EAST CONTRA COSTA COUNTY HABITAT CONSERVANCY

DATE: July 22, 2011

TO: Governing Board

FROM: Conservancy Staff

SUBJECT: **Review and Adjustment of the HCP/NCCP Mitigation Fees**

RECOMMENDATION

APPROVE the East Contra Costa County Mitigation Fee Update Report ("Report"), consistent with requirements in the HCP/NCCP for periodic review of HCP/NCCP development fees. PROVIDE the Report to participating cities and the County and recommend that they consider revising wetland mitigation fees as recommended in the Report. DIRECT staff to apply the revised wetland mitigation fees in future agreements between the Conservancy and Participating Special Entities.

[ITEM CONTINUED FROM MARCH 21, 2011]

DISCUSSION

On March 21, 2011, the Board heard a presentation on and considered the East Contra Costa County Mitigation Fee Update Report ("Report") prepared by Economic and Planning Systems, Inc. (EPS), consistent with requirements in the HCP/NCCP for periodic review of HCP/NCCP development fees. The Board voted to continue the Item to the next meeting in order to give the Board members more time to review the Report.

Since the March 21, 2011 meeting, Staff has requested that EPS evaluate the impact of the recommended fee adjustments on the fee burden to born by covered projects. EPS also compared the results of the analysis presented in the earlier Report to new information on the costs of wetland restoration from two projects, one of which is the Upper Hess Creek Watershed Habitat Restoration Project developed by the Conservancy. The new information is presented in the attached memo from EPS dated July 15, 2011. The original Report from EPS and staff report are also attached. Teifion Rice-Evans from EPS will attend the Board meeting, present the new information and respond to any questions on the prior Report.

CONTINUED ON ATTACHMENT: _Yes
ACTION OF BOARD ON: July 22, 2011 APPROVED AS RECOMMENDED_____
OTHER_____

VOTE OF BOARD MEMBERS
___UNANIMOUS
AYES:_____
NOES:_____
ABSENT:_____
ABSTAIN:_____

I HEARBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF AN ACTION TAKEN AND ENTERED ON THE MEETING RECORD OF THE CONSERVANCY GOVERNING BOARD ON THE DATE SHOWN.

ATTESTED _____
Catherine Kutsuris, SECRETARY OF THE EAST CONTRA COSTA COUNTY HABITAT CONSERVANCY

BY:_____, DEPUTY

The staff recommendation is to approve the Report, provide the Report to participating cities and the County and recommend that they consider revising wetland mitigation fees as recommended, and directing staff to apply the revised wetland mitigation fees in future agreements between the Conservancy and Participating Special Entities.

Attachments

- Memo dated July 15, 2011 from EPS with additional information
- Materials from the March 21, 2011 Board Meeting on this topic, including the EPS Report

MEMORANDUM

To: John Kopchik, Contra Costa County

From: Teifion Rice-Evans and Catherine Meresak

Subject: East Contra Costa County HCP/ NCCP 2011 Mitigation Fee Update: Additional Information; EPS# 20149

Date: July 15, 2011

The Economics of Land Use

The 2011 Mitigation Fee Update (March 17, 2011) memorandum prepared by Economic & Planning Systems, Inc. (EPS) evaluated the latest available cost information to determine recommended refinements in the East Contra Costa County HCP/ NCCP Development Mitigation and Wetland Mitigation Fees. This technical analysis recommended:

(1) No change in the current 2011 development mitigation fees;
(2) Increase of between 5.3 percent and 32.4 percent in the wetland mitigation fees (excluding streams); and,
(3) Decrease of 22.7 percent in the per linear foot streams fee.

As documented in the 2011 Mitigation Fee Update memorandum, the recommended increases in the wetland fees were based on the Conservancy cost experience to date, restoration cost data from other projects in the region, and interviews with restoration specialists active in the East Bay and other Bay Area locations.

This memorandum describes new information available on two restorations projects, one Conservancy and one EBMUD. It also considers the relative effects of our recommendations on mitigation costs.

Additional Resotoration Cost Information

The recommended fee increases were based on estimates of per acre wetland restoration costs of between $114,000 and $122,500 per acre for wetlands, ponds, open water, and sloughs. The cost of riparian restoration was estimated at $68,000 per acre. These costs are conservative compared with the new project information described below:

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510 841 9190 tel
510 841 9208 fax

Berkeley
Sacramento
Denver

www.epsys.com

- **Upper Hess Creek**. The Upper Hess Creek project is a Conservancy project that involves the restoration of wetlands/ ponds and streams. Based on Conservancy cost information, the total restoration cost associated with wetlands/ ponds component of the project was about $900,000, including staff costs, with about 45 percent of the costs representing direct construction costs. The project restored a total of 2.59 acres of wetlands/ ponds at an average restoration cost of $345,000 per acre.

- **Pavon Creeks and Scow Canyon**. Pavon Creeks and Scow Canyon are two restoration projects undertaken by EBMUD. The two projects both involved the restoration of wetlands/ ponds and streams. Based on EBMUD cost information (provided collectively for both projects), the total restoration cost associated with wetlands/ ponds component of the projects was about $1.65 million, excluding staff costs, with about 55 percent associated with direct construction costs. The project restored a total of 2.19 acres of wetlands/ ponds at an average restoration cost of $755,000 per acre.

Changes in Average Developer Cost

The recommended adjustments in wetland impact fees will allow the Conservancy to appropriately cover the costs associated with its ongoing restoration efforts. While the proposed increases are significant on a percentage basis, the wetlands component of the overall plan costs are relatively modest, and the development fees rather than the wetland mitigation fees are by far the biggest fee component for most projects. To illustrate this reality, EPS calculated the overall HCP/NCCP mitigation fees (including development, wetland (non-stream), and stream) associated with all development to date under the HCP/ NCCP for three different fee scenarios: (1) 2006 fee schedule; (2) current 2011 fee schedule; and, (3) recommended 2011 fee schedule.

Table 1 shows these three fee schedules for the different habitat types/ zones. **Table 2** shows the total "fee-paying acres" between 2008 and the present. As shown, the equivalent of 120.3 acres of activities have paid HCP/ NCCP fees to date, including 119.4 acres paying development mitigation fees and 0.65 acres paying wetland mitigation fees. The acreages were adjusted to incorporate temporary impact fees (which pay a reduced per-acre fee) and multipliers associated with rural roads. In addition, about 177 linear feet of streams have paid the streams restoration fee. **Table 2** also shows the total fee payments associated with the three different fee scenarios. Particular points of note include:

- The large majority of developer payments to date (about 90 percent) have been associated with the development mitigation fee.

- The wetland mitigation fee increases have been balanced out by the reduced stream payments, meaning that overall developer cost burden to date would have been similar under the current 2011 and recommended 2011 fee structures.

The actual future levels of development will not precisely mimic the distributions between development, wetland, and stream fee payments. As a result, it remains important to tie each of these elements to their own particular cost characteristics. It is also possible, for example, that the additional costs in wetland mitigation fee payments will be more under the recommended 2011 fee schedule than savings from the reductions in the streams fee. Nevertheless, the relatively limited level of wetland impacts from all covered development activities will continue to mean that the aggregate effect of the wetlands fee increase will be proportionally modest.

