

**APPENDIX 5.1: CASE STUDIES**

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## 1. Adaptive Management

### 1.1. New Don Pedro

The New Don Pedro Project, originally licensed by FERC in 1964, is located on the Tuolumne River in California and is operated jointly by the Modesto Irrigation District and the Turlock Irrigation District. In connection with the project's impacts on salmon stocks, Article 37 of the original 1964 FERC license established a minimum flow schedule (MFS) for "fish purposes" for the first 20 years of project operation, with the intention that this MFS would maintain an average annual run of 40,000 salmon in the lower Tuolumne River during this period. In setting the 20-year MFS, the 1964 FERC order explained: "It is our intention that the parties be encouraged to cooperate in continuing studies of the fish problem and to coordinate their efforts in seeking a mutually satisfactory solution in the future. Further releases will therefore be determined only after further hearing to consider the results of the parties' own effort to solve the problem."<sup>1</sup>

Fishery monitoring done prior to 1987 showed the MFS for the first 20-year period had not maintained an average annual run of 40,000 salmon on the Tuolumne River below the New Don Pedro Project. In 1987, at the request of the California Department of Fish & Game (DFG) and the United States Fish and Wildlife Service (FWS), FERC ordered the licensees to conduct additional fishery studies regarding the impacts of the project on salmon stocks. At the time FERC ordered the fishery studies it did not modify the MFS under the 1964 license.

In 1996, as the fishery studies that began in 1987 indicated severe declines in salmon stocks on the Tuolumne River, FERC approved amendments to Article 58 of the original license. Article 58 as amended provided for additional monitoring and study of fishery impacts.<sup>2</sup>

In May 2003, NMFS filed a *Petition of the National Marine Fisheries Service for Modifying Project Structures and Operations* requesting that FERC re-open the terms of the New Don Pedro Project license to enhance protection of steelhead trout and chinook salmon in

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<sup>1</sup> FERC, "Opinion and Order Issuing License under P-2299," eLibrary no. 20010120-0444 (Mar. 10, 1964), p. 7.

<sup>2</sup> Article 58 as amended states: "The Licensees shall include in the results of the fishery studies to be filed with the Commission [FERC] by April 1, 2005, all results and a discussion of the results of all monitoring studies related to the effects of flow release fluctuations on the salmon resources in the lower Tuolumne River. The filing shall also identify all non-flow mitigative measures implemented to date and the results of all monitoring studies related to the non-flow mitigative measures. Based on the information provided in the Licensee's study results to be filed by April 1, 2005, the Commission will determine whether to require further monitoring studies and changes in project structures and operations to protect fishery resources in the Tuolumne River, after notice and opportunity for hearing." See FERC, "Order Amending License and Dismissing Rehearing Requests under P-2299," eLibrary no. 19960801-3187 (July 31, 1996), p. 16.

the Tuolumne River.<sup>3</sup> In response, FERC issued an order in 2006 that found additional fishery studies were needed to determine whether Article 37 should be amended.<sup>4</sup>

In April 2008, the FWS released a report, *The High Risk of Extinction for the Natural Fall-Run Chinook Salmon Populations Due to Insufficient Instream Flow Releases*.<sup>5</sup> On the basis of this report and FERC's inaction, in May 2008 several conservation groups petitioned FERC for revisions to flow schedule and terms in the Don Pedro license.<sup>6</sup> FERC convened a hearing before an Administrative Law Judge (ALJ) to receive testimony and other evidence regarding the need for and potential impacts of increasing the minimum flow schedule for the benefit of fish. This was a highly unusual step – FERC rarely exercises its discretion to convene ALJ hearings to resolve disputed matters in hydropower licensing or compliance matters. In 2010, FERC Staff, based in part on the ALJ's opinion, determined that the evidence in support of increased fish flow releases was mixed. In the face of other, disputed evidence that any increase in flow releases would have a devastating impact on municipal and agricultural water supply, FERC staff declined to recommend changes to the flow schedule in advance of relicensing, which was scheduled to begin in 2014.

The lack of success in post-license efforts to translate monitoring results into actual project changes to mitigate adverse fishery impacts is due to many causes, but chief among them were the vague and subjective provisions in Article 37 and Article 58 of the original 1964 license, and in FERC's 1996 amendment to Article 58. These FERC license terms do not set forth objective benchmarks in regard to water quality or fishery abundance, do not identify what

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<sup>3</sup> In 1998, decades after FERC issued the original license, NMFS listed the Central Valley Steelhead Evolutionary Significant Unit as threatened under the federal Endangered Species Act and included the lower Tuolumne River as part of its geographic range. *See* 63 Fed. Reg. 13,347 (Mar. 19, 1998).

<sup>4</sup> FERC explained: “for most of the required monitoring, the data were insufficient to reach any valid conclusions about the effects of the modified streamflow releases and restoration efforts on the fisheries resources of the Tuolumne River. Some of the monitoring efforts were improperly designed or executed and could not, therefore, produce data that would allow valid conclusions... Therefore, we conclude that under Article 58 of the license, further monitoring studies are needed. Additional, well-designed and well-executed studies are necessary before the effectiveness of the revised flow schedule and the non-flow mitigative measures can be determined.” *See* FERC, “Fisheries Monitoring Under Article 58,” eLibrary no. 20061226-0019 (Dec. 20, 2006), p. 2.

<sup>5</sup> NMFS and Carl Mesick, “Request for Rehearing of Order for the Don Pedro Project (P-2299), with Supplemental Information” Attachment B, eLibrary no. 20080505-5007 (May 2, 2008), pp. 23-60.

