

Attachment 12512.3 – Compensatory mitigation site evaluation checklist examples.

Example 1: Lazy Day Ranch

1	Date: 2/6/2015	Corps file no.: SPL-2015-111	Project name: Lazy Day Ranch	Project Manager: Wyatt Earp
		Column A:	Column B:	Column C:
2.a	Mitigation site name:	Unit 1	Unit 2	Unit 3
	Location figure(s):	Attached	Attached	Attached
2.b	Mitigation objective(s) to improve:	Habitat	Habitat, moderation of flow/discharge	Habitat
2.c	Proposed Mitigation method:	Reestablishment	Rehabilitation	Preservation
	If enhancement, list function(s) to be increased: Function 1: Function 2 (if applicable): Function 3 (if applicable):			
2.d	Primary type(s) of site treatment:	Topographic manipulation, native veg plantings (vp inoculation)	Native veg plantings, topographic manipulation	Grazing management
2.e	Aquatic resource type (Cowardin system):	Palustrine emergent	Riparian	Palustrine emergent
2.f	Hydrology:	Depressional wetland, seasonally flooded	Intermittent	Depressional wetland, seasonally flooded
2.g	FCAM classification used: FCAM Subclass(es):	CRAM for vernal pool systems	Riverine	CRAM for vernal pool systems
2.h	Vegetation classification system used: Vegetation class(es)/subclass(s):	Manual of CA Vegetation 2015 Vernal pool	Manual of CA Vegetation 2015 Willow series	Manual of CA Vegetation 2015 Vernal pool
2.i	Vernacular/common name of proposed type of aquatic resource, if appropriate:	Vernal pool	Intermittent stream and riparian woodland	Vernal pool

3	<p>Watershed Planning and Prioritization</p> <p>a. Are mitigation proposal objectives aligned with the objective(s) of one or more appropriate watershed plans?</p>	<p>Enter: <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no/ <input type="checkbox"/> N/A</p> <p>Relevant watershed plan objective(s):</p> <p>Madera Core Vernal Pool Recovery Area</p> <hr/> <hr/> <p>Cite watershed plan(s), including title, preparer, and date:</p> <p>USFWS Vernal Pool Recovery Plan (2005)</p> <hr/> <hr/> <p>Cite applicable parts of plan(s) (by page number):</p> <p>Page III-71 of USFWS Vernal Pool Recovery Plan</p> <hr/> <hr/>	<p>Enter: <input type="checkbox"/> yes / <input type="checkbox"/> no/ <input checked="" type="checkbox"/> N/A</p> <p>Relevant watershed plan objective(s):</p> <p>No existing watershed plan covers this habitat type</p> <hr/> <hr/> <p>Cite watershed plan(s), including title, preparer, and date:</p> <hr/> <hr/> <p>Cite applicable parts of plan(s) (by page number):</p> <hr/> <hr/>	<p>Enter: <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no/ <input type="checkbox"/> N/A</p> <p>Relevant watershed plan objective(s):</p> <p>See column A_____</p> <hr/> <hr/> <p>Cite watershed plan(s), including title, preparer, and date:</p> <hr/> <hr/> <p>Cite applicable parts of plan(s) (by page number):</p> <hr/> <hr/>
---	--	---	---	---

4	<p>Watershed Analysis, Landscape Connectivity</p> <p>a. Would the type of aquatic resource proposed for mitigation help sustain and improve the overall watershed profile of the watershed?</p> <p>b. Following project completion, would the site connect to existing stream network and/or wetlands complex such that the site would not be ecologically isolated?</p> <p>c. Would the site reduce gap(s) in stream network and/or wetlands complex?</p>	<p>Enter:</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification: Vernal pool recovery is a known regional priority; site is located in close proximity to intact vernal pool complex (landscape patch).</p>	<p>Enter:</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification: Stream/riparian restoration is a known priority in the region to sustain and improve stream flow and water quality. Fill gaps in existing riparian vegetation corridor.</p>	<p>Enter:</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p>Overall step acceptable? <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification: Project would help preserve a relatively large intact patch of vernal pool landscape. Preservation by definition cannot change the landscape nor reduce any gaps.</p>
---	---	--	---	---

