Stressor Checklist Worksheet

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		
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)	X	
Dike/levees	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
Channel modified for drainage, but still relatively natural		

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	X	
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		
Managing vegetation on levees		

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., Virginia opossum and domestic predators, such as feral pets)		
Tree cutting/sapling removal		
Removal of woody debris	X	
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		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries	X	X
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		

Basic Information Sheet: Riverine Wetlands

Your Name: C. Roberts

CRAM Site ID: FB HST

Assessment Area Name: R150

Date (mm/dd/yyyy): 09/26/2011

Assessment Team Members for This AA

J. Whitfield, A. Langston, G. Peracca

Average Bankfull Width: 9.5 meters

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m):
100 meters

Wetland Sub-type:

X Confined [ ] Non-confined

AA Category:

[ ] Restoration [ ] Mitigation [ ] Impacted **X** Other

Did the river/stream have flowing water at the time of the assessment? [ ] yes **X** 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.

[ ] perennial [ ] ephemeral **X** intermittent

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1241	NE			
2	1242	NW			
3	1246	SE			
4	1244	SW			

Scoring Sheet: Riverine Wetlands

AA Name: R150				**Date:** 09/26/2011	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity		12			
Buffer submetric A: Percent of AA with Buffer	12				
Buffer submetric B: Average Buffer Width	3				
Buffer submetric C: Buffer Condition	6				
D + [C x (A x B)$^{1/2}$]$^{1/2}$ = **Attribute Score**		Raw 18	Final 75	Final Attribute Score = (Rawcore/24)100	75
Hydrology					
Water Source		6			
Hydroperiod or Channel Stability		9			
Hydrologic Connectivity		9			
Attribute Score		Raw 24	Final 67	Final Attribute Score = (Raw Score/36)100	67
Physical Structure					
Structural Patch Richness		3			
Topographic Complexity		9			
Attribute Score		Raw 12	Final 50	Final Attribute Score = (Raw Score/24)100	50
Biotic Structure					
Plant Community submetric A: Number of Plant Layers	9			3 Layers	
Plant Community submetric B: Number of Co-dominant species	3			6 co-dominants	
Plant Community submetric C: Percent Invasion	9			16% invasion	
Plant Community Metric *(average of submetrics A-C)*		7			
Horizontal Interspersion and Zonation		6			
Vertical Biotic Structure		6			
Attribute Score		Raw 19	Final 53	Final Attribute Score = (Raw Score/36)100	53
Overall AA Score (Average of Final Attribute Scores)				**61.3**	

Stressor Checklist Worksheet

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		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	X	
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)	X	
Dike/levees	X	X
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
Leveed AA		

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	X	
Excessive sediment or organic debris from watershed	X	X
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	X	
Comments		
Tree cutting see biotic structures		

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., Virginia opossum and domestic predators, such as feral pets)		
Tree cutting/sapling removal	X	
Removal of woody debris	X	
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		
Vegetation management		

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	X	
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		

Basic Information Sheet: Riverine Wetlands

Your Name: G. Peracca

CRAM Site ID: FB HST

Assessment Area Name: R157A

Date (mm/dd/yyyy):09/28/2011

Assessment Team Members for This AA

C. Roberts, A. Langston, G. Peracca

Average Bankfull Width: 140 meters

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m):
200 meters

Wetland Sub-type:

X Confined [ ] Non-confined

AA Category:

[ ] Restoration [ ] Mitigation [ ] Impacted **X** Other

Did the river/stream have flowing water at the time of the assessment? **X** 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. 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.

X perennial [ ] ephemeral [ ] intermittent

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1288	North			
2	n/a	South			
3	1290	East			
4	1287	West			

Scoring Sheet: Riverine Wetlands

AA Name: R157A				**Date:** 09/28/2011	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity		9			
Buffer submetric A: Percent of AA with Buffer	12				
Buffer submetric B: Average Buffer Width	6				
Buffer submetric C: Buffer Condition	3			Urban park landscape	
D + [C x (A x B)$^{1/2}$] $^{1/2}$ = **Attribute Score**		Raw 14	Final 59	Final Attribute Score = (Rawcore/24)100	59
Hydrology					
Water Source		6			
Hydroperiod or Channel Stability		9			
Hydrologic Connectivity		9			
Attribute Score		Raw 24	Final 67	Final Attribute Score = (Raw Score/36)100	67
Physical Structure					
Structural Patch Richness		3			
Topographic Complexity		12			
Attribute Score		Raw 15	Final 63	Final Attribute Score = (Raw Score/24)100	63
Biotic Structure					
Plant Community submetric A: Number of Plant Layers	12			4 layers	
Plant Community submetric B: Number of Co-dominant species	9			9 co-dominant spp.	
Plant Community submetric C: Percent Invasion	12			0% non-native spp.	
Plant Community Metric *(average of submetrics A-C)*		11			
Horizontal Interspersion and Zonation		9			
Vertical Biotic Structure		6			
Attribute Score		Raw 26	Final 72	Final Attribute Score = (Raw Score/36)100	72
Overall AA Score (Average of Final Attribute Scores)				**65.3**	

Stressor Checklist Worksheet

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		
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)		
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	X	
Comments		

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	X	X
Predation and habitat destruction by non-native vertebrates (e.g., Virginia opossum 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		
Human visitation impact is related to adjacent urban park.		

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	X	
Industrial/commercial	X	
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	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)	X	X
Passive recreation (bird-watching, hiking, etc.)	X	
Active recreation (off-road vehicles, mountain biking, hunting, fishing)		
Physical resource extraction (rock, sediment, oil/gas)	X	
Biological resource extraction (aquaculture, commercial fisheries)		
Comments		
Urban park is related to human visitation above in Biotic Structure Attribute.		

Basic Information Sheet: Riverine Wetlands

Your Name: C. Roberts

CRAM Site ID: FB HST

Assessment Area Name: R160

Date (mm/dd/yyyy): 09/29/2011

Assessment Team Members for This AA

C. Roberts, A. Langston, G. Peracca

Average Bankfull Width: 130 meters

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m):
300 meters

Wetland Sub-type:

X Confined [ ] Non-confined

AA Category:

[ ] Restoration [ ] Mitigation [ ] Impacted X Other

Did the river/stream have flowing water at the time of the assessment? X 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. 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.

X perennial [ ] ephemeral [ ] intermittent

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	N/A	North			
2	N/A	South			
3	1291	East			
4	1292	West			
5	1293	General			
6	1294	General			

Scoring Sheet: Riverine Wetlands

AA Name: R160				**Date:** 09/28/2011	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity		12			
Buffer submetric A: Percent of AA with Buffer	12				
Buffer submetric B: Average Buffer Width	3			Average = 45m	
Buffer submetric C: Buffer Condition	6				
D + [C x (A x B)$^{1/2}$]$^{1/2}$ = **Attribute Score**		Raw 18	Final 75	Final Attribute Score = (Rawcore/24)100	75
Hydrology					
Water Source		6			
Hydroperiod or Channel Stability		6			
Hydrologic Connectivity		6			
Attribute Score		Raw 18	Final 50	Final Attribute Score = (Raw Score/36)100	50
Physical Structure					
Structural Patch Richness		3			
Topographic Complexity		9			
Attribute Score		Raw 12	Final 50	Final Attribute Score = (Raw Score/24)100	50
Biotic Structure					
Plant Community submetric A: Number of Plant Layers	9			3 layers	
Plant Community submetric B: Number of Co-dominant species	6			6 co-dominant spp.	
Plant Community submetric C: Percent Invasion	12			0% non-native spp.	
Plant Community Metric *(average of submetrics A-C)*		9			
Horizontal Interspersion and Zonation		6			
Vertical Biotic Structure		9			
Attribute Score		Raw 24	Final	Final Attribute Score = (Raw Score/36)100	67
Overall AA Score (Average of Final Attribute Scores)				**60.5**	

Stressor Checklist Worksheet

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		
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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
Leveed		

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)	X	X
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	X	
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	X	
Comments		
Grading active on opposite bank. Oil wells in vicinity.		

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., Virginia opossum 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	X	X
Industrial/commercial	X	X
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	X	X
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)	X	
Passive recreation (bird-watching, hiking, etc.)	X	
Active recreation (off-road vehicles, mountain biking, hunting, fishing)		
Physical resource extraction (rock, sediment, oil/gas)	X	
Biological resource extraction (aquaculture, commercial fisheries)		
Comments		

Basic Information Sheet: Riverine Wetlands

Your Name: A. Langston

CRAM Site ID: FB HST

Assessment Area Name: R203

Date (mm/dd/yyyy): 03/08/2012

Assessment Team Members for This AA

A. Langston, G. Peracca, C. Roberts, J. Whitfield

Average Bankfull Width: 2.7m

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): 100 m

Wetland Sub-type:

X Confined [ ] Non-confined

AA Category:

[ ] Restoration [ ] Mitigation [ ] Impacted **X** Other

Did the river/stream have flowing water at the time of the assessment? [ ] yes **X** 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.

[ ] perennial [ ] ephemeral **X** intermittent

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1721	South/East			
2	1722	North/East			
3	1723	South/West			
4	1724	North/West			

Scoring Sheet: Riverine Wetlands

AA Name: R203				**Date:** 03/08/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity		3			
Buffer submetric A: Percent of AA with Buffer	3				
				No buffer	
Buffer submetric B: Average Buffer Width	3				
				Avg=4 meters	
Buffer submetric C: Buffer Condition	3				
D + [C x (A x B)$^{1/2}$] $^{1/2}$ = **Attribute Score**		Raw	Final	Final Attribute Score = (Raw score/24)100	25
		6	25		
Hydrology					
Water Source		3			
Hydroperiod or Channel Stability		3			
Hydrologic Connectivity		3		Entrenchment ratio =1.20	
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/36)100	25
		9	25		
Physical Structure					
Structural Patch Richness		3		1 patch type	
Topographic Complexity		3			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/24)100	25
		6	25		
Biotic Structure					
Plant Community submetric A: Number of Plant Layers	6			1 layer	
Plant Community submetric B: Number of Co-dominant species	3			4 co-dominant spp.	
Plant Community submetric C: Percent Invasion	12			0% invasive spp.	
Plant Community Metric *(average of submetrics A-C)*		7			
Horizontal Interspersion and Zonation		3			
Vertical Biotic Structure		3			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/36)100	36.1
		13	36.1		
Overall AA Score (Average of Final Attribute Scores)				**27.8**	

Stressor Checklist Worksheet

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		
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		
Man-made feature built and managed by the stressors highlighted in bold, which don't have		
a negative effect on AA but define features.		

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)	X	
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		
Located in heavy agricultural area with no buffer, but direct impacts of physical structure		
Stressors not evident.		

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., Virginia opossum 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		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries	X	
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
Adjacent to BNSF railroad.		

Basic Information Sheet: Riverine Wetlands

Your Name: G. Peracca

CRAM Site ID: FB HST

Assessment Area Name: R205

Date (mm/dd/yyyy): 03/08/2012

Assessment Team Members for This AA

A. Langston, G. Peracca, C. Roberts, J. Whitfield

Average Bankfull Width: 9m

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): 100 m

Wetland Sub-type:

X Confined [ ] Non-confined

AA Category:

[ ] Restoration [ ] Mitigation [ ] Impacted **X** Other

Did the river/stream have flowing water at the time of the assessment? [ ] yes **X** 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.

[ ] perennial [ ] ephemeral **X** intermittent

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1717	South/West			
2	1718	North/West			
3	1720	South/East			
4	1719	North/East			

Scoring Sheet: Riverine Wetlands

AA Name: R205				**Date**: 03/08/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity		12			
Buffer submetric A: Percent of AA with Buffer	3				
				No buffer. Road too narrow	
Buffer submetric B: Average Buffer Width	3				
				Avg=4 meters	
Buffer submetric C: Buffer Condition	3				
D + [C x (A x B)^{½}] ^{½} **= Attribute Score**		Raw	Final	Final Attribute Score = (Raw score/24)100	62.5
		15	62.5		
Hydrology					
Water Source		6			
Hydroperiod or Channel Stability		3			
Hydrologic Connectivity		3		Entrenchment Ratio=1.20	
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/36)100	33.3
		12	33.3		
Physical Structure					
Structural Patch Richness		3		1 patch type	
Topographic Complexity		3			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/24)100	25
		6	25		
Biotic Structure					
Plant Community submetric A: Number of Plant Layers	6				
Plant Community submetric B: Number of Co-dominant species	3			3 co-dominant spp.	
Plant Community submetric C: Percent Invasion	6			33% invasive spp.	
Plant Community Metric *(average of submetrics A-C)*		5			
Horizontal Interspersion and Zonation		3			
Vertical Biotic Structure		3			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/36)100	30.6
		11	30.6		
Overall AA Score (Average of Final Attribute Scores)				**37.9**	

Stressor Checklist Worksheet

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		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)		
Flow diversions or unnatural inflows		
Dams (reservoirs, detention basins, recharge basins)	X	
Flow obstructions (culverts, paved stream crossings)	X	
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)		
Grading/ compaction (N/A for restoration areas)		
Plowing/Discing (N/A for restoration areas)	X	
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management		
Excessive sediment or organic debris from watershed	X	
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		

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., Virginia opossum 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		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries	X	
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.)		
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		

Basic Information Sheet: Riverine Wetlands

Your Name: A. Langston

CRAM Site ID: FB HST

Assessment Area Name: R208

Date (mm/dd/yyyy): 03/07/2012

Assessment Team Members for This AA

A. Langston, G. Peracca, C. Roberts

Average Bankfull Width: 12m

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): 120m

Wetland Sub-type:

X Confined [ ] Non-confined

AA Category:

[ ] Restoration [ ] Mitigation **X** Impacted [ ] Other

Did the river/stream have flowing water at the time of the assessment? [ ] yes **X** 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.

[ ] perennial [ ] ephemeral **X** intermittent

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1695	North/West			
2	1696	North/East			
3	1698,1699	South/West			
4	1697	South/East			

Scoring Sheet: Riverine Wetlands

AA Name: R208				**Date:** 03/07/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity		12			
Buffer submetric A: Percent of AA with Buffer	12			100% with buffer	
Buffer submetric B: Average Buffer Width	3			Avg=9.6m	
Buffer submetric C: Buffer Condition	3				
D + [C x (A x B)^{½}] ^{½} = **Attribute Score**		Raw 16.2	Final 67.5	Final Attribute Score = (Raw score/24)100	67.5
Hydrology					
Water Source		6			
Hydroperiod or Channel Stability		9			
Hydrologic Connectivity		9		Entrenchment Ratio=1.98	
Attribute Score		Raw 24	Final 66.7	Final Attribute Score = (Raw Score/36)100	66.7
Physical Structure					
Structural Patch Richness		6		1 patch type	
Topographic Complexity		9			
Attribute Score		Raw 15	Final 62.5	Final Attribute Score = (Raw Score/24)100	62.5
Biotic Structure					
Plant Community submetric A: Number of Plant Layers	9			1 layer	
Plant Community submetric B: Number of Co-dominant species	6			1 co-dominant sp.	
Plant Community submetric C: Percent Invasion	9			0% non-native spp.	
Plant Community Metric *(average of submetrics A-C)*		8			
Horizontal Interspersion and Zonation		9			
Vertical Biotic Structure		9			
Attribute Score		Raw 26	Final 72.2	Final Attribute Score = (Raw Score/36)100	72.2
Overall AA Score (Average of Final Attribute Scores)				**67.2**	

Stressor Checklist Worksheet

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		
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)		
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		

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., Virginia opossum 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		
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.)		
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		

Basic Information Sheet: Riverine Wetlands

Your Name: A. Langston

CRAM Site ID: FB HST

Assessment Area Name: R209

Date (mm/dd/yyyy): 03/07/2012

Assessment Team Members for This AA

A. Langston, G. Peracca, C. Roberts

Average Bankfull Width: 6m

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): 100 m

Wetland Sub-type:

X Confined [ ] Non-confined

AA Category:

[ ] Restoration [ ] Mitigation **X** Impacted [ ] Other

Did the river/stream have flowing water at the time of the assessment? **X** 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. 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.

X perennial [ ] ephemeral [ ] intermittent

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	N/A	North			
2	N/A	South			
3	1694	East			
4	1693	West			

Scoring Sheet: Riverine Wetlands

AA Name: R209				**Date:** 03/07/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity		12			
Buffer submetric A: Percent of AA with Buffer	9			50% with buffer	
Buffer submetric B: Average Buffer Width	3			Avg=8 meters	
Buffer submetric C: Buffer Condition	3				
D + [C x (A x B)$^{1/2}$] $^{1/2}$ = **Attribute Score**		Raw 15.9	Final 66.3	Final Attribute Score = (Raw score/24)100	66.3
Hydrology					
Water Source		6		Isolated from surrounding canals	
Hydroperiod or Channel Stability		3		Fed by pumped groundwater.	
Hydrologic Connectivity		6		Entrenchment Ratio=1.39	
Attribute Score		Raw 15	Final 41.7	Final Attribute Score = (Raw Score/36)100	41.7
Physical Structure					
Structural Patch Richness		3		1 patch type	
Topographic Complexity		6			
Attribute Score		Raw 9	Final 37.5	Final Attribute Score = (Raw Score/24)100	37.5
Biotic Structure					
Plant Community submetric A: Number of Plant Layers	6			1 layer	
Plant Community submetric B: Number of Co-dominant species	3			1 co-dominant sp.	
Plant Community submetric C: Percent Invasion	12			0% invasion	
Plant Community Metric *(average of submetrics A-C)*		7			
Horizontal Interspersion and Zonation		3			
Vertical Biotic Structure		3			
Attribute Score		Raw 13	Final 36.1	Final Attribute Score = (Raw Score/36)100	36.1
Overall AA Score (Average of Final Attribute Scores)				**45.4**	

Stressor Checklist Worksheet

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		
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)		
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)	X	
Pesticides or trace organics impaired (PS or Non-PS pollution)		
Bacteria and pathogens impaired (PS or Non-PS pollution)	X	
Trash or refuse		
Comments		
Nutrient impaired (sulfur smell within feature) potential inputs picked up from adjacent feedlot.		

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., Virginia opossum 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		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture	X	X
Orchards/nurseries		
Commercial feedlots	X	
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)	X	
Transportation corridor		
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
Agriculture occupies 100% of surrounding land uses. Even though the feature was created for agriculture		
it is significantly negatively affected by the Intensive row-crop agriculture, specifically.		