<sup>6</sup> Conservation Groups argued: “[u]nder the terms of the 1964 license, because the Article 37 flows are not protective of salmon, the license is not best adapted to a comprehensive plan of development. Under the [2006] Order, the District will operate for a 50-year term according to a license that is not best adapted to a comprehensive plan of development for all beneficial uses. This is outrageous... Instead of making the finding incumbent upon it – i.e., what flow schedule will protect fish – the Order defies logic by finding that the ‘information to date does not warrant a change in the existing Article 37 flow requirements.’ The Chinook salmon population has declined in the 44 years since the license issued and is now facing collapse... [The FERC Order] does not explain how an additional 5-8 years of monitoring will yield the information necessary to modify the Article 37 flow schedule and other project operations for the protection of fish when the 44 previous years of study did not provide such information.” *See* “Conservation Groups’ Request for Rehearing of Order on Ten-Year Summary Report on Article 58 and Motion for Intervention under P-2299,” eLibrary no. 20080506-5000 (May 5, 2008), pp. 22, 26.

project changes need to be made if monitoring reveals that benchmarks are not being met, do not set forth a timeframe for the development of a plan for project modifications to address the results of the monitoring, and do not lay out a process for consultation with state or federal wildlife agencies for the development of such mitigation plan.

Despite decades of extensive post-license fisheries monitoring, FERC did not make structural or operational changes to mitigate the project impacts on fisheries revealed by the monitoring. In this respect, the New Don Pedro Project is a case study in how a poorly designed adaptive management program can undermine post-license efforts to mitigate adverse project impacts.

## 1.2. Rock Creek Cresta

In 2001, FERC issued a new license to Pacific Gas & Electric Company (PG&E) for the Rock Creek-Cresta Project<sup>7</sup> based on a settlement agreement signed by PG&E, U.S. Forest Service, and conservation groups.<sup>8</sup>

License Conditions 4.A. and 4.B. required a daily mean instream temperature of 20 degrees Celsius or less for the Rock Creek and Cresta Reaches, and a daily instream monitoring program to track compliance.<sup>9</sup> In order to meet the temperature requirements, the license required a normal year base flow of 150 cubic feet per second (cfs) for the Rock Creek Reach, subject to an increase “to 200 cfs, or to any flow between 150 and 200 cfs, to the extent necessary to contribute to the maintenance of mean daily temperatures of 20 degrees Celsius or less in the Rock Creek Reach.”<sup>10</sup> The license provided for a normal year base flow of 140 cfs for the Cresta Reach, subject to increase “to 200 cfs, or to any flow in between 140 and 200 cfs, to the extent necessary to contribute to the maintenance of mean daily temperatures of 20 degrees Celsius or less in Cresta Creek.”<sup>11</sup> Thus, the license specifically anticipated the need to release additional flows in order to meet temperature requirements, and bracketed the amount of potential additional flow.

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<sup>7</sup> The Rock Creek-Cresta Hydroelectric Project is located on the Feather River in California, a tributary to the Sacramento River. The project includes Rock Creek Dam and Cresta Dam and was originally licensed by FERC in 1947.

<sup>8</sup> American Whitewater, California Sportfishing Protection Alliance, and CalTrout are signatories to the agreement.

<sup>9</sup> FERC, “Order approving settlement & issuing new license re Pacific Gas & Electric Company under P-1962,” eLibrary no. 20011026-0117 (Oct. 24, 2001), p. 6.

<sup>10</sup> FERC, “Order approving settlement & issuing new license re Pacific Gas & Electric Company under P-1962: Appendix on FPA Section 4(e)/FPA Section 10(a)(1) Terms and Conditions” eLibrary no. 20011026-0117 (Oct. 24, 2001), Appendix p. 21.

<sup>11</sup> *Id* at Appendix p. 25.

License Conditions 14 and 15 required PG&E to undertake a pilot program to modify the operation of the gates on Rock Creek and Cresta Dams in a manner that would allow additional sediments to pass downstream rather than remain trapped behind the dams.<sup>12</sup> It includes a detailed five-year “River Sediment Management Monitoring Plan” to evaluate the effectiveness of the pilot program. The license also provided that, if the pilot program proved ineffective, PG&E would develop a plan within one year for supplemental gravel placement for 100 cubic yards of sediment to be implemented annually for the life of the project.<sup>13</sup> Again, the license set out a clear objective, a program designed to achieve that objective, monitoring to determine the program’s effectiveness, and specific alternative measures in the event monitoring showed the original program to be ineffective.

The five-year monitoring program revealed that the initial base flows in the Rock Creek and Cresta Reaches could not maintain the downstream temperature target of 20 degrees Celsius, and that even when minimum flows were increased to 200 cfs downstream temperatures still exceeded 20 degrees Celsius. Based on these monitoring results, conservation groups, PG&E, FERC staff, and agency staff collaboratively drafted a proposed license amendment that would increase the minimum flow schedules for the Rock Creek and Cresta Reaches. In 2009, FERC adopted an order approving these license amendments, which increased normal year minimum flows in the Rock Creek Reach to a range of 180-250 cfs, and normal year minimum flows in the Cresta Reach to a range of 220-250 cfs.<sup>14</sup>

FERC was able to amend the license without preparing a supplemental environmental document under NEPA. This was because the monitoring, mitigation, and adaptive management program presented in the original NEPA document prepared for licensing had analyzed the potential need for increased base flows should the initial base flows prove inadequate to meet the temperature target. By doing a thorough job on the monitoring, mitigation, and adaptive management portions of the initial NEPA document, PG&E saved itself the expense that would otherwise have been associated with preparing a supplemental NEPA document.

The adaptive management program at the Rock Creek Cresta project was more effective in protecting fishery resources than the program adopted in the Don Pedro license. The positive experience with monitoring and mitigation in the Rock Creek-Cresta Project contrasts with the Don Pedro example, and reveals why post-license implementation and compliance are more likely to be successful if the adaptive management terms in the underlying FERC license are negotiated well.

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<sup>12</sup> *Id* at 34.

<sup>13</sup> *Id* at Appendix p. 34.

<sup>14</sup> FERC, “Order Amending Forest Service Section 4(e) Condition 5 Part A re Pacific Gas and Electric Company under P-1962,” eLibrary no. 20090414-3046 (April 14, 2009).

### 1.3. Roanoke Rapids

In 2004, FERC issued a new license to Dominion Virginia Power and Dominion North Carolina Power (collectively, “Dominion”) for the Roanoke Rapids-Gaston Project. The license approved the terms of a multi-party settlement agreement intended, in part, to mitigate the project’s impacts on fisheries and bottomland forests downstream. The settlement agreement and subsequent license featured a robust adaptive management plan, as described below.

