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April 1, 2010

Ms. Katherine Hart, Chair
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670

Re: Ducks Unlimited Comments on the Basin Plan Amendment for the Control of Methyl and Total Mercury in the Sacramento-San Joaquin Delta Estuary

Dear Chair Hart and Board Members:

I thank Chair Katherine Hart and Regional Board members for allowing work by Executive Director Pamela Creedon and her staff to improve the process of developing the Delta Mercury TMDL and Basin Plan Amendment, and for enabling stakeholders/dischargers to work with staff to develop the Adaptive Management Plan.

Two years ago I was among a group of stakeholders who expressed concern about the administrative process and development of the TMDL and draft Basin Plan amendments. We felt then that there was inattention to our concerns, as well as a seeming lack of appreciation of numerous technical and practical implementation issues. Along with others, I asked the Board for an expanded role by stakeholders who would be directly affected by the Board's then pending actions. In particular I felt this to be important to Ducks Unlimited (DU), because DU engineers and biologists regularly seek permits for restoration of wetlands, and conduct design and build work that would have been directly affected by the legal requirements of the Board's then pending actions.

Over the course of the past two years, numerous stakeholders met and held discussions along with facilitators, and several Board members and staff. As a result we have developed a more defined and cooperative process whereby stakeholders may work with the Board and staff in complying with requirements of law. While I doubt any single participant is completely satisfied with everything that emerged from the process, I believe most will agree the Board and staff made genuine efforts to accommodate stakeholder concerns. The resulting Adaptive Management Plan, with its guidance on control studies, a science program, offsets, a listing of principles and a phased approach to compliance provides a much clearer and cooperatively based path to follow as regulations are phased in for compliance with methylmercury discharge requirements.

But this is just the beginning. Any process is only of value if used. Please support continuing staff work with the stakeholders during Phase 1 of the Delta Mercury Control Program. Further, please base your conclusions, recommendations, and decisions during the course of your work on the control program on sound scientific evidence and, of particular interest to DU, the protection of the full range of beneficial uses and ecologically important functions of wetlands, including wetlands value to waterfowl. Such uses and values have been the basis for multi-million dollar wetlands restoration and protection efforts over the course of many years by state, federal and local governments, private individuals, and nongovernmental organizations. These efforts have created wetlands habitats of significance that support the Pacific Flyway's migratory waterfowl and other waterbirds, an assemblage of species protected by federal and state regulations, as well as by international treaty.

Ducks Unlimited has been active in stakeholder discussions, because the Western Regional Office of DU is involved in design and construction of wetlands restoration projects in partnership with state, federal and local government agencies and private partners in the Delta and elsewhere in the Central Valley. This often requires DU to acquire permits for restoration of wetlands, where DU is contractually responsible for permitting. As a result, the TMDL and Basin Plan Amendments will directly affect DU's work on permitting, design, construction and management of wetlands projects.

Ducks Unlimited is a membership-based conservation organization. The organization is not a trade association or a legally responsible party for wetlands managers or landowners, thus DU has no authority to represent the interests of private landowners, wetlands managers, or the lands interests of state, federal or local government agencies in permitting or other regulatory matters regarding state or federally mandated methylmercury reduction control studies or requirements. I mention this to reinforce the point that DU makes these comments to the Board and participated in the stakeholder processes on its own behalf.

Ducks Unlimited has expertise in wetlands management, with over 180 wetlands projects underway in California and another 350 elsewhere in the western U.S., and has worked with over 2,000 government, corporate and private partners on wetland conservation efforts.

Comments on the Staff Report, Basin Plan Amendment and TMDL

Despite appreciation for the Stakeholders' Adaptive Management Plan's improved process within which to work through Phase 1 requirements on discharge, control studies, and other activities, little has happened in the past two years to change our fundamental concern over the lack of a means to control or even predict methylmercury production in wetlands and our opinion that it is the state and/or federal government that has legal responsibility for the adverse envi-

ronmental and health impacts of legacy mercury in wetlands. In particular we still assert that state and/or federal government are the appropriate parties to pay for control studies and subsequent control measures.

There is no new compelling rationale to justify why today's wetlands owners should be primarily responsible for the costs of reduction of legacy mercury, instead of the state and/or federal government taking responsibility. Nor is there information to justify why only just now government is taking action to reduce methylmercury in the environment. After all, it was the state or federal government that failed to prevent discharge of mercury into waters of the state many decades ago, and even today still allows legacy mercury to be carried by state waters and to enter and be deposited in wetlands. Californians all share in this legacy and the impact on the environment, not just those who now find themselves owners of mercury laden lands. As a relic pollutant which is the legacy of people who can no longer be held accountable, it is now most logically a responsibility of the public sector itself to resolve the problem.

