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Options for Assessing In-Lieu Fees

Prepared for the
Pima County Regional Flood Control District

by

SWCA Environmental Consultants

July 2010

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1.0 INTRODUCTION AND BACKGROUND

Chapter 16.30 of the Floodplain and Erosion Hazard Management Ordinance No. 2005-FC2 (Ordinance) stipulates that an applicant (private property owner, government agency, or developer) can mitigate for unavoidable negative impacts to regulated riparian habitat (RRH) through the use of one of the following compensatory onsite mitigation options: preservation, enhancement, restoration, or establishment. If these onsite mitigation options are investigated and deemed not feasible for the applicant, then offsite mitigation may be proposed; however, approval by the Pima County Regional Flood Control District (District) and the Flood Control District Board of Directors (Board) is required. Currently, three offsite compensatory mitigation options are available for consideration, including (1) mitigation on another parcel of land with comparable riparian habitat and appropriate long-term protection measures; (2) if the project is large commercial or master planned community, then a land exchange proposal can be considered; and (3) an in-lieu monetary fee may be proposed. It should be noted and stressed the offsite mitigation opportunities become an option only after the applicant has shown that avoidance is not possible, impacts to RRH have been minimized, and the ability to mitigate entirely onsite has been proven infeasible. Compensation for RRH loss (in-lieu fee) is not meant to replace avoidance and minimization.

At this time, the District is proposing to revise the in-lieu fee portion of the offsite compensatory mitigation option that would be implemented to allow the District to collect appropriate fees from those projects impacting RRH and in turn allow the District to use these mitigation fees to purchase, enhance, restore, establish, and/or maintain riparian habitat elsewhere within Pima County (the County). Under current requirements, fees are assessed by estimating the cost of mitigation, had mitigation occurred onsite. This method leaves the burden of estimating cost on the property owner and results in variable cost estimates, based upon the person assessing the fee and where cost information is obtained from. The current program has fallen short of expectations and has not been effective in achieving the District's goal of applying mitigation fees toward creating and maintaining RRH elsewhere in the County. Reasons for the existing program's shortfalls are twofold. First, offsite mitigation fees are collected prior to approval of the floodplain use permit for single-lot development and tentative plat/development plan approval for residential and commercial development. Although the fee is collected prior to RRH impacts, many years may pass before sufficient funds are collected to acquire land, with RRH or to restore, enhance and/or establish riparian habitat on existing District owned property. This scenario results in impacts occurring at a much greater rate than mitigation. Second, the fees have been grossly insufficient to achieve meaningful mitigation goals. While some habitat has been restored under the existing system, the fees collected have not proven adequate to acquire an equal amount of land, let alone manage it at the level necessary to maintain habitat value in perpetuity.

Given these shortcomings, it has become evident to the District that new guidelines for offsite RRH mitigation are necessary. The goal of the new guidelines is to allow RRH to be mitigated in a timelier manner relative to when impacts occur and to be funded at a level that is commensurate with actual mitigation costs. To assist in the development of the new guidelines, the following issues were identified and addressed throughout this revision process:

- Understand the true cost of mitigation and long-term management of riparian habitat;
- Formulate a method for the valuation of RRH and appraisal methods;
- Revised method should be easily understandable and costs defensible;
- Determine a process for obtaining sufficient in-lieu fees;
- Process needs to be easy to use, implement, and manage;
- Establish an administrative process for expending in-lieu fee funds received;

- Develop site selection criteria for new mitigation or receiving areas; and
- Consider tools and opportunities for partnering and leveraging funds.

The goal of this revision to the RRH offsite mitigation guidelines is to provide an avenue for development interests, property owners, and public projects that will allow offsite compensatory mitigation for negative impacts to RRH when preservation or other onsite mitigation are deemed not feasible. Any in-lieu fees obtained by the District will be used toward the purchase of property with high value riparian habitat, or District projects that may include restoration, enhancement, and/or preservation of RRH, with the overall objective of improving or establishing riparian habitat in one area to compensate for negative impacts to RRH that occur elsewhere in the County. This process is anticipated to provide a higher degree of permitting certainty and design flexibility while a development or public project is still in the planning stage.

The following document describes how the components of the proposed RRH offsite mitigation guidelines, including the in-lieu fee program, were developed and how the process is proposed to function. Also, this document provides additional guidance for the land exchange offsite compensatory mitigation option. Finally, a discussion is included that summarizes the District's overall process to revise the offsite mitigation guidelines and other methods considered.