License Article 404 required that, within one year of license issuance, Dominion file a *Downstream Water Quality Monitoring Plan* with FERC to monitor dissolved oxygen and water temperature at two specified gauges downstream from the project. It further specified:

“The licensee shall prepare the plan after consultation with NC Water Quality and NC Wildlife Resources. The licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies’ comments are accommodated in the plan. The licensee shall allow for a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. In reporting the results of the consultation with the Commission, the licensee shall document its compliance with the consultation process and provide either the agreement reached or documentation of any dispute, including the positions taken by the parties.”<sup>15</sup>

License Article 404 did not specify all of the contents that will be included in the *Downstream Water Quality Monitoring Plan*, but does set forth a specific timeframe for the plan’s completion and a detailed mandatory consultation process between the licensee and state water quality and state wildlife agencies in connection with preparation of the plan.

License Article 407 required Dominion to develop a schedule and plan for *Roanoke River Bypassed Reach Flows* to “provide periodic freshlet flow to mimic periodic non-flood high flow event.” It specified:

“For the purposes of this article, a freshlet flow event is defined as a minimum of 24 consecutive hours and a maximum of 21 consecutive days where flows equal or exceed 500 cubic feet per second (cfs) in the bypassed reach. The licensee shall release the freshlet flows according to a schedule provided by the North Carolina Division of Water Quality (NC Water Quality) ... Should no schedule be provided by November 30<sup>th</sup> of each year, the licensee shall develop the schedule for the release of the freshlet flows for the next calendar year... During the first five years of the license period (first study cycle), the licensee shall discharge a minimum flow of 325 cfs and 17 freshlet events annually.”<sup>16</sup>

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<sup>15</sup> FERC, “Order Approving Offer of Settlement, Amending License and Denying Rehearing under P-2009,” eLibrary no. 20050304-3070 (Mar. 4, 2005), pp. 9-10.

<sup>16</sup> *Id* at 12-13.

License Article 407 does not identify the specific dates and duration for the *Roanoke River Bypassed Reach Flows*, but does provide an objective quantitative definition of which releases qualify as freshlet flow events, sets forth the minimum number of freshlet flow events that need to occur annually, and provides that the licensee must comply with any schedule for freshlet flow events prepared by the state water quality agency.

The license for the Roanoke Rapids-Gaston Project illustrates the ways that mitigation and post-license implementation and compliance can be strengthened by insisting upon fixed timelines, quantitative parameters, and a detailed stakeholder consultation process in preparing resource management and mitigation plans required by the license.

#### **1.4. Mokelumne**

In 2001, FERC issued a new license for the Mokelumne River Project (P-137) in California. A collaborative settlement agreement finalized in 2000 led to significant environmental improvements in the project's operations.<sup>17</sup> The process was the longest running relicensing in FERC's history, lasting over 28 years. PG&E, the Mokelumne River Project operator, agreed to comprehensive flows designed to mimic natural seasonal changes, including flow minimums on streams and pulse flows in the spring. Whitewater recreation improved due to predictable flow releases and improved access points. Four dams were removed in 2003, with a restoration program in place to return creeks to a natural state.<sup>18</sup> However, successfully implementing these improvements requires considerable time and money from the signing parties, and will continue to do so through the license's expiration in 2030.

The post-relicensing's success largely hinged on the Ecological Resources Committee (ERC), established by PG&E as part of the adaptive management program. The ERC consists of:

“The parties to the Settlement and a liaison from the Forest Service, to assist the licensee in designing monitoring plans, reviewing and evaluating data, and making decisions regarding adaptive management measures; implement a stream ecology monitoring program; and modify, within a specified range, certain PM&E measures, if it is

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<sup>17</sup> PG&E, “Pacific Gas and Electric Company submits the final executed Mokelumne Relicensing Settlement Agreement for Mokelumne River Project effective July 21, 2000 under P-137,” eLibrary 20000802-0151 (July 27, 2000).

<sup>18</sup> HRC, “Mokelumne River Project: North Fork of the Mokelumne River, California. Hydropower Reform Coalition Success Story,” available at [www.hydroreform.org/sites/default/files/Mokelumne\\_FINAL\\_0\\_0.pdf](http://www.hydroreform.org/sites/default/files/Mokelumne_FINAL_0_0.pdf) (2009), p. 2.

determined that such modifications are needed to meet the Settlement's resources objectives.”<sup>19</sup>

In simpler terms, the ERC has the power to change license monitoring requirements as needed. Any party that signed the settlement agreement has ERC membership, though there is a wide range of involvement. The ERC meets monthly, and after the annual monitoring results are released the members discuss and implement methods to hone and improve the system. Consensus from all participating members is required, which makes for difficult decision-making.

The ERC's power lies in keeping PG&E from being found in violation of its license. Should PG&E fail to engage in the collaborative process, ERC members can notify FERC about potential violations.

The ERC is time consuming and often frustrating for all parties. Conservation groups must be prepared for decades-long involvement, as well as designating significant funds for implementation – reaching settlement is the easier, shorter half of the process. The ERC's success hinges on consistent representation from people engaged in negotiating the settlement agreement, which is increasingly rare as the years pass. Agency and operator staff move on quickly, leaving the non-profits as the parties with the historical basis for the process. This requires that non-profits plan for succession by bringing in young staff years before older staff plans to retire.

Overall, the ERC's adaptive managements approach was innovative in 2000 and continues to serve as a model for river restoration.

## **2. Variances**

### **2.1. Pit River 1 Project**

FERC issued a license to PG&E for the Pit 1 Hydroelectric Project in 2003. Water Quality Certification Condition 13, as incorporated into the license, required six days of summertime flushing flows to control nuisance aquatic vegetation and mosquito production, as well as to provide whitewater recreation opportunities.<sup>20</sup>

In 2009, PG&E's Shasta crayfish expert consultant recommended suspending flushing flows, citing a decline in crayfish population from 2005-2008.<sup>21</sup> From 2009-2014, after requests

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<sup>19</sup> FERC, “Order approving Settlement Agreement & issuing new license re Pacific Gas & Electric Co.'s Mokelumne Project under P-137,” eLibrary 20011012-0339 (Oct. 12, 2001), pp. 6-7.

