CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

Draft Staff Report on Recommended Changes to California's Clean Water Act Section 303(d) List

27 September 2001

State of California

California Environmental Protection Agency

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CENTRAL VALLEY REGION

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California Regional Water Quality Control Board, Central Valley Region
Draft Staff Report on Recommended Changes to California's Clean Water Act Section 303(d) List

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1 Executive Summary

Each of California's nine Regional Water Quality Control Boards has been asked to assist the State Water Resources Control Board in preparing an update to the State's Clean Water Act Section 303(d) list (SWRCB, 2001). The 303(d) list identifies surface waters that do not or are not expected to attain water quality standards.

California Regional Water Quality Control Board, Central Valley Region (Regional Board) staff began the process for developing the 303(d) list by conducting a public solicitation for information, which lasted from 21 February 2001 to 15 May 2001 (CRWQCB-CVR, 2001b). Three public workshops were held during the public solicitation period. Over 70 documents were received from 28 individuals or groups.

Regional Board staff reviewed those documents, as well as over 200 other documents available in the Regional Board files. In reviewing the available information, Regional Board staff evaluated whether applicable water quality objectives adopted by the Regional Board, State Board, or U.S. Environmental Protection Agency were being attained. In those cases in which numeric water quality objectives were not available for a particular pollutant and/or waterbody, Regional Board staff interpreted narrative water quality objectives. Regional Board staff used applicable criteria and guidelines developed by other state and federal agencies, guidelines developed by the National Academy of Sciences and the Canadian Council of Ministers of the Environment, and results of toxicity tests and bioassay to interpret the narrative water quality objectives.

In the absence of new information or criteria, Regional Board staff generally recommended keeping those currently listed water bodies on the 303(d) list. Fact sheets were developed to describe the basis for recommended additions, deletions, or changes to the 303(d) list.

The Regional Board staff recommended changes to the 303(d) list includes the addition of 56 new water bodies and pollutants to the list; removal of 3 water bodies and pollutants from list; and changes to the description of most other water bodies currently listed (e.g. refinement of identified impaired reaches, changes in priority, schedule etc). Regional Board staff has also identified some waters and pollutants that should be assessed further in order to determine whether water quality objectives are being met. The staff recommended 2002 303(d) list for waters in the Central Valley region is shown in Table 1. Recommended additions to the 303(d) list are in **bold** and recommended deletions are shown in strikethrough.

Regional Board staff will consider public comment on the draft staff recommendations until 2 November 2001.

Table 1. California Regional Water Quality Control Board, Central Valley Region Staff Recommended Changes to California's Clean Water Act Section 303(d) List

Waterbody	Pollutant/Stressor	Affected Size[1]	Units	Priority	TMDL End Date (Year)[2]
American River, Lower	~~Group A Pesticides~~[3]	~~23~~	~~Miles~~	~~Low~~	~~12/11~~
	Mercury	23	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Unknown Toxicity	23	Miles	Low	~~12/11~~ **After 2015**
Arcade Creek	Chlorpyrifos	10	Miles	~~Medium~~ **High**	~~12/11~~ **2003**
	Diazinon	10	Miles	~~Medium~~ **High**	~~12/11~~ **2003**
	Copper	**10**	**Miles**	**Low**	**After 2015**
Avena Drain	**Ammonia**	**10**	**Miles**	**Low**	**After 2015**
Bear Creek	**Mercury**	**28**	**Miles**	**High**	**2005**
Bear River, Lower	**Diazinon**	**18**	**Miles**	**Medium**	**2006**
Bear River, Upper	**Mercury**	**8**	**Miles**	**Medium**	**2015**
Berryessa Lake	Mercury	20,700	Acres	~~High~~	~~2005~~ **After 2015**
Black Butte Reservoir	**Mercury**	**4,500**	**Acres**	**Medium**	**2008**
Butte Slough	**Diazinon**	**7.5**	**Miles**	**Medium**	**2009**
	Molinate	**7.5**	**Miles**	**Low**	**After 2015**
Cache Creek	Mercury	~~35~~ **81**	Miles	High	~~12/2005~~ **2004**
	Unknown Toxicity	~~35~~ **81**	Miles	Medium	~~12/11~~ **After 2015**
Calaveras River, Lower	**Diazinon**	**30**	**Miles**	**Medium**	**2012**
	Dissolved Oxygen	**5**	**Miles**	**Low**	**After 2015**
	Pathogens	**8**	**Miles**	**Low**	**After 2015**
Camanche Reservoir	**Aluminum**	**7,622**	**Acres**	**Low**	**After 2015**
	Copper[5]	**7,622**	**Acres**	**Low**	**After 2015**
	Zinc[5]	**7,622**	**Acres**	**Low**	**After 2015**
Camp Far West Reservoir	**Mercury**	**2,002**	**Acres**	**Medium**	**2015**

Waterbody	Pollutant/Stressor	Affected Size[1]	Units	Priority	TMDL End Date (Year)[2]
Chicken Ranch Slough	Chlorpyrifos	5	Miles	~~Medium~~ **High**	~~12/11~~ **2003**
	Diazinon	5	Miles	~~Medium~~ **High**	~~12/11~~ **2003**
Clear Lake	Mercury	43,000	Acres	High	~~12/2005~~ **2002**
	Nutrients	43,000	Acres	~~Low~~ **Medium**	~~12/11~~ **2008**
Clover Creek	**Fecal Coliform**	**10**	**Miles**	**Low**	**After 2015**
Colusa Drain	**Azinphos Methyl**	**70**	**Miles**	**Medium**	**2015**
	Carbofuran/ Furadan	70	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Diazinon	**70**	**Miles**	**Medium**	**2015**
	Group A Pesticides	70	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Malathion	70	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Methyl Parathion	70	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Molinate	**70**	**Miles**	**Low**	**After 2015**
	Unknown Toxicity	70	Miles	~~Medium~~ **Low**	12/~~11~~ **After 2015**
Davis Creek Res	Mercury	290	Acres	~~Medium~~ **Low**	12/~~11~~ **After 2015**
Del Puerto Creek	**Chlorpyrifos**	**5**	**Miles**	**Low**	**After 2015**
	Diazinon	**5**	**Miles**	**Low**	**After 2015**
	Parathion	**5**	**Miles**	**Low**	**After 2015**
Delta Waterways	Chlorpyrifos	~~480,000~~ **48,000**	Acres	High	~~12/2005~~ **2004**
	DDT	~~480,000~~ **48,000**	Acres	Low	~~12/11~~ **After 2015**
	Diazinon	~~480,000~~ **48,000**	Acres	High	~~12/2005~~ **2004**
	Electrical Conductivity	16,000	Acres	Medium	~~12/11~~ **2015**
	Group A Pesticides	~~480,000~~ **48,000**	Acres	Low	~~12/11~~ **After 2015**
	Mercury	~~480,000~~ **48,000**	Acres	High	~~12/2005~~ **2004**
	Organic Enrichment/ Low DO	~~75~~ **1461**	Acres	High	~~12/11~~ **2005**

