



MEMORANDUM

To: John Roberts, *Natomas Basin Conservancy*
From: Georgette Lorenzen and Allison Shaffer
Subject: NBHCP Fee Update -- 2003; EPS #13507
Date: June 5, 2003

EPS has updated the cash flow model used to estimate the Natomas Basin Habitat Conservation Plan (NBHCP) mitigation fee (fee) based on a number of factors that are detailed in this correspondence. The fee currently in effect is composed of two components, the Base Fee and the Settlement Land Acquisition Premium. The proposed 2003 fee does not include the Settlement Premium, which was adopted in 2001 and was due to stay in effect only through 2002. This memorandum details the updated assumptions used to derive the 2003 Base Fee amount.

Figure 1 summarizes the cost per acre of habitat and the proposed Base Fee. The proposed fee level continues to assume the current HCP mitigation requirement of one-half acre of mitigation land for each gross acre of developed land. Therefore, the fee shown in **Figure 1** reflects 50 percent of the cost per acre of habitat mitigation.

The cash flows for each fund are summarized in **Figure 2**. The assumption tables for the cash flow analysis are presented in **Figure 3** through **Figure 8**.

The Base Fee is comprised of fee components for five funds as follows:

- Land Acquisition (LA)
- Restoration & Enhancement (RE)
- Administration/Operation & Maintenance (Admin/O&M)
- O&M Endowment
- Supplemental Endowment (for Land Acquisition)

The updated Base Fee amount was estimated based on a revised cash flow analysis prepared by EPS for each of the funds listed below. Many of the changes reflect estimated costs based on the Revised NBHCP and/or input from the NBC. The updated assumptions are described below.

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1. **Cash Flow Adjustments:** Several adjustments were made to the cash flow analyses.
 - The cash flows for each fund were updated such that the beginning balances in 2003 match actual fund balances of the NBHCP as of December 31, 2002.
 - The land acquisition cash flow was updated to show a loan from the City of Sacramento to purchase a habitat. The cash flow shows repayment of the loan over a ten year period beginning in 2005.
 - The Restoration & Enhancement cash flow was updated to include a transfer of \$200,000 from the Admin/O&M Fund in 2004 to cover anticipated revenue shortfalls in later years. The cash flow shows repayment of this \$200,000 in 2006.
 - The Supplemental Endowment cash flow was updated to include an estimated allowance for "Changed Circumstances" as provided for in the Revised NBHCP. This fund balance is shown separately from the land related contingency in the Supplemental Endowment cash flow.
2. **Land Acquisition Costs:** Land acquisition costs were increased from \$6,000 per acre to \$9,000 per acre. The increase in costs reflects increasing price pressure in the Natomas Basin for land as witnessed by the Natomas Basin Conservancy (NBC). The updated land acquisition cost of \$9,000 per acre was based on actual recent land transaction experiences. In addition, the land acquisition transaction and contingency cost per acre was increased to include the estimated cost of pre-acquisition field reconnaissance for the remainder of the habitat land acquired.
3. **Restoration & Enhancement Costs:** Restoration & Enhancement costs were increased from \$1,565 per acre to \$1,940 per acre. This updated per acre cost is composed of four components as described below.
 - **Base Restoration & Enhancement**

The cost to convert rice acres into managed marsh is estimated at \$5,200 per acre based on the actual cost of completing the first conversion of acquired acres into managed marsh (Betts/Kismat/Silva property totaling 192.5 acres). This was the same cost estimate assumed in the 2002 Fee Update. Because managed marsh will represent 25 percent of the total acquired acres, the conversion cost is weighted by 25 percent to arrive at a cost of \$1,300 per acquired acre (i.e., $0.25 * \$5,200 = \$1,300$).
 - **Biological Site Assessment and Pre-Construction Survey**

The cost to conduct a formal biological site assessment and pre-construction survey for acquired mitigation land as required by the Revised NBHCP, is estimated at \$136 per acre, based on information provided by the NBC.

- **Site Specific Management Plan**

The cost estimated for completing the site specific management plans for acquired mitigation land is \$116 per acre. This cost reflects the most current cost estimate, \$23,000, for the next site specific management plan to be completed by the NBC.

- **Contingency Costs**

A contingency amount of 25% or \$388 per acre was assumed and added to the R&E cost. The NBC 2002 fee analysis assumed a contingency amount of 15%. However, ensuring adequate funding for restoration and enhancement, particularly given the lag time between when the fee is paid (and the habitat preserves are acquired) vs. when the restoration and enhancement occurs, was deemed essential. The NBC has 3 years to restore and enhance the designated preserves after SSMP approval, which comes one year after acquisition. In that time frame, several biological studies need to be completed as well as the site-specific management plan. There is significant risk that the cost of restoring and enhancing a project will increase between the time the land has been acquired and when the R&E construction commences. Typically, there has been a two-year to three-year lag between these events. As a result of this uncertainty, it seemed prudent to increase the contingency fund and revenues.

4. **Revised Administrative/O&M Cost Estimates:** Administrative costs were revised based on the current budget estimates of the NBC. Projected expenditures for property taxes were revised based on the average of assessed values in 2003 (from \$5,100 to \$6,041 per acre). Operation and maintenance costs were revised based on current estimates from Wildlands, Inc.

The Revised NBHCP has more detailed requirements for mitigation monitoring. **Figure 6** details the increased mitigation monitoring requirements in relation to the Revised NBHCP. The monitoring costs are based on estimates of what it would cost today assuming the 2,800 acres of habitat preserves. Other than the costs associated with the mid-point program reviews, all the mitigation monitoring costs are inflated by 3 percent annually to reflect likely cost increases as habitat preserve acreage increases to 8,750 acres over time. Once all habitat acres are acquired, the costs are no longer escalated.

In addition to the increased monitoring requirements, the NBC also would be responsible for increased reporting costs as well as costs associated with conducting, managing, and maintaining the monitoring effort, including maintaining the requested database. As a result, NBC will need to hire an additional full-time staff person or contract with outside staff to manage these increased responsibilities. The costs associated with the increased monitoring and reporting requirements have been assumed in two locations in the cash flow analysis. The administrative costs have been increased in **Figure 7** to account for the added responsibilities. The remaining estimated costs for monitoring are assumed at \$244,000 per year as shown in **Figure 6**.