<sup>20</sup> FERC, “Order Issuing New License under P-2687,” eLibrary no. 20030319-0735 (Mar. 19, 2003), p. 57.

<sup>21</sup> PG&E, “Pacific Gas and Electric Company under P-2687, Pit 1 Project, FERC No. 2687, and Hat Creek Project, FERC No. 2661, regarding License Article 410 - Shasta Crayfish Technical Review Committee Annual Report,” eLibrary no. 20090528-5081 (May 28, 2009), p. v.



from FWS and PG&E, the California State Water Resources Control board and FERC ordered temporary suspension of the flushing flows in all years but 2011.<sup>22</sup> This decision eliminated the majority of whitewater recreation on the Pit 1 Bypass reach.

American Whitewater sought rehearing in 2014. It argued that monitoring data of Shasta crayfish showed a population decline from 2005-2008 in areas of the Pit River Basin without flushing flows, suggesting another primary cause for the decline. Furthermore, the impacts on Shasta crayfish from the Pit 1 Project's significant and consistent increase of Pit River temperatures were not studied, despite their potential as a factor in the noted crayfish decline. It argued that the variances had upset the agreed upon balance between hydropower, fish and wildlife, and recreation needs. Five years' worth of "temporary" variance license amendments were inconsistent with FERC's responsibility to balance competing interests in the new license.<sup>23</sup>

FERC denied American Whitewater's rehearing request. FERC argued that it was required by law to include SWRCB's conditions in the Pit 1 License. These conditions reserved the SWRCB's right to modify the flushing flows program and amend the license certification. FERC concluded the SWRCB had the authority to revise flushing flow requirements and consequently approved the variance. FERC also found that the resource agencies' evidence was sufficiently convincing to suspend flushing flows. Lastly, FERC argued that the Shasta crayfish were suffering from an unanticipated, negative impact – halting the flushing flows while conducting scientific studies was consistent with both the FPA's mandate to balance competing uses of water resources and the license requirements.<sup>24</sup>

This case study points to the need to anticipate potential changes in releases, especially for boating. For example, if they had the benefit of 20/20 hindsight, the parties may have structured Condition 13 to require consultation with a recreation committee prior to changes to the boating flow releases, or it may have stated alternative measures to protect boating use in the event boating flow releases could not be made in a given year. Parties may also have requested supplemental NEPA compliance based on (1) the decline of crayfish and (2) the cessation of boating flow releases, a measure designed to minimize project impacts on boating recreation.

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<sup>22</sup> FERC, "Order Modifying and Approving Temporary Flow Variance re Pacific Gas and Electric Company's Pit 1 Project under P-2687," eLibrary no. 20140619-3040 (June 19, 2014), pp. 1-3.

<sup>23</sup> American Whitewater, "Motion to Intervene and Request for Rehearing of FERC's June 19, 2014 Order Modifying and Approving Temporary Flow Variance on PG&E's Pit 1 Hydroelectric Project (P-2687)," eLibrary no. 20140721-5071 (July 21, 2014), pp. 9-13.

<sup>24</sup> FERC, "Order Denying Request for Rehearing re Pacific Gas and Electric Company under P-2687," eLibrary no. 20141016-3022 (Oct. 16, 2014), pp. 4-7.

### 3. Reopened Licenses

#### 3.1. Lower Mokelumne

In 1991, FERC opened a license amendment proceeding for the Lower Mokelumne Project (P-2916), which had been licensed in 1981.<sup>25</sup> A nearby closed mine leached toxic metals and sulfates, contributing to chinook salmon spawning populations crashing from 16,000 fish to under 300 over eight years following license issuance. In response to the ecological crisis, FERC “commenced a proceeding under authority reserved in the license to determine whether modifications to project works or operations are needed to protect fish and other aquatic resources.”<sup>26</sup> FERC specifically relied on standard license articles 12 and 15, which “provide for modification of project facilities and operations to project life, health, property, recreation, and environmental resources after notice and opportunity for a hearing.”<sup>27</sup>

The licensee, FWS, and the California Department of Fish and Game initialed a settlement agreement of flow and non-flow measures in 1997. The settlement included the establishment of a Lower Mokelumne River Partnership, composed of a signatory Steering Committee, a \$2 million Partnership Fund, a Water Quality and Resource Management Program, and a Stakeholders Group.<sup>28</sup>

Despite objections from some NGOs that the settlement terms did not go far enough to protect fisheries, FERC concluded the settlement was in the public interest and approved it in 1998 despite the lack of unanimity. Given that “the principal environmental concerns relate to threatened and endangered species,” FERC did require “additional measures to ensure that the measures provided for in the Settlement have their intended effect.”<sup>29</sup> These measures included increased reporting, a minimum reservoir level, and a deadline for plans described in the settlement.<sup>30</sup>

### 4. Project Surrender

#### 4.1. Sullivan Creek Hydroelectric Project

The Sullivan Creek Hydroelectric Project (P-2225) provides an example of a successful surrender proceeding. There, the Public Utility District No. 1 of Pend Oreille County,

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<sup>25</sup> Committee to Save the Mokelumne River, “EBMUD, Penn Mine, and the Death of a River” (1992), p. 4.

<sup>26</sup> FERC, “Order Approving Settlement Agreement and Amending License under P-2916,” eLibrary no. 19981130-0608 (Nov. 30, 1998), p. 3.

<sup>27</sup> *Id.*

<sup>28</sup> FWS et al, “Joint Settlement Agreement,” eLibrary no. 19970710-0305 (Jul. 10, 1997), pp. 4-6.

<sup>29</sup> eLibrary no. 19981130-0608, p. 4.

<sup>30</sup> *Id.* at 17-18.

Washington (District) filed a Notice of Intent *not* to seek a new license.<sup>31</sup> No other Notices of Intent were filed. The District’s position was that it could walk away from the project upon license expiration without further regulatory obligation.<sup>32</sup> FERC staff initially agreed, based largely on the fact that the project no longer generated power, but reversed that decision in response to rehearing requests by Washington Department of Fish and Wildlife, U.S. Forest Service, and American Whitewater.

