**STATE OF CALIFORNIA**

**BEFORE THE STATE WATER RESOURCES CONTROL BOARD**

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| In the Matter of: | ) **TESTIMONY OF CHRISTOPHER SHUTES** |
| Water Rights Application No. 30166 | ) |
| of El Sur Ranch | ) Hearing Date: June 16, 2011 |

Contents

# TESTIMONY OF CHISTOPHER SHUTES

My name is Chris Shutes. My home and office address is 1608 Francisco St., Berkeley, CA 94703. I work for the California Sportfishing Protection Alliance as its FERC Projects Director, and in that capacity am currently working as a fisheries advocate in the relicensing and license implementation for about a dozen hydroelectric projects in California. I also represent CSPA as a water rights advocate, and am presenting this testimony in that capacity. My relevant experience is described in my CV, which has been submitted as Exhibit CSPA-2

The purpose of my testimony is to help provide context in a protracted proceeding that contains thousands of pages of documents, and to call the Board's attention to a number of facts and criteria that the Board should consider and use in deciding how to address Application 30166 of the El Sur Ranch.

## I. Overview of Water Availability

The hearing notice for Application 30166 asks, in the first instance, if water is available for appropriation, and in the second, whether approval of the application will result in any significant adverse impacts to water quality, the environment, or public trust resources.

### *A. Water Availability: Technical Considerations*

Determining the availability of water for appropriation in the Big Sur river is difficult because of a series of unusual technical circumstances peculiar to the proposed diversions. At minimum, some of the confounding factors are:

1. The diversion is from subterranean streamflow, not from the portion of the stream that flows above the surface of the streambed.
2. There is no permanent USGS gage for the Big Sur River at or near the point of diversion. USGS Gage 11143010 is located 7 miles upstream of the point of diversion, and has been the sole permanent gage available for use in analysis of the application. A second USGS gage on the Big Sur River about ¾ mile upstream of the ocean was installed in 2009, but has not yet been calibrated for flow.

3. Water losses due to other diversions and/or natural losses between the upstream gauge and the point of diversion are generally but not precisely known, especially on an instantaneous basis and especially at low flows.

4. Effects on river flow from well pumps has a time lag.

5. Effects on the lagoon at the mouth of the Big Sur River from underground pumping are difficult to evaluate.

It is essential that the Board account for the uncertainty created by this ensemble of circumstances by requiring instream flows for the Big Sur River that, with a high degree of certainty, will protect both senior diverters and the river's public trust resources. In order to protect public trust resources, the Board's first duty is to set protective streamflows.

***B. Water Availability: Procedural and Policy Considerations***

There are other confounding circumstances that result from choices made by the applicant in the application and supporting reports and by the Board in the DEIR:

1. CDFG has questioned whether the ESR application its and associated analyses of water availability include all existing claims of riparian diversions for the Big Sur river. This is true even without including El Sur's own statements of (riparian) diversions, which appear to contradict the Board's prior determination of the applicant's riparian rights. Therefore, it is unclear whether there is water available for appropriation in the Big Sur River, even before flow requirements are considered. Before the Board determines whether there is water available to appropriate, it should re-calculate the statements of existing diversions to match the information on record, and determine to what extent the applicant's statements of (riparian) diversion should be included.

2. The gauging of the diversion itself is not direct, but rather is based on electric use by the applicant's pumps. It is unclear how head differentials, depending on ultimate destination of the water (specific location within place of use), affect actual levels of diversion. Any future diversion must directly measure the amount of water diverted. This is basic and fundamental.

3. The effects of past unauthorized diversions by the applicant on public trust resources, and in particular steelhead, are unknown. This is correctable by analyzing the history of steelhead populations in the Big Sur River, from the time the applicant began unauthorized diversions to the present. This is basic environmental information that the applicant's consultants have neither analyzed nor disclosed.