5. **Hunting Revenues:** Projected hunting revenues are based on two primary assumptions as follows:
 - Net income will be \$12 per hunting acre
 - The percentage of mitigation land used for hunting increases from 30% in 2003 to 50% in 2009, and is maintained at 50% thereafter.
6. **Development Schedule:** The anticipated development schedule was updated to reflect current estimates for building permits to be issued in 2003.
7. **Habitat Acquisition and Conversion:** The projected habitat acquisition schedule was updated to reflect current estimates from the NBC that no new habitat will be acquired in 2003 due to an existing surplus of habitat over the required mitigation ratio. The projected habitat conversion schedule also was updated to reflect current estimates from the NBC of the number of acres to be converted to marsh and upland in 2003.

In addition, the habitat conversion schedule was changed to show the required conversion of habitat acres from rice to marsh occurring in the same year in which the habitat was acquired, rather than two years later as assumed in previous cash flow models. While the conversion will not occur until two to three years after acquisition, the NBC can set the R&E fee monies aside, in a reserve fund for example, to earn interest until the time of conversion. While the cash flow model does not show the creation of individual reserve funds as habitat preserves are acquired, the cash flow modeling, it does assume that the monies are "spent" or withdrawn in the same year that the land is acquired. Therefore, the model does not assume interest earnings on the funds between the time that the land is acquired and R&E occurs.

Adequate funding for R&E is, therefore, predicated on the assumption that the cost of future restoration and enhancement projects does not exceed the estimated cost of \$5,200 per restored/enhanced acre plus:

- the 25 percent contingency
 - any earned interest on the fee revenue between the time when fees are paid and the restoration and enhancement occurs.
8. **Rice and Other Acres Revenues:** The projected annual rice revenues were updated to reflect annual rice acres and revenue per rice acre assumptions provided by the NBC. In addition, the NBC anticipates that crops other than rice will be grown on portions of several of the habitat tracts, providing an additional source of income. Revenue projections were added for these crops based on assumptions provided by the NBC.

SUPPLEMENTAL ENDOWMENT FUND

The Supplemental Endowment fund was created in 2001 to provide additional revenue to allow the NBC to either purchase mitigation land in advance of requirements (such as establishing a 200 reserve land surplus) or to provide a cushion for land acquisition in the case that prices spike in any given year before the fee can be adjusted accordingly. To the extent the supplemental endowment is not drawn down, interest earnings will accrue. Once all land acquisition is completed, if a positive fund balance remains in the Supplemental Endowment fund, these monies could be transferred to the Admin/O&M fund for operations or the O&M Endowment fund at the discretion of the NBC Board of Directors.

The costs currently estimated for the Supplemental Endowment to determine the fee amount are based on two items. The first item is the estimated cost of a 200-acre habitat reserve based on current land acquisition cost estimates. The second item is an estimated "changed circumstances" contingency cost. An amount of \$500 per habitat acre was estimated to provide revenue in the event that land acquisition or restoration & enhancement costs are greater than currently anticipated.

REVISED NBHCP FEE ANALYSIS AND FEE HISTORY

The following shows the NBHCP fee history:

	Adopted						Calculated	Current
	1996/1997	1998	1999	2000	2001	2002	Based on Revised HCP Fall 2002 [4]	Proposed w/ Revised HCP 2003
Land Acquisition Cost (LA) [1]	\$1,830	\$1,830	\$2,036	\$2,500	\$3,000	\$3,750	\$3,775	\$5,275
Land Acquisition Settlement [3]					\$3,947	\$3,947		
Restoration/Enhancement (RE) [2]	\$140	\$198	\$200	\$423	\$368	\$782	\$893	\$970
Administration/O & M	\$150	\$475	\$800	\$750	\$1,555	\$1,555	\$2,850	\$3,450
O & M Endowment Fund	\$75	\$100	\$190	\$190	\$800	\$1,500	\$1,900	\$1,900
Supplemental Endowment Fund	\$0	\$0	\$0	\$0	\$150	\$188	\$408	\$430
Fee Collection Administration	\$45	\$53	\$66	\$78	\$201	\$240	\$201	\$245
Subtotal Mitigation Fee	\$2,240	\$2,656	\$3,292	\$3,941	\$10,021	\$11,962	\$10,027	\$12,270
Percent Increase		19%	24%	20%	154%	19%		

"hist_fee_sum"

- [1] Land acquisition cost includes land cost, transaction costs, and contingency costs. Acquisition costs estimated at \$6,000 to \$11,000 per acre.
 [2] Increases in RE fee components reflects the significant cost of restoring or enhancing marsh land to benefit Swainson's hawk and the giant garter snake.
 [3] Fee through 2002 only.
 [4] Not adopted.

The fee currently charged by the City of Sacramento is \$11,962 which includes \$3,947 for the settlement premium for land acquisition.

In the Fall of 2002, EPS calculated the NBHCP fee based on the Revised NBHCP, which was estimated at \$10,027 not including any land acquisition premium related to the

Settlement Agreement. The current fee calculation includes all of the cost assumptions that were made in the Fall of 2002, which were primarily associated with increased O&M/administrative costs related to mitigation monitoring. The Supplemental Endowment Fund was also adjusted at that time to provide for Changed Circumstances.

The primary difference between the fee calculated in the Fall of 2002 and the present calculation is as follows:

- Increased land acquisition costs (increase from \$6,000 per acre to \$9,000 excluding contingencies and transaction costs) based on actual acquisition experience;
- Increased contingency for Restoration & Enhancement, from 15% to 25%, to further protect against changes in R&E costs between the time the fees are paid and the R&E occurs (typically 2 to 3 years later); and
- Updated operating and management cost assumptions, assessed value assumptions, and administrative cost assumptions as provided by the NBC.

It should be noted that in the first version of this memo, dated May 29, 2003 the calculated fee was \$13,138 per acre. This fee was revised in this memo based on input from NBC as to the on-going miscellaneous maintenance costs charged to each habitat acre (see **Table 5**). In preparing the first version of this review, the cost was revised from approximately \$23 per habitat acre to \$65 per habitat acre based on information from Wildlands, Inc. However, NBC staff noted that the majority of these costs to date have been associated with managed marsh or upland acreage, and not rice. Therefore, the fee was reduced from \$13,138 to \$12,270 by assuming that the \$65 per acre in miscellaneous management costs only applies to 50 percent of the habitat acreage (managed marsh and upland).