5a	<p>Site Potential for Proposed Method of Mitigation</p> <p><u>Is establishment or re-establishment proposed? If yes, complete 5a(a-d). If not, skip to step 5b.</u></p> <p>a. The site is not an aquatic resource.</p> <p>b. The site is not high quality terrestrial habitat (e.g., natural land cover with few observed stressors)</p> <p>c. The site is in close proximity to an aquatic resource in good functional condition. <i>For proximal site, consider FCAM scores.</i></p> <p>d. For re-establishment, is there evidence the type of proposed aquatic resource was present historically on site?</p>	<p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification: 5a-c: CRAM scores of nearby vernal pools were within 62-79 range (Vernal Pool systems module). A vernal pool system was considered to be in good functional condition if assessed scores ranged from 62-79 based on CRAM data for reference standard sites within proposed service area.</p>	<p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>	<p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>
----	---	--	--	--

5b	<p>Site Potential for Proposed Method of Mitigation</p> <p><u>Is rehabilitation or enhancement proposed?</u> <u>If yes, complete 5b(a-d). If not, skip to step 5c.</u></p> <p>a. The site is a degraded aquatic resource.</p> <p>b. For rehabilitation, would increase most, if not all, functions.</p> <p>c. The site has stressors/impacts that can be remedied in a practicable manner via proposed actions (see 2.d). <i>Complete Table 1 below.</i></p> <p>d. For enhancement, mitigation work at the site will not change the type of aquatic resource or degrade its functioning and condition.</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>	<p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>	<p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification: 5b-a: On-site CRAM scores (riverine module) were in a 66-71 range. A riverine (stream) system was considered to be in degraded functional condition if assessed scores ranged from 66-71 based on CRAM data for reference standard sites within proposed service area.</p> <p>5b-c: Stream reaches retain remnant riparian vegetation patches; reaches are not overly incised.</p>	<p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>
----	--	---	---	---

5c	<p>Site Potential for Proposed Method of Mitigation</p> <p><u>Is preservation proposed? If yes, complete 5c(a-f). If not, skip to step 6.</u></p> <p>a. Does preservation of the proposed aquatic resources provide important physical, chemical, or biological functions for the watershed? <i>Attach FCAM scores, if available.</i></p> <p>b. The aquatic resources to be preserved contribute significantly to the ecological sustainability of the watershed.</p> <p>c. Preservation is determined by the district engineer to be appropriate and practicable.</p> <p>d. The resources are under threat of destruction or adverse modifications.</p> <p>e. Proposed preservation would be done in conjunction with aquatic resource restoration, establishment, and/or enhancement activities.</p> <p>f. The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to state resource agency or land trust).</p>	<p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>	<p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>	<p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification: 5c-a: The on-site vernal pool systems were considered to be in good functional condition because CRAM scores were within 62-79 range (based on CRAM data for reference standard sites within proposed service area). 5c-d: The site is not under threat of new development; preservation should include active site management to sustain and improve current conditions (e.g., low impact grazing).</p>
----	--	--	--	---

6	<p>Site Potential for Sustained Ecological Performance over Time</p> <p>a. Does site have natural buffer of suitable width to attain mitigation objectives listed in step 2.b above?</p> <p>b. Does site have appropriate hydrology (as demonstrated by a water budget) to meet proposed mitigation site criteria listed in step 2 above?</p> <p>c. Does site have appropriate soils to meet proposed mitigation site criteria listed in step 2 above?</p> <p>d. Is site free of known contaminants?</p>	<p>Enter:</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification: Proximity to intact natural vernal pool area will “anchor” reestablishment. No known listed contamination site nearby based on review of Envirostor database.</p>	<p>Enter:</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification: Existing patches of riparian area will help “anchor” rehabilitation. No known listed contamination site nearby based on review of Envirostor database.</p>	<p>Enter:</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification: Site is part of a relatively large natural area adding to site resilience/resistance to stress. No known listed contamination site nearby based on review of Envirostor database.</p>
---	---	--	---	--

