Alameda Creek Alliance * Audubon California * Baykeeper * Butte Environmental Council * California Coastkeepers Alliance * California Native Plan Society * California Trout * Citizens to Complete the Refuge * Defenders of Wildlife * Endangered Habitat League * Friends of Coyote Hills * Humbolt Baykeeper * Institute for Fisheries Resources * Klamath Riverkeeper * Northern California Council, Federation of Fly Fishers * Pacific Coast Federation of Fishermen's Associations * Planning and Conservation League * Protect our Water * Russian Riverkeeper * Sacramento Audubon Society * San Luis Obispo Coastkeeper * San Joaquin Raptor Rescue Center * San Joaquin Valley Conservancy * Santa Monica Baykeeper * Save the Bay * Sierra Club California * The Ocean Conservancy * Vote the Coast

April 19, 2007

Via Electronic Mail

Song Her, Clerk to the Board
Executive Office
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

Re: Comment Letter – Wetland and Riparian Area Protection Policy

Dear Ms. Her:

On behalf of the 28 undersigned local, state and national conservation organizations, representing more than a million members in California, we are submitting CEQA Scoping Comments to the State Water Resources Control Board (SWRCB) for its proposal to adopt a statewide wetlands and riparian area protection policy. We urge the SWRCB to adopt and implement Alternative 4 -- a policy that protects the broad range of functions and values provided by streams and wetlands, including the protection of plant and wildlife habitat. Alternative 4 is the only alternative that would provide consistent protection for all state waters.[1]

[1] California Water Code, Division 7, Water Quality, § 13001 requires the State and the Regional Boards "at all times, [to] coordinate their respective activities so as to achieve a unified and effective water quality control program in this state."

The Porter-Cologne Act provides the SWRCB and the Regional Water Quality Control Boards (Regional Boards) with broad jurisdiction to regulate activities and factors that "could affect the quality of the waters of the state." The Act provides expansive definitions of "waters of the state" and "waste." Waste is broadly defined to include "sewage and any and all other waste substances… associated with human habitation, or of human or animal origin… or from producing, manufacturing, or processing operation of whatever nature…."[2] The Board also has a mandate to protect public trust resources under California Water Code §§100 and 275 and Article X § 2 of the California Constitution. Thus, the wetlands and riparian protection policy set forth in Alternative 4 clearly falls within the existing jurisdiction of the SWRCB.

Finally, we urge the SWRCB to move forward as quickly as possible to adopt a statewide wetlands and riparian area protection policy. Both Regional Boards from Regions 1 and 2 have completed a significant amount of work that the SWRCB can use as a basis for its final policy. We do request, however, that the SWRCB create its policy in such a way as to not limit or delay the regional boards as they work to create their wetland and riparian area protection policies, water quality objectives and actions. In particular, we request that the SWRCB defer the development of water quality objectives to the regional board process. These objectives must be tailored to meet the local conditions in each region.

Wetland & Riparian Protection Policy

The SWRCB has set forth an adequate range of project alternatives in its scoping notice. The four alternatives cover the broad spectrum of actions that the SWRCB may take in a wetlands and riparian area protection policy. These alternatives range from the least protective (Alternative 1 – No Action) to the most protective of state waters (Alternative 4 – Develop a New State Policy to Regulate a Variety of Discharges and Activities that Impact Wetlands and Riparian Areas).

We strongly support the SWRCB's Alternative 4 as the basis for its final policy. Alternative 4 is the ***only*** alternative that will fully protect our wetlands, streams and riparian areas by looking at ***all of the activities*** that pollute our waters and protecting ***all of the values*** provided by these waters.

We also strongly support the SWRCB's recognition that it is necessary to protect and restore the physical characteristics of stream and wetland systems and riparian areas, including their connectivity and natural hydrologic regimes, in order to achieve its goals. We are encouraged that the SWRCB has identified the restoration of habitat and protection of aquatic species and wildlife as one of the goals of its policy.

