



UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE

Southwest Region

777 Sonoma Ave., Room 325

Santa Rosa, CA 95404-4731

January 31, 2013

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

Sandi Potter
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street
Oakland, California 94612

Dear Sandi,

NOAA's National Marine Fisheries Service (NMFS) thanks the San Francisco Bay Regional Water Quality Control Board (Water Board) for the opportunity to comment on the Conditional Waiver of Waste Discharge Requirements for Eligible Vineyard Properties in the Napa River and Sonoma Creek watersheds (Waiver). The proposed Waiver will help to guide and implement important controls for nonpoint source (NPS) pollution caused by vineyard development and operations. These controls are called for in the Napa River and Sonoma Creek Total Maximum Daily Load (TMDL) plans for sediment passed by the Water Board in 2009 and 2008 respectively. NMFS supported the adoption of those TMDL plans.

The Water Board developed the Waiver through a collaborative process that included participation from various governmental agencies, non-profit groups, landowners and wine industry representatives. NMFS participated in this process through both the Technical Advisory Committee and Stakeholder Committee processes. These processes allowed the Water Board to proactively craft solutions to concerns raised by committee participants in a proactive manner. The Waiver is expected to enroll 85 percent of the vineyard properties within the two target watersheds and should lead to significant water quality improvements in the coming years.

NMFS supports adoption of the Waiver and expects it to directly benefit two Federally managed species. The Central California Coast (CCC) steelhead trout (*Oncorhynchus mykiss*) is listed as threatened under the Endangered Species Act (ESA) and the Napa River and Sonoma Creek have been designated as critical habitat for its recovery. The Fall-run Chinook salmon (*O. tshawytscha*) is managed under the Magnuson-Stevens Fishery Conservation and Management Act and the watersheds are designated as Essential Fish Habitat (EFH). This action by the Water Board is expected to aid in the recovery of the ESA listed CCC steelhead trout and the production of Fall-run Chinook salmon that are important to California's commercial and recreational fisheries.



NMFS supports the exclusion of vineyard properties with slopes >30 percent from the Waiver. Properties that are located on steep hillsides such as this generally pose a higher waste discharge threat, because many of the soils in the target area are considered highly erodible at this percent slope and, therefore, often require special management.

NMFS also strongly supports the inclusion of roads in the definition of vineyard facilities that are enrolled in the program. Roads are identified as a leading contributor to excessive sedimentation and hydromodification impacts to the Napa River and Sonoma Creek. Reducing the length of roads directly draining to creeks to <25 percent of their length will reduce sediment loading and the peak flows that contribute to stream bank failures. It will also aid CCC steelhead trout and Chinook salmon by contributing to greater infiltration of rainfall into groundwater basins. This will lead to improved baseline flows in the drier months of the year and improved habitat conditions.

A key component of the Waiver is the requirement for a participating property to develop a comprehensive Farm Water Quality Plan (Farm Plan). NMFS has found, through our decade long participation in the Fish Friendly Farming Program (FFF) program, that this is a key component in revealing NPS pollution sources and in planning and prioritizing projects to address the problem. The Farm Plans are meant to be dynamic documents, and the requirement to revisit the properties and plans periodically will ensure that they are updated. Approximately 39 percent of the vineyard area in the watersheds are already enrolled in the FFF program and, therefore, are far along in the Waiver process through the development of Farm Plans.

NMFS also strongly supports the requirement to modify the vineyard layout during replanting, if necessary to achieve reductions in drainage volumes and NPS pollution, in order to comply with the water quality requirements of this Waiver. While many of the management practices that will reduce these impacts can be implemented without altering the footprint of the vineyard, some infrastructure modifications will require larger changes that may affect the productivity of the vineyard. Tying this requirement to replanting, when the vineyard is already planning for a decrease in productivity while new vines grow to maturity, minimizes disruption to the vineyard operator and allows for a planning process to achieve the Waiver's goals.

As part of the replant provisions, the Waiver requires that vineyards be managed so that the volume and timing of any runoff does not result in increased flows that may cause or contribute to erosion. While it is good that this requirement is explicitly stated in the Waiver for CEQA purposes, NMFS expects that the runoff volumes will decrease due to the management practices implemented such as those which stop road drainage systems from directly discharging to creeks. In our experience with FFF, there are numerous other management practices that are routinely implemented to minimize sedimentation that also result in increased infiltration within the vineyard and thus reduced drainage volumes. These include measures such as grassy swales and improvements in roadway filter strips that reduce surface contributions of sediments and improved riparian buffers which result in reduced stream bank erosion.

NMFS also strongly supports the monitoring requirements put forward on pages eight and nine of the tentative order as well as the establishment of photo-monitoring points and annual documentation of stream and riparian area condition and management practice implementation.