The Board regularly conducts public trust resource analyses (PTRA's) in its water rights determinations, and this case should be no exception. Instead of considering the factors necessary for a PTRA, the Board, in its DEIR, included at least four decades of unauthorized diversions as part of the baseline for environmental analysis. Thus, despite the Board's duty as custodian of public trust resources, the DEIR thus neither disclosed nor analyzed the impacts of the applicant's unauthorized diversions on these ESA-listed steelhead, and also on other aquatic biota including ESA-listed California red-legged frogs. The DEIR should be revised to correct the baseline and to complete the needed analysis and disclosures, and should then be re-circulated. In order to answer the question about significant adverse impacts to water quality, the environment, and public trust resources, it is first necessary to understand the impact that unauthorized diversions have already had.[1] A completed instream flow study should also become an integral part of this analysis, as should the CDFG and CSPA flow recommendations.[2]

***C. Water Availability: Significance of Subterranean Stream Pumping***

In 1992, following an investigation of a 1990 complaint by the Department of State Parks precipitated by the loss of surface flow in portions of the lower river, the Complaint Section of the Division of Water rights determined the need for the applicant to apply for an appropriative right, on two bases: first, that the water diverted by applicant was not percolating groundwater, but rather underflow of the Big Sur River, and, second, that much of the place of use for the diverted water was

[1] See the December 14, 2009 comments of CSPA, the Center For Biological Diversity and others on the Draft EIR for this application.

[2] Such a study by the California Department of Fish and Game is currently in progress. See discussion in Section II below.

not riparian.[3] Subsequent investigation has shown that even less of these lands are riparian than initially suggested by Board staff in 1992.[4]

In 1999, the Board clarified its jurisdiction over a subterranean stream in a known and definite channel. In Water Rights Decision 1639 (Garrapata), the Board set forth a four part test that sets the standard for that jurisdiction. In summary, for groundwater to be classified as a subterranean stream flowing through a known and definite channel, the following physical conditions must exist:

1. A subsurface channel must be present;

2. The channel must have relatively impermeable bed and banks;

3. The course of the channel must be known or capable of being determined by reasonable inference; and

4. Groundwater must be flowing in the channel.[5]

This test for underground flows was further affirmed in the matter of *North Gualala Water Company v. State Water Resources Control Board* (2006) 139 Cal. App. 4th 1577. The 1999 Jones and Stokes *El Sur Ranch Hydrologic Investigation* prepared for the Board found:

> Deep groundwater is not a significant source of water to the wells because all available geologic evidence (well logs and the geophysical survey) indicates the presence of a clay confining layer throughout the lower end of the groundwater basin at a depth just below the depth of the irrigation wells (approximately 30 feet below the ground surface). Likewise, rainfall recharge and subsurface inflow from bedrock and marine terrace areas surrounding the basin contribute minor amounts of recharge that are much smaller than the recharge capability of the river and that would not support present pumping amounts.[6]

The fact that water pumped by El Sur Ranch is pumped from a subterranean stream in a known and definite channel is thus established. Jones and Stokes further found: "The groundwater system and the Big Sur River are closely hydrologically coupled."[7]

The Source Group, Inc., in its *2007 Addendum to Hydrogeologic Investigation and Conceptual Site Model within the Lower Reach of the Big Sur River*, concluded: "during 'critically dry' River flow conditions, ESR irrigation well pumping has a measurable impact on the flow of

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[3] Memorandum of Lewis Moeller, Water Resource Control Engineer, Complaint Section, Division of Water Rights, Report of Investigation of Big Sur River in Monterey County, April 12, 1992.

[4] Moeller's April 12, 1992 Memorandum gave the riparian area of use as 90 acres. The 2009 Draft EIR for the application, following the 2005 amendment to the application, states the riparian area as 25 acres (p. 2-17).

[5] D-1639, 1999, p. 4

[6] Ibid, p. 3-2.

[7] Jones and Stokes, *El Sur Ranch Hydrologic Investigation*, 1999, p. 3-1. *On file with SWRCB* in App. 30166

surface water in the River within the area of influence."[8] This aids slightly in suggesting that the underground channel is known and defined (being connected to the surface flow) and that groundwater is flowing in the channel. However, the applicant and his consultant attempt to turn the focus of analysis to *the amount* of reduction of surface flow caused by groundwater pumping. Hence: "With both irrigation wells pumping at maximum capacity, the inflow of groundwater was reduced to approximately 0.2 cfs, a reduction of between 0.3 to 0.6 cfs. At no point during the 2007 Study did the total Zone 4 groundwater flux to the River turn negative …".[9]

