FOREST LAWN MEMORIAL-PARK, HOLLYWOOD HILLS - CALIFORNIA RAPID ASSESSMENT METHOD EXECUTIVE SUMMARY - AUGUST 2010

PURPOSE

In early consultations with U.S. Army Corps of Engineers ("Corps") Regulatory Branch staff, Aaron O. Allen, PhD, North Coast Section Chief, of the Corps Los Angeles Regulatory District, recommended that **TERACOR Resource Management** ("TERACOR") conduct a California Rapid Assessment Method ("CRAM") Functional Analysis on Forest Lawn Memorial-Park, Hollywood Hills ("Forest Lawn Property"). Dr. Allen made this recommendation for purposes of determining the relative functional values of the four (4) largest stream segments on the Forest Lawn Property.

TERACOR conducted the initial CRAM Analysis in January 2007. TERACOR performed an updated CRAM Analysis on 28 and 29 June 2010 of Sennett Creek and three (3) of its tributaries on the Forest Lawn Property. These tributary drainages were identified as Drainages D, F, and H in TERACOR's *Preliminary Determination of U.S. Army Corps of Engineers "Waters of the U.S." and Wetlands Jurisdiction and Impact Analysis*, dated 02 September 2010. This CRAM functional analysis was based on the *California Rapid Assessment Method (CRAM) for Wetlands User's Manual (Version 5.0.2)* dated September 2008, and is meant to supplement TERACOR's preliminary jurisdictional determination, and assist in assessment of Forest Lawn's proposed Master Plan Project and Alternatives.

CRAM ANALYSIS DESCRIPTION

The CRAM is a functional analysis which provides specific guidelines in assessing any wetland or riparian area located in the state of California. It provides a consistent method to monitor present and future conditions of wetlands and riparian areas in California. The CRAM classifies six (6) wetland types (Riverine, Depressional, Playas, Estuarine, Lacustrine, and Slope). Riverine, Depressional, Estuarine, and Slope types are broken down further into sub-types (i.e., Confined or Non-confined Riverine Wetlands; Individual Vernal Pools, Vernal Pool Systems, or Other Depressional Wetlands; Perennial Saline, Perennial Non-saline, or Seasonal Estuarine Wetlands; and Seeps and Springs or Wet Meadows for Slope Wetlands).

CRAM develops Assessment Areas within the wetland or comprising the entire wetland in which four (4) attributes are evaluated to determine an overall functional value (i.e., how well the area functions as a wetland to provide ecological values and habitat) for the wetland. These four (4) attributes are assessed within the Assessment Area or areas immediately surrounding the Assessment Area and are:

Buffer and Landscape Context;
 Hydrology;
 Physical Structure; and
 Biotic Structure

Each attribute is then further broken down into metrics, which are measurable components of an attribute.

Buffer and Landscape Context

A buffer is a zone of transition between the immediate margins of a wetland or riparian area and its surrounding environment that is likely to help protect the wetland from anthropogenic stress. CRAM includes four (4) metrics to assess the buffer and landscape context of wetlands. These metrics are 1) landscape connectivity, 2) percentage of the Assessment Area perimeter that has a buffer, 3) the average buffer width, and 4) the condition or quality of the buffer.

<u>Hydrology</u>

Hydrology includes the sources, quantities, and movements of water, plus the quantities, transport, and fates of water-borne materials, particularly sediment as bed load and suspended load. The hydrology attribute consists of the following metrics: 1) water source, 2) hydroperiod or channel stability, and 3) hydrologic connectivity.

Physical Structure

Physical structure is the local physical, chemical, or biological features that provide or support habitat for biota. Physical structure is comprised of two (2) metrics: structural patch richness and topographic complexity.

Biotic Structure

The biotic structure of a wetland includes all of its organic matter that contributes to its material construct or architecture. Biotic structure is characterized by the following three (3) metrics: 1) plant community, 2) horizontal interspersion and zonation, and 3) vertical biotic structure. The plant community metric is composed of four (4) sub-metrics: 1) number of plant layers present, 2) number of co-dominant species, 3) percent invasion, and 4) native plant species richness.

Each metric is then given a specific rating based on current field conditions. Each attribute is then given a score based on each metric rating or if applicable sub-metric ratings. After a score has been assigned for all four (4) attributes, an overall CRAM score for each Assessment Area is then calculated by finding the average of the four (4) attribute scores. CRAM scores can be used to compare sites within a single wetland class, but not between different wetland classes. CRAM scores for similar wetland classes can be compared to determine which wetland has a higher functional value. For example, a CRAM score of 90% indicates a higher functional value for a particular wetland as compared to another wetland of the same class with a CRAM score of 78%.

CRAM METHODOLOGY

The general procedure for conducting the CRAM analysis consists of eight (8) steps, as defined in the CRAM User's Manual:

1.) Assemble Background Information



TERACOR analyzed topographic maps, aerial photography, and other map sources of the Assessment Areas and general area, prior to the field assessment. TERACOR also queried the California Natural Diversity Database ("CNDDB") for the *Burbank, California United States Geological Survey 7.5 minute Quadrangle* to determine the recorded sightings of sensitive species.

2.) Classify the Wetland and Riparian Areas

TERACOR determined that the areas assessed within the Forest Lawn Property fall into one (1) wetland class: Confined Riverine.

3.) Verify the Appropriate Assessment Window

The Assessment Window is the period of time each year when assessments of wetland condition based on CRAM should be conducted. The CRAM User's Manual states that Riverine wetlands should be conducted late in the growing season. TERACOR conducted the updated CRAM Analysis on 28 and 29 June 2010, in compliance with this recommendation.

4.) Establish the Assessment Area

TERACOR mapped the four (4) Assessment Areas (described below) within the Forest Lawn Property. The size of each Assessment Area was then calculated utilizing GIS. TERACOR based the size of each AA on this calculation.

5.) <u>Conduct Initial Office Assessment of Condition Metrics and Stressors</u>

TERACOR acquired site imagery, planned logistics for the site visit, and assembled information about the management of the Assessment Areas within the Forest Lawn Property and their possible stressors based on topographic mapping, aerial photography, and TERACOR's knowledge of the Forest Lawn Property and surrounding areas.

6.) Conduct Field Assessment of Condition Metrics and Stressors

TERACOR field personnel conducted a field analysis and recorded the field conditions of the four (4) Assessment Areas within the Forest Lawn Property.

7.) <u>Complete CRAM Scores and Basic QA/QC Procedures</u>

Following the field assessment of each Assessment Area within the Forest Lawn Property, TERACOR then calculated an overall CRAM score for each Assessment Area based on scores achieved from the field analysis. Initial quality assurance/quality control procedures (QA/QC) were followed.

8.) Upload Assessment Data and Results

TERACOR will electronically submit data collected and CRAM scores for each Assessment Area within



the Forest Lawn Property into the CRAM database. The submission will occur at the appropriate time during the Corps' preparation of the Corps' Environmental Assessment.

CRAM ASSESSMENT AREAS

TERACOR field personnel I. Swift and J. Reed performed a CRAM Confined Riverine Analysis on four (4) Assessment Areas on the Forest Lawn Property. The attached *Exhibit 1 - Assessment Area Locations - March 2010 Aerial Photograph* depicts the mapped Assessment Areas within the Forest Lawn Property. Details of the CRAM Assessment Areas are presented below.

Assessment Area No. 1 is located within the upstream portion of Sennett Creek, just west of the former crossing. The attached *Exhibit 2 - Assessment Area No. 1 Photographs (Sennett Creek)* depicts the field conditions of Assessment Area No. 1.

Assessment Area No. 2 is located within the upper midstream portion of Drainage D. The attached *Exhibit 3 - Assessment Area No. 2 Photographs (Drainage D)* depicts the field conditions of Assessment Area No. 2.

Assessment Area No. 3 is located within the midstream portion of Drainage F. The attached *Exhibit 4* - Assessment Area No. 3 Photographs (Drainage F) depicts the field conditions of Assessment Area No. 3.

Assessment Area No. 4 is located within the midstream portion of Drainage H. The attached *Exhibit 5* - Assessment Area No. 4 Photographs (Drainage H) depicts the field conditions of Assessment Area No. 4.

Field Assessment forms for each Assessment Area are included in Appendix A - Field CRAM Assessment Forms. The results of the CRAM Analysis for each Assessment Area are discussed below.

RESULTS OF CRAM ANALYSIS

The following table depicts the overall and four (4) attribute scores for each Assessment Area.

