

Handout 5 – Draft Goals and Objectives Worksheet

Meeting 5 - 4 June 2012, Vacaville

1. Support sustainable economic activities within the region.
2. Provide reliable water supplies for multiple beneficial uses (e.g., urban, agriculture, environmental, and recreation) within the region.
3. Support more efficient use of water supplies.(note: this goal will be edited)
4. Preserve, improve, and manage water quality to meet intended uses.
 - a. Support consistent and cost effective compliance with all relevant water quality regulations and permits.
5. Reduce flood risk (where risk = chance x consequences) in the region.
6. Protect and enhance habitat and biological diversity of native species and migratory waterfowl.
 - a. Prevent, reduce, and manage invasive species
7. Preserve and enhance water-related recreational opportunities.
8. Improve understanding of evolving natural and man-made watershed characteristics and functions and respond effectively to the associated water resources management challenges and opportunities (e.g. climate change).
9. Raise awareness and improve public education regarding watershed functions, risks, and the need for sustainable water resources management.
10. Protect cultural resources.
11. Possible goal related to Disadvantaged Communities.

Handout #5 - Westside IRWM Goals and Objectives Worksheet							June 4, 2012 Vacaville Meeting
Item	Initial Draft	Plan Objectives	Qualitative Measurement	Quantitative Measurement	Addresses Plan Goal(s):	Resource Management Strategies	Projects
1	1.a., 1.b., & 1.d.	Remove Clear Lake from the USEPA 303(d) list by [date].			4		Develop lake management processes; Identify appropriate organizational structure including the designated lead agency for management of Clear Lake as a "receiving water body" to create critical infrastructure protection programs; prioritize the watershed legacy damage[need more information]
2	1.b.	Prevent colonization of water bodies within the region by Quagga Mussels, Zebra Mussels, and/or New Zealand Mud Snails.			1, 2, &6		
3	1.c.				6, & 8		Develop complete GIS-based mapping of all environmental features of the primary water bodies and their major tributaries, with identification of all contamination or pollutant sources by [date].
4	1.d.				1, 6, & 9		Establish conservancy practices by [date] to reduce fires in Wildland - Urban Interface areas (e.g., open space margins around domesticated communities surrounded by forested steep slopes highly susceptible to wildfire).
5	1.d.				1, 4, & 8		Establish a funded, multi-agency water quality data gathering, analysis, and reporting center for basic water quality information for all purposes by [date].
6	1.f.	Establish education programs incorporating emergency management responses for water supply protection and disaster response administration for all water users in the Clear Lake Basin by [date]. [Are there other topics intended?]			1, 2, & 9		Fund Lake County Office of Education; Provide funding for public library project to capture and maintain all historical documentation on the subject of the Clear Lake Watershed and Basin...

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7	1.g.						Identify range of acceptable water conservation practices to restore degraded ground water basins in Lake County in light of Yolo County Flood Control & Water Conservation District water rights.
8	1.h.	[Need clarification about statement "manage Clear Lake's beneficial uses".]					
9	1.h.				1, 2, & 4		Develop Maximum Contaminant Levels for cyanobacterial toxins in drinking water.
10	1.h.				1 & 7		Develop "reasonable" testing requirements for recreational safety per the state department of health services voluntary guidelines.
11	1.i.						Update (complete) the Clear Lake Integrated Watershed Management Plan...
12	1.j.						Update (correct) the Lake County Ground Water Management Plan;...
13	2.a.				5		Complete the Feasibility Study for the bypass of Cache Creek floodwaters around Woodland by December 2015.
14	2.b.	Establish a continuous bicycling and hiking trail that runs along the levees of: Putah Creek between Road 98 and the Yolo Bypass; the Yolo Bypass between Putah and Cache Creeks; and Cache Creek between the Yolo Bypass and Interstate 5 over the next 10 years.			7		Include bicycling and hiking trail along the right-of-way for future flood bypass around Woodland.
15	3.a.i.	Reduce mercury and methyl-mercury loads into Cache Creek and its tributaries to levels that reflect background conditions by [date].			4		Prioritize mercury loading into streams from abandoned mine areas and create a targeted program to stabilize mercury-laden sediment in upland areas.

