Potential Impacts of Court-Ordered Injunctions on Pesticide Use AND the Protection of Endangered Species

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In-junc-tion

"A writ granted by a court of equity whereby one is required to do or to refrain from doing a specified act."

Bay Area Stipulated Injunction and Proposed Order

- Suit by Center for Biological Diversity charges U.S. EPA with failure to consult U.S. Fish & Wildlife Service (FWS) on the risks from 74 pesticides to 11 listed species in the San Francisco Bay Area.
- Eight counties affected: Alameda, Contra Costa, Marin, Napa, San Mateo, Santa Clara, Solano and Sonoma.
- Imposes different “no-use” buffers for some of the 74 pesticides, depending on species.

Species Included

California clapper rail

California freshwater shrimp

California tiger salamander

Salt marsh harvest mouse

Tidewater goby

Species Included

San Joaquin kit fox

Alameda whipsnake

San Francisco garter snake

Valley elderberry longhorn beetle

Bay checkerspot butterfly

Delta smelt

Active Ingredients Affected

- Acephate
- Acrolein
- Alachlor
- Aldicarb
- Aluminum phosphide
- Atrazine
- Azinphos-methyl
- Bensulide
- Beta-cyfluthrin
- Bifenthrin
- Brodifacoum
- Bromadiolone
- Bromethalin
- Carbaryl
- Carbofuran
- Chlorophacinone
- Chlorothalonil
- Chlorpyrifos
- Cholecalciferol
- Cyfluthrin
- Cyhalothrin (lambda)
- Cypermethrin
- 2,4-D
- Deltamethrin
- Diazinon
- Difethialone

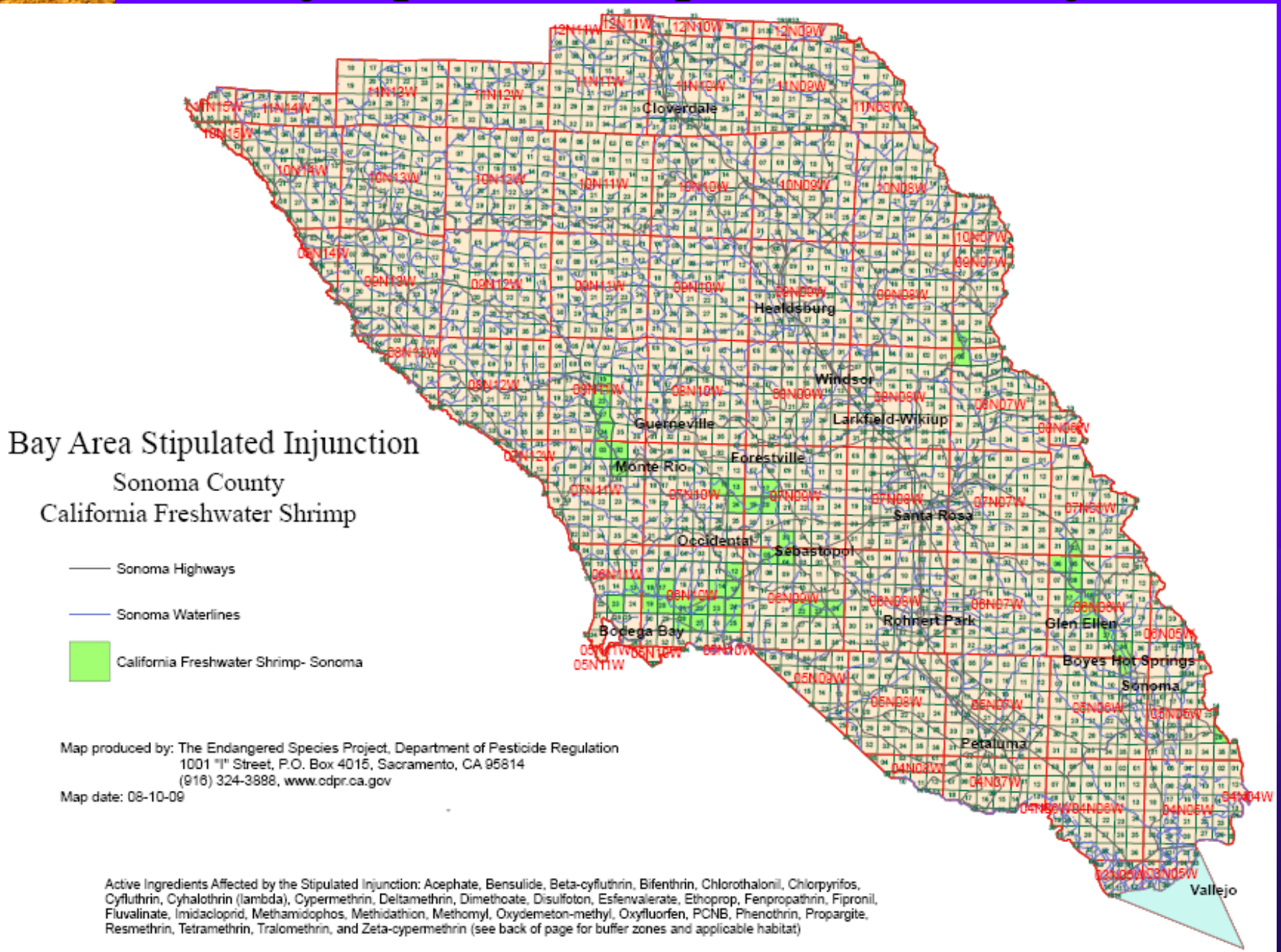
Active Ingredients Affected (cont.)