The final SWRCB policy should seek to protect the full range of functions and values provided by the state's waters including its wetlands and streams. This policy should carry out the "no net loss" of wetlands and riparian functions and values directive.[3] The Federal 404(b)(1) Guidelines

[2] California Water Code, Division 7, Water Quality, § 13050(d).

[3] In 1993, Governor Wilson announced the "California Wetlands Conservation Policy," which established a goal of "no net loss" of wetlands in California. Unfortunately, this goal as not been reached since 1997. See, Jennifer

should serve as a starting point for the SWRCB, but we urge the SWRCB to view these guidelines as a floor not a ceiling for the wetland and riparian protection policy. For instance, the SWRCB should not limit its policy by the high water mark federal limitation, as no such limitation exists under the Porter-Cologne Act. The policy should include provisions to avoid, minimize, and mitigate unavoidable impacts to wetlands and streams. In instances when mitigation is required, it should include mitigation for all the functions and values provided by the waters, not simply for acreage.

The SWRCB should write its policy to protect the broadest definition of state waters, including waters no longer subject to federal jurisdiction (due to the U.S. Supreme Court's decision in *SWANCC* and *Rapanos*)[4] and waters that may in the future be found no longer to be subject to federal jurisdiction. In addition, the policy should include the development of statewide beneficial uses to protect these important waters and create a regulatory coordination process with the Department of Fish and Game (DFG).

Wetland Definition

Generally, wetlands are lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface.[5]

In order to protect and restore the physical characteristics of stream and wetland systems, including their connectivity and natural hydrologic regimes, the SWRCB must adopt expansive definitions for wetlands and streams. The SWRCB should not adopt the U.S. Army Corps of Engineers' (ACOE) wetland definition, which requires three parameters (wetland vegetation, hydric soils, and wetland hydrology). Unfortunately, the ACOE definition fails to capture key wetlands in infrequently flooded or saturated wetlands such as flats, playas, riparian zones, and some depressional wetlands, which lack wetland vegetation. Characteristic soils may also be lacking. This is true for wetlands subject to significant long-term surface water or ground water fluctuations.[6] Thus, the ACOE definition is too narrow and would not adequately protect ***all*** "waters of the state."

Instead, the SWRCB should pursue a broader definition that protects the full range of California's wetlands, explicitly including seasonal and intermittent wetlands no longer protected

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Ruffolo, "The U.S. Supreme Court Limits Federal Regulation of Wetlands: Implications of the SWANCC Decision," California Research Bureau, California State Library (February 2002).

[4] The 2001 U.S. Supreme Court decision *Solid Waste Agency of Northern Cook County (SWANCC) v. U. S. Army Corps of Engineers*, 531 U.S. 159 (2001), which denied the U. S. Army Corps of Engineers' jurisdiction over certain isolated waters. The Supreme Court ruling in 2006 in *Rapanos v. United States*, 547 U.S. ___ (2006), failed to clarify the ACOE's jurisdiction.

[5] Cowardin, "Classification of Wetlands and Deepwater Habitats of the United States," FWS/OBS 79/31(December 1979).

[6] Jon Kusler, "Common Questions: Wetland Definition, Delineation, and Mapping," Association of State Wetland Managers, Inc.

by the Federal Government. Thus, we urge the SWRCB to examine the U.S. Fish and Wildlife Service (USFWS) definition of wetlands. This definition states:

> Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports hydrophytes, (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.[7]

The USFWS definition includes, swamps; freshwater, brackish water, and saltwater marshes; bogs; vernal pools, periodically inundated saltflats; intertidal mudflats; wet meadows; wet pastures; springs and seeps; portions of lakes, ponds, rivers and streams; and all other areas which are periodically or permanently covered by shallow water, or dominated by hydrophytic vegetation, or in which the soils are predominantly hydric in nature. The USDA Natural Resources Conservation Service (NRCS) has adopted this definition.

In addition, when the California Fish and Game Commission assigned DFG the task of recommending a wetlands definition, DFG found the USFWS wetland definition and classification system to be the most biologically valid. The DFG staff use this definition as a guide in identifying wetlands while conducting on-site inspections for the implementation of its Commission's wetlands policy.

