

COMMENTS
Mortality of Foothill Yellow-Legged Frogs on the
Poe Project
P-2107-000 and P-2107-016

Filed by:

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July 29, 2011

Ms. Kimberly Bose, Secretary
Federal Energy Regulatory Commission
(via e-filing)

Dear Ms. Bose:

American Whitewater and the California Sportfishing Protection Alliance respectfully submit these comments relating to the mass mortality of foothill yellow-legged frogs (*rana boylei*) on the Poe reach of the North Fork Feather River on or about June 30, 2011. The Poe reach is the bypassed reach for the Poe Project (FERC #2107). AW and CSPA believe that this mortality was avoidable, and was caused by actions made by personnel for the project's licensee, Pacific Gas & Electric Co. (PG&E). AW and CSPA respectfully request that measures in the pending new license for the Poe Project affirmatively prevent recurrence of this mortality, and that in the interim licensee PG&E undertake certain management actions to reduce the likelihood of similar mortality.

June 30, 2011 mass frog mortality

On June 30, 2011, operators for PG&E dropped the instream flow below Poe Dam to 114 cfs. Up until June 27, 2011, flow below Poe Dam had been reaching a (diurnally fluctuating) daily high of about 2000 cfs. A rain event on June 29 increased the daily high to about 2800 cfs. Please see Attachment 1 at the conclusion of this comment letter for a graphic representation of the hydrograph during this time period.

Annual monitoring of foothill yellow-legged frogs (FYLF) is carried out by the licensee on the Poe reach of the NF Feather River. On July 15, 2011, PG&E biologists reported to the Ecological Resources Committee (ERC) for the Rock Creek – Cresta Project (Project No. 1962, located on the NF Feather immediately upstream of Poe) that the frog surveys on the Poe reach had determined that the June 30 flow reduction by PG&E operators had desiccated and thus destroyed 30 FYLF egg masses. According to PG&E biologists, these

30 egg masses represented virtually the entire viable annual cohort for FYLF on the Poe reach.

Previous frog mortality in the Poe Project

The Poe reach of the NF Feather River is particularly productive for FYLF. In 2010, over 100 FYLF egg masses were counted in visual encounter surveys commissioned by PG&E. While extraordinarily high water conditions have made 2011 a difficult year for FYLF throughout much of California, the actions of PG&E operators have changed 2011 from a difficult year into a disaster on the Poe reach of the NF Feather.

Since 2006, when a similar precipitous flow drop on the Poe reach desiccated 43 of 83 FYLF egg masses, PG&E has been aware of the consequences of the abrupt reduction of flows coming off of spill down to very low base flows. Following the mass stranding of FYLF in 2006, AW and CSPA began to advocate for a flow regime in the Poe Project that would recreate the descending limb of the snowmelt hydrograph. This was initially in opposition to a position taken by PG&E and by FERC in its Draft Environmental Analysis for the Poe relicensing that consistently low flows were the most protective of FYLF on the Poe reach. In comments on the Draft EA, CSPA noted:

FYLF surveys were conducted by Garcia and Associates, as part of the Rock Creek-Cresta license implementation, in May through July of 2006 on the Poe and Cresta bypass reaches of the NF Feather River. These surveys showed that extreme fluctuations in flow had severe deleterious effects on FYLF egg masses, desiccating approximately half of the egg masses observed on both reaches. The same surveys found, however, that the frogs in many cases found alternative sites for oviposition in the place of breeding sites, observed in previous years, that were either excessively inundated, subject to excessive flow velocity, or eliminated entirely when high flows altered the streambed.

The science does not support the theory that frogs simply do better at lower flows. On the contrary, habitat appears to move around in differing flows, preferred egg-laying areas change, and there may even be more options for breeding at higher flows. What is clear without doubt is that rapid and steep fluctuations in flow have unacceptable negative impacts.¹

Similarly, in its June 26, 2007 request for hearing on the Final 4(e) conditions of the U.S. Forest Service, American Whitewater stated:

The down-ramping rates in Conditions 24.2 and 24.5 for controllable spills will lower stage to an extent that will expose and dewater FYLF egg masses. The permitted swing in flow stage approaches 6 feet per day and will affect many egg masses located in cobble bar or other edgewater habitat.

¹ 20060915-5028, pp. 1-2.

