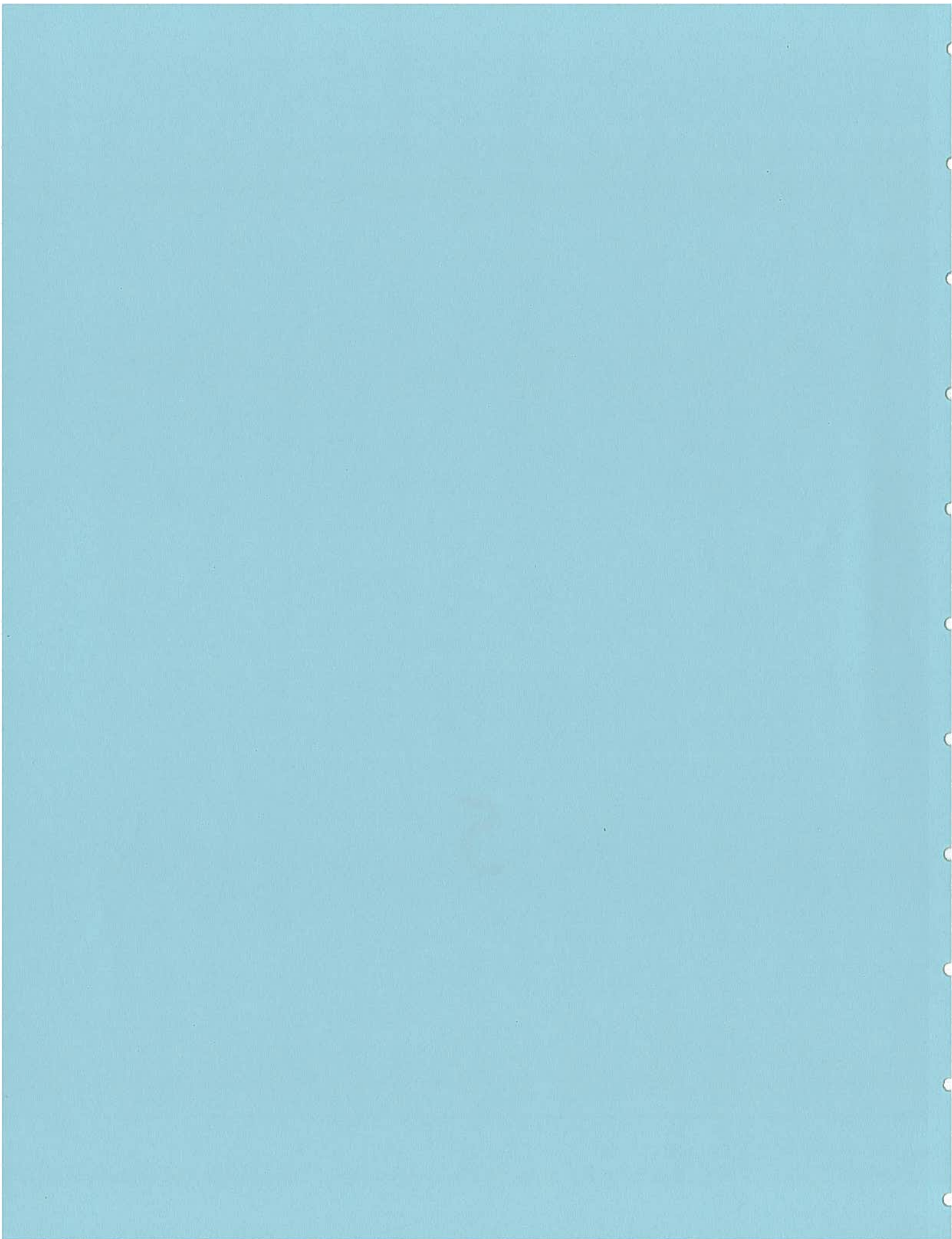


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From: Halter, Amanda (OC)
Sent: Friday, February 27, 2009 12:05 AM
To: 'PWyels@waterboards.ca.gov'; 'DWoodward@waterboards.ca.gov'; 'CHagan@waterboards.ca.gov'
Cc: Peter MacLaggan; 'dmayer@tenera.com'; Garrett, Christopher (SD)
Subject: Poseidon: Revised Charts w/Prorated Calculations

Attachments: 2-27-09 Halter to Woodward.pdf; Prorated Impingement Numbers_Woodward Request_02-27-09.pdf

All,

In response to the items discussed during yesterday's noon teleconference, attached please find a revised table (and corresponding narrative) reflecting Poseidon's prorated impingement calculations. We believe the table as revised provides the relevant information in the format requested by staff.

If, after reflecting on yesterday's submittal, staff has additional comments, we look forward to hearing from staff today on those items. As discussed, we appreciate staff's assistance in helping us to promptly address and finalize any outstanding issues before submittal of the revised Minimization Plan.

Best regards,
Amanda

Amanda Halter

LATHAM & WATKINS LLP
650 Town Center Drive, 20th Floor
Costa Mesa, CA 92626
Direct Tel: 714-755-2238
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Email: amanda.halter@lw.com



2-27-09 Halter to
Woodward.pdf...



