El Sur Ranch SWRCB Water Rights Hearing
Application No. 30166

California Sportfishinng Protection Alliance et al
Rebuttal testimony of Chris Shutes
July 8, 2011

Q1: In your direct testimony, you highlighted uncertainty in the setting of protective bypass flows. What are some of the uncertainties you have identified?

A: These include:
- the size of upstream diversions
- protection of riffles based on minimum bypass flows
- protection of lagoon based on minimum bypass flows

I testified in my direct testimony that the Board has a responsibility to manage the uncertainty that exists in the present proceeding by being very careful to establish permit terms that are protective of the aquatic resources of the Big Sur River. The DFG witnesses testimony that is consistent with this approach. Some of the recommendations of Mr. Custis, for example, are in my opinion based on the logic that, absent accurate gauging of surface flow near the point of diversion, one must assume relatively large upstream diversions. This is over and above an acknowledged factual dispute of how much water is diverted at various times upstream of the area of the applicant's diversions.

Q2: How do the different parties in this proceeding address uncertainty in their respective scientific approaches to minimum bypass flows?

A: Underlying the differences between the experts for the applicant on the one hand, and the experts for DFG and the expert for CSPA/CBD on the other, is a fundamental disagreement on how science should be used in setting streamflow requirements in the Big Sur River. The applicant's scientists and attorneys would like the State Board to set flows that are based on proven direct causation of adverse impacts to aquatic biota or their habitat, where required minimum bypass flows would allow diversions at flows greater than flows that show a direct proven impact. The DFG and CSPA/CBD scientists and attorneys maintain that the public trust responsibilities of the State Board require minimum flows that allow no diversions when it is reasonably likely that flows have fallen below a level that are protective of the overall aquatic ecosystem and its key biota.

Q3: Did you observe a difference in the methods by which Custis, Hanson and other experts determined impacts based on the duration of the diversion?

A: Mr. Custis disagreed with the applicant's assessment of how much water diverted by the applicant's wells can come from surface flow; long term cumulative diversions may at times greatly increase the percentage of surface water in the overall amount of water

diverted by the applicant. Mr. Horton's shorter term impacts tests may not capture the extent of diversions from surface water.

Q4: Allow me to read you the following section from Dr. Hanson's Testimony:

"Taking into account the natural variation in flows within the river, the effect of well operations on river flows could not be detected statistically during the critically low flows in 2007. Based on the small change in water surface elevation estimated by SGI (2008) it was concluded that a change of this magnitude would not result in a detectable adverse impact on the quality or availability of habitat for juvenile steelhead within the lower river and lagoon." [Section 6, Dr. Hanson direct testimony]

Q4 (cont'd): Did you identify inconsistencies in Dr. Hanson's conclusions?

A: Yes. In this conclusion by Dr. Hanson I observed the following inconsistencies:

- Dr. Hanson takes the findings of a hydrogeologist and offers expert opinion as a biologist based on the findings of the hydrogeologist. Again, it is worth noting that in cross-examination, Mr. Custis was asked whether he was a fisheries biologist, and when he said no, the flow testimony was not allowed. Mr. Hanson's testimony incorporates hydrogeology conclusions, but his testimony was not disallowed because of it. Therefore, there appears to be a double standard here between accepting conclusions by the applicant's experts and those of CDFG's.

- But the problem with Dr. Hanson's testimony above is not (only) that he is not a hydrogeologist.

    - The first problem is that the assumed small change in surface flows may not be accurate—that the changes in surface flows are not as small as assumed..

    - The second problem is that Dr. Hanson employs so many qualifiers and other confusing uses of language that his testimony does not provide any confidence in his conclusions.

- In the first sentence, Dr. Hanson uses the passive voice. This language avoids stating who detected or did not detect what. Because the passive voice is used, it is not clear who performed what statistical analysis.

- Dr. Hanson did not establish that well operations have no effect on surface flows. In fact, Dr. Hanson did not perform the tests that led to the determination described in the first sentence; these tests were performed by SGI. Dr. Hanson does not say that there was no change in surface flow from well operations during critically low flows in 2007; he says that "the effect of well operations on river flows could not be detected statistically."