FERC eventually found that, in order to “ensure that the project site is left in an appropriate condition, the District cannot simply walk away at the conclusion of the license term, but must file a surrender application.”<sup>33</sup> As the project was located, in part, within the Colville National Forest, FERC required, “[a]s part of the surrender process, the District must obtain a special use authorization from the Forest Service for any project works that will remain on federal land after the effective date of the surrender.”<sup>34</sup> FERC cited its “longstanding practice ... to consider the public interest in determining when, and in what manner, to bring the relevant part of a license to an end.”<sup>35</sup>

FERC also found that an Environmental Assessment (EA) was required for a license surrender where project works exist or ground-disturbing activity has occurred,<sup>36</sup> and that the need for an EIS would be evaluated based on the EA.<sup>37</sup> The surrender application’s proposal to remove the project’s Mill Pond dam also triggered the need for water quality certification under CWA section 401.

The District consulted with the resource agencies, tribes, and conservation groups to develop its surrender application.<sup>38</sup> That consultation resulted in “two comprehensive and interrelated settlement agreements filed on March 29, 2010 [approximately two years after the order requiring the District to file a surrender application], addressing the surrender of the District’s Sullivan Creek license and the relicensing of the City of Seattle’s Boundary Project

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<sup>31</sup> *Public Utility District No. 1 of Pend Oreille County, Washington*, 122 FERC ¶ 61,249, 62,422 (2008).

<sup>32</sup> *Id.* at ¶ 62,422.

<sup>33</sup> *Id.* at ¶ 62,423.

<sup>34</sup> *Id.* at ¶ 62,424.

<sup>35</sup> *Id.* (citing *City of Phoenix, Arizona*, 59 FPC 1061, 1070-71 (1977)).

<sup>36</sup> *Id.* at ¶ 62,427 (citing 18 C.F.R. § 380.5(b)(13)).

<sup>37</sup> *See id.* (citing 18 C.F.R. § 380.5(a)).

<sup>38</sup> *See Public Utility District No. 1 of Pend Oreille County, Washington*, 142 FERC ¶ 62,232 (2013).

No. 2144, as well as a request to consolidate the relicensing and surrender proceedings.”<sup>39</sup> FERC staff prepared an EIS due to the consolidation of the two proceedings.<sup>40</sup>

The surrender agreement proposed to remove some project features, leave others in place, and to implement a range of measures intended to mitigate impacts on fish and recreation.<sup>41</sup> FERC’s order largely adopted the surrender agreement.<sup>42</sup> The District applied to the Washington Public Utility Commission to pass the costs of surrender on to ratepayers.<sup>43</sup>

The surrender agreement included conditions relating to restoration of Forest Service lands until the surrender became effective and the Forest Service issued a special use authorization and required that the District obtain a special use authorization from the Forest Service before the license surrender became effective.<sup>44</sup> Implementation of the surrender agreement has occurred without major incident, and Mill Pond dam was removed in November 2017.<sup>45</sup>

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<sup>39</sup> *Id.* at ¶ 64,610. American Whitewater was a signatory to the settlement. *See* <https://www.americanwhitewater.org/content/Project/view/id/Sullivan/>.

<sup>40</sup> *Id.* at ¶ 64,611.

<sup>41</sup> The Commission summarized the proposal:

“[T]he District proposes to remove Mill Pond dam; restore the portion of Sullivan Creek inundated by Mill Pond; install a cold water release structure on Sullivan Lake; modify the storage operation of Sullivan Lake; and once the license surrender becomes effective, continue to operate Sullivan Lake in accordance with the terms of a special use authorization that would be issued by the Forest Service. The principal objectives of the settlement agreement terms are to improve aquatic habitat conditions in Sullivan and Outlet creeks below Sullivan Lake; potentially provide fish access to 16 miles of spawning, rearing, overwintering, and foraging habitat in Sullivan Creek; improve access to habitat in Harvey Creek; provide for recreational use on Sullivan Lake and whitewater boating in Sullivan Creek below the site of Mill Pond dam; and minimize the costs of surrender on Pend Oreille County ratepayers.”

*Id.* at ¶ 64,613.

<sup>42</sup> *See id.* at ¶ 64, 616.

<sup>43</sup> A Public Utility Commission is a state government entity that deals with rates and services provided by utility companies.

<sup>44</sup> *Id.* at ¶ 64,614.

<sup>45</sup> *See* <http://www.spokesman.com/stories/2017/nov/24/mill-pond-dam-removed-as-restoration-project-shutd/>.

## 5. Complaints

### 5.1. Kern 3

On December 14, 2012, an individual filed a complaint against Southern California Edison (SCE) for failure to comply with the boating flow schedule required under the 1996 License for the Kern 3 Project, as amended in 2003.<sup>46, 47, 48</sup>

The complaint alleged that SCE had not complied with the whitewater recreational flow schedule from the 2002 Settlement Agreement and 2004 License Amendment on at least four occasions in 2012.<sup>49</sup>

SCE responded that its actions were consistent with the 2004 License Amendment. However, SCE acknowledged that the License Amendment recreational flow provision was inconsistent with the Settlement Agreement, and offered to file a petition to amend the license to reconcile the differences.<sup>50</sup> DHAC did not contact third parties as part of its investigation of the complaint.

FERC did not provide formal notice of the complaint, though it granted an extension to SCE's response.<sup>51</sup> In April of 2014, American Whitewater and Friends of the River on their own initiative provided comments on the complaint, recommending ways to clarify the relevant license conditions.<sup>52</sup>

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<sup>46</sup> Brett Duxbury, "Complaint of Brett Harding Duxbury Alleging Four Violations In 2012 By Southern California Edison of Its License to Operate the Kern River No. 3 Hydroelectric Plant, FERC Project No. 2290," eLibrary no. 20121214-5237 (Dec. 14, 2012). American Whitewater and Friends of the River filed for rehearing of the new license, specifically challenging the FPA section 4(e) conditions issued by the Forest Service. In 2002, the Conservation Groups, SCE, and the Forest Service entered into a Settlement Agreement which resolved the rehearing requests. The Settlement Agreement included changes to the whitewater recreational flow schedule.