Figure 1
Natomas Basin HCP -- May 2003
Estimation of Mitigation Fee

2003 Update
 17,500 acres of development
 1/2 acre of mitigation land per gross acre of developed land
 25% marsh, 50% rice, 25% other

Estimation of Mitigation Fee				Notes:
Mitigation Requirement	1/2 Acre of Mitigation Land for Each Gross Acre of Developed Land			
Habitat Mitigation Fee	<u>Cost per Acre of Habitat</u>	<u>Mitigation Fee per Acre of Development</u>	<u>Percent of Base Fee</u>	
	<i>a</i>	<i>b=a x .5</i>		
BASE FEE				
Land Acquisition Cost (LA)				
Land Cost	\$9,000 [1]	\$4,500		
Transaction Costs & Contingency	\$1,550 [1]	\$775		
Total Land Acquisition Cost (LA)	\$10,550	\$5,275	43%	
Restoration/Enhancement (RE)				
RE Cost	\$1,552	\$776		
RE Contingency	\$388	\$194		
Total Restoration/Enhancement (RE)	\$1,940	\$970	8%	
Administration/O & M	\$6,900 [2]	\$3,450	28%	
O & M Endowment Fund	\$3,800 [2]	\$1,900	15%	
Supplemental Endowment Fund	\$861	\$430	4%	See Figure 8
Subtotal Mitigation Fee	\$24,051	\$12,025		
Fee Collection Administration		\$245	2%	2% of fee for collection
Total Base Fee		\$12,270	100%	
FEE EXCLUDING LAND ACQUISITION		\$6,995		[3]

"fee_sum_1"

- [1] Based on information provided by the Natomas Basin Conservancy
- [2] Administration/O&M and Endowment Fund costs set based on cash flow analysis, ensuring that fund balances are positive in year 50 and that annual interest earnings in endowment fund exceed drawdown by Admin/O&M fund.
- [3] In some cases developers may choose to dedicate land to satisfy the land acquisition component of the NBHCP. Any land dedication will be subject to the terms of the NBHCP

Figure 2
Natomas Basin HCP
Cash Flow Summary- 2003\$

Assumes:	0.0% Inflation
	3.0% Interest Rate

	Total 1996-2045	1 1996	2 1997	3 1998	4 1999	5 2000	6 2001	7 2002	8 2003
LAND ACQUISITION		[1]	[1]	[1]	[2]				
Beginning Balance		\$0	\$55,641	\$247,608	\$2,773,665	\$545,571	\$563,113	\$2,225,278	(\$4,059,745)
Total Revenues	\$81,655,710	\$55,641	\$191,966	\$2,526,057	\$2,696,904	\$1,287,471	\$3,198,070	\$2,569,079	\$8,666,576
Total Expenditures	(\$73,560,076)	\$0	\$0	\$0	(\$4,924,998)	(\$1,647,666)	(\$1,535,905)	(\$8,854,102)	\$0
Transfers from Admin/O&M Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,335,661
Balance Adjustments	\$377,738	\$0	\$0	\$0	\$0	\$377,738	\$0	\$0	\$0
Ending Balance	\$8,473,371	\$55,641	\$247,608	\$2,773,665	\$545,571	\$563,113	\$2,225,278	(\$4,059,745)	\$5,942,492
RESTORATION & ENHANCEMENTS									
Beginning Balance		\$0	\$4,257	\$19,032	\$292,743	\$589,200	\$582,058	\$268,280	\$631,297
Total Revenues	\$14,556,916	\$4,257	\$14,775	\$273,711	\$296,457	\$145,324	\$746,644	\$363,017	\$1,599,867
Total Expenditures	(\$12,861,465)	\$0	\$0	\$0	\$0	\$0	(\$1,060,422)	\$0	(\$1,910,511)
Balance Adjustments	(\$152,466)	\$0	\$0	\$0	\$0	(\$152,466)	\$0	\$0	\$0
Ending Balance	\$1,542,984	\$4,257	\$19,032	\$292,743	\$589,200	\$582,058	\$268,280	\$631,297	\$320,653
ADMINISTRATION/O&M									
Beginning Balance		\$0	\$4,561	\$70,261	\$621,109	\$1,100,385	\$1,549,539	\$1,154,659	\$1,902,780
Total Revenues	\$96,992,214	\$4,561	\$65,700	\$657,778	\$880,855	\$686,856	\$816,275	\$1,624,402	\$5,890,466
Drawdown on Endowment Fund	\$3,616,271	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Expenditures	(\$100,404,911)	\$0	\$0	(\$106,930)	(\$401,579)	(\$634,128)	(\$611,155)	(\$876,281)	(\$1,400,487)
Balance Adjustments (Inc. Transfers)	(\$203,574)	\$0	\$0	\$0	\$0	\$396,426	(\$600,000)	\$0	(\$1,335,661)
Ending Balance	\$0	\$4,561	\$70,261	\$621,109	\$1,100,385	\$1,549,539	\$1,154,659	\$1,902,780	\$5,057,098
O&M ENDOWMENT									
Beginning Balance		\$0	\$3,041	\$13,622	\$152,066	\$323,846	\$463,981	\$1,003,066	\$1,914,434
Total Revenues	\$75,059,305	\$3,041	\$10,581	\$138,445	\$157,704	\$140,135	\$539,085	\$911,368	\$3,170,425
Drawdown on Endowment Fund	(\$3,616,271)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Balance Adjustments	\$14,076	\$0	\$0	\$0	\$14,076	\$0	\$0	\$0	\$0
Ending Balance	\$71,457,111	\$3,041	\$13,622	\$152,066	\$323,846	\$463,981	\$1,003,066	\$1,914,434	\$5,084,859
SUPPLEMENTAL ENDOWMENT									
Beginning Balance		\$0	\$0	\$0	\$0	\$0	\$0	\$58,799	\$206,791
Total Revenues	\$10,305,429	\$0	\$0	\$0	\$0	\$0	\$58,799	\$147,992	\$709,546
Total Expenditures	(\$3,187,749)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$7,117,680	\$0	\$0	\$0	\$0	\$0	\$58,799	\$206,791	\$916,337
Changed Circumstances Fund Balance	\$8,861,904	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$408,920

