



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
777 Sonoma Ave., Room 325
Santa Rosa, California 95404-4731

Roger Briggs
Executive Officer
895 Aerovista Place, Suite 101
San Luis Obispo, California 93401

Mr. Briggs,

Thank you for the opportunity to provide comments on the draft order for a revised conditional waiver of waste discharge requirements regulating discharges from irrigated lands (Draft Order) and its associated monitoring and reporting program (MRP). This Draft Order and MRP were released by the Central Coast Regional Water Quality Control Board (Water Board) staff on November 19, 2010. The Southwest Region of the National Marine Fisheries Service (NMFS) is charged with managing Endangered Species Act (ESA) listed coho salmon and steelhead trout found in your agency's territory. We also manage Essential Fish Habitat (EFH) as designated by the Magnuson-Stevens Fishery Conservation and Management Act which includes areas occupied by coho salmon and numerous marine species that utilize the estuaries, embayments and other nearshore areas found along the Central California coast. EFH is defined as "Those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Our areas of responsibility are comparable to your beneficial use designations for COLD, MIGR, RARE, SPWN, EST, FRESH, MAR and BIOL.

The Draft Order represents a significant improvement to the existing conditional waiver for irrigated lands that was adopted by the Water Board in 2004. However, it is considerably less protective than the preliminary staff recommendation for updating the conditional waiver that was publically released in February 2010 and which NMFS supported. The Draft Order needs strengthening to become an implementation plan with enough regulatory certainty that it will achieve and maintain water quality objectives and beneficial uses as required by the State's Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program.

If the Draft Order is passed and implemented as proposed, it may result in some water quality improvements for the impacted designated beneficial uses which include ESA listed species, their designated critical habitats, and EFH. Widespread contamination of Central Coast waterways by pesticides and nutrients, including impacts to near-shore, coastal habitats is well documented in the scientific literature and in the Draft Order, its supporting documents and appendices. We agree with the Water Board's assessment that it is time to implement actions to solve the problems and protect water quality for all



beneficial uses. Preventing the extinction of listed salmonids, and achieving their recovery on the Central Coast, depends on the success of these actions.

NMFS generally supports the following components of the Draft Order as summarized in the Staff Report:

- Implementation of pesticide management practices to reduce toxicity in discharges and receiving waters,
- The requirement for individual discharge monitoring and reporting to identify specific discharges of pollutants and contribution to impacts,
- Continued watershed monitoring supported by all dischargers,
- The addition of compliance schedules for pollutant and impact reductions and verification of compliance at both the farm and the watershed scale,
- The development of farm plans that identify management measures and include a requirement to verify implementation,
- The requirement for farm operations to protect existing riparian and wetland systems and their associated beneficial uses,
- The requirement for some operations to develop a Water Quality Buffer Plan,
- The requirement to improve irrigation management, sediment and erosion control to improve aquatic conditions including nutrient levels in groundwater,
- The requirement to prepare nutrient management plans to protect both groundwater and surface water quality, and
- Addressing the perceived conflict between environmental stewardship, best management practices that reduce water quality impacts and the causes of food safety concerns.

NMFS also has numerous recommendations that are needed to improve the Draft Order to fully protect the designated beneficial uses discussed below in a timely manner, especially those beneficial uses that include ESA listed salmonids, their designated critical habitats and EFH. When NMFS finds that a federal or state action would adversely affect EFH, it is required to provide conservation recommendations.

According to the Draft Order, one of the criteria used for determining which Tier the operation qualifies for is whether or not the operation is located within 1,000 feet of a surface waterbody listed for toxicity, pesticides, nutrients, or sediment on the Clean Water Act section 303(d) 2010 List of Impaired Waterbodies. In order to fully protect designated beneficial uses, NMFS encourages the Water Board to also include tributaries, such as drainage ditches, intermittent or ephemeral streams, and other non-listed waterways that drain directly to 303 (d) listed waterbodies. Such tributaries were included in the February 2010 Preliminary Draft Order (see items 50, 53, 57, and 64).

