



**California Regional Water Quality Control Board
Central Valley Region
Katherine Hart, Chair**



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27 April 2011

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EAST SAN JOAQUIN WATER QUALITY COALITION ANNUAL MONITORING REPORT REVIEW

Thank you for submittal of the East San Joaquin Water Quality Coalition (Coalition) Annual Monitoring Report (AMR), which was received on 1 March 2011. Staff has completed a review (enclosed with this letter) of the AMR for compliance with Monitoring and Reporting Program (MRP) Order No. R5-2008-0005.

As noted in the attached memorandum and checklist, staff determined that the Coalition continues to comply with the majority of MRP Order monitoring and reporting requirements. However, as noted in Item number five of the memorandum, the Coalition did not conduct follow-up regarding three chlorpyrifos exceedances that occurred in Deadman's Creek during the 2010 monitoring period. On 26 April 2011, staff contacted the Coalition to discuss this omission. The Coalition agreed to conduct additional outreach to growers in the watershed in the form of a notification that will be mailed to each grower, including information regarding management practices that can be implemented to reduce or prevent discharge into waterways. The Coalition will complete this outreach during May 2011.

Staff identified some minor omissions in the AMR. Please review the attached memorandum. The Coalition will need to submit its next AMR in accordance with the MRP by 1 March 2012, and ensure that it complies with the requirements.

If you have any questions or comments regarding the review, or need any further information, please contact Dania Huggins at (916) 464-4843 or Susan Fregien At (916) 464-4813.

Original Signed by

Susan Fregien, Senior Environmental Scientist
Monitoring and Implementation Unit
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Original Signed by

Joe Karkoski, Chief
Irrigated Lands Regulatory Program

Enclosure: Staff Review of ESJWQC 2011 AMR

the statement on page 11 which includes the approximate acreage and percent of irrigated lands or revise the calculations of irrigated acres in Table 3.

2. QA/QC Results that did not Meet Acceptance Criteria (16.1.2)

The sediment total organic carbon batch analyzed in March 2010 was run one day past the 14 day hold time for un-frozen samples. The September 2010 sediment chemistry analyses (total organic carbon, grain size and sediment pesticides) were also all run outside of associated hold times due to an internal miscommunication regarding sediment chemistry analysis. The Coalition needs to describe what corrective actions laboratories are taking to address these errors in the future.

3. Quality Assurance Evaluation for Field Data (16.2.5)

In accordance with the quality objectives found in MRP Attachment C, page 9 and MRP Attachment C, Appendix B, the AMR is to include completeness results for Field and Transport. Reviewing the Coalition's field calibration sheets and number of samples collected, 100% of the field testing met the completeness objective. In the next AMR, the percentage of field testing completeness should either be tabulated or summarized as the chemistry and toxicity Precision, Accuracy and Completeness sections.

4. Pesticide Use Data (19.2.3)

To investigate potential sources of exceedances, the Coalition evaluates Pesticide Use Report (PUR) information. For any PUR data unavailable at the time of the AMR submittal because the Agricultural Commissioner has not released them, the Coalition intends to submit an addendum on 1 June 2011 after the information becomes available. Analytes aldrin, dieldrin, endrin, HCH, DDD, DDE, and DDT do not have PUR data because there are no applications or registered products of these chemicals.

5. Actions to Address Water Quality Exceedances (20)

Chlorpyrifos exceedances

Nine exceedances were observed within the Coalition area. Three of these exceedances were in sites that are currently under management plan monitoring. Two of the remaining sites are being addressed in 2011 as high priority areas, and the site at Howard Lateral @ Hwy 140 has had only one exceedance. The three remaining exceedances occurred at Deadman Creek @ Gurr Rd. There was no discussion in the AMR if this will trigger a revision on the management plan strategy in terms of prioritization schedule or additional monitoring. The Coalition summarized the Coalition's actions in Table 45 to address the exceedances. However, most of these actions are associated with the high priority areas and not with the recent exceedance events at Deadman Creek @ Gurr Rd.

