

CEQA Scoping Meeting for the Control of Pesticide Discharges Within the Sacramento and Feather River

15 February 2007



- Paul Hann, Environmental Scientist
- Joe Karkoski, Chief, Pesticide TMDL Unit

Meeting Agenda

- Introduction/Agenda Review
- Background
- Recent Trends
- Proposed Scope of Amendment
- Status
- Adjourn

Historical Information

- Regional Board resolution R5-2003-0148 approved a Basin Plan Amendment establishing a TMDL and implementation plans for diazinon in the Sacramento and Feather Rivers.
- The amendment established water quality objectives for diazinon in the Sacramento and Feather Rivers of 0.080 µg/L (one hour maximum) and 0.050 µg/L (four day average).

3

Historical Information

- Compliance date: June 30, 2008.
- The amendment included the requirement to review the diazinon allocations and the implementation provisions in the Basin Plan by June 30, 2007 and every 5 years thereafter.

4

Historical Information

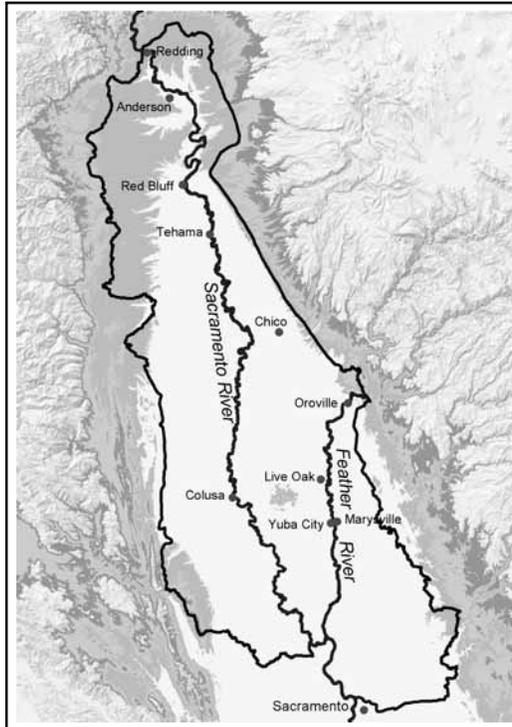
- A review of the water quality objectives is also required by the Sacramento Superior Court as a result of the case *Makhteshim Agan of North America v State Water Resources Control Board; Regional Water Quality Control Board-Central Valley Region, Sac. Cty. Sup. Ct. - Case No. 04CS00871*).

5

Proposed Scope of Basin Plan Amendment

- Review and revise water quality objectives, load allocations and implementation plans.
 - Diazinon Objective: **0.16µg/L (1-hr); 0.10µg/L (4-day)**
 - **Chlorpyrifos Objective: 0.025µg/L (1-hr); 0.015µg/L (4-day)**
- Geographic scope – Sacramento and Feather Rivers
- Waterways – Mainstems only

6



Project Area

- Main stems of the Sacramento and Feather Rivers below the major reservoirs.

7

Recent Use Trends - Diazinon

- Diazinon Use Trends – Changes Since Last Basin Plan Amendment.
 - Sale of diazinon for non-agricultural use has been phased out by the EPA.
 - Agricultural Diazinon use continues to be reduced.
 - » Total diazinon use continues historical reduction trend
 - » Dormant spray use trend is less clear
 - » No change in principal crops diazinon is used on

