

Pesticide/Wildlife Incident Response Plan Training



Department of Pesticide Regulation

California Agricultural Commissioners & Sealers Association

Department of Fish and Game (to become DFW)

March 2008



Objectives

- Know who the Warden/Biologist/ Enforcement Branch Liaison (EBL) is for your area & how to contact them
- Know role/responsibilities of yourself & your counterparts in sister agencies
- Know content of the MOU
- Be aware of established communication, notification, and investigative protocols

Pesticide/Wildlife Incident Response Plan

- Developed to comply with MOU's "Principles of Agreement" – Item 1
- Reviews Role of CAC/DFG/DPR
- Establishes "Notification Procedures" for the three agencies for an "Initial Report of Loss"
- Provides Contact Information for agencies.

Roles and Responsibilities Department of Fish and Game

- Wardens
- Emphasis on criminal investigations
- Pesticide Investigations Unit

Roles and Responsibilities

Department of Pesticide Regulation

- A department in Cal EPA
- Enforcement Branch
- County Agricultural Commissioners
- Emphasis on Civil Penalties

Roles and Responsibilities County Ag Commissioner

- Enforce pesticide laws and regulations
- Certify applicators
- Investigate pesticide related incidents
- Issue Restricted Materials Permits
- Approve or deny Notices of Intent
- Monitor Pesticide Use Reports
- Register licensees
- Inspect applications, equipment and records

Laws and Regulations

DPR:

- Food and Agriculture Code
- Title 3, California Code of Regulations
- FIFRA
- 40CFR

DFG:

- Fish and Game Code
- Title 14 California Code of Regulations
- Migratory Bird Treaty Act
- Endangered Species Act

Central Laws



- FAC § 12973
 - The use of any pesticide shall not conflict with any labeling...
- F&GC § 5650
 - It is illegal to allow any substance to pass into the waters of the state that is deleterious to fish and wildlife
- F&GC § 2000
 - Unlawful to take fish or game except under prescribed conditions

A Comparison

DPR

- Commissioners are local enforcement agency
- County Agricultural Biologists

DFG

- No local enforcement agency
- Fish and Game Wardens
- Fish and Game Biologists
- Pesticide Investigations Unit

Government Agencies

- Pesticide Regulation
- Food and Agriculture
 - Center for Analytical Chemistry
- Attorney General
- Environmental Task Forces
- Cal-EPA
 - ARB, DTSC,
 - IWMB, OEHHA
 - SWRCB
- Fish and Game
- Environmental Task Forces
- RWRCB
- OES
- District Attorneys

Government Agencies



Federal

- U.S. EPA
- USDA
- U.S. FDA
- U.S. Fish & Wildlife Service
- Army Corps of Engineers
- Coast Guard
- FBI
- National Oceanic and Atmospheric Agency
 - National Marine Fisheries Service
- U.S. Geological Survey
 - Biological Resources Division



DPR/DFG/CACASA MOU



- Notification of pesticide incidents
- Technical and policy consultations
- Exempts use of a pesticide as defined in FAC section 12753 for purposes of F&GC section 5650
- Mitigation measures
- F&W represented on
 - Pesticide Review and Evaluation Committee (PREC)

DPR/DFG/CACASA MOU



- Notification of pesticide incidents
- Establish procedures for coordinating investigations of incidents involving injury or death of non-target fish and wildlife resources
- Coordinate any laboratory analyses necessary for the investigation of injuries and death of non-target fish and wildlife resources.
- Coordinate enforcement actions when violations are found

DPR/DFG/CACASA MOU



- Technical and policy consultations
 - Informal staff exchanges to each other during investigations
 - Share information on formulations
 - Toxicity of a.i. and inert ingredients
 - Break down products and environmental fate
 - Mitigation measures
 - F&G represented
 - Pesticide Registration and Evaluation Committee (PREC)
 - DPR's Pesticide Advisory Committee
 - Endangered Species Advisory Group

DPR/DFG/CACASA MOU

- Exempts use of a pesticide as defined in FAC section 12753
 - For purposes of enforcing F&GC section 5650
 - Use of a pesticide will not be considered a harmful to fish, plant life or bird life provided that the pesticide is used in full compliance with the label
 - DFG will consider enforcement action only when a pesticide is used in violation of label requirements (FAC code section 12973 - Use in conflict)

DPR/DFG/CACASA MOU

- Mitigation measures
 - DPR, in consultation with the Pesticide Investigations Unit of DFG will:
 - Identify and regulate use of pesticides harmful to non-target fish and wildlife resources when applied near or into waters of California
 - Identify and implement mitigation measures for pesticides found to be harmful to non-target fish and wildlife resources

U.S.EPA/DPR/CACASA Cooperative Agreement

- Ensures a unified and coordinated program of pesticide episode:
 - Reporting
 - Investigation
 - Enforcement Action
- Reporting based on “Priority investigation” effects criteria

U.S.EPA/DPR/CACASA Cooperative Agreement

- Referral of Priority Investigation Episodes
 - Each agree to promptly report all episodes meeting or appearing to meet one or more priority investigation effects criteria
 - DPR completes a Pesticide Episode Notification Record
 - Record is forwarded to U.S.EPA, CAC, and other agencies as appropriate

