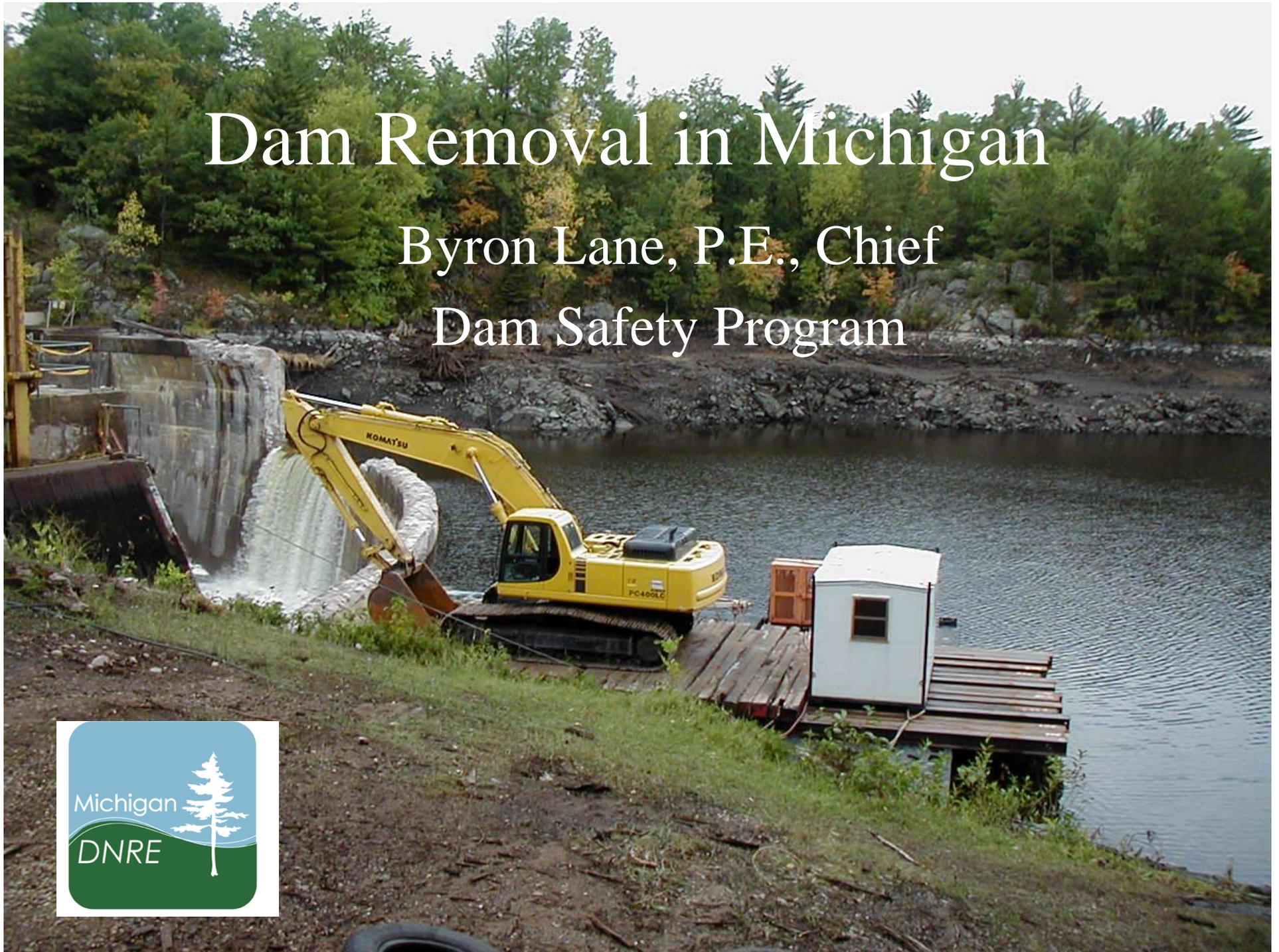
