Handout 1: Comments Received

Meeting 5 – 4 June 2012, Vacaville

Handout 1: Schedule

No comments received.

Handout 2: Planning Process Goals w/Track Changes

1. Lake County - Gary Hansen and Tom Smythe

    a. Goal 9: Reword to "Existing data from County-based IRWM Plans and other information relevant to the region will be used where appropriate to develop the plan."

2. Clearlake (Essential Public Information Center) - Betsy Cawn

    a. Handout #2, Planning Process Goals, refers to "County-based IRWMs (items 4 and 9), but Lake County does not have such a document. Because of that fact, and the problems inherent in the existing local documentation, I would like to know what source documents are being incorporated (by reference and/or citation), and who is making the determination of the basis for their usage in the IRWMP (Brown & Caldwell, Kirby & Associates, Lake County DWR, Central Valley Regional Water Quality Control Board program supervisors?).

    b. Handout #2, item 5, refers to the California Water Plan (Update 2013 in process), which provides a top-level reference for compliance with a larger water management planning order, but neither Handout #2 nor Handout #4 (Draft Table of Contents) indicate the inclusion of a regulatory framework for requirements of the IRWM plan, its development process, future governance, and implementation resource decision-making processes. This comment was provided at the February 6 and April 24 meetings. The "integrated" regulatory framework must include the Clean Water Act source protection and anti-degradation requirements, not just the Porter-Cologne supply-driven statutory codes.

Handout 3: Draft Challenges and Opportunities

1. Scotts Valley Band of Pomo Indians - Lawrence Ray

    a. While the points contained in this handout are consistent with the language of several public laws and regulations (i.e. the Clean Water Act) applicable to our

region, the assessment and quantification of mercury from a variety of sources is a significant specific challenge in the Upper Putah Creek Watershed.

b. In addition, some livestock operations in the watershed may be overgrazing and permitting inappropriate overuse of the creek by a significant number of animals. Further monitoring of the creek water quality needs to be done .

c. Lastly, while the population is relatively small, and groundwater supplies appear to be adequate to accommodate a significant amount of future development, the low volume of existing springs in the Upper Putah Creek watershed and relatively low summer/fall flows , there are concerns that increases in demand on groundwater could adversely affect the quantity and quality of surface flows in the creek.

2. Lake County – Gary Hansen and Tom Smythe

   a. Entire Region

      i. Suggest no acronyms like NCCP/HCP (page 1)

      ii. Bullet 5 should be revised to say, "…quagga mussels, zebra mussels, and/or New Zealand mud snails."

      iii. Last bullet, page 1: Additional actions causing degradation of soils that should be included are draining and filling of wetlands, urban stormwater runoff.

      iv. An additional bullet for the is "Improve inter-governmental coordination

   b. Upper Cache Creek Planning Area

      i. The first bullet is not clear to me. This appears to relate to the Clear Lake Nutrient TMDL. Two suggested verbiages are "Meet Nutrient TMDL for Clear Lake" or "Reduce nuisance cyanobacteria (blue-green algal) blooms on Clear Lake."

      ii. The second bullet should also address the mercury TMDL's for Clear Lake and Sulphur Creek.

      iii. The third bullet is more of a region wide issue, as this geology exists in all three planning areas. It has also been suggested to use additional descriptors for "ultramafic soils".

      iv. A fifth bullet should be added; "Address geothermal development and water quantity and quality impacts."

      v. A sixth bullet should be added; "Reduce flood risk of Clear Lake flooding."

vi. A seventh bullet should be added; "Limited groundwater storage becomes critically short during droughts."

c. Upper Putah Creek Planning Area: Bullets could include:

i. Limited groundwater storage becomes critically short during droughts.

ii. Over 100 mercury mines and prospects have not been addressed as potential contamination sources.

iii. Address geothermal development and water quantity and quality impacts.

iv. A portion of Hidden Valley Lake is subject to deep flooding due to non-accredited levees.

d. Valley Floor Planning Area:

i. Several of the bullets here are really regional issues, i.e. the first 2 bullets. We need to be either more specific in the other areas, or move some of these bullets to Entire Region.

Handout 4: Draft Outline

1. Lake County – Gary Hansen and Tom Smythe

a. The Agricultural Community needs to be added to the stakeholders.

b. Section 1.2.3.7 should be Water Purveyors

c. The Region Description should include a section on Regulatory Framework.

d. All assessments should include a section on Recreation.

