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July 26, 2007

Re: *Feasibility Study on the Reuse of Ojai Valley Sanitary District Effluent*

Thank you for preparing and releasing this *Draft Feasibility Study of the Reuse of Ojai Valley Sanitary District Effluent* for comment. This study will ultimately have an impact on the possibility of removing treated water from the Ventura River. Please find below my comments regarding the Feasibility Study.

The Draft Feasibility Study makes the following claims.

"From an environmental perspective, potential impacts related to reuse of the Ojai Valley Sanitary District discharge are limited to alterations in water quality and quantity."

Comment: This statement about the limit of environmental impacts is not supported by evidence in the Study or is supported by inappropriate evidence. The HEC-RAS numerical model used to evaluate the change in stream flows has no capability to determine the impacts to biological resources in the river stretch studied. The HEC-RAS model data must be entered into another model for that analysis. (Darrel Buxton, U.S. COE personal communication, July 9, 2007).

"In terms of making a preliminary feasibility analysis, the engineering and market analysis suggest that it would be economical to provide recycled water to Area Energy and local agriculture users (i.e., Alternative 2)."

Comment: The cost of recycled water would be approximately double what the potential clients are paying currently. This fact hardly seems economical. Furthermore, Aera Energy representatives stated at the Feasibility Study presentations at the City of Ventura and the Ojai Valley Sanitary District meeting that they are looking at the possibility of drilling water wells on their own leased properties that could provide all of their enhanced oil recovery needs.

"Using steelhead as an environmental receptor to evaluate impacts associated with a given level of appropriation, suggests that recycling the discharge of 1 mgd would result in minimal impacts."

Comment: Howard Bailey stated at the presentation before the OVSD Board of Directors that "Hydrologic metrics (from the HEC-RAS Model) drives the environmental factors." The information from the consultant (Matt Stoecker) specifically hired to evaluate steelhead and the impacts from the reduction in OVSD flows was not included in the draft Study released for public review. There is little analysis of the impact to habitat in the study. There is no information on the impact to the estuary in the study. The HEC-RAS model did not evaluate the sub-channel or the impacts to resources within that sub-channel (Statement by H. Bailey, Nautilus Environmental). The HEC-RAS numerical model used to evaluate the change in stream flows has no capability to determine the impacts to biological resources in the river stretch studied. The HEC-RAS model data must be entered into another model for that analysis. (Darrel Buxton, U.S. COE personal communication, July 9, 2007).

"In summary, this preliminary evaluation suggests that an intermediate level of re-use of effluent from the OVSD discharge is likely from both economic and environmental perspectives. However, the potential extent of associated environmental impacts will vary, depending on other factors such as increased utilization of water from the Foster Park well fields, increased utilization of groundwater resources in the lower Ventura River, and increases utilization of water rights. Conversely, since the City now provides Aera and other local users with potable water that could be replaced with recycled water, there would be an opportunity to leave an equivalent amount of water in the river, resulting in no net change to flows."

Comment: Only the engineering analysis will pass muster for completeness in this Study. The data to support a conclusion of limited or minimal environmental impacts to the riverine habitat, and specifically multiple endangered species, is almost non-existent in the Study.

The obvious contradiction in the second sentence brings to light the glaring problems left unanswered. Curiously, the information regarding the City of Ventura well fields already exists in a Draft EIR for the Kingston Reservoir prepared a few years ago by Public Works. The comment about the use of the Lower Ventura River groundwater is without merit because the groundwater is contaminated with hydrocarbons.

The concept of "no net change to flows" mentioned in last sentence is not reviewed or analyzed in the Feasibility Study. The conclusion is generally counterintuitive. If water is available, it generally is put to beneficial use, unless we are discussing water that the City cannot sell (yet) or could not capture, treat and store for sale at a later time.

What follows below is my review by sections and pages of the Feasibility Study.