7	<p>Risk and Uncertainty</p> <p>a. Would all existing and anticipated stressors from Table 1 be resolved and therefore unlikely to jeopardize the mitigation proposal?</p> <p>b. Does proposed site include necessary water rights, as necessary, to ensure hydrology?</p> <p>c. Would the proposed mitigation be free of structures which would require on-going maintenance and incompatible uses (for example, on-going requirement to maintain channel capacity)?</p> <p>d. Do local planning documents/policies envision the surrounding natural landscape as open space such that landscape-scale connectivity would be maintained or improved (in other words, no zoning changes or planned development are anticipated which would pose a barrier to natural drainage and the movement of wildlife)?</p>	<p>Enter:</p> <p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p>List <i>unresolved</i> existing and/or anticipated stressor(s) and describe magnitude of effect:</p> <p>___ on-going drought _____</p> <hr/> <hr/> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no / <input type="checkbox"/> N/A</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification: 7a: Drought conditions will continue to pose risk that may be accounted for in mitigation credit determinations</p>	<p>Enter:</p> <p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p>List <i>unresolved</i> existing and/or anticipated stressor(s) and describe magnitude of effect:</p> <p>Chronic hydromodification /disturbed stream flows caused by up-watershed intensive (ag) land use. Also drought conditions.</p> <hr/> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no / <input type="checkbox"/> N/A</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification: 7a: Stress will not likely “overwhelm” project design. 7a: Drought: see column A</p>	<p>Enter:</p> <p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p>List <i>unresolved</i> existing and/or anticipated stressor(s) and describe magnitude of effect:</p> <p>___ See column A _____</p> <hr/> <hr/> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no / <input type="checkbox"/> N/A</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification: See column A</p>
---	---	---	--	--

8	<p>Final Evaluation</p> <p>a. List number of final overall “yes” and “no” answers above (acceptable or not). Total answers should be five (5) unless a watershed plan is not available (in that case 4). Most steps must be acceptable for a mitigation proposal to be found environmentally acceptable; however, in some cases, a single “no” may render a proposal unacceptable.</p>	<p>Number of steps that would be acceptable (“yes” answers at bottom of each step): <u> 5 </u></p> <p>Number of steps that would not be acceptable (“no” answers at bottom of each step): <u> 0 </u></p> <p>In summary, are activities in column A appropriate for this site?: <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM Justification:</p>	<p>Number of steps that would be acceptable (“yes” answers at bottom of each step): <u> 4 </u></p> <p>Number of steps that would not be acceptable (“no” answers at bottom of each step): <u> 0 </u></p> <p>In summary, are activities in column B appropriate for this site?: <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM Justification: Step 3 = NA: Objectives are not in conflict with an existing watershed plan because no appropriate watershed plan exists.</p>	<p>Number of steps that would be acceptable (“yes” answers at bottom of each step): <u> 5 </u></p> <p>Number of steps that would not be acceptable (“no” answers at bottom of each step): <u> 0 </u></p> <p>In summary, are activities in column C appropriate for this site?: <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM Justification:</p>
9	<p>Overall conclusions:</p> <p>The proposed mitigation site will provide a balanced portfolio of aquatic resource types and mitigation methods needed to help sustain and improve the abundance, diversity and condition of aquatic resources in the proposed bank service area. The large size of the bank project area and its inclusion of, connectivity to, relatively natural lands will help support attainment of performance standards. Mitigation credit determinations should take into account “uncertainty” associated with rehabilitation in times of extended drought including the effects of climate change (i.e., difficult to restore ecosystems in drought conditions). Credit determinations for preservation should take into account the relatively low to moderate level of threat to the project site.</p>			

Table 1. Stressor List for step 5b above. Review proposed mitigation site and mitigation project design. Check observed stressors in column 1. Check stressors in column 2 that can be reduced or eliminated via proposed mitigation actions in step 2.d. Describe the magnitude of each observed stressor and explain whether it can be reduced or eliminated. *Note: project design features are intended to reduce or eliminate existing and future onsite disturbance (stressors), and improve aquatic resource functions. Also note: Project design features that reduce or eliminate site disturbance (stressors) will improve the ecological condition of the site. A site in good condition functions at levels comparable to its aquatic resource type at reference sites.*