Waterbody	Pollutant/Stressor	Affected Size[1]	Units	Priority	TMDL End Date (Year)[2]
Delta Waterways	Unknown Toxicity	~~480,000~~ **48,000**	Acres	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Dolly Creek	Copper	1	Miles	~~Medium~~ **High**	~~12/11~~ **2005**
	Zinc	1	Miles	~~Medium~~ **High**	~~12/11~~ **2005**
Don Pedro Lake	**Mercury**	**12,960**	**Acres**	**Low**	**After 2015**
Dunn Creek	Mercury	~~9~~ **1**	Miles	Low	~~12/11~~ **After 2015**
	Metals	~~9~~ **1**	Miles	Low	~~12/11~~ **After 2015**
Elder Creek	Chlorpyrifos	10	Miles	Medium	~~12/2005~~ **2003**
	Diazinon	10	Miles	Medium	~~12/2005~~ **2003**
Elk Grove Creek	Diazinon	5	Miles	Medium	~~12/2005~~ **2003**
Fall River (Pit)	Sedimentation/ Siltation	~~25~~ **9.5**	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Feather River, Lower	Diazinon	60	Miles	High	~~12/2005~~ **2003**
	Group A Pesticides	60	Miles	Low	~~12/11~~ **After 2015**
	Mercury	60	Miles	Medium	12/2011
	Unknown Toxicity	60	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Five Mile Slough	Chlorpyrifos	1	Miles	Medium	~~12/11~~ **2012**
	Diazinon	1	Miles	Medium	~~12/11~~ **2012**
	Dissolved Oxygen	**1**	**Miles**	**Low**	**After 2015**
	Pathogens	**5**	**Miles**	**Low**	**After 2015**
French Ravine	Bacteria	1	Miles	Low	~~12/11~~ **After 2015**
Grasslands	Electrical Conductivity	8,224	Acres	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Marshes	~~Selenium~~	~~8,224~~	~~Acres~~	~~High~~	~~12/98~~

Waterbody	Pollutant/Stressor	Affected Size[1]	Units	Priority	TMDL End Date (Year)[2]
Harding Drain (Turlock Irr Dist Lateral #5)	Ammonia	7	Miles	Low	~~12/11~~ **After 2015**
	Chlorpyrifos	7	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Diazinon	7	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Unknown Toxicity	7	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Harley Gulch	Mercury	8	Miles	~~Medium~~ **High**	~~12/11~~ **2005**
Horse Creek	Cadmium	~~2~~ **1**	Miles	Low	~~12/11~~ **After 2015**
	Copper	~~2~~ **1**	Miles	Low	~~12/11~~ **After 2015**
	Lead	~~2~~ **1**	Miles	Low	~~12/11~~ **After 2015**
	Zinc	~~2~~ **1**	Miles	Low	~~12/11~~ **After 2015**
Humbug Creek	Copper	~~9~~ **3**	Miles	Low	~~12/11~~ **After 2015**
	Mercury	~~9~~ **3**	Miles	Low	~~12/11~~ **After 2015**
	Sedimentation/ Siltation	~~9~~ **3**	Miles	Low	~~12/11~~ **After 2015**
	Zinc	~~9~~ **3**	Miles	Low	~~12/11~~ **After 2015**
Ingram/ Hospital Creek	**Chlropyrifos**	**2**	**Miles**	**Low**	**After 2015**
	Diazinon	**2**	**Miles**	**Low**	**After 2015**
	Parathion	**2**	**Miles**	**Low**	**After 2015**
Jack Slough	**Diazinon**	**13**	**Miles**	**Medium**	**2006**
James Creek	Mercury	~~6~~ **8.5**	Miles	Low	~~12/11~~ **After 2015**
	Nickel	~~6~~ **8.5**	Miles	Low	~~12/11~~ **After 2015**
Kanaka Creek	Arsenic	1	Miles	Low	~~12/11~~ **After 2015**

Waterbody	Pollutant/Stressor	Affected Size[1]	Units	Priority	TMDL End Date (Year)[2]
Keswick Res	Cadmium	200	Acres	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Copper	200	Acres	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Zinc	200	Acres	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Kings River, Lower	Electrical Conductivity	30	Miles	Low	~~12/11~~ **After 2015**
	Molybdenum	30	Miles	Low	~~12/11~~ **After 2015**
	Toxaphene	30	Miles	Low	~~12/11~~ **After 2015**
Lake Combie	**Mercury**	**360**	**Acres**	**Medium**	**2012**
Lake Englebright	**Mercury**	**815**	**Acres**	**Medium**	**2011**
Little Backbone Creek	Acid Mine Drainage	1	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Cadmium	1	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Copper	1	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Zinc	1	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Little Cow Creek	Cadmium	1	Miles	Low	~~12/11~~ **After 2015**
	Copper	1	Miles	Low	~~12/11~~ **After 2015**
	Zinc	1	Miles	Low	~~12/11~~ **After 2015**
Little Deer Creek	**Mercury**	**4**	**Miles**	**Low**	**After 2015**
Little Grizzly Creek	Copper	10	Miles	~~Medium~~ **High**	~~12/02~~ **2005**
	Zinc	10	Miles	~~Medium~~ **High**	~~12/02~~ **2005**
Lone Tree Creek	Ammonia	15	Miles	Low	~~12/11~~ **After 2015**
	Biological Oxygen Demand	15	Miles	Low	~~12/11~~ **After 2015**
	Electrical Conductivity	15	Miles	Low	~~12/11~~ **After 2015**

Waterbody	Pollutant/Stressor	Affected Size[1]	Units	Priority	TMDL End Date (Year)[2]
Marsh Creek	Mercury	~~24~~ **16.5**	Miles	Low	~~12/11~~ **After 2015**
	Metals	~~24~~ **8.5**	Miles	Low	~~12/11~~ **After 2015**
Marsh Creek Res	Mercury	375	Acres	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Merced River, Lower	Chlorpyrifos	60	Miles	High	~~12/05~~ **2006**
	Diazinon	60	Miles	High	~~12/05~~ **2006**
	Group A Pesticides	60	Miles	Low	~~12/11~~ **After 2015**
Mokelumne River, Lower	**Aluminum**	**28**	**Miles**	**Low**	**After 2015**
	Copper	28	Miles	Low	~~12/11~~ **After 2015**
	Zinc	28	Miles	Low	~~12/11~~ **After 2015**
Morrison Creek	Diazinon	20	Miles	Medium	~~12/2005~~ **2003**
Mormon Slough	**Dissolved Oxygen**	**1**	**Mile**	**Low**	**After 2015**
	Pathogens	**4**	**Miles**	**Medium**	**2012**
Mosher Slough	Chlorpyrifos	2	Miles	Medium	~~12/11~~ **2012**
	Diazinon	2	Miles	Medium	~~12/11~~ **2012**
	Dissolved Oxygen	**2**	**Miles**	**Low**	**2030**
	Pathogens	**7**	**Miles**	**Low**	**After 2015**
Mud Slough	Boron	16	Miles	Low	~~12/11~~ **After 2005**
	Electrical Conductivity	16	Miles	Low	~~12/11~~ **After 2005**
	Pesticides	16	Miles	Low	~~12/11~~ **After 2005**
	Selenium	16	Miles	~~High~~ **Medium**	~~12/00~~ **2011**
	Unknown Toxicity	16	Miles	Low	~~12/11~~ **After 2015**
Natomas East Main Drain	Diazinon	5	Miles	Medium	~~12/11~~ **2015**
	PCBs4	12	Miles	Low	~~12/11~~ **After 2015**
Newman Wasteway	**Chlorpyrifos**	**9**	**Miles**	**Low**	**After 2005**
	Diazinon	**9**	**Miles**	**Low**	**After 2005**