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16	3.a.ii. & 3.a.iii.	Improve watershed function (e.g., improve infiltration, stabilize soil, reduce sedimentation, and improve hydrologic function).					Evaluate and map accelerated runoff patterns from rangeland roads and prioritize site-specific projects to meet objective; Conduct rangeland and riparian assessments to identify soil erosion and poorly function rangeland areas with low infiltration capacity. Develop rangeland infiltration map to track interaction of soil type...
17	3a.iv.	Identify and repair damaged riparian corridors that have reduced hydrologic function as a result of creek headcutting, channel entrenchment and floodplain loss. [How much? By when? Are these two different objectives (i.e. identify, then repair)?					
18	3a.v.	Reduce likelihood of catastrophic wildfire and rapid loss of watershed vegetation by [date].					Implement prescribed burns and sapling thinning.
19	3.a.vi.	Restore native vegetation along riparian corridors to enhance area biological diversity. [What native vegetation? How much? By when?]					
20	3.b.i.						Implement upland erosion control projects on private and public lands to remediate historical mercury-enriched sedimentation from the Elgin and Rathburn-Petray mine sites as identified in the Bear Creek Watershed Assessment (2009) and improve erosion resistance of mine closure covers.
21	3.b.ii.						Following removal of localized waste ore sites in the Sulphur Creek subwatershed, implement the landscape-level sediment reduction program developed by Pacific Watershed Associates (2008).

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22	3.b.iii.						Repair road- and trail-associated soil erosion sites and improve hydrologic function along 24 miles of BLM property including the Bear Creek Ranch and Walker Ridge with perimeter berms, road re-design features, water spreading and gully remediation structures, and revegetation.
23	3.b.iv.						Implement rangeland improvement measures on BLM's Bear Creek Ranch to promote infiltration and upland water retention through vegetative and soil enhancement (e.g., ripping compacted areas and regeneration of soil aggregation) solutions on critical upper watershed acreage
24	3.b.v.	Improve riparian and wetland function on public lands. [How will you measure function? Is there a target outcome? By when?]			6, 7		Reconnect incised creek channels with their former floodplains, stabilizing erosion-prone areas and restoring native vegetation. Address critical areas within BLM's 13,000-acre Bear Creek Ranch and Walker Ridge, and initiate work on to private lands where there are willing participants.
25	3.b.vi.	Control invasive plants along the Bear Creek and Sulphur Creek tributaries including eight miles of tamarisk, perennial pepperweed, and tall wheatgrass infestations. Supplement control activities with appropriate native plant revegetation.			6, 7		
26	3.b.vii.	Reduce the likelihood of catastrophic wildfire and post-fire sedimentation [Where?]			1, 4, 5, 6, & 7		Conduct prescribed burns in partnerships with CalFire, Bureau of Land Management, CA Dept. of Fish and Game, and UC Davis personnel to achieve multiple watershed goals ...

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27	3.b.viii.				1, 2, 4, 6, 8, & 9		Strengthen existing Upper Cache Creek watershed partnerships by funding watershed coordination activities (i.e., part-time watershed coordinator position, related travel, and watershed education activities).
28	4.a.i.				8		Collect new groundwater data, in areas of region not previously studied.
29	4.b.i.	Reduce mercury enriched sedimentation by 95%. [Where?] [By when?]			4		Implement management practices to address bank erosion and headcutting in upper watershed tributaries
30	4.b.ii.	Eradicate 3 miles of tamarisk infestation at the point of origin in the Upper Cache Creek Watershed. [By when?]			6		
31	4.b.iii.	Reduce invasive plant species in the upper watershed. [How much?] [By when?]			6		Increase water infiltration through the implementation of effective rangeland management and riparian restoration practices.
32	4.b.iv.	Increase water quality and availability. [What aspect of water quality?] [Availability for what?]			2 & 4		Reduce channel incision and headcutting in the upper watershed
33	4.b.v.	Restore Cache Creek and its tributaries to levels of mercury and methylmercury that reflect background conditions. [By when?] [Is Item 15 a project concept for this objective?]			4		
34	5.c.				4		Determine the controlling factors for algal blooms in Clear Lake and determine the corresponding controls identified factors.
35	5.d.						Develop funding mechanism to include downstream water users in funding of upstream water supply problems.
36	6.a.				6		Map and remove invasive Arundo donax along 10 miles of slough in the Cache Slough/Hastings Cut Complex during the planning period.

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37	6.b.	Enhance habitat values and improve water quality along 10 miles of drainage ditches and sloughs in the Primary Delta section of Solano County during the planning period.			4 & 6		
38	6.c.	Increase awareness and education programs on agricultural best management practices during the planning period.			9		
39	6.d.				6		Map and remove 10 acres of invasive weeds at Lake Solano during the planning period.
40	6.e.	Raise awareness and improve education on the effects of exotic weeds to the Cache and Putah Creek watersheds.			9		
41	6.e.	Prevent the spread of exotic weeds to the Cache and Putah Creek watersheds during the planning period.			6 & 7		
42	6.f.	Improve water quality along a 5-mile stretch of Old AlamoCreek at the eastern edge of Vacaville during the planning period. [What aspects of water quality?]			4		Remove invasive weeds that are blocking the creek channel.
43	6.g.	Enhance habitat values and improve water quality on 25 miles of canals in Solano County during the planning period. [May want to separate into a water quality objective and a enhance habitat values objective.] [What aspect of water quality?]			6 & 7		
44	6.h.	Improve water quality along a 5-mile stretch of Sweeny Creek in Solano County during the planning period. [What aspect of water quality?]			4		Remove invasive weeds that are blocking the creek channel

