

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION**

RESOLUTION R7-2013-0070

CERTIFYING THE REVISED IMPERIAL COUNTY FARM BUREAU
SEDIMENT TOTAL MAXIMUM DAILY LOAD COMPLIANCE PROGRAM
AS ADEQUATE TO CORRECT IMPAIRMENTS OF
CHLORPYRIFOS AND DIAZINON IN THE ALAMO AND NEW RIVERS
IMPERIAL COUNTY, CALIFORNIA

WHEREAS, the California Regional Water Quality Control Board, Colorado River Basin Region (Regional Water Board) finds that:

1. The Imperial County Farm Bureau (ICFB) revised its Sediment Total Maximum Daily Load (TMDL) Compliance Program (ICFB TMDL Program) to implement proposed Management Practices (MPs) to correct by December 2018 impairments of chlorpyrifos and diazinon in the Alamo and New Rivers.
2. Water quality standards (WQSs) in California include: 1) designated beneficial uses; 2) narrative and/or numeric water quality objectives and numeric water quality criteria to protect the designated beneficial uses; and 3) an anti-degradation policy.
3. Beneficial uses are defined by the nine regional water boards (Water Boards) in their Water Quality Control Plans (Basin Plans).
4. Numeric and narrative water quality objectives are specified in each region's Basin Plan and numeric criteria are included in the California Toxics Rule, which are designed to be protective of the beneficial uses.
5. Section 303(d) of the federal Clean Water Act (CWA) (33 U.S.C. § 1251 et seq.) requires all states to identify and list surface waters impaired by pollutants, and to establish TMDLs for the pollutants causing these impairments to ensure that the impaired waters attain WQSs.
6. TMDLs must account for all sources of the pollutants that caused the impaired waters to be listed. Federal regulations require that the TMDLs, at a minimum, account for contributions from point sources (federally permitted discharges) and nonpoint sources.
7. The U.S. Environmental Protection Agency (USEPA) is required to review and approve each state's proposed list of impaired waters and TMDLs. If USEPA does

not approve the state's list of impaired waters and/or proposed TMDLs, it is required to amend the list and/or establish different TMDLs.

8. The *Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options* (Impaired Waters Policy), adopted by the State Water Resources Control Board on June 15, 2006, pursuant to Resolution 2005-0050, and approved by the Office of Administrative Law on April 10, 2006, gives the Water Boards wide latitude and numerous options for determining, within certain legal parameters, how to address impaired waters. The Impaired Waters Policy acknowledges that the Water Boards generally have inadequate resources to timely address each and every water quality problem, and thus requires the Water Boards to prioritize the allocation of their resources to apply them where they will do the most good.
9. Regardless of whether CWA section 303(d) requires a TMDL, the process for addressing waters that do not meet applicable WQS must be accomplished through existing regulatory tools and mechanisms. The Impaired Waters Policy outlines those tools and mechanisms, and explains how those tools and requirements comply with the federal requirements to establish TMDLs.
10. The Impaired Waters Policy also establishes a certification process where the Water Boards can formally recognize actions of other entities as appropriate implementation programs when the Water Boards determine that those actions will likely result in attainment of WQSs. However, activities taken to achieve standards must be consistent with the *SWRCB Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program*.
11. The Alamo and New Rivers are listed pursuant to section 303(d) of the CWA as impaired due to the current use of the pesticides chlorpyrifos and diazinon. Accordingly, the Alamo and New Rivers do not currently attain the WQSs for chlorpyrifos and diazinon set forth in the Basin Plan for the Colorado River Basin Region adopted by the Regional Water Board.
12. Chlorpyrifos and diazinon are man-made chemicals. Agriculture is the dominant user of these two pesticides, since their use in urban settings has been restricted. In the Imperial Valley, chlorpyrifos is primarily applied to alfalfa and sugarbeets, and diazinon is applied to sugarbeets, lettuce, and broccoli.
13. Data and source analyses show that irrigated agriculture in Imperial Valley is the only significant source of impairment of these two pesticides in the Alamo and New Rivers.
14. Chlorpyrifos annual use in Imperial County, that includes the watersheds of the Alamo and New Rivers, was 56,254 pounds in 2007 as compared to 71,023 pounds in 2011.

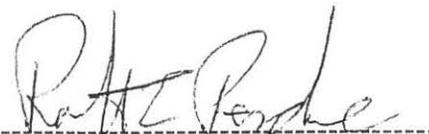
15. Diazinon annual use in Imperial County was 24,730 pounds in 2007 as compared to 2,293 pounds in 2011.
16. To date, the Regional Water Board has adopted three sediment TMDLs and a Sediment Agricultural Prohibition for surface water bodies in the Imperial Valley, including the Alamo and New Rivers. These TMDLs and the Prohibition were approved by the State Water Board, the Office of Administrative Law, and the USEPA. These TMDLs identified Imperial Valley farmers and the Imperial Irrigation District (IID) as the two major responsible parties for implementing the sediment TMDLs.
17. To assist Imperial Valley farmers to comply with the sediment TMDLs and the Prohibition, the ICFB instituted a program named the "ICFB TMDL Program," which included sediment management practices (MPs) that were identified by ICFB staff, Imperial Valley farmers, IID, and the University of California Cooperative Extension.
18. The chlorpyrifos water quality criteria to be addressed by this Resolution are 0.025 micrograms per liter (ug/L) as maximum concentration or acute (one-hour average) and 0.015 ug/L as continuous concentration or chronic (four-day average).
19. The diazinon water quality criteria to be addressed by this Resolution are 0.16 ug/L as maximum concentration or acute (one-hour average) and 0.10 ug/L as continuous concentration or chronic (four-day average).
20. These water quality criteria were developed by the California Department of Fish and Wildlife, used by the Central Valley Water Board and Central Coast Water Board, and approved by the USEPA.
21. These water quality criteria apply to receiving waters, and are applicable throughout the year.
22. To address diazinon impairments, ICFB proposed to focus its efforts (eg. MPs and technical assistances) to only areas where diazinon uses occur.
23. Regional Water Board staff is developing an agricultural waiver for the Imperial Valley (Ag Waiver) that is expected to be scheduled for consideration of approval by the Regional Water Board in 2014. As envisioned by Regional Water Board staff, and consistent with the Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program, the Ag Waiver would require dischargers in Imperial Valley to monitor for all agricultural water quality constituents of concern.
24. Regional Water Board staff has funding to monitor the levels of chlorpyrifos and diazinon until June 2014. Monitoring results will be used to assess the effectiveness