Figure 2
Natomas Basin HCP
Cash Flow Summary- 2003\$

	9 2004	10 2005	11 2006	12 2007	13 2008	14 2009	15 2010	16 2011	17 2012
LAND ACQUISITION									
Beginning Balance	\$5,942,492	\$1,666,694	\$2,341,272	\$3,026,179	\$3,718,177	\$4,137,857	\$4,517,842	\$4,900,345	\$5,285,402
Total Revenues	\$5,523,693	\$5,635,398	\$5,645,727	\$5,652,818	\$2,806,245	\$2,766,551	\$2,769,069	\$2,771,624	\$2,774,217
Total Expenditures	(\$8,463,831)	(\$4,960,820)	(\$4,960,820)	(\$4,960,820)	(\$2,386,566)	(\$2,386,566)	(\$2,386,566)	(\$2,386,566)	(\$2,386,566)
Transfers from Admin/O&M Fund	(\$1,335,661)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$1,666,694	\$2,341,272	\$3,026,179	\$3,718,177	\$4,137,857	\$4,517,842	\$4,900,345	\$5,285,402	\$5,673,053
RESTORATION & ENHANCEMENTS									
Beginning Balance	\$320,653	\$57,395	\$260,856	\$268,590	\$409,633	\$448,683	\$488,554	\$529,263	\$570,826
Total Revenues	\$1,176,422	\$1,012,483	\$1,016,755	\$1,016,918	\$495,111	\$495,931	\$496,768	\$497,623	\$498,496
Total Expenditures	(\$1,439,680)	(\$809,022)	(\$1,009,022)	(\$875,875)	(\$456,060)	(\$456,060)	(\$456,060)	(\$456,060)	(\$456,060)
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$57,395	\$260,856	\$268,590	\$409,633	\$448,683	\$488,554	\$529,263	\$570,826	\$613,262
ADMINISTRATION/O&M									
Beginning Balance	\$5,057,098	\$8,565,513	\$11,150,986	\$13,967,558	\$16,690,060	\$17,604,311	\$18,523,187	\$19,444,754	\$20,360,850
Total Revenues	\$3,876,491	\$4,178,362	\$4,297,470	\$4,493,982	\$2,731,774	\$2,782,066	\$2,829,193	\$2,876,401	\$2,923,445
Drawdown on Endowment Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Expenditures	(\$1,503,736)	(\$1,592,889)	(\$1,680,899)	(\$1,771,480)	(\$1,817,523)	(\$1,863,190)	(\$1,907,627)	(\$1,960,305)	(\$2,013,252)
Balance Adjustments (Inc. Transfers)	\$1,135,661	\$0	\$200,000	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$8,565,513	\$11,150,986	\$13,967,558	\$16,690,060	\$17,604,311	\$18,523,187	\$19,444,754	\$20,360,850	\$21,271,042
O&M ENDOWMENT									
Beginning Balance	\$5,084,859	\$7,142,203	\$9,342,946	\$11,609,937	\$13,945,171	\$15,322,807	\$16,742,025	\$18,204,083	\$19,710,277
Total Revenues	\$2,057,344	\$2,200,743	\$2,266,990	\$2,335,234	\$1,377,636	\$1,419,218	\$1,462,058	\$1,506,194	\$1,551,664
Drawdown on Endowment Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$7,142,203	\$9,342,946	\$11,609,937	\$13,945,171	\$15,322,807	\$16,742,025	\$18,204,083	\$19,710,277	\$21,261,941
SUPPLEMENTAL ENDOWMENT									
Beginning Balance	\$507,417	\$702,582	\$911,319	\$1,126,318	\$1,347,767	\$1,478,480	\$1,613,115	\$1,751,788	\$1,894,621
Total Revenues	\$445,085	\$469,376	\$475,638	\$482,088	\$256,102	\$260,023	\$264,062	\$268,222	\$272,507
Total Expenditures	\$0	(\$408,920)	(\$249,920)	(\$260,639)	(\$260,639)	(\$260,639)	(\$125,389)	(\$125,389)	(\$125,389)
Ending Balance	\$952,501	\$763,037	\$1,137,037	\$1,347,767	\$1,343,231	\$1,477,865	\$1,751,788	\$1,894,621	\$2,041,740
Changed Circumstances Fund Balance	\$671,107	\$951,879	\$1,241,074	\$1,538,945	\$1,710,502	\$1,887,206	\$2,069,211	\$2,256,676	\$2,449,765

Figure 2
Natomas Basin HCP
Cash Flow Summary- 2003\$

	18 2013	19 2014	20 2015	21 2016	22 2017	23 2018	24 2019	25 2020
LAND ACQUISITION								
Beginning Balance	\$5,673,053	\$5,958,518	\$6,229,029	\$6,500,416	\$6,775,873	\$6,930,191	\$7,084,509	\$7,238,827
Total Revenues	\$1,706,683	\$1,691,730	\$1,692,605	\$1,696,676	\$1,575,537	\$1,575,537	\$1,575,537	\$1,575,537
Total Expenditures	(\$1,421,219)	(\$1,421,219)	(\$1,421,219)	(\$1,421,219)	(\$1,421,219)	(\$1,421,219)	(\$1,421,219)	(\$1,421,219)
Transfers from Admin/O&M Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$5,958,518	\$6,229,029	\$6,500,416	\$6,775,873	\$6,930,191	\$7,084,509	\$7,238,827	\$7,393,145
RESTORATION & ENHANCEMENTS								
Beginning Balance	\$613,262	\$684,084	\$756,394	\$830,222	\$905,601	\$963,545	\$1,021,489	\$1,079,433
Total Revenues	\$302,598	\$304,085	\$305,604	\$307,154	\$289,720	\$289,720	\$289,720	\$289,720
Total Expenditures	(\$231,776)	(\$231,776)	(\$231,776)	(\$231,776)	(\$231,776)	(\$231,776)	(\$231,776)	(\$231,776)
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$684,084	\$756,394	\$830,222	\$905,601	\$963,545	\$1,021,489	\$1,079,433	\$1,137,377
ADMINISTRATION/O&M								
Beginning Balance	\$21,271,042	\$21,486,919	\$21,687,284	\$21,871,377	\$22,038,405	\$22,187,544	\$22,317,933	\$22,428,680
Total Revenues	\$2,262,480	\$2,280,605	\$2,298,264	\$2,315,436	\$2,332,095	\$2,348,218	\$2,363,778	\$2,378,749
Drawdown on Endowment Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Expenditures	(\$2,046,603)	(\$2,080,240)	(\$2,114,172)	(\$2,148,408)	(\$2,182,957)	(\$2,217,828)	(\$2,253,031)	(\$2,288,577)
Balance Adjustments (Inc. Transfers)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$21,486,919	\$21,687,284	\$21,871,377	\$22,038,405	\$22,187,544	\$22,317,933	\$22,428,680	\$22,518,852
O&M ENDOWMENT								
Beginning Balance	\$21,261,941	\$22,474,988	\$23,724,735	\$25,012,295	\$26,338,814	\$27,705,475	\$29,113,496	\$30,564,133
Total Revenues	\$1,213,048	\$1,249,747	\$1,287,559	\$1,326,519	\$1,366,661	\$1,408,021	\$1,450,636	\$1,494,545
Drawdown on Endowment Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$22,474,988	\$23,724,735	\$25,012,295	\$26,338,814	\$27,705,475	\$29,113,496	\$30,564,133	\$32,058,678
SUPPLEMENTAL ENDOWMENT								
Beginning Balance	\$2,041,740	\$2,156,755	\$2,275,220	\$2,397,239	\$2,522,918	\$2,652,368	\$2,785,702	\$2,923,035
Total Revenues	\$189,685	\$193,135	\$196,689	\$200,350	\$204,120	\$208,003	\$212,003	\$216,123
Total Expenditures	(\$125,389)	(\$125,389)	(\$74,670)	(\$74,670)	(\$74,670)	(\$74,670)	(\$74,670)	(\$74,670)
Ending Balance	\$2,106,036	\$2,224,501	\$2,397,239	\$2,522,918	\$2,652,368	\$2,785,702	\$2,923,035	\$3,064,488
Changed Circumstances Fund Balance	\$2,597,928	\$2,750,535	\$2,907,721	\$3,069,623	\$3,236,382	\$3,408,143	\$3,585,058	\$3,767,279

