

Detailed comments from California Department of Fish & Game on the DEIR for El Sur Ranch Water Right Application 30166

December 14, 2009

Chapter 2 - Project description

The project description includes a general discussion about the need to address public trust resources, pursuant to *Audubon*, and other authorities, in the forms of laws and regulations, which must be address during the water right application. However, the DEIR does not, in fact, address how public trust resources would be protected, except as a standard of significance for evaluation of biological resources, in particular, steelhead; and does not identify further how other laws and regulations would be addressed. The responsibility of the SWRCB to address public trust resources and to comply with Water Code is independent of the standards applied per CEQA.

The project description used by the DEIR is based on the description submitted by the applicant; the project description reflects numerous departures from typical standards which the SWRCB routinely uses to appropriate water, departures such as the request for an annual diversion in acre feet (AF) which would be based on a 20-year “rolling average”, as well as a maximum annual diversion in AF. We do not recommend this approach, and recommend a simple annual diversion be allowed, which represents the maximum allowable diversion each and every year. As with the proposed total amount of diversion, we do not support seasonal limitations on diversion (except as they may be limited to provide appropriate bypass flows). The application also proposes an average rate of diversion which is based on a water duty (as used in CCR, Title 23, section 697(a)(1)) of 1cfs per 50 acres; the standard duty of 1cfs per 80 acres is applicable, and no justification is provided to support the use of a higher duty.

There are a number of conflicting and confusing numbers which are used in the application and environmental analysis: the DIER variously characterizes the Place of Use (POU) as 292, 267 and 242 acres; the application characterizes it as 267 acres. DFG’s calculations indicate it is 223 acres when Swiss Canyon is excluded. The riparian right is identified by the applicant as 25 acres, however the DEIR indicates that previously the SWRCB identified it as 90 acres, and further, that only 23 of the 25 riparian acres are currently irrigated pasture. The DEIR identifies in the text (p. 2-17) a maximum monthly seasonal diversion of 235 AF per month, while elsewhere in the text and on table 2-4 and the application itself, states that limit as 230 AF per month. The applicant has requested a diversion amount and rate which are not supported by pertinent sections of Water Code (§1004) or regulation (CCR, Title 14, §697(a)(1). The DEIR fails to mention in the discussion regarding the existing points of diversion (POD) that the Old Well was relocated and reconstructed, and the dates.

The application proposes to divert an average of approximately 975,000 gallons per head of livestock (325851.385 gallons/AF X 1200 AF/400 head = 977,554 gallons per head); the DEIR fails to justify the amount which is requested as being “reasonable

and beneficial”. Additionally, the DEIR indicates that the applicant has stated that the ranch applied less water for irrigation than was required for optimal crop production; that statement is not further explained, and it would be assumed that “optimal” was based on the estimates of diversion requirements which are presented in Table 2-3. The DEIR states that the “[r]anch foremen have described the historic levels of irrigation as being generally adequate for irrigation of the pasture for ordinary grazing purposes. In a few instances, the annual diversion exceeded crop irrigation diversion requirements; such occurrences have been rare, although it can be reasonably expected that such conditions could occur again in the future.” The DEIR goes on to indicate that the record of past diversions represent past conditions “do not necessarily provide a reliable forecast of irrigation needs in the future”. In spite of increasing irrigation efficiencies over time, the applicant apparently perceives a need for an increase in their diversions over the historic levels which they have been diverting. However, there is nothing in the record, apart from the estimates in Table 4-3, which would indicate that the request is reasonable and would not lead to waste. There does not appear to be evidence to support a requested maximum annual diversion which is higher than the driest year on record (1977), and a proposed average annual diversion which is 55% more than the actual average annual diversion.

The diversion limits proposed, as well as limits on the rate of diversion which are analyzed in the DEIR are those which have been proposed by the applicant; there is not any discussion, or more importantly, any alternative, which has proposed amounts and rates of diversion which would be responsive to other requirements of Water Code, and supporting regulation. The DEIR states on p. 2.20 that Chapter 2 “does not reflect the SWRCB’s determination or judgment as to whether the proposed diversion and use of water is reasonable and beneficial”. However, there does not appear to be a recommendation by staff of the SWRCB, and/or the preparers of the DEIR (which was ostensibly prepared under the direction of staff of the SWRCB) which would inform the determination by the SWRCB as to whether the proposed diversion and use of water is reasonable and beneficial.

The DEIR identifies the technical studies which were prepared by the ESR, and which formed the basis for the impact analysis. DFG was asked to comment on the proposed study plan prior to execution by the applicant’s consultant; DFG’s provided suggestions so that the information derived from the studies would be useful in determining standards for impact analysis as well as setting bypass flows, none of which were incorporated into the plan. Additionally, DFG has provided numerous rounds of comments on the products of the studies; many of our comments indicated that the information was not sufficient to do either an impact analysis or provide the basis for meaningful mitigation measures for steelhead. The preparers of the DEIR have not included any of DFG’s comments, or even provided a discussion of the shortcomings of the information. This is not consistent with the responsibility of the SWRCB under Water Code and per the requirements of CEQA.

The DEIR, in the project description, identifies that portion of the water diverted which is subject to a riparian right, and that portion which is subject to appropriation. However, the balance of the DEIR does not distinguish between the effects which may be attributed to the riparian diversion, vs. that which is attributable to the appropriated portion; this makes it impossible to determine the effects of the proposed action.

This chapter includes several references to “groundwater wells” and “groundwater pumping” when referring to the points of diversion; this could lead the reader to assume that the diversions are not subject to the water right appropriation process. These references need to be clear that the water is in fact being diverted from underflow of the Big Sur River, and is subject to the appropriative water rights process.

