

DEVILS LAKE OUTLET PROJECTS**December 2011**

	<u>1. SWC WEST BAY</u>	<u>2. SWC EAST END</u>	<u>3. Corps Tolna Coulee</u>	<u>4. SWC WEST STUMP LAKE</u>
SPONSOR & COST	SWC 2005 outlet based on Corps' West Bay plan. \$38 million	SWC April 2011 \$60-80 million	Control Structure SWC/U.S. ArmyCorps 2010 Now under construction \$15 million	Gravity Flow DLBJWRB /SWC August 2011 \$17 million?
STATUS	operational 2005; erratic op 2010, 2011 Operation cost: \$300,000 month.	Under construction fall/winter 2011. to begin operation spring 2012.	Sept. 2011 Corps issued Environmental Assessment fall 2011. Finding Of No Significant Impact (FONSI)	Spring 2012; planning for 2013 completion.? Plans incomplete as of Dec. 31, 2011.
AMOUNT of water removed	250 cfs maximum Max 3-5 inches off Pump: pipe and ditch	350 cfs maximum max 5-6 inches off lake. Pump: pipe & ditch. Pump until D Lake elevation falls to 1446 ft. above mean sea level.	Will begin op when Stump L. reaches 1458 ft elevation. Water will erode Tolna Coulee to 1452 ft msl or down to 1446 ft. Possible 3,000 cfs or greater flow.	If no control structure, all of the D. Lake water above 1452 ft. (or 1446 ft msl if ditch allowed to erode to that elevation) in Devils Lake above the ditch elevation will flow into the Sheyenne River. Could be ??? cfs ?
Once T. Coulee eroded, w/o control structure, all Devils Lake water above an outlet elevation will flow into the Sheyenne River, then into Red River and Canada.				
ELEVATION	Operate when Devils Lake is above 1446 ft above msl	Operate whenever Devils Lake above elevation of 1446.	Start op @ 1458 ft. msl, end when coulee reaches lowest erosion point--1446 ft msl ?	Immediately after ditch is dug, will flow until Stump Lake reaches 1452 or lower--1446 ft msl ?
METHOD of TRANSFER	Four 75 cfs pumps operation	Five pumps @ 350 cfs dump water into lower Tolna Coulee, then into Sheyenne River.	Gravity flow from Stump L. into Tolna Coulee, then into Sheyenne. Gate structure uncontrolled, once eroded.	Gravity flow from West Stump L. through Tolna Coulee hills into Sheyenne River. Ditch 1.25 miles long, 40' deep, 40' bottom, 360' top width Uncontrolled?, 2500 + mg/l sulfate
WATER QUALITY	600-700 mg/l sulfate [By comparison sulfate levels in Sheyenne used to average less than 100 mg/l.	1200 mg/l sulfate plus high levels of many other contaminants, such as arsenic, chloride, selenium, mercury, and others.	2500-2700 mg/l sulfate plus more	
TOTAL FLOWS	250 cfs	350 cfs	3000 cfs	100--3000 cfs ?

DOWNSTREAM EFFECTS OF OUTLETS HAVE NOT BEEN STUDIED. Cost of MORE FLOODING, EROSION, AND WATER QUALITY ISSUES. NOT KNOWN. WATER RETENTION HAS NOT BEEN STUDIED.

