

Anticipated Fieldwork Schedule¹ - October 2012 -

Resource Area	Study Name	Anticipated Field Schedule for Month	Running List of Variances to FERC-Approved Studies	Technical Memorandum Due Date
Geology & Soils	Channel Morphology Upstream of Englebright Reservoir (1.1)	No fieldwork scheduled this month.	Variance #1 ¹ Variance #2 ¹⁰ Variance #3 ¹¹	February 28, 2013
	Channel Morphology Downstream of Englebright Dam (1.2)	No fieldwork scheduled this month.	Variance #1 ¹² Variance #2 ¹³	October 31, 2012
Water Resources	Hydrologic Alteration (2.1)	No fieldwork scheduled this month.	--	September 30, 2012
	Water Balance/Operations Model (2.2)	No fieldwork scheduled this month.	--	September 30, 2012
	Water Quality (2.3)	10/15: Analytical sampling in all reaches	--	September 30, 2013
	Bioaccumulation (2.4)	Study complete.	Variance # 1 ²	Technical Memorandum 2-4, <i>Bioaccumulation</i> , posted to Relicensing Website on September 25, 2012
	Water Temperature Monitoring (2.5)	10/1 - 10/15: Collect water temperature profiles in New Bullards Bar and Englebright reservoirs and check (e.g., monitor and download) continuous water temperature recorders.	--	February 28, 2013
	Water Temperature Model (2.6)	No fieldwork scheduled this month.	--	September 30, 2012
Aquatic Resources	Aquatic Macroinvertebrates Upstream of Englebright Reservoir (3.1)	Fieldwork complete.	--	September 30, 2012
	Aquatic Macroinvertebrates Downstream of Englebright Dam (3.2)	Fieldwork complete.	--	September 30, 2012
	Special-Status Aquatic Mollusks (3.3)	Study complete.	--	Technical Memorandum 3-3, <i>Special-Status Aquatic Mollusks</i> , posted to Relicensing Website on September 18, 2012
	Special-Status Amphibians – Foothill Yellow-Legged Frog Surveys (3.4)	Fieldwork complete.	--	September 30, 2012
	Special-Status Amphibians – Foothill Yellow-Legged Frog Habitat Modeling (3.5)	10/16: Site selection. Meet at Oregon Creek Day Use Area on Hwy 49 at the confluence of the Middle Yuba River at 9 am.	Variance # 1 ³	September 30, 2013
	Special-Status Turtles – Western Pond Turtle (3.6)	Fieldwork complete.	--	September 30, 2012
	Reservoir Fish Populations (3.7)	Fieldwork complete.	--	September 30, 2012

¹ This fieldwork schedule is YCWA's best estimate at this time and is subject to modification by YCWA or HDR/DTA without prior notice. Any Relicensing Participant interested in observing fieldwork listed above should contact Jim Lynch at least one week in advance of the scheduled fieldwork at (916) 564-4214 Extension 581 or james.lynch@hdrinc.com, who will coordinate with the participant to the extent possible.

Anticipated Fieldwork Schedule (continued)