NMFS strongly recommends the inclusion of pyrethroids in the group of insecticides considered in the definitions of Tiers 1, 2, and 3. As the Draft Order and its supporting documentation correctly and repeatedly note, the use of pyrethroids is widespread in the Central Coast region. Their contribution to toxicity in the region's waterbodies is also well known and documented in the scientific literature and by the Water Boards own

monitoring efforts. This toxicity is a significant contributor to the decline of ESA listed salmonids in the region and addressing it promptly is crucial in preventing their extirpation from Central Coast waterbodies.

Regarding the requirements for Tier 1 monitoring, NMFS recommends that the Water Board add a requirement that Tier 1 dischargers document that their discharges are free of excess sediment and nutrients. This can be accomplished through relatively inexpensive means such as nitrate test strips and photo monitoring of the discharge points, although turbidity monitoring of a discharge as a surrogate for suspended sediment monitoring is preferable. The Tier 1 dischargers would not need to report this information to the Water Board at this time, but should be required to record the results in their farm plan for future use if necessary. Just requiring the gathering of this information to inform on-farm decision making is likely to yield benefits to water quality.

For Tier 2 and Tier 3 monitoring, NMFS recommends that individual riparian and wetland photomonitoring be required for operations adjacent to a waterbody listed as impaired by nutrients, pesticides or toxicity in addition to those listed as impaired by temperature, turbidity or sediment conditions. In particular, properly sized and developed riparian areas that include trees serve an important function in blocking the drift of pesticides applied to adjacent fields into waterbodies. Numerous studies have also shown that appropriately sized riparian buffers that include trees can be effective at absorbing nutrients in agricultural discharges (Mayer *et. al.* 2005). There are 21 waterbodies listed in Table 3 of the Draft Order as impaired by pesticides or toxicity that are not included in Table 1 which lists waterbodies noted as impaired by temperature, turbidity or sediment. Several of the Table 3 waterbodies that are not cross listed on Table 1 support ESA listed salmonids (Arana Gulch, Carpinteria Creek, Glen Annie Creek, Llagas Creek, Mission Creek, Old Salinas River Estuary, Salinas River Lagoon North, San Antonio Creek, and San Luis Obispo Creek) and are in need of immediate protection from pesticide impacts. Requiring photomonitoring of these areas to protect and improve their riparian zones is crucial in these protection efforts.

Additionally, for Tier 2 and Tier 3 properties, photomonitoring should be required annually and should include the listed waterbodies as well as associated perennial and intermittent tributaries. A requirement to measure the size and determine the quality of the riparian or wetland area could be established at a less frequent interval, such as the once every three years proposal in the Draft Order. Getting dischargers into the habit of paying attention to the condition of their riparian areas and gathering timely information to use in management decisions will lead to subsequent improvements to the water quality parameters these areas influence.

For Tier 3 dischargers, individual discharge monitoring for the pesticides diazinon and chlorpyrifos will take place once or twice per year depending upon the size of the farm. NMFS recommends that the required pesticide testing include pyrethroid insecticides, as the Draft Order documents widespread sediment toxicity in Central Coast waterbodies due to the discharge of pyrethroids, for tailwater, tile drain and stormwater monitoring. This testing could be contingent upon an examination of the discharge quality. If the

discharge includes significant sediments, and the discharger is using pyrethroids on site, this analysis should be required.

In order to provide a solid baseline, NMFS recommends the individual discharge monitoring requirements for tailwater, tile drain and stormwater discharges be more frequent during the initial implementation phase of the Draft Order. All Tier 3 dischargers should conduct monitoring at least twice during the primary irrigation season during the first year of implementation for tailwater or tile drain discharges as well as twice for stormwater discharges during the wet season. If the results show that pesticide loadings are low enough to not cause toxicity in the algae or *Ceriodaphnia* testing, then the schedule could be cut back to once per year for the smaller operations as proposed in the Draft Order.

According to Table 2 of the MRP, receiving water monitoring for pesticides in the water column and the sediments will only be required in the second year of the Order term. This is not sufficient to address the numerous toxicity and pesticide impairment listings present throughout the Central Coast. NMFS recommends that a second round of pesticide testing be required, occurring in the fifth year of the Draft Order term. This will also serve to document if the Draft Order has successfully triggered implementation of management measures that prevent the discharge of toxic waste products.

