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February 27, 2009

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Section 10(j) Preliminary Determination of Inconsistency and Comments on the Draft Environmental Assessment for the DeSabra-Centerville Hydroelectric Project, Federal Energy Regulatory Commission No. 803-087, in Butte County, California.

Dear Ms. Bose:

The California Department of Fish and Game (Department) has received your letter dated January 14, 2009, in which the Federal Energy Regulatory Commission (Commission, FERC) staff informed the Department of a Preliminary Determination of Inconsistency (PDI) for some of the Department's recommendations under Section 10(j) of the Federal Power Act (FPA) for the DeSabra-Centerville Project (Project), No. 803. The letter also states that the Department may file comments in response to the FERC staff PDI, including any modified recommendations, within the time frame allotted for comments on the draft Environmental Assessment (draft EA). The Department provides the following comments regarding the PDI modified Section 10(j) recommendations pursuant to 18 CFR 4.34 (e)(3). The Department's comments should be considered by the FERC staff during their environmental review of the Project in accordance with the provisions in the National Environmental Policy Act (NEPA).

Response to Section 10(j) PDI

In its PDI, FERC staff specifically rejected eleven recommendations submitted by the Department under Section 10(j) of the FPA. FERC staff claim that each of the Departments recommendations may be inconsistent with the comprehensive planning standard of section 10(a) and the equal consideration provision of section 4(e) of the FPA, but never really states exactly how or why they may be inconsistent. It is our understanding that:

The Commission is required by law to give equal consideration to both developmental and nondevelopmental values. Equal consideration does not mean treating all those purposes equally or requiring that an equal amount of money be spent on each, but it does mean that developmental and environmental values must be given the same level of reflection and thorough evaluation in determining that the project licensed is best adapted. In balancing developmental and nondevelopmental objectives,

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the Commission will consider the relative value of the existing power generation, flood control, and other potential developmental objectives in relation to nondevelopmental objectives such as present and future needs for improved water quality, recreation, fish, wildlife, and other aspects of environmental quality.

The Department disagrees with FERC staff and believes the recommendations, filed pursuant to section 10(j), are consistent with both the comprehensive planning standard of section 10(a) and the equal consideration provision of section 4(e) of the FPA. In addition, the Department does not believe that the draft EA meets the requirements of 18 CFR 5.26(b) which requires the Commission to include an explanation as to why the Commission believes the recommendations are inconsistent with the Federal Power Act. Therefore, the Department is making a timely request for a 10(j) meeting pursuant to 18 CFR 5.23(d) to give the Department and the Commission an opportunity to resolve the issues.

The Department addresses each rejection below and requests a meeting with FERC staff to attempt to resolve any preliminary determination of inconsistency. To provide clarity and consistency, we have used the numbering system that FERC staff used in the proposed agenda attached to the January 14th letter to the Department, and include a reference to the specific recommendation by the Department.

1. Fish screening of Lower Centerville diversion and Hendricks Head Dam

This item refers to the Department's Recommendation 2: Fish passage and screens.

In the PDI letter to the Department, FERC asks:

Are our alternative recommendations for protection of fish and wildlife resources, as described in the draft EA, acceptable to you? No.

If not, are there any other measures that you would agree to that would accomplish the objective of your original recommendations? No.

Is there any additional evidence to support your recommendations or to demonstrate why they are consistent with the FPA? Yes.

FERC staff did not recommend adopting our recommendation for the installation of fish screens at the Hendricks Head and Lower Centerville diversion dams. As discussed in the draft EA, FERC staff concedes "*it is likely that providing these fish screens would largely prevent fish from becoming entrained into the Project's canal system and Project intakes, and therefore reduce the Project's affects on trout populations in affected stream reaches*". However, based upon their analysis, FERC staff finds that current trout populations above and below these Project facilities are viable and generally healthy, and that the environmental benefits of providing fish screens at these facilities do not warrant the estimated

annualized cost of 1.9 million dollars. The Department strongly disagrees with the FERC staff finding.

Environmental Effects are discussed in section 3.3.2 of the draft EA. The analysis sections of the PDI often refer back to section 3.3.2, for instance: “as discussed in section 3.3.2, the trout populations above and below these project facilities are viable and generally healthy”. However, upon examination of section 3.3.2, it is unclear where and how exactly FERC staff comes to the conclusion that trout populations are “viable and generally healthy”. For example, the write-up on the West Branch Feather River (WBFR) starting on page 109, shows four paragraphs discussing fish assemblages and habitat, the only portion of which that possibly implies viable and healthy populations says “The fishery between Round Valley Reservoir and Philbrook Creek is described as “marginal”, but improves below Philbrook Creek in response to increased flow and improved trout habitat. Brown trout and rainbow trout are common in the West Branch Feather River below Philbrook Creek.”

Please help us understand how “marginal” is defined; and does “common” mean healthy and viable? FERC staff lists several tables with numbers of observations listed, but there is no discussion as to why this leads one to conclude that fish populations are “viable and generally healthy”.

Then the draft EA goes on for 7 pages discussing fish “rescued” from Project canals; but does not explain how this demonstrates that trout populations are “viable and generally healthy”. The Department believes it in fact demonstrates the opposite.

Finally, starting on page 130, there are three paragraphs on rainbow trout biology. In section 3.3.2 of the draft EA, there is no conclusion section that clearly states why FERC staff believe fish populations are “viable and generally healthy.”

FERC staff analyses appear to be based on three ideas. First that age class structure demonstrates viable populations:

However, results reported in the study reports for study 6.3.3-4 Characterize Fish Populations in Project Reservoirs and Project-Affected Stream Reaches and study 6.3.3-6 Assessment of Fish Entrainment and Upstream Fish passage Issues as DeSabra Centerville Project Facilities generally demonstrate that age class structure of the trout populations within project affected stream reaches is sufficient to demonstrate viable fish populations.

Second, that trout appear to be in good condition:

The condition of trout sampled from the project’s canal system is good, with rainbow trout and brown trout having a mean condition factor of 1.17 and 1.05-1.14, respectively.

Third, that current “species composition” is similar to historic observations:

Additionally, species composition for project affected stream reaches in 2006 were similar to historical observations (see table 3-17). Therefore, we find that trout populations within project affected stream reaches, both above and below the project diversions are viable.

The Department addresses each of the three FERC staff ideas separately below.

1. Age class structure

The only discussion of age class structure Department staff can find in the draft EA refers to fish rescued from the canals, not age structure of fish captured or observed in the project affected stream reaches: “*The length-frequency distribution for rainbow trout in Butte canal indicates that all age classes were present (Figure 3-20)*” and in the discussion of Hendricks Canal: “*the length-frequency distribution for both rainbow and brown trout indicates that all age classes were present (Figures 3-21 and 3-22).*”

Using WBFR as an example, there is simply too little data available for FERC staff to conclude that the data “*generally demonstrate that age class structure of the trout populations within project affected stream reaches is sufficient to demonstrate viable fish populations.*” The three figures below, from the licensee’s documents, graphically depict three areas of the WBFR; the reach above the diversion, the canal that diverts 80-100% of the water, and the reach below the diversion. Of the three graphs presented by the Licensee, the third graph shows the distribution most typical of a healthy, viable population. Unfortunately, all those fish are in the canal, not the project affected stream reach. The other two graphs speak for themselves.

Figure 15. Length frequency distribution of fish observed during snorkel surveys in the West Branch Feather River upstream of Hendricks Head Dam (WBFR 30.2), October 2006.

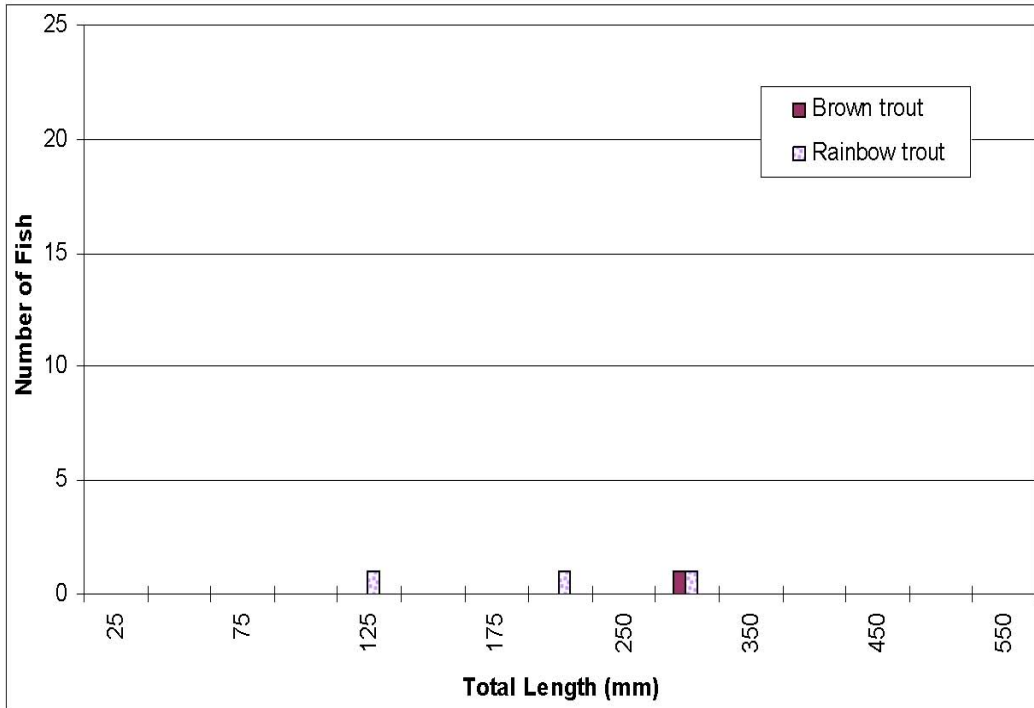


Figure 1. From page 22 of *DeSabra-Centerville Project, FERC No. 803 ©2007, Pacific Gas and Electric Company Supplemental Fish Population Characterization at Project Diversions March 1, 2007.*

Length frequency distribution of fish captured during electrofishing in the West Branch Feather River downstream of the diversion (WBFR 28.5), October 2006.