Deadman Creek @ Gurr Rd is going to be addressed as a high priority area in 2012. Since the efforts for the 2011 high priority sites have already started, it will be difficult to include this site in 2011, given the limitations in time and resources. Thus, in the future, when an event such as this occurs the Coalition will need to review the prioritization schedule as soon as the monitoring results are available. Additionally, the Coalition will need to consider providing a more focused outreach to the growers in the area with the

recent water quality problems. This item will be address by Staff in the 3 May 2011 quarterly management plan meeting.

6. Discussion and Conclusions (22)

Representative assessment monitoring at Zone 6

In the 2010 Staff AMR review, it was recommended to the Coalition to assess the possibility of exchanging assessment site Ash Slough @ Ave. 21 for another representative site. This recommendation was made because the site was dry on most events and only one of the 15 planned events samples were collected. During 2010 Ash Slough @ Ave 21 was dry on 11 of the 12 planned sample events. The Coalition has not been able to do assessment monitoring in this Zone during 2009 and 2010. Based on the limited data generated in the last two years monitoring, there is a concern that the conditions in Zone 6 are not being represented.

According to the 2011 monitoring schedule the Coalition has rotated assessment monitoring to Berenda Slough along Ave. 18 1/2. If the same conditions are experienced at this new site, staff recommends rotating the assessment monitoring to a different site in Zone 6 as soon as possible to represent the 335,069 irrigated acres. Otherwise, if dry conditions are representative of the entire Zone 6, please provide the necessary background information (e.g. rain fall records, flow data, etc.).

Annual Monitoring Report Review Checklist

Report Name: March 1, 2011 Annual Monitoring Report						Reviewer Name: Dania Huggins						
Submittal Date: 3/1/11						Review Date: March						
Item No.	AMR Component Name					A Acceptable	U Unacceptable	NI Not Included/Incomplete	NA Not Applicable	Page # (Section #)	Comments	Staff reference
1	Signed Transmittal Letter											
1.1	Transmittal letter included					X						
1.2	Penalty of Purjury Statement					X						
1.3	Signature of Authorized Coalition Representative					X						
1.4	Dated					X						
1.5	Submitted by Deadline					X						
1.6	Discussion of exceedances					X				119-145		
1.7	Discussion of actions taken or planned to correct noted exceedances (or reference to prior correspondance)					X				119-145		
2	Title Page											
2.1	Report title					X						
2.2	Date of the report					X						
2.3	Monitoring date range covered by the report					X						
2.4	Coalition Group name					X						
3	Table of Contents											
3.1	List of sections or chapters with page numbers					X				i-vi	Coalition needs to provide a list of appendices.	
4	Executive Summary											
4.1	Brief summary of activities					X				7-8		
4.2	Brief summary of results					X				8-9		
4.3	Brief summary of conclusions and recommendations					X				9-10		
5	Description of the Coalition Group Geographical Area											

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Item No.				AMR Component Name	A Acceptable	U Unacceptable	NI Not Included / Incomplete	NA Not Applicable	Page # (Section #)	Comments	Staff reference
5.1				General description of relevant geographic features of the Coalition area, such as location and extent of area, major landforms, land uses, vegetation types, crop types, climate patterns, key waterways, and cities	X				11, 15, 12, 41	Irrigated acres need to be reconciled with actual Coalition irrigated acres.	
6	Monitoring Objectives and Design										
6.1				<u>Monitoring Objectives</u>							
	6.1.1			List or brief description of monitoring objectives based on MRP Plan	X				22		
	6.1.2			Reference to MRP Plan section and page number where detailed monitoring objectives are			X		22	Component not in the MRP, references found in other sections	
	6.1.3			Reference to QAPP section and page number where detailed monitoring objectives are			X		22	Component not in the MRP, references to parts of QAPP found in other sections	
6.2				<u>Monitoring Design</u>							
	6.2.1			Aligns with monitoring design description in MRP Plan	X				31, 40		
	6.2.2			Monitoring parameters	X				23-25	Foot Note in Table 4 needs to include that the constituents dropped in May 2009 were resumed in July 2010.	
	6.2.3			Monitoring frequency	X				23-25		
	6.2.4			Time period of monitoring covered in the report	X				8		
	6.2.5			Brief description of Management Plan monitoring	X				34-35		
	6.2.6			Measurement strategies	X				52		
	6.2.7			Source Identification strategies	X				119-133		
	6.2.8			Description of any deviation from the MRP Plan or QAPP	X				3-6 (Table 1)	Tabulated the amendments over the years	