The up-ramping rates in Conditions 24.2 and 24.5 for controllable spills will result in increased flow velocities that will displace FYLF egg masses and tadpoles located in cobble bar or other edgewater habitat. ...

Butte County and AW challenge the factual statement that Conditions 24.2 and 24.5 will protect the FYLF egg masses and tadpoles against adverse changes in velocity and stage associated with controllable spills.²

Proposed remedy: mimicking the descending limb of the snowmelt hydrograph

In large part as a consequence of the loss of egg masses on Poe in 2006, the Rock Creek – Cresta Ecological Resources Committee negotiated a license amendment for Project 1962 that changed the flows on the Cresta reach, immediately upstream of Poe Dam. The new Cresta flow regime maintains high base flows in May of Normal and Wet years, and remains (in Normal and Wet years) at a relatively high baseflow in June and July.³ This reduces the stage drop coming off of spill, since the bottom of the drop (the baseflow) is elevated. In light of the 2011 event on Poe, it is evident that an actual rate of recession over a specified time period coming off of spill would be more protective, so that the stage change following spill would be slowly reduced over a period of weeks.

In several recent relicensing proceedings, American Whitewater and the California Sportfishing Protection Alliance have continued to develop and advocate flow regimes that recreate the descending limb of the snowmelt hydrograph. We have developed and further advocated re-creating the descending limb of the snowmelt hydrograph in the McCloud – Pit (FERC No. 2106) relicensing and the Middle Fork American (FERC No. 2079) relicensing. At present, we are so advocating in the coordinated relicensings of the Yuba-Bear (FERC No. 2266) and Drum-Spaulding (FERC No. 2310) projects.

There are benefits of mimicking the descending limb of the snowmelt hydrograph for macroinvertebrates; there is also the benefit of providing both angling and whitewater boating opportunities while creating biologically beneficial conditions for numerous aquatic biota. But perhaps the greatest benefit of recreating the descending limb of the snowmelt hydrograph is that it can greatly reduce mortality and thus increase viability of foothill yellow-legged frogs.

In recent comments on the Draft License Applications for the Yuba-Bear and Drum-Spaulding projects, CSPA and AW (as part of the Foothills Water Network) recommended flow regimes that would recreate the descending limb of the snowmelt hydrograph on several key project reaches.⁴ Licensees Nevada Irrigation District and PG&E (respectively) declined in their Final Licenses Applications to adopt this recommendation; PG&E stated of the Foothills Water Network flow recommendations generally: “the environmental benefits, if any, are unclear (given the inconsistent positive

² Butte County and AW’s hearing request under the Energy Policy Act of 2005 was rejected on procedural grounds by the Forest Service, and the matter was not substantively resolved. Quotes are from pp. 8 and 9.

³ 20090414-3046.

⁴ See e.g. 20110201-5027 pp. 32-40.

and negative results as applied to particular species, reaches and reservoirs) and the consequences (to power generation, water supply and reservoir levels) are severe.”⁵ We respectfully remind the Commission and both of these licensees that, should FYLF be listed as threatened under the Endangered Species Act, the cost of replicating the snowmelt recession on several projects will pale in comparison to the multitude of water and monetary costs that accompany and ESA listing. In addition to simply being the right thing to do, it is in the interest of everyone to take every reasonable measure to protect this sensitive species.

Focus on Dynamic Flows Rather than Static Habitat

Over the last three years, increasing emphasis has been placed in California relicensings on 2-D FYLF habitat modeling. Based on ever-growing experience in managing diverse river reaches for FYLF, it is our opinion that such modeling is often of limited value, and that use of habitat models to determine optimal flows and velocities for FYLF under static conditions often misses the point. FYLF are most impacted by dynamic flow conditions. Focus on static habitat availability can lead to an over-reliance on abstract targets that can produce adverse consequences.

The timing of flows in spill years (such as 2011) will often be such that frogs will deposit eggs using available habitat, typically on the same cobble bars but higher on the bar. Under such circumstances, the question is no longer whether flows can be provided (assuming that licensee regains control of the system, ending spill) that are optimal, but whether the egg masses at locations *that were already used* remain viable. In the first instance, viability requires that these locations remain watered (in cases of flows that substantially decrease), and that the velocities at these locations do not increase to the point of scour (in the case of flows that substantially increase).