of the ICFB TMDL Program and the implemented MPs on addressing chlorpyrifos and diazinon impairments.

THEREFORE, BE IT RESOLVED THAT the Regional Water Board:

1. Certifies the revised ICFB TMDL Program as adequate for achieving chlorpyrifos and diazinon WQSs by December 2018 for the Alamo and New Rivers.
2. Directs that a copy of this Resolution be forwarded to the State Water Board.
3. Directs that a copy of this Resolution be forwarded to all interested parties.
4. Directs the Executive Officer to revise or revoke this certification if the Executive Officer finds that the ICFB TMDL Program is not adequately implemented or is no longer adequate to correct the chlorpyrifos and diazinon impairments.
5. Directs that this certification shall expire on December 2018, but that the Regional Water Board may extend the certification beyond this date if, upon review of the actions taken to address the impaired waters, significant progress has been made to correct the impairment, or it may direct staff to develop another regulatory solution to address the impairment.

I, Robert Perdue, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on September 19, 2013.

A handwritten signature in black ink, appearing to read "Robert Perdue", is written over a horizontal dashed line.

ROBERT PERDUE
Executive Officer

Colorado River Basin Regional Water Quality Control Board

November 14, 2012

TO: Linsey Dale, Executive Director, ICFB

FROM: Nadim Shukry-Zeywar, TMDL Unit Chief

SUBJECT: Revising ICFB TMDL Program to Address Chlorpyrifos and Diazinon Impairments in Alamo and New Rivers

The Alamo River and the New River are listed on the 2008-2010 Clean Water Act (CWA) 303(d) list of impaired waters as impaired due to the current-use pesticides (chlorpyrifos and diazinon). Both pesticides are known to be toxic to aquatic organisms and exhibit additive effects when they occur together in aquatic systems. Imperial County Farm Bureau (ICFB) submitted a proposal in October 2011 to revise its current total maximum daily load (TMDL) Program to also include management practices (MPs) and reporting mechanism to address the impairments caused by chlorpyrifos and diazinon. Provided the proposal results in timely implementation of MPs that correct these impairments in all Imperial Valley water bodies, including the Alamo River and the New River, it can be used in lieu of adopting TMDLs to address those impairments.

The *Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options* (State Water Resources Control Board, adopted by Resolution 2005-0050); hereafter referred to as the "Impaired Waters Policy" provides policy and procedures for adopting Total Maximum Daily Loads and addressing impaired waters in California. The Impaired Waters Policy states that if a solution to an impairment is being implemented by a regulatory or non-regulatory action of another entity, and the Water Board finds that the solution will actually correct the impairment, the Water Board may certify that the regulatory or non-regulatory action will correct the impairment and if applicable, implement the assumptions of the TMDL, in lieu of adopting a redundant program. If the proposal is certified, Regional Water Board staff will track, monitor, assess, and report on activities of the revised ICFB TMDL Program to ensure it addresses the impairments.

ICFB TMDL PROGRAM CERTIFICATION STEPS

Step 1: Revising/Upgrading ICFB TMDL Program

The ICFB will revise/upgrade and implement its current TMDL Program to correct chlorpyrifos and diazinon impairments in three phases. In phase 1, ICFB will revise/upgrade its TMDL Program to include farm plans with specific MPs aimed at preventing or controlling the discharge of chlorpyrifos and diazinon into Alamo River and New River to the extent that the water quality criteria are achieved. The deadline to complete phase 1 is **December 2013**. In phase 2, ICFB will implement its upgraded TMDL Program. The deadline to complete phase 2 is **December 2015**. In phase 3, the ICFB TMDL Program will comply with Water Quality Standards (WQSs) regarding chlorpyrifos and diazinon. The deadline to complete phase 3 is **December 2018**. Regional Water Board staff will track, monitor, assess, and report on activities and progress of the ICFB TMDL Program.

Step 2: Certifying ICFB TMDL Program to Correct Chlorpyrifos and Diazinon Impairments

After the completion of Phase 1 above, the Regional Water Board or the Executive Officer will certify the revised/upgraded ICFB TMDL Program to be adequate to correct chlorpyrifos and diazinon impairments in Imperial Valley water bodies, including the Alamo River and the New River, in lieu of adopting TMDLs to address those impairments. Immediately following the certification, the Regional Water Board will recommend to the State Board and the USEPA that chlorpyrifos and diazinon impairments in Imperial Valley be placed at the being addressed category (4b) of the 303(d) List. The Regional Water Board or the Executive Officer may revise or revoke this certification if Water Board's staff finds that the ICFB TMDL Program is not adequately implemented or is no longer adequate to correct the chlorpyrifos and diazinon impairments.