Basic Information Sheet: Riverine Wetlands

Your Name: A. Langston

CRAM Site ID: FB HST

Assessment Area Name: R211

Date (mm/dd/yyyy): 03/05/2012

Assessment Team Members for This AA

A. Langston, G. Peracca, C. Roberts

Average Bankfull Width: 8 meters

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): 100 m

Wetland Sub-type:

X Confined [ ] Non-confined

AA Category:

[ ] Restoration [ ] Mitigation **X** Impacted [ ] Other

Did the river/stream have flowing water at the time of the assessment? [ ] yes **X** 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.

[ ] perennial [ ] ephemeral **X** intermittent

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1674	Southeast			
2	1675	Northeast			
3	N/A	East			
4	N/A	West			

Scoring Sheet: Riverine Wetlands

AA Name: R211				**Date:** 03/05/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity		6			
Buffer submetric A: Percent of AA with Buffer	12				
				100% with buffer	
Buffer submetric B: Average Buffer Width	3				
				Avg =5.4 meters	
Buffer submetric C: Buffer Condition	3				
D + [C x (A x B)$^{1/2}$] $^{1/2}$ **= Attribute Score**		Raw	Final	Final Attribute Score = (Rawcore/24)100	42.5
		10.2	42.5		
Hydrology					
Water Source		6			
Hydroperiod or Channel Stability		3		Not a natural feature	
Hydrologic Connectivity		6		Entrenchment Ratio=1.45	
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/36)100	41.7
		15	41.7		
Physical Structure					
Structural Patch Richness		6		4 patch types	
Topographic Complexity		9			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/24)100	62.5
		15	62.5		
Biotic Structure					
Plant Community submetric A: Number of Plant Layers	6				
				1 layer	
Plant Community submetric B: Number of Co-dominant species	3				
				1 dominant sp.	
Plant Community submetric C: Percent Invasion	12				
				0% invasion	
Plant Community Metric *(average of submetrics A-C)*		7			
Horizontal Interspersion and Zonation		3			
Vertical Biotic Structure		3			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/36)100	36.1
		13	36.1		
Overall AA Score (Average of Final Attribute Scores)				**45.7**	

Stressor Checklist Worksheet

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		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	X	
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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology	X	
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)		
Grading/ compaction (N/A for restoration areas)		
Plowing/Discing (N/A for restoration areas)	X	
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	X	
Comments		

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., Virginia opossum 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	X	
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		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries	X	
Commercial feedlots	X	
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		

Basic Information Sheet: Riverine Wetlands

Your Name: G. Peracca

CRAM Site ID: FB HST

Assessment Area Name: R212

Date (mm/dd/yyyy): 03/05/2012

Assessment Team Members for This AA

C. Roberts, A. Langston, G. Peracca

Average Bankfull Width: 8 meters

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): 100 m

Wetland Sub-type:

X Confined [ ] Non-confined

AA Category:

[ ] Restoration [ ] Mitigation **X** Impacted [ ] Other

Did the river/stream have flowing water at the time of the assessment? [ ] yes **X** 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.

[ ] perennial [ ] ephemeral **X** intermittent *artificially filled for ag.

Photo Identification Numbers and Description:

	Photo ID No.	Description (facing)	Latitude	Longitude	Datum
1	1670	SE			
2	1671	NE			
3	1672	SW			
4	1673	NW			

Scoring Sheet: Riverine Wetlands

AA Name: R212				**Date:** 03/05/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity		12			
Buffer submetric A: Percent of AA with Buffer	12			100% with buffer	
Buffer submetric B: Average Buffer Width	3			Avg=10.6 meters	
Buffer submetric C: Buffer Condition	3			Buffer = unvegetated	
D + [C x (A x B)^{½}] ^{½} **= Attribute Score**		Raw 16.2	Final 67.5	Final Attribute Score = (Rawcore/24)100	67.5
Hydrology					
Water Source		6		20% of AA adjacent to active ag	
Hydroperiod or Channel Stability		3			
Hydrologic Connectivity		6		Entrenchment Ratio=1.4	
Attribute Score		Raw 15	Final 41.7	Final Attribute Score = (Raw Score/36)100	41.7
Physical Structure					
Structural Patch Richness		3			
Topographic Complexity		3			
Attribute Score		Raw 6	Final 25	Final Attribute Score = (Raw Score/24)100	25
Biotic Structure					
Plant Community submetric A: Number of Plant Layers	6			1 Layer	
Plant Community submetric B: Number of Co-dominant species	3			1 co-dominant sp.	
Plant Community submetric C: Percent Invasion	12			0% invasion	
Plant Community Metric *(average of submetrics A-C)*		7			
Horizontal Interspersion and Zonation		3			
Vertical Biotic Structure		3			
Attribute Score		Raw 13	Final 36.1	Final Attribute Score = (Raw Score/36)100	36.1
Overall AA Score (Average of Final Attribute Scores)				**42.6**	

Stressor Checklist Worksheet

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		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	X	
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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology	X	X
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)		
Grading/ compaction (N/A for restoration areas)		
Plowing/Discing (N/A for restoration areas)		
Resource extraction (sediment, gravel, oil and/or gas)	X	
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		

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., Virginia opossum 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	X	
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		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture	X	
Orchards/nurseries	X	
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		

Basic Information Sheet: Riverine Wetlands

Your Name: A. Langston

CRAM Site ID: FB HST

Assessment Area Name: R213

Date (mm/dd/yyyy): 03/05/2012

Assessment Team Members for This AA

C. Roberts, A. Langston, G. Peracca

Average Bankfull Width: 6 m

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): 100 m

Wetland Sub-type:

X Confined [ ] Non-confined

AA Category:

[ ] Restoration [ ] Mitigation **X** Impacted [ ] Other

Did the river/stream have flowing water at the time of the assessment? [ ] yes **X** 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.

[ ] perennial [ ] ephemeral **X** intermittent

Photo Identification Numbers and Description:

	Photo ID No.	Description (facing)	Latitude	Longitude	Datum
1	1665	NE			
2	1666	NW			
3	1667	SW			
4	1668	SE			

Scoring Sheet: Riverine Wetlands

AA Name: R213				**Date:** 03/05/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity		12			
Buffer submetric A: Percent of AA with Buffer	9			50% with buffer	
Buffer submetric B: Average Buffer Width	3			Avg=11 meter	
Buffer submetric C: Buffer Condition	3				
D + [C x (A x B)$^{1/2}$] $^{1/2}$ = **Attribute Score**		Raw 15.9	Final 66.3	Final Attribute Score = (Rawcore/24)100	66.3
Hydrology					
Water Source		6			
Hydroperiod or Channel Stability		3		Hydromodification	
Hydrologic Connectivity		6		Entrenchment Ratio=1.46	
Attribute Score		Raw 15	Final 41.7	Final Attribute Score = (Raw Score/36)100	41.7
Physical Structure					
Structural Patch Richness		3			
Topographic Complexity		3			
Attribute Score		Raw 6	Final 25	Final Attribute Score = (Raw Score/24)100	25
Biotic Structure					
Plant Community submetric A: Number of Plant Layers	6			1 Layer	
Plant Community submetric B: Number of Co-dominant species	3			2 co-dominant spp.	
Plant Community submetric C: Percent Invasion	12			0% invasion	
Plant Community Metric *(average of submetrics A-C)*		7			
Horizontal Interspersion and Zonation		3			
Vertical Biotic Structure		3			
Attribute Score		Raw 13	Final 36.1	Final Attribute Score = (Raw Score/36)100	36.1
Overall AA Score (Average of Final Attribute Scores)				**42.3**	

Stressor Checklist Worksheet

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		
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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology	X	
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)		
Grading/ compaction (N/A for restoration areas)		
Plowing/Discing (N/A for restoration areas)	X	
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		

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., Virginia opossum 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	X	
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		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture	X	
Orchards/nurseries	X	
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		

Basic Information Sheet: Riverine Wetlands

Your Name: J.n Whitfield

CRAM Site ID: FB HST

Assessment Area Name: R220

Date (mm/dd/yyyy): 03/09/2012

Assessment Team Members for This AA

A. Langston, G. Peracca, C. Roberts, J. Whitfield

Average Bankfull Width: varies; approximately 13 m - 20 m

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): 200 m

Wetland Sub-type:

[ ] Confined **X** Non-confined

AA Category:

[ ] Restoration [ ] Mitigation [ ] Impacted **X** Other

Did the river/stream have flowing water at the time of the assessment? [ ] yes **X** 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.

[ ] perennial [ ] ephemeral **X** intermittent

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1725	North			
2	1726	South			
3	1727	East			
4	1728	West			

Scoring Sheet: Riverine Wetlands

AA Name: R220				**Date:** 03/09/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity		12			
Buffer submetric A: Percent of AA with Buffer	9			50% with buffer	
Buffer submetric B: Average Buffer Width	6			Avg=112.5 meter	
Buffer submetric C: Buffer Condition	6				
D + [C x (A x B)^{½}]^{½} = **Attribute Score**		Raw 18.6	Final 77.5	Final Attribute Score = (Raw score/24)100	77.5
Hydrology					
Water Source		6			
Hydroperiod or Channel Stability		9			
Hydrologic Connectivity		12		Entrenchment Ratio= 3.82	
Attribute Score		Raw 18	Final 75	Final Attribute Score = (Raw Score/36)100	75
Physical Structure					
Structural Patch Richness		6		6 patch types	
Topographic Complexity		12			
Attribute Score		Raw 18	Final 75	Final Attribute Score = (Raw Score/24)100	75
Biotic Structure					
Plant Community submetric A: Number of Plant Layers	9			3 Layers	
Plant Community submetric B: Number of Co-dominant species	6			8 co-dominant spp.	
Plant Community submetric C: Percent Invasion	9			25% invasion	
Plant Community Metric *(average of submetrics A-C)*		8			
Horizontal Interspersion and Zonation		9		½ AA = 12; ½ AA =6. Avg=9	
Vertical Biotic Structure		6			
Attribute Score		Raw 23	Final 63.9	Final Attribute Score = (Raw Score/36)100	63.9
Overall AA Score (Average of Final Attribute Scores)				**72.9**	

Stressor Checklist Worksheet

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		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	X	
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	X	
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)		
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		

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	X	
Predation and habitat destruction by non-native vertebrates (e.g., Virginia opossum 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		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries	X	
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.)		
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)	X	
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		
Comments		

Basic Information: Individual Vernal Pool

CRAM Site ID: APN: 331-080-001				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: V62A				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	29	11
Assessment Team Members for This AA				
G. Peracca				
C. Roberts				

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1314	North			
2	1312	South			
3	1313	East			
4	1311	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).
CRAM score based on old VP module V. 5.0.3 = 65.5.
New CRAM score = 72.6

Scoring Sheet: Individual Vernal Pools

AA Name: V62A					(m/d/y)	09/29/2011
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			B	9	Avg=18%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	B	9			Avg=186m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				18.7	Final Attribute Score = (Initial Score/24) x 100	77.8
Hydrology						
Water Source			A	12		
Hydroperiod			A	12		
Hydrologic Connectivity			B	9		
Initial Attribute Score			33		Final Attribute Score = (Initial Score/36) x 100	91.7
Physical Structure						
Structural Patch Richness			C	6	3 patch types	
Topographic Complexity			C	6		
Initial Attribute Score			12		Final Attribute Score = (Initial Score/24) x 100	50
Biotic Structure						
Horizontal Interspersion and Zonation			B	9		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	B	9			4 co-dominant spp.	
Community composition submetric						
B: Percent Non-native	A	12			0% non-native spp.	
Community Composition submetric						
C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				8		
Initial Attribute Score			17		Final Attribute Score = (Initial Score/24) x 100	70.8
Overall AA Score (Average of Final Attribute Scores)					**72.6**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
Levee = railroad berm upstream of AA, not significant stressor- AA appears to be receiving		
sufficient water.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**	X	
Plowing/Discing **(N/A for restoration areas)**		
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management	X	
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		
Veg management occurs along RR ROW but ROW is separated from AA by bermand gravel road		
(it is just at 50 m boundary) and veg. in AA is all native, undisturbed.		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* and domestic predators, such as feral pets)		
Tree cutting/sapling removal		
Removal of woody debris		
Treatment of non-native and nuisance plant species	X	
Pesticide application or vector control	X	
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		
See comment for Physical Structure Attribute re: veg mgmt along RR ROW.		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Present and likely to have 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	X	
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	X
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
Trans. Corridor = RR and Hwy. They have had effect on landscape connectivity for site.		

Basic Information: Individual Vernal Pool

CRAM Site ID: APN: 331-100-030				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: V65				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	29	11
Assessment Team Members for This AA				
G. Peracca				
C. Roberts				

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1324	North			
2	1322	South			
3	1323	East			
4	1321	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).
CRAM score based on old VP module V. 5.0.3 = 70.5
New CRAM score = 76.4

Scoring Sheet: Individual Vernal Pools

AA Name: V65					(m/d/y)	09/29/2011
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg=24.5%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=211m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				22.4	Final Attribute Score = (Initial Score/24) x 100	93.3
Hydrology						
Water Source			A	12		
Hydroperiod			A	12		
Hydrologic Connectivity			B	9		
Initial Attribute Score			33		Final Attribute Score = (Initial Score/36) x 100	91.7
Physical Structure						
Structural Patch Richness			C	6	3 patch types	
Topographic Complexity			C	6		
Initial Attribute Score			12		Final Attribute Score = (Initial Score/24) x 100	50
Biotic Structure						
Horizontal Interspersion and Zonation			B	9		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	B	9			5 co-dominant spp.	
Community composition submetric B: Percent Non-native	A	12			0% non-native spp.	
Community Composition submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				8		
Initial Attribute Score			17		Final Attribute Score = (Initial Score/24) x 100	70.8
Overall AA Score (Average of Final Attribute Scores)					**76.4**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**	X	
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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		

Basic Information: Individual Vernal Pool

CRAM Site ID: APN: 333-130-004				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: V70				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	21	11

Assessment Team Members for This AA

C. Julian A. Langston

J. Love C. Roberts

(Z. Simmons-USACE)

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1201	North			
2	1203	South			
3	1202	East			
4	1204	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).
CRAM score based on old VP module V. 5.0.3 = 55.7
New CRAM score = 56.7

Scoring Sheet: Individual Vernal Pools

AA Name: V70					(m/d/y)	09/21/2011
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			D	3	Avg=0%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=195m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				13.4	Final Attribute Score = (Initial Score/24) x 100	55.8
Hydrology						
Water Source			A	12		
Hydroperiod			B	9		
Hydrologic Connectivity			C	6		
Initial Attribute Score			27		Final Attribute Score = (Initial Score/36) x 100	75
Physical Structure						
Structural Patch Richness			D	3	2 patch types	
Topographic Complexity			C	6		
Initial Attribute Score			9		Final Attribute Score = (Initial Score/24) x 100	37.5
Biotic Structure						
Horizontal Interspersion and Zonation			B	9		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	B	9			4 co-dominant spp.	
Community composition submetric						
B: Percent Non-native	D	3			75% non-native spp.	
Community Composition submetric						
C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				5		
Initial Attribute Score			14		Final Attribute Score = (Initial Score/24) x 100	58.3
Overall AA Score (Average of Final Attribute Scores)					**56.7**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**	X	
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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		

Basic Information: Individual Vernal Pool

CRAM Site ID: APN: 333-130-004				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: V72				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	21	11

Assessment Team Members for This AA

C. Julian	A. Langston
J. Love	C. Roberts
(Z. Simmons-USACE)	

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1197	North			
2	1199	South			
3	1198	East			
4	1200	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).
CRAM score based on old VP module V. 5.0.3 = 66.0
New CRAM score = 66.0

Scoring Sheet: Individual Vernal Pools

AA Name: V72					(m/d/y)	09/21/2011
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			D	3	Avg=3%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=190m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				13.4	Final Attribute Score = (Initial Score/24) x 100	55.8
Hydrology						
Water Source			A	12		
Hydroperiod			B	9		
Hydrologic Connectivity			B	9		
Initial Attribute Score			30		Final Attribute Score = (Initial Score/36) x 100	83.3
Physical Structure						
Structural Patch Richness			D	3	2 patch types	
Topographic Complexity			B	9		
Initial Attribute Score			12		Final Attribute Score = (Initial Score/24) x 100	50
Biotic Structure						
Horizontal Interspersion and Zonation			A	12		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	A	12			6 co-dominant spp.	
Community composition submetric B: Percent Non-native	D	3			50% non-native spp.	
Community Composition submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				6		
Initial Attribute Score			18		Final Attribute Score = (Initial Score/24) x 100	75
Overall AA Score (Average of Final Attribute Scores)					**66.0**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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)	X	
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
Road berm/levees are the source for both stressors.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**	X	
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	X	X
Comments		
Trash scattered in wetland and dense dump across levee.		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have significant negative effect on AA
Urban residential		
Industrial/commercial		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming	X	
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.)		
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		
Suggestion of farming in last decade; not recent.		