Waterbody	Pollutant/Stressor	Affected Size[1]	Units	Priority	TMDL End Date (Year)[2]
Oak Run Creek	**Fecal Coliform**	**8**	**Miles**	**Low**	**After 2015**
Orestimba Creek	**Azinphos Methyl**	**10**	**Miles**	**Medium**	**2010**
	Chlorpyrifos	10	Miles	Medium	~~12/11~~ **2010**
	Diazinon	10	Miles	Medium	~~12/11~~ **2010**
	DDE	**10**	**Miles**	**Low**	**2030**
	Parathion	**10**	**Miles**	**Low**	**2025**
	Unknown Toxicity	3	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Panoche Creek	Mercury	25	Miles	Low	~~12/11~~ **After 2015**
	Sedimentation/ Siltation	40	Miles	Low	~~12/11~~ **After 2015**
	Selenium	40	Miles	Low	~~12/11~~ **After 2015**
Pit River	Nutrients	100	Miles	Low	~~12/11~~ **After 2015**
	Organic Enrichment/ Low Dissolved Oxygen	100	Miles	Low	~~12/11~~ **After 2015**
	Temperature	100	Miles	Low	~~12/11~~ **After 2015**
Putah Creek, Lower	**Mercury**	**24**	**Miles**	**Low**	**After 2015**
	Unknown Toxicity	**30**	**Miles**	**Low**	**After 2015**
Putah Creek, Upper	**Unknown Toxicity**	**27**	**Miles**	**Low**	**After 2015**
Rollins Reservoir	**Mercury**	**840**	**Acres**	**Medium**	**2010**
Sacramento River (Red Bluff to Delta)	Diazinon	30	Miles	High	~~12/2005~~ **2003**
	Mercury	30	Miles	~~High~~ **Medium**	~~12/05~~ **2006**
	Unknown Toxicity	185	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Sacramento River (Shasta Dam to Red Bluff)	Cadmium	40	Miles	High	12/01
	Copper	40	Miles	High	12/01
	Unknown Toxicity	50	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Zinc	40	Miles	High	12/01

Waterbody	Pollutant/Stressor	Affected Size[1]	Units	Priority	TMDL End Date (Year)[2]
Sacramento Slough	Diazinon	1	Miles	Medium	~~12/11~~ **2009**
	Mercury	1	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Salt Slough	Boron	15	Miles	Low	~~12/11~~ **After 2005**
	Chlorpyrifos	15	Miles	Low	~~12/11~~ **After 2005**
	Diazinon	15	Miles	Low	~~12/11~~ **After 2005**
	Electrical Conductivity	15	Miles	Low	~~12/11~~ **After 2005**
	~~Selenium~~	~~15~~	~~Miles~~	~~High~~	~~12/98~~
	Unknown Toxicity	15	Miles	Low	~~12/11~~ **After 2015**
San Carlos Creek	Mercury	1	Miles	Low	~~12/11~~ **After 2015**
San Joaquin River	Boron	130	Miles	High	~~12/99~~ **2002**
	Chlorpyrifos	130	Miles	High	~~12/2005~~ **2003**
	DDT	130	Miles	Low	~~12/11~~ **After 2015**
	Diazinon	130	Miles	High	~~12/2005~~ **2003**
	Electrical Conductivity	130	Miles	High	~~12/99~~ **2002**
	Group A Pesticides	130	Miles	Low	~~12/11~~ **After 2015**
	Mercury	**60**	**Miles**	**Medium**	**2013**
	Selenium	50	Miles	High	~~12/00~~ **2001**
	Unknown Toxicity	130	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
San Luis Reservoir	**Copper**			**Low**	**After 2015**
Scott's Flat Reservoir	**Mercury**	**725**	**Acres**	**Medium**	**2012**
Shasta Lake	Cadmium	20	Acres	Low	~~12/11~~ **After 2015**
	Copper	20	Acres	Low	~~12/11~~ **After 2015**
	Zinc	20	Acres	Low	~~12/11~~ **After 2015**

Waterbody	Pollutant/Stressor	Affected Size[1]	Units	Priority	TMDL End Date (Year)[2]
Smith Canal	**Dissolved Oxygen**	**2.5**	**Miles**	**Low**	**After 2015**
	Organo-phosphorus Pesticides	**2.5**	**Miles**	**Medium**	**2015**
	Pathogens	**2.5**	**Miles**	**Low**	**After 2015**
South Cow Creek	**Fecal Coliform**	**6**	**Miles**	**Low**	**After 2015**
Spring Creek	Acid Mine Drainage	5	Miles	~~High~~ **Low**	~~12/11~~ **After 2015**
	Cadmium	5	Miles	~~High~~ **Low**	~~12/11~~ **After 2015**
	Copper	5	Miles	~~High~~ **Low**	~~12/11~~ **After 2015**
	Zinc	5	Miles	~~High~~ **Low**	~~12/11~~ **After 2015**
Stanislaus River, Lower	Diazinon	48	Miles	High	12/~~2000~~ **2004**
	Group A Pesticides	48	Miles	Low	~~12/11~~ **After 2015**
	Mercury	**58**	**Miles**	**Low**	**After 2015**
	Unknown Toxicity	48	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Stockton Deep Water Channel	Dioxin	2	Miles	~~Medium~~ **Low**	**After 2015**
	Furans	2	Miles	~~Medium~~ **Low**	**After 2015**
	PCBs	2	Miles	~~Medium~~ **Low**	**After 2015**
	Pathogens	**3**	**Miles**	**Medium**	**2014**
Strong Ranch Slough	Chlorpyrifos	5	Miles	~~Medium~~ **High**	~~12/2005~~ **2003**
	Diazinon	5	Miles	~~Medium~~ **High**	12/~~2005~~ **2003**
Sulfur Creek	Mercury	7	Miles	High	2005
Sutter Bypass	**Diazinon**	**25**	**Miles**	**Medium**	**2012**
Temple Creek	Ammonia	10	Miles	Low	~~12/11~~ **After 2015**
	Electrical Conductivity	10	Miles	Low	~~12/11~~ **After 2015**