Resource Area	Study Name	Anticipated Field Schedule for Month	Running List of Variances to FERC-Approved Studies	Technical Memorandum Due Date
Aquatic Resources (continued)	Stream Fish Populations Upstream of Englebright Reservoir (3.8)	10/29: Electrofishing in Yuba River below New Colgate Powerhouse.	--	September 30, 2013
	Non-ESA-Listed Fish Populations Downstream of Englebright Dam (3.9)	No fieldwork scheduled this month.	--	September 30, 2012
	Instream Flow Upstream of Englebright Reservoir (3.10)	10/15 - 10/19 & 10/22 – 10/28: Instream flow data collection in North Yuba River below New Bullards Bar Dam and in Yuba River above New Colgate Powerhouse.	Variance # 1 ⁴ Variance # 2 ⁵	February 28, 2013 ⁵
	Entrainment (3.11)	10/1 - 10/5: Tagging trout in Oregon Creek and/or the Middle Yuba River 10/1 - 10/5: PIT Antenna installation at Our House and Log Cabin diversions. The schedule is tentative and updates will be sent to confirm dates as the time draws closer.	--	October 31, 2013
	New Colgate Powerhouse Ramping (3.12)	Fieldwork complete.	Variance # 1 ⁹	October 31, 2012
Wildlife Resources	Special-Status Wildlife – California Wildlife Habitat Relationships (4.1)	Study complete.	--	Technical Memorandum 4-1, <i>Special-Status Wildlife – California Wildlife Habitat Relationships</i> , posted to Relicensing Website on September 6, 2012
	Special-Status Wildlife – Bats (4.2)	10/8: Download data from LTAMs.	Variance # 1 ⁶ Variance # 2 ¹⁴	October 30, 2012
Botanical Resources	Special-Status Plants (5.1)	Fieldwork complete.	Variance # 1 ⁷	September 30, 2012
Wetlands, Riparian & Littoral Habitats	Riparian Habitat Upstream of Englebright Reservoir (6.1)	Fieldwork complete.	--	September 30, 2012
	Riparian Habitat Downstream of Englebright Dam (6.2)	Fieldwork complete.	--	February 28, 2013
	Wetlands (6.3)	Fieldwork complete.	--	September 30, 2012
Threatened, Endangered & Fully Protected Species	ESA-Listed Plants (7.1)	Fieldwork complete.	Variance # 1 ⁷	Interim Technical Memorandum 7-1, <i>ESA-Listed Plants</i> , posted to Relicensing Website on September 19, 2012
	Narrows 2 Powerhouse Intake (7.2)	No fieldwork scheduled this month.	--	September 30, 2013
	ESA-Listed Amphibians – California Red-Legged Frog (7.3)	Fieldwork complete.	Variance # 1 ⁸	Interim Technical Memorandum 7-3, <i>ESA-Listed Amphibians – California Red-Legged Frog</i> , posted to Relicensing Website on September 26, 2012

Anticipated Fieldwork Schedule (continued)

Resource Area	Study Name	Anticipated Field Schedule for Month	Running List of Variances to FERC-Approved Studies	Technical Memorandum Due Date
Threatened, Endangered & Fully Protected Species (continued)	ESA-Listed Wildlife – Valley Elderberry Longhorn Beetle (7.4)	<u>10/1 - 10/13</u> : Surveys at small location at bald eagle nest area.	Variance # 1 ⁷	Interim Technical Memorandum 7-4, <i>ESA-Listed Wildlife – Valley Elderberry Longhorn Beetle</i> , posted to Relicensing Website on September 19, 2012
	CESA-Listed Plants (7.5)	Study complete.	Variance # 1 ⁷	Technical Memorandum 7-5, <i>CESA-Listed Plants</i> , posted to Relicensing Website on September 21, 2012
Threatened, Endangered & Fully Protected Species (continued)	CESA-Listed and Fully Protected Wildlife – California Wildlife Habitat Relationships (7.6)	Study complete.	--	Technical Memorandum 7-6, <i>CESA-Listed and Fully Protected Wildlife – California Wildlife Habitat Relationships</i> , posted to Relicensing Website on September 26, 2012
	CESA-Listed and Fully Protected Wildlife – Bald Eagle (7.7)	Fieldwork complete.	--	September 30, 2012
	ESA/CESA-Listed Salmonids Downstream of Englebright Dam (7.8)	No fieldwork scheduled this month.	--	September 30, 2012
	North American Green Sturgeon Downstream of Englebright Dam (7.9)	No fieldwork scheduled this month.	--	September 30, 2012
	Instream Flow Downstream of Englebright Dam (7.10)	No fieldwork scheduled this month.	--	September 30, 2012
	Fish Behavior and Hydraulics Near Narrows 2 Powerhouse (7.11)	<u>10/12 & 10/26</u> : Snorkel surveys. 10/22 – 10/26: Velocity studies tentatively scheduled, but conditional based on available operational conditions and approval of transects by NMFS.	--	March 31, 2013
	Evaluation of Project Effects on Daguerre Point Dam and Hallwood-Cordua Fish Facilities (7.12)	Study complete	--	September 30, 2012
Recreation Resources	Recreation Use and Visitor Surveys (8.1)	<u>10/7, 10/13, 10/18, 10/21 & 10/24</u> : Recreational use and visitor surveys at New Bullards Bar Reservoir and diversion dams.	--	March 31, 2013
	Recreational Flow (8.2)	No fieldwork scheduled this month.	--	September 30, 2013
Land Use	Primary Project Roads and Trails (9.1)	Fieldwork complete.	--	September 30, 2012
Aesthetic Resources	Visual Quality (10.1)	Study complete.	--	Technical Memorandum 10-1, <i>Visual Quality</i> , posted to Relicensing Website on July 31, 2012
Cultural Resources	Historic Properties Study (12.1)	<u>10/29 - 11/3</u> : Historic properties surveys at New Bullards Bar Reservoir.	--	September 30, 2012

