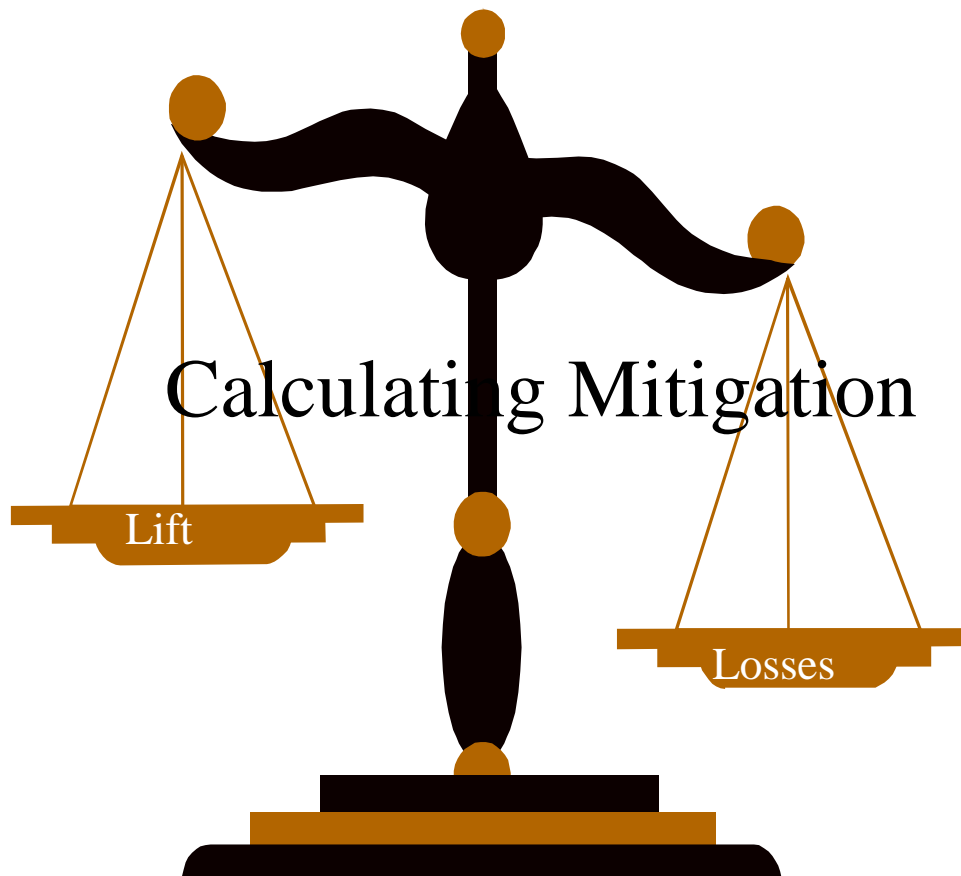# Worksheets

Calculating Mitigation

Lift

Losses

Version 4.1

These worksheets are provided for optional use. The purpose is to provide a consistent approach in calculating compensatory mitigation and to provide a record of evaluation. These worksheets are based on the <u>Joint State/Federal Mitigation Bank Review Team Process for Florida, Operational Draft October 1998.</u>

Changes

Version 4.0 First release to general public
Version 4.1
      a. Replaced Temporal Factor Table version 4.0 with new sheet, numbered Version 4.2 and minor correction in accompanying text.
      b. Replaced Risk Worksheet version 4.0 with version 4.1.

General Guidance

Project Worksheet (J). At least one for any single project. This sheet tallys all of the polygons. If more than six polygons, will have several pages of project worksheets. Calculates the total number of Units.

Polygon Worksheet(P). One individual polygon worksheet for each individual impact and mitigation activity. Calculates the Units per Acre for that activity.

