

To Be or Not to Be Dammed in New York State

by Robert D. Hennigan

Dams are an integral and necessary part of effective water resources management. The fact that there are some 5,564 dams in New York State attests to their need. This does not mean, however, that everybody loves dams. Often, the opposite has been the case. An element of the environmental community has vehemently opposed dams since there are negative impacts, as well as positive. Dams usually are opposed if they intrude on unique natural areas – a good example of this is the Forest Preserve in the Adirondack Park, described here later.

Most dams in New York are relatively small and have existed for years – they are an accepted part of the landscape. It is the proposals for new dams that rouses the opposition because dams are so disruptive of the landscape and for the people that live in their footprints. Another consideration is the way dams are operated and whether they can serve multiple needs and purposes.

There are a number of dam proposals that were defeated statewide in the 1950s and 1960s. It appears that then and now, anybody who proposes the construction of a new dam had better watch their step – it is likely to go down in flames. Even though dams have made the development of the state possible, I'm not certain any more dams are necessary. The next cases illustrate strong public opposition whereby proposed dams were rejected.

Panther Mountain Dam

A number of dams, including Panther Mountain Dam, was proposed in the 1950s on the Moose River, a tributary of the Black River within the Adirondack Forest Preserve. The purpose was to regulate stream flow to produce hydropower and improve year-round stream flow. It should be noted that the granitic geology of the Adirondacks does not store water for a more uniform release – high flow to low flow ratios are in the order of 50 to 1, or greater. The Society for the Protection of the Adirondacks led the opposition and Governor Thomas Dewey rejected the proposal initially. The proponents managed to persuade the legislature to pass a proposed constitutional amendment in successive legislative sessions, which put the issue on the ballot for a referendum. The people defeated the referendum overwhelmingly in 1954.

Tocks Island Dam

The Delaware River was subjected to a record flood due to hurricane Diana in 1955. It resulted in a number of deaths and extensive property damage. The Corps of Engineers proposed the Tocks Island Dam at the Delaware Water Gap in 1965 and the project was authorized. Land acquisition commenced and the site was cleared of all buildings and residents. The project was placed on hold and was eventually rejected in 1992. The acquired site was declared a conservation-park area, and remains so today.

Water Resources Commission and Drought Proposal Dams

The record drought of the 1960s prompted the governor and state legislature to authorize the Water Resources Commission (WRC) to



Courtesy of Hudson River-Black River Regulating District

Early construction of the Conklingville Dam in the 1920s

undertake a study and develop recommendations to cope with future droughts. The proposal that emerged had both policy recommendations and possible sites for dams in all the major watersheds across the state. The response was immediate and negative. It created a political firestorm and was rejected out-of-hand by local people and by the state leadership. Although the policy recommendations were very positive and desirable, they were lost in the controversy. The end result was that the WRC was abolished during Governor Nelson Rockefeller's reorganization of 1970 that created the Department of Environmental Conservation (DEC).

A major element of the 1960s' drought was the negative impact on the New York City (NYC) water supply. The City was compelled to institute drastic conservation measures and to supplement the supply by use of the Hudson River on an emergency basis. A water supply study was commissioned by the City and approved by the WRC to identify possible additional sources of water. What the project recommended was to construct a dam on the Hudson River watershed within the Forest Preserve at a site known as Gooley #1, north of Albany. This would create a reservoir that would increase the water flow in the Hudson River to allow NYC to take up to 500 million gallons per day from the river for water supply. Again, a firestorm of opposition occurred led by the Adirondack-Hudson River Association. The Legislature immediately passed legislation rejecting the proposal and Governor Rockefeller approved the bill. This proposal was a complete surprise to the people of the state since there was no public involvement or any prior discussion. This completed the loss of public support for the WRC and contributed to its demise along with the drought report and recommendations. As an alternative, the Governor proposed the creation of the Temporary State Commission on the Water Supply Needs of Southeastern New York. This Commission was created in 1970, and reported its findings and recommendations in 1975. However, that is another story. (I am planning an article for *Clearwaters* concerning the work of the Temporary State Commission on the Water Supply Needs of Southeastern New York to be covered in *Water for New York II, 1970–2000*.)

The above gives the reader an idea of the depth of the negative

feelings about some dams across the state. The latest development in the “dam debate” is the proposal to remove some existing dams.

Pros and Cons of Dams

Generally, in New York, some 70 to 80 percent of the runoff occurs in the three spring months and, conversely, 20 to 30 percent occurs in the three fall months. Furthermore, there are extreme occurrences of droughts and floods that occur on a random basis, some lasting years, as in the drought of 1962–68. Some sources are immune



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The Conklingville Dam created the Great Sacandaga Lake.

to such occurrences, including the Great Lakes, the Niagara, St. Lawrence and Lower Hudson rivers.

Dams are needed on most other river systems irrespective of the negative response. Adequate water is demanded to meet society’s needs for domestic and industrial supplies, to protect against floods and droughts, to provide dilution water to moderate the impact of pollution, to develop hydroelectric resources, to provide recreational needs, habitat for plants, animals and aquatic life, and wild and scenic vistas.