WATER QUALITY CRITERIA TO BE ACHIEVED BY THE ICFB TMDL PROGRAM

Water quality criteria for chlorpyrifos and diazinon are listed in Table 1.

Table 1: Chlorpyrifos and diazinon water quality criteria. ppt = part per trillion

Compound	CMC ^A (ppt)	CCC ^B (ppt)
Chlorpyrifos	25	15
Diazinon	160	100

^ACMC – Criterion Maximum Concentration or acute (1- hour average). Not to be exceeded more than once in a three year period.

^BCCC – Criterion Continuous Concentration or acute (4- day average). Not to be exceeded more than once in a three year period.

These water quality criteria were developed by the California Department of Fish and Game (DFG). These criteria were used by the California Central Valley Water Board

and Central Cost Water Board, and approved by the USEPA. The criteria are for receiving waters, and they are applicable to each day of all seasons. All dischargers in the Imperial Valley must not discharge to Alamo River and New River at concentrations greater than the criteria in Table 1.

BACKGROUND

CWA and WQs

In California, WQs include: 1) designated beneficial uses; 2) narrative and/or numeric water quality objectives (WQOs) and numeric water quality criteria; and 3) an anti-degradation policy. Also, in California, beneficial uses are defined by the Regional Water Boards in the Basin Plans. Numeric and narrative objectives are specified in each region's Basin Plan and numeric criteria are included in the California Toxics Rule (CTR), designed to be protective of the beneficial uses. For the Alamo River and the New River, the most sensitive BUs to be addressed by this certification include: 1) contact and non-contact recreation (REC I and REC II); 2) warm freshwater habitat (WARM); 3) wildlife habitat (WILD); freshwater replenishment (FRSH); and 4) preservation of rare, threatened, and endangered species (RARE).

The CWA gives States the primary responsibility for protecting and restoring surface water quality. Under the CWA, States that administer the CWA must review, make necessary changes, and submit the CWA, Section 303(d) list to the U.S. Environmental Protection Agency (USEPA). The CWA also requires states to establish TMDLs or other equivalent regulatory program for waters not meeting WQs. In some cases other regulatory programs, such as this certification, will address the impairment instead of a TMDL.

ICFB TMDL Program

In the past ten (10) years, the Regional Water Board adopted three sediment TMDLs and a Sediment Agricultural Prohibition for surface water bodies in the Imperial Valley that were approved by the State Water Resources Control Board (State Water Board), State Office of Administrative Law (OAL), and U.S. Environmental Protection Agency (USEPA). These TMDLs named Imperial Valley farmers and the Imperial Irrigation District (IID) as the major responsible parties for implementing these sediment TMDLs.

To assist Imperial Valley farmers comply with the TMDLs and the Prohibition, ICFB instituted a program entitled "ICFB TMDL Program" that included sediment management practices (MPs) that were identified by ICFB staff, Imperial Valley Farmers, IID, and the University of California Cooperative Extension (UCCE). Key elements of the ICFB TMDL Program are: 1) Enlists farmers in the ICFB TMDL Program

and tracks implementation standing; 2) Provides technical and educational support for farmers to comply with the TMDLs and the Prohibition; 3) Holds periodic meetings with program participants, IID, and Regional Water Board staff to discuss overall progress, problems, and areas that need further efforts; and 4) Reports on a quarterly and annual basis to Regional Water Board staff on all the above.

Alamo River and New River

The Alamo River and the New River are located within the Salton Sea Transboundary Watershed, in Mexicali Valley, Mexico, and Imperial Valley, California, the U.S. (Figures 1 and 2). The Alamo River is about 60 river miles in length, and its watershed is about 330,000 acres of Imperial Valley farmland in the U.S. Alamo River total flow at the outlet into the Salton Sea is about 600,000 acre-feet per year (AFY) ($\approx 99.5\%$ from the U.S.; and $\approx 0.5\%$ is agricultural runoff from Mexico). The New River is about 80 river miles in length, and its watershed is about 200,000 acres of Imperial Valley irrigated farmland in the U.S., and 300,000 acres of Mexicali Valley urban areas and irrigated farmland in Mexico. New River total flow at the outlet into the Salton Sea is about 400,000 AFY ($\approx 78\%$ from the U.S.; and $\approx 22\%$ from Mexico).

Agricultural runoff is the dominant source of flows into the Alamo River ($\approx 96\%$) and the New River ($\approx 91\%$). Sources of the rest of the flows into both rivers are treated industrial and domestic wastewater and urban runoff including stormwater runoff. Watersheds for both rivers provide important habitat for many different kinds of wildlife with birds are the most diverse wildlife group.

Chlorpyrifos and Diazinon

In 2001, the USEPA mandated the restriction of chlorpyrifos and diazinon including the phase out and elimination of all residential and non-agricultural uses. In 2007, the USEPA mandated more restrictions on the agricultural use of diazinon. In the Imperial Valley, chlorpyrifos is primarily applied to alfalfa and sugarbeets, and diazinon is applied to sugarbeets, lettuce, and broccoli. Chlorpyrifos has a high affinity for sediment and is relatively insoluble. Diazinon is moderately soluble and less strongly particle reactive. Accordingly, diazinon tends to be transported in dissolved phases, while chlorpyrifos is primarily transported with sediment. Both pesticides are known to be toxic to aquatic organisms and exhibit additive effects when they occur together in aquatic systems.

