Appendix G

HCP/NCCP Cost Data

East Contra Costa County HCP/NCCP Implementation Cost Data and Assumptions with Initial Urban Development Area

Summary of East Contra Costa HCP Implementation Costs for Initial Urban Development Area (Rounded to the Nearest $10,000)

Total Costs

	Implementation Period (Years)								
Cost Category	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**	**Total (2006)**
Program Administration	$590,000	$3,060,000	$2,910,000	$2,980,000	$2,790,000	$2,770,000	$2,700,000	$17,800,000	$18,150,000
Land Acquisition	$0	$30,340,000	$29,500,000	$29,500,000	$29,500,000	$29,500,000	$29,500,000	$177,850,000	$191,640,000
Management, Restoration, and Recreation Planning and Design	$260,000	$1,850,000	$1,140,000	$850,000	$860,000	$520,000	$560,000	$6,030,000	$6,150,000
Habitat Restoration/Creation	$10,000	$3,220,000	$3,510,000	$3,470,000	$3,470,000	$3,140,000	$3,180,000	$19,990,000	$20,390,000
Environmental Compliance	$0	$460,000	$460,000	$460,000	$460,000	$460,000	$0	$2,300,000	$2,340,000
HCP/NCCP Preserve Management and Maintenance	$70,000	$3,090,000	$3,590,000	$5,400,000	$5,970,000	$6,680,000	$7,590,000	$32,390,000	$33,040,000
Monitoring, Research, and Adaptive Management	$10,000	$2,030,000	$2,840,000	$3,090,000	$3,400,000	$3,360,000	$3,690,000	$18,410,000	$18,780,000
Remedial Measures	$0	$30,000	$30,000	$270,000	$270,000	$270,000	$690,000	$1,550,000	$1,580,000
Contingency	$50,000	$690,000	$720,000	$830,000	$860,000	$860,000	$920,000	$4,920,000	$5,020,000
Total (in 2005 dollars)	$980,000	$44,760,000	$44,690,000	$46,840,000	$47,580,000	$47,560,000	$48,820,000	$281,230,000	
Total (in 2006 dollars)*	**$1,000,000**	**$47,360,000**	**$47,290,000**	**$49,490,000**	**$50,240,000**	**$50,220,000**	**$51,500,000**		**$297,090,000**

Capital Costs

	Implementation Period (Years)								
Cost Category	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**	**Total (2006)**
Program Administration: office space and equipment	$90,000	$110,000	$120,000	$100,000	$140,000	$100,000	$110,000	$760,000	$780,000
Land Acquisition: acquisition and site improvements	$0	$28,170,000	$28,170,000	$28,170,000	$28,170,000	$28,170,000	$28,170,000	$169,020,000	$182,630,000
Management, Restoration, and Recreation Planning and Design: office equipment and vehicles	$10,000	$80,000	$90,000	$50,000	$50,000	$10,000	$40,000	$330,000	$340,000
Habitat Restoration/Creation: construction, office equipment, and vehicles	$10,000	$2,190,000	$2,200,000	$2,160,000	$2,160,000	$2,120,000	$2,150,000	$12,990,000	$13,250,000
HCP/NCCP Preserve Management and Maintenance: vehicles, equipment, and facilities	$10,000	$1,240,000	$850,000	$1,840,000	$1,500,000	$1,510,000	$1,770,000	$8,720,000	$8,900,000
Remedial Measures	$0	$30,000	$30,000	$270,000	$270,000	$270,000	$690,000	$1,550,000	$1,580,000
Total (in 2005 dollars)	$110,000	$31,830,000	$31,450,000	$32,590,000	$32,290,000	$32,170,000	$32,930,000	$193,380,000	
Total (in 2006 dollars)*	**$120,000**	**$34,170,000**	**$33,790,000**	**$34,950,000**	**$34,640,000**	**$34,520,000**	**$35,300,000**		**$207,470,000**

Operational Costs

	Implementation Period (Years)								
Cost Category	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**	**Total (2006)**
Program Administration: personnel, legal and financial assistance, insurance, ED's discretionary budget, in-lieu funding	$500,000	$2,960,000	$2,790,000	$2,870,000	$2,650,000	$2,670,000	$2,590,000	$17,030,000	$17,370,000
Land Acquisition: transactional costs	$0	$2,170,000	$1,330,000	$1,330,000	$1,330,000	$1,330,000	$1,330,000	$8,830,000	$9,000,000
Management, Restoration, and Recreation Planning and Design: vehicle maintenance and personnel	$250,000	$1,760,000	$1,050,000	$800,000	$800,000	$510,000	$510,000	$5,690,000	$5,810,000
Habitat Restoration/Creation: vehicle maintenance and personnel	$0	$1,020,000	$1,310,000	$1,310,000	$1,310,000	$1,020,000	$1,020,000	$7,000,000	$7,140,000
Environmental Compliance	$0	$460,000	$460,000	$460,000	$460,000	$460,000	$0	$2,300,000	$2,340,000
HCP/NCCP Preserve Management and Maintenance: vehicle and equipment maintenance and personnel	$60,000	$1,850,000	$2,740,000	$3,560,000	$4,480,000	$5,180,000	$5,810,000	$23,670,000	$24,140,000
Monitoring, Research, and Adaptive Management	$10,000	$2,030,000	$2,840,000	$3,090,000	$3,400,000	$3,360,000	$3,690,000	$18,410,000	$18,780,000
Contingency	$50,000	$690,000	$720,000	$830,000	$860,000	$860,000	$920,000	$4,920,000	$5,020,000
Total (in 2005 dollars)	$870,000	$12,930,000	$13,240,000	$14,250,000	$15,290,000	$15,390,000	$15,880,000	$87,860,000	
Total (in 2006 dollars)*	**$880,000**	**$13,190,000**	**$13,500,000**	**$14,540,000**	**$15,600,000**	**$15,700,000**	**$16,200,000**		**$89,610,000**

*Update of 2005 dollars from Draft HCP/NCCP using CPI of 2.0% for 2005 for all non-land costs (see Table 9-7 for index source); update of land cost from Draft HCP/NCCP using Home Price Index of 16.6% for first three quarters of 2005

Summary of East Contra Costa HCP Implementation Costs for Initial Urban Development Area (Not Rounded)

All Costs

	Implementation Period (Years)								
Cost Category	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**	**Total (2006)**
Program Administration	$591,733	$3,061,807	$2,905,596	$2,978,706	$2,791,235	$2,771,594	$2,696,422	$17,797,094	$18,153,036
Land Acquisition	$0	$30,338,295	$29,502,772	$29,502,772	$29,502,772	$29,502,772	$29,502,772	$177,852,155	$191,638,480
Management, Restoration, and Recreation Planning and De	$258,967	$1,847,259	$1,137,699	$849,699	$855,032	$519,925	$556,592	$6,025,172	$6,145,675
Habitat Restoration/Creation	$8,967	$3,216,654	$3,507,095	$3,469,095	$3,474,428	$3,139,321	$3,175,988	$19,991,547	$20,391,378
Environmental Compliance	$0	$459,000	$459,000	$459,000	$459,000	$459,000	$0	$2,295,000	$2,340,900
HCP/NCCP Preserve Management and Maintenance	$65,794	$3,094,005	$3,589,085	$5,398,690	$5,973,475	$6,684,930	$7,585,385	$32,391,364	$33,039,191
Monitoring, Research, and Adaptive Management	$8,967	$2,026,756	$2,835,248	$3,094,367	$3,396,819	$3,358,831	$3,692,616	$18,413,605	$18,781,877
Remedial Measures	$0	$30,000	$30,000	$265,919	$265,919	$265,919	$687,893	$1,545,650	$1,576,563
Contingency Fund	$46,721	$686,774	$723,186	$825,774	$860,795	$859,976	$919,745	$4,922,972	$5,021,431
Total (in 2005 dollars)	$981,149	$44,760,550	$44,689,681	$46,844,021	$47,579,475	$47,562,269	$48,817,412	$281,234,557	
Total (in 2006 dollars)*	**$1,000,772**	**$47,360,641**	**$47,288,355**	**$49,485,782**	**$50,235,945**	**$50,218,395**	**$51,498,641**		**$297,088,531**

Capital Costs

	Implementation Period (Years)								
Cost Category	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**	**Total (2006)**
Program Administration: office space and equipment	$88,000	$106,350	$120,200	$104,800	$136,900	$102,000	$105,850	$764,100	$779,382
Land Acquisition: acquisition and site improvements	$0	$28,170,637	$28,170,637	$28,170,637	$28,170,637	$28,170,637	$28,170,637	$169,023,823	$182,633,582
Management, Restoration, and Recreation Planning and Design: office equipment and vehicles	$8,333	$84,683	$85,917	$47,917	$53,250	$7,350	$44,017	$331,467	$338,096
Habitat Restoration/Creation: construction, office equipment, and vehicles	$8,333	$2,194,552	$2,195,785	$2,157,785	$2,163,118	$2,117,218	$2,153,885	$12,990,677	$13,250,490
HCP/NCCP Preserve Management and Maintenance: vehicles, equipment, and facilities	$10,000	$1,242,050	$851,400	$1,843,350	$1,497,450	$1,506,000	$1,771,550	$8,721,800	$8,896,236
Remedial Measures	$0	$30,000	$30,000	$265,919	$265,919	$265,919	$687,893	$1,545,650	$1,576,563
Total (in 2005 dollars)	$114,667	$31,828,272	$31,453,939	$32,590,408	$32,287,275	$32,169,125	$32,933,832	$193,377,517	
Total (in 2006 dollars)*	**$116,960**	**$34,169,718**	**$33,787,898**	**$34,947,097**	**$34,637,901**	**$34,517,388**	**$35,297,389**		**$207,474,350**

Operational Costs

	Implementation Period (Years)								
Cost Category	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**	**Total (2006)**
Program Administration: personnel, legal and financial assistance, insurance, ED's discretionary budget, in-lieu funding	$503,733	$2,955,457	$2,785,396	$2,873,906	$2,654,335	$2,669,594	$2,590,572	$17,032,994	$17,373,654
Land Acquisition: transactional costs	$0	$2,167,657	$1,332,135	$1,332,135	$1,332,135	$1,332,135	$1,332,135	$8,828,332	$9,004,898
Management, Restoration, and Recreation Planning and Design: vehicle maintenance and personnel	$250,633	$1,762,575	$1,051,782	$801,782	$801,782	$512,575	$512,575	$5,693,705	$5,807,579
Habitat Restoration/Creation: vehicle maintenance and personnel	$633	$1,022,103	$1,311,310	$1,311,310	$1,311,310	$1,022,103	$1,022,103	$7,000,870	$7,140,887
Environmental Compliance	$0	$459,000	$459,000	$459,000	$459,000	$459,000	$0	$2,295,000	$2,340,900
HCP/NCCP Preserve Management and Maintenance: vehicle and equipment maintenance and personnel	$55,794	$1,851,955	$2,737,685	$3,555,340	$4,476,025	$5,178,930	$5,813,835	$23,669,564	$24,142,955
Monitoring, Research, and Adaptive Management	$8,967	$2,026,756	$2,835,248	$3,094,367	$3,396,819	$3,358,831	$3,692,616	$18,413,605	$18,781,877
Contingency Fund	$46,721	$686,774	$723,186	$825,774	$860,795	$859,976	$919,745	$4,922,972	$5,021,431
Total (in 2005 dollars)	$866,482	$12,932,278	$13,235,742	$14,253,613	$15,292,200	$15,393,144	$15,883,580	$87,857,040	
Total (in 2006 dollars)*	**$883,812**	**$13,190,923**	**$13,500,457**	**$14,538,686**	**$15,598,045**	**$15,701,007**	**$16,201,252**		**$89,614,181**

*Update of 2005 dollars from Draft HCP/NCCP using CPI of 2.0% for 2005 for all non-land costs (see Table 9-7 for index source); update of land cost from Draft HCP/NCCP using Home Price Index of 16.6% for first three quarters of 2005

Legend for Initial Urban Development Area

red numbers are assumptions or data entered directly into the worksheet
blue numbers are links from other worksheets in the workbook
black numbers are calculations based on the above numbers

Numbers provided by EBRPD
Numbers provided by CCWD
Average of CCWD/EBRPD numbers (see formula for original values; CCWD value is listed before EBRPD value)
Numbers provided by J&S and EPS
Estimated numbers

Land Cover Type Extent within HCP/NCCP Preserves for Initial Urban Development Area

		Total	
Land Cover Type	**Unit**	**Acquired**	**Restored/Created**
annual grassland	acres	13,524	
alkali grassland	acres	925	
oak savanna	acres	1,828	54
oak woodland	acres	6,293	
chaparral/scrub	acres	617	
riparian woodland/scrub	acres	60	50
perennial wetland	acres	74	63
seasonal wetland	acres	46	40
alkali wetland	acres	87	19
slough/channel	acres	37	73
open water	acres	17	0
pasture/cropland	acres	250	
other	acres	0	
pond	acres	14	32
streams	miles	0	1
Total	**acres**	**23,770**	**331**

Land Cover Type Acquired by Time Period

	Implementation Period (Years)							
Land Cover Type	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
annual grassland		2,254.0	2,254.0	2,254.0	2,254.0	2,254.0	2,254.0	13,524
alkali grassland		154.2	154.2	154.2	154.2	154.2	154.2	925
oak savanna		304.6	304.6	304.6	304.6	304.6	304.6	1,827.5
oak woodland		1,048.8	1,048.8	1,048.8	1,048.8	1,048.8	1,048.8	6,292.5
chaparral/scrub		102.8	102.8	102.8	102.8	102.8	102.8	617
riparian woodland/scrub		10.0	10.0	10.0	10.0	10.0	10.0	60
perennial wetland		12.3	12.3	12.3	12.3	12.3	12.3	74
seasonal wetland complex		7.6	7.6	7.6	7.6	7.6	7.6	46
alkali wetland complex		14.5	14.5	14.5	14.5	14.5	14.5	87
slough/channel		6.1	6.1	6.1	6.1	6.1	6.1	37
open water		2.8	2.8	2.8	2.8	2.8	2.8	17
pasture/cropland		41.7	41.7	41.7	41.7	41.7	41.7	250
other		0.0	0.0	0.0	0.0	0.0	0.0	0
pond		2.3	2.3	2.3	2.3	2.3	2.3	14
streams		0.0	0.0	0.0	0.0	0.0	0.0	0
Total	**0.0**	**3,961.6**	**3,961.6**	**3,961.6**	**3,961.6**	**3,961.6**	**3,961.6**	**23,769.5**

54000

Land Cover Type Restored/Created by Time Period

	Implementation Period (Years)							
Land Cover Type (acres except where noted)	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
oak savanna		9	9	9	9	9	9	54
riparian woodland/scrub		8.3	8.3	8.3	8.3	8.3	8.3	50
perennial wetland (jurisdictional boundary)		10.5	10.5	10.5	10.5	10.5	10.5	63
seasonal wetland (jurisdictional boundary)		6.7	6.7	6.7	6.7	6.7	6.7	39.9
alkali wetland (jurisdictional boundary)		3.2	3.2	3.2	3.2	3.2	3.2	18.9
slough/channel		12.2	12.2	12.2	12.2	12.2	12.2	73
open water		0.0	0.0	0.0	0.0	0.0	0.0	0
ponds		5.3	5.3	5.3	5.3	5.3	5.3	32
streams (miles)		0.1	0.1	0.1	0.1	0.1	0.1	0.6
Total (acres)	**0**	**55.2**	**55.2**	**55.2**	**55.2**	**55.2**	**55.2**	**331.2**

Assumptions:

1/6 of each land cover type will be restored in each 5-year period beginning in year 1.

For total acre calculation, streams are assumed to be 5 feet wide

75% % of Undetermined wetlands assumed to be perennial wetlands

25% % of Undetermined wetlands assumed to be seasonal wetlands

30% % of seasonal or alkali wetland complex acreage assumed to be jurisdictional wetland

Defining sites:	average acres/site	% requiring substantial soil disturbance
riparian/woodland scrub sites by acreage conversion:	3	0.2
wetlands and pond sites by acreage conversion	0.7	0.8
stream sites by acreage conversion:	3	0.9

Restoration sites that require significant soil disturbance by land-cover type

	Implementation Period (Years)							
Land Cover Type Restoration Sites	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
riparian woodland/scrub	0	8	8	8	8	8	8	50
perennial wetland	0	11	11	11	11	11	11	63
seasonal wetland	0	7	7	7	7	7	7	40
alkali wetland	0	3	3	3	3	3	3	19
ponds	0	5	5	5	5	5	5	32
streams	0	0	0	0	0	0	0	1
Total	0	34	34	34	34	34	34	204

Assumptions:

average stream/riparian restoration is 300 meters (100 meters of restoration is about 1 acre)

average acres/site and percent of sites requiring substantial soil disturbance calculated in table above.

Seasonal and alkali wetland acreages in Tables 5-16 and 5-17 are for wetland complexes; for revenue projections the wetted acres of these complexes are assumed to be 30% of the total acres

Summary of HCP/NCCP Personnel for Initial Urban Development Area

	Total cost per FTE per year	Number of FTEs						
		0	1-5	6-10	11-15	16-20	21-25	26-30
Administrative personnel								
Executive Director	$134,640	1	1	1	1	1	1	1
IT- Database / GIS Management	$87,516	0	0.5	0.5	0.5	0.5	0.5	0.5
Budget Analyst	$74,052	1	1	0.5	0.5	0.5	0.5	0.5
Acquisition Specialist	$100,980	1	1	1	1	0.5	0.5	0.3
Grant Specialist/Conservation Planner	$94,248	1	1	1	1	1	1	1
Admin – Secretary	$60,588	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total administrative personnel		4.5	5	4.5	4.5	4	4	3.8
Restoration planning, design, and implementation and monitoring personnel								
Senior scientist	$107,712	0	1	1	1	1	1	1
Project manager	$99,054	0	1	2	2	2	1	1
Technical support	$67,320	0	1	2	2	2	1	1
Total restoration personnel		0	3	5	5	5	3	3
Preserve management and maintenance personnel								
Preserve manager	$100,980	0	1	1	1	1	1	1
Laborer	$53,856	0	2	3	4	6	7	8
Admin – Secretary	$60,588	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total preserve personnel		0.5	3.5	4.5	5.5	7.5	8.5	9.5
Total HCP/NCCP personnel		5	11	14	15	16	15	16

Notes:

Total cost per FTE per year includes the costs for benefits.

Costs for restoration planning, design, and implementation personnel are divided between the planning, design, and engineering (2/3) and habitat restoration (1/3) cost categories.

Program Administration for Initial Urban Development Area

	Implementation Period (Years)							
	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Capital Costs								
Office space	$5,700	$28,500	$28,500	$28,500	$28,500	$28,500	$28,500	$176,700
Office equipment by employee	$43,700	$21,750	$20,200	$20,200	$36,900	$17,400	$5,850	$166,000
General office equipment	$16,600	$38,600	$39,000	$38,600	$39,000	$38,600	$39,000	$249,400
GIS/Database equipment	$22,000	$17,500	$32,500	$17,500	$32,500	$17,500	$32,500	$172,000
Capital Subtotal	**$88,000**	**$106,350**	**$120,200**	**$104,800**	**$136,900**	**$102,000**	**$105,850**	**$764,100**
Operational Costs								
Employees	$434,214	$2,389,860	$2,204,730	$2,204,730	$1,952,280	$1,952,280	$1,851,300	$12,989,394
Maintenance of by-employee office equipment	$0	$0	$0	$0	$0	$0	$0	$0
Maintenance of general office equipment	$370	$2,275	$2,275	$2,275	$2,275	$2,275	$2,275	$14,020
Maintenance of GIS/Database equipment	$3,250	$3,250	$3,250	$3,250	$3,250	$3,250	$3,250	$22,750
Travel	$6,388	$33,250	$32,813	$32,813	$31,938	$31,938	$31,588	$200,725
Vehicle / mileage allowance	$962	$5,063	$4,809	$4,809	$4,303	$4,303	$4,101	$28,350
Insurance	$22,550	$187,000	$203,500	$277,750	$294,250	$310,750	$319,000	$1,614,800
Legal assistance	$30,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$930,000
Financial analysis assistance	$0	$15,500	$15,500	$15,500	$31,000	$15,500	$15,500	$108,500
JPA member meeting stipend	$6,000	$30,000	$15,000	$15,000	$3,000	$3,000	$3,000	$75,000
In-lieu funding for law enforcement and firefighting	$0	$14,260	$28,519	$42,779	$57,039	$71,299	$85,558	$299,455
Public relations and outreach	$0	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000	$750,000
Operational Subtotal	**$503,733**	**$2,955,457**	**$2,785,396**	**$2,873,906**	**$2,654,335**	**$2,669,594**	**$2,590,572**	**$17,032,994**
Total	**$591,733**	**$3,061,807**	**$2,905,596**	**$2,978,706**	**$2,791,235**	**$2,771,594**	**$2,696,422**	**$17,797,094**

Employees

Position	Salary per employee per year	Benefit multiplier (percent of salary)	Total cost per FTE per year	Number of FTEs						
				0	1-5	6-10	11-15	16-20	21-25	26-30
Executive Director	$102,000	32%	$134,640	1.0	1.0	1.0	1.0	1.0	1.0	1.0
GIS/Database Technician	$66,300	32%	$87,516	0.0	0.5	0.5	0.5	0.5	0.5	0.5
Budget Analyst	$56,100	32%	$74,052	1.0	1.0	0.5	0.5	0.5	0.5	0.5
Real-Estate Specialist	$76,500	32%	$100,980	1.0	1.0	1.0	1.0	0.5	0.5	0.3
Grant Administrator	$71,400	32%	$94,248	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Admin – Secretary	$45,900	32%	$60,588	0.5	0.5	0.5	0.5	0.5	0.5	0.5
		Total FTEs		4.5	5	4.5	4.5	4	4	3.8
		Total cost per year		$434,214	$477,972	$440,946	$440,946	$390,456	$390,456	$370,260
		Total cost per 5-year period		$434,214	$2,389,860	$2,204,730	$2,204,730	$1,952,280	$1,952,280	$1,851,300

Notes: The position of senior scientist is located under th 54000

JPA employee costs are not included in the program administration cost category.

Office Space

Cost per square foot per year	Total space leased per period (square feet)						
	0	1-5	6-10	11-15	16-20	21-25	26-30
$1.90	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Lease cost per year	$5,700	$5,700	$5,700	$5,700	$5,700	$5,700	$5,700
Total per 5-year period	$5,700	$28,500	$28,500	$28,500	$28,500	$28,500	$28,500

Note: The office space category covers office space for employees under the management, restoration, and recreation planning and design; habitat restoration; HCP/NCCP preserve management and maintenance; and monitoring and research cost categories.

Office Equipment by Employee

	Cost per FTE per year	Cost of service contract per year	Number of FTEs with office supply costs						
			0	1-5	6-10	11-15	16-20	21-25	26-30
Total FTEs			4.5	5	4.5	4.5	4	4	3.8
Cubicle furniture	$4,000		5	0	0	0	4	0	0
Office furniture	$3,500		1	0	0	0	1	0	0
Office supplies	$300		5	5	5	5	4	4	4
Computers	$2,500	$0	5	5	5	5	4	4	
Cell phones	$900	$0	4	5	4	4	4	4	3
Portable radios	$650	$0	4	5	4	4	4	4	3
Equipment (capital) cost per 5-year period			$43,700	$21,750	$20,200	$20,200	$36,900	$17,400	$5,850
Maintenance cost per year			$0	$0	$0	$0	$0	$0	$0
Maintenance total per 5-year period			$0	$0	$0	$0	$0	$0	$0

Assumptions:
Computers will be replaced every 5 years.

