

## Responding to and Reporting Fish Kills and Spills

## The Problem

- Recent questions about investigating seasonal fish kills.
- To whom should field crews report pollution or observed fish kills?
  - Pollution = Habitat loss
  - Time sensitive



## **DFG Spill Response Topics**

About DFG-OSPR resources for spill response and fish kills

Fish Kill and Spill reporting procedures
Reporting, processing and dispatch

Bioassessments for pollution investigations

Questions

## Field crew situations:

Fish kill
Oiled wildlife
Oil "surface expressions"





## FISH AND GAME CODE SECTION 5650 (a)

Except as provided in subdivision (b), it is unlawful to deposit in, permit to pass into, or place where it can pass into the waters of this state any of the following: (1-5) covers specific substances, or

(6) Any substance or material *deleterious* to fish, plant life, bird life or mammals.

(b) This section does not apply to a discharge or a release that is expressly authorized pursuant to, and in compliance with, the terms and conditions of a waste discharge requirement... or a waiver issued pursuant to ...the Water Code issued by the State Water Resources Control Board or a regional water quality control board...

## A "deleterious substance" could be...



## SIPHILIC TRIENE WAYHINDE Gauss Bric burdon G

### ...Soil run-off



## Whatever they are making....



#### Sewage...



#### ...Wine

"The dose makes the poison"

Parcelsus

## §5650 Pollutants



SPRR – 1991 Sacramento River near Dunsmuir



#### Other common pollutants:

Fertilizer & Pesticides "Produced Water" Concrete

## Background: DFG's Unique Abilities

 State Peace Officer
 Unique Search Authority
 Specialized Training



## Background: DFG's Unique Abilities

Scientific Staff
Laboratory Assets
Restoration Experts



Endangered Freshwater Shrimp Habitat







## Response

- Field Response Team
- Incident Command System

- Technology
- Laboratories
- Oiled Wildlife Care Network



## **OSPR Field Response Team**

#### Environmental Scientist



#### Warden

#### Oil Spill Prevention Specialist

## **Wildlife Response Operations**



- Network of trained rehab groups
  - >30 member organizations
  - 12 primary care facilities

www.owcn.org



#### Oiled Wildlife Care Network (OWCN)



## Wildlife Rehabilitation

http://www.ccwr.org/index.html

**(415) 541-5090** 





Pacific Pipeline Break March 2005 142,000 gals oil to Posey Cyn/Pyramid Lake Bushtit nest was collateral damage



## Laboratories



Aquatic Bioassessment Lab
Fish Health Lab
Wildlife Investigations Lab

Petroleum Chemistry LabWater Pollution Control Lab



## ABL has moved....



CA Dept. of Fish and Game - OSPR Aquatic Bioassessment Laboratory - ABL 9300 Elk Grove Florin Road Elk Grove, CA 95624-1610 916.685.5308 (Angie Montalvo) 916.685.8298 (Doug Post) 916.685.1880 (Nathan Mack) Lab Fax: 916.714.9178

## Services of Fish Health Lab

- Diagnose Fish Diseases, Recommend Therapy
- Certify CA Fish for Disease and Health Status
- Monitor Spawning Fish for Pathogens
- Inspect Fish for In-State movement
- Confirm Fish Disease Certifications from other States
- Inspect Fish Imported from Other States
- Survey Wild Fish for Diseases
- Provide Scientific Support for Experiments etc.









## Fish Health Laboratory

- Fish kills may be due to disease
- Fish pathologist notification
- Field or lab support (contact lab for proper sample procedures)
- Early identification of serious fish-diseases that may enter California is critical (regardless of species impacted)

## **CA DFG Fish Health Laboratory**

Freshwater- All Trout and Salmon Hatcheries

Mark Adkison, Ph.D., Senior Pathologist (Sup)
Mark Clifford, Ph.D., Associate Pathologist
Garry Kelley, Ph.D., Associate Pathologist
Joe Maret, DVM, Senior Pathologist
Kavery Mukkatira, Laboratory Technician II
Tresa Veek, Associate Pathologist

General Line: (916) 358-2822 Mark Adkison: (916) 358-2830



## Signs of Fish Diseases

#### <u>Behavioral</u>

- Flashing
- Going off feed
- Excitability
- Listlessness (lazy swimming)
- Riding High
- Piping (breathing at surface)
- Swimming at sides
- Swimming in circles
- Sticking to screens (duh!)