U.S.EPA/DPR/CACASA Cooperative Agreement



- Designated lead person
 - Mary Grisier - U.S.EPA Region 9
 - Louis Watson - DPR
 - County Agr'1 Commission/Pesticide Deputy - CAC
- DPR utilizes a Pesticide Episode Tracking System
 - DPR assigns, numbers and tracks all pesticide related episodes that meet priority criteria



U.S.EPA/DPR/CACASA Cooperative Agreement



- DPR & CAC's responsible for investigating all episodes involving:
 - Potential or actual human illness or injury
 - Property damage, loss or contamination
 - Environmental effects alleged to be the result of the use or presence of a pesticide

U.S.EPA/DPR/CACASA Cooperative Agreement



- Investigations
 - Local CAC usually conducts investigation
 - Upon request, DPR staff will provide guidance of the CAC during an investigation
 - DPR 15-day report to U.S.EPA Region 9
 - DPR Final Report to U.S.EPA Region 9 within 30 days of receipt of completed investigation

Priority Investigation Effects Criteria



- Human Effects Death, serious injury/illness or single injury/illness episode – 5 or more
- Environ. Effects
 - Water Contam. drinking water - 10 or more households
 - Air Contam. air/evacuation of 5 + persons
 - Land Contam. land or soil in 1/2 acre + not usable for intended purposes for 1 year +
 - Animal/Wildlife See next slide
- Economic Loss Damage to property, eq., or livestock (incl. bees) est. at \$20,000 loss or 20% crop loss

Priority Investigation Effects Criteria



- Environmental Effects
 - - Animals & Wildlife
 - Episodes associated w/mortality level of:
 - - Non-target birds – 50
 - - Non-target fish – 500
 - - Endangered or threatened species – 1
 - - Domesticated, game, or other nontarget animals - 5

PWIRP

Notification Procedures



- All agencies work cooperatively during investigations
 - To keep all parties notified of information obtained and divulged.
- Local DFG warden and CAC communicate directly during investigations
 - When fish and wildlife losses is suspected from pesticides

Contacts

- Regional Offices

- Anaheim (714)
279-7690

- Fresno (559)
243-8111

- Sacramento (916)
324-4100

- Dispatch

- 1 (888) 334-2258

- Dispatch

- automatically notifies
OES and other
agencies

- Note: Dispatch does not
call County AG!

Notification Procedures

DFG



Phone Report:

- DFG Warden is to:
 - Directly notify CAC of loss
 - Notify DFG Pesticide Investigations Unit (PIU)
 - CAC list is included in this plan
- Written “Initial Fish and Wildlife Loss Report” to:
 - CAC
 - PIU

Notification Procedures

CAC/DPR



Phone Report

- CAC is to directly notify local DFG Warden
 - Call DFG dispatch (1-888-334-2258)
- Call DPR Regional EBL
- If DPR receives the initial notification
 - Immediately call CAC
- Written Report to:
 - DPR Regional Office
 - Local DFG Warden
 - DFG's Regional Office

Notification Procedures

- Final report
 - Prepared by DFG's Pesticide Investigation Unit based on:
 - Consultation with DFG warden, CAC, and DPR's Pesticide Enforcement Branch
 - Sent to local warden and DPR

Exercise Notification Procedure Part # A

Please see Handout # 4

PART # A: Notification Procedure:

- If CAC staff received the call first, he must directly notify local DFG Warden (call dispatch at 1-800-334-2258 to find out your local Warden). He also needs to call DPR Regional EBL. Then he needs to initiate his own investigation according to standards outlines in Volume # 5 “Investigative Technique Manual” to ensure proper handling of samples and preserve evidence.
- If DFG Warden received the call first, he must directly notify local CAC office, notify DFG Pesticide Investigations Unit at (916) 358-2950 to receive proper instructions on how to collect, handle, and transport samples. He also must initiate his own investigation according to standards outlined in DFGs Pollution Response Manual (Appendix F).
- If DPR receives the call first, they will notify CAC where the incident occurred.