2. Clearlake (Essential Public Information Center) - Betsy Cawn

a. Please add the regulatory framework discussion (see notes above).

b. Please include Agriculture in the Stakeholders list, and change the title of subsection 1.2.3.7 from "Mutual Water Companies" to "Water Purveyors."

c. In subsection 2.8.1, please add Clear Lake as a surface water hydrological feature.

d. In subsection 1.2.4, please add a subsection to cover public access to plan and management resources (public information process).

Handout 5: Info Sheets

Handout 5.1 – People

1. Lake County – Gary Hansen and Tom Smythe

    a. Section B: Should mention that there are no incorporated cities and change the location from Coyote Valley to Hidden Valley Lake.

    b. Section C: Delete the word mountainous, as neither Upper Lake or Kelseyville are mountainous or on the edge of Clear Lake

    c. Programmatic Issue: When referring to the body of water, it should read "Clear Lake". When referring to the incorporated city, it should read "Clearlake".

    d. Section D: The Rumsey tribe should be included.

    e. Table 5-1D: I believe these are county wide statistics, not just the planning areas. This should be noted somewhere.

    f. Figure 5-1B: "Planning Areas" shows up twice in the legend.

    g. Figure 5-1C: A comment was made at the meeting about growth rates being overly optimistic based on the current recession. Given that the long term trend follows the historic growth rates, the anticipated growth should not be changed. We also note that Yolo and Lake County's are not mentioned in the source note.

Handout 5.2 - Land Use

2. Lake County – Gary Hansen and Tom Smythe

    a. The cities of Lakeport, Clearlake and Woodland are not mentioned in Section 3, page 2.

    b. Section 4.4.1: Not really sure how this is inconsistent with Westside IRWM objectives

Handout 5.3 – Applied Water
Handout 5.4 – Watersheds and Water Systems

3. Scotts Valley Band of Pomo Indians – Lawrence Ray

    a. Figure 5-4D Water Infrastructure : Lakeport Dam needs to be corrected

4. Lake County – Gary Hansen and Tom Smythe

a. Page 1, paragraph 2: We would classify Cache Creek as an "intermittent stream", not an "ephemeral stream", as it naturally flowed for extended periods without rain. We note that in several years between 1903 and 1914, Cache Creek at Yolo recorded flow for the entire year. An ephemeral stream only flows in response to rainfall and dries up soon afterward, as is typical in desert environments

b. Table 5-4D: We note that although hydroelectric facilities exist at Cache Creek Dam, they have not been operated for several years

c. Page 4, paragraph 3: We note that Clear Lake is not a reservoir, but a natural lake that existed for over 450,000 years. Only since the construction of Cache Creek Dam in 1914, it has been managed as a reservoir

d. Table 5-4F: The following agencies also provide Wastewater Management: Hidden Valley Lake CSD, Clearlake Oaks County Water District, Konocti Harbor Resort and Spa, City of Lakeport, Kelseyville County Waterworks District #3, and CSA #16 – Paradise Valley (WW may actually be part of other district)

e. Figure 5-4A; Delete "Upper" for both the Cache Creek and Putah Creek watersheds

f. Figure 5-4D: Delete "Lakeport Dam"

5. Clearlake (Essential Public Information Center) - Betsy Cawn

a. Page 10, lists as a source document "Lake County Inventory and Analysis," but does not refer to the "Clear Lake Integrated Watershed Management Plan," "Lake County Ground Water Management Plan," or the "Clear Lake Watershed Sanitary Survey," all of which make significant declarations regarding the Upper Cache Creek Watershed and Clear Lake Basin management issues. Unfortunately, the "Clear Lake Integrated Watershed Management Plan" is not a "whole lake" or "whole watershed" plan, and the "Lake County Ground Water Management Plan" was not legally authorized for release by the lead agency participants (in violation of statutory code); two of the lead agency participants did not concur with the findings of the County's documentation, but the document was approved by the County's Board of Supervisors without regard to participant issues. Proposition 84 and future funding resources that may be available to "complete" or "update" these documents need to be considered as necessary to support the underpinnings of the regional water management plan. If the "whole lake" is not given appropriate protection as a source water supply, the regional expectations of its future use may be detrimentally miscalculated.