Basic Information: Individual Vernal Pool

CRAM Site ID: APN: 333-130-006				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: V74				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	20	11

Assessment Team Members for This AA

C. Julian	A. Langston
J. Love	C. Roberts

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1179	North			
2	1181	South			
3	1180	East			
4	1182	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).
CRAM score based on old VP module V. 5.0.3 = 69.3
New CRAM score = 72.3

Scoring Sheet: Individual Vernal Pools

AA Name: V74					(m/d/y)	09/20/2011
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			D	3	Avg=1%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=250m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				13.4	Final Attribute Score = (Initial Score/24) x 100	55.8
Hydrology						
Water Source			A	12		
Hydroperiod			B	9		
Hydrologic Connectivity			B	9		
Initial Attribute Score			30		Final Attribute Score = (Initial Score/36) x 100	83.3
Physical Structure						
Structural Patch Richness			C	6	3 patch types	
Topographic Complexity			A	12		
Initial Attribute Score			18		Final Attribute Score = (Initial Score/24) x 100	75
Biotic Structure						
Horizontal Interspersion and Zonation			A	12		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	C	6			3 co-dominant spp.	
Community composition submetric						
B: Percent Non-native	B	9			33% non-native spp.	
Community Composition submetric						
C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				6		
Initial Attribute Score			18		Final Attribute Score = (Initial Score/24) x 100	75
Overall AA Score (Average of Final Attribute Scores)					**72.3**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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)	X	
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**	X	
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	X	
Comments		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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)	X	
Lack of vegetation management to conserve natural resources		
Lack of treatment of invasive plants adjacent to AA or buffer		
Comments		
Hordeum is abundant.		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Present and likely to have significant negative effect on AA
Urban residential		
Industrial/commercial		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming	X	
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.)		
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		

Basic Information: Individual Vernal Pool

CRAM Site ID: APN: 333-130-006				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: V75				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	20	11
Assessment Team Members for This AA				
C. Julian	A. Langston			
J. Love	C. Roberts			

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1183	North			
2	1185	South			
3	1184	East			
4	1186	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).
CRAM score based on old VP module V. 5.0.3 = 66.1
New CRAM score = 66.0

Scoring Sheet: Individual Vernal Pools

AA Name: V75					(m/d/y)	09/20/2011
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			D	3	Avg=1.8%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=250m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				13.4	Final Attribute Score = (Initial Score/24) x 100	55.8
Hydrology						
Water Source			A	12		
Hydroperiod			B	9		
Hydrologic Connectivity			B	9		
Initial Attribute Score			30		Final Attribute Score = (Initial Score/36) x 100	83.3
Physical Structure						
Structural Patch Richness			C	6	3 patch types	
Topographic Complexity			B	9		
Initial Attribute Score			15		Final Attribute Score = (Initial Score/24) x 100	62.5
Biotic Structure						
Horizontal Interspersion and Zonation			B	9		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	C	6			3 co-dominant spp.	
Community composition submetric						
B: Percent Non-native	B	9			33% non-native spp.	
Community Composition submetric						
C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				6		
Initial Attribute Score			15		Final Attribute Score = (Initial Score/24) x 100	62.5
Overall AA Score (Average of Final Attribute Scores)					**66.0**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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)	X	
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**	X	
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	X	
Comments		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have significant negative effect on AA
Urban residential		
Industrial/commercial		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming	X	
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.)		
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		

Basic Information: Individual Vernal Pool

CRAM Site ID: APN: 333-120-001				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: V76A				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	19	11

Assessment Team Members for This AA

C. Julian A. Langston

J. Love C. Roberts

J. Whitfield

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration **X** medium-duration □ short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1171	North			
2	1173	South			
3	1172	East			
4	1174	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).
CRAM score based on old VP module V. 5.0.3 = 57.8
New CRAM score = 62.1

Scoring Sheet: Individual Vernal Pools

AA Name: V76A					(m/d/y)	09/19/2011
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			B	9	Avg=20.8%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=250m	
(D): Buffer Condition	C	6				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				14.6	Final Attribute Score = (Initial Score/24) x 100	60.9
Hydrology						
Water Source			A	12		
Hydroperiod			B	9		
Hydrologic Connectivity			B	9		
Initial Attribute Score			30		Final Attribute Score = (Initial Score/36) x 100	83.3
Physical Structure						
Structural Patch Richness			C	6	3 patch types	
Topographic Complexity			C	6		
Initial Attribute Score			12		Final Attribute Score = (Initial Score/24) x 100	50
Biotic Structure						
Horizontal Interspersion and Zonation			B	9		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	C	6			2 co-dominant spp.	
Community composition submetric						
B: Percent Non-native	D	3			100% non-native spp.	
Community Composition submetric						
C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				4		
Initial Attribute Score			13		Final Attribute Score = (Initial Score/24) x 100	54.2
Overall AA Score (Average of Final Attribute Scores)					**62.1**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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)	X	
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
Berm to east; road grade to south; not a significant effect.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	X	
Comments		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Present and likely to have significant negative effect on AA
Urban residential		
Industrial/commercial		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming	X	
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.)		
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		

Basic Information: Individual Vernal Pool

CRAM Site ID: APN: 333-120-001				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: V76D				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	19	11

Assessment Team Members for This AA

C. Julian	A. Langston
J. Love	C. Roberts
J. Whitfield	

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1175	North			
2	1177	South			
3	1176	East			
4	1178	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).
CRAM score based on old VP module V. 5.0.3 = 50.5
New CRAM score = 59.8

Scoring Sheet: Individual Vernal Pools

AA Name: V76D					(m/d/y)	09/19/2011
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			B	9	Avg=16%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=250m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				19.4	Final Attribute Score = (Initial Score/24) x 100	80.8
Hydrology						
Water Source			A	12		
Hydroperiod			B	9		
Hydrologic Connectivity			B	9		
Initial Attribute Score			30		Final Attribute Score = (Initial Score/36) x 100	83.3
Physical Structure						
Structural Patch Richness			C	6	3 patch types	
Topographic Complexity			C	6		
Initial Attribute Score			12		Final Attribute Score = (Initial Score/24) x 100	50
Biotic Structure						
Horizontal Interspersion and Zonation			D	3		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	D	3			1 co-dominant sp.	
Community composition submetric B: Percent Non-native	D	3			100% non-native spp.	
Community Composition submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				3		
Initial Attribute Score			6		Final Attribute Score = (Initial Score/24) x 100	25
Overall AA Score (Average of Final Attribute Scores)					**59.8**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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)	X	
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
Road berm.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have significant negative effect on AA
Urban residential		
Industrial/commercial		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming	X	
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.)		
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		

Basic Information: Individual Vernal Pool

CRAM Site ID: APN: 333-020-005				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: V104				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	27	11
Assessment Team Members for This AA				
A. Langston				
G. Peracca				
C. Roberts				

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1278	North			
2	1280	South			
3	1179	East			
4	1181	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).
CRAM score based on old VP module V. 5.0.3 = 74.5
New CRAM score = 77.5

Scoring Sheet: Individual Vernal Pools

AA Name: V104					(m/d/y)	09/27/2011
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg=32.3%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=199.4m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				22.4	Final Attribute Score = (Initial Score/24) x 100	93.3
Hydrology						
Water Source			A	12		
Hydroperiod			A	12		
Hydrologic Connectivity			A	12		
Initial Attribute Score			36		Final Attribute Score = (Initial Score/36) x 100	100
Physical Structure						
Structural Patch Richness			D	3	2 patch types	
Topographic Complexity			B	9		
Initial Attribute Score			12		Final Attribute Score = (Initial Score/24) x 100	50
Biotic Structure						
Horizontal Interspersion and Zonation			B	9		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	C	6			3 co-dominant spp.	
Community composition submetric						
B: Percent Non-native	A	12			0% non-native spp.	
Community Composition submetric						
C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				7		
Initial Attribute Score			16		Final Attribute Score = (Initial Score/24) x 100	66.7
Overall AA Score (Average of Final Attribute Scores)					**77.5**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
Hwy 43 "levee" within 50m but does not negatively impact AA hydrology.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
Within 500 m of orchard and HWY 43 and BNSF RR.		

Basic Information: Individual Vernal Pool

CRAM Site ID: APN: 333-030-006				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: V114				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	22	11

Assessment Team Members for This AA

J. Love	C. Julian
A. Langston	C. Roberts

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1220	North			
2	1222	South			
3	1121	East			
4	1123	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).
CRAM score based on old VP module V. 5.0.3 = 76.5
New CRAM score = 79.9

Scoring Sheet: Individual Vernal Pools

AA Name: V114					(m/d/y)	09/22/2011
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg=28.8%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	B	9			Avg=143.1m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				21.7	Final Attribute Score = (Initial Score/24) x 100	90.3
Hydrology						
Water Source			A	12		
Hydroperiod			B	9		
Hydrologic Connectivity			B	9		
Initial Attribute Score			30		Final Attribute Score = (Initial Score/36) x 100	83.3
Physical Structure						
Structural Patch Richness			D	3	2 patch types	
Topographic Complexity			A	12		
Initial Attribute Score			15		Final Attribute Score = (Initial Score/24) x 100	62.5
Biotic Structure						
Horizontal Interspersion and Zonation			A	12		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	B	9			5 co-dominant spp.	
Community composition submetric						
B: Percent Non-native	A	12			0% non-native spp.	
Community Composition submetric						
C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				8		
Initial Attribute Score			20		Final Attribute Score = (Initial Score/24) x 100	83.3
Overall AA Score (Average of Final Attribute Scores)					**79.9**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
Road berm for SR43.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**	X	
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		
Road berm for SR43.		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
SR43 and BNSF corridor (less than 5 meters west of AA)		

Basic Information: Individual Vernal Pool

CRAM Site ID: APN: 333-030-006				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: V115A				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	27	11
Assessment Team Members for This AA				
G. Peracca				
A. Langston				
C. Roberts				

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1254	North	35.80273	-119.35871	
2	1257	outh			
3	1155	East			
4	1156	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).
CRAM score based on old VP module V. 5.0.3 = 80.0
New CRAM score = 80.9

Scoring Sheet: Individual Vernal Pools

AA Name: V115A					(m/d/y)	09/27/2011
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg=51%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	B	9			Avg=186.9m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				21.7	Final Attribute Score = (Initial Score/24) x 100	90.3
Hydrology						
Water Source			A	12		
Hydroperiod			A	12		
Hydrologic Connectivity			A	12		
Initial Attribute Score				36	Final Attribute Score = (Initial Score/36) x 100	100
Physical Structure						
Structural Patch Richness			D	3	2 patch types	
Topographic Complexity			A	12		
Initial Attribute Score				15	Final Attribute Score = (Initial Score/24) x 100	62.5
Biotic Structure						
Horizontal Interspersion and Zonation			B	9		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	B	9			5 co-dominant spp.	
Community composition submetric						
B: Percent Non-native	A	12			20% non-native spp.	
Community Composition submetric						
C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				8		
Initial Attribute Score				17	Final Attribute Score = (Initial Score/24) x 100	70.8
Overall AA Score (Average of Final Attribute Scores)					**80.9**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
SR43 is about 50 meters away.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
SR43 and BNSF corridor about 50 meters away.		

Basic Information: Vernal Pool Systems

CRAM Site ID: APN: 333-020-005				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: VS97A				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	26	11

Assessment Team Members for This AA

J. Whitfield	G. Peracca
C. Roberts	A. Langston

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1232	North			
2	1234	South			
3	1233	East			
4	1235	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).

CRAM score based on old VP module V. 5.0.3 = 68.5

New CRAM score = 76.7

Scoring Sheet: Vernal Pool Systems

AA Name: VS97A					**(m/d/y)**	09/26/2011
Attributes and Metrics			Alpha.	Numeric	**Comments/Scores**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			B	9	Avg=15%	
(B): Percent of AA with Buffer	Alpha.	Numeric				
	A	12			100% with buffer	
(C): Average Buffer Width	B	9			Avg=151.9m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)$^{1/2}$] $^{1/2}$				18.7	Final Attribute Score = (Initial Score/24) x 100	77.8
Hydrology						
Water Source			A	12		
Hydroperiod			B	9		
Hydrologic Connectivity			B	9		
Initial Attribute Score			30		Final Attribute Score = (Initial Score/36) x 100	83.3
Physical Structure						
Structural Patch Richness			B	9	8 patch types	
Pool and Swale Density			A	12	Avg=60%	
Topographic Complexity			C	6		
Initial Attribute Score			27		Final Attribute Score = (Initial Score/36) x 100	75
Biotic Structure						
	Alpha.	Numeric				
Plant Community submetric A: Number of Co-dominant species	B	9			4 co-dominant spp.	
Plant Community submetric B: Percent Non Native	A	12			14.3% non-native spp.	
Plant Community submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Metric (*average of submetrics A-C*)				8		
Horizontal Interspersion and Zonation			B	9		
Initial Attribute Score			17		Final Attribute Score = (Initial Score/24) x 100	70.8
Overall AA Score (Average of Final Attribute Scores)					**76.7**	

Worksheet 9: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
Railroad berm.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**	X	
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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	X
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
BNSF railroad corridor.		

Basic Information: Vernal Pool Systems

CRAM Site ID: APN: 333-020-005				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: VS99A				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	26	11
Assessment Team Members for This AA				
J. Whitfield	G. Peracca			
C. Roberts	A. Langston			

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1236	North	35.00945	-119.36341	
2	1238	outh			
3	1237	East			
4	1239	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).

CRAM score based on old VP module V. 5.0.3 = 77.5

New CRAM score = 82.7

Scoring Sheet: Vernal Pool Systems

AA Name: VS99A					**(m/d/y)**	09/26/2011
Attributes and Metrics			Alpha.	Numeric	**Comments/Scores**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg=33.8%	
(B): Percent of AA with Buffer	Alpha. A	Numeric 12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=191.9m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)$^{1/2}$] $^{1/2}$				22.4	Final Attribute Score = (Initial Score/24) x 100	93.3
Hydrology						
Water Source			A	12		
Hydroperiod			A	12		
Hydrologic Connectivity			B	9		
Initial Attribute Score			33		Final Attribute Score = (Initial Score/36) x 100	91.7
Physical Structure						
Structural Patch Richness			B	9	9 patch types	
Pool and Swale Density			A	12	Avg=58.8%	
Topographic Complexity			C	6		
Initial Attribute Score			27		Final Attribute Score = (Initial Score/36) x 100	75
Biotic Structure						
	Alpha.	Numeric				
Plant Community submetric A: Number of Co-dominant species	B	9			5 co-dominant spp.	
Plant Community submetric B: Percent Non Native	A	12			14.3% non-native spp.	
Plant Community submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Metric (*average of submetrics A-C*)				8		
Horizontal Interspersion and Zonation			B	9		
Initial Attribute Score			17		Final Attribute Score = (Initial Score/24) x 100	70.8
Overall AA Score (Average of Final Attribute Scores)					**82.7**	

Worksheet 9: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		
Dike levee 60 meters away.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		

Basic Information: Vernal Pool Systems

CRAM Site ID: APN: 333-020-005				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: VS104A				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	27	11
Assessment Team Members for This AA				
A. Langston G. Peracca				
C. Roberts				

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1260	North	35.80731	-119.36221	
2	1262, 63	South			
3	1261	East			
4	1264	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).

CRAM score based on old VP module V. 5.0.3 = 67.5

New CRAM score = 77.8

Scoring Sheet: Vernal Pool Systems

AA Name: VS104A					**(m/d/y)**	09/27/2011
Attributes and Metrics			Alpha.	Numeric	**Comments/Scores**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			B	9	Avg=15%	
(B): Percent of AA with Buffer	Alpha.	Numeric				
	A	12			100% with buffer	
(C): Average Buffer Width	B	9			Avg=186.9m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)$^{1/2}$] $^{1/2}$				18.7	Final Attribute Score = (Initial Score/24) x 100	77.8
Hydrology						
Water Source			A	12		
Hydroperiod			A	12		
Hydrologic Connectivity			A	12		
Initial Attribute Score			36		Final Attribute Score = (Initial Score/36) x 100	100
Physical Structure						
Structural Patch Richness			B	9	9 patch types	
Pool and Swale Density			A	12	Avg=46.3%	
Topographic Complexity			C	6		
Initial Attribute Score			27		Final Attribute Score = (Initial Score/36) x 100	75
Biotic Structure						
	Alpha.	Numeric				
Plant Community submetric A: Number of Co-dominant species	C	6			3 co-dominant spp.	
Plant Community submetric B: Percent Non Native	C	6			42.9% non-native spp.	
Plant Community submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Metric (*average of submetrics A-C*)				5		
Horizontal Interspersion and Zonation			B	9		
Initial Attribute Score			14		Final Attribute Score = (Initial Score/24) x 100	58.3
Overall AA Score (Average of Final Attribute Scores)					**77.8**	

Worksheet 9: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
SR43 is within 50 meters of AA but does not provide much influence on AA hydrology.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
AA within 500 meters of orchard (to the west)		
AA within 500 meters of SR43/BNSF RR		

Basic Information: Vernal Pool Systems

CRAM Site ID: APN: 333-020-005				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: VS107A				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	22	11
Assessment Team Members for This AA				
A. Langston	J. Love			
C. Roberts	C. Julian			

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1224	North	35.80561	-119.36192	
2	1226	South			
3	1225	East			
4	1227	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).

CRAM score based on old VP module V. 5.0.3 = 74.5

New CRAM score = 80.6

Scoring Sheet: Vernal Pool Systems

AA Name: VS107A					**(m/d/y)**	09/22/2011
Attributes and Metrics			Alpha.	Numeric	**Comments/Scores**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			B	9	Avg=13.8%	
(B): Percent of AA with Buffer	Alpha.	Numeric				
	A	12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=200.8m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)$^{1/2}$] $^{1/2}$				19.4	Final Attribute Score = (Initial Score/24) x 100	80.8
Hydrology						
Water Source			A	12		
Hydroperiod			A	12		
Hydrologic Connectivity			A	12		
Initial Attribute Score			36		Final Attribute Score = (Initial Score/36) x 100	100
Physical Structure						
Structural Patch Richness			B	9	10 patch types	
Pool and Swale Density			B	9	Avg=30%	
Topographic Complexity			B	9		
Initial Attribute Score			27		Final Attribute Score = (Initial Score/36) x 100	75
Biotic Structure						
	Alpha.	Numeric				
Plant Community submetric A: Number of Co-dominant species	B	9			4 co-dominant spp.	
Plant Community submetric B: Percent Non Native	B	9			25% non-native spp.	
Plant Community submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Metric (*average of submetrics A-C*)				7		
Horizontal Interspersion and Zonation			B	9		
Initial Attribute Score			16		Final Attribute Score = (Initial Score/24) x 100	66.7
Overall AA Score (Average of Final Attribute Scores)					**80.6**	

Worksheet 9: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	Present and likely to have 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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
Orchard approximately 450 meters to the east.		

Basic Information: Vernal Pool Systems

CRAM Site ID: APN: 333-030-006				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: VS112				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	22	11
Assessment Team Members for This AA				
A. Langston	J. Love			
C. Roberts	C. Julian			

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1209, 16	North			
2	1211, 18	South			
3	1210, 17	East			
4	1212, 19	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).