WRAP Worksheet (W). For any single polygon, will have at least one WRAP worksheet. May have up to three WRAPS depending upon nature of activity. WRAP is performed for (1) Existing Condition; (2) With Project Condition; (3) Without Project Condition. If a functional assessment other than WRAP is used, then use a worksheet appropriate to that assessment. The scores from the WRAP worksheet are copied to the Polygon Worksheet.

Risk Worksheet (R) Will have at least one Risk worksheet per project. That Risk may apply to several polygons, if the activities are similar between polygons. The Risk score is copied to the Polygon Worksheet.

Weight Worksheet (G) Will have at least one Weight worksheet per project. The Weighting will typically be the same for all projects in a particular watershed / basin. If both impact and mitigation sites in the same watershed, will typically have only one Weight worksheet. If sites in different watersheds, will be two Weight worksheets. May be more Weight worksheets if the project includes a wide mix of work,.say one that includes both cypress and mangrove, sincle will involve various watersheds.

Proximity Worksheet (X). At least one Proximity worksheet for each project. If all mitigation activites are at the same site, then only one worksheet. If mitigation activities at two or more sites, then two or more Polygon worksheets, one for each site. Score copied onto Project worksheet.

Temporal Worksheet (Table)(T). One will be attached to each project package to show where the number came from. This is a look-up table. The number from the table is copied onto the Polygon sheets.

Polygon Worksheet

1. Divide proposed activity into polygons at both impact site and mitigation

2. For each polygon you will complete a polygon worksheet

3. Enter a identification number in the upper right corner (i.e. P1, P2, P3 etc)

4. Enter the following:

    a. Raw WRAP Score – worksheet (W) – convert to decimal

    b. Weighting Worksheet completed (G)

    c. Temporal loss factor – worksheet (T)

    d. Risk factor – Worksheet (R)

    5. Result of Polygon worksheet (P) is units per acre of lift or loss

Polygon Worksheet

version 4.0

Polygon # | P |

P1.0 Description: [   ]

If this polygon describes an impact activity (that is, not mitigation), then leave sections P2.0 and P4.0 blank.

Worksheet copied from	Wildlife Utilization	Overstory /Shrub	Ground Cover	Up/Wet Buffer	Hydrology	Water Quality	**Units/Acre subtotals**

P2.0 "Without Project" Condition. Probable future condition of site if the mitigation is not performed.

    P2.1 Scores from WRAP Field Data Sheet but converted to decimal (divide raw score by 3.0)

W							

    P2.2 Copy Weight Factor from line G8.1 or G8.2 or G8.3 depending on which WRAP is "N/A"

G							

    P2.3 Weighted "Without Project" Sub-Score.   Multiply line WRAP score by Weight Factor

        P2.1 X P2.2

P3.0 "Existing" Condition. Observed condition of site today.

    P3.1 Scores from WRAP Field Data Sheet but converted to decimal (divide raw score by 3.0)

W							

    P3.2 Same Weight Worksheet as P2.2. Copy G8.1 or G8.2 or G8.3 depending on which is "N/A"

G see P2.2							

    P3.3 Weighted "Existing" Sub-Score.   Multiply WRAP score by Weight Factor

        (P3.1)X(P3.2)

P4.0 "Existing" minus "Without" = Units/Acre of functional LIFT ascribed to preservation of site   **Preserve**

    (P3.3)-(P2.3)

	+		+		+		+		+		=	

P5.0 "With Project" Condition. For impact, typically WRAP = zero. For mitigation, WRAP = fully grown.

    P5.1 Scores from WRAP Field Data Sheet but converted to decimal (divide raw score by 3.0)

W							

    P5.2 Same Weight Worksheet as P2.2. Copy G8.1 or G8.2 or G8.3 depending on which is "N/A"

G see P2.2							

    P5.3 Weighted "With Project" Sub-Score.   Multiply WRAP score by Weight Factor

        (P5.1)X(P5.2)

P6.0 "With Project" minus "Existing" = Units/acre of functional LIFT (mitigation) or LOSS (impact)

    (P5.3)-(P3.3)

P7.0 Temporal Loss Factor "T" copied from the table (separate worksheet) based on YS and YF

    YS (Year Start)

    YF (Year Finish)

T (Table)					

P8.0 Risk Factor "R" = 0.90 if 10% of the LIFT (line P6.0) may not occur. Estimate or use worksheet.

