

# Accountable Government Must Consider the Hidden Costs of Rebuilding the Delhi Dam

Delhi Dam Fact Sheet -- Iowa Rivers Revival

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## What was Lake Delhi?

Lake Delhi was an impoundment formed by damming the Maquoketa River in the 1920s to produce hydro-power. In the 1970s, the dam was sold to a homeowners' association that began to manage the impoundment for recreational benefit of people owning homes along the lakeshore. Although called a "lake," the Delhi impoundment was only about 400 feet wide and about 8 miles long -- a long, narrow river pool lined almost completely with private docks on both sides. It was a mostly private lake-like impoundment of river. There was very little public access, and little interest in public access. In July 2010, the earthen portion of the dam was overtopped by floodwaters. It breached, causing a major flood event downstream along the Maquoketa River, inundating homes, businesses, farmland, and public infrastructure.

A group of national experts in dam failures (the "Independent Panel of Engineers") studied the failure. Their report suggested a combination of factors leading to the dam being overtopped for sufficient time to cause the breach. These included:

- Erosion problems inside the dam that may have occurred over many years, but were not identified in inspections.
- Gates that could not be fully opened during the flood because they were not repaired promptly by the private association in control of the dam.
- A lack of consistent inspection and enforcement.
- A sustained, 10-inch rain event.

**Important questions about hidden problems and costs** - In the rush to get \$5 million in State taxpayer funds to help rebuild the Delhi Dam, numerous very real costs and policy questions have been brushed aside. **These questions must be addressed.**

- **Were there chronic problems with the Delhi impoundment? Yes – it was choked with sediment.** The biggest problem in maintaining the Delhi impoundment for recreational boating for the shoreline owners was the need for expensive dredging over and over again because of all the sediment washing into the impoundment. The Delhi impoundment was a sediment trap on a large river. The contributing watershed was 500 times larger than the surface area of the impoundment (500/1), more than 15 times the ratio that would be desirable for sediment control. There is no way to properly control sedimentation rates in that large a watershed. A new dam would simply put the "plug" back in the same sediment trap. The "lake" is an impoundment that is not sustainable.
- **How expensive is dredging? It already has cost millions of dollars.** Dredging Delhi in 2006 cost more than \$2 million. The benefits lasted only two years. The 2006 dredging was undone by a single flood in 2008 that swept in new sediment. The 2006 dredging project was funded by \$2.2 million in revenue bonds issued by the shoreline owners' taxing district. The debt will not be retired until 2026. That's 20 years of debt for 2 years of benefits. The 2006 dredge project also used \$525,000 in state public funds. The estimated price tag of \$12 million for a new dam does not include any expenses for dredging.
- **What is the plan for future dredging? None.** The \$350,000 engineering study of a new dam (a study paid for with State funds) proposes reconstruction of the dam but devotes only two short paragraphs to the

chronic and inevitable problem of sedimentation. It recommends sediment-control measures in the watershed but fails to acknowledge that effective sediment control in the 300-square-mile watershed would be huge financial undertaking unlikely to occur. There is no plan and no effective way to control sediment inflow, which will mean dredging over and over -- and chronic demands for more State funds to pay for dredging.