Another necessity is to maintain the structural integrity of all existing dams. Dam safety is a responsibility of the state (as described in the article, *Dam Safety in New York State*, in this issue). Many of the existing dams are a hundred or more years old.

The operation of existing dams is an ongoing issue. Most dams were built as single purpose facilities, such as for flood control, power generation, stream regulation, public water supply, and transportation water supply. The fact of the matter is that most dams and reservoirs are multi-purpose, whether or not they were designed to be. This creates conflict between the partisans of one use versus another use. Examples abound, such as maintaining a recreation pool in flood control reservoirs, providing flood storage in a water supply reservoir, maintaining stream values below reservoirs by establishing minimum flows and requiring releases to meet such targets. Any number of additional examples could be cited.

The dam at Conklingville on the Sacandaga River, and the Great Sacandaga Lake is a case in point. The primary purpose there was to alleviate floods down river and more particularly in the Albany Capital Region. This need was so great that although the resulting

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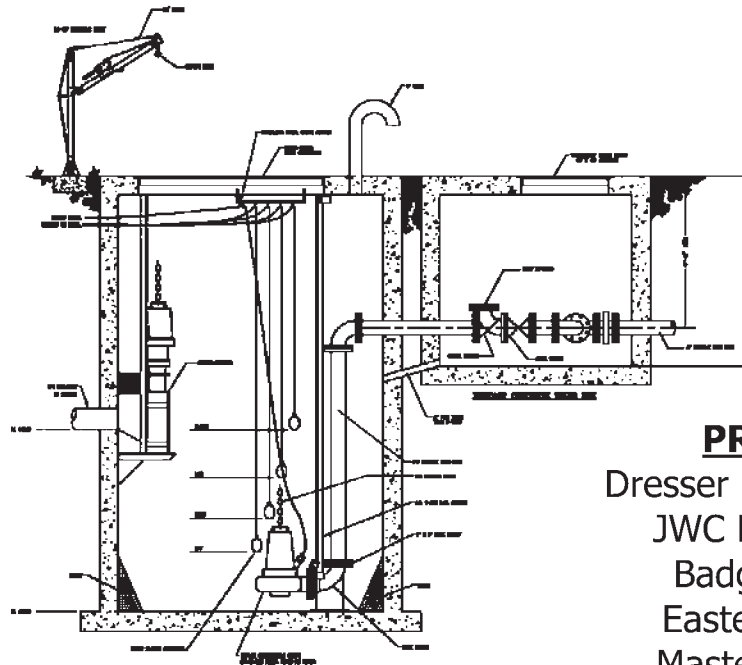
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Photo courtesy of the NYSDEC

Example of earthen dam breach

reservoir would be in the Forest Preserve, little opposition was generated to oppose the dam and reservoir. After a long history of floods resulting in loss of life and extensive flood damage, the Conklingville Dam was authorized. Construction was started in 1924 and was completed in 1930. The Hudson River Regulating District (HRRD) was created to construct the facility and operate it on completion. The District was an authority. Leasing the hydropower rights to power companies and assessing the benefiting municipalities, generated the cost of the dam. The hydropower leases cover approximately 70 percent or more of the capital cost and operating expenses. No federal or state monies were used to fund the project. The reservoir, now called the Great Sacandaga Lake, is one of the largest in the state. It covers 42 square miles (26,880 acres) and has a maximum length of 29 miles. Changing the name from Sacandaga Reservoir to the Great Sacandaga Lake in the 1960s was an acknowledgement of the great recreational resource it became. The extent and impact of this development was unexpected. However, it is a major element in the operation of the facilities and is an economic powerhouse for the Capital Region. It is a great example of the need and desirability of a dam.

Movement to Take Down Dams

The dam removal movement is particularly strong in New England (NE). There are many dams on the coastal streams of NE. Most are small dams and were constructed to provide power for the many mills in the area. One effect was to limit or prevent fish passage particularly salmon runs. The purpose of the dam removals was to restore natural conditions particularly the salmon runs. This fishery was always an important resource and restoration was widely supported. All of these dams are now being scrutinized to determine if they should be removed. Most are less than 15 feet high and no longer serve a purpose. In the last 25 years, almost 60 of these were removed in the New England states.

In New York, six similar dams have been removed to restore natural conditions. One such removal resulted in a disaster. That was the removal of the dam at Fort Edwards on the Hudson River north of Albany. The General Electric company had plants at Fort Edwards and Hudson Falls above the dam. GE discharged between 200,000 and 1.3 million pounds of polychlorinated biphenyls (PCBs) which accumulated in the sediments behind the dam. When the dam was removed the contaminated sediments were swept down stream and polluted the entire fishery on the lower Hudson River. This experi-

ence demonstrated the need for an environmental analysis before any dam is removed.


There is some agitation to remove some dams in the Western part of the country. This is a totally different situation than in the Northeast. The dams on the western rivers are generally huge and have multiple uses including flood control, irrigation, power generation and some recreational use. Even so, some folks are talking about removing dams on the Snake River in Idaho.

The extreme positions taken of “no dams anywhere” and “dams everywhere” are not logical or supportable. Dams correctly located and properly operated are essential to effective management of the water resources and for the wellbeing of the people of New York State.

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