While some new data are available on potential control methods, no significant new information has come to light that provides a ready solution to the problem of legacy mercury in wetlands and production of methylmercury. There is no question that under certain conditions, methylmercury is produced in wetlands where inorganic mercury is present. Methylmercury in a wetland is symptomatic of the problem of mercury in the environment. Naturally functioning wetlands naturally produce methylmercury. Naturally functioning wetlands also may sequester methylmercury.

We don't mean to underplay the problem of mercury in the aquatic environment, but the presence of mercury and methylmercury in Central Valley waterways and the Delta is not a new phenomenon. Any consequences of mercury contamination of wetlands in the Central Valley is a historic and long-standing matter.

Discharge of mercury into the environment began, and was most widespread and copious over a century ago. At that time the acreage of wetlands in the Valley was about twenty times greater than the acreage today.

State and federal agencies, private landowners and private organizations such as DU, are now busily engaged in restoring wetlands destroyed since the early days of development in California. Where the Valley's wetlands once had the capacity to support between 20 and 40 million waterfowl, today only about 5 to 6 million waterfowl are supported.

So as we consider mercury contamination of wetlands and the consequence of that contamination today, such as bioaccumulation of mercury in species, the extent of impact on species and the level of methylmercury contamination in wetlands has probably been reduced – perhaps greatly in recent times -- with the

loss of wetlands and the commensurate reduction of fish and wildlife dependant on the once much more abundant wetlands.

It is mercury contaminating wetlands that is creating the matter at issue before this board. Wetlands are not the source of mercury. Mercury is the problem, methylmercury within a wetland is symptomatic of the problem of mercury in the environment. Mercury has never been wanted by wetlands managers in their wetlands or added to wetlands by anything wetlands managers have done before or do now, but it is only now that they are being placed on notice that they may be responsible for cleaning up the effects of this mercury.

The obvious long-term solution to methylmercury production in wetlands is to stop flow of mercury into wetlands.

There is a notion -- perhaps correct -- that wetlands can be managed or built in a fashion that reduces production of methylmercury, and that's among critical underpinnings of the staff proposal and among primary objectives of Phase 1 work.

Unintended Adverse Consequences of Board Action to Wetlands and Waterfowl

The staff report states, "[t]he environmental analysis determined that implementation of the proposed Basin Plan amendments could result in potentially significant impacts to biological resources, greenhouse gas emissions, hydrology/water quality, and utilities/service systems, unless mitigation is incorporated." The staff report then goes on to list "…reasonable actions to reduce the potential impacts from implementation projects….through careful project planning, design, and implementation."

We are particularly concerned about significant impacts on wetlands, waterfowl and recreation involving waterfowl. However, it is clear the staff report recognizes the many challenges associated with addressing wetlands, and makes clear a number of potential options to mitigate impacts on wetlands restoration and wetlands management, including emphasizing the need for a phased approach as described in the Stakeholders' Adaptive Management Plan to study various options and methodologies, and take into consideration technical, economic and practical realities in the process of moving from Phase 1 studies and characterization to Phase 2 implementation.

The staff report also makes clear that not all wetlands may even be net producers of methylmercury, i.e., "…seasonal wetlands may be overall net producers of methylmercury, while permanent freshwater and tidal wetlands may be overall less productive of methylmercury or even net sinks (that is, more methylmercury enters the wetlands than leaves)." Added research and characterization studies are needed to answer a host of critical questions about methylmercury and wet-

lands in the Delta/Yolo Bypass before implementing any mandatory controls over dischargers.

Following are several specific comments on portions of the staff report.

Recreation.

According to the staff report, "[t]he proposed Project's net impact on recreation is expected to be positive." The report goes on to describe the notion that, "…there is the possibility that there will be an increase in the use of regional parks and other recreational facilities as people who previously were limited or discouraged by the fish advisories begin to catch more fish from the Delta."

While recreational fishing may benefit from methylmercury control implementation, the staff report acknowledges there may be adverse impacts on wetlands and species, and specifically cites the potential impact on new wetlands restoration. We believe this may have a significant adverse impact on wildlife-related recreation if wetlands management or acreage, or future wetlands restoration is adversely affected in a fashion that would limit or reduce wildlife use of the Delta/Yolo Bypass.

