



United States Department of the Interior
U.S. FISH & WILDLIFE SERVICE



Idaho Fish Health Center

276 Dworshak Complex Drive
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Case Information			
Case Number	17-034	Report Date	2016-11-16
Case Date	2016-11-14	Reported By	MARILYN BLAIR
Case Type	DIAGNOSTIC	Title	

Facility Information			
Facility	Dworshak Dam	Location	
Address	US ARMY CORPS OF ENGINEERS AHSAHKA, ID	Contact	LUCIAN STEWART
		Phone	208-476-1209
		Fax	

Comments	
Background	Dead fish at the base of the Dworshak Dam were reported to the FWS Idaho Fish Health Center (IDFHC) on Nov. 14, 2016 by Lucian Stewart of the Corps of Engineers (COE). The IDFHC was asked by Mr. Stewart to assist with an investigation into the cause of the fish kill.
Remarks	Lucian Stewart and John Chatfield of the COE reported that recent testing of the Dworshak turbines occurred at 09:35 through 16:30 on 11/8/2016 and from 07:05 through 12:58 on 11/9/2016. They stated that while this type of testing is performed every year, this year the test procedure was repeated more times than in previous years. They were concerned that the increased testing may have caused mechanical trauma or gas bubble disease problems resulting in fish losses not seen in previous years. During our investigation, a local fisherman reported fish in pieces floating away from the dam during one of the testing periods.

Species Information: steelhead (Clearwater)

Sample Information			
Lot/Other Id	North Fork Clearwater R.	Water Source	
Container		Age Class	ADULT
Number	1	Age(months)	
Condition	Dead	Size(mm)	

Species Comments	
Remarks	One fresh dead adult steelhead was collected at the base of the Dworshak Dam. Over 200 steelhead adult mortalities were estimated in the same area. One sucker mortality was also observed. Approximately 75% of the dead fish were either decapitated or appeared to have mechanical damage to the gill area.
Internal Obs.	The steelhead examined was a mature male. No internal abnormalities were observed. The head was still attached to body but the isthmus was partially severed. No evidence of bacterial or viral infection was seen upon microscopic examination of kidney and spleen imprints.

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Species Comments	
External Obs.	<p>Gill: No gas bubble disease was observed. The gills were severely eroded.</p> <p>Fins: No gas bubble disease was observed. There was severe erosion of the fins, especially of the dorsal fin.</p> <p>Both eyes were hemorrhaged.</p>
Recommendations	<p>There was no preliminary evidence of infectious disease or evidence of gas bubble disease but many fish were found that were decapitated or had other obvious injuries. Based on these findings, the most likely cause of mortality was mechanical injury not infectious disease. Culture based tests for bacteria will be complete in 1-2 weeks and for viruses in 28 days.</p>

Assay Results				
# Tested	Pathogen/Syndrome Tested	Tissue Tested	Result	Result Comments
1	Bacteria	Kidney	Pending	TSA & TYES.
1	Virus	Kidney/Spleen/Gill	Pending	Cell culture