Handout 5.5 – Water Supply

1. Lake County – Gary Hansen and Tom Smythe

    a. Figures 5-5C and 5-5D: The Urban water use figures appear to be low. These should be verified against the Lake County Water Demand Forecast.

2. Clearlake (Essential Public Information Center) - Betsy Cawn

    a. Disaster planning and management requiring water resources is a less than adequately described element of water supply planning.

    b. There is a complication with the adjucated rights held by Yolo County Flood Control & Water Conservation District that constrains the ability of upstream watershed property owners from practices that would "slow the flow," for example (creating detention basins?) -- Tom Smythe can speak directly to that constraint, or Mr. O'Halloran.
    For a number of decades, Lake County has desired to build a large reservoir in the western valley at the foot of the Cow Mountain BLM recreation area access point where the north and south forks of Scotts Creek converge in the southern end of Scotts Valley. Between that point and the convergence of Scotts and Middle Creeks (in Upper Lake), significant creek bed impacts have resulted in four feet of subsidence in the main valley, and some "dry pockets" have occurred in the Hendricks Creek watershed area.
    So the issues related to decision making for compliance with the National Pollutant Discharge Elimination System (Phase II, Small Municipal Separate Storm Sewer System) permit -- in addition to the non-point-source pollutant reduction TMDL requirements -- where both wetland and riparian habitat and natural shoreline protection are vital to success, can be hampered by the "senior rights" of YCFC&WCD.

    c. In the second bulleted item, "Direct Deliveries (Local Surface water Supply)" describes "local surface water diversions from Clear Lake, Cache Creek, and local streams such as Middle Creek. Two water purveyors, the Highlands Water Company and the City of Lakeport have limited surface water rights to Clear Lake. The remaining seventeen(17) water purveyors that obtain supply from Clear Lake purchase water from YCFCWD."

    d. There are seventeen (17) licensed water purveyors that distribute water drawn from Clear Lake to shoreline-adjacent communities, including Highlands Water Company and the City of Lakeport. One of the water purveyors is the Special Districts Department of the County of Lake, which supplies two of its ten County Service Areas with lake water, for a total of 18 actual lake water distribution/treatment systems.

e. Surface water diversion from "local streams such as Middle Creek" are for agriculture only.

f. According to the Agriculture Commissioner, Steve Hajik, there is only one agriculture operation that draws lake water; the rest use ground water or -- as noted -- stream water.

g. In the third bulleted item, "Groundwater" it states that "Groundwater is the primary water supply source in the Upper Cache Creek Planning Area." But, the majority of the domestic water supplied to the shoreline-adjacent communities comes from Clear Lake (surface water).

h. On page 8, under "Groundwater Basins," the first sentence in the second paragraph also refers to "seventeen" -- in this case as the number of groundwater basins "recognized in the Westside Region." I am not familiar with the rest of the region, but the Lake County General Plan refers to fourteen ground water basins in the county (both Upper Cache and Upper Putah watersheds).

i. The two tables (5-5D and 5-5E) are not understandable to me. The actual numbers I have heard used in relation to the allowance of supplemental water for delivery of treated effluent to the Geysers (Northwest, Southeast, and Clearlake Oaks waste water treatment sites) is 1,700 gallons per minute in Phase 1, and 7,100 gallons per minute in Phase 2. While Mr. Dellinger cites the 7,000+ acre feet per year figure, the total may be closer to 11,000 acre feet. In addition, there is a clause in the agreement between LACOSAN and the Northern California Power Agency that calls for greater quantities of supplemental water usage in periods of drought (see the LACOSAN Municipal Service Review by LAFCO).

   These numbers need to be accurately reflected in the tables 5-3A and 5-3B, under the columns describing Upper Cache Creek water usage for Municipal and Industrial demand; also those numbers need to reflect the apparently unrecognized usage of Clear Lake water supplies for the shoreline-adjacent community water service systems.

j. Water Supply, contains a table on Page 2 that does not include Municipal and Industrial water supply used by residential and commercial operators in the Upper Cache Creek Watershed and Clear Lake Basin, and that usage must include the demand for supplemental water added to treated effluent removed to the geothermal steam fields as a component of the Lake County Sanitation District waste water treatment system. Roughly 30,000 residential users of Clear Lake water supplies depend on its availability in the non-tourist season, and the number of users during heavy tourist season months (May to October) can increase the county's temporary population to upwards of 150,000. If water

quality conditions deteriorate or degrade beyond the currently known impaired status, and local ground water basins are inadequate to provide safe drinking water supplies in a disaster, the region's downstream users would likewise be imperiled. Consideration of disaster preparedness, under drought or wildfire conditions, need to be brought into the discussion in the IRWM.

