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In-Tocks-icated

The Tocks Island Dam Project

The Tocks Island Dam was a huge multi-purpose reservoir project proposed for the Delaware River six miles upstream of the famous Delaware Water Gap. The dam would have created a 40-mile long lake with depths up to 140 feet. Almost 250 billion gallons of water were to be stored behind the dam with ample "dry storage" for floodwaters. The project was to be the U.S. Army Corps of Engineers' eighth largest U.S. dam project and its largest east of the Mississippi River. The Tocks Island National Recreation Area, later Delaware Water Gap National Recreation Area, was proposed specifically to develop the recreation opportunities created by the dam.

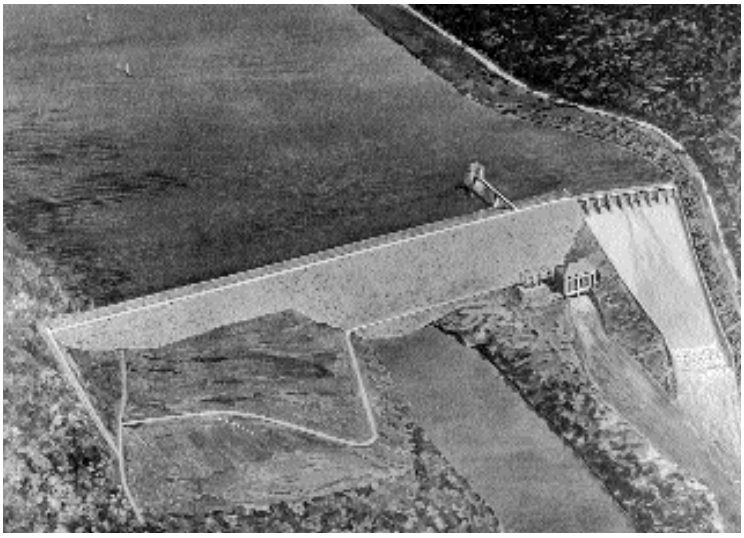
The Delaware River entered the second half of the 20th century undammed. This was no small feat considering its drainage area contained the fourth largest U.S. city (Philadelphia), and its service area was being expanded to include the largest U.S. city (New York). Moreover, the so-called Delaware Estuary running from Trenton, NJ, past Philadelphia to Wilmington, DE, contained one of the largest concentrations of heavy industry in the world. In fact, the Industrial Revolution in America is said to have begun with the first shipment of anthracite coal down the Delaware to Philadelphia in 1823.

Architect's model of the unbuilt Tocks Island Dam. The spillway is on the New Jersey side of the river. Photo courtesy Delaware River Basin Commission.

Two reasons that the river remained undammed in spite of the intense demand for its water are apparent. The first was the existence of a Pennsylvania and New Jersey "anti-dam" treaty. This was signed in 1783 in order to keep the river open for lumber rafts. It was still on the books when hydropower generation became feasible. As a result, power dams were kept off the river. The second reason is that by 1920 the three states that shared the non-tidal Delaware (New Jersey, New York, and Pennsylvania) had decided that the Delaware River was going to be developed as a water supply river — and only tangentially for hydropower.

The story is often promoted that the Tocks Island Dam project was a response to massive flooding in August 1955. This is not true. The record flood was serious; and it killed 200 people in the eastern United States, including about 100 people within the Delaware River Basin. Property damage in the 13 states affected by the flooding was extensive, with about one-fifth of the damages occurring in the Delaware Valley. A dam at Tocks Island would not have prevented most of the deaths or damage from the flood in the Delaware River drainage area.

A dam on the Delaware was, by 1955, largely unfinished business. During the first half of the 20th century, over a dozen major studies had looked at dams on the main stem of the Delaware for either hydropower or water supply. In addition, three interstate water supply compacts had been negotiated by the states; all had failed to pass. The river had also been fought over by the states twice in the U.S. Supreme Court. A 1931 Supreme Court decision allowed New York City to divert water out of the Basin, and a 1954 amendment sanctioned a similar diversion by New Jersey. By mid-1955, New York City was building the second of three reservoirs in the Delaware drainage area; and Pennsylvania had a



Artist depiction of the unbuilt Tocks Island Dam. Photo courtesy Delaware River Basin Commission.

consultant looking at a planned dam at Walpack Bend, six miles upstream from Tocks Island, that would have sent water to Philadelphia and North Jersey. Pennsylvania began acquiring land for this project.

What the flood of 1955 did was open the doors to federal involvement in Delaware River Basin water affairs. Until the flood, the federal government was not particularly welcome; nor was there a federal justification for a dam project, e.g., potential flood control benefits.

In response to the flood, the Corps initiated a large, basinwide comprehensive planning effort in 1956 — the first of its kind in the U.S. This was completed in 1961 and authorized by Congress in 1962 as part of a huge national water resources bill. The bill called for 11 dams in the Delaware River Basin with 58 percent of the total water storage in the Tocks Island Reservoir. The other 10 dams were on tributaries. Two were built.