General Office Equipment

	Cost per year (leased items) / cost per item (purchased items)	Cost of service contract per item per year	Number of items leased, purchased, or retired						
			0	1-5	6-10	11-15	16-20	21-25	26-30
Copy machine (lease)	$3,600	$0	1	1	1	1	1	1	1
Office telephone systems (lease)	$6,000	$0	1	1	1	1	1	1	1
Publications (purchase)	$500		1	1	1	1	1	1	1
New fax machines purchased	$1,500	$150	1	1	1	1	1	1	1
Old fax machines retired			0	1	1	1	1	1	1
Total fax machines			1	1	1	1	1	1	1
New printers purchased	$2,000	$85	2	2	2	2	2	2	2
Old printers retired			0	1	2	2	2	2	2
Total printers			2	3	3	3	3	3	3
New digital cameras purchased	$600	$0	1	1	1	1	1	1	1
Old digital cameras retired			0	0	1	1	1	1	1
Total digital cameras			1	2	2	2	2	2	2
New scanners purchased	$400	$50	1	0	1	0	1	0	1
Old scanners retired			0	0	1	0	1	0	1
Total scanners			1	1	1	1	1	1	1
Equipment (captial) cost per 5-year period			$16,600	$38,600	$39,000	$38,600	$39,000	$38,600	$39,000
Maintenance cost per year			$370	$455	$455	$455	$455	$455	$455
Maintenance total per 5-year period			$370	$2,275	$2,275	$2,275	$2,275	$2,275	$2,275

Assumptions:
Fax machines will be replaced every 5 years.

GIS and Database Equipment

	Cost per item	Cost of software update or service contract per 5-year period	Number of items leased, purchased, or retired						
			0	1-5	6-10	11-15	16-20	21-25	26-30
New GIS/database servers purchased	$15,000	$1,000	1	0	1	0	1	0	1
Old GIS/database servers retired			0	0	1	0	1	0	1
Total GIS/database servers			1	1	1	1	1	1	1
New digitizing tables purchased	$3,000	$0	0	1	1	1	1	1	1
Old digitizing tables retired			0	0	1	1	1	1	1
Total digitizing tables			0	1	1	1	1	1	1
New plotters purchased	$7,500	$0	0	1	1	1	1	1	1
Old plotters retired			0	0	1	1	1	1	1
Total plotters			0	1	1	1	1	1	1
New GIS software purchased	$5,000	$1,500	1	1	1	1	1	1	1
Old GIS software retired			0	1	1	1	1	1	1
Total GIS software			1	1	1	1	1	1	1
New database software purchased	$2,000	$750	1	1	1	1	1	1	1
Old database software retired			0	1	1	1	1	1	1
Total database software			1	1	1	1	1	1	1
Equipment (captial) cost per 5-year period			$22,000	$17,500	$32,500	$17,500	$32,500	$17,500	$32,500
Maintenance total per 5-year period			$3,250	$3,250	$3,250	$3,250	$3,250	$3,250	$3,250

Assumptions:
Software upgrades are assumed to be needed once every 5 years.

Vehicle / Mileage Allowance

		Number of employees with allowance						
	Mileage allowance per year per FTE (miles)	0	1-5	6-10	11-15	16-20	21-25	26-30
Executive director	1,000	$405	$405	$405	$405	$405	$405	$405
IT- Database / GIS Management	250	$0	$51	$51	$51	$51	$51	$51
Budget Analyst	250	$101	$101	$51	$51	$51	$51	$51
Acquisition Specialist	500	$203	$203	$203	$203	$101	$101	$61
Grant Specialist/Conservation Planner	500	$203	$203	$203	$203	$203	$203	$203
Admin – Secretary	250	$51	$51	$51	$51	$51	$51	$51
Cost per year		$962	$1,013	$962	$962	$861	$861	$820
Total per 5-year period		$962	$5,063	$4,809	$4,809	$4,303	$4,303	$4,101

Assumption:

$0.405 cost per mile (IRS rate for 2004)

Travel

	Days of overnight travel per FTE per year	0	1-5	6-10	11-15	16-20	21-25	26-30
Executive Director	14	$4,900	$4,900	$4,900	$4,900	$4,900	$4,900	$4,900
IT- Database / GIS Management	3	$0	$263	$263	$263	$263	$263	$263
Budget Analyst	1	$175	$175	$88	$88	$88	$88	$88
Acquisition Specialist	2	$350	$350	$350	$350	$175	$175	$105
Grant Specialist/Conservation Planner	5	$875	$875	$875	$875	$875	$875	$875
Admin – Secretary	1	$88	$88	$88	$88	$88	$88	$88
Total cost per year		$6,388	$6,650	$6,563	$6,563	$6,388	$6,388	$6,318
Cost per 5-year period		$6,388	$33,250	$32,813	$32,813	$31,938	$31,938	$31,588

Assumptions:

$175	per diem
2.00	per diem multiplier for executive director to cover additional travel expenses such as airfare

Insurance

Insurance type	Cost per year per vehicle	Cost per year	0	1-5	6-10	11-15	16-20	21-25	26-30
Total vehicles per 5-year period			2	11	13	22	24	26	27
Automobile	$1,650		$3,300	$18,150	$21,450	$36,300	$39,600	$42,900	$44,550
Directors and officers		$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500
Liability		$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500
Professional liability		$8,250	$8,250	$8,250	$8,250	$8,250	$8,250	$8,250	$8,250
Total cost per year			$22,550	$37,400	$40,700	$55,550	$58,850	$62,150	$63,800
Cost per 5-year period			$22,550	$187,000	$203,500	$277,750	$294,250	$310,750	$319,000

Legal Assistance

	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Hours per 5-year period	100	500	500	500	500	500	500	3100
Cost	$30,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$930,000

Assumptions:

$300	Hourly rate for legal assistance

Note: The legal assistance category covers legal assistance required under the program administration and land acquisition cost categories.

Financial Analysis Assistance

	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Cost per 5-year period	$0	$15,500	$15,500	$15,500	$31,000	$15,500	$15,500	$108,500
Cost	$0	$15,500	$15,500	$15,500	$31,000	$15,500	$15,500	$108,500

Assumptions:

Financial analyist review will occur once every 4 years (years 4, 8, 12, 16, 20, 24, and 28).

Note: The financial analyis assistance category covers the periodic assistance of a financial analyst to review the program's cost/revenue balance and ensure that charges are adjusted in line with changing land costs.

JPA Member Meeting Stipend

	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Number of meetings per 5-year period	2	10	5	5	1	1	1	25
Total stipend	$6,000	$30,000	$15,000	$15,000	$3,000	$3,000	$3,000	$75,000

Assumptions:

10	Number of JPA members
$300	Stipend per meeting per member

In-Lieu Payments for Law Enforcement and Firefighting

	0	1-5	6-10	11-15	16-20	21-25	26-30
Total preserve area per period	0	3,962	7,923	11,885	15,846	19,808	23,770
In-lieu payments for law enforcement per year	$0	$1,126	$2,252	$3,377	$4,503	$5,629	$6,755
In-lieu payments for firefighting per year	$0	$1,726	$3,452	$5,179	$6,905	$8,631	$10,357
Total cost per year	$0	$2,852	$5,704	$8,556	$11,408	$14,260	$17,112
Cost per 5-year period	$0	$14,260	$28,519	$42,779	$57,039	$71,299	$85,558

Assumptions:

$3.52	In-lieu law enforcement funding per 1,000 preserve acres
$2.30	In-lieu firefighting funding per 1,000 preserve acres

In lieu costs per 1,000 preserve acres are based on CCWD's annual in-lieu payments and the assumption that CCWD manages approximately 20,000 acres of preserve.

Public Relations/Outreach

	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Total cost per year	$0	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$150,000
Cost per 5-year period	$0	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000	$750,000

Land Acquisition for Initial Urban Development Area

	Implementation Period (Years)							
Capital Costs	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Acquisition	$0	$27,245,293	$27,245,293	$27,245,293	$27,245,293	$27,245,293	$27,245,293	$163,471,759
Site improvements	$0	$925,344	$925,344	$925,344	$925,344	$925,344	$925,344	$5,552,064
Capital Subtotal	**$0**	**$28,170,637**	**$28,170,637**	**$28,170,637**	**$28,170,637**	**$28,170,637**	**$28,170,637**	**$169,023,823**
Operational Costs								
Due diligence	$0	$1,285,710	$1,285,710	$1,285,710	$1,285,710	$1,285,710	$1,285,710	$7,714,260
Planning surveys	$0	$881,947	$46,425	$46,425	$46,425	$46,425	$46,425	$1,114,072
Operational Subtotal	**$0**	**$2,167,657**	**$1,332,135**	**$1,332,135**	**$1,332,135**	**$1,332,135**	**$1,332,135**	**$8,828,332**
Total	**$0**	**$30,338,295**	**$29,502,772**	**$29,502,772**	**$29,502,772**	**$29,502,772**	**$29,502,772**	**$177,852,155**

Acquisition Cost over 30-year Program

	Cost per 5-year period								
Acquisition Analysis Zone	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**	**Total (2006)**
Zone 1	$0	$2,809,801	$2,809,801	$2,809,801	$2,809,801	$2,809,801	$2,809,801	$16,858,808	$16,688,285
Zone 2	$0	$13,000,809	$13,000,809	$13,000,809	$13,000,809	$13,000,809	$13,000,809	$78,004,855	$72,157,032
Zone 3	$0	$499,458	$499,458	$499,458	$499,458	$499,458	$499,458	$2,996,745	$3,494,205
Zone 4	$0	$4,773,328	$4,773,328	$4,773,328	$4,773,328	$4,773,328	$4,773,328	$28,639,969	$35,114,435
Zone 5	$0	$5,376,756	$5,376,756	$5,376,756	$5,376,756	$5,376,756	$5,376,756	$32,260,535	$43,530,406
Zone 6 (incl. within ULL along Marsh Creek)	$0	$785,141	$785,141	$785,141	$785,141	$785,141	$785,141	$4,710,847	$5,986,113
Total (2005)	$0	$27,245,293	$27,245,293	$27,245,293	$27,245,293	$27,245,293	$27,245,293	**$163,471,759**	
Total (2006)*	**$0**	**$29,495,080**	**$29,495,080**	**$29,495,080**	**$29,495,080**	**$29,495,080**	**$29,495,080**		**$176,970,477**

Assumptions:

See Appendix G and description of separate land cost model in Chapter 9.

*Applied Home Price Index increase of 16.6% to 2005 land cost for first three quarters of 2005. See Table 9-7 for inflation index source.

Due Diligence

	Cost per parcel	Cost per 5-year period							
		0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Number of parcels to be purchased		0	40	40	40	40	40	40	240
Number of parcels investigated		0	50	50	50	50	50	50	300
Appraisals	$4,080	$0	$204,000	$204,000	$204,000	$204,000	$204,000	$204,000	$1,224,000
Preliminary title report	$510	$0	$25,500	$25,500	$25,500	$25,500	$25,500	$25,500	$153,000
Phase I site assessment	$6,120	$0	$306,000	$306,000	$306,000	$306,000	$306,000	$306,000	$1,836,000
Boundary survey	$6,242	$0	$312,120	$312,120	$312,120	$312,120	$312,120	$312,120	$1,872,720
Legal description	$4,080	$0	$204,000	$204,000	$204,000	$204,000	$204,000	$204,000	$1,224,000
Monumentation	$4,682	$0	$234,090	$234,090	$234,090	$234,090	$234,090	$234,090	$1,404,540
Total	$25,714	$0	$1,285,710	$1,285,710	$1,285,710	$1,285,710	$1,285,710	$1,285,710	$7,714,260

Assumptions: 54000

1.25 Extra land surveyed and processed for due diligence/planning surveys that will not be acquired.
Note: Express as a decimal added to 1 (e.g., 25% extra land would be 1.25)

15,000 Average parcel boundary length in linear feet (from GIS analysis, grouping adjacent parcels with the same landowner)

$0.41 Cost per linear foot for boundary survey

$0.31 Cost per linear foot for monumentation

Planning Surveys (Pre-Acquisition)

	hours per acre for contractors, years 1-5	Cost per 5-year period							
		0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Land cover type surveys	0.3	$0	$132,292	$0	$0	$0	$0	$0	$132,292
Covered species habitat surveys	0.15	$0	$66,146	$0	$0	$0	$0	$0	$66,146
Covered plant surveys	1.2	$0	$529,168	$0	$0	$0	$0	$0	$529,168
Covered wildlife surveys	0.35	$0	$154,341	$0	$0	$0	$0	$0	$154,341
Contractor subtotal (years 1-5)	2	$0	$881,947	$0	$0	$0	$0	$0	$881,947
	cost per acre for years 6-30								
Preserve planning surveys subtotal (years 6-30)	$9.38	$0	$0	$46,425	$46,425	$46,425	$46,425	$46,425	$232,124
Preserve planning surveys total		$0	$881,947	$46,425	$46,425	$46,425	$46,425	$46,425	$1,114,072

Assumptions:

Land cover type surveys include surveys for federal and state jurisdictional waters, and submitting of a report to the USACE and obtaining a verification (includes some hours to respond to any changes the Corps may require). Land cover type and wetland delineation surveys will occur concurrently.

Covered plant surveys include three visits during the blooming season to cover different blooming times.

A minimum of 100 acres will be surveyed at a time.

In years 0-5, contractors will conduct the biological surveys.

In years 6-30, the cost for surveys will be covered under the monitoring spreadsheet.

$89.05 Per hour for biologists (including amortized per diem and travel, see below)

Site Improvements

	Cost per parcel	Cost per 5-year period							
		0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Number of parcels to be purchased		0	40	40	40	40	40	40	240
Demolition of old facilities	$5,100	$0	$204,000	$204,000	$204,000	$204,000	$204,000	$204,000	$1,224,000
Repair of boundary fence	$9,364	$0	$374,544	$374,544	$374,544	$374,544	$374,544	$374,544	$2,247,264

Repair and replacement of gates	$4,080	$0	$163,200	$163,200	$163,200	$163,200	$163,200	$163,200	$979,200
Signs (boundary, landbank, etc.)	$2,550	$0	$102,000	$102,000	$102,000	$102,000	$102,000	$102,000	$612,000
Other security (e.g., boarding up barns)	$2,040	$0	$81,600	$81,600	$81,600	$81,600	$81,600	$81,600	$489,600
Total		$0	$925,344	$925,344	$925,344	$925,344	$925,344	$925,344	$5,552,064

Assumptions:

$4.08	Average cost per linear foot for boundary fence repair
15%	Proportion of boundary fence that needs repair

Field monitoring and analysis contractors

Base cost per hour	$85	$ per hour
Per diem including lodging	$0	$ per day
Travel	$41	$ per day
assuming	100	miles
and	$0.405	$ per mile
Hours per day	10	hours per day
Total cost per hour including amortized per diem and travel (assuming 10-hour days)	$89.05	$ per hour

Assumptions:

Bay Area billing rate, assuming all work will be conducted from a local office (no per diem needed).

Management, Restoration, and Recreation Planning and Design for Initial Urban Development Area

	Implementation Period (Years)							
Capital costs	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Office equipment	$1,000	$11,350	$12,583	$11,250	$16,583	$7,350	$7,350	$67,467
Vehicle purchase	$7,333	$73,333	$73,333	$36,667	$36,667	$0	$36,667	$264,000
Capital subtotal	**$8,333**	**$84,683**	**$85,917**	**$47,917**	**$53,250**	**$7,350**	**$44,017**	**$331,467**
Operational costs								
Staff	$0	$456,810	$734,100	$734,100	$734,100	$456,810	$456,810	$3,572,732
Maintenance of office equipment	$0	$0	$0	$0	$0	$0	$0	$0
Travel	$0	$13,125	$21,875	$21,875	$21,875	$13,125	$13,125	$105,000
Vehicle fuel and maintenance	$633	$9,500	$12,667	$12,667	$12,667	$9,500	$9,500	$67,133
Contractors	$250,000	$1,283,140	$283,140	$33,140	$33,140	$33,140	$33,140	$1,948,840
Operational subtotal	**$250,633**	**$1,762,575**	**$1,051,782**	**$801,782**	**$801,782**	**$512,575**	**$512,575**	**$5,693,705**
Total	**$258,967**	**$1,847,259**	**$1,137,699**	**$849,699**	**$855,032**	**$519,925**	**$556,592**	**$6,025,172**

Staff (shared with restoration and monitoring)

Position	Salary per employee per year	Benefit multiplier (percent of salary)	Total cost per employee per year	Number of FTEs						
				0	1-5	6-10	11-15	16-20	21-25	26-30
Senior scientist	$81,600	32%	$107,712	0	1	1	1	1	1	1
Project manager	$75,041	32%	$99,054	0	1	2	2	2	1	1
Technical support	$51,000	32%	$67,320	0	1	2	2	2	1	1
			Total FTEs	0	3	5	5	5	3	3
			Total cost per year	$0	$91,362	$146,820	$146,820	$146,820	$91,362	$91,362
			Total cost per 5-year period	$0	$456,810	$734,100	$734,100	$734,100	$456,810	$456,810

Assumptions:

0.333333333 Proportion of staff costs that are used for planning (one third are used for restoration, and are included in the restoration spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Note: The cost/employee/year includes salary and benefits.

Office Equipment (shared with restoration and monitoring)

Equipment type	Cost per employee per year	Cost of service contract per year	Number of employees with equipment						
			0	1-5	6-10	11-15	16-20	21-25	26-30
		Total FTEs	0	3	5	5	5	3	3
Office furniture	$4,000		0	3	1	0	4	0	0
Office supplies	$300		0	3	5	5	5	3	3
Computers	$2,500	$0	0	3	5	5	5	3	3
Cell phones	$900	$0	0	3	5	5	5	3	3
Portable radios	$650	$0	0	3	5	5	5	3	3
Mobile radios	$3,000	$0	1	3	4	4	4	3	3
Equipment (capital) cost per 5-year period			$1,000	$11,350	$12,583	$11,250	$16,583	$7,350	$7,350
Maintenance cost per year			$0	$0	$0	$0	$0	$0	$0
Maintenance total per 5-year period			$0	$0	$0	$0	$0	$0	$0

Assumptions:

Computers will be replaced every 5 years.

Each vehicle will have a mobile radio.

0.333333333 Proportion of office equipment costs that are used for planning (one third are used for restoration, and are included in the restoration spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Vehicles and Fuel (shared with restoration and monitoring)

	Number of vehicles						
	0	1-5	6-10	11-15	16-20	21-25	26-30
Total FTEs	0	3	5	5	5	3	3
Number of vehicles purchased	1	2	2	1	1	0	1
Number of vehicles retired	0	0	1	1	1	1	1
Total number of vehicles	1	3	4	4	4	3	3
Total vehicle purchase cost per year	$7,333	$14,667	$14,667	$7,333	$7,333	$0	$7,333
Total vehicle purchase cost per 5-year period	$7,333	$73,333	$73,333	$36,667	$36,667	$0	$36,667
Total vehicle fuel and maintenance per year	$633	$1,900	$2,533	$2,533	$2,533	$1,900	$1,900
Total vehicle fuel and maintenance per 5-year period	$633	$9,500	$12,667	$12,667	$12,667	$9,500	$9,500

Assumptions:

$22,000 Vehicle purchase price

$900 Fuel cost per vehicle per year

$1,000 Maintenance cost per vehicle per year

0.333333333 Proportion of vehicle and fuel costs that are used for planning (one third are used for restoration, and are included in the restoration spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Travel (shared with restoration and monitoring)

	Days of overnight travel per FTE per year	0	1-5	6-10	11-15	16-20	21-25	26-30
Senior scientist	5	$0	$875	$875	$875	$875	$875	$875
Project manager	5	$0	$875	$1,750	$1,750	$1,750	$875	$875
Technical support	5	$0	$875	$1,750	$1,750	$1,750	$875	$875
Total cost per year		$0	$2,625	$4,375	$4,375	$4,375	$2,625	$2,625
Total cost per 5-year period		$0	$13,125	$21,875	$21,875	$21,875	$13,125	$13,125

Assumptions:

$175 per diem

0.333333333 Proportion of travel costs that are used for planning (one third are used for restoration, and are included in the restoration spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Contractors

	Contract value per 5-year period						
Contractor category	0	1-5	6-10	11-15	16-20	21-25	26-30
Management and recreation planning	$150,000	$750,000	$150,000	$0	$0	$0	$0
Restoration planning	$100,000	$500,000	$100,000	$0	$0	$0	$0
Restoration design	$0	$33,140	$33,140	$33,140	$33,140	$33,140	$33,140
Total per 5-year period	$250,000	$1,283,140	$283,140	$33,140	$33,140	$33,140	$33,140

Assumptions:

$600 Cost per acre for restoration design (does not include conceptual restoration planning or creation of plans, specifications, and engineering documents).

The total area of restoration that occurs in each 5-year period will be designed as three different projects (approximately 14 acres each).
Restoration designs will be created in the 5-year period in which construction takes place.

The management, restoration, and recreation planning and design staff and contractors will conduct the following activities:

Management Planning
Management plans prepared for cropland/pasture preserves
Management plans prepared for natural area preserves
Grazing leases developed or renewed
Jurisdictional wetland delineation
Exotic Plant Control Program (Preserve System-wide)
Fire management/control plan (System-wide)

Recreation Planning
Recreation Plan (Preserve System-wide)
Construction designs for new recreational facilities

Restoration Planning & Design
Pond creation plan and construction designs
Wetland creation plan and construction designs
Stream restoration plan and construction designs
Oak savanna restoration plan and construction designs
Riparian woodland/scrub restoration plan and construction designs

Habitat Restoration/Creation for Initial Urban Development Area

	Implementation Period (Years)							
Capital Costs	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Creation/Restoration	$0	$2,109,868	$2,109,868	$2,109,868	$2,109,868	$2,109,868	$2,109,868	$12,659,210
Office equipment	$1,000	$11,350	$12,583	$11,250	$16,583	$7,350	$7,350	$67,467
Vehicle purchase	$7,333	$73,333	$73,333	$36,667	$36,667	$0	$36,667	$264,000
Capital Subtotal	**$8,333**	**$2,194,552**	**$2,195,785**	**$2,157,785**	**$2,163,118**	**$2,117,218**	**$2,153,885**	**$12,990,677**
Operational Costs								
Staff	$0	$456,810	$734,100	$734,100	$734,100	$456,810	$456,810	$3,572,732
Travel	$0	$13,125	$21,875	$21,875	$21,875	$13,125	$13,125	$105,000
Vehicle fuel and maintenance	$633	$9,500	$12,667	$12,667	$12,667	$9,500	$9,500	$67,133
Contractors	$0	$542,668	$542,668	$542,668	$542,668	$542,668	$542,668	$3,256,005
Operational Subtotal	**$633**	**$1,022,103**	**$1,311,310**	**$1,311,310**	**$1,311,310**	**$1,022,103**	**$1,022,103**	**$7,000,870**
Total	**$8,967**	**$3,216,654**	**$3,507,095**	**$3,469,095**	**$3,474,428**	**$3,139,321**	**$3,175,988**	**$19,991,547**

Land Cover Type Restored/Created

	Implementation Period (Years)							
Land Cover Type (acres)	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
oak savanna	0	9.0	9.0	9.0	9.0	9.0	9.0	54
riparian woodland/scrub	0	8.3	8.3	8.3	8.3	8.3	8.3	50
perennial wetland	0	10.5	10.5	10.5	10.5	10.5	10.5	63
seasonal wetland	0	6.7	6.7	6.7	6.7	6.7	6.7	39.9
alkali wetland	0	3.2	3.2	3.2	3.2	3.2	3.2	18.9
slough/channel	0	12.2	12.2	12.2	12.2	12.2	12.2	73
open water	0	0.0	0.0	0.0	0.0	0.0	0.0	0
ponds	0	5.3	5.3	5.3	5.3	5.3	5.3	32
streams (miles)	0	0.1	0.1	0.1	0.1	0.1	0.1	0.6
Total	0	55	55	55	55	55	55	331.4

Cost of Restoration/Creation Construction

	Units	Cost per	Implementation Period (Years)							
Land Cover Type		unit	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
oak savanna	acres	$1,850	$0	$16,650	$16,650	$16,650	$16,650	$16,650	$16,650	$99,900
riparian woodland/scrub	acres	$25,000	$0	$208,333	$208,333	$208,333	$208,333	$208,333	$208,333	$1,250,000
perennial wetland	acres	$40,000	$0	$420,000	$420,000	$420,000	$420,000	$420,000	$420,000	$2,520,000
seasonal wetland	acres	$45,000	$0	$299,250	$299,250	$299,250	$299,250	$299,250	$299,250	$1,795,500
alkali wetland	acres	$41,700	$0	$131,355	$131,355	$131,355	$131,355	$131,355	$131,355	$788,130
slough/channel	acres	$54,000	$0	$657,000	$657,000	$657,000	$657,000	$657,000	$657,000	$3,942,000
open water	acres	$45,000	$0	$0	$0	$0	$0	$0	$0	$0
ponds	acres	$45,000	$0	$240,000	$240,000	$240,000	$240,000	$240,000	$240,000	$1,440,000
streams	linear feet	$260	$0	$137,280	$137,280	$137,280	$137,280	$137,280	$137,280	$823,680
	Total		$0	$2,109,868	$2,109,868	$2,109,868	$2,109,868	$2,109,868	$2,109,868	$12,659,210

Assumptions:

See Aquatic Land Cover Type Restoration Cost Worksheet in this appendix for detailed cost estimates.