On the face of it, the magnitude of reduced inflow does seem significant, since at times in 2007 the surface flow in the Big Sur River in the area of the point of diversion was as low as .3 to .4 cfs. Further, CDFG hydrogeologist Kit Custis strongly disputes the ratio of diversion to reduction on surface flow as stated in the both the DEIR and the SGI reports:, "the assumption that the river losses are constant at a approximately 24 percent of the pumping rate, 0.74 cfs at 3.09 cfs pumping and 1.28 cfs at 5.34 cfs pumping (page 4.2-66), and that this rate of loss will occur in perpetuity is invalid."[10] This is because the zone of influence is highly variable, even over the course of the study, causing a far greater percent of impact to surface flows.[11]

However *the degree of impact is not the primary issue*. Based on D-1639 and North Gualala, the first order questions and answers are:

1. Does the Board have jurisdiction over the subsurface flow? Yes.
2. Are the subsurface flow and the surface flow closely connected? Yes.
3. Is the surface flow is adequate to protect public trust resources? Whenever surface flows are insufficient to protect public trust resources, no diversions from the subterranean flow should be allowed, *no matter how small the increment of change underground pumping causes in surface flow.*

[8] The Source Group, Inc., *2007 Addendum to Hydrogeologic Investigation and Conceptual Site Model within the Lower Reach of the Big Sur River*, 2008, p. 3-8. *On file with SWRCB* in App. 30166
[9] Ibid.
[10] Kit Custis, Comments on October 2009 Draft EIR for the El Sur Ranch Water Rights Application No. 30166, CDFG EIR Comments, Attachment 1, p. 23. *On file with SWRCB* in App. 30166
[11] Ibid, pp. 20-24.

**II. Impacts to Public Trust Resources**

The steelhead in the Big Sur River are, as a species, not doing well. In its comments on the draft EIR, the National Marine Fisheries Service provided the following context:

> During the past 30 years steelhead populations within the S-CCC [South-Central California Coast] DPS [Distinct Population Segment] have declined dramatically from estimated annual runs totaling 25,000 adults to less than 500 returning adult fish. … One of the best remaining streams for S-CCC steelhead is the Big Sur River which is considered to maintain important refugia habitat important to the long term persistence of this species.[12]

In the early to mid 1990's, CSPA determined that the Big Sur River would be a key watershed in our overall water rights advocacy. The iconic Big Sur is an international treasure whose remaining and potential future resources are worthy of our concerted effort. While providing critical habitat for steelhead, red-legged frogs and other endangered species, the Big Sur river's public trust values also include recreational, scenic, aesthetic, and historic values. As the chief custodian of the state's public trust resources, the Board is responsible for protecting all of these values.

CSPA, the Center for Biological Diversity, and the Ventana Wilderness Alliance have joined together to develop and present testimony and legal representation to defend CSPA's protest of the El Sur water rights application. Notably, we have hired an independent biologist to develop and defend minimum flow requirements that are protective of the public trust. We have stated on the record that the ongoing instream flow study by the California Department of Fish and Game should have been completed prior to hearing.[13] Since the Board has nonetheless elected to move forward to hearing in the absence of completion of this key study, we wish to remind the Board that any flow requirements advocated by our biologist of by the Department of Fish and Game, or set by the Board, may need to be revisited once the DFG instream flow study is completed.

The applicant's consultant Chuck Hanson carefully crafts an impact test that is most likely to arrive at finding of no significant impact: the applicant's consultant limits the type of environmental impacts he analyzes to *direct* impacts. Hanson describes his 2006 study in his 2007 report:

[12] NMFS comments on DEIR, December 14, 2009, p. 3. *On file with SWRCB* in App. 30166

[13] Chris Shutes to Larry Lindsay, *Comments of the California Sportfishing Protection Alliance on CDFG request for postponement of hearing El Sur Ranch Water Right Application 30166*, January 8, 2011. *On file with SWRCB* in App. 30166