R						

P9.0 LIFT/LOSS X "T" X "R" = Units/Acre functional LIFT/LOSS from construction activity   **Balance**

    (P6.0)X(T)X(R)

	+		+		+		+		+		=	

Project Worksheet

1. Enter a identification number in the upper right corner (i.e. J1, J2, J3 etc)
2. Enter that units per acre of lift or loss from polygon worksheet on project worksheet (Column B)
3. On project worksheet, enter acres for each polygon (column B)

    a. Add Column A plus B times C and enter into:

    b. Copy number to either:

    > D-1: on-site impact column
    > D-2: off-site mitigation column
    > D-3: on-site mitigation column

4. Copy Proximity factor from Proximity Worksheet for any polygons for which you have entered a number in column D-2

5. Subtotal each column D1 to D3

6. Find net sum of the 3 columns (add together) and enter on line J3.0

    a. If impact (D1) equals mitigation (D2 + D3) than the net sum will be 0; assume appropriate mitigation (always factor in common sense i.e. no downtown Miami)

    b. If impact (D1) is greater than the mitigation, than adjust number of acres in column C until it is balanced.

Project Worksheet   version 4.0

Project #   J

J1.0   Name of Project: _____

If more than 6 polygons: use multiple pages and calculate "**Net**" on last page.   Page [ ] of [ ]

J2.0   Tally Polygons. If mitigation bank, enter number of credits in column D2 and leave columns A, B and C blank.
Add Columns A and B, multiply by Column C, and write result in either Column D1, or D2, or D3 (Choose one only)

Cumulative Total Units (if multiple pages): [ ]   <-copy from previous page->   [ ] [ ]

A	B	C	D1	D2	Proximity		D2 X Prox	D3
Units/Acre subtotals copied from Polygon Worksheet		Acres in the Polygon	(A+B) X C On-Site Impact (Units)	(A+B) X C Off-Site Mitigation	Factor from X6.0 of Wrksht		Off-Site Mitigation (Units)	(A+B) X C On-Site Mitigation (Units)
Preserve	**Balance**							

Polygon **P**   Name: _____

| | | | | | X | = | | |

Polygon **P**   Name: _____

| | | | | | X | = | | |

Polygon **P**   Name: _____

| | | | | | X | = | | |

Polygon **P**   Name: _____

| | | | | | X | = | | |

Polygon **P**   Name: _____

| | | | | | X | = | | |

Polygon **P**   Name: _____

| | | | | | X | = | | |

========			========	========
Subtotals (include previous page(s)):	<- - copy onto next page - ->			
J3.0 **Net** = (Units of Lift) - (Units of Loss) Loss	Net Units		Lift	Lift

If total units of mitigation (Lifts) equal total units of impact (Losses), then the net sum will be zero and project
   has appropriate compensatory mitigation (subject to application of common sense).
If net sum is other than zero, then adjust acres of one or more polygons to bring into balance.

J4.0   Remarks _____

Weighting Worksheet

Purpose is to apply value judgement to individual functions i.e. wildlife utilization may be of more important to society than their other functions. Would give wildlife more influence on the total score (credits per acre).

Assumption: Factors do not always have equal importance in an area.

1. Enter a identification number in the upper right corner

2. To use, answer 5 questions under G3.0 for each function. Answer will be 1, 2, or 3. Three is entered for highly valued functions.

3. Follow instructions for division or multiplication on form

4. You will arrive at a weighting factor that is transferred to polygon worksheet.

Weight Worksheet

version 4.0

Weight # | G

G1.0 Name of Geographic Area:

G2.0 Description:

G3.0 Criteria Scores

Wildlife Utilization	Overstory /Shrub	Ground Cover	Up/Wet Buffer	Hydrology	Water Quality	

G3.1 Project results in identifiable ecological benefits to established watershed issues.