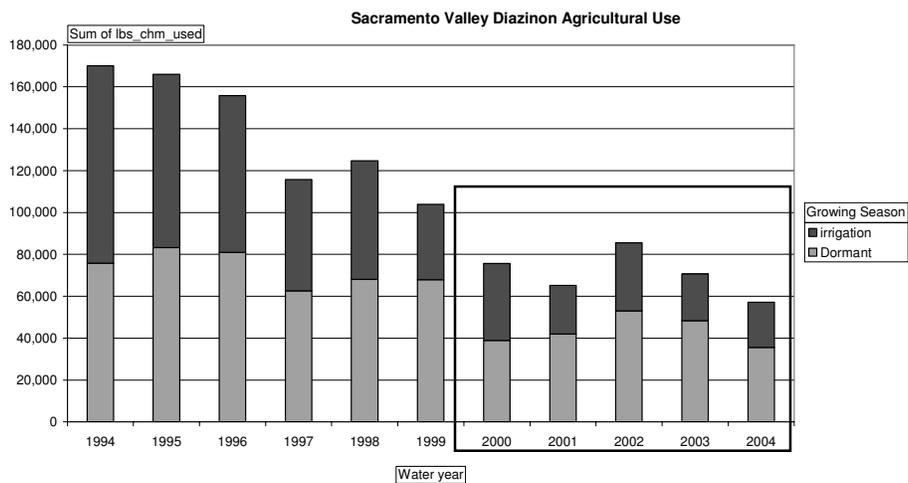
8

Average Diazinon Use by Crop and Spray Season 2002-2004

Dormant Season (Dec-Feb)			Irrigation Season (Mar-Nov)		
Crop	Lbs Applied	% Of Dormant Season Use	Crop	Lbs Applied	% Of Irrigation Season Use
Plum (Fresh and Dried)	18,093	43%	Plum (Fresh and Dried)	7,058	38%
Peach	13,565	32%	Walnut	5,202	28%
Almond	9,329	22%	Tomato	4,869	26%
Total of Uses Shown	40,987	97%	Total of Uses Shown	17,129	92%
Dormant Season Use	42,230 lbs		Irrigation Season Use	18,617 lbs	
% of Annual Use	69%		% of Annual Use	31%	

9

Recent Use Trends – Diazinon



10

Recent Use Trends – Chlorpyrifos

- Chlorpyrifos Use Trends – Similar to Delta and San Joaquin River
 - Sale of chlorpyrifos for most non-agricultural use has been phased out by the EPA.
 - Agricultural Chlorpyrifos Use is increasing.
 - Chlorpyrifos use is predominantly in the irrigation season.

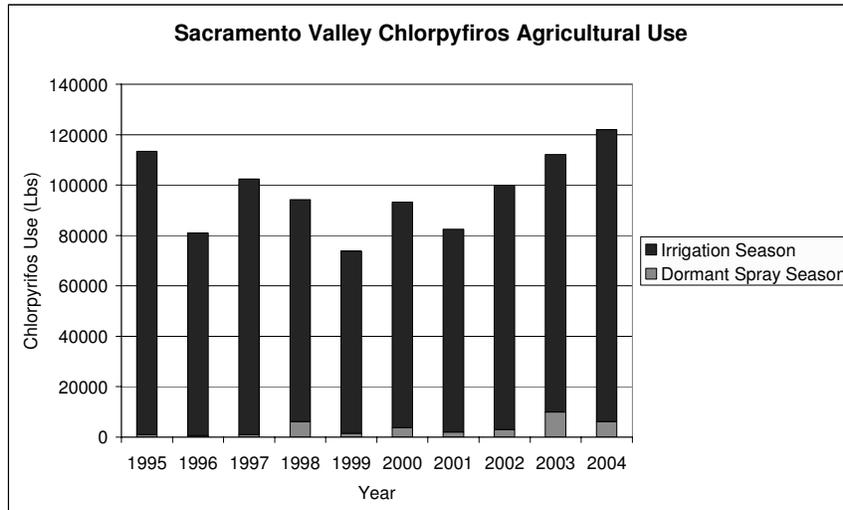
11

Average Chlorpyrifos Use by Crop and Spray Season 2002-2004

Dormant Season (Dec-Feb)			Irrigation Season (Mar-Nov)		
Crop	Lbs Applied	% Of Dormant Season Use	Crop	Lbs Applied	% Of Irrigation Season Use
Plum (Fresh and Dried)	2,425	49%	Walnuts	65,802	68%
Peach	2,269	46%	Almonds	19,550	20%
			Alfalfa	6,940	7%
			Cotton	1,855	2%
Total Of Uses Shown	4,694	95%	Total Of Uses Shown	94,147	97%
Total Dormant Season Use	4,922		Total Irrigation Season Use	97,022	
% Of Annual Average	5%		% Of Annual Average	95%	

12

Recent Use Trends – Chlorpyrifos



13

Recent Trends - Diazinon

– Change in Diazinon Labeling

» Supplemental label requiring additional BMPs has been prepared by Makhteshim Agan and approved by the EPA. BMP include:

- **Buffer Strips and Set Backs**
- **Awareness of Weather Conditions**
- **Demonstration of Need**
- **Operational Requirements**
- **Worker Awareness**

14

Recent Implementation Trends

- Diazinon Management plans submitted have been submitted for both Urban and Agricultural Uses.
 - Sacramento Valley Agricultural Coalition
 - » Management Plan approved March 2006
 - Sacramento Stormwater Quality Partnership
 - » Management Plan approved April 2006.

