IID Case 1 - Water Transfer Mitigation Measures
Table 1 - Preliminary Cost Estimates (in thousands)

IID Water Transfer Mitigation Measures Cost Projections
CASE B: Cost Estimate for Basic Requirements with Additional Habitat Mitigation and Air Quality Offset ($2002 in thousands)
First Year Capital and Life of Project Ownership and Maintenance Costs
(Future Capital Considered O&M Cost)

Inflation Rate	3%
Discount Factor	3%
PV Cost $2002 (45 Years)	$ 134,91

Ref. No.	Condition No.	Mitigation Measure	Present Value ($2002)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
				0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
1	General - 1	Hire full-time biologist to manage HCP and participate on HCP IT.	3,678	0	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
2	General - 2	Convene and facilitate HCP IT.	270	0	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
3	Salton Sea - 1	Acquire and discharge water to the Salton Sea.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Salton Sea - 2 (Pupfish CM-1)	Pupfish refugium pond.	676	204	14	14	14	14	14	14	14	14	44	14	14	14	14	14	44	14	14	14	14	44	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	44	14	14	14	14	14
5	Salton Sea - 3	Tamarisk scrub habitat surveys and creation.	17,768	14,273	403	386	386	386	403	82	82	82	82	96	82	82	82	82	96	82	82	82	82	96	82	82	82	82	96	82	82	82	82	96	82	82	82	82	96	82	82	82	82	96	82	82	82	82	96
6	Tree Habitat - 1	Tree habitat surveys and creation.	886	525	15	15	15	54	10	10	10	10	17	10	10	10	10	17	10	10	10	10	17	10	10	10	10	17	10	10	10	10	17	10	10	10	10	17	10	10	10	10	17	10	10	10	10	17	10
7	Tree Habitat - 2	Seepage community surveys and creation.	763	456	14	14	14	57	8	8	8	8	14	8	8	8	8	14	8	8	8	8	14	8	8	8	8	14	8	8	8	8	14	8	8	8	8	14	8	8	8	8	14	8	8	8	8	14	8
8	Tree Habitat - 3	Sites surveys for construction scheduling.	11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Drain Habitat - 1	Creation of managed marsh habitat.	22,895	5,002	51	51	51	630	51	51	51	51	5,833	216	216	216	216	6,788	233	233	233	233	6,802	248	248	248	248	1,056	248	248	248	248	258	248	248	248	248	258	248	248	248	248	258	248	248	248	248	258	248
10	Drain Habitat - 2	Avoid dredging over deltas between 2/15 and 8/31.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Drain Habitat - 3	Site surveys to avoid construction disturbance of covered species.	59	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Desert Habitat - 1	Worker education program - training and materials.	37	22	2	2	2	2	0	0	0	0	2	0	0	0	0	2	0	0	0	0	2	0	0	0	0	2	0	0	0	0	2	0	0	0	0	2	0	0	0	0	2	0	0	0	0	2	0
13	Desert Habitat - 2	Precautions for workers during O&M of canals and drains.	39	0	5	5	5	0	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
14	Desert Habitat - 3	Habitat surveys, construction monitoring, and vegetation restoration.	447	64	64	64	0	0	0	0	64	0	0	0	0	64	0	0	0	0	64	0	0	0	0	64	0	0	0	0	64	0	0	0	0	64	0	0	0	0	64	0	0	0	0	64	0	0	0
15	Desert Habitat - 4	Habitat surveys and update worker manual.	505	72	72	72	0	0	0	0	72	0	0	0	0	72	0	0	0	0	72	0	0	0	0	72	0	0	0	0	72	0	0	0	0	72	0	0	0	0	72	0	0	0	0	72	0	0	0
16	Desert Habitat - 5	Desert habitat acquisition and management.	137	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Owl - 1 (Desert Habitat -1)	Worker education program for canal and drain maintenance.	60	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Owl - 2	Visual inspection of banks. Mark burrows. Develop standard operating procedures.	1,186	49	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
19	Owl - 3	Precautions for grading of spoils near canals and ditches.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Owl - 4	Avoid disturbing burrows. Fill burrows to maintain channel.	2,588	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
21	Owl - 5	Manage location and schedule of facility construction.	82	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
22	Owl - 6	Maintain current techniques for canal and drain maintenance.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	Owl - 7	Owl abundance, distribution, and demographic surveys.	531	28	28	28	28	28	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Owl - 8	Avoid disturbing burrows. Replace impacted burrows x 2.	233	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
25	Owl - 9	Farmer and public education program.	53	8	1.2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	Pupfish - 1 (Pupfish CM-1)	Maintain current levels of pupfish habitat.	1,105	26	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
27	Pupfish - 2	Minimize selenium impacts on pupfish.	5,264	4,823	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
28	Pupfish - 3	Modifications to increase amount of pupfish drain habitat.	4,558	1,836	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111
29	Pupfish - 4 (Pupfish CM-3)	Protocol for surveys to monitor pupfish presence.	1,068	87	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
30	Pupfish - 5	Evaluate effect of drain maintenance on pupfish.	59	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	Pupfish - 6	Gradual dewatering and salvage of stranded pupfish.	4,440	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174
32	Razorback Suckers - 1 (BR-25)	Salvage fish and return to Colorado River.	48	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	Agriculture - 1	Install markers on tailwater pump power lines.	51	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
34	Agriculture - 2	Plant and maintain cover crops or edge till lands to conserve water.	360	66	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
35	Other Species - 1	Implement species surveys and submit study program.	738	738	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Other Species - 2	Implement impact avoidance and minimization measures.	867	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	WQ-2	Selenium will exceed ambient water quality criteria.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	WQ-4	Selenium will exceed ambient water quality criteria.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	WQ-5	Selenium will exceed ambient water quality criteria.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	WQ-7	Selenium will exceed ambient water quality criteria.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	AR-1	Prohibit use of non-rotational fallowing. Otherwise, no mitigation measures.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	HCP-HDAR-2	Prohibit the conversion of agricultural lands. Otherwise, no mitigation measures.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	R-7 (R-2)	Temporary and permanent relocation of boat launch facilities.	2,419	275	1,760	0	0	75	0	0	75	0	0	75	0	0	75	0	0	75	0	0	75	0	0	75	0	0	75	0	0	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	R-10	Temporary and permanent relocation of camping facilities.	4,370	1,563	0	0	0	0	0	1,320	0	0	0	0	0	1,320	0	0	0	0	0	1,320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	AQ-3	Minimize PM10 emissions during fallowing through conservation measures, soil stabilization, etc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	AQ-4	General conformity determination.	18	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	HCP-SS-AQ-6	Less than significant with AQ-2 and AQ-3.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	AQ-7 (EJ-3)	Access restriction, research, monitoring. Obtain emission offsets and direct emission reductions at the Sea.	43,910	225	100	100	100	100	100	0	1,115	0	0	0	0	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	CR-1	Protect cultural resources during construction and operation of water conservation measures.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	CR-2	Protect cultural resources during construction and operation of IOP.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0