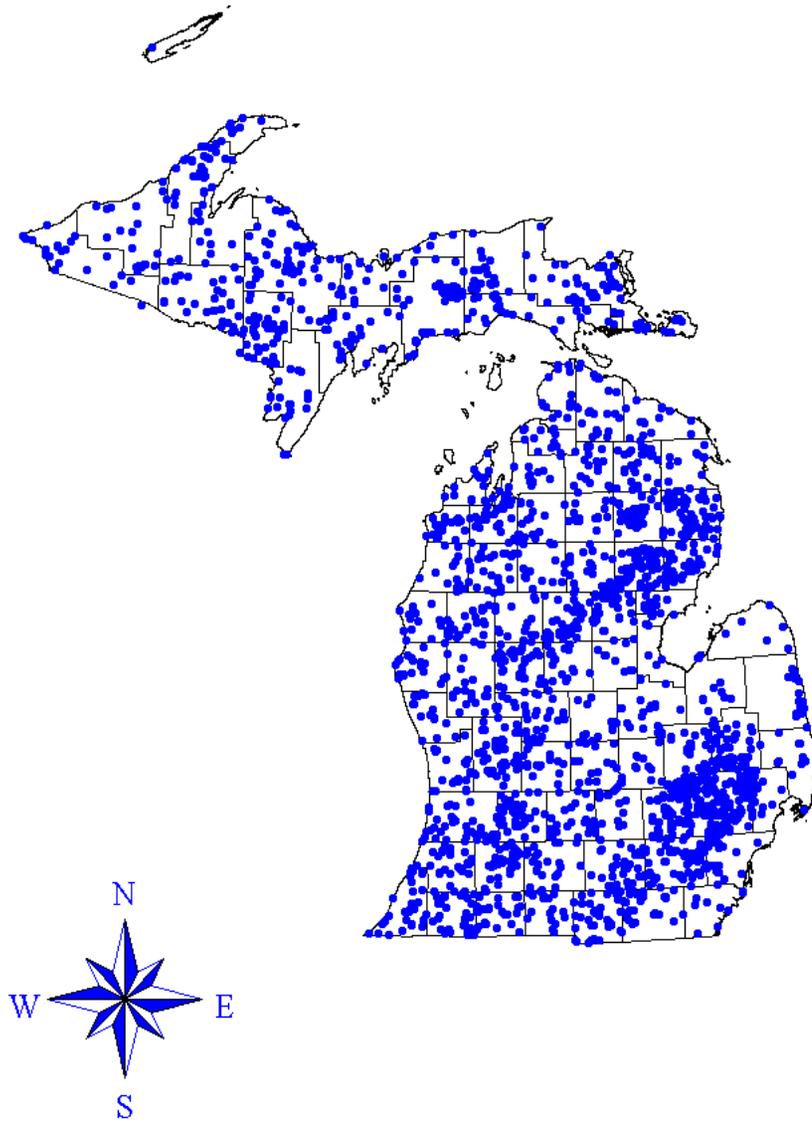