> The objective of the 2006 experimental investigation was to determine if El Sur Ranch diversion well operations directly cause adverse impacts to fish and wildlife habitat within and adjacent to the Big Sur River during the seasonal period of low flows. The experimental design was developed to test the null hypothesis that there is no significant relationship between the El Sur Ranch well operations and various indices of habitat quality and availability within the area of influence. The alternative hypotheses to be tested included (1) well operations result directly in a significant degradation of habitat, and (2) well operations result in a significant increase in habitat quality or availability. The experimental design developed to test these hypotheses included manipulation of well operations during the low flow period of 2006 (August-September) accompanied by both continuous and periodic monitoring.[14]

One could fairly say that the principal underlying objective of Mr. Hanson's investigation was to limit consideration by the Board to *direct impacts* of underground pumping. Evaluation only of direct impacts does not evaluate impacts over time. It does not evaluate cumulative impacts. Of particular but non-exclusive interest for the present application, it does not evaluate impacts on subterranean storage and on many of the likely impacts to the interchange between subterranean flow and the lagoon. Additional objectives of Mr. Hanson's reports were to limit consideration of impacts, not to individual fish or to many fish, or to whether habitat was made incrementally worse, but to whether pumping takes any metric (water temperature, DO, or surface flow adequate for passage[15]) outside a generally acceptable range for those metrics as applied to steelhead. As Mr. Hanson states it in his Executive Summary:

> Results of habitat and passage monitoring between [sic] during the 2006 study period concluded that conditions within the river, both upstream and downstream of the El Sur Ranch diversion well locations, under a range of experimental pumping regimes, remained within a suitable range for juvenile steelhead rearing throughout the summer and fall monitoring period irrespective of El Sur Ranch diversion operations.[16]

"Take" and "harm" under the Endangered Species Act address fish at both the population and the individual level. Yet Mr. Hanson addresses impacts at the most general level. The "suitable range" for habitat conditions for steelhead, particularly juvenile steelhead, is quite broad. The suitable range of conditions for cattle "foraging" is also quite broad; it includes, for example, the option of supplementing range forage with hay-- and substantially reducing the need to divert water for pasture grazing. No such proposal has been suggested. Instead, the applicant proposes a

[14] Hanson et al, *Evaluation of the Potential Relationship between El Sur Ranch Well Operations & Aquatic Habitat Associated with the Big Sur River During Late Summer and Early Fall – 2006,* 2007. p. 1-1. *On file with SWRCB* in App. 30166

[15] Mr. Hanson does not evaluate spatial habitat for steelhead lifestages. Such evaluation is the subject of the previously referenced instream flow study currently being conducted by the California Department of Fish and Game.

[16] Hanson 2007, p. ES-2.

standard for cattle that allows "optimal forage production,"[17] contrasting with the DEIR's proposals for mitigations that keep listed steelhead at a far less than optimal level. This proposed mitigation will reduce diversions only to the applicant-created "baseline"—the same level already harming public trust resources at an undetermined level, as illegal diversions that have been going on for twenty-seven years (and to a lesser degree for forty). The applicant is encouraging a crude cost-benefit calculation between cattle grazing and harming endangered steelhead. The proposed result harms fish, while offering no mitigation that would reduce diversions (such as hay supplement).

Generally, flow schedules reduce diversions in the driest years, yet this application will function to increase diversions in the driest years. It asks for maximum benefit to the applicant at a cost of maximum impact to the fish. The Board should instead requrie protective streamflows for each lifestage of steelhead, and require that diversions be ceased while streamflows are not protective.

In addition to steelhead, the Board should take a more thorough look at red-legged frogs in the lower Big Sur River area, and establish measures specifically protective of their lifestages. Mr. Hanson's suggestion[18] that flows protective of steelhead should be protective of red-legged frogs is not supported by substantial evidence.

