

**U.S. Army Corps of Engineers TDG TMDL Implementation Summary**

The following summary tables provide an overview of the status of U.S. Army Corps of Engineers TDG TMDL Implementation activities, both short-term and long-term.

SHORT TERM – PHASE I TMDL IMPLEMENTATION

A. Structural Implementation Actions:

<u>2000 Biological Opinion Action Item Description</u>	<b>Status</b>	<b>Estimated Completion Date</b>
Ice Harbor Deflectors	Constructed. Biological evaluations continue	2002
John Day Deflectors	Constructed	2002
Survival based spill caps at all dams (e.g. 40% at The Dalles).	Studies are on-going	N/A
Bonneville Endbay Deflectors	Constructed	2002
McNary Endbay Deflectors	Constructed	2002
Lower Monumental Endbay Deflectors	Constructed. Biological Evaluations Continue	2003
Little Goose Endbay Deflectors	Evaluate after RSW installed	2009
Chief Joseph Deflectors	Preconstruction Engineering and Design complete. Contract awarded Aug 2005. Phase 1 construction (of 3) expected to begin summer 2006.	2009
The Dalles Deflectors	Not planned at this time, spillway survival still under investigation	N/A
John Day Endbay Deflectors	Not planned at this time.	N/A
Divider Walls at Appropriate Dams	The Dalles: Constructed – Biological Evaluations Continue	2004
Bonneville Powerhouse 2 Corner Collector	Constructed. Biological Evaluations Continue through FY05	2004
Bonneville Powerhouse 2 Fish Guidance Efficiency Improvement	Decision Document Due FY05 – Recommendation for FGE improvements	2008
Lower Granite Removable Spillway Weir	Constructed. Evaluations of spring and summer migrants continue	2003
The Dalles Turbine Intake Blocks	Evaluation Complete – Not warranted	N/A
Lower Monumental Bypass Outfall Relocation	Currently under evaluation	Unknown
Bonneville Powerhouse 1 Surface Bypass or Extended Screens	Biological evaluations continue – FY06 for alternatives	Unknown

B. Operational Implementation Actions:

<b>Operational Action</b>	<b>Status</b>
Scheduling routine turbine maintenance and repair during low-power load and river flow periods.	On-going
Preventative maintenance of turbines to prevent breakdown	On-going
System management of water release from upstream storage reservoirs to minimize involuntary spills at dams in the TMDL area.	On-going
Optimizing power purchasing to allow maximum use of powerhouse capacity and minimization of involuntary spill.	On-going

II. LONG TERM – PHASE II TMDL IMPLEMENTATION

<b>2000 Biological Opinion Action Item Description</b>	<b>Status</b>	<b>Expected Completion Date</b>
John Day Surface Bypass (may be Removable Spillway Weir)	Decision document Phase 1 complete in FY05 – Recommendations for further action at completion. Evaluations continue.	Unknown
Removable Spillway Weirs at Lower Monumental, Little Goose, Ice Harbor and McNary	<b>LMN:</b> Currently in construction. <b>LGS:</b> Under review <b>IHR:</b> Construction completed <b>MCN:</b> Under review	Spring-2007 2009 March 2005 2012
McNary Bypass Improvements (outfall, temperature)	Temperature improvements are currently being evaluated. No investigations concerning outfall improvements are on-going.	Unknown
Lower Monumental Extended Screens	On Hold pending decision document	Unknown
John Day Extended Screens	On Hold pending decision document on future bypass construction	Unknown
Spill Effectiveness Studies	Ongoing, site specific as warranted	Unknown
Predator Removal and Abatement: SLED at BON (Sea Lion Exclusion Device). Predator Removal Program at TDA (allow access to fish Pike Minnow)	Constructed  Ongoing - funded by BPA	March 2006  Unknown
Improved Operation and Maintenance	Ongoing	N/A
Bonneville Powerhouse 1 Minimum Gap Runners	Units 2, 10, 8, 7 to be completed (#2 done July 2006-problems exist) 1,3,4,5,6,9 complete to date	#10-Nov 2006 #8-Sep 2007 #7-Aug 2008
McNary Modernization, Turbine Runner Prototype.	Ongoing. Biological testing to follow after completion	March 2009
Implement Turbine Survival Program Results	Ongoing	Unknown