CRAM score based on old VP module V. 5.0.3 = 71.5

New CRAM score = 76.7

Scoring Sheet: Vernal Pool Systems

AA Name: VS112					**(m/d/y)**	09/22/2011
Attributes and Metrics			Alpha.	Numeric	**Comments/Scores**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			B	9	Avg=14.8%	
(B): Percent of AA with Buffer	Alpha.	Numeric				
	A	12			98% with buffer	
(C): Average Buffer Width	B	9			Avg=145m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)$^{1/2}$] $^{1/2}$				18.7	Final Attribute Score = (Initial Score/24) x 100	77.8
Hydrology						
Water Source			B	9		
Hydroperiod			B	9		
Hydrologic Connectivity			B	9		
Initial Attribute Score			27		Final Attribute Score = (Initial Score/36) x 100	75
Physical Structure						
Structural Patch Richness			B	9	9 patch types	
Pool and Swale Density			A	12	Avg=56.3%	
Topographic Complexity			B	9		
Initial Attribute Score			30		Final Attribute Score = (Initial Score/36) x 100	83.3
Biotic Structure						
	Alpha.	Numeric				
Plant Community submetric A: Number of Co-dominant species	B	9			4 co-dominant spp.	
Plant Community submetric B: Percent Non Native	A	12			9% non-native spp.	
Plant Community submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Metric (*average of submetrics A-C*)				8		
Horizontal Interspersion and Zonation			B	9		
Initial Attribute Score			17		Final Attribute Score = (Initial Score/24) x 100	70.8
Overall AA Score (Average of Final Attribute Scores)					**76.7**	

Worksheet 9: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
Road berm for SR43.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**	X	
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		
Road berm for SR43.		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
SR43 and BNSF corridor are less than 50 meters west of AA.		

Basic Information: Vernal Pool Systems

CRAM Site ID: APN: 333-030-006				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: VS114A				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	9	27	11

Assessment Team Members for This AA

A. Langston G. Peracca

C. Roberts

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1248	North			
2	1250	South			
3	1249	East			
4	1251	West			
5					
6					

Comments:

*April 2012: updated using new Individual VP Module (V. 6.0).

CRAM score based on old VP module V. 5.0.3 = 74.7

New CRAM score = 80.9

Scoring Sheet: Vernal Pool Systems

AA Name: VS114A					**(m/d/y)**	09/27/2011
Attributes and Metrics			Alpha.	Numeric	**Comments/Scores**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg=34.8%	
(B): Percent of AA with Buffer	Alpha. A	Numeric 12			100% with buffer	
(C): Average Buffer Width	B	9			Avg=184.4m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)$^{1/2}$] $^{1/2}$				21.7	Final Attribute Score = (Initial Score/24) x 100	90.3
Hydrology						
Water Source			A	12		
Hydroperiod			A	12		
Hydrologic Connectivity			A	12		
Initial Attribute Score			36		Final Attribute Score = (Initial Score/36) x 100	100
Physical Structure						
Structural Patch Richness			B	9	9 patch types	
Pool and Swale Density			B	9	Avg=30%	
Topographic Complexity			C	6		
Initial Attribute Score			24		Final Attribute Score = (Initial Score/36) x 100	66.7
Biotic Structure						
	Alpha.	Numeric				
Plant Community submetric A: Number of Co-dominant species	B	9			4 co-dominant spp.	
Plant Community submetric B: Percent Non Native	B	9			25% non-native spp.	
Plant Community submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Metric (*average of submetrics A-C*)				7		
Horizontal Interspersion and Zonation			B	9		
Initial Attribute Score			16		Final Attribute Score = (Initial Score/24) x 100	66.7
Overall AA Score (Average of Final Attribute Scores)					**80.9**	

Worksheet 9: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
SR43 is approximately 80 meters away.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
SR43 and BNSF corridor are approximately 80 meters away.		

Basic Information Sheet: Perennial Depressional Wetlands

Your Name: A. Langston

Assessment Area Name: D304

Assessment No. | **Date (mm/dd/yyyy):** 05/16/2012

Assessment Team Members for This AA

G. Peracca

A.Langston

E. Maroni

AA Category:

[ ] Restoration [ ] Mitigation [ ] Impacted **X** Other

Which best describes the type of depressional wetland?

X freshwater marsh [ ] alkaline marsh [ ] alkali flat [ ] other (specify):

Which best describes the hydrologic state of the wetland at the time of assessment?

[ ] ponded/inundated [ ] saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

[ ] long-duration [ ] medium-duration **X** short-duration

Does your wetland connect with the floodplain of a nearby stream? [ ] yes **X** no

This wetland is located in a historic braided stream channel that no longer functions as a flow-throw system due to an impenetrable berm downstream. Water now appears to pond in these channels

Is the topographic basin of the wetland **X** distinct or [ ] indistinct **?**

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	5660	North			
2	5658	South			
3	5661	East			
4	5659	West			

Scoring Sheet: Perennial Depressional Wetlands

AA Name: D304				**Date:** 05/16/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity (D)		9		Avg=68.8%	
Buffer submetric A: *Percent of AA with Buffer*	12			100% with buffer	
Buffer submetric B: *Average Buffer Width*	12			Avg= 244 meters	
Buffer submetric C: *Buffer Condition*	9				
D + [C x (A x B)^{½}] ^{½} **= Attribute Score**		Raw	Final	Final Attribute Score = (Raw Score/24)100	
		19.4	80.8		80.8
Hydrology					
Water Source		9			
Hydroperiod or Channel Stability		9			
Hydrologic Connectivity		12			
Attribute Score83.3		Raw	Final	Final Attribute Score = (Raw Score/36)100	
		30	83.3		83.3
Physical Structure					
Structural Patch Richness		3			2 Patches
Topographic Complexity		9			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/24)100	
		12	50		50
Biotic Structure					
Plant Community submetric A: *Number of Plant Layers*	6			2 Layers	
Plant Community submetric B: *Number of Co-dominant species*	3			3 co-dominant spp.	
Plant Community submetric C: *Percent Invasion*	12			0% non-native spp.	
Plant Community Metric (*average of submetrics A-C*)		7			
Horizontal Interspersion and Zonation		6			
Vertical Biotic Structure		12			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/36)100	
		25	69.4		69.4
Overall AA Score (Average of Final Attribute Scores)				**70.9**	

Stressor Checklist Worksheet

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	X	
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)**		
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		

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., *Virginia opossum* 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		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture	X	
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.)		
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)	X	
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		
Comments		
Off-road vehicle tracks, shotgun shells, refuse set up for shooting practice all litter the property		

Basic Information Sheet: Perennial Depressional Wetlands

Your Name: A. Langston

Assessment Area Name: Buena Vista Dairy D304

Assessment No. | **Date (mm/dd/yyyy):** 05/16/2012

Assessment Team Members for This AA

G. Peracca

A.Langston

E. Maroni

AA Category:

[ ] Restoration [ ] Mitigation [ ] Impacted **X** Other

Which best describes the type of depressional wetland?

X freshwater marsh [ ] alkaline marsh [ ] alkali flat [ ] other (specify):

Which best describes the hydrologic state of the wetland at the time of assessment?

[ ] ponded/inundated [ ] saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

[ ] long-duration [ ] medium-duration **X** short-duration

Does your wetland connect with the floodplain of a nearby stream? [ ] yes **X** no

This wetland is located in a historic braided stream channel that no longer functions as a flow-throw system due to an impenetrable berm downstream. Water now appears to pond in these channels

Is the topographic basin of the wetland **X** distinct or [ ] indistinct **?**

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	5660	North			
2	5658	South			
3	5661	East			
4	5659	West			

Scoring Sheet: Perennial Depressional Wetlands

AA Name: Buena Vista Dairy D304				**Date:** 05/16/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity (D)		9		Avg=68.8%	
Buffer submetric A: *Percent of AA with Buffer*	12			100% with buffer	
Buffer submetric B: *Average Buffer Width*	12			Avg= 244 meters	
Buffer submetric C: *Buffer Condition*	9				
D + [C x (A x B)^{½}] ^{½} **= Attribute Score**		Raw	Final	Final Attribute Score = (Raw Score/24)100	
		19.4	80.8		80.8
Hydrology					
Water Source		9			
Hydroperiod or Channel Stability		9			
Hydrologic Connectivity		12			
Attribute Score83.3		Raw	Final	Final Attribute Score = (Raw Score/36)100	
		30	83.3		83.3
Physical Structure					
Structural Patch Richness		3			2 Patches
Topographic Complexity		9			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/24)100	
		12	50		50
Biotic Structure					
Plant Community submetric A: *Number of Plant Layers*	6			2 Layers	
Plant Community submetric B: *Number of Co-dominant species*	3			3 co-dominant spp.	
Plant Community submetric C: *Percent Invasion*	12			0% non-native spp.	
Plant Community Metric (*average of submetrics A-C*)		7			
Horizontal Interspersion and Zonation		6			
Vertical Biotic Structure		12			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/36)100	
		25	69.4		69.4
Overall AA Score (Average of Final Attribute Scores)				**70.9**	

Stressor Checklist Worksheet

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	X	
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)**		
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		

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., *Virginia opossum* 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		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture	X	
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.)		
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)	X	
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		
Comments		
Off-road vehicle tracks, shotgun shells, refuse set up for shooting practice all litter the property		

Basic Information Sheet: Perennial Depressional Wetlands

Your Name: A. Langston

Assessment Area Name: Buena Vista Dairy D305

Assessment No. | **Date (mm/dd/yyyy):** 05/16/2012

Assessment Team Members for This AA

G. Peracca

A.Langston

E. Maroni

AA Category:

[ ] Restoration [ ] Mitigation [ ] Impacted **X** Other

Which best describes the type of depressional wetland?

X freshwater marsh [ ] alkaline marsh [ ] alkali flat [ ] other (specify):

Which best describes the hydrologic state of the wetland at the time of assessment?

[ ] ponded/inundated [ ] saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

[ ] long-duration [ ] medium-duration **X** short-duration

Does your wetland connect with the floodplain of a nearby stream? [ ] yes **X** no

Is the topographic basin of the wetland **X** distinct or [ ] indistinct **?**

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1253	North			
2	1251	South			
3	1252	East			
4	1250	West			

Scoring Sheet: Perennial Depressional Wetlands

AA Name: Buena Vista Dairy D305				**Date:** 05/16/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity (D)		12		Avg=87.5%	
Buffer submetric A: *Percent of AA with Buffer*	12			100% with buffer	
Buffer submetric B: *Average Buffer Width*	12			Avg= 250 meters	
Buffer submetric C: *Buffer Condition*	9				
D + [C x (A x B)^{½}] ^{½} **= Attribute Score**		Raw	Final	Final Attribute Score = (Raw Score/24)100	
		22.4	93.3		93.3
Hydrology					
Water Source		9			
Hydroperiod or Channel Stability		9			
Hydrologic Connectivity		12			
Attribute Score83.3		Raw	Final	Final Attribute Score = (Raw Score/36)100	
		30	83.3		83.3
Physical Structure					
Structural Patch Richness		3		3 patch types	
Topographic Complexity		9			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/24)100	
		12	50		50
Biotic Structure					
Plant Community submetric A: *Number of Plant Layers*	6			1 Layers	
Plant Community submetric B: *Number of Co-dominant species*	3			3 co-dominant spp.	
Plant Community submetric C: *Percent Invasion*	6			33% non-native spp.	
Plant Community Metric (*average of submetrics A-C*)		5			
Horizontal Interspersion and Zonation		6			
Vertical Biotic Structure		9			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/36)100	
		20	55.6		55.6
Overall AA Score (Average of Final Attribute Scores)				**70.5**	

Stressor Checklist Worksheet

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	X	
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)**		
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		

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., *Virginia opossum* 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		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture	X	
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.)		
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)	X	
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		
Comments		
Off-road vehicle tracks, shotgun shells, refuse set up for shooting practice all litter the property		

Basic Information: Individual Vernal Pool

CRAM Site ID: Buena Vista Dairy				
Project Site ID: Fresno to Bakersfield HST CMP				
Assessment Area Name: V305				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	5	16	12
Assessment Team Members for This AA				
G. Peracca				
A.Langston				
E. Maroni				

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1259	North			
2	1258	South			
3	1265	East			
4	1264	West			
5					
6					

Comments:

Scoring Sheet: Individual Vernal Pools

AA Name: V305					(m/d/y)	05/16/2012
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg=68%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=236 meters	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				22.4	Final Attribute Score = (Initial Score/24) x 100	93.3
Hydrology						
Water Source			B	9		
Hydroperiod			A	12		
Hydrologic Connectivity			A	12		
Initial Attribute Score			33		Final Attribute Score = (Initial Score/36) x 100	91.7
Physical Structure						
Structural Patch Richness			C	6	4 patch types	
Topographic Complexity			B	9		
Initial Attribute Score			15		Final Attribute Score = (Initial Score/24) x 100	62.5
Biotic Structure						
Horizontal Interspersion and Zonation			C	6		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	B	9			4 co-dominant spp.	
Community composition submetric B: Percent Non-native	B	9			25% non-native spp.	
Community Composition submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				7		
Initial Attribute Score			13		Final Attribute Score = (Initial Score/24) x 100	54.2
Overall AA Score (Average of Final Attribute Scores)					**75.4**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	X
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	X
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
Some evidence of active recreation on property but not w/in 500 meters		

Basic Information: Vernal Pool Systems

CRAM Site ID: APN: Buena Vista Dairy				
Project Site ID: Fresno to Bakersfield CMP				
Assessment Area Name: VS 305				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	5	16	12
Assessment Team Members for This AA				
E.Maroni				
A. Langston				
G. Peracca				

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1260	North			
2	1261	South			
3	1262	East			
4	1263	West			
5					
6					

Comments:

Scoring Sheet: Vernal Pool Systems

AA Name: VS305					**(m/d/y)**	05/16/2012
Attributes and Metrics			Alpha.	Numeric	**Comments/Scores**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg=85%	
(B): Percent of AA with Buffer	Alpha. A	Numeric 12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=250 meters	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)$^{1/2}$] $^{1/2}$				22.4	Final Attribute Score = (Initial Score/24) x 100	93.3
Hydrology						
Water Source			A	12		
Hydroperiod			B	9		
Hydrologic Connectivity			A	12		
Initial Attribute Score			33		Final Attribute Score = (Initial Score/36) x 100	91.7
Physical Structure						
Structural Patch Richness			B	9	8 patch types	
Pool and Swale Density			A	12		
Topographic Complexity			C	6		
Initial Attribute Score			27		Final Attribute Score = (Initial Score/36) x 100	75
Biotic Structure						
	Alpha.	Numeric				
Plant Community submetric A: Number of Co-dominant species	C	6			2.5 co-dominant spp.	
Plant Community submetric B: Percent Non Native	B	9			33% non-native spp.	
Plant Community submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Metric (*average of submetrics A-C*)				6		
Horizontal Interspersion and Zonation			B	9		
Initial Attribute Score			15		Final Attribute Score = (Initial Score/24) x 100	62.5
Overall AA Score (Average of Final Attribute Scores)					**80.6**	

Worksheet 9: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	X
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	X
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
Evidence of active recreation onsite but not within some of AA		

Basic Information: Vernal Pool Systems

CRAM Site ID: APN: Buena Vista Dairy VS307				
Project Site ID: Fresno to Bakersfield CMP				
Assessment Area Name: VS307				
Project Name: Fresno to Bakersfield HST	**Date (m/d/y)**	5	16	12
Assessment Team Members for This AA				
E.Maroni				
A. Langston				
G. Peracca				

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1255	North			
2	1256	South			
3	1254	East			
4	1257	West			
5					
6					

Comments:

Scoring Sheet: Vernal Pool Systems

AA Name: Buena Vista Dairy VS307					**(m/d/y)**	05/16/2012
Attributes and Metrics			Alpha.	Numeric	**Comments/Scores**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg=55%	
(B): Percent of AA with Buffer	Alpha. A	Numeric 12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=208.1 meters	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)$^{1/2}$] $^{1/2}$				22.4	Final Attribute Score = (Initial Score/24) x 100	93.3
Hydrology						
Water Source			B	9		
Hydroperiod			A	12		
Hydrologic Connectivity			A	12		
Initial Attribute Score			33		Final Attribute Score = (Initial Score/36) x 100	91.7
Physical Structure						
Structural Patch Richness			B	9	8 patch types	
Pool and Swale Density			A	12	Avg=76.3%	
Topographic Complexity			C	6		
Initial Attribute Score			27		Final Attribute Score = (Initial Score/36) x 100	75
Biotic Structure						
	Alpha.	Numeric				
Plant Community submetric A: Number of Co-dominant species	B	9			4.5 co-dominant spp.	
Plant Community submetric B: Percent Non Native	B	9			28.6% non-native spp.	
Plant Community submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Metric (*average of submetrics A-C*)				7		
Horizontal Interspersion and Zonation			B	9		
Initial Attribute Score			16		Final Attribute Score = (Initial Score/24) x 100	66.7
Overall AA Score (Average of Final Attribute Scores)					**81.7**	

Worksheet 9: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	X
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have 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	X	
Orchards/nurseries		
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	X
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		
Some evidence of active recreation present		

Basic Information Sheet: Perennial Depressional Wetlands

Your Name: A. Langston

Assessment Area Name: Davis D301

Assessment No. | **Date (mm/dd/yyyy):** 05/17/2012

Assessment Team Members for This AA

G. Peracca

A. Langston

E. Maroni

AA Category:

[ ] Restoration [ ] Mitigation [ ] Impacted **X** Other

Which best describes the type of depressional wetland?

[ ] freshwater marsh [ ] alkaline marsh [ ] alkali flat **X** other (specify):

Which best describes the hydrologic state of the wetland at the time of assessment?

[ ] ponded/inundated [ ] saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

[ ] long-duration [ ] medium-duration **X** short-duration

Does your wetland connect with the floodplain of a nearby stream? [ ] yes **X** no

Is the topographic basin of the wetland [ ] distinct **or** **X** indistinct **?**

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1276	North			
2	1279	South			
3	1275	East			
4	1278	West			

Scoring Sheet: Perennial Depressional Wetlands

AA Name: Davis D301				**Date:** 05/17/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity (D)		B 9			
Buffer submetric A: Percent of AA with Buffer	9			70% with buffer	
Buffer submetric B: Average Buffer Width	12			Avg= 250 meters	
Buffer submetric C: Buffer Condition	12				
D + [C x (A x B)^{½}] ^{½} **= Attribute Score**		Raw 20.2	Final 84	Final Attribute Score = (Raw Score/24)100	84
Hydrology					
Water Source		12		groundwater	
Hydroperiod or Channel Stability		9			
Hydrologic Connectivity		9		*would this be a "c" or "a". talk to Chad, old man-made basin	
Attribute Score		Raw 30	Final 83.3	Final Attribute Score = (Raw Score/36)100	83.3
Physical Structure					
Structural Patch Richness		3		2 patch types	
Topographic Complexity		6			
Attribute Score		Raw 9	Final 37.5	Final Attribute Score = (Raw Score/24)100	37.5
Biotic Structure					
Plant Community submetric A: Number of Plant Layers	6			2 layers	
Plant Community submetric B: Number of Co-dominant species	3			3 co-dominant spp.	
Plant Community submetric C: Percent Invasion	12			0% invasion	
Plant Community Metric (*average of submetrics A-C*)		7			
Horizontal Interspersion and Zonation		9			
Vertical Biotic Structure		12			
Attribute Score		Raw 28	Final 77.8	Final Attribute Score = (Raw Score/36)100	77.8
Overall AA Score (Average of Final Attribute Scores)				**70.7**	

Stressor Checklist Worksheet

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)	X	
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)**		
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		

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., *Virginia opossum* 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		
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	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
Passive recreation (bird-watching, hiking, etc.)	X	
Active recreation (off-road vehicles, mountain biking, hunting, fishing)		
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		
Comments		

Basic Information Sheet: Perennial Depressional Wetlands

Your Name: A. Langston

Assessment Area Name: Davis D301A

Assessment No. | **Date (mm/dd/yyyy):** 05/17/2012

Assessment Team Members for This AA

G. Peracca

A. Langston

E. Maroni

AA Category:

[ ] Restoration [ ] Mitigation [ ] Impacted **X** Other

Which best describes the type of depressional wetland?