DPR/CAC

Conducting Priority Investigations

Animals and Wildlife

Priority Investigations



- Birds
 - 50 Non-Target birds

See Hand-out # 7

Non-Target Fish - 500

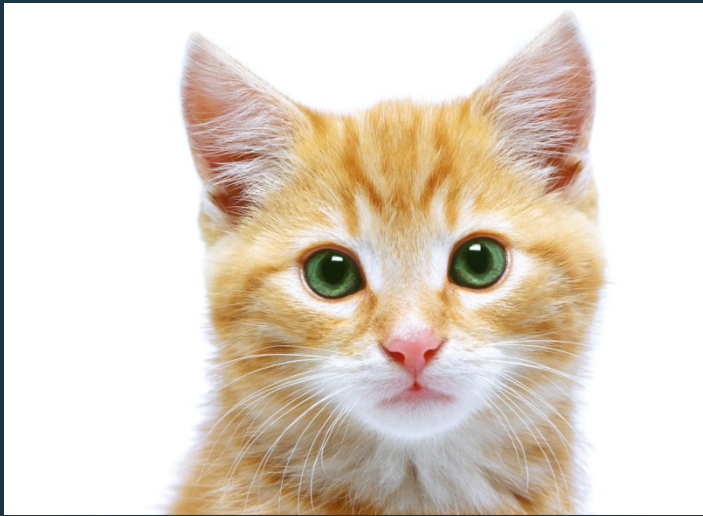


Priority Investigations



- Threatened and Endangered Species
- If one endangered vertebrate species

Priority Investigations



- **Domesticated, Game or other non-target animals**
 - 5

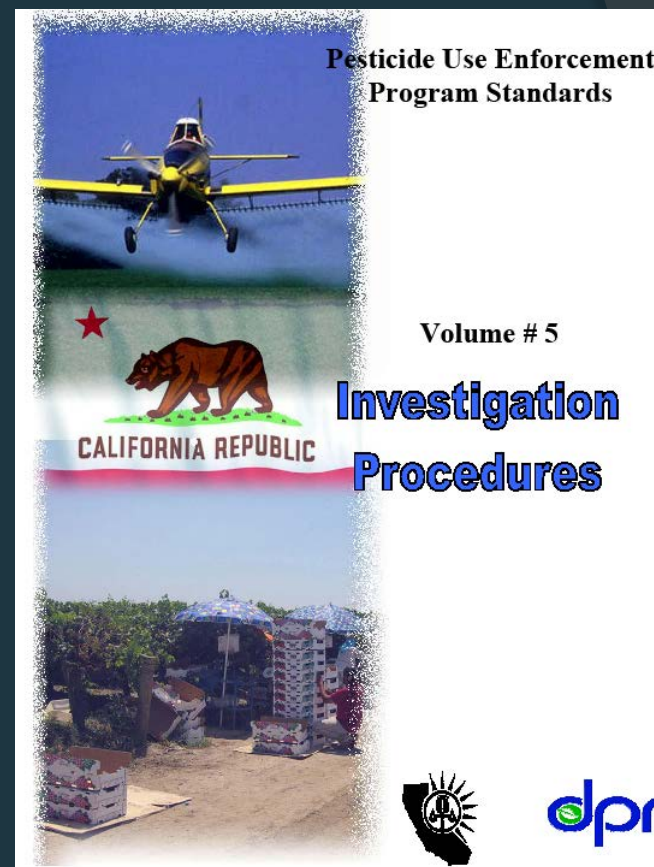
Conducting a Pesticide Wildlife Investigation



- CAC is to directly notify local DFG Warden
 - Call DFG dispatch (1-888-334-2258)
- Call DPR Regional EBL
- If DPR receives the initial notification
 - Immediately call CAC
- Written Report: To DPR Reg'1 Office,
and local DFG Warden

Investigating Fish & Game Incidents

- Investigative Procedures found in DPR's Pesticide Use Enforcement Standards compendium Volume #5:
 - Investigation Procedures
 - Evidence Collection
 - Sampling procedures
 - Investigative Reports



Investigating Fish & Game Incidents



- A fish or wild life episode (need not be a priority episode) requires immediate notification of DPR (Regional Office) and DFG central dispatch. (1-888-334-2258)
- A fish or wildlife episode requires determination of:
 - Circumstances
 - What and/or who is responsible

Investigating Fish & Game Incidents

- Some circumstances to consider are:
 - What kind of wildlife/fish are involved:
 - How many are affected?
 - What is the causative agent or condition?
 - This is an area that may be more appropriately determined by a DFG Biologist?
 - How and when was the pesticide introduced?

Investigating Fish & Game Incidents



- CAC Biologist
 - Seek guidance from DPR and/or DFG
 - Collect best evidence to support a violation of FAC section 12973 - Use in conflict of labeling.

Investigating Fish & Game Incidents



- “Elements of violation” found in FAC section 12973
- FAC section 12973 states:
The use of any pesticide shall not conflict with labeling registered pursuant to this chapter which is delivered with the pesticide.....

Investigating Fish & Game Incidents



- “Elements of violation” found in FAC section 12973
 1. Use of a substance.
 2. Substance is a pesticide.
 3. Use was not allowed by the label on the product, at the time of the alleged misuse (Conflict).
 4. Label on the product used was registered in California at the time of the alleged misuse.
 5. The label at issue was the one that was delivered with the pesticide he/she allegedly misused.

Investigating Fish & Game Incidents



■ Violation Elements

1. Use
2. Pesticide
3. Conflict
4. Registered
5. Delivered

■ Evidence Need

1. NOI, PUR, PCA written recommendation, Witness statement (paper trial)
2. Samples w/ positive analyses – animal, water, sediment
3. Product label prohibitive statement
4. DPR certificate of registration
5. Dealer sales invoice

Useful Paper Trail



- The permit-NOI-PUR paper trail
- Most useful to DFG
- Can tell us:
 - What pesticide was applied
 - To what crop
 - When it was applied
 - How it was applied
 - Who applied it

Conducting a Pesticide Wildlife Investigation

Department of Fish and Game

The Question:

Did pesticide impact fish or wildlife?

What's the first step?

Notification!