The Annual Compliance Document required of Tier 2 and Tier 3 dischargers includes a requirement to describe the method and location of chlorpyrifos and diazinon applications relative to surface water. This requirement should be modified to include pyrethroid pesticide applications so that drift of these insecticides or transport of sediments mobilized by runoff from fields into impaired waterbodies is prevented.

Tier 3 dischargers are required to prepare a Water Quality Buffer Plan if they are within 1,000 feet of a waterbody listed as impaired for temperature or turbidity. This requirement should be expanded to include listings for impairments by sediments, nutrients, pesticides and toxicity. As mentioned in our comments on the February 2010 Preliminary Draft Order dated April 1, 2010 (Attachment A), properly sized and developed riparian areas are important in preventing the drift of pesticides into waterways during application and there are 21 waterbodies found on Table 3 of the Draft Order that are not found on Table 1. However, it is also important to note that Table 1 includes 28 waterbodies that are listed as impaired by sediments, but not turbidity or temperature, and these include some streams listed as designated critical habitat for ESA listed salmonids such as Chorro Creek, Los Osos Creek and the San Benito River. These waterbodies also need the protection that will come from the development of a Water Quality Buffer Plan.

NMFS recommends that Tier 2 dischargers should also be required to prepare Water Quality Buffer Plans. The number of Tier 3 dischargers in the Central Coast region, estimated in the supporting documentation for the Draft Order, is believed to number only between 150 to 300 properties. Regulation of only these sites is likely to leave significant gaps along the impacted waterways where a riparian buffer is not continuous enough to protect water quality. NMFS recognizes the Water Boards' concerns regarding

staffing limitations and the ability to handle the volume of information that may be generated as a result of this Draft Order, however the Water Board could prioritize the areas where additional Water Quality Buffer Plans are required initially to include those areas most impacted by agricultural operations such as the Lower Salinas and Santa Maria river areas and which are designated critical habitat for ESA listed salmonids. The designated critical habitat listings from the Federal Register are readily available on the NMFS website at <http://www.nmfs.noaa.gov/pr/species/criticalhabitat.htm>. GIS data for designated critical habitat is available for downloading at <http://swr.nmfs.noaa.gov/salmon/layers/finalgis.htm>.

NMFS strongly disagrees with the revised minimum riparian buffer width recommendation of 30 feet provided in the Water Quality Buffer Plan. This width is not well supported in the scientific literature nor is it adequately supported in the Draft Order and its supporting documents. Appendix D of the Draft Order clearly outlines that the proposed 30 foot minimum buffer width is not compliant with multiple established protocols including EPA and USGS methodologies (Page 65), nearly all county ordinances in the region (Page 66), and the California Forest Protection Act (Page 67). The February 2010 Preliminary Draft Order proposed more acceptable minimum buffer widths of 50, 75, and 100 feet which were compliant with the EPA and USGS methodologies and were supported by NMFS. A response to comments document that clearly explains why the better supported and more protective buffer widths were abandoned is not available for review prior to the Draft Order's January 3, 2011 comment deadline. Therefore, NMFS reiterates its support for the February 2010 provisions by resubmitting our April 1, 2010 letter as Attachment A.

Appendix D of the Draft Order also acknowledges that the 30 foot minimum buffer width recommendation falls within the lower range of minimum requirements assembled by two literature reviews, one conducted by the Army Corps of Engineers (Fischer and Fischenich 2000) and the other conducted as a comparison of methods to map California riparian areas (Collins *et al.*, 2006). Collins *et al.*, (2006) noted the number of riparian area functions increased with greater riparian area, and recommended the maximum buffer widths as the preferred buffer width. Their lower maximum observed buffer width was 49 feet for both bank stabilization and aquatic habitat cooling functions, and 98 feet for both chemical filtration or transformation and aquatic life support functions. The improvement of these riparian area functions is consistent with the goals of the Draft Order, but is unlikely to be achieved by a 30 foot buffer zone.