We also encourage the Water Board to set a schedule for field inspections and Farm Plan reviews to ensure that all third-party groups assisting with Farm Plan development are generating the anticipated results.

For properties with slopes <5 percent with insufficient stream setback, the Water Board proposes to offer an exclusion if landowners expand riparian areas on Class I and II streams. However, NMFS does not think the size of the buffers proposed for this exclusion are likely to result in unimpaired beneficial uses for cold water organisms or are protective of threatened CCC steelhead trout and the EFH for Fall-run Chinook salmon.

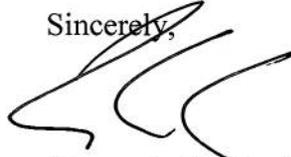
The Waiver proposes to defer to local regulations regarding the size of riparian areas or, where no local regulations apply, to a default width of 45 feet. In Sonoma County, agricultural cultivation and related practices are permitted within 50 feet of the top of bank in the Sonoma Creek watershed and equipment turnaround areas and access roads are allowed within 25 feet of the top of bank. In reality, many vineyard facilities are even closer than this because the properties were developed before the regulations were in place or because the stream is actively eroding and has moved closer to the vineyard. In Napa County, the width varies from 35 feet (for properties with <1 percent slope) to 45 feet (for properties with a 1-5 percent slope) by ordinance. However, all vineyards that were in place before the adoption of the ordinance had their footprints “grandfathered in” by the County, and they will not be required to expand their riparian areas by Napa County.

NMFS recently addressed the riparian area size issue when commenting on Sonoma County’s Grading, Drainage, and Vineyard and Orchard Site Development Ordinance update in May 2012 (Enclosure A) as well as in November 2008 (Enclosure B). The scientific literature as discussed in those enclosures indicates that riparian buffers should be based upon the site potential tree height in order to fully realize water quality and habitat benefits that are vital to the achievement of an unimpaired designated beneficial use. For these areas specifically, the riparian area should be a minimum of 30 meters in width and should not include actively managed aspects of the vineyard property (*e.g.*, roads, turn-arounds, *etc.*). This width would provide stream bank protection benefits from the roots of the vegetation, as well as shade to the streams and river and a supply of large woody debris that is needed to provide habitat structure for the salmonids and to sort sediments in the system (*i.e.*, retain gravels and keep finer sediments in suspension to move them into San Francisco Bay). The lesser riparian widths may provide some portion of these benefits and an overall improvement to water quality if numerous growers expand their riparian areas to fit under this exclusion. However the scientific literature does not predict that it will be sufficient to fully restore unimpaired conditions. NMFS recognizes that in some cases (*e.g.*, alluvial fans that are nearly devoid of vegetation in their natural state) these riparian widths may not be necessary.

In closing, NMFS once again thanks the Water Board for the opportunity to comment on this important regulatory process. The Waiver should provide significant water quality benefits over time as participants improve their management practices to decrease sedimentation and runoff volumes in the watersheds. This is expected to aid in the recovery of CCC steelhead trout in the watersheds and improvement in the EFH conditions for the Fall-run Chinook salmon. NMFS appreciates the opportunity to participate in the development of the Waiver through the advisory

committees and commends the Water Board for its efforts to protect and restore water quality. If you have any questions or comments regarding the content of this letter, please contact Joe Dillon of my staff at 707-575-6093 or Joseph.J.Dillon@noaa.gov.

Sincerely,



Steven A. Edmondson
Assistant Regional Administrator
for Habitat Conservation

Enclosures

cc: Dick Butler, NOAA Fisheries, Santa Rosa, CA
Gary Stern, NOAA Fisheries, Santa Rosa, CA
Ben Zabinsky, North Coast Regional Water Board, Santa Rosa, CA

ENCLOSURE A



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

May 1, 2012

In response, refer to:
151416SWR2012SR00059

Tony Linegar
Agricultural Commissioner/Sealer
County of Sonoma
133 Aviation Boulevard, Suite 110
Santa Rosa, California 95403

Dear Mr. Linegar:

On January 31, 2012, Sonoma County (County) suspended their Grading, Drainage, and Vineyard and Orchard Site Development Ordinance (Ordinance) in order to review and refine it with regard to tree removal and a need to minimize hillslope erosion. NOAA's National Marine Fisheries Service (NMFS) received a draft of the proposed Ordinance refinements via email on April 4, 2012, and submitted general comments on the ordinance as a whole on April 6, 2012. Shortly thereafter, the Sonoma County Board of Directors unanimously adopted the draft refinements, called the "Recommendations for Revisions to Chapter 11 and Best Management Practices for Agricultural Erosion and Sediment Control" (Recommendations), on April 25, 2012, thus concluding a hasty two to three month process during which the Recommendations were developed. Nevertheless, NMFS respectfully submits these specific comments regarding the County's adopted Recommendations, as well as specific comments on the main Ordinance. Some of the specific comments are similar to those submitted by NMFS during the initial crafting of the Ordinance in 2008 (Enclosure A).