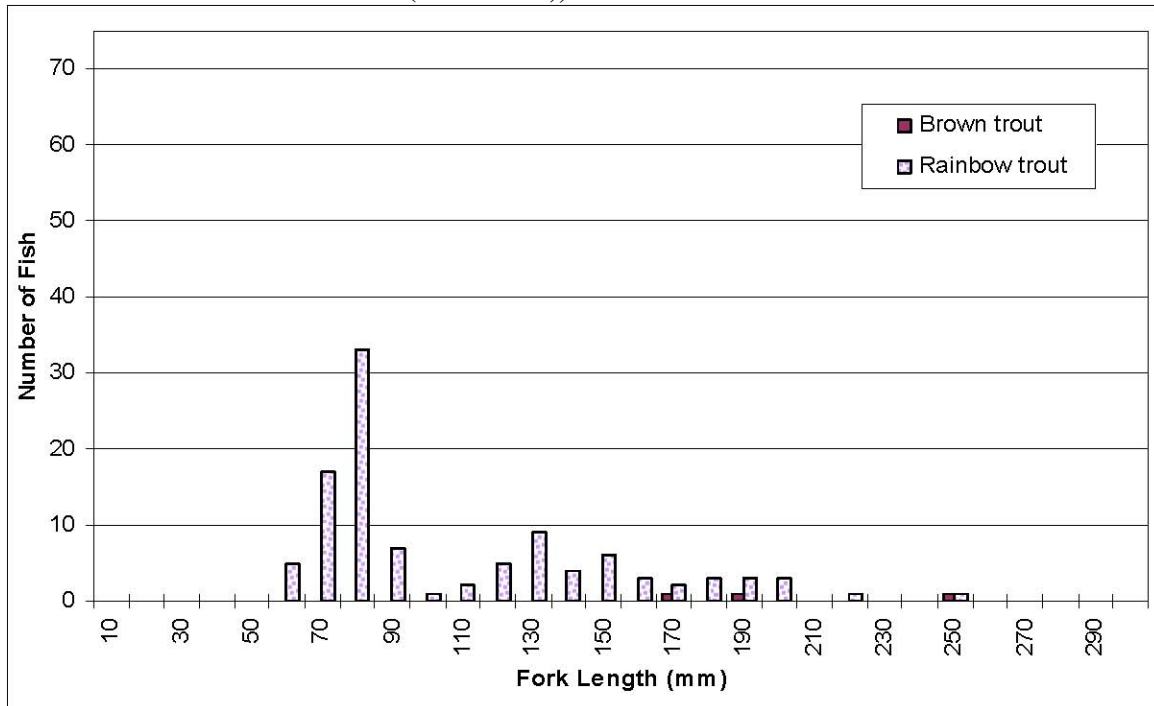


Figure 2. From page 22 of *DeSabra-Centerville Project, FERC No. 803 ©2007, Pacific Gas and Electric Company Supplemental Fish Population Characterization at Project Diversions March 1, 2007.*

Length-frequency distribution of rainbow trout collected in Hendricks/Toadtown Canal from April 25 through 27, 2005 (Source: PG&E as modified by staff).

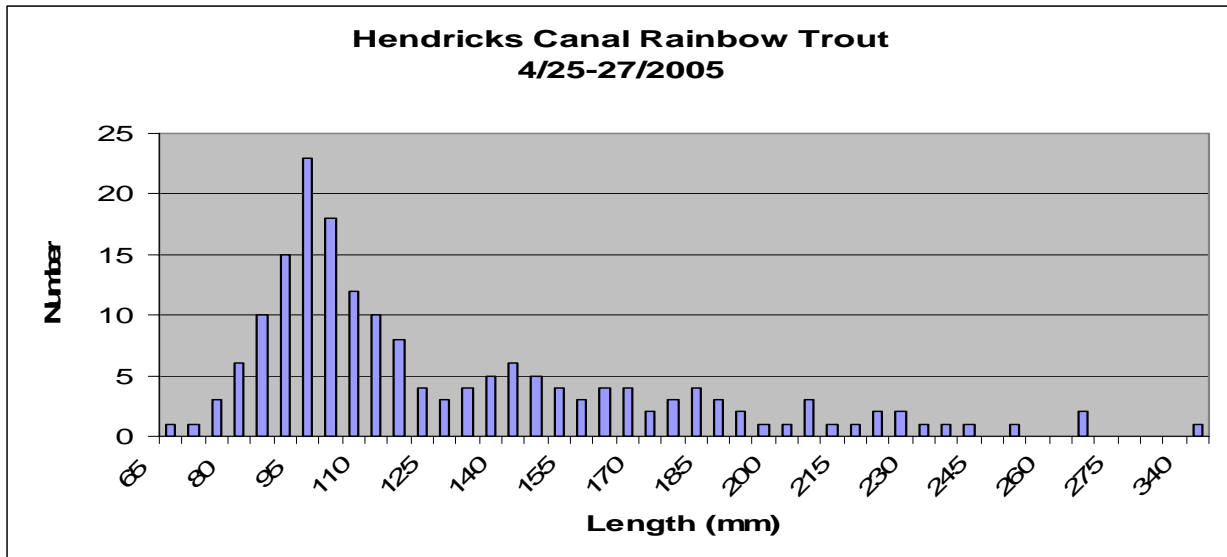


Figure 3. From page 125 of the draft EA.

2. Condition of trout

FERC staff states: *“The condition of trout sampled from the project’s canal system is good, with rainbow trout and brown trout having a mean condition factor of 1.17 and 1.05-1.14, respectively.”* This statement is footnoted that FERC staff *“recognize that these fish were sampled from the project’s canal system and not the project affected stream reaches; however, because the canals are not screened and these fish could move freely to project stream reaches, we find that the condition factor represented for fish sampled from the canal system is likely representative of those residing within the project effected stream reaches.”* As we stated in our comment letter of June 30, 2008, The Department respectfully disagrees with FERC staff that fish could move freely to project stream reaches.

Moreover, on Page 121 of the draft EA, FERC staff state that *“[f]ish can move back and forth between the canal and the stream at each mainstem diversion point...”* What evidence does FERC staff have to support that claim? This statement implies easy, almost routine, volitional upstream passage between the canal and the diversion pools for all species and lifestages. This unsupported statement is not accurate and demonstrates a poor understanding of the facilities

at the mainstem diversions. Fish entrained into the canals do not have ready-access back to the mainstem rivers.

The Licensee's fish passage representatives recognize that fish entering the Hendricks Canal, and the Butte and Lower Centerville canals can not move upstream to the WBFR and Butte Creek, respectively, without fish passage modifications at the respective canal headworks structures. During the July 28, 2006 Relicensing Participants Meeting, staff from Devine Tarbell and Associates (consultants to PG&E), presented the results of their fish passage assessment at DeSabra-Centerville Project facilities. In their assessment of upstream fish passage methodologies, the DTA consultants recommended constructing fish ladders between the streams and the canals. The strategy was to allow fish to migrate upstream through the fish ladder, exit the ladder and enter the canal, and then swim up the canal to the headworks structure. The consultants, however, also clearly understood that the existing headworks configuration at the Butte Head Dam, the Hendricks Head Dam, and the Lower Centerville Diversion Dam, currently prevent volitional access to the mainstem rivers upstream of the dams.

In their presentation for the Butte Head Dam, the DTA consultants acknowledge that the: "*[e]xisting headgate and tunnel would require extensive modifications to lower velocities for fish migration upstream.*" For the Hendricks Head Dam the consultants state the: "*[e]xisting headgate would require extensive modifications to lower velocities or a ladder for fish passage.*" Similarly, for the Lower Centerville Diversion Dam, the consultants note that "*[t]he headworks and a portion of the canal would be modified to reduce flow velocities in the fish ladder / screen approach channel.*" The photo below shows the turbulence and high velocities at the upper end of the Lower Centerville Canal immediately downstream of the headworks sluice gate.



Figure 4. Lower Centerville Canal immediately downstream of the headworks sluice gate.