2.0 PROCESS FOR DETERMINING THE COST PER SQUARE FOOT MITIGATION IN-LIEU FEES

In order to address the issues with the inadequacy of the current in-lieu fees that the District was obtaining, an attempt was made to obtain data from multiple sources for a better understanding of actual mitigation costs and to facilitate with assigning new fees. Cost data for actual completed riparian projects were compiled from a variety of sources, including Pima County projects, online searches, and descriptions of existing projects. Data requests were also solicited from a number of entities including landscape architect and consulting firms, southern Arizona municipalities, the Bureau of Land Management, and the U.S. Army Corps of Engineers. Requests were mailed to 24 entities; of those we received seven responses. Appendix B contains the request letter that was sent by the District and also the responses received. In addition to the data request, a literature search was completed in order to identify other information on restoration projects (Appendix C). Data on a total of 19 projects were collected, then compiled to use as the basis for determining new fees. Specific data gathered for each project included the total project costs, acreage of the project, annual operations and maintenance (O&M) costs, and annual water costs. Annual costs were extrapolated to a period of five years, based on the current District Ordinance.

Much of the restoration cost data collected were insufficient for analysis, and were discarded. For example, one project cost provided was \$4,400,000 for 850 acres. However without further details being provided, it was unknown if the costs included land acquisition or engineering and design costs, which often times can be the most costly part of a project. Also, the scope of the project was vague, and it was unknown whether the project included plantings and maintenance or simply preservation of riparian area. Another project was titled riparian restoration, but only involved fencing out livestock from the riparian zone; therefore, it was deemed inadequate data for use in this particular process. Thusly, the dataset was narrowed to 19 projects with useful cost information. It is unclear if land acquisition costs were included in the total costs for all 19 projects; costs for at least one project are known to have not included land acquisition. Nonetheless, it was decided to use the only available data with acknowledgment of this deficiency.

Eleven of the 19 projects that had otherwise useful data, were missing O&M and/or water costs. To correct for this deficiency, O&M and/or water costs were extrapolated from the other project data and used to complete the dataset. For example, annual costs for those 11 projects that provided O&M data range from \$77 to \$3,850 per acre, with an average O&M cost of \$1,936 per year. This average O&M cost per acre was applied to the remaining 8 projects over the 5-year O&M period. Additionally, annual cost on the 9 projects that provided water data range from \$214 to \$4,400 per acre, with an average water cost of \$1,643 per year. This average cost for water was applied to the remaining 10 projects over the 5 year period. Additionally, the District assumes that their restoration projects will require water and that water will not be free. Therefore, for projects with free water (i.e., onsite springs or wells), average water costs were added to their total costs to generate an accurate cost per square foot with water.

A per acre and per square foot cost, which includes the initial cost of the project as well as O&M and water for a 5-year period, was calculated for each project. Data for all 19 projects are presented in Table 1 and supplemental information regarding the projects is included in Appendix C.

Table 1. Actual riparian mitigation project costs obtained by the District.

Project Name	Acres	Total Cost	Includes Land Cost?	O&M (5 yrs)	Water (5 yrs)	Cost/Ac	Cost/Sq ft
Ed Pastor Kino	170	\$12,000,000	No	\$250,000	\$1,325,000	\$79,853	\$1.83
El Rio Antiguo	284	\$66,000,000	Unknown	\$2,000,000	\$4,260,000	\$254,437	\$5.84
Rillito River (Swan Wetlands)	40	\$4,740,000	No	\$770,000	\$405,000	\$147,875	\$3.39
Paso de Iglesias	1098	\$92,000,000	Unknown	\$4,035,000	\$5,500,000	\$92,473	\$2.12
Tres Rios del Norte	3000	\$292,000,000	Yes	\$31,500,000	\$66,000,000	\$129,833	\$2.98
Esperanza Ranch	310	\$600,000	Unknown	\$3,000,209	\$0	\$11,614	\$0.46
High Plains	18	\$750,000	Unknown	\$174,206	\$140,000	\$59,123	\$1.36
Sweetwater (effluent wetlands)	17.3	\$1,600,000	Unknown	\$360,000	\$0	\$113,295	\$2.79
San Xavier Indian Reservation	17.5	\$670,000	No	\$169,367	\$143,790	\$56,180	\$1.29
Santa Fe Ranch	10	\$70,000	Unknown	\$96,781	\$82,166	\$24,895	\$0.57
Yuma West	35	\$4,400,000	Unknown	\$338,733	\$287,580	\$143,609	\$3.30
Rio Salado (Tempe)	150	\$6,200,000	No	\$1,150,000	\$0	\$49,000	\$1.31
Va Shly 'ay Akimel	1712	\$137,000,000	Yes	\$655,000	\$6,500,000	\$84,203	\$1.93
Bingham Cinega	285	\$221,000	Unknown	\$2,758,257	\$2,341,723	\$18,670	\$0.43
San Pedro Reserve	850	\$4,400,000	Unknown	\$8,226,380	\$0	\$14,855	\$0.53
Agua Caliente Spring	101	\$5,150,000	Yes	\$977,487	\$0	\$60,668	\$1.58
Cortaro Mesquite Bosque	80	\$1,838,000	No	\$1,490,000	\$110,000	\$42,975	\$0.99
Rio Salado (Phoenix)	595	\$82,400,000	Yes	\$9,500,000	\$0	\$154,454	\$3.73
Tres Rios	5600	\$99,300,000	No	\$6,000,000	\$6,000,000	\$19,875	\$0.46
						Average Costs:	\$1.94