- PIU
- Sample collection and transport
- CAC

Sampling plan

- Refer to DFG Pollution Response Manual (especially Appendix F)
- On OSPRs Network Drive N (or email me for an electronic copy)

Pieces of Evidence

- Dead or dying animals
- Environmental samples (water, soil, foliage)
- Observations:
 - Animals in distress (location, species, behavior)
 - Animals not in distress (location, species)
 - Local conditions (land use, weather conditions, etc.)

What if there are no dead animals?

- The question becomes: was the pesticide present in concentrations that had the potential to cause mortality?
 - Water, sediment samples (toxicity tests)
 - Local species (especially sensitive)

Back at the lab...

- Animal
- Water, sediment
- Phone calls

Necropsy and tissue sampling

- Looking for signs of poisoning (bleached gills, unexplained bleeding, enlarged liver)
- Looking for other causes of death (physical trauma, starvation, disease)
- Tissue sampling (liver, gills, blood, brain)







And off to other labs...



Water Pollution Control Laboratory for chemistry
Aquatic Toxicology Laboratory for toxicity tests
(water or sediment)

And back to you...

- Laboratory report
- Results of chemical analysis, necropsy findings, and toxicity tests
- Biological Opinion: what caused the wildlife loss?

A good case

- Pesticide in the environment and in the animal in toxic concentrations
- Animal shows signs of pesticide poisoning
- Source of pesticide (CAC, DPR)
- Lack of other causes

Remember the MOU?

- Pesticide must be used in conflict with label for 5650 case.
- If a pesticide is used according to the label and still causes impact to fish and wildlife, monitoring needs to occur so problem can be remedied through regulation.

Pesticides

Types/Chemical Groups

What Is A Pesticide?

- FAC section 12753 – Definition of “Pesticide”
 - Any substance, or mixture of substances which is intended to be used for:
 - Defoliating plants
 - Regulating plant growth
 - Preventing, destroying, repelling, or mitigating any pest which may infest or be detrimental to vegetation, man, animals, or households, or be present in any ag. or non-ag environment.

Formulations

- Sprays
 - Wettable powder (EP)
 - Emulsifiable concentrate (EC)
 - Dry flowable (DF)
 - Water Soluble Packet (WSP)
- Dust (D)
 - Most likely to drift
- Granular (G)
 - Least likely to drift



“Types” of pesticides and their uses

- Types
 - Insecticides - diazinon
 - Herbicides - glyphosate
 - Fungicides - copper sulfate
 - Rodenticides - diphacin
 - Algaecides - Copper sulfate
 - Pisicides - Rotenone
 - Avicides – Avitrol

Pesticide “Chemical Groups”



Chemical Groups

- Chlorinated Hydrocarbons – Thiodan, Kelthane
- Organophosphates – diazinon, Lorsban
- Carbamates – sevin, Lannate
- Anticoagulants - Ramik, warfarin

Other Pesticide Groups



- Botanical - Nicotine, Rotenone
- Microbials - *Bacillus thuringiensis* (BT),
Viruses
- Insect Growth Regulators - Dimilin,
Methoprene
- Plant Growth Regulators - Gibberillic acid,
Ethrel

Methods of application



Ground

- **High pressure vs low pressure**
- **Air blast**

Methods of application



Ground - airblast

Ground Application



Air Carrier (Air Blast)

Dormant Application - Diazinon

Ground Application



Vineyard Sprayer

Ground Application



Boom sprayer

Ground Application



lock and load

Methods of application



- Air- Fixed wing

Aerial Application



Bolero 10-G Herbicide on Rice

Aerial Application



Granular Application

Aerial Application



Helicopter

Aerial Application



Helicopter

Drift



- Notice the vortex at the wing tip
- Pesticide drifting onto the pickup

Methods of application



Aircraft spray nozzles

Soil Fumigation



Methyl Bromide

Chemigation



Chemigation



Drip Irrigation

- Drift inducing conditions
 - Wind
 - Heat inversion
 - Fog
- Volatilization
- Lift off
- Run off



Protection of Fish and Wildlife from Pesticide Impacts or Pollution

Causes of Wildlife Mortality

- Biological agents
 - Disease, plant toxins
- Physical and natural agents
 - lightning, food shortage, gunshot, vehicular impacts
- Chemical agents
 - Mine waste, pollution, pesticides

Causes of Fish Mortality

- Biological agents
 - Pathogens, disease, parasites, algal blooms
- Physical and natural agents
 - Dissolved Oxygen, temperature turnover, gas supersaturation
- Chemical agents
 - Sewage, mine waste, pollution, fertilizers, pesticides

Mechanisms of Exposure



- Inhalation
 - Drifting particulates, toxic gases
- Dermal absorption
 - Drift, direct contact
- Ingestion
 - Consuming prey or forage, drinking contaminated water, grooming

Types of Exposure

- Primary (Direct exposure to chemical)
 - Deer drinks toxin in water
 - Duck eats pesticide granules as grit
 - Fish exposed to copper sulfate in canal
 - Kit fox gassed in burrow

Types of Exposure

- Secondary (Consuming prey exposed to chemical)
 - Hawk eats rat which ate anticoagulant
 - Eagle eats duck which ate pesticide granules
 - Egret eats fish killed by pesticide

Lethal vs. Sublethal Impacts

Lethal impacts:

- Death
- Not always obvious

Sublethal impacts:

- Reproductive
- Growth
- Behavior
- Disease susceptibility

Two kinds of Pesticide-related Fish and Wildlife Losses

Loss due to illegal application

- Pesticide application not according to label
- Subject to prosecution by DFG and fines from CAC

Loss due to legal application

- Due to normal (legal) use of pesticides
- Not subject to prosecutions or fines
- Remedy problem through regulation of use.