1. Introduction

Page 1, second paragraph, second to last sentence in paragraph – the comment regarding the beneficial aspect of reducing discharge flows because of nutrient concentrations is not supported by evidence. To date, there are no current **definitive data** regarding the development of macrophytes below the treatment plant being caused specifically by the effluent outfall. The introduction of horse manure above the treatment plant is most likely the source of the nutrients causing the algae blooms in the entire reach of the river. See URS studies on algae contracted for by the Ojai Valley Sanitary District.

1. Hydrological Considerations

Page 5, Section 2.2 Surface Water Hydrology outlines the percentages of discharges from the OVSD TP at:

25^{th} percentile = dry year
50^{th} percentile = normal year
75^{th} percentile = wet year

Page 6, Section 2.2, last paragraph outlines the percentage representation of the treatment plant flows in the Ventura River during the normal, dry and wet year scenarios**.** For the 50^{th} percentile (normal year) flow in the Ventura River, the releases from the treatment plant represent 83% of the river flow. **For the 25^{th} percentile (dry year) flow the releases from the treatment plant represent more than 99% of the river flow.**

Section 2.4 Project Influence on Aquatic Habitats, pages 7, 8, and 9, introduces the HEC-RAS modeling system, and the model run characteristics in Tables 2.1 and 2.2.

There are no graphic representations of the locations of the cross-sections within the study reach or a real determination that this reach of river is truly representative of the river. In order for the HEC-RAS Model to perform efficiently, there must be sufficient cross-sections entered into the data stream and accurate topographic data. Furthermore, with the minimal flows modeled, there should not be bridges or other structures: the data stream should all be sub-critical, otherwise, the margin of error may be increased.

The site chosen for the cross sections at 1600 feet downstream from the treatment plant may not be representative of the entire Reach 5 of the Ventura River. The study characterizes the reach with two broad general morphologies: (1) a well-developed low flow channel confined to one side of the active channel by a large gravel bar extending into the active channel from the opposite bank, and (2) a less developed low-flow channel where flow tends to spread out across a relatively flat active channel and fill multiple smaller-scale depressions within the cross section.

This does not seem to correspond to data from the ***Ventura River HCP Habitat Evaluation, Entrix, February 12, 2001, page 3-11.*** The complete characterization of the reach is included below from this study.

Table 3-5. Habitat Summary for Ventura River, Reach 5

Habitat Type		Number of Units	Total feet of type	% that type	Ave. Width	Ave. depth	Ave. max depth
Main Channel							
	Run	9	4578	59%	40.2	1.2	2.6
	Riffle	6	1367	18%	47.0	0.9	1.8
	Pool	1	186	2%	32.0	4.0	6.5
	Glide	5	1622	21%	55.0	1.1	2.2
	TOTAL	**21**	**7753**	**100%**	**45.3**	**1.2**	**2.5**
Side Channel							
	Run	5	232	53%	31.0	1.1	2.0
	Riffle	4	162	30%	32.5	0.8	1.4
	Pool	3	76	10%	29.7	2.9	4.6
	Glide	1	150	7%	52.0	1.0	1.8
	TOTAL	**13**	**619**	**100%**	**32.8**	**1.4**	**2.4**

As can be seen from the data noted above, there are four separate and distinct characteristics from the treatment plant to the estuary; runs, riffles, pools, and glides. Hydrologic changes to the river may have a significant effect on the smaller side channel causing stranding of fish in pools no longer being furnished with water from the treatment plant discharge.

HEC-RAS is a flood control model that absolutely lacks the ability to evaluate impacts on biological resources. The study is based on the wrong model representation, or lacks the depth to evaluate impacts to the entire river system. The HEC-RAS model determinations should have been entered into an environmental numerical model for review and evaluation.

The Multi-Species HCP modeling activity was as follows: the hydrologic simulations were performed using IFG-4a, and when information was insufficient to use IFG-4a, the use of ManSQ or WSP was utilized; habitat modeling utilized the PHABSIM and HABTAE from PHABSIM programs; a Habitat Suitability Index was also added.