Prorated
impingement Numbers_

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ATTACHMENT

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LATHAM & WATKINS^{LLP}

February 27, 2009

Dr. Deborah Woodward
Water Quality Standards Unit
San Diego Regional Water Quality Control Board
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340
dwoodward@waterboards.ca.gov

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File No. 036182-0011

Re: CDP Impingement Data

Dr. Woodward:

In response to our discussions during yesterday's noon teleconference, we submit the following revised information. The revisions include the addition of a column in Table 1 that totals the bony fishes and the sharks and rays, as well as rows providing averages and totals for each column. Outliers are no longer highlighted. In addition, we have confirmed with Dr. Mayer that the average daily flow volume for the sample days is 657 MGD. The explanatory narrative below, which describes the charts and the calculations upon which they are based, is revised to reflect these changes.

Also, you indicated that you wish to receive from Poseidon the Encina Power Station's (EPS) daily flow data for 2008. You do not believe that this information is available in your EPS file. As we explained, we do not have any rights to or possession of this data. We understand that Dr. Mayer may have access to this data by virtue of the work that his firm (Tenera Environmental) conducted for NRG in relation to EPS's Impingement and Entrainment Characterization Study, though this data naturally belongs to NRG and not Poseidon. We will seek NRG's permission to obtain this data from Tenera and to distribute it to you if it is obtained, but we cannot promise that such permission can be secured.

We understand from you, however, that this additional flow data is not essential to your analysis, which you explained can be completed without this data. Rather, you believe that the additional information might prove helpful as a "cross-check." In particular, we note that you have been provided the flow information for all of those days for which biological data is available, and the outstanding flow data you seek would provide no additional biological data for staff to evaluate.

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You requested from Poseidon prorated estimates of the Carlsbad Desalination Project's (CDP) impingement impacts associated with stand-alone operations. Specifically, you asked Poseidon to perform the following calculation for each category of organism (i.e., fishes and invertebrates):

1. For every million gallons of water withdrawn by EPS during the 2004/2005 sampling survey, calculate the concentration of impinged organisms (i.e., fishes and invertebrates) in terms of both:
 - a. number (of individual organisms); and
 - b. weight (in grams).
2. For each of these categories and for each sampling day, multiply the concentration value by CDP's projected daily intake volume (i.e., 304 million gallons) to estimate CDP's proportional impact for that day.
3. Perform the above for every sampling day.
4. Take the average of the above calculations to estimate CDP's average daily impacts.
5. Multiply the estimate of CDP's average daily impact by 365 to calculate CDP's average annual impact.

The attached Tables (1-3) provide the information that you have requested.

Table 1 contains the impingement and flow data that were collected by Tenera Environmental during the 2004/2005 sampling period. The calculations contained in the other tables that estimate CDP's proportional impacts are based on the data in Table 1.

In response to the recommendations that you made during our telephone conversation of February 26, 2009, we have done the following:

1. Added a column (i.e., "Bony Fishes & Sharks + Rays") that combines the EPS impingement data for Bony Fishes and Sharks + Rays (i.e., all organisms except invertebrates).
2. Added two rows at the bottom of Table 1.
 - a. The second to last row (i.e., "EPS Totals" (Based on 52 sampling events)) represents the impingement totals collected during the 52 sampling events over the 2004/2005 sampling period; these numbers are calculated by adding up the values above.
 - b. Each figure in the last row (i.e., "EPS Daily Averages") represents the mean of the values above. These numbers are calculated by dividing the values in the second to last row (i.e., "EPS Totals" (Based on 52 sampling events)) by 52 (i.e., the number of sampling periods). For instance, 657 is the mean daily water volume withdrawn by EPS over the sampling period (34,167/52).

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As you pointed out during yesterday's telephone conversation, page 5-3 of the Revised Flow, Entrainment and Impingement Minimization Plan submitted in March 2008 indicates that "[t]he average power plant intake flow during the 2004/2005 sampling period was 632.6 MGD." Although we have been unable to ferret out the actual source of this information, we would add that this value is not necessarily inconsistent with the 657 MGD average flow value that is presented in Table 1. For instance, whereas the 632.6 MGD figure might represent the average daily flow volume for the *entire year*, the 657 MGD figure represents the average daily flow volume for the 52 sampling days. In this example, the values represent two different things—i.e., the average annual flow vs. the average flow for the 52 sampling days; it makes sense, therefore, that the numbers would be different. Dr. Mayer has confirmed that 657 is the appropriate average flow rate for the 52 sampling days, and so we have retained that information in this submittal.

Table 2 provides the requested information as described above. A detailed analysis of Table 2 follows:

1. Column 1 refers to the relevant sampling date.
2. Column 2 identifies CDP's projected flow volume—a constant value of 304 MGD.
3. Columns 3, 4, 5, 6, and 7 are each divided into:
 - a. 2 sub-columns, representing:
 - i. Number
 - ii. Weight
 - b. 4 sub-sub columns
 - i. Concentration of organisms impinged by EPS's intake system, which is represented in terms of number of organisms impinged per million gallons of water withdrawn.
 - This value is calculated by dividing the number of organisms impinged on a given sampling period (day) by the volume of water withdrawn over the course of that period.
 - For instance, on 6/24/04, Tenera collected and counted 276 impinged bony fish. These fish were impinged during the 24 hours prior to collection—a period during which 632 million gallons of water were withdrawn by EPS. In order to calculate the concentration, we have divided 276 bony fish by 632 million gallons, which equals 0.4364. This means that for every million gallons of water withdrawn by EPS during the sampling period, 0.4364 bony fish were impinged by EPS's intake and collected by Tenera.
 - ii. Estimated Number of organisms impinged by CDP's stand-alone operations.
 - This value represents an estimate of the number of organisms that would have been impinged by CDP's operations during a given sampling period had CDP withdrawn 304 million gallons during that period.
 - This value is calculated by multiplying CDP's projected intake volume (304 MGD) by the concentration of organisms (in terms of