In addition to the USFWS definition, California has defined wetlands in its own statutes. The SWRCB should examine these definitions to ensure that the SWRCB definition is consistent with the definitions used by other state regulatory entities, including DFG and the California Coastal Commission.

Wetlands found in the “coastal zone” are regulated under the California Coastal Act of 1976 (CCA) and the federal Coastal Zone Management Act (CZMA), and are within jurisdiction of the California Coastal Commission. Under the CCA, wetlands are defined as land within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens. (Pub. Res. Code §30121)

However, further precision in wetlands jurisdiction is provided to the Coastal Commission under the California Code of Regulations. Under these provisions, wetlands are defined as:

> ...land where the water table is at near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include types of wetlands where vegetation is lacking and soil is poorly developed or absent

[7] Cowardin (1979).

> as a result of frequent drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentration of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some during each year and their location within, or adjacent to vegetated wetland or deepwater habitats. (14 CCR 13577)

Because San Francisco Bay does not lie within the Coastal Commission's jurisdiction, coastal management of the bay is provided by another State agency, the San Francisco Bay Conservation and Development Commission (BCDC). The primary State law governing the BCDC, the McAteer-Petris Act, does not define wetlands but does outline the BCDC's jurisdiction respective of wetlands. "Managed wetlands consisting of all areas which have been diked off from the bay and have been maintained during the three years immediately preceding the effective date of the amendment of this section during the 1969 Regular Session of the Legislature as a duck hunting preserve, game refuge or for agriculture." (Gov. Code §66610(b)).

While the above examples are either biological or regulatory in nature, other definitions in State law provide for the acquisition, enhancement, and preservation of wetlands. For instance, under the Keene-Nejedly California Wetlands Preservation Act wetlands are defined as:

> ...streams, channels, lakes reservoirs, bays, estuaries, lagoons, marshes, and the lands underlying and adjoining such waters, whether permanently or intermittently submerged to the extent that such waters and lands support and contain significant fish, wildlife, recreational, aesthetic, or scientific purposes. (Pub. Res. Code §5812).

Finally, under California Wildlife Protection Act "wetlands" means lands that may be covered periodically or permanently with shallow water and which include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, fens, and vernal pools. (Fish & Game Code §2785).

Riparian Definition

If the proposed policy is going to protect ***all*** state waters, then it is essential that the SWRCB include riparian areas in its policy. In its 2003 comments on the Advanced Notice of Proposed Rulemaking on Definitions of Waters of the United States, the SWRCB itself stated that:

> Much of Californian riparian function is delineated out of federally jurisdictional waters in most years. In the East, the physical indicators demarcating 'waters of the United States' correlate with the portion of the floodplain providing wetland and riparian functions; in more arid regions, they do not. Dynamic Western hydrologic regimes result in reduced protection under the Clean Water Act because the physical characteristics specified in 33 C.F.R. 328.3(e) - scour lines, flood debris, etc. - used to delimit

> 'waters' are left by frequently recurring floods, whereas riparian functions can be supported by less frequent floods. In the East, this is unimportant because seasonal and annual flow variations are muted. For example, the increase in flow between the one-year and 50-year flood in a Pennsylvania watershed is 2.5 times (i.e., the 50-year flood carries 2.5 times as much water as the one-year flood). Western dryland systems, however, are much more variable. The same figure in a dryland stream is 280, and in small southern California dryland basins the 50-year flood may carry 400 times as much water as the one-year flood. Western riparian vegetation has adapted to establish and survive in portions of the floodplain inundated relatively infrequently, beyond the boundary of physical characteristics left by the frequent flood events and hence outside of federal CW A jurisdiction. See: Aaron Allen and D. Malanchuk, Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest, USACOE, South Pacific Division, June 2001.[8]