		Table 1 - Ass	essment Area C	RAM Scores		
	Size (hectares)	Buffer and Landscape Context Score	Hydrology	Physical Structure	Biotic Structure	CRAM Score Overall
Assessment Area No. 1	0.43	93	100	88	100	95
Assessment Area No. 2	0.33	100	100	75	83	90
Assessment Area No. 3	0.35	100	100	88	67	89
Assessment Area No. 4	0.25	100	100	50	67	79



Forest Lawn Memorial-Park, Hollywood Hills Los Angeles, California 11 August 2010

CONCLUSION

Assessment Area No. 1 (Sennett Creek) had the highest overall CRAM score of 95. The functional value, therefore, of Assessment Area No. 1 was determined to be the highest of the four (4) Assessment Areas. Assessment Area Nos. 2 (Drainage D) and No. 3 (Drainage F) had CRAM scores of 90 and 89, respectively. Assessment Area Nos. 4 (Drainage H) had the lowest overall CRAM score of 79, indicating this Assessment Area has the relatively lowest functional value of the four (4) Assessment Areas.

Enclosures:

Exhibit 1 - Assessment Area Locations - March 2010 Aerial Photograph Exhibit 2 - Assessment Area No. 1 Photographs Exhibit 3 - Assessment Area No. 2 Photographs Exhibit 4 - Assessment Area No. 3 Photographs Exhibit 5 - Assessment Area No. 4 Photographs Appendix A - Field CRAM Assessment Forms

H:\Active Projects\Forest Lawn\Hollywood Hills\Master Plan\CRAM\Executive Summary rev 8-20-2010 FINAL.docx





TERACOR R E S O U R C E MANAGEMENT 27555 YNEZ ROAD SUITE 207 TEMECULA, CA 92591 0 300 m Scale ↑ N

EXHIBIT 1 ASSESSMENT AREA LOCATIONS MARCH 2010 AERIAL PHOTOGRAPH



Photo 1 - This southern view of AA No. 1 depicts the California sycamore-coast live oak riparian canopy associated with this portion of Sennett Creek.



Photo 3 - The understory within the eastern portion of AA No. 1 is dominated by poison oak (*Toxicodendron diversilobum*) and California rose (*Rosa californica*).



Photo 2 - This northern view from the unimproved access road south of AA No. 1 shows the southern perimeter of AA No. 1.



Photo 4 - The western portion of AA No. 1 is shown in this photograph.





Photo 1 - The northern extent of AA No. 2 is shown. Coast live oak (*Quercus agrifolia*) is dominant within AA No. 2.



Photo 3 - This western view depicts the California sycamore-coast live oak habitat associated with AA No. 2.



Photo 2 - The understory within AA No. 2 is dominated by catweed (*Ageratina adenophora*), a non-native/invasive species, and poison oak.



Photo 4 - The western perimeter of AA No. 2 is shown. The understory in this area is dominated by Torrey's melica (*Melica torreyana*).





Photo 1 - The northern extent of AA No. 3 is shown. Toyon (*Heteromeles arbutifolia*) overhangs the drainage at this location.



Photo 3 - Coast live oaks are depicted in this western view of AA No. 3.



Photo 2 - The southern extent of AA No. 3 is shown. Poison oak is abundant throughout the understory of this AA.



Photo 4 - Toyon is present on the west bank of AA No. 3.





Photo 1 - The southern extent of AA No. 4 is shown. AA No. 4 comprises a mixed woodland/scrub habitat.



Photo 3 - This eastern view depicts the dense vegetation within AA No. 4.



Photo 2 - The northern extent of AA No. 4 is shown. Coast live oak comprises the overstory in this area.



Photo 4 - The western perimeter of AA No. 4 is shown.



Basic Information Sheet: Riverine Wetlands

Charles III										
Your 1	Name: IA	N SWIFT	-							
CRAM	A Site ID:	DRAIMAGE	"SERVICET	Tu						
Assess	Assessment Area Name: AA NO. 1									
Date ((m/d/y): (128/2010	2							
Assess	sment Team N	/ / Iembers for Th	is AA							
I	- SWIFT	J. REE	0	•						
Ave	erage Bankfull	Width: 16								
Арј	proximate Len	gth of AA (10 ti	mes bankfull width	, min 100 m, max 200 i	m): 100 M					
We	tland Sub-type	:								
		1								
		M Confined	□ Non-conf	ined						
AA	Category:									
				/						
[□ Restoration	□ M:	itigation	Impacted	□ Other					
Did	the river/stre	am have flowin	g water at the tim	e of the assessment?	🗆 yes 🐧 no					
W71-	at is the enner	ont hydrologia	flow regime of the	teach you ate assess	ing					
wn	at is the appar	ent nydrologic	now regime of the	Teach you are assess	ind:					
The	hydrologic flow	regime of a stream	n describes the freque	ncy with which the chan	nel conducts					
duri	er. Perennial stream	elv following prec	all year long, whereas bitation events. Inter	<i>mittent</i> streams are dry for	r part of the year.					
but o	conduct water fo	r periods longer th	han ephemeral stream	s, as a function of waters	hed size and water					
sour	ce.			/						
	□ pere	nnial	□ ephemeral	w intermittent						
Pho	oto Identificati	on Numbers a	nd Description:							
	Photo ID	Description	Latitude	Longitude	Datum					
	No.			0						
1		North	34.14191	118.31251	NAD					
2		South	34.1414	118.31259	1					
3		East	34.14172	118.31236						
4		West	34.1417	118.31367	V					
5										
6										
	and the second se									

1

Comments: AA 1S 0.432 ha 2

Scoring Sheet: Riverine Wetlands

AA Name: AA NO. 1		**************************************		(m/d/y)	6	28	2010
Attributes and Metrics	Sco	ores	Comments				
Buffer and Landscape Context							
Landscape Connec	tivity (D)	A					
Buffer submetric A: Percent of AA with Buffer	A						
Buffer submetric B: Average Buffer Width	A						
Buffer submetric C: Buffer Condition	B						
$D + [C x (A x B)^{\frac{1}{2}}] = Attributes$	ute Score	Raw 22.4	Final 93	Fina (R	l Attrib aw Scor	ute Score re/24)10	e = 0
Hydrology							
Wat	er Source	A					
Hydroperiod or Channe	el Stability	A					
Hydrologic Co	nnectivity	A					
Attribute Score		Raw 36	Final	Fina (R	al Attrib Law Scor	ute Score re/36)10	e = 0
Physical Structure		~~	4				
Structural Patch	Richness	в					
Topographic C	omplexity	A					
Attrib	ute Score	Raw 21	Final 88	Fina (R	al Attrib Law Scor	ute Scor re/24)10	e = 0
Biotic Structure							
Plant Community submetric A: Number of Plant Layers	A						
Plant Community submetric B: Number of Co-dominant species	A						
Plant Community submetric C: Percent Invasion	B						
Plant Commun (average of subm	ity Metric etrics A-C)	A					
Horizontal Interspersion and	Zonation	A					
Vertical Biotic	Structure	A					
Attrib	ute Score	Raw 36	Final	Fin: (R	al Attrib Law Sco	ute Scor re/36)10	e = 0
Overall	AA Score	9	5	Avera	ge of Fi	inal Attr ores	ibute

Lengths of Non-buffer Segments For Distance of 500 m Upstream of AA		Lengths of Non-buffer Segments For Distance of 500 m Downstream of AA			
Segment No.	Length (m)	Segment No.	Length (m)		
1 -	0	1 ~	0		
2		2			
3		3			
4		4			
5		5			
Upstream Total Length	0	Downstream Total Length	0		

Worksheet 1: Landscape Connectivity Metric for Riverine Wetlands.

Worksheet 2: Calculating average buffer width of AA.

Line	Buffer Width (m)
А	230
В	105
С	230
D	250
E	250
F	250
G	250
Н	250
Average Buffer Width	227

Worksheet 3: Assessing Hydroperiod for Riverine Wetlands.

Condition	Field Indicators
Condition	(check all existing conditions)
Indicators of Channel Equilibrium	 The channel (or multiple channels in braided systems) has a well-defined bankfull contour that clearly demarcates an obvious active floodplain in the cross-sectional profile of the channel throughout most of the AA. Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it. There is leaf litter thatch or wrack in most pools.
	 There is lear inter, thaten, or what in hist pools. The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area. There is little or no active undercutting or burial of riparian vegetation. There are no mid-channel bars and/or point bars densely vegetated with perennial vegetation. Channel bars consist of well-sorted bed material. There are channel pools, the bed is not planar, and the spacing between pools tends to be regular.
	The larger bed material supports abundant mosses or periphyton.
Indicators of Active Degradation	 The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs. There are abundant bank slides or slumps, or the lower banks are uniformly scoured and not vegetated. Riparian vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel. An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation. The channel bed appears scoured to bedrock or dense clay. Recently active flow pathways appear to have coalesced into one channel (i.e. a previously braided system is no longer braided). The channel has one or more nick points indicating headward erosion of the bed.
Indicators of Active Aggradation	 There is an active floodplain with fresh splays of coarse sediment. There are partially buried living tree trunks or shrubs along the banks. The bed is planar overall; it lacks well-defined channel pools, or they are uncommon and irregularly spaced. There are partially buried, or sediment-choked, culverts. Perennial terrestrial or riparian vegetation is encroaching into the channel or onto channel bars below the bankfull contour. There are avulsion channels on the floodplain or adjacent valley floor.