- number) impinged by EPS's intake system (calculated in the adjacent cell, described above).
- For instance, on 6/24/04, this calculation estimates that CDP would have impinged 133 bony fish ($304 \times 0.4364 = 133$).
- iii. Concentration of organisms impinged by EPS's intake system; represented in terms of weight (in grams) of organisms impinged per million gallons of water withdrawn.
- This value is calculated by dividing the weight of organisms impinged on a given sampling period (day) by the volume of water withdrawn over the course of that period.
 - For instance, on 6/24/04, Tenera collected and counted 276 impinged bony fish that weighed 1,682.9 grams. In order to calculate the concentration (in terms of weight), we have divided 1,682.9 grams by 632 million gallons, which equals 2.6609. This means that for every million gallons of water that was withdrawn by EPS during that sampling period, 2.6609 grams of bony fish were impinged by EPS's intake and collected by Tenera.
- iv. Estimated weight of organisms impinged by CDP's stand-alone operations.
- This value represents an estimate of the weight of organisms that would have been impinged by CDP's operations during a given sampling period had CDP withdrawn 304 million gallons during that period.
 - This value is calculated by multiplying CDP's projected intake volume (304) by the concentration of organisms (in terms of weight) impinged by EPS's intake system (calculated in the adjacent cell).
 - For instance, on 6/24/04, this calculation estimates that CDP would have impinged 808.9 grams of bony fish ($304 \times 2.6609 = 808.9$).
4. The calculations described above were made for each of the categories of organisms. In other words, the same steps were taken for:
- Bony fishes
 - Invertebrates
 - Sharks + Rays
 - All Organisms (i.e., Bony fishes & Invertebrates & Sharks + Rays)
 - Bony Fishes & Sharks + Rays (i.e., Invertebrates EXCLUDED)
5. The second to last row in Table 2 provides estimates of CDP's average daily impacts over the entire 2004/2005 sampling period.
- Each calculation presented in this row simply represents the average of the values in the column above that calculation.
 - For instance, if you add up the prorated estimates of the number of bony fish that would be impinged by CDP's operation and then divide by the number of sampling periods (52), the resulting value is 185.
 - This number represents an estimate of the average number of bony fish that would have been impinged each day by CDP during the 2004/2005 sampling period had

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it operated in stand-alone mode withdrawing 304 millions gallons of water per day.

6. The last column in Table 2 provides estimates of CDP's average annual impacts over the entire 2004/2005 sampling period.
 - Each calculation presented in this row simply represents the value above it (i.e., CDP's average daily impingement impact) multiplied by 365 days.
 - For instance, if you multiply 185 bony fish by 365 days, the resulting value is 67,528 bony fish per year.
 - This number represents an estimate of the number of bony fish that would have been impinged by CDP during the entire 2004/2005 sampling period had it operated in stand-alone mode withdrawing 304 million gallons of water per day.

The impingement estimates provided in **Table 3** are identical to the information provided in Table 2. However, Table 3 calculates these values in a more straightforward manner.

1. Column 1 refers to the relevant sampling date.
2. Column 2 presents a daily proportional flow.
 - This value represents the relationship between CDP's projected flow (304 MGD) and EPS actual flow for a given sampling period.
 - For instance, during the 24 hours period preceding Tenera's collection of impinged organisms on 6/24/04, EPS withdrew 632 million gallons of seawater. CDP's daily proportional flow for that period was, therefore, 48.1% (304/632).
3. The daily proportional flow figure is then multiplied by each of EPS's impingement values to estimate CDP's discounted impact.
 - For instance, on 6/24/04 Tenera collected and counted 276 impinged bony fish. Since CDP's would have withdrawn 48.1% of the water that EPS withdrew during that sampling period ($304/632 = 48.1\%$), this methodology assumes that CDP would have impinged 48.1% of the number of bony fish impinged by EPS, or 133 bony fish.
 - The above-described step is repeated for each of the organism categories:
 - a. Bony Fishes
 - b. Invertebrates
 - c. Sharks + Rays
 - d. All Organisms (i.e, Bony Fishes & Invertebrates & Sharks + Rays)
 - e. Bony Fishes & Sharks + Rays (i.e., invertebrates excluded)

LATHAM & WATKINS LLP

Best regards,

A handwritten signature in black ink, appearing to read "Amanda Halter".

Amanda Halter
of LATHAM & WATKINS LLP

Attachments

cc: Phil Wyels
Catherine George Hagan
Peter MacLaggan
Dr. David Mayer
Christopher W. Garrett

