

Fact Sheet: Rehabilitating Dams in the South River Watershed



Dam 23- Robinson Hollow was built in 1956.



Dam 25- Toms Branch was built in 1957



Dam 26- Inch Branch was built in 1956

Sponsors

Headwaters Soil and Water Conservation District
 Augusta County Board of Supervisors
 City of Waynesboro

Project Location

Sherando and Lyndhurst Communities of Augusta County and the City of Waynesboro, Virginia

Authorization

Public Law 106-472 – Small Watershed Rehabilitation Amendments of 2000 (Section 313)

Problem/Concerns

These dams do not meet current State of Virginia dam design and safety criteria. Development in the floodplain and the increased risk to loss of life and property has raised the classification of the dams from low hazard to high hazard.

- The lives of approximately 360 residents and the occupants of 410 daily vehicle trips would be at risk if either the Robinson Hollow or Inch Branch Dams failed. Catastrophic failure of these two dams would threaten 72 homes, 13 roads, and three bridges.
- Approximately 955 residents and the occupants of 3,700 daily vehicle trips would be at risk if the Toms Branch Dam failed. There are 191 homes, 10 business structures, 10 public or private bridges, and 16 residential roads that could be flooded. Failure of any one of the three dams could result in between \$2.4 and \$5.7 million in damages.

Project Purposes

Rehabilitating these three South River Dams will maintain the present level of flood control benefits and comply with state safety standards.

Project Summary

Rehabilitation of the **Robinson Hollow Dam** will include:

- raising the top of the dam by 4 feet with a concrete parapet wall;
- armoring the southern auxiliary spillway with articulated concrete blocks;
- widening (by excavation) the northern auxiliary spillway by 5 feet;
- replacing the existing square riser with a rectangular riser.

Rehabilitation of the **Toms Branch Dam** will include:

- raising the top of the dam by 5 feet with a concrete parapet wall;
- armoring the auxiliary spillway with articulated concrete blocks;
- replacing the existing square riser with a rectangular riser.

Rehabilitation of the **Inch Branch Dam** will include:

- raising the top of the dam by 4 feet with a concrete parapet wall;
- armoring the auxiliary spillway with articulated concrete blocks;
- replacing the existing square riser with a rectangular riser.

There will be no change in the permanent pool elevation and there will be no change in the current levels of flooding downstream as a result of project activities. However, the breach inundation zone will increase due to the increased heights of the dams.

Other Significant or Environmental Issues

Environmental damages would be significant in the event of a dam failure.

- For Robinson Hollow, it would result in the loss of 6.9 acres of deep water and 3.75 acres of wetland habitat.
- Toms Branch has 8.7 acres of deep water and Inch Branch has 7 acres.
- About three miles of stream channel would be damaged by scouring or deposition by a failure of Robinson Hollow or Inch Branch dams.
- A total of eight miles of stream channel would be similarly impacted by a failure of the Toms Branch Dam.
- The adjacent floodplains would also be damaged.
- The nutrient-laden sediment currently trapped in the reservoirs would cause water quality problems downstream.
- The proposed plan does not impact wetlands, threatened and endangered species, cultural resources, or other resources of national significance.

Economic and Financial Data

Total Project Cost: \$4,100,000
Average Annual Benefits: \$179,000
Average Annual Costs: \$221,000
Benefits to Costs Ratio: 0.81 to 1.0

Project Life

The period of analysis was 52 years (2 years of installation and 50 years of expected useful life for each dam).

Local Interest

The Augusta County Board of Supervisors, the Headwaters Soil and Water Conservation District, the City of Waynesboro, and the public have taken a proactive and supportive role during the planning of this project. Strong cooperation has been evident among local, regional, State and Federal agencies and organizations during the planning phase of the project.

Compliance

The South River Supplemental Watershed Plan is in compliance with executive orders, public and other statutes governing the formulation of water resources projects.

The Dam Rehabilitation program administered by NRCS provides financial and technical assistance to help localities rehabilitate aging dams that were originally constructed with NRCS assistance.

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