Source Analysis

Data and source analysis was performed on readily available data from various organizations from 2006 to 2012 (Figures 3 to 7). These organizations include: The Regional Water Board; The California Surface Water Ambient Monitoring Program

(SWAMP); The U.S. Geological Survey; The California Department of Fish and Game; and The California Department of Pesticide Regulations. The analysis showed that the Alamo River and the New River are still impaired due to violations of water quality criteria for chlorpyrifos and diazinon. The analysis also showed that irrigated agriculture in the U.S. is the only cause of impairment by these two pesticides in both rivers. Furthermore, the analysis also showed that diazinon annual use from 2006 to 2010 and violations of the criteria were reduced significantly from 2006 to 2012. This reduction may be due to the additional restrictions on diazinon use mandated by the USEPA in 2007.

Figure 1: Salton Sea Transboundary Watershed (Gruenberg 1998)

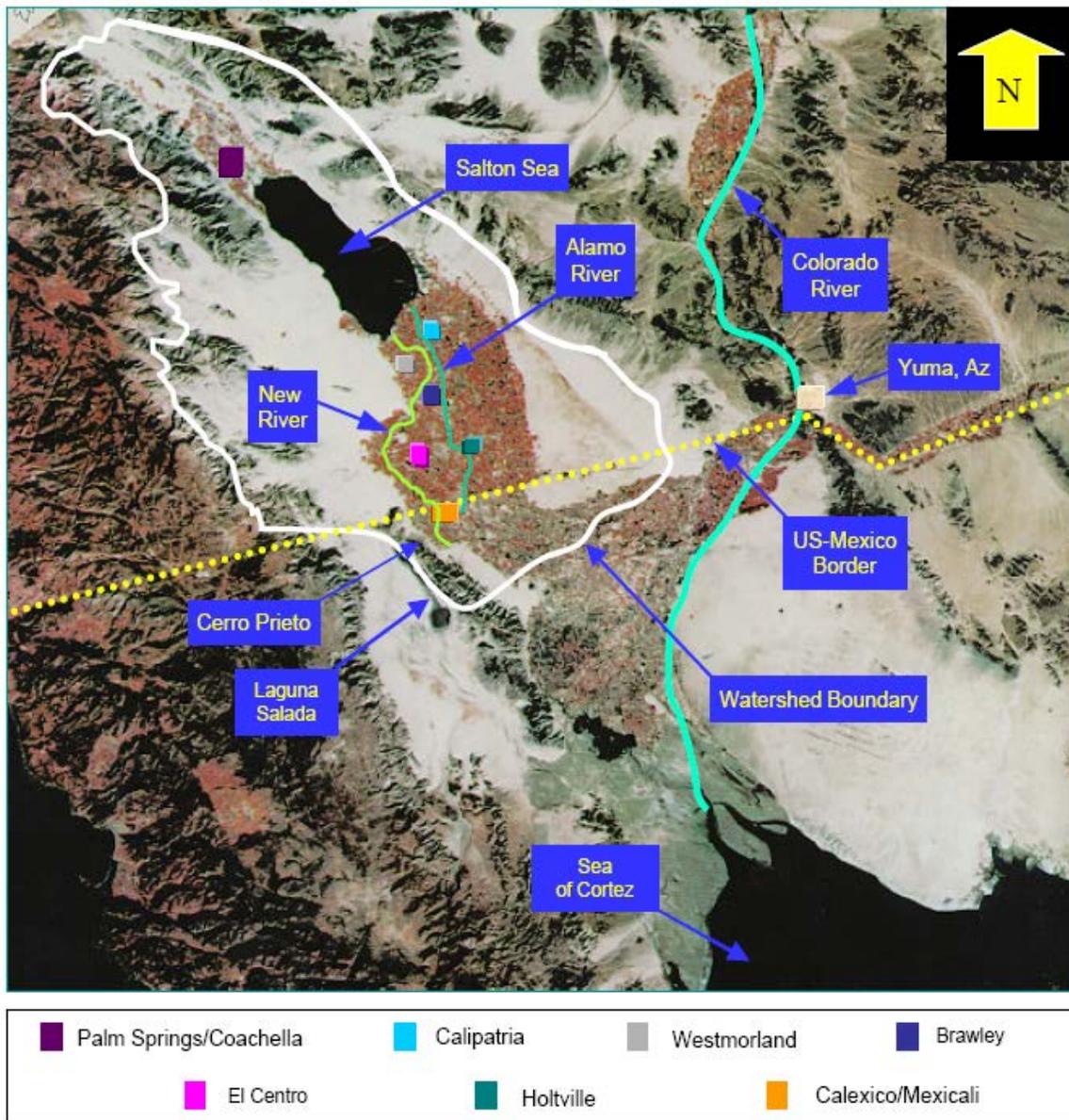
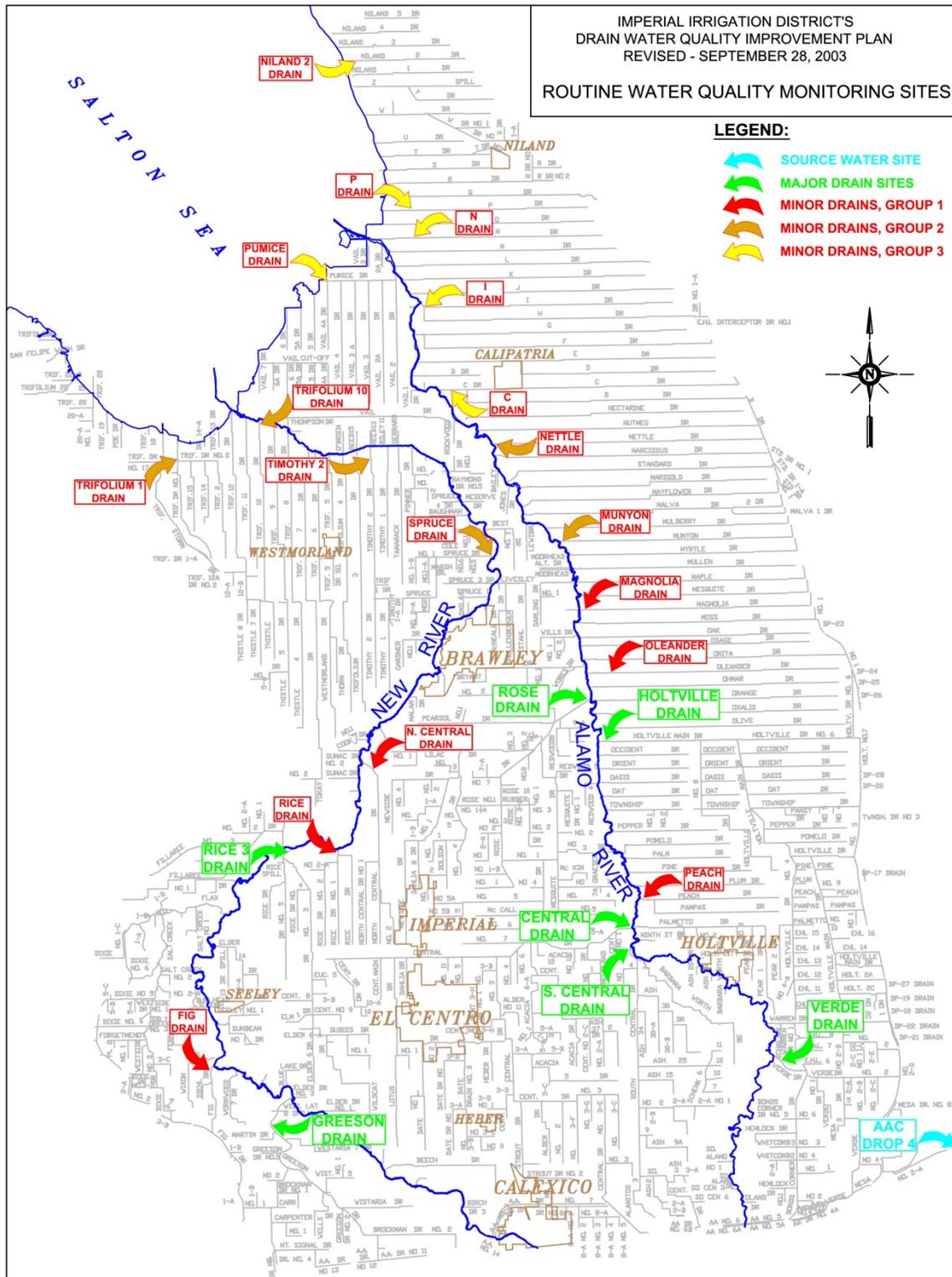
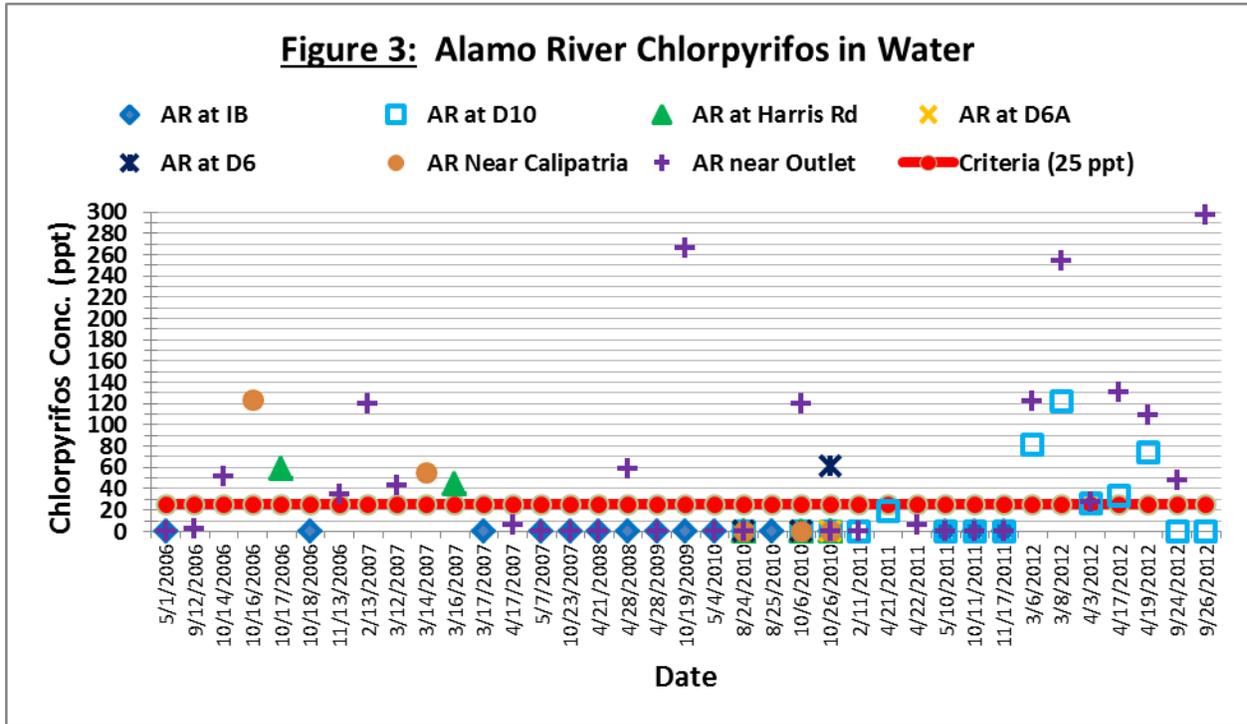
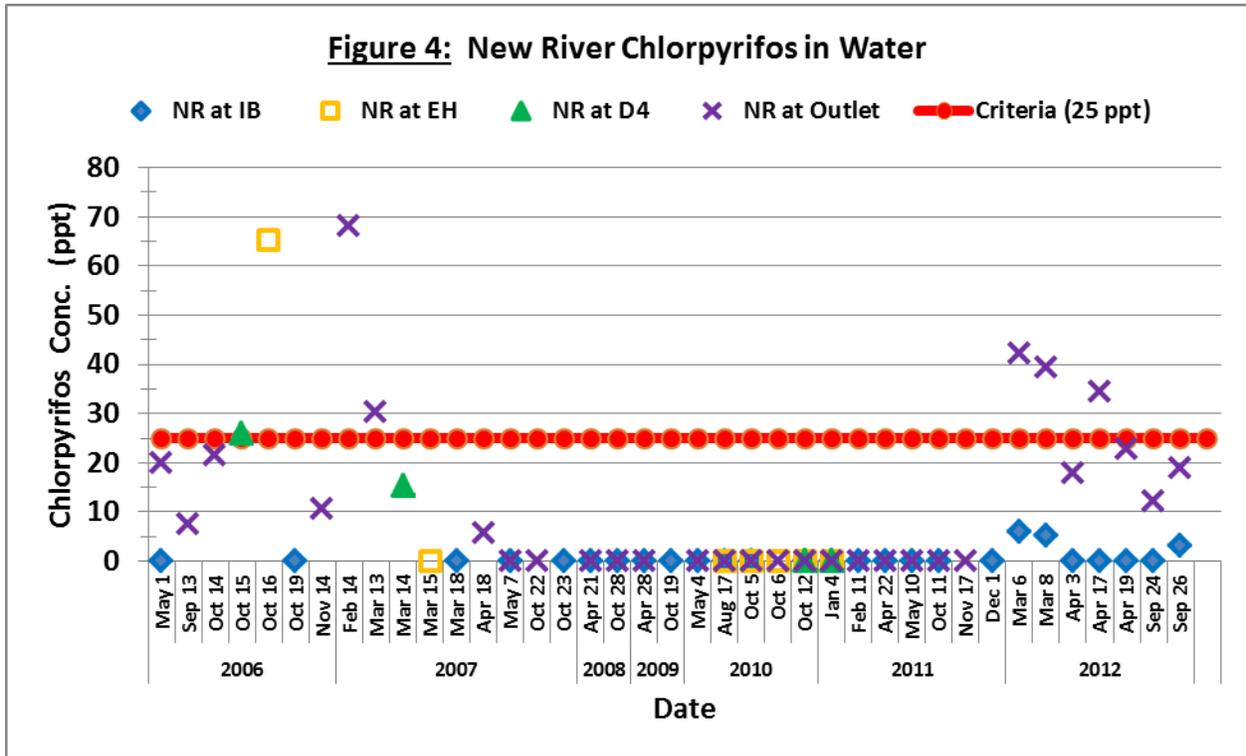
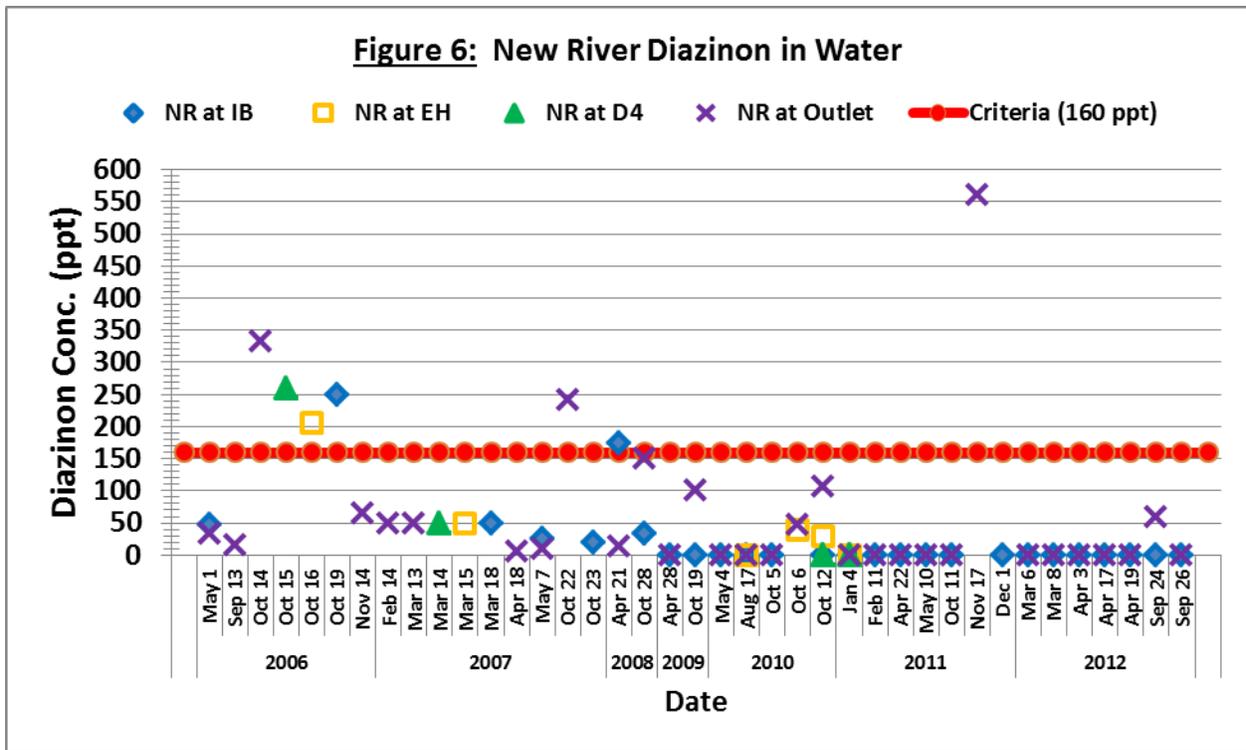
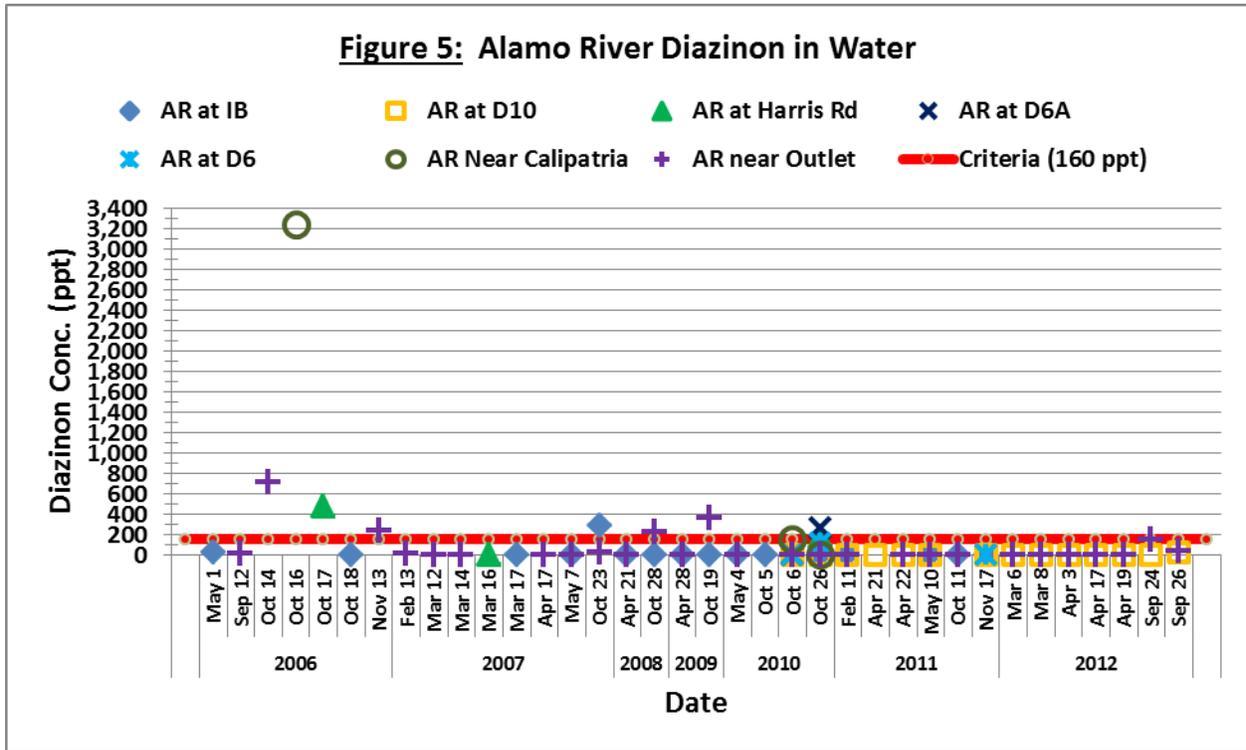


