2034	-233.3	-246.5
2035	-233.3	-246.8
2036	-233.4	-247.1
2037	-233.5	-247.5
2038	-233.5	-247.7
2039	-233.6	-247.9
2040	-233.6	-248.1
2041	-233.7	-248.3
2042	-233.8	-248.4
2043	-233.8	-248.6
2044	-233.9	-248.7
2045	-233.9	-248.8
2046	-234.0	-248.9
2047	-234.0	-249.0
2048	-234.1	-248.8
2049	-234.1	-248.6
2050	-234.2	-248.4
2051	-234.2	-248.2
2052	-234.3	-248.1
2053	-234.3	-248.0
2054	-234.3	-247.9
2055	-234.4	-247.8
2056	-234.4	-247.7
2057	-234.5	-247.7
2058	-234.6	-247.6
2059	-234.6	-247.6
2060	-234.6	-247.5
2061	-234.7	-247.5
2062	-234.7	-247.5
2063	-234.8	-247.5
2064	-234.8	-247.5
2065	-234.8	-247.5
2066	-234.9	-247.5
2067	-234.9	-247.5
2068	-234.9	-247.5
2069	-235.0	-247.5
2070	-235.0	-247.5
2071	-235.0	-247.5
2072	-235.1	-247.5
2073	-235.1	-247.5
2074	-235.2	-247.5

Scenario 2 (cont.)

Elevation

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92009

FACSIMILE TRANSMITTAL FORM

Date Sent: 9/25/03

No. of Pages: 9

Time Sent: (Pacific Time) 1:25pm

TO: Bruce Ellis
Glenn Black

Fax No.: 602-216-4006
909-597-0067

FROM: Carol Roberts

Fax No: (760) 431-~~8020~~ 5902
Phone No.: (760) 431-9440 ext. 271

SUBJECT:

New Pelican analyses

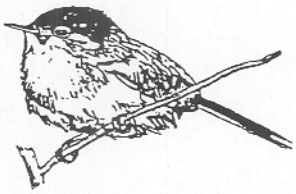
COMMENTS:

Please call me if you have any questions, or if you can't read the FAX!

Carol

If you have any have problems receiving this fax, please call (760) 431-9440, extension ~~212~~ 271. Thank you.

California Gnatcatcher



The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people.

10/28/2002 Version

Salinity

	-5% Perc	-1SD	Mean	+1SD, -1SI	+95% Perc, -5% Perc
2000	44	0	44	0	0
2001	43.80323	0.526276	44.81101	0.963005	0.202709
2002	44.33734	0.555965	45.59743	1.408241	0.359577
2003	44.8688	0.644108	46.37966	1.733494	0.478931
2004	45.46626	0.700588	47.17473	2.015766	0.690468
2005	45.98151	0.800591	47.93143	2.298664	0.797539
2006	46.57252	0.859726	48.67988	2.495262	0.79134
2007	47.12042	0.904465	49.38308	2.716381	0.862709
2008	47.66833	1.002281	50.12304	2.90485	0.977077
2009	48.28267	1.072155	50.89809	3.086548	1.046459
2010	48.82439	1.184742	51.63837	3.258457	1.078381
2011	49.36854	1.317104	52.39022	3.409153	1.029118
2012	50.18817	1.224812	53.17611	3.526257	1.082306
2013	50.90559	1.247364	54.00018	3.694435	1.176014
2014	51.63098	1.244007	54.79805	3.846134	1.136868
2015	52.33263	1.25536	55.57249	3.968998	1.1493
2016	53.08912	1.276924	56.40066	4.069225	1.345074
2017	53.63992	1.477211	57.24607	4.257885	1.339851
2018	54.48177	1.446293	58.1039	4.351669	1.316833
2019	56.42456	1.613419	60.41287	4.74979	1.310387
2020	58.87045	1.727577	63.1309	5.06575	1.422951
2021	61.50288	1.936832	66.26638	5.653339	1.631996
2022	64.69161	1.97541	69.7489	6.16375	2.053635
2023	67.90646	2.139496	73.40192	6.711937	2.172371
2024	71.01977	2.320122	77.02318	7.36657	2.285561
2025	74.21829	2.679909	80.82606	7.855705	2.380508
2026	77.75047	2.709045	84.62518	8.331306	2.509193
2027	81.43132	2.849129	88.59821	8.635513	2.927109
2028	85.24606	2.825851	92.55421	8.964584	2.642166
2029	88.57182	3.117691	96.3616	9.3442	2.699883
2030	92.09425	3.310661	100.2125	9.615242	2.620041
2031	95.02973	3.54068	103.6304	10.12006	3.261848
2032	98.3969	3.472771	107.0201	10.30089	3.178787
2033	101.2519	3.618256	110.0902	10.44006	3.450844
2034	104.0918	3.405891	112.979	10.96258	3.557564
2035	106.2311	3.947197	115.7568	11.15694	3.569656
2036	108.8032	3.804642	118.2938	11.37193	3.936188
2037	111.4109	3.503555	120.6974	11.5659	4.065277
2038	113.9109	3.188744	123.0295	11.8596	3.806778
2039	115.7152	3.363617	125.0773	11.99698	4.282913
2040	117.6515	3.437981	127.2093	12.23968	3.901688
2041	119.1063	3.696991	128.8662	12.12565	4.288712
2042	121.0027	3.367271	130.5165	12.29311	3.908127
2043	122.3423	3.469299	132.0968	12.57032	4.542496
2044	123.3499	3.828392	133.6266	12.89648	4.277802
2045	125.2151	3.347229	135.1916	13.25865	5.078369
2046	126.2356	3.859032	136.752	13.31467	4.732468
2047	127.4669	3.791138	138.102	13.68799	5.045898
2048	125.7399	4.361504	136.8622	13.52144	4.343842
2049	125.3908	3.963661	135.9341	13.15926	4.798294
2050	124.6953	4.023674	135.1473	12.8566	4.030167
2051	124.0121	4.290337	134.5243	12.44376	3.624222
2052	123.4863	4.440796	134.1785	12.50286	3.658142

