

CALFED Pyrethroid Project Meeting

September 19, 2006

CALFED Project

Lab	Medium	Extraction Method	Volume	Analysis Method	MDLs
USGS	Water	Filtered sample; HLB cartridge with bottle rinse	1 L	GC/MS	2-5 ng/L
	Sediment (bed and suspended)	MASE/GPC/ Florisil	5 g (dry weight)	GC/MS	1-8 ng/g using carbon/alumina clean-up, now using florisil
CDFG	Water	Whole water; liq/liq extraction	1 L	GC-ECD & GC/MS	1-5 ng/L
	Sediment (bed)	ASE/GPC/ Florisil	5 g (dry weight)	GC-ECD & GC/MS	1-4 ng/g
	Tissue	ASE/GPC/ Florisil	10 g (fresh weight)	GC-ECD & GC/MS	1-5 ng/g estimated
CDFA	Water	Whole water; liq/liq extraction, florisil clean-up	1L	GC/MS & GC-ECD	1- 4 ng/L
	Sediment (bed)	Solvent shake, florisil clean-up	20 g (wet weight)	GC/MS & GC-ECD	0.1 – 0.2 ug/kg

Pyrethroid Inter-Lab Comparisons

Water

- Spiked American River water (with 500 mg/L CBD sediment) and CBD water (6 mg/L DOC)
- Samples spiked in 20 L soda kegs
- With continuous stirring, water was pumped into 1 L glass bottles
- 2 concentrations 10 ng/L and 100 ng/L
- Each lab received samples and spiking solution (2 ng/ μ L)
- No detects in blanks for any of the labs

Spiking Solution

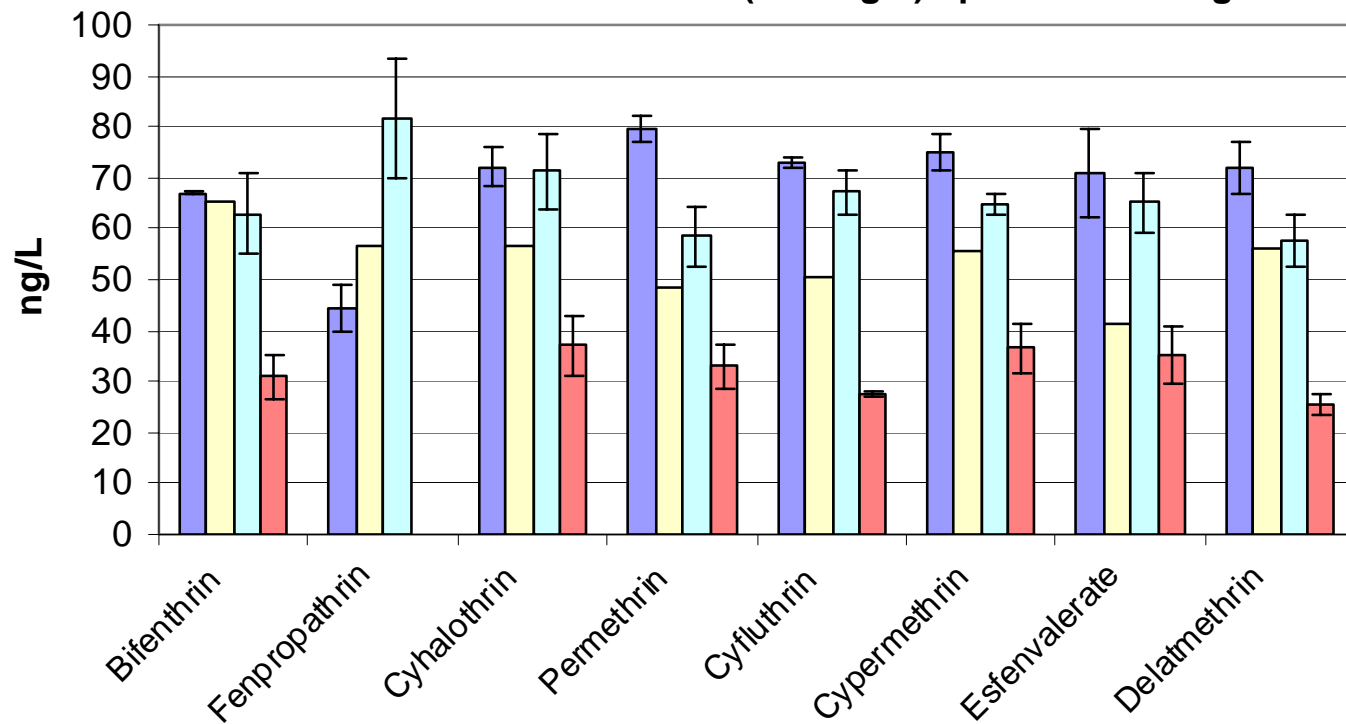
Analysis of spike (20 ppb)