# Dam Removal in Michigan

Byron Lane, P.E., Chief  
Dam Safety Program



# Michigan Dams



# Recreation



# Hydropower



APR 1 2000

# Industry



# Flood Control

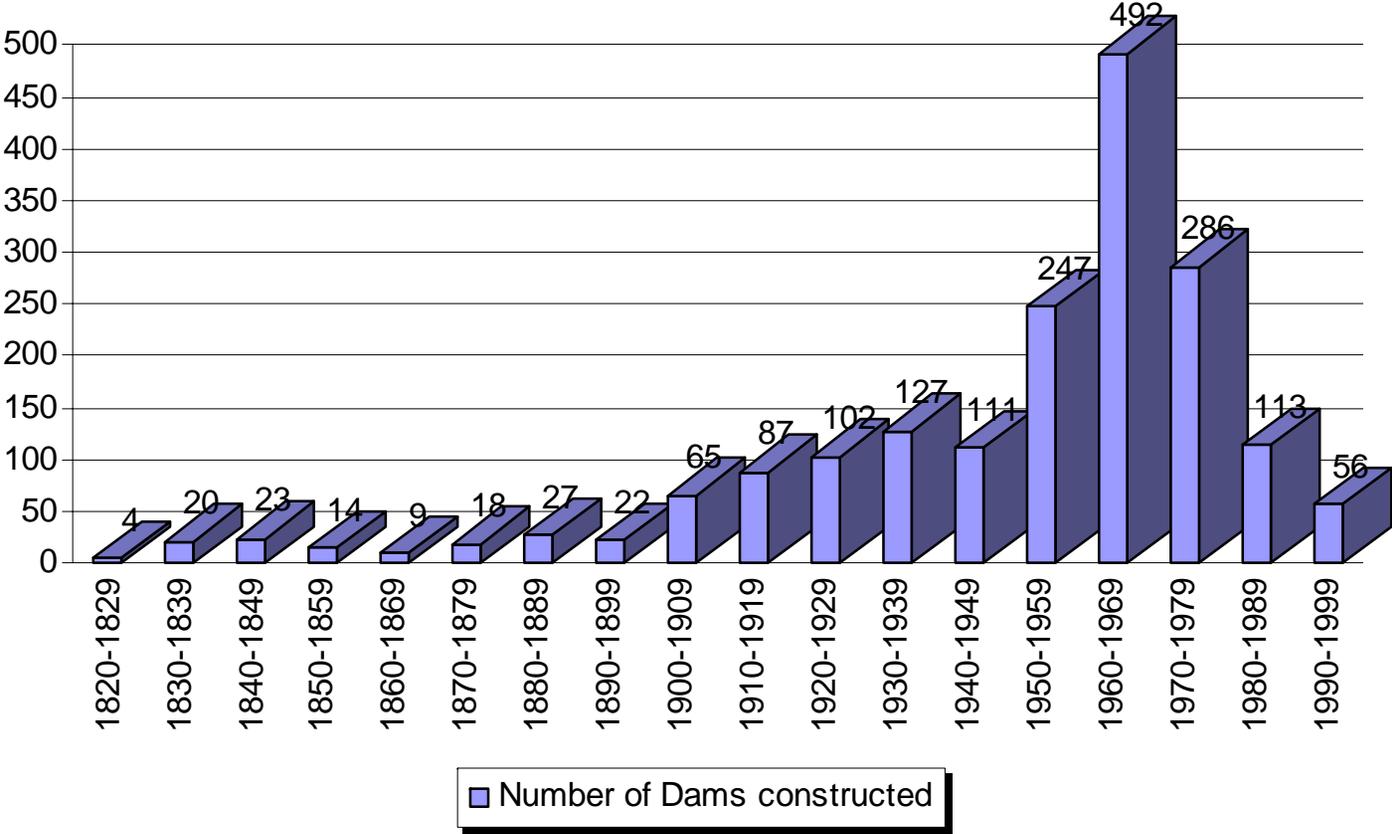


# Water Supply





# Michigan Dam Construction History





HOME

PRESS

VIDEO

# 2009 Michigan Infrastructure Report Card



## NOT MAKING THE GRADE.

Michigans Infrastructure GPA = **D**

The ASCEMI Report Card is an assessment by professional engineers of the state's status in nine categories of infrastructure.

Michigan's infrastructure is in dire condition. Reversing the decay of our most valuable assets is essential to reviving Michigan's fortunes.

**DOWNLOAD THE FULL REPORT**

### CONTACT

**ANDREA FISCHER**  
THE ROSSMAN GROUP  
920 N. WASHINGTON  
LANSING, MI 48906  
PHONE: (517) 487-9320

### ASCEMI WEBSITE

FOR MORE INFORMATION ABOUT ASCEMI & CONTACT US ABOUT THE REPORT CARD, VISIT OUR WEBSITE - [CLICK HERE.](#)

### AVIATION

Michigan's 200+ airports generate \$4.3 billion for Michigan's economy each year. The individual components - runway systems, pavement conditions, terminals, weather access, security and pilot and aircraft services - are in satisfactory condition. However, current infrastructure repair, maintenance and expansion needs exceed \$1.3 billion over the next five years, a figure well beyond existing revenue. It is imperative that Michigan establish dedicated funding for airport infrastructure.

