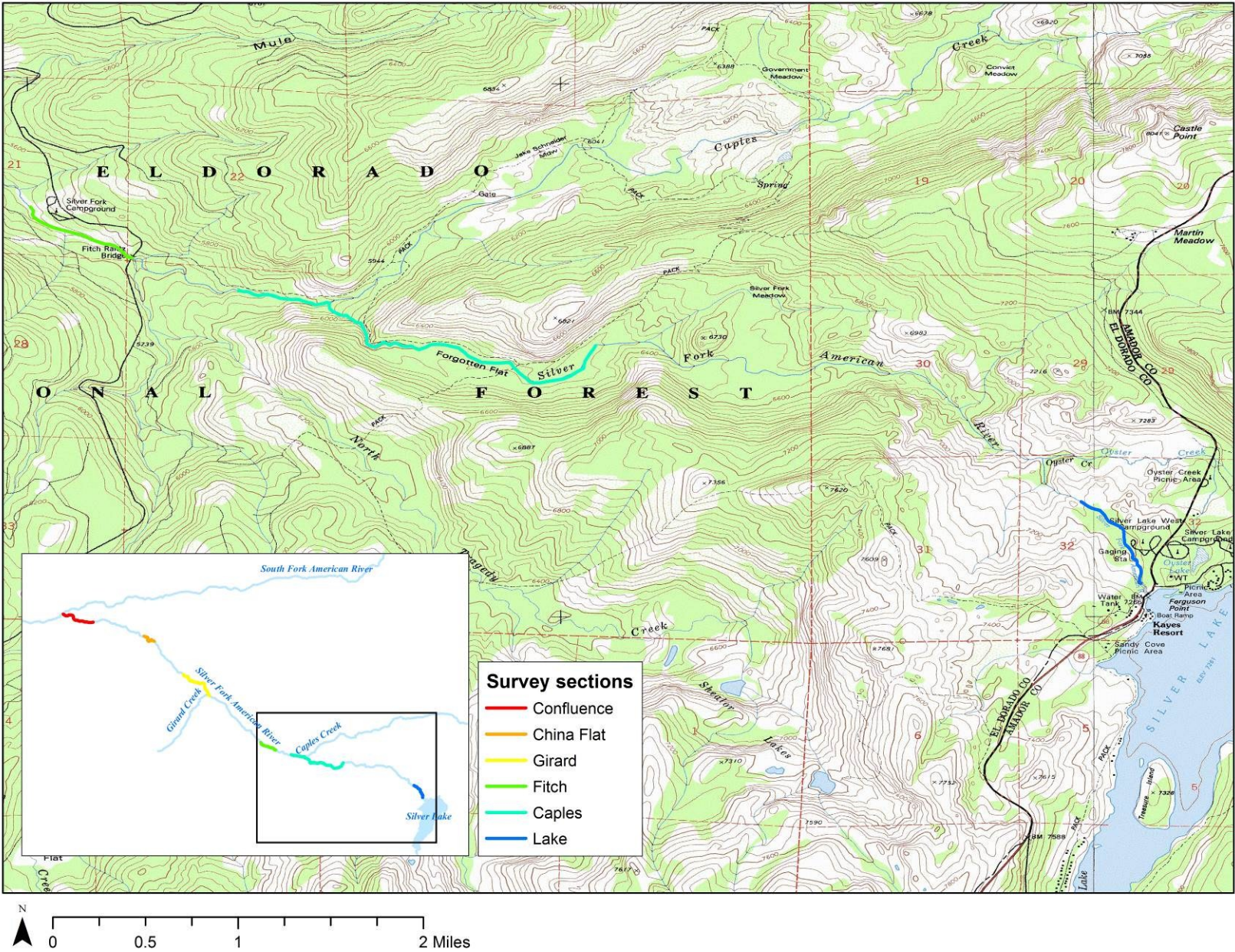




Figure 6. Representative photographs of the Silver Fork American River in 2013





Figure 7. Size class distribution of trout captured in the Silver Fork American River in 2013

