

**Risk associated with decision to approve a AFB draft DPR for public and agency review and comment**

#	Risk Category	Risk Description	Consequences Description - Undesirable Results	Unmitigated ratings and associated data and facts effecting the assigned ratings for likelihood and consequences and the respective certainty ratings associated with each				Risk Rating (consequences x probability)	Mitigation Measure Ratings		Risk Rating Buy down Delta		
				Consequence	Certainty	Likelihood	Certainty		Consequence	Certainty			
		<i>What is the problem or issue?</i>	<i>Description of consequence. What could go wrong and how could it happen?</i>					<i>Mitigation Technique and associated data and facts effecting the assigned ratings for likelihood and consequences and the respective certainty ratings associated with each</i>					
AFB-1	Technical Complexity	List key technical areas of uncertainty in the estimated costs and benefits of the TSP	State potential undesirable result and list key factors effecting assigned consequence and certainty ratings.			List key factors effecting the assigned likelihood and certainty ratings that the undesirable result will occur.		Summarize key factors effecting assigned risk and certainty ratings.			Summarize key factors effecting assigned risk and certainty ratings.	Level of rating buy down from mitigation recommendation	
		The barrier design includes new or unproven technology	The design would result in a ineffective project or a project with inconsistent performance. It could also contribute to increased operation and maintenance costs.	H	H	The fixed barrier solution is a known technology that has been employed on river systems throughout the Great Lakes Basin.	L	H	FWS and USACE personnel have coordinated on the barrier design throughout the planning process	L	H	Risk is at an acceptable level. No mitigation required	
		The failure of the barrier and/or appurtenant structures	Catastrophic failure of the project would result in loss of life and/or significant property damage	H	M	Preliminary failure analysis indicates that the barrier project does not increase the consequences to life and safety beyond those that would result in the existing condition. The appurtenant structure (clay berm) reduce the probability of the risk to life and safety to the City of Manistique.	L	H	The barrier and appurtenant structure will be owned and managed by the State of Michigan and Operated and Maintained by USFWS. There is redundancy incorporated in the project. The barrier is design is fairly simple (SSP) and its resiliency is not reliant on moving parts such gates or stoplogs.	L	H	Risk is at an acceptable level. No mitigation required	
		The barrier design allows lamprey escapement	The barrier crest elevation allows lamprey to migrate upstream and spawn. This would allow the degradation of the Great Lakes fishery to continue.	H	H	The crest elevation of the barrier has been coordinated with lamprey control experts at the FWS.	L	H	The crest elevation of the barrier has been coordinated with lamprey control experts at the FWS.	L	M	Risk is at an acceptable level. No mitigation required	
AFB-2	Scope Growth	List key areas of potential growth in the scope of the project, (i.e., LERRDs, Eng. & Design, Foundations, Environmental mitigation requirements, HTRW, etc.).	State potential undesirable result and list the key factors effecting the assigned consequences and certainty Ratings.			List the key factors effecting the assigned Likelihood and certainty Ratings.		Summarize key factors effecting assigned risk and certainty ratings.			List key measures that may be taken to improve the accuracy of the estimated costs to adequately assure the estimated costs are within the appropriate federal limits and the sponsor's ability to share in the design and construction costs and pay for 100% of the O&M necessary to sustain the estimated benefits.		
		Additional design features would be added to barrier to accommodate stakeholder desires	Additional design features would increase design cost and provide no addition ecosystem benefit	M	M	Communicating the focus of the barrier project with stakeholders and the limitation of the Section 1135 program.	L	H	USACE and FWS personnel coordination project stakeholders on the limitations of the Section 1135 Authority lowwed the risk of scope growth.	L	H	Risk is at an acceptable level. No mitigation required	
		The presence of HTRW on the project site	The preence of HTRW would result in increased cost and delayed implementation	H	H	A Phase I site survey was conducted and concluded no HTRW is present on the site and that no HTRW is leeching onto the site from a nearby environmental cleanup.	L	H	USACE and GLFC and FWS and City of Manistique have coordinated that no implementation activities will occur on or near the enviromentally remediated site.	L	H	Mitigation Measure #2	
		Growth Area #3									Mitigation Measure #3 (add others as appropriate)		
AFB-3	LERRDs	List key areas affecting the non-federal sponsor's ability to acquire the requisite LERRDs to build the TSP in a timely manner, (i.e. Technical resources, Legal authority, Willingness to provide disposal and borrow areas, etc.).	State potential undesirable result and list the key factors effecting the assigned consequences and certainty Ratings.			List the key factors effecting the assigned Likelihood and certainty Ratings.		Summarize key factors effecting assigned risk and certainty ratings.			List measures that may be taken to assure the sponsor has the capability to acquire the requisite LERRDs to build, operate and maintain the TSP.		

