



Select List of Technical and Economic Studies on the Tocks Island Dam Project

Candeub-Fleissig, "Park Concept Plan Based on a Free-Flowing Delaware" sponsored by Save-The-Delaware-Coalition. This plan is intended to demonstrate that the unflooded river and flood plain have at least as much recreational value as the reservoir. It does not propose a wilderness park.

Clarke and Rapuano, Inc., *Conceptual Master Plan for Tocks Island Lake and Delaware Water Gap National Recreation Area*, November 1973. Commissioned by the U.S. Army Corps of Engineers, Philadelphia District and the U.S. National Park Service.

Delaware River Basin Electric Utilities Group, *Master Siting Study: Delaware River Basin as Related to the Tocks Island Reservoir Project*, November 1971. The Delaware River Basin Commission Staff study calculated projected water demands for the Basin in a completely different and much more comprehensible way than had the U.S. Army Corps of Engineers in 1961. The study focused on cooling requirements for power plants, maintenance of water quality in the estuary, and out-of-Basin shipments of water to northern New Jersey as comprising the main future call on Delaware water.

Delaware River Basin Electric Utilities Group, *Master Siting Study: Major Electric Generating Projects, Delaware River Basin, 1972-1986*. Report to the Delaware River Basin Commission, December 1971. Delaware River Basin Commission rules of practice and procedure require that an application for approval of an electric

generating project with a design capacity of 100,000 kw or more shall include a "Master Siting Study."

Delaware River Basin Electric Utilities Group, *Master Siting Study: Major Electric Generating Projects, Delaware River Basin, 1974-1988*, May 1974.

M. Disko Associates, *New Jersey Water Supply: Alternatives to Tocks Island Reservoir*, prepared for Environmental Defense Fund, October 1973. This study investigated alternative water supply sources for northern New Jersey, notably one employing the concept of high flow skimming of Delaware River water.

Edwards and Kelcey Inc., "Approach Roads Study, Tocks Island Region;" Part I, April 1969; Part II, March 1971. The Edwards and Kelcey study done for the New Jersey Department of Transportation estimated the cost of the road network that would be required in the impact region to service the expected ten million annual visitors to the Delaware Water Gap National Recreation Area.

G.A. Englesson and R.H. Anderson, United Engineers (Raytheon), "The Impact of Consumptive Use of Water on the Salinity Distribution in the Delaware Estuary," June 1974. Prepared for the Delaware River Basin Electric Utilities Group.

Environmental Defense Fund, *Flood Control and the Delaware River*, April 1973. This study investigated flood control alternatives to the Tocks dam and reservoir.

S. Freeman, E. Mills, and D. Kinsman, "Water Supply and the Tocks Island Dam," (unpublished mimeo, undated).

S. Freeman and W. Schmid, "Supplement to 'Water Supply and the Tocks Island Dam'" (unpublished mimeo, undated).

J. McCormick and Associates, *An Appraisal of the Potential for Cultural Eutrophication of Tocks Island Lake*, September 1971. Under prodding by the Council on Environmental Quality, the U.S. Army Corps of Engineers commissioned this study by an independent consultant group. The study concluded that there *might* be a problem of eutrophication.

R. Nathan Associates, "Potential Impact of the DWGNRA on its Surrounding Communities," February 1966. This study, commissioned by the old New Jersey Department of Conservation

and Development, foresaw relatively slight direct impact on the Tocks region, except for jammed roads, but a potentially significant secondary impact from developments impelled by the new roads that the Delaware Water Gap National Recreation Area would require.

M. Pirnie Engineers and Albright and Friel, Inc., *Report on the Utilization of the Waters of the Delaware River Basin*, September 1950, prepared for Incodel.

Save-the-Delaware-Coalition, "Papers in Support of a Free-Flowing Delaware River," October 1973. This report is a compendium of studies, mostly written independently of each other by concerned individuals, on various aspects of the project. It offers alternatives for each of the four purposes: water supply, flood control, power, and recreation.

E. Snyder and A.C. Pastowski, Department of Planning, Conservation, and Economic Development, Sussex County, "DWGNRA Impact on Sussex County," October 1973.

Tippetts-Abbott-McCarthy-Stratton, *Water Resources Study for Power Systems* March 1972, sponsored by the Delaware River Basin Utilities Group.