It should be noted that, based on a review of the available information, Department Fisheries Engineering staff concur with the consultants assessment of the challenges that fish currently face in moving from the canals to the mainstem rivers.

The DTA consultants fish passage assessment is available online at:
<http://www.eurekasw.com/DC/relicensing/Lists/Correspondence%20and%20Meeting%20Summaries/Attachments/53/June%2028,%202006%20Meeting%20Assessment%20of%20Fish%20Screens%20Attachment%20with%20photos.pdf>

The Department believes that this discussion of fish moving into and out of canals was started with the Licensees statement in the FLA that *“based on available data, some general inferences can be made about the canal settings and the likely associated fish behaviors. Because fish can freely move back and forth between each canal and the river at the mainstem diversion points, fish are*

not entrained in that their movement is free. Rather, entrance into the canal is more likely the result of voluntary behavioral responses (e.g., density dependence) at the points of entry into the canals.” The Department looked at the data presented in the FLA and applying slightly different insight and analysis, drew very different conclusions.

At both Hendricks Head Dam and Centerville Diversion Dam, when spring high flows in the stream decline and the Project is no longer “spilling”; 100% of the water coming down the stream is diverted at the dam and enters the canal; the stream is completely dewatered. We made a comparison of the years when fish rescues took place while the project was likely not spilling (and therefore 100% of the water was diverted from the stream), and the years when the fish rescues took place when the project was spilling.

For years when Butte Creek fish were rescued in months when the Project was likely not spilling, roughly twice as many fish were rescued from the canal as compared to the numbers rescued in those years when the rescue took place while the project was spilling. An average of 1,958 trout were entrained per year without spill (when fish have no “choice” but to go down the canal) versus an average of 935 trout per year with spill, when trout have the “option” of going downstream.

The same comparison for Hendricks revealed similar numbers; roughly twice as many entrained fish were recovered from the canal when the stream is dewatered. An average of 1,965 per year without spill when trout moving downstream have no alternative but to go into the canal, versus an average of 871 per year with spill when they do have an alternative.

The numbers for Lower Centerville were roughly four times higher when the stream is dewatered. An average of 1,896 fish were rescued per year versus an average of 480 fish when fish did not “volunteer” to go into the canal.

So, entrance into the canal may be “the result of voluntary behavioral responses”, but given a choice/alternative, it appears fewer fish “volunteer” to enter the canal. When there is hydraulic continuity between the stream reach above and below the diversion, fewer fish are entrained in the canals. An argument could be made that fish do follow flow current patterns; and as the velocity vectors are in a downstream direction, they do not volitionally move out of the canal once they are entrained. Fish that are not “rescued” are lost from the vicinity of the headworks and entrained in powerhouses downstream.

The argument that fish voluntarily enter and leave the canal is not strongly supported by any potamodromous life history strategies. Salmonids are known to have high fidelity for natal spawning grounds and there are strategies for seeking winter survival or feeding habitat for particular seasons and life stages in many fluvial systems (Northcote, 1997). The draft EA states “*there is evidence of*

limited production via spawning of canal “residents”. What evidence does FERC staff have of limited production? We could find no discussion of this in either the FLA or the draft EA. We found that there is no evidence of long-term residence within the canal, whereby a juvenile fish that enters the system (volitionally) in mid/late summer would thence move out of the canal to seek over-winter or other feeding habitat.

Based on these facts and observations, we do not agree with the FERC staff assumption and finding that “*because the canals are not screened and these fish could move freely to project stream reaches, we find that the condition factor represented for fish sampled from the canal system is likely representative of those residing within the project effected stream reaches*”.

3. Comparison to historical observations

FERC staff uses only species *composition* when comparing to historical observations and ignores current trout *abundance* when compared to historical observations. Viability is not dependant simply on species composition.

In the 13.2 mile reach upstream of Hendricks Diversion, mean linear abundance has gone from 760 trout per 100 meters in 1977, to 57 trout per 100 meters in 2006; roughly a 92% reduction in 29 years. This decline in current abundance when compared to historical abundance would indicate that the populations are not “viable and generally healthy”.

In the 14.1 mile reach downstream of Hendricks Diversion, linear abundance has dropped from 723 trout per 100 meters to 51 trout per 100 meters, about 7% of what was documented in 1977. By any reasonable person’s definition, a 92% reduction is a significant cumulative impact. This decline in current abundance when compared to historical abundance would indicate that the populations are not “viable and generally healthy”.

On Butte creek, in the 10.2 mile reach below the Butte Head Diversion and above the Lower Centerville Diversion, mean linear abundance was 148 trout per 100 meters in 1986 and 66 trout per 100 meters in 2006. There has been a 55% reduction in abundance over 20 years. This decline in current abundance when compared to historical abundance would indicate that the populations are not “viable and generally healthy”.

When comparing trout *abundance* to historical observations, there is a distinct downward trend seen in trout numbers over the last 20 to 30 years (Figure 5 and 6).

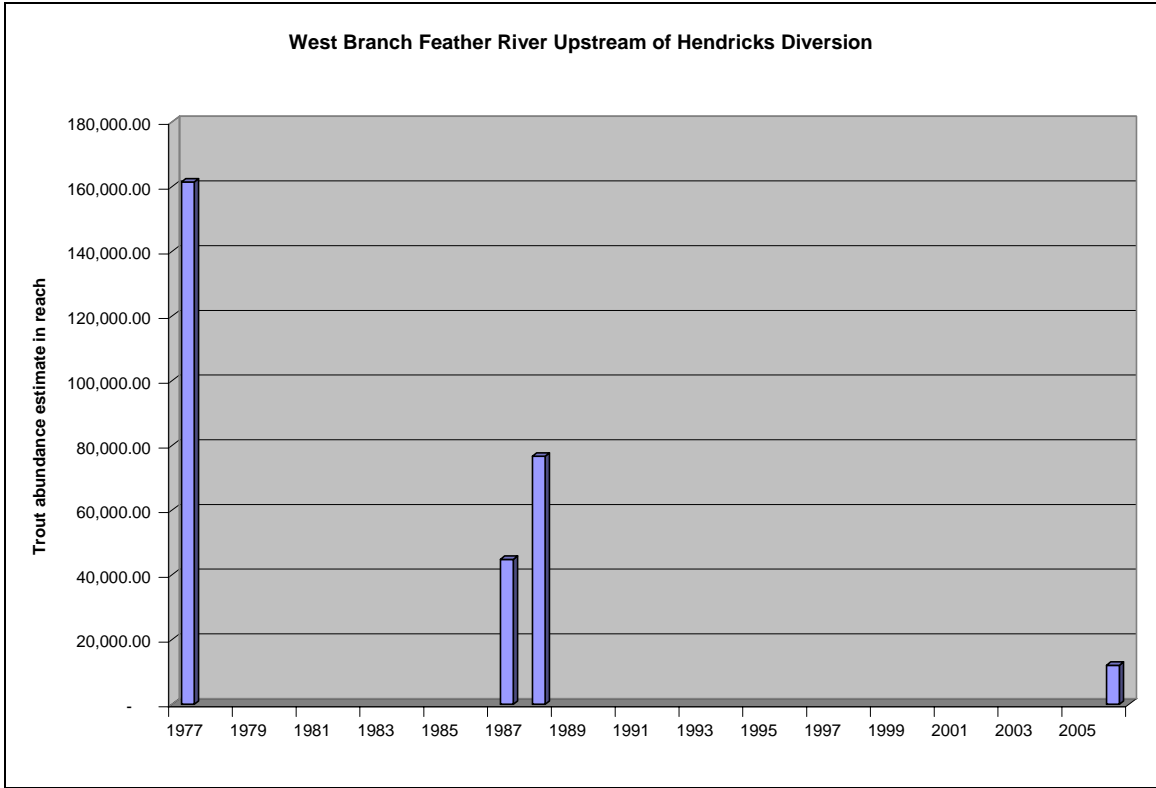


Figure 5. Trout abundance estimates calculated from linear abundance reported in FLA.