The estimate of construction costs is a planning tool to assess the level of effort required to perform the work. Actual construction costs may vary from the above estimates because of competitive bidding, negotiations with the client, or fluctuations in market prices. This is not a bid.

Staff (shared with planning and monitoring)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost per 5-year period	$0	$456,810	$734,100	$734,100	$734,100	$456,810	$456,810

Assumptions:
See the planning spreadsheet for more information on staff positions and costs.
0.333333333 Proportion of staff costs that are used for restoration (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Office Equipment (shared with planning and monitoring)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost per 5-year period	$1,000	$11,350	$12,583	$11,250	$16,583	$7,350	$7,350

Assumptions:
See the planning spreadsheet for more information on office equipment costs.
0.333333333 Proportion of staff costs that are used for restoration (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Vehicles and Fuel (shared with planning and monitoring)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Vehicle purchase	$7,333	$73,333	$73,333	$36,667	$36,667	$0	$36,667
Vehicle fuel and maintenance	$633	$9,500	$12,667	$12,667	$12,667	$9,500	$9,500

Assumptions:
See the planning spreadsheet for more information on vehicle and fuel costs.
0.333333333 Proportion of staff costs that are used for restoration (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Travel (shared with planning and monitoring)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost per 5-year period	$0	$13,125	$21,875	$21,875	$21,875	$13,125	$13,125

Assumptions:
See the planning spreadsheet for more information on travel costs.
0.333333333 Proportion of staff costs that are used for restoration (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Contractors

	Contract value per 5-year period						
Contractor category	0	1-5	6-10	11-15	16-20	21-25	26-30
Plans, specifications, and engineering	$0	$124,275	$124,275	$124,275	$124,275	$124,275	$124,275
Bid assisstance	$0	$16,570	$16,570	$16,570	$16,570	$16,570	$16,570
Construction oversight	$0	$70,423	$70,423	$70,423	$70,423	$70,423	$70,423
Post-construction maintenance	$0	$331,400	$331,400	$331,400	$331,400	$331,400	$331,400
Cost per 5-year period	$0	$542,668	$542,668	$542,668	$542,668	$542,668	$542,668

Assumptions:

$2,250	Average cost per acre for plans, specifications, and engineering
$300	Average cost per acre for bid assisstance
$1,275	Average cost per acre for construction oversight
$6,000	Average cost per acre for post-construction maintenance

The total area of restoration that occurs in each 5-year period will be designed as three different projects (approximately 14 acres each).
Plan, specification, and engineering work, bid assisstance, and construction oversight will be conducted in the 5-year period in which construction takes place.
Two years of post-construction maintenance will be conducted in the 5-year period after construction takes place.

Environmental Compliance for Initial Urban Development Area

	Implementation Period (Years)							
Operational Costs	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
NEPA/CEQA	$0	$380,000	$380,000	$380,000	$380,000	$380,000	$0	$1,900,000
CWA 404/401	$0	$0	$0	$0	$0	$0	$0	$0
NHPA	$0	$41,000	$41,000	$41,000	$41,000	$41,000	$0	$205,000
CDFG 1600-1607	$0	$8,000	$8,000	$8,000	$8,000	$8,000	$0	$40,000
Other	$0	$30,000	$30,000	$30,000	$30,000	$30,000	$0	$150,000
Total	**$0**	**$459,000**	**$459,000**	**$459,000**	**$459,000**	**$459,000**	**$0**	**$2,295,000**

Number of Projects Requiring Environmental Compliance

		Number							
Project size	Size Range	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Small/simple	up to 10 acres or up to 0.1 stream miles	0	4	4	4	4	4	0	20
Medium/more complex	10.1-50 acres or 0.1-0.5 stream miles	0	4	4	4	4	4	0	20
Large/most complex	over 50 acres or 0.5 stream miles	0	2	2	2	2	2	0	10
	Total projects	0	10	10	10	10	10	0	50

Assumptions:
Of the total of approximately 50 projects that would require environmental compliance, 1/5 would require compliance in each 5-year period between years 1 and 25.

Cost per Project Size and Compliance Category

	Compliance Category					
Project size	NEPA/CEQA	CWA 404/401	NHPA	CDFG 1602	Other	Total
Small/simple	$5,000	$0	$2,500	$0	$2,500	$10,000
Medium/more complex	$40,000	$0	$3,500	$0	$3,000	$46,500
Large/most complex	$100,000	$0	$8,500	$4,000	$4,000	$116,500

Assumptions:
For NEPA/CEQA, 401/404 and 1602 compliance, varying costs have more to do with project complexity than with project size.
Clean Water Act and 1602 permits will be done on a per-project basis; a Regional General Permit and Master 1602 Agreement will be available for small to medium projects.
Cultural compliance permits will be done on a per-project basis.
All compliance costs include application or other fees

NEPA/CEQA
Depending on the level of detail that is provided for specific projects, they may or may not be able to be covered under the HCP EIR/EIS.
For those without sufficient detail, additional environmental documentation may need to be prepared.
It is likely that the majority of those would be in the form of mitigated negative declarations.
Because it is difficult to provide a cost estimate for a project without knowing details such as location, size, etc.,
the following are some rough numbers based on level of controversy:
Small scale non-controversial projects = Cat Excl/C 54000
Medium scale more controversial projects = IS MND/EA FONSI
Larger scale more controversial projects = EIR/EIS

401/404
The cost of conducting wetland delineations is not included under CWA 404/401 compliance; it is expected that delineation would be covered under land acquisition costs.
Each project implemented under the HCP will qualify for compliance under the regional permit program for the inventory area
Tasks associated with Section 402 compliance are not included in this cost estimate.

NHPA
Archaeological surveys can be conducted at an intensive level at a rate of 40 acres per person per day.
No more than one cultural resource will be identified per 40 acres or part thereof.
This scope of work and cost estimate does not include tasks necessary for significance evaluations and resolution of adverse effects.

1602
All projects except large ones would qualify for the Master 1602 for the inventory area
The "other" compliance category could include county grading permits, road encroachment permits, or other local approvals.
All land acquisitions would be a categorical exemption under CEQA as well as under NEPA, when NEPA applies.

HCP/NCCP Preserve Management and Maintenance for Initial Urban Development Area

	Implementation Period (Years)							
Capital Costs	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Office equipment	$0	$31,050	$23,600	$54,550	$63,650	$56,200	$72,750	$301,800
Vehicle purchase	$10,000	$221,000	$45,000	$266,000	$171,000	$197,000	$206,000	$1,116,000
Equipment - capital	$0	$60,000	$120,000	$180,000	$240,000	$300,000	$360,000	$1,260,000
Field facilities	$0	$750,000	$0	$750,000	$0	$0	$0	$1,500,000
Contractors - capital	$0	$180,000	$360,000	$540,000	$720,000	$900,000	$1,080,000	$3,780,000
Recreation facilities	$0	$0	$302,800	$52,800	$302,800	$52,800	$52,800	$764,000
Capital Subtotal	**$10,000**	**$1,242,050**	**$851,400**	**$1,843,350**	**$1,497,450**	**$1,506,000**	**$1,771,550**	**$8,721,800**
Operational Costs								
Preserve staff	$30,294	$1,194,930	$1,464,210	$1,733,490	$2,272,050	$2,541,330	$2,810,610	$12,046,914
Maintenance of office equipment	$0	$0	$0	$0	$0	$0	$0	$0
Travel	$0	$875	$875	$875	$875	$875	$875	$5,250
Vehicle maintenance and fuel	$500	$62,750	$79,250	$158,500	$191,500	$213,500	$230,000	$936,000
Equipment - operational	$0	$130,000	$260,000	$390,000	$520,000	$650,000	$780,000	$2,730,000
Facilities maintenance and utilities	$0	$57,500	$57,500	$115,000	$115,000	$115,000	$115,000	$575,000
Water pumping	$0	$7,500	$15,000	$22,500	$30,000	$37,500	$45,000	$157,500
Contractors - operational	$25,000	$398,400	$596,800	$795,200	$993,600	$1,192,000	$1,390,400	$5,391,400
Recreation - operational	$0	$0	$264,050	$339,775	$353,000	$428,725	$441,950	$1,827,500
Operational Subtotal	**$55,794**	**$1,851,955**	**$2,737,685**	**$3,555,340**	**$4,476,025**	**$5,178,930**	**$5,813,835**	**$23,669,564**
Total	**$65,794**	**$3,094,005**	**$3,589,085**	**$5,398,690**	**$5,973,475**	**$6,684,930**	**$7,585,385**	**$32,391,364**

Preserve Staff

Position	Preserve area per position (acres)	Salary per employee per year	Benefit multiplier (percent of salary)	Total cost per employee per year	Number of employees						
					0	1-5	6-10	11-15	16-20	21-25	26-30
Preserve manager		$76,500	32%	$100,980	0.0	1.0	1.0	1.0	1.0	1.0	1.0
Preserve maintenance staff member	3,000	$40,800	32%	$53,856	0	2	3	4	6	7	8
Admin - Secretary		$45,900	32%	$60,588	0.5	0.5	0.5	0.5	0.5	0.5	0.5
				Total FTEs	0.5	3.5	4.5	5.5	7.5	8.5	9.5
				Total cost per year	$30,294	$238,986	$292,842	$346,698	$454,410	$508,266	$562,122
				Total cost per 5-year period	$30,294	$1,194,930	$1,464,210	$1,733,490	$2,272,050	$2,541,330	$2,810,610

Office Equipment

Equipment type	Cost per employee per year	Cost of service contract per year	Number of FTEs with equipment						
			0	1-5	6-10	11-15	16-20	21-25	26-30
		Total FTEs	0.5	3.5	4.5	5.5	7.5	8.5	9.5
Office furniture	$4,000		0	3	0	3	3	0	3
Office supplies	$300		0	3	3	6	6	6	6
Computers	$2,500	$0	0	3	3	6	6	6	6
Cell phones	$900	$0	0	3	4	5	7	8	9
Portable radios	$650	$0	0	3	4	5	7	8	9
Mobile radios	$3,000	$0	0	2	3	6	8	9	10
Equipment (capital) cost per 5-year period			$0	$31,050	$23,600	$54,550	$63,650	$56,200	$72,750
Maintenance cost per year			$0	$0	$0	$0	$0	$0	$0
Maintenance total per 5-year period			$0	$0	$0	$0	$0	$0	$0

Assumptions:
There will be 3 offices per field facility - a front area for the secretary, an office for the preserve manager, and a shared office for preserve maintenance staff memebers.
Computers will be replaced every 5 years.
Each vehicle will have a mobile radio.

Travel

Position	Days of travel per year	0	1-5	6-10	11-15	16-20	21-25	26-30
Preserve manager	1	$0	$175	$175	$175	$175	$175	$175
Total cost per year		$0	$175	$175	$175	$175	$175	$175
Total cost per 5-year period		$0	$875	$875	$875	$875	$875	$875

Assumptions:

$175 per diem

Note: Travel includes offsite travel. Travel in the course of HCP/NCCP preserve management is covered under the vehicles, maintenance, and fuel cost category below.

Vehicles, Maintenance, and Fuel

	Purchase price per vehicle	Fuel cost per vehicle per year	Maintenance cost per vehicle per year	Number of vehicles						
				0	1-5	6-10	11-15	16-20	21-25	26-30
Total number of FTEs				0.5	3.5	4.5	5.5	7.5	8.5	9.5
New trucks purchased	$21,000	$900	$1,000	0	1	0	1	1	0	1
Old trucks retired				0	0	0	0	1	0	1
Total trucks				0	1	1	2	2	2	2
New 4WDs purchased	$35,000	$1,800	$1,500	0	2	1	3	4	5	5
Old 4WDs retired				0	0	0	0	2	4	4
Total 4WDs				0	2	3	6	8	9	10
New ATVs purchased	$6,000	$250	$300	0	1	0	1	0	2	0
Old ATVs retired				0	0	0	0	0	0	0
Total ATVs				0	1	1	2	2	4	4
New dump trucks purchased	$30,000	$400	$400	0	1	0	1	0	0	0
Old dump trucks retired				0	0	0	0	0	0	0
Total dump trucks				0	1	1	2	2	2	2
New tractors purchased	$40,000	$500	$1,000	0	1	0	1	0	0	0
Old tractors retired				0	0	0	0	0	0	0
Total tractors				0	1	1	2	2	2	2
New auger, mower, scraper for tractor	$40,000	$0	$100	0	1	0	1	0	0	0
Old auger, mower, scraper retired				0	0	0	0	0	0	0
Total auger, mower, scraper				0	1	1	2	2	2	2
New small tractors	$14,000	$300	$300	0	1	0	1	0	0	0
Old small tractors retired				0	0	0	0	0	0	0
Total small tractors				0	1	1	2	2	2	2
New light 4WD vehicles	$10,000	$250	$250	1	0	1	1	1	1	1
Old light 4WD vehciles retired				0	0	1	0	1	1	1
Total light 4WD vehicles				1	1	1	2	2	2	2
Total vehicle purchase cost per 5-year period				$10,000	$221,000	$45,000	$266,000	$171,000	$197,000	$206,000
Total vehicle fuel and maintenance per year				$500	$12,550	$15,850	$31,700	$38,300	$42,700	$46,000
Total vehicle fuel and maintenance per 5-year period				$500	$62,750	$79,250	$158,500	$191,500	$213,500	$230,000

Assumptions:

Cost of 4WD truck includes cost of fire pumper, chain saw, sprayer, and small tool set for vehicle.

Equipment and Materials

	Number of new units bought per period						
	0	1-5	6-10	11-15	16-20	21-25	26-30
New preserve area per period	0	3,962	3,962	3,962	3,962	3,962	3,962
Total preserve area per period	0	3,962	7,923	11,885	15,846	19,808	23,770
Capital cost of equipment and materials per year	$0	$12,000	$24,000	$36,000	$48,000	$60,000	$72,000
Operational cost of equipment and materials per year	$0	$26,000	$52,000	$78,000	$104,000	$130,000	$156,000
Total capital cost per 5-year period	$0	$60,000	$120,000	$180,000	$240,000	$300,000	$360,000
Total operational cost per 5-year period	$0	$130,000	$260,000	$390,000	$520,000	$650,000	$780,000

Assumptions:

$3,000	Capital cost of equipment and materials per 1,000 preserve acres per year.
$6,500	Operational cost of equipment and materials per 1,000 preserve acres per year.

Capital costs include the capital component of fire fighting equipment/gear, small tools (pliers, wrenches, screwdrivers, etc.), glasses, gloves, hard hats, rain gear, irrigation supplies, cargo container, landscape plants and grass, oak trees, lumber, and truck hauling services.

Operational costs include the operational component of fire fighting equipment/gear, small tools (pliers, wrenches, screwdrivers, etc.), glasses, gloves, hard hats, rain gear, irrigation supplies, cargo container, landscape plants and grass, oak trees, lumber, and truck hauling services.
Operational costs also include portable radios, small pumps, piping, generator, saw, and demolition hammers.

Field Facilities

	0	1-5	6-10	11-15	16-20	21-25	26-30
Total preserve area per period	0	3,962	7,923	11,885	15,846	19,808	23,770
Total field offices/parking areas	0	1	1	2	2	2	2
New field offices/parking areas	0	1	0	1	0	0	0
Cost per 5-year period for offices/workshops	$0	$750,000	$0	$750,000	$0	$0	$0

Assumptions:

10,000	Number of acres per workshop/parking area
$750,000	Cost to build a workshop/parking area

Note: Field facilities contain an area for equipment storage, a manager's office, a shared office, a locker room, and restrooms.

Facilities Maintenance and Utilities

	Cost per square foot per year	0	1-5	6-10	11-15	16-20	21-25	26-30
Total facilities per period		0	1	1	2	2	2	2
Maintenance cost per year	$7,500	$0	$7,500	$7,500	$15,000	$15,000	$15,000	$15,000
Utilities cost per year	$4,000	$0	$4,000	$4,000	$8,000	$8,000	$8,000	$8,000
Total cost per year		$0	$11,500	$11,500	$23,000	$23,000	$23,000	$23,000
Total cost per 5-year period		$0	$57,500	$57,500	$115,000	$115,000	$115,000	$115,000

Water Pumping

	0	1-5	6-10	11-15	16-20	21-25	26-30
Total preserve area	0	3,962	7,923	11,885	15,846	19,808	23,770
Total cost per year	$0	$1,500	$3,000	$4,500	$6,000	$7,500	$9,000
Total cost per 5-year period	$0	$7,500	$15,000	$22,500	$30,000	$37,500	$45,000

$375	Annual cost for pump and well drilling per 1,000 acres

Contractors - operational

	Contract value per 5-year period						
Contractor category	0	1-5	6-10	11-15	16-20	21-25	26-30
Total pond area	0	7.7	15.3	23.0	30.7	38.3	46
Total preserve area	0	3,962	7,923	11,885	15,846	19,808	23,770
Routine dirt road maintenance	$0	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000
Feral pig management	$25,000	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000
Pond maintenance	$0	$46,000	$92,000	$138,000	$184,000	$230,000	$276,000
Weed management	$0	$2,400	$4,800	$7,200	$9,600	$12,000	$14,400
Other maintenance services	$0	$150,000	$300,000	$450,000	$600,000	$750,000	$900,000
Total per 5-year period	$25,000	$398,400	$596,800	$795,200	$993,600	$1,192,000	$1,390,400

Assumptions:

$6,000	Cost for pond maintenance (dredging) per acre of pond every 5 years.
$15,000	Cost of dirt road maintenance per 100 miles of road per year.
100	miles of dirt roads on preserves
$600	Cost of weed management per 1,000 acres of preserve per year.
$7,500	Cost for other maintenance services per 1,000 acres of preserve per year.

Other maintenance services include mowing, grading, pest control, disking for fire breaks, fencing, alarms, janitorial services
(pond maintenance subtracted based on the yearly pond maintenance costs above)

Contractors - capital

	Contract value per 5-year period						
Contractor category	0	1-5	6-10	11-15	16-20	21-25	26-30
Total preserve area	0	3,962	7,923	11,885	15,846	19,808	23,770
Construction services	$0	$180,000	$360,000	$540,000	$720,000	$900,000	$1,080,000

Assumptions:

$9,000 Cost for construction services per 1,000 preserve acres per year

Construction services includes roadway design, paving, fencing, grading, weather station, and boundary surveying services

Recreational Facilities

	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Total preserve area per period	0	3,962	7,923	11,885	15,846	19,808	23,770	83,193
Total trailhead facilities	0	0	1	1	2	2	2	2
Cost of trailhead facility construction	$0	$0	$250,000	$0	$250,000	$0	$0	$500,000
Trailhead facility maintenance (yearly)	$0	$0	$0	$12,500	$12,500	$25,000	$25,000	$25,000
Miles of trail constructed	0	0	5	5	5	5	5	25
Total miles of trail	0	0	5	10	15	20	25	25
Trail construction cost	$0	$0	$52,800	$52,800	$52,800	$52,800	$52,800	$264,000
Trail maintenance cost (yearly)	$0	$0	$0	$2,640	$5,280	$7,920	$10,560	$26,400
Total per five year period	$0	$0	$302,800	$128,500	$391,700	$217,400	$230,600	$1,021,000

Assumptions:

10,000 Number of acres per trailhead facility

$250,000 Cost to build trailhead facilities (parking areas, kiosk, gates, signage, emergency phones, restroom)

5% maintenance cost of trailhead facilities is calculated as a percent of construction costs.

Trailhead facility maintenance costs begin to accrue in the five-year period after original construction

25 miles of trail over entire preserve system

$2.00 construction cost cost per foot of trail

5% maintenance cost per mile of trail is calculated as a % of construction

Trail maintenance costs begin to accrue in the five-year period after original construciton

Monitoring, Research, and Adaptive Management for Initial Urban Development Area

	Implementation Period (Years)							
Capital costs	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Office equipment	$1,000	$11,350	$12,583	$11,250	$16,583	$7,350	$7,350	$67,467
Vehicle purchase	$7,333	$73,333	$73,333	$36,667	$36,667	$0	$36,667	$264,000
Capital Subtotal	**$8,333**	**$84,683**	**$85,917**	**$47,917**	**$53,250**	**$7,350**	**$44,017**	**$331,467**
Operational Costs								
Monitoring staff	$0	$456,810	$734,100	$734,100	$734,100	$456,810	$456,810	$3,572,732
Vehicle fuel and maintenance	$633	$9,500	$12,667	$12,667	$12,667	$9,500	$9,500	$67,133
Travel	$0	$13,125	$21,875	$21,875	$21,875	$13,125	$13,125	$105,000
Field Data Collection (Contractors)	$0	$937,638	$1,455,690	$1,752,808	$2,049,927	$2,347,046	$2,644,165	$11,187,273
Directed research	$0	$375,000	$375,000	$375,000	$375,000	$375,000	$375,000	$2,250,000
Adaptive management	$0	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$900,000
Operational Subtotal	**$633**	**$1,942,073**	**$2,749,332**	**$3,046,450**	**$3,343,569**	**$3,351,481**	**$3,648,600**	**$18,082,138**
Total	**$8,967**	**$2,026,756**	**$2,835,248**	**$3,094,367**	**$3,396,819**	**$3,358,831**	**$3,692,616**	**$18,413,605**

Staff (shared with planning and restoration/creation)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost per 5-year period	$0	$456,810	$734,100	$734,100	$734,100	$456,810	$456,810

Assumptions:

See the planning spreadsheet for more information on staff positions and costs.

0.333333333 Proportion of staff costs that are used for monitoring (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for restoration/creation, and are included in the habitat restoration and creation spreadsheet).

Office Equipment (shared with planning and restoration/creation)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost per 5-year period	$1,000	$11,350	$12,583	$11,250	$16,583	$7,350	$7,350

Assumptions:

See the planning spreadsheet for more information on office equipment costs.

0.333333333 Proportion of staff costs that are used for monitoring (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for restoration/creation, and are included in the habitat restoration and creation spreadsheet).

Vehicles and Fuel (shared with planning and restoration/creation)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Vehicle purchase	$7,333	$73,333	$73,333	$36,667	$36,667	$0	$36,667
Vehicle fuel and maintenance	$633	$9,500	$12,667	$12,667	$12,667	$9,500	$9,500

Assumptions: 54000

See the planning spreadsheet for more information on vehicle and fuel costs.

0.333333333 Proportion of staff costs that are used for monitoring (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for restoration/creation, and are included in the habitat restoration and creation spreadsheet).

Travel (shared with planning and restoration/creation)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost per 5-year period	$0	$13,125	$21,875	$21,875	$21,875	$13,125	$13,125

Assumptions:

See the planning spreadsheet for more information on travel costs.

0.333333333 Proportion of staff costs that are used for monitoring (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for restoration/creation, and are included in the habitat restoration and creation spreadsheet).