* - Highlighted values had no O&M and/or water data, and were extrapolated from average O&M and/or water costs of other projects.

The cost per square foot varies widely among the 19 projects; from one particularly expensive project at \$5.84 per square foot to a low of \$0.43 per square foot, a cost that presumably did not include all associated expenses. For the next step to normalize the dataset, the high and low “outliers” were then removed. As such, it was determined that projects with costs over \$4.00 and under \$1.50 per square foot

should be removed from consideration. The resulting dataset of 9 projects is presented in Table 2. Per square foot costs range from \$1.58 to \$3.73, with a median cost of \$2.79 per square foot and an average cost of \$2.63 per square foot. It should be noted, however, that actual costs are likely to be higher, as it is known that at least two of these projects, and likely others as well, did not include land acquisition costs.

Table 2. Riparian mitigation dataset after removal of the high and low outliers.

Project Name	Acres	Total Cost	Includes Land Cost?	O&M (5 yrs)	Water (5 yrs)	Cost/Ac	Cost/Sq ft
Ed Pastor Kino	170	\$12,000,000	No	\$250,000	\$1,325,000	\$79,853	\$1.83
Rillito River (Swan Wetlands)	40	\$4,740,000	No	\$770,000	\$405,000	\$147,875	\$3.39
Paso de Iglesias	1098	\$92,000,000	Unknown	\$4,035,000	\$5,500,000	\$92,473	\$2.12
Tres Rios del Norte	3000	\$292,000,000	Yes	\$31,500,000	\$66,000,000	\$129,833	\$2.98
Sweetwater (effluent wetlands)	17.3	\$1,600,000	Unknown	\$360,000	\$0	\$113,295	\$2.79
Yuma West	35	\$4,400,000	Unknown	\$338,733	\$287,580	\$143,609	\$3.30
Va Shly 'ay Akimel	1712	\$137,000,000	Yes	\$655,000	\$6,500,000	\$84,203	\$1.93
Agua Caliente Spring	101	\$5,150,000	Yes	\$977,487	\$0	\$60,668	\$1.58
Rio Salado (Phoenix)	595	\$82,400,000	Yes	\$9,500,000	\$0	\$154,454	\$3.73
						Average:	\$2.63
						Median:	\$2.79

* Highlighted values had no O&M and/or water data and were extrapolated from average O&M and/or water costs of other projects.

Using the cost per square foot data range as calculate above and applying those costs to each of the RRH types, the cost per square foot of disturbed RRH were assigned as follows:

- Hydromesoriparian or Mesoriparian H \$3.50
- Xeroriparian A \$3.00
- Xeroriparian B \$2.75
- Xeroriparian C \$2.50
- Xeroriparian D \$1.75
- Unclassified TBD by District and Board Approval

In summary, these amounts were designed to reflect the actual costs of riparian mitigation and were based on completed project costs as provided in the dataset. In addition, the cost per square foot for the various types of RRH was calculated to include all costs related to riparian restoration, including land acquisition, grading, planting, irrigation, operation and maintenance, periodic removal of invasive species, monitoring, and annual reporting costs since the previous in-lieu fees that were collected by the District were grossly deficient in covering the actual total cost. In the future, these costs may be reviewed and revised periodically by the District to reflect the cost of inflation, changing land values, program operating costs, and the actual costs of creating and maintaining riparian habitats. Finally, it should be noted that these fees are intended to cover the actual costs of riparian mitigation, and it is not the District's intent for these fees to create a net loss or profit but to adequately mitigate for the loss of RRH.