Waterbody	Pollutant/Stressor	Affected Size[1]	Units	Priority	TMDL End Date (Year)[2]
Town Creek	Cadmium	1	Miles	Low	~~12/11~~ **After 2015**
	Copper	1	Miles	Low	~~12/11~~ **After 2015**
	Lead	1	Miles	Low	~~12/11~~ **After 2015**
	Zinc	1	Miles	Low	~~12/11~~ **After 2015**
Tuolumne River, Lower	Diazinon	32	Miles	High	~~12/05~~ **2006**
	Group A Pesticides	32	Miles	Low	~~12/11~~ **After 2015**
	Unknown Toxicity	32	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Walker Slough	**Diazinon**	**2**	**Miles**	**Medium**	**2012**
	Pathogens	**7**	**Miles**	**Medium**	**2014**
West Squaw Creek	Cadmium	2	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Copper	2	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Lead	2	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
	Zinc	2	Miles	~~Medium~~ **Low**	~~12/11~~ **After 2015**
Whiskeytown Res	High Coliform Count	100	Acres	Low	~~12/11~~ **After 2015**
Willow Creek (Whiskeytown)	Acid Mine Drainage	3	Miles	Low	~~12/11~~ **After 2015**
	Copper	3	Miles	Low	~~12/11~~ **After 2015**
	Zinc	3	Miles	Low	~~12/11~~ **After 2015**
Wolf Creek	**Pathogens**			**Low**	**After 2015**

[1]Affected Size = Portion of the waterbody not meeting water quality standards.
[2]TMDL End Date = the date by which the TMDL and associated program of implementation are expected to be considered by the Regional Board, generally as part of a Basin Plan Amendment. The end date is considered a maximum based on the funding assumptions described below.
[3]Group A pesticides = One or more of the Group A pesticides. The Group A pesticides include: aldrin, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan and toxaphene.
[4]PCBs = Polychlorinated biphenyls.
[5] The listing for copper and zinc in Camanche Reservoir had previously been included as part of the lower Mokelumne River. The Regional Board determined that separate identification of the Camanche Reservoir and the lower Mokelumne River is appropriate for 303(d) list purposes.

Scheduling Assumptions - 1) available TMDL funds for TMDL development and implementation ($1.7 MM/year for staff in 2001 dollars); 2) TMDL development cost (per listed water body and pollutant equals $250,000 - includes implementation planning and Basin Planning); 3) after 2004, 1/2 of TMDL staff funds will be used for implementation of adopted TMDLs.

Note – TMDLs for selenium in Salt Slough and selenium in the Grassland Marshes were approved by U.S. EPA in 1999 and 2000, respectively.

Regional Board staff identified a number of water bodies and pollutants that should be assessed further prior to making a recommendation to list (or delist) those water bodies (see Table 2 below). In general, further assessment is needed under one or more of the following conditions: 1) the number of data points available or number of years of sample collection does not allow staff to determine whether a potential water quality problem is recurring; 2) recent and historic studies are not directly comparable due to different sampling protocols (e.g. the type of fish collected differ); 3) a sufficient historic data set exists with few exceedances, but more recent information does not indicate exceedances; or 4) control measures are in place that should result in reduction of the pollutant below criteria.

Table 2 – Suggested Sites and Parameters for Further Assessment

Water body	Pollutant
American River, Lower	Pathogens
Arcade Creek	Malathion
Butte Slough	Malathion
Butte Slough	Thiobencarb
Colusa Basin Drain	Chlorpyrifos
Colusa Basin Drain	Dicamba
Del Puerto Creek	Malathion
Delta (lower San Joaquin River)	Pathogens
Delta Waterways	DDT
Delta Waterways	Group A Pesticides
Feather River	Group A Pesticides
French Camp Slough	Pathogens
Fresno River	Nutrients/Pathogens
Hensley Lake	Nutrients/Pathogens
Ingram/Hospital Creek	Carbaryl
Kaweah River	Nutrients/Pathogens
Kern River	Nutrients/Pathogens
Lake Isabella	Nutrients/Pathogens
Lake Kaweah	Nutrients/Pathogens
Lake Success	Nutrients/Pathogens
Merced River	Mercury
Merced River	Parathion
Mormon Slough	Diazinon
Orestimba Creek	Methidathion
Salt Slough	Malathion
San Luis Reservoir	Copper
Ten Mile Creek (South Fork Kings River)	Nutrients/Pathogens
Tule River	Nutrients/Pathogens
Tuolumne River	Mercury
Yuba River	Pathogens

2 Public Solicitation and Documents Reviewed

Regional Board staff distributed a letter to the public requesting information for the update of the 303(d) list on 21 February 2001. Approximately 3,500 letters were distributed. The Regional Board's Basin Planning and NPDES mailing lists were used, along with the mailing list for the Sacramento River Watershed Program. The solicitation notice was also posted on the Regional Board's web site. The public was given until 15 May 2001 to provide information for the update of the 303(d) list.

During the public solicitation time period, three work shops were held: 1) on 21 March in Fresno; 2) on 28 March in Sacramento; and 3) on 6 April in Redding. There were 2 members of the public at the Fresno meeting, 8 at the Sacramento meeting, and 6 at the Redding meeting.

By the 15 May 2001 deadline, the Regional Board had received over 70 documents from 28 different individuals and organizations.

Regional Board staff also reviewed over 200 documents/data sources readily available within the Regional Board offices. Staff working in the NPDES permit program (for both storm water and non-storm water permits) provided information on potential problems in surface waters receiving NPDES permitted discharges.

The documents reviewed, from both the public solicitation and internally, are listed in Section 10.

3 Factors Considered in Recommending Changes to the 303(d) List

The factors below were generally considered in recommending changes to the 303(d) list. The specific application of these factors can be found in the appropriate Fact Sheets in the appendix.

3.1 Listing Factors

Water bodies and associated pollutants were generally recommended for addition to the 303(d) list if any one of these factors were met:

1. Effluent limitations or other pollution control requirements [e.g., Best Management Practices (BMPs)] are not stringent enough to assure protection of beneficial uses and attainment of SWRCB and RWQCB objectives, including those implementing SWRCB Resolution Number 68-16 "Statement of Policy with Respect to Maintaining High Quality of Waters in California" [see also 40 CFR 130.7(b)(1)]. This does not apply to non-attainment related solely to discharge in violation of existing WDR's or NPDES permit.

2. Fishing, drinking water, or swimming advisory currently in effect. This does not apply to advisories related to discharge in violation of existing WDR's or NPDES permit.