Figure 2
Natomas Basin HCP
Cash Flow Summary- 2003\$

	26 2021	27 2022	28 2023	29 2024	30 2025	31 2026	32 2027	33 2028	34 2029
LAND ACQUISITION									
Beginning Balance	\$7,393,145	\$7,547,463	\$7,701,781	\$7,856,099	\$8,010,417	\$8,164,735	\$6,897,834	\$8,473,371	\$8,473,371
Total Revenues	\$1,575,537	\$1,575,537	\$1,575,537	\$1,575,537	\$1,575,537	\$1,575,537	\$1,575,537	\$0	\$0
Total Expenditures	(\$1,421,219)	(\$1,421,219)	(\$1,421,219)	(\$1,421,219)	(\$1,421,219)	(\$2,842,438)	\$0	\$0	\$0
Transfers from Admin/O&M Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$7,547,463	\$7,701,781	\$7,856,099	\$8,010,417	\$8,164,735	\$6,897,834	\$8,473,371	\$8,473,371	\$8,473,371
RESTORATION & ENHANCEMENTS									
Beginning Balance	\$1,137,377	\$1,195,321	\$1,253,264	\$1,311,208	\$1,369,152	\$1,427,096	\$1,253,264	\$1,542,984	\$1,542,984
Total Revenues	\$289,720	\$289,720	\$289,720	\$289,720	\$289,720	\$289,720	\$289,720	\$0	\$0
Total Expenditures	(\$231,776)	(\$231,776)	(\$231,776)	(\$231,776)	(\$231,776)	(\$463,551)	\$0	\$0	\$0
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$1,195,321	\$1,253,264	\$1,311,208	\$1,369,152	\$1,427,096	\$1,253,264	\$1,542,984	\$1,542,984	\$1,542,984
ADMINISTRATION/O&M									
Beginning Balance	\$22,518,852	\$22,587,479	\$22,633,553	\$22,656,024	\$22,653,797	\$22,625,736	\$22,557,823	\$22,474,109	\$21,357,439
Total Revenues	\$2,393,102	\$2,406,810	\$2,419,841	\$2,432,163	\$2,443,745	\$2,465,304	\$2,464,163	\$1,431,205	\$1,397,705
Drawdown on Endowment Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Expenditures	(\$2,324,475)	(\$2,360,736)	(\$2,397,370)	(\$2,434,390)	(\$2,471,806)	(\$2,533,218)	(\$2,547,876)	(\$2,547,876)	(\$2,547,876)
Balance Adjustments (Inc. Transfers)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$22,587,479	\$22,633,553	\$22,656,024	\$22,653,797	\$22,625,736	\$22,557,823	\$22,474,109	\$21,357,439	\$20,207,269
O&M ENDOWMENT									
Beginning Balance	\$32,058,678	\$33,598,464	\$35,184,866	\$36,819,298	\$38,503,218	\$40,238,130	\$42,025,583	\$43,867,171	\$45,197,049
Total Revenues	\$1,539,787	\$1,586,402	\$1,634,432	\$1,683,921	\$1,734,912	\$1,787,452	\$1,841,589	\$1,329,877	\$1,370,328
Drawdown on Endowment Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$33,598,464	\$35,184,866	\$36,819,298	\$38,503,218	\$40,238,130	\$42,025,583	\$43,867,171	\$45,197,049	\$46,567,377
SUPPLEMENTAL ENDOWMENT									
Beginning Balance	\$3,064,488	\$3,210,186	\$3,360,253	\$3,514,823	\$3,674,031	\$3,838,014	\$4,006,917	\$4,180,887	\$4,306,313
Total Revenues	\$220,367	\$224,738	\$229,240	\$233,877	\$238,653	\$243,573	\$248,640	\$125,427	\$129,189
Total Expenditures	(\$74,670)	(\$74,670)	(\$74,670)	(\$74,670)	(\$74,670)	(\$74,670)	(\$74,670)	(\$74,670)	(\$74,670)
Ending Balance	\$3,210,186	\$3,360,253	\$3,514,823	\$3,674,031	\$3,838,014	\$4,006,917	\$4,180,887	\$4,231,643	\$4,360,833
Changed Circumstances Fund Balance	\$3,954,968	\$4,148,287	\$4,347,405	\$4,552,497	\$4,763,742	\$4,981,325	\$5,205,434	\$5,361,597	\$5,522,445