Pelican numbers

3295
3262
3229
3196
3163
3163
3130
3097
3064
3031
2965
1201
25

33/ppt

588/ppt

25/24.17/23.33
scenario

Year	Baseline Salinity (mg/l)	IID to SD By Fallowing With No Effect and 33.3% OF CVWD Water Derived From System/On-Farm Returning to the Sea and IID Conditional ISG Backfill Salinity (mg/l)	Pelican numbers
2000	44000	44000	
2001	44816	44801	
2002	45657	45613	
2003	46467	46382	
2004	47277	47185	
2005	48029	47930	
2006	48769	48689	
2007	49501	49570	
2008	50222	50267	
2009	50929	50998	3295
2010	51653	51914	3262
2011	52349	52605	3229
2012	53047	53368	3196
2013	53756	54359	3163
2014	54455	55137	3130
2015	55107	55931	3130
2016	55796	56761	3097
2017	56448	57624	3064
2018	57123	58472	3031
2019	57709	60874	2965
2020	58359	63671	1201
2021	58984	66984	25
2022	59560	70643	
2023	60189	74480	
2024	60797	78315	
2025	61389	82210	
2026	61923	86208	
2027	62512	90310	
2028	63075	94317	
2029	63632	98310	
2030	64200	102080	
2031	64746	105538	
2032	65254	108701	
2033	65742	111743	
2034	66242	114611	
2035	66716	117173	
2036	67213	119565	
2037	67714	122080	
2038	68221	124173	
2039	68664	126183	
2040	69183	128144	
2041	69665	129755	
2042	70112	131525	
2043	70582	132934	
2044	71116	134512	
2045	71601	135781	
2046	72068	137206	
2047	72531	138401	
2048	72990	137327	
2049	73470	136414	
2050	73905	135681	
2051	74378	135046	
2052	74855	134686	
2053	75333	134404	
2054	75734	134110	
2055	76215	134122	
2056	76713	134168	
2057	77270	134436	
2058	77703	134574	
2059	78134	134786	
2060	78584	135103	
2061	79119	135514	
2062	79598	135727	
2063	80122	136149	
2064	80535	136677	
2065	80949	137264	
2066	81354	137709	
2067	81785	138135	
2068	82166	138635	
2069	82559	139171	
2070	83007	139784	
2071	83424	140538	
2072	83941	141074	
2073	84458	141648	
2074	84953	142077	

125/25/35 Scenario:

Year	Baseline Salinity (mg/l)	IID to SD By Fallowing With No Effect and 33.3% OF CVWD Water Derived From System/On-Farm Returning to the Sea and IID Conditional ISG Backfill Salinity (mg/l)	Pelican numbers
2000	44000	44000	
2001	44816	44799	
2002	45657	45561	
2003	46467	46405	
2004	47277	47183	
2005	48029	47976	
2006	48769	48689	
2007	49501	49522	
2008	50222	50215	
2009	50929	50966	3295
2010	51653	51891	3262
2011	52349	52632	3229
2012	53047	53407	3196
2013	53756	54495	3163
2014	54455	55230	3130
2015	55107	56036	3097
2016	55796	56851	3097
2017	56448	57644	3064
2018	57123	58514	3031
2019	57709	60892	2965
2020	58359	63756	1201
2021	58984	67116	25
2022	59560	70845	
2023	60189	74569	
2024	60797	78456	
2025	61389	82417	
2026	61923	86581	
2027	62512	90639	
2028	63075	94567	
2029	63632	98401	
2030	64200	102130	
2031	64746	105577	
2032	65254	109035	
2033	65742	112163	
2034	66242	114797	
2035	66716	117211	
2036	67213	119756	
2037	67714	122122	
2038	68221	124156	
2039	68664	126157	
2040	69183	128259	
2041	69665	130091	
2042	70112	131483	
2043	70582	133032	
2044	71116	134329	
2045	71601	135997	
2046	72068	137221	
2047	72531	138642	
2048	72990	137278	
2049	73470	136496	
2050	73905	135591	
2051	74378	135214	
2052	74855	134760	
2053	75333	134551	
2054	75734	134393	
2055	76215	134396	
2056	76713	134301	
2057	77270	134424	
2058	77703	134587	
2059	78134	134783	
2060	78584	135111	
2061	79119	135354	
2062	79598	135870	
2063	80122	136338	
2064	80535	136826	
2065	80949	137117	
2066	81354	137695	
2067	81785	138227	
2068	82166	139009	
2069	82559	139391	
2070	83007	139749	
2071	83424	140328	
2072	83941	141019	
2073	84458	141541	
2074	84953	142442	

Original injury calculation

[redacted]

Brown Pelican roosting and foraging opportunities

In this calculation, 5,000 pelicans are present (max in summer) each years until 2030, when conditions cause the number to fall to zero. However, when the Sea is altered, the number falls to zero in the year 2018. Here, we simply calculate the difference in terms of lost/displaced pelican user-years between the unaltered and altered states. Note that each year in the future is discounted at 3%, in keeping with federal regs regarding natural resource damage assessment.

INJURY CALCULATION

	UNALTERED		ALTERED		
year	birds	birds discounted	birds	birds discounted	
2002	3295	3295	3295	3295	
2003	3295	3199	3295	3199	
2004	3295	3106	3295	3106	
2005	3295	3015	3295	3015	
2006	3295	2928	3295	2928	
2007	3295	2842	3295	2842	
2008	3295	2760	3295	2760	
2009	3295	2679	3295	2679	
2010	3262	2575	3262	2575	
2011	3229	2475	3229	2475	
2012	3196	2378	3196	2378	
2013	3196	2309	3163	2285	24
2014	3163	2218	3163	2218	
2015	3130	2131	3130	2131	
2016	3130	2069	3097	2047	22
2017	3097	1988	3064	1967	21
2018	3064	1909	3031	1889	20
2019	3064	1854	2965	1794	87
2020	3031	1780	1201	705	
2021	3031	1729	25	14	
2022	2998	1660	25	14	
2023	2965	1594	25	13	
2024	2965	1547	25	13	
2025	2377	1204	25	13	
2026	2377	1169	25	12	
2027	1789	854	25	12	
2028	1201	557	25	12	
2029	1201	541	25	11	
2030	613	268	25	11	
2031	613	260.12432	25	10.608659	
2032	25	10.299669	25	10.299669	

PELICAN COUNTS AT SALTON

peak in 2000	2600
peak in 2001	3990
average:	**3295**

Without Benchmark transfers

(original #s used in BO analysis)

Total Bird User-Years (discounted)

58895 **46425**

TOTAL LOSS DUE TO ALTERATION OF SALTON SEA: 12470 pelican user-years

− 87 (disregarded as not "material")

12,383

↳ figure used in B.O.