- Dimethoate
- Diphacinone
- Diquat dibromide
- Disulfoton
- Endosulfan
- EPTC
- Esfenvalerate
- Ethoprop
- Fenpropathrin
- Fipronil
- Fluvalinate
- Imidacloprid
- Magnesium phosphide
- Malathion
- Mancozeb
- Maneb
- Metam Sodium
- Methamidophos
- Methidathion
- Methomyl
- Methoprene
- Methyl bromide
- Metolachlor
- Naled
- Oryzalin
- Oxydemeton methyl

Active Ingredients Affected (cont.)

- Oxyfluorfen
- PCNB
- Pendimethalin
- Permethrin
- Phenotrin
- Phorate
- Phosmet
- Potassium nitrate
- Propargite
- Resmethrin
- S-Metolachlor
- Simazine
- Sodium cyanide
- Sodium nitrate
- Strychnine
- Tetramethrin
- Thiobencarb
- Tralomethrin
- Trifluralin
- Warfarin
- Zeta-cypermethrin
- Zinc phosphide

County/Species Maps Produced by DPR



County/Species Maps Produced by DPR

CALIFORNIA FRESHWATER SHRIMP (*Syncaris pacifica*)

No-Use Buffers Required:

All areas within 100 feet of the habitat described below if applied by ground

All areas within 400 feet of the habitat described below if applied by air.

Habitat Information:
ENDEMIC TO MARIN, NAPA, & SONOMA COS. FOUND IN LOW ELEV, LOW GRADIENT STREAMS WHERE RIPARIAN COVER IS MODERATE TO HEAVY. SHALLOW POOLS AWAY FROM MAIN STREAMFLOW. WINTER: UNDERCUT BANKS W/EXPOSED ROOTS. SUMMER: LEAFY BRANCHES TOUCHING WATER

Reference Table Produced by DPR

San Francisco Bay Area Draft Stipulated Injunction and Proposed Order (July 1st 2009).

Active ingredients affected and corresponding no-use buffers by species. The first number in each cell is the ground application buffer; the second one following the dash is the aerial application buffer. Buffers are given in feet.