<sup>47</sup> The Forest Service updated its Section 4(e) conditions in 2003 to reflect the changes requested in the Settlement Agreement. See USFS, "Submission of Final Revised 4(e) Conditions USDA Forest Service Pacific SW Region under P-2290," eLibrary no. 20031223-5088 (Dec. 23, 2003), p. 1, App. at pp. 33-35, 39-58.

<sup>48</sup> In 2004, FERC issued a License Amendment Order to update the License according to the new 4(e) conditions. See FERC, "Order amending license to US Forest Service revised final Terms and Conditions pursuant to Section 4 (E) of the Federal Power Act re Southern California Edison Co.'s Kern River 3 Hydroelectric Project under P-2290," eLibrary no. 20040512-3014 (May 12, 2004), pp. 1-2.

<sup>49</sup> eLibrary no. 20121214-5237 (Dec. 14, 2012), p. 6.

<sup>50</sup> SCE, "Answer to Complaint of Southern California Edison Company under P-2290," eLibrary no. 20130117-5151 (Jan. 17, 2013), p. 2.

<sup>51</sup> FERC, "Letter Order Granting Southern California Edison Company's 12/14/12 Request for an Extension of Time until 1/17/13 to File a Response re the Whitewater Recreational Flows for the Kern River No 2 Hydro Project under P-2290," eLibrary no. 20121231-3000 (Dec. 31, 2012), p. 1.

<sup>52</sup> American Whitewater et al, "Comments of American Whitewater and Friends of the River on Pending Non-Compliance Complaint under P-2290," eLibrary no. 20140425-5306 (April 25, 2014), pp. 4-7.

SCE, the U.S. Forest Service, and NGOs entered into discussions regarding proposed changes to clarify the challenged license conditions and mandatory FPA section 4(e) conditions. They filed the proposed changes with FERC.<sup>53</sup> After soliciting comments and motions to intervene, the Commission approved the changes and declined to find SCE had violated its license.<sup>54</sup> The Commission upheld that decision on rehearing filed by the complainant.<sup>55</sup>

## 5.2. Smith Mountain Lake Project (Gangplank)

On May 23, 2011, DHAC notified Appalachian Power Company (Appalachian) of allegation that Gangplank Condominium’s recently repaired dock on the project reservoir was non-compliant with the Shoreline Management Plan (SMP) at the Smith Mountain Lake Project (P-2210).<sup>56</sup>

Appalachian responded that its issuance of a permit for the repaired dock was minimally inconsistent with the SMP. It claimed that its permitting error improved the dock’s aesthetics and safety without adversely impacting the Smith Mountain Lake Project.<sup>57</sup>

In August, DHAC directed Appalachian to bring the dock into compliance with the SMP, stating that the claimed aesthetic and safety improvements would have occurred had the repaired dock been consistent with the SMP.<sup>58</sup>

Although DHAC’s May compliance letter was published on eLibrary, DHAC did not provide formal notice of the compliance action or solicit interventions from third parties. Despite the lack of formal notice, the Tri-County AEP Relicensing Committee (TCRC) and Cut Unnecessary Regulatory Burden, Inc. (CURB) separately filed motions to intervene and concurrent rehearing requests in September. The TCRC claimed that they had specific protectable interests in the compliance proceeding since shoreline management was largely

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<sup>53</sup> See *S. California Edison*, 166 FERC ¶ 62,049, \* 4 (Jan. 30, 2019).

<sup>54</sup> See *id.* at \*5-6.

<sup>55</sup> *S. California Edison*, 167 FERC ¶ 61,243 (June 20, 2019).

<sup>56</sup> FERC, “Letter Requesting Appalachian Power Company to Submit Requested Information within 30 Days re the Allegation of Non-Compliance under the Shoreline Management Plan for the Smith Mountain Pumped Storage Project under P-2210,” eLibrary no. 20110524-0019 (May 23, 2011), pp. 1-2.

<sup>57</sup> Appalachian, “Supplemental Information / Request of Appalachian Power Company Response to DHAC’s Letter of May 23, 2011 regarding an Allegation of Non-Compliance under the Shoreline Management Plan under P-2210,” eLibrary no. 20110623-5159 (June 23, 2011), p. 2.

<sup>58</sup> FERC, “Letter Requesting Appalachian Power Co. to File a Plan and Schedule w/in 60 days for Modifying the Existing Gangplank Docks etc. re the Allegation of Non-Compliance under the Shoreline Management Plan for the Smith Mountain Pumped Storage Project under P-2210,” eLibrary no. 20110826-0109 (Aug. 24, 2011), p. 2.

under country control until 2005, giving TCRC unique qualifications to represent local government and citizen interests.<sup>59</sup>

On October 20, FERC issued an order on motions to intervene and rehearing. Although Gangplank Condominium's motion to intervene was granted due to its direct and unique interest in the proceeding, TCRC and CURB's motions were denied. FERC found that they had only a general interest, and that interventions are rarely appropriate in compliance proceedings.<sup>60</sup> FERC reversed its August order requiring Appalachian to file plans to bring the dock into SMP compliance, acknowledging that the SMP terms needed clarification and had led to confusion amongst the interested parties. FERC ordered Appalachian to meet with stakeholders to file a proposed amendment to the dock repair section of the SMP.<sup>61</sup>

TCRC requested rehearing of the rehearing order in November, alleging that FERC abused its discretion in denying their motion to intervene. TCRC claimed a special interest in this proceeding and others that could materially change and adversely affect the rights of property owners.<sup>62</sup>

In December, FERC issued an order denying rehearing to the TCRC, reiterating that the proceeding at hand would neither materially change the license terms or adversely affect property owners in a manner not contemplated by the license.<sup>63</sup> The Commission also found that since Appalachian was ordered to file an application to amend the SMP regarding the dock repair rule in accordance with the principle of eventually bringing grandfathered facilities into compliance, TCRC's argument about insufficient evidence was moot.<sup>64</sup>

## **6. Clean Water Act Enforcement**

As shown in the case studies below, environmental groups have successfully used the citizen provision of the CWA to redress violations of water quality certification.