Figure 2
Natomas Basin HCP
Cash Flow Summary- 2003\$

	35 2030	36 2031	37 2032	38 2033	39 2034	40 2035	41 2036	42 2037	43 2038
LAND ACQUISITION									
Beginning Balance	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371
Total Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Expenditures	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transfers from Admin/O&M Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371
RESTORATION & ENHANCEMENTS									
Beginning Balance	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984
Total Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Expenditures	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984
ADMINISTRATION/O&M									
Beginning Balance	\$20,207,269	\$19,022,593	\$17,802,377	\$16,545,555	\$15,251,028	\$13,917,665	\$12,544,301	\$11,129,736	\$9,672,735
Total Revenues	\$1,363,200	\$1,327,660	\$1,291,053	\$1,253,349	\$1,214,513	\$1,174,512	\$1,133,311	\$1,090,874	\$1,047,164
Drawdown on Endowment Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Expenditures	(\$2,547,876)	(\$2,547,876)	(\$2,547,876)	(\$2,547,876)	(\$2,547,876)	(\$2,547,876)	(\$2,547,876)	(\$2,547,876)	(\$2,547,876)
Balance Adjustments (Inc. Transfers)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$19,022,593	\$17,802,377	\$16,545,555	\$15,251,028	\$13,917,665	\$12,544,301	\$11,129,736	\$9,672,735	\$8,172,023
O&M ENDOWMENT									
Beginning Balance	\$46,567,377	\$47,979,392	\$49,434,367	\$50,933,615	\$52,478,489	\$54,070,384	\$55,710,738	\$57,401,031	\$59,142,793
Total Revenues	\$1,412,015	\$1,454,975	\$1,499,248	\$1,544,874	\$1,591,895	\$1,640,353	\$1,690,294	\$1,741,761	\$1,794,803
Drawdown on Endowment Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$47,979,392	\$49,434,367	\$50,933,615	\$52,478,489	\$54,070,384	\$55,710,738	\$57,401,031	\$59,142,793	\$60,937,596
SUPPLEMENTAL ENDOWMENT									
Beginning Balance	\$4,435,503	\$4,568,568	\$4,705,625	\$4,846,793	\$4,992,197	\$5,141,963	\$5,296,222	\$5,455,109	\$5,618,762
Total Revenues	\$133,065	\$137,057	\$141,169	\$145,404	\$149,766	\$154,259	\$158,887	\$163,653	\$168,563
Total Expenditures	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$4,568,568	\$4,705,625	\$4,846,793	\$4,992,197	\$5,141,963	\$5,296,222	\$5,455,109	\$5,618,762	\$5,787,325
Changed Circumstances Fund Balance	\$5,688,119	\$5,858,762	\$6,034,525	\$6,215,561	\$6,402,028	\$6,594,089	\$6,791,911	\$6,995,669	\$7,205,539

Figure 2
Natomas Basin HCP
Cash Flow Summary- 2003\$

	44 2039	45 2040	46 2041	47 2042	48 2043	49 2044	50 2045
LAND ACQUISITION							
Beginning Balance	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371
Total Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Expenditures	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transfers from Admin/O&M Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371	\$8,473,371
RESTORATION & ENHANCEMENTS							
Beginning Balance	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984
Total Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Expenditures	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984	\$1,542,984
ADMINISTRATION/O&M							
Beginning Balance	\$8,172,023	\$6,626,290	\$5,034,185	\$3,394,317	\$1,705,253	\$0	\$0
Total Revenues	\$1,002,143	\$955,771	\$908,008	\$858,812	\$808,140	\$756,982	\$756,982
Drawdown on Endowment Fund	\$0	\$0	\$0	\$0	\$34,483	\$1,790,894	\$1,790,894
Total Expenditures	(\$2,547,876)	(\$2,547,876)	(\$2,547,876)	(\$2,547,876)	(\$2,547,876)	(\$2,547,876)	(\$2,547,876)
Balance Adjustments (Inc. Transfers)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$6,626,290	\$5,034,185	\$3,394,317	\$1,705,253	\$0	\$0	\$0
O&M ENDOWMENT							
Beginning Balance	\$60,937,596	\$62,787,064	\$64,692,870	\$66,656,738	\$68,680,446	\$70,731,341	\$71,088,351
Total Revenues	\$1,849,468	\$1,905,806	\$1,963,868	\$2,023,707	\$2,085,379	\$2,147,904	\$2,159,653
Drawdown on Endowment Fund	\$0	\$0	\$0	\$0	(\$34,483)	(\$1,790,894)	(\$1,790,894)
Balance Adjustments	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$62,787,064	\$64,692,870	\$66,656,738	\$68,680,446	\$70,731,341	\$71,088,351	\$71,457,111
SUPPLEMENTAL ENDOWMENT							
Beginning Balance	\$5,787,325	\$5,960,945	\$6,139,773	\$6,323,966	\$6,513,685	\$6,709,096	\$6,910,369
Total Revenues	\$173,620	\$178,828	\$184,193	\$189,719	\$195,411	\$201,273	\$207,311
Total Expenditures	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Balance	\$5,960,945	\$6,139,773	\$6,323,966	\$6,513,685	\$6,709,096	\$6,910,369	\$7,117,680
Changed Circumstances Fund Balance	\$7,421,705	\$7,644,356	\$7,873,687	\$8,109,897	\$8,353,194	\$8,603,790	\$8,861,904

"cash_flow"

Figure 3
Natomas Basin HCP -- May 2003
Land Acquisition Cost and
Acquired Habitat Land Utilization Assumptions

2003 Update
17,500 acres of development
1/2 acre of mitigation land per gross acre of developed land
25% marsh, 50% rice, 25% other

Item				Notes:	NBHCP Page Ref. #
Land Acquisition Values per Acre	<u>Land Value</u>	<u>Permitted by Plan</u>	<u>Assumed in Financial Analysis</u>		
In-Basin Lands	\$9,000	80%	100%	Based on actual recent land transactions.	
Out-of-Basin Lands	\$3,250	20%	0%	Estimated \$3,100-\$3,500 per acre range per recent experience of NBHCP.	
Average Land Value [1]	\$9,000	Use In-Basin Land Value			
Plus Transaction Costs & Contingency	\$1,550	per Acre		Includes Pre-acquisition field reconnaissance.	V-17
Average Land Acquisition Cost	\$10,550 per acquired acre		Beginning 2003		

"Land_Acq_Assumps"

Source: Natomas Basin Conservancy

- [1] Assumes all acquisition occurs at the average in-basin land value.
 [2] Rice Lands percents included for cost and revenue calculation purposes only.