Active Ingredient	Species[1]										
	AW	BCB	CCR	CFS	CTS	DS	SMHM[2]	SFGS	SJKF[3]	TG	VELB
Acephate		100 - 400	200 - 200	100 - 400			200 - 200	200 - 400	700 - 700		100 - 400
Acrolein	100 - 400										
Alachlor						100 - 400					
Aldicarb									700 - 700		100 - 400
Aluminum phosphide	100 - 400				200 - 400			200 - 400	700 - 700		
Atrazine						100 - 400					
Azinphos methyl		100 - 400	200 - 200		200 - 400			200 - 400	700 - 700		100 - 400
Bensulide		100 - 400	200 - 200	100 - 400	200 - 400	100 - 400		200 - 400		100 - 400	100 - 400
Beta-cyfluthrin		100 - 400	200 - 200	100 - 400	200 - 400	100 - 400		200 - 400		100 - 400	100 - 400
Bifenthrin		100 - 400	200 - 200	100 - 400	200 - 400	100 - 400		200 - 400		100 - 400	100 - 400
Brodifacoum	100 - 400						200 - 200		700 - 700		
Bromadiolone	100 - 400						200 - 200		700 - 700		
Bromethalin	100 - 400			100 - 400			200 - 200				
Carbaryl						100 - 400					
Carbofuran						100 - 400		200 - 400	700 - 700		100 - 400
Chlorophacinone	100 - 400				200 - 400		200 - 200		700 - 700		
Chlorothalonil		100 - 400	200 - 200	100 - 400	200 - 400	100 - 400		200 - 400		100 - 400	
Chlorpyrifos		100 - 400	200 - 200	100 - 400	200 - 400	100 - 400	200 - 200	200 - 400	700 - 700		100 - 400
Cholecalciferol							200 - 200				
Cyfluthrin		100 - 400	200 - 200	100 - 400	200 - 400	100 - 400		200 - 400		100 - 400	100 - 400
Cyhalothrin (lambda)		100 - 400	200 - 200	100 - 400	200 - 400	100 - 400		200 - 400		100 - 400	100 - 400
Cypermethrin		100 - 400	200 - 200	100 - 400	200 - 400	100 - 400		200 - 400		100 - 400	100 - 400
2,4-D	100 - 400										
Deltamethrin		100 - 400	200 - 200	100 - 400	200 - 400	100 - 400		200 - 400		100 - 400	100 - 400
Diazinon						100 - 400				100 - 400	
Difethialone	100 - 400										
Dimethoate		100 - 400	200 - 200	100 - 400	200 - 400			200 - 400		100 - 400	100 - 400
Diphacinone	100 - 400				200 - 400	100 - 400	200 - 200		700 - 700		
Diquat dibromide						100 - 400					
Disulfoton		100 - 400	200 - 200	100 - 400	200 - 400	100 - 400		200 - 400		100 - 400	100 - 400
Endosulfann		100 - 400			200 - 400		200 - 200	200 - 400	700 - 700		100 - 400
EPTC						100 - 400					

Current Status

- DPR recommended EPA replace proposed interim buffer zones with use limitations specified in our WEB-based database PRESCRIBE: www.cdpr.ca.gov/docs/endspec/prescint.htm
- Final Injunction and Order still pending review of public comments.
- When final injunction is published, DPR will be posting all maps and related materials on the Endangered Species section of our Web site at:

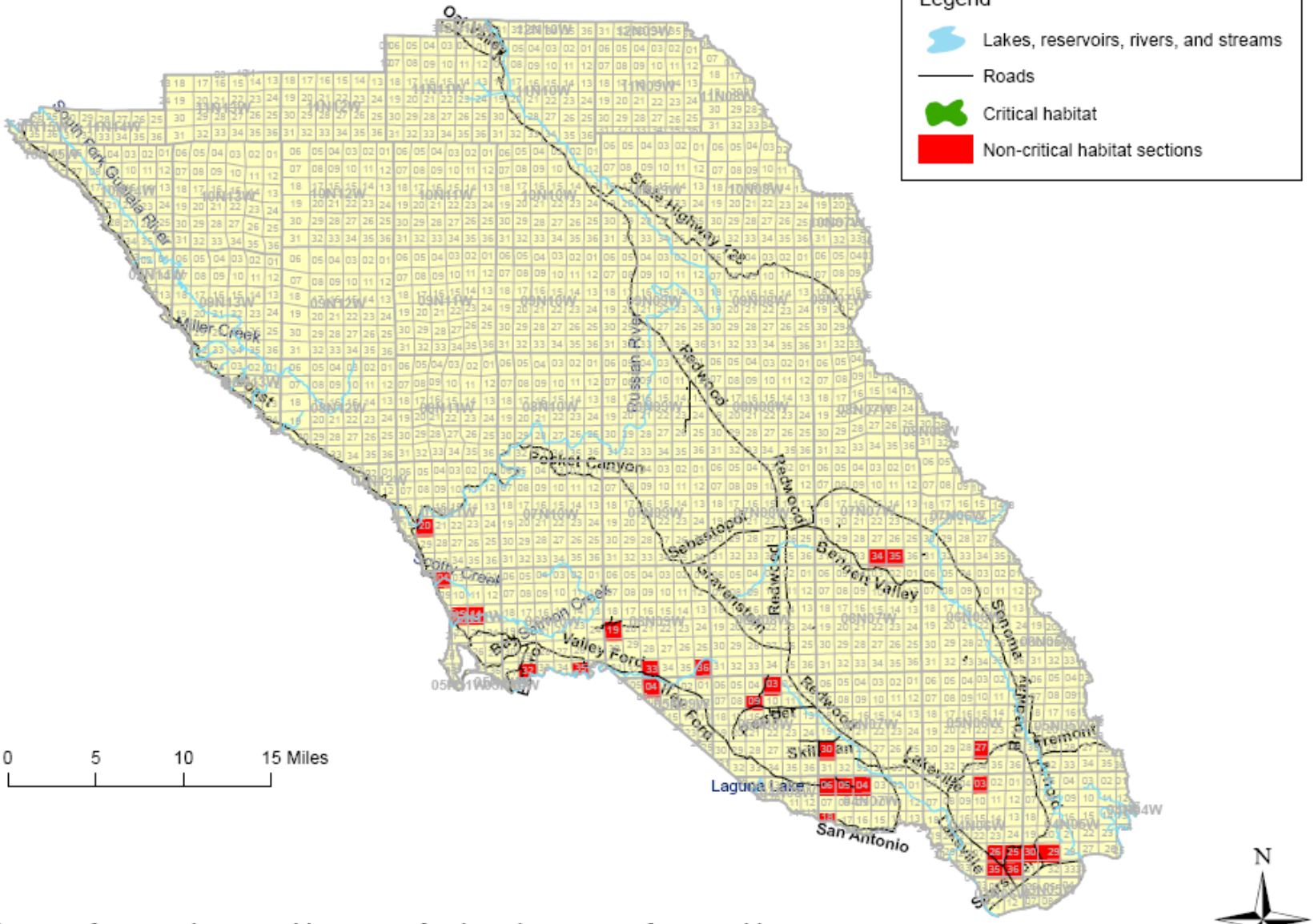
http://www.cdpr.ca.gov/docs/endspec/index.htm

Stipulated Injunction and Order for Protection of California Red-Legged Frog

- The suit by the Center for Biological Diversity alleged that U.S. EPA failed to solicit U.S. Fish & Wildlife Service (FWS) formal consultation on the risks from 66 pesticides to California red-legged frog (CRLF)
- Imposes prohibitions for use of 66 active ingredients 200 feet by air, and 60 feet by ground from California red-legged frog's aquatic and upland habitats occurring in 33 counties.
- Effective date 10/20/06.