In situations where a licensee is temporarily unable to regulate the flow at locations where FYLF breed, the question is therefore far less one of optimal habitat as described *in a model* than it is of managing changes in flow (and resultant stage height) to protect egg masses and subsequently tadpoles *in the river*. The impulse to try to regain control of a regulated reach as quickly as possible in order to drop flows to modeled optimum levels becomes an ultra-high-risk strategy founded on operator optimism that, once regained, control will not again be lost. It also assumes that one knows for certain that breeding has not already occurred, and that egg masses already in the water will not be stranded and/or desiccated

An underlying assumption of the strategy of regaining control and dropping flows quickly is that habitat is a key limiting factor for FYLF. This is clearly not the case on Poe. In our experience, we have never encountered a situation where habitat has been determined to be the limiting factor for FYLF. On many other reaches, such as the Middle Yuba River, flows during the breeding season at locations used by FYLF are far greater every year, because of natural accretion, than modeled optimal flows. It is also clear that under historic unimpaired conditions, FYLF were breeding successfully during

⁵ 20110412-5005 p. E6.3-345.

flows that were substantially higher than flows that are typically found below regulating dams in the Sierra under present conditions. Some of the largest populations of FYLF today are found in the few unregulated streams of California.

Moving egg masses is not a solution to post-spill conditions

The Rock Creek – Cresta ERC was informed on July 15, 2011 that PG&E had considered a plan for PG&E biologists to move FYLF egg masses on Poe once PG&E operators were about to regain control of the system and end spill. While moving egg masses may be a consideration under unavoidable emergency conditions, it is not an appropriate management strategy or substitute for responsible flow regulation.

Mortality of FYLF on Poe could easily have been avoided

It is our understanding that, prior to June 30, 2011, PG&E biologists had been discussing concerns about FYLF with PG&E operators of PG&E's NF Feather facilities for several months. This makes the actions of these operators not only negligent, but willfully negligent. Whether PG&E's operators on the NF Feather just didn't listen, operated by rote in spite of contrary advice, were wantonly indifferent, got greedy with water in one of the wettest years on record, or were instructed by management to do the wrong thing, their action is indefensible.

The Commission should order PG&E to develop a management plan to protect FYLF on Poe and on the Cresta reach of Project 1962 upstream

In its Final License Application for the Drum-Spaulding Project, PG&E recommends "Measure DS-GEN-2: Annual Employee Training." This proposed measure reads in part:

Licensee shall, beginning in the first full calendar year after license issuance, annually perform employee awareness training and shall also perform such training when a staff member is first assigned to the Project. The goal of the training shall be to familiarize Licensee's O&M staff with special-status species, noxious weeds and sensitive areas...⁶

FERC should require, in its new license for the Poe Project, a similar condition made more explicit in training measures for operators in relation to FYLF. In part, FERC should require PG&E to develop a management plan so that incidents of spill on the Poe reach are coordinated between PG&E biologists and operators, with the explicit goal of protecting FYLF. Moreover, PG&E should be required to consult with resource agencies and interested NGO's as specific plans for each set of annual spring conditions are developed. PG&E should be required to specify a manager responsible for oversight of this coordination, and should require that a report of actions taken to protect FYLF are included in an annual report for the project.

⁶ 20110412-5005, p. App. E 7-3.

AW and CSPA strongly urge PG&E to undertake immediate voluntary institution of this measure for the Poe Project, and also for the Cresta reach on Project 1962.

Flow requirements for the Poe Project that protect FYLF must be included in the new project license

The Poe Project has largely completed relicensing, and is awaiting a 401 Water Quality Certification. AW and CSPA have put the California State Water Resources Control Board (401 jurisdictional agency) on notice that a flow regime on Poe must protect FYLF egg masses and tadpoles from avoidable project-caused flow fluctuations. By this letter, we also recommend to FERC and to other responsible resource agencies that this issue be explicitly addressed in licensing. The status of Forest Service Condition 4(e) flows has been in abeyance for about four years. AW and CSPA recommend that relicensing participants on the Poe Project organize a meeting to discuss flows that will protect FYLF in the Poe Project, incorporating, with details to be determined, a flow regime that mimics the descending limb of the snowmelt hydrograph.

In the meantime, since no conditions of the present license were violated in destroying virtually the entire 2011 cohort of FYLF on Poe, AW and CSPA strongly recommend that PG&E undertake a voluntary action to create a spring recession flow on Poe, should a new license for the project not issue prior to the spring of 2012.

