

Dr. Stuart W. Styles, P.E., D.WRE.
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Director, Irrigation Training and Research Center
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San Luis Obispo, CA 93407

Re: Request for comment on the California State Water Resources Control Board (State Water Board) existing Agricultural Nitrate Control Programs

Dear Dr. Styles,

This letter is response to your April 23, 2014 email request to testify for the Nitrate Expert Panel on behalf of the California State Water Resources Control Board (State Water Board) existing agricultural nitrate control programs.

NMFS comments are based on the review of the State Water Board's Policy for *Implementation and Enforcement of the Nonpoint Source Pollution Control Program*, May 20, 2004 and Regional Water Quality Control Board's Irrigated Land Regulatory Programs as implemented through various orders such as Water Discharge Requirements (WDRs), agricultural waiver process, and conditional waivers.

Our main objective is to minimize the potential risk and impacts to Endangered Species Act (ESA) listed species, their designated critical habitat, and essential fish habitat (EFH). The linkages between increased nutrients in surface water, algal productivity and diel variability in dissolve oxygen (DO) concentrations are well known. In algae saturated waters, low DO levels over an extended period of time may result in changes in fish behavior or fish mortality. In order to minimize the impacts to ESA listed species our recommendations and concerns on the existing programs are listed below:

- NMFS recognizes the need to expedite the agricultural waiver process. At present the process is long and arduous, which ultimately increases the start time for implementation. NMFS suggest developing a more streamline approach to this process (application, review, etc.,) and continue to develop a more scientific and comprehensive approach to solving the problem (i.e., nutrient mass-balance approach).
- Current flood irrigation practices may conflict with improvements to groundwater quality. During flood irrigation saline waters are transported below the root zone. These saline waters also transport nutrients. NMFS recommends examining the existing flood agricultural irrigation practices to identify those that conflict with nutrient management objectives for improvements to groundwater quality. Topics to discuss may include (1) how effective is the use of tile drains for agricultural runoff, (2) will catchments be used to collect the nutrient-laden water, (3) can the water be treated or reused?

- There are apparent data deficiencies and uncertainties regarding the connectivity between surface water and groundwater connectivity in agricultural settings. NMFS recommends the use of field studies that address identifying areas with the greatest potential for surface water and groundwater connectivity. Simple dye studies could be used to identify “hotspots” of connectivity; management actions could be developed and best management practices can be implemented to target and reduce nitrate loading in these areas.

In conclusion, NMFS supports the surface and groundwater monitoring and reporting requirements for large agricultural growers and the implementation of the nitrogen management plans in the existing programs. However, we also recommend extending the legal requirements for monitoring to small growers in the program.

Please direct questions regarding this letter to Melanie Harrison at 707-575-1253 or Melanie.Harrison@noaa.gov.

Sincerely,

Melanie D. Harrison, Ph.D