Worksheet 4: Entrenchment Ratio Calculation for Riverine Wetlands.

The following 5 steps should be conducted for each of 3 cross-sections located in the AA at the approximate mid-points along straight riffles or glides, away from deep pools or meander bends.						
	Steps	Replicate Cross-sections	1	2	3	
1	Estimate bankfull width.	This is a critical step requiring familiarity with field indicators of the bankfull contour. Estimate or measure the distance between the right and left bankfull contours.	25	12	10	
2:	Estimate max. bankfull depth.	Imagine a level line between the right and left bankfull contours; estimate or measure the height of the line above the thalweg (the deepest part of the channel).	5	2	Z	
3:	Estimate flood prone depth.	Double the estimate of maximum bankfull depth from Step 2.	10	4	4	
4:	Estimate flood prone width.	Imagine a level line having a height equal to the flood prone depth from Step 3; note where the line intercepts the right and left banks; estimate or measure the length of this line.	173	45	41	
5:	Calculate entrenchment ratio.	Divide the flood prone width (Step 4) by the bankfull width (Step 1).	6.92	3,75	4.1	
6:	Calculate average entrenchment ratio.	Calculate the average results for Step 5 for all 3 replicate	e cross-s	ections.	4.92	

Worksheet 5a: Structural Patch Type for Non-confined Riverine Wetlands.

Identify each type of patch that is observed in the AA.

Г

Structural Patch Type	Check for presence
Secondary channels on floodplains or along shorelines	
Swales on floodplain or along shoreline	
Pannes or pools on floodplain	
Vegetated islands (mostly above high-water)	
Pools or depressions in channels	
(wet or dry channels)	
Riffles or rapids (wet channel)	
or planar bed (dry channel)	
Point bars and in-channel bars	
Debris jams	
Abundant wrackline or organic debris in channel, on floodplain, or across depressional wetland plain	
Plant hummocks and/or sediment mounds	
Bank slumps or undercut banks in channels or along shoreline	
Variegated, convoluted, or crenulated foreshore (instead of broadly arcuate or mostly straight)	
Standing snags (at least 3 m tall)	
Filamentous macroalgae or algal mats	
Cobble and/or Boulders	
Submerged vegetation	
Total Possible	16
No. Observed Patch Types	

Worksheet 5b: Structural Patch Type for Confined Riverine Wetlands.

Structural Patch Type	Check for presence
Pools or depressions in channels	1
(wet or dry channels)	V
Riffles or rapids (wet channel)	1
or planar bed (dry channel)	V
Point bars and in-channel bars	• /
Debris jams	1
Abundant wrackline or organic debris in channel, on floodplain, or	/
across depressional wetland plain	V
Plant hummocks and/or sediment mounds	
Bank slumps or undercut banks in channels or along shoreline	
Variegated, convoluted, or crenulated foreshore (instead of broadly	
arcuate or mostly straight)	and the second second
Standing snags (at least 3 m tall)	/
Filamentous macroalgae or algal mats	· V/
Cobble and/or Boulders	\checkmark
Total Possible	11
No. Observed Patch Types	6

Identify each type of patch that is observed in the AA.

Worksheet 6a: Plant Community Metric -

Co-dominant Species Richness for Non-confined Riverine Wetlands.

Note: A dominant species represents $\geq 10\%$ relative cover. Count species only once when calculating any Plant Community sub-metric.

Floating or Canopy-forming	Invasive?	Short	Invasive?
Medium	Invasive?	Tall	Invasive?
Very Tall	Invasive?		
		Total number of co-dominant species for all layers combined	
		Percent Invasion	

Worksheet 6b: Plant Community Metric -

Co-dominant Species Richness for Confined Riverine Wetlands.

Note: A dominant species represents $\geq 10\%$ relative cover. Count species only once when calculating any Plant Community sub-metric.

Short	Invasive?	Medium	Invasive?
POLYPOGON MONSPELIENSI	s Y	CYPERUS SP.	N
GALINM ARAPINE	Y	1.	
	/		
Tall	Invicina	Very Tell	Invasive?
	Invasive:		Invasive.
KUSA CALIFORNICA	N	Q. AGRIFOLIA	N
TOXICODENDRON	N	P. PACEMOSA	N
RUBUS WASING	N		
RIBES AURENM	N.		
SAMBULUS NIGRA	N,	Total number of co-dominants	11
HEREOMENES AFBURGUA	N	for all layers combined	11
		Percent Invasion	180/0

Has a major disturbance occurred at this wetland?	Yes	No		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affe site next 3- years	ct likel 5 site	y to affect next 1-2 years
	depressional	vernal poc	ol ver	rnal pool system
Has this wetland been converted from another type? If yes, then what was the	non-confined riverine	confined riverine	s e:	easonal stuarine
previous type?	perennial saline estuarine	perennial no saline estuar	ine wet	meadow
	lacustrine	seep or spri	ng	playa

Worksheet 7: Wetland disturbances and conversions.

Worksheet 8: Stressor Checklist.

to have negative effect on AA	negative effect on AA
V	
1	
\checkmark	
A MAY BE	SARCE
	A MAY BE

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present and likely to have negative effect on AA	Significant negative effect on AA
Filling or dumping of sediment or soils (N/A for restoration areas)		
Grading/ compaction (N/A for restoration areas)		
Plowing/Discing (N/A for restoration areas)		
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management		
Excessive sediment or organic debris from watershed		
Excessive runoff from watershed		
Nutrient impaired (PS or Non-PS pollution)		
Heavy metal impaired (PS or Non-PS pollution)		
Pesticides or trace organics impaired (PS or Non-PS pollution)		
Bacteria and pathogens impaired (PS or Non-PS pollution)		
Trash or refuse		
Comments Nov		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present and likely to have negative effect on AA	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., <i>Virginia opossum</i> and domestic predators, such as feral pets)	1	
Tree cutting/sapling removal		
Removal of woody debris		
Treatment of non-native and nuisance plant species		
Pesticide application or vector control		
Biological resource extraction or stocking (fisheries, aquaculture)		
Excessive organic debris in matrix (for vernal pools)		
Lack of vegetation management to conserve natural resources	1	
Lack of treatment of invasive plants adjacent to AA or buffer	V	
Comments THE AA LIKELY HAS VIRGIN	1A prossim:	THE
INASIVE FLORA HAS NOT BEEN TO	64760 WI 7	THE AA

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present and likely to have negative effect on AA	Significant negative effect on AA
Urban residential		
Industrial/commercial		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries		
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor		
Rangeland (livestock rangeland also managed for native vegetation)	1	
Sports fields and urban parklands (golf courses, soccer fields, etc.)	\checkmark	
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)		
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		
Comments CEMENTAL LAWNS & PARKIN	a AREAS M	11 500m
BUFF62	1	Service States