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45	7.a.	(Entire Region) Improve boater awareness at Lake Berryessa and Clear Lake to help prevent infestation of Dreissenid mussels into those two lakes during the planning period. [The original version of this potentially includes multiple objectives. It was parsed to emphasize improving boater awareness related to Dreissenid mussels, with education programs being one potential project to support this objective.]					Education programs
46	7.b.	(Entire Region) Improve awareness on the effects of exotic weeds to the Cache and Putah Creek watersheds to help prevent their spread during the planning period. [See comment for Item 45.]					Education programs
47	7.c.	(Entire Region) Increase awareness of water conservation measures and improve opportunities for both municipal and industrial users to implement measures during the planning period. [Why? What is the intended outcome of these?]					
48	7.d.	(Entire Region) Increase awareness and education programs for agricultural water-use efficiency measures and increase their use during the planning period. [As item above, recommend thinking about why want these? How will determine what is the appropriate level of activity?]					
49	7.e.	(Entire Region) Increase awareness and education programs for the reuse of non-potable water for non-potable purposes during the planning period. [Is the objective to increase the reuse of non-potable water? Can we set a target for amount or %?]					

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50	7.f.	(Entire Region) Monitor ongoing large-scale restoration efforts in the Delta and identify effects on drinking water quality during the planning period. [Would this be "identify potential effects on ... based on planned changes"?)					
51	7.g.	(Entire Region) Minimize encroachment on surface water supplies during the planning period. [Need clarification about what "minimize encroachment" means. Also, I recommend not using statements like minimize and maximize because they are very hard to measure.]					Increase coordination with watershed land use entities
52	7.h.	(Entire Region) Increase awareness and education programs of point and non-point source pollutants and minimize their effects on water quality during the planning period. [Seems like this is mostly about preserving water quality (would want more specifics) and the education re: the effects of different pollutant sources is one way to preserve water quality.]					
53	7.i.	(Entire Region) Increase awareness and education programs on water quality management measures for landowners adjacent to drinking water delivery canals during the planning period. [Will need to address comments similar to those offered above on Items 53 - 69 .]					
54	7.j.	(Entire Region) Increase awareness and education programs on storm water attenuation measures for landowners adjacent to creeks and streams during the planning period.					
55	7.k.	(Entire Region) Monitor agricultural runoff and improve runoff water quality during planning period.					
56	7.l.	(Entire Region) Increase understanding of poor quality groundwater and utilize it as a potential new water supply during the planning period.					

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57	7.m.	(Entire Region) Increase understanding of flood hazard areas and update flood hazard mapping during the planning period.					
58	7.n.	(Entire Region) Increase understanding of the benefits of utilizing native vegetation to control erosion and sedimentation and utilize native vegetation in flood control projects.					
59	7.o.	(Valley Floor) Increase understanding of the Putah-Tehama groundwater basin resources during the planning period.					
60	7.p.	(Valley Floor) Augment existing salmon spawning beds in Putah Creek with additional spawning gravel during the planning period.					
61	7.q.	(Valley Floor) Restore 25 acres of riparian forest along Putah Creek during the planning period.					
62	7.r.	(Valley Floor) Raise awareness and improve public education on the threat of New Zealand Mud Snails and prevent the risk of their movement beyond Putah Creek.					
63	7.s.	(Valley Floor) Increase understanding of making trash racks more efficient and improve water quality in the Putah South Canal during the planning period.					
64	7.t.	(Valley Floor) Increase understanding of capacity shortfalls of the North Bay Aqueduct and protect drinking water supplies for Napa and Solano Counties during the planning period.					
65	7.u.	(Valley Floor) Increase understanding of endangered species related pumping restrictions on water in the Delta and explore alternate water supplies for Delta irrigators during the planning period.					

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66	7.v.	(Valley Floor) Monitor urban and agricultural runoff water quality in the Cache Slough Watershed and identify drinking water quality and operational effects during the planning period.					
67	7.w.	(Valley Floor) Increase understanding of capacity effects of habitat restoration in Valley Floor Planning Area flood control channels during the planning period.					
68	7.x.	(Valley Floor) Increase understanding of utilizing multiple water resources and improve reliability of water supplies in the Valley Floor Planning Area.					
69	7.y.	(Valley Floor) Increase understanding of water quality benefits of habitat restoration in the Valley Floor Planning Area during the Planning period.					