Table 1
Comparison of Mitigation Fee Amounts at the Time of HCP/NCCP Approval with Current and Recommended Fees

Fee Type/ Category	2006 Original Fee per Acre (2006 dollars)	2011 Current [1] Fee per Acre (2011 dollars)	2011 Recommended Fee per Acre (2011 dollars)
Development Fees			
Zone I	$11,919	$10,662	$10,662
Zone II	$23,838	$21,324	$21,324
Zone III	$5,960	$5,332	$5,332
"Zone IV" [2]	$17,879	$15,993	$15,993
Wetland Mitigation Fee			
Riparian Woodland/ Scrub	$58,140	$64,570	$68,000
Perennial Wetland	$79,560	$88,359	$117,000
Seasonal Wetland	$172,380	$191,445	$245,000
Alkali Wetland	$163,200	$181,250	$228,000
Ponds	$86,700	$96,289	$117,000
Aquatic (Open Water)	$43,860	$48,711	$58,000
Slough/ Channel	$98,940	$109,883	$124,000
Streams 25 feet wide or less	$474 [3]	$526 [3]	$407 [3]
Streams Greater than 25 feet wide	$714 [3]	$793 [3]	$613 [3]

[1] Current fee levels reflect application of the annual, automatic adjustment process to the original fees.
[2] Zone IV applies to certain covered projects within Antioch, such as EBART. HCP/NCCP provides that fees in this area will be an average of the Zone I and Zone II fees.
[3] Per linear foot

Sources: East Contra Costa County Habitat Conservancy; Economic & Planning Systems, Inc.

Table 2
Comparison of Cumulative Mitigation Costs from all Projects Covered by the HCP/NCCP to Date*

Fee Type/ Category	Total Acres of Impact Under HCP/NCCP to Date[1]	2006 Original Fee (2006 dollars)	2011 Current Fee [2] (2011 dollars)	2011 Recommended Fee (2011 dollars)
Development Fees				
Zone I	58.70	$699,660	$625,882	$625,882
Zone II	53.00	$1,263,372	$1,130,150	$1,130,150
Zone III	0.13	$779	$697	$697
"Zone IV" [3]	7.55	$134,911	$120,685	$120,685
Subtotal	**119.38**	**$2,098,722**	**$1,877,413**	**$1,877,413**
Wetland Mitigation Fee				
Riparian Woodland/ Scrub	0.26	$15,144	$16,818	$17,712
Perennial Wetland	0.02	$1,448	$1,608	$2,129
Seasonal Wetland	0.29	$50,283	$55,844	$71,466
Alkali Wetland	0.00	$8	$9	$11
Ponds	0.00	$0	$0	$0
Aquatic (Open Water)	0.00	$0	$0	$0
Slough/ Channel	0.08	$7,849	$8,717	$9,837
Subtotal	**0.65**	**$74,732**	**$82,997**	**$101,156**
Streams 25 feet wide or less	133.05 [4]	$63,066 [4]	$70,041 [4]	$54,127 [4]
Streams Greater than 25 feet wide	43.98 [4]	$31,401 [4]	$34,874 [4]	$26,950 [4]
Subtotal	**177.03 [4]**	**$94,467 [4]**	**$104,915 [4]**	**$81,077 [4]**
Total [5]	**120.03**	**$2,267,921**	**$2,065,325**	**$2,059,646**

[1] Acreage totals reflect all acres paying permanent impact fees. Acres of temporary impacts, cell tower buffers, or rural roads which pay a modified per acre fee were included in the totals but prorated at the appropriate rate.
[2] Current fee levels reflect application of the annual, automatic adjustment process to the original fees.
[3] Zone IV applies to certain covered projects within Antioch, such as EBART. HCP/NCCP provides that fees in this area will be an average of the Zone I and Zone II fees.
[4] Measured in linear feet
[5] Total acreage does not include linear feet of stream.

***Note: This table illustrates the collective fee burden from all 21 projects covered under the HCP/NCCP between 2008 and 2011 assuming all projects paid fees at the Original, Current, and Recommended levels.**

Sources: East Contra Costa County Habitat Conservancy; Economic & Planning Systems, Inc.

EAST CONTRA COSTA COUNTY HABITAT CONSERVANCY

DATE: March 21, 2011

TO: Governing Board

FROM: Conservancy Staff

SUBJECT: **Review and Adjustment of the HCP/NCCP Mitigation Fees**

RECOMMENDATION

APPROVE the East Contra Costa County Mitigation Fee Update Report ("Report"), consistent with requirements in the HCP/NCCP for periodic review of HCP/NCCP development fees. PROVIDE the Report to participating cities and the County and recommend that they consider revising wetland mitigation fees as recommended in the Report. DIRECT staff to apply the revised wetland mitigation fees in future agreements between the Conservancy and Participating Special Entities.

DISCUSSION

As more fully described in the attached Report (East Contra Costa County Mitigation Fee Update Report, Economic and Planning Systems, Inc., March 17, 2011) the East Contra Costa County HCP/NCCP requires automatic annual adjustments to HCP/NCCP Mitigation Fees based on economic indices as well periodic audits in years 3, 6, 10, 15, 20, and 25 of Plan implementation to assess whether changes in HCP/NCCP implementation cost over time require additional adjustment of fees. The Report was prepared to comply with this requirement.

The report concludes that the HCP/NCCP development fees do not need to be adjusted at this time while wetland mitigation fees should be adjusted. The Report does recommend that adjustments be made to wetland mitigation fees at this time. These recommended changes to the fees are summarized below and more fully described in the Report.

CONTINUED ON ATTACHMENT: _Yes
ACTION OF BOARD ON: March 21, 2011 APPROVED AS RECOMMENDED: No
OTHER: Item continued to the next Board meeting on June 15, 2011or to the next special meeting, which ever is sooner, in order to give the Board members more time to review the Mitigation Fee Update Report,

VOTE OF BOARD MEMBERS
_X_ UNANIMOUS
AYES:
NOES:
ABSENT:
ABSTAIN:

I HEARBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF AN ACTION TAKEN AND ENTERED ON THE MEETING RECORD OF THE CONSERVANCY GOVERNING BOARD ON THE DATE SHOWN

ATTESTED
Catherine Kutsuris, SECRETARY OF THE EAST CONTRA COSTA COUNTY HABITAT CONSERVANCY

BY _____, DEPUTY

Wetland Mitigation Fee	Current Fee Level	Recommended Fee Level	Percent Change
Riparian Woodland/ Scrub	$64,570	$68,000	5.3%
Perennial Wetland	$88,359	$117,000	32.4%
Seasonal Wetland	$191,445	$245,000	28.0%
Alkali Wetland	$181,250	$228,000	25.8%
Ponds	$96,289	$117,000	21.5%
Aquatic (Open Water) (1)	$48,711	$58,000	19.1%
Slough/ Channel	$109,883	$124,000	12.8%
Streams (per linear foot)			
- 25 feet wide or less	$526	$407	-22.7%
- Greater than 25 feet wide	$793	$613	-22.7%

Teifion Rice-Evans from Economic and Planning Systems, Inc. will attend the Board meeting and present the results of their analysis. Mr. Rice-Evans also attended the February 10, 2011 meeting of the Public Advisory Committee to present the methodology being used for the analysis, share preliminary results and answer questions.