Example water quality stressors:	1. Observed	2. To be reduced/eliminated	3. PM explanation (if appropriate)
Point source discharges features (outfall, discharge pipes)	<input type="checkbox"/>	<input type="checkbox"/>	
Obvious unnatural concentrations of salts (salt encrustation)	<input type="checkbox"/>	<input type="checkbox"/>	
Unnatural odors, foam, oil sheen	<input type="checkbox"/>	<input type="checkbox"/>	
Formation of heavy algal mats	<input type="checkbox"/>	<input type="checkbox"/>	
Turbidity in water column	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	
Example hydrologic regime stressors:			
Agricultural tiles, siphons or pumps	<input type="checkbox"/>	<input type="checkbox"/>	
Ditches, dikes, levees or berms	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Col A & C: Ponding/hydromodification of vernal pools adjacent/bisected by fences and roads
Other water control structures	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Col B: Unit 3 (Riverine rehabilitation area) – stream flows impacted by upstream water withdrawals and ag return flows. On-going drought.
Example physical structure stressors:			
Evidence livestock or feral animals trampling and substrate compaction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Col A & C: Grazing impacts observed in all of the units. Proposed grazing plan to minimize future impacts.
Past dredging and fill activity	<input type="checkbox"/>	<input type="checkbox"/>	
Off road vehicle use	<input type="checkbox"/>	<input type="checkbox"/>	
Plowing and disking	<input type="checkbox"/>	<input type="checkbox"/>	
Dumping of trash	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Col B: Some areas of stream incision in Unit 2.
Example vegetation stressors:			
Invasive species	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Col A & C: Italian ryegrass (<i>Lolium multiflorum</i>) and similar invasives observed at moderate levels in the three units. Invasive species control plan should reduce occurrence.
Mechanical plant removal or mowing	<input type="checkbox"/>	<input type="checkbox"/>	
Intensive grazing by livestock or feral animals	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Col A & C: Grazing impacts observed in all of the units. Natural riparian regeneration likely constrained by grazing and

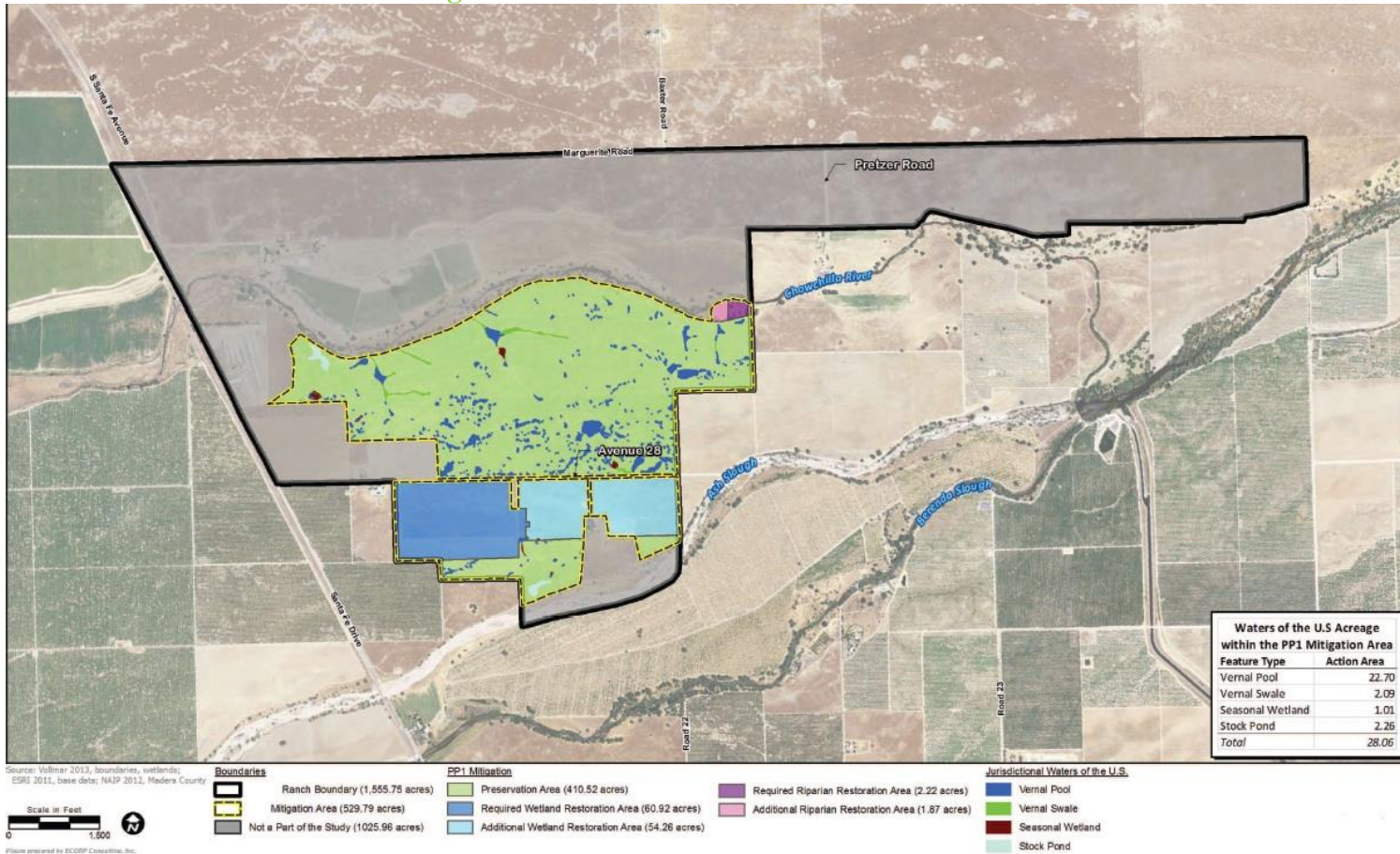
			hydromodification Proposed grazing plan to minimize future impacts
Chemical vegetation control	<input type="checkbox"/>	<input type="checkbox"/>	
Intentional burning	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	