Required Permits and Approvals

The DEIR states that no other permits or approvals are anticipated. The SWRCB, and the applicant, should be aware that the Department may require a Stream Alteration Agreement (SAA), pursuant to Section 1600 et seq. of the Fish and Game Code, for any activity that will divert or obstruct the natural flow of a river or stream; and that the applicant must submit a notification to the Department regarding such proposed actions. Before issuing a SAA, the Department is required to independently make a determination of environmental effects pursuant to CEQA. Additionally, there may be listed and/or fully protected species which may need consultation and/or permits from the Department.

The Department, as a Responsible Agency under CEQA, has regulatory authority with regard to stream diversion activities that could adversely affect any fish or wildlife resource. For any activity that will divert or obstruct the natural flow of a river or stream, the Department may require a Stream Alteration Agreement (SAA), pursuant to Section 1600 et seq. of the Fish and Game Code. Before issuing an Agreement, the Department is required to independently make a determination of environmental effects pursuant to CEQA. Diversion of the natural stream flow and activities associated with installing a new return pipeline or repairing existing pipeline across Swiss Canyon, require El Sur Ranch to submit a notification pursuant to Fish and Game Code Section 1602. The Department will review the notification and determine if there are resources at risk associated with the diversion activities, and whether an SAA will be required.

The Department, as Trustee and Responsible Agency, is consulted by the State Water Resources Control Board (SWRCB) during the water rights permit application process to provide terms and conditions designed to protect fish and wildlife prior to appropriation of the State’s water resources. Certain fish and wildlife are reliant upon aquatic ecosystems, which in turn are reliant upon adequate flows of water. The Department therefore has a material interest in assuring that adequate water flows within streams for the protection, maintenance and proper stewardship of those resources. The

Department provides, as available, biological expertise to review and comment on environmental documents and impacts arising from project activities.

The Department protested El Sur Ranch's Water Right Application 30166 based on its proposal to divert from the underflow of the Big Sur River, 1,615 acre feet of water annually at a maximum rate of diversion of 5.84 cubic feet per second (cfs). The Department was concerned that the diversion may result in direct and cumulative adverse impacts to the resources of the river by reducing instream flow and water availability needed to maintain fish and wildlife habitat within and adjacent to the river. Dismissal terms were withheld at the time of the Department's protest in part because an environmental document had not yet been prepared pursuant to CEQA. The Department recommended an EIR be prepared to fully disclose the direct and cumulative effects of El Sur Ranch's diversions from the river. Specific protest dismissal terms will be provided following review of an environmental document acceptable to the Department.

The Department has regulatory authority over projects that could result in the "take" of any species listed by the State as threatened or endangered, pursuant to Fish and Game Code section 2081. If the Project could result in the "take" of any species listed as threatened or endangered under CESA, the Department may need to issue an Incidental Take Permit (ITP) for the Project.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially impact threatened or endangered species (Pub. Resources Code §§ 21001{c}, 21083, tit. 14 Cal. Code Regs. §§15380, 15064, 15065.) Significant impacts of the project must be avoided or mitigated to less than significant levels; CEQA does allow the Lead Agency to make and support a Statement of Overriding Considerations (SOC) for significant and unmitigable impacts. However, the CEQA Lead Agency's SOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code section 2081, under which impacts to State-listed threatened and endangered species must be "minimized and fully mitigated". In other words, a SOC cannot apply to impacts to State-listed threatened and endangered species. Compliance with CESA does not automatically occur based on local agency project approvals or CEQA compliance; consultation with the Department is warranted to ensure that the identified project meets CESA's permit issuance criteria, and project implementation does not result in the unauthorized "take" of a State-listed species.

Incidental "take" authority is required prior to engaging in "take" of any plant or animal species listed under CESA. Plants listed as threatened or endangered under CESA cannot be addressed by methods described in the Native Plant Protection Act. No direct or indirect disturbance, including translocation, may legally occur to State-listed species prior to the applicant obtaining incidental "take" authority in the form of an ITP or its equivalent.

The Fish and Game Code identifies several categories of species which are “fully protected,” that is, no “take” of these species is authorized, except for necessary scientific research including efforts to recover species. Any actions taken as part of specified mitigation for a project, as defined in Section 21065 of the Public Resources Code, does not qualify as “necessary scientific research.”

Fully protected species have the potential to occur on the proposed Project site, including ringtail (*Bassariscus astutus*); California brown pelican (*Pelecanus occidentalis californicus*); and California clapper rail (*Rallus longirostris obsoletus*), also listed as state and federally Endangered. The applicant and the SWRCB should work with the Department to identify measures to be implemented to preclude “take” from occurring. The Department recommends that such measures be identified prior to certification of the EIR, required as Project conditions, and included in a Memorandum of Understanding between the applicant and the Department.

Additionally, two species are listed pursuant to the Federal Endangered Species Act (ESA): steelhead trout (*Oncorhynchus mykiss*) are listed as a Species of Special Concern with the Department of Fish and Game, and are listed as Threatened in the South Central California Coast ESU (Evolutionary Significant Unit); and the federally Threatened/State species of special concern, California red-legged frog (*Rana draytonii*) (RLF). The applicant may need authorization for “take” if “take” of these species, as defined by the ESA, is a likely result of implementation of the approved project. The applicant should consult with U.S. Fish and Wildlife Service (FWS) regarding RLF, and with the National Marine Fisheries Service (NMFS) regarding steelhead.