## III. Consistency With Applicable Policy and Law

### *A. Year Round Season of Diversion and Bypass Flows*

The El Sur application asks for permitting conditions well outside of the default conditions established in the instream flow policy recently adopted for the North Coast. As a general matter, under the North Coast Instream Flow Policy, the season of diversion is limited to the time period from December 15 through March 31.[19] The same default season of diversion was adopted by the National Marine Fisheries Service/California Department of Fish and Game "Joint Guidelines" for diversions on coastal streams in 2002.[20] This was also acknowledged as the appropriate de facto

[17] *Memorandum Accompanying Filing of Third Amendment to Water Rights Application 30166 of James J. Hill III*., p. 1. DEIR Appendix C, [pdf p. 10]. *On file with SWRCB* in App. 30166
[18] Hanson 2007, op cit., p. ES-2.
[19] SWRCB, Policy for Maintaining Instream Flows in Northern California Coastal Streams, adopted May 4, 2010.
[20] NMFS/DFG, *(Draft) Guidelines for Maintaining Instream Flows to Protect Fisheries Resources Downstream of Water Diversions in Mid-California Coastal Streams*, June 17, 2002, p. 1.

starting point in the December 27, 2000 letter from Lewis Moeller to the applicant.[21] Moreover, both the North Coast Instream Flow Policy and the Joint Guidelines require a minimum bypass flow to protect public trust resources from the effects of diversions.

Low flows on the Big Sur River shows that there is ample cause for concern regarding the need for seasonal and instream flow requirements. In September, 2007, the flow in the Big Sur River was about .4 cfs near the El Sur point of diversion.[22] Moreover, this severely depleted condition came about on or about Labor Day, 2007, suggesting that there are impacts of upstream diversions that are not accounted for and that even existing levels of diversion may not leave a sufficiently large buffer for episodic instances of high rates of diversion. It is clear from this data that the application is not protective of public trust resources when it calls for no minimum instream bypass flow, and allows for year-round diversions.

***B. Historic Use and Increased Diversions***

The fact that the proposed use is in part an existing use also does not support an exception. For almost twenty years, the Board has indulged the owner of the El Sur property by allowing an unauthorized diversion with only a pending application, with neither sanction for ongoing diversion nor penalty for historic unauthorized use.[23] Compounding this first injustice, the Board has improperly adopted as its CEQA baseline the existing level of unauthorized diversion.

The Environmental Information section of the Application 30166 states that "the project will result in no increase in the acreage irrigated, the volume of water pumped, or the rate of pumpage over that which has historically occurred from these two wells."[24] It continues: "The quantity of water sought to be diverted is the same quantity that has been diverted for use on the same place of use since 1982, and essentially the same quantity that has been diverted for use on the same place of use since 1955. This project does not involve any new construction, increased diversion, or changes

[21] Letter of Lewis Moeller, Complaint Section, Division of Water Rights, to El Sur Ranch, December 27, 2000, p. 2.
[22] The Source Group, Inc., 2008, p. 4-4
[23] Water Code §1825 states: " It is the intent of the Legislature that the state should take vigorous action to enforce the terms and conditions of permits licenses, certifications, and registrations to appropriate water, to enforce state board orders and decisions, and to prevent the unlawful diversion of water."
[24] Environmental Information, Application 30166, p. 1 [pdf p. 6]. 2006 working copy. Emphasis in original.

in point of diversion or place of use."[25] And: "The application does not propose increasing the amount of water withdrawn from the Big Sur River or the rate at which withdrawal will occur, when compared to historical diversions from these pre-existing wells. These facts should be reflected in the nature and extent of the changes the applicant is expected to make."[26]

Yet there is no basis in reality for the applicant's claim that it will not increase diversions. In the 2006 Third Amendment to Application 30166, the applicant introduced the concept of "optimal forage production," and argued in a Memorandum Accompanying Filing that "Applicant is entitled to apply for a permit to divert the volume required to provide 'optimum forage production', in those years when it is reasonably required to provide suitable forage."[27] On this basis, the applicant applied for substantially more water than had been historically diverted since 1976. Applicant applied for a 20-year running average of 1200 afy, although the average annual pumping total since 1976 was 937 afy, and the 20 year annual running average for 1985-2004 was 857 afy. A comparison of DEIR tables 2-1 (historic use), 2-3 (estimated diversion requirements), and 4.1-1 (summary of baseline assumptions and proposed changes), as well as analysis of the proposed limitations on diversions, clearly demonstrate that the applicant seeks to increase diversions over historic use.