Legal Applications: Pesticide Monitoring Studies

- If legal use of pesticides results in fish and wildlife loss, we study the problem.
- Can lead to changes in use practices or sometimes reevaluation.

Molinate in the Sacramento River



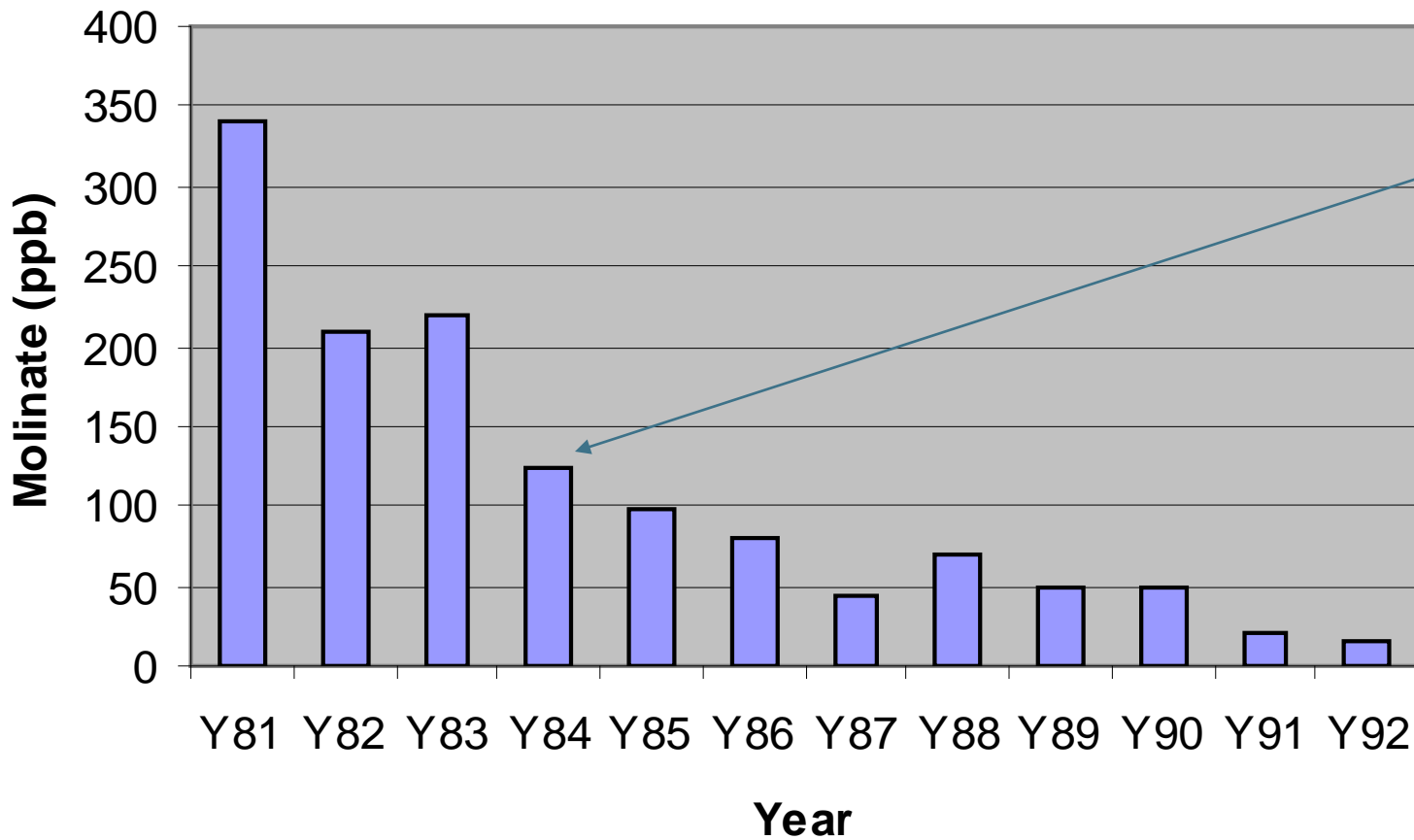
- A rice herbicide used in the Sac Valley
- Applied to flooded fields
- 30,000 dead carp in 1980
- \approx 340 ppb molinate residues in water
- Fish toxicity in the lab = 130 ppb
(Ceriodaphnia = 300 ppb)

Molinate in the Sacramento River

The Solution

- Reduce levels to < 100 ppb (later revised to 10 ppb)
- Initial voluntary program by growers
- 1983 7-Day holding time required by DPR (later revised to 28-d)

Colusa Basin Drain Molinate Residues Over Time



1st year of
no fish kills

Organophosphate Poisoning in Hawks

- Dead/incapacitated hawks in 1980s during the winter
- Hawks showed symptoms of OP poisoning
- Responded to atropine antidote
- Taken to wildlife care centers
- OPs use on almonds (dormant spray)