ATTACHMENT

	Daily Volume	Bony Fishes		Invertebrates		Sharks + Rays		All Organisms		Fishes & Sharks + Rays	
		Number	Weight (g)	Number	Weight (g)	Number	Weight (g)	Number	Weight (g)	Number	Weight (g)
6/24/2004	632	276	1,682.9	7	66.1	11	2,672.7	294	4,421.7	287	4,355.6
6/30/2004	620	413	2,769.2	6	106.4	6	1,897.1	425	4,772.7	419	4,666.3
7/7/2004	671	201	1,635.5	6	54.0	8	1,954.6	215	3,644.1	209	3,590.1
7/14/2004	856	816	5,201.8	4	272.1	26	7,175.6	846	12,649.5	842	12,377.4
7/21/2004	817	252	3,019.8	3	21.1	11	4,244.2	266	7,285.1	263	7,264.0
7/28/2004	751	244	3,881.3	2	32.5	11	2,598.0	257	6,511.8	255	6,479.3
8/4/2004	676	60	2,162.9	2	7.4	10	1,788.1	72	3,958.4	70	3,951.0
8/11/2004	857	653	5,399.7	7	45.1	26	6,499.0	686	11,943.8	679	11,898.7
8/18/2004	857	80	1,379.5	3	24.9	6	2,620.2	89	4,024.6	86	3,999.7
8/25/2004	626	91	2,277.5	5	26.4	9	1,532.0	105	3,835.9	100	3,809.5
9/1/2004	735	32	856.5	2	4.7	2	633.3	36	1,494.5	34	1,489.8
9/8/2004	857	244	2,991.8	1	2.5	6	1,018.2	251	4,012.5	250	4,010.0
9/15/2004	771	94	849.4	8	62.6	2	499.0	104	1,411.0	96	1,348.4
9/22/2004	793	165	1,387.4	6	50.1	2	705.0	173	2,142.5	167	2,092.4
9/29/2004	840	120	1,121.4	15	115.9	2	460.0	137	1,697.3	122	1,581.4
10/6/2004	823	213	2,140.2	28	116.5	5	768.6	246	3,025.3	218	2,908.8
10/13/2004	550	17	323.6	21	118.8	0	0.0	38	442.4	17	323.6
10/20/2004	419	257	2,742.3	16	70.2	1	200.0	274	3,012.5	258	2,942.3
10/27/2004	477	202	2,949.5	37	254.0	4	1,775.0	243	4,978.5	206	4,724.5
11/3/2004	477	98	368.5	12	100.1	1	120.0	111	588.6	99	488.5
11/10/2004	550	21	129.0	29	196.6	0	0.0	50	325.6	21	129.0
11/17/2004	544	60	937.9	12	117.9	1	27.7	73	1,083.5	61	965.6
11/22/2004	550	42	890.5	37	156.2	1	460.0	80	1,506.7	43	1,350.5
12/1/2004	813	1,943	8,742.8	21	142.5	4	1,040.0	1,968	9,925.3	1,947	9,782.8
12/8/2004	784	322	1,849.0	22	335.0	2	1,050.0	346	3,234.0	324	2,899.0
12/15/2004	710	207	2,570.5	20	161.3	0	0.0	227	2,731.8	207	2,570.5
12/20/2004	710	66	678.9	20	197.7	0	0.0	86	876.6	66	678.9
12/29/2004	710	1,137	4,897.0	45	189.8	9	5,530.0	1,191	10,616.8	1,146	10,427.0
1/5/2005	566	522	5,484.3	40	385.6	6	1,795.9	568	7,665.8	528	7,280.2
1/12/2005	560	4,945	73,673.0	95	2,583.5	56	35,853.0	5,096	112,110.0	5,001	109,526.0
1/19/2005	599	595	4,764.1	49	444.0	5	2,150.0	649	7,358.1	600	6,914.1
1/26/2005	632	302	3,300.4	39	414.0	4	5,030.0	345	8,744.4	306	8,330.4
2/2/2005	560	246	3,196.5	26	678.4	0	0.0	272	3,874.9	246	3,196.5
2/9/2005	632	223	2,926.6	19	133.5	4	2,770.0	246	5,830.1	227	5,696.6
2/16/2005	497	23	1,186.0	714	2,153.6	0	0.0	737	3,339.6	23	1,186.0

EPS

Impingement and Flow Data

Collected by Tenerra Environmental (2004-2005)

February 27, 2009

PRELIMINARY DRAFT

TABLE 1

	Daily Volume	Bony Fishes		Invertebrates		Sharks + Rays		All Organisms		Fishes & Sharks + Rays	
		Number	Weight (g)	Number	Weight (g)	Number	Weight (g)	Number	Weight (g)	Number	Weight (g)
2/23/2005	307	1,270	28,151.0	42	4,199.8	4	1,380.0	1,316	33,731.2	1,274	29,531.0
3/2/2005	497	48	3,638.2	20	424.6	0	0.0	68	4,062.8	48	3,638.2
3/9/2005	497	126	3,723.0	74	629.9	6	2,863.5	206	7,216.4	132	6,586.5
3/16/2005	497	30	887.6	16	62.0	0	0.0	46	949.6	30	887.6
3/23/2005	673	276	4,695.2	65	295.8	6	3,027.6	347	8,018.6	282	7,722.8
3/30/2005	674	234	2,290.1	37	162.5	6	6,873.3	277	9,325.9	240	9,163.4
4/6/2005	673	106	5,080.5	49	343.0	3	2,070.0	158	7,493.5	109	7,150.5
4/13/2005	673	207	6,419.5	184	631.4	13	4,717.9	404	11,768.8	220	11,137.4
4/20/2005	745	94	2,521.2	23	288.1	2	213.3	119	3,022.6	96	2,734.5
4/27/2005	745	101	1,391.5	8	24.4	1	2,500.0	110	3,915.9	102	3,891.5
5/4/2005	706	277	2,191.0	7	28.6	3	2,050.8	287	4,270.4	280	4,241.8
5/11/2005	576	193	3,965.9	11	328.4	7	2,377.5	211	6,671.8	200	6,343.4
5/18/2005	706	299	3,890.7	20	96.6	13	3,456.7	332	7,444.0	312	7,347.4
5/25/2005	632	192	3,398.6	20	107.0	3	1,046.0	215	4,551.6	195	4,444.6
6/1/2005	700	222	3,660.9	19	52.9	6	2,264.5	247	5,978.3	228	5,925.4
6/8/2005	778	232	3,554.2	5	13.0	2	1,072.4	239	4,656.8	234	4,626.6
6/15/2005	563	37	1,912.7	8	24.5	0	0.0	45	1,943.4	37	1,912.7
EPS Totals (Based on 52 sampling events)	34,167	19,126	241,739	1,987	17,554	316	130,781	21,429	390,098	19,442	372,520
EPS Daily Averages	657	368	4,648.8	38	337.6	6	2,515.0	412	7,501.9	374	7,163.8