***C. Reasonable and Beneficial Use***

Reasonable and beneficial use requirements are set forth in Article 10, Section 2 of the California Constitution, as well as in Sections 100 and 275 of the California Water Code. As an *a priori* matter, the Board must question whether the stated use in the application and EIR is in fact the intended use, given the development agreement for the property that was approved by Monterey County in 1994 and expired only in 2009, well after the most recent Application 30166 was submitted[28]. The Board must determine whether a clear intended use so completely at odds with the applicant's stated purpose can be considered reasonable. It is disconcerting that there has never been

[25] Ibid, p. 4 [pdf p. 9].
[26] Ibid, p. 5 [pdf p. 10].
[27] *Memorandum Accompanying Filing of Third Amendment to Water Rights Application 30166 of James J. Hill III*., p. 1. DEIR Appendix C, [pdf p. 10].
[28] Multiple copies of this agreement are in the file with the Board for Application 30166, and was included as an exhibit to the CBD/VWA comments on the DEIR.

any mention of this approved development in any of the applicant's many materials, reports and submissions. The Board should clarify why this is so.

Even for the stated use of pasture grazing, however, a portion of the water diverted does not appear to be reasonably and beneficially used. Water Code §1004 sets forth the requirement for beneficial use on irrigated pasture (uncultivated crops). The description of "coastal pasture" in Application 30166 and similar treatment in the EIR suggests that the land requesting the appropriative right is covered in uncultivated cropland. Therefore, the 2.5 acre-feet per acre per year limit given in Water Code §1004 should apply, and reasonable use should be calculated accordingly. In the alternative, the Water Board itself suggested limiting pumping to 3.5 afy per acres of pasture, which presumably represents a measure of beneficial use by the Water Board.[29] Under either of these calculations, the water capable of being beneficially and reasonably used is between 600-900 AFY. The amount of water capable of being beneficially used should be further reduced by re-calculating the amount of land constituting the place of use. CSPA performed this task on ArcMap GIS software, then subtracting the 25 acres of riparian claim, and calculated the place of use at 221 acres.[30]

Such calculations make clear that even El Sur Ranch's *historic* diversions are in excess of amounts that can be reasonably and beneficially used, let alone the substantial *increased* diversions requested by El Sur Ranch in Application 30166. Each step of the application's request contains inflationary assumptions designed to increase the amount of permitted water, including:

- Assuming that year-round irrigation is required, despite abundant precipitation in winter months;
- Proposing increased diversions of 35% over historical diversions, which will promote even more waste;
- Applying a 65% "efficiency" coefficient, causing the applicant to increase its overall diversion request to compensate, when beneficial use calculations *already include* an efficiency component;

[29] Letter of Gerald E. Johns and Edward Anton, Division of Water Rights, to James Hill III, December 2, 1996, p. 2. On file at SWRCB in records for Application 30166.
[30] See Exhibit CSPA-3. DFG calculated the place of use at 223 acres.

- Including a 10% salinity leaching requirement, which does not account for leaching properties of the flood irrigation practices employed by applicant.

The applicant's expert, Natural Resources Consulting Engineers (NCRE), not only repeats but actually magnifies some of the same errors, including the over-statement of irrigated acreage at the place of use: NCRE claims 292 acres, as opposed to 267 acres stated in the EIR and the application and 223 acres based on CDFG and CBD's separately-derived calculations.[31] The NCRE report also assumes 55% efficiency instead of the 65% assumed in the EIR, further increasing estimated diversion requirements.[32]

The January 19, 2011 report of Delta Watermaster Craig M. Wilson asks the State Board to use its reasonable use mandate to require agricultural water use efficiency on an expanded basis.[33] Mr. Wilson provides citation from both code and case law, and from Board policy documents, to forcefully argue that the Board more strictly apply the reasonable use doctrine and applicable sections of the Water Code to irrigated agriculture. In a photo taken on October 11, 2004, there is evidence of significant pooling of water on an irrigated portion of the El Sur Ranch property.[34] In addition, there are instances cited in the technical reports prepared by El Sur's consultants in which diversion experiments were affected by problems with the irrigation system.[35] In addition to allowing diversion amounts consistent with efficient use of water for irrigation of coastal pasture as stated in the Water Code, the Board should carefully review the management and maintenance practices for El Sur Ranch's irrigation, and assure that such practices going forward comport with a level of efficiency appropriate to the policy initiative outlined by the Delta Watermaster.