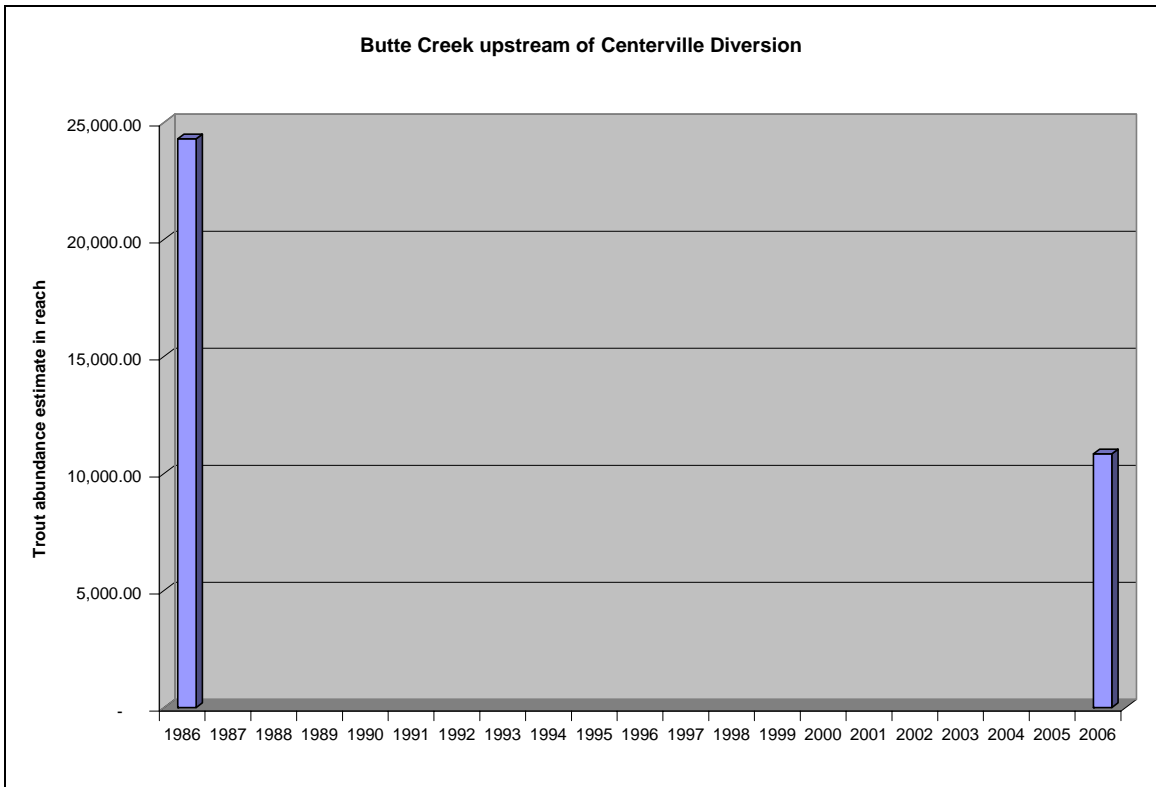


Figure 6. Trout abundance estimates calculated from linear abundance reported in FLA.

The Department disagrees with the FERC staff finding that based on age class, condition of fish in canals, and comparison with historic data, trout in project affected stream reaches are “viable and generally healthy”. Moreover, we believe that FERC staff did not conduct an appropriate analysis of the cumulative impacts of entrainment.

Cumulative Impact Analysis of ongoing entrainment

No one is disputing that operation of the existing Project No. 803 facilities results in entrainment of fish and other aquatic organisms into the canal system and powerhouse turbines. The organisms entrained are subject to higher levels of stress, and risk harm and mortality in the canals and as they pass through the powerhouses. Entrainment of fish and aquatic resources into the Project's canal system, whether or not this would result in entrainment through the Project's powerhouses, results in a net loss of aquatic resources from the affected stream reaches both upstream and downstream of the project diversions. What we are in disagreement about is the impact that this entrainment is having. FERC Staff did not analyze the cumulative impacts of entrainment.

From the draft EA: *“According to the Council on Environmental Quality’s regulations for implementing NEPA (40 CFR, section 1508.7), cumulative effect is the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions **taking place over a period of time**, including hydropower and other land and water development activities.”*

FERC staff correctly identified fisheries as having potential to be cumulatively affected by the project in combination with other past, present, and future activities, but their analysis seems to have focused solely on spring-run Chinook Salmon and steelhead and ignores cumulative impacts to native trout.

Fish entrainment into Project canals has been under discussion by the DeSabra relicensing collaborative throughout the relicensing process. From the beginning, it was assumed by all relicensing participants that some level of fish entrainment was occurring. This assumption was based on the existence of historic PG&E fish rescue data showing trout to be present in Project canals. The key questions asked have been focused on the quantity of fish entrainment (species, numbers and life stages) and about the significance of the entrainment on the fishery upstream and downstream of the Project diversions.

The Department agrees with the Applicant’s concern that *“The tie between population estimates and fish potentially entrained in Project facilities can not be definitively described by the existing population estimates.”* Because of the unexplained variability in the fish sampling data only relative values can be compared during any one year. However, the Licensee also states that *“Trout*

densities upstream of the (Hendricks Head Dam) diversion were low relative to other project reaches" (see figure below from page 10). In fact if you look at the graphic the licensee provides, both Centerville and Hendricks have much lower population densities in the reach above the diversion than in the reach below the diversion.

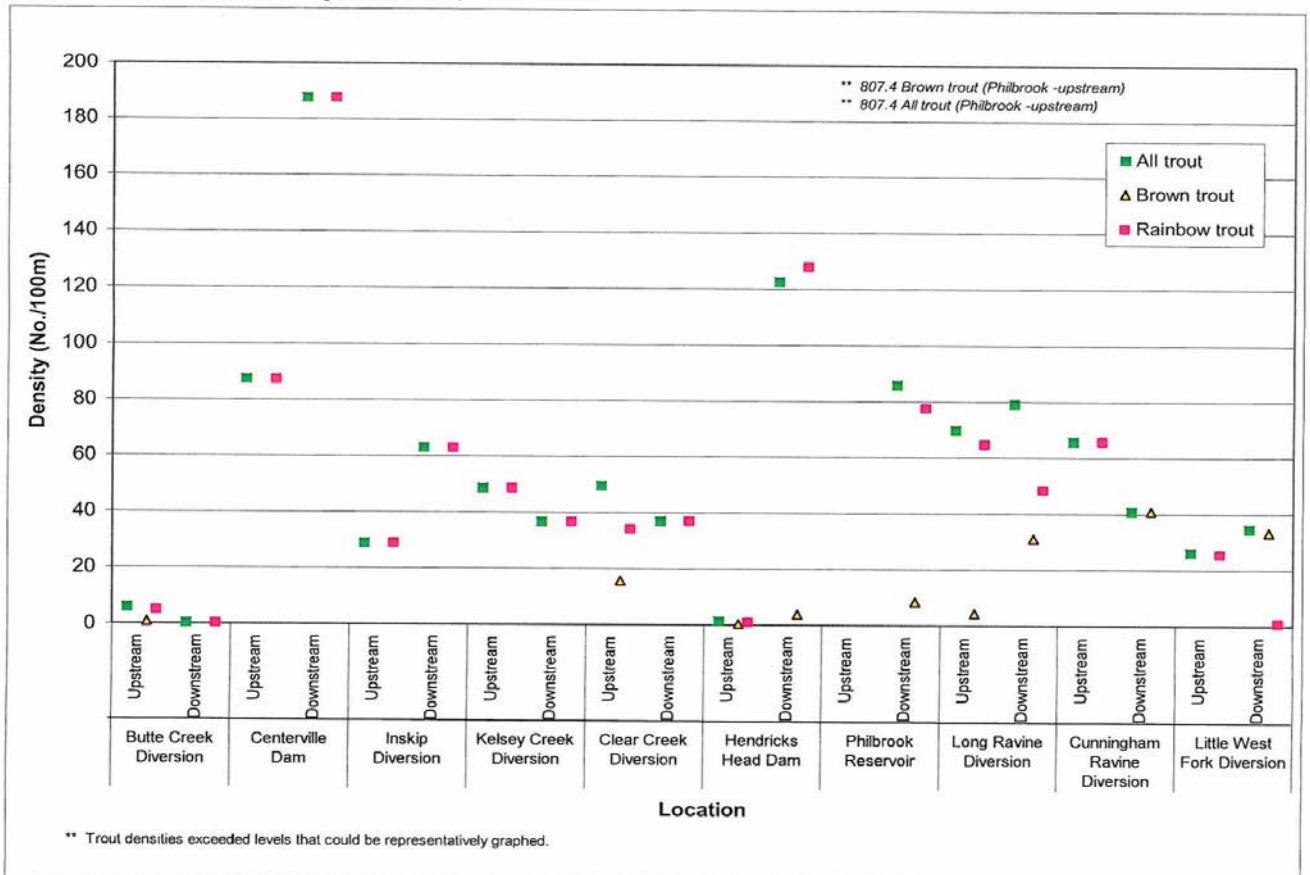


Figure 7. From page 10 of DeSabra-Centerville Project, FERC No. 803 ©2007, Pacific Gas and Electric Company Supplemental Fish Population Characterization at Project Diversions March 1, 2007.

Another important entrainment issue that must be considered in a cumulative impact analysis relates to the periods when trout are most vulnerable to entrainment. For the WBFR, this vulnerable period coincides with the period when the project is no longer spilling and therefore more fish are entrained. Empirical data collected by PG&E from 1983 to 1984 on the Mokelumne River Hydropower Project (FERC Project No. 137) at the West Panther Creek Diversion structure (Figure 8). The graph below shows juvenile/adult fish were captured during late March through early April and young-of-the-year (YOY) fish were captured from late May through mid-October. This corresponds to spawning movement for juvenile/adult fish and downstream migration or passive movement for YOY. Perhaps it also provides an explanation for the lack of YOY

in the reach above the Hendricks diversion and the higher number of YOY found in the canal.