Anticipated Fieldwork Schedule (continued)

Resource Area	Study Name	Anticipated Field Schedule for Month	Running List of Variances to FERC-Approved Studies	Technical Memorandum Due Date
Tribal Interests	Native American Traditional Cultural Properties (12.2)	No fieldwork scheduled this month.	--	September 30, 2012

- ¹ The FERC-approved *Channel Morphology Upstream of Englebright Reservoir Study* (Study 1.1) included a completion schedule of September 2012. In a Relicensing Participant meeting on April 12, 2012, the Forest Service, USFWS, CDFG and SWRCB requested that YCWA delay the High target calibration flows for Study 3.10, *Instream Flow Upstream of Englebright Reservoir*, from late spring 2012 to fall 2012. Study 1.1 relies on data from Study 3.10 and, therefore, completion of Study 1.1 will be delayed from September 2012 to February 2013. Additionally, the tracer rock component of Study 1.1 was not able to capture a high flow event in spring 2012. YCWA will attempt to capture a high flow event in fall 2012.
- ² The FERC-approved *Bioaccumulation Study* (Study 2.4) required, among other things, that YCWA collect 9 brown trout and 9 rainbow trout from each of Our House and Log Cabin diversion dam impoundments and analyze each for methylmercury bioaccumulation. CDFG’s Moss Landing lab visited the impoundments during the week of September 19, 2011 and collected the target number of rainbow trout at each impoundment, but did not find any brown trout, and suggested an additional effort would not be worthwhile. YCWA consulted with SWRCB on September 26, 2011 and it was agreed an additional effort was not needed, but if YCWA collected brown trout in the impoundments during the relicensing Fish Populations Upstream of Englebright Reservoir Study (Study 3.8), up to 9 brown trout from each reservoir would be preserved and analyzed for methylmercury bioaccumulation and the results included in the Bioaccumulation Technical Memorandum. In a July 31, 2012 e-mail, the Forest Service on behalf of the Forest Service, UFSWS, CDFG and SWRCB, revised the SWRCB’s request such that any brown trout collected in Our House and Log Cabin diversion dam impoundments during the relicensing Fish Populations Upstream of Englebright Reservoir Study (Study 3.8) be PIT tagged for the Entrainment Study and not be sacrificed for the Bioaccumulation Study. YCWA agreed.
- ³ The FERC-approved *Special Status Amphibians – Foothill Yellow-Legged Frog Habitat Modeling Study* (Study 3.5) included, among other things, that YCWA develop the hydraulic model using a High-High calibration flow of 600 cfs in the Middle Yuba and 150 cfs in Oregon Creek. In a Relicensing Participant meeting on April 12, 2012, the Forest Service, USFWS, CDFG, SWRCB, and YCWA agreed to remove these High-High target calibration flows from Study 3.5.
- ⁴ The FERC-approved *Instream Flow Upstream of Englebright Reservoir Study* (Study 3.5) included, among other things, that YCWA develop the hydraulic model using a High-High calibration flow of 600 cfs in the Middle Yuba and 150 cfs in Oregon Creek. In a Relicensing Participant meeting on April 12, 2012, the Forest Service, USFWS, CDFG, SWRCB, and YCWA agreed to remove the High-High target calibration flows from Study 3.10.
- ⁵ The FERC-approved *Instream Flow Upstream of Englebright Reservoir Study* (Study 3.5) included a completion schedule of September 2012. In a Relicensing Participant meeting on April 12, 2012, the Forest Service, USFWS, CDFG and SWRCB requested that YCWA schedule the High target calibration flows for Study 3.10 from late spring 2012 to fall 2012. Postponement of data collection as requested will necessitate a Study variance for Study completion from the end of September 2012 to the end of February 2013.
- ⁶ The FERC-approved *Special-Status Wildlife – Bats Study* (Study 4.2) requires that all Long Term Acoustic Monitoring (LTAM) Sites be monitored from early April through the end of October. Upon review of the New Bullards Bar Dam LTAM data recorded in April 2012, it appeared that the SD card used to store the files was corrupt, which resulted in the loss of some data. New SD cards were ordered for all LTAM equipment and are expected to arrive between May 8-10, 2012. On May 11, 2012, YCWA replaced all SD cards to avoid similar problems.
