El Dorado Project, FERC No. 184
Ecological Resources Committee
2007 Annual Report

Agency Review Draft

Version 2.0

March 20, 2008

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1.0 Introduction

This annual report is being submitted to the Federal Energy Regulatory Commission (FERC) by El Dorado Irrigation District (Licensee), after review by the Ecological Resources Committee (ERC), the U.S. Forest Service (FS), the California Department of Fish and Game (CDFG), and the State Water Resources Control Board (SWRCB), in accordance with FS 4(e) condition 37 of the El Dorado Hydroelectric Project License (FERC No. 184), condition 14 of the 401 Water Quality Certification, and Section 7 of the El Dorado Relicensing Settlement Agreement (Settlement), Monitoring Program, with respect to the following paragraph:

> The licensee shall file with FERC by June 30 of each year an annual report fully describing the monitoring efforts of the previous calendar year. The FS, ERC, and SWRCB shall have at least 30 days to review the report prior to filing with FERC. The licensee shall provide copies of the annual report to the FS, ERC, and SWRCB.

2.0 Ecological Resources Committee Meetings Major Objectives (Feb. – Aug. 2007)

February 8, 2007

The first ERC meeting in 2007, held on February 8, was devoted to discussion of several subjects relating to meeting the articles and conditions of the FERC license (FERC No. 184). Updates discussed included a summary of current streamflow and water-level conditions and the status of design and permitting of the Caples Lake boat launch facility. Progress on the Dam Safety and Spillway Adequacy Report, the Water Operations Manual License, the Draft Fish Screening Plan, the Draft Water Quality Monitoring Plan, the Draft Water Temperature Monitoring Plan, and the ERC Plan Approval Protocol were also discussed. It was reported that the Annual ERC Meeting had been scheduled for March 8, 2007 and would be held in conjunction with the annual resource agency meetings and that monitoring data from the pre-license hardhead and amphibian monitoring in 2004-2005 would be presented at the meeting.

March 8, 2007

The March 8, 2007 meeting of the ERC was the ERC's annual meeting. Updates discussed included a summary of current streamflow and water-level conditions, including a preliminary announcement of the water year type, the status of the Dam Safety and Spillway Adequacy Report, and the results of the 2006 Annual Wildlife Mortality Report. The ERC Plan Approval Protocol was also discussed. The Draft Water Quality Monitoring Plan and the Draft Water Temperature Monitoring Plan were presented and were approved by the ERC. The pre-licensing monitoring completed since 2004 was presented by the Licensee to the ERC and included the Lake Aloha trout surveys, mountain yellow-legged frog surveys, foothill yellow-legged frog surveys, and hardhead minnow surveys. An overview and update of the license implementation process was also presented.

April 12, 2007

The April 12, 2007 ERC meeting included updates on current streamflow and water-level conditions and the status of the Dam Safety and Spillway Adequacy Report. The meeting also included preliminary discussion of the water year type and discussion of the Water

Operations Plan conditions and pulse flows at Caples Lake. The 2007 monitoring programs and the draft annual ERC report were reviewed and an overview and update of the license implementation was presented.

May 24, 2007

A final water year type determination was made and an update was provided on project streamflows and reservoir water levels. The 2007 Water Operations Report was distributed at the meeting. Lake Aloha spill prediction and Caples Spillway release predictions were presented to the ERC. An update to the Dam Safety and Spillway Adequacy Report was provided and a status report was given on the fish fund. Upcoming site visits with ERC and Resource Agencies were announced. The ERC reviewed and discussed the proposed procedure to determine peak run-off for spring pulse flows at Caples Lake. The Foothill Yellow-legged Frog Monitoring Plan and the Project 184 Annual Report were approved by the ERC. The Draft Hardhead Monitoring Plan and the Draft Lake Aloha Trout and Mountain Yellow-legged Frog Monitoring Plan were reviewed by the ERC. A license implementation update was provided. A conference call was scheduled by the California Department of Fish and Game (CDFG) for May 29 for the resource agencies to discuss comments on the Fish Screening Plan.

June 14, 2007

The June 14, 2007 meeting of the ERC included discussions on the Canal Release Points Plan, the upcoming canal spillway structures field trip, and the Licensee's decision to abandon the Carpenter Creek Diversion Dam. Updates on project streamflow and reservoir water levels and spill predictions for Lake Aloha and Caples Lake were presented. The Hardhead Monitoring Plan and the Lake Aloha Trout Removal and Mountain Yellow-legged Frog Monitoring Plan were both approved by the ERC. The Licensee presented the Draft Fish Screening Plan and the Draft Geomorphology Sensitive Site Monitoring Plan to the ERC for their review. Updates on the status of Project 184 license implementation and the land exchange between the Licensee and the FS were also presented.