[ ] freshwater marsh [ ] alkaline marsh **X** alkali flat [ ] other (specify):

Which best describes the hydrologic state of the wetland at the time of assessment?

[ ] ponded/inundated [ ] saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

[ ] long-duration [ ] medium-duration **X** short-duration

Does your wetland connect with the floodplain of a nearby stream? [ ] yes **X** no

Is the topographic basin of the wetland [ ] distinct **or** **X** indistinct **?**

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1280	North			
2	1282	South			
3	1283	East			
4	1281	West			

Scoring Sheet: Perennial Depressional Wetlands

AA Name: Davis D301A				**Date:** 05/17/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity (D)		B 9		Avg=72.5%	
Buffer submetric A: Percent of AA with Buffer	9			65% with buffer	
Buffer submetric B: Average Buffer Width	12			Avg= 250 meters	
Buffer submetric C: Buffer Condition	12				
D + [C x (A x B)^{½}] ^{½} **= Attribute Score**		Raw 20.2	Final 84	Final Attribute Score = (Raw Score/24)100	84
Hydrology					
Water Source		12		groundwater	
Hydroperiod or Channel Stability		9			
Hydrologic Connectivity		9			
Attribute Score		Raw 30	Final 83.3	Final Attribute Score = (Raw Score/36)100	83.3
Physical Structure					
Structural Patch Richness		3		3 patch types	
Topographic Complexity		6			
Attribute Score		Raw 9	Final 37.5	Final Attribute Score = (Raw Score/24)100	37.5
Biotic Structure					
Plant Community submetric A: Number of Plant Layers	6			2 layers	
Plant Community submetric B: Number of Co-dominant species	3			1 co-dominant sp.	
Plant Community submetric C: Percent Invasion	12			0% invasion.	
Plant Community Metric (*average of submetrics A-C*)		7			
Horizontal Interspersion and Zonation		6			
Vertical Biotic Structure		12			
Attribute Score		Raw 25	Final 69.4	Final Attribute Score = (Raw Score/36)100	69.4
Overall AA Score (Average of Final Attribute Scores)				**68.6**	

Stressor Checklist Worksheet

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	X	
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)**		
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		

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., *Virginia opossum* 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		
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	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
Passive recreation (bird-watching, hiking, etc.)	X	
Active recreation (off-road vehicles, mountain biking, hunting, fishing)		
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		
Comments		

Basic Information: Individual Vernal Pool

CRAM Site ID: Staffel				
Project Site ID: Fresno to Bakersfield HST (CMP)				
Assessment Area Name: V301				
Project Name: Fresno to Bakersfield HST (CMP)	**Date (m/d/y)**	5	15	12
Assessment Team Members for This AA				
G. Peracca				
A. Langston				
E. Maroni				

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	5634	North			
2	5636	South			
3	5633	East			
4	5635	West			
5					
6					

Comments:

Scoring Sheet: Individual Vernal Pools

AA Name: V301					(m/d/y)	05/15/2012
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg= 53%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=250m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				22.4	Final Attribute Score = (Initial Score/24) x 100	93.3
Hydrology						
Water Source			B	9		
Hydroperiod			A	12		
Hydrologic Connectivity			A	12		
Initial Attribute Score			33		Final Attribute Score = (Initial Score/36) x 100	91.7
Physical Structure						
Structural Patch Richness			C	6	4 patch types	
Topographic Complexity			C	6		
Initial Attribute Score			12		Final Attribute Score = (Initial Score/24) x 100	50
Biotic Structure						
Horizontal Interspersion and Zonation			B	9		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	A	12			7 co-dominant spp.	
Community composition submetric B: Percent Non-native	A	12			14% non-native spp.	
Community Composition submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				9		
Initial Attribute Score			18		Final Attribute Score = (Initial Score/24) x 100	75
Overall AA Score (Average of Final Attribute Scores)					**77.5**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		
No stressors.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	X
Comments		
No stressors.		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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		
No stressors.		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Present and likely to have 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	X	X
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.)		
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		

Basic Information: Individual Vernal Pool

CRAM Site ID: Staffel				
Project Site ID: Fresno to Bakersfield HST (CMP)				
Assessment Area Name: V302				
Project Name: Fresno to Bakersfield HST (CMP)	**Date (m/d/y)**	5	15	12
Assessment Team Members for This AA				
G. Peracca				
A. Langston				
E. Maroni				

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	5643	North			
2	5641	South			
3	5642	East			
4	5640	West			
5					
6					

Comments: Presence of dumped trash; couch, refrigerator, oil drums, plastic tubing, plastic buckets

Scoring Sheet: Individual Vernal Pools

AA Name: V302					(m/d/y)	05/15/2012
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg= 57% Aqutic Area	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=250 meters	
(D): Buffer Condition	B	9			Litter present in AA	
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				22.4	Final Attribute Score = (Initial Score/24) x 100	93.3
Hydrology						
Water Source			B	9		
Hydroperiod			A	12		
Hydrologic Connectivity			A	12		
Initial Attribute Score			33		Final Attribute Score = (Initial Score/36) x 100	91.7
Physical Structure						
Structural Patch Richness			D	3	2 patch types	
Topographic Complexity			C	6		
Initial Attribute Score			9		Final Attribute Score = (Initial Score/24) x 100	37.5
Biotic Structure						
Horizontal Interspersion and Zonation			C	6		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	B	9			5 co-dominant spp.	
Community composition submetric B: Percent Non-native	A	12			20% non-native spp.	
Community Composition submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				8		
Initial Attribute Score			14		Final Attribute Score = (Initial Score/24) x 100	58.3
Overall AA Score (Average of Final Attribute Scores)					**70.2**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		
No stressors.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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	X	X
Comments		
Degrading waste (couch, refrigerator, oil buckets)		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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		
No stressors.		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Present and likely to have 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	X	X
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.)		
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		

Basic Information Sheet: Riverine Wetlands

CRAM Site ID: TeVelde				
Project Site ID: FB HST CMP				
Assessment Area Name: R300				
Project Name: FB HST Mitigation	**Date (m/d/y)**	05	14	12
Assessment Team Members for This AA:				
A. Langston				
G. Peracca				
E. Maroni				
Average Bankfull Width: 18 m				
Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m)**:** 180 m				
Upstream Point Latitude:	**Longitude:**			
Downstream Point Latitude:	**Longitude:**			
Wetland Sub-type:				
X Confined ☐ Non-confined				
AA Category:				
☐ Restoration ☐ Mitigation ☐ Impacted **X** Ambient **X** Reference ☐ Training				
☐ Other:				
Did the river/stream have flowing water at the time of the assessment? ☐ yes **X** 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.				
☐ perennial **X** intermittent ☐ ephemeral				

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	5620, 5621	Upstream			
2	5623	Middle Left			
3	5622	Middle Right			
4	5624	Downstream			
5					
6					
7					
8					
9					
10					

Site Location Description:

Comments:

Scoring Sheet: Riverine Wetlands

AA Name: R300				(m/d/y)	05	14	12
Attribute 1: Buffer and Landscape Context				**Comments**			
Aquatic Area Abundance Score (D)		Alpha.	Numeric				
		A	12	20 meters			
Buffer:							
Buffer submetric A:	Alpha.	Numeric					
Percent of AA with Buffer	A	12		100% with buffer			
Buffer submetric B:				Average = 8.8 meters			
Average Buffer Width	D	3					
Buffer submetric C:				Buffer is road berm			
Buffer Condition	D	3					
Raw Attribute Score = D+[C x (A x B)^{½}]^{½} (use numerical value to nearest whole integer)			16.2	**Final Attribute Score = (Raw Score/24) x 100**			67.7
Attribute 2: Hydrology							
		Alpha.	Numeric	>20% drainage basin is			
Water Source		C	6	agricultural			
Channel Stability		B	9				
Hydrologic Connectivity		C	6	Average = 1.2 meters			
Raw Attribute Score = sum of numeric scores			21	**Final Attribute Score = (Raw Score/36) x 100**			58.3
Attribute 3: Physical Structure							
		Alpha.	Numeric	2 patch types			
Structural Patch Richness		D	3				
Topographic Complexity		C	6				
Raw Attribute Score = sum of numeric scores			9	**Final Attribute Score = (Raw Score/24) x 100**			37.5
Attribute 4: Biotic Structure							
Plant Community Composition (based on sub-metrics A-C)							
	Alpha.	Numeric					
Plant Community submetric A:				3 layers			
Number of plant layers	B	9					
Plant Community submetric B:							
Number of Co-dominant species	C	6		7 co-dominant spp.			
Plant Community submetric C:							
Percent Invasion	C	6		43% invasive spp.			
Plant Community Composition (*average of submetrics A-C rounded to nearest whole integer*)			7				
Horizontal Interspersion		C	6				
Vertical Biotic Structure		C	6				
Raw Attribute Score = sum of numeric scores			19	**Final Attribute Score = (Raw Score/36) x 100**			52.8
Overall AA Score (average of four final Attribute Scores)				54.1			

Stressor Checklist Worksheet

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Point Source (PS) discharges (POTW, other non-stormwater discharge)		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	X	X
Flow diversions or unnatural inflows	X	X
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	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**	X	X
Plowing/Discing **(N/A for restoration areas)**	X	X
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)	X	X
Trash or refuse		
Comments		
Photos 5625-5627 are manure piles		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	X	
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	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)	X	X
Transportation corridor		
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		

Basic Information Sheet: Riverine Wetlands

CRAM Site ID: TeVelde

Project Site ID: FB HST CMP

Assessment Area Name: R302

Project Name: FB HST Mitigation	**Date (m/d/y)**	05	14	12

Assessment Team Members for This AA:

A. Langston

G. Peracca

E. Maroni

Average Bankfull Width: 5.4 meters

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m)**:** 100 meters

Upstream Point Latitude: **Longitude:**

Downstream Point Latitude: **Longitude:**

Wetland Sub-type:

X Confined ☐ Non-confined

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted **X** Ambient **X** Reference ☐ Training

☐ Other:

Did the river/stream have flowing water at the time of the assessment? ☐ yes **X** 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.

☐ perennial **X** intermittent ☐ ephemeral

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	5632	Upstream			
2	5630	Middle Left			
3	5631	Middle Right			
4	5628, 5629	Downstream			
5					
6					
7					
8					
9					
10					

Site Location Description:

Comments:

Scoring Sheet: Riverine Wetlands

AA Name: R302					(m/d/y) 05 14 12	
Attribute 1: Buffer and Landscape Context					**Comments**	
Aquatic Area Abundance Score (D)			Alpha. A	Numeric 12		
Buffer:						
Buffer submetric A: Percent of AA with Buffer	Alpha. A	Numeric 12			100% w/buffer	
Buffer submetric B: Average Buffer Width	D	3			Average = 7.8 meters	
Buffer submetric C: Buffer Condition	D	3				
Raw Attribute Score = D+[C x (A x B)^{½}]^{½} (use numerical value to nearest whole integer)				16.2	**Final Attribute Score = (Raw Score/24) x 100**	67.7
Attribute 2: Hydrology						
			Alpha.	Numeric		
Water Source			C	6		
Channel Stability			B	9		
Hydrologic Connectivity			A	12	Entrenchment ratio = 2.3	
Raw Attribute Score = sum of numeric scores				27	**Final Attribute Score = (Raw Score/36) x 100**	75
Attribute 3: Physical Structure						
			Alpha.	Numeric		
Structural Patch Richness			D	3	2 patch types	
Topographic Complexity			C	6		
Raw Attribute Score = sum of numeric scores				9	**Final Attribute Score = (Raw Score/24) x 100**	37.5
Attribute 4: Biotic Structure						
Plant Community Composition (based on sub-metrics A-C)						
Plant Community submetric A: Number of plant layers	Alpha. A	Numeric 12			4 layers	
Plant Community submetric B: Number of Co-dominant species	B	9			10 co-dominant spp	
Plant Community submetric C: Percent Invasion	C	6			40% invasion	
Plant Community Composition (*average of submetrics A-C rounded to nearest whole integer*)				9		
Horizontal Interspersion			B	9		
Vertical Biotic Structure			C	6		
Raw Attribute Score = sum of numeric scores				24	**Final Attribute Score = (Raw Score/36) x 100**	67.7
Overall AA Score (average of four final Attribute Scores)					61.7	

Stressor Checklist Worksheet

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

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**	X	X
Plowing/Discing **(N/A for restoration areas)**	X	X
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)	X	X
Trash or refuse	X	
Comments		
Sediment is transported into drainage when farmer plows, discs, and grades adjacent fields.		
Assuming some bacteria/pathogen impairment from adjacent livestock waste piles.		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	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)	X	X
Transportation corridor		
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		

Basic Information Sheet: Perennial Depressional Wetlands

Your Name: A. Langston

Assessment Area Name: Valadez D303

Assessment No. | **Date (mm/dd/yyyy):** 05/17/2012

Assessment Team Members for This AA

G. Peracca

A. Langston

E. Maroni

AA Category:

[ ] Restoration [ ] Mitigation [ ] Impacted **X** Other

Which best describes the type of depressional wetland?

[ ] freshwater marsh [ ] alkaline marsh [ ] alkali flat **X** other (specify):

Seasonal Basin.

Which best describes the hydrologic state of the wetland at the time of assessment?

[ ] ponded/inundated [ ] saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

[ ] long-duration [ ] medium-duration **X** short-duration

Does your wetland connect with the floodplain of a nearby stream? [ ] yes **X** no

Is the topographic basin of the wetland [ ] distinct **or** **X** indistinct **?**

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1284	North			
2	1285	South			
3	1286	East			
4	1287	West			

Scoring Sheet: Perennial Depressional Wetlands

AA Name: Valadez D303				**Date:** 05/17/2012	
Attributes and Metrics		**Scores**		**Comments**	
Buffer and Landscape Context					
Landscape Connectivity (D)		3		Avg=8.8%	
Buffer submetric A: *Percent of AA with Buffer*	12			100% with buffer	
Buffer submetric B: *Average Buffer Width*	12			Avg= 232.5 meters	
Buffer submetric C: *Buffer Condition*	6				
D + [C x (A x B)^{½}] ^{½} **= Attribute Score**		Raw	Final	Final Attribute Score = (Raw Score/24)100	47.9
		11.5	47.9		
Hydrology					
Water Source		9			
Hydroperiod or Channel Stability		9			
Hydrologic Connectivity		6			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/36)100	66.7
		24	66.7		
Physical Structure					
Structural Patch Richness		6		6 patch types	
Topographic Complexity		6			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/24)100	50
		12	50		
Biotic Structure					
Plant Community submetric A: *Number of Plant Layers*	9			3 layers	
Plant Community submetric B: *Number of Co-dominant species*	6			7 co-dominant spp.	
Plant Community submetric C: *Percent Invasion*	6			43% invasion	
Plant Community Metric (*average of submetrics A-C*)		7			
Horizontal Interspersion and Zonation		12			
Vertical Biotic Structure		6			
Attribute Score		Raw	Final	Final Attribute Score = (Raw Score/36)100	69.4
		25	69.4		
Overall AA Score (Average of Final Attribute Scores)				**58.5**	

Stressor Checklist Worksheet

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)**		
Grading/ compaction **(N/A for restoration areas)**	X	
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		

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., *Virginia opossum* 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	X	
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	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		

Basic Information: Individual Vernal Pool

CRAM Site ID: Valadez				
Project Site ID: FB HST Mitigation Site				
Assessment Area Name: V303				
Project Name: FB HST Mitigation Site	**Date (m/d/y)**	5	17	12
Assessment Team Members for This AA				
G. Peracca				
E. Maroni				
A. Langston				

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

X entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1295	North			
2	1294	South			
3	1297	East			
4	1296	West			
5					
6					

Comments:

Scoring Sheet: Individual Vernal Pools

AA Name: V303					(m/d/y)	05/17/2012
Attributes and Metrics			**Alpha.**	**Numeric**	**Comments**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			D	3	Avg=2%	
	Alpha.	Numeric				
(B): Percent of AA with Buffer	A	12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=250 m	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)^{½}] ^{½}				13.4	Final Attribute Score = (Initial Score/24) x 100	55.8
Hydrology						
Water Source			A	12		
Hydroperiod			A	12		
Hydrologic Connectivity			A	12		
Initial Attribute Score			36		Final Attribute Score = (Initial Score/36) x 100	100
Physical Structure						
Structural Patch Richness			D	3	2 patch types	
Topographic Complexity			C	6		
Initial Attribute Score			9		Final Attribute Score = (Initial Score/24) x 100	37.5
Biotic Structure						
Horizontal Interspersion and Zonation			D	3		
Community composition submetric	Alpha.	Numeric				
A: Number of Co-dominants	C	6			3 co-dominant spp.	
Community composition submetric B: Percent Non-native	B	9			33% non-native spp.	
Community Composition submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Composition Metric (*numeric average of submetrics A-C*)				6		
Initial Attribute Score			9		Final Attribute Score = (Initial Score/24) x 100	37.5
Overall AA Score (Average of Final Attribute Scores)					**57.7**	

Worksheet 8: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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.)	X	
Actively managed hydrology		
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Present and likely to have significant negative effect on AA
Urban residential	X	
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	X	X
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
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		

Basic Information: Vernal Pool Systems

CRAM Site ID: Yang Property (CMP)				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: VS300				
Project Name: Fresno to Bakersfield HST (CMP)	**Date (m/d/y)**	5	17	12
Assessment Team Members for This AA				
A. Langston G. Peracca				
E.Maroni				

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1267	North	35.80388N	119.39008W	
2	1268	South			
3	1269	East			
4	1270	West			
5					
6					

Comments:

Scoring Sheet: Vernal Pool Systems

AA Name: VS300					**(m/d/y)**	05/19/2012
Attributes and Metrics			Alpha.	Numeric	**Comments/Scores**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg=57.5%	
(B): Percent of AA with Buffer	Alpha. A	Numeric 12			100% with buffer	
(C): Average Buffer Width	A	12			Avg=196.9 meters	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)$^{1/2}$] $^{1/2}$				22.4	Final Attribute Score = (Initial Score/24) x 100	93.3
Hydrology						
Water Source			B	9		
Hydroperiod			A	12		
Hydrologic Connectivity			A	12		
Initial Attribute Score			33		Final Attribute Score = (Initial Score/36) x 100	91.7
Physical Structure						
Structural Patch Richness			C	6	7 patch types	
Pool and Swale Density			A	12	Avg=68.8 %	
Topographic Complexity			C	6		
Initial Attribute Score			24		Final Attribute Score = (Initial Score/36) x 100	66.7
Biotic Structure						
	Alpha.	Numeric				
Plant Community submetric A: Number of Co-dominant species	C	6			Avg = 3 co-dominant spp.	
Plant Community submetric B: Percent Non Native	C	6			37.5% non-native spp.	
Plant Community submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Metric (*average of submetrics A-C*)				5		
Horizontal Interspersion and Zonation			B	9		
Initial Attribute Score			14		Final Attribute Score = (Initial Score/24) x 100	58.3
Overall AA Score (Average of Final Attribute Scores)					**77.5**	

Worksheet 9: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		
No Stressors.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		
No Stressors.		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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		
No Stressors.		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Present and likely to have 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	X	X
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.)		
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		
BNSF railroad corridor.		