The staff report specifically acknowledges proposed increases in restored wetlands acreage: "The Record of Decision for the CALFED Bay-Delta Program commits it to restore 30,000 to 45,000 acres of fresh, emergent tidal wetlands, 17,000 acres of fresh, emergent non-tidal wetlands, and 28,000 acres of seasonal wetlands in the Delta by 2030. This is a total of 75,000 to 90,000 acres of additional seasonal and permanent wetlands in the Delta, which represents about a three to four times increase in wetland acreage from current conditions." The staff report implies a potential 90,000 acres of new wetlands may be affected by implementation of controls, yet no assessment has yet been made of the impact on waterfowl hunting, waterfowl observation, or hunting or observation of other wildlife as a result of these potential impacts.

Hunting and wildlife observation are important recreational activities conducted in the Delta/Yolo Bypass. Given the implications of potential reduced acreage of wetlands restoration or altered management of existing wetlands, it is hard to see how implementation of mercury controls and the effect on wetlands acreage restored can be assumed positive to wildlife-related recreation. Study and characterization of mercury controls on hunting and other wildlife-associated recreation should be conducted during Phase 1.

Balancing or assessing direct impacts on wildlife health versus reduced wildlife habitat value or acreage.

The staff report states, "[t]he goal of the proposed Basin Plan amendments is to lower fish mercury levels in the Delta so that the beneficial uses of fishing and wildlife habitat are attained."

The staff report provides only an indirect and theoretical fish consumption-based assessment of the potential affect of methylmercury on several species of wildlife. There is no analysis of actual studies of methylmercury affects on waterfowl or other wildlife in the Delta/Yolo Bypass. There is no analysis of studies of mercury levels in waterfowl or other wildlife in the Delta/Yolo Bypass. There is no substantive evidence presented to quantify the current level of harm, if any to wildlife in the Delta/Yolo Bypass.

As a result, while it is possible to quantify the adverse effect on waterfowl if wetlands acreage is reduced, or anticipated wetlands restoration is blocked, it is not possible to make an assessment of the benefits to wildlife health of methylmercury control versus the adverse effects of loss or impairment of waterfowl or other wildlife habitat (wetlands). Such an assessment should be part of Phase 1 studies.

Work is needed to determine if actual benefits to wildlife from reducing mercury outweigh the potential adverse effect of decreasing wildlife habitat. In particular this assessment needs to be conducted for Pacific Flyway waterfowl, which is an assemblage of important species managed by federal and state governments, as well as by international treaty, and which are dependant on federal, state and private wetlands habitat in the Delta/Yolo Bypass for maintenance of current population levels and to meet future population goals.

Pacific Flyway migratory waterfowl are dependent on Delta/Yolo Bypass wetlands

The staff report acknowledges that, "…implementation of methylmercury management practices to achieve safe fish mercury levels…has the potential to result in cumulatively considerable impacts to habitat that supports endemic species with limited geographic ranges, such as Sacramento splittail and Delta smelt. Until the proposed Phase 1 control studies have been completed, it is unknown whether the wetlands that act as substantial methylmercury sources in the Yolo Bypass also provide critical habitat to endemic species, and whether it will be possible to avoid all potentially significant impacts."

The staff report fails to consider effects of implementation of the proposed Basin Plan amendments on migratory waterfowl species which may not ordinarily be considered by the Board or staff to be "endemic" in the same sense as Delta and

splittail smelt, but which are nonetheless highly dependant on the Delta/Yolo Bypass for significant periods, in particular since the Delta encompasses a significant portion of the five percent of the Central Valley's remaining wetlands acreage. The catastrophic loss of wetlands in the Central Valley has made all remaining wetlands highly valuable to remaining waterfowl populations. Thus, the dependency on wetlands habitat of the Delta/Yolo Bypass by such migratory species is no more or less critical to survival than are the Delta's wetlands to resident species endemic only to the Delta.

Phase 1 studies should assess the impact of mercury control implementation on overall Pacific Flyway populations and on federal, state and international population objectives. These studies should be conducted in the context of existing bioenergetic modeling and habitat management goals set through the Central Valley Joint Venture 2006 Implementation Plan.

