Summary of Testimony of David H. Dettman

David H. Dettman, Aquatic Biologist

El Sur Ranch Water Rights Hearing

June 16-17 & July 8, 2011

Qualifications

David H. Dettman

- M.S. Aquatic Ecology, Univ. of California, Davis
- 37 years experience in freshwater, lagoon, and marine biological studies
- 17 Years experience as Fisheries Biologist for Monterey Peninsula Water Management District
- Produced biological assessments, stream flow and habitat models for Lagunitas Creek, Carmel River, Soquel River, Zayante Creek, San Lorenzo River, Salinas River, American River

Big Sur Public Trust Resources

- California condor
- Monterey dusky-footed woodrat
- Southern sea otter
- South-central California steelhead
- California red-legged frog
- Western snowy plover
- Smith's blue butterfly
- Loggerhead shrike
- Yellow warbler
- Brown pelican
- 33 Sensitive Plant Species
- **One of California's Scenic and Natural Treasures**

Steelhead Status in Big Sur

- Steelhead run in the river remains highly functional (Titus et. al)
- Despite it's functional status the steelhead run is faced with several problems:
    1. Poor juvenile production
    2. Low dissolved oxygen, and
    3. High Temperatures
- Important to maintain year-round surface water connection to ocean

Lagoon:
Critical for Big Sur River Habitat

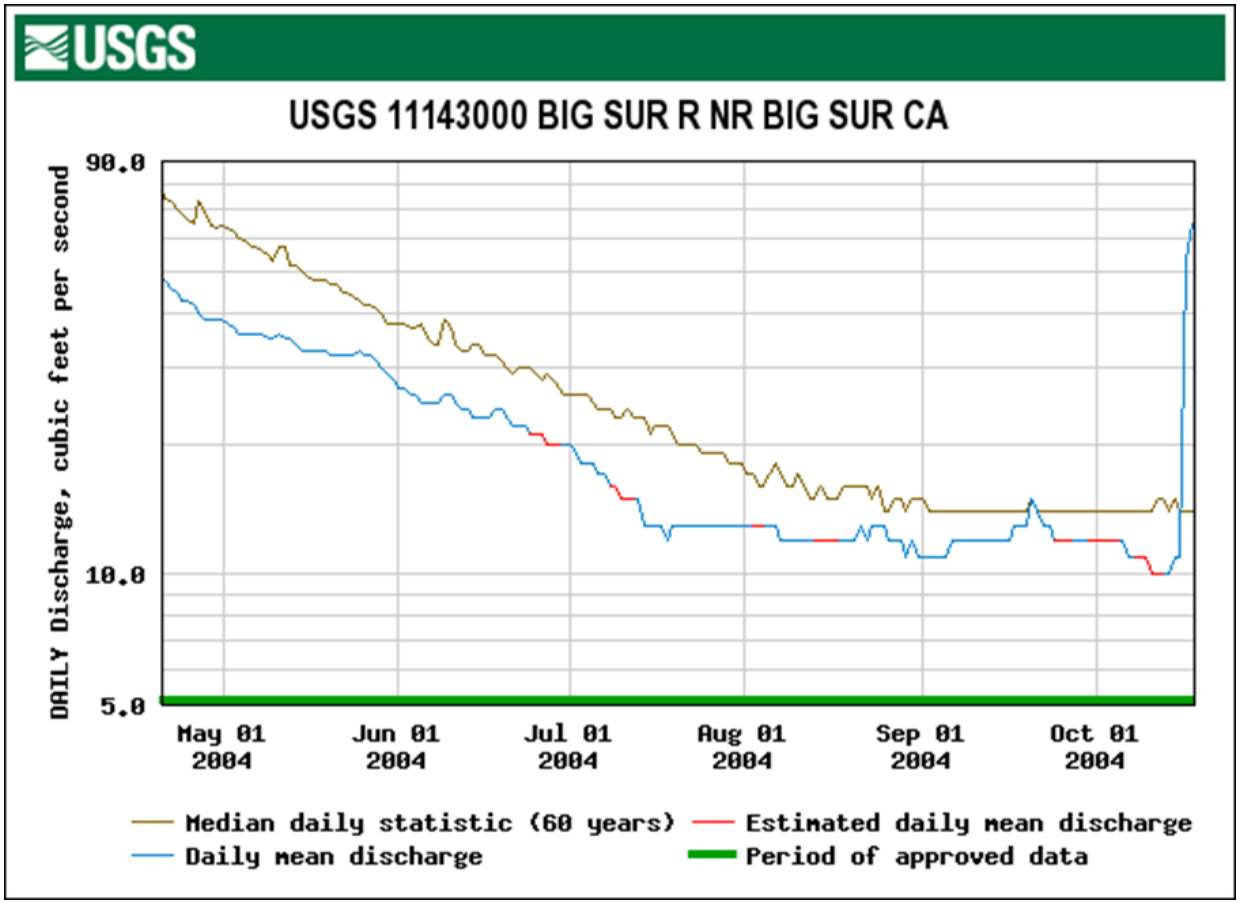
- Critical habitat for steelhead
- Unique coastal public trust resource
- Surface water connectivity to ocean vital
- Proposed 30-day diversions could close lagoon
- Newly revised application does not solve lagoon problem