### GRADE

**C**

REPORT



### DAMS

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, or remove aging dams.

### GRADE

**D**

REPORT



# Repair/Removal Costs

- Dam repair is often expensive.
- Financial assistance is rarely available for dam repair.

Below is a "close up" of the photo above, showing what many believe to be the likeness of Jimmy Hoffa appearing in the falls of the water. He appears to be a "crying out" to be freed from his watery tomb.



The City of Corunna has agreed to provide the FBI whatever assistance and cooperation is necessary. Although historic, permission has been granted for the FBI to destroy the existing structure in their search efforts. The city has asked only that the FBI, at the completion of their search, construct a new dam on this same site. City officials estimate that this search can be performed for under two million dollars.

# Repair/Removal Costs

- Dam repair is often relatively expensive.
- Financial assistance is rarely available for dam repair projects.
- Dam removal is often less expensive than dam repair and continued operation.
- Funding is often available to assist with river restoration projects.

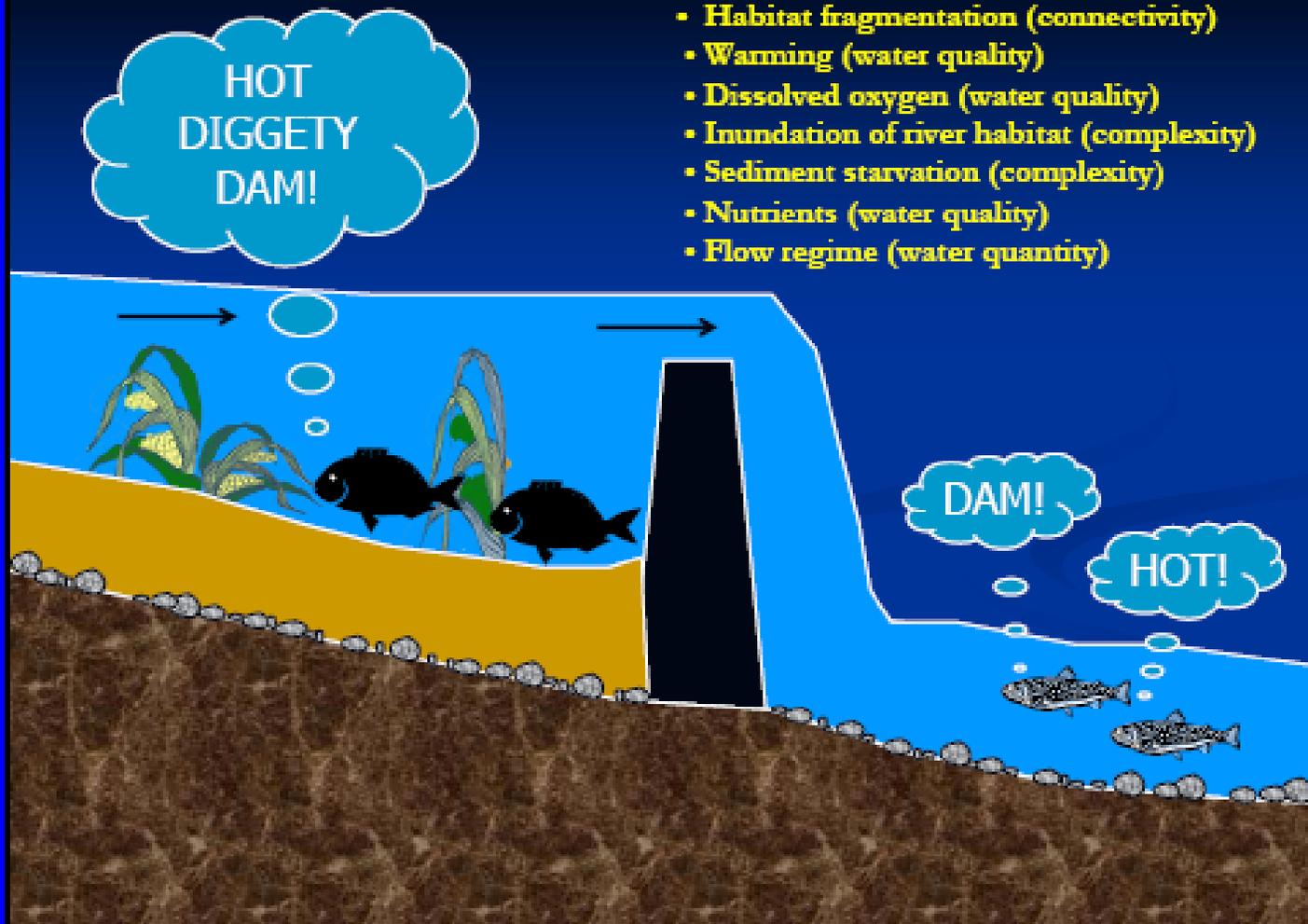


Dam Impacts

# Increase Water Temperature

Dams impact every aspect of healthy rivers (in impoundment and downstream):

- Habitat fragmentation (connectivity)
- Warming (water quality)
- Dissolved oxygen (water quality)
- Inundation of river habitat (complexity)
- Sediment starvation (complexity)
- Nutrients (water quality)
- Flow regime (water quantity)



# Water Quality



- Nutrients accumulate in impoundments
- Respiration and decay of vegetation can result in dissolved oxygen declines
- Warming temperature in the summer – additional impact on DO



Dams fragment habitat for multiple species

# CONNECTIVITY OF A RIVER

Normal Flow



SLIDE MODIFIED FROM:  
Asdland, MN DNR, and Wildman, American Rivers

# Public Safety





# Sturgeon River Dam, Dickinson Co.



# Sturgeon River Dam, After



# Chesaning Dam, Saginaw County





Stinking mud flats?



**Boardman Pond Property Owners  
565 Boardman View Drive  
Traverse City, MI 49686  
Phone: 231-946-5434 / Fax: 231-946-5444**

May 3, 2007

Mr. Steven Chester, Director  
