Decision Making in the Corps of Engineers: The B. Everett Jordan Lake and Dam

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A few years ago the U.S Army Corps of Engineers officers started wearing a big button on their uniforms. The highly visible non-regulation insignia proclaimed "THE CORPS CARES."

There is no doubt that the officers of the Corps care. They are people of high moral standard and take their responsibility to the public seriously. Why then are the environmental groups continually fighting the actions of the Corps? Why then did the late Justice William O. Douglas entitle a widely read essay on the Corps "The Public Be Damned"?[1] Why then is the Corps considered the diligent destroyer and not the protector of our environment?

This seeming incongruity is illustrated in this article describing the decision making with regard to the B. Everett Jordan Dam and Lake. As Samuel Florman suggests, it is indeed fun to build a dam. This enjoyment, coupled with the understandable desire to advance and be promoted within the Corps, is much stronger than the concern for the environment. The Corps may indeed care, but for what?

The Haw River, a major tributary of the Cape Fear River, cascades down the fall line above Fayetteville, North Carolina, and has been known to cause serious flooding in that eastern North Carolina city. The flood of 1945 was

An early version of this paper appeared in A. S. Gunn and P. A. Vesilind, *Environmental Ethics for Engineers* (Lewis Publishers, Ann Arbor, MI, 1982).

1. Justice William O. Douglas, "The Corps of Engineers: The Public Be Damned," *Playboy*, July 1969.

particularly serious, causing over 2 million dollars of damage. Following a specific request by the people of Fayetteville, channeled through Senator Kerr Scott, the U.S. Army Corps of Engineers instituted a study of alternatives for flood protection.

The conventional solution to problems of flooding is to dam the offending river and thus capture the floodwaters behind the dam. In this case, however, the engineers encountered a problem. The Haw, at a point far enough upstream to assist Fayetteville, drops too rapidly and thus affords poor dam sites. The solution to this dilemma was ingenious: build a dam which captures most of the water in the Haw, but store it in a lake formed by a minor tributary, the New Hope Creek, forming a two-pronged lake. Following congressional approval, the construction of the New Hope Dam commenced in 1967.[2]

The first outspoken opponent of the project was Mr. Harold Cooley, member of Congress, who staked his reelection campaign on this issue. Although he was stoutly supported by the farmers of Chatham County who stood to lose prime farmland to the lake, he lost in the City of Raleigh, and was defeated. At that time, the most vigorous supporter of the dam was Senator B. Everett Jordan, who owned a textile mill on the Haw River, twenty miles above where the lake would reach. Senator Jordan's non-support of Mr. Cooley contributed to the election of Mr. James Garner, a Republican who supported the project and served for one term in Congress.

The next public opposition to the project emerged from North Carolina State University, where E. H. Weiser, a hydrologist, had calculated the flood probabilities and had concluded that the Corps of Engineers' flood damage projections were grossly inflated.[3]

Following the wide publication of this information, the North Carolina Conservation Council, a public interest organization, asked that the Corps prepare an Environmental Impact Statement (EIS) as required in the just-enacted National Environmental Policy Act. The Corps obliged by publishing an EIS in May, 1971, and a supplement was added in 1976. Although the EIS is theoretically supposed to be prepared as a planning document in order to judge the feasibility and wisdom of initiating a specific project, the writing of the EIS and subsequent court battles did little to hinder the clearing of the land and the dam construction.

Following the publication of the court-directed supplement to the EIS,

2. *New Hope Lake*, pamphlet prepared by the U.S. Army Corps of Engineers, Wilmington District, 1970.
3. E. Weiser, North Carolina State University, Raleigh, NC, private communication.

vigorous opposition developed to the project, based especially on the quality of water to be impounded. During this time, an independent benefit/cost study was conducted at the University of North Carolina by graduate students in environmental sciences and engineering. They found that a realistic calculation yielded a benefit/cost ratio of 0.3, where 1.0 would be required to justify the project.[4]