Basic Information Sheet: Riverine Wetlands

Non-Yoane: LAN Surf 'D'' CRAM Site ID: Determination of the sease segment Area Name: AA No. 2 Date (m/d/y): G/28/2010 Assessment Area Name: AA No. 2 Date (m/d/y): G/28/2010 Assessment Team Members for This AA I.S.M.F., J. RECO Average Bankfull Width: Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): /OO _M Wetland Sub-type: VConfined Non-confined AA Category: Other Did the river/stream have flowing water at the time of the assessment? ycs no What is the apparent hydrologic flow regime of the reach you are assessing? no What is the apparent hydrologic flow regime of the reach you are assessing? no What is the apparent hydrologic flow regime of the reach you are assessing? no What is the apparent hydrologic flow regime of the reach you are assessing? no What is the apparent hydrologic flow regime of a stream describes the frequency with which the channel conducts water for periods longer than ephemeral streams conduct water only doing and immediately following precipitation events. Intermittent streams are dry for part of the year, but conduct water for periods longer than ephemeral streams conduct water only doing and immediately following precipitation at the more of a stream describe	V	James T.	10.00			
Average ID: Description Assessment Area Name: Average Pankfull Width: Assessment Team Members for This AA I-Sulff J. REEO Average Bankfull Width: Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): / 00 m Wetland Sub-type: Image: Confined Non-confined AA Category: Image: Confined Other Did the river/stream have flowing water at the time of the assessment? yes no What is the apparent hydrologic flow regime of the reach you are assessing? The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. Order water of periods longer than ephemeral streams conduct water only during and immediately following precipitation events. Intermittent streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of vatershed size and water source. Imperind Imperind Imparted Photo ID Description Latitude Longitude Datum 1 North 34.14029 118.31342 4 2 South 34.14029 118.31342 4 3 East 34.14029 118.31342 4 4 West 3	CDAN	Name: IA	N SWITT	27 11		
Assessment Area Name: Aff: No. 2 Date (m/d/y): 6/28/2010 Assessment Team Members for This AA I: Suff: Average Bankfull Width: Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): /00m Wetland Sub-type: I: Confined Non-confined AA Category: Impacted Other Did the river/stream have flowing water at the time of the assessment? yes Ino What is the apparent hydrologic flow regime of the reach you are assessing? The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. Premiad streams conduct water all year long, whereas ophemeral streams conduct water only during and immediately following precipitation events. Intermittent streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source. I: perennial ephemeral I: north 34.14025 I: North 34.14025 I: North 34.14027 I: North 34.14027 I: South 34.14027 I: North 34.14027 I: North 34.14027	CRAN	A Site ID: D	RAINAGE	" <u>D</u> "		
Date (m/d/y): 6/724/2010 Assessment Team Members for This AA I.S.M.F., J. REEO Average Bankfull Width: Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): //OOm Wetland Sub-type:	Assess	sment Area Na	ame: HA	NO. L		
Assessment Team Members for This AA I. SUIFT, J. RECO Average Bankfull Width: Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): / 00 m Wetland Sub-type: Confined INOn-confined AA Category: Restoration Mitigation Impacted Other Did the river/stream have flowing water at the time of the assessment? yes Ino What is the apparent hydrologic flow regime of the reach you are assessing? The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. Perenilal streams conduct water all year long, whereas ophomeral streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source. perennial I ephemeral Intermittent Photo ID Description Latitude Longitude Datum No. North 34.14055 11.8.3/3.4.5 AMD South 34.1402.9 11.8.3/3.4.5 AMD South 34.1402.9 11.8.3/3.4.5 AMD South 34.140.3.9 11.8.3/3.4.2 South 34.140.3.9 11.8.3/3.4.2 South 34.140.4.3 11.8.3/3.3.4.2 South 34.140.4.3 11.8.3/3.4.2 South 34.140.4.3 11.8.3/3.3.4.2 South 34.140.4.3 11.8.3/3.3.4.2 South 34.140.4.3 11.8.3/3.3.	Date ((m/d/y):	6/28/2	010		
I. SMIFT, J. REED Average Bankfull Width: Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): //OOm Wetland Sub-type: Confined Non-confined AA Category: Restoration Mitigation Did the river/stream have flowing water at the time of the assessment? What is the apparent hydrologic flow regime of the reach you are assessing? The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. Premild streams conduct water all year long, where are otherward streams conduct water only during and immediately following precipitation events. Intermittent streams are duff for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source. perennial cphemeral intermittent Photo Identification Numbers and Description: Image: North 34.14029 3 East 34.14029 118.313.42 3 East 3 East 34.14029 118.313.42	Asses	sment Team M	lembers for Th	is AA		
Average Bankfull Width: Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): / 00 m Wetland Sub-type:	I	SWIFT	J. RE	ED		
Average Bankfull Width: Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): / 00 m Wetland Sub-type: Confined Non-confined AA Category: Restoration Mitigation Impacted Other Did the river/stream have flowing water at the time of the assessment? yes What is the apparent hydrologic flow regime of the reach you are assessing? The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. Permids streams conduct water all year long, whereas chymeral streams conduct water only during and immediately following precipitation events. Intermittent streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source. perennial cphemeral intermittent Photo Identification Numbers and Description: Iongitude Datum 1 North 34.14025 118.31345 3 East 34.14025 118.31345 4 West 34.14027 118.31345						
Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): / 00 m Wetland Sub-type: Confined Non-confined AA Category: Restoration Mitigation Impacted Other Did the river/stream have flowing water at the time of the assessment? yes no What is the apparent hydrologic flow regime of the reach you are assessing? The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. Peremid streams conduct water all year long, whereas ephemeral streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source. perennial cphemeral fintermittent Photo ID Description Latitude Longitude Datum 1 North 34.140.55 11.8.31/3.45 14 2 South 34.140.29 11.8.31/3.42 14 3 East 34.140.39 11.8.31/3.42 14 4 West 34.140.43 11.8.31/3.42 14	Ave	erage Bankfull	Width:			
Wetland Sub-type: Confined Non-confined AA Category: Restoration Mitigation Did the river/stream have flowing water at the time of the assessment? yes What is the apparent hydrologic flow regime of the reach you are assessing? The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. Perminal streams conduct water all year long, whereas <i>ephemeral</i> streams conduct water only during and immediately following precipitation events. Intermittent streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source. Penennial ephemeral Intermittent Photo ID Description Latitude Longitude No. North 34.14025 1 North 34.14029 2 South 34.14029 3 East 34.14029 4 West 34.14029 5 1 18.31342	App	proximate Len	gth of AA (10 ti	mes bankfull width,	min 100 m, max 200 n	1): 100m
Image: Confined Impacted AA Category: Impacted Other Restoration Mitigation Impacted Other Did the river/stream have flowing water at the time of the assessment? yes Impacted Impacted What is the apparent hydrologic flow regime of the reach you are assessing? Impacted Impacted Impacted The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. Peremial streams conduct water all year long, whereas ephemeral streams conduct water only during and immediately following precipitation events. Intermittent streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source. Imperimited the following precipitation events. Intermittent Photo Identification Numbers and Description: Intermittent Import I	We	tland Sub-type	:			
AA Category: Impacted Other Did the river/stream have flowing water at the time of the assessment? yes Ino What is the apparent hydrologic flow regime of the reach you are assessing? Impacted Impacted Impacted What is the apparent hydrologic flow regime of the reach you are assessing? Impacted Impacted Impacted Impacted What is the apparent hydrologic flow regime of the reach you are assessing? Impacted Impac			Confined	🗆 Non-confi	ned	
Restoration Mitigation Impacted Other Did the river/stream have flowing water at the time of the assessment? yes Ino What is the apparent hydrologic flow regime of the reach you are assessing? Ino The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. Perennial streams conduct water all year long, whereas ephemeral streams conduct water only during and immediately following precipitation events. Intermittent streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source. Impacted Impacted Perennial Impacted Impacted Intermittent Photo Identification Numbers and Description: Intermittent Impacted Impacted Impacted No. Impacted Impacted Impacted Impacted Impac	AA	Category:				
Did the river/stream have flowing water at the time of the assessment? I yes I no What is the apparent hydrologic flow regime of the reach you are assessing? The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. Perennial streams conduct water all year long, whereas ephemeral streams conduct water only during and immediately following precipitation events. Intermittent streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source. Image:	C	Restoration	o Mi	tigation	Impacted	□ Other
What is the apparent hydrologic flow regime of the reach you are assessing? The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. Perennial streams conduct water all year long, whereas ephemeral streams conduct water only during and immediately following precipitation events. Intermittent streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source. □ perennial □ ephemeral □ North <td< td=""><td>Did</td><td>the river/strea</td><td>am have flowin</td><td>g water at the time</td><td>of the assessment?</td><td>uyes Vino</td></td<>	Did	the river/strea	am have flowin	g water at the time	of the assessment?	uyes Vino
Photo Identification Numbers and Description: Photo ID Description Latitude Longitude Datum 1 North 34.14055 118.31357 MAP 2 South 34.14029 118.31345 1 3 East 34.14039 118.31323 1 4 West 34.14043 118.31372 1 5	What is the apparent hydrologic flow regime of the reach you are assessing? The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. <i>Perennial</i> streams conduct water all year long, whereas <i>ephemeral</i> streams conduct water only during and immediately following precipitation events. <i>Intermittent</i> streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source.					
Photo ID No. Description Latitude Longitude Datum 1 North 34.14055 118.31357 NAD 2 South 34.14029 118.31345 1 3 East 34.14039 118.31323 1 4 West 34.14043 118.31372 1 5	Pho	oto Identificati	on Numbers a	nd Description:		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		Photo ID	Description	Latitude	Longitude	Datum
2 South 34.14029 118.31345 3 East 34.14039 118.31323 4 West 34.14043 118.31372 5 6 6 6	1	1.0.	North	34.14055	118.31357	NAD
3 East 34. 14039 118. 31323 4 West 34. 14043 118. 31372 5 6 6 6	2		South	24 14079	118 212 115	
4 West 34.14043 118.31372 5 6 6	2		Fast	24 11020	118 21073	
T West 57.19045 110.51542 5 6 6 6	1		West	24 111123	118 313 17	
6	5					
	5					
	0					

1

Comments: AA is 0.334 ha.