Furthermore, a Habitat Suitability Index report should have been made a part of this study similar to the HCP, a portion of which is added herein for reference:

REACH 0

Reach 0 is the Ventura River estuary between the mouth of the estuary and the State Highway 101 bridge. Groundwater pumping and water diversions at Foster Park by the City of San Buenaventura (City) are likely to have the largest impacts on steelhead habitat in the Ventura River estuary, especially when the mouth of the estuary is closed and a lagoon forms, impounding the downstream flow. Reduction in streamflow can result in a reduction in oversummering habitat in the estuary, especially with the mouth of the estuary is closed. These activities are ranked as most important (aggregate effect rank 1 and 2) for this reach. There would be minimal to no effect to steelhead habitat during the higher flows of the winter and spring season and during very wet years and at times when the mouth of the estuary is open. In this reach, the magnitude of effect is estimated to be trace (5% effect) because of the seasonality of the effect.

Tertiary treated sewage discharged from the OVSD is considered a positive effect for steelhead habitat. OVSD effluent is treated to the requirements of the District's NPDES permits. The permit limits prohibit discharge of effluent that would have impacts to aquatic life. As noted above, temporary fluctuations in water quality of the discharge (e.g. temperature, dissolved oxygen, total dissolved solids) associated variations in plant maintenance can result in fluctuations in steelhead instream habitat, especially in the summer months when the receiving water streamflow is at its lowest. Discharged water quality is closely monitored and fluctuations in water quality are infrequent. For this reason, treatment plant maintenance operations are estimated to have a trace effect on steelhead habitat over the life of this permit. This activity is ranked 3rd for this reach. The magnitude of effect is estimated to be trace (5%).

Due to the distance of 6.5 miles, it is unlikely that turbidity effects associated with instream channel maintenance activities at Foster Park and pipeline maintenance activities in the Ojai Valley would reach the estuary in significant amounts to cause impacts to juvenile steelhead rearing in the estuary.

REACH 1

Reach 1 of the Ventura River is between Highway 101 and Stanley Avenue. This reach is perennial and only a few Water Supply and Use activities have the potential to affect steelhead habitat. Groundwater pumping and surface water diversions at Foster Park by the City received the highest ranking (1 and 2) in this reach because of the potential for reduction in surface water at any given time. As discussed above, these effects are seasonal, resulting in a low magnitude of effect assignment (25%).

As noted for Reach 0, discharge of tertiary treated wastewater from the OVSD Wastewater treatment plant is considered a beneficial use to steelhead. Potential temporary variations in water quality associated with maintenance at the treatment plant resulted in a trace (5%) magnitude of effect. This activity is ranked 4th for this reach.

Due to the distance of 6.5 miles, it is unlikely that turbidity effects associated with instream channel maintenance activities at Foster Park and pipeline maintenance activities in the Ojai Valley would reach this reach in significant amounts to cause impacts to steelhead rearing or Over summering in Reach 1.

REACH 2

Reach 2 of the Ventura River is between Stanley Avenue and Cañada Larga Creek. This is also a perennial reach and has added flow from effluent discharge at the Ojai Valley Wastewater Treatment Plant. As noted for Reach 0, discharge of tertiary treated wastewater from the OVSD Wastewater treatment plant is considered a beneficial use to steelhead with trace effects (5%)

due to temporary variations in water quality. This activity is ranked 5th for this reach.
Water Use and Supply activities such as groundwater pumping and surface water diversions at Foster Park received the highest ranking (1 and 2) in this reach because of the potential for reduction in surface water at any given time. As noted above, reduction in surface flow can decrease pool depths for steelhead rearing and wetted perimeter for usable area used for feeding.