Field Data Collection (Contractors)

Total acres of land acquired for preserve system each 5-year period			0	3,962	3,962	3,962	3,962	3,962	3,962
New acres created/restored per 5-year period			0	55	55	55	55	55	55
Number of resotration sites per 5-year period			0	34	34	34	34	34	34
	Cost per		Average area requiring monitoring per year (acres)						
Monitoring type	unit	Unit	0	1-5	6-10	11-15	16-20	21-25	26-30
preconstruction surveys	$1,600	1 site	0	34	34	34	34	34	34
subtotal			$0	$54,400	$54,400	$54,400	$54,400	$54,400	$54,400
construction monitoring	$4,200	1 site	0	3	3	3	3	3	3
subtotal			$0	$14,280	$14,280	$14,280	$14,280	$14,280	$14,280
post-acquisition biological inventories	$15	1 acre	0	3,962	3,962	3,962	3,962	3,962	3,962
subtotal			$0	$59,424	$59,424	$59,424	$59,424	$59,424	$59,424
monitoring: restoration, creation and enhancement sites	$4,000	10 acres	0	0	110	110	110	110	110
subtotal			$0	$0	$44,187	$44,187	$44,187	$44,187	$44,187
status and trends monitoring: key covered species and ecosystems	$15	1 acre	0	3,962	7,923	11,885	15,846	19,808	23,770
subtotal			$0	$59,424	$118,848	$178,271	$237,695	$297,119	$356,543
Total cost per year			$0	$187,528	$291,138	$350,562	$409,985	$469,409	$528,833
Total cost per 5-year period			$0	$937,638	$1,455,690	$1,752,808	$2,049,927	$2,347,046	$2,644,165

Assumptions:

Implementing entity monitoring staff will plan, coordinate, and report on the monitoring categories described below.
Contractors will conduct the field monitoring and data analysis.
Implementation monitoring will be conducted by the GIS/Database technician in conjunction with the other monitoring staff. The cost for the GIS/database
Planning survey costs are covered under the land-acquisition spreadsheet.
Preconstruction surveys are assumed to occur prior to construction of covered activites on the Preserve System. Preconstruction surveys are for the following

Construction monitoring is assumed to occur periodically during construction of covered activities and conservation measures. An average of seven visits by one biologist at $75/hour is assumed.

10% % of times construction surveys are aniticipated to be required for covered activities within

0.25 Ratio of area of other covered activities in preserves to area created/restored.

Planning, preconstruction surveys and construction monitoring for covered activities outside of preserves will be paid for by developers.

Post-acquisition inventories will build on planning surveys (see land acquisition spreadsheet). Inventory will include mapping of noxious weeds
Monitoring of restoration, creation, and enhancement sites is assumed to occur 4 times per year and will require two biologists at $100/hr. It wil include species-
Status and trends monitoring is assumed to occur after preserve land is purchased through year 30. Status and trend monitoring will build on planning surveys and

Directed Research

	0	1-5	6-10	11-15	16-20	21-25	26-30
Average cost per year to fund directed research	$0	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000
Total cost per 5-year period	$0	$375,000	$375,000	$375,000	$375,000	$375,000	$375,000

Adaptive Management

	0	1-5	6-10	11-15	16-20	21-25	26-30

Average Independent Conservation Assessment Team cost per 5-year period	0	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000
Average Science Advisors cost per 5-year period	0	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000
Total cost per 5-year period	$0	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000

Assumptions:

Adaptive management experiments are covered under the monitoring staff and directed research categories.

It is assumed that the Independent Conservation Assessment Team will meet once every 4 years and have:

5 members

$5,000 stipend per member per 5-year period

It is assumed that the Science Advisors will contain:

10 members

$12,500 stipend per member per 5-year period

Remedial Measures for Initial Urban Development Area

	Implementation Period (Years)							
Capital costs	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Remedial measures	$0	$30,000	$30,000	$265,919	$265,919	$265,919	$687,893	$1,545,650
Total	**$0**	**$30,000**	**$30,000**	**$265,919**	**$265,919**	**$265,919**	**$687,893**	**$1,545,650**

Remedial Measures

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost of created/restored habitat per 5-year period	$0	$2,109,868	$2,109,868	$2,109,868	$2,109,868	$2,109,868	$2,109,868
Cost for remedial measures for created/restored habitat per 5-year period	$0	$0	$0	$210,987	$210,987	$210,987	$632,961
Area of new preserve not including created/restored habitat per 5-year period	0	3,906	3,906	3,906	3,906	3,906	3,906
Cost for remedial measures for preserves per 5-year period	$0	$0	$0	$24,932	$24,932	$24,932	$24,932
Cost for other remedial measures per 5-year period	$0	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
Total cost per 5-year period	$0	$30,000	$30,000	$265,919	$265,919	$265,919	$687,893

Assumptions:

2.0% Percent of annual preserve management and maintenance cost assumed to be needed for preserve remedial actions.
10% Percent of created/restored habitat for which remedial measures will be required.
$319 Cost per acre for preserve management and maintenance in years 26-30.

Remedial actions are assumed to occur in the second 5-year period after habitat is created/restored or preserve land is purchased, with the exception of remedial actions for habitat created/restored in years 21-30. The cost for these remedial actions is included in years 26-30 so that it can be included in this cost estimate.

The remedial cost for preserve lands is assumed to be a percentage of the cost per acre for preserve management and maintenance in years 26-30, and is assumed to be needed once, in the second 5-year period after the preserve land is purchased.

The cost for other remedial measures includes the costs for restoration or maintenance of preserve areas because of other changed circumstances, such as wildfire.

Contingency Fund for Initial Urban Development Area

Contingency Fund

	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Total cost of program excluding land acquisition	$934,427	$13,735,481	$14,463,723	$16,515,476	$17,215,908	$17,199,521	$18,394,895	$98,459,431
Contingency fund	**$46,721**	**$686,774**	**$723,186**	**$825,774**	**$860,795**	**$859,976**	**$919,745**	**$4,922,972**

Assumptions:

5.0% Percent of total program funding needed for contingency fund

East Contra Costa County HCP/NCCP
Draft Implementation Cost Data and Assumptions with Maximum Urban Development Area

Summary of East Contra Costa HCP Implementation Costs for Maximum Urban Development Area (Rounded to the Nearest $10,000)

Total Costs

	Implementation Period (Years)								
Cost Category	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**	**Total (2006)**
Program Administration	$590,000	$3,070,000	$2,910,000	$2,990,000	$2,810,000	$2,790,000	$2,720,000	$17,870,000	$18,230,000
Land Acquisition	$0	$36,830,000	$35,780,000	$35,780,000	$35,780,000	$35,780,000	$35,780,000	$215,740,000	$235,680,000
Management, Restoration, and Recreation Planning and Design	$260,000	$1,860,000	$1,150,000	$860,000	$870,000	$530,000	$570,000	$6,110,000	$6,230,000
Habitat Restoration/Creation	$10,000	$3,630,000	$3,920,000	$3,880,000	$3,880,000	$3,550,000	$3,580,000	$22,450,000	$22,890,000
Environmental Compliance	$0	$460,000	$460,000	$460,000	$460,000	$460,000	$0	$2,300,000	$2,340,000
HCP/NCCP Preserve Management and Maintenance	$70,000	$3,190,000	$3,540,000	$5,890,000	$6,130,000	$8,430,000	$8,480,000	$35,720,000	$36,440,000
Monitoring, Research, and Adaptive Management	$10,000	$2,160,000	$2,980,000	$3,470,000	$3,850,000	$3,890,000	$4,300,000	$20,670,000	$21,080,000
Remedial Measures	$0	$30,000	$30,000	$290,000	$290,000	$290,000	$750,000	$1,670,000	$1,700,000
Contingency Fund	$50,000	$720,000	$750,000	$890,000	$910,000	$1,000,000	$1,020,000	$5,340,000	$5,450,000
Total (in 2005 dollars)	$980,000	$51,950,000	$51,520,000	$54,510,000	$54,980,000	$56,720,000	$57,200,000	$327,860,000	
Total (in 2006 dollars)*	**$950,000**	**$55,590,000**	**$55,160,000**	**$58,200,000**	**$58,680,000**	**$60,450,000**	**$60,950,000**		$350,040,000

Capital Costs

	Implementation Period (Years)								
Cost Category	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**	**Total (2006)**
Program Administration: office space and equipment	$90,000	$110,000	$120,000	$100,000	$140,000	$100,000	$110,000	$760,000	$780,000
Land Acquisition: acquisition and site improvements	$0	$34,360,000	$34,360,000	$34,360,000	$34,360,000	$34,360,000	$34,360,000	$206,160,000	$225,900,000
Management, Restoration, and Recreation Planning and Design: office equipment and vehicles	$10,000	$80,000	$90,000	$50,000	$50,000	$10,000	$40,000	$330,000	$340,000
Habitat Restoration/Creation: construction, office equipment, and vehicles	$10,000	$2,380,000	$2,380,000	$2,340,000	$2,340,000	$2,300,000	$2,340,000	$14,080,000	$14,360,000
HCP/NCCP Preserve Management and Maintenance: vehicles, equipment, and facilities	$10,000	$1,300,000	$720,000	$2,270,000	$1,510,000	$2,820,000	$2,140,000	$10,780,000	$11,000,000
Remedial Measures	$0	$30,000	$30,000	$290,000	$290,000	$290,000	$750,000	$1,670,000	$1,700,000
Total (in 2005 dollars)	$110,000	$38,260,000	$37,700,000	$39,410,000	$38,690,000	$39,870,000	$39,730,000	$233,790,000	
Total (in 2006 dollars)*	**$120,000**	**$41,630,000**	**$41,050,000**	**$42,810,000**	**$42,070,000**	**$43,270,000**	**$43,130,000**		**$254,080,000**

Operational Costs

	Implementation Period (Years)								
Cost Category	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**	**Total (2006)**
Program Administration: personnel, legal and financial assistance, insurance, ED's discretionary budget, in-lieu funding	$500,000	$2,960,000	$2,790,000	$2,880,000	$2,670,000	$2,690,000	$2,610,000	$17,110,000	$17,450,000
Land Acquisition: transactional costs	$0	$2,470,000	$1,420,000	$1,420,000	$1,420,000	$1,420,000	$1,420,000	$9,580,000	$9,770,000
Management, Restoration, and Recreation Planning and Design: vehicle maintenance and personnel	$250,000	$1,780,000	$1,070,000	$820,000	$820,000	$530,000	$530,000	$5,780,000	$5,890,000
Habitat Restoration/Creation: vehicle maintenance and personnel	$0	$1,250,000	$1,540,000	$1,540,000	$1,540,000	$1,250,000	$1,250,000	$8,360,000	$8,530,000
Environmental Compliance	$0	$460,000	$460,000	$460,000	$460,000	$460,000	$0	$2,300,000	$2,340,000
HCP/NCCP Preserve Management and Maintenance: vehicle and equipment maintenance and personnel	$60,000	$1,890,000	$2,820,000	$3,610,000	$4,620,000	$5,610,000	$6,330,000	$24,940,000	$25,440,000
Monitoring, Research, and Adaptive Management	$10,000	$2,160,000	$2,980,000	$3,470,000	$3,850,000	$3,890,000	$4,300,000	$20,670,000	$21,080,000
Contingency Fund	$50,000	$720,000	$750,000	$890,000	$910,000	$1,000,000	$1,020,000	$5,340,000	$5,450,000
Total (in 2006 dollars)	$820,000	$13,690,000	$13,830,000	$15,100,000	$16,290,000	$16,840,000	$17,470,000	$94,030,000	
Total (in 2005 dollars)*	**$840,000**	**$13,960,000**	**$14,100,000**	**$15,400,000**	**$16,620,000**	**$17,180,000**	**$17,810,000**		**$95,910,000**

*Update of 2005 dollars from Draft HCP/NCCP using CPI of 2.0% for 2005 for all non-land costs (see Table 9-7 for index source);
update of land cost from Draft HCP/NCCP using Home Price Index of 16.6% for first three quarters of 2005

Summary of East Contra Costa HCP Implementation Costs for Maximum Urban Development Area (Not Rounded)

All Costs

	Implementation Period (Years)							
Cost Category	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**
Program Administration	$591,733	$3,065,485	$2,912,952	$2,989,740	$2,805,946	$2,789,983	$2,718,488	$17,874,327
Land Acquisition	$0	$36,833,048	$35,782,032	$35,782,032	$35,782,032	$35,782,032	$35,782,032	$215,743,206
Management, Restoration, and Recreation Planning and Design	$258,967	$1,861,131	$1,151,571	$863,571	$868,905	$533,798	$570,464	$6,108,407
Habitat Restoration/Creation	$8,967	$3,625,657	$3,916,098	$3,878,098	$3,883,431	$3,548,324	$3,584,991	$22,445,565
Environmental Compliance	$0	$459,000	$459,000	$459,000	$459,000	$459,000	$0	$2,295,000
HCP/NCCP Preserve Management and Maintenance	$65,794	$3,191,980	$3,541,815	$5,886,870	$6,129,305	$8,429,340	$8,477,045	$35,722,149
Monitoring, Research, and Adaptive Management	$8,967	$2,159,819	$2,980,717	$3,473,175	$3,852,259	$3,890,902	$4,301,319	$20,667,157
Remedial Measures	$0	$30,000	$30,000	$286,984	$286,984	$286,984	$745,326	$1,666,277
Contingency Fund	$46,721	$719,654	$749,608	$891,872	$914,291	$996,917	$1,019,882	$5,338,944
Total (in 2005 dollars)	$981,149	$51,945,773	$51,523,792	$54,511,341	$54,982,152	$56,717,279	$57,199,546	$327,861,031
Total (in 2006 dollars)*	**$953,116**	**$55,587,654**	**$55,157,233**	**$58,204,533**	**$58,684,760**	**$60,454,589**	**$60,946,502**	

Capital Costs

	Implementation Period (Years)							
Cost Category	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**
Program Administration: office space and equipment	$88,000	$106,350	$120,200	$104,800	$136,900	$102,000	$105,850	$764,100
Land Acquisition: acquisition and site improvements	$0	$34,360,456	$34,360,456	$34,360,456	$34,360,456	$34,360,456	$34,360,456	$206,162,737
Management, Restoration, and Recreation Planning and Design: office equipment and vehicles	$8,333	$84,683	$85,917	$47,917	$53,250	$7,350	$44,017	$331,467
Habitat Restoration/Creation: construction, office equipment, and vehicles	$8,333	$2,376,393	$2,377,626	$2,339,626	$2,344,959	$2,299,059	$2,335,726	$14,081,722
HCP/NCCP Preserve Management and Maintenance: vehicles, equipment, and facilities	$10,000	$1,302,050	$722,950	$2,274,900	$1,509,400	$2,817,500	$2,143,050	$10,779,850
Remedial Measures	$0	$30,000	$30,000	$286,984	$286,984	$286,984	$745,326	$1,666,277
Total (in 2005 dollars)	$114,667	$38,259,932	$37,697,149	$39,414,682	$38,691,949	$39,873,349	$39,734,424	$233,786,152
Total (in 2006 dollars)*	**$116,960**	**$41,628,096**	**$41,054,057**	**$42,805,941**	**$42,068,753**	**$43,273,781**	**$43,132,078**	

Operational Costs

	Implementation Period (Years)							
Cost Category	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**
Program Administration: personnel, legal and financial assistance, insurance, ED's discretionary budget, in-lieu funding	$503,733	$2,959,135	$2,792,752	$2,884,940	$2,669,046	$2,687,983	$2,612,638	$17,110,227
Land Acquisition: transactional costs	$0	$2,472,592	$1,421,575	$1,421,575	$1,421,575	$1,421,575	$1,421,575	$9,580,469
Management, Restoration, and Recreation Planning and Design: vehicle maintenance and personnel	$250,633	$1,776,448	$1,065,655	$815,655	$815,655	$526,448	$526,448	$5,776,940
Habitat Restoration/Creation: vehicle maintenance and personnel	$633	$1,249,265	$1,538,472	$1,538,472	$1,538,472	$1,249,265	$1,249,265	$8,363,843
Environmental Compliance	$0	$459,000	$459,000	$459,000	$459,000	$459,000	$0	$2,295,000
HCP/NCCP Preserve Management and Maintenance: vehicle and equipment maintenance and personnel	$55,794	$1,889,930	$2,818,865	$3,611,970	$4,619,905	$5,611,840	$6,333,995	$24,942,299
Monitoring, Research, and Adaptive Management	$8,967	$2,159,819	$2,980,717	$3,473,175	$3,852,259	$3,890,902	$4,301,319	$20,667,157
Contingency Fund	$46,721	$719,654	$749,608	$891,872	$914,291	$996,917	$1,019,882	$5,338,944
Total (in 2005 dollars)	$819,761	$13,685,841	$13,826,643	$15,096,658	$16,290,203	$16,843,930	$17,465,121	$94,028,157
Total (in 2006 dollars)*	**$836,156**	**$13,959,558**	**$14,103,176**	**$15,398,592**	**$16,616,007**	**$17,180,808**	**$17,814,424**	

*Update of 2005 dollars from Draft HCP/NCCP using CPI of 2.0% for 2005 for all non-land costs (see Table 9-7 for index source); update of land cost from Draft HCP/NCCP using Home Price Index of 16.6% for first three quarters of 2005

Legend for Maximum Urban Development Area

red numbers are assumptions or data entered directly into the worksheet
blue numbers are links from other worksheets in the workbook
black numbers are calculations based on the above numbers

Numbers provided by EBRPD
Numbers provided by CCWD
Average of CCWD/EBRPD numbers (see formula for original values; CCWD value is listed before EBRPD value)
Numbers provided by J&S and EPS
Guesstimated numbers

Land Cover Type Extent within HCP/NCCP Preserves for Maximum Urban Development Area

		Total	
Land Cover Type	**Unit**	**Acquired**	**Restored/Created**
annual grassland	acres	18,900	
alkali grassland	acres	1,376	
oak savanna	acres	1,828	177
oak woodland	acres	6,293	
chaparral/scrub	acres	617	
riparian woodland/scrub	acres	70	55
perennial wetland	acres	75	64
seasonal wetland	acres	177	47
alkali wetland	acres	96	21
slough/channel	acres	37	73
open water	acres	17	0
pasture/cropland	acres	400	
other	acres	0	
pond	acres	16	33
streams	acres	0	1
Total	**acres**	**29,900**	**470**

Land Cover Type Acquired by Time Period

	Implementation Period (Years)							
Land Cover Type	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
annual grassland		3,150.0	3,150.0	3,150.0	3,150.0	3,150.0	3,150.0	18,900.0
alkali grassland		229.3	229.3	229.3	229.3	229.3	229.3	1,375.5
oak savanna		304.6	304.6	304.6	304.6	304.6	304.6	1,827.5
oak woodland		1,048.8	1,048.8	1,048.8	1,048.8	1,048.8	1,048.8	6,292.5
chaparral/scrub		102.8	102.8	102.8	102.8	102.8	102.8	617
riparian woodland/scrub		11.7	11.7	11.7	11.7	11.7	11.7	70
perennial wetland		12.5	12.5	12.5	12.5	12.5	12.5	75
seasonal wetland complex		29.5	29.5	29.5	29.5	29.5	29.5	177
alkali wetland complex		16.0	16.0	16.0	16.0	16.0	16.0	96
slough/channel		6.1	6.1	6.1	6.1	6.1	6.1	37
open water		2.8	2.8	2.8	2.8	2.8	2.8	17
pasture/cropland		66.7	66.7	66.7	66.7	66.7	66.7	400
other		0.0	0.0	0.0	0.0	0.0	0.0	0
pond		2.7	2.7	2.7	2.7	2.7	2.7	16
streams		0.0	0.0	0.0	0.0	0.0	0.0	0
Total	**0.0**	**4,983.3**	**4,983.3**	**4,983.3**	**4,983.3**	**4,983.3**	**4,983.3**	**29,900.0**

Land Cover Type Restored/Created by Time Period

	Implementation Period (Years)							
Land Cover Type (acres except where noted)	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
oak savanna		29.5	29.5	29.5	29.5	29.5	29.5	177
riparian woodland/scrub		9.2	9.2	9.2	9.2	9.2	9.2	55
perennial wetland (jurisdictional boundaries)		10.6	10.6	10.6	10.6	10.6	10.6	63.8
seasonal wetland (jurisdictional boundaries)		7.8	7.8	7.8	7.8	7.8	7.8	46.9
alkali wetland (jurisdictional boundaries)		3.5	3.5	3.5	3.5	3.5	3.5	20.7
slough/channel		12.2	12.2	12.2	12.2	12.2	12.2	73
open water		0.0	0.0	0.0	0.0	0.0	0.0	0
ponds		5.5	5.5	5.5	5.5	5.5	5.5	33
streams (miles)		0.13	0.13	0.13	0.13	0.13	0.13	0.8
Total (acres)	**0**	**78.3**	**78.3**	**78.3**	**78.3**	**78.3**	**78.3**	**469.8**

Assumptions:

1/6 of each land cover type will be restored in each 5-year period beginning in year 1.

For total acre calculation, streams are assumed to be 5 feet wide

75% % of Undetermined wetlands assumed to be perennial wetlands

25% % of Undetermined wetlands assumed to be seasonal wetlands

30% % of seasonal or alkali wetland complex acreage assumed to be jurisdictional wetland

Defining sites:	average acres/site	% requiring substantial soil disturbance
riparian/woodland scrub sites by acreage conversion:	3	0.2
wetlands and pond sites by acreage conversion	0.7	0.8
stream sites by acreage conversion:	3	0.9

Restoration sites that require significant soil disturbance by land-cover type

	Implementation Period (Years)							
Land Cover Type Restoration Sites	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
riparian woodland/scrub	0	1	1	1	1	1	1	4
perennial wetland	0	12	12	12	12	12	12	73
seasonal wetland	0	9	9	9	9	9	9	54
alkali wetland	0	4	4	4	4	4	4	24
ponds	0	6	6	6	6	6	6	38
streams	0	0	0	0	0	0	0	0
Total	0	32	32	32	32	32	32	191

Assumptions:

average stream/riparian restoration is 300 meters (100 meters of restoration is about 1 acre)

average acres/site and percent of sites requiring substantial soil disturbance calculated in table above.

Seasonal and alkali wetland acreages in Tables 5-16 and 5-17 are for wetland complexes; for revenue projections the wetted acres of these complexes are assumed to be 30% of the total acres

Summary of HCP/NCCP Personnel for Maximum Urban Development Area

	Total cost per FTE per year	Number of FTEs						
		0	1-5	6-10	11-15	16-20	21-25	26-30
Administrative personnel								
Executive Director	$134,640	1	1	1	1	1	1	1
IT- Database / GIS Management	$87,516	0	0.5	0.5	0.5	0.5	0.5	0.5
Budget Analyst	$74,052	1	1	0.5	0.5	0.5	0.5	0.5
Acquisition Specialist	$100,980	1	1	1	1	0.5	0.5	0.3
Grant Specialist/Conservation Planner	$94,248	1	1	1	1	1	1	1
Admin – Secretary	$60,588	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total administrative personnel		4.5	5	4.5	4.5	4	4	3.8
Restoration planning, design, and implementation and monitoring personnel								
Senior scientist	$107,712	0	1	1	1	1	1	1
Project manager	$99,054	0	1	2	2	2	1	1
Technical support	$67,320	0	1	2	2	2	1	1
Total restoration personnel		0	3	5	5	5	3	3
Preserve management and maintenance personnel								
Preserve manager	$100,980	0	1	1	1	1	1	1
Laborer	$53,856	0	2	4	5	7	9	10
Admin – Secretary	$60,588	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total preserve personnel		0.5	3.5	5.5	6.5	8.5	10.5	11.5
Total HCP/NCCP personnel		5	11	15	16	17	17	18

Notes:

Total cost per FTE per year includes the costs for benefits.

Costs for restoration planning, design, and implementation personnel are divided between the planning, design, and engineering (2/3) and habitat restoration (1/3) cost categories.