2.1 BASIS OF DEVELOPMENT FOR THE OFFSITE MITIGATION IN-LIEU FEES

The goal of devising a new method for determining offsite mitigation in-lieu fees was to have a simple, predictable, and structured process such that the District would collect an amount commensurate with the District’s actual costs to purchase, create, and/or maintain RRH. Currently, the District is proposing three methods as options from which the final in-lieu fee will be chosen from or modified per appropriate suggestions. However, two stipulations will apply to the final option chosen, including (1) The mitigation ratio would be a direct 1:1 ratio, except for impacts to Hydromesoriparian, Mesoriparian H, or Important Riparian Area (IRA) classifications, the ratio would be a 1:1.5 as already stipulated in the current Ordinance; and (2) Applicants with disturbance to RRH on Single Family Residential (SFR) parcels would receive a further reduction in the in-lieu fee by 50% due to size limitations. The three options for in-lieu fee calculation methods are as follows:

1. The first method proposed involves basing the in-lieu fee solely on the Full Cash Value (FCV) of subject, or nearby properties’ FCV’s if the subject property has no or nominal FCV assigned. The applicant would divide the applicable FCV by the parcel size to get an FCV per square foot. Then the FCV would be multiplied by a 1.25 factor, targeted at 80% of market, to adjust the FCV to full market price¹ per square foot. Lastly, the price per square foot would be multiplied by the size of the disturbed RRH area to get the price of the underlying land affected and the total to assign as the in-lieu fee.
2. The second method entails basing the in-lieu fee solely on the assigned cost per square foot per RRH type as defined in Section 2.0 above. The applicant would calculate the proposed square foot of impact to each RRH type, multiply each by the assigned cost per square foot, and then calculate the total to assign the in-lieu fee.
3. The third method involves a two-step process, wherein the total in-lieu fee is a combination of the first two proposed methods. First, the applicant would obtain the FCV per square foot cost of the proposed impacted RRH area, as described in option #1 above. Second, the applicant would calculate the proposed per square foot RRH impact total, as described in option #2 above. This cost plus the FCV cost would then be tallied and further reduced by 50% in order to avoid over-estimating the in-lieu fee.

2.2 Example Projects for Calculating Offsite Mitigation In-lieu Fees

In order to compare the current in-lieu fees being obtained by the District to the newly proposed in-lieu fees, the District tabulated proposed projects, the disturbance by RRH type, and the in-lieu fee. Then the newly proposed Option #2 in-lieu fee calculation was assessed to those same projects for comparison. Table 3 presents that data and Table 4 provides a summary of averages.

Table 3. Previous and proposed Option #2 in-lieu fee data for actual projects.

Development Type	Year	RRH Type	Project Size	Disturbance	In-lieu Fee	\$/sq ft of Disturbance	New In-lieu Fee per
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¹ The market price is derived from the Assessor’s Full Cash Value (FCV). The FCV is based on mass appraisal techniques used by the Assessor in accordance with State Department of Revenue guidelines. The FCV is multiplied by the 1.25 factor, and the result may be significantly higher or lower than market value if each parcel were appraised individually. The FCV is used as a starting point because it is a value of record already set by Pima County on which there is usually agreement between the County and property owners.