Handout 5.6 – Water Quality

1. Lake County – Gary Hansen and Tom Smythe

    a. Table 5-6A: The Basin Plan lists beneficial uses in Clear Lake impaired by nutrients as Municipal and Domestic Supply (MUN), Recreation (REC-1 and REC-2), Freshwater habitat (WARM and COLD). Revise the table accordingly.

    b. Groundwater Quality section: WE have some additional groundwater quality data from CDWR for the Upper Lake and Scotts Valley aquifers, however, it has not been reduced to identify which wells are in which basins, let alone analyte ranges developed. Additional groundwater quality data was also analyzed in Big Valley for the Big Valley Groundwater Recharge Investigation Update (2003). This study will be uploaded to your filevista site.

2. Clearlake (Essential Public Information Center) - Betsy Cawn

    a. Water Quality, Page 6, Data Sources should include the Central Valley Regional Water Quality Control Board's Sacramento River Basin Plan Amendments for Control of Mercury and Nutrients in Clear Lake (the latter is contained in CVRWQCB Resolution 2006-0060; I do not know the resolution number for the mercury TMDL), as well as the NPDES Phase I permit, Waste Discharge Requirements and other regulatory impediments faced by the watershed and basin management agencies, "Clear Lake Integrated Watershed Management Plan," and the Lake County Water Inventory and Analysis.

    b. ALL regional maps need to be corrected to change the name of the City of Clearlake (to "Clearlake" from "Clearlake Highlands") and to dispel the misunderstanding that Cache Creek does not reach the Sacramento River. That latter mistake is also reflected in Handout #5.4, Watersheds and Water Systems" (page 1 of 14, second paragraph). The San Francisco Bay-Delta acknowledges that the greatest source of mercury contamination in the delta comes from the Cache Creek and Putah Creek watersheds. The Delta Tributaries Mercury Council is the organization most closely addressing this matter on behalf of the Delta Stewardship Council (which replaced the former Cal-Fed Bay-Delta board of directors). The San Francisco Estuary Institute panels of independent scientists are monitoring bio-accumulation of mercury contaminants in water fowl, and the Sulphur Bank Mercury Mine in the Upper Cache Creek Watershed and Clear Lake Basin is a USEPA-listed Superfund site

because of its contribution of mercury (and acid mine waste) to Clear Lake. Please make this explicitly understood in all the IRWM documents.

Handout 5.7 – Flood Risk

1. Lake County – Gary Hansen & Tom Smythe

    a. Upper Cache Creek Planning Area:

        i. People and Property at Risk: This only describes flooding from Clear Lake. Additional flooding occurs from streams within the watershed, including some deep flooding behind soon to be deaccredited levees in Upper Lake. We have uploaded the draft Floodplain Management Plan (FPMP) to the filevista site.

        ii. Description of Flood Hydrology: Again, this only describes Clear Lake flooding.

            1. Item 2: The maximum peak flow into Clear Lake is estimated at 81,000 cfs (500-yr event, USACE routing studies for Lake County FIS, 1975) (61,000 for 100-yr event). We actually calculated a peak 6-hr average inflow during the January 1995 event in excess of 50,000 cfs.

            2. Item 3: When discussing outlet channel capacity, it is important to correlate this to lake level. The 4,700 cfs channel capacity is when Clear Lake is at 11.0 ft Rumsey, about a 25-year event.

            3. Item 4: Include 1995 and 1998 in the list of flood events. 1998 was actually the highest lake level since the construction of Cache Creek Dam in 1914 and under the current hydraulic conditions. I am assuming you have counted the exceedances properly and I do not need to verify. 2011 was actually the first exceedance of flood stage since 1998.

            4. Include some information on stream flooding from the FPMP.

        iii. Potential Future Conditions:

            1. Sediment deposition in Clear Lake is not really an issue. Filling of the floodplain above the normal high water has a bigger impact on flooding. Not sure should include either.