Collection of Blood & Residue Samples



Organophosphate Poisoning in Hawks



- Cooperative DFG/UC Study found....
 - High levels of OPs on feathers & feet
 - Depressed CNS enzyme levels
- The cancellation of ethyl parathion significantly reduced the problem
- Other OPs continue to be used (less toxic) with fewer problems

Wildland-Urban Interfaces



Ag-Wildlife Interfaces



Anticoagulant Secondary Poisoning

Anticoagulant rodenticides:

Agricultural (CAC sales)

Urban (OTC sales)

Ingestion causes internal bleeding

Primary & Secondary

Species Affected

- Golden Eagles
- GH Owls
- Barn Owls
- Red-tailed Hawks
- Cooper's Hawks
- Coyotes
- SJ Kit Foxes
- Bobcats
- K-Rats
- Mtn Lions

An example of a 5650 case...



Phorate Poisoning of Ducks



Anti-Coagulants Residues in Wildlife (1992-2000)

- Difethialone (1%)
- Chlorophacinone (7%)
- Diphacinone (8%)
- Bromadiolone (19%)
- Brodifacoum (66%)

Anti-Coagulants Summary

The Anti-coagulant example underscores...

- How far we've come with protecting fish and wildlife resources from pesticide impacts
- The continued importance of investigating pesticide-caused fish & wildlife impacts

Summary

- Number of causes of fish and wildlife mortality (not usually pesticides)
- Illegal use of pesticide: responsible party, cooperate with CACs and DPR
- Legal use of pesticide: monitoring, cooperate with DPR to identify mitigation measures and review pesticide registration.
- Notification is key!

Summary of Priority Investigations 2001- 2007

- Environmental Effects
 - Non-Target Animals and Wildlife/Pesticides

See Handout # 7

Exercise sampling Part # B

Please see Handout # 4

PART # B:

1. According to Environmental effects (Animals & Wildlife losses) outlined in Appendix A in the USEPA/DPR/CACSA (See handout # 7) it does not meet Priority Investigation Effects Criteria. (We only have 11 dead birds and in order to meet the criteria, we must have 50 birds)
2. According to Standards Outlined in the Pollution Response Manual (Appendix F). Warden must plan and complete a thorough investigation to determine an incident's cause no matter how big the wildlife loss is.
3. DFG will be the lead investigative agency; CAC/DPR will assist DFG in conducting the investigation and determining if there are any violations of pesticides laws.
4. Dead birds must be collected and submitted for tissue necropsy analysis.
5. Samples must be sent to DFG Pesticide Investigations Unit located at:
1701 Nimbus Rd. Suite F
Rancho Cordova, CA 95670
Call (916) 358-2950 to get permission to expedite shipment through FedEx.

Priority Investigations 2001 - 2007

Non-Target Animal and Wildlife Episodes



Year	Priority Investigation Number	Non-Target Animals and Wildlife	Pesticide(s)	Violation	Enf. Action	FG Investigation	Meet Priority Criteria
2007	57-CC-07	1 Fish Kill (500 non-target fish)	Magnicide H	12973	Pending	No	Yes
	35-SBD-07	2 11 Geese Dead	Zinc Phosphide Bait	12973	ACP \$1000	Yes	Yes
	3-STA-07	3 10 Cows, 1 Coyote, 1 Raccoon	Unconfirmed	-	-	Yes	No
2006	3-TUO-06	4 100 + Non-Target Birds	Strychnine Bait	-	-	Yes	Yes
2005	30-SCR-05	5 Fish Kill 1000 (Trout, Carp, Cat Fish)	Inline (1,3-D & Pic)	12973	Pending	Yes	Yes
	10-MER-05	6 Five Dogs	Aldicarb	12973	None	N/A	Yes
2004	46-PLA-04	7 Fish Kill (500)	Magnicide H	None	None	Yes	Yes
	35-FRE-04	8 Fish Kill (2000) (Man Made Lake)	Unconfirmed	-	-	No	No
	18-SD-04	9 16 Miniature Horses	Unconfirmed	-	-	N/A	No
2003	39-KIN-03	10 Fish Kill (400-500)	Unconfirmed	-	-	Yes	No
	26-RIV-03	11 Fish Kill (600-700)	Endosulfan	None	None	Yes	Yes
2002	77-SJ-02	12 150 Bats	Chlordane	None	None	Yes	Yes
	43-MON-02	13 Fish Kill (2000)	Unconfirmed	-	-	Yes	No
2001	49-ED-01	14 5 Dogs	Strychnine Bait	12973	None	N/A	Yes
	12-PLA-01	15 Fish Kill, (3,000 Koi carp), (\$90,000)	Unconfirmed	-	-	Yes	No