Scoring Sheet: Riverine Wetlands

AA Name: AA NO-2				(m/d/y)	6	28 2010
Attributes and Metrics	5	Sce	ores	Comments		nents
Buffer and Landscape Context	1.			1		
Landscape Connec	ctivity (D)	A				
Buffer submetric A: Percent of AA with Buffer	A.					
Buffer submetric B: Average Buffer Width	A					
Buffer submetric C: Buffer Condition	A					
$D + [C x (A x B)^{\frac{1}{2}}]^{\frac{1}{2}} = Attributering At$	ute Score	Raw 24	Final 100	_ Fina (R	l Attrib aw Sco	ute Score = re/24)100
Hydrology						
Wat	ter Source	A				
Hydroperiod or Channe	el Stability	A				
Hydrologic Co	nnectivity	A				
Attribute Score		Raw 36	Final 100	- Fina (R	Final Attribute Score = (Raw Score/36)100	
Physical Structure						
Structural Patch	Richness	B				
Topographic C	omplexity	B				
Attrib	ute Score	Raw 18	Final 75	Fina (R	ll Attrib aw Sco	ute Score = re/24)100
Biotic Structure			1.			
Plant Community submetric A: Number of Plant Layers	A					
Plant Community submetric B: Number of Co-dominant species	B			-		
Plant Community submetric C: Percent Invasion	A					
Plant Commun (average of subm	ity Metric etrics A-C)	A				
Horizontal Interspersion and	Zonation	B				
Vertical Biotic	Structure	B				
Attrib	ute Score	Raw 30	Final 83	Fina (R	ıl Attrib .aw Sco	ute Score = re/36)100
Overall	AA Score	9	0	Avera	ge of F Sco	inal Attribute ores

Lengths of Non-buffer S Distance of 500 m Ups	Segments For tream of AA	Lengths of Non-buffer Segments For Distance of 500 m Downstream of Af		
Segment No.	Length (m)	Segment No. Length		
1	0	1 -	0	
2		2		
3		3		
4		4		
5		5		
Upstream Total Length	0	Downstream Total Length	0	

Worksheet 1: Landscape Connectivity Metric for Riverine Wetlands.

Worksheet 2: Calculating average buffer width of AA.

Line	Buffer Width (m)
А	250
В	250
С	250 .
D	250
E	250
F	250
G	250
Н	250
Average Buffer Width	250

Worksheet 3: Assessing Hydroperiod for Riverine Wetlands.

Condition	Field Indicators
Continuon	(check all existing conditions)
	 The channel (or multiple channels in braided systems) has a well-defined bankfull contour that clearly demarcates an obvious active floodplain in the cross-sectional profile of the channel throughout most of the AA. Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it.
x 1. C	There is leaf litter, thatch, or wrack in most pools.
Indicators of Channel	The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area.
Equilibrium	\square /There is little or no active undercutting or burial of riparian vegetation.
	There are no mid-channel bars and/or point bars densely vegetated with perennial vegetation.
	Channel bars consist of well-sorted bed material.
	There are channel pools, the bed is not planar, and the spacing / between pools tends to be regular.
	The larger bed material supports abundant mosses or periphyton.
	 The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs. There are churdent hark slides or slumps, or the lower banks are
	uniformly scoured and not vegetated.
Indicators of	□ Riparian vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel.
Active Degradation	□ An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation.
	□ The channel bed appears scoured to bedrock or dense clay.
	Recently active flow pathways appear to have coalesced into one channel (i.e. a previously braided system is no longer braided).
	□ The channel has one or more nick points indicating headward erosion of the bed.
	□ There is an active floodplain with fresh splays of coarse sediment.
	□ There are partially buried living tree trunks or shrubs along the banks.
Indicators of	□ The bed is planar overall; it lacks well-defined channel pools, or they are uncommon and irregularly spaced.
Aggradation	There are partially buried, or sediment-choked, culverts.
Aggradation	Perennial terrestrial or riparian vegetation is encroaching into the channel or onto channel bars below the bankfull contour.
	□ There are avulsion channels on the floodplain or adjacent valley floor.

Worksheet 4: Entrenchment Ratio Calculation for Riverine Wetlands.

The following 5 steps should be conducted for each of 3 cross-sections located in the AA at the approximate mid-points along straight riffles or glides, away from deep pools or meander bends.					
Steps	Replicate Cross-sections	1	2	3	
1 Estimate bankfull width.	This is a critical step requiring familiarity with field indicators of the bankfull contour. Estimate or measure the distance between the right and left bankfull contours.	17	14	27	(PEE
2: Estimate max. bankfull depth.	Imagine a level line between the right and left bankfull contours; estimate or measure the height of the line above the thalweg (the deepest part of the channel).	4	4	4	
3: Estimate flood prone depth.	Double the estimate of maximum bankfull depth from Step 2.	8	8	8	
4: Estimate flood prone width.	Imagine a level line having a height equal to the flood prone depth from Step 3; note where the line intercepts the right and left banks; estimate or measure the length of this line.	36	36	42	
5: Calculate entrenchment ratio.	Divide the flood prone width (Step 4) by the bankfull width (Step 1).	2-11	2.57	1.55	
6: Calculate averag entrenchment ratio.	Calculate the average results for Step 5 for all 3 replicat	e cross-s	ections.	2.08	

6

Worksheet 5a: Structural Patch Type for Non-confined Riverine Wetlands.

Identify each type of patch that is observed in the AA.

Г

Structural Patch Type	Check for presence
Secondary channels on floodplains or along shorelines	
Swales on floodplain or along shoreline	
Pannes or pools on floodplain	
Vegetated islands (mostly above high-water)	
Pools or depressions in channels	
(wet or dry channels)	
Riffles or rapids (wet channel)	
or planar bed (dry channel)	
Point bars and in-channel bars	
Debris jams	
Abundant wrackline or organic debris in channel, on floodplain, or across depressional wetland plain	
Plant hummocks and/or sediment mounds	
Bank slumps or undercut banks in channels or along shoreline	
Variegated, convoluted, or crenulated foreshore (instead of broadly arcuate or mostly straight)	
Standing snags (at least 3 m tall)	
Filamentous macroalgae or algal mats	
Cobble and/or Boulders	
Submerged vegetation	
Total Possible	16
No. Observed Patch Types	

Worksheet 5b: Structural Patch Type for Confined Riverine Wetlands.

Structural Patch Type	Check for presence
Pools or depressions in channels	/
(wet or dry channels)	V
Riffles or rapids (wet channel)	
or planar bed (dry channel)	V
Point bars and in-channel bars	/
Debris jams	V
Abundant wrackline or organic debris in channel, on floodplain, or	./
across depressional wetland plain	V
Plant hummocks and/or sediment mounds	• /
Bank slumps or undercut banks in channels or along shoreline	\checkmark
Variegated, convoluted, or crenulated foreshore (instead of broadly	
arcuate or mostly straight)	
Standing snags (at least 3 m tall)	/
Filamentous macroalgae or algal mats	V/
Cobble and/or Boulders	1
Total Possible	11
No. Observed Patch Types	7

Identify each type of patch that is observed in the AA.

Worksheet 6a: Plant Community Metric -

Co-dominant Species Richness for Non-confined Riverine Wetlands.

Note: A dominant species represents ≥10% *relative* cover. Count species only once when calculating any Plant Community sub-metric.

Floating or Canopy-forming	Invasive?	Short	Invasive?
Medium	Invasive?	Tall	Invasive?
Very Tall	Invasive?		
		Total number of co-dominant species for all layers combined	
		Percent Invasion	

Worksheet 6b: Plant Community Metric -

Co-dominant Species Richness for Confined Riverine Wetlands.

Note: A dominant species represents ≥10% *relative* cover. Count species only once when calculating any Plant Community sub-metric.

Short	Invasive?	Medium	Invasive?
MELICA TORREMANA	N	SYMPHORICARPOS MOLLIS	N
		TOXICO DENDRON	N
		AGGEATINA ADGNOPHORA	- Y.
		RIBES AVREIM	N.
		LEYMUS CONDENSAWS	N
Tall	Invașive?	Very Tall	Invasive?
SAMBUCIS ALBRA	N.	Q. AGRIFOLIA	N
HETEROMERES ARBYTFOLIA	N	P. RACEMOSA	N
		Total number of co-dominants for all layers combined	10
		Percent Invasion	10%

Has a major disturbance occurred at this wetland?	Yes	No		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affec site next 3-5 years	t likely site	y to affect next 1-2 years
	depressional	vernal pool	ver	nal pool ystem
Has this wetland been converted from another type? If yes, then what was the previous type?	non-confined riverine	confined riverine	so	easonal tuarine
	perennial saline estuarine	perennial non- saline estuarine wet n		meadow
1	lacustrine	seep or sprin	g	playa

Worksheet 7: Wetland disturbances and conversions.