The rate of nitrogen removal from surface and groundwater flow is extremely variable depending on local conditions including soil composition, surface versus subsurface flow, riparian zone width, and riparian composition (Mayer *et al.*, 2005). In 2005, the USEPA conducted an extensive review to investigate the qualities of a riparian zone that effectively limit nutrient pollution (Mayer *et al.*, 2005). A meta-analysis of all of the studies revealed that riparian zones removed nutrients through subsurface flow more effectively than surface flow (Mayer *et al.*, 2005). Nitrate retention from surface runoff was related to riparian zone width, where 50%, 75%, and 90% surface nitrate retention was achieved at widths of 110 ft, 389 ft, and 815 ft respectively (Mayer *et al.*, 2005).

This suggests that surface water infiltration in the riparian zone should be a priority to promote effective nutrient filtration. Mayer *et al.* (2005) also found that the composition of the riparian zone affected the efficiency of nutrient removal. Forested riparian zones (ranging from 33 ft to 725 ft) removed nutrients from subsurface flow more efficiently than grass riparian zones, and the nitrogen filtering capacity of grass and grass/forested riparian zones increased with width (Mayer *et al.*, 2005). Grass riparian zones less than 33 ft actually contributed to nitrogen loading in some cases (Dillaha *et al.*, 1987; Mayer *et al.*, 2005). As with sediment, narrow riparian zones appear to become saturated with nutrients over time. Dillaha *et al.*, (1987) found that 15 and 30 ft grass riparian zones with over 11 and 16% hillslopes effectively reduced total nitrogen and phosphorus in initial trials, but by the sixth trial, more nutrients were entering the stream than were being added to the riparian zone. This suggests that many studies may overestimate the long-term nutrient filtering capacity of riparian zones.

Based on this review, a grassy area outside of a forested zone, as recommended by the USDA (1997), would be useful to help slow and distribute surface flow evenly to aid in infiltration and allow forested riparian zones to maximally filter nutrients. Mayer *et al.*, (2005) concluded riparian zones over 98 ft wide would be expected to retain nutrients consistently well across different sites. Similarly, Wenger and Fowler (2000) conducted a literature review and concluded, “The most effective buffers are at least 30 meters, or 100 feet wide, composed of native forest, and applied to all streams, including very small ones.” The authors recommended including riparian zones on smaller streams to reiterate the importance of buffering the effects of nutrient delivery to upper headwater areas. In summary, most riparian zones reduce subsurface nutrient loading, but extensive distances are needed to reduce nutrients in surface runoff. Grass and grass/forested riparian zones do not function effectively at widths less than 33 ft, and they should be greater than 98 ft to ensure consistently effective nutrient retention. Nitrogen filtering capacity decreases with increasing loads (Mayer *et al.*, 2005).

The Draft Order describes the 30 foot minimum buffer width as a “good first step”, but cautions that an increase in the minimum buffer width may become necessary in the future in order to better protect water quality. NMFS would like to point out that the scientific literature already dictates a larger buffer width in order to achieve a conservative level of protection. It will be exceedingly difficult and expensive to get an operation to move its infrastructure away from adjacent waterways and then move it again in a few years when a more scientifically rigorous buffer width is found to be necessary.

Furthermore, the Draft Order states that minimum riparian buffer widths will not be required for ephemeral and artificial channels. Both ephemeral creeks and artificial channels transport pollutants to downstream waterbodies. Although often dry, ephemeral channels can accumulate fine sediments within the channel which can then become re-suspended and delivered to perennial downstream waterbodies during subsequent storms or irrigation events. Many artificial ditches and agricultural drainage systems discharge directly to natural and often perennial waterways. Typically, these channels are not vegetated and therefore have little or no capability of absorbing or retaining pollutants.

Therefore, in order to better protect water quality and other beneficial uses, NMFS recommends developing a required minimum buffer width for ephemeral and artificial channels.