The staff recommendation is to approve the Report, provide the Report to participating cities and the County and recommend that they consider revising wetland mitigation fees as recommended, and directing staff to apply the revised wetland mitigation fees in future agreements between the Conservancy and Participating Special Entities. The Participating Special Entity agreements and amendments on the Board's agenda for this March 21, 2011 meeting are not affected by such adjustment because they would not pay any wetland mitigation fees.

Attachments

- East Contra Costa County Mitigation Fee Update Report, prepared by Economic and Planning Systems, Inc., March 17, 2011

MEMORANDUM

To: John Kopchik, Contra Costa County

From: Teifion Rice-Evans and Catherine Meresak

Subject: East Contra Costa County HCP/NCCP:
2011 Mitigation Fee Update; EPS #20149

Date: March 17, 2011

This memorandum provides the required 2011 review of the mitigation fees charged under the East Contra Costa County HCP/NCCP as well as the technical basis for their refinement, where appropriate. Chapter 9 of the East Contra Costa County HCP/NCCP (conservation plan)—the Funding Chapter—specifically requires the review and adjustment of mitigation fees. These adjustments include annual automatic adjustments of mitigation fees based on prescribed formulas as well as a periodic, more detailed review and adjustment, where necessary, of the mitigation fees. This review is necessary to ensure that, as circumstances change through time, conservation plan financing mechanisms are calibrated to provide the proper amount of funding to achieve the conservation goals. The conservation plan sets a specific required schedule for the detailed review, namely by March 15 of years 3, 6, 10, 15, 20, and 25. The first review is now due.

Analytical Framework

This analysis focuses on changes in conservation plan costs since 2006 to determine whether any refinements to mitigation fees are appropriate. The conservation framework, goals, and mitigation requirements established by the conservation plan in 2006 are understood to have remained unchanged. As a result, this analysis evaluates changes in conservation costs, integrates the revised costs into the existing cost and fee estimating models, and determines the appropriate fee levels for 2011 based on the best information available. Beyond 2011, as stated above, further annual adjustments and additional detailed periodic review will be needed as costs continue to fluctuate through time and more information becomes available as conservation plan implementation proceeds.

The Economics of Land Use

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The primary focus of this cost analysis and the associated fee adjustments are in areas where major cost fluctuations have occurred over the last five years (e.g., the real estate and land market) and where the East Contra Costa County Habitat Conservancy (the Conservancy) has had specific implementation experience (e.g., acquisition of large land parcels and wetland creation/restoration). These costs are major components of the development mitigation fees and the wetland restoration/creation fees.

Specifically, the cost review focuses on three areas:

- **Land Acquisition Costs**. The real estate market has changed significantly since 2006. Information on land transactions by the Conservancy as well as other relevant rural land sales in East County in recent years were used to develop new estimates of per-acre land costs to update land acquisition costs.
- **Wetland Restoration/Creation Costs**. The Conservancy has implemented several restoration projects. This information combined with a review of information on other individual restoration projects, interviews with firms active in overseeing wetland restoration projects in East County and elsewhere in the region, and cost assumptions from other HCP/NCCPs inform the refinement of restoration and related costs.
- **Other Costs (management, monitoring, and other implementation costs)**. The early stage of conservation plan implementation means that there is limited information on many other plan costs, such as the costs of preserve management and maintenance, the costs of monitoring, research, and adaptive management, or the overall administrative costs. For these other costs, an inflation-related index was used to estimate 2011 costs.

The updated cost estimates were then integrated into the existing fee calculators that reflect the established mitigation requirements and fair share cost allocations to estimate 2011 mitigation fee levels. These fee estimates were then compared to current fee levels. Since plan adoption in 2006, the Conservancy has automatically updated its development and wetland mitigation fees using the combination of consumer price and housing price indices described in Chapter 9 of the Conservation Plan. The annual automatic adjustments between 2006 and 2011 increased wetland mitigation fees by 11.1 percent in line with inflation and decreased development mitigation fees by 10.5 percent (see **Table 1**).

Findings and Recommendations

Table 2 summarizes the 2011 development and wetland mitigation fee estimates. **Appendix A** provides the detailed development fee calculation. Key findings and recommendations are as follows:

1. The 2011 levels of the development fees determined by the automatic adjustment process are appropriate for 2011 with no adjustment necessary.

Reflecting a combination of both the significant declines in real estate and rural land values as well as inflationary increases in other costs, the annual automatic inflator established a 10.5 percent decline in development mitigation fee levels in all three zones. As shown in **Table 3**, the 2011 fair share cost estimate to be funded by development mitigation fees is estimated at $150 million, relative to the $170 million 2006 estimate. The 2011 fee levels required to cover

this cost allocation are very similar (0.7 percent above) to the 2011 automatic inflator fee levels (see **Table 2**). This level of difference is minor given the planning-level nature of the cost estimates. As a result, the automatic inflator 2011 fee level is appropriate for 2011.

2. With the exception of riparian habitat and stream impact mitigation, the wetland mitigation fee levels require a significant upward adjustment.

Wetland mitigation costs—including construction costs, the associated planning, engineering, and post-construction maintenance costs, and staff costs—are particularly difficult to estimate. Every project is characterized by different issues and challenges and the actual outcomes in terms of the acres of new functioning wetland created/restored is often uncertain until several years after project completion. Based on a combination of the Conservancy's experience to date, a review of costs of other restoration projects, cost assumptions in other San Francisco Bay Area HCP/NCCPs, interviews with restoration specialists active in Contra Costa County, and the evolving understanding of the restoration opportunities available in the East County, a wetland mitigation fee increase in the 12.5 to 32.5 percent range is recommended for wetlands (perennial, alkali, and seasonal) and ponds, open water, and sloughs. As discussed in subsequent sections, this increase results in fees that are higher than current fees but lower than what would be needed based on the Conservancy's actual restoration costs to date. Future larger wetland restoration projects could result in an average cost below this range, while the continuation of the Conservancy's existing experience could result in an average cost above this range. Continued scrutiny of the actual costs of restoration/creation in subsequent reviews will help ensure the fees are set as close as possible to actual costs.

3. The stream mitigation fee can be adjusted downward, while the riparian habitat mitigation fee requires only a modest increase.

The stream fee represents a unique case among wetland types. To date the Conservancy has had limited experience with streams restoration, though these experiences do suggest the opportunity to reduce the fee and still have sufficient revenue to cover stream restoration costs. As a result, the level of contingency was reduced for this habitat type from 20 percent to 5 percent, reducing the required fee by close to 15 percent relative to the 2006 fee level and over 20 percent relative to the current 2011 fee level. The riparian restoration mitigation fee was refined modestly upward to include higher staff costs and construction-related costs, consistent with the refinements for other habitat categories (however, the construction costs were solely adjusted by inflation for the period 2006 to 2011). This results in a recommended increase of about 5 percent relative to the current 2011 fee.

4. The annual automatic inflator has been functioning appropriately and no change to the indices or approach is recommended.

There are a number of factors that change conservation costs over time and no one index or set of indices can track these changes perfectly. The experience to date does, however, suggest that the automatic update approach being used for the development mitigation fee has performed relatively well. The refinements in the wetland mitigation fees are more significant relative to the automatic refinements, though this is more related to the challenges and uncertainties in estimating these costs than the use of an inflation-based index to adjust the mitigation fees. As a result, it is recommended that the same annual automatic inflator approach is applied in the years after this update, but before the next more detailed update.