Chapter 4 – Environmental Analysis

CEQA Baseline

The Department has provided previous written comments to the SWRCB regarding the proposed CEQA baseline utilized for analysis of environmental impacts. We do not agree that the SWRCB should use a baseline which utilizes unpermitted and therefore illegal diversions as a baseline; this position is supported in both case law and previous decisions made by the SWRCB as detailed in the cover memo to this attachment. The Department recommends that the SWRCB utilize as the CEQA baseline that portion of the diversion which is legal, i.e. the identified riparian right to irrigate those pasture lands within the Big Sur River watershed (the actual amount of which should be determined by the SWRCB), at the rate established pursuant to Water Code section 1004, which specifies that no more than 2 ½ acre feet per year be considered “useful or beneficial” in the irrigation of uncultivated land. To utilize another baseline which includes the unpermitted historic use does not allow the SWRCB to accurately evaluate the effects of the proposed project, and undermines the policies and intent of both CEQA and Water Code.

Hydrology, Geohydrology and Water Quality

The Department's detailed comments on this section, and the pertinent appendices, are contained in a separate memorandum, from Mr. Kit Custis to Dr. Jeffrey Single, dated December 10, 2009.

Biological Resources

The Big Sur River is designated pursuant to the Federal Endangered Species Act as critical habitat for the federally threatened, and State species of special concern, steelhead – South Central California Coast Distinct Population Segment (DPS) (*Oncorhynchus mykiss*). The river and nearby Swiss Canyon provide habitat for the federally threatened/State species of special concern, California red-legged frog (*Rana draytonii*) (RLF). This species has been extirpated (locally extinct) from 70% of its former range, and is now found primarily in coastal drainages of central California.

According to California Water Code Section 1243.5, in determining the amount of water available for appropriation, the board shall take into account, whenever it is in the public interest, the amounts of water needed to remain in the source for protection of beneficial uses, including any uses specified to be protected in any relevant water quality control plan established pursuant to Division 7 (commencing with Section 13000) of this code. Concerning water availability for fish and wildlife, the CWC Section 1243 states in part:

“The use of water for preservation and enhancement of fish and wildlife resources is a beneficial use of water. In determining the amount of water available for appropriation for other beneficial uses, the board shall take into account, whenever it is in the public interest, the amounts of water required for recreation and the preservation and enhancement of fish and wildlife resources... for protection of beneficial uses, including any uses specified to be protected in any relevant water quality control plan...”

The Water Quality Control Plan for the Central Coast Region designates for the Big Sur River and lagoon the following beneficial uses: water-contact recreation including fishing; non-contact water recreation including hiking, camping, marine life study, sightseeing or aesthetic enjoyment associated with these activities; commercial or recreational collection of fish, shellfish, or other organisms; warm freshwater habitat; cold freshwater habitat; fish spawning, reproduction, and/or early development; migration or other temporary activities by aquatic organisms, such as anadromous fish; preservation or enhancement of aquatic, estuarine, and terrestrial habitats and associated vegetation, fish, shellfish and wildlife; preservation or enhancement of water and food sources for wildlife; and habitat for rare, threatened or endangered species; preservation or enhancement of natural resources in designated areas or habitats such as parks requiring special protection; and freshwater replenishment.

For the preservation or enhancement of fish and wildlife resources, Big Sur River water should only be available for appropriation after adequate instream flows are dedicated to support these beneficial uses. Only after public trust resources are preserved or enhanced and beneficial uses protected may water be available for appropriation.

The DEIR references several sources as providing information to support its biological conclusions, but none of these documents were made available to the Department or the public for review, except by request. It is therefore unclear what biological surveys of what level were performed on the site, during what year and time of year, and by whom. It is also not specified whether all necessary areas potentially affected by the Project were surveyed and included in the impact analysis. As a result, it was difficult or impossible to understand reported survey findings in the absence of the original full report.

For example, Table 4.3-2 indicates that two sensitive plant species were observed on site (source: PBS&J site visit, July 21, 2006, according to the note at the bottom of the table), namely Monterey Indian paintbrush (*Castilleja latifolia*), CNPS List 4, and coast wallflower (*Erysimum ammophilum*), CNPS List 1B.2. These species are not listed on Table 4.3-4, which includes sensitive species which have the potential to occur in the vicinity; nor is their presence reported in the text. In fact, the DEIR states that no sensitive plant species were documented within the project area. This obvious oversight would not only require additional analysis and potentially measures proposed to address these two species; it also serves to undermine the credibility of other conclusions provided in the DEIR. Other sensitive species not mentioned in the DEIR, for which there is documented or assumed presence include ringtail; coast range newt; and California horned lark. Additionally, California clapper rail (state and federally listed as Endangered, and California Fully Protected) has been documented at the mouth of the Big Sur River.

The proposed project would substantially increase the proposed allowable diversions from the Big Sur River. As such, the Department does not concur with the conclusions reached in the DEIR regarding the possibility of the Project to result in impacts to sensitive biological resources. Specifically, it does not appear that adequate information exists to reach conclusions that impacts would be less than significant, and the conclusions themselves do not logically follow the limited information as presented in the DEIR.

Riparian habitat: The DEIR states that under the proposed Project, from July through October the water diverted would increase, but that because groundwater rebounds quickly under existing conditions, impacts to riparian vegetation would continue to be minor. The DEIR also states that in 2006 riparian vegetation did not appear to be water-stressed, and concludes that the additional drawdown of water that is proposed would not cause the degradation of willow riparian forest. It is unclear how this conclusion can

be reached. A one-and-a-half-fold increase in water pumping would represent a change in conditions from the baseline, and the potential impacts on vegetation should not be assumed to be less than significant because baseline conditions do not appear to have a negative effect on the habitat. Additionally, there is no discussion of the effect that increased salinity would have on riparian resources.

Western Pond Turtle: The DEIR identifies the Big Sur River and the tailwater pond as suitable habitat for the western pond turtle, and states that the Swiss Canyon creek is too small to support the species. No turtles were observed during fisheries studies, but focused surveys were not performed and it is not known if surveys of all potential areas were sufficient to detect the species. The DEIR impacts analysis focuses only on potential impacts to the Big Sur River that could impact adult turtles and concludes that a reduction in water levels would not result in increased predation of turtles, but this conclusion is not supported by existing data or research regarding risks to turtles and correlated links to increased predation. The DEIR also does not discuss any potential changes in the condition of the tailwater pond that may impact the species.