Due to the seasonality of flows in the Ventura River, the magnitude of the effect is considered low (25%). Diversion maintenance activities by the City in Reach 3 at Foster Park (inspection and repair of the surface and subsurface diversion and the construction and maintenance of training dikes) were ranked 4th for this reach due to potential increases in turbidity in Reach 2. These activities occur on a periodic, as-needed basis (estimated every five years) and the duration is relatively short, on the order of days. For these reasons, the magnitude of effect was estimated to be low (25%). Temporary turbidity effects associated with instream channel maintenance activities (monitoring equipment and well head maintenance) by the City at Foster Park and pipeline maintenance activities in the Ojai Valley by Casitas, OVSD and the City have the potential to affect steelhead habitat in Reach 2, although the magnitude of effect judged to be trace (5%). These activities occur so infrequently (e.g. pipeline maintenance is estimated to occur once over the term of this permit) that they are ranked 20 for this reach.
Pump plants operated and maintained by Casitas are outside of the active channel in isolated service yards. Potential spill events (e.g. chlorine) would be contained within the service yard. It is highly unlikely that maintenance and operations of pump plants have the potential to impact steelhead habitat in this reach.

REACH 3

Reach 3 of the Ventura River is between Cañada Larga Creek and San Antonio Creek. This is a perennial reach and is considered the "Live Reach" of the Ventura River because of the natural upwelling conditions. Water Use and Supply activities such as groundwater pumping and surface water diversions by the City at Foster Park received the highest ranking (1 and 2) in this reach because of the potential for reduction in surface water at any given time. As discussed above, the seasonality associated with this effect results in a small (25%) magnitude of effect.
The construction and maintenance of training dikes associated with surface and subsurface diversion structures received a rank of 3, as turbidity effects resulting from earth movement in the active channel can have a negative impact to potential steelhead habitat and have the potential to directly impact all life stages from eggs through adults. Movement of heavy equipment in the active channel could possibly result in the direct mortality and/or injury of individuals, including eggs, fry, juveniles and adults. Although the direct effects of this activity are relatively high, this activity occurs on an as needed basis, generally after large storm events and not likely more than every five years. If the surface and subsurface diversions are abandoned, then the need for the construction and maintenance of training dikes is likely to be reduced or eliminated. For these reasons, the magnitude of effect of this activity is moderate (50%).
Inspection and repair of the surface and subsurface diversion at Foster Park was ranked 4th for this reach due to potential increases in turbidity in this reach associated with instream construction activities at Foster Park. These activities occur on a periodic, as-needed basis (estimated every five years) and the duration is relatively short, on the order of days. For these reasons, the magnitude of effect was estimated to be low (25%).

As Foster Park is at in the middle of Reach 3, the habitat area potentially affected by water diversion operations and maintenance activities at the Park is adjusted to one-half of the total area for the reach.

Temporary turbidity effects associated with pipeline maintenance activities at Foster Park and in the Ojai Valley by Casitas, OVSD and the City have the potential to effect steelhead habitat in Reach 3 although the long-term magnitude of effect is extremely low (5%) due to the localized, short-term and one-time nature of these projects. These activities occur so infrequently (e.g. pipeline maintenance is estimated to occur once over the term of this permit) that they are ranked 20 for this reach.

Pump plants operated and maintained by Casitas are outside of the active channel in isolated service yards. Potential spill events (e.g. chlorine) would be contained within the service yard. It is highly unlikely that maintenance and operations of pump plants have the potential to impact steelhead habitat in this reach.

Base Flow Assumption

The assumption for the Ventura River Base Flow changes within the report. On page 6, Section 2.2, Surface Water Hydrology, first paragraph, last sentence states "Due to a lack of data quantifying the surface water – groundwater interaction in the lower Ventura river, the following feasibility assessments make the conservative assumption that **surface water flow in the project area is the sum of the flow at the USGS gaging station and the treated effluent discharge from the OVSD plant."**

However, base flow is defined differently on page 8, Section 2.4, Project Influence on Aquatic Habitats, first full paragraph as "the model assumes a base flow of 1.5 cfs entering the reach from upstream – a conservative estimate derived from **groundwater conditions described at Foster Park by Fugro (1996), and an accretionary flow estimate back-calculated from the February 2007 flow measurement completed downstream of the OVSD treatment plant."** It would be impossible for anyone to ascertain how this assumption is made, or if it is correct from the description of the data utilized.