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Item No.					AMR Component Name	A Acceptable	U Unacceptable	NI Not Included / Incomplete	NA Not Applicable	Page # (Section #)	Comments	Staff reference
		6.2.2			Reference to MRP Plan section and page number where detailed monitoring design is	X				31	Component not MRP required	
		6.2.3			Reference to QAPP section and page number where detailed monitoring design is			X			Component not MRP required	
7					Sampling Site Descriptions and Rainfall Records for the time period covered under the AMR							
	7.1				<u>Sampling Site Descriptions</u>							
		7.1.1			Site Name	X				44-45		
		7.1.2			Site Identification Number	X				40 (Tbl 10) 53-60 (Tbl 12)		
		7.1.3			GPS Coordinates	X				40 (Tbl 10)		
		7.1.4			Description of site representativeness (ie what geographic area, watershed, crop type does the site represent)	X				42-45		
		7.1.5			Site-specific monitoring type (core, assessment, special project) information	X				26-30 (TbIs 5-6)		
		7.1.6			Any other unique information about the site or surrounding area	X				42-45		
	7.2				<u>Rainfall Records</u>							
		7.2.1			Graphic or narrative form, in inches of precipitation	X				46-51	It is not clear how much rain fall Madera and Modesto received during the 2nd storm of Jan 17-26 (typo in pg 46)	
8					Location Maps(s) of sampling sites, crops, and land uses							
	8.1				<u>Map(s)</u>							
		8.1.1			Sampling Sites with informative level of detail	X				14-21, 42-25, Apdx VIII		
		8.1.2			Crop Types with informative level of detail	X				14-21, 42-25, Apdx VIII		

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Item No.						A Acceptable	U Unacceptable	NI Not Included/Incomplete	NA Not Applicable	Page # (Section #)	Comments	Staff reference
		8.1.3			Land Uses with informative level of detail	X				14-21, 42-25, Apdx VIII		
		8.1.4			Datum identified on map as either WGS 1984 or NAD 1983	X				14-21, 42-25, Apdx VIII		
		8.1.5			Source and date of all data layers identified on map	X				14-21, 42-25, Apdx VIII		
	8.2				<u>List or Table of Monitoring Site Information</u>							
		8.2.1			Site name	X				40 (Tbl 10)		
		8.2.2			Site identification number	X				40 (Tbl 10)		
		8.2.3			GPS coordinates at latitude and longitude in decimal degrees to at least five decimal places	X				40 (Tbl 10)		
9					Tabulated Results							
		9.1			Data is in tabular form	X				53-60, Apdx II		
		9.2			Data is clearly organized (ie readily discernable)	X				53-60, Apdx II		
		9.3			Tabulated results agree with the electronic data submittal results	X						
		9.4			Tabulated results agree with results discussed in the text	X						
		9.5			Previously reported exceedances match exceedances identified in the AMR	X				111-118, Apdx II	Reconciled staff files to AMR	
		9.6			Water Hardness is reported for every water column sample	X				Apdx II		
		9.7			Hardness-based metals criteria are calculated correctly	X				Apdx II		
		9.7.1			Cadmium	X				Apdx II		
		9.7.2			Copper	X				Apdx II		
		9.7.3			Lead	X				Apdx II		
		9.7.4			Nickel	X				Apdx II		
		9.7.5			Zinc	X				Apdx II		
		9.8			All required constituents for each site have reported results	X				Apdx II		
		9.9			All toxic events were re-sampled and results reported	X						