Yes=3 No=0

G3.2 Project will result in identifiable ecological benefits to adjacent lands/waters of regional importance.

Yes=3 No=0

G3.3 Improves status of federal and/or state listed threatened or endangered or federal candidate species.
Increases population = 3   Meets identified tasks in recovery plan = 2
Attracts listed species to site = 1   Maintains status quo = 0

G3.4 Restores or creates ecological features considered to be unusual, unique or rare in region.

Yes=3 No=0

G3.5 Special Considerations. Circumstances considered important to weighting.

Description:

Yes=3 No=0

G4.0 Subtotal of

=======	=======	=======	=======	=======	=======

G3.1 to G3.5

G5.0 Total of Columns

G6.0 Fraction. Divide line G4.0 by line G5.0

G4.0 / G5.0

G7.0 Multiply line G6.0 by 0.50

G6.0 X 0.50

G8.0 Weighting Factor. Add either 0.100 or 0.083 to G7.0 depending on which parameter is "N/A" on WRAP score.

	Wildlife Utilization	Overstory /Shrub	Ground Cover	Up/Wet Buffer	Hydrology	Water Quality
G8.1 G7.0+0.100		N/A				
G8.2 G7.0+0.100			N/A			
G8.3 G7.0+0.083						

G9.0 Note

Temporal Loss Worksheet

Purpose is to take into account time lag between impact and when mitigation is totally successful.. Note: This is NOT risk of failure.

Assumption: Mitigation area is not 100 percent effective when it is initially completed.

a. Read the definitions on the T Worksheet for
   - ❑ YS = Year Start of mitigation
   - ❑ YF = Year Finished of mitigation
b. Note that these years are in relation to year of impact: i.e. if mitigation starts same year as impact, YS = 0. If mitigation starts after completion of work (2yrs) YS = +2.
c. Enter YS and YF on Polygon Worksheet for each WRAP function i.e. For example, for forested restoration YF for the hydrology function may equal 5 (restored in 5 years) versus 40 (restored in 40 years) years for overstory function. So you need to think about the temporal loss for EACH WRAP function that's applicable. (Dependent on design, sequencing of mitigation).
d. go to table on T Worksheet and find the number at the intersection of the YF and YS. Enter this number on Polygon Worksheet)

Temporal Loss Factor "T"

version 4.2

T (Table)

This table (version 4.2) to be used after 1Dec99. Version 4.0 & 4.1 are obsolete. Version 4.2 based on discount rate of 3%.

YS = 0 = Year of Impact [for an individual permit] = Credit Release Year (T_R) [for a mitigation bank]

YS = Year Start = the Year the construction/planting work at the compensatory mitigation site starts.
 (a) If the compensatory mitigation work starts within the same 12 month period as the impact/credit release, then YS = 0.
 (b) YS = -1 if the compensatory mitigation work starts one year prior to the impact/credit release, YS = -2 if two years prior, etc.
   (for example, if mitigation starts in 1999 but impact/credit release in 2000, YS = -1)
 (c) YS = + 1 if the compensatory mitigation work starts one year after the impact/credit release, YS = +2 if two years after, etc.
   (for example, if impact/credit release in 2000 and mitigation starts in 2001, YS = +1)

YF = Year Finish = when the compensatory mitigation achieves the functional capacity that is described by the "with project"
 functional assessment score. After this year, the compensatory mitigation is expected to stay at or above the "with
 project" score either naturally or as the result of arrangements for perpetual management.
  (a) If the "with project" score is achieved within the same 12 month period as the impact/credit release, then YF = 1.
  (b) Otherwise, YF = YS + the number of years to reach the "with project" score (for example, if saplings are planted in the
    same year as the impact/credit release and the "with project" score is based on 35 years of growth, then YF = 0 + 35 = 35;
    but, if the saplings are planted two years prior to impact/credit release, YS = -2, then YF = (-2) + 35 = 33).

