

**RECORD OF DECISION
WHITE RIVER BASIN, ARKANSAS
MINIMUM FLOWS PROJECT**

The White River Basin, Arkansas Minimum Flows Report and Final Environmental Impact Statement (FEIS), dated November 2008 with January 2009 errata, provides documentation in support of improved minimum flows for the benefit of the tailwater fisheries below Bull Shoals and Norfolk Lakes on the White River, Arkansas. Based on the report, the reviews of other Federal, state, and local agencies, input from the public including comments on the FEIS, and the review of my staff, I find the plan recommended by the Director of Civil Works, U.S. Army Corps of Engineers (Corps), to be technically feasible, in accordance with environmental statutes, and in the public interest. Thus, I approve the White River Basin, Arkansas, Minimum Flows Project at Bull Shoals and Norfolk Lakes for implementation.

The project was authorized in Section 132(a) of the Fiscal Year 2006 Energy and Water Resources Development Appropriations Act (Public Law 09-103), which directed implementation of Bull Shoals alternative BS-3 and Norfolk Lake alternative NF-7 as described in the July 2004 White River Minimum Flows Reallocation Report. Section 132 also requires a determination by the Assistant Secretary of the Army for Civil Works regarding reasonable continued use of lakeside facilities. Additionally, it directs the Administrator of the Southwestern Power Administration (SWPA) to determine the electrical energy and capacity losses at the Federal Energy Regulatory Commission (FERC) Project License No. 2221 caused by the Bull Shoals reallocation, and to calculate the offset to reduce the debt to the Treasury for hydropower losses at Bull Shoals and Norfolk Lakes.

The Minimum Flows project at Bull Shoals and Norfolk Lakes are separable elements, so each one may be implemented independent of the other. However, implementation of each lake element would consist of all its applicable components for minimum flows facilities, lakeside facilities, and compensation for hydropower losses. The project consists of the following features:

- Bull Shoals Lake alternative BS-3 reallocates 5 feet of flood control storage at Bull Shoals Lake for the minimum flows release of 800 cubic feet per second. The top of the conservation pool would be raised by 5 feet from elevation 654.0 to 659.0, and the top of the May through July seasonal pool for water temperature releases would be raised by 5 feet from elevation 657.0 to 662.0. The top of the flood control pool would remain at the existing elevation of 695.0. The minimum flows releases would be made through the main turbine, so no new release facilities are required. However, some modifications to the Corps lake project facilities are required to include remotely operating Bull Shoals turbines and minor modifications to the existing monorail bulkheads.
- Norfolk Lake alternative NF-7 reallocates 3.5 feet of storage at Norfolk Lake to be evenly divided (50:50) between the conservation and flood control pools to

provide for the minimum flows release of 300 cubic feet per second. The top of the conservation pool would be raised by 1.75 feet to from elevation 552.0 to 553.75, and the top of the May through July seasonal pool for water temperature releases would be raised by 1.75 feet from elevation 555.0 to 556.75. The top of the flood control pool would remain at the existing elevation of 580.0. A siphon system would be constructed at the dam and operated in concert with the existing powerhouse station service unit to make the minimum flows releases. The siphon system includes a knife valve, a 24-inch diameter steel pipe through and along the downstream face of the dam, and a multi-layered intake system on the lakeside. Other modifications to lake project facilities include remotely operating the Norfolk Lake turbines and installation of a new monorail bulkhead.

- I have determined that the Arkansas Game and Fish Commission, the non-Federal sponsor, would provide relocations or modifications for public facilities at both lakes to allow for reasonable continued use of lakeside facilities with the reallocation of storage. No relocation or modification of private facilities such as marinas, concessions, or docks would be required. All costs associated with relocating public facilities such as boat ramps, swimming beaches, parking lots or roads shall be at the expense of the Arkansas Game and Fish Commission. Existing Federal lakeside facilities would remain in operation until the Corps completes construction of replacement facilities in order to ensure continued public access in the period before the minimum flows reallocation is implemented.
- At both lakes, there would be an offset to reduce SWPA's debt to the Treasury for the Federal hydropower purpose. The project at Bull Shoals Lake also includes compensation for non-Federal hydropower losses to be paid by the Corps to the holder of FERC License No. 2221, based on the estimated future lifetime replacement costs at the time of project implementation. SWPA and the Corps have each calculated the amount of compensation for energy and capacity losses, as well as the dollar value to be offset and compensated. The amounts are not yet in agreement; however, final dollar amounts would depend on further discussions between the agencies, as well as on the specified parameters in effect at the time of the official date of implementation of the Minimum Flows Project at Bull Shoals Lake.

A wide array of alternatives at five Corps lakes in the White River Basin (Beaver, Table Rock, Bull Shoals, Norfolk, and Greers Ferry) were evaluated in the White River Minimum Flows, Reallocation Study Report, Arkansas and Missouri, dated July 2004, to include the no action alternative. Alternatives included reallocation of water from the conservation pool or flood control pool or a 50:50 mixture of both pools; as well as water release methods such as the use of siphons, new and existing powerhouse station service units and/or through the main hydropower turbines. All of those alternatives were considered by the Corps, and are hereby incorporated by reference into this Record of Decision. Subsequent to the July 2004 Reallocation Report, Congress enacted Section 132(a) and directed implementation of alternatives BS-3 and NF-7.

The trout tailwater fishery below Bull Shoals and Norfolk dams would benefit from the increased wetted perimeter and dissolved oxygen levels resulting from increased minimum flows. There would be an increase in downstream recreation benefits associated with the improved trout fishery. No change would occur with respect to the water supply use of the two lakes. Norfolk Lake's 580-foot top of flood control pool elevation takes into consideration the preservation of Missouri's most densely populated concentration of the Ozark hellbender, a Federal candidate for the Threatened and Endangered Species listing. Norfolk Lake alternative NF-7 is the environmentally preferable alternative; no environmentally preferred alternative was identified for Bull Shoals Lake.

All practicable means to avoid and/or minimize adverse environmental impacts were considered in plan formulation and have been incorporated into the authorized project. No compensatory environmental mitigation is required. Adverse impacts on lakeside facilities would be minimized by relocating or modifying affected facilities to ensure reasonable continued use, in compliance with the authorizing language. A small reduction to flood benefits would result due to raising of the top of the conservation pool at Bull Shoals and Norfolk Lakes. The flood pool reallocation would result in a change to the flood operations to eliminate the impacts of raising the top of the conservation pool. Once the minimum flows have been implemented, the Corps would continue to evacuate floodwaters as quickly as possible in accordance with approved water control plans or authorized temporary deviations to those plans to provide maximum protection from future rainfall runoff. With the new minimum flows operation plan, once flood releases are concluded at the top of the new conservation pool, either hydropower operations or the minimum flows releases would resume.

All applicable laws, executive orders, regulations and local governmental plans were considered in evaluating the alternatives. Based on review of the Minimum Flows Report and FEIS, I find that the public interest would be best served by implementing the recommended plan. This Record of Decision completes the National Environmental Policy Act process for the project.

January 13, 2009
Date

John Paul Woodley, Jr.
John Paul Woodley, Jr.
Assistant Secretary of the Army
(Civil Works)