EPS

Impingement and Flow Data

Collected by Tenerra Environmental (2004-2005)

February 27, 2009

PRELIMINARY DRAFT

TABLE 1

	Bony Fishes				Invertebrates				Sharks + Rays				All Organisms				Bony Fishes & Sharks + Rays			
	Number		Weight		Number		Weight (g)		Number		Weight (g)		Number		Weight (g)		Number		Weight (g)	
	Concentration (# fish / MG)	# Fish Impinged	Concentration (Grams / MG)	Weight in Grams	Concentration (# Inverts / MG)	# Inverts Impinged	Concentration (Grams / MG)	Weight in Grams	Concentration (# Sharks + Rays / MG)	# Sharks + Ray Impinged	Concentration (Grams / MG)	Weight in Grams	Concentration (# Organisms / MG)	# Organisms Impinged	Concentration (Grams / MG)	Weight in Grams	Concentration (# Fish & Sharks + Rays / MG)	# Fish & Sharks + Ray Impinged	Concentration (Grams / MG)	Weight in Grams
CDP's Daily Flow Volume (MGD)																				
6/24/2004	304	0.4364	2.6609	808.9	0.0097	3	0.1045	31.8	0.0174	5	4.2260	1284.7	0.4649	141	6.9914	2125.4	0.4538	138	6.8869	2093.6
6/30/2004	304	0.6662	4.4667	1357.9	0.0089	3	0.1716	52.2	0.0097	3	3.0600	930.2	0.6855	208	7.6983	2340.3	0.6758	205	7.5267	2288.1
7/7/2004	304	0.2995	2.4369	740.8	0.0047	1	0.0805	24.5	0.0119	4	2.9123	885.3	0.3203	97	5.4297	1650.6	0.3114	95	5.3492	1626.2
7/14/2004	304	0.9537	6.0794	1848.1	0.0037	1	0.3180	96.7	0.0304	9	8.3862	2549.4	0.9887	301	14.7835	4494.2	0.9840	299	14.4655	4397.5
7/21/2004	304	0.3084	3.6951	1123.3	0.0027	1	0.0258	7.8	0.0135	4	5.1933	1578.8	0.3255	99	8.9142	2709.9	0.3218	98	8.8884	2702.1
7/28/2004	304	0.3251	5.1714	1572.1	0.0030	1	0.0433	13.2	0.0147	4	3.4616	1052.3	0.3424	104	8.6763	2637.6	0.3398	103	8.6330	2624.4
8/4/2004	304	0.0888	3.2012	973.2	0.0082	2	0.0110	3.3	0.0148	4	2.6465	804.5	0.1066	32	5.8587	1781.0	0.1036	31	5.8477	1777.7
8/11/2004	304	0.7619	6.3001	1915.2	0.0035	1	0.0526	16.0	0.0303	9	7.5827	2305.1	0.8004	243	13.9353	4236.3	0.7922	241	13.8827	4220.3
8/18/2004	304	0.0933	1.6095	489.3	0.0080	2	0.0291	8.8	0.0070	2	3.0571	929.4	0.1038	32	4.6957	1427.5	0.1003	31	4.6666	1418.7
8/25/2004	304	0.1453	3.6356	1105.2	0.0027	1	0.0421	12.8	0.0144	4	2.1445	743.4	0.1676	51	6.1233	1861.5	0.1596	49	6.0811	1848.7
9/1/2004	304	0.0435	1.1647	354.1	0.0012	0	0.0064	1.9	0.0027	1	0.0612	261.8	0.0490	15	2.0322	617.8	0.0462	14	2.0258	615.8
9/8/2004	304	0.2847	3.4907	1061.2	0.0104	3	0.0029	0.9	0.0070	2	1.1880	361.1	0.2929	89	4.6815	1423.2	0.2917	89	4.6786	1422.3
9/15/2004	304	0.1219	1.1014	334.8	0.0076	2	0.0812	24.7	0.0026	1	0.6474	196.7	0.1349	41	1.8297	556.2	0.1245	38	1.7485	531.5
9/22/2004	304	0.2081	1.7495	531.9	0.0179	5	0.0632	19.2	0.0025	1	0.8890	270.3	0.2182	66	2.7017	821.3	0.2106	64	2.6386	802.1
9/29/2004	304	0.1428	1.3345	405.7	0.0340	10	0.1379	41.9	0.0024	1	0.5474	166.4	0.1630	50	2.0199	614.1	0.1452	44	1.8820	572.1
10/6/2004	304	0.2590	2.6020	791.0	0.0382	12	0.1416	43.1	0.0061	2	0.9344	284.1	0.2991	91	3.6781	1118.1	0.2650	81	3.5364	1075.1
10/13/2004	304	0.0309	0.5880	178.7	0.0382	12	0.2159	65.6	0.0000	0	0.0000	0.0	0.0690	21	0.8038	244.4	0.0309	9	0.5880	178.7
10/20/2004	304	0.6134	6.5454	1989.8	0.0776	24	0.1676	50.9	0.0024	1	0.4774	145.1	0.6540	199	7.1903	2185.8	0.6158	187	7.0227	2134.9
10/27/2004	304	0.4235	6.1844	1880.0	0.0252	8	0.5326	161.9	0.0084	3	3.7217	1131.4	0.5095	155	10.4387	3173.4	0.4319	131	9.9061	3011.5
11/3/2004	304	0.2055	0.7727	234.9	0.0527	16	0.2099	63.8	0.0021	1	0.2516	76.5	0.2327	71	1.2341	375.2	0.2076	63	1.0243	311.4
11/10/2004	304	0.0382	1.2	0.2344	71.3	0.0221	7	0.3572	108.6	0.0000	0	0.0000	0.0	0.0908	0.5916	179.8	0.0382	12	0.2344	71.3
11/17/2004	304	0.1103	1.7237	524.0	0.0672	20	0.2167	65.9	0.0018	1	0.0509	15.5	0.1342	41	1.9913	605.3	0.1121	34	1.7746	539.5