Red-legged Frog: RLF were identified on the Project site in 2006 during fisheries surveys, and were previously known to habitats of the Big Sur River. It does not appear that focused protocol-level surveys for the species were conducted on the Project site. The DEIR indicates that Swiss Canyon, the Big Sur River, and the tailwater pond provide suitable habitat, but none of these areas was surveyed to determine the extent of occupancy. The tailwater pond is specifically not included in any of the discussions regarding potential impacts to the species. Instead of performing protocol-level surveys to fully identify occupied areas, the DEIR identifies areas of suitable habitat and attempts to support conclusions that no significant impacts would occur to those areas. The Department does not agree with those conclusions.

Tailwater pond and Red-legged Frog: The tailwater pond is not included in impacts analysis for RLF, although it is identified as suitable habitat and receives tailwater from the irrigated pastures. A doubling in irrigation water would likely impact condition in the tailwater pond, potentially through depth, duration of ponding, water quality, or other factors. The status of RLF in the pond needs to be determined and disclosed, and impacts that reduce the quality of the pond as a breeding site should be discussed in the DEIR. Protocol-level surveys should be conducted, and results should be submitted to the Department and the United States Fish and Wildlife Service for review.

Swiss Canyon and Red-Legged Frog: Although the DEIR does not include any biological reports as attachments, the Department does have a December 2006 report prepared by Miriam Green Associates for Hansen Environmental Inc. This report indicates the importance of irrigation run-off in contributing to RLF habitat in Swiss Canyon. It also identifies degradation of portions of the water channel, banks, and vegetation caused by the existing ranch operation, including cattle trampling, resting, and

browsing/razing, and wide trails created for human and cattle passage. The DEIR claims that irrigation runoff does not seep into Swiss Canyon and that erosion does not occur, and that an increase in irrigation runoff would not result in a change of flow in Swiss Canyon. As a result, no impacts such as erosion and associated impacts to amphibian resources would occur. The Department is unable to reach the same conclusion from the sparse summary information presented in the DEIR, which does not incorporate impacts of existing ranching operations in the discussion of potential Project-related impacts to aquatic resources. Regardless of baseline condition, the conclusion that a doubling of applied irrigation water to the pastures would not result in a change in runoff or erosion conditions or any potential associated impacts to breeding RLF is not supported.

Big Sur River and Red-legged Frog: The DEIR discussed a drop of two inches in the water level of the Big Sur River and concludes that such a change would not result in a significant loss of RLF breeding habitat or a significant impact to egg masses. It is unclear how a statement about impacts could be made without data regarding the use of the site by the species. Because RLF egg masses tend to be attached to emergent vegetation near the water surface, an estimated drop in water surface elevation of two inches could result in egg masses becoming closer to the surface or even exposed to air, resulting in desiccated or otherwise unviable eggs. Such an impact would be considered significant under CEQA and may require take authorization from the United States Fish and Wildlife Service. The Department disagrees with the conclusion reached in the DEIR and believes that a significant impact could occur to RLF in the Big Sur River. In order to bring these potential impacts to less than significant levels, the DEIR should propose avoidance, minimization, or mitigation measures to protect habitats during the breeding season.

Ringtail: The 2006 Report written by Miriam Green Associates indicates that the riparian habitats of the Big Sur River are suitable for the fully protected ringtail, which occurs in the Andrew Molera State Park. The DEIR should evaluate and address potential Project-related impacts to this species, and should include appropriate species specific avoidance and minimization measures, as necessary.

Steelhead

Steelhead trout (*Oncorhynchus mykiss*) are present in the Big Sur River, throughout the year. Steelhead are listed as a Species of Special Concern with the Department of Fish and Game, and are listed as threatened in the South Central California Coast ESU (Evolutionary Significant Unit) under the Federal Endangered species Act (ESA), National Marine Fisheries Service.

Populations in Central and south coast of California have declined sharply in the last 50 years, due primarily to reductions in the amount and quality of freshwater habitat (Titus et. Al 1994). Their life cycle is very complex. Adult steelhead migrate into the river to

spawn, typically in December thru March. After spawning, the eggs hatch into alevins, which emerge from the gravels, and reside and grow in the stream usually 1-2 years, before transforming into a smolt prior to returning to the ocean.

Impacts to steelhead and habitat: The amount of water flowing in the Big Sur is directly related to fishery habitat availability in terms of quality and quantity. Public Trust Resources, such as steelhead, native fish assemblages, invertebrates, and other aquatic resources are intricately connected to habitat instream flow and habitat conditions. Some important impacts were identified in the DEIR based on thresholds of significance. Impact to fish passage, dissolved oxygen and temperature will occur, based on the small increase of water diversion compared to historic diversion of applicant.

Impacts to all the important stream components of fishery habitat must be considered significant when the fishery investigation utilizes appropriate sampling methods and actual field conditions, directly related to time and place of impact. Fish and aquatic species respond to daily, instantaneous habitat conditions, **not** running cumulative means, averages, and percentages as presented in DEIR. Stream components of fishery habitat include hydrology, geomorphology, biology, water quality, and connectivity.

Impacts to all the important stream components of fishery habitat must be considered significant when investigation focuses on all water diversions by applicant, not just the smaller increase in diversion when compared to historical diversions. The impact of the decrease in water availability to instream aquatic resources, wildlife, riparian corridor, adjacent uplands, and lagoon with its incredible biodiversity of species requires more careful investigation and realistic presentation of impacts.