Comments on Recommendations:

- NMFS is concerned with the accelerated timeframe the County utilized for improving the existing Ordinance. Minimizing hillside erosion resulting from grading projects is an important and complex issue deserving adequate time for analysis and vetting by interested parties. The County crafted and brought the Recommendations to the County Board all within a two to three month period. As an example of the expedited nature of the process, resource agencies and the public were given just two days following the April 11, 2012, public meeting to review and comment on the draft Recommendations. Perhaps more troubling is the fact that no state or federal resource agency representatives were included at the pivotal round-table discussions/negotiations between agricultural stakeholders and local environmental activists, even though grading-related erosion can impact aquatic habitat managed by NMFS, U.S. Fish and Wildlife Service, California Department of Fish and Game, and the North Coast Regional Water Quality Control Board.



- NMFS commends the County Supervisors for suspending the Ordinance and “directing the Agricultural Commissioner to develop science-based amendments to Chapter 11” and allow “time for staff to develop and for the Board to consider standards for tree removal as part of the vineyard and orchard site development process” (LACO 2012). Using the Universal Soil Loss Equation (USLE) to model before/after erosion rates shows promise in quantifying expected soil loss resulting from hillside grading and tree removal. However, NMFS points out that USLE (and its variants) were developed for Midwestern farmlands, not for hills and forests in unstable coastal geology with a climate as varied as Sonoma County’s. NMFS supports the goal that land disturbing acts should not result in a net increase in sediment production. Making use of the USLE methodology to predict sediment impacts and design may be a reasonable approach, but the method is not science. The details matter, and those details are the site-specific soil, geology, vegetation, aspect, topography, rainfall patterns, and *rainfall extremes*.
- The adopted changes to the Ordinance do not directly address the need for a science based approach, because science is fundamentally an open and transparent process. Inherent within the scientific method is “full disclosure”, whereby all data and analytical methodology is documented and shared openly so they can be carefully examined and their results verified. The current Ordinance and Recommendations circumvent full disclosure by refusing to perform open and transparent analysis under the California Environmental Quality Act (CEQA), environmental legislation enacted specifically for analyzing and publicly disclosing the environmental impacts of projects proposed by state and local governments. Without environmental impact analysis performed through an open and transparent process such as CEQA, regulatory agencies and the public will have no means to examine and verify impact analyses performed by consultants chosen and compensated by the project proponent, and the Ordinance will not be science based. In the absence of an open and transparent review process, NMFS requests the County afford resource agencies the opportunity to review proposed and approved grading plans in the future.

NMFS respects the County’s concerns that small, family-owned vineyards will be disproportionately impacted by the cost of performing CEQA analysis. However, we believe there are ways to avoid burdening these farmers with excessive regulation when their project likely will result in a low environmental impact. Potential thresholds for a “low impact” project could be based upon the size or location of a project, and would be developed in coordination with the County, other regulatory agencies, and interested parties. However, in reality, there is a low likelihood that small farmers will experience economic hardship from required environmental analyses, since small farmers have largely been absent from the recent vineyard expansion away from already developed valley floors and into wooded hillsides with high erosion potential. Most vineyard development in fragile forested hillsides is now commonly funded by extremely wealthy individuals or large, multi-national corporations, both of which can afford to perform CEQA analysis as part of their substantial development project.

- Example 3, page 21 contains an error regarding the pre-development LS value, which should read 9.12 instead of 12.9. The accuracy of the proposed USLE-based analysis in

estimating erosion rates can be affected by a practitioner's error, such as the one noted above, as well as assumptions made when assigning value to the various equation variables. To ensure the integrity of the analysis, open and transparent review is critical.

- A serious limitation of the USLE is that it does not consider gully erosion, which can accelerate under intensive farming land use (Valentin *et al.* 2005). Particularly troubling is the increased likelihood of gully formation due to the ripping of tree roots during the initial grading process, since the presence of plant roots reduces gullying by improving the structural stability and infiltrability of soil (Valentin *et al.* 2005). This inherent weakness of the USLE compromises its utility for accurately predicting all sources of erosion resulting from steep hillside grading and tree removal. The County should investigate using other, more modern sediment models, such as the Water Erosion Prediction Project (WEPP) model, to address this issue.
- Roads can be a significant sediment source on agricultural lands. The Recommendations do not state how erosion from roads and other structures will be controlled/minimized – the USLE is generally used in situations with a single, homogenous land use (e.g., agriculture).
- The use of the USLE equation and universal variables as part of the County's permitting process should be adequately calibrated for use within the varied hydrologic and geologic regimes of Sonoma County. Furthermore, the accuracy of the USLE-based analysis should be validated through field measurements or other credible methods.
- Removing the rainfall (R) and erosivity (K) variables from the USLE is inappropriate. For instance, freshly tilled and ripped soil is significantly more erodible than undisturbed, naturally consolidated soil. Assuming that soil erosivity before and after tilling/ripping is the same because the soil *type* remains the same will likely overestimate pre-development erosion rates.
- The County's last-minute exemption of orchard conversions from the adopted Recommendations is inappropriate and unjustified. No public notice was provided prior to the Board meeting that orchard conversions would be exempted, nor was any reasoning or rationale given as to why the exemption was appropriate. A science-based Recommendation should provide a rational and reasoned explanation as to why hillslopes with orchard trees are treated differently than those with native trees.