July 12, 2007

This meeting of the ERC focused on the progress and the ERC review of the Draft Preferred Canal Drainage Structures and Release Points Plan, the Draft Streamflow and Reservoir Gaging Plan, and the Draft Streamflow and Lake Level Public Information Plan. The Fish Screening Plan was approved by the members present. An update on license implementation status and project streamflow, water levels, and spill predictions were also presented.

August 9, 2007

This meeting of the ERC included review and approval of the Draft Preferred Canal Drainage Structures and Release Points Plan, the Draft Geomorphology Sensitive Site Monitoring Plan, and the Draft Streamflow and Lake Level Information Plan. Other items discussed included an update on license implementation status, project water levels and flow predictions, how to determine the "first storm of the season," the whereabouts of a structure/soils sampling study required for the Hazardous Substance Plan, the locking of the gate at the Caples Lake Boat Launch, and the Licensee's evaluation and action plan for Kay's

Resort. Site visits to Caples Spillway and Oyster Creek were conducted following the meeting.

3.0 Monitoring Program Study Plans

Section 7 (Monitoring Program) of Appendix A to the Settlement, the 401 Certification, and FS 4(e) conditions require individual study plans for monitoring of the following subjects:

- Fish Populations
- Macroinvertebrates
- Amphibians (Habitat Evaluation & Determination of Species Presence/Distribution)
- Riparian Vegetation Species Composition
- Riparian Vegetation Recruitment
- Geomorphology (Sensitive Site Investigation & Mitigation Plan Development)
- Geomorphology (Continuing Evaluation of Representative Channel Areas)
- Water Temperature
- General Water Quality
- Trout Monitoring at Lake Aloha
- South Fork American River Flow Fluctuations Monitoring
- El Dorado Canal Monitoring for Wildlife
- Heritage Resource Monitoring
- Recreation Survey
- Review of Recreation Developments
- Target Lake Levels Evaluation

3.1 Fish Populations

3.1.1 Hardhead Monitoring

Hardhead Monitoring – 2007

Overview:

- The Licensee conducted hardhead surveys and habitat measurements in the South Fork American River (SFAR) near Akin Powerhouse in October, 2007. Surveys included a combination of electrofishing and snorkeling.
    - Electrofishing in the riffle-run habitat in the SFAR at Akin Powerhouse
    - Snorkeling in the seven pools in the SFAR upstream of Akin Powerhouse

Findings:

- Hardhead were the most abundant fish captured in the riffle-run habitat during the electrofishing.
- Other species captured included rainbow trout, brown trout, Sacramento sucker, riffle sculpin, speckled dace, and Sacramento pikeminnow.

- Cyprinid species (either hardhead or Sacramento pikeminnow or both) were observed in the all seven pools upstream of Akin Powerhouse.

- All hardhead observed were juvenile fish; no adult hardhead were observed.

- Scales were collected from juvenile hardhead in order to assess the potential for multiple spawning periods during 2007.

Study Activities Planned for 2008:

Monitoring will continue at 5-year intervals if the FS, ERC, and SWRCB determine it necessary.

3.2 Macroinvertebrates

No studies are required until Year 5 of the license. Therefore, no actions were taken under this condition.

3.3 Amphibians

3.3.1 Foothill Yellow-legged Frog Monitoring

Foothill Yellow-legged Frog Monitoring – 2007

In 2007, the Licensee conducted habitat assessments and visual encounter surveys at eight sites listed in the license and five additional sites. Three of the thirteen sites are tributaries associated with the mainstem SFAR. Sites chosen for monitoring in 2007 included sites identified with foothill yellow-legged frog (FYLF) presence in 2002, 2004 and 2005, and those recommended for surveys based on historical records of FYLF presence. Survey sites included:

- SFAR at Akin Powerhouse – Site 105R
- SFAR upstream of Akin Powerhouse – Site 106R
- SFAR downstream of Silver Creek – Site 110R
- SFAR upstream of Silver Creek – Site 120R
- SFAR at Soldier Creek Confluence – Site 124R
- SFAR downstream of Ogilby Creek – Site 207R
- SFAR upstream of Ogilby Creek – Site 213R
- SFAR near Maple Grove campground – Site 220R
- SFAR at Mill Creek – Site 244R
- SFAR at Alder Creek – Site 246R