CRLF Injunction Areas in Sonoma County

Sonoma County, California



The water features shown on this map are for the sole purpose of geographic reference, and do not represent the aquatic habitat of the California red-legged frog.

Active Ingredients Affected

- 1,3-dichloropropene
- 2,4-D
- Acephate
- Alachlor
- Aldicarb
- Atrazine
- Azinphos-methyl
- Bensulide
- Bromacil
- Captan
- Carbaryl
- Chloropicrin
- Chlorothalonil
- Chlorpyrifos
- Chlorthaldimethyl
- Diazinon
- Dicofol
- Diflubenzuron
- Dimethoate
- Disulfoton
- Diuron
- Endosulfan

Active Ingredients Affected (cont.)

- EPTC
- Esfenvalerate
- Fenamiphos
- Glyphosate
- Hexazinone
- Imazapyr
- Iprodione
- Linuron
- Malathion
- Mancozeb
- Maneb
- Metam Sodium
- Methamidophos
- Methidathion
- Methomyl
- Methoprene
- Methyl parathion
- Metolachlor
- Molinate
- Myclobutanil
- Naled
- Norflurazon

Active Ingredients Affected (cont.)

- Oryzalin
- Oxamyl
- Oxydemeton-methyl
- Oxyfluorfen
- Paraquat dichloride
- Pendimethalin
- Permethrin
- Phorate
- Phosmet
- Prometryn
- Propanil
- Propargite
- Propyzamide
- Rotenone
- Simazine
- SSS-tributyl phosphorithiolate
- Strychnine
- Thiobencarb
- Triclopyr (BEE + TEA)
- Trifluralin
- Vinclozolin
- Ziram

Current Status

- EPA is working on effects determinations for all 66 active ingredients included in this injunction.
- They are concurrently submitting the above to the US Fish & Wildlife Service for their analysis and resulting Biological Opinions.

Salmonid Injunction
Washington Toxics Coalition vs EPA

- The suit by environmental and fishery groups alleged that U.S. EPA failed to solicit National Marine Fisheries Service (NMFS) formal consultation on the risks from 38 pesticides to 26 distinct populations of Chinook salmon, Coho Salmon and Steelhead.
- Imposes prohibitions for use of 38 active ingredients 100 yds by air, and 20 yds by ground from Salmon Supporting Waters.
- Effective date 2/5/04.

Species Included in California

Active Ingredients Affected

- 1,3-dichloropropene
- 2,4-D
- Acephate
- Azinphos-methyl
- Bensulide
- Bromoxynil
- Captan
- Carbaryl
- Carbofuran
- Chlorothalonil
- Chlorpyrifos
- Coumaphos
- Diazinon
- Diflubenzuron
- Dimethoate
- Disulfoton
- Diuron
- Ethoprop
- Fenamiphos
- Fenbutatin-oxide

Active Ingredients Affected (cont.)

- Lindane
- Linuron
- Malathion
- Methamidophos
- Methidathion
- Methomyl
- Methyl parathion
- Metolachlor
- Metribuzin
- Naled
- Oxyfluorfen
- Pendimethalin
- Phorate
- Prometryn
- Propargite
- Tebuthiuron
- Triclopyr (BEE + TEA)
- Trifluralin

The rest of the active ingredients originally included in the lawsuit have been removed from this list. They were found by EPA to have no effect on salmonids.

EnviroMapper: Detailed view of County. Viewer can zoom in to 1:24,000 scale

U.S. Environmental Protection Agency

Court-Ordered Pesticide Limitations

Recent Additions | Contact Us Search: GO

EPA Home > Pesticide Use Limitations - 9th District Court Order > Mapping Results

Sonoma

EPA EnviroMapper

0 2.56mi USGS

Zoom In Zoom Out Identify Select a feature

Recenter Locator Map Legend Topo Map

Redraw Map

Map Features

Pesticide malathio

Segments with Limitation

Water features

- [x] Streams
- [ ] Water Body Names
- [x] Water Bodies

Redraw Map

malathion GO!