3. Beneficial uses are impaired or are expected to be impaired within the listing cycle (i.e. in next four years). Impairment is based upon evaluation of chemical, physical, or biological integrity. Impairment will be determined by

"qualitative assessment", physical/ chemical monitoring, bioassay tests, and/or other biological monitoring. Applicable Federal criteria and the Regional Board's Basin Plan water quality objectives determine the basis for impairment status.

4. The water body is on the previous 303(d) list and either: (a) monitoring continues to demonstrate a violation of objective(s) or (b) monitoring has not been performed.

5. Data indicate tissue concentrations in consumable body parts of fish or shellfish exceed applicable tissue criteria or guidelines. Criteria or guidelines related to protection of human and wildlife consumption include, but are not limited to, U.S. Food and Drug Administration Action Levels, National Academy of Sciences Guidelines, U.S. Environmental Protection Agency tissue criteria.

3.2 Delisting Factors

Water bodies were generally removed from the list for specific pollutants or stressors if any one of these factors was met:

1. Objectives were revised (for example, Site Specific Objectives), and the exceedence is thereby eliminated.

2. Faulty data led to the initial listing. Faulty data include, but are not limited to, typographical errors, improper quality assurance/quality control (QA/QC) procedures, or limitations related to the analytical methods that would lead to improper conclusions regarding the water quality status of the water body.

3. It has been documented that the objectives are being met and beneficial uses are not impaired based upon an evaluation of available monitoring data. This evaluation includes foreseeable changes in hydrology, land use, or product use and why such changes should not lead to future exceedance.

4. A TMDL has been approved by the U.S. Environmental Protection Agency for that specific water body and pollutant (see 40 CFR 130.7(b)(4)).

5. There are control measures in place which will result in protection of beneficial uses. Control measures include permits, clean up and abatement orders, and Basin Plan requirements which are enforceable and include a time schedule (see 40 CFR 130.7(b)(1)(iii)).

3.3 Other Changes

Other changes that have been recommended include:

1. Extent of impairment – a review of available data for existing listings may indicate that a change in the defined extent of impairment should be made. In some cases the miles (or area) of the impaired segment may be changed and in other cases the specific impacted segment is redefined.

2. Priority Ranking – a review of the Regional Board's priorities for TMDL development (based on the Regional Board's criteria discussed below) may result in a change to the existing priority ranking for a water body/pollutant combination.

4 Evaluation Criteria

Regional Board staff had a significant amount of information related to mercury, metals, pathogens, and pesticides. Fact sheets for each of the above categories of pollutant were prepared. The fact sheets describe the criteria used to evaluate the data and information and can be found in Appendix A.

For other pollutants not included in the above categories, Regional Board staff generally used the following hierarchy in evaluating data relative to applicable water quality objectives:

1. Applicable numeric water quality objectives (contained in the Basin Plan) or water quality standards (contained in the federal California and National Toxics Rules). Both the Basin Plan and federal rules governing a specific parameter were evaluated to determine any site specific applications or exceptions.

2. Criteria developed by the U.S. Environmental Protection Agency, California Department of Fish, and the California Department of Health Services and other applicable criteria developed by government agencies. Such criteria were used to interpret narrative water quality objectives. In those cases in which criteria were available from several agencies, preference was given to criteria developed for California or the most recently derived criteria. Toxicity test results and bioassay study results were also used to determine attainment of objectives.

3. Guidance or guidelines developed by agencies/entities such as the U.S. Food and Drug Administration, National Academy of Sciences, and the Agency for Toxic Substances and Disease Registry and the California Department of Health Services. Guidelines developed by other agencies

were thoroughly reviewed before applied, since the assumptions and risk factors considered may not be consistent with Regional Board water quality objectives.

4. Criteria or standards developed in other states, regions, or countries. Such criteria were evaluated to determine if the environmental setting, assumptions, and risk factors considered were consistent with Regional Board water quality objectives.

Other than described for the pollutant fact sheets in Appendix A, there were no specific minimum data requirements or a specific frequency of exceedance for making a finding that water quality objectives are not attained. In general, more data was needed to interpret environmental results that are very specific to time and geography. Less data were needed to make a determination based on environmental results that serve as integrators over space or time. For example, more water column chemistry data would generally be needed to determine impairment than fish tissue chemistry data. Also less water column chemistry data may be needed to make an impairment determination (or lack of impairment determination) if there is other information (e.g. correlations could be made between pesticide use patterns and the presence of pesticides in surface water).

Regional Board staff generally limited their consideration of environmental data to those organizations that conduct monitoring studies using documented quality assurance/quality control procedures. For data produced by citizen monitoring groups, Regional Board staff considered data from those groups whose sampling programs and protocols had been reviewed by the State Water Resource Control Board's citizen monitoring coordinators.

5 Priority Ranking

A priority ranking is required for listed waters to guide TMDL planning pursuant to 40 CFR 130.7. TMDLs were ranked into high (H), medium (M), and low (L) priority categories based on:

1. water body significance (such as importance and extent of beneficial uses, threatened and endangered species concerns and size of water body)

2. degree of impairment or threat (such as number of pollutants/stressors of concern, and number of beneficial uses impaired)

3. conformity with related activities in the watershed (such as existence of watershed assessment, planning, pollution control, and remediation, or restoration efforts in the area)

4. potential for beneficial use protection or recovery

5. degree of public concern and involvement

6. availability of funding and information to address the water quality problem

7. overall need for an adequate pace of TMDL development for all listed waters

8. other water bodies and pollutants have become a higher priority

The Regional Board identified water body/pollutant combinations as a high priority for TMDL development for those instances in which activities are currently underway to develop TMDLs. In most cases, the water bodies identified as high priority are significant waters of the State providing critical environmental, recreational, municipal, industrial, and agricultural uses. The degree of impairment is also significant with multiple stressors impacting the high priority waters. In general, the potential for beneficial use protection or recovery is high and there is a great deal of public involvement. In some cases, the overall need for an adequate pace of TMDL development is considered. A high priority is given to some water bodies that are less significant from a state-wide perspective, but are either well characterized or tributary streams to other high priority water bodies that will be addressed as a single water quality management strategy.

The Regional Board identified water body/pollutant combinations as a medium priority for TMDL development for water bodies that are tributary to, and/or have a similar impairment as, a high priority water body. The tributaries are often significant water bodies and have a greater degree of impairment, since they are often the primary source of pollutant loads. The Regional Board will be able to take advantage of information developed to address the high priority water bodies in developing TMDLs for medium priority water bodies and, in general, efforts will already be underway in the tributary water bodies to reduce pollutant loads to the main stem river or stream.

The Regional Board identified water body/pollutant combinations as a low priority for all other water body/pollutant combinations. In many cases, the water body may have a high priority for further assessment or regulatory activity through other Regional Board programs, which lessens the immediate need to begin TMDL development. For water bodies impaired by "Unknown Toxicity", a low priority is given since identification of the toxicant(s) causing impairment is expected prior to the initiation of the TMDL development process.