Program Administration for Maximum Urban Development Area

	Implementation Period (Years)							
	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Capital Costs								
Office space	$5,700	$28,500	$28,500	$28,500	$28,500	$28,500	$28,500	$176,700
Office equipment by employee	$43,700	$21,750	$20,200	$20,200	$36,900	$17,400	$5,850	$166,000
General office equipment	$16,600	$38,600	$39,000	$38,600	$39,000	$38,600	$39,000	$249,400
GIS/Database equipment	$22,000	$17,500	$32,500	$17,500	$32,500	$17,500	$32,500	$172,000
Capital Subtotal	**$88,000**	**$106,350**	**$120,200**	**$104,800**	**$136,900**	**$102,000**	**$105,850**	**$764,100**
Operational Costs								
Employees	$434,214	$2,389,860	$2,204,730	$2,204,730	$1,952,280	$1,952,280	$1,851,300	$12,989,394
Maintenance of by-employee office equipment	$0	$0	$0	$0	$0	$0	$0	$0
Maintenance of general office equipment	$370	$2,275	$2,275	$2,275	$2,275	$2,275	$2,275	$14,020
Maintenance of GIS/Database equipment	$3,250	$3,250	$3,250	$3,250	$3,250	$3,250	$3,250	$22,750
Travel	$6,388	$33,250	$32,813	$32,813	$31,938	$31,938	$31,588	$200,725
Vehicle / mileage allowance	$962	$5,063	$4,809	$4,809	$4,303	$4,303	$4,101	$28,350
Insurance	$22,550	$187,000	$203,500	$277,750	$294,250	$310,750	$319,000	$1,614,800
Legal assistance	$30,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$930,000
Financial analysis assistance	$0	$15,500	$15,500	$15,500	$31,000	$15,500	$15,500	$108,500
JPA member meeting stipend	$6,000	$30,000	$15,000	$15,000	$3,000	$3,000	$3,000	$75,000
In-lieu funding for law enforcement and firefighting	$0	$17,938	$35,875	$53,813	$71,750	$89,688	$107,625	$376,688
Public relations and outreach	$0	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000	$750,000
Operational Subtotal	**$503,733**	**$2,959,135**	**$2,792,752**	**$2,884,940**	**$2,669,046**	**$2,687,983**	**$2,612,638**	**$17,110,227**
Total	**$591,733**	**$3,065,485**	**$2,912,952**	**$2,989,740**	**$2,805,946**	**$2,789,983**	**$2,718,488**	**$17,874,327**

Employees

Position	Salary per employee per year	Benefit multiplier (percent of salary)	Total cost per FTE per year	Number of FTEs						
				0	1-5	6-10	11-15	16-20	21-25	26-30
Executive Director	$102,000	32%	$134,640	1.0	1.0	1.0	1.0	1.0	1.0	1.0
GIS/Database Technician	$66,300	32%	$87,516	0.0	0.5	0.5	0.5	0.5	0.5	0.5
Budget Analyst	$56,100	32%	$74,052	1.0	1.0	0.5	0.5	0.5	0.5	0.5
Real-Estate Specialist	$76,500	32%	$100,980	1.0	1.0	1.0	1.0	0.5	0.5	0.3
Grant Administrator	$71,400	32%	$94,248	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Admin – Secretary	$45,900	32%	$60,588	0.5	0.5	0.5	0.5	0.5	0.5	0.5
		Total FTEs		4.5	5	4.5	4.5	4	4	3.8
		Total cost per year		$434,214	$477,972	$440,946	$440,946	$390,456	$390,456	$370,260
		Total cost per 5-year period		$434,214	$2,389,860	$2,204,730	$2,204,730	$1,952,280	$1,952,280	$1,851,300

Notes: The position of senior scientist is located under the management, restoration, and recreation planning and design cost.
JPA employee costs are not included in the program administration cost category.

Office Space

Cost per square foot per year	Total space leased per period (square feet)						
	0	1-5	6-10	11-15	16-20	21-25	26-30
$1.90	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Lease cost per year	$5,700	$5,700	$5,700	$5,700	$5,700	$5,700	$5,700
Total per 5-year period	$5,700	$28,500	$28,500	$28,500	$28,500	$28,500	$28,500

Note: The office space category covers office space for employees under the management, restoration, and recreation planning and design; habitat restoration; HCP/NCCP preserve management and maintenance; and monitoring and research cost categories.

Office Equipment by Employee

	Cost per FTE per year	Cost of service contract per year	Number of FTEs with office supply costs						
			0	1-5	6-10	11-15	16-20	21-25	26-30
Total FTEs			4.5	5	4.5	4.5	4	4	3.8
Cubicle furniture	$4,000		5	0	0	0	4	0	0
Office furniture	$3,500		1	0	0	0	1	0	0
Office supplies	$300		5	5	5	5	4	4	4
Computers	$2,500	$0	5	5	5	5	4	4	0
Cell phones	$900	$0	4	5	4	4	4	4	3
Portable radios	$650	$0	4	5	4	4	4	4	3
Equipment (capital) cost per 5-year period			$43,700	$21,750	$20,200	$20,200	$36,900	$17,400	$5,850
Maintenance cost per year			$0	$0	$0	$0	$0	$0	$0
Maintenance total per 5-year period			$0	$0	$0	$0	$0	$0	$0

Assumptions:
Computers will be replaced every 5 years.

General Office Equipment

	Cost per year (leased items) / cost per item (purchased items)	Cost of service contract per item per year	Number of items leased, purchased, or retired						
			0	1-5	6-10	11-15	16-20	21-25	26-30
Copy machine (lease)	$3,600	$0	1	1	1	1	1	1	1
Office telephone systems (lease)	$6,000	$0	1	1	1	1	1	1	1
Publications (purchase)	$500		1	1	1	1	1	1	1
New fax machines purchased	$1,500	$150	1	1	1	1	1	1	1
Old fax machines retired			0	1	1	1	1	1	1
Total fax machines			1	1	1	1	1	1	1
New printers purchased	$2,000	$85	2	2	2	2	2	2	2
Old printers retired			0	1	2	2	2	2	2
Total printers			2	3	3	3	3	3	3
New digital cameras purchased	$600	$0	1	1	1	1	1	1	1
Old digital cameras retired			0	0	1	1	1	1	1
Total digital cameras			1	2	2	2	2	2	2
New scanners purchased	$400	$50	1	0	1	0	1	0	1
Old scanners retired			0	0	1	0	1	0	1
Total scanners			1	1	1	1	1	1	1
Equipment (captial) cost per 5-year period			$16,600	$38,600	$39,000	$38,600	$39,000	$38,600	$39,000
Maintenance cost per year			$370	$455	$455	$455	$455	$455	$455
Maintenance total per 5-year period			$370	$2,275	$2,275	$2,275	$2,275	$2,275	$2,275

Assumptions:
Fax machines will be replaced every 5 years.

GIS and Database Equipment

	Cost per item	Cost of software update or service contract per 5-year period	Number of items leased, purchased, or retired						
			0	1-5	6-10	11-15	16-20	21-25	26-30
New GIS/database servers purchased	$15,000	$1,000	1	0	1	0	1	0	1
Old GIS/database servers retired			0	0	1	0	1	0	1
Total GIS/database servers			1	1	1	1	1	1	1
New digitizing tables purchased	$3,000	$0	0	1	1	1	1	1	1
Old digitizing tables retired			0	0	1	1	1	1	1
Total digitizing tables			0	1	1	1	1	1	1
New plotters purchased	$7,500	$0	0	1	1	1	1	1	1
Old plotters retired			0	0	1	1	1	1	1
Total plotters			0	1	1	1	1	1	1
New GIS software purchased	$5,000	$1,500	1	1	1	1	1	1	1
Old GIS software retired			0	1	1	1	1	1	1
Total GIS software			1	1	1	1	1	1	1
New database software purchased	$2,000	$750	1	1	1	1	1	1	1
Old database software retired			0	1	1	1	1	1	1
Total database software			1	1	1	1	1	1	1
Equipment (captial) cost per 5-year period			$22,000	$17,500	$32,500	$17,500	$32,500	$17,500	$32,500
Maintenance total per 5-year period			$3,250	$3,250	$3,250	$3,250	$3,250	$3,250	$3,250

Assumptions:
Software upgrades are assumed to be needed once every 5 years.

Vehicle / Mileage Allowance

		Number of employees with allowance						
	Mileage allowance per year per FTE (miles)	0	1-5	6-10	11-15	16-20	21-25	26-30
Executive director	1,000	$405	$405	$405	$405	$405	$405	$405
IT- Database / GIS Management	250	$0	$51	$51	$51	$51	$51	$51
Budget Analyst	250	$101	$101	$51	$51	$51	$51	$51
Acquisition Specialist	500	$203	$203	$203	$203	$101	$101	$61
Grant Specialist/Conservation Planner	500	$203	$203	$203	$203	$203	$203	$203
Admin – Secretary	250	$51	$51	$51	$51	$51	$51	$51
Cost per year		$962	$1,013	$962	$962	$861	$861	$820
Total per 5-year period		$962	$5,063	$4,809	$4,809	$4,303	$4,303	$4,101

Assumption:

$0.405 cost per mile

Travel

	Days of overnight travel per FTE per year	0	1-5	6-10	11-15	16-20	21-25	26-30
Executive Director	14	$4,900	$4,900	$4,900	$4,900	$4,900	$4,900	$4,900
IT- Database / GIS Management	3	$0	$263	$263	$263	$263	$263	$263
Budget Analyst	1	$175	$175	$88	$88	$88	$88	$88
Acquisition Specialist	2	$350	$350	$350	$350	$175	$175	$105
Grant Specialist/Conservation Planner	5	$875	$875	$875	$875	$875	$875	$875
Admin – Secretary	1	$88	$88	$88	$88	$88	$88	$88
Total cost per year		$6,388	$6,650	$6,563	$6,563	$6,388	$6,388	$6,318
Cost per 5-year period		$6,388	$33,250	$32,813	$32,813	$31,938	$31,938	$31,588

Assumptions:

$175	per diem
2.00	per diem multiplier for executive director to cover additional travel expenses such as airfare

Insurance

Insurance type	Cost per year per vehicle	Cost per year	0	1-5	6-10	11-15	16-20	21-25	26-30
Total vehicles per 5-year period			2	11	13	22	24	26	27
Automobile	$1,650		$3,300	$18,150	$21,450	$36,300	$39,600	$42,900	$44,550
Directors and officers		$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500
Liability		$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500
Professional liability		$8,250	$8,250	$8,250	$8,250	$8,250	$8,250	$8,250	$8,250
Total cost per year			$22,550	$37,400	$40,700	$55,550	$58,850	$62,150	$63,800
Cost per 5-year period			$22,550	$187,000	$203,500	$277,750	$294,250	$310,750	$319,000

Legal Assistance

	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Hours per 5-year period	100	500	500	500	500	500	500	3100
Cost	$30,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$930,000

Assumptions:

$300	Hourly rate for legal assistance

Note: The legal assistance category covers legal assistance required under the program administration and land acquisition cost categories.

Financial Analysis Assistance

	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Cost per 5-year period	$0	$15,500	$15,500	$15,500	$31,000	$15,500	$15,500	$108,500
Cost	$0	$15,500	$15,500	$15,500	$31,000	$15,500	$15,500	$108,500

Assumptions:

Financial analyist review will occur once every 4 years (years 4, 8, 12, 16, 20, 24, and 28).

Note: The financial analyis assistance category covers the periodic assistance of a financial analyst to review the program's cost/revenue balance and ensure that charges are adjusted in line with changing land costs.

JPA Member Meeting Stipend

	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Number of meetings per 5-year period	2	10	5	5	1	1	1	25
Total stipend	$6,000	$30,000	$15,000	$15,000	$3,000	$3,000	$3,000	$75,000

Assumptions:

10	Number of JPA members
$300	Stipend per meeting per member

In-Lieu Payments for Law Enforcement and Firefighting

	0	1-5	6-10	11-15	16-20	21-25	26-30
Total preserve area per period	0	4,983	9,967	14,950	19,933	24,917	29,900
In-lieu payments for law enforcement per year	$0	$1,416	$2,832	$4,248	$5,664	$7,081	$8,497
In-lieu payments for firefighting per year	$0	$2,171	$4,343	$6,514	$8,686	$10,857	$13,028
Total cost per year	$0	$3,588	$7,175	$10,763	$14,350	$17,938	$21,525
Cost per 5-year period	$0	$17,938	$35,875	$53,813	$71,750	$89,688	$107,625

Assumptions:

$3.52	In-lieu law enforcement funding per 1,000 preserve acres
$2.30	In-lieu firefighting funding per 1,000 preserve acres

In lieu costs per 1,000 preserve acres are based on CCWD's annual in-lieu payments and the assumption that CCWD manages approximately 20,000 acres of preserve.

Public Relations/Outreach

	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Total cost per year	$0	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$150,000
Cost per 5-year period	$0	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000	$750,000

Land Acquisition for Maximum Urban Development Area

	Implementation Period (Years)							
Capital Costs	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Acquisition	$0	$33,396,556	$33,396,556	$33,396,556	$33,396,556	$33,396,556	$33,396,556	$200,379,337
Site improvements	$0	$963,900	$963,900	$963,900	$963,900	$963,900	$963,900	$5,783,400
Capital Subtotal	**$0**	**$34,360,456**	**$34,360,456**	**$34,360,456**	**$34,360,456**	**$34,360,456**	**$34,360,456**	**$206,162,737**
Operational Costs								
Due diligence	$0	$1,363,177	$1,363,177	$1,363,177	$1,363,177	$1,363,177	$1,363,177	$8,179,062
Planning surveys	$0	$1,109,415	$58,398	$58,398	$58,398	$58,398	$58,398	$1,401,407
Operational Subtotal	**$0**	**$2,472,592**	**$1,421,575**	**$1,421,575**	**$1,421,575**	**$1,421,575**	**$1,421,575**	**$9,580,469**
Total	**$0**	**$36,833,048**	**$35,782,032**	**$35,782,032**	**$35,782,032**	**$35,782,032**	**$35,782,032**	**$215,743,206**

Acquisition Distribution over 30-year Program

Acquisition Cost over 30-year Program

	Cost per 5-year period								
Acquisition Analysis Zone	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total (2005)**	**Total (2006)**
Zone 1	$0	$2,809,801	$2,809,801	$2,809,801	$2,809,801	$2,809,801	$2,809,801	$16,858,808	$16,688,285
Zone 2	$0	$13,088,042	$13,088,042	$13,088,042	$13,088,042	$13,088,042	$13,088,042	$78,528,253	$72,767,315
Zone 3	$0	$499,458	$499,458	$499,458	$499,458	$499,458	$499,458	$2,996,745	$3,494,205
Zone 4	$0	$6,944,096	$6,944,096	$6,944,096	$6,944,096	$6,944,096	$6,944,096	$41,664,574	$50,301,124
Zone 5	$0	$8,254,678	$8,254,678	$8,254,678	$8,254,678	$8,254,678	$8,254,678	$49,528,065	$63,617,455
Zone 6 (incl. within ULL along Marsh Creek)	$0	$1,800,482	$1,800,482	$1,800,482	$1,800,482	$1,800,482	$1,800,482	$10,802,892	$13,136,329
Total (2005)	$0	$33,396,556	$33,396,556	$33,396,556	$33,396,556	$33,396,556	$33,396,556	**$200,379,337**	
Total (2006)*	**$0**	**$36,667,452**	**$36,667,452**	**$36,667,452**	**$36,667,452**	**$36,667,452**	**$36,667,452**		**$220,004,713**

Assumptions:

See Appendix G and description of separate land cost model in Chapter 9.

*Applied Home Price Index increase of 16.6% to 2005 land cost for first three quarters of 2005. See Table 9-7 for inflation index source.

Due Diligence

	Cost per parcel	Cost per 5-year period							
		0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Number of parcels to be purchased		0	42	42	42	42	42	42	250
Number of parcels investigated		0	53	53	53	53	53	53	318
Appraisals	$4,080	$0	$216,240	$216,240	$216,240	$216,240	$216,240	$216,240	$1,297,440
Preliminary title report	$510	$0	$27,030	$27,030	$27,030	$27,030	$27,030	$27,030	$162,180
Phase I site assessment	$6,120	$0	$324,360	$324,360	$324,360	$324,360	$324,360	$324,360	$1,946,160
Boundary survey	$6,249	$0	$331,172	$331,172	$331,172	$331,172	$331,172	$331,172	$1,987,029
Legal description	$4,080	$0	$216,240	$216,240	$216,240	$216,240	$216,240	$216,240	$1,297,440
Monumentation	$4,682	$0	$248,135	$248,135	$248,135	$248,135	$248,135	$248,135	$1,488,812
Total	$25,720	$0	$1,363,177	$1,363,177	$1,363,177	$1,363,177	$1,363,177	$1,363,177	$8,179,062

Assumptions:

1.25	Extra land surveyed and processed for due diligence/planning surveys that will not be acquired.
	Note: Express as a decimal added to 1 (e.g., 25% extra land would be 1.25)
15,000	Average parcel boundary length in linear feet
$0.41	Cost per linear foot for boundary survey
$0.31	Cost per linear foot for monumentation

Planning Surveys

	hours per acre	Cost per 5-year period							
		0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Land cover type surveys	0.3	$0	$166,412	$0	$0	$0	$0	$0	$166,412
Covered species habitat surveys	0.15	$0	$83,206	$0	$0	$0	$0	$0	$83,206
Covered plant surveys	1.2	$0	$665,649	$0	$0	$0	$0	$0	$665,649
Covered wildlife surveys	0.35	$0	$194,148	$0	$0	$0	$0	$0	$194,148
Contractor subtotal (years 1-5)	2	$0	$1,109,415	$0	$0	$0	$0	$0	$1,109,415
	cost per acre for years 6-30								
Preserve planning surveys subtotal (years 6-30)	$9.38	$0	$0	$58,398	$58,398	$58,398	$58,398	$58,398	$291,992
Preserve planning surveys total		$0	$1,109,415	$58,398	$58,398	$58,398	$58,398	$58,398	$1,401,407

Assumptions:

Land cover type surveys include surveys for federal and state jurisdictional waters, and submitting of a report to the USACE and obtaining a verification (includes some hours to respond to any changes the Corps may require). Land cover type and wetland delineation surveys will occur concurrently.
Covered plant surveys include three visits during the blooming season to cover different blooming times.
A minimum of 100 acres will be surveyed at a time.
In years 0-5, contractors will conduct the biological surveys.
In years 6-30, the cost for surveys will be covered under the monitoring spreadsheet.

$89	Per hour for biologists (including amortized per diem and travel, see below)

Site Improvements

	Cost per parcel	Cost per 5-year period							
		0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Number of parcels to be purchased		0	42	42	42	42	42	42	250

Demolition of old facilities	$5,100	$0	$212,500	$212,500	$212,500	$212,500	$212,500	$212,500	$1,275,000
Repair of boundary fence	$9,364	$0	$390,150	$390,150	$390,150	$390,150	$390,150	$390,150	$2,340,900
Repair and replacement of gates	$4,080	$0	$170,000	$170,000	$170,000	$170,000	$170,000	$170,000	$1,020,000
Signs (boundary, landbank, etc.)	$2,550	$0	$106,250	$106,250	$106,250	$106,250	$106,250	$106,250	$637,500
Other security (e.g., boarding up barns)	$2,040	$0	$85,000	$85,000	$85,000	$85,000	$85,000	$85,000	$510,000
Total		$0	$963,900	$963,900	$963,900	$963,900	$963,900	$963,900	$5,783,400

Assumptions:

$4.08	Average cost per linear foot for boundary fence repair
15%	Proportion of boundary fence that needs repair

Field monitoring and analysis contractors

Base cost per hour	$85	$ per hour
Per diem including lodging	$0	$ per day
Travel	$41	$ per day
assuming	100	miles
and	$0.405	$ per mile
Hours per day	10	hours per day
Total cost per hour including amortized per diem and travel (assuming 10-hour days)	$89	$ per hour

Assumptions:

Bay Area ES-II billing rate, assuming all work will be conducted from a local office (no per diem needed).

Management, Restoration, and Recreation Planning and Design for Maximum Urban Development Area

	Implementation Period (Years)							
Capital costs	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Office equipment	$1,000	$11,350	$12,583	$11,250	$16,583	$7,350	$7,350	$67,467
Vehicle purchase	$7,333	$73,333	$73,333	$36,667	$36,667	$0	$36,667	$264,000
Capital subtotal	**$8,333**	**$84,683**	**$85,917**	**$47,917**	**$53,250**	**$7,350**	**$44,017**	**$331,467**
Operational costs								
Staff	$0	$456,810	$734,100	$734,100	$734,100	$456,810	$456,810	$3,572,732
Maintenance of office equipment	$0	$0	$0	$0	$0	$0	$0	$0
Travel	$0	$13,125	$21,875	$21,875	$21,875	$13,125	$13,125	$105,000
Vehicle fuel and maintenance	$633	$9,500	$12,667	$12,667	$12,667	$9,500	$9,500	$67,133
Contractors	$250,000	$1,297,013	$297,013	$47,013	$47,013	$47,013	$47,013	$2,032,075
Operational subtotal	**$250,633**	**$1,776,448**	**$1,065,655**	**$815,655**	**$815,655**	**$526,448**	**$526,448**	**$5,776,940**
Total	**$258,967**	**$1,861,131**	**$1,151,571**	**$863,571**	**$868,905**	**$533,798**	**$570,464**	**$6,108,407**

Staff (shared with restoration and monitoring)

				Number of FTEs						
Position	Salary per employee per year	Benefit multiplier (percent of salary)	Total cost per employee per year	0	1-5	6-10	11-15	16-20	21-25	26-30
Senior scientist	$81,600	32%	$107,712	0	1	1	1	1	1	1
Project manager	$75,041	32%	$99,054	0	1	2	2	2	1	1
Technical support	$51,000	32%	$67,320	0	1	2	2	2	1	1
			Total FTEs	0	3	5	5	5	3	3
			Total cost per year	$0	$91,362	$146,820	$146,820	$146,820	$91,362	$91,362
			Total cost per 5-year period	$0	$456,810	$734,100	$734,100	$734,100	$456,810	$456,810

Assumptions:

0.333333333 Proportion of staff costs that are used for planning (one third are used for restoration, and are included in the restoration spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Note: The cost/employee/year includes salary and benefits.

Office Equipment (shared with restoration and monitoring)

Equipment type	Cost per employee per year	Cost of service contract per year	Number of employees with equipment: 0	1-5	6-10	11-15	16-20	21-25	26-30
		Total FTEs	0	3	5	5	5	3	3
Office furniture	$4,000		0	3	1	0	4	0	0
Office supplies	$300		0	3	5	5	5	3	3
Computers	$2,500	$0	0	3	5	5	5	3	3
Cell phones	$900	$0	0	3	5	5	5	3	3
Portable radios	$650	$0	0	3	5	5	5	3	3
Mobile radios	$3,000	$0	1	3	4	4	4	3	3
Equipment (capital) cost per 5-year period			$1,000	$11,350	$12,583	$11,250	$16,583	$7,350	$7,350
Maintenance cost per year			$0	$0	$0	$0	$0	$0	$0
Maintenance total per 5-year period			$0	$0	$0	$0	$0	$0	$0

Assumptions:

Computers will be replaced every 5 years.

Each vehicle will have a mobile radio.

0.333333333 Proportion of office equipment costs that are used for planning (one third are used for restoration, and are included in the restoration spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Vehicles and Fuel (shared with restoration and monitoring)

	Number of vehicles: 0	1-5	6-10	11-15	16-20	21-25	26-30
Total FTEs	0	3	5	5	5	3	3
Number of vehicles purchased	1	2	2	1	1	0	1
Number of vehicles retired	0	0	1	1	1	1	1
Total number of vehicles	1	3	4	4	4	3	3
Total vehicle purchase cost per year	$7,333	$14,667	$14,667	$7,333	$7,333	$0	$7,333
Total vehicle purchase cost per 5-year period	$7,333	$73,333	$73,333	$36,667	$36,667	$0	$36,667
Total vehicle fuel and maintenance per year	$633	$1,900	$2,533	$2,533	$2,533	$1,900	$1,900
Total vehicle fuel and maintenance per 5-year period	$633	$9,500	$12,667	$12,667	$12,667	$9,500	$9,500

Assumptions:

$22,000 Vehicle purchase price

$900 Fuel cost per vehicle per year

$1,000 Maintenance cost per vehicle per year

0.333333333 Proportion of vehicle and fuel costs that are used for planning (one third are used for restoration, and are included in the restoration spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Travel (shared with restoration and monitoring)

	Days of overnight travel per FTE per year	0	1-5	6-10	11-15	16-20	21-25	26-30
Senior scientist	5	$0	$875	$875	$875	$875	$875	$875
Project manager	5	$0	$875	$1,750	$1,750	$1,750	$875	$875
Technical support	5	$0	$875	$1,750	$1,750	$1,750	$875	$875
Total cost per year		$0	$2,625	$4,375	$4,375	$4,375	$2,625	$2,625
Total cost per 5-year period		$0	$13,125	$21,875	$21,875	$21,875	$13,125	$13,125

Assumptions:

$175 per diem

0.333333333 Proportion of travel costs that are used for planning (one third are used for restoration, and are included in the restoration spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Contractors

	Contract value per 5-year period						
Contractor category	0	1-5	6-10	11-15	16-20	21-25	26-30
Management and recreation planning	$150,000	$750,000	$150,000	$0	$0	$0	$0
Restoration planning	$100,000	$500,000	$100,000	$0	$0	$0	$0
Restoration design	$0	$47,013	$47,013	$47,013	$47,013	$47,013	$47,013
Total per 5-year period	$250,000	$1,297,013	$297,013	$47,013	$47,013	$47,013	$47,013

Assumptions:

$600 Cost per acre for restoration design (does not include conceptual restoration planning or creation of plans, specifications, and engineering documents).