15

Recent Implementation Trends

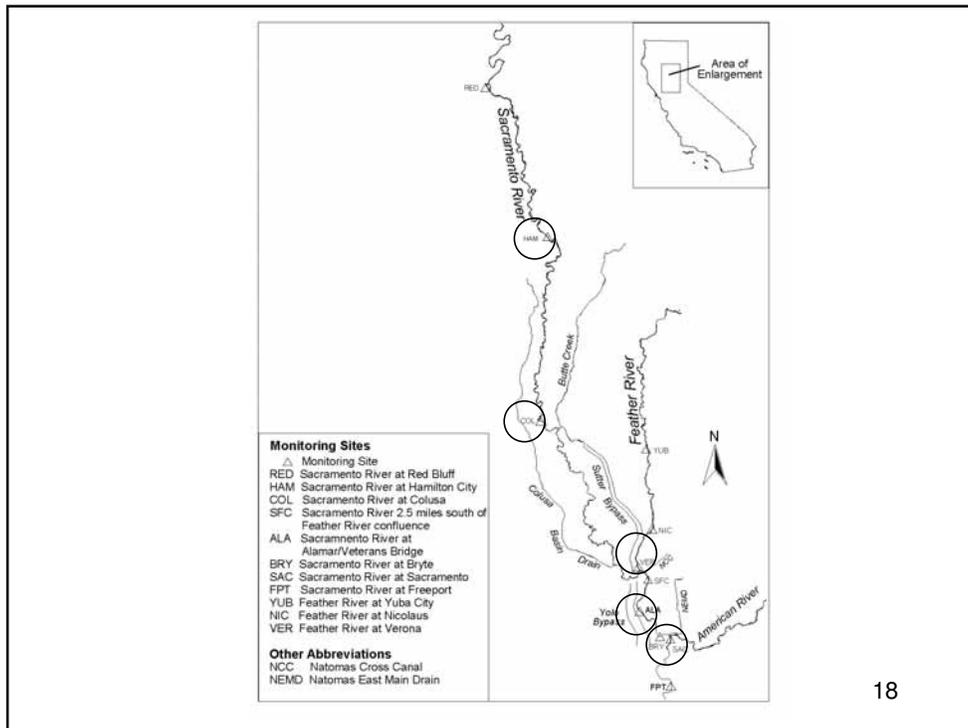
- \$3.6 M in grant funding has been provided to assist Sacramento Valley growers in reducing pesticide runoff from their orchards. These grants provide funding to:
 - Conduct orchard site assessments
 - Identify, demonstrate, communicate and evaluate Best Management Practices (BMPs)
 - Install cover crops, filter strips or vegetated ditches, sediment basins
 - Calibrate sprayers and retrofit with Smart Sprayer technology

16

Recent Implementation Trends

- DPR Dormant Spray Regulations
 - Places restrictions on the use of dormant insecticides including diazinon, chlorpyrifos and others
 - Requires the use of best management practices to prevent contamination of nearby surface waters.

17



Recent Concentration Trends

Diazinon exceedances at various stations in the Sacramento and Feather Rivers, 2000 to 2006.		Number of Exceedances			
		Existing		Proposed	
		4-Day (50 ng/L)	1-Hr (80 ng/L)	4-Day (100 ng/L)	1-Hr (160 ng/L)
Location	Max (ng/L)				
Feather River at Yuba City	20	0	0	0	0
Feather River Near its Outlet	110	0	1	0	0
Sacramento River at Hamilton	28	0	0	0	0
Sacramento River at Colusa	160	0	2	0	0
Sacramento River at Alamar	220	1	2	0	1
Sacramento River at Sacramento	96	3	1	0	0

19

Recent Concentration Trends

Chlorpyrifos exceedances at various stations in the Sacramento and Feather Rivers, 2000 to 2006.		Number of Exceedances	
		4-Day (15 ng/L)	1-Hr (25 ng/L)
Location	Max (ng/L)		
Feather River at Yuba City	0	0	0
Feather River Near its Outlet	51	1	1
Sacramento River at Hamilton	29	1	1
Sacramento River at Colusa	5	0	0
Sacramento River at Alamar	35	0	1
Sacramento River at Sacramento	30	0	1

20

2001-2006 Loading Capacity Exceedances (Based on 1-hr Objective)

Location	Date	Hour	Chlorpyrifos (Ng/L)	Diazinon (Ng/L)	S-Combined (Exceedance In Bold)
Feather R nr Outlet	1/28/2004	12	14	110	1.25
	7/28/2004	3	51	0	2.04
Sac R at Alamar	1/28/2004	17	25	27	1.17
	2/4/2004	14	0	220	1.38
	2/19/2004	13	35	37	1.63
Sac R at Colusa	2/3/2004	13	5	140	1.08
Sac R at Hamilton City	7/27/2004	3	29	0	1.16
Sac R at Sacramento	2/20/2004	9	30	39	1.44