Michigan Department of Environmental Quality  
P.O. Box 30473  
Lansing, MI 48909-7973

Re: Emergency Draw Down of Boardman Pond and  
File #06-28-68-P for Permanent Draw Down

**Via Facsimile: 517-241-7401**

Dear Director Chester:

I am writing you today on behalf of all property owners and citizens of standing and interest on and around the Boardman Pond (also referred to as the Keystone Pond), which is the backwater of the Boardman Dam, on the Boardman River, just south of Traverse City, in Garfield and Blair Townships of Grand Traverse County. I will attempt to be brief and concise in my comments, so that you can have a grasp of the situation and that actions can be initiated to prevent further damage.

A brief history: On or about March 14, 2007, a leak was discovered in the Boardman Dam and an emergency was declared, thus prompting Grand Traverse County and Traverse City Light and Power (TCLP) to initiate an immediate three (3) foot draw down of the Boardman Pond. As it turns out, this was nothing more than an old pipe, which

**Jennifer M. Granholm**  
Governor of  
The Great State of Michigan  
&  
Steven E. Chester  
Director MDEQ

**June 18, 2007**

**Dear Governor and Director Chester:**

**Subject: MDEQ file No. 06-28-0068-P Boardman Dam Draw Down by Grand Traverse County and Traverse City Light and Power.**

**Today 4000 cars and trucks will cross the Dam at Cass & Keystone. No County Road Commission Engineers have declared the Structure unsafe. No Engineering Company has declared the Dam to be unsafe and in danger of collapse or failure. The Dam may have merely fallen out of specification and rule in the event of a 200 year flood event. The record clearly shows that the Dam is safe enough.**

**Concerned property owners have field an administrative appeal through the Office of Administrative Hearing. Other property owners are attempting to file a temporary Court injunction to stop the draw down until the administrative appeal can be heard.**

**Administrative Law Judge Richard A. Patterson has recommended that the aggrieved Keystone pond property owners attempt to work informally with the MDEQ to identify and possible find solutions or resolution before continuing with a costly APA Hearing.**