            2. Increased development in the floodplains is an issue. People want to live near the lake and there is pressure to develop the

shoreline further, increasing flood risk. We also receive development proposals (at least we did 5 years ago) for development in alluvial floodplains.

b. Upper Putah Creek Planning Area:

i. Description of Flood Hydrology:

1. Item 1: This is not correct, as levees were constructed in Hidden Valley Lake. These levees are not accredited, and place approximately 260 properties at risk of deep flooding (up to 10 feet). This is partially addressed in Item 3.

c. General Flood Information:

i. Page 8: An additional consequence of channelization and levee construction is decreased water quality.

Handout 5.8 Environmental

1. Lake County – Gary Hansen & Tom Smythe

a. Table 5-8B: Please verify the species on this list. As a minimum, several species were immediately noted as missing, including the Clear Lake Hitch (*Lavinia exilicauda chi*, the Northwestern Pond Turtle (*Clemmys marmorata marmorata*), the *Foothill* yellow-legged frog (*Rana boylii) and the* Northern red-legged frog (*Rana aurora aurora*). Attached is an excerpt from an environmental document showing the species at Highland Springs. This is not a comprehensive list. We note in the sources listed at the bottom of the table that no Lake County sources are listed. I checked with our Community Development Department, and they do not have a single comprehensive list for Lake County and rely on the CNDDB and biological surveys. They may be contacted at 707-263-2221.

b. Table 5-8C: We noted that Pacific Fisher is not listed in this table, although it is in Table 5-8B and shown on Figure 5-8F.

c. Figure 5-8G: We note that the circle for Boggs Lake Hedge Hyssop is not located at Boggs Lake (where the western Slender Orcutt Grass is shown). This is one of the issues we have had with the CNDDB.

2. Clearlake (Essential Public Information Center) - Betsy Cawn

a. The general issues of cyanobacterial water impairments and a much more drastic recognition of the potential for a water supply impact to all regional partners consequent to infestation of our water bodies by

the Quagga/Zebra mussels should be much more prominent in the discussion.

b. Environmental Information, Page 16, Table 5-8E, includes the invasive species Dreissenid (Quagga and Zebra) mussels, but does not indicate the potential water quality impairment that has been identified in the Great Lakes (promotion of cyanobacterial species resulting from Dreissenid consumption of algal plant species). The Dreissenid species is not prominently mentioned in any of the previous text (such as on Page 6), and not well-enough understood as a major impact to water conveyance

3. Scotts Valley Band of Pomo Indians – Lawrence Ray

   a. Habitat: The addition of serpentine habitat would be appropriate. This area has one of the largest acreages in the world of unique serpentine botanical assemblages. In addition, there are also significant vernal pool acreages which should also be included.

   b. Special Status Species. There are some additional species missing from the species list. Most notably the Clear Lake hitch (Lavinia exilicauda) and the Western Pond turtle (Actinemys marmorata).

   c. Invasive Species: A mention/link to Cal-IPC and incorporation of their more extensive list/descriptions would be appropriate. Several species are missing which are some of the most invasive plants and pose the greatest risk are not included in Table 5-8D. Yellow star thistle (Centaurea solstitialis) frech broom (Genista monspessulana) and numerous grasses.

Handout 6: Water Balance Concept

No comments received.

Handout 7: Goals and Objectives

1. Clearlake (Essential Public Information Center) - Betsy Cawn

   a. Develop lake management processes dedicated to the objective of removing Clear Lake from the USEPA 303(d) list.

   b. In order to do that, identify the appropriate organizational structure (hierarchical, multi-agency, multi-disciplinary) including the designated lead agency for management of Clear Lake as a "receiving water body" to create critical infrastructure protection programs. (This is a thorny subject: Yolo County Flood Control & Water Conservation District is technically the "manager" of the water

body as an irrigation supply source, but the County of Lake is the designated lead agency for "lakebed" management according to 1973 state legislation sponsored by the State Lands Commission. And the Army Corps of Engineers is the lead agency in all flood control and water conservation projects in this watershed. Some kind of joint powers authority should be formed to organize the lines of authority to stop the buck-passing on the Quagga Mussel Prevention problem, at the least.)

c. Provide complete mapping (GIS-based) of all environmental features of the primary water bodies and their major tributaries, with identification of all contamination or pollutant sources.