Figure 4
Natomas Basin HCP -- May 2003
Restoration & Enhancement Assumptions

2003 Update
 17,500 acres of development
 1/2 acre of mitigation land per gross acre of developed land
 25% marsh, 50% rice, 25% other

Item				Note:	NBHCP Page #
Site Specific Management Plan Costs					
	Estimated Cost		Estimated Cost per Acre		
NBHCP Biological Site Assessment	\$15,000 per Acquisition		\$76 per Acquired Acre assumes 30 more acquisitions	Baseline Biological site assessments for: -Tri-Colored Blackbird -Valley Elderberry Longhorn Beetle -Delta Tule Pea -Sanford Arrowhead Assessment for Species Introduction: -Delta Tule Pea -CTS -ST -Pond Turtle -Sanford Arrowhead -Vernal Pool Plant Species, -Other Covered Plant Species	IV-25; V-22; V-25; V-26; VI-15
NBHCP Pre-construction Survey	\$12,000 per Acquisition		\$61 per Acquired Acre assumes 30 more acquisitions	Formal pre-construction site survey for restoration and enhancement, including: -Assessment of Swainsons Hawk nest disturbance -Assessment of Other Avian Species nest disturbance -Assessment of Valley Eldeberry Longhorn Beelle	V-17; V-20; V-25
Preparation of Site Specific Management Plan	\$23,000 per Acquisition		\$116 per Acquired Acre	Assumes 30 more acquisitions.	
Subtotal SSMP Cost Per Acre			\$252 per acre	Note [1]	
To be Completed:		Within 1 Year of Reserve Acquisition			
Restoration & Enhancement					
	<u>Use of Land</u>	<u>Initial Costs</u>	<u>Weighted Cost [5]</u>		
Expended At Time Land Is Acquired					
Marsh	0%	\$0	\$0	Note [2], [3]	
Existing Rice	75%	\$0	\$0	Note [3]	
Dry Converted to Rice	0%	\$0	\$0	Note [3]	
Other Upland	25%	\$0	\$0	Note [3]	
Subtotal	100%		\$0		
Expended At Time Land Is Converted					
Rice/Other Converted to Marsh	25.00%	\$5,200	\$1,300	Note [4]	
Rice Converted to Upland/Other	0.00%	\$500	\$0.00		
Subtotal Restoration & Enhancement			\$1,300		
R&E Cost Per Acre			\$1,552	Weighted average cost per Acquired Acre	
R&E Contingency (@ 25%)			\$388	Per Acquired Acre	

"RE_Assumps"

Source: The Natomas Basin Conservancy

- [1] The addition of a formal biological site assessment and pre-construction survey are required by the Draft HCP -- July 2002.
- [2] Initial use of marsh land estimated at 0% because NBHCP estimates that little to no marshland is available for acquisition.
However, rice land will be converted to marsh land.
- [3] The initial costs of marsh, existing rice, dry land converted to rice and other upland have been set to zero as no initial restoration or enhancement costs are anticipated.
- [4] In 2001, the cost of converting of acquired acres to marsh cost approximately \$5,200 per acre.
- [5] The cost of restoration and enhancement is weighted by the percent of acres assumed to be converted or used for that particular land use.

Figure 5
Natomas Basin HCP -- May 2003
Operations & Maintenance Assumptions

2003 Update
17,500 acres of development
1/2 acre of mitigation land per gross acre of developed land
25% marsh, 50% rice, 25% other

<i>Item</i>		<i>Notes:</i>
Operations & Maintenance Costs		
Marsh	\$302.74 per acre	Based on Wildlands, Inc. Estimates (2003) plus water costs
Upland/Fallow	\$14.27 per acre	Based on Wildlands, Inc. Estimates (2003)
Land Leased for Planted Rice Base	\$3.63 per acre	Based on Wildlands, Inc. Estimates (2003)
Land Leased for Other Crops	\$3.63 per acre	Based on Wildlands, Inc. Estimates (2003) (alfalfa, safflower, etc.)
Other	\$14.27 per acre	Based on Wildlands, Inc. Estimates (2003)
Hunting	\$2.87 per acre	Based on Wildlands, Inc. Estimates (2003)
Miscellaneous Maintenance Costs	\$65.36 per acre	Based on Wildlands, Inc. Estimates (2003)
Water Connectivity Charges (after midpoint review)	\$0.00 per year	
Special Assessment & Property Tax Costs		
<u>Sacramento County</u>		
Reclamation District #1000	\$13.08 per acre	Based on published tariffs and rates
NCMWA	\$0.42 per acre	Based on published tariffs and rates
SAFCA O&M Assessment #1	\$5.69 per acre	Based on published tariffs and rates
CSAI Safety Lights	\$0.08 per acre	Based on published tariffs and rates
Property Tax [1]	\$64.46 per acre	Based on average assessed value of all properties acquired -- \$6,041 per acre
Subtotal Sacramento County	\$83.72 per acre	
<u>Sutter County</u>		
Reclamation District #1000	\$13.08 per acre	Based on published tariffs and rates
NCMWC	\$0.42 per acre	Based on published tariffs and rates
Property Tax	\$60.41 per acre	Based on average assessed value of all properties acquired -- \$6,041 per acre
Subtotal Sutter County	\$73.91 per acre	
Mitigation Monitoring & Adaptive Management		
One-Time/Fixed Costs	\$7,500	
On-Going Monitoring	\$236,850 per year	See Figure 6 for detail
Administrative Costs		
During Development	\$649,923 per year	See Figure 7 for detail
After All Land Acquired	\$649,923 per year	
Operations & Maintenance Revenues		
Crop Land Leases		
<u>Through 2002</u>		
Planted Rice Base Acreage	\$160 per acre/year	normal ag. practices
Other Crops (Flex. acreage)	\$80 per acre/year	normal ag. practices
<u>2003 +</u>		
Planted Rice Base Acreage	\$160 per acre/year	normal ag. practices
Other Crops (Flex. acreage)	\$80 per acre/year	normal ag. practices
Hunting		
Hunting Revenue per Acre	\$12 per acre	Based on Wildlands Estimate for initial Site Plan

Source: The Natomas Basin Conservancy

"OM_Assumps"

[1] Includes G.O. bond assessment.