Even though riparian areas usually are not considered jurisdictional wetlands under the federal Clean Water Act, their value usually exceeds wetlands in terms of wildlife.[9] The National Research Council stated that in the Pacific Coast ecoregion, a considerable proportion of wildlife species are riparian "obligates" requiring access to riparian habitat to complete all or a portion of their life cycle, i.e., 60 percent of amphibians, 16 percent of reptiles, 34 percent of birds, and 12 percent of mammals. [10] According to DFG, although riparian areas occupy only a small part of the total land area in California, they support a tremendous number of fish and wildlife species. More than 225 species of birds, mammals, reptiles, and amphibians depend on California's riparian habitats.[11] Unfortunately, since we have destroyed 98-99% of our riparian areas in California, this landscape has been identified as one of the most important habitat types to conserve and protect in California.[12]

In addition to wildlife, riparian systems are critical in maintaining the biological process and pollutant removal characteristics of small headwater streams. These smaller streams have

[8] SWRCB, Letter to the U.S. Environmental Protection Agency, "Comment on Advanced Notice of Proposed Rulemaking on Definition of 'Waters of the United States,'" (March 11, 2003), p. 14.

[9] M.F. Sudol, "Success of Riparian Mitigation as Compensation for Impacts due to Permits Issued through Section 404 of the Clean Water Act in Orange County, California," a dissertation submitted in partial satisfaction for the requirements for the degree of Doctor of Environmental Science and Engineering, UCLA (1996).

[10] National Research Council, "Riparian Areas: Functions and Strategies for Management," National Academy of Sciences Press (2002).

[11] California Department of Fish and Game, "Atlas of the Biodiversity of California," (2003), p. 56.

[12] California Department of Fish and Game, "The California Wildlife Action Plan," (2007), p. 49.

special importance in maintaining water quality within a watershed.[13] Riparian areas also have a value and intrinsic relationship to the dynamic hydrology characteristics.[14]

Therefore, the SWRCB must include riparian areas in its new policy. We strongly urge the SWRCB to examine the definition of riparian areas detailed by the National Research Council in its 2002 report:

> Riparian areas are transitional between terrestrial and aquatic ecosystems and are distinguished by gradients in biophysical conditions, ecological processes, and biota. They are areas through which surface and subsurface hydrology connect waterbodies with their adjacent uplands. They include those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems (i.e., a zone of influence). Riparian areas are adjacent to perennial, intermittent, and ephemeral streams, lakes, and estuarine-marine shorelines.[15]

Wetland Beneficial Uses

The SWRCB should develop statewide beneficial use (BUs) definitions that protect the functions and values of wetlands, including wildlife habitat, water filtration and purification, flood control and more. The wetland and stream habitat BUs should provide protection for natural communities that depend on state waters and not be limited to threatened and endangered species. Such protections would help prevent the formal listing of additional species under the federal Endangered Species Act and California Endangered Species Act, thus minimizing the likelihood of unnecessary project delays and litigation.

Emphasis should also be placed on protecting beneficial uses and ensuring habitat connectivity at the regional or watershed level. "Habitat connectivity" refers to the need for plant and animal populations to have some mobility over the landscape, i.e., to avoid becoming "isolated" or "disjunct." Such mobility may occur at the level of the individual organism (e.g., a bird or turtle traveling between separated wetlands) and/or of the population (e.g., a plant species colonizing a new wetland through seed dispersal); and over different time scales. In recent decades, a large body of research has demonstrated that such "isolated" populations face a high probability of eventual extinction, even if their immediate habitats are spared. In general, the smaller the isolated population, the more quickly it will die out. Urban development typically fragments habitat by creating artificial landscapes, which are movement barriers for most species. Unless mitigation measures are taken, isolated, non-viable populations are created as buildings, roads,

[13] See, J.P. Peterson, et al., "Control of Nitrogen Export from Watershed by Headwater Streams," Science 292, (April 6, 2001), pp. 86-88.

[14] Michael L. Scott, et al., "Relating Geomorphic Change and Grazing to Avian Communities in Riparian Forests," Conservation Biology 17:1, pp. 284-296.