NMFS suggests the use of rainbow trout in the three-species water column toxicity tests required as part of the MRP, rather than the use of fathead minnows. Rainbow trout are in the same genus (*Oncorhynchus*) as coho salmon and are the freshwater equivalent of steelhead trout. NMFS believes that the use of rainbow trout will give a more accurate indication of potential acutely toxic conditions to the ESA listed salmonids found in the Central Coast area. EPA protocols for the use of rainbow trout in toxicity testing are readily available and the practice is increasingly common.

In addition, NMFS recommends adding the following sentence to item 66 in the Draft Order, "Absolutely no sidecasting of sediments into waterbodies is authorized as a result of agricultural practices (*e.g.*, field leveling, raised bed preparation, road installation or repair, *etc.*)."

NMFS also recommends prohibiting the application (*i.e.*, spraying) of herbicides directly onto the banks of streams, sloughs, ponds or other waterbodies with surface water present, particularly those that are perennial or that have been listed on the 2010 303(d) list of impaired water bodies. For an example of this practice, see Figure 6, at http://www.ccamp.net/ag/index.php/Main_Page.

In closing, we want to thank you for your continued effort towards developing an agricultural order that will lead to better control of discharges from irrigated lands and improved water quality throughout the Central Coast area. The draft staff report and associated documentation very clearly lays out the water quality issues facing the Central Coast area due to agriculture. The current Draft Order attempts to address some of these issues and, if implemented, may lead to some improvements. However, NMFS is less optimistic that the present Draft Order will have as much success solving these long standing issues as the more robust February 2010 Draft. NMFS looks forward to working with the Water Board this coming year as the program advances. Please contact Joe Dillon, NMFS Southwest Region Water Quality Coordinator, at (707) 575-6093 or Joseph.J.Dillon@noaa.gov with any questions or comments regarding this letter or with further requests regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Steve Edmondson', with a stylized flourish at the end.

Steve Edmondson
Northern California Habitat Supervisor
Habitat Conservation Division

Cc: Bob Hoffman, NMFS, Long Beach, California
Chris Yates, NMFS, Long Beach, California
Dick Butler, NMFS, Santa Rosa, California
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References:

- Collins, J.N., M. Sutula, E.D. Stein, M. Odaya, E. Zhang, K. Larned. (2006). Comparison of Methods to Map California Riparian Areas. Final Report Prepared for the California Riparian Habitat Joint Venture. 85pp.
- Dillaha, T. A., Reneau, R. B., Mostaghimi, S., and Magette, W. L. 1987. Evaluating nutrient and sediment losses from agricultural lands: Vegetative filter strips. U.S. Environmental Protection Agency CBP/TRS 4/87.
- Fischer, R. A. and J. C. Fischenich. (2000). Design recommendations for riparian corridors and vegetated buffer strips. EMRRP Technical Notes Collection (ERDC TN-EMRRP-SR-31). U.S. Army Engineer Research and Development Center, Vicksburg, MS.
- Mayer, P. M., Reynolds, S. K. J., McCutchen, M. D., Marshall, D., and Timothy, J. 2005. Riparian buffer width, vegetative cover, and nitrogen removal effectiveness: a review of current science and regulations. National Risk Management Laboratory, office of Research and Development U.S. Environmental Protection Agency, Cincinnati, OH.
- United States Department Agriculture (USDA). 1997. Chesapeake Bay riparian handbook: A guide for establishing and maintaining forest buffers. Forest Service NA-TP-02-97.
- Wenger, S. J., and Fowler, L. 2000. Protecting stream and river corridors: creating effective local riparian buffer ordinances. Carl Vinson Institute of Government, University of Georgia, Athens, GA.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Region
777 Sonoma Ave., Room 325
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April 1, 2010

In response, refer to:
SWR/F/SWR3:JD

Angela Schroeter
Agricultural Regulatory Program Manager
895 Aerovista Place, Suite 101
San Luis Obispo, California 93401

Dear Ms. Schroeter:

Thank you for the opportunity to provide early, informal comments on the preliminary staff recommendations for an agricultural order to control discharges from irrigated lands. These preliminary recommendations were released by the Central Coast Regional Water Quality Control Board (Water Board) staff on February 1, 2010. The Southwest Region of NOAA's National Marine Fisheries Service (NMFS) is charged with managing Endangered Species Act (ESA) listed coho salmon and steelhead trout found in your agency's territory. We also manage Essential Fish Habitat (EFH) as designated by the Magnuson-Stevens Fishery Conservation and Management Act which includes areas occupied by coho salmon and numerous marine species that utilize the estuaries, embayments, and other nearshore areas found in your agency's territory. Our areas of responsibility are comparable to your beneficial use designations for COLD, MIGR, RARE, SPWN, EST, FRESH, MAR and BIOL.