	Lab 1	Lab 2
Bifenthrin	19.4	18.1
Cyfluthrin	17.4	12.7
Cypermethrin	20.5	18.7
Esfenvalerate/Fenv	17.8	20.5
Lambda-Cyhalothrii	17.5	15.1
Permethrin	17.0	16.4
Delta/Tralo-methrin	19.1	20.0

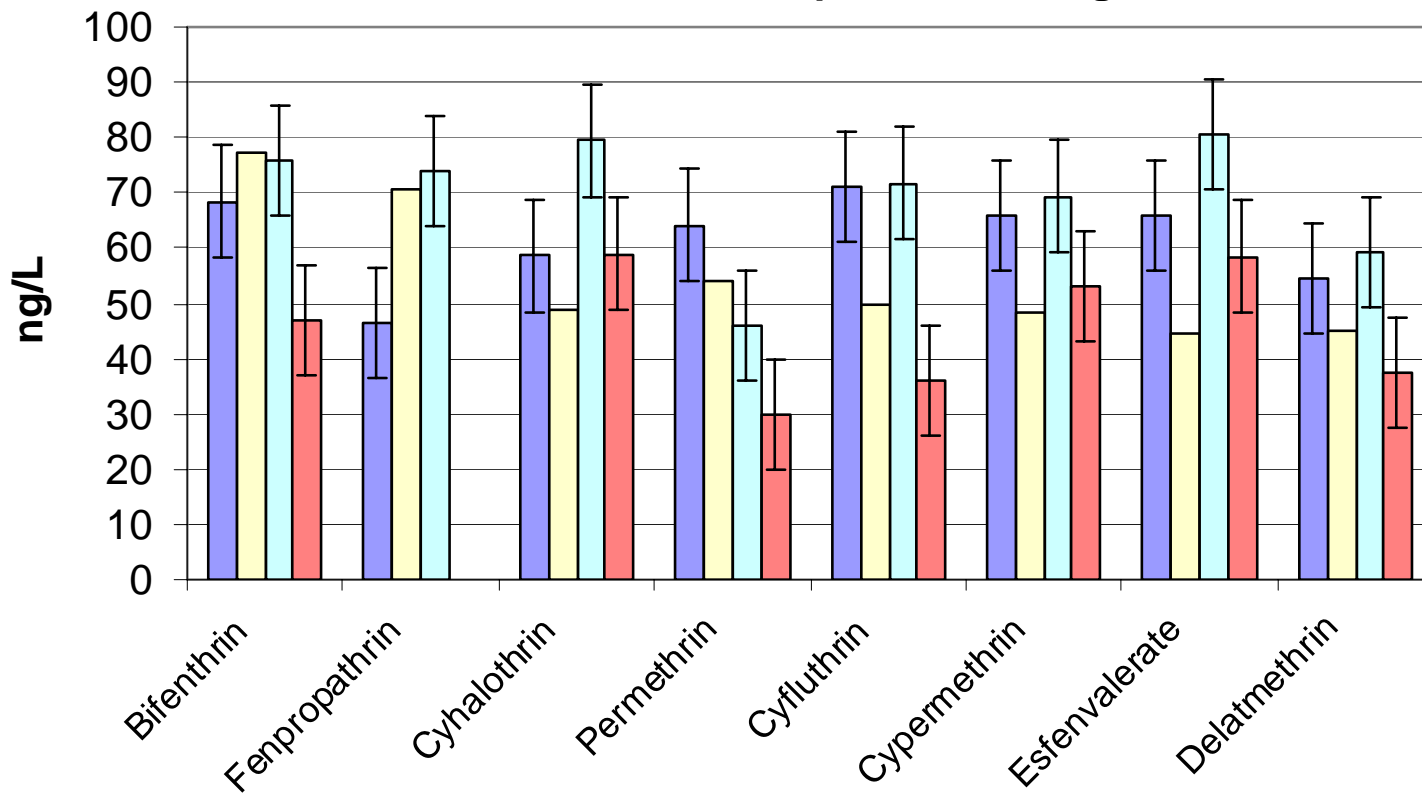
Low Level Water Spikes

- 10 ng/L
 - One lab: were below MRL
 - Lab # 1 ~3-9 ng/L
 - Lab # 2 ~ 3-8 ng/L

American River Sediment Water (500 mg/L) spiked at 100 ng/L



Colusa Basin Drain Water spiked at 100 ng/L



Sediment Round Robin

- Sediments with pyrethroids?
- Sediment to spike?

Project Dates

<u>Task</u>	<u>Task Title</u>	<u>Deliverable</u>	<u>Present Completion Dates</u>	<u>Revised Completion Dates</u>
1	Project Management and Administration	<ul style="list-style-type: none"> Quarterly Progress Report 	<ul style="list-style-type: none"> Quarterly 	<ul style="list-style-type: none"> No Change
2	Project Design and Oversight	<ul style="list-style-type: none"> TAC Membership List 	<ul style="list-style-type: none"> Submit with Quarterly Progress Report after the first TAC meeting (by April 2005) <u>Chg to June 2005</u> 	<ul style="list-style-type: none"> No Change
		<ul style="list-style-type: none"> TAC Meeting Minutes 	<ul style="list-style-type: none"> Submit with Quarterly Progress Report as meetings occur (minimum 1 TAC meeting per year) 	<ul style="list-style-type: none"> No Change
		<ul style="list-style-type: none"> Study Design, after comments incorporated from TAC 	<ul style="list-style-type: none"> Submit with Quarterly Progress Report in 2005 (the quarter after the study design is presented to the TAC) 	<ul style="list-style-type: none"> No Change
		<ul style="list-style-type: none"> Conduct Public Meeting 	<ul style="list-style-type: none"> April 1, 2006 	<ul style="list-style-type: none"> April 1, 2007