Basic Information: Vernal Pool Systems

CRAM Site ID: Yang Property (CMP)

Project Site ID: Fresno to Bakersfield HST

Assessment Area Name: VS301

Project Name: Fresno to Bakersfield HST (CMP)	**Date (m/d/y)**	5	15	12

Assessment Team Members for This AA

A. Langston G. Peracca

E. Maroni

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	5653	North	35º48'01 N	119º23'25 W	
2	5657	South			
3	5656	East			
4	5654	West			
5					
6					

Comments:,

Scoring Sheet: Vernal Pool Systems

AA Name: VS301					**(m/d/y)**	05/15/2012
Attributes and Metrics			Alpha.	Numeric	**Comments/Scores**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg= 92.9%	
(B): Percent of AA with Buffer	Alpha. A	Numeric 12			100% with buffer	
(C): Average Buffer Width	A	12			Avg= 250 meters	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)$^{1/2}$] $^{1/2}$				22.4	Final Attribute Score = (Initial Score/24) x 100	93.3
Hydrology						
Water Source			B	9		
Hydroperiod			A	12		
Hydrologic Connectivity			A	12		
Initial Attribute Score			33		Final Attribute Score = (Initial Score/36) x 100	91.7
Physical Structure						
Structural Patch Richness			C	6	7 patch types	
Pool and Swale Density			A	12	Avg= 52.5 %	
Topographic Complexity			A	12		
Initial Attribute Score			30		Final Attribute Score = (Initial Score/36) x 100	83.3
Biotic Structure						
	Alpha.	Numeric				
Plant Community submetric A: Number of Co-dominant species	B	9			Avg = 4.7 co-dominant spp.	
Plant Community submetric B: Percent Non Native	D	3			50% non-native spp.	
Plant Community submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Metric (*average of submetrics A-C*)				5		
Horizontal Interspersion and Zonation			A	12		
Initial Attribute Score			17		Final Attribute Score = (Initial Score/24) x 100	70.8
Overall AA Score (Average of Final Attribute Scores)					**84.8**	

Worksheet 9: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		
No Stressors.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		
No Stressors.		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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		
No Stressors.		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Present and likely to have 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	X	X
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.)		
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		

Basic Information: Vernal Pool Systems

CRAM Site ID: Yang Property (CMP)				
Project Site ID: Fresno to Bakersfield HST				
Assessment Area Name: VS303				
Project Name: Fresno to Bakersfield HST (CMP)	**Date (m/d/y)**	5	15	12

Assessment Team Members for This AA

A. Langston G. Peracca

E.Maroni

Wetland Category:

X Natural □ Constructed □ Restoration (Rehabilitation OR Enhancement)

If Created or Restored, does the action encompass:

□ entire wetland □ portion of the wetland

What best describes the hydrologic state of the wetland at the time of assessment?

□ ponded/inundated □ saturated soil, but no surface water **X** dry

What is the apparent hydrologic regime of the wetland?

□ long-duration □ medium-duration **X** short-duration

Does the vernal pool system connect with the floodplain of a nearby stream?

□ yes **X** no

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	5651	North			
2	5649	South			
3	5652	East			
4	5650	West			
5					
6					

Comments:

Scoring Sheet: Vernal Pool Systems

AA Name: VS303					**(m/d/y)**	05/15/2012
Attributes and Metrics			Alpha.	Numeric	**Comments/Scores**	
Buffer and Landscape Context						
(A) Aquatic Area Connectivity			A	12	Avg= 95%	
(B): Percent of AA with Buffer	Alpha. A	Numeric 12			100% with buffer	
(C): Average Buffer Width	A	12			Avg= 250 meters	
(D): Buffer Condition	B	9				
Initial Attribute Score = A + [D x (B x C)$^{1/2}$] $^{1/2}$				22.4	Final Attribute Score = (Initial Score/24) x 100	93.3
Hydrology						
Water Source			B	9		
Hydroperiod			A	12		
Hydrologic Connectivity			A	12		
Initial Attribute Score			33		Final Attribute Score = (Initial Score/36) x 100	91.7
Physical Structure						
Structural Patch Richness			B	9	9 patch types	
Pool and Swale Density			A	12	Avg= 76.3 %	
Topographic Complexity			C	6		
Initial Attribute Score			27		Final Attribute Score = (Initial Score/36) x 100	75.0
Biotic Structure						
	Alpha.	Numeric				
Plant Community submetric A: Number of Co-dominant species	B	9			Avg = 4 co-dominant spp.	
Plant Community submetric B: Percent Non Native	C	6			43% non-native spp.	
Plant Community submetric C: Endemic Species Richness	D	3			0 endemic spp.	
Plant Community Metric (*average of submetrics A-C*)				6		
Horizontal Interspersion and Zonation			B	9		
Initial Attribute Score			15		Final Attribute Score = (Initial Score/24) x 100	62.5
Overall AA Score (Average of Final Attribute Scores)					**80.6**	

Worksheet 9: Stressor Checklist.

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		
No Stressors.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and likely to have 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		
No Stressors.		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Present and Likely to Have Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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		
No Stressors.		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Present and likely to have 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.)		
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		
No Stressors.		

Basic Information Sheet: Riverine Wetlands

CRAM Site ID: Clark River Ranch				
Project Site ID: FB HST CMP				
Assessment Area Name: R401				
Project Name: FB HST Mitigation	**Date (m/d/y)**	01	03	13

Assessment Team Members for This AA:

A. Langston

T. Lim

Average Bankfull Width: 33 m

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m)**:** 200 m

Upstream Point Latitude: **Longitude:**

Downstream Point Latitude: **Longitude:**

Wetland Sub-type:

X Confined ☐ Non-confined

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted **X** Ambient **X** Reference ☐ Training

☐ Other:

Did the river/stream have flowing water at the time of the assessment? ☐ yes **X** 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.

X perennial ☐ intermittent ☐ ephemeral

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1977	Upstream			
2	1973, 1974	Middle Left			
3	1975, 1976	Middle Right			
4	1972	Downstream			
5					
6					
7					
8					
9					
10					

Site Location Description:

Clarks Fork Kings River

Comments:

Scoring Sheet: Riverine Wetlands

AA Name: R401					**(m/d/y)** 01	03 13
Attribute 1: Buffer and Landscape Context					**Comments**	
Aquatic Area Abundance Score (D)			Alpha. A	Numeric 12	100m total non-buffer	
Buffer:						
Buffer submetric A: Percent of AA with Buffer	Alpha. A	Numeric 12			100% with buffer	
Buffer submetric B: Average Buffer Width	D	3			Average = 19.6 meters	
Buffer submetric C: Buffer Condition	C	6			Buffer is road berm	
Raw Attribute Score = D+[C x (A x B)^{½}]^{½} (use numerical value to nearest whole integer)				18	**Final Attribute Score = (Raw Score/24) x 100**	75.0
Attribute 2: Hydrology						
Water Source			Alpha. C	Numeric 6	>20% drainage basin is agricultural	
Channel Stability			B	9		
Hydrologic Connectivity			B	9	Average = 1.63 meters	
Raw Attribute Score = sum of numeric scores				24	**Final Attribute Score = (Raw Score/36) x 100**	66.7
Attribute 3: Physical Structure						
Structural Patch Richness			Alpha. D	Numeric 3	0 patch types	
Topographic Complexity			C	6		
Raw Attribute Score = sum of numeric scores				9	**Final Attribute Score = (Raw Score/24) x 100**	37.5
Attribute 4: Biotic Structure						
Plant Community Composition (based on sub-metrics A-C)						
Plant Community submetric A: Number of plant layers	Alpha. B	Numeric 9			3 layers	
Plant Community submetric B: Number of Co-dominant species	C	6			6 co-dominant spp.	
Plant Community submetric C: Percent Invasion	B	9			17% invasive spp.	
Plant Community Composition (*average of submetrics A-C rounded to nearest whole integer*)				8		
Horizontal Interspersion			C	6		
Vertical Biotic Structure			C	6		
Raw Attribute Score = sum of numeric scores				20	**Final Attribute Score = (Raw Score/36) x 100**	55.6
Overall AA Score (average of four final Attribute Scores)					58.7	

Stressor Checklist Worksheet

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	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	X	X
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology	X	X
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**	X	
Plowing/Discing **(N/A for restoration areas)**	X	X
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management		
Excessive sediment or organic debris from watershed	X	X
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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	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	X	X
Orchards/nurseries	X	X
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.)		
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		

Basic Information Sheet: Riverine Wetlands

CRAM Site ID: Clark River Ranch				
Project Site ID: FB HST CMP				
Assessment Area Name: R402				
Project Name: FB HST Mitigation	**Date (m/d/y)**	01	04	13

Assessment Team Members for This AA:

A. Langston

T. Lim

Average Bankfull Width: 31 m

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m)**:** 200 m

Upstream Point Latitude: **Longitude:**

Downstream Point Latitude: **Longitude:**

Wetland Sub-type:

X Confined ☐ Non-confined

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted **X** Ambient **X** Reference ☐ Training

☐ Other:

Did the river/stream have flowing water at the time of the assessment? ☐ yes **X** 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.

X perennial ☐ intermittent ☐ ephemeral

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	1996	Upstream			
2	1994	Middle Left			
3	1995	Middle Right			
4	1993	Downstream			
5					
6					
7					
8					
9					
10					

Site Location Description:

"Island" area of River Ranch.

Comments:

1-sided AA due to presence of water and steep banks.

Additional photos: 1997-2001

Scoring Sheet: Riverine Wetlands

AA Name: R402				**(m/d/y)**	01 04 13	
Attribute 1: Buffer and Landscape Context				**Comments**		
Aquatic Area Abundance Score (D)		Alpha. B	Numeric 9	100m total non-buffer (1-sided)		
Buffer:						
Buffer submetric A: Percent of AA with Buffer	Alpha. A	Numeric 12		100% with buffer		
Buffer submetric B: Average Buffer Width	D	3		Average = 7 meters		
Buffer submetric C: Buffer Condition	C	6		Buffer is road berm		
Raw Attribute Score = D+[C x (A x B)^{½}]^{½} (use numerical value to nearest whole integer)			15	**Final Attribute Score = (Raw Score/24) x 100**		62.5
Attribute 2: Hydrology						
Water Source		Alpha. C	Numeric 6	>20% drainage basin is agricultural		
Channel Stability		B	9			
Hydrologic Connectivity		C	6	Average = 1.54 meters		
Raw Attribute Score = sum of numeric scores			21	**Final Attribute Score = (Raw Score/36) x 100**		58.3
Attribute 3: Physical Structure						
Structural Patch Richness		Alpha. C	Numeric 6	5 patch types		
Topographic Complexity		C	6			
Raw Attribute Score = sum of numeric scores			12	**Final Attribute Score = (Raw Score/24) x 100**		50.0
Attribute 4: Biotic Structure						
Plant Community Composition (based on sub-metrics A-C)						
Plant Community submetric A: Number of plant layers	Alpha. B	Numeric 9		3 layers		
Plant Community submetric B: Number of Co-dominant species	C	6		5 co-dominant spp.		
Plant Community submetric C: Percent Invasion	B	9		20% invasive spp.		
Plant Community Composition (*average of submetrics A-C rounded to nearest whole integer*)			8			
Horizontal Interspersion		B	9			
Vertical Biotic Structure		B	9			
Raw Attribute Score = sum of numeric scores			26	**Final Attribute Score = (Raw Score/36) x 100**		72.2
Overall AA Score (average of four final Attribute Scores)				60.8		

Stressor Checklist Worksheet

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	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	X	X
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	X	X
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology	X	X
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**	X	X
Plowing/Discing **(N/A for restoration areas)**	X	X
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management		
Excessive sediment or organic debris from watershed	X	X
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		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* 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	Significant negative effect on AA
Urban residential		
Industrial/commercial		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)	X	X
Dryland farming		
Intensive row-crop agriculture	X	X
Orchards/nurseries	X	X
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.)		
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		