Specific Comments on the Ordinance:

- The currently proposed riparian buffer size is insufficient to protect riparian function and water quality. A synthesis of the scientific literature on riparian buffer efficacy suggests a *minimum* buffer width of 150 feet on all class I streams (Jones and Stokes 2002), which is far wider than the 25 – 50 foot buffers called for in the current Ordinance. Riparian buffers trap and contain upslope sediment and pollutant runoff, cool stream flows through shading, maintain stream bank stability through the strength of their root systems, and enhance instream habitat complexity by recruiting wood to the stream environment.

LACO mentioned at the April 11, 2012, public meeting that site-specific riparian and hillslope buffers may widen as a mechanism to minimize soil loss (as computed with the USLE). However, it appears that other riparian functions are not being addressed by the Ordinance and Recommendations.

- Most hillslope grading has the potential to trigger soil erosion and mass wasting, not just ridge-top development. If not already planned, NMFS suggests the County adopt and require no net increase in erosion for all grading projects (*i.e.*, both Level I and Level II), not just those on ridge-tops or overly steep slopes.
- NMFS appreciates the County's drafting of road maintenance BMPs as part of their 2010 manual "Best Management Practices for Agricultural Erosion and Sediment Control". Improperly designed and maintained roads are major sources of sediment that limit instream habitat function and salmonid survival throughout California. Proper road maintenance and design can be highly technical and should not be covered as part of a ministerial permitting process. Road building and maintenance activities can adversely affect instream habitat by increasing hill-slope erosion and altering infiltration and drainage processes. In Northern California, the counties of Del Norte, Trinity, Siskiyou, Humboldt and Mendocino developed a road maintenance manual (Five Counties 2007) and associated program under section 4(d) of the ESA (50 CFR 223, 203) to address potential impacts to salmon and steelhead – NMFS suggests the County adopt this manual in the ordinance and seek similar ESA coverage for their road maintenance actions and those they intend to permit.
- There is currently no proposed BMP monitoring. Instead, the only monitoring currently being discussed is three years of post-project erosion monitoring for Level II projects. Without monitoring, the County, public, and regulatory agencies have no way of knowing whether the BMPs are being implemented as required, or performing as expected. NMFS suggests the County (or preferably an independent third-party) perform implementation and effectiveness monitoring to gauge the ongoing benefit of County BMPs. As for the proposed Level II erosion monitoring, the reliance solely on photographic documentation is likely inadequate for determining whether a project has met the goal of matching post development soil losses with pre-development conditions [*i.e.*, no net increase in soil erosion (LACO 2012)]. In addition to photo-documentation, NMFS suggests using instream suspended sediment monitoring on randomly selected projects to discern changes in sediment delivery pre and post-project. In addition, any monitoring should incorporate procedures that address the county's year to year variable hydrology as well as the El Nino climate cycle.
- NMFS is concerned by the County's use of percent hill slope as the principal metric for discriminating high and low erosion potential (*i.e.*, Level I versus II) for proposed vineyard and orchard development (Table 11-3 in Ordinance). The factors that influence hillslope stability and soil erosion are varied and complex (as illustrated by the USLE), and not at all discriminated on the basis of hill slope alone. Site-specific characteristics, such as the underlying geology, presence of pre-existing faults and landslides, specific micro-climate, extreme storms (not averages), and the interaction between geology and

underlying groundwater, in addition to hillslope, are all important factors that may need consideration and adequate analysis.