Thank you for the opportunity to comment on the recent mortality of foothill yellow-legged frog on the Poe reach of the North Fork Feather River. Please don't hesitate to contact us if you have any questions.

Respectfully submitted,



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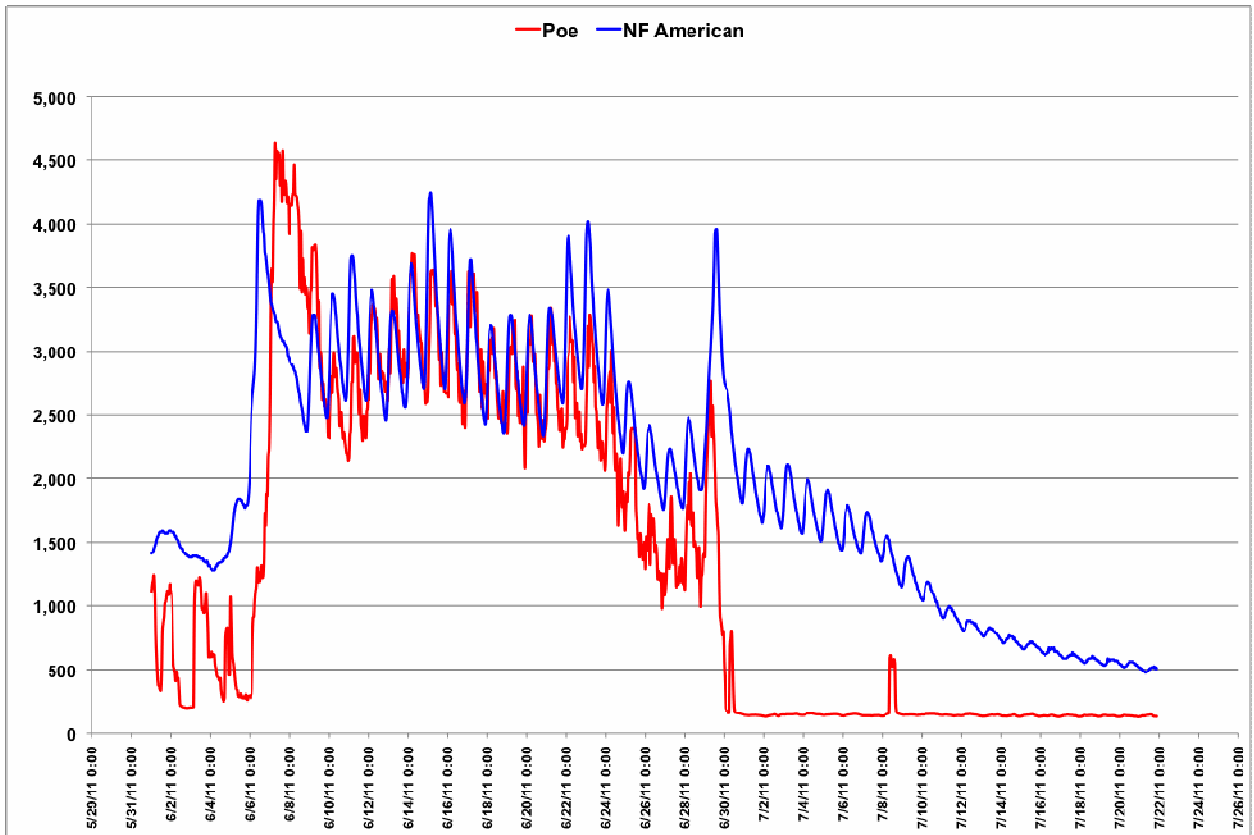
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P-2107-016 Service List

Attachment 1:

Hydrograph of NF Feather Poe Reach May 29 – July 22, 2011, with Comparison Hydrograph from Nearby Unimpaired North Fork American



Certificate of Service

I hereby certify that I have served this comment letter July 29, 2011 on the mortality of foothill yellow-legged frogs on the Poe reach of the North Fork Feather River to the official service list for the relicensing proceeding of the Poe Project, FERC Docket 2107-016.

Carla Miner

Carla Miner, Stewardship Assistant
American Whitewater

Service List for P-2107-000 Pacific Gas and Electric Company

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