			(ac)	(ac)	(sq ft)	Amount (\$)		Option #2 [†]
SFR	1999	H	0.53	0.33	14,374.80	\$1,426.00	\$0.10	\$37,733.85
SFR	2000	H	0.56	0.33	14,374.80	\$1,335.00	\$0.09	\$37,733.85
SFR	2003	H	10.68	0.4	17,424.00	\$1,761.00	\$0.10	\$45,738.00
SFR	2004	H	3.36	0.44	19,166.40	\$5,639.00	\$0.29	\$50,311.80
Residential subdivision	2004	H	55.87	0.729	31,755.24	\$33,451.00	\$1.05	\$166,715.01
Residential subdivision	2007	H	5.57	1.65	71,874.00	\$65,986.00	\$0.92	\$377,338.50
Utility (gas pipeline)	2007	IRA/H	N/A	8.5	370,260.00	\$357,000.00	\$0.96	\$1,943,865.00
Utility (waste water line)	2009	IRA/H	N/A	1.05	45,738.00	\$33,172.00	\$0.73	\$240,124.50
Railroad	2009	IRA/H	N/A	0.34	14,810.40	\$35,660.00	\$2.41	\$77,754.60
SFR	2009	IRA/H	1.22	0.41	17,859.60	\$1,841.74	\$0.10	\$46,881.45
Resort entry road	2006	IRA/H	N/A	0.9	39,204	\$37,468.00	\$0.96	\$205,821.00
Resort entry road	2010	IRA/H	N/A	0.67	29,185	\$32,939.45	\$1.13	\$153,222.30
SFR	2008	IRA/XB	3.32	0.91	39,640	\$7,270.05	\$0.18	\$81,756.68
SFR	2009	IRA/XB	1.03	0.15	6,534	\$4,390.00	\$0.67	\$13,476.38
Residential subdivision	2008	IRA/XD	253.38	43	1,873,080	\$111,000.00	\$0.06	\$4,916,835.00
Utility (gas pipeline)	2007	XA	N/A	0.494	21,519	\$11,856.00	\$0.55	\$64,555.92
Utility (gas pipeline)	2007	XB	N/A	3.64	158,558	\$72,800.00	\$0.46	\$436,035.60
Railroad	2009	XB	N/A	1.35	58,806	\$63,360.00	\$1.08	\$161,716.50
PCDOT road project	2010	XB	N/A	1	43,560	\$38,110.00	\$0.87	\$119,790.00
Utility (gas pipeline)	2007	XC	N/A	15.75	686,070	\$236,250.00	\$0.34	\$1,715,175.00
S&G mining	2009	XC	144.30	17	740,520	\$200,625.90	\$0.27	\$1,851,300.00
Residential subdivision	2004	XC	47.895	0.71	30,928	\$10,522.00	\$0.34	\$77,319.00
Residential subdivision	2005	XC	45.2	16.12	702,187	\$94,543.00	\$0.13	\$1,755,468.00
Residential subdivision	2006	XC	45.7	10.1	439,956	\$67,672.00	\$0.15	\$1,099,890.00
Development plan (commercial)	2008	XC	3.86	1.36	59,242	\$38,734.84	\$0.65	\$148,104.00
Development plan (residential)	2007	XC	22.04	3.86	168,142	\$58,067.00	\$0.35	\$420,354.00
Development plan	2007	XC	4.16	0.39	16,988	\$3,714.00	\$0.22	\$42,471.00

(commercial)								
Development plan (commercial)	2008	XC	46.73	1.93	84,071	\$30,964.00	\$0.37	\$210,177.00
Commercial subdivision	2008	XC	129.6	10.41	453,460	\$218,816.00	\$0.48	\$1,133,649.00
Development plan (commercial)	2008	XC	3.26	0.08	3,485	\$1,147.00	\$0.33	\$8,712.00
Utility (gas pipeline)	2009	XC	N/A	0.72	31,363	\$8,904.00	\$0.28	\$78,408.00
PCDOT road project	2010	XC	N/A	0.4	17,424	\$14,785.00	\$0.85	\$43,560.00
Residential subdivision	2009	XC	130.8	4.19	182,516	\$35,703.92	\$0.20	\$456,291.00
Utility (gas pipeline)	2007	XD	N/A	3.64	158,558	\$21,840.00	\$0.14	\$277,477.20
Development plan (commercial)	2008	XD	3.26	0.7	30,492	\$8,962.00	\$0.29	\$53,361.00

[†]Where applicable the 1:1.5 ratio or 50% reduction was applied in the calculation.

Table 4. A summary of average in-lieu fees per RRH type from actual projects.