d. Prioritize the watershed legacy damage and identify best-bang-for-the-buck restoration projects to gain greatest improvement in water quality (see item 1, above); establish conservancy practices to promote fire prevention projects in Wildland-Urban Interface areas, such as open space margins around domesticated communities surrounded by forested steep slopes highly susceptible to wildfire. Create allowances for fire prevention landscape irrigation supplies (not filtered water) drawn from the lake to promote safe communities in WUI -- and water quality improvement projects in the same geographical terrain (double ROI).

e. FOR ONCE AND FOR ALL establish funded, multi-agency water quality data gathering, analysis, and reporting center for basic water quality information for all purposes.

f. Establish education programs using the Lake County Office of Education, incorporating emergency management responses for water supply protection and disaster response administration for all water users in the Clear Lake Basin. Provide funding for public library project to capture and maintain all historical documentation on the subject of the Clear Lake Watershed and Basin, aligned with State Record Management practices, and make all research records available to the public.

g. Resolve the issue of whether Lake County can use water conservation practices to restore its degraded ground water basins, in light of the Yolo County Flood Control & Water Conservation District constraints on any storm water runoff retention by Lake County government or other local agencies (recharge area detention facilities, upstream storage facilities, watershed restoration projects).

h. Manage Clear Lake's beneficial uses to protect water quality for consumption by humans and wildlife as the primary goal, recreational uses and irrigation/flood control as co-equal but secondary, and prevent infestation by the invasive Quagga/Zebra mussels with multi-agency financial support (including Yolo County Flood Control & Water Conservation District, County of Yolo, etc.). Develop Maximum Contaminant Levels for cyanobacterial toxins in drinking water and "reasonable" testing requirements for recreational safety per the state department of health services voluntary guidelines.

i. Update (complete) the Clear Lake Integrated Watershed Management Plan: Include all 18 major tributaries, their subwatersheds, and all sub-watersheds surrounding the Lower Arm of Clear Lake (focussed on the City of Clearlake and adjacent uplands).

j. Update (correct) the Lake County Ground Water Management Plan; obtain legal approval in accordance with California Code of Regulations; replace misleading information that permeates subsequent plan documents used to obtain related grant funding (or, add addendum explaining lack of legal authority, missing or misleading information, and caveat to future users for grant application purposes).

k. Consideration of basic fire flow availability in water demand calculations must be given a high priority for domestic usage, and capacity building, prior to adding any further subdivisions in Lake County. Water demand forecasts that do not include current poor water flows in populated communities and hillside firetraps (remember the Oakland Hills?) on Mount Konocti need closer scrutiny for prioritizing projects impacting water supplies.

l. Raising awareness and improving public education (Handout #7, Plan Goals, item 9) needs to be tied to the NPDES Phase I Storm Water Management program requirements -- another regulatory framework issue for the IRWM, and another conflict that needs to be resolved in the operation of the watershed resources under the current agreements with YCFC&WCD. The upcoming “second cycle” of the Phase I NPDES permit will (unless the State Water Boards Office of Enforcement changes its mind) require incorporation of nonpoint source pollution management to the existing point source program; the Central Valley Regional Water Quality Control Board’s requirement for reduced nutrient loading in Clear Lake (Resolution 2006-0060, June 2006) is another regulatory construct that should be recognized within the framework of needs in the Upper Cache Creek Watershed and Clear Lake Basin management IRWM. The NPDES Storm Water Management permit also requires public education and outreach, as well as public involvement and participation -- for which Lake County and the two City co-permittees were given a notice of violation in 2009 because of the

lack of public involvement and outreach. Conditions have improved with the use of electronic media, better educational events around the county, and multiple outreach opportunities offered by volunteer producers of radio and television programs. County and City programs that do not openly address storm water pollution, however, owing the linguistic mannerisms based on marketing tourist and recreational services, still underserve the purpose of public education. Additional outreach necessary to implement Community Wildfire Protection Plans, a clearly understood component of watershed protection and ecosystem restoration, is incompletely fulfilled as a program commitment. All of these needs should be funded as part of an IRWM education program, making best possible use of existing resources such as the California Environmental Education Initiative (www.calepa.ca.gov/education/eei). Dedicated outreach to local water purveyors is needed to meet multiple demands for public education and outreach. At the first meeting (February 6), I asked if the

m. "Integrated" planning in the Upper Cache Creek Watershed and Clear Lake Basin needs to include input from all surface water purveyors responsible for treatment and distribution of Clear Lake water supplies in compliance with California's Safe Drinking Water Act and Public Health & Safety Codes. These are additional regulatory framework members that need to be identified in order to develop "integrated" water management plans in this part of the region. Continuing conflicts between the need for greater filtration and solid waste removal from water treatment plants (paid for by rate payers), and Lake County's marketingbased promotion of the main water body for recreation purposes (supporting the Chamber of Commerce and member businesses), for which official promotional statements that the "lake is getting cleaner" are seen as implausible, need to be identified as barriers to appropriate planning, which must reflect the appropriate known contributions to water quality impairments.