NMFS is very impressed and supportive of the Water Board's preliminary recommendations and willingness to tackle these chronic water quality problems in the Central Coast area. The problems of pesticide and nutrient contamination and their sources are widely documented in the area and they have been impacting ESA listed salmonids, EFH, and designated beneficial uses for many years. The 2004 Conditional Agricultural Waiver program was focused on enrollment, education, outreach, development of farm plans to address impacts and monitoring of water quality at the watershed scale. The program was successful in documenting the problems and making sure that all growers are aware of the problems. It is shocking to see the widespread contamination of Central Coast waterways by pesticides and nutrients, including probable impacts to near-shore, coastal habitats, when the information is laid out so clearly. We agree with the Water Board's assessment that it is time to implement actions to solve the problems and protect water quality for all beneficial uses.



In particular, NMFS wants to support on the record the following components of the preliminary agricultural order to control discharges:

- the requirement for individual discharge monitoring and reporting to identify specific discharges of pollutants and contribution to impacts in addition to continued watershed monitoring;
- the addition of compliance schedules for pollutant and impact reductions and verification of compliance at both the farm and the watershed scale;
- the development of farm plans that identify management measures and include schedules for their implementation and verification;
- the requirement for farm operations to support a functional riparian system and its associated beneficial uses;
- the requirement to improve irrigation management, sediment and erosion control to improve aquatic conditions including nutrient levels in groundwater;
- the requirements for container nurseries to prevent contamination of local waterways by preventing exposure of rainfall runoff to their products;
- the requirement to prepare nutrient management plans to protect both groundwater and surface water quality; and
- addressing the perceived conflict between environmental stewardship, best management practices that reduce water quality impacts and the causes of food safety concerns.

Regarding functional riparian systems and buffer sizes, NMFS conducted a literature review in 2009 that focused on this issue for a project in the Russian River watershed in Sonoma and Mendocino counties. Like the proposed agricultural order, a range of buffer sizes was supported to produce benefits such as stream bank stability, temperature regulation (shade), pollutant filtration (sediments and pesticides), large woody debris recruitment, detritus inputs, and invertebrate diversity and maintenance of the water table, hyporheic flow, and flood mitigation. We found that buffer size effectiveness is variable based upon the benefit the buffer is being asked to produce as well as the environmental variables within its watershed or specific site (*e.g.*, size, slope, etc.). For example, streambank stability may be achieved by a forested buffer between 33 and 125 feet, largely depending upon watershed size and the slope of the specific site. In contrast, a 98-foot wide riparian zone is needed to consistently and effectively decrease nutrient concentrations entering an adjacent watercourse. Connectivity to the floodplain is required to recharge shallow aquifers that provide cool, summer base flows to adjacent streams that support the COLD beneficial use.

In general, we recommended that a width of at least one tree site potential be reserved for the immediate riparian zone to maximize the mix of riparian area benefits to a waterbody. This recommendation is meant for all waterbodies that support salmonids, and it is accepted that less space is generally needed for ephemeral streams or seasonal streams that did not support fish populations. We also recommend connectivity to the floodplain to provide the aquifer recharge benefits mentioned above as well as providing for low velocity refugia for fish during flood flows in the main channel. If the Water Board is interested in receiving a copy of this draft report for the development of the agricultural order, please contact the NMFS staff member identified at the end of this letter.