Disturbed RRH Type	Number of Projects	Average In-lieu Fee Based on Current System	Average In-lieu Fee Based on Proposed Option #2	Percent Increase
Hydromesoriparian or Mesoriparian H (H)	6	\$18,266	\$119,262	553%
Xeroriparian A (XA)	1	\$11,856	\$64,556	445%
Xeroriparian B (XB)	3	\$58,090	\$239,181	312%
Xeroriparian C (XC)	14	\$72,889	\$645,777	786%
Xeroriparian D (XD)	2	\$15,401	\$165,419	974%
Important Riparian Area (IRA) and H	6	\$83,014	\$444,611	436%
IRA and XB	2	\$5,830	\$47,617	717%
IRA and XD	1	\$111,000	\$4,916,835	4330%

2.1 Additional Details Regarding Calculating Offsite Mitigation In-lieu Fees

The following information is presented to define additional guidance regarding possible scenarios that may arise during the process of calculating in-lieu fees:

- If the applicant desires to show how current site conditions are different from mapped site conditions (including RRH), the applicant may provide a Natural Resources Assessment report, prepared by qualified consultants, to the District documenting the discrepancy. Appendix D provides guidance on the content and qualifications required for the preparation of the Natural Resources Assessment report.
- Similar to the current system, fees would be requested at the time of final plat approval; however, the applicant may request to defer payment until the time of the grading permit issuance.

2.3 Methods of Calculating In-lieu Fees for Large Development Plans and Plats

Large-scale projects offer unique situations because they occasionally have the potential to affect relatively large areas of RRH. While protecting the RRH onsite is preferred and could well prove to be an asset to the development, the community, and the District's goals for long-term riparian protection, a need for offsite mitigation may still occur. To satisfy offsite RRH mitigation requirements for disturbance to RRH on large developments, a developer may choose to apply the option that will allow them to acquire land elsewhere in the County and transfer that land to the District for long-term protection of its riparian and biological resources. This option will be considered on a case-by-case basis for large developments only and is not available for small developments or single-lot properties. All land acquisition proposals shall be subject to District and Board review and full approval; however, to assist the applicant in locating desirable parcels for land acquisition, the District will have information on their website indicating the location of desirable lands that would be adequate in the land exchange compensatory mitigation option.

For lands to qualify for RRH mitigation and transfer to the District they must contain biological and hydrological value that is comparable to or better than the RRH that is being disturbed onsite. Values that need to be considered include, but are not limited to, water availability, vegetation density, and biological productivity. As such, an evaluation (Natural Resources Assessment) of the land proposed for transfer, performed by qualified professionals, shall be required as part of the developer's land acquisition proposal to the District (Appendix D). The purpose of long-term riparian protection is to promote stable flow conditions and natural functions along watercourses and floodplains County-wide by preserving and/or enhancing riparian vegetation and habitat. In order to meet the purpose and intent of protecting riparian habitat, selection of land appropriate for the land acquisition and transfer option shall be based on the information provided by the applicant's Natural Resources Assessment Report.

3.0 ALTERNATIVE METHODS CONSIDERED

During the District's revision process for these offsite mitigation standards, a number of alternative methods were considered for determining the appropriate method for calculating in-lieu fees for riparian impacts, but were discarded due to various reasons. Some of those reasons included 1) because they were too complex to be usable; 2) they would not apply equitably to both large and small developments; 3) they were not scientifically or fiscally defensible; and/or for a number of other minor reasons. In general, most were simply not practical. Some of the alternative methods considered and the reasons for not considering them further are described below.

1. ***Traditional Mitigation Bank:*** A method discussed in prior years was the use of a traditional mitigation banks (in contrast to the existing bank of funds). The mitigation bank would be comprised of protected riparian areas located in each watershed of the County that developers fund when they purchase banking credits during the development review process. Banking credits are only purchased when onsite riparian habitat avoidance and disturbance minimization are inadequate. However, the creation of mitigation banks was deemed not feasible due to the initial cost outlay that would be required by the District. Additionally, it was noted that this process would not always allow for the impacts and compensatory mitigation to timely coincide or fall within the same watershed and/or RRH type. Lastly, it would be impossible for the District to predict the classes of riparian habitat that would be impacted by development and consequently provide available mitigation bank credits.
2. ***Simple, Across the Board In-lieu Fee:*** Another method considered was to simply charge the developer a certain set amount of money per square foot of riparian impacts. While attractive for

its simplicity, this method does not differentiate between the values of various types of riparian habitat and thus does not direct impacts toward lower-value riparian areas. It also fails to account for any of the natural resource value (hydrology, vulnerable species, diversity of habitat for flora and fauna, etc.).

