

DAMS



OVERVIEW

Over 90% of Michigan's 2,581 dams will reach or exceed their design life by 2020. Many dams are abandoned, no longer serve any useful purpose, and pose safety hazards to downstream residents. No funding is currently available in Michigan to help dam owners repair, rehabilitate or remove aging dams.

BACKGROUND

Michigan has supported the intensive use of rivers for economic development throughout its history. Dams provide tremendous benefits but also pose great risks to public safety, local and regional economies and the environment. Historically, some of the largest disasters in the United States have resulted from dam failures. The 2003 Silver Lake Dam failure in Michigan resulted in \$100 million in damages and economic losses of \$1 million per day. Over the last decade, as more aging dams require repairs, growing concern about dam safety and environmental quality has become more prevalent. Many dam owners -including public agencies - do not have the financial capability to repair and maintain their dams or remove them.

CURRENT CONDITIONS

The Michigan Department of Environmental Quality's (MDEQ) Dam Safety Unit maintains records showing that 93% of Michigan's dams will have reached their design life of 50 years by 2020 and that 166 of them built before 1900 have already passed this design life by a factor of two. With the exception of 110 hydropower dams only a few dams (mostly lake level control structures) produce any income or have a mechanism for funding needed maintenance or repairs. MDEQ's Dam Safety Unit requires that all dams over 6-ft-high and impounding over 5

acres at flood stage are to be inspected every 3 to 5 years, depending on its hazard potential rating. While this ensures that any dam at serious risk of failure will be identified as such, it still takes money to repair, rehabilitate or remove them. Often, many deficiencies identified during dam inspections are left uncorrected due to funding shortfalls.

FUNDING NEEDS AND OPTIONS

Funding for Michigan's aging dams is reaching crisis proportions. One study estimates that 120 Michigan dams need at least \$50 million for repairs or rehabilitation². Many municipalities and other owners of dams can not afford to repair and replace or remove their dams on their own. As Michigan's dams continue to age the need for state or federal funding or funding from some other source will become more acute.

GRADE

Owners of Dams that do not generate revenue generally do not set aside funds for their eventual repair, rehabilitation or removal. The lack of State or other public-funding mechanisms to assist dam owners with these tasks causes inadequate or crumbling dams to go unattended, posing significant safety hazards to downstream residents and local and regional economies. While the actual condition of our dams is generally better than a "D", the fact that many dams in need of repair, replacement or removal go without warrants the grade of "D."

CONCLUSIONS

The lack of a source of stable, reliable rehabilitation funding for the owners of Michigan's aging dams is a critical infrastructure safety issue, given the condition and age of our dams.

RECOMMENDATIONS

- Fully fund and staff Michigan's dam-safety program.
- Educate the public on the need for proper maintenance and repair of dams.
- Establish a dedicated State fund of at least \$50,000,000 for the repair, replacement, or removal of unsafe dams.
- Seek a federal funding program to assist with loans and matching grants for repair, replacement or removal of unsafe dams.



SOURCES

1. MDEQ Dam Safety Unit Dams Data Base.
2. Coscarelli, M. and Hegarty, J. The Growing Crisis of Aging Dams: Policy Considerations and Recommendations for Michigan Policy Makers; Michigan River Partnership, 2007.