- Section 11.02.040 (D) should clarify that other required permits pertinent to the property being graded/developed must be granted prior to the commencement of any grading or development actions. For example, water development almost always follows agricultural land development, and water is a limited resource, particularly in summer. NMFS is very concerned that the development of water resources is not specifically addressed during the land development permitting process.
- Section 11.06.020 allows the “grandfathering” in of activities that may have contributed to the currently degraded state of salmon and steelhead habitat. Where water quality is repeatedly and consistently degraded by existing land-uses, the offending practices need to change.
- Section 11.06.070 should not allow vegetation clearing or grading when there is risk of rainfall that may result in erosion and sediment runoff. On average, this may be between October 1 and April 30, however, earlier and later storms do occur, and contingency plans should be included in the County’s BMPs. Early winter and spring storms can cause significant erosion on recently cleared and ripped hillslopes lacking cover crop coverage (or less preferable, straw coverage). All soil disturbances should be completed early enough so that effective cover crops can be established prior to winter rains, and those cover crops should be maintained until the end of spring rains.
- Table 11-5 lists required buffer widths by percent hill slope and geologic soil stability. However, for each scenario the same buffer requirement exists whether unstable soils exist or not. As identified earlier, geologic conditions can greatly influence hill slope stability and soil erosion; therefore, having the same protective riparian buffer width for the non-erosive and highly erosive geologic conditions makes little sense. Similar issues exist in Table 11-3, where grading is allowed on up to a maximum of 50% hill slope for both non-erosive soils and highly erosive soils (logic dictates that a more conservative, protective limit would apply to highly erosive conditions).
- NMFS is concerned that the County’s current permitting processes inadequately analyze potential impacts to steelhead, salmon and their habitats from groundwater and surface flow extraction that stem directly from grading activities and resultant water resource development in Sonoma County. The County needs to adequately analyze the potential range of stream flow impacts that may occur as a result of its permitting activities. As an important first step, the County should perform CEQA review and adequately analyze groundwater/surface flow impacts before issuing well drilling permits, an action that should be viewed as discretionary. Secondly, grading permits should only be issued after the County considers any potential effects caused by anticipated groundwater pumping and direct “riparian” stream flow diversions that may follow the permitted grading activity– that way, irreversible landscape alteration can be avoided if adequate water supplies do not exist.

NMFS appreciates the opportunity to assist the County in amending the Ordinance in a manner that protects listed species and their habitat while streamlining the permitting process to the greatest extent. We would appreciate the opportunity to meet with the County, resource agencies and interested parties in order to discuss how the approved Recommendations and Ordinance will be implemented. Please contact Rick Rogers at 707-578-8552 (rick.rogers@noaa.gov) or Brian Cluer at 707-575-6061 (brian.cluer@noaa.gov) to schedule a meeting, and if you have any questions or concerns regarding this letter.

Sincerely,



Dick Butler
North Central Coast Office Supervisor
Protected Resources Division

Enclosure

cc: S. Edmondson, NMFS, Santa Rosa
Scott Wilson, DFG, Yountville
Eric Larson, DFG, Yountville
Grant Davis, SCWA, Santa Rosa
Peter Parkinson, Sonoma County PRMD, Santa Rosa
Catherine Kuhlman, NCRWQCB, Santa Rosa
Sonoma County Board of Supervisors, Santa Rosa

Literature Cited

- Five Counties. 2007. A Water Quality and Stream Habitat Protection Manual for County Road Maintenance in Northwestern California Watersheds. July 2007.
- Jones and Stokes. 2002. Stream Setback Technical Memo. From James D. Robins to Charles Wilson, October 18, 2002. 18 pp. with appendices.
- LACO. 2012. Draft Report to Sonoma County Agricultural Commissioner: Review of Erosion and Sediment Control Policies for Vineyard and Orchard Developments with Tree Removal, Recommendations for Revisions to Chapter 11 and Best Management Practices for Agricultural Erosion and Sediment Control. Prepared for the County of Sonoma, California. April 2012. 21 pp.
- Valentin, C., J. Poesen, and L. Yong. 2005. Gully erosion: Impacts, factors and control. *Catena* 63 (2005): 132-153.

ENCLOSURE B



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

November 3, 2008

In response refer to:
150502WR2006SR00218:CAA

Nathan Quarles
Engineering Division Manager
County of Sonoma
Permit and Resource Management Department
2550 Ventura Avenue
Santa Rosa, California 95403-3229

Dear Mr. Quarles:

NOAA's National Marine Fisheries Service (NMFS) appreciates the opportunity to comment on the August 28, 2008, Public Review Draft Grading Ordinance (DGO). Throughout the DGO development between 2002 and 2006, NMFS staff provided comments and recommendations to the County of Sonoma Permit and Resource Management Department staff. This administrative record between 2002 and 2006 were reviewed along with the current draft DGO. Significant changes were noted between the 2003 draft DGO and the current draft DGO.