3. ***Biological Value Adjusted In-lieu fee:*** One considered method started with a set fee per square foot of impacts based on RRH type, then adjusted for onsite ecological functions and values. This system allowed for mitigation ratio adjustments for such factors as: streams (intermittent vs. perennial), flow regimes of washes (>2,000 cubic feet per second [cfs] vs. >10,000 cfs), the relative value of a particular watershed, land use intensity (i.e., high-intensity urban vs. medium-intensity rural), 33 categories of Sonoran Desert Conservation Plan (SDCP) Harris Riparian Areas, diversity of flora and fauna, diversity of adjacent habitat types, contributing area of the watershed, and SDCP zoning (i.e., biological core habitat, slated growth areas). It was quickly determined that 1) one could adjust for infinite factors; 2) a massive effort would need to be undertaken to understand the complexities and interactions of the various factors; 3) such a system would be far too complex; and 4) the Conservation Land Systems (CLS) mapping work group had already taken the core factors into account in a scientific manner. Similarly, the use of the CLS mapping data and mitigation ratios was discussed but ultimately the District decided that the use of this data may highly inflate the mitigation costs, be unjustified, and ultimately prove non-enforceable. Furthermore, the biological value of the RRH is already accounted for in the RRH class types. Thus, this option was discarded.
4. ***Real Estate Value-Based In-lieu Fee:*** There was also discussion regarding including the appraised value of impacted land into the in-lieu fees. However, it was decided that appraised values of one piece of land would not correlate well with land elsewhere in the County that would be used for mitigation. Additionally, the value of riparian land could be interpreted anywhere between low-cost grazing land and high-cost land for development. Equity could not be achieved using this parameter. Thus, the FCV method was developed.

4.0 CONCLUSIONS

The development of the offsite mitigation guidelines described in this report are a necessary tool that will allow RRH impacts to be more completely mitigated, mitigated in a timelier manner with impacts, and funded at a level that is commensurate with costs that are likely to be incurred by the District. This proposed system addresses the problems with systems used or contemplated in the past and meets the goals of the District with respect to an offsite mitigation program. Furthermore, this method has assessed and addressed the true costs of mitigation and long-term management of riparian habitat; it is easily understandable; easy to use, implement, and manage; and it is based on sound financial and scientific principles. This system provides an avenue for both development interests and public projects that will allow offsite compensatory mitigation for negative impacts to regulated RHH.

APPENDIX A
PROGRAM OPERATION PLAN BY THE DISTRICT

The District will provide the text for this section.

**APPENDIX B
DATA REQUEST LETTER AND COST INFORMATION
OBTAINED BY THE DISTRICT**

APPENDIX C
SUPPLEMENATAL INFORMATION ON THE PROJECTS USED FOR
CALCULATING COSTS BASIS

APPENDIX D
GUIDELINES FOR THE PREPARATION OF A NATURAL RESOURCE
ASSESSMENT REPORT

Criteria:

- Adjacency to existing Preserves;
- Adjacency to major watercourses;
- Connectivity between riparian areas;
- Adjacency to reaches of watercourses defined by the 2002 SDCP Report “Riparian Priorities” (available for viewing and download at <http://www.pima.gov/CMO/SDCP/reports.html>);
- Adjacency to existing District-/County-owned property; however, this criterion is subject to verification of future uses of that land prior to being considered;
- Within Habitat Protection Priority Areas or Private and state priority areas, pursuant to the Conservation Bond Program 2004;
- Use of Transfer of Development Rights (TDR) Program and Sending Areas. Development rights are severed from these lands, which allows for higher density development in receiving areas (growth areas). TDR Sending Areas must have comparable RRH values; and
- Per the Multi-Species Conservation Plan (MSCP), donated property shall be evaluated for the properties’ natural resource values, CLS status, contribution to County MSCP goals, and long-term costs of management and monitoring. The County may, at its discretion, request a monetary donation or endowment from the beneficiary to cover management costs.

In addition, the CLS and SDCP may be used as a guide to locating lands suitable to satisfy the land acquisition option. Key points to remember when selecting land for acquisition include the following:

- A biological evaluation of the land, performed by a professional biologist, shall be required as part of the land acquisition proposal;
- Preference will be given to land within the same watershed as the RHH that is being disturbed. If land cannot be identified within the same watershed, lands outside the watershed will be an option;
- Land must have equivalent or better riparian habitat values (biological and physical) than those that are being disturbed;
- Choose land within the same geographic locale as that being disturbed;
- Include mechanisms to protect resources and conservation values in perpetuity; and
- all land acquisition proposals are subject to District and the Board full review and approval.