[15] National Research Council, "Riparian Areas: Functions and Strategies for Management," National Academy of Sciences Press (2002).

and landscaping cut off lines of movement. In the context of wetlands, "habitat connectivity" refers to three related phenomena:

- The need of some animals to have access to both wetland and upland habitats at different parts of their life cycle. Some wetland animals, e.g., some amphibians and turtles, require access at different seasons and/or at different life stages to both wetland and to nearby upland. Preserving the wetland but not access to upland habitat will locally exterminate such species.
- The ecological relationship between separate wetlands. Some wetland communities and their associated species comprise networks of "patches" throughout a landscape. Wetland plants and animals are adapted to the presence of wetland complexes within a watershed and are dependent on moving among the wetlands within the complex, either regularly or in response to environmental stressors such as flood or drought, local food shortage, predator pressure, or influx of pollution. Removing one such water from the complex will reduce the biological quality of the rest, and at some point the simplified wetland complex will be incapable of supporting at least some of the species, even though some wetlands remain.
- The role wetlands and riparian corridors play in allowing larger-scale movements. Some strategically located wetlands and especially continuous strips of riparian habitat along streams facilitate connectivity at watershed and regional scales for terrestrial as well as aquatic and amphibious species.

Habitat connectivity is critical to biodiversity maintenance, and will become more so because of global warming. Significant range shifts and other responses to global warming have already occurred. The ability of biotic populations to move across the landscape may be critical to their survival in coming decades.[16] Protecting the biodiversity and ecosystem functions associated with water bodies will protect the water quality of those bodies.

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[16] For the effects of habitat fragmentation and population isolation on the survival of plants and animals, see for example:
K. L. Knutson and V.L. Naef, Management Recommendations for Washington's Priority Habitats: Riparian, Washington Dept. of Fish and Wildlife, Olympia, W A (December 1997), p.71.
RF Noss and A. Y Cooperrider, Saving Nature's Legacy; Protecting and Restoring Biodiversity, Washington, D.C., Island Press (1994), pp. 33-34, 50-54, 59-62, 61-62.
D.E. Saunders, R.J. Hobbs, and C.R. Margules, "Biological Consequences of Ecosystem Fragmentation: A Review," Conservation Biology 5(1) (March 1991), pp. 18-32.
Michael E. Soule, "Land Use Planning and Wildlife Maintenance, Guidelines for Conserving Wildlife in an Urban Landscape," Journal of the American Planning Association 57(3) (1991), pp. 313-323.
Michael E. Soule, "The Effects of Habitat Fragmentation on Chaparral Plants and Vertebrates," Gikas 63 (1992), pp. 39-47.
United States Federal Interagency Stream Restoration Working Group, Stream Corridor Restoration: Principles, Practices, and Processes (October 1998), [Online]. Available from: htto://www.usda.20v/stream restoration. Printed copy available from: National Technical Information Service (NTIS), Springfield, VA, pp. 2-80, 2-82.

Regarding the relationship between wetland and upland habitats, see, e.g.,Vincent J. Burke and J. Whitfield Gibbons, "Terrestrial Buffer Zones and Wetland Conservation: A Case Study of Freshwater Turtles in a Carolina Bay," Conservation Biology 9(6) (1995), pp. 1365-1369; C. Kenneth Dodd, Jr. and Brian S. Cade, "Movement Patterns and the Conservation of Amphibians Breeding in Small Temporary Wetlands," Conservation Biology 12(2) (1998), pp. 331-339; Raymond D. Semlitsch, "Biological Delineation of Terrestrial Buffer Zones for Pond Breeding Salamanders," Conservation Biology 12(4) (1997), pp. 1113-1119.

Activities Covered by the Proposed Policy

Since the SWRCB is charged with protecting the waters of the state, the proposed policy must encompass ***all*** activities that affect our state waters. Thus, the state policy should not be limited to simply regulating "dredge and fill" activities. There are a number of activities that affect water quality beyond the deposition of dredge or fill material into waterways. Hydromodification – changes to channel form, flow regime, and sediment supply – affect water characteristics, resulting in flooding, bank erosion, and other adverse impacts to beneficial uses both up and down-stream. Indeed, the SWRCB regulates the hydromodification impact of increased stormwater flows from upland developments. Other activities that affect waters of the state include land and vegetation clearing, invasive species, and discharges of pollutants such as nutrients.