The development of an ordinance for grading activities in Sonoma County, California, is a critical first step to facilitate protection of spawning, rearing, feeding and migrating freshwater habitats needed by adult and juvenile salmon and steelhead. Unfortunately, trend towards extinction has accelerated, and the complete loss of Central California Coast coho salmon from California's central coast is possible. Furthermore, steelhead and Chinook are additionally imperiled. In fact, a ban on Chinook salmon ocean harvest was imposed this year for California and Oregon. NMFS provides these comments to Sonoma County regarding the DGO with the perspective of possible extinction of CCC coho salmon, federally listed steelhead and the severe population declines of Chinook salmon. Comments provided include:

- 1) Overview of salmon and steelhead in Sonoma County listed under the Federal Endangered Species Act (ESA) and application of ESA section 9;
- 2) Factors contributing to the decline of the species;
- 3) NMFS priorities to prevent extinction and provide for CCC coho long term survival;
- 4) General comments on DGO; and
- 5) Specific comments on DGO.



Federal Endangered Species Act and section 9

NMFS is the Federal agency responsible for regulatory jurisdiction over salmon and steelhead populations across the nation that are listed as threatened or endangered under the Federal Endangered Species Act (ESA) of 1973, as amended. In California, there are 10 distinct populations of salmon and steelhead listed as either threatened or endangered pursuant to the ESA. Four of the ten populations occur in Sonoma County, California: Central California Coast (CCC) coho salmon, Northern California steelhead, Central California Coast steelhead, and California Coastal Chinook. A recent status review of all Pacific Northwest salmonids reaffirmed the listings of these species except for CCC coho salmon. CCC coho salmon were determined to be at a high risk of extinction and were federally re-listed from threatened to endangered (70 FR 37160 effective August 2005).

Once a species is federally listed, ESA section 9 applies which prohibits the death or harm to the species by any person subject to the jurisdiction of the United States. Section 3 defines "person" as "an individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal Government, of any State, municipality, or political subdivision of a State, or of any foreign government; any State, municipality, or political subdivision of a State; or any other entity subject to the jurisdiction of the United States." Hence, a wide variety of entities are subject to its take prohibitions and a few cases have held that States and local municipalities are liable for take. Absent an ESA section 4(d) limitation on the prohibitions and activities allowed under Sonoma County laws and policies, or an ESA section 10(a)(1)(B) permit (Habitat Conservation Plan), incidental take of listed salmonids is not authorized. Thus, it is NMFS' recommendations that Sonoma County work towards a county plan and ordinances that would provide protections to the county and landowners from ESA section 9 prohibitions. This protection could be in the form of an ESA section 10(a)(1)(B) permit (or Habitat Conservation Plan) or a plan to ensure no take or harm results from activities allowed under county laws and policies. The county and the landowner bear full responsibility of ensuring activities do not result in "take" of listed salmonids, and that activities are in compliance with the ESA and other applicable laws.

Timber conversion and grading are activities demonstrated to result in the death of steelhead and, therefore, are activities of a significant concern to NMFS. These activities have been implicated in a NOAA Fisheries Service and Office for Law Enforcement investigation that led to an assessment fine to a Mendocino county landowner for harming and killing steelhead (NOAA Case No. SW020417A).

Central California Coast Coho Salmon and Preliminary Draft Recovery Plan Findings

CCC coho salmon are critically at risk of becoming extinct in the very near future. Since NMFS was engaged with county planning on a draft grading ordinance in 2003, CCC coho salmon were relisted as endangered; unfortunately, the population continues to descend towards extinction. The federal recovery plan for CCC coho salmon is in preparation with a targeted public release date for March 2009. Population data and criteria, developed by the NMFS Southwest Fisheries Science

Center, set the foundation for the recovery scenario. To assess current instream conditions and threats, instream and riparian habitat data were gathered from all possible sources willing to provide their information including the public, stakeholders and agencies (including Sonoma County Water Agency and the California Department of Fish and Game).

NMFS' preliminary findings indicate:

- (1) CCC coho salmon populations are at critically low levels, or no longer exist (*i.e.*, extirpated), in all but a few watersheds south of the Navarro River.
- (2) CCC coho salmon survival through, and between, life stages are poor due to impaired habitats for egg survival and emergence, juvenile summer and over-winter rearing and smolt outmigration. Generally, poor habitats are the result of a region-wide lack of complex pools/off-channel/floodplain habitats, high summer water temperatures and excessive instream sediment. Habitat impairment has been linked with roads, timber harvesting and conversion, channel modification, water diversion and impoundment, climate change and agricultural practices.
- (3) Poor ocean conditions also have a prominent role in the species decline, and are acting in synchrony with poor instream conditions. Coho have evolved under fluctuating conditions for centuries, but the rate of change in the freshwater systems (due to human activities) has accelerated habitat impairment and, thus, population declines. A year or two of poor marine survival has different implications for the population in a watershed that produced 200 juveniles that move downstream and enter the marine environment (*i.e.*, smolts) versus one producing 20,000 smolts.