YS=	YF=	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
-4	T=	1.0000	0.9944	0.9859	0.9754	0.9639	0.9517	0.9391	0.9266	0.9133	0.9008	0.8878	0.8750	0.8622	0.8496	0.8371
-3	T=	1.0000	0.9933	0.9835	0.9719	0.9593	0.9463	0.9330	0.9199	0.9061	0.8931	0.8798	0.8667	0.8536	0.8408	0.8281
-2	T=	1.0000	0.9916	0.9802	0.9672	0.9535	0.9396	0.9256	0.9119	0.8976	0.8842	0.8706	0.8571	0.8439	0.8308	0.8180
-1	T=	1.0000	0.9888	0.9752	0.9606	0.9458	0.9310	0.9163	0.9021	0.8873	0.8737	0.8598	0.8462	0.8327	0.8195	0.8066
0	T=	1.0000	0.9833	0.9670	0.9507	0.9350	0.9195	0.9043	0.8899	0.8748	0.8611	0.8471	0.8333	0.8199	0.8066	0.7937
+1	T=		0.9665	0.9503	0.9346	0.9187	0.9034	0.8883	0.8736	0.8597	0.8450	0.8318	0.8182	0.8049	0.7918	0.7789
+2	T=			0.9340	0.9182	0.9032	0.8876	0.8727	0.8581	0.8438	0.8305	0.8160	0.8033	0.7901	0.7772	0.7645
+3	T=				0.9025	0.8871	0.8727	0.8642	0.8429	0.8288	0.8149	0.8021	0.7879	0.7757	0.7629	0.7504
+4	T=					0.8718	0.8569	0.8430	0.8280	0.8140	0.8003	0.7868	0.7745	0.7606	0.7489	0.7365

YS=	YF=	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
-4	T=	0.8248	0.8126	0.8005	0.7887	0.7770	0.7655	0.7541	0.7430	0.7320	0.7212	0.7105	0.7001	0.6898	0.6797	0.6697
-3	T=	0.8155	0.8032	0.7910	0.7791	0.7673	0.7557	0.7443	0.7331	0.7221	0.7112	0.7006	0.6901	0.6798	0.6697	0.6597
-2	T=	0.8053	0.7928	0.7806	0.7686	0.7567	0.7451	0.7337	0.7224	0.7114	0.7005	0.6899	0.6794	0.6691	0.6590	0.6491
-1	T=	0.7938	0.7813	0.7690	0.7570	0.7451	0.7335	0.7221	0.7109	0.6998	0.6890	0.6784	0.6680	0.6577	0.6476	0.6377
0	T=	0.7810	0.7685	0.7562	0.7442	0.7324	0.7208	0.7094	0.6983	0.6873	0.6766	0.6660	0.6557	0.6455	0.6355	0.6257
+1	T=	0.7664	0.7540	0.7419	0.7300	0.7183	0.7068	0.6956	0.6846	0.6737	0.6631	0.6527	0.6424	0.6323	0.6225	0.6128
+2	T=	0.7520	0.7398	0.7278	0.7161	0.7045	0.6932	0.6821	0.6711	0.6604	0.6499	0.6396	0.6294	0.6195	0.6097	0.6001
+3	T=	0.7380	0.7259	0.7141	0.7024	0.6910	0.6798	0.6688	0.6580	0.6474	0.6370	0.6268	0.6167	0.6069	0.5972	0.5877
+4	T=	0.7243	0.7123	0.7006	0.6967	0.6777	0.6667	0.6558	0.6451	0.6346	0.6243	0.6142	0.6043	0.5946	0.5850	0.5756