It was also argued convincingly, by nearly all of the expert water quality engineers and scientists at the University of North Carolina, North Carolina State University, and Duke University, that the lake would destroy thousands of acres of prime agricultural land, and that the water would be of questionable quality. Almost all of the experts agreed with this writer's conclusion that "if we looked for the absolute worst place to build a dam in North Carolina, we would not do much better than this site."[5]

Much of the water quality controversy centered on phosphorus. An analysis of the water which would flow into the lake showed that the level of nutrients was at least an order of magnitude higher than what would be necessary for accelerated eutrophication.[6]

The high residence time in the New Hope arm of the lake, coupled with its high nutrient loading and shallow depth, made the use of this water for recreation or other related uses highly questionable. Clearly phosphorus removal would be required by the towns of Durham and Chapel Hill, a cost not included in the Corps of Engineers benefit/cost analysis.

Responding to public pressure, the Corps decided to hire an independent disinterested consultant to establish once and for all the acceptability of the water quality. Hydrocomp, a respected hydrologic and water resources consulting firm from Palo Alto, California, was hired by the Corps to do the study.

The Hydrocomp report was published in 1976, as a supplement to the supplemental EIS, and showed conclusively that the water quality in much of the lake would be far below what the Corps had predicted, and that the New Hope arm of the lake would probably have serious water quality problems.[7]

4. "The New Hope Project – A Reevaluation," report by students at the Department of Environmental Sciences and Engineering, University of North Carolina in Chapel Hill, NC, 1974.
5. Transcript of trial, North Carolina Conservation Council vs. Corps of Engineers, U.S District Court, Greensboro, NC.
6. C. Weiss, "Water Quality in the Haw River and the New Hope Creek," Water Resources Research Institute, North Carolina State University, Raleigh, NC, 1973.
7. "Supplement to the Final Supplemental Environmental Impact Statement on the B. Everett Jordan Dam and Lake," Hydrocomp, Palo Alto, CA, 1976.

A decision was necessary. Should the Corps continue insisting, as before, that the lake was needed (as it clearly was not, based on the benefit/cost analysis), and that the water quality would be acceptable (as it would clearly not be, based on the study funded by the Corps), or should the wisdom of completing the project and filling the lake be reevaluated? Which of these options would be chosen?

At this point in the chronology, I will digress to describe the history, function, and operation of the Corps of Engineers in order to establish the framework in which this decision was made. I will then return to the question of the dam and show how the decision by the Corps is influenced by factors other than technical and economic considerations, or even the welfare of the people the Corps is supposed to serve.

The Corps of Engineers

The history of the U.S. Army Corps of Engineers stretches to the American Revolution, with the present Corps of Engineers tracing back to 1802 when it was formed by an act of Congress. Although originally meant to perform military duties, the Corps was instructed by Congress in 1824 to perform civilian duties as well, such as clearing snags from rivers. Since that time, the Corps' civilian duties have increased to projects totaling over 2.5 billion dollars per year.[8]

The Corps has an impeccable tradition, with a reputation as a dedicated and honest civil servant. It consists of a cadre of about 200 regular army officers who maintain a high morale among about 30,000 civilian employees. Typically, the career of a Corps officer begins at West Point, where only the brightest and best students receive appointments to the Corps. Assignments at various districts and at headquarters in Washington follow, with retirement as a colonel or general. The closeness and intimacy of this elite group of officers contributes greatly to the efficiency and effectiveness of the Corps. It is, in short, a select club of highly skilled professionals, beholden to each other and to the Corps.