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Prorated Impingement Data (with concentration values and outliers)

PRELIMINARY DRAFT

TABLE 2

	Bony Fishes			Invertebrates			Sharks + Rays			All Organisms			Bony Fishes & Sharks + Rays								
	Number	Weight		Number	Weight (g)		Number	Weight (g)		Number	Weight (g)		Number	Weight (g)							
		# Fish Impinged	Concentration (Grams / MG)		# Inverts Impinged	Concentration (Grams / MG)		# Sharks + Ray Impinged	Concentration (# Sharks + Rays / MG)		# Organisms Impinged	Concentration (# Fish & Sharks + Rays / MG)		# Fish & Sharks + Ray Impinged	Concentration (Grams / MG)	Weight in Grams					
																	Concentration (# fish / MG)	Weight in Grams	Concentration (Grams / MG)	Weight in Grams	
11/22/2004	304	0.0763	23	106180	49119	0.0258	8	0.2838	86.3	0.0018	0.8358	25411	0.1454	44	2.7376	832.2	0.0781	24	2.4538	746.0	
12/1/2004	304	2.3887	726	107484	326715	0.0281	9	0.1752	53.3	0.0049	1.2786	38877	2.4195	736	12.2021	3709.4	2.3936	728	12.0269	3656.2	
12/8/2004	304	0.4109	125	23595	71713	0.0282	9	0.4275	130.0	0.0026	1.3399	140713	0.4415	134	4.1269	1254.6	0.4135	126	3.6994	1124.6	
12/15/2004	304	0.2915	89	316194	110013	0.0282	9	0.2271	69.0	0.0000	0.0000	0.0	0.3196	97	3.8465	1169.3	0.2915	89	3.6194	1100.3	
12/20/2004	304	0.0929	28	095659	290.6	0.0634	19	0.2784	84.6	0.0000	0.0000	0.0	0.1211	37	1.2343	375.2	0.0929	28	0.9559	290.6	
12/29/2004	304	1.6009	487	6.8952	2096.1	0.0706	21	0.2672	81.2	0.0127	4.77865	2367.1	1.6770	510	14.9489	4544.5	1.6136	491	14.6816	4463.2	
1/5/2005	304	0.9219	280	9.6860	2944.5	0.1695	52	0.6810	207.0	0.0106	3.1718	964.2	1.0032	305	13.5388	4115.8	0.9325	283	12.8578	3908.8	
1/12/2005	304	8.8233	2,682	131.4538	39961.9	0.0818	25	4.6097	1401.4	0.0999	30	63.9720	19447.5	9.0927	2,764	200.0364	60811.1	8.9232	2,713	195.4258	59409.4
1/19/2005	304	0.9928	302	7.9491	2416.5	0.0617	19	0.7408	225.2	0.0083	3.5874	1090.6	1.0829	329	12.2773	3732.3	1.0011	304	11.5364	3507.1	
1/26/2005	304	0.4775	145	5.2185	1586.4	0.0464	14	0.6546	199.0	0.0063	2.79532	2417.8	0.5455	166	13.8263	4203.2	0.4838	147	13.1717	4004.2	
2/2/2005	304	0.4389	133	5.7035	1733.9	0.0300	9	1.2105	368.0	0.0000	0.0000	0.0	0.4853	148	6.9139	2101.8	0.4389	133	5.7035	1733.9	
2/9/2005	304	0.3526	107	4.6274	1406.7	1.4372	437	0.2111	64.2	0.0063	2.43798	1331.5	0.3890	118	9.2183	2802.4	0.3589	109	9.0072	2738.2	
2/16/2005	304	0.0463	14	2.3873	725.7	0.1369	42	4.3349	1317.8	0.0000	0.0000	0.0	1.4835	451	6.7222	2043.6	0.0463	14	2.3873	725.7	
2/23/2005	304	4.1406	1,259	91.7808	27901.4	0.0403	12	13.6826	4162.6	0.0130	4.4992	1367.8	4.2906	1,304	109.9739	33432.1	4.1536	1,263	96.2800	29269.1	
3/2/2005	304	0.0966	29	7.3233	2226.3	0.1490	45	0.8547	259.8	0.0000	0.0000	0.0	0.1369	42	8.1779	2486.1	0.0966	29	7.3233	2226.3	
3/9/2005	304	0.2536	77	7.4940	2278.2	0.0322	10	1.2679	385.4	0.0121	4.57639	1752.2	0.4147	126	14.5258	4415.8	0.2537	81	13.2579	4030.4	
3/16/2005	304	0.0604	18	1.7866	543.1	0.0966	29	0.1248	37.9	0.0000	0.0000	0.0	0.0926	28	1.9114	581.1	0.0604	18	1.7866	543.1	
3/23/2005	304	0.4102	125	6.9789	2121.6	0.0549	17	0.4397	133.7	0.0089	3.45002	1368.1	0.5158	157	11.9188	3623.3	0.4192	127	11.4791	3489.7	
3/30/2005	304	0.3471	106	3.3967	1032.6	0.0728	22	0.2410	73.3	0.0089	3.101946	3099.2	0.4109	125	13.8324	4205.0	0.3560	108	13.5914	4131.8	
4/6/2005	304	0.1576	48	7.5516	2295.7	0.2735	83	0.5098	155.0	0.0045	1.30768	935.4	0.2349	71	11.1383	3386.0	0.1620	49	10.6285	3231.1	
4/13/2005	304	0.3077	94	9.5419	2900.7	0.0309	9	0.9385	285.3	0.0193	6.70127	2131.9	0.6005	183	17.4931	5317.9	0.3270	99	16.5546	5032.6	
4/20/2005	304	0.1262	38	3.3852	1029.1	0.0107	3	0.3868	117.6	0.0027	1.02864	87.1	0.1598	49	4.0584	1233.8	0.1289	39	3.6716	1116.2	