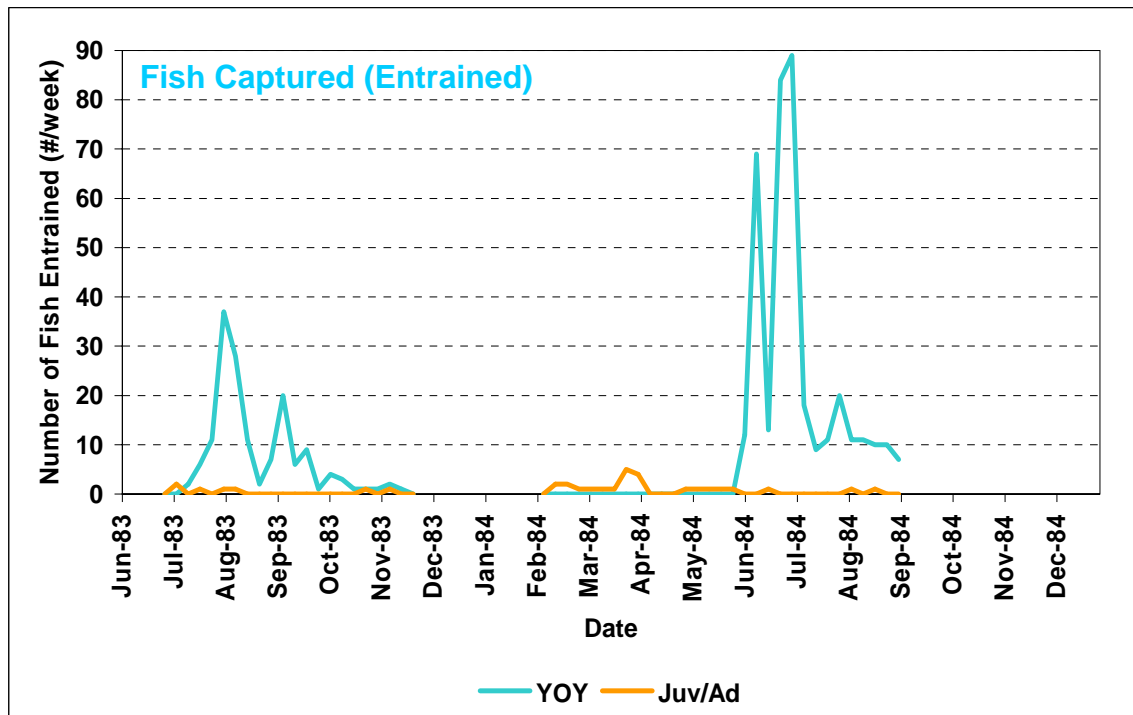


Figure 8. West Panther Creek entrainment data

Another factor to be considered in a cumulative impact analysis is the positive correlation that exists between the amount of streamflow, the percentage of streamflow diverted, and the number of YOY captured (Figures 8 and 9). On the WBFR, approximately 80% of the water is removed from the watershed via an inter-basin water transfer; all but the approximately 20% bypassed flow is lost from the WBFR ecosystem. Again, perhaps this helps explain the lack of YOY in the stream reach above the Hendricks diversion, and the high number of YOY in the Hendricks canal.

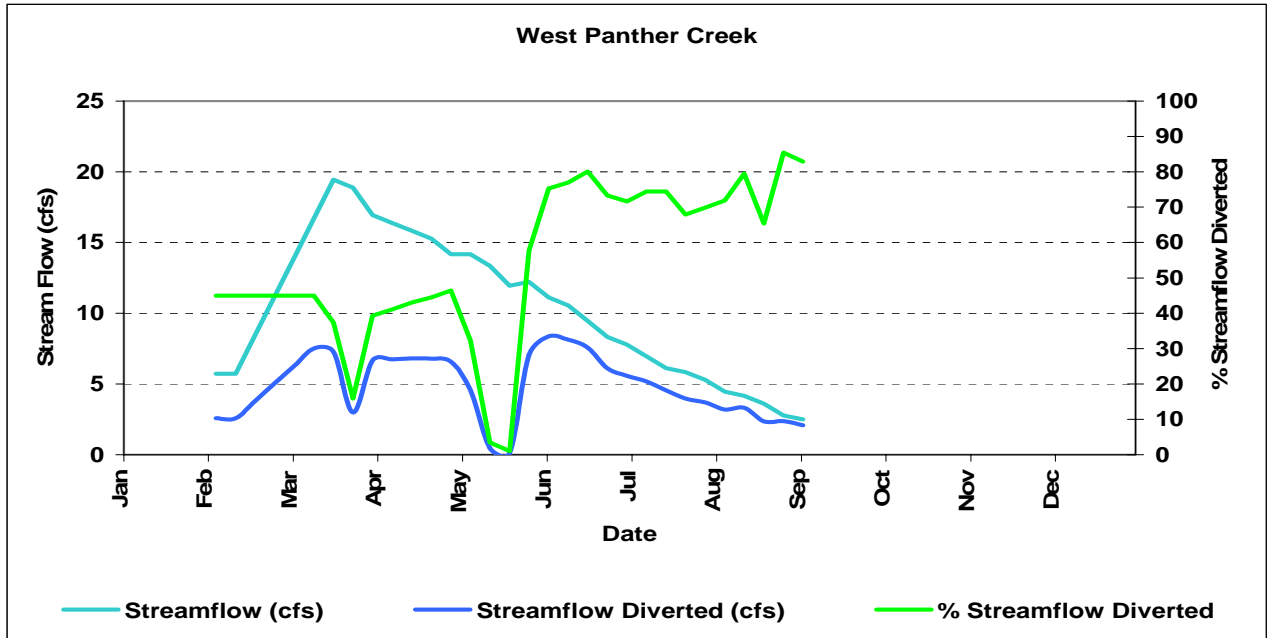


Figure 9. West Panther Creek streamflow data.

Cumulative Impact analysis of lack of connectivity between upstream and downstream habitat.

The Department believes that FERC should have included an analysis of the long term impact the project has had on the ecosystem as it relates to the lack of connectivity within the watersheds.

From the draft EA p.377:

“The installation of a fish ladder on the Hendricks Head dam would have an annualized cost of approximately \$287,400, allow for the natural behavioral movements of the native trout population for foraging, rearing and spawning between the downstream Miocene diversion (non-project facility) and the headwaters of the West Brach Feather River. However, because resident trout populations do not rely on spawning migrations to fulfill their life histories and the trout populations both above and below Hendricks Head dam is viable and generally healthy. We find that the environmental benefits of this measure do not justify the cost.”

While it is true that *“resident trout populations do not rely on spawning migrations to fulfill their life histories”*, studies have shown that both juvenile and adult trout move considerable distances as a normal part of their behavior. Graf (2008) shows that rainbow trout may move as far as up to 6500 meters (4.1 miles) (see Figure 10) in the Truckee River, a northern California Sierra

stream. This study tracked 39 rainbow trout which were relocated every 1-2 weeks for 1 year. The fish were tagged for relocation and GPS readings (10-20 meter accuracy) were taken to locate trout positions. The methodology also included staggered tagging so that movement during all 4 seasons was captured. The majority of fish tagged moved between 500 and 1000 meters. However 15% of the fish moved between 1500 and 6500 meters. This indicates that rainbow trout population movement is plastic and genetic flow may take place up to several miles upstream and downstream each season. Therefore, considering multiple years of movement, the WBFR rainbow trout population is capable of genetic flow throughout both the lower WBFR and the upper WBFR sections, and all their tributaries. However, this genetic flow cannot happen because the project blocks movement.