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present and likely to have negative effect on AA	Significant negative effect on AA
Point Source (PS) discharges (POTW, other non-stormwater discharge)		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)		
Flow diversions or unnatural inflows		
Dams (reservoirs, detention basins, recharge basins)		
Flow obstructions (culverts, paved stream crossings)		
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees		
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
NOME		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present and likely to have negative effect on AA	Significant negative effect on AA
Filling or dumping of sediment or soils (N/A for restoration areas)		
Grading/ compaction (N/A for restoration areas)		
Plowing/Discing (N/A for restoration areas)		
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management		
Excessive sediment or organic debris from watershed		
Excessive runoff from watershed		
Nutrient impaired (PS or Non-PS pollution)		
Heavy metal impaired (PS or Non-PS pollution)		
Pesticides or trace organics impaired (PS or Non-PS pollution)		
Bacteria and pathogens impaired (PS or Non-PS pollution)		
Trash or refuse		
Comments		
NOWE		

effect on AA	negative effect on AA
	effect on AA

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present and likely to have negative effect on AA	Significant negative effect on AA
Urban residential		
Industrial/commercial		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries		
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor		
Rangeland (livestock rangeland also managed for native vegetation)	1	
Sports fields and urban parklands (golf courses, soccer fields, etc.)	V	
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)		
Physical resource extraction (rock, sediment, oil/gas)		-
Biological resource extraction (aquaculture, commercial fisheries)		
Comments CEMENARY LAWNS & PARKING	AREAS WI	THE
500m BUFFER AREA		

our	Name: IA	NSUIFT	- 14		
CRAN	A Site ID: 1	PRAINAGE	"F"		
isses	sment Area N	ame: AA	No. 3		
Date	(m/d/y):	0/29/20	10		
sses	sment Team M	/ Members for Th	nis AA		
I	. SWIFT	, J. KG	5D		
		1			
Ave	erage Bankfull	Width: 6.	5'		
Ap	proximate Ler	ngth of AA (10 t	imes bankfull width	, min 100 m, max 200 r	n): 100 m
We	tland Sub-type	e:			
		1			
		Confined	□ Non-cont	ined	
AA	Category:				
1	□ Restoration	□ M	itigation	M Impacted	□ Other
Did	l the river/stre	am have flowin	g water at the time	e of the assessment?	🗆 yes 🗹 no
W/L	at is the appea	ant hydrologia	flow tegime of the	reach you are assess	ina
wn	at is the appar	ent nythologic	now regime of the	leach you are assess.	ing:
The	hydrologic flow	regime of a stream	n describes the freque	ncy with which the chanr	nel conducts
duri	er. Perennial strea	ms conduct water	all year long, whereas	<i>ephemeral</i> streams conduction mittent streams are dry for	t water only
but	conduct water fo	r periods longer t	han ephemeral stream	s, as a function of waters	hed size and water
sout	rce.			/	
	□ pere	ennial	🗆 ephemeral	intermittent	
Phe	oto Identificat	ion Numbers a	nd Description:		
	Photo ID	Description	Latitude	Longitude	Datum
	No.				
1		North	34.14/161	118.315797	NAD
2		South	34.140575	118.315954	
3		East	34.140892	118.315600	
4		West	34.141122	118.315942	V
5					
6					

AA 15 0.35 ha Comments: 2

Scoring Sheet: Riverine Wetlands

AA Name: AA No. 3			(m/d/y)	6	29	2010	
Attributes and Metrics	Sco	ores	Comments				
Buffer and Landscape Context	٨			12			
Landscape Connec	tivity (D)	A		1.			
Buffer submetric A: Percent of AA with Buffer	A						
Buffer submetric B: Average Buffer Width	A						
Buffer submetric C: Buffer Condition	A						
$D + [C x (A x B)^{\frac{1}{2}}]^{\frac{1}{2}} = Attribute$	ute Score	Raw 24	Final /00	Fina (R	ıl Attrib .aw Scoi	ute Score re/24)10	e = 0
Hydrology		1					
Wat	er Source	A					
Hydroperiod or Channe	el Stability	A					
Hydrologic Co	nnectivity	À					
Attrib	te Score	Raw	Final	Fina	al Attrib	ute Score	e =
Attilb	and Score	36	100	(R	aw Sco	ce/36)10	0
Physical Structure							
Structural Patch Richness		B					
Topographic Complexity		A.	-				
Attrib	ute Score	Raw Z I	Final 88	Fina (R	il Attrib .aw Scoi	ute Score te/24)10	e = 0
Biotic Structure							
Plant Community submetric A: Number of Plant Layers	A						
Plant Community submetric B:	0					700	
Number of Co-dominant species	C						
Plant Community submetric C: Percent Invasion	A						
Plant Community Metric (average of submetrics A-C)		в					
Horizontal Interspersion and Zonation		C					
Vertical Biotic Structure		B					
Attribute Score		Raw 24	Final 67	- Fina (R	al Attrib aw Sco	ute Score re/36)10	e = 0
Overall AA Score		8	°9	Avera	ge of Fi Sco	inal Attr ores	ibute

Lengths of Non-buffer Segments For Distance of 500 m Upstream of AA		Lengths of Non-buffer Segments For Distance of 500 m Downstream of AA		
Segment No.	Length (m)	Segment No.	Length (m)	
1 -	0	1 -	0	
2		2		
3		3		
4		4		
5		5		
Upstream Total Length	0	Downstream Total Length	0	

Worksheet 1: Landscape Connectivity Metric for Riverine Wetlands.

Worksheet 2: Calculating average buffer width of AA.

Line	Buffer Width (m)
А	250
В	250
С	250
D	140
E	250
F	250
G	250
Н	250
Average Buffer Width	235

Worksheet 3: Assessing Hydroperiod for Riverine Wetlands.

Condition	Field Indicators (check all existing conditions)
	The channel (or multiple channels in braided systems) has a well- defined bankfull contour that clearly demarcates an obvious active floodplain in the cross-sectional profile of the channel throughout most of the AA.
	Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it.
T 11 C	There is leaf litter, thatch, or wrack in most pools.
Channel	The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area.
Equilibrium	There is little or no active undercutting or burial of riparian vegetation.
	There are no mid-channel bars and/or point bars densely vegetated with perennial vegetation.
	Channel bars consist of well-sorted bed material.
	There are channel pools, the bed is not planar, and the spacing between pools tends to be regular.
	□ The larger bed material supports abundant mosses or periphyton.
	□ The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs.
	□ There are abundant bank slides or slumps, or the lower banks are uniformly scoured and not vegetated.
Indicators of	Riparian vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel.
Active Degradation	□ An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation.
	□ The channel bed appears scoured to bedrock or dense clay.
	□ Recently active flow pathways appear to have coalesced into one channel (i.e. a previously braided system is no longer braided).
	□ The channel has one or more nick points indicating headward erosion of the bed.
	There is an active floodplain with fresh splays of coarse sediment. There are partially buried living tree trunks or shrubs along the banks
Indicators of	 There are partially buried living tree durings of sindos along the banks. The bed is planar overall; it lacks well-defined channel pools, or they are uncommon and irregularly spaced.
Active	/There are partially buried, or sediment-choked, culverts.
Aggradation	Perennial terrestrial or riparian vegetation is encroaching into the
	channel or onto channel bars below the bankfull contour.
	□ There are avulsion channels on the floodplain or adjacent valley floor.

Worksheet 4: Entrenchment Ratio Calculation for Riverine Wetlands.

The following 5 steps should be conducted for each of 3 cross-sections located in the AA at the approximate mid-points along straight riffles or glides, away from deep pools or meander bends.

	Steps	Replicate Cross-sections	1	2	3		
1	Estimate bankfull width.	This is a critical step requiring familiarity with field indicators of the bankfull contour. Estimate or measure the distance between the right and left bankfull contours.	6	7	6		
2:	Estimate max. bankfull depth.	Imagine a level line between the right and left bankfull contours; estimate or measure the height of the line above the thalweg (the deepest part of the channel).	2	1.5	2.5		
3:	Estimate flood prone depth.	Double the estimate of maximum bankfull depth from Step 2.	4	3	5		
4:	Estimate flood prone width.	Imagine a level line having a height equal to the flood prone depth from Step 3; note where the line intercepts the right and left banks; estimate or measure the length of this line.	13	12	18		
5:	Calculate	Divide the flood prone width (Step 4) by the bankfull width (Step 1).	2.17	1.71	3		
6:	Calculate average entrenchment ratio.	Calculate the average results for Step 5 for all 3 replicate	e cross-se	ections.	2.29		

Worksheet 5a: Structural Patch Type for Non-confined Riverine Wetlands.

Identify each type of patch that is observed in the AA.