#### <u>External</u>

- Darkening
- Increased Mucus
- Hemorrhaging (bleeding)
- Popeye (exophthalmia)
- Erosion (fins etc.)
- Ulceration (open sores)
- Deformities
- Abdominal Swelling
- Flared Opercula



### There Are Many Types of Fish Diseases-

Infectious

Environmental

Nutritional

Genetic

Traumatic etc.



## Fish Health Lab Deals Mostly with Infectious

<u>Diseases-</u> Bacterial Fungal Parasitic Viral



# Spill or Fish Kill Notification

 California Emergency Management Agency - (Cal-EMA) OES

> Hazardous Materials Spill Report



California Hazardous Material Spill/Release Notification Guidance

**To Report** all significant releases or threatened releases of hazardous materials,

First Call 9-1-1 al emergency response agency)

Then Call he Governor's Office of Emergency services, California State Warning Center

1-800-852-7550 he public number at (916) 845-8911

It's the Law!

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e		101	NT.
		-	-

#### **GOVERNOR'S OFFICE OF** EMERGENCY SERVICES Hazardous Materials Spill Report

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DATE: 06/09/2008 TIME: 0906	OE	CEIVED BY S - Ruben F PR -			CONTROL 08-4098 NRC -	#
1.a. PERSON NOTI 1. NAME:	FYING GOVE 2. AGENCY		ES: 3. PHC	)NF. #:	4. EXT:	5. PAG/CELL:
Mike Arias	Aera Energy		661-343			661-665-4283
1.b. PERSON REPO 1. NAME: 2. SUBSTANCE TY	2. AGENCY	•	t from above) 3. PHC		4. EXT:	5. PAG/CELL:
2. a. SUBSTANCE I I	b.OTY:>=<	Amount	Measure	c. TYPF	~	
	=	1000 Bbls. per day		PETRO	-	d. OTHER:
1. Oil / Water Mix	=	1000 Bbls.			-	d. OTHER:
2. a. SOBSTANCE. 1. Oil / Water Mix 2. 3.	=	1000 Bbls.			-	d. OTHER:

e. DESCRIPTION: A casing leak at a well head is the cause of this on-going release. Caller states the release has been on-going since Friday at the rate of 1000 Barrels per day. Caller states a bell hole has been dug which is containing the release, with VAC trucks on site to pump the bell hole. Caller states the release has been completely contained on site, no water impact.

f. CONTAINED:	g. WATER INVOLVED: h. WATERWAY:	i. DRINKING WATER IMPACTED
No	No	INFACTED

)	NO

3. a. INCIDENT LOCATION:	Well # 511 N3-1 North.	Section 1 North, Township 28 South, Range 20 East
b. CITY:	c. COUNTY:	d. ZIP:
McKittrick	Kern County	93251

a. DATE:	06/06/2008	b. TIME (Military):	0800	c. SITE:	Oil Field	
d. INJURIES #:	e. FA	TALS #:	f. EVACS #:	1	CLEANUP BY:	
0	0		0	C	Contractor	
5. RESPONSIBL	E PARTY:					
a. NAME:	b. AC	ENCY:	c. PHONE #:	c	I. EXT.:	
Mike Arias	Aera I	Energy	661-343-6581			
e. MAIL ADDRE	SS: f. CIT	Y:	g. STATE:	ł	. ZIP:	
59231 Main Camp	Rd McKit	trick	CA	9	3251	
6. NOTIFICATIO		CLOPPE 2	on	-	5251	
a. ON SCENE:			b. OTHER ON S	SCENE:		
c. OTHER NOTI	TED		d. ADMIN. AGE	INTCON.		