***D. Clear Ridge and Domestic Use Priority***

Water Code Section 106 states that domestic use is the highest beneficial use of water in the state. While CSPA, CBD and VWA are generally opposed to increased domestic development in the Big Sur area, Clear Ridge has been awarded an appropriative water right for domestic use. Based on

[31] National Resources Consulting Engineers, Inc., *Reasonable Beneficial Use – Land Use Study for El Sur Ranch Irrigated Pastures, Water Rights Applicant #30166*, 2005, p. 1-1.
[32] Ibid, Table 8-2, p. 8-7 and Table 8-3, p. 8-8.
[33] Craig M. Wilson, (Delta Watermaster), *The Reasonable Use Doctrine & Agricultural Efficiency*, January, 2011.
[34] See Exhibit CSPA-4.
[35] See e.g. SGI 2008, op cit, p. 3-1.

this Water Code section as well as the particulars of this situation, CSPA and CBD believe that the Board should subordinate any appropriative permit granted to El Sur for to Clear Ridge's water rights for domestic use.

**IV. Recommendations**

Prior to issuing any permit to the applicant, the Board should revise and re-circulate its draft Environmental Impact Report. The revised DEIR should include an appropriate baseline that excludes from the baseline unauthorized diversions by the applicant. The revised DEIR should include analysis of the completed DFG instream flow study, and should also include analysis of the recommendations of CSPA/CBD/VWA and DFG presented as testimony in this hearing.

The Board should also undertake a complete cataloguing of existing (both riparian and appropriative) diversions upstream of the applicant's point of diversion, and modify the water availability analysis for the revised DEIR as needed. The Board should pay particular attention to periods of heavy use by diverters upstream of the applicant's point of diversion.

Any permit issued to the applicant should require the following measures:

1. Complete, frequent and publicly-available gauging of the surface flows in the Big Sur River at a fully calibrated USGS Gage 11143010. Applicant should be required to pay for gauge installation, calibration and maintenance, and for real-time reporting on the internet of the 15-minute flows measured at this gauge.

2. Should USGS Gage 11143010 prove impossible to calibrate, applicant should be required to fund an alternate gauge, with the components stated in recommendation 1, as close as possible upstream of the zone of influence of the applicant's diversions.

3. Complete direct hydraulic gauging (through actual gauges connected to applicant's pumps) of applicant's diversions, and electronic reporting of to the State Board of 15-minute, hourly, and average daily diversion data. This measurement system replaces the suggested use of electrical currents, which are (a) post-hoc measurements; (b) difficult to calibrate and (c) will vary if/when equipment is exchanged. The diversion records should be made available to the public upon request.

4. Interim implementation of the minimum instream flow measures recommended by CSPA/CBD/VWA biologist David H. Dettman in Exhibit CSPA/CBD-100.

5. A clear, established process for the Board to revisit the instream flow requirements to account for the results of the CDFG instream flow study that is currently underway by Robert Holmes, should a permit be issued prior to completion of the instream flow study.

6. Limitation of diversions to conform to the maximum diversions provided for beneficial use in Water Code §1004 for uncultivated crops.

7. Implementation of best management practices for applicant's irrigation distribution system, including oversight and maintenance, that brings water use in line with modern standards and that conforms with strict implementation of the Water Code's prohibition of waste and mandate for reasonable and beneficial use.

8. Prohibition of additions to the place of use (given dubious reasonable and beneficial use claims).

9. Prohibition of changes in purpose of use (particularly since applicant had a development agreement pending).

10. Prohibitions of transfer of permitted water. (again, given dubious reasonable and beneficial use claims).

11. A long-term monitoring program of the hydrology and biota of the Big Sur River downstream of Highway 1, including the lagoon, to be carried out by or in consultation with CDFG, funded by the applicant. The monitoring should include a baseline population study of steelhead and California red-legged frogs, and other sensitive biota as recommended by CDFG.

12. Standard permit terms appropriate to the location, including especially prohibition on take of listed species.

13. Expedited investigation and enforcement action for waste and non-reasonable use by applicant.

14. Coordination with CDFG regarding the need for and development of a streambed alteration permit.