The federal recovery plan goals for CCC coho salmon are to:

1. Prevent their extinction by protecting all existing populations and their habitats;
2. Maintain current populations and expand them through focused and prioritized restoration actions in critical areas;
3. Prevent degradation of existing high quality habitats across the historical range (especially areas that have supported populations within the last four generations);
4. Restore habitat conditions and watershed processes across the range; and
5. Control and abate future threats to provide for their long term survival and recovery.

A top priority for NMFS in implementing the recovery plan is to outreach to counties regarding key watersheds currently supporting the last remaining populations of CCC coho salmon and outline priorities for habitat protection under the jurisdiction of county laws and policies.

Overall Comments on the Draft Grading Ordinance

Given the current status of salmon and steelhead in Sonoma County, NMFS provides the following comments:

- Per recommendations provided to County staff in 2003, NMFS recommends:

- The County take steps towards the development of a plan and ordinance that provides incidental take coverage for landowners;
 - Establish clear intent language and authority over activities with the potential to impair salmonids and their habitats; and
 - Reduce ambiguity and develop a streamlined process for all parties.
- All activities with the potential to deliver sediment, impair riparian canopy or potential to affect salmonid populations and their habitats should have discretionary review with the purpose of preventing or minimizing such impacts.
 - Develop both ministerial and discretionary permitting processes linked to the type, level and size of activities and the sensitivity of the biological resources the activity may be affected (similar to the draft ordinance from 2003).
 - Exemptions should not be allowed unless there is reasonable certainty that proposed activities will not harm or take salmonids or alter freshwater habitats that support their essential behavioral patterns of spawning, rearing, feeding and migration.
 - Watercourse protections should consider the functional processes of water, wood and sediment and be developed to ensure protection of those processes and the salmon and steelhead that rely on those processes for survival. Scientific literature and NMFS recommends protecting fish-bearing streams, which includes the 20-year floodprone zone, and the riparian zone out a distance on both sides from the outer edge of the 20-year zone one site potential tree height (SPTH) at 100 years. SPTH for a site capable of growing redwoods would be different for sites supporting native oak woodlands. These distances usually calculate from 45 meters depending on slope. Non-fishbearing streams that support perennial or ephemeral water flow are critical sources of upstream sediment, wood and water for downstream areas. Typically the best available science suggests, and NMFS recommends, protecting perennial and ephemeral non-fishbearing streams with a protection zone of approximately 30 meters depending on slope. Activities within any of these zones should be minimized and considered as discretionary permits. Exemptions should not be allowed.
 - Improvements to road construction and maintenance are the top priority for salmonids. Information is available regarding practices that provide for a road infrastructure that is reliable and functional for the landowner while also protecting salmon and steelhead habitats. In 2007 NMFS evaluated and approved the Five Counties Salmonid Conservation Program which included a submittal of "A Water Quality and Stream Habitat Protection Manual for County Road Maintenance in Northwester California Watersheds" for approval under Limit 10 (routine road maintenance) of the ESA section 4(d) rule (50 CFR 223, 203). NMFS recommends the county include these practices and standards in the DGO.
 - NMFS supports the following important aspects of the grading ordinance: (1) inclusion of replants; (2) average slope calculations; (3) prohibiting activities on slopes greater than 50%; and (4) the zero net fill provision.

Specific Comments on the Draft Grading Ordinance

Sec 11.02.040 (D) – page 63 – Other permits – This section should clarify that other required permits (e.g., water rights permit) must be granted prior to the commencement of the grading or development activities. Ministerial permit extensions may be needed due to delays by State or Federal agencies processing the other required permits.

Sec 11.04.020 (G) – page 66 – Maintenance or repair of private roads should not be granted an exemption from the grading permit requirements. Roads are a known, major contributor of sediment in watersheds throughout Sonoma County and this sediment is having significant affects to salmonid habitats. Roads are identified by the North Coast Regional Water Quality Control Board as a sediment source in the Clean Water Act Section 303(d) list of impaired waterbodies for the Russian River and other watersheds in the county. Road related sources of sediment are identified as contributing 58% of sediment in the Gualala River watershed. A reduction in this source is identified as Task #3 in the Regional Water Board Staff Work Plan to Control Excess Sediment in Sediment-Impaired Watersheds, finalized by the North Coast Regional Water Quality Control Board on April 8, 2008. Working with Road Associations to control road related sediment, including using progressing enforcement actions if necessary, is identified as Task #10 in the Russian River section of the same document. Requiring maintenance or repair of private roads to upgrade the road design to minimize road-related sediments would greatly aid in meeting these Federal and state goals/requirements. See general comments on roads above.