U.S. Comptroller General, General Accounting Office, "Review of Tocks Island Reservoir Project," Report to U.S. Senate, October 1969. Some members of the Senate Subcommittee on Public Works became concerned in 1969 that the U.S. Army Corps of Engineers was manipulating its benefit cost analysis to make the Tocks project look better than it actually was. The ensuing study by the General Accounting Office did find certain problems in the analysis that tended to diminish the benefit-to-cost ratio.

U.S. Army Corps of Engineers, *Delaware River Basin Report*, House Document 522, Aug. 16, 1962 (in 11 volumes). This report set forth a comprehensive plan for the development of water resources in the Delaware Basin. It was adopted in its entirety by the Delaware River Basin Commission in 1962 and thus has become the comprehensive planning instrument for Basin water resources. The report included the first and still most complete benefit-cost analysis of the Tocks project, which was by far the largest component in the overall plan.

U.S. Army Corps of Engineers, *Environmental Impact Statement*

on *Tocks Island Lake*; draft statement, February 3, 1971; final statement, October 1, 1971. The initial Corps' Impact Statement was but seven pages in length, and in the eyes of many environmentalists, an insulting and arrogant pro-forma compliance with the National Environmental Protection Act. In the aftermath of strong public objection and objection also from the Council on Environmental Quality, the Corps produced a much longer and more complete Impact Statement in the fall of 1971. Appended to the statement were a series of public and agency criticisms of the first impact statement and of the project in general.

U.S. Army Corps of Engineers, *Tocks Island Lake Development: A Comprehensive Evaluation of Environmental Quality, 1971*. An environmental impact analysis of the three components associated with the Tocks project: the dam and reservoir; the Delaware Water Gap National Recreation Area; and the Kittatinny Mountain pumped-storage project.

U.S. Army Corps of Engineers, *Supplemental Data Report and Supplemental Information to the Final Environmental Impact Statement, Tocks Island Lake Project, 1974*.

U.S. Army Corps of Engineers, North Atlantic Division, *Northeastern United States Water Supply (NEWS) Study*. Since 1965, the North Atlantic Division of the U.S. Army Corps of Engineers has been conducting a series of studies (mostly undertaken by contractors of the Corps) on northeastern United States present and long range water needs.

U.S. National Park Service, "DWGNRA Master Plan," 1966; and "Review of DWGRNA," September 1971. These studies sketched the basic plan for the recreational area. This plan of course centered on the reservoir as its chief feature. In this respect it was in direct conflict with the "natural systems plan" described below.

U.S. National Park Service, "A Natural Systems Plan for the DWGNRA," 1971 (anonymous author). This memorandum sketched a plan for the Delaware Water Gap National Recreation Area based on the river rather than the reservoir; it thus provided a recreation alternative were the dam not to be built. It was commissioned by the Assistant Secretary of Interior for National Parks, Outdoor Recreation, and Sports Fishery, a strong dam opponent.

Wapora, Inc., *Tocks Island Lake, Techniques for Water Quality*

Management, 1973. Commissioned by the U.S. Army Corps of Engineers to investigate how to *manage* eutrophication of the Tocks lake if it should occur.

Water Resources Engineers, *LAKECO: A Model of a Reservoir*, December 1972 and *Ecologic Simulation—Tocks Island Lake*, February 1973. The first report describes a mathematical model whose purpose is to predict eutrophication of lakes and reservoirs. It adjoins simple biological equations to an existing temperature stratification model. The second report applies the model, under a contract with the U.S. Army Corps of Engineers, to the Tocks reservoir. The report concludes that with sufficient phosphorous removal the reservoir would not eutrophy.

R.F. Weston, *Tocks Island Region Environmental Study*, April 1970. This report, prepared for the Delaware River Basin Commission, discusses alternative regional sewage systems including very elaborate ones.

URS/Madigan-Praeger, Inc. and Conklin and Rossant, *Tocks Island Lake Project and Alternatives*, July 1975. This was an unprecedented \$1.5 million study authorized by Congress and directed by the Corps of Engineers. The study was supposed to be, and in some measure was, the prelude to a definitive decision by the Delaware River Basin Commission on the Tocks project.