Priority Investigations 2001 –2007 Summary

- 1 to 3 priority episodes/year
- 9 of the 15 were confirmed pesticide episodes

- 8 were fish kills

- 4 were non-target animals

- 3 involved domestic animals

Non-Target Animals and Wildlife	Pesticide(s)
Fish Kill (500 non-target fish)	Magnicide H
11 Geese Dead	Zinc Phosphide Bait
10 Cows, 1 Coyote, 1 Raccoon	Unconfirmed
100 + Non-Target Birds	Strychnine Bait
Fish Kill 1000 (Trout, Carp, Cat Fish)	Inline (1,3-D & Pic)
Five Dogs	Aldicarb
Fish Kill (500)	Magnicide H
Fish Kill (2000) (Man Made Lake)	Unconfirmed
16 Miniature Horses	Unconfirmed
Fish Kill (400-500)	Unconfirmed
Fish Kill (600-700)	Endosulfan
150 Bats	Chlordane
Fish Kill (2000)	Unconfirmed
5 Dogs	Strychnine Bait
Fish Kill, (3,000 Koi carp), (\$90,000)	Unconfirmed

Priority Investigations 2001-07

Non-target Animal and Wildlife Episodes



- Pesticides involved:
 - Aldicarb (Temik)
 - Chlordane
 - Endosufan (Thiodan)
 - Inline
 - (Telone/Chloropicrin)
 - Magnacide (Acrolein)
 - Strychnine
 - Zinc phosphide

Pesticide(s)
Magnicide H
Zinc Phosphide Bait
Unconfirmed
Strychnine Bait
Inline (1,3-D & Pic)
Aldicarb
Magnicide H
Unconfirmed
Unconfirmed
Unconfirmed
Endosulfan
Chlordane
Unconfirmed
Strychnine Bait
Unconfirmed

Priority Investigations 2001-07

Non-target Animal and Wildlife Episodes

- Non-Target fish and wildlife incidents
 - 8 Fish
 - 2 Bird
 - 3 Domesticated non-target animals
 - 1 Non-target animal

Non-Target Animals and Wildlife
Fish Kill (500 non-target fish)
11 Geese Dead
10 Cows, 1 Coyote, 1 Raccoon
100 + Non-Target Birds
Fish Kill 1000 (Trout, Carp, Cat Fish)
Five Dogs
Fish Kill (500)
Fish Kill (2000) (Man Made Lake)
16 Miniature Horses
Fish Kill (400-500)
Fish Kill (600-700)
150 Bats
Fish Kill (2000)
5 Dogs
Fish Kill, (3,000 Koi carp), (\$90,000)

PRESCRIBE Database

- Online database to help pesticide applicators determine if there any endangered species on their application site and what use limitations apply.
- Uses data from DFG Natural Diversity Database.
- Need to input county, township and range, and product.
- Prescribe is available at <http://calpip.cdpr.ca.gov/cfdocs/calpip/prod/county.cfm>

Exercise violations Part # C

Please see Handout # 4

PART # C:

1. According to page 2 of the ZP Rodent Oat Bait AG, applicators must prebait with untreated oats 2 to 3 days before toxic baits are used. Before and during prebaiting, they must observe the infested area regularly and systematically to assess presence and potential for exposure of nontarget animals to toxic bait. If nontarget animals that might be harmed by the bait are observed in the infested area, do not apply toxic bait.

Reviewing the customer service report on both application dates June 14, 18, 2007, (See handout # 4, second page), EasyLab Pest Elimination stated that they didn't prebait prior to broadcasting ZP bait, because the ground squirrels had been fed by the inmates at the facility, and they felt that prebait will not serve any purpose

EasyLab was cited for failing to prebait 2 to 3 days prior to baiting with toxicant grain.

EasyLab has violated the following sections:

- i. **12999.5 of the California Food and Agriculture Code (FAC) (Civil Penalty)**
- ii. **12973 of FAC which states: “ the use of any pesticide shall not conflict with labeling registered pursuant to this chapter which delivered with the pesticide or any additional limitations applicable to the conditions of any permit issued by the director or Commissioner**



Its not all about the catching



Application Site





Its not all about the catching



Its not all about the catching



DIRECTIONS FOR USE, CONTINUED

RANGELAND AND PASTURES (to control Prairie Dogs)

USE RESTRICTIONS: Baits made from this product may be used to control black-tailed prairie dogs (*Cynomys ludovicianus*), white-tailed prairie dogs (*C. leucurus*), and Gunnison's prairie dogs (*C. gunnisoni*) on rangelands and pastures in the western United States where nontarget species, especially the black-footed ferret, will not be at risk (see **ENDANGERED SPECIES CONSIDERATIONS** included with this product's label). Do not use baits made from this product to control the endangered Utah prairie dog (*C. parvidens*, see **ENDANGERED SPECIES CONSIDERATIONS**). Baits made from this product may only be used to control prairie dogs in North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, New Mexico, Arizona, Colorado, Utah, Wyoming and Montana.

Baits used to control prairie dogs must be applied by hand. Do not apply toxic bait by air or ground broadcast equipment. Baits may only be applied from mid-summer through mid-winter (July to February of the following year).

Do not apply zinc phosphide bait more than once during this period.

Special Use Restrictions for Rangeland Grasses: Baits may be applied only to rangelands with less than 50% ground cover.