The total area of restoration that occurs in each 5-year period will be designed as five different projects (approximately 14 acres each).
Restoration designs will be created in the 5-year period in which construction takes place.

The management, restoration, and recreation planning and design staff and contractors will conduct the following activities:

Management Planning

Management plans prepared for cropland/pasture preserves
Management plans prepared for natural area preserves
Grazing leases developed or renewed
Jurisdictional wetland delineation
Exotic Plant Control Program (Preserve System-wide)
Fire management/control plan (System-wide)

Recreation Planning

Recreation Plan (Preserve System-wide)
Construction designs for new recreational facilities

Restoration Planning & Design

Pond creation plan and construction designs
Wetland creation plan and construction designs
Stream restoration plan and construction designs
Oak savanna restoration plan and construction designs
Riparian woodland/scrub restoration plan and construction designs

Habitat Restoration/Creation for Maximum Urban Development Area

	Implementation Period (Years)							
Capital Costs	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Creation/Restoration	$0	$2,291,709	$2,291,709	$2,291,709	$2,291,709	$2,291,709	$2,291,709	$13,750,255
Office equipment	$1,000	$11,350	$12,583	$11,250	$16,583	$7,350	$7,350	$67,467
Vehicle purchase	$7,333	$73,333	$73,333	$36,667	$36,667	$0	$36,667	$264,000
Capital Subtotal	**$8,333**	**$2,376,393**	**$2,377,626**	**$2,339,626**	**$2,344,959**	**$2,299,059**	**$2,335,726**	**$14,081,722**
Operational Costs								
Staff	$0	$456,810	$734,100	$734,100	$734,100	$456,810	$456,810	$3,572,732
Travel	$0	$13,125	$21,875	$21,875	$21,875	$13,125	$13,125	$105,000
Vehicle fuel and maintenance	$633	$9,500	$12,667	$12,667	$12,667	$9,500	$9,500	$67,133
Contractors	$0	$769,830	$769,830	$769,830	$769,830	$769,830	$769,830	$4,618,978
Operational Subtotal	**$633**	**$1,249,265**	**$1,538,472**	**$1,538,472**	**$1,538,472**	**$1,249,265**	**$1,249,265**	**$8,363,843**
Total	**$8,967**	**$3,625,657**	**$3,916,098**	**$3,878,098**	**$3,883,431**	**$3,548,324**	**$3,584,991**	**$22,445,565**

Land Cover Type Restored/Created

	Implementation Period (Years)							
Land Cover Type (acres)	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
oak savanna	0	29.5	29.5	29.5	29.5	29.5	29.5	177
riparian woodland/scrub	0	9.2	9.2	9.2	9.2	9.2	9.2	55
perennial wetland	0	10.6	10.6	10.6	10.6	10.6	10.6	63.75
seasonal wetland	0	7.8	7.8	7.8	7.8	7.8	7.8	46.875
alkali wetland	0	3.5	3.5	3.5	3.5	3.5	3.5	20.7
slough/channel	0	12.2	12.2	12.2	12.2	12.2	12.2	73
open water	0	0.0	0.0	0.0	0.0	0.0	0.0	0
ponds	0	5.5	5.5	5.5	5.5	5.5	5.5	33
streams	0	0.1	0.1	0.1	0.1	0.1	0.1	0.8
Total	0	78	78	78	78	78	78	470.125

Cost of Restoration/Creation Construction

	Unit	Cost per	Implementation Period (Years)							
Land Cover Type		unit	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
oak savanna	acres	$1,850	$0	$54,575	$54,575	$54,575	$54,575	$54,575	$54,575	$327,450
riparian woodland/scrub	acres	$25,000	$0	$229,167	$229,167	$229,167	$229,167	$229,167	$229,167	$1,375,000
perennial wetland	acres	$40,000	$0	$425,000	$425,000	$425,000	$425,000	$425,000	$425,000	$2,550,000
seasonal wetland	acres	$45,000	$0	$351,563	$351,563	$351,563	$351,563	$351,563	$351,563	$2,109,375
alkali wetland	acres	$41,700	$0	$143,865	$143,865	$143,865	$143,865	$143,865	$143,865	$863,190
slough/channel	acres	$54,000	$0	$657,000	$657,000	$657,000	$657,000	$657,000	$657,000	$3,942,000
open water	acres	$45,000	$0	$0	$0	$0	$0	$0	$0	$0
ponds	acres	$45,000	$0	$247,500	$247,500	$247,500	$247,500	$247,500	$247,500	$1,485,000
streams	linear feet	$260	$0	$183,040	$183,040	$183,040	$183,040	$183,040	$183,040	$1,098,240
	Total	$0	$0	$2,291,709	$2,291,709	$2,291,709	$2,291,709	$2,291,709	$2,291,709	$13,750,255

Assumptions:

See Aquatic Land Cover Type Restoration Cost Worksheet in this appendix for detailed cost estimates.

The estimate of construction costs is a planning tool to assess the level of effort required to perform the work. Actual construction costs may vary from the above estimates because of competitive bidding, negotiations with the client, or fluctuations in market prices. This is not a bid.

Staff (shared with planning and monitoring)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost per 5-year period	$0	$456,810	$734,100	$734,100	$734,100	$456,810	$456,810

Assumptions:

See the planning spreadsheet for more information on staff positions and costs.

0.333333333 Proportion of staff costs that are used for restoration (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Office Equipment (shared with planning and monitoring)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost per 5-year period	$1,000	$11,350	$12,583	$11,250	$16,583	$7,350	$7,350

Assumptions:
See the planning spreadsheet for more information on office equipment costs.
0.333333333 Proportion of staff costs that are used for restoration (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Vehicles and Fuel (shared with planning and monitoring)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Vehicle purchase	$7,333	$73,333	$73,333	$36,667	$36,667	$0	$36,667
Vehicle fuel and maintenance	$633	$9,500	$12,667	$12,667	$12,667	$9,500	$9,500

Assumptions:
See the planning spreadsheet for more information on vehicle and fuel costs.
0.333333333 Proportion of staff costs that are used for restoration (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Travel (shared with planning and monitoring)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost per 5-year period	$0	$13,125	$21,875	$21,875	$21,875	$13,125	$13,125

Assumptions:
See the planning spreadsheet for more information on travel costs.
0.333333333 Proportion of staff costs that are used for restoration (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for monitoring, and are included in the monitoring spreadsheet).

Contractors

	Contract value per 5-year period						
Contractor category	0	1-5	6-10	11-15	16-20	21-25	26-30
Plans, specifications, and engineering	$0	$176,297	$176,297	$176,297	$176,297	$176,297	$176,297
Bid assisstance	$0	$23,506	$23,506	$23,506	$23,506	$23,506	$23,506
Construction oversight	$0	$99,902	$99,902	$99,902	$99,902	$99,902	$99,902
Post-construction maintenance	$0	$470,125	$470,125	$470,125	$470,125	$470,125	$470,125
Cost per 5-year period	$0	$769,830	$769,830	$769,830	$769,830	$769,830	$769,830

Assumptions:

$2,250	Average cost per acre for plans, specifications, and engineering
$300	Average cost per acre for bid assisstance
$1,275	Average cost per acre for construction oversight
$6,000	Average cost per acre for post-construction maintenance

The total area of restoration that occurs in each 5-year period will be designed as five different projects (approximately 14 acres each).
Plan, specification, and engineering work, bid assisstance, and construction oversight will be conducted in the 5-year period in which construction takes place.
Two years of post-construction maintenance will be conducted in the 5-year period after construction takes place.

Environmental Compliance for Maximum Urban Development Area

	Implementation Period (Years)							
Operational Costs	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
NEPA/CEQA	$0	$380,000	$380,000	$380,000	$380,000	$380,000	$0	$1,900,000
CWA 404/401	$0	$0	$0	$0	$0	$0	$0	$0
NHPA	$0	$41,000	$41,000	$41,000	$41,000	$41,000	$0	$205,000
CDFG 1600-1607	$0	$8,000	$8,000	$8,000	$8,000	$8,000	$0	$40,000
Other	$0	$30,000	$30,000	$30,000	$30,000	$30,000	$0	$150,000
Total	**$0**	**$459,000**	**$459,000**	**$459,000**	**$459,000**	**$459,000**	**$0**	**$2,295,000**

Number Projects Requiring Environmental Compliance

		Number							
Project size	Size Range	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Small/simple	up to 10 acres or up to 0.1 stream miles	0	4	4	4	4	4	0	20
Medium/more complex	10.1-50 acres or 0.1-0.5 stream miles	0	4	4	4	4	4	0	20
Large/most complex	over 50 acres or 0.5 stream miles	0	2	2	2	2	2	0	10
	Total projects	0	10	10	10	10	10	0	50

Assumptions:
Of the total of approximately 50 projects that would require environmental compliance, 1/5 would require compliance in each 5-year period between years 1 and 25.

Cost per Project Size and Compliance Category

	Compliance Category					
Project size	NEPA/CEQA	CWA 404/401	NHPA	CDFG 1602	Other	Total
Small/simple	$5,000	$0	$2,500	$0	$2,500	$10,000
Medium/more complex	$40,000	$0	$3,500	$0	$3,000	$46,500
Large/most complex	$100,000	$0	$8,500	$4,000	$4,000	$116,500

Assumptions:
For NEPA/CEQA, 401/404 and 1602 compliance, varying costs have more to do with project complexity than with project size.
Clean Water Act and 1602 permits will be done on a per-project basis; a Regional General Permit and Master 1602 Agreement will be available for small to medium projects.
Cultural compliance permits will be done on a per-project basis.
All compliance costs include application or other fees

NEPA/CEQA
Depending on the level of detail that is provided for specific projects, they may or may not be able to be covered under the HCP EIR/EIS.
For those without sufficient detail, additional environmental documentation may need to be prepared.
It is likely that the majority of those would be in the form of mitigated negative declarations.
Because it is difficult to provide a cost estimate for a project without knowing details such as location, size, etc.,
the following are some rough numbers based on level of controversy:
Small scale non-controversial projects = Cat Excl/Cat Exemp
Medium scale more controversial projects = IS MND/EA FONSI
Larger scale more controversial projects = EIR/EIS

401/404
The cost of conducting wetland delineations is not included under CWA 404/401 compliance; it is expected that delineation would be covered under land acquisition costs.
Each project implemented under the HCP will qualify for compliance under the regional permit program for the inventory area
Tasks associated with Section 402 compliance are not included in this cost estimate.

NHPA
Archaeological surveys can be conducted at an intensive level at a rate of 40 acres per person per day.
No more than one cultural resource will be identified per 40 acres or part thereof.
This scope of work and cost estimate does not include tasks necessary for significance evaluations and resolution of adverse effects.

1602
All projects except large ones would qualify for the Master 1602 for the inventory area
The "other" compliance category could include county grading permits, road encroachment permits, or other local approvals.
All land acquisitions would be a categorical exemption under CEQA as well as under NEPA, when NEPA applies.

HCP/NCCP Preserve Management and Maintenance for Maximum Urban Development Area

	Implementation Period (Years)							
Capital Costs	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Office equipment	$0	$31,050	$25,150	$56,100	$85,600	$67,700	$84,250	$349,850
Vehicle purchase	$10,000	$221,000	$45,000	$266,000	$171,000	$197,000	$206,000	$1,116,000
Equipment - capital	$0	$75,000	$150,000	$225,000	$300,000	$375,000	$450,000	$1,575,000
Field facilities	$0	$750,000	$0	$750,000	$0	$750,000	$0	$2,250,000
Contractors - capital	$0	$225,000	$450,000	$675,000	$900,000	$1,125,000	$1,350,000	$4,725,000
Recreation facilities	$0	$0	$52,800	$302,800	$52,800	$302,800	$52,800	$764,000
Capital Subtotal	**$10,000**	**$1,302,050**	**$722,950**	**$2,274,900**	**$1,509,400**	**$2,817,500**	**$2,143,050**	**$10,779,850**
Operational Costs								
Preserve staff	$30,294	$1,194,930	$1,733,490	$2,002,770	$2,541,330	$3,079,890	$3,349,170	$13,931,874
Maintenance of office equipment	$0	$0	$0	$0	$0	$0	$0	$0
Travel	$0	$875	$875	$875	$875	$875	$875	$5,250
Vehicle maintenance and fuel	$500	$62,750	$79,250	$158,500	$191,500	$213,500	$230,000	$936,000
Equipment - operational	$0	$162,500	$325,000	$487,500	$650,000	$812,500	$975,000	$3,412,500
Facilities maintenance and utilities	$0	$57,500	$57,500	$115,000	$115,000	$172,500	$172,500	$690,000
Water pumping	$0	$9,375	$18,750	$28,125	$37,500	$46,875	$56,250	$196,875
Contractors - operational	$25,000	$402,000	$604,000	$806,000	$1,008,000	$1,210,000	$1,412,000	$5,467,000
Recreation - operational	$0	$0	$0	$13,200	$75,700	$75,700	$138,200	$302,800
Operational Subtotal	**$55,794**	**$1,889,930**	**$2,818,865**	**$3,611,970**	**$4,619,905**	**$5,611,840**	**$6,333,995**	**$24,942,299**
Total	**$65,794**	**$3,191,980**	**$3,541,815**	**$5,886,870**	**$6,129,305**	**$8,429,340**	**$8,477,045**	**$35,722,149**

Preserve Staff

Position	Preserve area per position (acres)	Salary per employee per year	Benefit multiplier (percent of salary)	Total cost per employee per year	Number of employees						
					0	1-5	6-10	11-15	16-20	21-25	26-30
Preserve manager		$76,500	32%	$100,980	0.0	1.0	1.0	1.0	1.0	1.0	1.0
Preserve maintenance staff member	3,000	$40,800	32%	$53,856	0	2	4	5	7	9	10
Admin - Secretary		$45,900	32%	$60,588	0.5	0.5	0.5	0.5	0.5	0.5	0.5
				Total FTEs	0.5	3.5	5.5	6.5	8.5	10.5	11.5
				Total cost per year	$30,294.0	$238,986.0	$346,698.0	$400,554.0	$508,266.0	$615,978.0	$669,834.0
				Total cost per 5-year period	$30,294	$1,194,930	$1,733,490	$2,002,770	$2,541,330	$3,079,890	$3,349,170

Office Equipment

Equipment type	Cost per employee per year	Cost of service contract per year	Number of FTEs with equipment						
			0	1-5	6-10	11-15	16-20	21-25	26-30
		Total FTEs	0.5	3.5	5.5	6.5	8.5	10.5	11.5
Office furniture	$4,000		0	3	0	3	6	0	3
Office supplies	$300		0	3	3	6	9	9	9
Computers	$2,500	$0	0	3	3	6	9	9	9
Cell phones	$900	$0	0	3	5	6	8	10	11
Portable radios	$650	$0	0	3	5	6	8	10	11
Mobile radios	$3,000	$0	0	2	3	6	8	9	10
		Equipment (capital) cost per 5-year period	$0	$31,050	$25,150	$56,100	$85,600	$67,700	$84,250
		Maintenance cost per year	$0	$0	$0	$0	$0	$0	$0
		Maintenance total per 5-year period	$0	$0	$0	$0	$0	$0	$0

Assumptions:
There will be 3 offices per field facility - a front area for the secretary, an office for the preserve manager, and a shared office for preserve maintenance staff memebers.
Computers will be replaced every 5 years.
Each vehicle will have a mobile radio.

Travel

Position	Days of travel per year	0	1-5	6-10	11-15	16-20	21-25	26-30
Preserve manager	1	$0	$175	$175	$175	$175	$175	$175
	Total cost per year	$0	$175	$175	$175	$175	$175	$175
	Total cost per 5-year period	$0	$875	$875	$875	$875	$875	$875

Assumptions:

$175 per diem

Note: Travel includes offsite travel. Travel in the course of HCP/NCCP preserve management is covered under the vehicles, maintenance, and fuel cost category below.

Vehicles, Maintenance, and Fuel

	Purchase price per vehicle	Fuel cost per vehicle per year	Maintenance cost per vehicle per year	Number of vehicles						
				0	1-5	6-10	11-15	16-20	21-25	26-30
Total number of FTEs				0.5	3.5	5.5	6.5	8.5	10.5	11.5
New trucks purchased	$21,000	$900	$1,000	0	1	0	1	1	0	1
Old trucks retired				0	0	0	0	1	0	1
Total trucks				0	1	1	2	2	2	2
New 4WDs purchased	$35,000	$1,800	$1,500	0	2	1	3	4	5	5
Old 4WDs retired				0	0	0	0	2	4	4
Total 4WDs				0	2	3	6	8	9	10
New ATVs purchased	$6,000	$250	$300	0	1	0	1	0	2	0
Old ATVs retired				0	0	0	0	0	0	0
Total ATVs				0	1	1	2	2	4	4
New dump trucks purchased	$30,000	$400	$400	0	1	0	1	0	0	0
Old dump trucks retired				0	0	0	0	0	0	0
Total dump trucks				0	1	1	2	2	2	2
New tractors purchased	$40,000	$500	$1,000	0	1	0	1	0	0	0
Old tractors retired				0	0	0	0	0	0	0
Total tractors				0	1	1	2	2	2	2
New auger, mower, scraper for tractor	$40,000	$0	$100	0	1	0	1	0	0	0
Old auger, mower, scraper retired				0	0	0	0	0	0	0
Total auger, mower, scraper				0	1	1	2	2	2	2
New small tractors	$14,000	$300	$300	0	1	0	1	0	0	0
Old small tractors retired				0	0	0	0	0	0	0
Total small tractors				0	1	1	2	2	2	2
New light 4WD vehicles	$10,000	$250	$250	1	0	1	1	1	1	1
Old light 4WD vehciles retired				0	0	1	0	1	1	1
Total light 4WD vehicles				1	1	1	2	2	2	2
Total vehicle purchase cost per 5-year period				$10,000	$221,000	$45,000	$266,000	$171,000	$197,000	$206,000
Total vehicle fuel and maintenance per year				$500	$12,550	$15,850	$31,700	$38,300	$42,700	$46,000
Total vehicle fuel and maintenance per 5-year period				$500	$62,750	$79,250	$158,500	$191,500	$213,500	$230,000

Assumptions:

Cost of 4WD truck includes cost of fire pumper, chain saw, sprayer, and small tool set for vehicle.

Equipment and Materials

	Number of new units bought per period						
	0	1-5	6-10	11-15	16-20	21-25	26-30
New preserve area per period	0	4,983	4,983	4,983	4,983	4,983	4,983
Total preserve area per period	0	4,983	9,967	14,950	19,933	24,917	29,900
Capital cost of equipment and materials per year	$0	$15,000	$30,000	$45,000	$60,000	$75,000	$90,000
Operational cost of equipment and materials per year	$0	$32,500	$65,000	$97,500	$130,000	$162,500	$195,000
Total capital cost per 5-year period	$0	$75,000	$150,000	$225,000	$300,000	$375,000	$450,000
Total operational cost per 5-year period	$0	$162,500	$325,000	$487,500	$650,000	$812,500	$975,000

Assumptions:

$3,000	Capital cost of equipment and materials per 1,000 preserve acres per year.
$6,500	Operational cost of equipment and materials per 1,000 preserve acres per year.

Capital costs include the capital component of fire fighting equipment/gear, small tools (pliers, wrenches, screwdrivers, etc.), glasses, gloves, hard hats, rain gear, irrigation supplies, cargo container, landscape plants and grass, oak trees, lumber, and truck hauling services.

Operational costs include the operational component of fire fighting equipment/gear, small tools (pliers, wrenches, screwdrivers, etc.), glasses, gloves, hard hats, rain gear, irrigation supplies, cargo container, landscape plants and grass, oak trees, lumber, and truck hauling services.
Operational costs also include portable radios, small pumps, piping, generator, saw, and demolition hammers.

Field Facilities

	0	1-5	6-10	11-15	16-20	21-25	26-30
Total preserve area per period	0	4,983	9,967	14,950	19,933	24,917	29,900
Total field offices/parking areas	0	1	1	2	2	3	3
New field offices/parking areas	0	1	0	1	0	1	0
Cost per 5-year period for offices/workshops	$0	$750,000	$0	$750,000	$0	$750,000	$0

Assumptions:

10,000	Number of acres per workshop/parking area
$750,000	Cost to build a workshop/parking area

Note: Field facilities contain an area for equipment storage, a manager's office, a shared office, a locker room, and restrooms.

Facilities Maintenance and Utilities

	Cost per square foot per year	0	1-5	6-10	11-15	16-20	21-25	26-30
Total facilities per period		0	1	1	2	2	3	3
Maintenance cost per year	$7,500	$0	$7,500	$7,500	$15,000	$15,000	$22,500	$22,500
Utilities cost per year	$4,000	$0	$4,000	$4,000	$8,000	$8,000	$12,000	$12,000
Total cost per year		$0	$11,500	$11,500	$23,000	$23,000	$34,500	$34,500
Total cost per 5-year period		$0	$57,500	$57,500	$115,000	$115,000	$172,500	$172,500

Water Pumping

	0	1-5	6-10	11-15	16-20	21-25	26-30
Total preserve area	0	4,983	9,967	14,950	19,933	24,917	29,900
Total cost per year	$0	$1,875	$3,750	$5,625	$7,500	$9,375	$11,250
Total cost per 5-year period	$0	$9,375	$18,750	$28,125	$37,500	$46,875	$56,250

$375	Annual cost for pump and well drilling per 1,000 acres

Contractors - operational

	Contract value per 5-year period						
Contractor category	0	1-5	6-10	11-15	16-20	21-25	26-30
Total pond area	0	8.166666667	16.33333333	24.5	32.6666667	40.8333333	49
Total preserve area	0	4,983	9,967	14,950	19,933	24,917	29,900
Routine dirt road maintenance	$0	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000
Feral pig management	$25,000	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000
Pond maintenance	$0	$49,000	$98,000	$147,000	$196,000	$245,000	$294,000
Weed management	$0	$3,000	$6,000	$9,000	$12,000	$15,000	$18,000
Other maintenance services	$0	$150,000	$300,000	$450,000	$600,000	$750,000	$900,000
Total per 5-year period	$25,000	$402,000	$604,000	$806,000	$1,008,000	$1,210,000	$1,412,000

Assumptions:

$6,000	Cost for pond maintenance (dredging) per acre of pond every 5 years.
$15,000	Cost of dirt road maintenance per 100 miles of road per year.
100	Miles of dirt road present on preserves
$600	Cost of weed management clearing per 1,000 acres of preserve per year.
$6,000	Cost for other maintenance services per 1,000 acres of preserve per year.

Other maintenance services include mowing, grading, pest control, disking for fire breaks, fencing, alarms, janitorial services
(pond maintenance subtracted based on the yearly pond maintenance costs above)

Contractors - capital

	Contract value per 5-year period						
Contractor category	0	1-5	6-10	11-15	16-20	21-25	26-30
Total preserve area	0	4,983	9,967	14,950	19,933	24,917	29,900
Construction services	$0	$225,000	$450,000	$675,000	$900,000	$1,125,000	$1,350,000

Assumptions:

$9,000 Cost for construction services per 1,000 preserve acres per year

Construction services includes roadway design, paving, fencing, grading, weather station, and boundary surveying services

Recreational Facilities

	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Total preserve area per period	0	4,983	9,967	14,950	19,933	24,917	29,900	29,900
Total trailhead facilities	0	0	0	1	1	2	2	2
Cost of trailhead facility construction	$0	$0	$0	$250,000	$0	$250,000	$0	$500,000
Trailhead facility maintenance (yearly)	$0	$0	$0	$0	$12,500	$12,500	$25,000	$50,000
Miles of trail constructed	0	0	5	5	5	5	5	25
Trail construction cost	$0	$0	$52,800	$52,800	$52,800	$52,800	$52,800	$264,000
Trail maintenance cost (yearly)	$0	$0	$0	$2,640	$2,640	$2,640	$2,640	$10,560
Total per five year period	$0	$0	$52,800	$316,000	$128,500	$378,500	$191,000	$1,066,800

Assumptions:

10,000 Number of acres per trailhead facility

$250,000 Cost to build trailhead facilities (parking areas, kiosk, gates, signage, emergency phones, restroom)

5% maintenance cost of trailhead facilities is calculated as a percent of construction costs.