**The property owners are requesting under authority granted to the State of Michigan in**

STATE OF MICHIGAN  
STATE OFFICE OF ADMINISTRATIVE HEARINGS AND RULES

Dave Hamilton  
Bygon Lake  
Files  
Boardman  
Grand Traverse Co.  
4/15/07  
10 5/2

In the matter of  
  
Edwin Martel et al on the permit issued  
to Traverse City Light and Power

File No.: 06-28-0068-P  
  
Part: 301, Inland Lakes and Streams  
  
Agency: Department of Environmental  
Quality  
  
Case Type: Land and Water Management  
Division

RECEIVED  
JUN 15 2007  
ENVIRONMENTAL QUALITY  
LAND & WATER MANAGEMENT

Issued and entered  
this 12<sup>th</sup> day of June, 2007  
by Richard A. Patterson  
Administrative Law Judge

RECEIVED  
JUN 15 2007  
ENVIRONMENTAL QUALITY  
LAND & WATER MANAGEMENT DIV.

NOTICE OF OPENING NEW FILE



6. A feasible and prudent alternative to the drawdown does not exist.  
MCL 324 30311(4)(b); 2000 MR 6, R 281 922(a).
7. The drawdown has not caused an unacceptable disruption to aquatic resources.  
MCL 324 30311(4).

### PROPOSAL FOR DECISION

Based upon the Findings of Fact and Conclusions of Law, it is proposed the Final Order be entered allowing a permit as issued

### EXCEPTIONS

The parties have until **February 27, 2009**, to file written Exceptions to the PFD. Those filings shall comport with § 81 of the Administrative Procedures Act MCL 24.281(1). Director Steven E. Chester will issue the Final Determination and Order in this case after the filing date. These filings shall be sent to: Richard A. Patterson, State Office of Administrative Hearings and Rules, Constitution Hall, South Tower Atrium, 525 West Allegan Street, P.O. Box 30473, Lansing, Michigan 48909-7973.

Dated: January 13, 2009



---

Richard A. Patterson  
Administrative Law Judge

**CONCLUSION**

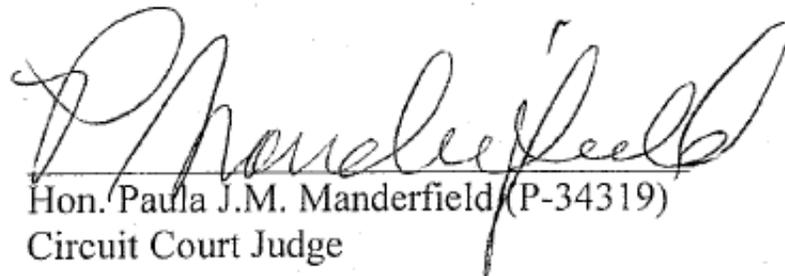
In light of the analysis set forth above, the Court affirms the ALJ's decision.

**ORDER**

**IT IS HEREBY ORDERED** that the ALJ's decision is **AFFIRMED**.

This order resolves the last pending claim and closes this case.

Dated: February 4, 2010

  
Hon. Paula J.M. Manderfield (P-34319)  
Circuit Court Judge

## Boardman River Dams: Episode 1

Drawdown and Devastation in Grand Traverse County



The latest Property Rights Network video relates the horrors experienced by property owners on the Boardman River outside Traverse City. Three of four dams on the river have been slated for removal. While removal of the dams may seem like a good idea, elected officials and bureaucrats are using every tool in their arsenal to usurp the rights of individuals who own land on the dam impoundments.

SHARE [f](#) [t](#) [+](#)

To

From

E-mail this

[Send](#)

**SAVE THE CORUNNA DAM !/? is on Facebook**

Sign up for Facebook to connect with SAVE THE CORUNNA DAM !/?



RSVP about your feelings on our options under the "Events" tab:  
Attending = Like  
Maybe Attending = Undecided  
Not Attending = Dislike  
You can change your preference at a future point if you desire.