Some of the cumulative impacts were minimally identified by saying that impacts will be magnified when the additional increase in diversion is evaluated along with actual existing water diversion. Cumulative impacts need to be addressed at many levels, including direct, indirect, short term, long term, within the year, and between years. The impact of the proposed diversions need to be evaluated in terms of their cumulative effect on aquatic habitat conditions, combined with natural disasters, such as drought, fire, and floods.

Impacts to Public Trust Resources also need to be identified and addressed. The Big Sur River is a very significant, and the most southern, steelhead watershed in California. The many factors weighing in on this determination include, but are not limited to 1) the large size of the watershed, 2) the large percentage of low gradient good to excellent steelhead habitat, 3) the condition of the watershed, which is largely owned by the public, 4) the presence of threatened and endangered species, 4) the presence of a lagoon, one of the largest landscape features in the central coast region; lagoons are one of the richest sources of biodiversity in California. The significance of the watershed goes beyond the borders of Monterey County to the Pacific States. There are few

unaltered lagoons where scientific research can be conducted to increase our understanding of lagoons and ecological processes. The size of the lagoon and access to the ocean contribute to the significance of the Big Sur lagoon. This watershed composed of the lagoon and river are important to perpetuating steelhead during times of natural disasters such as drought, fire, and flood, when other smaller or steeper watersheds with little or no lagoon are more adversely impacted. When steelhead access to most of the usual spawning streams is closed and instream conditions are unfavorable to steelhead, the Big Sur remains important refugia for steelhead access and rearing.

Some of the impacts of water diversions which result in altered flows, include, but are not limited to, the following: 1) associated wetlands and riparian habitats not maintained, 2) local water tables not recharged, 3) streambar and channel areas are no longer inundated and scoured, 4) ratio of pool to riffle changes, 5) loss of connectivity with surface flow and underflow, 6) loss of year-class of steelhead because of loss of passage thru bottleneck created at diversion site or zone of influence, and 7) loss of ability to move between lagoon and mainstem for juvenile steelhead rearing.

Ongoing DFG study: Department of Fish and Game (DFG) listed the Big Sur as a priority stream for Instream Flow Assessment, pursuant to Public Resources Code (PRC) Section 10004 (August 12, 2008, list attached). This list was compiled and ranked from input of staff from DFG, State Water Resources Control Board (SWRCB), National Marine Fisheries Service (NOAA), and United States Fish and Wildlife Service (USFWS). Criteria included presence of anadromous species, likelihood that flow recommendations would provide high level of improvement, availability of relevant data, and possibility of partners and willing landowners.

This DEIR for water right application lacks the important information required to make a determination of level of impact. The applicant provided inadequate information from an Instream Flow Study and Thompson Method resulting in the Department of Fish and Game taking the lead for field investigations related to this project. Interim instream flows are recommended until our Instream Flow Study is complete in 2011.

DFG has already implemented the instream flow study as part of our Instream Flow Program. The Study Plan, titled Habitat and Instream Flow Relationships for Steelhead in the Big Sur River, Monterey County, September 2009 (attached) outlines the approach and methods that will be used by the DFG to conduct a specific instream flow study. The primary objective of DFG's study is to develop scientific information on the relationships between flow and available stream habitats to determine what flows are needed to maintain healthy conditions for fish and wildlife. Relationships between flow and habitat will be developed for critical life stages of steelhead, spawning, rearing, and migration. Results of this study will provide instream flow recommendations to provide adequate long term protection, maintenance, and stewardship of riverine Public Trust Resources. Several stream reaches will be evaluated, including a comparison of the

physical habitat characteristics of stream reaches investigated in 1994, and the lagoon reach. Specialized investigation of the lagoon and potential impacts will include salinity based estuary inflow methods and approaches [Instream Flows for Riverine Resource Stewardship]. Salinity distribution, relative to depth and substrate, is one of the primary factors determining production and distribution of lagoon flora and fauna. The current status of the project is analyzing flow and habitat data collected at a riffle transect located near the diversion site. We also have collected data on critical riffles, downstream of the Molera Creek campground, according to the Thompson method.

The most critical issues to address are rearing in the river and lagoon, fish passage, and changes in habitat quantity and quality. DFG's preliminary results of a Steelhead Habitat Use Study, conducted on the Big Sur River in 1994 by Rob Titus, show juvenile steelhead with little to no growth during the drier month, late summer to early fall. This has serious implications if the carrying capacity of the river is continued to be reduced by water diversions. Juvenile steelhead, instead of maintaining their weight thru the summer, in order to smolt and migrate out to the ocean, will lose weight. This increases the mortality and reduces the percentage of successful recruitment of spawning adults to perpetuate the species through generations. DFG's preliminary data also show a reduction in densities of fish with reductions in water flow. Reductions in water flow reduce the availability and quality of prey available to steelhead for maintenance and growth. Management of successful fisheries is a numbers game. The more steelhead that survive to migrate, thru the lagoon, to the ocean in a healthy condition, the greater the chances of successful recruitment. There are more recent fishery investigations, using more modern technology to track individual fish, conducted in central coast lagoons that show that steelhead size at time of migration is a very important factor in determining the success of returning adults. The larger steelhead smolts have a more successful rate of return. Lagoons are well known to provide important rearing habitat for salmonids, showing growth rates in steelhead that are much higher than growth rates in the stream reaches. Successful recruitment of steelhead from the Big Sur river may be the population that provides recruitment (straying) to other watersheds, both north and south, during times of drought. Recent genetic studies have shown that southern steelhead represent a unique population subunit and an evolutionarily significant unit within this species (Nielsen et. al. 1994). National Marine Fisheries Service status review for steelhead showed that southern steelhead's genetic diversity is unprecedented throughout the rest of the species range (NMFS, 1995). The ability of southern steelhead to exist with such genetic diversity is probably related to special adaptations to extreme environmental conditions. The genetic stock of the Big Sur is a genetic stock of special concern, in need of protection.