Land Value Analysis

Land acquisition costs represented over 55 percent of the total conservation costs estimated in 2006, under both the initial and maximum UDA scenarios. Per-acre land value estimates were developed for parcels of different sizes and topography in 2006 based on available information on arms-length transactions of rural land in East County and for land inside the Urban Limit Line based on a simplified residual land value analysis. These per-acre values were applied to the expected blend of parcel sizes and relative locations to develop the 2006 acquisition cost. This update applied the same methodology using more recent land transactions data as well as Conservancy-specific information to update the per-acre land value estimates and the overall land acquisition cost estimate. **Table 4** shows both the 2006 and 2011 per-acre land value estimates. Detailed information on the new land value information and analysis used to develop the 2011 per-acre land values is provided in **Appendix B**. An overview of the approach and data considered is described below:

- **120 acres and over**. This size category is expected to account for the majority of the land conserved by the plan. Working with the East Bay Regional Park District, the Conservancy has had considerable success in acquiring parcels of over 120 acres. Based on this data and necessary adjustments for sale-specific circumstances—such as the purchase of lease rights as well as land—the average land value per acre was about $4,700 per acre, over 15 percent below the 2006 estimate in nominal dollar terms.

- **5 to 120 acres**. The Conservancy has not purchased parcels in this size range to date, though a number of purchases in this range are expected to be necessary. A County Assessor database of transactions was searched for arms-length transactions of rural parcels in the East County in the ranges of 5 to 10, 10 to 40, and 40 to 120 acres. This data was considered in conjunction with recent transactions by Save Mount Diablo to identify planning-level estimates of average land values. As shown, land value reductions of 32 percent, 28 percent, and 10 percent were identified for the three size categories.

- **Inside Urban Limit**. Land inside the urban limit line carries greater levels of speculative value associated with its future urban development potential. In 2006, land values were estimated based on home prices and estimates of the general time period before the development. This same approach was taken with a downward adjustment of the average home price for sales in the East County. As a result, land values were estimated to decrease by about 43 percent for the range of land types considered within the Urban Limit Line. As a result, 2011 per-acre land values were estimated at up to $37,500 per acre.

Table 4 also shows the overall effects of these changes in per-acre land value estimates. In particular, the direct land acquisition costs reduced from $220 million in 2006 to about $177 million in 2011 (nominal dollar terms). When other acquisition-related costs—such as site improvements, due diligence, and planning surveys—are included, the 2006 nominal dollar cost of $236 million reduces to $192 million, a reduction of close to 20 percent.

Wetland Restoration Cost Analysis

Wetland restoration costs were updated based on Conservancy experience, a review of cost data from other restoration projects in the region, cost assumptions used in other San Francisco Bay Area HCP/NCCPs, and conversations with restoration specialists involved with restoration

projects in East County and other Bay Area locations. The key information sources and wetland mitigation fee calculator adjustments and results are described below. **Appendix C** provides the detailed background data considered.

Information Sources

Conservancy Experience

Conservancy experience has included three restoration projects to date—two seasonal wetlands/ponds projects (Souza I/Vasco Caves and Souza II) and one riparian project (Irish Canyon). Irish Canyon involved volunteer labor that will not be typically available so this labor was monetized so that project projects could be utilized in this analysis. A portion of Souza II and Irish Canyon restoration costs were associated with stream restoration, so these were removed. The resulting data indicated the following average per-acre restoration costs:

1. Seasonal wetland/pond restoration costs of about $180,000 per acre, including about $75,000 per acre in construction costs, $75,000 per acre in construction-related costs, and $30,000 per acre in Conservancy staff costs; and

2. Riparian restoration costs of about $85,000 per acre, including about $50,000 per acre in construction costs, about $25,000 per acre in construction-related costs, and about $10,000 per acre in Conservancy staff costs.[1]

Other Information Sources

Three additional sets of information were also considered:

- **Other Restoration Projects**. Actual restoration costs per acre for projects in the Bay Area and Sacramento Valley have varied between $10,000 per acre to $550,000 per acre depending on the location, micro-climate, level of engineering, and scale of project. Restoration projects were selected based on size (less than 25 acres) and type (riparian/wetland projects only) from a database of restoration projects compiled by ICF International. For this sample, the weighted average per-acre restoration cost was about $200,000 per acre for projects of an average size of about 14 acres.

- **Interviews with Restoration Specialists**. Interviews with wetland specialists at HT Harvey & Associates suggested a typical range of $80,000 to $220,000 per-acre wetland restoration cost (excluding implementing entity staff costs) in the East County, recognizing the possibility for higher costs where significant engineering is required to create self-sustaining wetlands. For East County, the topography and climate create challenges that drive the costs upwards and suggest a potential average per-acre restoration cost for wetlands close to the mid-point of this range or in the $130,000 to $150,000 per-acre range. This cost range could be expected to apply to the three wetland types and the open water, channel, and pond categories.

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[1] The overall wetted acre outcomes from these three projects are still uncertain. Small variations in the outcomes could result in significant changes in the estimated costs per acre. A fourth project, the Lentzner Springs project, was performed by the Conservancy but not included in this analysis because the project was a small pilot project and the very high per-acre costs are not representative of likely future projects.

- **Santa Clara Valley HCP/NCCP**. The Santa Clara Valley HCP/NCCP public review document has recently developed a series of per-acre restoration cost estimates for some similar habitat types. While there are numerous differences in the two plans and locations, they are both San Francisco Bay Area plans expected to be required to conduct a number of smaller restoration projects relative to other plans in the Sacramento and San Joaquin Valleys. The following 2010 Santa Clara Valley restoration cost estimates (excluding staff costs) were considered as a point of comparison, $85,000 per acre for riparian restoration, $125,000 per acre for seasonal wetland restoration, $97,500 per acre for ponds restoration, and $506 per linear foot for stream restoration. Implementing staff and related costs are estimated at about $10,500 per acre.

Mitigation Fee Refinements and Results

Recognizing both the importance of the Conservancy experience, but also the limited sample size and uncertain outcomes, the following refinements were applied to the wetland mitigation cost/fee calculator model:

- Per-acre construction costs for the three wetland types and the three other categories noted (ponds, open water, sloughs) were all re-estimated at a level representing the average between the 2006 construction cost level and the Conservancy's seasonal wetland/ponds average of about $75,000 per acre. Because of the variations in starting 2006 estimates, the resulting per-acre construction cost estimates varied, but all fell within the $58,000 to $65,000 per-acre range.

- Construction-related costs as a proportion of construction costs were assumed to be a little over 40 percent, consistent with ICF International estimates for other conservation plans. Although this is below the average level experienced by the Conservancy (100 percent), the addition of the contingency to the fee captures some of this difference.

- Staff-related costs were increased to $12,500 per acre to be more consistent with the original 2006 overall cost model and similar to ICF International estimates for other conservation plans. These are significantly below the Conservancy's experience to date, though staff costs may decrease somewhat as more projects are conducted and if large projects with greater wetted acreage outcomes are identified.