Protecting Wildlife in California/Regulatory Coordination

In order to protect the natural communities that depend on the State's waters, the SWRCB must consult and coordinate its efforts with DFG. Specifically, the SWRCB must ensure that its policy will be consistent with DFG's statutory obligations under the state Endangered Species Act and Streambed Alteration Agreement provisions.

In addition, we strongly urge the SWRCB to pay attention to the recommendations found in the recently completed California's Wildlife Action Plan.[17] The Plan acknowledges the integral role that water policies, such as the one currently being considered by the SWRCB, will have on the future of our natural communities: "In all regions of the state, aquatic and riparian habitats support rich biological communities, including many special status species, and degradation of these habitats represents a serious threat to the state's biological heritage."[18]

The Wildlife Action Plan identifies growth and development and water management conflicts as two major threats (or "stressors") to the state's wildlife. Several of the Action Plan's Recommended Statewide Conservation Actions are relevant to the development of the SWRCB's policy and its ability to address these threats. Two of the most applicable recommended actions follow:

- State and local agencies should allocate sufficient water for ecosystem uses and wildlife needs when planning for and meeting regional water supply needs.[19]

- Federal, state, and local agencies and nongovernmental conservation organizations, working with private and owners and public land managers should expand efforts to restore and conserve riparian communities.[20]

[17] The California Wildlife Action Plan is available at http://www.dfg.ca.gov/habitats/wdp/

[18] California Wildlife Action Plan, p. 14.

[19] California Wildlife Action Plan, Recommended Statewide Conservation Action (e), p. 21.

[20] California Wildlife Action Plan, Recommended Statewide Conservation Action (g), p. 22.

Thus, in preparing its stream and wetland protection policy, the Board should consult with the California Department of Fish & Game, other resource agencies, and non-profits in determining its consistency with the Wildlife Action Plan.[21]

The SWRCB should also utilize (and encourage others to use) GIS and other technologies to identify and protect the region's biodiversity and ecosystem functions. Once the SWRCB has identified the water and associated habitat needs, the SWRCB can proactively work with local communities at the regional and general plan level to ensure adequately protection for these areas. Identifying wetlands and riparian areas at the planning level will decrease costs and delays for individual projects down the line. Furthermore, the protection of such areas now will save costs in the future.

Climate Change

The SWRCB should ensure that its policy takes into account the importance of wetlands and riparian areas in mitigating and adapting to climate change as well as the effects of climate change on the State's waters.[22] Numerous studies and the State's own Climate Action Plan predict increased flooding, sea level rise, greater storm surges and other climate change impacts on California. Wetlands, levee setbacks, bypasses and protected riparian corridors all provide important and cost-effective ways to reduce the impacts of climate change on California's waters and other resources.

Areas protected should incorporate a range of environmental gradients (such as slope, elevation, aspect, and coastal or inland characteristics) and high habitat diversity to provide for shifting species distributions due to changed circumstances.[23] The policy should, to the extent possible, also account for changes in precipitation, higher temperatures, rising sea level and other impacts based on the best available information on such impacts. Such analysis should address the forecast identified in the Climate Action Team Report to the Governor, released by the California Environmental Protection Agency in March 2006. The development of this policy, including any performance measures or standards, model ordinances, rules, and requirements

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[21] California Wildlife Action Plan, Recommended Statewide Conservation Action (a), p. 20. "The state should develop policies and incentives to facilitate better integration of wildlife conservation considerations into local and regional planning and land-use decision-making."

[22] See, "Progress on Incorporating Climate Change into Management of California's Water Resources," Technical Memorandum Report by the California Department of Water Resources (July 2006). In addition, two reports comprehensively review observed effects of global change on plant and animal range shifts, advancement of spring events, and other responses. See: Terry L. Root, Jeff T. Price, Kimberly R Hall, Stephen H. Schnieder, Cynthia Rosenzweig, and Alan Pounds, "Fingerprints of Global Warming on Wild Animals and Plants," Science 421(2) (January 2003), pp. 57-60; Camille Parmesan and Gary Yohe, "A Globally Coherent Fingerprint of Climate Change Impacts Cross Natural Systems," Science 421:2 (January 2003), pp. 37-42.