This new base flow assumption is considerably different than the first assumption and may tend to color the outcome of the study. The study needs to demonstrate that the first assumption of base flow (USGS gaging + OVSD effluent flow) is equal to the second assumption described above and found on page 8 of the study.

There is an abundance of data from the USGS gaging station on the Ventura River (11118500 Station near Ventura] to utilize real stream flows instead of an assumed stream flow (unless the assumption is intended to represent the "worst case scenario" which is not stated in the report). The report could pick out September 30th or October 1 as the mean time period for the dry weather months and use specific stream gage data plus the treatment plant flow for the calculations in the model.

Current data for stream flow at USGS Gaging Station 11118500 Ventura River Near Ventura is represented in the table included below:

Water-Data Report CA-2005 11118500 VENTURA RIVER NEAR VENTURA, CA

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.03	0.88	0.48	377	128	e614	225	100	e64	35	25	E20
2	0.04	0.85	0.49	110	119	e449	217	97	e63	35	24	E20
3	0.05	0.83	0.49	2,140	116	e395	209	93	e62	34	25	E20
4	0.02	0.85	0.49	457	111	e381	199	92	61	35	24	E19
5	0.03	0.84	0.56	121	109	e356	190	116	58	35	24	E19
6	0.03	0.72	0.50	74	105	e337	184	132	59	33	24	E19
7	0.03	0.64	0.67	411	102	e322	180	104	58	33	24	19
8	0.02	0.60	0.60	4,490	98	e309	176	95	57	33	23	20
9	0.02	0.58	0.56	20,100	90	e302	173	95	55	33	23	18
10	0.02	0.54	0.56	14,600	e90	e281	170	91	54	33	23	18
11	0.03	0.48	0.53	4,450	e94	e268	168	88	52	33	23	19
12	0.03	0.48	0.51	2,110	e89	e257	162	85	50	33	23	19
13	0.02	0.46	0.48	1,230	e90	e247	152	84	49	33	23	19
14	0.02	0.41	0.50	877	e90	e235	148	84	46	32	23	19
15	0.01	0.40	0.49	695	e90	e225	144	e83	43	32	24	19
16	0.01	0.41	0.49	567	e94	e214	139	e82	42	31	24	18
17	0.10	0.40	0.48	493	e98	e206	131	e81	42	32	23	19
18	0.07	0.38	0.48	449	809	e203	132	e80	41	32	22	18
19	44	0.37	0.48	396	2,140	215	129	e79	41	32	22	18
20	190	0.39	0.49	332	1,410	195	125	e77	41	30	22	18
21	4.4	0.40	0.49	277	11,500	184	119	e76	40	29	21	18
22	0.97	0.39	0.49	254	5,550	611	121	e75	40	29	21	18
23	0.64	0.38	0.49	206	3,500	577	117	e74	38	30	21	18
24	0.52	0.39	0.48	187	2,430	393	114	e73	37	29	21	18
25	0.44	0.40	0.48	176	e1,940	347	113	e72	36	28	23	19
26	0.78	0.40	0.50	176	e1,420	311	108	e71	36	27	21	20
27	8.2	0.42	2.6	162	e1,100	293	107	e70	37	26	20	20
28	1.5	0.50	1,270	205	e837	277	142	e69	37	25	21	19
29	1.1	0.50	374	168	---	265	116	e68	36	25	e20	18
30	1.1	0.51	98	150	---	257	105	e66	36	26	e20	18
31	0.97	---	4,480	138	---	234	---	e65	---	25	e20	---
Total	255.20	15.80	6,237.86	56,578	34,349	9,760	4,515	2,617	1,411	958	697	564
Mean	8.23	0.53	201	1,825	1,227	315	150	84.4	47.0	30.9	22.5	18.8
Max	190	0.88	4,480	20,100	11,500	614	225	132	64	35	25	20
Min	0.01	0.37	0.48	74	89	184	105	65	36	25	20	18
Ac-ft	506	31	12,370	112,200	68,130	19,360	8,960	5,190	2,800	1,900	1,380	1,120

As can be seen in the table above, the mean flows of July through November represent much more flow than 1.5 CFS. Only one day in the month of October was at the 1.5 cfs flow level.