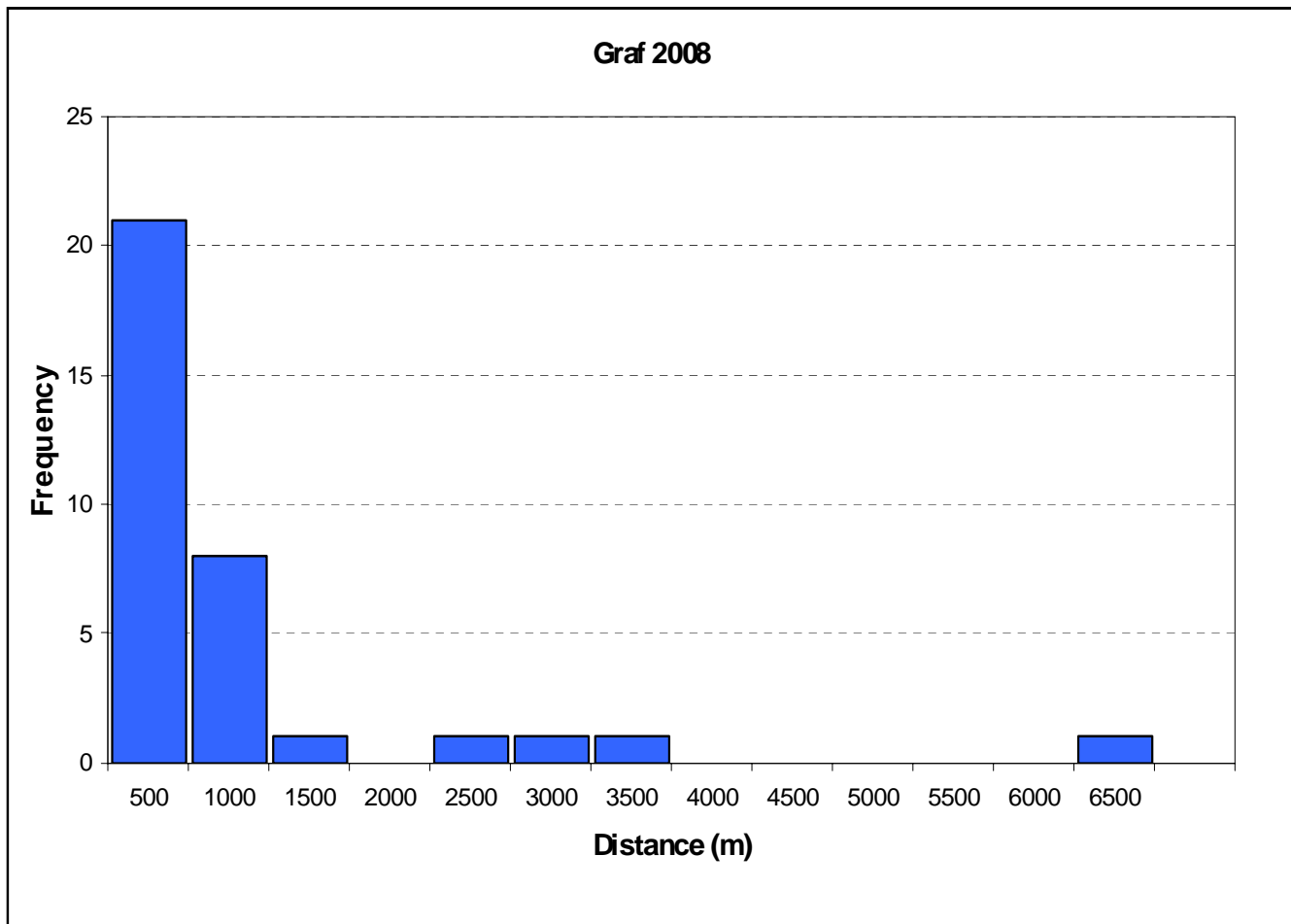


Figure 10. Rainbow Trout movement in the Truckee River

The Department also looked at adult fish habitat above and below the Hendricks Diversion Dam to compare the relative abundance of available adult fish habitat for the years 2004 through 2007 based upon recorded hydrology

(Figure 11). The analysis shows that there is between 60% to 100% of the maximum WUA available habitat for growth and rearing of adults **above** the Hendricks Diversion Dam. Below Hendricks Diversion Dam, the available adult habitat values range from 23% to 48%. The majority of available habitat is upstream of the dam in both normal and dry years. The Department believes that allowing fish in the lower river access to upstream areas will allow for better protection of the fisheries resource and help mitigate for low releases below Hendricks Diversion Dam during both wet and dry years. Moreover, this general comparison to habitat available above and below the dewatering of the WBFR at Hendricks Diversion Dam, only accounts for the habitat in the WBFR itself. It does not consider the additional habitat that could be accessed in the tributaries, providing cumulative benefits to population genetics through the broader exchange and expansion of genetic material. FERC staff needs to analyze the cumulative impact that this habitat disconnection has had on the viability and health of the population.

Adult Trout % WUA Above and Below Hendricks Head Dam Diversion on WBFR

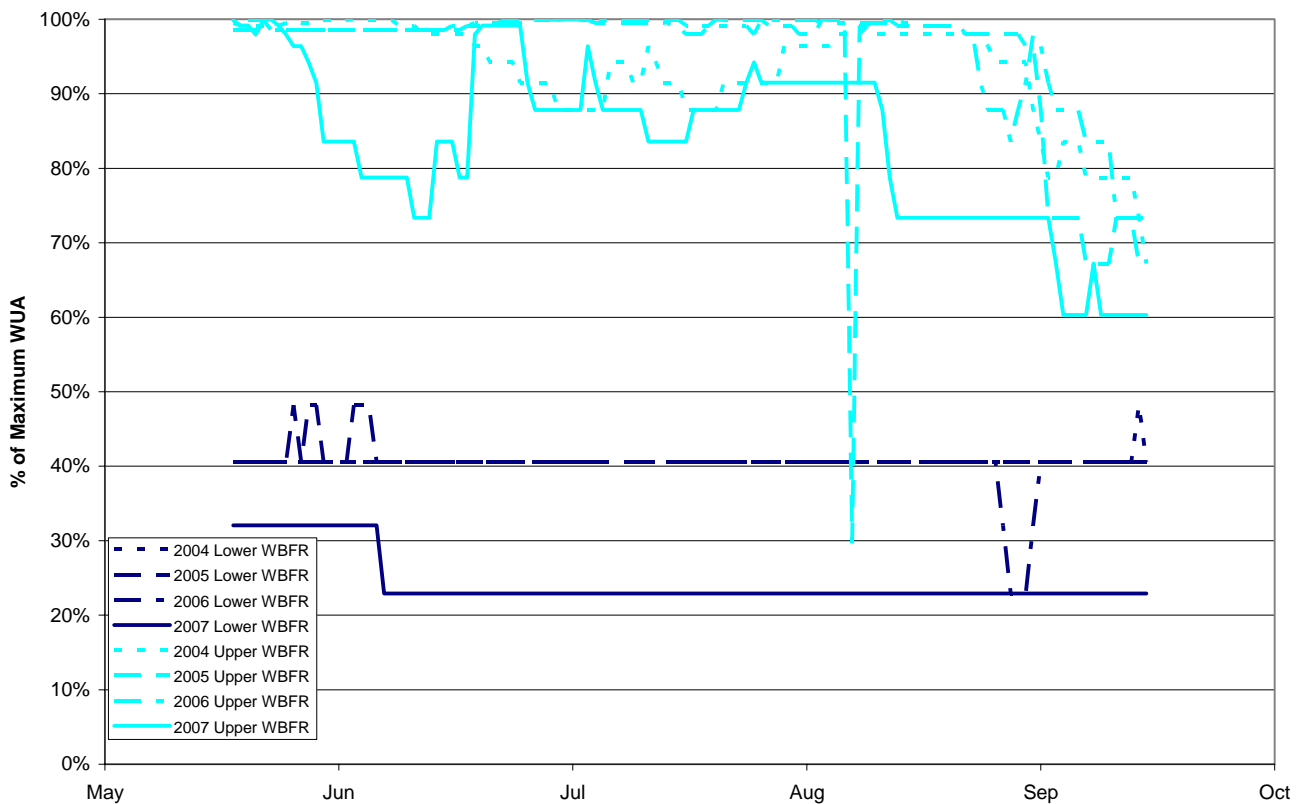


Figure 11. Adult Trout % of Maximum WUA Above and Below Hendricks Head Dam Diversion on WBFR.

Lastly, we summarize below some of the statements FERC staff makes in the draft EA supporting the need for screens and ladders:

We find it likely that providing these fish screens will largely prevent fish from becoming entrained into the project's canal system and project intakes, and reduce the project's affects of trout populations in affected stream reaches.(p.377)

Relicensing studies found that fish are entrained in to project canals as a result of project operations (see tables 3-19, 3-20, and 3-21). (p.212)

PG&E's proposal to continue the implementation of fish rescues from project canals would limit the projects effects on the fish populations in the project stream reaches. However, do to the infrequency of the fish rescues, it is likely that some of the fish that become entrained into the project's canal system would also be entrained into project intakes before a fish rescue occurs; thereby resulting in the injury or mortality of some of the fish that become entrained into the project's canal system. (p.213)

Screening of the diversion intakes as specified by the resource agencies at the Hendricks diversion dam and the Lower Centerville diversion dam would limit the entrainment of fish into the projects canal system from the West Branch Feather River and lower Butte Creek. As a result, the number of fish that are likely injured or fatally wounded as a result their entrainment in to project intakes would decline. We note however, that fish will continue to be diverted into the project's canal system at the Butte Creek Head dam and each of the operating feeder diversions. (p.213)

The presence of the diversions structures continue block the natural upstream movements of fish throughout the project affected stream reaches. (p.213).

The installation of a fish ladder on the Hendricks Head dam would allow for the connectivity of the West Branch Feather River's habitat from the downstream Miocene Diversion (non-project facility) upstream to the headwaters of the West Brach Feather River. This connectivity would support natural behavioral movements of the native trout population for foraging, rearing and spawning. (p. 212).

Project diversion dams also result in a loss of habitat connectivity preventing upstream migration of fish from downstream habitats into habitats upstream of the diversions for foraging, rearing and spawning activities; thereby, also preventing the upstream movement of genetic material from fish populations below the diversion structures to upstream populations. (p. 211).

It is clear that the project is preventing the upstream migration of fish past project diversions and the entrainment of fish into project canals is likely affecting the density of the trout populations in project affected stream reaches. (p. 214).

