

Draft Report 2 Implementation Matrix

Category	Synopsis	#	Recommendation	Workshop Input	Recommended for Implementation	Compliance-oriented	Fiscally-responsible	Feasible	Implementation Strategy	Comments
APPLIED RESEARCH MONITORING M&M MEASURES HYDRO ECO Submerged Aquatic Vegetation & Related Conservation Measures	Additional monitoring, effectiveness assessment, and integration should be considered in these Measures.	38	M&M effectiveness monitoring should be done periodically with a comprehensive synthesis of the monitoring data every five years or so.	<ul style="list-style-type: none"> • The goal of the non-native vegetation removal and native vegetation restoration is not to strictly increase fountain darter numbers, but rather normalize the eco system and increase health of the system: <ul style="list-style-type: none"> o Not dismissing NAS comment, but a broader view of the ecosystem is necessary; • Focus specifically on sediment sources prevention rather than removal; o Current reevaluation through AMP process was noted and encouraged; • To be able to remove enough sediment in the systems is futile. Reducing watershed sources is a better use of funds: <ul style="list-style-type: none"> o Importance in communicating outside organization efforts that complement the HCP efforts (MS4 and SAWS ASR); • In regards to the non-native vs. native restoration concern staff should remind NAS that the ITP requires less than or equal to 10% of habitat disturbance in any given year; • Landa Lake aeration is ineffective, especially during low dissolved oxygen (DO) as seen in past years: <ul style="list-style-type: none"> o DO management plan is currently in effect; o Mini Dot oxygen loggers are a good plan; o Should add additional temperature loggers. 	Done	No	Yes	Yes	The EAHCP conducts annual monitoring, with full mapping every 5 years.	This is our plan.
		39	We recommend continuing to compute ratios from data such as those reported in BIO-WEST and Watershed Systems Group (2016), further refining the data to be as species specific as possible.		Yes	No	Yes	Yes	Through CONB and COSM/TXST Work Plans and Annual Report.	Contractors will implement.
		40	In light of October 2015 flooding damage, upstream erosion and stormwater runoff control measures may be needed to protect planting and sediment control efforts downstream.		Agreed	No	Yes	Yes	This question will be investigated through the AMP process in 2017.	
		41	There is not enough new habitat from native plantings to maintain populations of fountain darter to balance non-native plant removal.		No	No	?	Yes		USFWS has approved the new SAV regime and resulting Biological Goals and habitat availability.
		42	Habitat availability for the FD should be verified by considering the carrying capacity of the various SAV species (both native and non-native) for fountain darter.		Done	No	No	Yes		Was part of the SAV AMP process.
		43	It is important to track the difference between the area of non-native plants removed and the sustained native coverage (reported as m ²).		In progress continually	No	Yes	Yes	Biological monitoring program and SAV mapping.	
		44	It is important to track the number of plants planted, resulting sustained area, coverage of vegetation from baseline maps in 2013, and lessons learned regarding new species or techniques.		In progress continually	No	Yes	Yes	Biological monitoring program and SAV mapping. Comprehensive mapping to be done in 2018. Also through CONB/COSM/TXST Work Plans.	
		45	Non-native vegetation should be considered as fountain darter habitat when it comes to maintaining and increasing habitat availability for the fountain darter.		Yes and no	No	Yes	No	So long as non-native SAV exists, it is and will continue to be counted as fountain darter habitat. However, additional non-natives will not be planted to increase available darter habitat.	
46	Bank pins and turbidity loggers could be used to evaluate sediment deposition where background knowledge is not currently available. Water depth and sediment accumulation should be monitored in areas being considered for sediment removal as well as post-removal as well.	No - sediment removal is no longer going to be conducted	No	No	Yes	Sediment prevention is being considered and appropriate steps will be taken to ensure a before and after comparison can be conducted.				

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		47	All sediment removal actions should be coupled to monitoring efforts to demonstrate their efficacy.		No - sediment removal is no longer going to be conducted	No	Yes	Yes	Sediment prevention is being considered and appropriate steps will be taken to ensure a before and after comparison can be conducted.	
		48	Sediment removal activities should be limited to areas where ongoing upland sources or natural stream dynamics will NOT lead to deposition of new sediment within a matter of years.		No - sediment removal is no longer going to be conducted	No	Yes	Yes	Sediment prevention is being considered and appropriate steps will be taken to ensure a before and after comparison can be conducted.	
		49	The Committee recommends that aeration not be used routinely as a mitigation measure, but be held in reserve to be used only in case of severe low oxygen conditions throughout all of Landa Lake.		TBD	No	Yes	Yes	NB is currently conducting research to establish a DO Mgmt. Plan for Landa Lake	Possible Adaptive Management action.
		50	Manual breaking up and removal of the floating mats should be considered as a mitigation measure if floating mats cover more than 25 percent of the surface of Landa Lake and dissolved oxygen concentrations decrease.		TBD	No	Yes	Yes	NB is currently conducting research to establish a DO Mgmt. Plan for Landa Lake	Possible Adaptive Management action.
Springflow Protection	Additional analysis of the performance and capacity of the ASR system should be conducted; also, a more systematic	51	The Committee recommends that Phase 2 of the HCP implement a Decision Support System to replace the triggers for the spring flow protection measures (e.g., VISPO), or possibly when the HCP is reviewed for renewal.	General disagreement in value of NAS recommendation regarding ASR operation & VISPO triggers; ASR/HCP concern is with species, SAWS concern is to maintain supply and fulfill contract.	Yes and no	No	Yes	No		1. DSS could be utilized; 2. Triggers are based on benefit to springflow and socioeconomic factors.
		52	Due diligence should be applied to verify the future long-term reliability of the ASR system given the importance of the ASR performance to the success of the HCP.		No	No	No	No		This is a SAWS issue. The HCP is dependent on the ASR contract between SAWS and EAA that establishes a forbearance schedule.
		53	The EAA and SAWS should give consideration to whether geochemical reactions between the Edwards Aquifer injected/recharged water and the aquifer permeable matrix may cause adverse water quality issues in the short or long term (especially as the storage volume increases to encounter aquifer matrix not yet exposed to the Edwards Aquifer groundwater).		No	No	No	No		
		54	The EAA and SAWS should give consideration to whether there are any geochemical reactions between the injected Edwards Aquifer groundwater and native Carrizo Aquifer groundwater that may cause adverse water quality issues in the short or long term.		No	No	No	No		
		55	The EAA and SAWS should give consideration to whether there is any evidence of mineral precipitation in the aquifer or on well materials (e.g., models or projections of porosity declines in the ASR storage zone) that may affect long-term system performance.		No	No	No	No		

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Measures	ASR system should be conducted; also, a more systematic approach to Phase 2 decisions is warranted.	56	The EAA and SAWS should give consideration to what the long-term trends in ASR well performance are.		No	No	No	No		
		57	The Committee recommends that at a minimum of annually, determine specific injection at each ASR well to assess if there are any long-term changes in ASR well performance.		No	No	No	No		
		58	The Committee recommends to design and implement water quality monitoring for arsenic and related constituents in monitoring wells during recharge and storage events.		No	No	No	No		
		59	The Committee recommends to design and implement water quality monitoring in ASR wells during recovery events.		No	No	No	No		
		60	The Committee recommends that compliance of the parties participating in the spring flow protection measures be audited due to the high expense of the spring flow protection measures and their importance to the HCP's success.		Yes	No	TBD	TBD	TBD	