Appendix D
Photographs of Representative Assessment Areas

Appendix D

Photographs of Representative Assessment Areas

Assessment Area D147

North

South

Northwest

Southwest

Assessment Area D203

North

South

East

West

Assessment Area D204

North

South

East

West

Assessment Area D205

North

South

East

West

Assessment Area D206

North

South

East

West

Assessment Area D212

North

South

East

West

Assessment Area D213

North

South

East

West

Assessment Area D214

North

South

East

West

Assessment Area R8

Northeast

Southeast

Northwest

Southwest

Assessment Area R63A

North

South

East

West

Assessment Area R66

North

South

East

West

Assessment Area R71A

North

South

East

West

Assessment Area R146

North

South

East

N/A

West

Assessment Area R149

Northeast

Southeast

Northwest

Southwest

Assessment Area 150

Northeast

Southeast

Northwest

Southwest

Assessment Area R157A

North

N/A

South

East

West

Assessment Area R160

N/A	N/A

North

South

East

West

Assessment Area R203

Northeast

Southeast

Northwest

Southwest

Assessment Area R205

Northwest

Southeast

Northwest

Southwest

Assessment Area R208

Northeast

Southeast

Northwest

Southwest

Assessment Area R209

N/A	N/A
North	**South**
	
East	**West**

Assessment Area R211

Northeast

Southeast

N/A	N/A

Northwest

Southwest

Assessment Area R212

Northeast

Southeast

Northwest

Southwest

Assessment Area R213

Northeast

Southeast

Northwest

Southwest

Assessment Area R220

Northeast

Southeast

Northwest

Southwest

Assessment Area V62A

North

South

East

West

Assessment Area V65

North

South

East

West

Assessment Area V70

North

South

East

West

Assessment Area V72

North

South

East

West

Assessment Area V74

North

South

East

West

Assessment Area V75

North

South

East

West

Assessment Area V76A

North

South

East

West

Assessment Area V76D

North

South

East

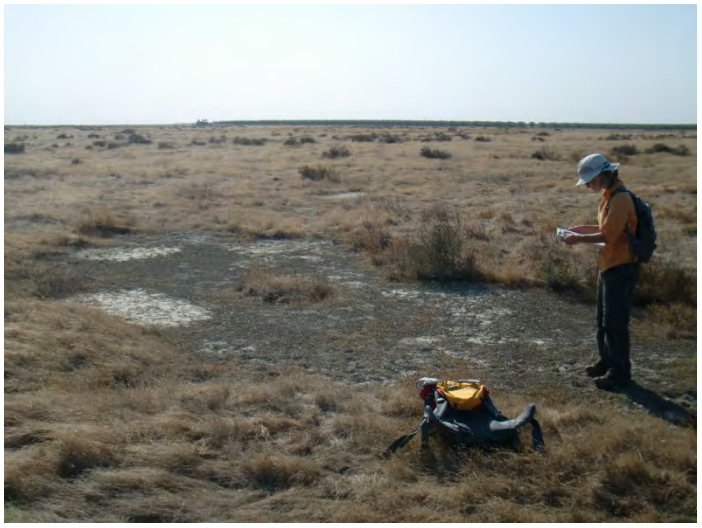
West

Assessment Area V104

North

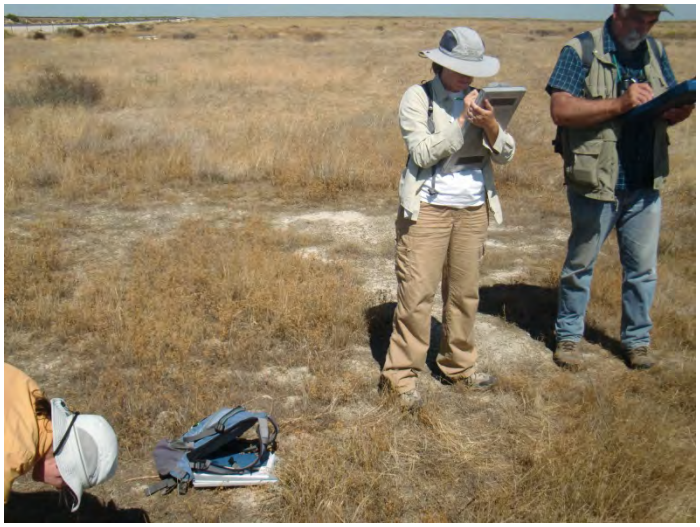
South

East



West

Assessment Area V114



North

South

East

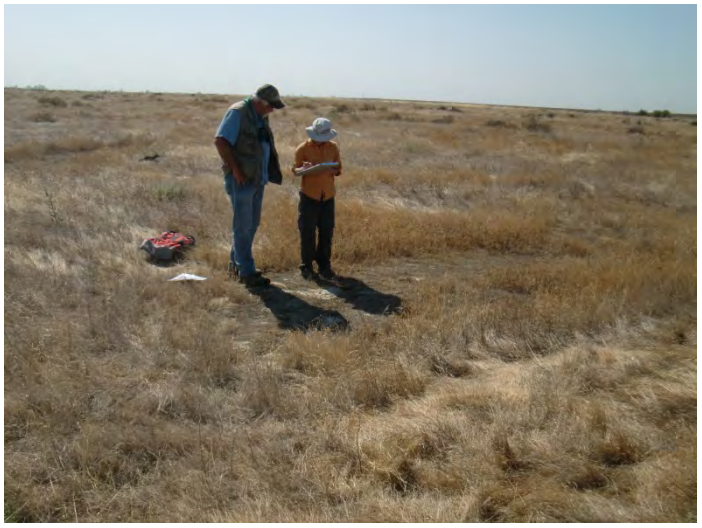
West

Assessment Area V115A

North

South

East



West

Assessment Area VS97A

North

South

East

West

Assessment Area VS99A

North

South

East

West

Assessment Area VS104A

North

South

East

West

Assessment Area VS107A

North

South

East

West

Assessment Area VS112

North

South

East

West

Assessment Area VS114A

North

South

East

West

Buena Vista Dairy D304

North

South

East

West

Buena Vista Dairy D305

North

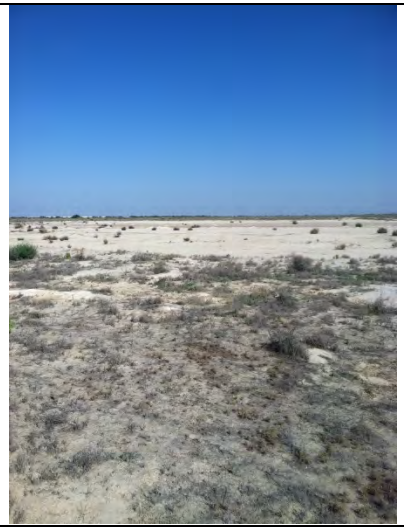
South

East

West

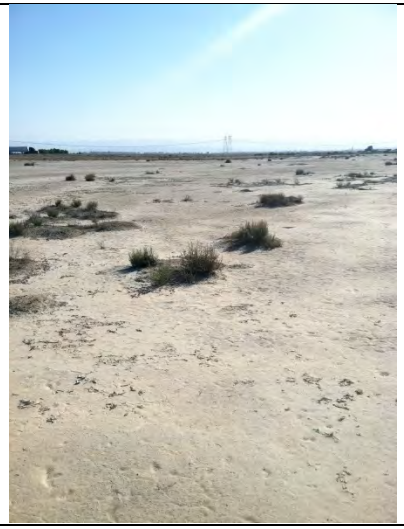
Buena Vista Dairy V305

North



South

East



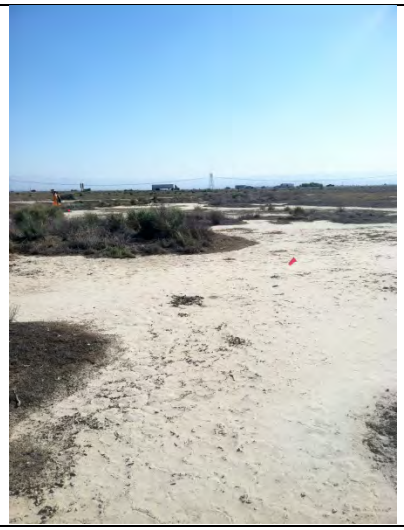
West

Buena Vista Dairy VS305

North

South

East



West

Buena Vista Dairy VS307

North

South

East

West

Davis D301

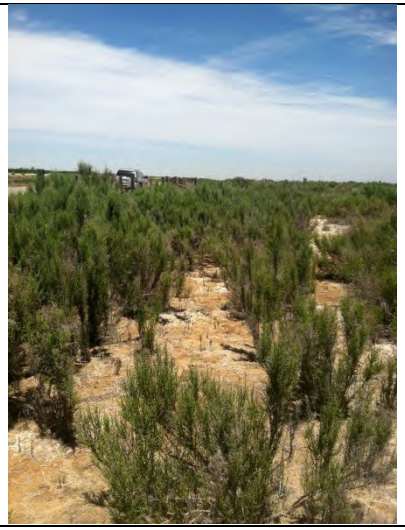
North

South

East

West

Davis D301A



North

South

East

West

Staffel V301

North

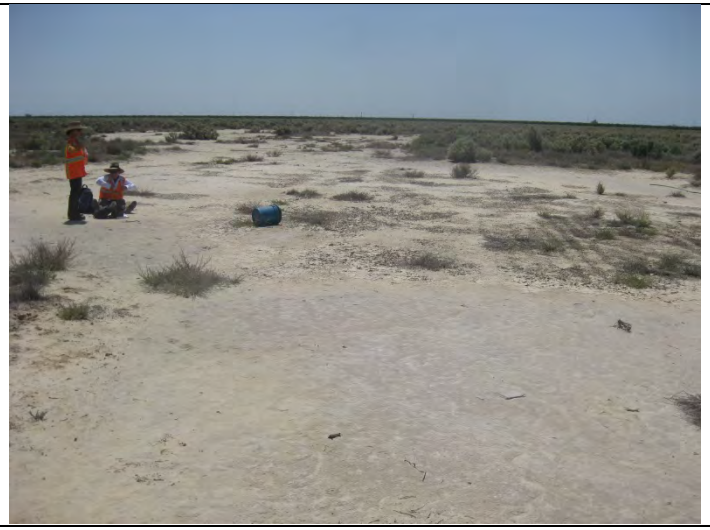
South

East

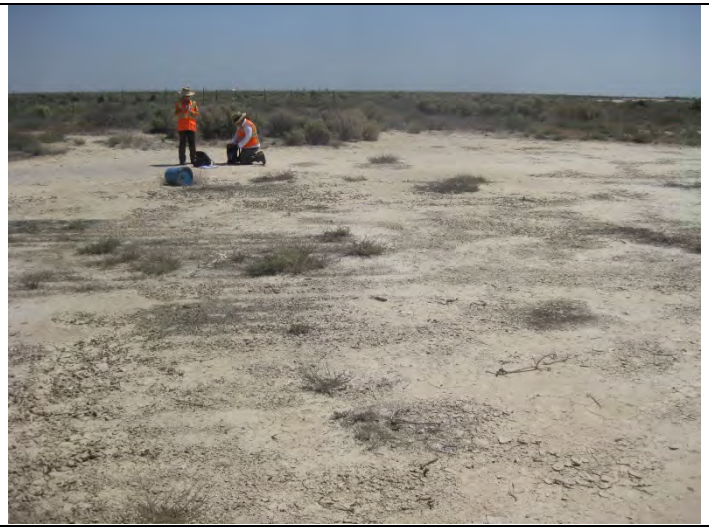
West

Staffel V302

North



South



East

West

Te Velde R300

Upstream

Middle Left

Middle Right

Downstream

Te Velde R302

Upstream

Middle Left

Middle Right

Downstream

Valadez D303

North

South

East

West

Valadez V303

North

South

East

West

Yang VS300

North

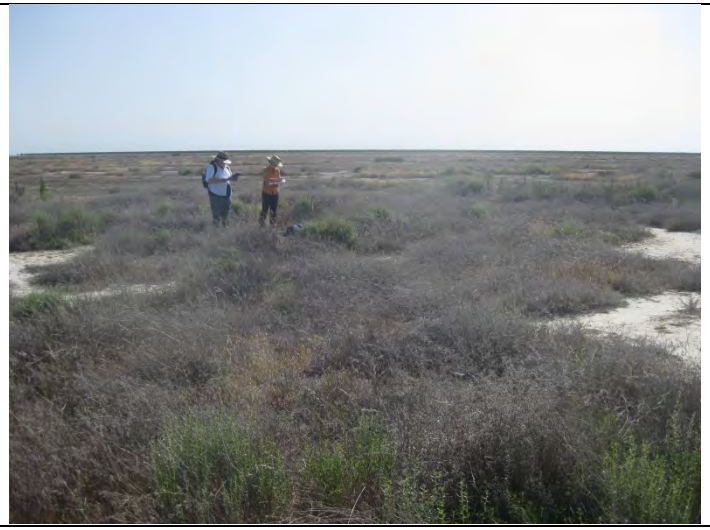
South

East

West

Yang VS301

North



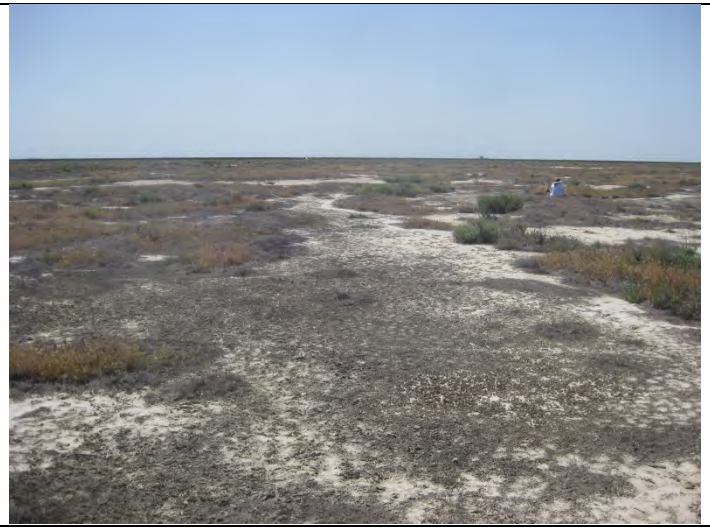
South

East

West

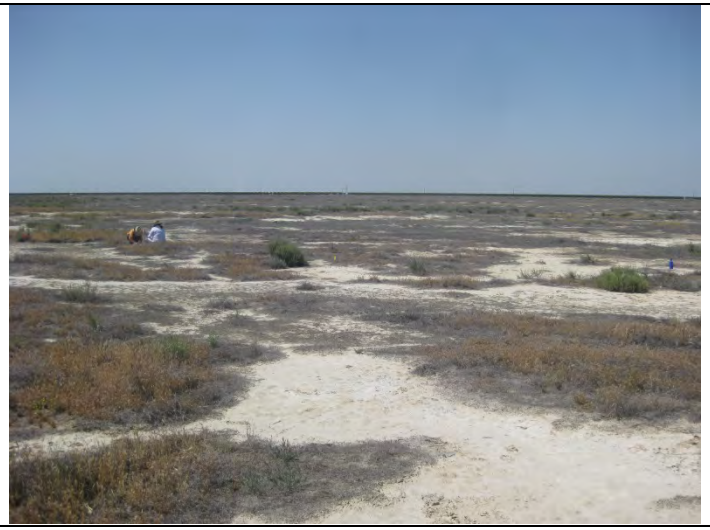
Yang VS303

North



South

East



West

Clark River Ranch R401

Upstream

Middle Left

Middle Right

Downstream

Clark River Ranch R402

Upstream

Middle Left

Middle Right

Downstream

Appendix E
Summary Table of Stressors

Table E-1
Summary Table of Stressors for Project AAs

Attribute	Stressor	Assessment Areas (non-bold X=stressor present and likely to have a negative effect on AA; bold X=stressor has significant negative effect on AA)																																									
		V62A	**V65**	**V70**	**V72**	**V74**	**V75**	**V76A**	**V76D**	**V104**	**V114**	**V115A**	**VS97A**	**VS99A**	**VS104A**	**VS107A**	**VS112**	**VS114A**	**D147**	**D203**	**D204**	**D205**	**D206**	**D212**	**D213**	**D214**	**R8**	**R63A**	**R66**	**R71A**	**R146**	**R149**	**R150**	**R157A**	**R160**	**R203**	**R205**	**R208**	**R209**	**R212**	**R213**	**R211**	**R220**
Hydrology Attribute (within 50 M of AA)	Point source discharges																																										
	Non-point source discharges																					X						X				X							X		X	X
	Flow diversions/ unnatural inflows																		**X**																							
	Dams																									**X**										X						
	Flow obstructions			X	X	X	X	X	X										**X**								**X**			X						X						
	Weir/drop structure, tide gates																									**X**																
	Dredged inlet/ channel																																										
	Engineered channel																														X	X										
	Dike/levees	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X	**X**									X	X	X	**X**	X	**X**		X				X	X	X	X
	Ground-water extraction																																										
	Ditches																																										
	Actively managed hydrology																		**X**	X							**X**			X										**X**	X	X	
Physical Structure Attribute (within 50 M of AA)	Filling or dumping of sediments of soils												X																														
	Grading/ compaction	X	X	X	X	X	X				X						X		**X**									X	X	X	**X**				**X**								
	Plowing/ disking																																			X	X			X	X	X	
	Resource extraction																																										
	Vegetation manage-ment	X																								X	X	X		**X**	X	X										
	Excessive sediment or organic debris from watershed																									**X**						**X**				X						
	Excessive runoff from watershed																																	X								
	Nutrient impaired																		**X**																							

Table E-1
Summary Table of Stressors for Project AAs

Attribute	Stressor	Assessment Areas (non-bold X=stressor present and likely to have a negative effect on AA; bold X=stressor has significant negative effect on AA)																																									
		V62A	V65	V70	V72	V74	V75	V76A	V76D	V104	V114	V115A	VS97A	VS99A	VS104A	VS107A	VS112	VS114A	D147	D203	D204	D205	D206	D212	D213	D214	R8	R63A	R66	R71A	R146	R149	R150	R157A	R160	R203	R205	R208	R209	R212	R213	R211	R220
Physical Structure Attribute (within 50 M of AA)	Heavy metal impaired																																										
	Pesticides or trace organics impaired																														**X**												
	Bacteria and pathogens impaired																																										
	Trash or refuse			**X**	**X**	X	X													X	X									X	X		X	X	X						X	
Biotic Structure Attribute (within 50 M of AA)	Mowing, grazing, excessive herbivory																																										
	Excessive human visitation																			X	X						X							**X**								X
	Predation and habitat destruction by non-native vertebrates																																										
	Tree cutting/ sapling removal																																X										
	Removal of woody debris																															X	X										
	Treatment of non-native and nuisance plant species	X																										X	X		X												
	Pesticide application or vector control	X																	X					X	X	X		X			**X**									X	X	X	
	Biological resource extraction or stocking																																										
	Excessive organic debris in matrix					X																																					

Table E-1
Summary Table of Stressors for Project AAs

Attribute	Stressor	Assessment Areas (non-bold X=stressor present and likely to have a negative effect on AA; bold X=stressor has significant negative effect on AA)																																									
		V62A	V65	V70	V72	V74	V75	V76A	V76D	V104	V114	V115A	VS97A	VS99A	VS104A	VS107A	VS112	VS114A	D147	D203	D204	D205	D206	D212	D213	D214	R8	R63A	R66	R71A	R146	R149	R150	R157A	R160	R203	R205	R208	R209	R212	R213	R211	R220
Biotic Structure Attribute (within 50 M of AA)	Lack of vegetation manage-ment to conserve natural resources																																											
	Lack of treatment of invasive plants							X																																			
Buffer and Landscape Context Attribute (within 500 M of AA)	Urban residential																				X	**X**	X											X	**X**								
	Industrial/commercial																				X	**X**	X											X	**X**								
	Military training/air traffic																																											
	Dams																										**X**																
	Dryland farming			X	X	X	X	X	X																					X													
	Intensive row-crop agriculture																			X						X	**X**											X	**X**	X	X	X	
	Orchards/ nurseries	X	X							X			X	X	X	X			**X**	X						**X**	**X**	X	X		**X**	**X**	X			X	X	X		X	X	X	X
	Commercial feedlots																																						X					
	Dairies																																											
	Ranching																																						X					
	Transporta-tion corridor	**X**	X							X	X	X	**X**	X	X	X	X	X	**X**							X		**X**	**X**		**X**	X	X	X	**X**	X				X	X	X	
	Rangeland																																											
	Sports fields and urban parklands																																	X										
	Passive recreation																																	X	X									
	Active recreation																										X																	X
	Physical resource extraction																																	X	X									
	Biological resource extraction																																											
	TOTAL	**7**	**4**	**5**	**5**	**6**	**5**	**4**	**3**	**3**	**3**	**2**	**4**	**2**	**3**	**2**	**3**	**2**	**9**	**5**	**3**	**2**	**1**	**1**	**1**	**4**	**11**	**7**	**7**	**6**	**9**	**6**	**10**	**8**	**10**	**3**	**5**	**2**	**3**	**8**	**7**	**9**	**5**

Acronyms:
AA = assessment area M = meter(s)

Table E-2
Summary Table of Stressors for Potential Mitigation Sites

Attribute	Stressor	Assessment Areas (non-bold X=stressor present and likely to have a negative effect on AA; bold X=stressor has significant negative effect on AA)																		
		Buena Vista Dairy					Davis		Staffel		Te Velde		Valadez		Yang			Clark River Ranch	
		D304	D305	V305	VS305	VS307	D301	D301A	V301	V302	R300	R302	D303	V303	VS300	VS301	VS303	R401	R402
Hydrology Attribute (within 50 M of AA)	Point source discharges																		
	Non-point source discharges										X	X							
	Flow diversions/ unnatural inflows										**X**	**X**							**X**
	Dams																		
	Flow obstructions						X	X											
	Weir/drop structure, tide gates																		
	Dredged inlet/ channel																		
	Engineered channel																		
	Dike/levees	X	X	X	X	X												**X**	**X**
	Groundwater extraction																		
	Ditches																		
	Actively managed hydrology																	**X**	**X**
Physical Structure Attribute (within 50 M of AA)	Filling or dumping of sediments of soils																		
	Grading/ compaction										X	X	X					**X**	**X**
	Plowing/disking										X	X						**X**	**X**
	Resource extraction																		
	Vegetation manage-ment																		
	Excessive sediment or organic debris from watershed																	**X**	**X**
	Excessive runoff from watershed																		
	Nutrient impaired																		
Physical Structure Attribute (within 50 M of AA)	Heavy metal impaired																		
	Pesticides or trace organics impaired																		
	Bacteria and pathogens impaired										**X**	**X**							
	Trash or refuse								X	X									