[23] This language is derived from the California Natural Communities Conservation Planning Act (CA Fish & Game Code § 2800 et seq.), at § 2820(D).

should err on the side of greater protection of waters and associated habitat in order to account for likely changes due to climate change.

This policy should also acknowledge the benefits wetlands have in assisting in sequestering carbon. More nutrients in wetlands are tied up in organic deposits than are lost from ecosystem cycling of peat deposits and/or organic export. This process of "carbon sequestration" helps counteract global warming by moderating human-caused increases in atmospheric carbon dioxide. [24]

Economic Benefits of a Strong Wetlands and Riparian Area Protection Policy.

Maintaining natural stream and wetland functions is ecologically and economically superior to filling, dredging, and channelizing these systems. There is abundant scientific literature linking the preservation of wetlands and riparian areas to the protection of water quality and habitat.[25] The adoption of a strong policy would best provide for the long-term economic growth in the State of California.

Economic benefits that would result from a strong wetlands and riparian area protection policy include, but are not limited to protecting water quantity and quality (as opposed to alternatives such as new treatment facilities and desalination plants), reducing sediment removal costs, preventing damage from floods and other natural disasters, conserving wildlife, and protecting existing state investments from the impacts of climate change.[26]

As the SWRCB pointed out in its Comments on the Advance Notice of Proposed Rulemaking on the Definition of "Waters of the United States" (March 11, 2003), the loss of aquatic integrity often causes economic impairment. Foreseeable adverse economic consequences include:

1. Loss of pollutant removal would degrade downstream waters, increasing treatment costs, making waters unsuitable for some uses, and requiring additional TMDLs with associated public and private costs.[27]

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[24] See: S. Mark Dennison and James F. Berry, Wetlands: Guide to Science, Law and Technology, Noyes Publications, Park Ridge, New Jersey (1993); J. William Mitsch and James G. Gosselink, Wetlands (2nd edition), VanNostrand Reinhold, New York (1993).

[25] The National Research Council in two separate reports has detailed the values and benefits of conserving wetlands and riparian areas. National Research Council, "Wetlands: Characteristics and Boundaries" (1996); National Research Council, "Riparian Areas: Functions and Strategies for Management," National Academy of Sciences Press (2002).

[26] Sources that would need to be consulted in addressing such benefits include, but are not limited to data compiled by the U.S. EPA, U.S. Forest Service, the EVRI database (maintained by the Canadian Environment Ministry), as well as other governmental, academic, and non-profit sources. For example, Defenders of Wildlife's Biodiversity Partnership Initiative has compiled a brief bibliography of Economics of Biodiversity Conservation, available at http://www.biodiversitypartners.com/econ/pub/Economic_Valuation_Bibliography.pdf

[27] Replicating the pollutant removal functions of natural wetlands is expensive. On February 4, 2003, the California State Water Resources Control Board approved a grant of $1.2 million to enlarge a wetland area behind Prado Dam in Riverside County. The wetland was planted and is maintained to filter contaminants from the Santa Ana River. In

2. Loss of flood storage capacity would increase economic losses from flooding and channel instability, requiring expensive flood control projects.
3. Loss of aquifer recharge could affect industrial agricultural and municipal uses of groundwater and reduced stream baseflow would affect a myriad of economic interests.
4. Loss of headwater streams would reduce spawning and refuge habitats for commercially important salmon populations as well as many other species since 75% of commercial and sport fisheries are wetland dependent.[28]
5. Loss of seasonal wetlands and headwater habitat would result in additional state and federal endangered species listings, with associated constraints on economic activity.
6. Loss of revenue from public recreation (e.g., bird-watching, sight-seeing).