Limitations for malathion

- Do not use within 20 yards of salmon-supporting waters for ground applications or for any applications of a granular formulation.

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Salmonid Injunction - Current Status

- Consultation for Chlorpyrifos, Diazinon and Malathion was completed in 2008.
- NMFS' Biological Opinion proposed buffers of 500' for ground applications and 1000' for aerial apps.
- EPA decided to impose variable buffers depending on application rate + droplet size. For aerial apps. still almost 1000'. For ground, the minimum is 100'.
- Draft bulletins for California were reviewed by DPR (11/09) and comments sent to U.S. EPA.
- EPA moving forward with requiring registrants to modify labels for Chlorpyrifos, Diazinon and Malathion.
- Restrictions will be voluntary until labels are modified.

U.S. EPA Draft Bulletin for Sonoma County

Endangered Species Protection Bulletin

Valid For: Dec 2009

Sonoma County, California

1 On the *county map*, areas where pesticide use must be limited are identified by colors or patterns. Each color or pattern corresponds to a species needing protection. Find the specific colors or patterns on the map that cover or are close to the area where you intend to apply pesticides. The *Species Protection Key* will further identify the specie(s) and areas of concern represented by these colors and patterns.

- Sent to affected states for internal review –Nov 2009
- 40 bulletins for California
- Specific for Chlorpyrifos, Diazinon and Malathion only
- No exemptions for Vector Control or Weed Eradication Programs
- However…

Complaint for Declaratory and Other Relief Under the Administrative Procedure Act

- Registrants of chlorpyrifos, diazinon and malathion have filed a legal action to vacate the salmonid biological opinion because they allege the opinion was arbitrary, capricious, an abuse of discretion and otherwise in violation of law.

more →

Complaint for Declaratory – contd.

- NMFS failed to clearly define the action it was evaluating, improperly relied heavily on information concerning abandoned or soon-to-be-abandoned historical uses
- NMFS failed to use the best commercial and scientific information available
- Also failed to provide lawful RPAs and RPMs or a lawful incidental take statement.
- NMFS also failed to follow procedures required under the ESA, the APA, its own regulations and guidance, and fundamental principles of administrative law when developing the Biological Opinion.

High resolution (Credit: NOAA/USFWS)

"Scientific research has shown that these three chemicals when found in streams can damage and even kill salmon," said **Jim Balsiger**, acting NOAA assistant administrator for NOAA's Fisheries Service. "The chemicals may also harm stream water quality and the small fish and insects that salmon eat. The restrictions are designed to prevent harmful effects. "

Some of the required restrictions of the biological opinion include:

- Buffer zones of 1,000 feet for aerial application and 500 feet for ground application between where the pesticides are applied and salmon streams.
- Strips of a minimum of 20 feet of grasses, bushes or other vegetation on agricultural sites adjacent to surface waters designed to absorb runoff from pesticide-treated fields.
- Restrictions on applying pesticides in windy conditions that could carry pesticides into nearby streams.
- A prohibition on applying pesticides when a storm is predicted that could cause pesticide run off into nearby streams.

NOAA scientists found the chemicals not only can be lethal to salmon at certain concentrations, but can also hinder salmon growth at lower levels of concentration by impairing their ability to smell their prey and by reducing the amount of small fish and insects for food. The chemicals have also been found to slow the swimming of salmon or make their swimming erratic, impairing their ability to return to their natal streams to spawn and to avoid predators.

The final **biological opinion** is the first in a series that NOAA will issue between now and Feb. 29, 2012, to the EPA concerning a total of 37 active chemical ingredients in pesticides. EPA requested that NOAA prepare the biological opinions as the result of lawsuits from environmental groups in recent years.

!

NOAA understands and predicts changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and conserves and manages our coastal and marine resources.