Hand baiting applications may not exceed one teaspoon (4 grams) of 2% zinc phosphide bait per treated mound or adjacent feeding area at a maximum rate of one application per year. The rate of treatment may not exceed 6 pounds of 2% zinc phosphide (0.12 pounds of active ingredient) per acre at a maximum of one application per year. Do not use zinc phosphide baits in areas inhabited by livestock. Do not graze animals in treated areas. Do not apply zinc phosphide baits where plants are grown for food or feed.

Special Use Restrictions for Pasture Grasses: Baits may be applied in hand baiting applications which may not exceed one teaspoon (4 grams) of 2% zinc phosphide bait (0.08 grams of active ingredient) per treated runway or burrow at a maximum rate of one application per year. Do not use zinc phosphide bait in areas inhabited by livestock.

PREBAITING: Prebaiting with untreated oats is required. Apply prebait 1 or 2 days before toxic baits are used. Scatter one teaspoon (4 grams) of prebait on ground near each active mound. The item selected as the prebait and bait should be something that the target population is accepting at the time of year that they are to be controlled. Before prebait is applied, it may be helpful to scatter several different types of grains in a few places within the infested area to determine: (1) whether prairie dogs are accepting grains; (2) which grain they seem to prefer; and (3) whether there is significant consumption of grain by nontarget species.

OBSERVATION: Before and during prebaiting, observe the infested area regularly and systematically to assess presence and potential for exposure of nontarget animals to toxic bait. If nontarget animals that might be harmed by the bait are observed in the infested area, do not apply toxic bait.

BAITING: After all or most of the prebait has been taken by prairie dogs, scatter one teaspoon (4 grams) of 2% zinc phosphide bait (0.08 grams of active ingredient) in 6-inch (diameter) bait area at the edge of each active mound or in adjacent feeding areas. Bury spilled or unused bait and observed animals carcasses within 3 days after bait

ORCHARDS AND GROVES (to control Voles and White-Footed Mice)

USE RESTRICTIONS: Baits made from this product may be used to control meadow voles (*Microtus pennsylvanicus*), prairie voles (*M. ochrogaster*), California voles (*M. californicus*), mountain voles (*M. montanus*), pine voles (*M. pinetorum*), and white-footed mice (*Peromyscus leucopus*) in orchards and groves. Do not apply to bare ground.

Baits may be applied only after harvest or during dormant season. Do not apply bait after tree growth begins in the spring of the year. Do not broadcast bait over non-orchard or non-grove crops. Do not graze animals on treated areas.

PREBAITING: To increase acceptance of treated baits, apply 1 teaspoon of untreated oats per tree 1 or 2 days prior to scheduled application of this product.

APPLICATION DIRECTIONS:

Hand Baiting: Near the base of each infested tree, place a teaspoon of bait at 2 to 4 locations, either on the surface or at the mouths of holes leading directly to underground burrow systems. Cover bait artificially (e.g., by using mats or boards) or by pulling overhanging grass back into place. Bait at rates of 2 to 3 pounds of bait per acre of infested trees.

Trail-Building Baiting: Follow manufacturer's instructions for the type of equipment used. Set equipment to drop a teaspoon quantity of bait at 4- to 5-foot intervals in the artificial trail made by the machine just inside of the dripline of both sides of the trees. Apply bait at rates of 2 to 3 pounds per acre.

Ground-Broadcast Baiting: Under infested trees, broadcast bait evenly by cyclone seeder or by gloved hand. Concentrate baiting in areas with the greatest degree of vegetative cover. Apply treated bait at rates from 6 to 10 pounds per acre.

Aerial Application: Broadcast treated bait at 6 to 10 pounds per acre. Apply bait immediately after harvest and before leaf fall, when the grass is not yet matted.

All Application Methods: Collect and properly dispose of bait and animal carcasses found on or near treated areas.

AGRICULTURAL AND INDUSTRIAL STRUCTURES (to control Voles and White-Footed Mice)

USE RESTRICTIONS: Baits made from this product may be used to control meadow voles (*Microtus pennsylvanicus*), prairie voles (*M. ochrogaster*), California voles (*M. californicus*), mountain voles (*M. montanus*), pine voles (*M. pinetorum*), and white-footed mice (*Peromyscus leucopus*) around agricultural, commercial, and industrial buildings. Do not apply bait inside of structures.

Bait must be placed in tamper-resistant bait stations. These stations must be resistant to destruction by dogs and by children under 6 years of age and must be used in a manner that prevents such children from reaching into bait compartments and obtaining bait. If bait can be shaken from stations when they are lifted, units must be secured or otherwise immobilized. Even stronger bait stations are needed in areas open to hooved livestock, raccoons, bears, or other potentially destructive animals, or in areas prone to vandalism.



Its not all about the catching



From ZP LABEL

PREBAITING: Two or 3 days prior to scheduled use of toxic bait, prebait with 6 pounds of untreated oats per acre along rights-of-ways.

OBSERVATION: Before and during prebaiting, observe the infested area regularly and systematically to assess presence and potential for exposure of nontarget animals to toxic bait. If nontarget animals that might be harmed by the bait are observed in the infested area, do not apply toxic bait.

From Customer report:

GREEN LEAFY - ONLINE - 1/21/2018

No pre baiting activities took place - ground squirrels had been fed by the inmates before.
 Service is treated now as fields in the South & Southwest of the West yard for ground Squirrels activities.