HYPOTHETICAL “MITIGATION SITE”

“Unit 1” - Vernal Pool Reestablishment in **blue**

“Unit 2” - Episodic stream and riparian rehabilitation in **beige/purple**

“Unit 3” – Vernal Pool Preservation area in **green**



Example 2: Del Norte Site

1	Date: 20140402	Corps file no.: SPN-2014-XXXX	Project name: Del Norte	Project Manager: G. Clooney
		Column A:	Column B:	Column C:
2.a	Mitigation site name:	Del Norte mitigation site		
	Location figure(s):	See below		
2.b	Mitigation objective(s) to improve:	habitat		
2.c	Proposed Mitigation method:	establishment		
	If enhancement, list function(s) to be increased: Function 1: Function 2 (if applicable): Function 3 (if applicable):			
2.d	Primary type(s) of site treatment:	topographic/substrate manipulation		
2.e	Aquatic resource type (Cowardin system):	palustrine		
2.f	Hydrology:	saturated (groundwater driven)		
2.g	FCAM classification used: FCAM Subclass(es):	slope		
2.h	Vegetation classification system used: Vegetation class(es)/subclass(s):	Sawyer, Keeler-Wolf willow series		
2.i	Vernacular/common name of proposed type of aquatic resource, if appropriate:	willow thickets		

3	<p>Watershed Planning and Prioritization</p> <p>a. Are mitigation proposal objectives aligned with the objective(s) of one or more appropriate watershed plans?</p>	<p>Enter: <input type="checkbox"/> yes / <input checked="" type="checkbox"/> no/ <input type="checkbox"/> N/A</p> <p>Relevant watershed plan objective(s):</p> <hr/> <hr/> <hr/> <p>Cite watershed plan(s), including title, preparer, and date:</p> <hr/> <hr/> <hr/> <p>Cite applicable parts of plan(s) (by page number):</p> <hr/> <hr/> <hr/>	<p>Enter: <input type="checkbox"/> yes / <input type="checkbox"/> no/ <input type="checkbox"/> N/A</p> <p>Relevant watershed plan objective(s):</p> <hr/> <hr/> <hr/> <p>Cite watershed plan(s), including title, preparer, and date:</p> <hr/> <hr/> <hr/> <p>Cite applicable parts of plan(s) (by page number):</p> <hr/> <hr/> <hr/>	<p>Enter: <input type="checkbox"/> yes / <input type="checkbox"/> no/ <input type="checkbox"/> N/A</p> <p>Relevant watershed plan objective(s):</p> <hr/> <hr/> <hr/> <p>Cite watershed plan(s), including title, preparer, and date:</p> <hr/> <hr/> <hr/> <p>Cite applicable parts of plan(s) (by page number):</p> <hr/> <hr/> <hr/>
---	--	--	---	---

4	<p>Watershed Analysis, Landscape Connectivity</p> <p>a. Would the type of aquatic resource proposed for mitigation help sustain and improve the overall watershed profile of the watershed?</p> <p>b. Following project completion, would the site connect to existing stream network and/or wetlands complex such that the site would not be ecologically isolated?</p> <p>c. Would the site reduce gap(s) in stream network and/or wetlands complex?</p>	<p>Enter:</p> <p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p>PM justification: Proposed established wetlands are in an unnatural position in the landscape.</p>	<p>Enter:</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>	<p>Enter:</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>
---	---	--	--	--