Table 5 summarizes the outcomes of these refinements. As shown, for the six habitat categories addressed so far, the total per-acre restoration costs range from $113,000 to $125,000 per acre, including staff costs. As discussed above in the findings section, the contingency on the stream mitigation fee was reduced to 5 percent given the current expectation of a lower restoration cost per linear foot of stream of about $410 per linear foot (for streams less than 25 feet in width) and over $610 per linear foot for wider streams. Riparian construction costs were also treated distinctly with an assumption that construction costs increased at the level of inflation since 2006 (measured by the consumer price index). The resulting restoration cost per acre is about $68,500.

These per-acre restoration costs represent the mitigation fees with the exception of seasonal wetland and alkali wetland that both have a mitigation ratio of 2:1 under the plan and open water, with a 0.5:1 mitigation ratio. As a result, the seasonal wetland mitigation fee is $245,000 per acre, the alkali wetland mitigation fee is $228,000 per acre, and the open water mitigation

fee is $58,500 per acre. Overall, this fee schedule would cover the estimated wetland mitigation costs, generating $28.2 million in wetland mitigation fees under the initial UDA and $29.9 million in wetland mitigation fees under the maximum UDA scenario (see **Table 5**).

Other Costs

Other costs include management, monitoring, and other implementation costs. The early stages in the conservation plan and the associated limited Conservancy experience addressing ongoing maintenance, monitoring, adaptive management, and other activities means there is little or no new information available to update the cost estimates in the conservation plan. As a result, these costs were increased by the same inflation index (consumer price index) used in the automatic updates under the conservation plan.

Table 1
Mitigation Fee History *
East Contra Costa County HCP/ NCCP Fee Update; EPS#20149

Fee Type/ Category	2006 Original (2006 dollars)	2007 Auto. Updates (2007 dollars)	2008 Auto. Updates (2008 dollars)	2009 Auto. Updates (2009 dollars)	2010 Auto. Updates (2010 dollars)	2011 Auto. Updates (2011 dollars)	2006 - 2011 Change
Development Fees							
(per acre)							
Zone I	$11,919	$12,457	$12,078	$10,731	$10,558	$10,662	-10.5%
Zone II	$23,838	$24,914	$24,155	$21,462	$21,116	$21,324	-10.5%
Zone III	$5,960	$6,229	$6,039	$5,366	$5,279	$5,332	-10.5%
Wetland Mitigation Fee							
(per acre, except as noted)							
Riparian Woodland/ Scrub	$58,140	$60,004	$61,969	$61,981	$63,601	$64,570	11.1%
Perennial Wetland	$79,560	$82,111	$84,799	$84,816	$87,032	$88,359	11.1%
Seasonal Wetland	$172,380	$177,908	$183,731	$183,768	$188,570	$191,445	11.1%
Alkali Wetland	$163,200	$168,433	$173,947	$173,981	$178,528	$181,250	11.1%
Ponds	$86,700	$89,480	$92,409	$92,427	$94,843	$96,289	11.1%
Aquatic (Open Water) (1)	$43,860	$45,266	$46,748	$46,757	$47,979	$48,711	11.1%
Slough/ Channel	$98,940	$102,113	$105,455	$105,476	$108,233	$109,883	11.1%
Streams (per linear foot)							
- 25 feet wide or less	$474	$489	$505	$505	$519	$526	11.1%
- Greater than 25 feet wide	$714	$737	$761	$761	$781	$793	11.1%

*Fee amounts indicated for each calendar year are valid from March 15 of that year until March 14 of the subsequent calendar year.

Sources: East Contra Costa County Habitat Conservancy; Economic & Planning Systems, Inc.

Table 2
Estimated 2011 Mitigation Fees
East Contra Costa County HCP/ NCCP Fee Update; EPS#20149

Fee Type/ Category	2006 Original (2006 dollars)	2011 Auto. Updates (2011 dollars)	2011 New Estimate (2011 dollars)	2011: Est. vs. Auto % Pot'l Change (nominal dollar)
Development Fees				
(per acre)				
Zone I	$11,919	$10,662	$10,732	0.7%
Zone II	$23,838	$21,324	$21,465	0.7%
Zone III	$5,960	$5,332	$5,366	0.7%
Wetland Mitigation Fee				
(per acre, except as noted)				
Riparian Woodland/ Scrub	$58,140	$64,570	$68,000	5.3%
Perennial Wetland	$79,560	$88,359	$117,000	32.4%
Seasonal Wetland	$172,380	$191,445	$245,000	28.0%
Alkali Wetland	$163,200	$181,250	$228,000	25.8%
Ponds	$86,700	$96,289	$117,000	21.5%
Aquatic (Open Water) (1)	$43,860	$48,711	$58,000	19.1%
Slough/ Channel	$98,940	$109,883	$124,000	12.8%
Streams (per linear foot)				
- 25 feet wide or less	$474	$526	$407	-22.7%
- Greater than 25 feet wide	$714	$793	$613	-22.7%

Sources: East Contra Costa County Habitat Conservancy; ICF International; Economic & Planning Systems, Inc.

Table 3
2011 Conservation Cost Summary (2011 dollars): Maximum Permit Area Scenario
East Contra Costa County HCP/ NCCP Fee Update; EPS#20149

Cost Category	2006 Original (2006 dollars)	2011 New Estimate (2011 dollars)	2010 - 2011 % Change
Conservation Costs/ Uses of Funds			
Land Acquisition	$235,680,000	$192,200,000	-18%
Wetland Restoration/ Creation	$23,650,000	$29,858,179	26%
Other/ Contingency	$90,710,000	$96,470,351	6%
Total Costs	**$350,040,000**	**$318,528,531**	**-9%**
Sources of Funds			
Development Mitigations Fees	$169,722,800	$150,108,583	-12%
Wetland Mitigation Fees	$23,650,000	$29,858,179	26%
Rural Infrastructure Projects	$8,931,600	$8,931,600	0%
Other Funding	$147,735,600	$129,630,169	-12%
Total Funding	**$350,040,000**	**$318,528,531**	**-9%**

Sources: East Contra Costa County Habitat Conservancy; ICF International; Economic & Planning Systems, Inc.

Table 4
Average Land Values and Total Land Acquisition Cost
East Contra Costa County HCP/ NCCP Fee Update; EPS#20149

Fee Type/ Category	2006 (2006 dollars)	2011 (2011 dollars)	2006 - 2011 % Change (Nominal Dollar)	Source
Per Acre Land Values				
120 acres and over	$5,600	$4,700	-16%	Conservancy Acquisitions
40 to 120 acres	$9,600	$8,600	-10%	East County General Sales/ Save Mount Diablo
10 to 40 acres	$31,900	$23,000	-28%	East County General Sales/ Save Mount Diablo
5 to 10 acres	$56,000	$38,000	-32%	East County General Sales/ Save Mount Diablo
Inside Urban Limit Line	Up to $66,000	Up to $37,500	-43%	Residual Land Value/ Home Price
Land Acquisition Costs				
Land Acquisition Costs	$220,004,713	$176,832,595	-20%	
Total Land-Related Costs (inc. site improvements, due diligence, planning surveys)	**$235,680,000**	**$192,196,463**	-18%	

Sources: East Contra Costa Conservancy; Save Mount Diablo; County Assessor data; Dataquick; Economic & Planning Systems, Inc.