Conclusion

The need for California to institute a strong stream and wetland protection policy is more important now than ever. Like many states, California relied on federal regulatory coverage of its wetlands prior to the *SWANCC* decision.[29] Unlike other states, California has a disproportionate number of non-jurisdictional wetlands due to its unique climate, geography and hydrology. The importance of these isolated wetlands to biological resources (including threatened and endangered species) has been extensively addressed in many studies and reports, including the NatureServe Report: *Biological Values of Geographically Isolated Wetlands in the United States* (December 1, 2005).[30]

The SWRCB has before it an excellent opportunity to adopt a new stream and wetland protection policy that will provide consistent protection of state waters and dependent natural resources for posterity. Thank you for the opportunity to submit these comments. We look forward to working with you throughout this public process.

Sincerely,

Jeff Miller
Alameda Creek Alliance

/s/
Julia Levin
Audubon California

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recent years, California has allocated large sums for wetland restoration under Clean Water Act section 319 and other grant programs.

[28] For the value of headwater streams to salmon and trout, see: Don C. Entlan and Vernon M Hawthorne, "The quantitative importance of an intermittent stream in the spawning of rainbow trout," Transactions of the American Fisheries Society 105(6) (1976), pp. 675-681; N.P Peterson and L.M. Reid, "Wall-base channels: their evolution, distribution, and use by juvenile coho salmon in the Clearwater River, Washington," in: J.M. Walton and D.B. Houston, eds: *Proceedings of the Olympic Wild Fish Conference* (23-25 March 1983, Port Angeles, 1984).

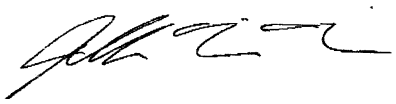
[29] The 2001 U.S. Supreme Court decision in *SWANCC* denied the ACOE's jurisdiction over certain isolated waters.

[30] Many of these concerns were previously raised in the SWRCB's April 2003 Report to the Legislature entitled, "Regulatory Steps Needed to Protect and Conserve Wetlands Not Subject to the Clean Water Act."

Barbara Vlamis
Butte Environmental Council

Linda Sheehan
California Coastkeepers Alliance

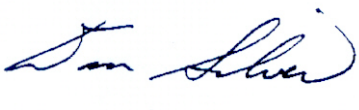
/s/
Amanda Jorgenson
California Native Plan Society



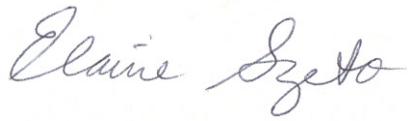
Jeff Shellito
California Trout

Florence La Riviere
Citizens to Complete the Refuge

Kim Delfino
Defenders of Wildlife



Dan Silver
Endangered Habitat League



Elaine Szeto
Friends of Coyote Hills

Pete Nichols
Humbolt Baykeeper

/s/
Pietro Parravano
Institute for Fisheries Resources

/s/
Regina Chichizola
Klamath Riverkeeper

/s/
Dr. C. Mark Rockwell, D.C.
Northern California Council,
Federation of Fly Fishers

/s/
W.F. “Zeke” Grader, Jr.
Pacific Coast Federation of Fishermen’s Associations

Gary A. Patton
Planning and Conservation League

/s/
Steve Burke
Protect our Water

/s/
Don McEnhill
Russian Riverkeeper

/s/
Keith Wagner
Sacramento Audubon Society

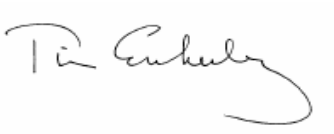
/s/
Lydia Miller
San Joaquin Raptor Rescue Center

/s/
Bill Hatch
San Joaquin Valley Conservancy

/s/
Gordon Hensley
San Luis Obispo Coastkeeper

Tracy Egoscue
Santa Monica Baykeeper

/s/
David Lewis
Save the Bay



/s/
Jim Metropulos
Sierra Club California

Tim Eichenberg
The Ocean Conservancy

/s/
Sara Wan
Vote the Coast

/s/
Sejal Choksi
Baykeeper