Г

Structural Patch Type	Check for presence
Secondary channels on floodplains or along shorelines	
Swales on floodplain or along shoreline	
Pannes or pools on floodplain	
Vegetated islands (mostly above high-water)	
Pools or depressions in channels	
(wet or dry channels)	
Riffles or rapids (wet channel)	
or planar bed (dry channel)	
Point bars and in-channel bars	
Debris jams	
Abundant wrackline or organic debris in channel, on floodplain, or across depressional wetland plain	
Plant hummocks and/or sediment mounds	
Bank slumps or undercut banks in channels or along shoreline	
Variegated, convoluted, or crenulated foreshore (instead of broadly arcuate or mostly straight)	
Standing snags (at least 3 m tall)	
Filamentous macroalgae or algal mats	
Cobble and/or Boulders	
Submerged vegetation	
Total Possible	16
No. Observed Patch Types	

Worksheet 5b: Structural Patch Type for Confined Riverine Wetlands.

Structural Patch Type	Check for presence
Pools or depressions in channels	./
(wet or dry channels)	V
Riffles or rapids (wet channel)	
or planar bed (dry channel)	1
Point bars and in-channel bars	1
Debris jams	V,
Abundant wrackline or organic debris in channel, on floodplain, or	./
across depressional wetland plain	V
Plant hummocks and/or sediment mounds	
Bank slumps or undercut banks in channels or along shoreline	
Variegated, convoluted, or crenulated foreshore (instead of broadly	
arcuate or mostly straight)	1
Standing snags (at least 3 m tall)	\checkmark
Filamentous macroalgae or algal mats	1
Cobble and/or Boulders	~
Total Possible	11
No. Observed Patch Types	6

Identify each type of patch that is observed in the AA.

Worksheet 6a: Plant Community Metric -

Co-dominant Species Richness for Non-confined Riverine Wetlands.

Note: A dominant species represents $\geq 10\%$ relative cover. Count species only once when calculating any Plant Community sub-metric.

Floating or Canopy-forming	Invasive?	Short	Invasive?
		*	
Medium	Invasive?	Tall	Invasive?
Very Tall	Invasive?		
		Total number of co-dominant species for all layers combined	
		Percent Invasion	

Worksheet 6b: Plant Community Metric -

Co-dominant Species Richness for Confined Riverine Wetlands.

Note: A dominant species represents ≥10% *relative* cover. Count species only once when calculating any Plant Community sub-metric.

Short	Invasive?	Medium	Invasive?
Melica torrevona	N	TOXICODENTRON	N
		CARDWS PYCNOLEPHALL	15 Y
Tall	Invasive?	Very Tall	Invasive?
HORAMAKS ADRIDGE	4 N	B. ALPIENIA	N
SAMBULUS MERA	Ň	P. FACENVSA	N
		Total number of co-dominants for all layers combined	7
		Percent Invasion	14%

A

Has a major disturbance occurred at this wetland?	Yes	No			
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other	
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affe site next 3-5 years	ct likely 5 site	likely to affect site next 1-2 years	
	depressional	vernal poo	l ver	nal pool ystem	
Has this wetland been converted from another type? If yes, then what was the	non-confined riverine	confined riverine	es	easonal tuarine	
previous type? N	perennial saline estuarine	perennial no saline estuari	n- ne wet	meadow	
	lacustrine	seep or sprin	ng	playa	

Worksheet 7: Wetland disturbances and conversions.

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present and likely to have negative effect on AA	Significant negative effect on AA
Point Source (PS) discharges (POTW, other non-stormwater discharge)		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)		
Flow diversions or unnatural inflows		
Dams (reservoirs, detention basins, recharge basins)		
Flow obstructions (culverts, paved stream crossings)		
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees		
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology	•	
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present and likely to have negative effect on AA	Significant negative effect on AA
Filling or dumping of sediment or soils (N/A for restoration areas)	1	
Grading/ compaction (N/A for restoration areas)		
Plowing/Discing (N/A for restoration areas)		
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management		
Excessive sediment or organic debris from watershed		
Excessive runoff from watershed		
Nutrient impaired (PS or Non-PS pollution)		
Heavy metal impaired (PS or Non-PS pollution)		
Pesticides or trace organics impaired (PS or Non-PS pollution)		
Bacteria and pathogens impaired (PS or Non-PS pollution)		
Trash or refuse		
Comments SomE GRADING WI SOM OF	TA. HWEVER, T	HIS AREA
TOES NOT FLOW INTO THE AA, AND A LIKELY	10 MEGATIVE EA	ALTS ARE

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present and likely to have negative effect on AA	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., <i>Virginia opossum</i> and domestic predators, such as feral pets)		
Tree cutting/sapling removal		
Removal of woody debris		
Treatment of non-native and nuisance plant species		
Pesticide application or vector control		
Biological resource extraction or stocking (fisheries, aquaculture)		
Excessive organic debris in matrix (for vernal pools)		
Lack of vegetation management to conserve natural resources		
Lack of treatment of invasive plants adjacent to AA or buffer		
Comments		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present and likely to have negative effect on AA	Significant negative effect on AA
Urban residential		
Industrial/commercial		time in the system of
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries		
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor		
Rangeland (livestock rangeland also managed for native vegetation)	/	
Sports fields and urban parklands (golf courses, soccer fields, etc.)	\checkmark	
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)		
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		
Comments CEMETARY LAWNS & PARKING 1	OTS W/1 TH	E 500 m
BVIPALE		and the second second

our l	Name: IA	W SWIFT	14/0				
RAM Site ID: DRAINAGE H							
Date	(m/d/v).	1110. AFF #	()				
leces	sment Team M	lembers for Th	vie A A				
15505			<u>us 111</u>				
L	. SWIFT	J. REE	Ð				
Ave	erage Bankfull	Width: 7	1				
Ap	proximate Len	gth of AA (10 ti	imes bankfull width,	min 100 m, max 200 m): 100m		
We	tland Sub-type	:					
		Confined	□ Non-confir	ned			
AA	Category:						
ſ	□ Restoration	🗆 Mi	itigation	Impacted	□ Other		
Did	l the river/strea	am have flowin	g water at the time	of the assessment?	yes no		
W/h	at is the oppor	ant hydrologic	flow regime of the	each you are assessi	200		
wn	at is the appare	ent nythologie	now regime of the	cacii you are assessi	g-		
The	hydrologic flow	regime of a stream	all year long whereas	cy with which the channe <i>whemeral</i> streams conduct	el conducts water only		
duri	ng and immediate	ely following preci	ipitation events. Interm	ittent streams are dry for	part of the year,		
but	conduct water for	r periods longer th	nan ephemeral streams,	, as a function of watersh	ed size and water		
sour	ice.						
	□ pere	nnial		V intermittent	and the summer for		
Phe	oto Identificati	on Numbers a	nd Description:				
	Photo ID No.	Description	Latitude	Longitude W	Datum		
1	1	North	34 1405720	118.3160590	MAD		
2	2	South	34.1406090	118.317884"			
3	3	East	34.141064°	118.3169650			
4	4	West	34.1410550	118:317546	V		
5							
6							

Comments: TOTAL AREA OF THE AA IS 0.25 ha. 2

Scoring Sheet: Riverine Wetlands

AA Name: # 4				(m/d/y)	6	29	2010
Attributes and Metrics			Scores		Comments		
Buffer and Landscape Context							
Landscape Connec	ctivity (D)	A					
Buffer submetric A: Percent of AA with Buffer	A						
Buffer submetric B: Average Buffer Width	A						
Buffer submetric C: Buffer Condition	Â						
$D + [C x (A x B)^{1/2}]^{1/2} = Attributering Attributer$	ute Score	Raw 24	Final 100	Fina (R	l Attrib aw Scoi	ute Score re/24)100	=
Hydrology			Automatica and				
Wa	ter Source	A					
Hydroperiod or Channe	el Stability	A					
Hydrologic Co	nnectivity	A					
Attrib	ute Score	Raw 36	Final	Final Attribute Score = (Raw Score/36)100)	
Physical Structure							
Structural Patch	Richness	C					
Topographic C	omplexity	C	-				
Attrib	ute Score	Raw 12	Final 50	Fina (R	l Attrib aw Scoi	ute Score re/24)100))
Biotic Structure		1					
Plant Community submetric A: Number of Plant Layers	A			-			
Plant Community submetric B: Number of Co-dominant species	A						
Plant Community submetric C: Percent Invasion	A						
Plant Commun (average of subm	nity Metric netrics A-C)	A					
Horizontal Interspersion and	Zonation	C					
Vertical Biotic	Structure	C					
Attrib	ute Score	Raw 24	Final 67	Fina (R	ll Attrib .aw Sco:	ute Score re/36)100	: =)
Overall	7	9	Avera	ge of Fi	inal Attri ores	bute	

Lengths of Non-buffer Segments For Distance of 500 m Upstream of AA		Lengths of Non-buffer Segments For Distance of 500 m Downstream of AA		
Segment No.	Length (m)	Segment No. Length (n		
1	-	1 —	1	
2		2		
3		3		
4		4		
5		5		
Upstream Total Length	0	Downstream Total Length O		

Worksheet 1: Landscape Connectivity Metric for Riverine Wetlands.