YS=	YF=	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
-4	T=	0.6599	0.6503	0.6408	0.6315	0.6224	0.6133	0.6045	0.5958	0.5872	0.5788	0.5705	0.5605	0.5524	0.5465	0.5368
-3	T=	0.6499	0.6403	0.6308	0.6215	0.6124	0.6034	0.5946	0.5859	0.5774	0.5690	0.5608	0.5507	0.5427	0.5369	0.5271
-2	T=	0.6393	0.6297	0.6203	0.6110	0.6019	0.5930	0.5842	0.5756	0.5671	0.5588	0.5506	0.5405	0.5326	0.5268	0.5171
-1	T=	0.6280	0.6185	0.6091	0.5999	0.5909	0.5820	0.5733	0.5647	0.5563	0.5480	0.5399	0.5298	0.5219	0.5163	0.5066
0	T=	0.6160	0.6066	0.5973	0.5882	0.5792	0.5704	0.5617	0.5532	0.5449	0.5367	0.5286	0.5186	0.5108	0.5053	0.4956
+1	T=	0.6032	0.5939	0.5847	0.5757	0.5668	0.5581	0.5496	0.5412	0.5329	0.5248	0.5168	0.5090	0.4992	0.4916	0.4864
+2	T=	0.5907	0.5815	0.5724	0.5635	0.5547	0.5461	0.5376	0.5293	0.5212	0.5132	0.5053	0.4976	0.4900	0.4803	0.4729
+3	T=	0.5784	0.5693	0.5603	0.5515	0.5428	0.5343	0.5260	0.5178	0.5097	0.5018	0.4940	0.4864	0.4789	0.4715	0.4619
+4	T=	0.5664	0.5574	0.5485	0.5398	0.5312	0.5228	0.5146	0.5064	0.4985	0.4907	0.4830	0.4754	0.4680	0.4607	0.4536

YS=	YF=	46	47	48	49	50	51	52	53	54	55
-4	T=	0.5291	0.5216	0.5142	0.5091	0.4998	0.4949	0.4880	0.4813	0.4746	0.4680
-3	T=	0.5195	0.5120	0.5047	0.4996	0.4903	0.4856	0.4787	0.4720	0.4654	0.4589
-2	T=	0.5095	0.5021	0.4948	0.4898	0.4805	0.4759	0.4691	0.4624	0.4558	0.4494
-1	T=	0.4991	0.4917	0.4845	0.4796	0.4703	0.4658	0.4591	0.4524	0.4459	0.4395
0	T=	0.4882	0.4809	0.4737	0.4690	0.4598	0.4553	0.4487	0.4421	0.4357	0.4293
+1	T=	0.4770	0.4696	0.4625	0.4556	0.4511	0.4420	0.4378	0.4314	0.4250	0.4188
+2	T=	0.4680	0.4586	0.4516	0.4447	0.4379	0.4338	0.4248	0.4209	0.4146	0.4084
+3	T=	0.4548	0.4501	0.4408	0.4341	0.4274	0.4208	0.4169	0.4081	0.4044	0.3983
+4	T=	0.4441	0.4372	0.4328	0.4236	0.4171	0.4106	0.4042	0.4006	0.3918	0.3884

Proximity Worksheet:

Purpose is to take into account distance from impact area to mitigation area. Two components; one based on wildlife and one based on watershed.

Assumption: Mitigation is best in the same watershed.

a. Enter an identification number in the upper right corner
b. Fish and Wildlife:
   1) In line X1, answers a series of questions on wildlife. Assign yes or no to each question. Is the guild found on the impact site? (y or n) Question A. Does the location of the mitigation site relative to the impact site reduce the ability to mitigate for that guild (e.g. impact site within foraging range of woodstork rookery; however mitigation site is outside that range therefore the answer would be yes - Question B)
   2) Total the number of yes's and no's for each guild. Place number of each into block (X2.2)
   3) In line X2.3, follow instructions for division to determine the fish and wildlife score :

c. Watershed (Diminishing Relevance): (Do only if outside waters of impact area)
   1) In line X3.1, enter the name and acreage of the impact site watershed.
   2) In line X3.2, enter the name and acreage of the mitigation site watershed
   3) In line X3.3, enter names and acreage of watersheds between impact and mitigation site.
   4) In line X3.4, add watershed acreages.
   5) In line X3.5, enter the name and acreage of the standardized mitigation service areas (for individual projects – already defined by State). Banks have own service areas defined.
   6) In line X3.6, follow instruction for addition and division to determine the watershed number (WN).
d. Final Calculation: Block X3.0. Enter in column X of Project Worksheet