The Corps of Engineers is, however, the only federal agency that doesn't follow the rules of executive/legislative conduct. Instead of incorporating its budget requests with the remainder of the administration plans, it

8. J. J. Lenny, *Caste System in the American Army: A Study of the Corps of Engineers and Their West Point System* (Greenberg Publishing, New York, 1949).

reports through the Office of Management and Budget directly to Congress, thus bypassing scrutiny by other agencies and even the President. The Secretary of the Army, who is the titular head of the Corps, has only limited power to interfere in the Corps' activities since the financial power comes from Congress.[9]

Every president since Franklin Roosevelt has tried, unsuccessfully, to either dismantle or curtail the powers of the Corps of Engineers. The Hoover Commission Task Force on Water Resources and Power recommended in 1949 that the civil functions of the Corps be transferred to the proposed Department of Natural Resources. No action was taken. In 1966, a bill sponsored by three senators to transfer some of the functions of the Corps died in committee. Even Lyndon Johnson, probably the best friend the Corps ever had, tried to keep it in line but failed. The last serious attempt to stifle the power of the Corps was by President Jimmy Carter when he recommended that over 40 Corps projects be abandoned as too costly and destructive to the environment. The political clout of the Corps was such, however, that only two were eventually stopped; the remainder continued as originally planned.

The Corps of Engineers has divided the United States into districts, usually based on river systems. A colonel is in command at each district, and the command is rotated every three years. The district commander is in direct charge of all of the projects in his district.

The Wilmington District office was, in 1976, headed by Colonel Homer Johnstone, who, following normal rotation, became the eighth engineer in charge of the New Hope Dam project, which by this time had been named in honor of its most ardent supporter, Senator B. Everett Jordan.

It was Colonel Johnstone who received the report from Hydrocomp which clearly showed that the dam had been a mistake. The construction of the dam was almost complete, however, and an admission that the project was indeed ill-considered might have significant repercussions. Colonel Johnstone had to make a decision: Should he proceed with the project and eventually fill the lake, or propose some other alternative?

Possible Options Concerning the B. Everett Jordan Dam

1. Stop all further construction and abandon the project.

9. G. Laycock, *The Diligent Destroyers* (Audubon/Ballantine, New York, 1970).

2. Finish the project but leave the lake-bed dry. This would provide for maximum flood protection downriver, since the largest possible volume of water could be retained during floods, but benefits such as recreation and water supply would not be realized. This alternative would also save money, since some of the road construction necessary to elevate roads to above flood level (construction which extended well into the 1980s) would not be necessary.
3. Finish the project as planned and fill the lake.

Although all disinterested expert opinion and formal testimony counseled against filling the lake, and choosing alternative 2, such a choice would in effect be an admission that the dam was a mistake. And if Colonel Johnstone admitted that the Corps had made a mistake, he would be indirectly criticizing his 7 predecessors (some of whom may have by then been generals in the Pentagon). What would that do to his career, and to the image of the Corps? Thus the decision became more than a technical or economical decision. Given the spirit of the Corps, the close-knit camaraderie and "old-boy" method of promotion, deciding that seven of one's predecessors (and presumably superiors) were wrong in their analysis of this project would have been professional suicide. Further, the image and reputation of the Corps as a monolithic and technically infallible organization would have been compromised. And finally, what would a decision to alter the project have done to the many politicians who had stoutly supported the original decision? It would have implied that they had bet on the wrong horse, and they would have concluded that the Corps had let them down – a notion which might have been reflected in the appropriations bill working its way through Congress.

What Really Happened?

On the day the Hydrocomp report was released to the public, the Corps accompanied it with a press release which had as its headline "WATER QUALITY IN JORDAN LAKE TO BE BETTER THAN ANTICIPATED."[10] The story went on to say that although the report showed that much of the lake would probably not be useful for recreation and water supply, it would not be a "cesspool." The

10. *The Chapel Hill Newspaper*, Chapel Hill, NC.

straw man tactic worked; the newspapers printed the headline verbatim, and the lake is filled. At the present time [1997] the towns of Chapel Hill and Durham are spending millions of dollars for phosphate removal processes at their wastewater treatment plants.

In all fairness to Colonel Johnstone, he may in fact have concluded, even in the face of overwhelming technical and public opinion, that the just and proper course of action was to continue with the project. We will never know what influenced the Colonel's decision. What we *do* know is that the lake was filled and that Colonel Johnstone went from Wilmington to Korea and became a brigadier general before being honorably retired from the Corps of Engineers.