3	Analytical Method Development and Validation	<ul style="list-style-type: none"> Validated, routine analytical methods 	<ul style="list-style-type: none"> 180 days prior to close July 1, 2006 	<ul style="list-style-type: none"> July 1, 2007
4	Methods for Toxicity Testing	<ul style="list-style-type: none"> No deliverables (funded entirely by USGS) 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> No Change
5	Draft and Final Report	<ul style="list-style-type: none"> Draft Final Report 	<ul style="list-style-type: none"> 90 days prior to close At close of project October 1, 2006 	<ul style="list-style-type: none"> October 1, 2007
5	Draft and Final Report	<ul style="list-style-type: none"> Final Report 	<ul style="list-style-type: none"> December 15, 2006 	<ul style="list-style-type: none"> December 31, 2007
6	Project Closure Requirements	<ul style="list-style-type: none"> Project Closure Summary Report Supporting documentation 	<ul style="list-style-type: none"> At close of project 	<ul style="list-style-type: none"> No Change

Deliverables to CALFED

	CDFA	CDFG	USGS
Water	X	X	X
Bed sediment	X	X	
Suspended Sediment			X
Colloids (ultrafilter or SPME)			X
Biota		X	

Deliverables to CALFED

- Method detection limits and method range
 - ppt levels for water
 - ppb for sediment and biota
- Matrix validation
 - Precision
 - Percent recovery
 - Range
- Sediments with different OC content
- Laboratory intercalibrations
 - Water
 - Aged sediments (with pyrethroids)

Deliverables to CALFED

- Holding times of analytical standards
 - All groups
 - USGS has summarized
- Sample storage before processing
 - Water - CDFA
 - Sediment -DFG
- SPE Cartridge storage
 - USGS completed HLB and C8 storage tests
- Sorption to glass
 - USGS has written summary
- pH effects on recovery and holding times