Figure 6
Natomas Basin HCP -- May 2003
Species & Habitat Monitoring Cost Assumptions

Item	Description	Total Cost	Interval (Years)	Cost per unit	Annualized Cost	Comments	NBHCP Pg. #
					50 Years		
<u>Fixed or One-Time Costs</u>							
Mid-Point Program Reviews	Mid-Point Program Review for Permittees & Overall Program Review	\$375,000	3	\$125,000	\$7,500	Written report required; extensive requirements; refer to NBHCP. Assumes the Overall Program Review will happen concurrently with one of the Permittee Reviews	VI-28
Connectivity -- Acquisition Costs	Ensure connectivity through easements, etc. Acquisition costs. Estimate -- 10 miles of abandoned water conveyance structures	NA		NA	NA	Assumed to be applied towards habitat preserve land acquisition requirements. Therefore, it assumed costs would be absorbed under land acquisition.	IV-8
Land Acquisition Restrictions	Setback; no mitigation land designated for urban use.	NA		NA	NA	Greatly restricts land available for mitigation land acquisition resulting in much higher costs.	IV-11
Subtotal					\$7,500		
<u>Annual Monitoring & Reporting Requirements</u>							
Biological Effectiveness Monitoring Plan							
Giant Garter Snake	Annual Field Survey -- Basinwide	\$2,727,000	40	\$68,175	\$54,540		VI-19
Swainson's Hawk	Annual Field Survey -- Basinwide	\$1,000,000	40	\$25,000	\$20,000		V-18; VI-20
Other Covered Species	Annual monitoring of Preserve Sites & Control Sites for: -Delta Tule Pea -Sanford Arrowhead -VP Plants	\$400,000	40	\$10,000	\$8,000	Site Specific Monitoring Programs Must monitor known populations annually and file report.	V-26; VI-15
Connectivity-- Assessment		\$120,000	40	\$3,000	\$2,400	Level of effort assumed - letter to the water agency requesting information, and subsequent documentation based on info provided by water agencies. No independent assessment by TNBC assumed.	VI-15

Figure 6
Natomas Basin HCP -- May 2003
Species & Habitat Monitoring Cost Assumptions

Item	Description	Total Cost	Interval (Years)	Cost per unit	Annualized Cost	Comments	NBHCP Pg. #
Reporting Costs						Assumed in administrative budget.	
Other Annual Costs							
Connectivity -- O&M	Ensure connectivity through easements, etc. Management and maintenance.	\$250,000	10	\$5,000	\$5,000	Estimate 10 miles of abandonment. This is only a rough estimate due to the uncertainty of accounting for this eventuality. Suggest hiring water agency to maintain and manage acquired structures with the cost shown serving as an estimate of contract cost. Estimate costs for water and maintenance at \$500/mile.	IV-8
Avian Species Monitoring	General Habitat Monitoring-- including wintering bird species evaluation	\$750,000	50	\$15,000	\$15,000	"...additional surveys should be carried out...to detect actual species...on and off mitigation lands. Seven to 14-days per year; annual estimates of avian colonies...size and nesting success...must determine habitat characteristics.	VI-20
Subtotal					\$104,940		
5-Year Monitoring & Reporting Requirements							
Biological Effectiveness Monitoring Plan							
Annual Biological Effectiveness Assessment		\$1,061,750	10	\$106,175	\$21,235	See Above	
Additional Monitoring Requirements	Five-Year Inventory of Reserve Lands Botanical inventory Rarely occurring species inventory Seasonal wetland monitoring/surveying	\$550,000	10	\$55,000	\$11,000	Density and distribution of all covered species on reserves.	VI-14; VI-20; VI-21;
Adaptive Management	Review of Biological Effectiveness Monitoring Program procedures and practices.	\$200,000	10	\$20,000	\$4,000	"Whenever review indicates revision is necessary to effectively monitor the success...of goals and objectives." Outside, independent, third-party likely required to conduct for compliance.	VI-22

Figure 6
 Natomas Basin HCP -- May 2003
 Species & Habitat Monitoring Cost Assumptions

Item	Description	Total Cost	Interval (Years)	Cost per unit	Annualized Cost	Comments	NBHCP Pg. #
Subtotal					\$36,235		
Other Costs							
Adaptive Management	Periodic Review of NBHCP Monitoring Data	\$180,000	10	\$18,000	\$3,600	Review data, new science, future recovery plans, TAC recs, i.d. threshold limits. Suggest outside, third-party independent contractor needs to do to achieve compliance.	VI-23
Adaptive Management	Report to Review Adaptive Management.	\$306,000	17	\$18,000	\$6,120	Assess adaptive management in published reports using scientific information, research and baseline inventories, etc. And file report with agencies.	VI-23
Data Management	Database Management; Validity and Reliability Testing Evaluation	\$1,000,000	50	\$20,000	\$20,000	Provide report on complete database to Resources Agencies annually. Reliability Evaluation required annually; w/TAC or third party approved by the Wildlife Agencies.	VI-24
Subtotal					\$29,720		
Total Annual Cost					\$244,350		
Habitat Acres through 2002					2,803		
Annual Cost Per Acre					\$87.18		

"Monitoring_Assumps"

Source: The Natomas Basin Conservancy

Figure 7
Natomas Basin HCP
Estimated Annual Natomas Basin Conservancy (NBC) Administrative Costs

	Annual Cost	Notes
<u>Administrative Expenses [1]</u>		
Staff	\$205,000	
Benefits	\$67,650	
Board Expense	\$6,000	
Subtotal	\$278,650	
<u>Office Expense</u>		
Rent	\$37,000	
Telephone	\$4,000	
Copying & Printing	\$16,000	
Office Supplies	\$5,000	
Postage	\$1,000	
Equipment	\$2,500	
Auto Expense	\$6,500	
Subtotal	\$72,000	
<u>Miscellaneous Expense</u>		
Insurance	\$30,000	Liability and E&O
Accounting	\$17,500	
Legal	\$60,000	
Corporate Taxes	\$2,000	
Subtotal	\$109,500	
Contract Work & Public Education, Publications, Printing, & Distribution [2]	\$105,000	
Subtotal Costs	\$565,150	
Contingency	\$84,773	15% Contingency
Total Administration During Habitat Acquisition Phase	\$649,923	
Total Administration After Habitat Acquisition	\$649,923	

"admin_assumps"

[1] Budgeted costs have been increased to account for an additional full-time person or equivalent

[2] Amount excludes monitoring costs, which are reported in **Figure 6**.

Source: NBC FY 2003 budget estimate

Figure 8
Natomas Basin HCP -- May 2003
Supplemental Endowment Cost Assumptions

Item						Note:
	Base Cost per Acre	Cost per Acre Including Int Cost		Total Est. Acquisition Cost	Allocated Cost	
200 Acre Reserve and/or Purchase of Final 200 Acres -- Contingency Fund	\$8,250	\$10,725	[1]	\$2,145,000	\$361	per Acquired Acre
Changed Circumstance Contingency					\$500	per Acquired Acre
Total					\$861	per Acquired Acre

"supp_endow_assumps"

Source: The Natomas Basin Conservancy and EPS

[1] Includes a financing factor of 30% ($\$8,250 * 1.3 = \$10,725$).