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Item No.					AMR Component Name	A Acceptable	U Unacceptable	NI Not Included/Incomplete	NA Not Applicable	Page # (Section #)	Comments	Staff reference
10					Data Discussion to Illustrate Compliance							
	10.1				Data discussion to illustrate compliance with the CG Conditional Waiver terms and conditions	X				146-155		
		10.1.1			Where compliance not achieved, explanation of why required component not met	X				71-77		
	10.2				Data discussion to illustrate compliance with water quality standards and trigger limits	X				119-145		
		10.2.1			Where compliance not achieved, explanation of missing data and/or reason for non-compliance	X				119-145		
11					Electronic data submitted in a SWAMP comparable format, either Option A or B							
	11.1				<u>Option A. Electronic submittal data package in spreadsheet format</u>							
		11.1.1			Lab data is entered and submitted within the ILRP SWAMP comparable data spreadsheets				X			
		11.1.2			ILRP SWAMP comparable field sheets in paper copy				X			
	11.2				<u>Option B. Electronic submittal data package in SWAMP database format</u>							
		11.2.1			All field and lab data is uploaded into a SWAMP comparable database	X				CD		
		11.2.2			Electronic data is formatted to the most current <i>Required Data Submission Format</i> document	X				CD		
		11.2.3			Field sample results for lab analyses are included (page 21 #2, MRP)	X				CD		
		11.2.4			<u>Field Quality Control Results</u>							
			11.2.4.1		Blanks	X				81-82 (Tbl 18)		
			11.2.4.2		Equipment Blanks	X				83 (Tbl 19)		
			11.2.4.3		Duplicates	X				84-85 (Tbl 20)		
			11.2.4.5		Replicates				X			
		11.2.5			<u>Laboratory Quality Control Results</u>							
			11.2.5.1		Spikes (LCS/MS)	X				88-89 (Tbl 22) 92-93 (Tbl 24)		

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Item No.						A Acceptable	U Unacceptable	NI Not Included / Incomplete	NA Not Applicable	Page # (Section #)	Comments	Staff reference
			11.2.5.2		Blanks	X				86-87 (Tbl 21)		
			11.2.5.3		Surrogates	X				98 (Tbl 27)		
			11.2.5.4		Certified Reference Materials	X				73		
			11.2.5.5		Duplicates (LCSD/MSD)	X				90-91 (Tbl 23) 94-95 (Tbl 25)		
	11.2.6				<u>Toxicity Analyses electronic submittal requirements</u>							
			11.2.6.1		Individual sample results	X				CD	Aquascience Rpt	
			11.2.6.2		Negative control summary results	X				CD	Aquascience Rpt	
			11.2.6.3		Replicate results	X				CD	Aquascience Rpt	
			11.2.6.4		Toxicity test water measurements (if daily measurements are taken then min and max of the range must be reported)	X				CD	Aquascience Rpt	
				11.2.6.4.1	reported pH measurements in toxicity test waters	X				CD	Aquascience Rpt	
				11.2.6.4.2	reported ammonia measurements in toxicity test waters	X				CD	Aquascience Rpt	
				11.2.6.4.3	reported temperature measurements in toxicity test waters	X				CD	Aquascience Rpt	
				11.2.6.4.4	reported DO measurements in toxicity test waters	X				CD	Aquascience Rpt	
	11.2.7				Data not meeting project QA acceptance guidelines is flagged and includes brief notes detailing the problem in the <i>Comments</i> field	X				CD	Aquascience Rpt	
12					Description of sampling and analytical methods used							
	12.1				Description of sampling methods used	X				64-66 (Tbl 16)		
	12.2				Description of analytical methods used	X				64-66 (Tbl 13-16)	7 days is the recommended holding time for TKN. The coalition stated a holding time of 28 days for TKN. Needs to be revised	MRP, AttC, APDX D (page 1 of 2)
13					Copies of chain-of-custody forms and sample receipt documentation							
	13.1				Copies of all COCs are included	X				Apdx I		

