



US Army Corps of Engineers
Little Rock District, Southwestern Division



LITTLE ROCK DISTRICT STUDIES AFFECTING FEDERAL HYDROPOWER

FEDERAL HYDROPOWER CONFERENCE – JUNE 2009



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Impaired Waterbody Listing 303 (d)

Dardanelle, Bull Shoals, Norfolk



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CURRENT ISSUES

- ADEQ completed public review of draft TMDL for Bull Shoals and Norfolk Dec 2008.



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DISTRICT POSITION

- Full listing of the sources contributing to the low DO have not been identified.
- Options identified are costly.
- Consider re-evaluation of state standard or designated use of stream.



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WHITE RIVER MINIMUM FLOWS STUDY

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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.



Current Schedule

	<u>Schedule</u>
Initial Funding	2001
Alternative Formulation Briefing	NOV 03
Draft Report & EIS	AUG 08
ROD signing/NEPA Completion	JAN 09
Anticipated PPA Signing	AUG 09



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CURRENT STATUS

- Draft PPA under review by Corps Vertical Team and non-Federal Sponsor.
- Contract for design of Bulkhead and Siphon at Norfolk to be awarded in June 2009.
- Contract for construction of Bulkhead and Siphon at Norfolk to be awarded in December 2009.
- HQUSACE evaluating Federal hydropower credit and non-Federal hydropower buyout.



Steps to Implementation

- HQUSACE must sign off on hydropower buyout.
- Lakeside Facility PPA must be executed.
- Congress must fund non-Federal hydropower buyout.
- Construction of Norfork Bulkhead and Siphon and modification to SCADA.
- Storage must be captured.



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Arkansas River Navigation Project



Study Purpose/Background

- Feasibility study began in March 2000.
- 100% federally funded.

Study is examining two opportunities:

- ✓ I - Improve navigation by improving the efficiency and effectiveness of evacuating high flows out of Oklahoma reservoirs.
- ✓ II – 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.
- \$280,000 to be used for structures in Pool 7.
- No additional funds received in FY09 or expected in FY10.



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WHITE RIVER BASIN COMPREHENSIVE STUDY

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Origins:

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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- WRDA 1986, Section 729 authorized the study of water resource needs of river basins and regions of the U.S.
- WRDA 2000 established cost-sharing requirements.
 - Federal – 50%
 - Non-Federal – 50% (work-in-kind 25%)
- FY 2001 - Initial Work Allowance Received (\$375,000)
- WRDA 2007 established new cost-sharing requirements.
 - Federal – 75%
 - Non-Federal – 25%



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- Interested Environmental Organizations include:
 - National Audubon Society
 - Defenders of Wildlife
 - National Wildlife Federation
 - National Wildlife Refuge Association
 - The Nature Conservancy
 - Natural Resources Defense Council
 - Wildlife Management Institute
 - The Wilderness Society
 - The Sierra Club
 - The Mississippi Flyway Council
 - U.S. Fish and Wildlife Service



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- Initial FCSA Executed – May 22, 2002
 - Cost Sharing Reflected (Federal - 50% & Non-Federal -50%)
- Amendment 1 to FCSA Executed – April 6, 2009
 - Cost Sharing Reflected (Federal - 75% & Non-Federal - 25%)



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Sponsors

- Arkansas Game & Fish Commission
- Arkansas Natural Heritage Commission
- Arkansas Natural Resources Commission
- Arkansas Waterways Commission
- Missouri Department of Conservation
- Missouri Department of Natural Resources
- The Nature Conservancy of Arkansas



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LEGEND

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

WHITE RIVER BASIN, AR & MO

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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 migratory waterfowl wintering area.
 - 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
- 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.
- Decisions concerning the basin need to be based on science and not speculation.
- Water resource decisions are key to the future of the basin.



Study Cost Estimate

Federal Cost	\$6,411,075
Non-Federal Cost	<u>\$2,137,025</u>
Total	\$8,548,100

Federal Funding to Date - \$3,117,447

Non-Federal Funding to Date - \$1,734,302



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Sponsor Contributions to Date

Cash to date – Missouri	\$427,615
Cash to date – Arkansas	<u>\$232,900</u>
Total	\$660,515

Work-in-Kind - \$1,073,787



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



M&I Water Supply Reallocation Studies

1. **Carroll/Boone Water District (Beaver Lake, 11,504 AF) – EA Being Prepared at SWL**
2. **Benton/Washington County Water Association (Beaver Lake, 15,258 AF) – Under Review @ SWD/HQ**
3. **City of Mountain Home (Norfork Lake, 3,158 AF) – Being Prepared at SWL**
4. **City of Clinton (Greers Ferry Lake, 2.5 MGD) – New Request Being Prepared at SWL**
5. **City of Heber Springs (Greers Ferry Lake, 3,538 AF) – Approved, Agreement Sent to City for Signature**



M&I Water Supply Reallocation Studies (continued)

6. **Greers Ferry, MAWA (18,730 AF) – Under Review @ SWD/HQ**
7. **Lake Ouachita, MAWA (33,303 AF conservation pool) – being prepared at MVK**
8. **Beaver Trout Hatchery (21,972 AF) – Pending at HQUSACE**
9. **Baxter County Water Works Facilities Board (Norfolk Lake, 5.8MGD) Being prepared at SWL**
10. **Searcy County Regional Water District – Greers Ferry Lake, (5,000 AF) – Being prepared at SWL**
11. **Ozark Mountain Water Alliance (4-6 MGD) - Bull Shoals Lake – Scoping underway at SWL**



M&I Water Supply Reallocation Requests (Never funded)

1. **Bull Shoals, Marion County (3 MGD) – request received November 2007.**
2. **Table Rock, Tri-State Water (50,000 AF) – request received July 2007.**
3. **Greers Ferry, Community Water System (2.5 MGD) – request received January 2007.**
4. **Beaver Lake, Madison County (5 MGD) request received May 2006.**
5. **Greers Ferry, City of Clinton (2.5 MGD) request received June 2006, increased request to remaining discretionary storage in August 2008.**



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Norfolk Stilling Basin Aeration

- Floating aeration plant is on hold.
- BlueInGreen tested a trailer mounted SDOX system summer 2008.



Greers Ferry Modified Seasonal Pool

- 1998- Agreement Drafted Between Corps and SWPA
 - Hold Pool at EI 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 Allowed to 462.5
- 2007- No deviation allowed due to possible impact on tree damage litigation on the White River



Greers Ferry Modified Seasonal Pool (continued)

- Greers Ferry has been removed from the White River Minimum Flows Project
- Once litigation is cleared, SWPA and the Corps may restart the re-allocation study
- Corps currently has no funds to resume re-allocation study



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Questions?