Table 5

2011 East Contra Costa HCP/ NCCP Wetland Mitigation Fee Estimates

East Contra Costa County HCP/ NCCP Fee Update; EPS#20149

Cost Category	Estimated cost per acre or linear feet of restoration/creation by land cover type								
	Riparian Restoration Acres	**Stream Impact** Linear Ft	**Perennial wetland** Acres	**Seasonal wetland** Acres	**Alkali wetland** Acres	**Slough/ channel** Acres	**Open Water Impact** Acres	**Pond Impact &** Acres	**Total**
COSTS									
Staff and Related Costs	$12,300	$20	$12,300	$12,300	$12,300	$12,300	$12,300	$12,300	na
Construction Costs	$31,625	$299	$60,822	$63,697	$58,672	$64,822	$60,322	$60,322	na
Construction-Related Costs	$13,050	$69	$24,729	$25,879	$23,869	$26,329	$24,529	$24,529	na
Contingency (20%)	$11,395	$19	$19,570	$20,375	$18,968	$20,690	$19,430	$19,430	na
TOTAL per acre	**$68,370**		**$117,421**	**$122,251**	**$113,809**	**$124,141**	**$116,581**	**$116,581**	na
TOTAL per linear ft		**$407**							
FEE CALCULATION									
Mitigation requirement	1:1	1:1	1:1	2:1	2:1	1:1	0.5:1	1:1	na
Fee per acre of impact	$68,370	$407	$117,421	$244,502	$227,618	$124,141	$116,581	$116,581	na
Fee for Final HCP/NCCP (rounded)	**$68,000**	**$407**	**$117,000**	**$245,000**	**$228,000**	**$124,000**	**$58,500**	**$117,000**	na
ESTIMATED FEE REVENUE									
Est. Impacts (Max UDA)	35	4,224	75	16	10	73	17	8	233
Estimated Revenue (Max UDA)	**$ 2,380,000**	**$ 1,718,379**	**$ 8,775,000**	**$ 3,822,000**	**$ 2,188,800**	**$ 9,052,000**	**$ 994,500**	**$ 936,000**	**$ 29,866,679**

Sources: ECCC HCP/ NCCP; East Contra Costa County Conservancy; ICF/ Jones & Stokes; HT Harvey; Economic & Planning Systems, Inc.

APPENDIX A:

Development Fee Calculator

Table A-1: ECCC HCP/NCCP Development Fee Calculator, 2011

1. Determining Future Development's FAIR SHARE of Implementation Costs (assumes Maximum Urban Development Area)

	Urban Acres	Irrigated Ag. Acres	Total Impacted Acres (urban + 0.5*irrigated ag)	Conservation Acres	Conservation Ratio	Fair Share Ratio	Fair Share of New Conservation Acres	Fair Share	
Existing (2003)	23,828	33,028	40,342	43,000	1.07	1.43	14,596	48%	(public share)
Affected during HCP	15,000	(8,000)	11,000	30,300	2.75	1.43	15,704	52%	(future development share)
Status after HCP	38,828	25,028	51,342	73,300	1.43	1.43	30,300	100%	

2. Gross Cost Allocations

	Item	Amount: Initial Permit Area	Amount: Max. Permit Area
a	Total Plan Cost *	$273,187,417	$318,528,531
b	**Wetland Mitigation Cost** (Creation & Restoration) (to be paid by wetland fee)	$28,208,385	$29,858,179
c	Adjusted Plan Cost	$244,979,032	$288,670,351
d	Future Urban Development's "Fair Share" %	43%	52%
e=c*d	**Future Impacts "Fair Share" $**	**$106,417,263**	**$150,108,583**
f	**Contribution by Rural Infrastructure Projects**	**$8,931,600**	**$8,931,600**
g=c-e-f	**Remaining Cost** (to be funded by a variety of public sources)	**$129,630,169**	**$129,630,169**
i=b+e+f+g	Total revenues	$273,187,417	$318,528,531

Key Assumptions:	
Ag. habitat & open space value relative to natural land	50%
New development's share of rural road mitigation costs	0%
Rural road mitigation costs	$7,431,600
Other rural infra. mitigation costs	$1,500,000
Total rural infra. mitigation costs	$8,931,600
Fee zone ratio:	
Zone 1: Eastern and Ag:	2
Zone 2: S/W and Natural:	4
Zone 3: Infill:	1
Paying acres contingency (see note 4)	10%
Units / acre	4

3. Estimated Development Mitigation Fee by Fee Zone

ITEM	FEE ZONES: Eastern and Agricultural Zone I	South + West Natural Areas Zone II	Infill (less 10 acres) Zone III	Total/ Weighted Avg
Total Acres of Impacts (n/incl Rural Infrastructure)				
Initial Plan Area	6,212	2,306	166	8,684
Maximum Plan Area	7,533	4,180	166	11,879
Relative Fee Weighting by Zone (1)	2	4	1	
Relative Funding Burden by Zone -- Percent (2)				
Initial Plan Area	57%	42%	0.8%	100%
Maximum Plan Area	47%	52%	0.5%	100%
Relative Funding Burden by Zone -- Amount (3)				
Initial Plan Area	$60,609,154	$44,998,296	$809,813	$106,417,263
Maximum Plan Area	$70,779,166	$78,549,559	$779,858	$150,108,583
Fee Per Developed Acre (4)				
Initial Plan Area	**$10,732**	**$21,465**	**$5,366**	$12,521
Maximum Plan Area	$10,335	$20,671	$5,168	$12,058
Est. Fee Per Housing Unit for Residential Dvlpmt (5)				
Initial Plan Area	$2,683	$5,366	$1,342	$3,130
Maximum Plan Area	$2,584	$5,168	$1,292	$3,015

Notes:
(1) Relative fee contribution of an acre in each zone.
(2) Relative funding contribution of each zone, taking into account total zone acreage and fee weighting factor.
(3) Relative funding burden times total fee-funded HCP costs.
(4) Funding burden divided by zone acreage. Also includes a 10% contingency factor to account for incomplete buildout.
(5) Assumes average housing density of 4.0 units per acre.

APPENDIX B:

Land Value Information and Analysis

Table B-1
Average Per Acre Land Values
East Contra Costa County HCP/NCCP 2011 Fee Update; EPS # 20149

Category #	Size	Slope	Other	Per Acre Land Value (2006 Valuation)	Per Acre Land Value (2011 Valuation)	Percent Change (2006 to 2011)
OUTSIDE URBAN LIMIT LINE		Whole Parcel				
1.	120 acres+	< 26%	na	$5,600	$4,700	-16%
2.	40 -120 acres	< 26%	na	$9,600	$8,600	-10%
3.	10 - 40 acres	< 26%	na	$31,900	$23,000	-28%
4.	5 - 10 acres	< 26%	na	$56,000	$38,000	-32%
5.	0 - 5 acres	< 26%	na	$80,000	$132,000	65%
6	ALL	> 26%	na	$3,800	$3,500	-8%
INSIDE URBAN LIMIT LINE		Percentages of Parcel				
7.	na	<15%	Not Now Designated for Development	$21,300	$12,050	-43%
8.	na	15-26%	Not Now Designated for Development	$14,800	$8,400	-43%
9.	na	>30%	Not Now Designated for Development	$5,200	$3,000	-42%
10.	na	<15%	Designated for Development	$66,200	$37,400	-44%
11.	na	15-26%	Designated for Development	$46,400	$26,200	-44%
12.	na	>26%	Designated for Development	$16,600	$9,400	-43%
INSIDE URBAN LIMIT LINE - BYRON AIRPORT						
13.	na	na	na	$10,300	$5,800	-44%

Source: Variety of Appraisals; County Assessor data; Home Sales Prices and Residual Land Value Analysis; East Contra Costa Habitat Conservancy; Save Mount Diablo; Economic & Planning Systems, Inc.