- Silver Creek – Site 115T
- Soldier Creek – Site 125T
- Ogilby Creek – Site 210DT

- Surveys included two eggmass/larvae surveys, two tadpole/metamorph surveys, and one late metamorph/juvenile survey at all of the breeding sites (nine sites along the mainstem SFAR and one site on Silver Creek). One fall survey was conducted at all sites including Akin Powerhouse (106R), Soldier Creek (125T) and Ogilby Creek (210DT).

Findings:

- Egg masses were observed at three subsites: 115T, 120R-a, and 213R.

- Tadpoles or tadpole groups were recorded at the three subsites with egg masses, and tadpoles or tadpole groups were also observed at six other subsites: 105R-c, 110R-a, 120R-b, 120R-c, 124R, and 220R-a.

- Young-of-the-year (YOY) metamorph recruitment was recorded at eleven subsites: 105R-b, 105R-d, 106R, 110R-a, 115T, 120R-a, 120R-b, 120R-c, 124R, 125T, and 213R.

- Juvenile/subadult frogs were observed at seven subsites: 110R-b, 115T, 120R-a, 120R-c, 125T, 207R, and 213R.

- Adult frogs were found at 106R, 124R, 125T, 220R and 120R.

- A large number (78) of incidental observations were recorded between survey sites, including tadpoles (40), YOY (34), juveniles (2) and adults (2).

- Access to some of the survey sites continued to be extremely challenging. Site 115T (Silver Creek near the confluence with SFAR), Site 106R, Site 120R, Site 124R, and 125T each require long steep approaches to access.

Study Activities Planned for 2008

Monitoring will continue at 5-year intervals if the FS, ERC, and SWRCB determine it necessary Surveys related to flow fluctuations shall be conducted June through September at any time the SFAR flow is 100 cfs or less and the reach between Kyburz Diversion Dam and Silver Creek changes 50 cfs or more in 1 day.

3.3.2 Mountain Yellow-legged Frog Monitoring

The Licensee conducted habitat assessments and visual encounter surveys in 2004. The next monitoring studies are required in Year 5 of the license. Therefore, no actions were taken under this condition.

3.4 Riparian Vegetation Species Composition

Monitoring studies are required at the end of every five year period following issuance of the license. Therefore, no actions were taken under this condition.

3.5 Riparian Vegetation Recruitment

Monitoring studies are required at the end of every five year period following issuance of the license. Therefore, no actions were taken under this condition.

3.6 Geomorphology (Sensitive Site Investigation & Mitigation Plan Development)

The Geomorphology Sensitive Site Monitoring Plan was developed and presented to the ERC in June, 2007. This plan is currently under review by the resource agencies. Monitoring will be initiated following approval of the plan by FERC. The results of these investigations will be utilized to support development of stabilization plans required by the Project 184 Settlement Agreement (EID 2003), U.S Forest Service 4(e) License Conditions (USFS 2003), and the California State Water Resources Control Board Section 401 Clean Water Act Water Quality Certification Conditions (SWRCB 2006), and identified as a PM&E measure by the FERC Final Environmental Impact Statement. The stabilization plans will be developed within two years of license issuance.

3.7 Geomorphology (Continuing Evaluation of Representative Channel Areas)

No studies are required until Year 5 of the license. Therefore, no actions were taken under this condition.

3.8 Water Temperature

The Water Temperature Monitoring Plan was approved by the ERC in March, 2007. Temperature monitoring is needed during spring months to evaluate breeding conditions for amphibians. Monitoring is also needed during summer to determine if the coldwater beneficial uses are being met in designated Project reaches. The study objectives are:

- Characterize the temperature in stream segments by directly using continuous monitoring from April to October as accessibility permits;

- Gather and analyze data to determine if water temperatures in the Project area protects cold freshwater habitat beneficial uses; and

- Identify any project-controllable temperature resource measures that may be necessary for the protection, mitigation, and enhancement of beneficial uses, if applicable.

This plan is currently under review by the resource agencies. Monitoring will be initiated following approval of the plan by FERC. Monitoring will repeat each consecutive year until a subsequent license is issued or until the Licensee can demonstrate cold freshwater beneficial use protection is being met and confirm that temperature issues do not exist for each relevant stream reach.