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Item No.					AMR Component Name	A Acceptable	U Unacceptable	NI Not Included / Incomplete	NA Not Applicable	Page # (Section #)	Comments	Staff reference
	13.2				COCs are legible	X				Apdx I		
	13.3				COCs are completed accurately	X				Apdx I		
14					Field Data Sheets, Lab Reports, Lab Raw Data							
	14.1				<u>Field Data Sheets</u>							
	14.1.1				If Coalition chose Option A for electronic data submittal package, field data sheets are the ILRP SWAMP comparable field data sheets (see 11.1) in paper copy				X			
	14.1.2				Copies of all field data sheets are attached to AMR or provided electronically in attached CD (see 14.1.1)	X				Apdx IX, CD	Sent electronically on CD	
	14.1.3				Field sheets are completely filled in	X				Apdx IX, CD	Spot checked field sheets	
	14.1.4				Field sheets are legible	X				Apdx IX, CD		
	14.2				<u>Toxicity Lab Reports</u>							
	14.2.1				All toxicity lab reports included as attachments to the AMR <u>OR</u> electronically on a CD	X				CD	Apdx VI includes TIE Report	
	14.2.2				All toxicity lab report copies submitted are complete	X				CD	Aquascience	
	14.2.3				All toxicity lab reports are signed by authorized lab representative	X				CD	Aquascience	
	14.2.4				Toxicity lab narrative describes all QC failures, analytical problems and anomalous occurrences	X				CD	Aquascience	
	14.2.5				All raw lab data for acceptable toxicity tests is included	X				CD	Aquascience	
	14.2.6				All raw lab data for failed toxicity tests is included	X				CD	Aquascience	
	14.2.7				All original bench sheets showing results of individual replicates, such that all calculations and statistics can be reconstructed	X				CD		
	14.2.8				All QC sample results including field and lab blanks, lab control spikes, matrix spikes, field and lab duplicates, and surrogate recoveries are included	X				CD		
	14.3				<u>Chemistry Lab Reports</u>							
	14.3.1				All chemistry lab reports included as attachments to the AMR <u>OR</u> electronically on a CD	X				CD	labs = APPL, Caltest, Nautilus, NCL	
	14.3.2				All chemistry lab report copies submitted are complete	X				CD		

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Item No.					AMR Component Name	A Acceptable	U Unacceptable	NI Not Included / Incomplete	NA Not Applicable	Page # (Section #)	Comments	Staff reference
		14.3.3			All chemistry lab reports are signed by authorized lab representative	X				CD		
		14.3.4			Chemistry lab narratives describe all QC failures, analytical problems and anomalous occurrences	X				71-77, CD		
		14.3.5			All sample results for contract and subcontract labs including units, RLs and MDLs are included	X				CD, Apdx III		
		14.3.6			Sample preparation, extraction, and analysis dates are included	X				CD		
		14.3.7			All QC sample results including field and lab blanks, lab control spikes, matrix spikes, field and lab duplicates, and surrogate recoveries are included	X				CD		
15					Associated laboratory and field quality control samples results							
16					Summary of Quality Assurance Evaluation results							
	16.1				<u>Quality Assurance Evaluation for LAB Data</u>							
		16.1.1			Acceptance criteria for all measurements of precision and accuracy are listed and coincide with ILRP requirements in MRP Attachment C, Appendix B	X				71-78 (TbIs 17-30)		
		16.1.2			QA/QC results that did not meet acceptance criteria are identified in a table or narrative description that is prepared by the Coalition (not lab)			X		71-78 (TbIs 17-30)	Page 70, it is not clear what corrective actions are going to be taken to avoid missing holding times due to "laboratory internal miss communication."	
		16.1.3			Discussion of how the failed QA/QC results affect the validity of the reported data	X				71-78 (TbIs 17-30)		
		16.1.4			Discussion of corrective actions for QA/QC results that did not meet acceptance criteria is included	X				71-78 (TbIs 17-30)		
		16.1.5			Calculation of completeness (percentage of QC data that met acceptance criteria and a determination of project completeness based on this)	X				71-78 (TbIs 17-30)		
		16.1.6			Document and discuss any adjustments made to acceptance criteria	X				71-78 (TbIs 17-30)		