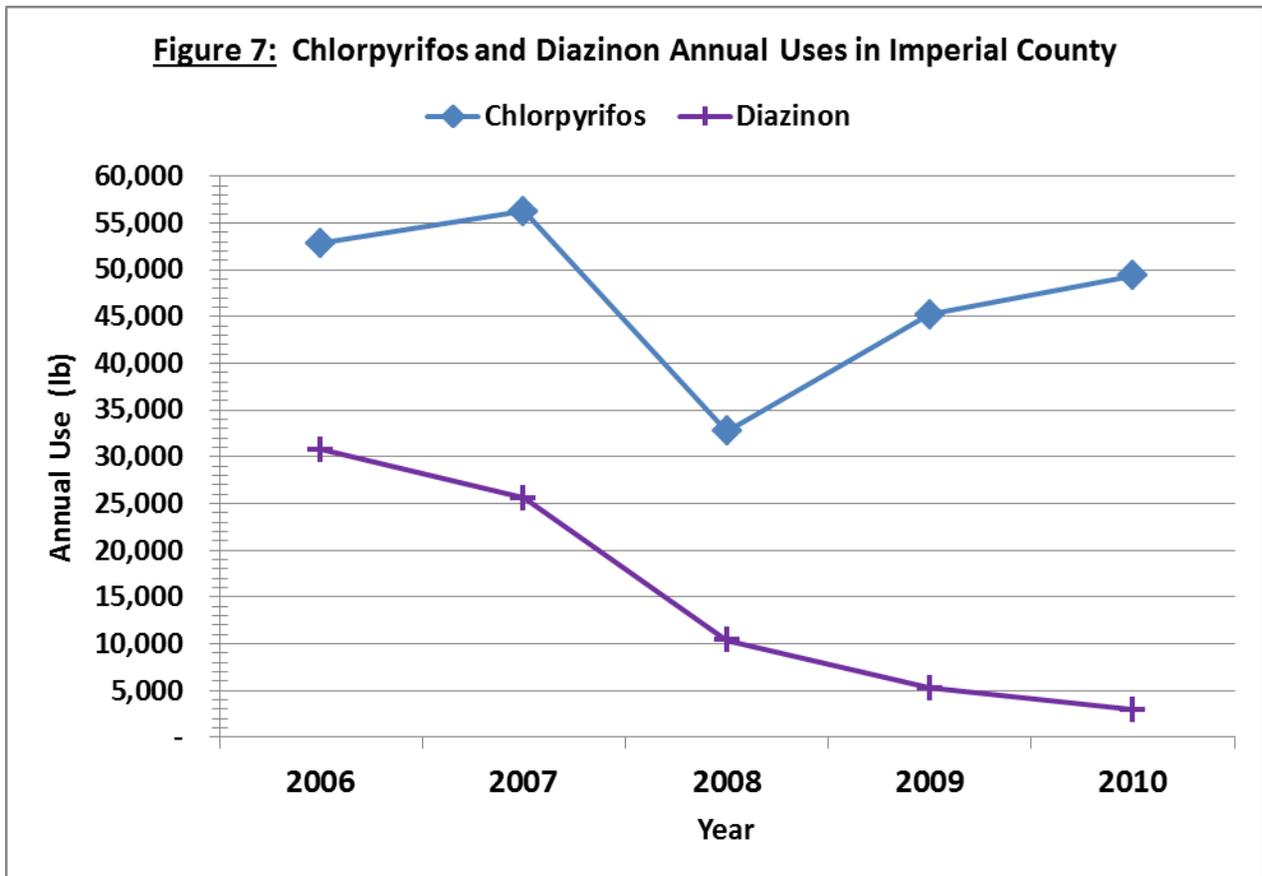
Figure 2: Map of Main Sources of Water to the Imperial Valley in the U.S. (IID Drain Water Quality Improvement Plan Drain Map)