Regarding the perceived conflict between food safety, natural features that have significant benefits to water quality (e.g., riparian areas, vegetated swales) and installed water quality control systems (e.g., infiltration ponds, vegetated treatment systems within drainage ditches), we agree with the Water Board that the practice of removing non-crop vegetation needs to be stopped and the losses reversed. We suggest that the Water Board continue mandatory education requirements for growers (rather than only encouraging continuing education) and explore a means of requiring purchasing company buyers/auditors to receive this education as well. We suggest that the Water Board make it clear to the purchasing companies that their “recommendations” may cause violations of State and/or Federal laws and determine if there is a means to require the reporting of such recommendations to the Water Board. Inappropriate recommendations should be followed-up with an appropriate enforcement action.

In addition to the items above, NMFS has several other suggestions to improve the developing agricultural order or concerns with provisions of the preliminary recommendations. In particular, the buffer sizes for pesticide applications are not likely sufficient to prevent water body contamination by drift, particularly the ground application buffer of only 50 feet. Two of the primary pesticides identified as problematic in the preliminary agricultural order, diazinon and chlorpyrifos, have undergone ESA consultation between NMFS and the EPA. Malathion was also covered by this biological opinion which determined that the registration of these organophosphate insecticides jeopardized the continued existence of numerous ESA listed salmonid species, including those found in the Water Board’s territory. As part of the Reasonable and Prudent Alternative to avoid jeopardy, NMFS prescribed that ground applications of these pesticides should not occur within 500 feet of salmonid habitats, and that aerial applications should not occur within 1,000 feet of them (NMFS 2008). A more detailed presentation of the terms and conditions of this biological opinion was presented to the Water Board as part of our February 4, 2009, letter submitted during scoping for the development of the Total Maximum Daily Load (TMDL) plan for Pesticides/Priority Organics in the Lower Salinas Valley and Elkhorn Slough. We have included this document as an enclosure to this letter.

In September 2009, EPA responded (EPA 2009) that they would implement the 2008 biological opinion but intended to alter the spray drift buffer size to better account for application rate, spray droplet size, and water body size. Although EPA has yet to release final buffer sizes, their letter (EPA 2009) states that the no-spray buffer will not be less than 100 feet in any case. The final buffer sizes from EPA, when issued, will likely require additional review and perhaps additional ESA consultation.

There are also buffer sizes mandated by the U.S. District Court for the Western District of Washington from the case of Washington Toxics Coalition (WTC) v. EPA. The court established buffer zones around certain water bodies in California, Oregon, and Washington for numerous pesticides in addition to those already mentioned (see the EPA web page at <http://www.epa.gov/espp/litstatus/wtc/> for the complete list). The court mandated buffers are 20 yards for ground applications, and 100 yards for aerial applications. The buffers are in effect until EPA completes its consultation obligations. NMFS Southwest Region can assist the Water Board in determining the status of these national level consultations if necessary.

While the buffer size issue is obviously unsettled at the moment, NMFS recommends that its recommendation of 500 feet for ground applications, and 1,000 feet for aerial applications be followed. All proposed or mandated buffer widths (60 feet mandated by the court, 100 feet proposed by EPA, 500 feet prescribed by NMFS to EPA) for ground applications are greater than that proposed by the Water Board. Furthermore, NMFS recommends that the structure of the agricultural order be designed to automatically defer to newer, more stringent requirements as they are put in place by appropriate agencies or through litigation. The Water Board could develop a specialized webpage as part of this process and refer regulated individuals to source for the latest requirements.

NMFS also has concerns regarding the assertion that 21°C is considered the upper end of a desirable range to support steelhead trout. One 34-year old citation (Moyle, 1976) is given for this assertion. If this was ever considered acceptable in the field, please be aware that is no longer the case. As the science of fishery management has advanced, the acceptable temperature ranges for salmonids have been revised. In 2003, EPA Region X finished developing a temperature guidance meant to be consistent with both the Clean Water Act and the ESA (EPA 2003). NMFS endorsed this guidance later in 2003. This guidance recommends a summer maximum temperature (based on a 7-day average of the daily maximum values) of 16°C for salmon and trout “core” juvenile rearing areas and 18°C for salmon and trout migration and “non-core” juvenile rearing areas. Coho salmon rearing should not exceed 16°C to be protective of a fully attained COLD and RARE beneficial use.

