

**Proposal for North Carolina
Department of Environment and Natural Resources
Division of Water Resources
Water Resources Development Project Grant**

**Feasibility Study for the Removal of the Abandoned Loafers
Glory Dam on Cane Creek in the North Toe River Watershed**

Mitchell County, North Carolina

December 29, 2008

Submitted by:

Mitchell County Soil and Water Conservation District

II. Official Resolution

Please see Attachment 1.

III. Project Narrative

A concrete dam was constructed on Cane Creek, a tributary of the North Toe of the Nolichucky River (North Toe River), in the 1920s to provide water power for a grist mill. The structure is commonly referred to as the Loafers Glory Dam and is located approximately 1.8 miles west of the town of Bakersville (see Figure 1 in Attachment 2). The dam has not been in operation for many decades and a portion of the dam has been partially breached. However, much of the dam structure remains in place and impedes flow during normal low-flow conditions (see photographs in Attachment 2).

The North Toe River, located in the French Broad River Basin, provides critical habitat for the endangered Appalachian Elktoe Mussel and the North Toe River is designated as a trout stream in the vicinity of the dam. The dam itself is located on Cane Creek, also a designated trout stream, approximately 1,500 feet upstream of the confluence of Cane Creek and the North Toe River. The dam impedes upstream migration of both mussels and fish and sediment deposited upstream of the dam may be negatively impacting mussel and fish habitat. The U.S. Fish and Wildlife Service (USFWS) has discussed the dam and its related problems with the Blue Ridge Resource Conservation and Development Council (Blue Ridge RC&D) and has expressed a desire to remove the dam to improve water quality and habitat. The USFWS has made a commitment to provide technical resources for the project. Specifically, the USFWS will provide technical assistance throughout the project including the implementation of a mussel survey and relocation effort, as needed, throughout the project area.

The Mitchell County Soil and Water Conservation District (SWCD), the Blue Ridge RC&D and the Toe River Valley Watch (TRVW) have partnered together for this proposed project and have discussed preliminary plans for removing the dam. However, the project requires more detailed planning, assessment, surveying, design, and permitting. The SWCD and TRVW have committed a total of \$17,950 cash plus \$1,500 of in-kind contributions to the project. The SWCD is submitting this application for a Water Resources Development Project Grant to fund the completion of detailed project assessment, surveying, design, permitting, and construction cost estimating.

IV. Project Plan and Location Map

The project location is shown on the location map in Figure 1 (see Attachment 2). The SWCD, Blue Ridge RC&D and TRVW propose to conduct the planning phase of the dam removal project, including assessment, surveying, design, and permitting as described below. Cost estimates for construction services related to removal of the abandoned dam and dredging of sediment will be developed as part of this planning phase.

Task 1 – Assessment of Structure, Sediment Deposition, and Habitat

A preliminary field assessment will be performed to identify and photo document stream conditions, approximate extent of sediment deposition, site access, site constraints, and approximate limits for a detailed survey. Anticipated regulatory permitting requirements will also be documented and any necessary initial coordination with permitting agencies will be conducted. A detailed survey will then be conducted with precision survey equipment to quantify the extent and volume of sediment deposition upstream of the dam, the volume of dam material to be removed, and hydraulic geometry in the vicinity of the dam including river cross-sections for monitoring and a longitudinal profile. Qualitative assessment of critical habitat for the Appalachian Elktoe Mussel will also be conducted. The field assessment and detailed survey will then be used to develop a plan for removing the dam and related sediment and for stabilizing adjacent streambanks.

Task 2 – Development of Dam and Sediment Removal Procedures and Design of Streambank Stabilization Measures

Based on data collected in Task 1, procedures for removing the dam and sediment will be developed. The removal procedures will include site access, haul routes, disposal sites, and temporary stream diversions and will be designed to minimize environmental impacts. This task will also include the design of measures to stabilize the streambanks within the project area using natural channel design techniques, once the dam and sediment removal have been completed. Construction cost estimates will be prepared for the removal procedures and streambank stabilization design.

Task 3 – Permitting for Dam, Sediment Removal, and Streambank Stabilization

Once the removal procedures and streambank stabilization measures have been developed, a Pre-Construction Notification (PCN) will be prepared with maps, photos and design drawings and submitted to the regulatory permitting agencies, including the U.S. Army Corps of Engineers (USACE), the North Carolina Department of Environment and Natural Resources (NCDENR), the USFWS, and the North Carolina Wildlife Resources Commission (NCWRC). An erosion and sediment control plan will also be developed for the project in accordance with the North Carolina Erosion and Sediment Control Planning and Design Manual. Additionally, as Cane Creek is a designated trout stream, a request for a trout buffer waiver will be prepared and submitted to the NCDENR Division of Land Quality (DLQ). Since the dam is adjacent to a 1920s-era grist mill that was added to the State of North Carolina's historic site study list in 1987, any necessary coordination will also be conducted with the North Carolina State Historic Preservation Office (SHPO).

V. Project Budget

Please see Attachment 3.

ATTACHMENT 1

OFFICIAL RESOLUTION

Resolution

WHEREAS, the Mitchell County Soil and Water Conservation District Board of Supervisors desires to sponsor a feasibility study for the removal of the abandoned Loafers Glory Dam on Cane Creek, in the North Toe River watershed, to improve habitat, water quality, and access to the river for recreational use.

NOW, THEREFORE, BE IT RESOLVED THAT:

- 1) The Board requests the State of North Carolina to provide financial assistance to Mitchell County Soil and Water Conservation District for a feasibility study for the removal of the abandoned Loafers Glory Dam on Cane Creek, east of the North Toe River, in the amount of \$19,450 or 50 percent of the study costs (or non-federal portion), whichever is the lesser amount;
- 2) The Board assumes full obligation for payment of the balance of the study costs (or non-federal portion);
- 3) The Board will comply with all applicable laws governing the award of contracts and the expenditure of public funds by local governments.

Adopted by the Mitchell County Soil and Water Conservation District Board of Supervisors this day of December 29, 2008.

Clerk to the Board

Chairman