The authorization of the dam generated three highly visible spin-offs. The greater Tocks project included the Kittitinny Mountain Yards Creek Pumped Storage Project (announced in 1960), the Delaware River Basin Commission (created in 1961), and Delaware Water Gap National Recreation Area (established in 1965). The members of the commission were the four Delaware River Basin states and the federal government. One of its functions was to serve as the local sponsor of the project on behalf of the four Delaware River states. The Commission, not the federal government, would have owned most of the water behind the Tocks Island Dam.

The pumped storage project was an enormous electrical generating facility proposed by a consortium of large power companies. It would have also operated the dam's hydropower facilities. Water to north New Jersey would have been sent over Kittitinny Mountain via the pumped storage project. The city of Newark, NJ, acquired an abandoned railroad right of way for moving this water. The first phase of the project, the Yards Creek Pumped Storage Project, was built and exists today.

The most exciting spin-off of the Tocks project for many people was the national recreation area. The recreation area, however, was controversial from the beginning because it added 47,000 acres to the 23,000 acres needed for the dam project. The amount of private land being acquired by the federal government for purely recreational uses was unprecedented in U.S. history.

The original schedule for the dam project called for construction to begin in the fall of 1967. In 1972, the reservoir was to begin filling and be fully operational by 1975.

Because the bearing capacity of the geology at the Tocks Island site was problematic, an earthen dam was proposed. The dam would have been 160 feet high. When the Corps found out how bad the geology at the site was, they moved the dam location downstream and greatly decreased the dam's slope in order to spread its weight over a larger area. Behind the dam was, of course, the reservoir. This would have stretched 37 or more miles upstream with the tail waters reaching above Port Jervis. The reservoir's maximum water depth was to be 140 feet and contain 250 billion gallons of water — although this would vary daily and seasonally.

The first to organize against the expanded 70,000 acre Tocks Island project were the local residents whose land was being taken. They organized as the Delaware Valley Conservation Association (DVCA) in 1965. Unlike other opponents in the Tocks Island Dam controversy, the DVCA was opposed to the national recreation area and had opposed the construction of the dam from the very beginning. They raised

continued on p. 8

continued from p. 6

funds to contest the project in court arguing that the acquisition of land for recreation purposes violated property rights protected by the Fifth Amendment to the Constitution. The lawsuit was dismissed on a technicality by the U.S. District Court in Scranton, PA.

In 1967, local opposition to the destruction of Sunfish Pond by the Kittitinny Mountain Pumped Storage Project in New Jersey attracted regional and national attention. Sunfish Pond is a small glacial pond on the ridge of the Kittatinny Mountain along the Appalachian Trail. The Sunfish Pond controversy attracted attention to the dam project below — just as the national environmental movement was beginning to gear up.

Massive environmental opposition to the Tocks Island Dam started relatively late — around 1970. There are two reasons for this late start. First, the establishment of the national recreation area appeased many of the traditional opponents to dam projects. Second, recognition of the environment as a cause celebre received widespread attention only after the first Earth Day in April 1970. The Save the Delaware Coalition, the most visible organization opposing the Tocks Island Dam project, was a coalition of 50 or more organizations created in late 1970. The coalition's leaders were opposed to the dam, but pro-recreation area; a delicate position since the recreation area tripled the amount of land that was to be taken.

Every prevailing environmental issue was raised at one time or another against the dam. The most damaging, however, was the prediction that the reservoir would become eutrophic. This issue eventually turned New York State against the project. New York was upstream of the reservoir and reluctant to initiate the pollution abatement measures needed only if a dam was built.

Eutrophication was especially serious because it jeopardized the recreational benefits assigned to the project. The Tocks Island Dam really needed recreation to get a benefit-cost ratio greater than 1 — the cutoff point for economic feasibility.

In spite of all the real and imagined environmental impacts, it can be argued that the Tocks Island Dam was a victim of cost overruns and the Vietnam War. The project had enormous cost overruns from the very beginning. Major geological site problems created some of these overruns, but estimates for land acquisition, grave removal, and other project costs were clearly under-predicted. As early as 1967, TIME magazine criticized these costs and recommended that Congress kill the project. Various Congressional studies looked at the problem, but took no action. The cost overruns plus budget cuts due to the Vietnam War, however, kept construction from beginning. This delay allowed the project to get caught by all the new environmental legislation passed in the late 1960s and early 1970s. It didn't survive.

On July 31, 1975, in Newark, NJ, the Delaware River Basin Commission voted 3 to 1 against the immediate construction of the Tocks Island Dam. Voting against construction were the states of Delaware, New Jersey, and New York. Pennsylvania voted for it, with the federal government abstaining. This was an emotionally charged decision.

The Commission stopped the dam, but the project was killed by subsequent actions. In 1978, the reach of the river where the reservoir would have been was added to the National Wild and Scenic Rivers System. This was the single most important victory for the environmentalists. Interest in the dam limped through the 1980s due to a series of droughts. Congress finally deauthorized the project in July 1992.

Drilling underway in 1964 near Smithfield Beach. Many miles of core samples were collected as part of the geological studies for the dam. Geological problems at the dam site resulted in major cost overruns, relocation of the dam site, and redesign of the dam structure. Photo courtesy Delaware River Basin Commission.

Reference

* Albert, Richard C. *Damming the Delaware, The Rise and Fall of the Tocks Island Dam Project.* University Park: Penn State University Press, 1988.

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