Department of Pesticide Regulation

Mary-Ann Warmerdam
Director

Arnold Schwarzenegger
Governor

September 15, 2008

Ms. Angela Somma
Chief
Endangered Species Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
13th Floor
Silver Spring, MD 20910

Dear Ms. Somma:

The California Department of Pesticide Regulation (DPR) provides the following comments on the Draft Biological Opinion for Chlorpyrifos, Diazinon and Malathion as issued by the National Marine Fisheries Service (NMFS) on July 31, 2008.

1) DPR disagrees with NMFS' finding that U.S. EPA's proposed authorization for the registration of pesticide products containing the active ingredients chlorpyrifos, diazinon and malathion is likely to jeopardize the continued existence of the 10 Salmonid Evolutionarily Significant Units (ESUs) occurring in California. DPR also disagrees with NMFS' conclusion that U.S. EPA's proposed authorization for the registration of pesticide products containing the active ingredients chlorpyrifos, diazinon and malathion is likely to destroy or adversely modify designated critical habitat for the above mentioned salmonid ESUs.

2) A number of environmental factors believed to negatively impact salmonids are listed in the Biological Opinion. These include water flow, water temperature, removal of riparian habitat, urbanization, bank erosion, decreased base flow, sediment loadings, chemical pollutants from automobile traffic, wastewater treatment plants outflows, water chemistry, biota, canalization, heavy metals such as zinc, copper, lead, arsenic, mercury, infectious diseases, parasites, fertilizers, manures (nitrates), VOCs, nutrients, pathogenic bacteria, old organochlorines, reduced dissolved O2, and pesticides. Considering that the affected populations range from Southern California to the Canadian border (and beyond), these various factors should be accounted for in some manner. It is likely that in some habitats, pesticides are not a significant factor while urbanization, high water temperature or sediment loading is. It is not clear from reading the Biological Opinion that pesticides are a factor in any of the habitats.

3) The Biological Opinion appears to treat the various species, subspecies, and populations (ESUs) as a single unit with regard to the perceived effects of the three pesticides. No effort to differentiate subpopulations or varying exposure scenarios was made. This is an error since pesticide use and the resulting exposure, and the listed environmental factors, vary considerably over the vast range covered by the Biological Opinion.

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A Department of the California Environmental Protection Agency

DPR's Comments for Public Docket

- DPR disagreed with NOAA Fisheries findings.
- Speculation – Environmental Factors.
- NMFS used flawed models in their analyses.
- NMFS disregards monitoring efforts and findings since 2002.
- Effects analyses used 25-year old standards, which have changed significantly since then.
- Ignored monitoring data in California to use their "model"

Common Denominators on All these Injunctions (so far)

- Result from lack of consultation by EPA on the effects of "pesticide x" on "species y".
- Impose a consultation schedule between EPA and The Services (FWS or NMFS) – 4 to 6 years minimum.
- Public vector control and invasive weed control programs are exempt (so far).
- Can only be enforced through citizen lawsuits. Federal, State, County and other local authorities are "vacated' from enforcing them.
- As products go through consultation, if deemed "not likely to adversely affect" a species they're taken off the list.
- If deemed "likely to adversely affect" a species, EPA may impose restrictions to be enforced through labeling.

The “Process”

- Pick a species, or many…
- Select a list of Active Ingredients
- Sue U.S. EPA
- Get an Injunction + Buffers
- Vacate all agencies from enforcement
- Enforce thru citizen lawsuits

Collateral Damage

- DPR's comprehensive, programmatic approach to protection of endangered species is being impacted by a multitude of injunctions and their litigation-derived buffers: exceptions to PRESCRIBE
- The injunctions will drive users to seek other products not included in the "hit lists".
- Absolute no-use buffers discourage good land stewardship and habitat protection– Napa, Sonoma (examples).
- Even with exemptions, some invasive weed programs are faced with no-use zones that become "refugia" for noxious weeds like *Arundo sp*.

Questionzzzzzzzzzzzzzz?