Proximity Worksheet

version 4.0

Proximity # X

X1.0 Location of mitigation (place):

X2.0 Fish and Wildlife Component

Question A: Is the guild represented at the impact site? Answer either "Yes" or "No" for each guild

Question B: Does the location of the mitigation site relative to the impact site reduce the ability to mitigate
for that guild? If answer to A is "No", then enter "N/A". If answer to A is "Yes", answer either "Yes" or "No"

X2.1   Guilds

	Question A Present?	Question B Reduced?		Question A Present?	Question B Reduced?
Neotropical Migrants:	A	B	Reptiles:	A	B
Wading Birds:	A	B	Freshwater Fish:	A	B
Raptors:	A	B	Small Mammals:	A	B
Waterfowl:	A	B	Large Mammals:	A	B
Amphibians:	A	B	Invertebrates:	A	B

X2.2   Number of yes's for Question B: B1   Number yes's for A: A1

X2.3   Fish and Wildlife Component Score = FN = B1 divided by A1:   FN

X3.0 Diminishing Relevance Component. (If mitigation in same watershed as impact: skip steps X3.1 to X3.4 and
write WN=0.0 in line X3.6. If mitigation bank, use WN from table if Mitigation Bank Instrument includes table.)

	Name of Watersheds		Acres
X3.1 Mitigation site is located within:		Size = W1:	W1
X3.2 Impact site is located within:		Size = W1:	W2
X3.3 Watersheds separating/between the		Size = W1:	W3
mitigation and impact sites.		Size = W1:	W4
		Size = W1:	W5

X3.4   W1 + W2 + W3 + W4 + W5 = W6:   W6   acre   W6 divided by W1=W7: W7

X3.5   Name and size of Standard Mitigation Service Area in which mitigation and impact sites are located.
(Note: If mitigation provided by a Mitigation Bank, then use the service area designated for that bank.)
(Note: If sites are not in same standard area, define a service area appropriate to the mitigation site.)

Size = W8: W8   W8 divided by W1=W9: W9

X3.6   Diminishing Relevance Score = [(W7 - 1.0) divided by (W9 - 1.0)] = WN   WN

X4.0 **Proximity Factor = X = { 1.0 } divided by { [(FN + WN) divided by (2.0)] + [1.0] } =**   X

Copy this number into the Proximity Factor column of the Project Worksheet. Use the same number for all
of the "off-site mitigation" polygons located in the location (place) described at line X1.0 above.

Risk Worksheet (R):

Purpose of risk is to account for mitigation not being successful. Expressed as a percentage of success (100%). (I.E.) Five- percent chance of failure, Risk factor is .95.

Assumption: Mitigation is rarely performed under ideal conditions.

a. Enter a identification number in the upper right corner
b. Answer 5 questions under R2.0 for each function
c. Answer will be 0, 1, 2, or 3. (0= tends to low risk; 3 = tends to high risk)
d. Follow instructions for calculation on worksheet
e. You will arrive at a risk factor that is transferred to polygon worksheet.

Risk Worksheet

version 4.1

Risk #　R

This version (version 4.1) differs from version 4.0 only in suggesting that R2.5 be not used and so is "struck out" from calculation.

R1.0 Task Description:

This Risk calculation is adapted from a DRAFT document that has NOT been adopted by the interagency team that developed the Mitigation Bank Review Process. This is offered for use until replaced.