Another critical issue to address is the monitoring of steelhead rearing and utilization of available and suitable habitat to maintain a healthy, productive fish population. This includes a baseline bioassessment in areas affected by diversion, downstream in lagoon, within the area of impact or zone of influence, and upstream of

impact. Intensive monitoring for success of the appropriated flow to protect instream resources will be required.

Evaluation of Big Sur River physical habitat conditions must be tied to a broad understanding of ecosystem processes. These are the global scale, the watershed scale, the stream segment scale (the most evident scale we are investigating), the macrohabitat scale, the mesohabitat scale, the microhabitat scale, and the temporal scale (Annear, T. et. al. 2004, *Instream Flows for Riverine Resource Stewardship*). These river components are integrated and evaluated in an instream flow study. The instream flow study is an interdisciplinary approach to quantify hydrology, biology, geomorphology, water quality, and connectivity of the Big Sur, important to protecting instream flows in maintaining or restoring the seasonal pattern of intra-annual (magnitude, duration, timing, rate of change) and inter-annual variability (frequency) to maintain or restore the natural ecological function of the Big Sur River.

DFG is the California trustee agency for fish and wildlife, and has the primary expertise in dealing with fish and wildlife issues and the primary responsibility for interpreting Fish and Game Code. Fish and Game code 1600 states in part that “The Legislature finds and declares that the protection and conservation of the fish and wildlife resources of this state are of utmost public interest. “Fish” is defined at Fish and Game Code 45 as meaning ‘wild fish, mollusks, crustaceans, invertebrates, or amphibians, including any part, spawn, or ova thereof.’” The SWRCB is required to give great weight to the Department’s judgment with respect to fish and wildlife needs (*Bank of America v. State Water Resources Control Board* (1974) 42 Cal.App.3d 198, 212, 116 Cal.Rptr. 770; see also Water Code sections 1243 and 1257.5).

DFG is mandated by the Salmon, Steelhead trout, and Anadromous Fisheries Program Act of 1988 to significantly increase the natural production of steelhead in the state. Protecting instream flow on the Big Sur will help us attain our as-yet unmet goal.

Need for requirement of protective bypass flows: The Department recommends that protective flows be established if the SWRCB issues a permit for this water right application. The impacts from existing, illegal, unpermitted diversions, in addition to the applicant’s request for an increase in diversion, are considered highly significant. Considerations in ‘Beneficial Use’ and allocation of a finite water supply should consider protective flows to be an ‘Essential Use’, as recommended by *National Audubon Society v. Superior Court of Alpine County*, and consistent with Water Code section 1257, providing additional support and weighting to the importance of maintaining instream flow in decisions regarding beneficial use. Important beneficial uses directly related to protection of instream flows are: 1) Public Trust Resource protection (aquatic and wildlife resources, adjacent riparian, and upland); 2) Scientific research on a ‘Wild and Scenic’ large southern steelhead stream; the Big Sur River may be a future site for research, assessment and monitoring in the development of biocriteria on more pristine

natural rivers and lagoons, an expansion of the existing bioassessment program; 3) Education; 4) Recreation; 5) Aesthetic; and 6) Fishing. The other beneficial uses, of course, include human use for private or economic purposes such as agriculture or business. The existing and proposed diversion may be considered 'waste and unreasonable use' based on a request which is not consistent with Water Code and implementing policy. This is significant when evaluated in light of the significance of the Public Trust Resources, and the continual decline in the salmonid, steelhead fishery. Additionally, the applicant is requesting the most diversion of water during the time when aquatic resources also need it the most.

El Sur Ranch water diversions result in a significant reduction in habitat availability in terms of ability to support a healthy viable steelhead population. The two most critical issues to address, in both the lagoon and the mainstem river, are passage and rearing. The diversion affects a critical reach in the watershed. It is upstream of the lagoon, and therefore has significant effects on the conversion of the lagoon to excellent rearing habitat conditions. These diversion influences also affect the behavior of the river mouth and therefore, salmonid access, and the rate of conversion of the lagoon from saltwater to freshwater, or some stage in-between. It is downstream of the rest of the watershed, and therefore could have profound impacts on the ability of steelhead to move not only upstream to benefit from the resources in the entire watershed above the diversion, but the diversion could also impact steelhead movement between the lagoon and the upstream river habitats. SWRCB decisions must reflect impacts to threatened and endangered species. Public Trust Resources will be better protected when protective instream flows are required by SWRCB during the water rights process. In order to accomplish this, a water availability analyses for all known and foreseeable diversions is needed.

Other pertinent plans and publications: There are many plans related to protection and management of the Big Sur which should have been consulted in preparation of the DEIR. These plans provide supporting evidence of the significance of fish and wildlife resources that live in, on, or near the Big Sur River. These plans are in various stages of organization, implementation, and completion. One of the most important plans, Big Sur River Protected Waterway Management Plan of 1985, was understated in the DEIR, in terms of its value and foresight. Management of instream flow for natural resource protection and human use was one of the main goals of the Plan. Most of the pertinent issues and concerns still exist. Although an update of this Plan is needed, the focus on reducing the cumulative impacts of water diversions on Public Trust Resources needs to be continued and expanded.

Other important plans to protect, restore, and manage riverine resources are discussed below. These plans provide supporting documentation of the level of involvement by Resource Agencies and other groups because of the significance of the resource. One of the most recent reports, The Use of Bioassessment to Determine the

Biotic Condition of Two Sites on the Big Sur River, Monterey County, Ca, December 2009 by Jim Harrington; show that the Big Sur is already being degraded. This is based on surveys conducted since 2001. Additional sampling sites are recommended, downstream of the Andrew Molera Site, and near the water diversion area. These assessments were conducted prior to the impacts from the large recent fire, 2008, in the watershed.

