



US Army Corps of Engineers
Little Rock District, Southwestern Division



LITTLE ROCK DISTRICT STUDIES AFFECTING FEDERAL HYDROPOWER

FEDERAL HYDROPOWER CONFERENCE – JUNE 2012



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Impaired Waterbody Listing 303 (d)

***Dardanelle, Bull Shoals,
Norfolk, Taneycomo***



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CURRENT STATUS

- **TMDL's completed for Bull Shoals and Norfolk (May 2009)**
- **TMDL for Dardanelle is still being developed**
- **TMDL for Lake Taneycomo was approved by the EPA for low dissolved oxygen on 30 December 2010**



DISTRICT POSITION

- **Full understanding of the sources contributing to the low DO have not been identified.**
- **Options identified to address low DO issue are costly.**
- **Work with State agencies to consider re-evaluation of state standard or designated use of stream.**



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WHITE RIVER MINIMUM FLOWS STUDY



FY2006 Energy & Water Act

- Directed the Corps of Engineers to Reallocate storage within Bull Shoals and Norfolk Lakes to be used to maintain minimum flows for the downstream trout fishery in the following amounts:

Bull Shoals Lake (BS-3)	5 feet
Norfolk Lake (NF-7)	3.5 feet

- BS-3 is a flood pool reallocation, NF-7 has 1.75 feet reallocated from conservation pool and 1.75 feet from flood pool.
- Beaver Lake, Table Rock Lake and Greers Ferry Lake were De-Authorized under Sect 132(C) of the 2006 Energy and Water Development Appropriation's Act.



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CURRENT STATUS

- **Signing ceremony for Bull Shoals PPA in January 2012**
- **Contract for design of Bulkhead and Siphon at Norfolk awarded in Fall 2010, construction scheduled to be complete by August 2012**



Steps to Implementation

- **Lakeside facility modification at Norfolk is complete. Bull Shoals lakeside facility modification is in progress.**
- **Complete construction of Norfolk Bulkhead and Siphon and modification to SCADA.**
- **Storage must be captured.**
- **District is evaluating all parameters of the law to ensure the Corps is fully compliant before implementing minimum flows.**



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Arkansas River Navigation Project



Study Purpose/Background

- **Study examined two opportunities:**
 - **Improve navigation by improving the efficiency and effectiveness of evacuating high flows out of Oklahoma reservoirs. (Now using 60k cfs bench at Van Buren)**
 - **Improve navigation by deepening the channel on the entire system and widening the Verdigris River.**



Current Status

- **Construction Funds provided in FY05 and executed in FY06, FY07, FY08.**
- **No additional funds received in FY12 or expected in FY13.**
- **\$40 million per year to continue dredging and training structures.**
- **\$177 million in Remaining total cost broken down in increments between \$1 million to \$10 million.**



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WHITE RIVER BASIN COMPREHENSIVE STUDY



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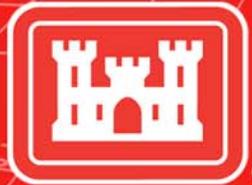


Project Origin

Secretary Westphal ASA (Civil Works) received several letters from the environmental community requesting a basin-wide comprehensive study of the White River.



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WHITE RIVER BASIN, AR & MO

LEGEND

-  EXISTING RESERVOIR OR LAKE
-  WHITE RIVER NATIONAL WILDLIFE REFUGE
-  CACHE RIVER WILDLIFE REFUGE
-  WHITE RIVER BASIN





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- **Watershed Comprises**
 - **Approximately 27,765 square miles**
 - **Southern Missouri (10,622 square miles)**
 - **Northern and Eastern Arkansas (17,143 square miles)**
 - **Over 150 miles of flood control levees along the White River and its tributaries.**
 - **Significant Mississippi flyways migratory waterfowl stop-over and wintering habitat.**
 - **Several Federal wildlife refuges and State wildlife management areas.**
 - **One of the largest remaining areas of bottomland hardwood forests in the Mississippi Valley.**
 - **Five Corps Multipurpose Lakes; 3 Corps Districts (SWL, MVM, MVS); 2 Corps of Engineers Divisions (SWD, MVD)**
 - **Interests within the basin includes**
- **Flood control, water supply, hydropower, navigation, environmental restoration and protection, and recreation.**



Why is the study needed?

- To identify impacts from development in the upper basin & increased competition for water in the lower basin.
- To better forecast future conditions.
- Full disclosure to the public: Decisions concerning the basin are based on science and not speculation.
- Water resource decisions are key to the future of the basin.



Study Product

- **Watershed Resources Management Plan**
 - Identifies the combination of recommended actions to be undertaken
 - Identifies various partners and stakeholders responsible for recommended actions
 - May or may not identify further Corps studies or implementation projects.



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WATER SUPPLY STORAGE REALLOCATIONS



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M&I Water Supply Reallocation Studies Greers Ferry Lake

- **Mid Arkansas Water Alliance (15 mgd, 18,751 AF)**
 - **Assistant Secretary of the Army for Civil Works approved agreement, report, and Environmental Assessment on 22 April 2010**
 - **Agreement was signed on 5 May 2010**
- **City of Heber Springs (3,538 AF) – On hold**



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M&I Water Supply Reallocation Studies (Requests) ***Norfolk Lake***

- **City of Mountain Home (5 mgd)**
- **Baxter County Water Association (5.8 mgd)**



M&I Water Supply Reallocation Studies ***Bull Shoals Lake***

- Assistant Secretary of the Army for Civil Works approved agreement, report, and Environmental Assessment on 9 August 2010
- **Ozark Mountain Regional Water Alliance (6 mgd, 11,886 AF)**
 - Agreement was signed on 27 August 2010
- **Marion County Regional Water District (1 mgd, 1,698 AF)**
 - Agreement was signed on 8 September, 2010



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M&I Water Supply Reallocation Studies Beaver Lake

- **Reallocation Study is in progress.**
 - **Washington Regional Public Water Authority 2000 (8 mgd)**
 - **Carroll-Boone Water District 2001 (6 mgd)**
 - **Madison County Regional Water District 2006 (8 mgd)**



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M&I Water Supply Reallocation Studies (Request) Table Rock Lake

- **Tri-State Water Resource 2007 (50,000 AF)**
 - **Currently we have a water demand study for SW Missouri, this is the first step in determining a water demand need.**



Greers Ferry Modified Seasonal Pool

- **1998 - Agreement Drafted Between Corps and SWPA**
 - **Hold Pool at El 463 from 1 April to 1 October**
- **1999 - Draft Agreement Put On hold Due to White River Minimum Flow Study**
- **2000 thru 2006 - Temporary Deviations Approved to 462.5**
- **2007 - No deviation approved due to possible impact to litigation on the Lower White River**



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Contributed Funds

- **Section 111 of the FY12 Energy and Water Development Appropriations Act**



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Interior Least Tern

- **Biological Opinion requires the building of habitat (SWL & SWT Collaboration on MKARNS).**
- **Re-initiated Section 7 consultation with US Fish & Wildlife Service under the Endangered Species Act.**



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Dissolved Oxygen Improvement Projects

- **Norfolk Downstream SDOX**



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Questions?