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<sup>59</sup> TCRC, "Motion to Intervene and Request for Rehearing of Tri-County AEP Relicensing Committee under P-2210," eLibrary no. 20110922-5132 (Sept. 22, 2011), p. 6.

<sup>60</sup> FERC, "Order on Rehearing re Appalachian Power Company under P-2210," eLibrary no. 20111020-4005 (Oct. 20, 2011), p. 6.

<sup>61</sup> *Id.* at 8-9.

<sup>62</sup> TCRC, "Request for Rehearing of Tri-County AEP Relicensing Committee of the October 20, 2011 Order under P-2210," eLibrary no. 20111118-5134 (Nov. 18, 2011), pp. 5-10.

<sup>63</sup> FERC, "Order Denying Rehearing re Appalachian Power Company under P-2210," eLibrary no. 20111215-3038 (Dec. 15, 2011), pp. 3-4.

<sup>64</sup> *Id.* at 5.

## 6.1. Pelton Round Butte Hydroelectric Project

The Pelton Round Butte Hydroelectric Project (Pelton Project) is a system of three dams operated by Portland General Electric (PGE) on the Deschutes River in Oregon.<sup>65</sup> In 2002, as part of FERC's relicensing of the Pelton Project, the Oregon Department of Environmental Quality (ODEQ) issued a water quality certification under CWA section 401 (401 certification) for the project.

One of the conditions of the 401 certification was PGE's implementation of a Water Quality Management and Monitoring Plan (WQMMP) that required facility discharges to meet specific numeric thresholds for hydrogen ion concentration (pH), temperature and dissolved oxygen.<sup>66</sup> This condition was developed to address concerns related to the effect of project discharges from Lake Billy Chinook impounded by the project dam on water quality in the lower Deschutes River.<sup>67</sup>

In August 2016, after providing 60-days' notice, the Deschutes River Alliance filed a lawsuit against PGE in federal district court in Oregon, alleging violations of the 401 certification for the Pelton Project.<sup>68</sup> The complaint alleged that PGE had violated the pH, temperature, and dissolved oxygen standards in the WQMMP hundreds of times since 2011, and that these violations had significantly degraded salmon habitat in the lower Deschutes River.

PGE filed a motion to dismiss the complaint, arguing that the court lacked subject matter jurisdiction to hear the case because FERC had exclusive authority to enforce the terms of licenses issued under the FPA, and the 401 certification conditions should be considered part of the FERC license.

The court rejected PGE's subject matter jurisdiction argument, holding:

“PGE concludes Congress authorized citizen suits to enforce the requirement under Section 401 of the CWA [Clean Water Act] to obtain a certification but not to enforce any conditions that are included within any certification. PGE maintains that any such enforcement authority resides only in the hands of the federal permitting or licensing entity...The Court rejects PGE's interpretation, which rewrites the statute. The plain reading of the citizen suit provision is that it authorizes a citizen to initiate suit against

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<sup>65</sup> Letter from Deschutes River Alliance to Portland General Electric Company “Sixty-Day Notice of Intent to File Suit for Violations of the Clean Water Act, § 401 Certification” (May 13, 2016), p. 2, available at: <https://deschutesriveralliance.files.wordpress.com/2016/05/cba67-3dra60-daynoticelettertopge.pdf>.

<sup>66</sup> *Id.* at 5.

<sup>67</sup> *Id.* at 3.

<sup>68</sup> *Deschutes River Alliance v. Portland General Electric*, Case No. 3:16-CV-1644 (Compl.) (Aug. 12, 2016).



anyone alleged to be in violation – that is, currently violating – certification under section 401. The definition does not expressly limit its application to *obtaining* certification.”<sup>69</sup>

The court found Congress intended for 401 certifications to be separately enforceable via citizen suit because “Congress appeared to have been concerned, at least in part, that a Federal licensing or permitting agency might attempt to ignore state water quality requirements.”<sup>70</sup> The court concluded:

“Citizens may sue both to require a facility to obtain certification and to enforce conditions in an existing certificate. Indeed, certification includes the conditions the state deems necessary to achieve compliance with applicable provisions of the CWA in order to give the certification in the first place. The Court’s reading of the citizen suit provision is the only construction that is consistent with the text of the statute and the purpose and policy of the CWA, while also upholding a state’s authority to enforce its own water quality standards.”<sup>71</sup>

## 6.2. Saluda Hydroelectric Project

In 2003, American Rivers and the South Carolina Coastal Conservation League challenged the South Carolina Electric & Gas Company’s (SCE&G) compliance with the 401 certification issued for mid-license modifications to the Saluda Hydroelectric Project. More specifically, they challenged SCE&G’s failure to comply with the 401 certification’s dissolved oxygen standard, which had been incorporated into the license amendment approved by FERC.

The groups served SCE&G with a *Sixty-Day Notice of Intent to Sue for Violations of the Clean Water Act*. In their *Notice of Intent to Sue* (60-day Notice), which alleged that SCE&G had regularly violated the dissolved oxygen standard during the summer months, and that the pattern of violation was likely to continue.<sup>72</sup> The 60-day Notice concluded: “SCE&G has not complied

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<sup>69</sup> *Deschutes River Alliance v. Portland General Electric*, Case No. 3:16-CV-1644 (Order and Opinion) (Mar. 27, 2017), p. 8 (italics in original).

<sup>70</sup> *Id.* at 11-12.

<sup>71</sup> *Id.* at 18.

<sup>72</sup> South Carolina Coastal Conservation League and American Rivers, “Amended Complaint for Failure to Comply with Conditions of Water Quality Certifications,” eLibrary no. 20031021-0077 (Oct. 20, 2003), p. 4. The 60-day Notice stated:

“The relationship between peaking operations [to drawdown the existing reservoir] and low dissolved oxygen can be readily explained. The intakes for Saluda Dam are located within the hypolimnion, the bottom layer of the lake that contains cold, low oxygenated water. The oxygen within the hypolimnion is severely depleted in in the summer and early fall as temperatures rise and the lake further stratifies... Thus, operating the project in a peaking and semi-peaking mode can result in large amounts of oxygen-depleted water taken from the hypolimnion being discharged into the lower Saluda River.”