Table B-2
Overview of EBRPD/ECCC Habitat Conservancy Land Acquisitions
East Contra Costa County HCP/NCCP 2011 Fee Update; EPS # 20149

	Owner/Project Name	Year of Sale	Approx Size (acres)	Adjusted Price (1)	Adjusted Price per Acre (1)
1	Souza I	2004	617	$2,780,000	$4,506
2	Lenztner	2005	320	$1,340,000	$4,188
3	Chaparral Spring	2008	333	$1,400,000	$4,204
4	Schwartz	2009	153	$803,880	$5,254
5	Souza II	2009	190	$1,692,000	$8,905
6	Fox Ridge	2009	221	$1,900,000	$8,597
7	Vaquero Farms South	2009	681	$2,383,500	$3,500
8	Vaquero Farms North	2010	577	$2,770,000	$4,801
9	Grandma's Quarter	2010	157	$1,036,200	$6,600
10	Martin	2010	230	$1,445,395	$6,284
11	Ang	2010	460	$2,763,840	$6,008
12	Souza III	Pending	911	$2,222,765	$2,440
13	Irish Canyon--Save Mount Diablo	2010	320	$1,700,000	$5,313
14	Land Waste Management	Pending	469	$3,050,000	$6,503
15	Barron	Pending	798	$2,952,600	$3,700
	Total		**6,437**	**$30,240,180**	**$4,698**

*All prices in nominal dollars.
(1) Adjusted price and adjusted price per acre exclude portions of sales price and acreage pertaining to lease revenues, existing conservation easements, and significant improvements.

Source: Contra Costa County January 2011; Economic & Planning Systems, Inc.

Table B-3
Transaction Data for Sales between 40 and 120 Acres
East Contra Costa County HCP/NCCP 2011 Fee Update; EPS # 20149

#	Closest City	Zoning	Land Use/ Project Name	Sales Date	Acres	Sales Price (Nominal Dollars)	Price per Acre	Source
East County Assessor Information [(1)]								
1	Bay Point	P-1	VACANT LAND (NEC)	September-07	89	$906,000	$10,158	
2	Pittsburg		VACANT LAND (NEC)	April-10	61	$330,000	$5,377	
3	Pittsburg	A-4	VACANT LAND (NEC)	April-10	61	$1,032,000	$16,918	
4	Pittsburg	A-4	VACANT LAND (NEC)	June-09	54	$300,000	$5,580	
5	Pittsburg	A-4	VACANT LAND (NEC)	June-09	50	$300,000	$5,948	
	Weighted Average						**$9,083**	
Save Mount Diablo Acquisitions								
1		A-4	Wright Canyon	December-01	76	$640,000	$8,421	
2		A-4	Joseph Galvin Ranch	January-03	61	$385,000	$6,311	
	Weighted Average						**$7,482**	
Total								
	Weighted Average						**$8,598**	

(1) Recent transaction data from County Assessor land transaction database for land with zero or minimal improvement value.

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

Table B-4
Transaction Data for Sales between 10 and 40 Acres
East Contra Costa County HCP/NCCP 2011 Fee Update; EPS # 20149

#	Closest City	Zoning	Land Use/ Project Name	Sales Date	Acres	Sales Price (Nominal Dollars)	Price per Acre	Source
East County Assessor Information [(1)]								
1	Oakley		VACANT LAND (NEC)	November-08	40	$1,447,500	$36,636	
2	Byron	A-4	AGRICULTURAL (NEC)	March-10	31	$405,000	$13,111	
3	Byron	A-4	AGRICULTURAL (NEC)	July-09	26	$275,000	$10,385	
4	Knightsen	A-3	VACANT LAND (NEC)	September-09	21	$337,000	$16,431	
5	Byron	A-4	AGRICULTURAL (NEC)	March-09	20	$300,000	$14,815	
6	Antioch		VACANT LAND (NEC)	September-09	20	$1,071,500	$52,966	
	Weighted Average						**$24,298**	
Save Mount Diablo Acquisitions								
1		A-20	7030 Morgan Territory Rd	December-10	20	$425,000	$21,250	
2		A-2	Young Canyon	May-06	18	$300,000	$17,026	
3		A-2	Marsh Creek II	May-08	17	$320,000	$18,824	
	Weighted Average						**$19,132**	
Total								
	Weighted Average						**$22,970**	

(1) Recent transaction data from County Assessor land transaction database for land with zero or minimal improvement value.

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

Table B-5
Transaction Data for Sales between 5 and 10 Acres
East Contra Costa County HCP/NCCP 2011 Fee Update; EPS # 20149

#	Closest City	Zoning	Land Use	Sales Date	Acres	Sales Price (Nominal Dollars)	Price per Acre	Source
East County Assessor Information [(1)]								
1	Bethel Island	A-2	VACANT LAND (NEC)	December-06	10	$700,000	$70,000	
2	Pittsburg	A-4	VACANT LAND (NEC)	June-09	5	$300,000	$57,692	
	Weighted Average						**$65,789**	
Save Mount Diablo Acquisitions								
1		A-2	Oak Hill	December-10	10	$87,500	$8,750	
2		A-2	Marsh Creek I	November-07	9	$315,000	$35,314	
3		A-2	Dry Creek	August-10	5	$84,000	$16,216	
	Weighted Average						**$20,187**	
Total								
	Weighted Average						**$37,824**	

(1) Recent transaction data from County Assessor land transaction database for land with zero or minimal improvement value.

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

Table B-6
Transaction Data for Sales between 2 and 5 Acres
East Contra Costa County HCP/NCCP 2011 Fee Update; EPS # 20149

#	Closest City	Zoning	Land Use	Sales Date	Acres	Sales Price (Nominal Dollars)	Price per Acre	Source
East County Assessor Information [(1)]								
1	Pittsburg		INDUSTRIAL ACREAGE	April-09	4	$100,000	$22,624	
2	Bay Point	P-1	RESIDENTIAL ACREAGE	December-09	3	$500,000	$174,825	
3	Discovery Bay	P-1	RESIDENTIAL ACREAGE	November-10	2	$800,000	$329,218	
4	Bay Point	P-1	RESIDENTIAL ACREAGE	December-09	2	$500,000	$215,517	
5	Bay Point	P-1	RESIDENTIAL ACREAGE	December-09	2	$500,000	$215,517	
6	Brentwood		RESIDENTIAL ACREAGE	December-10	2	$200,000	$90,909	
7	Oakley		RESIDENTIAL ACREAGE	April-09	2	$50,000	$24,390	
8	Bethel Island	A-2	RESIDENTIAL ACREAGE	December-10	2	$100,000	$50,000	
	Weighted Average						**$133,495**	
Save Mount Diablo Acquisitions								
1		F-R	Marsh Creek IV	December-08	3	$325,000	$122,642	
	Weighted Average						**$122,642**	
Total								
	Weighted Average						**$132,258**	

(1) Recent transaction data from County Assessor land transaction database for land with zero or minimal improvement value.

