State of California
Department of Fish and Wildlife

M e m o r a n d u m

Date: March 23, 2022

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Cc: CDFW North Central Region Fish Files

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Subject: Electrofishing Sample at South Fork Wolf Creek, Nevada County, March 8, 2022

In January of 2022, California Department of Fish and Wildlife (CDFW; Department) received a Notice of Availability of a Draft Environmental Impact Report (EIR) and Notice of Public Meeting to Provide Comments on the Idaho-Maryland Mine Draft EIR Project (https://www.mynevadacounty.com/3195/Idaho-Maryland-Mine---Rise-Grass-Valley). Upon review of the Draft EIR, Department staff found that potential impacts to the finfish of South Fork Wolf Creek were not addressed with the same rigor afforded other species of concern. Moreover, the Department did not have reliable and current information about the species of fish present in South Fork Wolf Creek. As a result, Department staff sampled South Fork Wolf Creek in three locations downstream of the proposed project to identify the species and life stages of finfish present in an effort to inform the Department's comments regarding the Draft EIR.

On March 8, 2022, CDFW Water Program Supervisor, Brianna Seapy, and two Environmental Scientists, Bridget Gibbons, and Mitch Lockhart, sampled South Fork Wolf Creek at three locations along East Bennet Road, Grass Valley, CA, (**Figure 1**) using a single Smith-Root backpack electrofisher. Mitch Lockhart selected sites that were downstream of the project, accessible via public land, and representative of South Fork Wolf Creek's diversity of instream habitats. The Smith-Root backpack electrofisher was set at 30 hertz, 20% duty cycle, and 350 volts. All fish captured were identified to species, measured to the nearest millimeter, and released near the point of capture.

Figure 1: *Map of South Fork Wolf Creek, Grass Valley, Nevada County. Red dots denote electrofishing locations sampled by Department staff on March 8, 2022.*

Table 1: Fish data from South Fork Wolf Creek, March 8, 2022.

Site	Species	Total Length (mm)	Total Length (inch)
Site 1	Brown Trout	129	5.1
Site 1	Brown Trout	143	5.6
Site 1	Brown Trout	145	5.7
Site 2	Bluegill	52	2.0
Site 2	Bluegill	100	3.9
Site 2	Brown Trout	86	3.4
Site 2	Brown Trout	93	3.7
Site 2	Brown Trout	95	3.7
Site 2	Brown Trout	98	3.9
Site 2	Brown Trout	100	3.9
Site 2	Brown Trout	104	4.1
Site 2	Brown Trout	107	4.2
Site 2	Brown Trout	114	4.5
Site 2	Brown Trout	144	5.7
Site 2	Brown Trout	171	6.7
Site 2	Brown Trout	195	7.7
Site 2	Brown Trout	230	9.1
Site 3	Bluegill	98	3.9
Site 3	Brown Trout	105	4.1
Site 3	Brown Trout	109	4.3

The sampling data are summarized in **Table 1**. Site 1 is a step pool system characterized by bedrock substrate and significant woody debris. Gravel and cobble substrates are limited to pool tails and small riffles between steps. Department staff captured three Brown Trout (*Salmo trutta*). Fish captured in Site 1 had damaged and worn caudal and dorsal fins and were of poor body condition (**Figure 2**). Fish were thinly distributed, only occupying the most oxygenated step pools with plenty of unoccupied habitat between fish occurrences. These preliminary data suggest that Brown Trout migrate into this site from more ideal spawning and rearing habitats downstream.

Site 2 is a well-oxygenated riffle over cobble and gravel substrate, with well-covered, slow-moving, holding habitats. Department staff captured twelve BN and two Bluegill (*Lepomis macrochirus*). Fish captured in Site 2 were of good body condition with healthy fins and no visible signs of disease (**Figure 2**). Site 2 had the highest fish density and diversity of Brown Trout sizes suggesting that Site 2 is a spawning and rearing location for Brown Trout.

Site 3 is a slow-moving set of two deep pools characterized by silt substrate and woody debris. Department staff captured two Brown Trout and one Bluegill. The pools provide ideal holding habitat, but do not offer any gravel substrate for spawning, nor any source of oxygenated water. Fish captured in Site 3 were of good body condition with healthy fins and no visible signs of disease. The pools were too deep to sample effectively with a single backpack electrofisher. As a result, fish density may have been higher at Site 3 then the data reflect.

These preliminary data clearly indicate South Fork Wolf Creek supports a wild and self-sustaining population of Brown Trout and non-native sunfish. Further surveys are necessary to estimate the size of the Brown Trout population, and to delineate habitats critical to Brown Trout reproduction and rearing.

Figure 2: *Photos of two Brown Trout (Salmo trutta) captured from South Fork Wolf Creek, Grass Valley, Nevada County, by backpack electrofisher on March 8, 2020. The left panel is a Brown Trout with poor body condition captured in Site 1 and can be contrasted against the Brown Trout in the right panel with good body condition captured in Site 2.*