*Id.* at 5.

with water quality certification Condition 9 for operation of the Saluda project during seismic rehabilitation. If SCE&G does not timely correct these continuing violations, the Conservation Groups will file a complaint in federal District Court to enforce the certification.”<sup>73</sup>

The groups and SCE&G entered into settlement negotiations to resolve the claims raised in the 60-day notice. Those negotiations resulted in a settlement agreement, which was approved by FERC in December 2004.<sup>74</sup> As a result, the groups did not file an action in court.

## 7. Endangered Species Act Enforcement

As shown in the case studies below, environmental groups have successfully used the citizen provision of the ESA to redress violations of Section 7 and Section 9 of the ESA. However, the citizen suit provision has not been used to enforce the ESA at a FERC-licensed hydropower facility.

### 7.1. Bureau of Reclamation’s Cachuma Project

In *California Trout v. United States Bureau of Reclamation*,<sup>75</sup> CalTrout filed a citizen suit against the Bureau of Reclamation alleging that its Cachuma Project was taking endangered steelhead in violation of Section 9 of the ESA.

NMFS had previously issued a BO, including an ITS, to the BOR for operation of the project.

“NMFS determined that the project would result in incidental take of Southern California steelhead and issued an ITS anticipating a limited amount of take...wherein the only anticipated mortalities are associated with migrant trapping activities. The only mortalities authorized under the ITS are ‘one (1) adult unintentional mortality and four (4) juvenile mortalities associated with migrant trapping...The ITS contains two [RPMs] ... with which the BOR must comply to limit steelhead take. First, it must maintain flows into Hilton Creek at levels of no lower than two cubic feet per second. Second, the steelhead must be rescued and relocated should the water release mechanisms fail.”<sup>76</sup>

The citizen-plaintiffs alleged that the BOR had not complied with the RPMS, resulting in unauthorized take of steelhead:

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<sup>73</sup> SCCCL et al, “South Carolina Coastal Conservation League and American Rivers' Complaint against the South Carolina Electric & Gas Company for failure to comply with conditions of Water Quality Certification under P-516,” eLibrary no. 20030909-5048 (Sept. 2, 2003), p. 5.

<sup>74</sup> FERC, “Order Amending License re South Carolina Electric & Gas Co.'s Saluda Project, under P-516,” eLibrary no. 20041221-3086 (Dec. 21, 2004).

<sup>75</sup> 115 F.Supp.3d 1102 (C.D. Cal 2015).

<sup>76</sup> 115 F.Supp.3d 1102 at 1106.

“Plaintiff alleges that since March 2013, there have been at least 11 malfunctions with the System’s pump infrastructure, many of which have interrupted flows into Hilton Creek, and at least six (6) of which had resulted in a total of at least 393 fish mortalities. Not only did this violate BOR’s take allowance, plaintiff alleges, but because the BOR failed to comply with the terms and conditions of the ITS – including maintaining adequate water flows and relocating stranded steelhead – it cannot benefit from the safe harbor provision from Section 9 liability that compliance with an ITS would otherwise provide.”<sup>77</sup>

The court found that the BOR was unauthorized take under ESA section 9: “case law illustrates that takes outside of an ITS can give rise to the requirement to reinitiate consultation and liability for violation of Section 9...”<sup>78</sup> The BOR reinitiated consultation to try to remedy the violations.

This case provides support for using the ESA Section 11 citizen suit provision to remedy violations of ESA Section 9’s take prohibition in a situation where the operator of a hydro project is not operating the project in compliance with the terms of an ITS.

In this case the federal action agency – the Bureau of Reclamation – both approved and operated the project. CalTrout’s section 9 claim related to BOR’s operation of the Cachuma Project, not its approval of the project. In the context of a FERC-licensed project, a citizen suit for take under section 9 could be brought against the licensee for any non-compliance with the RPMs in an ITS.

## 7.2. Coronado National Forest

In *Center for Biological Diversity v. United States Forest Service*,<sup>79</sup> Center for Biological Diversity (CBD) brought a citizen suit related to the impacts of proposed logging in Coronado National Forest in Arizona on the endangered ridge-nosed rattlesnake.

Prior to approving a logging on federal lands by a private company, the Forest Service obtained a Biological Opinion from the FWS. The Biological Opinion required in part, monitoring requirements to minimize take of the ridge-nosed rattlesnake. The Forest Service did not comply with the monitoring requirements due to budget limitations. Due to the lack of monitoring, the Forest Service was “unable to determine whether or not it has exceeded the allowable take limit for the New Mexico ridge-nosed rattlesnake.”<sup>80</sup>

The court found:

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<sup>77</sup> *Id.*

<sup>78</sup> *Id.* at 1114.

<sup>79</sup> 820 F. Supp. 1029 (D.Ariz. 2011).

<sup>80</sup> *Id.* at 1033.

“This failure to monitor constitutes a failure to conserve these species pursuant to section 7(a)(1) of the ESA. By failing to monitor, and by exceeding or not knowing whether it is exceeding the incidental take limit, the FS [Forest Service] is failing to ensure that implementation of forest plans in the FS’ Southwest Region is not likely to jeopardize the existence of listed species pursuant to section 7(a)(2). Additionally, failure to monitor constitutes new information and a change to the proposed action that will affect these species in ways not considered in the BiOp, and the failure to immediately reinitiate and complete consultation regarding the implementation of the forest plans also violated the ESA 50 C.F.R. §402.”<sup>81</sup>

This case has two applications in the FERC hydropower licensing context. First, it suggests that non-compliance with the Reasonable and Prudent Measures in a Biological Opinion can serve as basis for a citizen suit against the federal action agency that approved the project (as opposed to an ESA Section 9 claim against the licensee). Second, the basis for a citizen suit against the federal action agency (e.g., FERC as the licensing entity) would be ESA Section 7 claims alleging failure to insure the approved project did not jeopardize the existence of a listed species and (perhaps) the failure to promptly reinitiate consultation with FWS/NMFS.

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<sup>81</sup> *Id.* at 1034.