Anadromous Sport Fish Management and Research Program, Project #55 – South Central Salmon and Steelhead Restoration and Enhancement Program is conducting a fish population inventory and habitat assessment project on the Big Sur to provide a basis for improved management of steelhead stocks, and to identify restoration measures and actions. This program will help document the impacts of fire on fishery habitat. Coastal Biodiversity Measured through Baseline Assessments of Important Lagoons in Central Coast Bioregion, currently proposed to study the Big Sur lagoon thru DFG's Resource Assessment Program. This study, when funding is available, will focus on increasing our understanding of coastal lagoons, one of the most important ecosystems in California. Lagoons are one of the richest sources of biodiversity along the coast. DFG has files of stream surveys, creel surveys, reports, and investigations dating back to surveys conducted by Shapovalov and Taft on the Big Sur in 1945.

Department of Parks and Recreation have several management and monitoring reports. Andrew Molera State Park Cooper Grove Management Plan, April 2003, has measures to protect the monarch butterfly grove. The Big Sur River Steelhead Enhancement Plan, March 2003, characterizes the status of the existing steelhead resource within the project area and provides recommendations for habitat enhancement and resource management to benefit steelhead. Progress on these plans is at various stages of implementation and completion. The East Molera Grassland Avian Monitoring Report, May 2001, reports results of monitoring baseline avian species richness, abundance, diversity, and community similarity. This baseline monitoring compared non-native vegetation plots to native vegetation plots to evaluate native vegetation habitat restoration efforts.

The California State University, Monterey Bay has been conducting graduate research on the Big Sur River. Their most recent investigation, Post-Fire Baseline Monitoring of Big Suir River Lagoon: November/December 2008, Watershed Institute, Publication No WI-22008-7, is monitoring the effects of the fire on river processes and the lagoon.

Alternatives

If a baseline were utilized which does not include the unpermitted non-riparian diversions, DFG believes that all of the proposed alternatives, with the possible exception of the No Project/No Permit Alternative, would result in significant and potentially

unmitigable impacts, to the Big Sur River including associated species and habitats, and potentially to the POU. Irrespective of the standards utilized to evaluate the potential effects of the project pursuant to CEQA, DFG does not believe that any of the proposed alternatives, possibly including the No Project/No Permit Alternative, will adequately protect public trust resources.

Additionally, the discussion of alternatives should focus on alternatives to the project which are capable of avoiding or substantially lessening any significant effects of the project, “even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly” (CCR, Title 14, section 15126.6(b)). The Department does not believe that the alternatives discussed meet that requirement; and none of the alternatives, possibly including the No Project/No Permit Alternative, would reduce impacts to public trust resources and/or could be permitted under existing statutes, regulation, policy and case law.

The No Project/No Permit Alternative, was dismissed stating that “most of the basic project objectives, particularly the key objective of authorizing the historical water use on the Ranch’s irrigated pasture would not be realized”. In fact, most of the project objectives would be met, with the exception of authorizing the historical (and unpermitted) water use. This would meet the standard of CEQA: “even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly”.

The No Change in Existing Practices/Historical Diversions Alternative would predictably have no effects over baseline (which happens to have been set by the SWRCB at the level of this alternative). The DEIR states that this alternative would reduce flows incrementally, which, in view of the fact that the Big Sur River supports critical habitat for endangered species, the slightly lower incidence of low flow with the No Changes in Existing Practices/Historical Diversions Alternative would therefore be “substantial”. However, the DEIR concludes “the magnitude of change relative to the proposed project is difficult to predict. Because seasonal maximum volumes are higher than the proposed project, this alternative could still result in significant impacts on steelhead habitat through reductions in flow or DO.” It is not clear that this alternative would meet the intent of CEQA, in requiring that alternatives “are capable of avoiding or substantially lessening any significant effects of the project”.

The Alternative Irrigation Efficiency Alternative is a viable alternative, which reduces impacts much more than any other alternative. However, this alternative does not have bypass flows established which would be protective of public trust resources. This alternative could have quite a bit of value, if combined with another alternative which would cap diversions at a level prescribed by by Water Code and its implementing regulations.

The Alternative Limits on Diversions Alternative was submitted by the applicant. It relies on an even more complicated set of criteria than the proposed project to restrict the amount or rate of diversion, and still would not provide adequate protection for public trust resources. Additionally, it is not clear why the SWRCB would consider an alternative which is suggested by the applicant, instead of consideration of a meaningful alternative which would actually reduce the effects of the proposed project.

Consideration of New Alternative

The Department recommends an alternative which would be consistent with Water Code, regulation, policy and case law; and would require the maintenance of bypass flows which would protect public trust resources. We do not believe any of the other alternatives, except possibly the No Project/No Permit Alternative, would be consistent with Water Code, regulation, policy and case law; and we do not believe that No Project/No Permit Alternative would necessarily protect public trust resources.

The water right, in particular the allowable annual diversion and the rate of diversion, as well as terms and conditions which would limit the amount and rate of diversion, should be predicated on several assumptions, primarily (1) the verification of the acreage which is currently irrigated pasture, not including those areas which are not suitable, including but not limited to: dunes, tailwater pond, outfall, access roads, irrigation canals and Swiss Canyon; (2) verification of what portion of the irrigated pasture is within the Big Sur River watershed, and therefore riparian and not a part of an appropriation; (3) verification that the water duty identified in regulations regarding the amount of water considered reasonably necessary is 1 cfs per 80 acres (California Code of Regulations (CCR), Title 23, Section 697(a)(1)); and (4) identification of what would constitute reasonable, useful and beneficial purposes of the diverted water when applied to the uncultivated pasture of the POU, up to a maximum of 2 ½ acre feet per acre (AFA) per year. While that figure (2 ½ AFA) is less than that which has historically been diverted without permits, comparable sites in coastal Monterey typically utilize 2 AFA for irrigated pasture; cultivated crops in coastal Monterey County, including strawberries, vegetables and field flowers, use 2 to 3 AFA.