It should also be noted that for both medium and low priority water body/pollutant combinations, the priority (and schedule) might change during the next 303(d) list update.

6 Scheduling

As part of the preparation of the 303(d) list, Regional Board staff prepared a proposed schedule for the completion of TMDLs for all listed water bodies. For scheduling purposes, the completion date represents the date that Regional Board staff will present a Basin Plan Amendment for Regional Board consideration.

In most cases, the Basin Plan Amendment will describe a comprehensive water quality management strategy to correct the problems associated with the listed waters and pollutants. The comprehensive strategy will include a program of implementation, water quality objectives (if necessary), new or refined beneficial use designations (if necessary), and elements of the TMDL. The work load associated with a more comprehensive strategy, together with the administrative procedural requirements of basin planning, require a greater investment of time and resources than would be required to solely address federal Clean Water Act requirements for a TMDL.

The schedule provided is based on receiving a similar level of staff and contract resources as is currently available for both TMDL development and implementation of the adopted Basin Plan Amendment. The amount of funds currently available for TMDL development and implementation is $1.7 MM. For purposes of projecting TMDL timelines, it is assumed that those funds will be available primarily for TMDL development, implementation planning and Basin Planning through 2004. After 2004, it is assumed that half of the funds will be needed for implementation of the adopted Basin Plan Amendments. It is also assumed that the average cost of developing a water quality management strategy for each listed water body and pollutant is $250,000. Based on these funding and cost assumptions, the time to complete water quality management strategies for all listed waters and pollutants is approximately 50 years.

Federal regulations (40 CFR §130.7(b)(4)) require the identification of "…waters targeted for TMDL development in the next two years." All waterbody/pollutant combinations identified for completion by 2004 are targeted for TMDL development over the next two years.

Schedules for water bodies and pollutants that are to be completed after 2004 are tentative. Regional Board staff has not reviewed the data and information available for those water bodies, so the actual scope and timeline for completing the water quality management strategy is not known.

In general, Regional Board staff assigned a high priority (and near term schedule) to water bodies and pollutants for which TMDLs are currently being developed (i.e. information is being collected and analyzed for those water body/pollutant combinations-factors 1-7 from Section 5 apply). Medium priority was assigned (and schedules up to 2015) to those TMDLs that can most effectively build on the experience gained through development of the high priority TMDLs. In many cases, the medium priority TMDLs are tributaries to the water bodies that have been assigned a high priority for TMDL development.

Regional Board staff did not provide specific dates for low priority water bodies, which would be scheduled for completion after 2015. The 303(d) list will likely be revised several times between now and 2015, so providing dates for TMDL completion for currently listed water bodies would be highly speculative. Also Regional Board staff anticipates some gain in efficiency in completely both the technical and administrative aspects of TMDL development, but that efficiency improvement is difficult to gauge at this time.

It should be noted that a water body that is a low priority for TMDL development might be a high priority for the Regional Board for: further assessment, funding of watershed activities that can contribute to addressing the beneficial use impairment, or other regulatory action.

7 Documentation

A 303(d) update fact sheet was prepared for each discrete 303(d) listing or delisting recommendation. The fact sheets can be found in Appendix B.

Fact Sheets for Listing Decisions

Each fact sheet for decisions to add water bodies and pollutants to the 303(d) list includes the following information: Waterbody name, hydrologic unit number, total water body size, pollutant(s)/stressor(s) causing impairment, likely sources; the latitude and longitude of the upstream and downstream impaired stream segment and/or a specific narrative description of the impaired segment; a description of the characteristics of the watershed; the specific water quality objective(s) not being met; a summary of the data assessment that led to the decision to list; the criteria applied to the decision to list.

Fact Sheets for Delisting Decisions

Each fact sheet for decisions to delete water bodies and pollutants from the 303(d) list includes the following information: the water body name, pollutant(s)/stressor(s) previously identified as having caused an impairment; a summary of the data or information that lead to the decision to delist; and the criteria applied to the decision to delist.

Fact Sheets to Document Changes to Currently Listed Water bodies/Pollutants

Fact sheets were used to document changes to currently listed water body/pollutant combinations. A single fact sheet is used, in some cases, to document changes that are common to a group of water bodies.

8 Public Participation

Regional Board staff conducted 3 workshops during the time frame for solicitation of information. The workshops were in Fresno, Sacramento, and Redding. It is anticipated that there will be several more opportunities for public participation after staff has prepared its draft recommendations. Prior public participation and the anticipated schedule for Regional Board action on the 303(d) list are described below:

303(d) Update Step	Public Outreach
Solicitation of Information	Mailing to 3,500 people/groups on 21 February 2001
Solicitation of Information	Workshops held in Fresno, Sacramento, and Redding
Solicitation of Information	Receive data/information through 5/15/01
Draft 303(d) List Staff Report	Release mid-September
Draft 303(d) List Staff Report	Information Item at October Regional Bd. Meeting
Final 303(d) List	Release final staff report in December/January

9 Response to Comments Received During the Solicitation of Information

In addition to data and information, the Regional Board received some comments recommending additions to or deletions from the 303(d) list. The responses to those comments which recommended specific changes to the 303(d) list are given below.

Commenter 1: Julie Roth, Executive Director, Davis South Campus Superfund Oversight Committee

"We request that the CVRWQCB list Putah Creek as impaired because of excessive mercury concentrations in some of the fish that are used as food."

Response 1: Regional Board staff has reviewed the data in the reports submitted by the commenter. Based on this review, Regional Board staff recommends the addition of lower Putah Creek to California's 303(d) list for impairment due to elevated mercury levels in fish. The basis for this determination can be found in the "Lower Putah Creek, Mercury" fact sheet in Appendix B.

Commenter 2: Barbara Vlamis, Executive Director, Butte Environmental Council

The commenter recommended the addition of several waterbodies to the 303(d) list, including:

1. Butte Creek based on "one toxic reading" from NAWQA [the U.S. Geological Survey's National Water Quality Assessment];
2. Comanche Creek based on measurements by the local Isaac Walton League "exceeding State standards for copper, lead, and zinc";
3. Little Chico Creek based on monitoring conducted by Metcalf & Eddy in a storm drain system of total suspended solids, nutrients, total copper, and total zinc;
4. Dead Horse Slough based on elevated levels of lead in the sediment relative to Little Chico Creek to which it is tributary; and
5. Little Butte Creek based on a toxicity test result showing fathead minnow mortality.