The presence of the diversions structures continue block the natural upstream movements of fish throughout the project affected stream reaches. (p. 213).

We are baffled how FERC staff can make all these statements in the draft EA and then “*find that the environmental benefits of providing fish screens at these facilities do not warrant the cost.*”

For these reasons, we believe that our recommendations are consistent with the comprehensive planning standard of section 10(a) and the equal consideration provision of section 4(e) of the FPA.

2. Resident Fish Monitoring

This item refers to the Department’s Recommendation 5: Monitoring and Adaptive Management.

FERC asks in the PDI letter to the Department:

Are our alternative recommendations for protection of fish and wildlife resources, as described in the draft EA, acceptable to you? Maybe.

If not, are there any other measures that you would agree to that would accomplish the objective of your original recommendations? Maybe.

Is there any additional evidence to support your recommendations or to demonstrate why they are consistent with the FPA? No.

FERC staff states in the Jan 14th letter “*We do not recommend adopting your recommendation for the frequency of which resident fish population monitoring would occur in Butte Creek and the West Branch Feather River. As discussed in the draft EA, while we recommend the portion of your recommendation for PG&E to develop a resident fish monitoring plan, we do not support your recommendation that sampling be conducted through the term of the license, or your recommendation which infers that monitoring could potentially be conducted on an annual basis. Our analysis in the draft EA indicates that monitoring resident fish populations in Butte Creek and the West Branch Feather River for the duration of the license term, and on an annual basis, is excessive.*”

Perhaps FERC staff is confusing what the Department recommended with what the USFWS recommended, or perhaps we were not clear in what we were

recommending. The Department did not make a recommendation for annual monitoring of resident fish. The only portion of the monitoring plan we specifically recommended be conducted annually is that which is already done so: an annual snorkel survey to monitor adult SRCS distribution and abundance; an annual pre-spawning mortality survey of SRCS; an annual carcass survey to monitor SRCS spawning.

The Department agrees that annual monitoring of resident fish would be excessive. Typically the Department recommends two consecutive years of monitoring every five years; and this is likely what we will request the Licensee put into their Plan when they develop one. Therefore, we agree with the FERC staff recommendation that the monitoring of resident fish populations occur in two successive years, beginning in the fifth full year after the implementation of any required minimum instream flows. However, we do **not** recommend that monitoring be discontinued following the next monitoring cycle (5 years following the last change in minimum instream flows), unless a fish screen and ladder are installed at Hendricks Head Dam. Limiting the frequency of this monitoring to a two year sample period would not account for natural variability in populations, hydrology, food availability, or climate change. As discussed in item number 1 above, the Department does not believe that fish rescues are adequate to protect, mitigate damages to, nor enhance native fish populations. There is strong evidence to indicate that native fish populations have been impacted over time by continued entrainment into project canals. The Department would like to understand what evidence FERC staff has to demonstrate that the decline in fish population numbers over the last 30 or so years has not been caused by entrainment into project canals? They only way for us to evaluate a cumulative impact is long term monitoring. Long-term monitoring (throughout the life of the license) would provide useful data to assess fish population trends in the WBFR not only as a function of changes in MIFs, but also natural, climatic, or project-induced pressures, and allow for realistic adaptive management of MIFs. Therefore we recommend that, unless a screen and a ladder are installed at Hendricks Head Dam, native fish monitoring continue through the term of the new license.

The Department agrees that developing a native fish monitoring plan within one year of license issuance, as recommended by the Forest Service, would be acceptable.

3. Benthic Macroinvertebrate Monitoring

This item refers to the Department's Recommendation 5: Monitoring and Adaptive Management.

FERC asks in the PDI letter to the Department:

Are our alternative recommendations for protection of fish and wildlife resources, as described in the draft EA, acceptable to you? Yes.

Is there any additional evidence to support your recommendations or to demonstrate why they are consistent with the FPA? No.

As stated above in Item 2, the Department did not make a specific recommendation as to the timing and frequency of monitoring for Benthic Macroinvertebrates. The Department agrees that monitoring benthic macroinvertebrate populations in Butte Creek and the WBFR on an annual basis is excessive. We further agree that sampling benthic macroinvertebrates in the same years as fish population monitoring would help to identify relationships between fish populations and the abundance of the aquatic macroinvertebrate prey base, improving the understanding of the relationship between environmental measures and aquatic productivity and would result in a better decision making process. We agree with the FERC staff recommendation that the benthic macroinvertebrate population monitoring be coordinated with the recommended resident fish monitoring efforts. Additionally, because benthic macroinvertebrate populations should respond to alterations in stream flow more rapidly than the fish populations, we recommend that sampling also be conducted in years 1, 2, 3, and 4, but for a maximum of 2 years per water year type (normal and dry).

4. Fish Ladder at Hendricks Head Dam

This item refers to the Department's Recommendation 2: Fish passage and screens.

FERC asks in the PDI letter to the Department:

Are our alternative recommendations for protection of fish and wildlife resources, as described in the draft EA, acceptable to you? No.

If not, are there any other measures that you would agree to that would accomplish the objective of your original recommendations? No.

Is there any additional evidence to support your recommendations or to demonstrate why they are consistent with the FPA? Yes. Please see number 1 above.

5. Annual Fish Stocking

This item refers to the Department's Recommendation 11: Fish stocking.

FERC asks in the PDI letter to the Department:

Are our alternative recommendations for protection of fish and wildlife resources, as described in the draft EA, acceptable to you? Yes with clarification.

If not, are there any other measures that you would agree to that would accomplish the objective of your original recommendations? No.

Is there any additional evidence to support your recommendations or to demonstrate why they are consistent with the FPA? No.

In the Jan 14th PDI letter to the Department, FERC staff indicate that they do not recommend adopting our recommendation for the Licensee to annually reimburse the Department for the stocking of 8,000 pounds of trout. It is unclear,

but it appears FERC staff is objecting to the additional 800 pounds of trout, but is agreeing to continue the 7200 pounds of trout.

As discussed in the draft EA, under a 1983 agreement, the Licensee agreed to annually reimburse the Department for the stocking of 14,435 trout, or approximately 7,200 pounds, which would amount to approximately \$22,000 at today's cost of production of \$3.02 per pound. FERC staff in the Jan 14th letter state that they find that *“although recreation use at the Project is estimated to increase by approximately 2 percent over the next 50 years, this is not enough evidence to support increasing the poundage of fish stocked to 8,000 pounds”*.

Additionally, FERC staff raises concern that the Department's recommendation does not specify that the recommended 8,000 pounds of fish to be stocked would be stocked into project waters. In fact our recommendation did state in FERC project boundary:

Beginning in the first calendar year after license issuance, Licensee shall reimburse the Department for stocking up to 8000 pounds of trout annually in years in which the Department stocks rainbow trout within the DeSabra Centerville FERC project boundary. Costs shall be assessed at the standard rate for catchable-sized hatchery grown trout in the year of stocking. A statement of the costs incurred under this measure, including supporting documents, shall be provided to the Licensee annually upon request.

In lieu of providing this funding, FERC staff recommends that the Licensee develop a fish stocking plan, in consultation with the Department, to include the amount and location of fish to be stocked in Project affected waters. FERC staff estimates the annualized cost for developing and implementing this stocking plan to be approximately \$22,000, which is the cost of 7200 pounds at today's cost of production of \$3.02 per pound.

The Department seeks clarification regarding FERC staff's recommendation. In order for the Licensee to provide at least the same level of recreational fishing opportunity, the Department recommends that the Licensee continue to reimburse the Department for the current level of stocking under the 1983 agreement of approximately, 7,200lbs of fish, irrespective of the market cost to produce the fish. If FERC staff are recommending that the Licensee, in consultation with CDFG, develop a fish stocking plan that would maintain the 1983 numbers or pounds of fish and provide the coordinated development of the location of fish to be stocked in project affected waters over the term of a new license, this is acceptable to the Department. The plan, however, does need to be based on pounds of fish, not a dollar value. Anything else is not acceptable to the Department.

6. Implement a revised Drought Plan

This item refers to the Department's Recommendation 8: Consecutive Dry Water Years.

FERC asks in the PDI letter to the Department:

Are our alternative recommendations for protection of fish and wildlife resources, as described in the draft EA, acceptable to you? Maybe, with clarification.

If not, are there any other measures that you would agree to that would accomplish the objective of your original recommendations? No.

Is there any additional evidence to support your recommendations or to demonstrate why they are consistent with the FPA? Yes.

The Department asks for clarification on what FERC Staff is recommending. The PDI letter dated Jan. 14, 2009 states: "*We recommend adopting your recommendations for PG&E to notify the resource agencies of drought concerns by March 10 of a second or subsequent dry water year, and for PG&E to consult with the resource agencies by May 1 to discuss operational plans to manage Project operations during drought conditions.*" However, on page 189 of the draft Environmental Assessment, the analysis section implies that FERC staff is recommending a slight shift. If the letter is incorrect and the EA is correct, FERC staff has made modifications to our recommendation. Specifically to shift initial notification of drought conditions in the second or subsequent dry water year from March 10 to March 15; and shift consultation with resource agencies from May 1 to May 15 of the same year. FERC staff believe these slight shifts in dates allows for information contained in State Bulletin 120 to be available to the Licensee for determination of drought conditions, prior to making notification and initiating consultation with resource agencies if the criteria are met. This slight modification of dates for PG&E to contact resource agencies regarding drought conditions is reasonable. This modification is acceptable to the Department.