5a	<p>Site Potential for Proposed Method of Mitigation</p> <p><u>Is establishment or re-establishment proposed?</u> <u>If yes, complete 5a(a-d). If not, skip to step 5b.</u></p> <p>a. The site is not an aquatic resource.</p> <p>b. The site is not high quality terrestrial habitat <i>(e.g., natural land cover with few observed stressors)</i></p> <p>c. The site is in close proximity to an aquatic resource in good functional condition. <i>For proximal site, consider FCAM scores.</i></p> <p>d. For re-establishment, is there evidence the type of proposed aquatic resource was present historically on site?</p>	<p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification: Site has potential for establishment but not for connectivity to existing, high functioning waters of the U.S.</p>	<p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>	<p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>
----	--	---	--	--

5b	<p>Site Potential for Proposed Method of Mitigation</p> <p><u>Is rehabilitation or enhancement proposed?</u> <u>If yes, complete 5b(a-d). If not, skip to step 5c.</u></p> <p>a. The site is a degraded aquatic resource.</p> <p>b. For rehabilitation, would increase most, if not all, functions.</p> <p>c. The site has stressors/impacts that can be remedied in a practicable manner via proposed actions (see 2.d). <i>Complete Table 1 below.</i></p> <p>d. For enhancement, mitigation work at the site will not change the type of aquatic resource or degrade its functioning and condition.</p>	<p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>	<p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>	<p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>
----	---	---	--	--

5c	<p>Site Potential for Proposed Method of Mitigation</p> <p><u>Is preservation proposed? If yes, complete 5c(a-f). If not, skip to step 6.</u></p> <p>a. Does preservation of the proposed aquatic resources provide important physical, chemical, or biological functions for the watershed? <i>Attach FCAM scores, if available.</i></p> <p>b. The aquatic resources to be preserved contribute significantly to the ecological sustainability of the watershed.</p> <p>c. Preservation is determined by the district engineer to be appropriate and practicable.</p> <p>d. The resources are under threat of destruction or adverse modifications.</p> <p>e. Proposed preservation would be done in conjunction with aquatic resource restoration, establishment, and/or enhancement activities.</p> <p>f. The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to state resource agency or land trust).</p>	<p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>	<p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>	<p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>
----	--	--	---	---

6	<p>Site Potential for Sustained Ecological Performance over Time</p> <p>a. Does site have natural buffer of suitable width to attain mitigation objectives listed in step 2.b above?</p> <p>b. Does site have appropriate hydrology (as demonstrated by a water budget) to meet proposed mitigation site criteria listed in step 2 above?</p> <p>c. Does site have appropriate soils to meet proposed mitigation site criteria listed in step 2 above?</p> <p>d. Is site free of known contaminants?</p>	<p>Enter:</p> <p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p>PM justification: Site will include future proposed development. Soils are loamy sand and won't hold water at the surface. Plan doesn't demonstrate grading will be sufficient to hold sustained water to establish wetlands.</p>	<p>Enter:</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>	<p>Enter:</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>
---	---	--	---	---

7	<p>Risk and Uncertainty</p> <p>a. Would all existing and anticipated stressors from Table 1 be resolved and therefore unlikely to jeopardize the mitigation proposal?</p> <p>b. Does proposed site include necessary water rights, as necessary, to ensure hydrology?</p> <p>c. Would the proposed mitigation be free of structures which would require on-going maintenance and incompatible uses (for example, on-going requirement to maintain channel capacity)?</p> <p>d. Do local planning documents/policies envision the surrounding natural landscape as open space such that landscape-scale connectivity would be maintained or improved (in other words, no zoning changes or planned development are anticipated which would pose a barrier to natural drainage and the movement of wildlife)?</p>	<p>Enter:</p> <p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p>List <i>unresolved</i> existing and/or anticipated stressor(s) and describe magnitude of effect:</p> <p>1: storm water runoff (low); 2: no proposed enhancement of straightened waters of the U.S. (high); 3: unnecessary road crossings (high).</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no / <input type="checkbox"/> N/A</p> <p><input checked="" type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p>PM justification: Unremedied stressors and future development would cause too much risk.</p>	<p>Enter:</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>List <i>unresolved</i> existing and/or anticipated stressor(s) and describe magnitude of effect:</p> <hr/> <hr/> <hr/> <p><input type="checkbox"/> yes / <input type="checkbox"/> no / <input type="checkbox"/> N/A</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>	<p>Enter:</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>List <i>unresolved</i> existing and/or anticipated stressor(s) and describe magnitude of effect:</p> <hr/> <hr/> <hr/> <p><input type="checkbox"/> yes / <input type="checkbox"/> no / <input type="checkbox"/> N/A</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p><input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>Overall step acceptable? <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM justification:</p>
---	---	--	--	--