3.9 General Water Quality

The Water Quality Monitoring Plan was approved by the ERC in March, 2007. The objectives of the monitoring are to:

- Characterize water quality under current Project operations by directly monitoring water quality.

- Determine if water quality objectives of Basin Plans (and other applicable water quality criteria) are met and assess whether designated beneficial uses of Basin Plans are protected. This will ultimately be determined by the SWRCB 401 consultation process.

- Identify any project-controllable resource measures for the protection, mitigation, and enhancement of water quality.

Monitoring is required in Years 1, 3, and 5 with subsequent year sampling frequency to be determined by the SWRCB, FS, and ERC. Water quality monitoring will begin in 2008.

3.10 Trout Monitoring at Lake Aloha

Lake Aloha Fish Removal – 2007

Overview

- The Licensee conducted a fish removal effort in the temporary ponds below Lake Aloha Auxiliary Dams 1-7.

    - Fish removal methods included a combination of gill netting and electrofishing. Visual surveys using mask and snorkel were also conducted in order to verify the presence/absence of fish in ponds, as well as to evaluate the efficacy of the various fish removal methods.

    - Fish removal efforts were undertaken from July 17-July 20, 2007.

Findings:

- Two brook trout were captured below Dam 7 on July 19. No other fish were observed.

Study Activities Planned for 2008:

- If Lake Aloha spills, the Licensee will implement the trout removal in the temporary ponds below Lake Aloha in 2008.

3.11 Mountain Yellow-legged Frog Monitoring at Lake Aloha

Lake Aloha Mountain Yellow-legged Frog Surveys – 2007

Overview

- The Licensee conducted mountain yellow-legged frog (MYLF) protocol surveys in the temporary ponds below Lake Aloha Auxiliary Dams 1-7.
    - Twenty-four ponds in the spillway path below the auxiliary dams were surveyed for MYLF. Protocol surveys for MYLF were conducted throughout the study area following the CDFG Sierra Nevada Fish and Amphibian Survey Protocol (CDFG 2006).
    - MYLF survey efforts were undertaken from July 17-July 20, 2007.

Findings:

- A total of 19 adult MYLF, 31 juveniles (subadults), and four larvae (over-winter tadpoles) were observed during the 2007 surveys. No MYLF egg masses, hatch-year tadpoles, or metamorphs were observed during our surveys.

Study Activities Planned for 2008:

If Lake Aloha spills, the Licensee will implement the mountain yellow-legged frog surveys in the temporary ponds below Lake Aloha in 2008.

3.12 El Dorado Canal Monitoring for Wildlife

The 2007 Wildlife Mortality Report indicates that five deer and one dog were found dead in 2007. Two deer likely entered the canal system through open gates which were subsequently secured. One deer was found dead near the Camp 2 Siphon. One deer fell through the ice on Forebay Reservoir and drowned and another was found dead near Camp 1 with no indication how it got into the area. A dog was found dead near the Camp 1 Siphon. The Licensee will continue to monitor, evaluate, and improve project operations to eliminate wildlife mortalities along the Project 184 Canal System. Semi-annual inspections were completed on April 5 and October 2, 2007.

3.13 Heritage Resource Monitoring

No heritage resource monitoring was completed in 2007 for the Heritage Properties Management Plan.

3.14 Recreation Survey

No studies are required until every sixth year of the license. Therefore, no actions were taken under this condition.

3.15 Review of Recreation Developments

No studies are required until every sixth year of the license. Therefore, no actions were taken under this condition.

3.16 Target Lake Levels Evaluation

No reports are required until every fifth year of the license. Therefore, no actions were taken under this condition.

4.0 References Cited

California Department of Fish and Game (CDFG). 2006. CDFG Sierra Nevada Fish and Amphibian Survey Protocol. California Department of Fish and Game Fish/Amphibian Survey Protocols - Version 2.2. May 8, 2006.

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State Water Resources Control Board of California (SWRCB). 2006. Clean Water Act Section 401 Technically-Conditioned Water Quality Certification for Federal Energy Regulatory Commission El Dorado Hydroelectric Project (FERC No. 184).

United States Forest Service (FS). 2003. Forest Service Final Terms and Conditions Provided Under 18 CFR 4.34(b)(1) In Connection With the Application for Relicensing of The El Dorado Hydroelectric Project (FERC No. 184). October 31, 2003.