The new assumption for calculating the base flow would produce very different values for the Ventura River. However, if actual stream flow were used the outcome for the HEC-RAS model would be dramatically different than presented in the report. (Stream flow on Sept. 30 was 18 cfs. = OVSD discharge 3.1 cfs + base flow of 14.9 cfs for a total of 18 cfs.)

If the treatment plant discharge is reduced by 50%, the hydraulic characteristics represented in Table 2.1 seem unreasonable in terms of the volume of water being reduced in relation to the area, width, depth and flow.

Section 2.6, Influence on Estuary Conditions and Dynamics

This section summarizes the almost complete lack of information about the Ventura River Estuary. No field analysis was completed, and no information is presented on the impact to one of the most critical aspects of aquatic habitat in the Ventura River. The potential impacts on the Ventura River Estuary would include, but not be limited to: water level of the estuary, connectivity of the estuary with the ocean, water temperature, water salinity, dissolved oxygen, and public health issues related to the possibility of the entire ecosystem becoming putrid.

Section 2.7, page 12, **Water Quality**. Groundwater quality in the Lower Ventura River aquifer is currently contaminated with hydrocarbons from the historic oilfield in the Avenue area. The Larry Walker & Associates study commissioned by OVSD on the Lower Ventura River Groundwater should be referenced.

The average discharge from the treatment plant is represented by the table below and is from the Multi-Agency Habitat Conservation plan. As can be seen, the annual averages are considerably lower than stated in the Reuse Report.

Treatment Plant Discharge

Table 4-10	**Average Monthly Streamflow (mgd) and Ojai Valley Sanitary District Effluent Discharge from 1980-2005**											
	Jan	**Feb**	**Mar**	**Apr**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Annual Average**
1980	2.05	3.04	2.74	2.27	2.17	2.08	1.76	1.97	1.84	1.68	1.72	1.68	**2.08**
1981	1.73	1.86	2.3	2	1.89	1.76	1.84	1.71	1.69	1.73	--	--	**1.85**
1982	2.24	2.12	2.17	2.44	2.1	1.98	1.94	1.94	1.96	1.95	2.03	2.2	**2.09**
1983	2.76	3.25	3.98	3.09	2.83	2.62	2.49	2.4	2.3	2.39	2.36	2.48	**2.75**
1984	2.31	2.28	2.29	2.17	2.15	2.08	2.16	2.15	2.17	2.07	2	2.12	**2.16**
1985	1.99	2.07	2.05	2.06	2	1.99	2.01	1.99	1.93	1.87	1.91	1.91	**1.98**
1986	2.0	2.92	2.92	2.5	2.23	2.22	2.15	2.08	2.11	2	2.02	2	**2.26**
1987	2.03	2.03	2.16	2.08	2.06	2.04	2.08	1.97	1.97	1.94	1.93	1.89	**2.02**
1988	2.1	2.12	2.23	2.2	2.18	2.14	2.17	2.1	2.06	2.02	1.99	1.99	**2.11**
1989	1.93	2.14	2.07	2.03	2.01	2.02	2.07	2.05	2.03	2.01	1.94	1.86	**2.01**
1990	1.94	1.94	1.86	1.77	1.78	1.77	1.75	1.87	1.94	1.78	1.78	1.72	**1.83**
1991	1.8	1.8	2.5	2	1.9	2	1.9	1.9	1.9	1.9	1.8	1.8	**1.93**
1992	1.98	3.25	3.03	2.43	2.36	2.28	2.06	2	1.91	1.88	1.87	1.96	**2.25**
1993	3.99	4.55	3.66	2.91	2.42	2.33	2.22	2.15	2.1	2	1.9	1.9	**2.68**
1994	1.88	2.25	2.28	2.02	1.98	1.89	1.9	1.84	1.8	1.83	1.83	1.82	**1.94**