Table E-2
Summary Table of Stressors for Potential Mitigation Sites

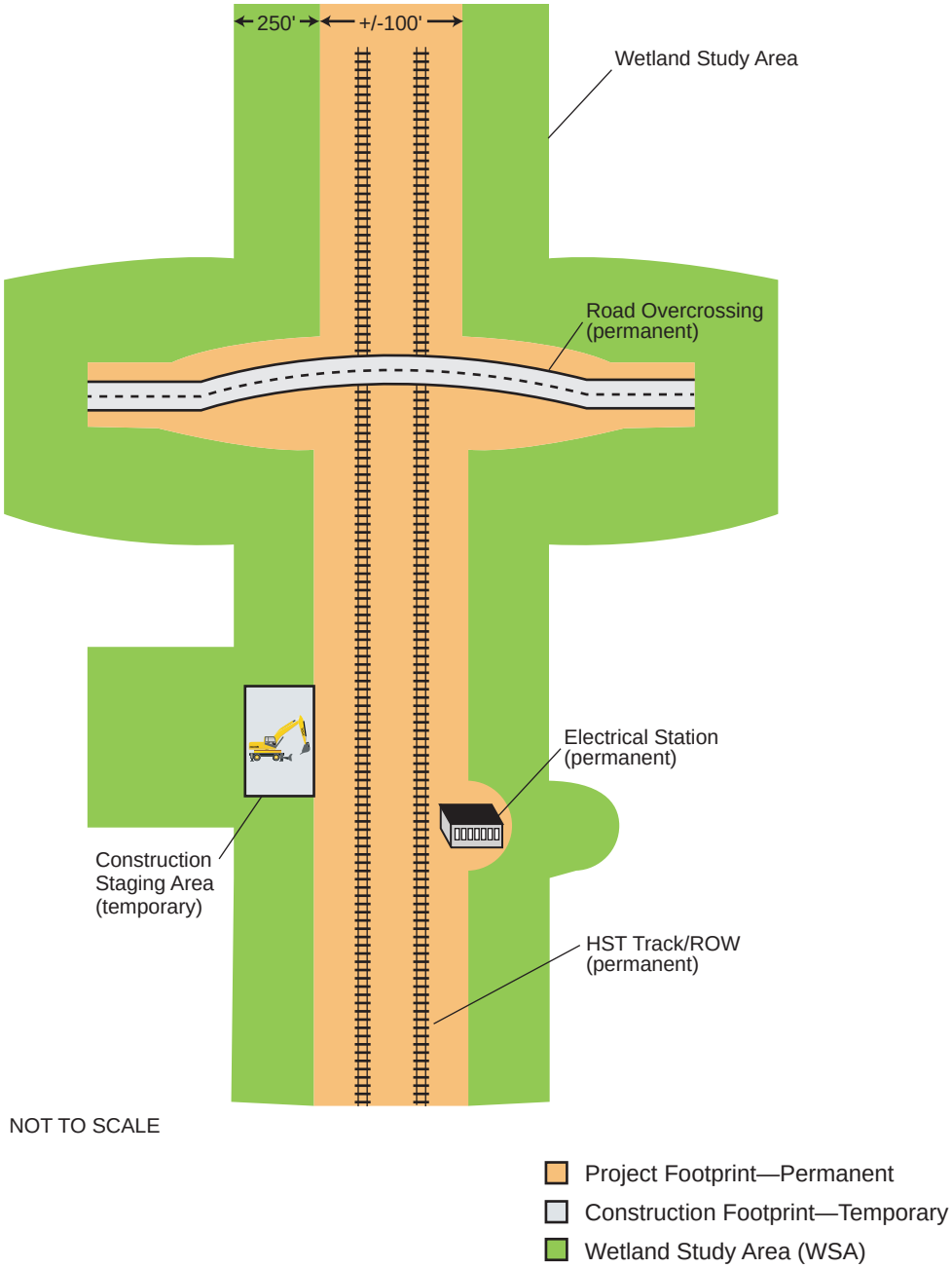
Attribute	Stressor	Assessment Areas (non-bold X=stressor present and likely to have a negative effect on AA; bold X=stressor has significant negative effect on AA)																	
		Buena Vista Dairy					Davis		Staffel		Te Velde		Valadez		Yang			Clark River Ranch	
		D304	D305	V305	VS305	VS307	D301	D301A	V301	V302	R300	R302	D303	V303	VS300	VS301	VS303	R401	R402
Biotic Structure Attribute (within 50 M of AA)	Mowing, grazing, excessive herbivory																		
	Excessive human visitation																		
	Predation and habitat destruction by non-native vertebrates																		
	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																		
	Excessive organic debris in matrix																		
	Lack of vegetation management to conserve natural resources																		
	Lack of treatment of invasive plants																		
Buffer and Landscape Context Attribute (within 500 M of AA)	Urban residential												X						
	Industrial/commercial																		
	Military training/air traffic																		
	Dams																		**X**
	Dryland farming																		
	Intensive row-crop agriculture	X	X															**X**	**X**
	Orchards/nurseries								X	X					X	X		**X**	**X**
	Commercial feedlots																		
	Dairies																		
	Ranching										X	X							
	Transportation corridor			X	X	X	X	X					X	X					
	Rangeland																		
	Sports fields and urban parklands																		
	Passive recreation						X	X											
	Active recreation	X	X																
	Physical resource extraction																		
	Biological resource extraction																		
	TOTAL	**3**	**3**	**2**	**2**	**2**	**3**	**3**	**2**	**2**	**6**	**6**	**3**	**1**	**1**	**1**	**0**	**7**	**9**

Acronyms
AA assessment area
M meter(s)

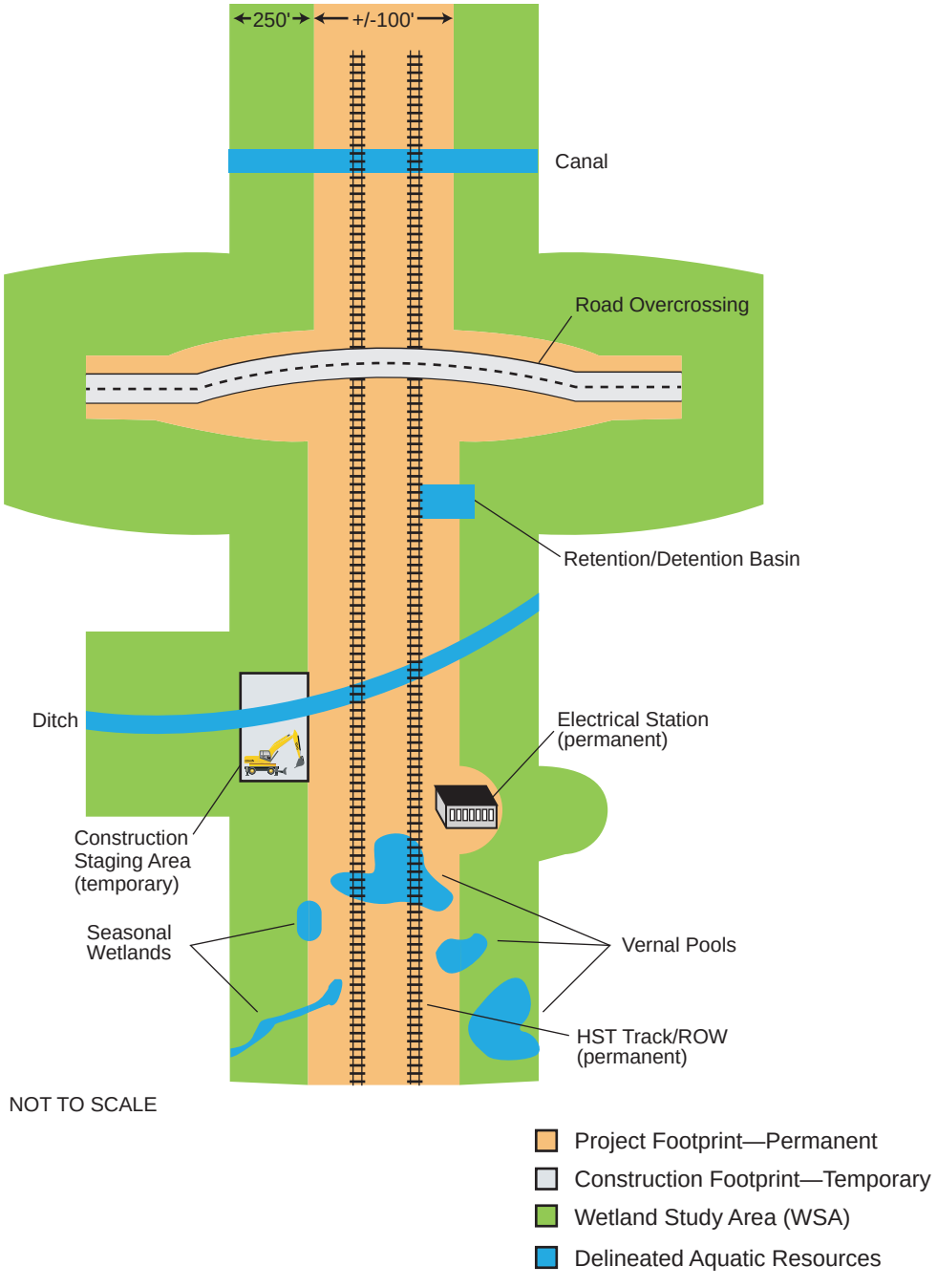
This page intentionally left blank

Appendix B
Impact Evaluation Schematics

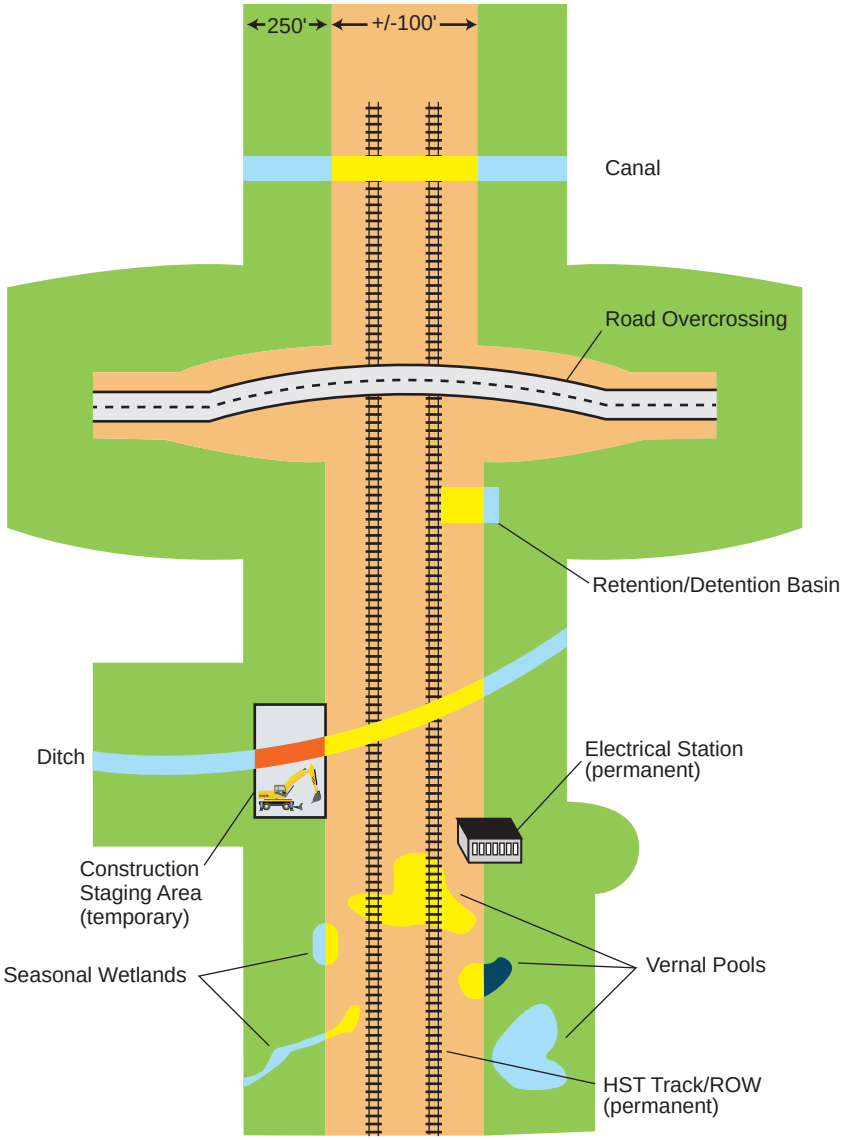
Project and Construction Footprint



Wetland Delineation



Construction and Project Impacts



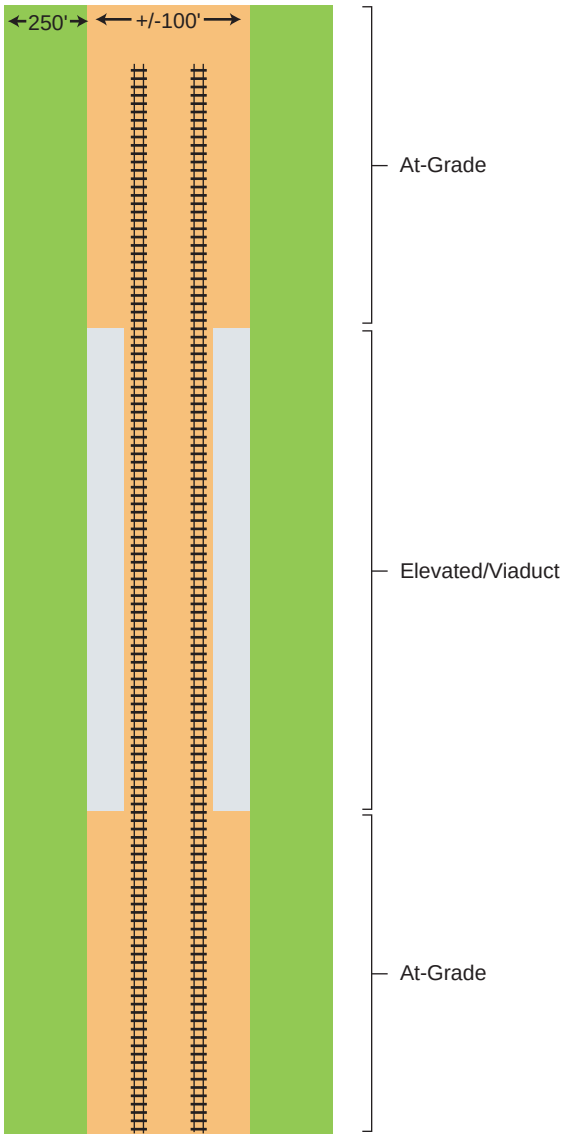
NOT TO SCALE

- Project Footprint—Permanent
- Construction Footprint—Temporary
- Wetland Study Area (WSA)

Impacts to Aquatic Resources

- Direct-Permanent (Fill)
- Direct-Temporary (Fill)
- Indirect
- Indirect-Bisected
  (Vernal Pools and Vernal Swales only)

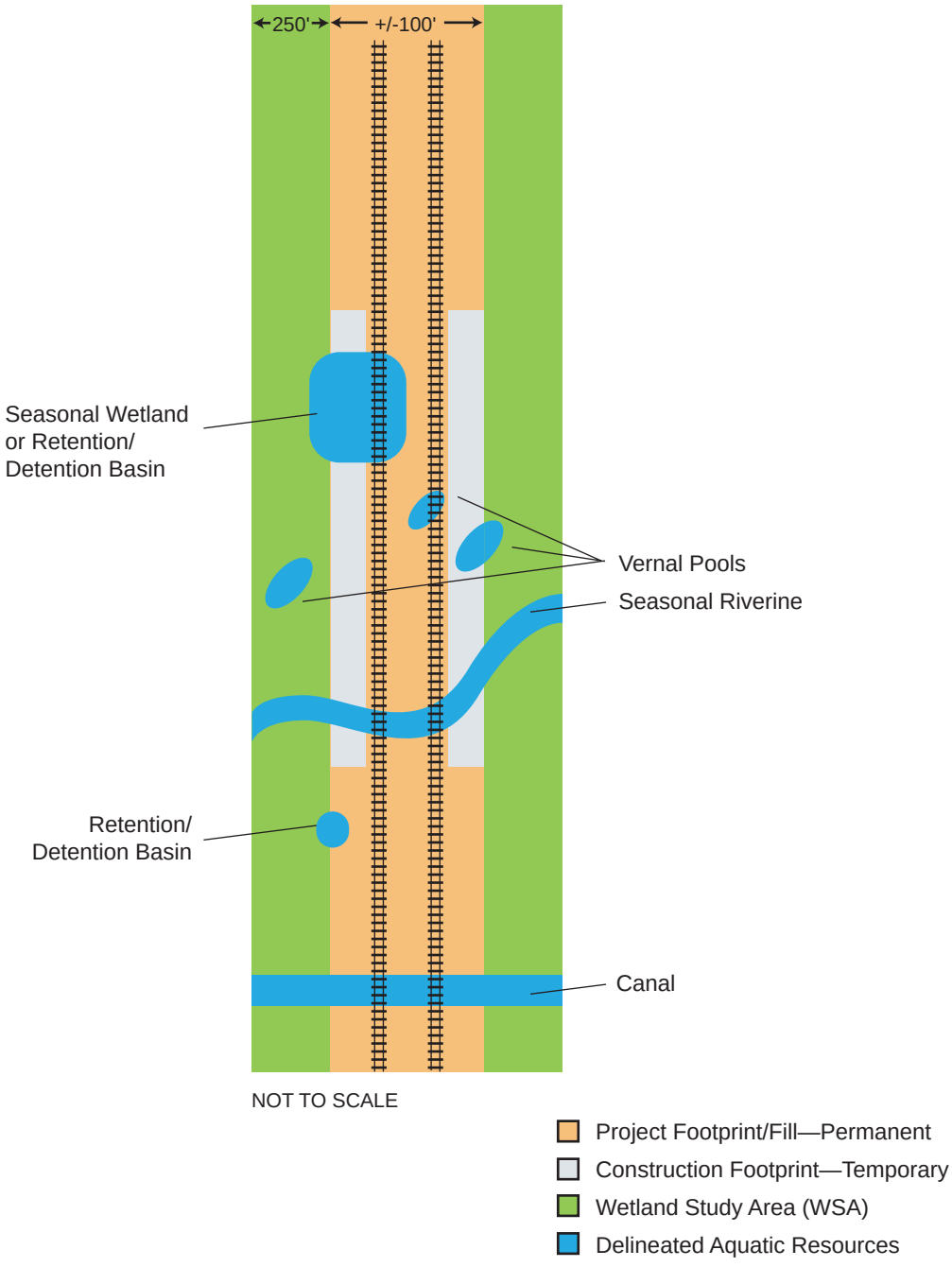
At-grade vs. Elevated



NOT TO SCALE

- Project Footprint/Fill—Permanent
- Construction Footprint—Temporary
- Wetland Study Area (WSA)

Wetland Delineation



Construction and Project Impacts