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Prorated Impingement Data (with concentration values and outliers)

PRELIMINARY DRAFT

TABLE 2

	Bony Fishes				Invertebrates				Sharks + Rays				All Organisms				Bony Fishes & Sharks + Rays													
	Number		Weight		Number		Weight (g)		Number		Weight (g)		Number		Weight (g)		Number		Weight (g)											
CDP's Daily Flow Volume (MGD)	# Fish Impinged		Concentration (Grams / MG)		Weight in Grams		Concentration (Grams / MG)		# Inverts Impinged		Concentration (# Inverts / MG)		# Sharks + Ray Impinged		Concentration (# Sharks + Rays / MG)		Concentration (# Organisms / MG)		# Organisms Impinged		Concentration (Grams / MG)		Weight in Grams		# Fish & Sharks + Ray Impinged		Concentration (Grams / MG)		Weight in Grams	
4/27/2005	0.1356	41	1,8684	568.0	0.0099	3	0.0328	10.0	0.0013	0	3.3568	883.2	0.4066	45	0.1477	1598.4	0.1370	42	5.2251	1588.4										
5/4/2005	0.3924	119	3,1039	943.6	0.0191	6	0.0405	12.3	0.0013	4	4.1255	1254.2	0.3661	111	11.5772	1839.1	0.3967	121	6.0092	1826.8										
5/11/2005	0.3349	102	6,8818	2092.1	0.0283	9	0.5699	173.2	0.0013	4	4.1255	1254.2	0.3661	111	11.5772	3519.5	0.3470	106	11.0073	3346.2										
5/18/2005	0.4236	129	5,5118	1675.6	0.0316	10	0.1368	41.6	0.0184	6	4.8970	1488.7	0.4703	143	10.5456	3205.9	0.4420	134	10.4087	3164.3										
5/25/2005	0.3036	92	5,3737	1633.6	0.0271	8	0.1692	51.4	0.0047	3	3.2355	983.6	0.3529	103	7.1968	2187.8	0.3083	94	7.0276	2136.4										
6/1/2005	0.3172	96	5,2307	1590.1	0.0064	2	0.0756	23.0	0.0086	3	3.2355	983.6	0.3529	107	8.5418	2596.7	0.3258	99	8.4662	2573.7										
6/8/2005	0.2984	91	4,5712	1389.6	0.0142	4	0.167	5.1	0.0026	1	1.3792	419.3	0.3074	93	5.9892	1820.7	0.3010	91	5.9504	1808.9										
6/15/2005	0.0657	20	3.3954	1032.2	0.0582	18	0.0435	13.2	0.0000	0	0.0000	0.0	0.0799	24	3.4499	1048.8	0.0657	20	3.3954	1032.2										
Prorated Estimate of CDP's Daily Impingement Impact (Based on Flow of 304 MGD)	0.6086	185	8.3682	2,543.9	0.0694	21	0.7049	214.3	0.0092	3	3.9179	1,191.0	0.6863	209	12.9917	3,949.5	0.6177	188	12.2861	3,735.0										
Prorated Estimate of CDP's Annual Impingement Impact (Based on Flow of 304 MGD)	N/A	67,528	N/A	928,534	N/A	7,704	N/A	78,214	N/A	1,018	N/A	434,732	N/A	76,149	N/A	1,441,556	N/A	68,546	N/A	1,363,266										

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Prorated Impingement Data (with concentration values and outliers)