1995	3.73	3.12	4.25	2.75	2.73	2.52	2.39	2.3	2.22	2.16	2.15	2..19	**2.71**
1996	2.21	2.78	2.66	2.45	2.33	2.28	2.22	2.15	1.99	2.14	2.3	2.77	**2.36**
1997	3.45	2.85	2.5	2.36	2.26	2.04	2.16	2.11	2.1	1.99	2.05	2.25	**2.34**
1998	2.36	6.4	4.22	3.65	3.47	2.75	2.54	2.34	2.21	2.15	2.17	2.02	**3.02**
1999	2.14	2.14	2.28	2.33	2.2	2.17	2.05	1.99	2.02	1.95	2.02	1.95	**2.1**
2000	2	2.6	2.12	2.43	2.29	2.19	2.13	2.07	2.02	1.97	1.96	1.93	**2.14**
2001	2.2	2.74	3.61	2.63	2.36	2.27	2.1	2.04	2.01	1.97	2.14	2.07	**2.35**
2002	2.02	1.93	2	1.93	1.96	1.91	1.92	1.93	1.9	1.91	2.06	2.11	**1.97**
2003	1.97	2.42	2.33	2.06	2.2	2	1.94	1.97	1.96	1.9	1.93	1.9	**2.05**
2004	1.86	2.17	2.02	1.93	1.89	2	1.88	1.85	1.78	1.97	1.91	2.27	**1.96**
2005	3.5	3.69	3.43	2.67	2.34	2.19	2.05	2.06	1.98	2.04	2.01	2	**2.5**
Source: OVSD, 2006													

Chapter 3, Environmental Considerations

Sensitive Wildlife, Section 3.5.2, page 35, Southern Steelhead.

First sentence, third full paragraph, states that steelhead use the reach "seasonally during winter wet season for upstream migration." This information is incorrect. This reach is used year round for spawning and rearing. Please refer to ***Ventura River Steelhead Restoration and Recovery Plan***, page 3-23, Section 3.7.8.

The information regarding Southern California Steelhead Trout is so limited and often incorrect, one would have to conclude that Matt Stoecker did not contribute to this report. This fact was confirmed by Howard Bailey on July 23, 2007.

Presented below is a section from the Multi-Species HCP, Instream Flow Study, which clearly contradicts the Feasibility Study claim that the study reach is used only seasonally:

3.2.1 VENTURA RIVER

3.2.1.1 Below OVSD Outfall
In this portion of the stream, median monthly flows range from 2.4 to 20 cfs in a normal year (50% exceedence flow) and from 2.3 to 4.9 cfs in a dry year (80 percent exceedence flow). During wet years, flows are considerably higher in all months (Table 4-6).

Steelhead fry are present in the Ventura River from March through June. By the end of June, fry have grown to juvenile size due to the very productive conditions in the Ventura River. After June the juvenile WUA functions apply. Juvenile steelhead are present throughout the year, as they remain in freshwater 1 to 2 years before emigrating to the ocean. This is true for all stream segments discussed in the following sections.
Fry habitat is most abundant in this portion of the Ventura River under normal and dry water year types, both water year types providing a similar amount of habitat (Figure 4-

6). The amount of habitat available is constant throughout the season for both water year conditions The much higher flows that occur during the fry rearing season under wet years, reduces the amount of available habitat by over one half, during the early part of the season. Habitat increases in succeeding months, and by June, wet years provide a similar amount of fry habitat to the other water year types.

For all water year types, habitat for juvenile steelhead is greatest from January through June, when flows tend to be higher than in July through December. Habitat values are similar for normal and dry years during July through December (Figure 4-7). Two to five times more habitat is available in normal years than dry years from January through June. Juvenile steelhead habitat is 2 to 2.5 times more abundant in wet years than in normal years, because of the higher flows available.

