



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

October 16, 2009

MEMORANDUM

SUBJECT: Effects Determinations for Chlorpyrifos Relative to the California Red-legged Frog (CRLF), California Tiger Salamander (CTS), San Francisco Garter Snake (SFGS), California Clapper Rail (CCR), Salt Marsh Harvest Mouse (SMHM), San Joaquin Kit Fox (SJKF), Bay Checkerspot Butterfly (BCB), Valley Elderberry Longhorn Beetle (VELB), Delta Smelt (DS), California Freshwater Shrimp (CFS) and Designated Critical Habitat for CRLF, CTS, BCB, DS and VELB

FROM: Stephanie Syslo, RAPL, Environmental Fate Scientist
Environmental Risk Branch III
Environmental Fate and Effects Division

TO: Arthur-Jean B. Williams, Associate Director
Environmental Fate and Effects Division

Attached is an assessment to evaluate potential direct and indirect effects on individuals of the Federally Threatened California Red-legged Frog (*Rana aurora draytonii*; CRLF), California Tiger Salamander (*Ambystoma californiense*; CTS), Delta Smelt (*Hypomesus transpacificus*; DS), Bay Checkerspot Butterfly (*Euphydryas editha bayensis*; BCB), and Valley Elderberry Longhorn Beetle (*Desmoceris californicus dimorphus*; VELB), and the Federally Endangered San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*; SFGS), California Clapper Rail (*Rallus longirostris obsoletus*; CCR), Salt Marsh Harvest Mouse (*Reithrodontomys raviventris*; SMHM), California freshwater shrimp (*Syncaris pacifica*; CFS), and San Joaquin Kit Fox (*Vulpes macrotis mutica*; SJKF) arising from FIFRA regulatory actions regarding all registered uses of chlorpyrifos in California. In addition, this assessment evaluates whether the action is expected to result in modification of designated critical habitat for the CRLF, CTS, BCB, DS and VELB. This ecological risk assessment has been prepared consistent with the settlement agreement in *Center for Biological Diversity (CBD) vs. EPA et al.* (Case No. 02-1580-JSW (JL)) which addresses the CRLF and was entered in Federal District Court for the Northern District of California on October 20, 2006. This assessment also addresses the CTS, SFGS, SMHM, SJKF, BCB, and VELB, for which chlorpyrifos was alleged to be of concern in a separate suit (*Center for Biological Diversity (CBD) vs. EPA et al.* (Case No. 07-2794-JCS)).

The attached assessment was conducted consistent with the Agency's Overview Document¹. Effects determinations for this assessment on chlorpyrifos use in California are summarized below. Details of the effects determinations can be found in **Tables 1.1 and 1.2** of the "Executive Summary" section of the

¹ Overview of the Ecological Risk Assessment: Process in the Office of Pesticide Programs, U.S. Environmental Protection Agency: Endangered and Threatened Species Effects Determinations: January 23, 2004.

assessment.

- **Based on the best available information, the Agency makes a May Affect and Likely to Adversely Affect (LAA) determination for the CRLF, CTS, SFGS, CCR, SMHM, SJKF, BCB, CFS, DS and VELB, for all uses.** This is based on the potential for direct effects and indirect effects due to potential decreases in aquatic prey items (for CRLF, CTS, SFGS, DS and CFS) and terrestrial prey items (for CRLF, CTS, SFGS, SMHM, CCR and SJKF) as well as potential habitat effects.
- **The Agency has determined that there is potential for modification of designated critical habitat for the CRLF, CTS, BCB, DS and VELB from the use of chlorpyrifos.** This is based on the potential for indirect effects. These indirect effects are due to potential decreases in aquatic and terrestrial prey items, and for modification of designated critical habitat due to the potential loss of aquatic and terrestrial prey items.

As required by the Alternative Consultation Agreement EPA entered into with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (Services), I have been trained by the Services to make such determinations. Additionally, this assessment was subjected to internal Agency peer review throughout its development. The review panel included one scientist who has been trained by the Services to make such determinations (Edward Odenkirchen).

Please let me know if you have any questions regarding this assessment and effects determination for chlorpyrifos relative to the CRLF, CTS, SFGS, CCR, SMHM, SJKF, DS, CFS, BCB, and VELB, and the designated critical habitats for the CRLF, CTS, BCB, DS and VELB.

Attachments