Concerns with Applicant Well Tests

1. Water Quality Problems
2. Low Flows Associated with Restricted Rearing Habitat & Migratory Pathways

1. Water Quality: Though Water Year 2004 not very dry; well tests were still associated with reduced D.O levels; 2004 ranked 37th wettest year out of 60
2. Low Flows: 2007 study not reflective of proposed pumping conditions

Streamflow in Big Sur River, May – October 2004



CSPA/CBD-101, Figure 1

Critical Riffles: Lower Big Sur River

0.7-ft depth criterion for adult steelhead passage was not met at 146 cfs

CSPA/CBD-102 p. 32 pp. 10-11

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El Sur Proposed Diversions

(1) <u>5.84 CFS Max</u>:

Large % of surface flow

Magnifies diurnal flux in discharge

(2) <u>5.34 CFS 30 Day:</u>

Equals 315 AF over 30 day period

Prolonged duration more onerous than Max for one or two days

"Monthly" limits don't restrict 30-day period

(3)"<u>Baseline" Diversions as "Mitigation":</u>

Above historical levels; not "less than significant"

CDFG Recommendations

- Independent but similar recommendations by Titus and Dettman regarding flow requirements in the lower river
- Winter rec's based on single month (Feb) versus variable median flows
- CDFG Summer rec's based on additional flows added to account for evaporation and El Sur's diversion

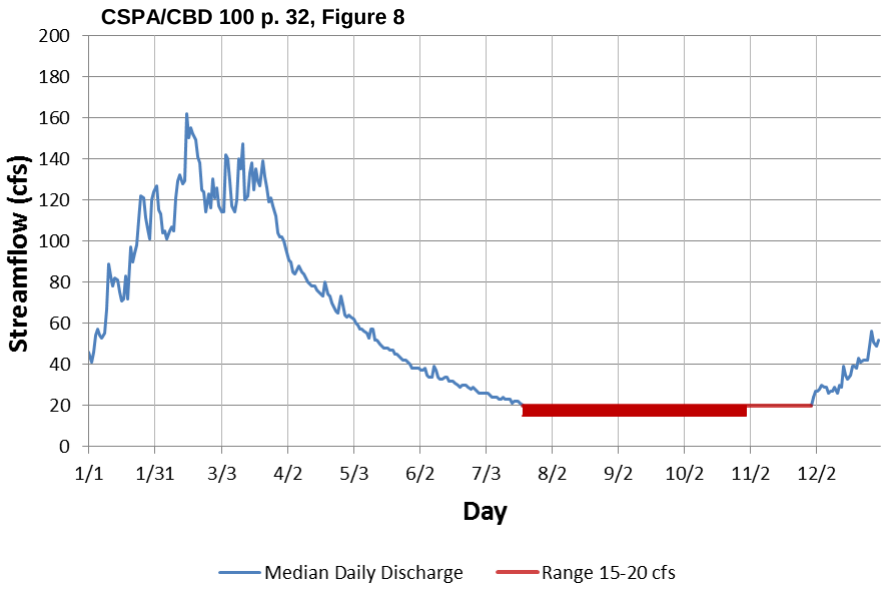
Alternative Recommendations

A. Minimum Bypass Flows

- Winter Months: Historical Median Daily Flows
- Summer Months: 15-20 CFS Minimum