On page 47, Section 3.6.1.2 Endangered Species Act, last full paragraph, the Feasibility Study makes reference to the possibility of incidental take coverage that might be provided by the Multi-Agency HCP. However, the effluent reuse project was not included in the projects listed by the City of Ventura for the HCP therefore, mentioning the HCP as potential coverage for incidental take is in error and should be removed from the study. A separate Section 7 Consultation would likely have to take place resulting in a Biological Opinion from the National Marine Fisheries Service for this project.

Section 3.7.2, Impacts from Project Implementation

Section 3.7.3 Opportunities for Natural Resource Mitigation and Enhancement

The mitigation measure proposed for the water loss in the Ventura River is proposing to fund ongoing treatment of invasive species or required subsequent re-treatment. This potential mitigation measure has an unquantified ability to replace 1000 acre feet of water annually. Furthermore, this mitigation is already being used for another project, the Matilija Dam Removal project. It seems strange that this project would attempt to utilize another projects mitigation measure for its own use.

The funding for treatment and ongoing retreatment would necessarily have to be completed in the entire river reaches area as the Matilija Dam Ecosystem Rehabilitation Project or the possibility for re-colonization of the invasive species is not only possible, but probable. Currently, approximately 240 acres of giant reed is planned for removal for the Matilija Dam removal project. For the mitigation associated with the OVSD Treatment Plan Effluent Reuse to be successful the entire area (240 acres) would need to be retreated multiple times for a considerable amount of time, usually five years. The mitigation for invasive species must be the length of the river system or the mitigation should be determined to be infeasible.

Section 5 Summary of Feasibility Analysis

The paragraph that attempts to utilize steelhead trout as the environmental receptor to evaluate the potential impacts is devoid of data in the report to support any conclusions that the impacts would be minimal.

The writer suggests that the proposed project is **"likely feasible"**, and then contradicts itself by saying that the impacts may be greater than anticipated depending on a myriad of factors such as the increase in groundwater pumping from the City well field, an increased utilization of groundwater resources in the Lower Ventura River (these groundwater sources are currently contaminated with hydrocarbons, see Larry Walker and Associates study completed for OVSD), and increased utilization of existing water rights. The most astonishing part of this last paragraph is the last sentence which offers up a conclusion that is not discussed in the report, and no data is supporting the statement that the project could leave an equivalent amount of water in the river (1000 afy) with no net change to flows.

What this Report Tells Us It Does Not Know

The following is a list of critical data missing or unknown in this Feasibility Report.

1. No credible information regarding the Ventura River Estuary is presented: what is presented is a hypothesis. The information missing would include concomitant reductions in estuary water elevations, increases in salinity, connectivity with the ocean, reduction in the size of the estuary, and the increase in temperature to name a few.

2. No information regarding the utility of existing water rights in the Lower Ventura River.

3. There is a general lack of data quantifying the surface water – groundwater interactions.

4. The City of Ventura well field is missing in the information.

5. The actual quantities of existing diversions and groundwater extractions in the Lower Ventura River are not known. An accurate water budget for the Ventura River could not be made.

6. The type and use of wells in the Lower Ventura River was "uncertain."

This report appears to be a simplistic literature survey with minimal actual fieldwork or independent analysis included. The above noted lack of pertinent data should make the ability of the consultants to make any determination, or even a suggestion that the proposed project is feasible, is premature.

This Feasibility Study is critically important for the health and well being of the Ventura River. Accuracy and current information is essential in order to present a clear portrait of this asset for Ventura County, into which millions of dollars have been spent to conserve, preserve, and rehabilitate its function and form.

If Aera Energies, as stated at both presentations, is seriously contemplating drilling up to ten well on their own leasehold and providing sufficient water for all enhanced oil recovery, there are insufficient clients for the reclaimed water to make this proposed project economically feasible. This issue coupled with the potential for significant impacts to biological resources in the Ventura River should make this proposed project infeasible on all accounts.

Thank you for the opportunity to comment.

Sincerely,

Russ Baggerly

Russ Baggerly