Response 2:

1. Regional Board staff contacted U.S. Geological Survey NAWQA staff (Domagalski, Personal Communication, 2001) and found that Butte Creek was not sampled, although Butte Slough was sampled. Based on data available for Butte Slough, Regional Board staff are recommending the addition of Butte Slough to the 303(d) list due to elevated levels of diazinon, molinate, and thiobencarb.
2. No data was supplied to support the recommended listing and Regional Board staff are not aware of the availability of the referenced data in Regional Board files.
3. The Metcalf and Eddy study was referenced, but was not provided. The comment references the results from the study of a storm drainage system. Regional Board staff is not recommending listing drains constructed for the specific purpose of conveying storm water drainage.
4. Regional Board staff is currently investigating the Humboldt Road Burn Dump, the site that appears to be impacting Dead Horse Slough. The investigation is following the National Contingency Plan with the Regional Board as the Administering Agency. The Remedial Investigation Reports have been submitted and are being reviewed. Since the source of the lead is likely from the site under investigation, the Regional Board should have sufficient regulatory authority to oversee clean-up at that site and in the slough (should such clean-up be needed). Based on the above information, Regional Board staff believes, identification of Dead Horse Slough on the 303(d) list is not necessary.
5. Regional Board staff is following up on the issue of fathead minnow toxicity test results as a part of a CALFED funded study. The goal of the study is to determine the cause and significance of pathogen related toxicity that has been observed in fathead minnow toxicity tests. Until the CALFED study is completed, no recommendations for additions to the 303(d) list will be made based on pathogen-related fathead minnow toxicity test results.

Commenter 3: Stephan Orme, Data Specialist, Pesticide Action Network North America (PANNA)

"I am writing to submit the enclosed data from the Department of Pesticide Regulation's (DPR) Pesticide Surface Water Database for your consideration in updating the 303(d) list. Each of the records attached below documents an exceedence of a water quality guideline by a pesticide detection in California surface waters."

The documents provided by the commenter included records of exceedances as determined by the commenter as well as a description of the methodology as to how the U.S. EPA AQUIRE database was used to establish criteria.

Response 3: A description of how Regional Board staff considered water column pesticide data is included in the "Pesticide Numeric Criteria Fact Sheet" in Appendix A. That description identifies the criteria or guidelines used to interpret the Regional Board's narrative toxicity and pesticide water quality objectives. Regional Board staff used DPR's surface water database, as well as other data sources, to make a determination as to whether a water body and associated pesticide should be added to the 303(d) list. Regional Board staff review of the data resulted in the recommended addition of a number of water bodies to the 303(d) list as not attaining water quality objectives for certain pesticides (see Table 1). In general, PANNA identified exceedances did result in a recommended listing under the following conditions: 1) the exceedances identified were for water bodies not already currently listed; 2) the identified exceedances were not for storm drains specifically constructed to convey urban runoff or drainage canals specifically constructed to convey agricultural drainage; 3) greater than one exceedance was identified; 4) sufficient total sampling events were available to determine whether a potential water quality problem is recurring; and 5) criteria applied by the Regional Board to interpret exceedance of the narrative toxicity objective were exceeded.

Commenter 4: Phil Chang, Watershed Coordinator, Sierra Nevada Alliance

The commenter recommended that a number of Sierran watersheds be added to the "Priority Category I Watersheds" list. The commenter mentions some potential mercury and arsenic problems in the middle fork of the American River watershed and the south fork of the Feather River watershed. The commenter also states that the "surrounding watersheds in the Feather, Yuba, Bear, and American River basins have been listed in part for these same concerns." Based on a recommendation to create Aquatic Diversity Management Areas as part of the Sierra Nevada Ecosystem Project, the commenter recommends that "that the Middle Fork Feather, Upper Kern, Upper Merced, Upper Kings, Upper Merced, Upper Tuolumne, Upper Stanislaus, and Upper Mokelumne watersheds be prioritized in the 303(d) list development in 2001." Based on their importance as a drinking water source, the commenter recommends that "the upper Feather, American, Mokelumne, and Tuolumne watersheds should also be on the Priority Category I list."

Response 4: The commenter appears to be referring to the Unified Watershed Assessment process conducted in 1997 (see http://www.ca.nrcs.usda.gov/wps/cwap.html). The Federal government used the results of that process to prioritize funding of work related to watershed protection and restoration. Although the 303(d) list was used as a criteria to identify "Category I priority" watersheds, other criteria were also applied. Regional Board staff has reviewed the mercury information referred to by the commenter that is available for several Sierran streams and reservoirs. Based on that review, Regional Board staff are recommending the addition a number of waterbodies to the 303(d) list due to high levels of mercury in fish tissue. The recommended designation of Aquatic Diversity Management Areas does not appear to identify specific pollutants causing exceedances of water quality objectives, so Regional Board staff do not recommend adding the identified watersheds to the 303(d) list. The importance of a watershed as a drinking water source is not a sufficient basis for listing a waterbody, so Regional Board staff does not recommend adding to the 303(d) list those watersheds identified as important drinking water sources.

Commenter 5: Alexander R. Coate, Manager of Regulatory Compliance, East Bay Municipal Utility District (EBMUD)

"Data to recommend delisting of the Lower Mokelumne River for impairment due to copper and zinc and listing Rich Gulch as impaired for arsenic are provided for your consideration."

Response 5: Regional Board staff reviewed the data provided by EBMUD and are recommending that the Lower Mokelumne River remain on the 303(d) list for impairment due to copper and zinc. The 1998 303(d) list included Camanche Reservoir as part of the Lower Mokelumne River. The data does indicate that substantive improvements in water quality have occurred and that it is likely that water quality objectives are being attained for zinc in the Lower Mokelumne River and Camanche Reservoir as well as copper in Camanche Reservoir. The limited data set (1 year) available for Camanche Reservoir (post-remediation) is not sufficient to demonstrate that objectives are being met over a variety of water year types. Copper data for the Lower Mokelumne River still indicates that there are periodic exceedances. No recent data on zinc levels in the Lower Mokelumne River is available. A more detailed review of the data provided can be found in the Fact Sheets for the Lower Mokelumne River and Camanche Reservoir. Regional Board staff is not recommending the addition of Rich Gulch to the 303(d) list for impairment due to arsenic. The data provided was for a single storm event. Regional Board staff has learned that the Gwin Mine was the most likely source of the arsenic and that the mine portal was open for an exploratory survey in January 1997. The portal has since been closed, so storm water discharges from the mine are unlikely.

Commenter 6: William E. Teplin

"I am especially interested in any information that might help me understand the observations I have made for the past 2 years in early spring runoff (pre-peak) in the South Fork Kings River and Ten Mile Creek, both in the Sequoia National Forest, down stream of Sequoia-Kings Canyon National Park. We have observed major algal blooms and phosphate pillows (2 foot tall soap suds) in areas that would seem to be relatively pristine."

Response 6: No other data or information was provided, so no recommended changes to the 303(d) list are being made. Regional Board staff in Fresno will be conducting nutrient and pathogen monitoring in Ten Mile Creek (see Table 2). The comment has been forwarded to the Fresno office of the Regional Board for follow-up.