- **Should State taxpayers be more concerned about the Delaware County tax base than Delaware County taxpayers? No.** Local pleas for State funds stress the importance of the Delhi shoreline owners' property values for the local property tax base. Delaware County could finance a new dam, but will not do so. If public funds are so important to restore private property values for the local tax base, Delaware County should take the lead in funding. Delaware County has the capacity to issue general obligation bonds to pay more than the \$5 million sought from the State for replacing the Delhi dam. The final report of the Governor's "Lake Delhi Recover and Rebuild Taskforce" (Dec. 2010) identified Delaware County's bonding capacity as a key component in financing for a new dam. But Delaware County has not been willing to invest in a new dam. Why should state taxpayers shoulder the burden?
- **Were there other problems with the Delhi impoundment? Yes – pollution problems from homeowners' septic systems.** One issue that has not been a priority for Lake Delhi homeowners has been solving their wastewater problems. The DNR has identified the homes and cabins along Lake Delhi as Iowa's largest unsewered community. (Governor's Taskforce report.) Canoe the river through the former lakebed and look closely on the banks, you'll occasionally notice narrow, green slicks, which can be traced back to homes and cabins. Questionable water quality should raise questions about investing in the dam. Due to the terrain, fixing these problems would cost millions of dollars. With no lake, the problem is more manageable, as there is more room for adequate septic systems to be constructed. Delhi was also one of the two lakes in Iowa infested with zebra mussels, an exotic invasive species.
- **Couldn't FEMA funds be used for dam repairs? No.** Lake Delhi interests are embroiled in a battle with the Federal Emergency Management Agency (FEMA) over FEMA funds spent for repairs after the 2008 flood. After the 2010 dam failure, FEMA determined that the Lake Delhi Recreation Association (LDRA) was not a public entity, that the Lake Delhi project was not a public project, and that the LDRA had never been eligible for Federal disaster relief. FEMA cut off funding, and demanded return of \$3.6 million in FEMA funds that had been granted for 2008 flood damage repairs.
- **Has downstream damage been accounted for? No.** Epic flooding in 2010 caused by failure of a recreational lake and dam with no flood control function inundated homes, businesses, farm fields, and public infrastructure first with water, then with silt and sand. A "head-cut" that formed in the lakebed continued spewing so much silt that technicians needed to dilute it with one part tap water in order for a turbidity meter to be able to take readings. The head-cut was active for months after the breach event until a temporary \$660,000 project led by Iowa DNR stopped it. The net result is that smallmouth bass in a catch-and-release section of the Maquoketa River were reduced to 25 percent of former populations, according to fish sampling results. No river restoration work has offset the harm, and no damage cost figures have been released to document the damage downstream.
- **What plans are there for fish passage around a new dam? The "plan" is to try to avoid the fish passage requirement in State law.** State law -- the Code of Iowa -- requires that dams on rivers be constructed with a spillway that allows fish to move upstream and downstream past the dam. Delhi interests are trying to get by without meeting the fish passage requirement. Their consulting engineer has recommended not including a fish passage structure because it would be expensive and would allow Asian Carp to migrate up the river. DNR fisheries biologists disagree with that recommendation. Asian Carp (or Silver Carp) thrive in slack-water pools like Delhi, and are less of a problem in free-flowing rivers. Fish passage on the Maquoketa River is important for native fish species. If local property owners are allowed to rebuild their water-ski impoundment, they must at least do it in a way that allows fish passage around the dam, as the law requires.

- **Would \$5 million for a Delhi dam take money from more deserving lake projects? Yes.** State infrastructure funds would be used for the Delhi dam. The DNR Lake Restoration program uses State and Federal funds for public lake restoration projects designed to last for decades without filling back up with sediment. Those lakes provide public recreational use for well-documented numbers of Iowans and are much higher quality lakes than the Delhi impoundment. The restoration program received about \$8 million in annual funding for several fiscal years but was reduced to \$5.5 million last year at the same time \$2.5 million was proposed for the Delhi dam. Sensible and sustainable projects across the state will see funding reduced to accommodate \$2.5 million per fiscal year for two years poured into a new Delhi dam.

### **A vision for the future.**

Iowa Rivers Revival's mission includes restoring free-flowing conditions to dammed-up rivers, improving water quality, and encouraging the responsible enjoyment of rivers. The Maquoketa River has essentially been restored to a free-flowing state by the dam failure of 2010. The focus now should turn to gradual restoration of the river, managing for desirable native plants in the former lakebed, and top-notch surface trail development in what could be a spectacular scenic recreational corridor.

In addition, funding is under more pressure than ever for programs we support, such as removing or otherwise mitigating unsafe dams, engaging communities with their rivers through water trails, and restoring rivers. The choice is clear: Restoration projects for both rivers and lakes will be starved if what should be a river -- the Maquoketa at Delhi -- is turned into a poor quality, lake-like impoundment. And saying "yes" again to Delhi interests is likely to result in millions of dollars in future requests for public funds paid by people who have never been to Delhi, in order to support an impoundment primarily for the benefit of private property owners.

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