Kern Co. Environmental Health Services Dept

e. SEC. AGENCY:

f. NOTIFICATION LIST:

DOG Unit:	4		RWQCBU	nit:	5C
AA/CUPA	DFG-OSPR	EMSA	OES PLANS UNIT	RWQCB	USFWS
AIR RESOURCES B	D DHS-D.O.	FEMA	OES REG	SFM	OTHER
CALTRANS	DOG	FOOD & AG	OSHA	USEPA	
CDF	DTSC	LANDS	PARKS & REC	USMIMS	
COASTAL COM	EB PARKS	OES HAZMATUNIT	PUC	USCG	



#### CALIFORNIA EMERGENCY MANAGEMENT AGENCY EMERGENCY SERVICES Hazardous Materials Spill Report

DATE: 10/28/2011			
	RECEIVED BY:		CONTROL #:
TIME: 1558	CalEMA - Dana	Kay	CalEMA -11-6454
	OSPR -		NRC -
La. PERSON NOTIF	VING COVERNOR'S Call	EMA:	•
1. NAME:	2. AGENCY:	3. PHONE #:	4. EXT: 5. PAG/CELL:
Roth Rodriguez	City of San Jose	408-398-9295	ALATI STITC CLED.
	*		
	RTING SPILL (If different		
1. NAME:	2. AGENCY:	3. PHONE#:	4. EXT: 5. PAG/CELL:
2. SUBSTANCE TYP		Measure CTVDE	
2. a. SUBSTANCE:	b.QTY:>=< Amount	C. IIFE.	d. OTHER:
<ol> <li>Chlorine Bleach</li> </ol>	= Unk	Unknown CHEMIC	CAL
2.	=		
3.	=		
4.	=		
	or unknown reasons a release	of Chlorine Bleach is ent	ering a storm line and which released
			chemical is. Surface inspections are
			the line and diverting it into the
			ek. Near the outflow is where most
of the substance ponded	, killing hundreds of crayfish	n and a lesser amount of o	ther small fish (minnows) in the
creek. Another group c	rayfish and small fish were le	ocated dead further down	stream. Water samples are being
taken at this time.			
f. CONTAINED:	g. WATER INVOLV	ED: h. WATERWAY:	i. DRINKING WATER
			IMPACTED
Unknown	Yes	Coyote Creek	No
j. KNOWN IMPACT			
j. m. to with million			
J. IL CONTRAINED			
	ATION: Roberts Ave at O	swego Dr - Outflow numb	er 133
	ATION: Roberts Ave at O: c. COUNTY		er 133 d. ZIP:
3. a. INCIDENT LOC b. CITY:	e. COUNTY	1	
3. a. INCIDENT LOC		1	
3. a. INCIDENT LOC b. CITY: San Jose	e. COUNTY Santa Clara C	1	
3. a. INCIDENT LOC b. CITY: San Jose 4. INCIDENT DESCR	e, COUNTY Santa Clara C IPTION:	: County	d. ZIP:
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3. a. INCIDENT LOC b. CITY: San Jose 4. INCIDENT DESCR a. DATE:	c. COUNTY Santa Clara C IPTION: b. TIME (Militery):	: County c. SITE:	d. ZIP: d. CAUSE Unknown h. CLEANUP BY:
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3. a. INCIDENT LOC b. CITY: San Jose 4. INCIDENT DESCR a. DATE: 10/28/2011 e. INJURIES #: 5. RESPONSIBLE P/ a. NAME: Roth Rodriguez e. MAIL ADDRESS:	c. COUNTY Santa Clara C IPTION: b. TIME (Military): 1100 f. FATALS #: ARTY: b. AGENCY: City of San Jose f. CITY:	c. SITE: Other g. EVACS #: c. PHONE #: 408-398-9295 g. STATE:	d. ZIP: d. CAUSE Unknown h. CLEANUP BY: Dept of Conservation d. EXT.: h. ZIP:
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# Spill with a fish kill