	Wildlife Utilization	Overstory /Shrub	Ground Cover	Up/Wet Buffer	Hydrology	Water Quality
R2.0 Criteria Scores						

R2.1   Mitigation Type

For example -> Wildlife Utilization & Water Quality: High=Creation; Med=Enhancement; Low=Preservation

Overstory/Shrub & Ground Cover: High=Creation (planting); Med=Enhancement (exotic

High = 1　　　　　removal); Low=Preservation

Med = 2　　　Hydrology: High=Enery intensive (pumping); Med=Structural Mods (adjustable weirs,

Low = 3　　　　ditch plugs, etc.); Low = Total restoration (backfill ditch, degrade levee, etc.)

Enter 1, 2, or 3

R2.2   Size of and/or the landscape context of the polygon

For example -> Wildlife Utilization: High=Highly predisposed to disturbance;

Med=Moderately predisposed to disturbance; Low=Not predisposed

High = 1　　　Hydrology: High=Unreliable source; Med=Moderately reliable; High: Highly reliable

Med = 2　　　Water Quality: High=Highly predisposed to contamination;

Low = 3　　　　Med=Moderately predisposed to contamination; Low=Not predisposed

Enter 1, 2, or 3

R2.3   Maintenance requirements

For example -> Overstory/Shrub & Ground Cover: High=High potential for exotic/invasion;

High = 1　　　　　Med=Moderate potential for exotic/invasion; Low=Minimal potential

Med = 2　　　Hydrology: High=High maintenance (pumps, etc.); Med=Moderate (ditch cleaning);

Low = 3　　　　Low=Low maintenance

Enter 1, 2, or 3

R2.4 Maintenance Plan

High = 1　　　Wildlife Utilization: Low=Fire management

Med = 2　　　Overstory/Shrub & Ground Cover: High=Mechanical control of exotic/invasives;

Low = 3　　　　Med=Chemical control of exotic/invasives; Low=Fire management

Enter 1, 2, or 3

R2.5   ~~Qualifications of Mitigation Supervisor~~ (note: suggest not use pending discussion of how to assess)

~~For example -> For all functions: High=0=Neophyte; Med=1=Has credentials; Low=3=Has track record~~

~~Enter 1, 2, or 3~~

R3.0 Subtotal of

=======	=======	=======	=======	=======	=======

R2.1 to R2.5

R4.0 Risk Factor. Divide line R3.0 ~~by 15~~ by 12. Copy numbers onto line P8.0 of Polygon Worksheet.

R3.0 / ~~15.0~~ 12.0

R5.0 Note

WRAP Worksheet

WRAP Field Data Sheet   version 4.0   WRAP # W _____

PERMIT NUMBER: _____   DATE: _____

PROJECT: _____

WETLAND TYPE: _____

_____   ACRES: _____

LAND USE: _____

TICK ONE: [ ] EXIST CONDITION   [ ] WITH (RESULT OF) PROJECT   [ ] WITHOUT PROJECT

WILDLIFE UTILIZATION SCORE: _____   SCORE DIVIDED BY 3 = _____

NOTES: _____

_____

_____

WETLAND CANOPY (OVERSTORY/SHRUB) SCORE: _____   SCORE DIVIDED BY 3 = _____

NOTES: _____

_____

_____

WETLAND GROUNDCOVER SCORE: _____   SCORE DIVIDED BY 3 = _____

NOTES: _____

_____

_____

HABITAT SUPPORT (UP/WET BUFFER) SCORE: _____   SCORE DIVIDED BY 3 = _____

NOTES: _____

_____

_____

FIELD HYDROLOGY SCORE: _____   SCORE DIVIDED BY 3 = _____

NOTES: _____

_____

_____

WQ INPUT & TREATMENT (WATER QUALITY) SCORE: _____   SCORE DIVIDED BY 3 = _____

NOTES: _____

LU= _____

PT= _____

created by: Mdiaz/Miami Oct98 revised Nov98