- ⁷ The FERC-approved *Special-Status Plants Study* (Study 5.1), *ESA-Listed Plants Study* (Study 7.1), *ESA-Listed Wildlife – Valley Elderberry Longhorn Beetle Study* (Study 7.4), and *CESA-Listed Plants Study* (Study 7.5) required, among other things, that YCWA perform botanical surveys within the FERC Project Boundary. After consultation with the Forest Service, it was agreed YCWA would not enter within 330 feet of a known bald eagle nesting site on New Bullard Bar Reservoir, in conformance with the National Bald Eagle Management Plan (2007). It was agreed this portion of the FERC Project Boundary would not be surveyed for plants.
- ⁸ The FERC-approved *ESA-Listed Amphibians – California Red-Legged Frog Study* (Study 7.3) includes a Site Assessment Report scheduled for completion in June 2012. The Site Assessment Report will be provided in August 2012.
- ⁹ The FERC-approved *New Colgate Powerhouse Ramping* (Study 3.12) required that three on site stranding surveys be conducted during normal operation of the New Colgate Powerhouse. Due to an outage at PG&E operated Narrows2, YCWA used the outage to perform maintenance on Colgate Unit 2. These outages coincided with the final scheduled stranding survey. Data collection is expected to be complete by the end of August when analysis of results will commence.
- ¹⁰ In Section 5.3.2.4 Particle Size of the Study Plan, it was stated that three exposed bars will be sampled in five locations. In the intensive study site established in the Middle Yuba above Oregon Creek (Channel Morphology Study Site #2), despite thorough investigation within, above and below the study site, there were only two exposed bars available conducive to sampling. This section of the river is highly impacted by recreation and dredge mining.
- ¹¹ In Section 6.0 Study Specific Consultation of the Study Plan, it was stated that YCWA would give two weeks notice prior to any office meeting discussing site selection. Due to a very narrow window of opportunity to collect field data in the mainstem Yuba below Colgate Powerhouse, notice was given on November 29, 2011, for a meeting on December 1, for data collection to occur on December 8-9. In spite of the short notice, several Relicensing Participants were involved in the webinar. Represented were the U.S. Forest Service, California Department of Fish and Game, State Water Control Board, and National Marine Fisheries Service. All those present agreed that the study site and transects would be adequate for the channel morphology study.
- ¹² Study Plan 1.2 called for a calculation of the return interval and duration analysis of flows that achieve full-bed mobility for greater than 50 percent of the area for pools, riffle, lateral bars and point bars and for greater than 50 percent of the area of each reach. Mobility of 50 percent of the bedforms or the reaches was never achieved so the area threshold was decreased to 25 percent.

¹³ The FERC-approved Channel Morphology Downstream of Englebright Reservoir Study (Study 1.2) included a completion schedule of September 2012. Representatives of the RMT have requested a review prior to completion of the Technical Memorandum. The study completion date has been moved to October 31, 2012.

¹⁴ The FERC-approved *Special-Status Wildlife – Bats Study* (Study 4.2) requires that acoustic monitoring will occur at each mist netting sites while mist nets are deployed. During the second round of mist netting (September 3- 8, 2012) the internal battery on the Anabat unit failed and thus no acoustic data was recorded.

**Anticipated Target Flows To Perform Studies If Different Than Normal Flows
- October 2012 –**

Resource Area	Study Name	Anticipated Flow Schedule If Different Than Normal Flows
Aquatic Resources	Instream Flow Upstream of Englebright Reservoir (3.10)	10/22 – 10/28: Releases from New Bullards Bar of 175 cfs , 300 cfs, 600 cfs and 1,250 cfs.