Worksheet 2: Calculating average buffer width of AA.

Line	Buffer Width (m)
A	200
В	140
С	105
D	70
E	250
F	250
G	250
Н	250
Average Buffer Width	190 m

Worksheet 3: Assessing Hydroperiod for Riverine Wetlands.

Condition	Field Indicators
	(cneck all existing conditions)
	In the channel (or multiple channels in braided systems) has a well- defined bankfull contour that clearly demarcates an obvious active floodplain in the cross-sectional profile of the channel throughout most of the AA.
	Perennial riparian vegetation is abundant and well established along /the bankfull contour, but not below it.
	M/There is leaf litter, thatch, or wrack in most pools.
Indicators of Channel	The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area.
Equilibrium	There is little or no active undercutting or burial of riparian vegetation.
	There are no mid-channel bars and/or point bars densely vegetated with perennial vegetation.
	Channel bars consist of well-sorted bed material.
	There are channel pools, the bed is not planar, and the spacing between pools tends to be regular.
	□ The larger bed material supports abundant mosses or periphyton.
Indicators of Active Degradation	 The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs. There are abundant bank slides or slumps, or the lower banks are uniformly scoured and not vegetated. Riparian vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel. An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation. The channel bed appears scoured to bedrock or dense clay.
	 Recently active flow pathways appear to have coalesced into one channel (i.e. a previously braided system is no longer braided). The channel has one or more nick points indicating headward erosion of the bed.
Indicators of Active Aggradation	 There is an active floodplain with fresh splays of coarse sediment. There are partially buried living tree trunks or shrubs along the banks. The bed is planar overall; it lacks well-defined channel pools, or they are uncommon and irregularly spaced. There are partially buried, or sediment-choked, culverts. Perennial terrestrial or riparian vegetation is encroaching into the channel or onto channel bars below the bankfull contour. There are avulsion channels on the floodplain or adjacent valley floor.

Worksheet 4: Entrenchment Ratio	Calculation for Riverine	Wetlands.
---------------------------------	--------------------------	-----------

	The following 5 st approximate mid-p	eps should be conducted for each of 3 cross-sections loca points along straight riffles or glides, away from deep poo	ated in th ls or mea	ne AA at ander be	the nds.
	Steps	Replicate Cross-sections	1	2	3
1	Estimate bankfull width.	This is a critical step requiring familiarity with field indicators of the bankfull contour. Estimate or measure the distance between the right and left bankfull contours.	8	5	9
2:	Estimate max. bankfull depth.	Imagine a level line between the right and left bankfull contours; estimate or measure the height of the line above the thalweg (the deepest part of the channel).	3	1	1
3:	Estimate flood prone depth.	Double the estimate of maximum bankfull depth from Step 2.	6	2	2
4:	Estimate flood prone width.	Imagine a level line having a height equal to the flood prone depth from Step 3; note where the line intercepts the right and left banks; estimate or measure the length of this line.	16	24	14
5:	Calculate entrenchment ratio.	Divide the flood prone width (Step 4) by the bankfull width (Step 1).	2	4.8	1.56
6:	Calculate average entrenchment ratio.	Calculate the average results for Step 5 for all 3 replicate	cross-se	ections.	2.7

Worksheet 5a: Structural Patch Type for Non-confined Riverine Wetlands.

Identify each type of patch that is observed in the AA.

Г

Structural Patch Type	Check for presence
Secondary channels on floodplains or along shorelines	
Swales on floodplain or along shoreline	
Pannes or pools on floodplain	
Vegetated islands (mostly above high-water)	
Pools or depressions in channels	
(wet or dry channels)	
Riffles or rapids (wet channel)	
or planar bed (dry channel)	
Point bars and in-channel bars	
Debris jams	
Abundant wrackline or organic debris in channel, on floodplain, or across depressional wetland plain	
Plant hummocks and/or sediment mounds	
Bank slumps or undercut banks in channels or along shoreline	
Variegated, convoluted, or crenulated foreshore (instead of broadly arcuate or mostly straight)	
Standing snags (at least 3 m tall)	
Filamentous macroalgae or algal mats	
Cobble and/or Boulders	
Submerged vegetation	
Total Possible	16
No. Observed Patch Types	

Worksheet 5b: Structural Patch Type for Confined Riverine Wetlands.

Structural Patch Type	Check for presence
Pools or depressions in channels	
(wet or dry channels)	v
Riffles or rapids (wet channel)	
or planar bed (dry channel)	
Point bars and in-channel bars	1
Debris jams	~
Abundant wrackline or organic debris in channel, on floodplain, or across depressional wetland plain	\checkmark
Plant hummocks and/or sediment mounds	
Bank slumps or undercut banks in channels or along shoreline	
Variegated, convoluted, or crenulated foreshore (instead of broadly arcuate or mostly straight)	
Standing snags (at least 3 m tall)	
Filamentous macroalgae or algal mats	/
Cobble and/or Boulders	V
Total Possible	11
No. Observed Patch Types	4

Identify each type of patch that is observed in the AA.

Worksheet 6a: Plant Community Metric -

Co-dominant Species Richness for Non-confined Riverine Wetlands.

Note: A dominant species represents ≥10% *relative* cover. Count species only once when calculating any Plant Community sub-metric.

Floating or Canopy-forming	Invasive?	Short	Invasive?
Medium	Invasive?	Tall	Invasive?
Very Tall	Invasive?		
		Total number of co-dominant species for all layers combined	
		Percent Invasion	

Worksheet 6b: Plant Community Metric -

Co-dominant Species Richness for Confined Riverine Wetlands.

Note: A dominant species represents $\geq 10\%$ relative cover. Count species only once when calculating any Plant Community sub-metric.

Short	Invasive?	Medium	Invasive?
BROMUS DIANDRUS	Y	RUBUS URSINVS	N.
	'	FIBES AVREUM	N,
		ARTEMISIA DOVGLASIANT	FN
		TOXICODENDRON	N.
		SYMPHORICARPOS MOLL	SN
Tall	Invasive?	Very Tall	Invasive?
BACCHARIS SALICIFOLIA	N	Q. AGRIFOLIA	N
SAMBUCUS NILARA	N	1.	
CEANOTHS OLIGANTH	S'N,		
Q-BEBGEIDIFOLLA	N		
		Total number of co-dominants for all layers combined	11
		Percent Invasion	9%

NA

Has a major disturbance occurred at this wetland?	Yes	No			
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other	
If yes, then how severe is the disturbance?	likely to affect likely to affect site next 5 or site next 3-5 more years years		ect likel 5 site	likely to affect site next 1-2 years	
	depressional vernal pool		ol le	rnal pool system	
Has this wetland been converted from another type? If yes, then what was the	non-confined riverine	confined riverine	confined se riverine es		
previous type? NO	perennial saline estuarine	perennial no saline estuar	on- vine wet	meadow	
	lacustrine	seep or spri	ing	playa	

Worksheet 7: Wetland disturbances and conversions.

Worksheet 8: Stressor Checklist.

to have negative effect on AA	Significant negative effect on AA
1	
ANK OF DRAIL	VAGE
180 MAY DIVE	ET FLOW
	AMK OF DRAN 120 MAY DIVE

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present and likely to have negative effect on AA	Significant negative effect on AA
Filling or dumping of sediment or soils (N/A for restoration areas)	1	
Grading/ compaction (N/A for restoration areas)		
Plowing/Discing (N/A for restoration areas)		
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management		
Excessive sediment or organic debris from watershed		
Excessive runoff from watershed		
Nutrient impaired (PS or Non-PS pollution)		
Heavy metal impaired (PS or Non-PS pollution)		
Pesticides or trace organics impaired (PS or Non-PS pollution)		
Bacteria and pathogens impaired (PS or Non-PS pollution)		
Trash or refuse		
Comments SEE ABOVE, ROAD ON WEST MAY ALTER FLON PATTERNS.	FLANK OF	DRAINAGE

to have negative effect on AA	negative effect on AA
1	
V	
Y PRESENT GRWAY FOR	IN THE - INFESTR
	PRESERV CR-WAY FOR

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present and likely to have negative effect on AA	Significant negative effect on AA
Urban residential		
Industrial/commercial		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries		
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor		
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)	1	
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)		
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		
Comments CEMETARY LAWNS & PAVEC	PARILING	AREAS
WITHIN 500 M.		
		1