Table 2: Recommended Interim Minimum Bypass Flow Requirements to protect the steelhead population and other aquatic public trust resources in the Big Sur River, within lower Andrew Molera State Park

Month	Bypass Flow Criterion[9]	Trend: Range or value	Bypass Flow Measured at USGS Gage:	
			Near Big Sur, No. 11143000	Andrew Molera, No. 11143010
January	Daily Median	Increasing: 41 to 124 cfs	X	
February	Daily Median	Variable: 101 to 162 cfs	X	
March	Daily Median	Variable: 102 to 147 cfs	X	
April	Daily Median	Declining: 100 to 63 cfs	X	
May	Daily Median	Declining: 64 to 38 cfs	X	
June	Daily Median	Declining: 39 to 26 cfs	X	
July[10]	Daily Median	Declining/Constant: 26 to 20cfs/then 20 cfs	X	X
August	Daily Instantaneous	Variable: 15-20 cfs		X
September	Daily Instantaneous	Variable: 15-20 cfs		X
October	Daily Instantaneous	Variable: 15-20 cfs		X
November	Daily Instantaneous	Constant: 20 cfs		X
December	Daily Median	Increasing: 22 to 56 cfs	X	



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Alternative Recommendations

B. Additional Conditions and Monitoring

Baseline Pumping:

1. When Flows OK but Lagoon Closed
2. When Flows OK but DO too low; if below 90% saturation go to baseline, or if below 75% saturation cease pumping

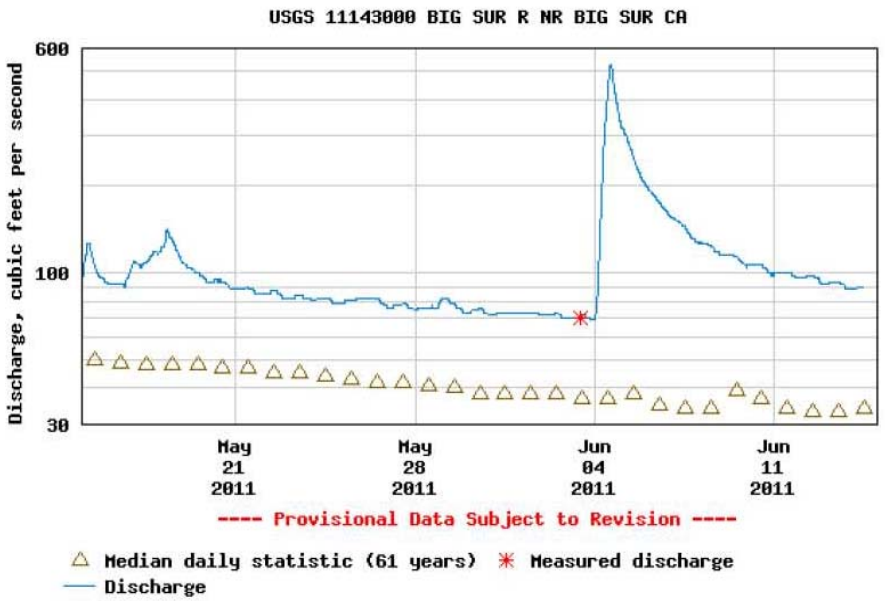
Monitoring:

1. For diversion, using real-time gauges
2. For water quality, using a monitoring station

USGS Meter 11143000

Discharge, cubic feet per second

Most recent instantaneous value: 90 06-14-2011 10:15 PDT



Create presentation-quality / stand-alone graph. Subscribe to WaterAlert

Daily discharge statistics, in cfs, for Jun 14 based on 61 years of record more

Min (1977)	25th percen-tile	Median	Mean	75th percen-tile	Most Recent Instantaneous Value Jun 14	Max (1998)
7.0	18	34	38	52	90	118

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