The logo features a stylized 'F' and 'B' intertwined, with a green leaf sprout growing from the bottom of the 'B'.

Imperial County Farm Bureau

June 10, 2013

Mr. Jose Angel
Assistant Executive Officer
Water Quality Control Board
Colorado River Basin
73-730 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

Dear Jose:

As requested by Regional Water Quality Control Board staff, following is an update on activity by Imperial County Farm Bureau Voluntary TMDL Compliance Program (ICFB TMDL) to address pesticide impairments in the New and Alamo Rivers.

In December 2012 and update to the ICFB TMDL website (www.ivtmdl.com) was completed to include highlighting the specific Best Management Practices (BMPs) that have been determined to address Chlorpyrifos and Diazinon. The following BMPs have been highlighted:

- IID Regulation 39 Tail Water Drain Box
- Land Leveling
- Pan Ditch
- Gopher Control
- Filter Strips
- Grass Strips in Tailditch
- Irrigation Water Management
- Sprinkler Irrigation
- Level Basin Irrigation
- Pump-back System
- Use of Polyacrylamides

On January 28, 2013 I, along with On-Farm Consultant Al Kalin, attended the California Sugar Beet Growers Association to discuss how farmers may be pro-active and

aggressively work to reduce Chlorpyrifos and Diazinon from leaving their fields. The meeting was heavily attended and the information was well received.

Annual Drained meetings were held on May 21-23 in various locations throughout Imperial County. Included in the agenda was a presentation by Mr. Kalin addressing the issue. All growers participating in the ICFB Voluntary TMDL Compliance Program are required to attend these meetings.

ICFB TMDL agrees to upgrade its TMDL Program to implement management practices and reporting mechanism with the goal of achieving Chlorpyrifos and Diazinon water quality standards by end of 2018. Please accept this update on our activities to address issues raised by your staff and feel free to contact me with any questions you may have. Thank you!

A handwritten signature in black ink, appearing to read 'Linsey Dale', written in a cursive style.

Linsey Dale
Executive Director