8	<p>Final Evaluation</p> <p>a. List number of final overall “yes” and “no” answers above (acceptable or not). Total answers should be five (5) unless a watershed plan is not available (in that case 4). Most steps must be acceptable for a mitigation proposal to be found environmentally acceptable; however, in some cases, a single “no” may render a proposal unacceptable.</p>	<p>Number of steps that would be acceptable (“yes” answers at bottom of each step): <u> 1 </u></p> <p>Number of steps that would not be acceptable (“no” answers at bottom of each step): <u> 4 </u></p> <p>In summary, are activities in column A appropriate for this site?: <input type="checkbox"/> yes / <input checked="" type="checkbox"/> no</p> <p>PM Justification: Too little connectivity, low potential for long-term success, and too much uncertainty.</p>	<p>Number of steps that would be acceptable (“yes” answers at bottom of each step): <u> </u></p> <p>Number of steps that would not be acceptable (“no” answers at bottom of each step): <u> </u></p> <p>In summary, are activities in column B appropriate for this site?: <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM Justification:</p>	<p>Number of steps that would be acceptable (“yes” answers at bottom of each step): <u> </u></p> <p>Number of steps that would not be acceptable (“no” answers at bottom of each step): <u> </u></p> <p>In summary, are activities in column C appropriate for this site?: <input type="checkbox"/> yes / <input type="checkbox"/> no</p> <p>PM Justification:</p>
9	<p>Overall conclusions:</p> <p>The current proposal of establishment is inappropriate for this site. However, there may be potential for establishment that is better integrated with existing resources on-site. There is also potential for enhancement or rehabilitation of the existing aquatic resources. A revised plan should be considered.</p>			

Table 1. Stressor List for step 5b above. Review proposed mitigation site and mitigation project design. Check observed stressors in column 1. Check stressors in column 2 that can be reduced or eliminated via proposed mitigation actions in step 2.d. Describe the magnitude of each observed stressor and explain whether it can be reduced or eliminated. *Note: project design features are intended to reduce or eliminate existing and future onsite disturbance (stressors), and improve aquatic resource functions. Also note: Project design features that reduce or eliminate site disturbance (stressors) will improve the ecological condition of the site. A site in good condition functions at levels comparable to its aquatic resource type at reference sites.*

Example water quality stressors:	1. Observed	2. To be reduced/eliminated	3. PM explanation (if appropriate)
Point source discharges features (outfall, discharge pipes)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Obvious unnatural concentrations of salts (salt encrustation)	<input type="checkbox"/>	<input type="checkbox"/>	
Unnatural odors, foam, oil sheen	<input type="checkbox"/>	<input type="checkbox"/>	
Formation of heavy algal mats	<input type="checkbox"/>	<input type="checkbox"/>	
Turbidity in water column	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	
Example hydrologic regime stressors:			
Agricultural tiles, siphons or pumps	<input type="checkbox"/>	<input type="checkbox"/>	
Ditches, dikes, levees or berms	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Other water control structures	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unnecessary road crossings.
Example physical structure stressors:			
Evidence livestock or feral animals trampling and substrate compaction	<input type="checkbox"/>	<input type="checkbox"/>	
Past dredging and fill activity	<input type="checkbox"/>	<input type="checkbox"/>	
Off road vehicle use	<input type="checkbox"/>	<input type="checkbox"/>	
Plowing and disking	<input type="checkbox"/>	<input type="checkbox"/>	
Dumping of trash	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	
Example vegetation stressors:			
Invasive species	<input type="checkbox"/>	<input type="checkbox"/>	
Mechanical plant removal or mowing	<input type="checkbox"/>	<input type="checkbox"/>	
Intensive grazing by livestock or feral animals	<input type="checkbox"/>	<input type="checkbox"/>	
Chemical vegetation control	<input type="checkbox"/>	<input type="checkbox"/>	
Intentional burning	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	