Methylmercury load allocation attributable to wetlands

The staff report attributes to wetlands 19% of total average annual methylmercury loading to the Delta/Yolo Bypass, based on Water Years (WY) 2000-2003. We suggest these data are biased because, 1) studies providing data on methylization rates in wetlands were too limited to allow an accurate assessment of methylmercury contribution by wetlands to the Delta/Yolo Bypass, and 2) accurate data on total cumulative annual volumes of water discharged from wetlands were not available and/or used. In particular, if wetlands owners are to be assigned a specific "load reduction allocation" requirement and assessed the cost and legal burden of meeting specific load reduction criteria, then the contribution to Delta/Yolo Bypass methylmercury load from wetlands must be accurately assessed. Phase 1 studies need to center on accurately determining the quantity of water discharged as well as the methylmercury load carried by that discharge, based on timing of discharge and residence time of water in wetlands, as well as on variability of methylization by wetlands characteristics and temporal/spatial characteristics of the discharge itself.

In particular, as the staff report has identified, methylmercury loading from wetlands in the Delta/Yolo Bypass was based on work conducted only in a single location: Twitchell Island west pond. Based on summer flux rate data there, the staff report estimates wetlands account for about 19% of all methylmercury to the Delta during the relatively dry period of WY 2000-2003. Staff also report, "…if the east pond data had been used, methylmercury loading from wetlands would account for only about 3% of all methylmercury to the Delta. In addition, research completed since the February 2008 draft TMDL Report indicates that the Twitchell Island west pond flux rates are lower than initially estimated from the preliminary monitoring results, and that the Twitchell Island ponds are not characteristic of all wetlands in the Delta region, in part because they receive continual inputs of water (compared to seasonal wetlands)." Thus the estimates of

wetlands contribution to total methylmercury loading are highly suspect and methylmercury contribution by wetlands must be subject to additional characterization.

Costs of Phase 1 work

Finally a word about cost of characterization and control studies. The staff report provides cost estimates, and the costs will be high. The staff report acknowledges, "[f]or wetland restoration and management projects already underway with fixed budgets, methylmercury study and management costs could result in less wetland acreage being actively managed or restored."

Funding must be made available for determining how to control production of methylmercury and implement discharge reduction strategies in wetlands while maintaining wetlands values. State, federal and private wetlands owners all need access to funding, in particular where cooperative work is proposed. Ducks Unlimited is currently a partner with other stakeholders in a proposed study that may receive 319(h) funding.

Ducks Unlimited also just had an additional 319(h) funding proposal rejected. This funding would have resulted in a study to, 1) provide an improved estimate of the annual contribution of methylmercury from wetlands to the Delta watershed, and 2) quantitatively evaluate the effectiveness of a Best Management Practice (BMP) of reducing discharge to Delta waterways from managed seasonal wetlands as a methylmercury Source Reduction Strategy. We believe these to be the most logical first steps in assessing the capacity of wetland owners to meet potential load reduction goals, yet even this most basic of studies failed to receive funding. We do want to acknowledge the assistance and support of Board staff in helping prepare that 319(h) proposal. We also appreciate the recognition in the staff report of options that might enable parties conducting studies and control actions to lessen potential economic impacts.

For state and federal wetlands managers, any significant added cost will be difficult to bear, as generally public wetlands already are being managed with reduced and often inadequate budgets. Funds for wetlands restoration or maintenance are tight and often are a result of funding partnerships. Wetlands have not been restored or managed as a revenue producing ventures, but are for public benefit, including benefits to water quality and quantity, as well as providing recreation and open space values.

There are no "deep pockets" in the world of wetlands restoration. Ducks Unlimited's members and volunteers hold fundraising events, asking individuals for donations, to bid on auction items and to buy raffle tickets. Funds raised are used to leverage federal or state funds. Added costs for dealing with legacy contaminants simply should not rest solely with today's wetlands owners. Mercury now

contaminating wetlands is a result of long past failure of federal and state governments to control pollution and more recent failure to control mercury transport through state waters. Payment for research and control should be the responsibility of state and federal government.

For the private wetlands owners and those who may be contemplating restoring wetlands, the added initial or annual cost could very well thwart maintaining existing managed wetlands and building new ones. Such loss of future benefits could result in an overall diminishment of environmental goods and services in California, such as wetlands contribution to helping reverse the threat of global climate change. Such loss could outweigh environmental benefits associated with mercury control.

Thank you for considering DU's comments.

Sincerely,

Rudolph Rosen, Ph.D.
Director

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With about 30,000 members in California and more than 700,000 members nationwide, DU is the world's largest wetlands conservation organization. Working in collaboration with private landowners, other non-governmental organizations, and state and federal agencies, DU has invested over $2.6 billion in wetlands restoration and protection projects continent-wide. Throughout California, DU has helped conserve over 600,000 acres through over 1,500 projects and our wetlands scientists and engineers are now engaged in over 180 wetlands restoration and protection projects.