The Department recommends that the annual diversion be based on a formula which would multiply the acres of irrigated pasture subject to the appropriated water right, multiplied by the AFA appropriate to local conditions, not to exceed 2 ½ AFA, as specified in Water Code section 1004. The Department does not support bifurcation of the allowable diversion into an “average” and a “maximum” amount; nor do we support an “average” amount, based on a 20-year rolling average, be approved for diversion (see discussion above as this applies to impact analysis). The Department recommends the SWRCB identify an annual allowable diversion amount, which is not subject to averaging over multiple years, and is the maximum allowable each and every year, subject to such limitations as may be imposed via additional terms and conditions

The applicant has suggested a maximum allowable rate of diversion (in cfs) and an average rate of diversion (in cfs), which could be limited by a complicated set of criteria in dry and critically dry years. The applicant appears to have assumed a duty of 1 cfs per 50 acres, and included their entire irrigated lands (not just the POU subject to an appropriated right), in requesting 5.34 cfs as the allowable average diversion ($267 \text{ acres}/50 \text{ acres} \times 1 \text{ cfs/acre} = 5.34 \text{ cfs}$). Regulations were promulgated by SWRCB to clarify information to be submitted with a water right application, including “amounts for which to apply”; the amount of water considered reasonably necessary for most portions of California would be a duty of 1 cfs per 80 acres (CCR, Title 23, section 697(a)(1)).

We believe the duty of 1 cfs per 80 acres is more appropriate than that proposed by the applicant. The regulations allow for a greater rate of diversion for a lesser time period for any 30-day period, so long as there is no interference with other users, and it is specified in the permit (CCR, Title 23, section 697(a)(2)). The applicant has requested a maximum rate of diversion of 5.84 cfs; however, the DEIR has indicated that the ESR pumps are capable of pumping at a combined rate of 7.9 cfs. As we have noted above, the instantaneous rate of diversion (as opposed to daily, monthly, annual rate) is critical to maintaining sufficient bypass flows; and, it is important to note, it is difficult to determine the instantaneous rate of diversion, let alone regulate it. The Department recommends that the SWRCB identify an average rate of diversion which is consistent with the duty recommended in 697(a)(1) of 1 cfs per 80 acres; additionally, that the SWRCB require a meter be installed on both wells which would measure and record for both wells, the time of day of pumping, and the instantaneous and cumulative diversion rates, to determine if the diversion rate(s) specified in the permit were being observed. Additionally, whatever rate is permitted (including any specified maximum rate), the Department recommends that terms and conditions be applied to require the applicant to maintain sufficient bypass flows which would be biologically meaningful to the public trust resources of the Big Sur River.

The analysis in the DEIR compares effects of the applicant’s proposed project to that which has been occurring on an unpermitted basis; the terms and conditions identified in Mitigation Measure 4.2-2 proposed to reduce diversion rates (not amounts) to address potentially significant effects. This would not address the protection of public trust resources; in fact, no information has been provided that previous, unpermitted diversions were not having a significant adverse effect on public trust resources, and the limitations which are recommended in MM 4.2-4 would not require bypass flows, or otherwise insure maintenance of steelhead habitat. Additionally, the thresholds identified in MM 4.2-2 are based on an unnecessarily complicated set of criteria related to percentile of dry and critically dry flow rate percentiles; if the ever-changing thresholds were to be exceeded, the diversion rate would be adjusted, again according to an unnecessarily complicated sliding scale of allowable diversion rates.

The Department recommends a more direct approach than is identified in the DEIR; specifically, that the allowable annual diversion (in AF), as well as the average and maximum rate of pumping (in cfs), be conditioned by criteria which would maintain bypass flows sufficient to protect fish, wildlife, and public trust resources. The specific terms the Department recommends would assume that the rate of diversion is the maximum permitted rate, and implement limitations on pumping (i.e. cessation of pumping, not just modification of the pumping rate) when the gauge indicates that habitat requirements for steelhead and other public trust resources would be impaired. The water rights permit should require cessation of diversion whenever the flows drop below the bypass requirement. The pumps would either be on or off, which can be easily monitored, rather than allowing varying rates of diversion, which could be impossible to monitor or enforce.

The thresholds for turning the pumps off would be based on maintaining flows which would protect habitat for steelhead and other public trust resources. Ideally, a stream gauge would be located in the vicinity of the project, and IFIM or similar methodology would have determined in-stream flows sufficient to maintain habitat, which would be tied to flows as measured at the gauge. The Department recommends that the SWRCB require installation and maintenance of such a gauge, to be located above the diversion, but below the other numerous diverters in the watershed. DFG is pursuing funding for purchase and installation of a gauge to facilitate ongoing studies; but would like the applicant to maintain the gauge, and should funding not be available to DFG, provide the funds for purchase and installation. While DFG is engaged in completing studies to determine in-stream flow requirements, it is recommended that interim thresholds be tied to the existing USGS gauge. Once more specific recommendations can be made, those recommendations should be tied to flows as measured at the new gauge, and those in-stream flow requirements adopted by the SWRCB for this permit.

Additionally, we suggest that this alternative be combined with the updated infrastructure identified in the Alternative Irrigation Efficiency Alternative. Increased irrigation efficiency would allow the applicant to make better use of the more limited amount and rates of diversion which are proposed under this new alternative and could allow more optimal forage production. Although there are potentially significant effects of updating the irrigation system, the impacts are primarily related to the construction phase, and could likely be lessened over time to a level of less than significant.