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Item No.						A Acceptable	U Unacceptable	NI Not Included / Incomplete	NA Not Applicable	Page # (Section #)	Comments	Staff reference
	16.1.7				Laboratory exception reports are included when samples are reanalyzed due to exceedance of the linear range	X				71-78 (TbIs 17-30)		
	16.2				<u>Quality Assurance Evaluation for FIELD Data</u>							
	16.2.1				Acceptance criteria for all measurements of precision and accuracy (i.e. MS/MSD ± 25%, LCS/LCSD ± 25%) are listed and coincide with ILRP requirements in MRP Attachment C, Appendix B	X				Apdx IX for Field test, pp 71-78 for toxicity & chemistry	Reviewed 20% of calibration sheets to determine field testing accuracy, precision.	MRP Attach C, Apdx B for Field Testing and Lab Analysis.
	16.2.2				QA/QC results that did not meet acceptance criteria are identified in a table or narrative description that is prepared by the Coalition (not lab)	X				84-85 (Tbl 20)	Overall acceptance criteria met	
	16.2.3				Discussion of how the failed QA/QC results affect the validity of the reported data	X				67-78		
	16.2.4				Discussion of corrective actions for QA/QC results that did not meet acceptance criteria	X				67-78		
	16.2.5				Calculation of completeness (percentage of QC data that met acceptance criteria and a determination of project completeness based i.e field blanks, dups, equip blanks, dups, travel)	X				67-78	Coalition needs to provide field completeness calculation (pH,Temp,EC,DO, turbidity) in the Precision, Accuracy and Completeness section, pg 63.	MRP Order p21, Attach. B pg 2; Attach. C pg 9, Attach C, Apdx B.
	16.2.6				Document and discuss any adjustments made to acceptance criteria	X					No adjustments made to acceptance criteria	
17					Flow Monitoring Method(s)							
	17.1				The method used to obtain flow measurement at each monitoring site during each monitoring event is listed	X				63-64 Apdx IX	Reviewed 20% of field sheets	
18					Monitoring Site Photos							
	18.1				Photos are included for each monitoring site for every monitoring event, either electronically or in hard copy	X				Apdx VIII, CD		
	18.2				Each photo is clearly labeled with site ID and date	X				Apdx VIII, CD		

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Item No.					AMR Component Name	A Acceptable	U Unacceptable	NI Not Included/Incomplete	NA Not Applicable	Page # (Section #)	Comments	Staff reference
	18.3				Photos are descriptive and useful	X				Apdx VIII, CD		
19					Summary of Exceedance Reports submitted during the reporting period and related pesticide use information							
	19.1				Summary of Exceedance Reports submitted during the AMR period	X				Apdx V	Table of Contents lists all exceedance rpts.	
		19.1.1			Summary includes all needed exceedance reports	X				Apdx V	Table of Contents lists all exceedance rpts.	
	19.2				<u>Pesticide Use Data</u>							
		19.2.1			Pesticide use data is included for all pesticide and toxicity exceedances occurring during the AMR time period (except those that fall under a Mgt Plan)	X				119-145 Apdx IV, PUR dbase CD	Have all available PURs. December 2010 PURs not released by Ag Com yet. Coalition will provide those in the 6/1/11 addendum.	
		19.2.2			Pesticide use data is directly relevant to the monitoring sites where exceedances occurred	X				119-145 Apdx IV, PUR dbase CD	Arsenic has no reported applications, therefore sourcing difficult.	
		19.2.3			Pesticide use data includes all pesticides applied within the monitoring site drainage area during the four weeks prior to the measured exceedance	X						
20					Actions Taken to Address Water Quality Exceedances							
	20.1				Discussion of actions taken to address water quality exceedances during the time frame of the AMR is included	X				119-145	See Staff comments in Item number 5 of the review memo.	
	20.2				Actions taken to address the exceedances are adequate	X				119-145		
21					Status update on preparation and implementation of all management plans and other special projects							
	21.1				Discuss preparation and implementation of all management plans and special projects	X						

Annual Monitoring Report Review Checklist

Item No.				AMR Component Name	A Acceptable	U Unacceptable	NI Not Included / Incomplete	NA Not Applicable	Page # (Section #)	Comments	Staff reference
22				Conclusions and Recommendations							
	22.1			Conclusions are supported by the data presented in the AMR	X				146-155		
	22.2			Discussion is adequately detailed	X				146-155		
	22.3			Recommendations are appropriate and adequately detailed	X				155	Coalition provided recommendations for Staff.	