Sec 11.06.020 – page 69 – This allows a “grandfathering” in of activities that have contributed to the current degradation of salmon and steelhead habitats. New drainage permits and design standards should be required for the categories of projects listed in this section unless they qualify for a more stringent exemption. While many systems may be not impairing habitats, some are in need for improvement as noted in the developing draft Recovery Plans and the stormwater NPDES permit that is being issued by the North Coast Regional Water Quality Control Board.

Sec 11.06.020 (F) – page 70 – Construction or installation of seasonal agricultural drainage swales should also be required to put other BMPs in place to reduce erosion or delivery of sediments (e.g., cover crops, check dams, straw wattles, sedimentation or infiltration ponds, etc.).

Table 34-3 – page 71 – It is advisable to keep developable slopes to those less than or equal to 30%. Erosion ratings for many soil types change from “low” or “moderate to “high” or “extreme” at these higher slopes.

Sec 11.08.020 – page 65 - Exemptions should only be allowed when potential adverse impacts are negligible to salmon and their stream/riparian habitats.

Sec 11.08.020 – page 66 – Do not exempt roads; however, an exemption could be considered if roads are being upgraded and monitored according to standards outlined in the 5 Counties Manual.

Sec 11.08.020 – page 67 – Do not exempt timber harvest operations. Grading is not a discretionary activity under an approved timber conversion or harvest plan. The California Board of Forestry recently reviewed the timber harvest conversion process. The County should consider coordinating with the California Board of Forestry to determine how best to ensure activities associated with conversions do not adversely affect or harm salmonids and their habitats. Timber conversion and grading is an activity demonstrated to result in the death of steelhead and are, thus, activities of a significant concern to NMFS.

Sec 11.08.020 (B) – page 72 – NMFS believes ½ acre is a justifiable trigger as long as activities are outside suggested riparian zone areas.

Sec 11.16.020 – page 88 - Dams and Reservoirs – The construction permit should be conditioned on obtaining the required water right prior to construction or a determination that the water source is non-jurisdictional.

Sec 11.16.030 – This section discusses the Permit Authority BMP Guide. These are a collection of manuals, *etc.*, utilized throughout the State or County for projects involving grading, drainage, *etc.* See the website at <http://www.sonoma-county.org/prmd/docs/grdord/bmpguide.htm>. For example, it includes the State's Stormwater manuals for various types of development. The section should clarify which sections of which manuals apply to vineyard and orchard development projects as well as to other aspects of development. For example, the County should clarify that the structural BMPs and sizing criteria presented in the Stormwater manuals for controlling erosion, promoting infiltration and preventing hydromodification (*e.g.*, sedimentation or infiltration ponds, infiltration galleries, *etc.*) are required not just for urban development projects but vineyard and orchard development as well. The County ordinance should be coordinated to be in compliance with the requirements in development by the North Coast Regional Water Quality Control Board as part of the Stream and Wetland System Protection Policy.

Sec 11.16.060 – page 90 – Determining a qualifying storm event is problematic for an individual and across the highly variable rain zones of this county. It is advisable to have a strict “closed” date and installation of most BMPs for initial vineyard and orchard site development (*e.g.*, soil ripping, terracing, major construction). Final vineyard and orchard site development activities (*e.g.*, installing trellises or drip lines, planting vines) are appropriate late season activities in most cases. No more than 20-30% of the area should have exposed soil at any time as long as the other BMPs (*e.g.*, sediment basins, straw wattles, silt fences, *etc.*) are properly installed.

Sec 11.16.090 – page 92 – We do not agree with a 50% slope trigger and recommend 30%.

Sec 11.16.110 – page 93 – See earlier comments regarding watercourse protections. USGS maps may not in all cases include all ephemeral streams. Verification of site plans should be required by County staff or the professional engineer or geologist signing off the development plan. Heavily vegetated turn around areas and grassy swales can provide filtration of overland flow originating in a vineyard or orchard. However, they do not provide for streambank stability. Therefore, the set back area should not only retain existing vegetation, but replanting of appropriate tree and brush

species should be required at and near the top of the bank (to provide for streambank stability benefits). Turn around areas should be cover cropped and/or strawed prior to the onset of the rainy season.

NMFS appreciates the opportunity to review and provide comments on the DGO. We also concur with California Department of Fish and Game and Water Quality comments on the DGO. The development of a grading ordinance for Sonoma County is strongly recommended; however, NMFS finds the DGO from 2003 a more protective approach and would encourage the county to revisit that draft in the future. Any action taken for CCC coho salmon, steelhead and Chinook is not in isolation; many others are working across the range of these species within their authorities and capabilities to prevent CCC coho salmon extinction and improve streams that provide both the habitats needed by these species as well as a healthy resource for the public.

If you have any questions or would like to meet with staff regarding these comments, please contact Charlotte Ambrose at (707) 575-6068 or via email at Charlotte.A.Ambrose@noaa.gov.

Sincerely



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