6. NOTIFICATION INFORMATION:

7th Floor

## **Dispatching Office**

OSPR Dispatch (Monday through Friday 0800-1600)

 Department of State Parks Communication Centers (NORCOM/CENCOM/SURCOM 24 hrs/7 day)

#### Cal-TIP

#### Californians Turn in Poachers and Polluters 1 888 DFG-CALTIP(888 334-2258)



## **Requested Information**



Why

Who



Where

What

## Resources



California Hazardous Material Spill/Release Notification Guidance

To Report all significant releases or threatened releases of hazardous materials,

First Call 9-1-1 (or the local emergency response agency)

Then Call the Governor's Office of Emergency Services, California State Warning Center

**1-800-852-7550** (if in California) or call the public number at (916) 845-8911

It's the Law! See pages 4 & 5 for more detailed reporting requirements. April 2006 CalEMA guidebooks

 DFG/OSPR Spill Reporting Information

DFG regional maps and phone numbers

Can access local biologists



# er Morgan Energy Partners Violation/ Diesel Spill Ier Summit/ Summit Creek

### **BIOASSESSMENT AS AN ENFORCEMENT TOOL**

#### Why use Bioassessment?

Cost-effective tool (especially mini BMIs) 



- No holding time requirement for samples
- Unlike fish, benthos cannot move around as much so they are less able to escape the effects of sediment and other pollutants that diminish water quality. Therefore, benthos can give us reliable information on lotic and lentic water quality.

Physical

Degradation

Habitat • High Temperature

● Too Much Sunlight ● Too Little/Too Much Flow • Stream

Bank Erosion 

Loss of

Groundw ater Hydromodification

Soil Erosion 

Damaged

Chemical

Altered Biological Condition

Contamination

Toxics • Low pH • High

Excess Nutrients/Organics

Depleted Alkalinity

Turbidity • Excess Sediment

- Benthos represents an extremely diverse group of aquatic animals, and the large number of species possess a wide range of responses to stressors such as organic pollutants, sediments, and toxicants (TV).
- Many BMI are long-lived, allowing detection of past pollution events such as pesticide spills and illegal dumping.

#### **Objectives:**

Pollution investigations address parameters for spill impact investigation and NRDA:

Chemical/Physical/Biological

- •Determine downstream extent of injury
- •Determine recovery time

**CDFG-OSPR** Enforcement

**Bioassessment Protocol** 

•Determine % injury for each downstream site compared to reference sites

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California Department of Fish a Revision date: 21 June 2011		DFG Aquatic Bioassessment Laboratory (ABL) 200 Elk Grove Florin Rd., Elk Grove, CA 95624	Dato Data		
	CSBP Stream Habitat Characterizatio	in Form		Al Fresher in	
Pollution Case:	Da	te:		Arrest States	W. State
Waterbody Name:	Tir	ne:	FG 1000 (Rev SIC1)	的复数正式 化合理 化合理	
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(loose, moderate and firm)	Complexity (0-20 scale)		THIT		2020
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## ASSESSING NATURAL RESOURCE INJURIES



# Compensation for lost resources



 Barr Property

 1600/5650 Violations' Exclusion Discharges

 Dy Creek, Menduratio Counti

 Dy Creek, Menduratio Counti

 Barro Discharges



#### 18th ANNUAL MEETING OF THE CALIFORNIA AQUATIC BIOASSESSMENT WORKGROUP

#### Spills, Fish Kills and How to Work with DFG for Water Quality Issues

Thanks for listening...



Angie Montalvo Environmental Scientist CDFG-OSPR-ABL <u>amontalv@ospr.dfg.ca.gov</u> Office: 916.685.5308 Cell: 916.202.6713 Janna Rinderneck Staff Environmental Scientist CDFG-OSPR <u>jrinder@ospr.dfg.ca.gov</u> Office: 916.341.6971 Cell: 916.826.9729