Here in the Southwest Region of NMFS, EPA Region IX has not conducted a similar exercise, but the temperature guidance from EPA Region X is considered valid. The different environment conditions (ideal temperatures at fewer locations for shorter periods of time) in Central Coastal California are reflected biologically by the fact that there are fewer salmonid species present and that they do not utilize all portions of the Central Coast watersheds all year long.

NMFS also has some concerns with the designation of “low risk” discharges in the preliminary agricultural order. In particular, we are concerned by the blanket designation of the Central Coast Vineyard Team (CCVT) Sustainability in Practice program as low risk.

Although traditional tailwater discharges are expected to be exceedingly rare for a vineyard, stormwater discharges containing pesticide residues (particularly the legacy organochlorine pesticides that are still frequently detected in Central Coast waterbodies) may be present. Individual testing of soil and sediments in a vineyard drainage system for pesticide residues should be required to make sure that any discharges from these properties do not contain problematic pesticide residues. Vineyard systems in the Central Coast are also noted in the preliminary order document as being major applicators of chlorpyrifos. Therefore, in addition to erosion control practices to keep these residues on the property, vineyards with surface water bodies on or bordering their properties need to ensure that they have a proper functioning riparian area that will serve to filter out sediments and drift from their operations. The CCVT standards only call for a 25-foot vegetated perimeter buffer which is half the minimum requirement of the preliminary agricultural order and will not provide for other essential riparian area benefits needed to achieve an unimpaired COLD beneficial use.

NMFS recommends that the CCVT analyze its membership properties and submit the subset that meets the functional riparian system criteria and which conduct soil testing to ensure that they are not discharging pesticides designated by the Water Board in the enclosure for initial inclusion in the "low risk" discharge category. As more of their member properties conduct this testing and expand their riparian systems to meet the agricultural order's criteria, they can also be recognized as low risk properties.

Regarding the list of five practices that farming operations other than CCVT properties must undertake to be recognized as "low risk", it would be beneficial to clarify the definition of "impaired surface waterbody" in this section. As the section is written now, it could be interpreted to only include the named waterbodies and not tributaries to those waterbodies. We believe it is the Water Boards intent to designate only those properties that are not within 1,000 feet of a tributary waterbody as automatically being "low risk".

Finally, enclosure three of the preliminary order refers to a minimum filter strip width of 30 feet for construction activities. This section should be updated as appropriate to reflect the functioning riparian system sizes that are being proposed in this order.

In closing, we want to reiterate our support for the proposed agricultural order to control discharges from irrigated lands. This preliminary staff report and associated documentation very clearly lays out the water quality problems facing the Central Coast area due to agriculture and presents an ambitious, but necessary, plan for solving these long-standing issues. NMFS looks forward to working with the Water Board this summer as the program advances. Please contact Joe Dillon, NMFS Southwest Region Water Quality Coordinator, at (707) 575-6093 or Joseph.J.Dillon@noaa.gov with any questions or comments regarding this letter or with further requests regarding this matter.

Sincerely,



Steven A. Edmondson
Northern California Habitat Supervisor
Habitat Conservation Division

Enclosure: February 4, 2009 letter to Larry Harlan, CCRWQCB

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References

EPA 2009. Letter to Jim Lecky, Director, Office of Protected Resources, National Marine Fisheries Service, Silver Spring, MD. September 10, 2009. 21 pages. Available at: <http://www.epa.gov/espp/litstatus/wtc/nmfs-signedresponse.pdf>

EPA 2003. EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards, United States Environmental Protection Agency, Region 10 Office of Water. EPA 910-B-03-002, April 2003. 57 pages. Available at: <http://yosemite.epa.gov/r10/water.nsf/6cb1a1df2c49e4968825688200712cb7/b3f932e58e2f3b9488256d16007d3bca!OpenDocument>

NMFS 2008. Final Biological Opinion under the Endangered Species Act, Issued for Chlorpyrifos, Diazinon and Malathion. November 18, 2008. 484 pages Available at: <http://www.epa.gov/espp/litstatus/wtc/>