2. Davis - Dave Pratt

a. Valley Floor Planning Area, Item 2: Within 2 years, complete the Feasibility Study for the bypass of Cache Creek floodwaters around Woodland. [This study has begun but is inadequately funded and has suffered from bureaucratic delays that more public attention might help to overcome. My suggestion on this topic should be superseded by anything that is proposed by Mark Cocke, City of Woodland engineer involved with this project, and/or Francis Borcalli, Yolo County's preeminent water expert and consultant to Woodland on the project.]

b. Entire Region, Item 8: Over the next ten years, 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 Highway I5. [If such a trail could be established, it would be heavily used the public but since it would be wildly

unpopular with the owners of the land along and under the levees, it is an objective unlikely to ever be met. A more realistic proposal for Item 8 is as follows.] If a bypass around Woodland for flood waters from Cache Creek is constructed, it should include a bicycling and hiking trail along the right-of-way. [This should be written into all land acquisition contracts for the project.]

1. Colusa County - Patti Turner (provided by Thomsen and Claasen)

    a. Entire Region

        i. Reduce mercury and methyl-mercury loads into Cache Creek and its tributaries to levels that reflect background conditions. Prioritize mercury loading into streams from abandoned mine areas and create a targeted program to stabilize mercury-laden sediment in upland areas.

        ii. Evaluate and map accelerated runoff patterns from rangeland roads. Develop priorities and site-specific treatments to improve infiltration, stabilize soil, reduce sedimentation, and improve hydrologic function.

        iii. Conduct rangeland and riparian assessments to identify soil erosion and poorly functioning rangeland areas with low infiltration capacity. Develop rangeland infiltration map to track interaction of soil type, range conditions and runoff, emphasizing foot slope, toe slope, hillslope-wetland, and riparian vegetation enhancement zones to increase infiltration. Implement improved management practices to improve watershed function.

        iv. Identify and repair damaged riparian corridors that have reduced hydrologic function as a result of creek headcutting, channel entrenchment and floodplain loss.

        v. Reduce likelihood of catastrophic wildfire and rapid loss of watershed vegetation through implementation of prescribed burns and sapling thinning.

        vi. Restore native vegetation along riparian corridors to enhance area biological diversity.

    b. Upper Cache Creek Planning Area Objectives (Based on Bear Creek Watershed Assessment and BLM management priorities)

        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.

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).

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. (More than 200 miles of paved and unpaved roads, trails, and fire suppression lines traverse the watershed. Many are poorly designed and are not functioning properly (Pacific Watershed Associates 2008).

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 (Claassen and Thomsen, ongoing assessment work).

v. Improve riparian and wetland function on public lands by reconnecting 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.

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.

vii. 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, i.e. reduce the likelihood of catastrophic wildfire and post-fire sedimentation, improve wildlife habitat improvement, enhance recreational experience of public land users, and provide employment.

viii. 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).

2. Colusa County - Patti Turner (provided by the Davis Group)

    a. Entire Region

        i. Collect new groundwater data, in areas of region not previously studied, to increase the understanding of watershed function to meet future challenges

    b. Upper Cache Creek Planning Area

        i. Reduce mercury enriched sedimentation by 95% through the implementation of management practices to address bank erosion and headcutting in upper watershed tributaries

        ii. Eradicate 3miles of tamarisk infestation at the point of origin in the Upper Cache Creek Watershed

        iii. Increase water infiltration through the implementation of effective rangeland management and riparian restoration practices to reduce invasive plant species in the upper watershed

        iv. Increase water quality and availability through the reduction of channel incision and headcutting in the upper watershed

        v. Restore Cache Creek and its tributaries to levels of mercury and methylmercury that reflect background conditions