- The paragraph above contains many unspoken assumptions which underlie his conclusions. Dr. Hanson's statement as quoted above assumes that:
    1) The small change in water surface elevation found by another consultant accurately represents the hydrogeologic effects of applicant's diversions.
    2) Any change caused by diversions would not be "detectable." We don't know how that determination would be made, or by whom.
    3) We agree on what an "adverse impact" to steelhead habitat is.
    4) That lack of an "detectable adverse impact" on "the quality or availability of habitat" means that conditions for fish in the Big Sur River or lagoon will not be made worse by the applicant's diversions.

Q5: The applicant appears to suggest that its proposed bypass flows are supported by the EIR. Did you find any language regarding bypass flows in the EIR?

A: One of the State Board's witnesses said in oral testimony that it was beyond the purview of the EIR to set minimum instream flows. This opinion is consistent with the response to comments in the Final EIR, which states on page 3-29:

> Little is understood about the relationship between flow at the USGS gauge and flow entering the ZOI during high flow events (flows greater than about 20 cfs), however the relationship for dry season flows is not linear. Therefore, the use of a single, linear flow loss from the USGS gauge to estimate flows entering and flowing through the ZOI may not be appropriate. Further analysis and studies may support a higher or lower loss … . This DEIR analysis does not set a bypass flow requirement and it is not within the scope of this EIR to set a bypass flow requirement.

Q6: Does there appear to be uncertainty as to the amount of water exiting the stream above and the diversions impacting the lagoon?

A: Yes. Ms. Goldsmith stated in her opening statement that at least 2/3 of the water diverted by the applicant would exit the system without ever having surfaced. However, Mr. Horton, on cross examination by Ms. Ferrari, stated that he did not have the ability to measure pumping impacts in Zone 1 (the lagoon.) In response to questions from Chair Hoppin, Mr. Horton stated that he could not say what portion of underground flow upstream of the lagoon would enter the lagoon and what portion would pass beneath the lagoon.

Similarly, Mr. Custis identified a part of Creamery Meadow above the first transect which could contribute to underground flows but which is not quantified at the transect,

meaning that more water could be entering the underground flows from above the point of measurement than SGI accounted for.

Q7: You observed that the applicant has provided for a 1.8 CFS buffer between the gauge and the point of diversion in its recommended bypass flows. Have you observed any potential complicating factors in establishing this 1.8 cfs as a protective buffer?

A: Dr. Hanson was asked on redirect how the applicant-proposed dry season minimum instream flow of 10 cfs at the Big Sur gage (11143000) was determined. Dr. Hanson stated that the applicant-proposed bypass flows were established to address not only at the effects of the wells, but "combined effects" in the river. Dr. Hanson stated that the juvenile passage criterion of .3 feet of depth in the lower river was used, and that this would be met by a flow in the lower river of 8.2 cfs. Dr. Hanson stated that what he called a "buffer" of 1.8 cfs was added to account for losses in surface flow between the Big Sur gage and the lower river.

There have been demonstrated dry season losses to surface flow between the Big Sur gage and the lower river that are greater than 1.8 cfs. Even if one were to accept the 8.2 cfs figure as sufficient to protect steelhead in the Big Sur River, 8.2 cfs will not always be available at the critical location in the lower river if a bypass flow of 10 cfs at the Big Sur gage is established.

Q8: Both Mr. Dettman and Dr. Titus identified the lagoon as deserving of particular attention. Did the applicant address what minimum flow requirements would be protective for the lagoon?

A: No. The applicant's dry season minimum bypass flow that relies principally on a criterion of .3 feet of depth for juvenile steelhead passage, and does not address flow needs for the lagoon.

Mr. David Hines, in his policy statement on behalf of the National Marine Fisheries Service, also stated that flow needs for steelhead in the lagoon had not been established. Mr. Hines's emphasis on the importance of the lagoon is consistent with the testimony of Dr. Titus and the testimony of Mr. Dettman.

Q9: Did you also want to comment on the statement by Mr. Sage that El Sur Ranch is "well managed"?

A: Yes. Dr. Allen stated in response to cross examination by Mr. Takei that, based on Dr. Allen's experience, it would be possible to improve irrigation efficiency by devoting additional manpower to such an improvement. Dr. Allen also stated that the ranch had been "under-irrigated" in some years.

In his oral testimony, Mr. Sage stated that El Sur Ranch is “very well managed.” In response to cross-examination by Mr. Lazar, Mr. Sage stated that it is possible to “under-irrigate” and still have a well-managed operation.