The second portion of the Jan14th letter states: "*We also recommend your recommendation that if a revised operational plan is agreed upon, for it to be filed with the Commission; however, we do not support your recommendation that this plan be implemented once it is submitted to the Commission. As discussed in the draft EA, any changes to project operations must first be approved by the Commission prior to implementation*". As we understand it, this recommendation is necessary to make the article consistent with the Commission's authority to approve operational changes of the project. This modification is acceptable to the Department. However, we still recommend that Licensee submit the proposed plan that incorporates Agency issues, as well as both assenting and dissenting comments, should they exist, request expedited approval, and implement the proposed plan upon approval by the Commission.

7. Minimum Instream Flows (Main project diversions)

This item refers to the Department's Recommendation 1: Minimum Instream Flow (MIF).

FERC asks in the PDI letter to the Department:

Are our alternative recommendations for protection of fish and wildlife resources, as described in the draft EA, acceptable to you? No.

If not, are there any other measures that you would agree to that would accomplish the objective of your original recommendations? No.

Is there any additional evidence to support your recommendations or to demonstrate why they are consistent with the FPA? Yes.

In the PDI, FERC asserts that the Department's minimum instream flows may be inconsistent with the comprehensive planning standard of section 10(a) and the equal consideration provision of section 4(e) of the FPA based primarily on the difference in annualized cost between the FERC staff recommended flows and the Department's recommended flows. (It should be noted that FERC staff's assertion that their recommended minimum instream flows would best provide a balance between creating additional habitat and maintaining, or reducing, instream water temperatures for the benefit of these aquatic species is not supported by the evidence presented in the draft EA.) The Department disagrees with the Commission's PDI. Given the endangered status of spring-run Chinook salmon (SRCS) and the increased habitat (including SRCS spawning habitat) afforded by the Department's comprehensive recommendations, the Department believes the costs associated with the increased minimum instream flows are not unreasonable and the flows are consistent with the comprehensive planning standard of section 10(a) and the equal consideration provision of section 4(e) of the FPA.

FERC staff's minimum instream flow recommendations at the main project diversions are not acceptable to the Department because they do not provide sufficient fish habitat, including SRCS spawning habitat. The minimum instream flows recommended in the Department's June 30, 2008 filing accomplish the Department's objectives for these reaches. The Department believes that the rationale included with the June 30, 2008 filing contains appropriate evidence to support the minimum instream flow recommendations.

8. Minimum Instream Flows (feeder creeks)

This item refers to the Department's Recommendation 1: Minimum Instream Flow (MIF). Long Ravine, Cunningham Ravine and Little West Fork.

FERC asks in the PDI letter to the Department:

Are our alternative recommendations for protection of fish and wildlife resources, as described in the draft EA, acceptable to you? No.

If not, are there any other measures that you would agree to that would accomplish the objective of your original recommendations? No.

Is there any additional evidence to support your recommendations or to demonstrate why they are consistent with the FPA? No.

9. Maintain Flows within the West Branch Feather River

This item refers to the Department's Recommendation 13: WBFR Instream Flow dedication.

FERC asks in the PDI letter to the Department:

Are our alternative recommendations for protection of fish and wildlife resources, as described in the draft EA, acceptable to you? No.

If not, are there any other measures that you would agree to that would accomplish the objective of your original recommendations? No.

Is there any additional evidence to support your recommendations or to demonstrate why they are consistent with the FPA? Yes.

The California Department of Fish and Game's recommendation No. 13 requests that Pacific Gas and Electric Company (PG&E) submit to the California State Water Resources Control Board petitions to change its existing water right(s) "purpose of use" to include section 1707 Instream Flow Dedication in flow amounts up to the measured minimum instream flow. The goal of this action would be to ensure that minimum instream flows released at the Hendricks Head dam would be maintained within the West Branch Feather River downstream to its discharge at the high water line of Lake Oroville.

However, the recommendation would require PG&E to seek a state administrative determination regarding the range of PG&E's water rights. Such action by PG&E would not be a specific measure for the protection of fish and wildlife resources. As a result we will consider recommendation no. 13 as a 10(a) recommendation and will analyze it as such in the final EA.

Further, the Forest Service and the Department recommend that flows made available as minimum instream flows downstream from the Hendricks diversion dam should be maintained within the West Branch Feather River downstream along the natural stream course to its discharge at the high-water line of Lake Oroville. The Miocene diversion dam, located approximately 14 miles downstream of the Hendricks diversion dam, is a non-project structure located outside the project boundary, which extends to, but does not include, the Miocene diversion dam. Because this facility is not subject to the terms and conditions of the license, this recommendation is unenforceable and as a result we do not support it.

10. DeSabra forebay water temperature improvement plan

This item refers to the Department's Recommendation 3: DeSabra Forebay Temperature.

FERC asks in the PDI letter to the Department:

Are our alternative recommendations for protection of fish and wildlife resources, as described in the draft EA, acceptable to you? No.

If not, are there any other measures that you would agree to that would accomplish the objective of your original recommendations? Yes.

Is there any additional evidence to support your recommendations or to demonstrate why they are consistent with the FPA? Yes.

In the January 14, 2009 Section 10(j) Preliminary Determination of Inconsistency letter, FERC staff state that they estimate developing and implementing a plan to construct a facility to reduce thermal loading by 80 percent would have an annualized cost of approximately \$201,100 more than a facility which reduces thermal loading by 50 percent. However, in an October 31, 2008 meeting PG&E staff stated that in their initial cost estimates, installing a pipe (canal leading to a penstock) through DeSabra forebay would actually be less expensive than constructing a sheet-pile wall along one side of the forebay to short-circuit water from the canal to the powerhouse. We believe the intent of our 10(j) recommendation can be addressed through installation of the canal and penstock into DeSabra powerhouse, and support pursuing this as a temperature improvement alternative. Additionally, by eliminating any specific reference to a percentage of "thermal loading reduction" or warming, the Licensee would have fewer compliance issues. This pipe would maximize cooling over other options, may be easier to install, and eliminate the uncertainty to the Licensee associated with meeting a specific percentage of water temperature reduction.

11. Install and maintain up to three additional stream flow gages

This item refers to the Department's Recommendation 5: Monitoring and Adaptive Management.

FERC asks in the PDI letter to the Department:

Are our alternative recommendations for protection of fish and wildlife resources, as described in the draft EA, acceptable to you? None made.

If not, are there any other measures that you would agree to that would accomplish the objective of your original recommendations? Maybe.

Is there any additional evidence to support your recommendations or to demonstrate why they are consistent with the FPA? No.

FERC staff did not recommend adopting our recommendation that over the term of the license, should additional gages become necessary based on the outcome of annual consultation and adaptive management, up to 3 additional gages may be required. FERC staff claims they were unable to analyze this recommendation because we did not specify where these gages would be

located and did not provide any justification for why these three additional gages would be necessary. Because this measure was meant to address adaptive management, we cannot specify exactly what the costs or locations of these gages would be. Our concern is that if it becomes necessary or prudent to have additional gages at some point in the future to evaluate any changes that may occur, the Commission will not require them unless that need is called out in a license term. However, if this option is specifically addressed in the Adaptive Management Plan (which FERC staff did recommend), that would be an acceptable alternative to the Department.

The Department respectfully requests a meeting to attempt to resolve outstanding issues regarding the PDI and hopes the Department and the Commission can reach a mutually acceptable resolution that gives due weight to the recommendations, expertise, and statutory responsibilities of the Department. We have a modification to the Commission's suggested agenda for the meeting (attached). The Department would like to include a discussion of the criteria FERC staff used to make the preliminary determination of inconsistency. Should you have questions regarding this letter or the request for a meeting, please contact MaryLisa Lynch, Water Program Supervisor, at 916.358.2921 or via email at mlynch@dfg.ca.gov.

Sincerely,



Sandra Morey
Regional Manager

10(j) MEETING AGENDA

A. Introduction

1. Introduction of Participants
2. Meeting Procedures and Objectives
3. Chronology of 10(j) Process

B. Discussion of all 10(j) Issues

1. Fish screening of Lower Centerville diversion and Hendricks Head dam
2. Resident fish monitoring
3. Benthic macroinvertebrate monitoring
4. Fish ladder at Hendricks Head dam
5. Annual fish stocking
6. Implement a revised drought plan
7. Minimum instream flows (main Project diversions)
8. Minimum instream flows (feeder creeks)
9. Maintain flows within West Branch Feather River
10. DeSabra forebay water temperature improvement plan
11. Install and maintain up to three additional stream flow gages

C. Discussion of FERC criteria for determination of inconsistency.

D. Other issues

E. Summary of Meeting

1. Issue Resolution
2. Follow-up Actions