3. Lake County – Gary Hansen and Tom Smythe

    a. Suggest revision of use of term “efficiency” (Item I, #3), per meeting #4 discussion, to more clearly define uses that can be efficient as differentiated from uses also listed that need other descriptor – like beneficial to wildlife, natural environment, recreation, and aesthetic quality of life, etc. The March/April 2012 Western Water featured an interesting discussion on agricultural water efficiency.

    b. Add a goal for Upper Cache Creek to cover flooding in Watershed in addition to area around Clear Lake.

    c. Add a goal for Upper Cache Creek to cover determining what are controlling factors for Clear Lake Algal blooms and corresponding controls of those identified factors.

    d. Add a goal to cover developing funding mechanism to include downstream water users in funding of upstream water supply problems.

4. Solano RCD – Chris Rose

    a. Map and remove invasive *Arundo donax* along 10 miles of slough in the Cache Slough/Hastings Cut Complex during the planning period.

    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.

    c. Increase awareness and education programs on agricultural best management practices during the planning period.

    d. Map and remove 10 acres of invasive weeds at Lake Solano during the planning period.

    e. Raise awareness and improve education on the effects of exotic weeds to the Cache and Putah Creek watersheds and prevent their spread during the planning period.

    f. Remove invasive weeds that are blocking the creek channel and improve water quality along a 5-mile stretch of Old Alamo Creek at the eastern edge of Vacaville during the planning period.

    g. Enhance habitat values and improve water quality on 25 miles of canals in Solano County during the planning period.

    h. Remove invasive weeds that are blocking the creek channel and improve water quality along a 5-mile stretch of Sweeny Creek in Solano County during the planning period.

5. SCWA – Chris Lee

    a. Entire Region

        i. Increase boater awareness and education programs at Lake Berryessa and Clear Lake and prevent infestation of Dreissenid mussels into those two lakes during the planning period.

        ii. Raise awareness and improve education on the effects of exotic weeds to the Cache and Putah Creek watersheds and prevent their spread during the planning period.

        iii. Increase awareness of water conservation measures and improve opportunities for both municipal and industrial users to implement measures during the planning period.

iv. Increase awareness and education programs for agricultural water-use efficiency measures and increase their use during the planning period.

v. Increase awareness and education programs for the reuse of non-potable water for non-potable purposes during the planning period.

vi. Monitor ongoing large-scale restoration efforts in the Delta and identify effects on drinking water quality during the planning period.

vii. Increase coordination with watershed land use entities and minimize encroachment on surface water supplies during the planning period.

viii. Increase awareness and education programs of point and non-point source pollutants and minimize their effects on water quality during the planning period.

ix. Increase awareness and education programs on water quality management measures for landowners adjacent to drinking water delivery canals during the planning period.

x. Increase awareness and education programs on storm water attenuation measures for landowners adjacent to creeks and streams during the planning period.

xi. Monitor agricultural runoff and improve runoff water quality during planning period.

xii. Increase understanding of poor quality groundwater and utilize it as a potential new water supply during the planning period.

xiii. Increase understanding of flood hazard areas and update flood hazard mapping during the planning period.

xiv. Increase understanding of the benefits of utilizing native vegetation to control erosion and sedimentation and utilize native vegetation in flood control projects.

b. Valley Floor Planning Area

i. Increase understanding of the Putah-Tehama groundwater basin resources during the planning period.

ii. Augment existing salmon spawning beds in Putah Creek with additional spawning gravel during the planning period.

iii. Restore 25 acres of riparian forest along Putah Creek during the planning period.

iv. Raise awareness and improve public education on the threat of New Zealand Mud Snails and prevent the risk of their movement beyond Putah Creek.

v. Increase understanding of making trash racks more efficient and improve water quality in the Putah South Canal during the planning period.

vi. Increase understanding of capacity shortfalls of the North Bay Aqueduct and protect drinking water supplies for Napa and Solano Counties during the planning period.

vii. 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.

viii. Monitor urban and agricultural runoff water quality in the Cache Slough Watershed and identify drinking water quality and operational effects during the planning period.

ix. Increase understanding of capacity effects of habitat restoration in Valley Floor Planning Area flood control channels during the planning period.

x. Increase understanding of utilizing multiple water resources and improve reliability of water supplies in the Valley Floor Planning Area.

xi. Increase understanding of water quality benefits of habitat restoration in the Valley Floor Planning Area during the Planning period.