

Vertucci, Charles

From: Milloy, Anna@Wildlife <Anna.Milloy@wildlife.ca.gov>
Sent: Wednesday, December 7, 2016 7:43 PM
To: Brad Arnold (sswd@hughes.net); Lynch, Jim; Vertucci, Charles
Cc: Hoobler, Sean@Wildlife; Roddam, Meiling@Waterboards; Tom Holley; Willy, Alison; Aondrea_Bartoo@fws.gov; Chris Shutes (blancapaloma@msn.com); Traci Van Thull (traci@foothillswaternetwork.org); Lawson, Beth@Wildlife
Subject: eDNA Sampling Proposal for Camp Far West Hydroelectric Project (FERC Project No. 2997)

Brad, Chuck, and Jim,

Please see the California Department of Fish and Wildlife's proposal for eDNA sampling as a part of South Sutter Water District's proposed *Study 3.2 – Stream Fish* for the Camp Far West Hydroelectric Project (FERC Project No. 2997):

- Six sample areas on the lower Bear River from the non-Project diversion dam to the mouth with 3-5 samples per area as described below for a total of 25 sample sites.
- Two sample events, no less than two weeks apart between mid-February and April 1.
- Initiation of sampling will be triggered when flows meet or exceed 2000 cfs during the sampling time period identified above. As a general rule, each sample collection event must occur when flows are at least 2,000 cfs.
- Total samples = 25 per sampling event x 2 sampling events = 50 total eDNA samples.

Sample Areas (from mouth to non-Project diversion dam):

- Sample Area #1: Just upstream of mouth (38°56'33.04"N and 121°34'20.68"W) (approximately 949 meters from confluence)
 - Sample Site 1a: At the GPS coordinates
 - Sample Site 1b: 100 m upstream of Sample Site 1a
 - Sample Site 1c: 100 m downstream of Sample Site 1a
 - Sample Site 1d: 200m downstream of Sample Site 1a
 - Sample Site 1e: 300m downstream of Sample Site 1a
- Sample Area #2: Railroad Crossing just upstream of Highway 70 (38°58'27.56"N and 121°32'6.36"W)
 - Sample Site 2a: At the railroad crossing
 - Sample Site 2b: 100 m upstream of Sample Site 2a
 - Sample Site 2c: 100 m downstream of Sample Site 2a
 - Sample Site 2d: 200m downstream of Sample Site 2a
- Sample Area #3: Dry Creek Confluence (38°58'42.03"N and 121°31'0.13"W)
 - Sample Site 3a: At the confluence
 - Sample Site 3b: 100 m upstream of Sample Site 3a (Bear River)
 - Sample Site 3c: 100 m downstream of Sample Site 3a (Bear River)
 - Sample Site 3d: 200m downstream of Sample Site 3a (Bear River)
 - Sample Site 3e: 300m downstream of Sample Site 3a (Bear River)
- Sample Area #4: Highway 65 Crossing (38°59'59.37"N and 121°24'23.68"W)
 - Sample Site 4a: At the tail of the pool below the Highway 65 Crossing
 - Sample Site 4b: 100 m upstream of Sample Site 4a

- Sample Site 4c: 100 m downstream of Sample Site 4a
 - Sample Site 4d: 200m downstream of Sample Site 4a
- Sample Area #5: Second pool below non-Project diversion dam (approximate coordinates: 39° 2'15.92"N and 121°20'18.19"W)
- Sample Site 5a: At the tail of the pool
 - Sample Site 5b: 100 m upstream of Sample Site 5a
 - Sample Site 5c: 100 m downstream of Sample Site 5a
 - Sample Site 5d: 200m downstream of Sample Site 5a
- Sample Area #6: First pool immediately below non-Project diversion dam (39° 2'29.40"N and 121°19'58.38"W)
- Sample Site 6a: At the tail of the pool
 - Sample Site 6b: 100 m downstream of the tail of the pool
 - Sample Site 6c: 200 m downstream of the tail of the pool

CDFW believes the sampling effort will be much more informative and useful for relicensing purposes if conducted in two events during the time period and flows proposed above. We developed this proposal in consideration of the following:

- CDFW anadromous fish biologists' knowledge of anadromous fish habitat preferences and where those habitats may exist in the lower Bear River as well as the timing of the potential presence of certain anadromous species in the lower Bear River.
- The location of sturgeon observations in the lower Bear River as reported by the Department of Water Resources.
- Sampling considerations for eDNA sampling communicated by our Department geneticist Jeff Rodzen.
- The sampling design of Bergman et al. (2016) (Full citation: Bergman, P.S., Schumer, G., Blankenship, S., Campbell, E. 2016. Detection of adult green sturgeon using environmental DNA analysis. PLoS ONE 11(4): e0153500).

Thank you for considering this proposal.

Anna

Anna Milloy, Senior Environmental Scientist Specialist
 FERC Program Coordinator
 California Department of Fish and Wildlife
 North Central Region
 1701 Nimbus Road
 Rancho Cordova, CA 95670
Anna.Milloy@wildlife.ca.gov
 (916) 358-2384