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

Table B-7

Inside the ULL Per Acre Land Value Calculation
East Contra Costa County HCP/NCCP 2011 Fee Update; EPS # 20149

Item	Value		Source
Average Sales Price Per Single Family Unit	$381,000	a	New Residential Project Sales Prices, including Shea, Seeno, and KB Homes
Units per Gross Acre	4.5	b	Average Lot Size of 7,000 sqft and net to gross ratio of 75 percent
Total Development Value	$1,714,500	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	$154,305	e=c*d	Calculated
Discount Rate	12%	f	Average land speculator discount rate
Category IV - 12.5 years to entitlement/ development	$37,424	g=e/(1+f)^12.5	Calculated
Category IV - 22.5 years to entitlement/ development	$12,050	h=e/(1+f)^22.5	Calculated

Sources: The Gregory Group; Economic & Planning Systems, Inc.

APPENDIX C:

Wetland Mitigation Background Data

Table C-1
Conservancy Projects: Expected Restoration/ Creation Outcomes (1)
East Contra Costa County HCP/ NCCP Fee Update; EPS#20149

Project	Riparian (acres)	Seasonal Wetlands (acres)	Ponds (acres)	Total Acres
VASCO CAVES - SOUZA I POND	0.00	0.99	0.10	1.09
SOUZA II RESTORATION	0.00	4.00	0.20	4.20
IRISH CANYON	0.91	0.00	0.00	0.91
TOTAL	0.91	4.99	0.30	6.20

(1) Actual outcomes in terms of successfully created and sustainable wetlands are sometimes uncertain until a period after the actual work is completed. These numbers represent the Conservancy's best estimates of expected outcomes based on current information.

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

Table C-2
Conservancy Wetlands Projects: Restoration/ Creation Costs (1)
East Contra Costa County HCP/ NCCP Fee Update; EPS#20149

Project/ Cost Category	Cost	Per Acre
WETLANDS/ PONDS		
Vasco Caves - Souza I Pond		
Staff	$65,020	$59,651
Construction	$167,655	$153,812
Design	$75,000	$68,807
Maintenance	$51,394	$47,151
Other (2)	$0	$0
Total	**$359,069**	**$329,421**
Souza II Restoration (3)		
Staff	$87,739	$20,890
Construction	$232,500	$55,357
Design	$170,457	$40,585
Maintenance	$42,279	$10,067
Other (2)	$55,923	$13,315
Total	**$588,899**	**$140,214**
Total/ Average		
Staff	$152,759	$28,877
Construction	$400,155	$75,644
Design	$245,457	$46,400
Maintenance	$93,674	$17,708
Other (2)	$55,923	$10,572
Total	**$947,968**	**$179,200**
RIPARIAN		
Irish Canyon (3)		
Staff	$9,546	$10,490
Construction (4)	$46,013	$50,564
Design	$3,205	$3,522
Maintenance	$14,000	$15,385
Other (2)	$5,600	$6,154
Total	**$78,365**	**$86,115**

Table C-2
Conservancy Wetlands Projects: Restoration/ Creation Costs (1)
East Contra Costa County HCP/ NCCP Fee Update; EPS#20149

Project/ Cost Category	Cost	Per Acre

(1) Cost from Conservancy accounting system. Includes actual costs from 2008 to 2010 as well as associated maintenances costs expected for 2011 to 2012.
(2) Includes other costs not easily allocated to one of the other categories.
(3) Excludes 30 percent of total restoration costs not associated with seasonal wetlands, ponds, or riparian creation.
(4) Irish Canyon construction was coordinated by Save Mount Diablo and primarily included volunteer labor. Because this is approach is unlikely to be suitable in most cases, the volunteer (3,400 hours) were monetized using two-thirds of the lowest hourly rate provided to the Conservancy by its contractors (assuming more efficient work from professional contractors).

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

Table C-3
Selected Riparian/ Wetlands Restoration/ Creation Projects and Costs (1)
East Contra Costa County HCP/ NCCP Fee Update; EPS#20149

Year	Project	County	Size (acres)	Landcover Type	Total Cost (2007 $$) (2), (3)	Cost/Acre (2007 $$) (3)
1994	Coyote Creek 1	Santa Clara	8.0	Riparian	$279,320	$34,915
1995	El Dorado Hills	El Dorado	3.0	Riparian/Ponds	$899,066	$299,689
1995	Coyote Creek 2	Santa Clara	22.0	Riparian/SRA	$1,866,691	$84,850
2001	Guadalupe Creek	Santa Clara	20.4	Riparian/upland	$7,618,326	$373,447
2004	Del Paso Park	Sacramento	13.6	Riparian/wetland/upland	$500,204	$36,780
2005	Miners Ravine	Sacramento	20.5	Riparian/wetland/upland	$344,342	$16,797
2006	Del Paso Park	Sacramento	13.6	Riparian/wetland/upland	$559,382	$41,131
2006/ 2007	Coyote Parkway Freshwater Wetland Project	Santa Clara	8.6	water channels	$4,693,325	$545,735
2006/ 2007	Pajaro Basin Freshwater Wetland Project	Santa Clara	9.0	Freshwater wetland	$4,661,349	$517,928
2004	Riparian & Wetland Habitats Mitigation	Santa Clara	20.0	Riparian/wetland	$6,634,522	$331,726
Total/ Weighted Average			**138.7**		**$28,056,526**	**$202,282**

(1) Taken from ICF International 2007 restoration project cost database; only includes riparian/ wetland projects of less than 25 acres.
(2) In most cases the total cost to construct is generated from construction cost estimates from 100% plan set construction documents, engineer's estimate and bid form, or actual cost to construct the project.
(3) Calculated using Bureau of Labor Statistics inflation calculator on http://www.bls.gov/cpi/home.htm. Accessed 7/1/07.

Sources: ICF International; Economic & Planning Systems, Inc.

Table C-4
Santa Clara Valley Habitat Plan Public Review Draft: Restoration/ Creation Cost Assumptions *
East Contra Costa County HCP/ NCCP Fee Update; EPS#20149

Land Cover Type	Cost per Acre					Mitigation Ratio	Potential Per Acre Mitigation Fee (5) (rounded)
	Construction (1)	Construction Related (2)	Staff Costs (4)	Contingency (3)	Total		
Riparian Woodland/ Scrub	$47,840	$26,598	$10,432	$11,166	$96,036	1:1	$96,000
Seasonal Wetland	$80,730	$29,536	$10,432	$16,540	$137,238	2:1	$274,000
Ponds	$59,800	$24,856	$10,432	$12,698	$107,786	1:1	$108,000
Streams (linear ft)	$311	$129	na	$66	$506	1:1	$506

* Per acre staff cost and total fee per acre estimated by EPS based on information in draft HCP/ NCCP.
[1] Includes Construction and Restoration Repair costs.
[2] Includes Design, Plans and specifications, Bid assistance, Pre-construction surveys, Construction oversight and monitoring and Post-construction maintenance
[3] 15 percent of construction and construction-related costs.
[4] Based on total estimated implementing staff costs spread across 573 acres of restoration conservation goal.
Staff costs associated with stream restoration was not estimated.
(5) Estimated by EPS. Includes EPS estimate of staff costs where shown.

Source: Santa Clara Valley Draft HCP/ NCCP/ ICF International (September 2010);
Economic & Planning Systems, Inc.