PRELIMINARY DRAFT

TABLE 2

	Daily Proportional Flow	Fishes		Invertebrates		Sharks + Rays		All Organisms		Fishes & Sharks + Rays	
		Number	Weight (g)	Number	Weight (g)	Number	Weight (g)	Number	Weight (g)	Number	Weight (g)
6/24/2004	48.1%	133	809	3	32	5	1,285	141	2,125	138	2,094
6/30/2004	49.0%	203	1,358	3	52	3	930	208	2,340	205	2,288
7/7/2004	45.3%	91	741	3	24	4	885	97	1,651	95	1,626
7/14/2004	35.5%	290	1,848	1	97	9	2,549	301	4,494	299	4,398
7/21/2004	37.2%	94	1,123	1	8	4	1,579	99	2,710	98	2,702
7/28/2004	40.5%	99	1,572	1	13	4	1,052	104	2,638	103	2,624
8/4/2004	45.0%	27	973	1	3	4	805	32	1,781	31	1,778
8/11/2004	35.5%	232	1,915	2	16	9	2,305	243	4,236	241	4,220
8/18/2004	35.5%	28	489	1	9	2	929	32	1,427	31	1,419
8/25/2004	48.5%	44	1,105	2	13	4	743	51	1,861	49	1,849
9/1/2004	41.3%	13	354	1	2	1	262	15	618	14	616
9/8/2004	35.5%	87	1,061	0	1	2	361	89	1,423	89	1,422
9/15/2004	39.4%	37	335	3	25	1	197	41	556	38	532
9/22/2004	38.3%	63	532	2	19	1	270	66	821	64	802
9/29/2004	36.2%	43	406	5	42	1	166	50	614	44	572
10/6/2004	37.0%	79	791	10	43	2	284	91	1,118	81	1,075
10/13/2004	55.2%	9	179	12	66	0	0	21	244	9	179
10/20/2004	72.6%	186	1,990	12	51	1	145	199	2,186	187	2,135
10/27/2004	63.7%	129	1,880	24	162	3	1,131	155	3,173	131	3,011
11/3/2004	63.7%	62	235	8	64	1	76	71	375	63	311
11/10/2004	55.2%	12	71	16	109	0	0	28	180	12	71
11/17/2004	55.9%	34	524	7	66	1	15	41	605	34	539
11/22/2004	55.2%	23	492	20	86	1	254	44	832	24	746
12/1/2004	37.4%	726	3,268	8	53	1	389	736	3,709	728	3,656
12/8/2004	38.8%	125	717	9	130	1	407	134	1,255	126	1,125
12/15/2004	42.8%	89	1,100	9	69	0	0	97	1,169	89	1,100
12/20/2004	42.8%	28	291	9	85	0	0	37	375	28	291
12/29/2004	42.8%	487	2,096	19	81	4	2,367	510	4,544	491	4,463
1/5/2005	53.7%	280	2,945	21	207	3	964	305	4,116	283	3,909
1/12/2005	54.2%	2,682	39,962	52	1,401	30	19,447	2,764	60,811	2,713	59,409
1/19/2005	50.7%	302	2,417	25	225	3	1,091	329	3,732	304	3,507
1/26/2005	48.1%	145	1,586	19	199	2	2,418	166	4,203	147	4,004
2/2/2005	54.2%	133	1,734	14	368	0	0	148	2,102	133	1,734
2/9/2005	48.1%	107	1,407	9	64	2	1,331	118	2,802	109	2,738
2/16/2005	61.2%	14	726	437	1,318	0	0	451	2,044	14	726
2/23/2005	99.1%	1,259	27,901	42	4,163	4	1,368	1,304	33,432	1,263	29,269

	Daily Proportional Flow	Fishes		Invertebrates		Sharks + Rays		All Organisms		Fishes & Sharks + Rays	
		Number	Weight (g)	Number	Weight (g)	Number	Weight (g)	Number	Weight (g)	Number	Weight (g)
3/2/2005	61.2%	29	2,226	12	260	0	0	42	2,486	29	2,226
3/9/2005	61.2%	77	2,278	45	385	4	1,752	126	4,416	81	4,030
3/16/2005	61.2%	18	543	10	38	0	0	28	581	18	543
3/23/2005	45.2%	125	2,122	29	134	3	1,368	157	3,623	127	3,490
3/30/2005	45.1%	106	1,033	17	73	3	3,099	125	4,205	108	4,132
4/6/2005	45.2%	48	2,296	22	155	1	935	71	3,386	49	3,231
4/13/2005	45.2%	94	2,901	83	285	6	2,132	183	5,318	99	5,033
4/20/2005	40.8%	38	1,029	9	118	1	87	49	1,234	39	1,116
4/27/2005	40.8%	41	568	3	10	0	1,020	45	1,598	42	1,588
5/4/2005	43.1%	119	944	3	12	1	883	124	1,839	121	1,827
5/11/2005	52.8%	102	2,092	6	173	4	1,254	111	3,519	106	3,346
5/18/2005	43.1%	129	1,676	9	42	6	1,489	143	3,206	134	3,164
5/25/2005	48.1%	92	1,634	10	51	1	503	103	2,188	94	2,136
6/1/2005	43.4%	96	1,590	8	23	3	984	107	2,597	99	2,574
6/8/2005	39.1%	91	1,390	2	5	1	419	93	1,821	91	1,809
6/15/2005	54.0%	20	1,032	4	13	0	0	24	1,049	20	1,032
Prorated Estimate of CDP's <u>Daily</u> Impingement Impact (Based on Flow of 304 MGD)		185	2,544	21	214	3	1,191	209	3,949	188	3,735
Prorated Estimate of CDP's <u>Annual</u> Impingement Impact (Based on Flow of 304 MGD)		67,528	928,534	7,604	78,214	1,018	434,732	76,149	1,441,556	68,546	1,363,266