Commenter 7: Will Doleman, A Call for Water Sanity! Monitoring Group

The commenter provided information on issues in a number of creeks and ditches in Nevada County.

Response 7: No recommendations for changes to the 303(d) list were made based on the information provided in the letter. Based on the information in the report provided, Regional Board staff was not able to determine the quality assurance/quality control and sample collection procedures used. The commenter did provide some information that could indicate a potential water quality problem. Regional Board NPDES staff will follow-up and sample a number of the creeks identified by the commenter.

Commenter 8: Mary Berglund, President, Kern County Neighbors for Quality Air, Water and Growth

The commenter provided information and observations related to the Kern River, Buena Vista Lake, Caliente Creek, and Tehachapi Creek, as well as the EPC – Eastside Landfill. The commenter requests that the Regional Board investigate the sites mentioned.

Response 8: No recommendations for changes to the 303(d) list were made based on the information provided in the letter. The information was limited to a few observations, but no data was provided. The letter has been forwarded to the Fresno office for follow-up.

Commenter 9: Lynell Garfield, River Science Dir., South Yuba River Citizen's League (SYRCL)

The commenter recommends listing Shady Creek for excessive sediment. Information was also provided on E. coli levels in Humbug Creek and the Upper Yuba River.

Response 9: The commenter states that SYRCL has no data for the recommended listing of Shady Creek. Regional Board staff does not recommend listing water bodies based

solely on anecdotal information. Regional Board staff has reviewed the information provided on E. coli levels in Humbug Creek and the Upper Yuba River. Analytical results for total coliform and E. coli do not indicate exceedances of Department of Health Services criteria, therefore, Regional Board staff do not recommend listing Humbug Creek and the Upper Yuba River.

Commenter 10: Bill Jennings, DeltaKeeper

Response 10
The commenter recommended approximately 101 additions to California's 303(d) list for non-attainment of standards in Central Valley waters. In addition to the specific waterbodies and pollutants identified in the table below, DeltaKeeper recommended adding a number of specific waterbodies to the 303(d) List for temperature.

Staff recommends that waterbodies not be added to the 303(d) List for temperature. The Regional Board's Basin Plan includes the following temperature narrative objective "The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. ….At no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature. Temperature changes due to controllable factors shall be limited for the water bodies specified as described in Table III-4. To the extent of any conflict with the above, the more stringent objective applies. In determining compliance with the water quality objectives for temperature, appropriate averaging periods may be applied provided that beneficial uses will be fully protected."

As stated, the temperature objective would require the Regional Board to determine the "natural receiving water temperature" in order to determine whether the temperature has been altered in a manner that affects beneficial uses or to determine whether temperature has been increase by greater than 5°F above natural receiving water temperature. The determination of the "natural receiving water temperature" for the Central Valley streams and rivers would require a scientific investigation and modeling effort that is beyond the scope of the 303(d) list update process. Staff, therefore, does not recommend the addition of any water bodies to the 303(d) list as impaired due to temperature.

Appendix A of this report describes how Regional Board staff evaluated available information for metals, mercury, pathogens, and pesticides. Based on information submitted by the commenter, other readily available information, and the procedures outlined in Appendix A, Regional Board staff determined whether water quality objectives were being attained for the recommended additions to the 303(d) list. Regional Board staff evaluation of recommended additions for other contaminants (other than metals, mercury, pathogens, and pesticides) is described below.

The commenter recommended addition of the Delta to the 303(d) list for impairment due to exotic species. Regional Board staff agree that exotic species are a problem in the Delta, but do not believe that exotic species are a "pollutant" as defined by the Clean

Water Act and therefore should not be included on the 303(d) list. Regional Board staff will consider identifying exotic species on the 305(b) report.

The commenter also recommended the addition of a number of parameters and water bodies to the 303(d) list based on exceedance of certain drinking water guidelines. Regional Board staff will be developing a proposed drinking water policy for Central Valley waters. That policy will identify both the relevant drinking water criteria as well as the appropriate point of application of those criteria. Regional Board staff believes that additions to the 303(d) list based on exceedance of criteria other than primary MCLs (maximum contaminant levels) would be premature.

The commenter recommended the addition of the Sacramento River to the 303(d) list as impaired by dieldrin. Dieldrin is an organo-chlorine pesticide that is considered to have an additive toxic effect with a number of other organo-chlorine pesticides (see footnote 3 to Table 1). This group of organo-chlorine pesticides is referred to as Group A pesticides. Regional Board staff applied the National Academy of Sciences (NAS, 1973) guidelines for Group A pesticides and the Food and Drug Administration guidelines (USFDA, 1984) of 100 ng/g and 300 ng/g respectively in evaluating the available information. Based on those guidelines and the available information, Regional Board staff does not recommend adding the Sacramento River to the 303(d) list for impairment by dieldrin.

The commenter recommended the addition of the Sacramento River, North Delta, South Delta and Smith Canal to the 303(d) list for impairment by PCBs. Regional Board staff applied the National Academy of Sciences (NAS, 1973) guidelines and the Food and Drug Administration guidelines (USDA-FDA, 1984) of 500 ng/g and 2000 ng/g respectively in evaluating the available information. Based on those guidelines and the available information, Regional Board staff does not recommend adding the Sacramento River, North Delta, South Delta and Smith Canal to the 303(d) list for impairment by PCBs.

The commenter recommended the addition of Mosher Slough, Five-Mile Slough, the Calaveras River, Smith Canal, Mormon Slough, and French Camp Slough to the 303(d) list as impaired by low dissolved oxygen. Regional Board staff recommends adding Mosher Slough, Five-Mile Slough, the Calaveras River, Smith Canal, and Mormon Slough to the 303(d) list as impaired by dissolved oxygen. The limited data set for French Camp Slough did not indicate the potential for a recurring dissolved oxygen problem.

The commenter recommended adding the Colusa Basin Drain to the 303(d) list as impaired by high electrical conductivity. The commenter states that the 90th percentile of the available data is above an agricultural water quality goal of 700 μmhos/cm. Electrical conductivity is an indicator of pollutants (e.g. sodium, chloride) that can impact salt sensitive crops at high enough levels. Regional Board staff are not aware of any information from users of the Colusa Basin Drain that the salinity levels are impacting

crops, therefore, Regional Board staff do not recommend adding the Colusa Basin Drain to the 303(d) list as impaired by high electrical conductivity.

The commenter recommended adding the San Joaquin River to the 303(d) list for impairment due to high ammonia levels. Regional Board staff believe that ammonia issues will be addressed by NPDES permits that are currently in place and, therefore, do not recommend adding the San Joaquin River to the 303(d) list for impairment due to high ammonia levels.

10 References

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Appendix A

Numeric Criteria Fact Sheets

Draft Staff Report on Recommended Changes to California's Clean Water Act Section 303(d) List

Appendix B

Fact Sheets for Recommended Changes to the 303(d) List