Trailhead facility maintenance costs begin to accrue in the five-year period after original construction

25 miles of trail over entire preserve system

$2.00 construction cost cost per foot of trail

5% maintenance cost per mile of trail is calculated as a % of construction

Trail maintenance costs begin to accrue in the five-year period after original construciton

Monitoring, Research, and Adaptive Management for Maximum Urban Development Area

	Implementation Period (Years)							
Capital costs	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Office equipment	$1,000	$11,350	$12,583	$11,250	$16,583	$7,350	$7,350	$67,467
Vehicle purchase	$7,333	$73,333	$73,333	$36,667	$36,667	$0	$36,667	$264,000
Capital Subtotal	**$8,333**	**$84,683**	**$85,917**	**$47,917**	**$53,250**	**$7,350**	**$44,017**	**$331,467**
Operational Costs								
Monitoring staff	$0	$456,810	$734,100	$734,100	$734,100	$456,810	$456,810	$3,572,732
Vehicle fuel and maintenance	$633	$9,500	$12,667	$12,667	$12,667	$9,500	$9,500	$67,133
Travel	$0	$13,125	$21,875	$21,875	$21,875	$13,125	$13,125	$105,000
Field Data Collection (Contractors)	$0	$1,070,700	$1,601,158	$2,131,617	$2,505,367	$2,879,117	$3,252,867	$13,440,825
Directed research	$0	$375,000	$375,000	$375,000	$375,000	$375,000	$375,000	$2,250,000
Adaptive management	$0	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$900,000
Operational Subtotal	**$633**	**$2,075,135**	**$2,894,800**	**$3,425,259**	**$3,799,009**	**$3,883,552**	**$4,257,302**	**$20,335,690**
Total	**$8,967**	**$2,159,819**	**$2,980,717**	**$3,473,175**	**$3,852,259**	**$3,890,902**	**$4,301,319**	**$20,667,157**

Staff (shared with planning and restoration/creation)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost per 5-year period	$0	$456,810	$734,100	$734,100	$734,100	$456,810	$456,810

Assumptions:
See the planning spreadsheet for more information on staff positions and costs.
0.333333333 Proportion of staff costs that are used for monitoring (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for restoration/creation, and are included in the habitat restoration and creation spreadsheet).

Office Equipment (shared with planning and restoration/creation)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost per 5-year period	$1,000	$11,350	$12,583	$11,250	$16,583	$7,350	$7,350

Assumptions:
See the planning spreadsheet for more information on office equipment costs.
0.333333333 Proportion of office equipment costs that are used for monitoring (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for restoration/creation, and are included in the habitat restoration and creation spreadsheet).

Vehicles and Fuel (shared with planning and restoration/creation)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Vehicle purchase	$7,333	$73,333	$73,333	$36,667	$36,667	$0	$36,667
Vehicle fuel and maintenance	$633	$9,500	$12,667	$12,667	$12,667	$9,500	$9,500

Assumptions:
See the planning spreadsheet for more information on vehicle and fuel costs.
0.333333333 Proportion of vehicle and fuel costs that are used for monitoring (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for restoration/creation, and are included in the habitat restoration and creation spreadsheet).

Travel (shared with planning and restoration/creation)

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost per 5-year period	$0	$13,125	$21,875	$21,875	$21,875	$13,125	$13,125

Assumptions:
See the planning spreadsheet for more information on travel costs.

0.333333333 Proportion of travel costs that are used for monitoring (one third are used for planning, and are included in the planning spreadsheet, and one-third are used for restoration/creation, and are included in the habitat restoration and creation spreadsheet).

Field Data Collection (Contractors)

Total acres of land acquired for preserve system each 5-year period	0	4,983	4,983	4,983	4,983	4,983	4,983
New acres created/restored per 5-year period	0	78	78	78	78	78	78
Total area of preserve covered activities requiring preconstruction surveys and construction monitoring per 5-year period (acres)	0	20	20	20	20	20	20
Number of resotration sites per 5-year period	0	32	32	32	32	32	32

Monitoring type	Cost per unit	Unit		Average area requiring monitoring per year (acres) 0	1-5	6-10	11-15	16-20	21-25	26-30
preconstruction surveys	$1,600	1	site	0	32	32	32	32	32	32
subtotal				$0	$51,200	$51,200	$51,200	$51,200	$51,200	$51,200
construction monitoring	$4,200	1	site	0	3	3	3	3	3	3
subtotal				$0	$13,440	$13,440	$13,440	$13,440	$13,440	$13,440
post-acquisition biological inventories	$15	1	acre	0	4,983	4,983	4,983	4,983	4,983	4,983
subtotal				$0	$74,750	$74,750	$74,750	$74,750	$74,750	$74,750
monitoring: restoration, creation and enhancement sites	$4,000	10	acres	0	0	78	157	157	157	157
subtotal				$0	$0	$31,342	$62,683	$62,683	$62,683	$62,683
status and trends monitoring: key covered species and ecosystems	$15	1	acre	0	4,983	9,967	14,950	19,933	24,917	29,900
subtotal				$0	$74,750	$149,500	$224,250	$299,000	$373,750	$448,500
Total cost per year				$0	$214,140	$320,232	$426,323	$501,073	$575,823	$650,573
Total cost per 5-year period				$0	$1,070,700	$1,601,158	$2,131,617	$2,505,367	$2,879,117	$3,252,867

Assumptions:

Implementing entity monitoring staff will plan, coordinate, and report on the monitoring categories described below.

Contractors will conduct the field monitoring and data analysis.

Implementation monitoring will be conducted by the GIS/Database technician in conjunction with the other monitoring staff. The cost for the GIS/database technician's time will be covered by the program administration cost category. The cost for the monitoring staffs' time is assumed to be included in the other monitoring categories.

Planning survey costs are covered under the land-acquisition spreadsheet.

Preconstruction surveys are assumed to occur prior to construction of covered activites on the Preserve System. Preconstruction surveys are for the following species only: Townsend's big-eared bat, San Joaquin kit fox, golden eagle, burrowing owl, Swainson's hawk, and covered shrimp species. Surveys are assumed to

Construction monitoring is assumed to occur periodically during construction of covered activities and conservation measures. An average of seven visits by one biologist at $75/hour is assumed.

10% % of times construction surveys are aniticipated to be required for covered activities within the preserve system (it is anticipated that Implementing Entity will whenever possible avoid habitat and breeding season of covered species).

0.25 Ratio of area of other covered activities in preserves to area created/restored.

Planning, preconstruction surveys and construction monitoring for covered activities outside of preserves will be paid for by developers.

Post-acquisition inventories will build on planning surveys (see land acquisition spreadsheet). Inventory will include mapping of noxious weeds

Monitoring of restoration, creation, and enhancement sites is assumed to occur 4 times per year and will require two biologists at $100/hr. It wil include species-response monitoring. It is assumed to begin in the 5-year period after the creation/restoration/enhancement takes place.

Status and trends monitoring is assumed to occur after preserve land is purchased through year 30. Status and trend monitoring will build on planning surveys and post-acquisition inventories, when appropriate.

Directed Research

	0	1-5	6-10	11-15	16-20	21-25	26-30
Average cost per year to fund directed research	$0	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000
Total cost per 5-year period	$0	$375,000	$375,000	$375,000	$375,000	$375,000	$375,000

Adaptive Management

	0	1-5	6-10	11-15	16-20	21-25	26-30
Average Independent Conservation Assessment Team cost per 5-year period	0	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000
Average Science Advisors cost per 5-year period	0	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000
Total cost per 5-year period	$0	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000

Assumptions:

Adaptive management experiments are covered under the monitoring staff and directed research categories.

It is assumed that the Independent Conservation Assessment Team will meet once every 4 years and have:

5 members

$5,000 stipend per member per 5-year period

It is assumed that the Science Advisors will contain:

10 members

$12,500 stipend per member per 5-year period

Remedial Measures for Maximum Urban Development Area

	Implementation Period (Years)							
Capital costs	0	1-5	6-10	11-15	16-20	21-25	26-30	**Total**
Remedial measures	$0	$30,000	$30,000	$286,984	$286,984	$286,984	$745,326	$1,666,277
Total	**$0**	**$30,000**	**$30,000**	**$286,984**	**$286,984**	**$286,984**	**$745,326**	**$1,666,277**

Remedial Measures

	0	1-5	6-10	11-15	16-20	21-25	26-30
Cost of created/restored habitat per 5-year period	$0	$2,291,709	$2,291,709	$2,291,709	$2,291,709	$2,291,709	$2,291,709
Cost for remedial measures for created/restored habitat per 5-year period	$0	$0	$0	$229,171	$229,171	$229,171	$687,513
Area of new preserve not including created/restored habitat per 5-year period	0	4,905	4,905	4,905	4,905	4,905	4,905
Cost for remedial measures for preserves per 5-year period	$0	$0	$0	$27,813	$27,813	$27,813	$27,813
Cost for other remedial measures per 5-year period	$0	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
Total cost per 5-year period	$0	$30,000	$30,000	$286,984	$286,984	$286,984	$745,326

Assumptions:

2.0%	Percent of annual preserve management and maintenance cost assumed to be needed for preserve remedial actions.
10%	Percent of created/restored habitat for which remedial measures will be required.
$284	Cost per acre for preserve management and maintenance in years 26-30.

Remedial actions are assumed to occur in the second 5-year period after habitat is created/restored or preserve land is purchased, with the exception of remedial actions for habitat created/restored in years 21-30. The cost for these remedial actions is included in years 26-30 so that it can be included in this cost estimate.

The remedial cost for preserve lands is assumed to be a percentage of the cost per acre for preserve management and maintenance in years 26-30, and is assumed to be needed once, in the second 5-year period after the preserve land is purchased.

The cost for other remedial measures includes the costs for restoration or maintenance of preserve areas because of other changed circumstances, such as wildfire.

Contingency Fund for Maximum Urban Development Area

Contingency Fund

	0	1-5	6-10	11-15	16-20	21-25	26-30	Total
Total cost of program excluding land acquisition	$934,427	$14,393,072	$14,992,153	$17,837,437	$18,285,829	$19,938,331	$20,397,633	$106,778,881
Contingency fund	**$46,721**	**$719,654**	**$749,608**	**$891,872**	**$914,291**	**$996,917**	**$1,019,882**	**$5,338,944**

Assumptions:

5.0% Percent of total program funding needed for contingency fund

Economic &
Planning Systems
Real Estate Economics
Regional Economics
Public Finance
Land Use Policy

TECHNICAL MEMORANDUM

To: John Kopchik, Contra Costa County

From: Teifion Rice-Evans and Jason Tundermann

Subject: NCCP/ HCP Land Cost Data; EPS #11028

Date: August 3, 2006

This technical memorandum describes the results of the land valuation research effort conducted as part of the NCCP/ HCP to estimate land acquisition costs. This technical memorandum includes: (1) planning level estimates of per-acre fee title land values by selected land categories, (2) a description of potential conservation easement costs, (3) an evaluation of potential land value increases over time, and (4) preliminary estimates of total land acquisition costs. The total land acquisition costs are based on the application of the per-acre land values and conservation easement assumptions to the acquisition profile. These land value estimates provide an overall estimate of the funding required to cover land acquisition costs.

PER-ACRE LAND VALUES

This section provides estimates of average per-acre fee title land values for the types of undeveloped land areas that are likely to be conserved as part of the HCP. These per-acre land values represent planning-level estimates of average land values. Average land value estimates are based on their private market value derived, as described below, from either arms-length sales transactions or pro forma residual land value analysis. Actual sales prices of individual properties will vary considerably around these averages based on the specifics of the property. The results of this analysis are presented in the land value matrix shown in **Table 1**. Results are provided for thirteen distinct land categories. The results show both the original 2003 valuation and the 2005 and 2006 updated valuations. The 2006 values are applied in the cost estimates for the HCP/NCCP (see Chapter 9). The original 2003 valuation was based on contemporary comparable sales. The 2005 updated valuation was based on an expanded pool of comparable sales information, including sales through 2004. The 2006 updated

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valuation was performed by applying the change in the Home Price Index (HPI)[1] for the first three quarters of 2005 to the 2005 valuation (only the first three quarters of data were available at the time the Final HCP/NCCP was drafted). The change in the HPI for the first three quarters of 2005 was 16.6%. A similar approach would be used under the HCP/NCCP to update land costs and calculate fee adjustments in future years, though comprehensive fee audits would be performed periodically as well (see Chapter 9 and Appendix H).

Land values vary for a number of reasons. Site size, slope, and land use designation are all key determinants of land value. Thirteen per-acre land value estimates were developed for different land categories based on variations in these factors. As shown in **Table 2,** land value categories are defined by the following factors: (1) land use designation, as indicated by whether inside or outside the Urban Limit Line (ULL), the nature of the ULL (near a city/community or surrounding the airport), and whether land inside the ULL is currently designated for development; (2) parcel size for areas outside the ULL; and (3) slope differentiated by below 15 percent, between 15 and 26 percent, and above 26 percent. As shown, on average, the highest per-acre values are commanded by land inside or adjacent to cities or unincorporated communities and designated for development. Small parcels of below ten acres in size generally close to cities and suitable for rural estate development also have high per-acre values. The lowest average land values apply to those parcels outside the ULL with steep topography and/or large parcels sizes. These results represent averages and deviations will occur depending on specific site characteristics. The land value matrix and the supporting land value research are described in more detail below.

OUTSIDE URBAN LIMIT LINE

Land outside the ULL, including categories 1 through 6, is distinguished from each other by their size (which is also generally correlated with their proximity to urbanized areas) and their slope. This land obtains a significant portion of its value from its potential as rural residential homesites with agricultural/ grazing use providing an underlying component of value. The methodology applied to estimate the land values associated with these land categories follows the "comparables approach" to land valuation. Under this approach, land transactions of a similar size and type are used as indicators of value. The results from this approach were cross-checked against information provided by East Contra Costa County (East County) real estate and land brokers.

Relevant comparables were obtained from appraisals of land over the last seven years and from County Assessor parcel transactions data for the last four years. In some cases appraisers used land transactions to the south of I-580 due to the limited number of sales in the East County area. The comparables for different parcel sizes are shown in **Tables 2, 3 and 4**, with assumed average per-acre land values as follows:

[1] The Home Price Index for the Oakland-Fremont-Hayward, CA Metropolitan Division (Office of Federal Housing Enterprise Oversight). See http://www.ofheo.gov/HPI.asp.

1. Over 120 acres, portions less than 26 percent slope: Large parcels of over 120 acres in the East County generally fall in remote and hilly areas. As shown in **Table 2**, comparables fall within the $2,500 to $6,200 per-acre price range in 2004 dollar terms, with more recent transactions commanding significantly higher price points. For the 2005 updated valuation, an average land value of $4,800 per acre was assumed. This value is above the sales prices of the older transactions, similar to the recent transaction in the East County, and below the transaction closer to Moraga. Land values of these parcels are driven by a mix of agricultural/ grazing and rural residential market values. This represents an increase of 37 percent over the 2003 estimates, a ratio that was applied in some of the following categories. Applying the 16.6% increase in the HPI for the 2006 valuation results in an average land value of $5,600 per acre.

2. Between 40 and 120 acres, portions less than 26 percent slope: Medium-sized parcels in the 40- to 120-acre range often derive their value from their potential as rural residential homesites, often with small-scale, lifestyle equestrian or ranching uses. A component of value is also related to agricultural use. **Table 3** shows some sales transactions in this size range and slightly below prior to 2003. Given the limited number of comparables especially at the higher end of the range, an average land value of $6,000 per acre was assumed, slightly below the average of the noted sales. These values are 2003 values and were increased by 37 percent to derive the current land value of $8,200 per acre. Applying the 16.6% increase in the HPI for the 2006 valuation results in an average land value of $9,600 per acre.

3. Between 10 and 40 acres, portions less than 26 percent slope: Small-/ medium-sized parcels in the 10- to 40-acre range derive most of their value from their potential as rural residential homesites and small hobby farms. As shown in **Table 4**, comparable sales prices prior to 20003 ranged widely from $130,000 to $640,000 per parcel, with a weighted average land value of about $20,200 per acre. The farther away from the major arterials and other infrastructure, the higher the associated infrastructure costs and hence the lower the land value. These values are 2002/ 2003 values and were increased by 37 percent to derive the current land value of $27,400 per acre. Applying the 16.6% increase in the HPI for the 2006 valuation results in an average land value of $31,900 per acre.

4. Between 5 and 10 acres, portions less than 26 percent slope: Small parcels in the five- to ten-acre range that lie close to urbanized areas derive their value from their potential as rural residential homesites. As shown in **Table 4**, most sales prior to 2003 were in the $150,000 to $300,000 range per parcel, with an average value of about $36,700 per acre. For the purposes of this analysis, an average land value of $35,000 per acre was assumed. This land value was increased by 37 percent to derive a current $48,000 per acre value. Applying the 16.6% increase in the HPI for the 2006 valuation results in an average land value of $56,000 per acre.

5. Less than 5 acres, portions less than 26 percent slope: A minimal number of parcels of this size might be acquired as part of the acquisition strategy to fill

gaps between larger parcels. It was assumed that these parcels would command a per-acre land value premium above the parcels in the 5- to 10-acre size, so a $50,000 per-acre average 2003 land value was assumed. This land value was increased by 37 percent to represent a $68,600 per acre value. Applying the 16.6% increase in the HPI for the 2006 valuation results in an average land value of $80,000 per acre.

6. Parcels with whole area over 26 percent slope: Many parcels in the HCP study areas have portions of land with a slope over 26 percent. A small number of parcels are very steep throughout the site. These parcels will have lower land values due to the greater costs of developing rural homesites and the greater challenges for agricultural use. These parcels were assigned a 2003 cost of $3,000 per acre, the lowest per-acre cost of all land value categories. This land value was increased by 10 percent to derive a current land value of $3,300 per acre. Applying the 16.6% increase in the HPI for the 2006 valuation results in an average land value of $3,800 per acre.

INSIDE URBAN LIMIT LINE

Lands inside the ULL, including categories 7 through 13, are distinguished from each other by development designation and associated timeline to development, by slope, and by whether the lands are included in the ULL around the Byron Airport or included in another area closer to existing communities. Most of the defined categories refer to land inside or adjacent to cities or unincorporated communities. One category refers to land inside the Byron Airport ULL. This category is treated separately as the potential use types are different, the area is not adjacent to existing communities and the airport has conducted its own analysis of the likely cost of purchasing land for its clear zone. For land inside or adjacent to cities or unincorporated communities, a distinction is made between land with and without development designations under the relevant jurisdiction's current General Plan. Land with development designations at the current time will, on average, develop sooner.

Land inside or adjacent to cities or unincorporated communities derives its value from its speculative, urban development potential. The land valuation methodology applied follows the "income approach." Under this approach, estimates of the value of fully entitled land are discounted based on the expected time before all entitlements will be obtained and development can proceed. Residential development represents the majority of land development and so the analysis focuses on entitled residential land.

More specifically, the potential income from the sale of an entitled acre of raw land is derived from the total development value of this acre (based on the average sales price of a new home and the average number of units constructed per gross acre) and the average ratio of raw, entitled land to total development value. This raw, entitled land value is, in turn, discounted at a discount rate that accounts for the loss in value associated with the time lag before the average parcel of land will be entitled and land sale income obtained. Land value estimates are made assuming level sites. The values for areas with slopes in the 15 to 26 percent and 26 percent and above categories are then

reduced due to the higher development costs associated with steeper sites. **Table 5** shows the residual land value estimates for level land and the sections below discuss the average per-acre land values attributed to each category:

7. Level sites not designated for development: As shown in **Table 5,** a raw, entitled acre of land had an estimated value of $185,000 in the 2003 valuation. The average parcel of land in this category is assumed to be developed in the next 15 to 30 years and is an average of 22.5 years away from development. Discounting at 12 percent, the average land value per acre is about $14,500 per acre. From the 2003 to the 2005 valuation, the change in the average sales price and lot size of new single family homes increased average land value by 26 percent to $18,300 per acre for the 2005 valuation. Applying the 16.6% increase in the HPI for the 2006 valuation results in an average land value of $21,300 per acre.

8. Sites with slopes in the 15 to 26 percent range not designated for development: These sites still have development potential and in some cases homes can command higher prices. Costs of development will, however, be higher, and, as a result, average land values will generally be lower than level sites. A 40 percent reduction in land value is applied to the level site value for a 2003 average per-acre land value of $10,100. Applying the estimated average land value increase from the 2003 to the 2005 valuation results in an average land value of $12,700 per acre for the 2005 valuation. Applying the 16.6% increase in the HPI for the 2006 valuation results in an average land value of $14,800 per acre.

9. Sites with slopes over 26 percent not designated for development: These sites have less development potential but do provide amenity value for surrounding areas. A 75 percent reduction in land value is applied to the level site value for an average 2003 per-acre land value of $3,600. Applying the estimated average land value increase from the 2003 to the 2005 valuation results in an average land value of $12,700 per acre for the 2005 valuation. Applying the 16.6% increase in the HPI for the 2006 valuation results in an average land value of $5,200 per acre.

10. Level sites designated for development: As shown in **Table 5,** a raw, entitled acre of land has an estimated value of $185,000. The average parcel of land in this category is assumed to be developed in the next 25 years and is an average of 12.5 years away from development. Discounting at 12 percent, the average 2003 land value per acre is about $45,000 per acre. Applying the estimated average land value increase from the 2003 to the 2005 valuation results in an average land value of $56,800 per acre for the 2005 valuation. Applying the 16.6% increase in the HPI for the 2006 valuation results in an average land value of $66,200 per acre.

11. Sites with slopes in the 15 to 26 percent range designated for development: These sites still have development potential and in some cases can command higher prices. Costs of development will, however, be higher, and, as a result, average land values will generally be lower than level sites. A 40 percent reduction in land value is applied to the level site value for an average 2003 per-

acre land value of $31,500. Applying the estimated average land value increase from the 2003 to the 2005 valuation results in an average land value of $39,800 per acre for the 2005 valuation. Applying the 16.6% increase in the HPI for the 2006 valuation results in an average land value of $46,600 per acre.

12. Sites with slopes over 26 percent designated for development: These sites have less development potential but do provide amenity value for surrounding areas. A 75 percent reduction in land value is applied to the level site value for an average per-acre land value of $11,300. This likely represents a conservatively high estimate. Applying the average home price increase from the 2003 to the 2005 valuation results in an average land value of $14,300 per acre for the 2005 valuation. Applying the 16.6% increase in the HPI for the 2006 valuation results in an average land value of $16,600 per acre.

13. Sites inside Byron Airport Limit Line: These sites have different potential uses from sites inside or adjacent to cities or unincorporated communities. An average land value of $8,000 per acre was recently estimated by the airport for the cost of acquiring land for a clear zone inside its ULL. This estimate is applied for the purposes of this analysis. Applying the estimated average land value increase from the 2003 to the 2005 valuation results in an average land value of $8,800 per acre for the 2005 valuation. Applying the 16.6% increase in the HPI for the 2006 valuation results in an average land value of $10,300 per acre.

CONSERVATION EASEMENT LAND VALUES

The purchase of conservation easements rather than fee title acquisitions can reduce acquisition costs. Their applicability, however, is limited by a number of factors. For example, in cases where development potential is high, the value differential between fee title and conservation easement can be too low to justify the administrative effort. Alternatively, landowners seeking to divest all interests in their land remain primarily interested in fee title sales. Conservation easement efforts in areas such as the East County where there is little precedent of conservation easement sales often require a significant informational outreach effort. Most conservation easement acquisitions command prices at between 25 and 75 percent of the land's fee title value.

The purchase of conservation easements, rather than fee title purchase, represents the acquisition of a subset of legal rights associated with the land. Agricultural conservation easements generally represent the acquisition of development rights associated with the land. Conservation easements are similar to agricultural conservation easements, though often also include the acquisition of the rights for certain kinds of other activity, including some agricultural and grazing uses if these are seen to conflict with the conservation goals. Parcel ownership and the right to sell remain with the existing landowner, though the easement stays with the land however it is transferred.