21

2001-2006 Loading Capacity Exceedances (Based on 4-Day Objective)

Location	Date	Chlorpyrifos (Ng/L)	Diazinon (Ng/L)	# Of Days (^a)	4- Day Average S (^a)
Feather R nr outlet	01/28/04	14	110	1	N/A ^(b)
	01/29/04	8	40	2	N/A ^(b)
	01/30/04	7	29	3	1.24
	07/28/04	51	0	1	3.40
Sac R at Alamar	01/28/04	25	27	1	1.94
	02/20/04	7	35	4	1.05
	02/21/04	6	25	4	1.20
	02/22/04	0	18	4	1.09
Sac R at Hamilton	7/27/04	29	0	1	1.93
Sac R at Sacramento	02/20/04	30	39	4	0.94 ^(b)
	02/21/04	5.5	19	4	1.06
	02/22/04	0	18	4	1.01

(a) Where 4-days of data are not available, the Average S is based on the number of days of data that are available.

(b) 4-day Average is not calculated until the third of the three days in this data set. 22

Load Allocation Trends for Selected Tributaries 2001-2006

Location	Data Date Range	Loading Allocation (Additive - S)	
		4-day	1-hour
Yuba River at Marysville	2001-2004	0	0
Bear River	2000-2001	0	1
Big Chico Creek	2000-2003	0	0
Colusa Basin Drain	2001-2005	3	4
American River at Discovery Park	2001-2003	0	0
Sacramento Slough	2001-2006	5	1

23

Questions?

24

Relationship to Other Regional Board Efforts

■ Central Valley Pesticide Basin Plan Amendment

- » Both Programs will cover same area and chemical
- » Central Valley timeline will not allow for completion by the court mandated date
- » The litigant has been contacted and would like changes considered as soon as possible.

25

Project Alternatives

- Possible Revisions to Diazinon Water Quality Objectives
 - No Change (0.08µg/L 1-hour, 0.05µg/L 4-day)
 - No Diazinon
 - **Adopt San Joaquin River Criteria (0.16µg/L 1-hour, 0.10µg/L 4-day)**
 - Adopt EPA Criteria (0.17µg/L)

26

Project Alternatives

- Possible Revisions to Chlorpyrifos Water Quality Objectives
 - No Change – Narrative
 - No Chlorpyrifos
 - **Adopt San Joaquin River Criteria (0.025µg/L 1-hour, 0.015µg/L 4-day)**
 - Adopt Criteria developed with new Methodology (0.0115µg/L 1-hour; 0.0105µg/L 4-Day)

27

Project Alternatives

- Possible Revisions to Load Allocations
 - No Change – Allocation based on land use
 - Use current allocation strategy but update for recent changes in land use.
 - **Change allocation strategy to concentration based similar to Delta and San Joaquin Objectives.**
 - » **Capacity and Allocations are set equal to Water Quality Objective.**

28

Project Alternatives

- Possible Alternatives to the Implementation Provisions
 - No Change – Conditional Prohibition of Waste Discharge if objectives are not met.
 - Remove conditional prohibition, rely on existing waiver and permit programs
- Compliance Deadlines
 - Short Term (2008)
 - Medium Term (2012)
 - Long Term (2015)

29

Scoping Comments

- Looking for comments on range of actions, alternatives, mitigation measures, and significant effects
- Requesting written Scoping comments by March 15, 2007.
- Comments can be e-mailed to Paul Hann at phann@waterboards.ca.gov

30

Suggested Scoping Comment Format.

- Please format comments to provide the following information.
 1. Comment Number
 2. One sentence description of the topic upon which the comment is directed,
 3. Supporting argument
 4. **Specific recommendation.**
 5. Supporting arguments should include citations, where appropriate.

31

Questions?

32

Peer Review

- Staff report is based on science that has already been peer reviewed (e.g. 2003 Sacramento and Feather River, 2005 San Joaquin River, 2006 Delta)
- Proposed amendment is simply a new application of earlier adequately peer reviewed work products
- The proposed alternative does not depart from the scientific approach of previous basin plan amendments
- The staff report has fulfilled the requirements of HSC 57004 and does not require additional peer review.

33

Where are we in the process?

Initial CEQA Scoping Meeting	May 2006
Second CEQA Scoping Meeting	February 2007
Public Workshop to discuss Staff Report	April 2, 2007 (At Sacramento Office)
Hearing before Central Valley Water Board	May 3 or 4, 2007
State Board Approval	Late 2007
Office of Administrative Law Approval	Mid 2008
USEPA Approval	Late 2008

34