

# Spanning the Gap

## ART AND ARCHITECTURE

### Architectural Preservation: Aspinall Waterwheel (Sproul Hydroelectric Generating Plant)



As you drive by the recreation area's many historic stone or frame structures with their steep roofs, shuttered windows and attached porches -- some with fancy sawn woodwork -- you may find yourself wondering why these buildings are

in a national park, and furthermore, why so many of them are all boarded up. It isn't by chance that these buildings are here, and much time and effort is being spent to preserve them.

They became government property when the Army Corps of Engineers acquired lands and houses that would have become flooded by waters of a then-proposed dam. When the project was shelved, the properties came under the jurisdiction of the National Park Service. Architects and engineers, working within the Park's historic preservation program, researched the historic and architectural value of many of the structures while contractors under their direction have been repairing the buildings. Approximately 45 structures are currently being maintained as residences for park employees, offices or leased to private individuals. However, much work remains to be done.



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*(Left)* The water wheel is housed under an extension of this 18 x 24 ft. rubble-stone building built into the east bank of Adams Creek.



Looking upstream (north) from the east side of the creek, toward the falls and the footbridge. The bridge is steel-framed, but has a deck of wood planks that make it blend into the forested surroundings.

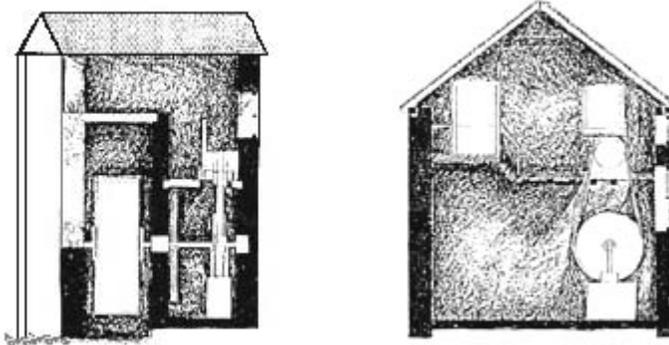
Delaware Water Gap National Recreation Area has over 83 structures on or eligible for the National Register of Historic Places. Many eligible buildings are preserved for their association with local history; others for their unusual architectural character. A structure may also be listed if it possesses mechanical or industrial features that help us understand the technology of a neglected period of history.

One such structure is the Aspinnall Water Wheel. This picturesque stone water wheel house, built in 1915, supplied electricity through a water-powered generator to a rural area where it was not yet available to the public.

It is a two-story stone building with an entrance at the upper floor level where the generator, now missing, may have been. The lower level housed an interior drive shaft connected to a system of gear wheels. Noteworthy architectural details include plank window frames, beaded board horizontal siding on the gable end, and a beaded board-and-batten entry door. Currently in a forlorn state of decay, the building is being stabilized. This means that only those repairs necessary to sustain the structure are being made: tree removal around the perimeter, stone joint pointing, and replacement of the sawn timber roof frame and wood shingling. This work requires tradesmen with a broad background in historic construction techniques, like stonemasons who are accomplished at traditional stone-laying.



The water wheel, 12 ft. in diameter, seen from the west side of Adams Creek. Water entered from a dammed pond 200 ft. upstream through an iron pipe at background left and returned to the creek at the right in the foreground.



*(Far left)* Cross-section looking upstream (north), showing the interior of the building, with the waterwheel at left, and the gears, drive shaft and belt at the right. *(Left)* Cross-section through the middle of the building looking east, showing the far half of the building. The gears are at the right. (The water wheel is not shown.)

As repairs continue, the water wheel still serves as a valuable learning tool providing lessons on early building practices. The open lath sheathing which supported the exterior wood shingles allowed air to reach them from both sides. This promoted drying and extended their life span. A peek through a broken window affords a look at the remaining floor beams which are mortised into the stone walls. Through the broken floor beams you can even see the 9-foot diameter gears and drive shaft that were once turned by the water wheel. An original drive belt still remains in place.

Though covered with rust and debris, the scene conjures images of a time 75 years ago when the inside of this structure was alive with the sounds and motions of meshing gears and turning shafts interconnected by gargantuan, undulating belts; belts which reached all the way up to the first floor to engage the all-important generator for electricity.

The Aspinall Water Wheel is one of ten structures surveyed by architecture students working at Park headquarters this past summer. And while the architecture of the Park provides an important record of the local area's history, such surveys also supply comparative data which are useful in prioritizing actions to preserve or not preserve the structures in the future. Information gathered during the survey can be put into a roadside exhibit or publication and help insure that visitors receive the most accurate information possible.

The buildings that have been and will be preserved add another dimension to the park. They are a "primary source" glimpse of the nation's past, across a landscape which provides a tangible link with our heritage.

*Editor's Note: Sproul Hydroelectric Generating Plant was part of a 500-acre private camp on Adams Creek for fishing and hunting, called "Songbird", developed in the 1920s by Pennsylvania Governor William C. Sproul. Other surviving buildings from the camp are now private residences; **please do not trespass.***



A closer view of the wheel from across the stream. The wheel was *overshot*, meaning that water passed *over* the top of the wheel and turned the wheel by descending.



Looking west down the slope toward the creek. The architecture blends admirably into this rocky setting.