The area considered most suitable for conservation easement acquisitions is the agricultural core area to the east of the cities of Brentwood and Oakley. Still, as mentioned above, only certain landowners will be interested in both raising capital

through the sale of development and rights and continuing to farm. If a strategy of acquiring easement acquisitions where possible was successful, it could result in an overall cost saving of about 10 percent in land acquisition costs relative to the fee title land values in this area. The cost estimate for the HCP/NCCP assumes no cost-savings through easement purchases.

LAND VALUE INFLATION

The land values presented above represent average land values at the current time. Over time, land values fluctuate due to economic and demographic growth, business and real estate cycles, urban expansion, housing and land use preferences, changes in land use regulation, and conservation efforts. While precise predictions of land value fluctuations over the course of NCCP/HCP implementation are not possible, the funding mechanisms established must be flexible enough to accommodate the inevitable changes. Gross estimates of potential land value inflation based on historical data can serve to inform the selection of funding sources and to indicate the level of flexibility that may be required in these sources. The overall level of conservation required to meet the NCCP/HCP acquisition goals does not require a rate of acquisition significantly above past levels and is therefore not expected to lead to a higher rate of land value inflation than in the past. As described below, historical increases in land value in the East County, both inside and outside the ULL, have likely increased at an average annual rate of a little over 5 percent, equivalent to a real increase (increase over-and-above general inflation) of about 2.5 percent.

INSIDE THE ULL

Changes in housing prices can serve as a useful proxy for changes in land values in areas where land value is driven by residential development potential. While the precise relation between home prices and land values vary, they are closely tied. Given the likelihood that the majority of land consumption inside the ULL will be associated with single-family home development, historical changes in the average single-family home price in the East County provide an estimate of historical changes in land value. This estimate of historical change in land value likely provides the best estimate of future changes in land value. As shown in **Table 6**, the average single-family home price in the four East County cities fluctuated with the business and real estate cycles, and increased at an average of 5.2 percent between 1991 and 2002. About 2.8 percent of this increase is equivalent to the general rate of inflation over this period, while the remaining 2.4 percent increase represents a real increase in land values, over-and-above inflation.

OUTSIDE ULL

Changes in land values outside the ULL are even harder to predict. The value of parcels less than 40 acres is primarily driven by the demand for and supply of small and medium-sized rural residential homesites. The demand for these homesites is driven by growth in the regional economy and the number of new, relatively affluent worker-households seeking to live in the East County. Given that the demand for urban homesites is also driven by expansions in the regional economy, the rate of land value inflation for these land categories is more likely to increase in line with areas inside the ULL than with the large parcels outside it. As a result, estimates of land inflation follow those outlined above.

Changes in land value for large, remote parcels are the hardest to predict given the highly speculative nature of the rural residential homesite component of their value and the ever-fluctuating nature of the agricultural markets and their associated land value contribution. The East Bay Regional Park District has been acquiring land throughout Alameda and Contra Costa Counties since 1934, and changes in land acquisition costs can, at least, provide some indication of historical changes in land values.[2] **Table 7** shows changes in the total number of acres, the total acquisition cost, and the average price per acre of purchasing land for the regional preserve parks between 1967 and 2000. Regional preserve land was selected as it represents the land with the highest environmental values, and is thus most in line with the likely HCP acquisitions. As shown in **Table 7**, the average price per acre, in inflation adjusted terms, fluctuated between the three periods, and showed an average annual increase of 2.6 percent. This represents a real increase over-and-above the general rate of inflation over this period. Price increases the last two years have been well above the average.

LAND ACQUISITION COSTS

The average per-acre land value estimates (above) were applied to develop estimates of total potential land acquisition costs. Acquisition cost estimates do not include expected land cost inflation. It is assumed that funding sources/ fees will be increased as necessary to cover increases in costs through time. A summary of the cost estimates is shown in **Table 8**. The results are described below:

- Total HCP land costs for the Initial Permit Area are estimated at about $177 million.
- Total HCP land costs for the Maximum Permit Area are estimated at about $220 million.
- The key cost differences between the Initial Permit Area and Maximum Permit Area strategies occur in Acquisition Analysis Zones 4, 5, and 6.

[2] This approach is imperfect given changes in EBRPD acquisition goals and strategies over time and the more limited number of potential acquisitions available over time as more land is developed and/or conserved in the region.

- Between the 2005 and 2006 valuations, acquisition priorities also changed, so the 16.6% change in the HPI does not explain all the differences between the 2005 valuation included in the Draft HCP/NCCP and the 2006 valuation presented in Table 8.

Table 1

Average Per Acre Land Values
East Contra Costa County Habitat Conservation Plan

Category #	Size	Slope	Other	Per Acre Land Value (2003 Valuation)	Per Acre Land Value (2005 Valuation)	Percent Change (2003 to 2005)	Per Acre Land Value (2006 Valuation)	Percent Change (2005 to 2006)
OUTSIDE URBAN LIMIT LINE		Whole Parcel						
1.	120 acres+	< 26%	na	$3,500	$4,800	137%	$5,600	116.6%
2.	40 -120 acres	< 26%	na	$6,000	$8,200	137%	$9,600	116.6%
3.	10 - 40 acres	< 26%	na	$20,000	$27,400	137%	$31,900	116.6%
4.	5 - 10 acres	< 26%	na	$35,000	$48,000	137%	$56,000	116.6%
5.	0 - 5 acres	< 26%	na	$50,000	$68,600	137%	$80,000	116.6%
6	ALL	> 26%	na	$3,000	$3,300	110%	$3,800	116.6%
INSIDE URBAN LIMIT LINE		Percentages of Parcel						
7.	na	<15%	Not Now Designated for Development	$14,500	$18,300	126%	$21,300	116.6%
8.	na	15-26%	Not Now Designated for Development	$10,100	$12,700	126%	$14,800	116.6%
9.	na	>30%	Not Now Designated for Development	$3,600	$4,500	125%	$5,200	116.6%
10.	na	<15%	Designated for Development	$45,000	$56,800	126%	$66,200	116.6%
11.	na	15-26%	Designated for Development	$31,500	$39,760	126%	$46,400	116.6%
12.	na	>26%	Designated for Development	$11,300	$14,263	126%	$16,600	116.6%
INSIDE URBAN LIMIT LINE - BYRON AIRPORT								
13.	na	na	na	$8,000	$8,800	110%	$10,300	116.6%

Source: Variety of Appraisals; County Assessor data; Home Sales Prices and Residual Land Value Analysis;
Adjusted for 2005 valuation based on recent appraisals and new home price data;
Adjusted for 2006 valuation by applying change in HPI (see text).
Economic & Planning Systems, Inc.

Table 2
Sales over 120 Acres (1)
East Contra Costa County Habitat Conservation Plan

	Project Name/Grantor	Location (2)	# of Parcels	Zoning	Land Use	Infrastructure	Topography	Sales Date	Acres	Sales Price (2005 Dollars) (3)	Price per Acre (2005 Dollars)
Recent Land Transactions											
1	Souza Property	Howden Road (Brentwood)	3	A-2 / AL	Ag/Wind energy	Access from Vasco Road; some water from springs and creeks	Rolling hills	Sep-04	631	$2,924,685 (land value exc. wind turbine leases)	$4,635
2	Gleason Property	Bollinger Canyon Road (Moraga)	10	A-2	--		Steep slopes	Aug-03	673	$4,137,510 (land value)	$6,148
	Average										**$5,391**
East Contra Costa County											
3	Clayton Ranch	Marsh Creek Road (Clayton)	5	A-2	Ag/ranching/ grazing	Road frontage 5mi to Clayton T/E available W/S unavail.	8-50% grades 20% avg slope	Dec-99	1,031	$2,439,009	$2,366
4	Foskell Trust	Marsh Creek Road (Antioch)	3	A-2	--	Indirect access 3mi to Ant/Brent No W/S	20-65% grades 20% avg slope	Dec-99	1,581	$3,748,160	$2,370
5	Garaventa Trust	Empire Mine Rd (Antioch)	4	A-2	--	Indirect access 1mi to Antioch ULL No W/S	15-65% grades 25% avg slope	Feb-98	772	$2,814,568	$3,646
Other Contra Costa/ Alameda County											
6	Weaver Ranch	Laughlin Rd (Livermore)	4	A-100; A-160	Ranchette/Ag (public use: Open Space)	Road frontage No W/S 3.5mi to Livermore	20-45% grades 30% avg slope	Nov-99	1,121	$3,976,253	$3,549
8	Christensen	9530 Morgan Territory Rd. (Livermore)	1	A-80	--	--	--	Jul-99	127	$577,130	$4,552
9	Sky Ranch (portion)	8749 Norris Canyon Rd (Castro Valley)	3	A-100	--	Road frontage No W/S	20-50% grades	Nov-98	775	$2,308,518	$2,978
10	Sky Ranch (portion)	Dutra Road (Martinez)	1	A-2	Grazing	Dirt Access Road; Well 4mi to Castro Valley	Moderate/ Steep	Jul-98	242	$832,807	$3,448
11	Elworthy	Johnson Rd. (San Ramon)	7	A-80	--	Road frontage No W/S 2mi to San Ramon	15-70% grades 30% avg slope	Jun-98	1,189	$6,075,774	$5,108
12	Scott Machado	7898 Hollis Canyon Rd (Dublin)	2	A	--	--	--	Jan-98	159	$607,896	$3,823
13	1934 Trust	Flynn Rd. (Livermore)	8	A,B,E-160	--	Road frontage 1.5mi to Livermore	15-35% grades 25% avg slope	Jun-97	873	$2,352,015	$2,694
14	Depaoli	Altamont Pass (Livermore)	3	A	--	--	--	May-97	860	$2,352,015	$2,734
15	Williamson Trust	Palomares Rd. (Castro Valley)	1	A	--	--	--	May-96	376	$2,093,156	$5,563
	Average										**$3,569**

(1) Includes sales in the nine years prior to 2005 of over 120 acres in the East County as well as sales in Central County and eastern Alameda County considered comparable to land in the East County. All data from sales comparables used for appraisals of land in the East County.
(2) Closest city stated in parentheses.
(3) Inflated based on consumer price index for western region.

Sources: Variety of Appraisals; Economic & Planning Systems, Inc.

Table 3
Transaction Data for Sales between 10 and 80 Acres (1)
East Contra Costa County Habitat Conservation Plan

#	Closest City	Zoning	Land Use	Sales Date	Acres	Sales Price (2002 Dollars)	Price per Acre	Source
1	Clayton	A-4	Agricultural	November-00	80	$421,053	$5,263	Appraisals
2	Clayton	A-2	Pasture	November-01	66	$172,627	$2,618	County Assessor Data
3	Pittsburg		Agricultural (nec)	November-01	61	$291,435	$4,749	County Assessor Data
2	Clayton	A-2	Unknown	December-98	39	$290,998	$7,479	Appraisals
3	Clayton	A-2	Unknown	September-98	38	$251,825	$6,629	Appraisals
4	Danville	A-2	Pasture	February-99	33	$130,728	$3,929	County Assessor Data
5	Byron	A-3	Agricultural (nec)	June-02	26	$540,000	$21,102	County Assessor Data
6	Byron	A-2	Agricultural (nec)	December-99	25	$623,138	$24,611	County Assessor Data
7	Clayton	A-2	Pasture	February-02	23	$350,000	$15,237	County Assessor Data
8	Antioch		Agricultural (nec)	September-02	23	$363,500	$16,020	County Assessor Data
9	Brentwood	A-2	Pasture	May-02	21	$325,000	$15,476	County Assessor Data
10	Bay Point		Agricultural (nec)	August-02	20	$395,000	$19,750	County Assessor Data
11	Clayton	A-2	Agricultural (nec)	August-99	20	$163,410	$8,320	County Assessor Data
12	Clayton	A-2	Vacant Land (nec)	November-01	17	$177,704	$10,453	County Assessor Data
13	Antioch		Agricultural (nec)	September-02	13	$363,500	$28,510	County Assessor Data
14	Byron	A-3	Agricultural (nec)	October-02	12	$329,000	$26,362	County Assessor Data
15	Brentwood	A-3	Pasture	July-01	12	$195,475	$16,036	County Assessor Data
16	Brentwood	A-2	Agricultural (nec)	June-01	11	$377,748	$32,962	County Assessor Data
17	Brentwood	A-2	Agricultural (nec)	June-01	11	$377,748	$32,962	County Assessor Data
18	Byron	A-2	Pasture	October-99	11	$261,456	$23,943	County Assessor Data
	Weighted Average						**$11,371**	

(1) Transaction data from County Assessor land transaction database and appraisals over the four years prior to 2003.

Source: First American Real Estate Solutions (FARES) - County Assessor Data; Economic & Planning Systems.

Table 4
Transaction Data for Sales between 5 and 10 Acres (1)
East Contra Costa County Habitat Conservation Plan

#	Closest City	Zoning	Land Use	Sales Date	Acres	Sales Price (2002 Dollars)	Price per Acre
1	Byron	A-3	Agricultural Land	April-02	10	$267,000	$26,673
2	Brentwood	--	Agricultural (nec)	June-02	10	$210,000	$20,979
3	Brentwood	A-3	Agricultural (nec)	May-02	10	$275,000	$27,500
4	Clayton	A-2	Pasture	April-00	10	$218,947	$21,895
5	Byron	A-3	Agricultural Land	October-99	10	$217,880	$21,788
6	Brentwood	A-2	Agricultural Land	November-99	8	$147,069	$17,913
7	Clayton	A-2	Agricultural Land	February-02	8	$370,000	$46,020
8	Pittsburg	--	Vacant Land (nec)	August-02	7	$407,000	$58,646
9	Antioch	--	Agricultural (nec)	October-02	6	$313,500	$48,984
10	Brentwood	--	Agricultural Land	April-02	6	$240,000	$42,105
11	Byron	--	Agricultural Land	July-01	5	$241,678	$44,508
12	Clayton	A-2	Agricultural Land	July-01	5	$167,550	$31,494
13	Byron	--	Agricultural Land	April-02	5	$250,000	$47,801
14	Byron	A-3	Agricultural Land	October-99	5	$185,198	$35,547
15	Byron	A-3	Agricultural Land	July-00	5	$173,684	$33,401
16	Clayton	A-2	Agricultural Land	July-02	5	$150,000	$29,586
17	Brentwood	--	Agricultural (nec)	August-02	5	$200,000	$39,761
18	Brentwood	A-2	Agricultural Land	January-99	5	$136,175	$27,073
19	Byron	--	Agricultural Land	June-01	5	$233,554	$46,618
20	Byron	A-3	Agricultural Land	August-02	5	$210,000	$42,000
21	Clayton	A-2	Agricultural Land	November-98	5	$167,883	$33,577
22	Clayton	--	Agricultural Land	February-00	5	$132,105	$26,421
23	Brentwood	A-2	Agricultural Land	July-01	5	$152,318	$31,406
24	Brentwood	--	Agricultural (nec)	October-02	5	$272,500	$57,008
25	Brentwood	A-2	Agricultural Land	October-99	5	$179,751	$37,922
	Weighted Average						**$34,234**

(1) Transaction data from County Assessor land transaction database over last four years.

Source: First American Real Estate Solutions (FARES) - County Assessor Data; Economic & Planning Systems.

Table 5

Inside the ULL Per Acre Land Value Calculation (Category IV and V)
East Contra Costa County Habitat Conservation Plan

Item	Value		Source
Average Sales Price Per Single Family Unit	$410,000	a	New Residential Project Sales Prices, including Shea, Seeno, and KB Homes
Units per Gross Acre	5	b	Average Lot Size of 7,000 sqft and net to gross ratio of 80 percent
Total Development Value	$2,050,000	c=a*b	Calculated
Raw Entitled Land Value as % of Development Value	9.0%	d	Based on standard 10 percent ratio, adjusted down slightly based on real estate broker conversations
Raw Entitled Land Value	$185,000	e=c*d	Calculated
Discount Rate	12%	f	Average land speculator discount rate
Category IV - 12.5 years to entitlement/ development	$45,000	g=e/(1+f)^12.5	Calculated
Category IV - 22.5 years to entitlement/ development	$14,500	h=e/(1+f)^22.5	Calculated

Sources: Selected Residential Developers with projects active in the East County; Selected East County Real Estate Brokers; Economic & Planning Systems, Inc.

Table 6
Average Home Prices, Single Family Homes, Contra Costa County (1991-2002)
East Contra Costa County Habitat Conservation Plan

Jurisdiction	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Avg. Ann. Increase *(Nominal $$)*	Avg. Ann. Increase (1) *(2002 $$)*
Antioch	$171,897	$179,787	$168,391	$165,073	$155,613	$154,710	$147,482	$159,628	$179,906	$213,359	$263,214	$286,596	4.76%	1.95%
Brentwood	$190,113	$207,342	$198,886	$179,853	$179,927	$193,355	$199,391	$206,595	$225,378	$267,364	$322,091	$333,808	5.25%	2.45%
Oakley	$161,162	$161,429	$159,884	$157,452	$146,658	$144,961	$143,808	$150,855	$176,437	$205,434	$245,650	$273,152	4.91%	2.11%
Pittsburg	$135,878	$144,800	$134,318	$132,779	$129,813	$138,140	$125,689	$136,340	$150,459	$186,269	$223,418	$258,182	6.01%	3.20%
ECCC (2)	$164,763	$173,340	$165,370	$158,789	$153,003	$157,792	$154,093	$163,355	$183,045	$218,107	$263,593	$287,935	5.21%	2.40%

(1) Average rate of inflation over the period was 2.8 percent. Constant dollar increase equals nominal increase minus inflation.
(2) East Contra Costa County numbers are the average of Antioch, Brentwood, Oakley, and Pittsburg numbers.

Sources: RAND; U.S. Department of Labor - Bureau of Labor Statistics; Economic & Planning Systems, Inc.

Table 7
Changes in EBRPD Land Acquisition Costs for Regional Preserve Areas
East Contra Costa Habitat Conservation Plan

Item	1967-77	1978-88	1989-2000	Avg. Ann. Increase
Acres Acquired	13,729	12,259	9,483	--
Total Price Paid	$21,987,992	$13,134,556	$26,961,688	--
Average Price per Acre	$1,602	$1,071	$2,843	2.6%

Sources: East Bay Regional Park District; Economic & Planning Systems, Inc.

Table 8
Etimated Land Acquisition Costs (2006 valuation)
East Contra Costa County Habitat Conservation Plan

Acquisition Analysis Zone	Initial Permit Area Cost	Maximum Permit Area Cost
Zone 1	$16,688,001	$16,688,000
Zone 2	$72,157,000	$72,767,000
Zone 3	$3,494,000	$3,494,000
Zone 4	$35,114,000	$50,301,000
Zone 5	$43,530,000	$63,617,000
Zone 6	$5,532,000	$11,281,000
Total	$176,970,000	$220,005,000

Source: Contra Costa County; Jones & Stokes; Economic & Planning Systems, Inc.

East Contra Costa County HCP/NCCP
Wetland and Stream Restoration
Cost Data and Assumptions

Cost Category	Notes	All types (same cost)	Riparian Restoration (note 9)	Stream Impact (note 10)	Perennial wetland Restoration	Seasonal wetland Restoration	Alkali wetland Restoration	Slough/ channel Restoration	Open Water Impact (Pond Creation)	Pond Impact & Creation	
		Estimated cost per acre or linear feet of restoration/creation by land cover type									
Unit		Acres	Acres	Linear Ft	Acres	Acres	Acres	Acres	Acres	Acres	
Staff salary and benefits	1	$ 3,000									
Office equipment	2	$ 150									
Vehicle purchase, fuel, maintenance	2	$ 1,000									
Staff travel	2	$ 100									
Plans and specifications		$ 2,250									
Bid assistance	3	$ 300									
Environmental compliance	4	$ 2,500									
Pre-construction surveys		$ 750									
Construction	5		$ 25,000	$ 260	$ 40,000	$ 45,000	$ 41,700	$ 54,000	$ 45,000	$ 45,000	
Construction oversight and monitoring		$ 2,500									
Post-construction maintenance	6	$ 6,000									
Remedial measures	7		$ 3,750	$ 39	$ 6,000	$ 6,750	$ 6,255	$ 8,100	$ 6,750	$ 6,750	
Contingency (20%)	8		$ 9,460	$ 77	$ 12,910	$ 14,060	$ 13,301	$ 16,130	$ 14,060	$ 14,060	
Total per acre cost for restoration		$ 18,550	$ 56,760	$ 465	$ 77,460	$ 84,360	$ 79,806	$ 96,780	$ 84,360	$ 84,360	
Total per linear ft cost for restoration		$ 89									
Mitigation requirement (see Table 5-20)			1:1	1:1	1:1	2:1	2:1	1:1	1:1	1:1	
Fee per acre of impact			$ 56,760	$ 465	$ 77,460	$ 168,720	$ 159,612	$ 96,780	$ 84,360	$ 84,360	
Fee for Draft HCP/NCCP (Rounded up to nearest $1,000)			$ 57,000	$ 465	$ 78,000	$ 169,000	$ 160,000	$ 97,000	$ 85,000	$ 85,000	
Fee for Final HCP/NCCP	14		$ 58,140	$ 474	$ 79,560	$ 172,380	$ 163,200	$ 98,940	$ 86,700	$ 86,700	
Estimated Revenue											**Total**
Est. Impacts (Initial UDA; Table 5-16)	15		30	3168	74	14	9	73	17	7	224
Est. Fee Revenue (Initial UDA)			$ 1,744,200	$ 1,502,582	$ 5,887,440	$ 2,378,844	$ 1,419,840	$ 7,222,620	$ 1,473,900	$ 606,900	**$ 22,236,326**
Est. Impacts (Max UDA; Table 5-17)	15		35	4224	75	16	10	73	17	8	233
Estimated Revenue (Max UDA)			$ 2,034,900	$ 2,003,443	$ 5,967,000 (note 11)	$ 2,689,128 (note 12)	$ 1,566,720 (note 13)	$ 7,222,620	$ 1,473,900	$ 693,600	**$ 23,651,311**

Key Assumptions

15% Percent of construction costs needed for remedial measures

Notes

1: Implementing Entity staff will select restoration/creation sites, hire and oversee consultants for plans/specs and implementation, and conduct some monitoring
2: These program costs are shared with other tasks; the amount listed is the estimated portion that will support wetland mitigation creation/restoration
3: Assistance in preparing bid solicitations for construction contractors
4: Environmental compliance is assumed to be needed on up to 50% of restoration projects
5: Construction costs are revised from Prelim. Working Draft HCP/NCCP. Construction costs depend mostly on the amount, depth, and linear extent of earthwork expected, and whether water control structure are required. Plant propagation, seeding, and watering also included.
The estimate of construction costs is a planning tool to assess the level of effort required to perform the work.
Actual construction costs may vary from the above estimates because of competitive bidding, negotiations with the client, or fluctuations in market prices.
6: Only assumed for the first 3 years after construction to maintain irrigation systems, conducting weeding, etc.; management of the restoration site after success criteria are met is included in basic development fee
7: An average of 15% of construction costs will be required for remedial measures.
8: A higher contingency is used for wetland restoration because of the higher degree of uncertainty in this portion of the conservation program
9: Construction costs for riparian restoration includes collection of seeds, cuttings, and other plant material; plant propagation; planting; minor earthwork to prepare ground; installation of temp. irrigation systems. Major earthwork associated with bank stabilization or other stream work is covered by the stream impact fee.
10: Stream impact fee will be used for either stream restoration (if sites available) or off-stream pond creation; for stream restoration, includes major earthwork including bank stabilitization, spillway armoring, or geotextile mats. Impacts to streams greater than 25-feet wide (measured between top of bank) pay 1.5X the stream fee ($700/linear foot) to account for higher construction costs
11: Perennial wetland impacts of 100 acres were estimated to be 50 acres wetted acres subject to wetland fee
12: Impacts to wetted acres of seasonal wetlands subject to the fee were estimated to be 1/3 of impacts to seasonal wetland complexes
13: Impacts to wetted acres of alkali wetlands subject to the fee were estimated to be 1/3 of impacts to alkali wetland complexes
14: Applied 2005 CPI of 2.0% to Draft HCP/NCCP Wetland Fee, per Table 9-7
15: Seasonal and alkali wetland acreages in Tables 5-16 and 5-17 are for wetland complexes; for revenue projections the wetted acres of these complexes are assumed to be 30% of the total acres