## Information

Category:  
Common Interest - Current Events

Description:  
What do you feel about a Corunna future with no Dam? The status quo has been upset... doing nothing appears to be a non-option. But what do we do? Stay tuned.

## SAVE THE CORUNNA DAM !/?

[Wall](#)[Info](#)[Discussions](#)[Photos](#)[Video](#)[Events](#)

### Basic Info

Name: SAVE THE CORUNNA DAM !/?  
Category: Common Interest - Current Events  
Description: What do you feel about a Corunna future with no Dam? The status quo has been upset... doing nothing appears to be a non-option. But what do we do? Stay tuned.  
Privacy Type: Open: All content is public.

### Contact Info

Location: Corunna, MI

### Recent News

News: The Michigan Department of Natural Resources and Environment has issued an order to draw-down and repair the dam. Easier said than done... The city is working with the state to address concerns that a draw-down may actually increase hazards, and to develop a long-term solution. Your opinions and ideas are valuable. Natural restoration, fish migration, recreational water, cost, grants available, rapids, water levels, flooding, safety, maintenance, history and aesthetics are just a few of the variables in making a good decision. What-ever happens, not everyone will like the outcome.

[Sign Up](#)**Save Argo Pond! is on Facebook**

Sign up for Facebook to connect with Save Argo Pond!

**Save Argo Pond!**[Join](#)[Wall](#)[Info](#)[Discussions](#)[Photos](#)**Bob Roether** What's the next move politically?December 20, 2009 at 7:54pm · [Comment](#) · [Like](#) · [Report](#)

## Information

Category:

Sports &amp; Recreation - Outdoor Sports

Description:

For anyone who has ever walked along side, rowed upon, or stopped to appreciate the beautiful, calm water of Argo Pond. Preserve Ann Arbor's most beautiful and historic body of water!

Privacy Type:

Open: All content is public.

## Admins

**S. Khai Mong****The Ballad of Argo Dam | Pioneer Crew**[www.pioneercrew.org](http://www.pioneercrew.org)

This is the ballad of Argo Dam We sure ought to keep it if we can There it sits, as good as new built in 1972 By Joe O'Neal construction (thank you Joe...wait a go!)

[November 7, 2009 at 5:16am](#) · [Comment](#) · [Like](#)**Kathryn Deering****Save Argo Pond signs**

Where are people getting the Save Argo Pond signs to put out on their lawns?

[August 27, 2009 at 11:33am](#) · [Participate](#)**Joe Partington** I'm in! Save the pond!July 28, 2009 at 8:41pm · [Report](#)



Supporters of keeping Argo Dam and Argo Pond, namely the rowing community, showed up en masse for tonight's meeting.

Ryan J. Stanton | AnnArbor.com



Protecting the River Since 1965



Home | About | Our Work | The River | Volunteer | Donate | Events | **Take Action** | Publications

## Remove Argo Dam

### Why remove Argo Dam?

#### It's better for the river

Cleaner, healthier water. Better habitat for fish and wildlife. Natural control of invasive species. Flood control. Read our [science brief](#).

#### It's a great quality-of-life opportunity

30 acres of brand-new parkland in the heart of Ann Arbor. Beautiful natural rapids. Better canoeing, kayaking, fishing—even tubing! Revitalization of the watershed.



**FAST FACT ABOUT THE HURON RIVER:** Removal of the Argo Dam will result in a gain of 30 acres of parkland for the City of Ann Arbor (as well as the associated

### Newsletter Sign Up Huron River Report

Email Address:

Sign Up

Join



Millers  
Creek  
Film  
Festival

# Potential Environmental and Resource Issues

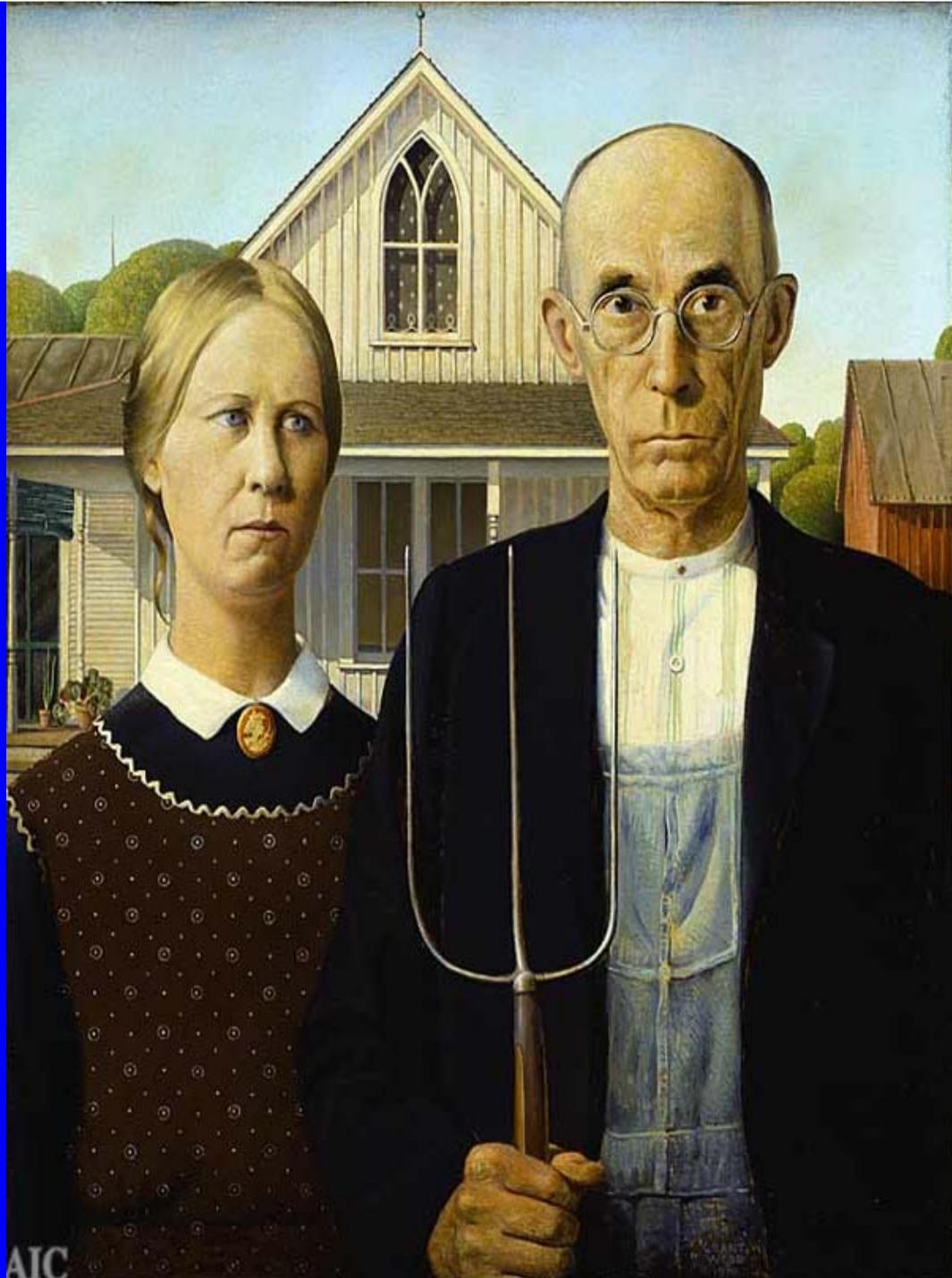
- Sediment Quantity
- Sediment Quality
- Fish/Aquatics
- Channel Relocation
- Invasive Species
- Wetland Impacts
- Bridge Scour
- Flooding
- Endangered Species

# Statutes Potentially Involved

- Part 31, Water Resources Protection (Floodplains and Water Quality)
- Part 111, Hazardous Waste Management
- Part 115, Solid Waste Management
- Part 201, Environmental Remediation
- Part 301, Inland Lakes and Streams
- Part 303, Wetlands Protection
- Part 315, Dam Safety
- Part 365, Endangered Species Protection

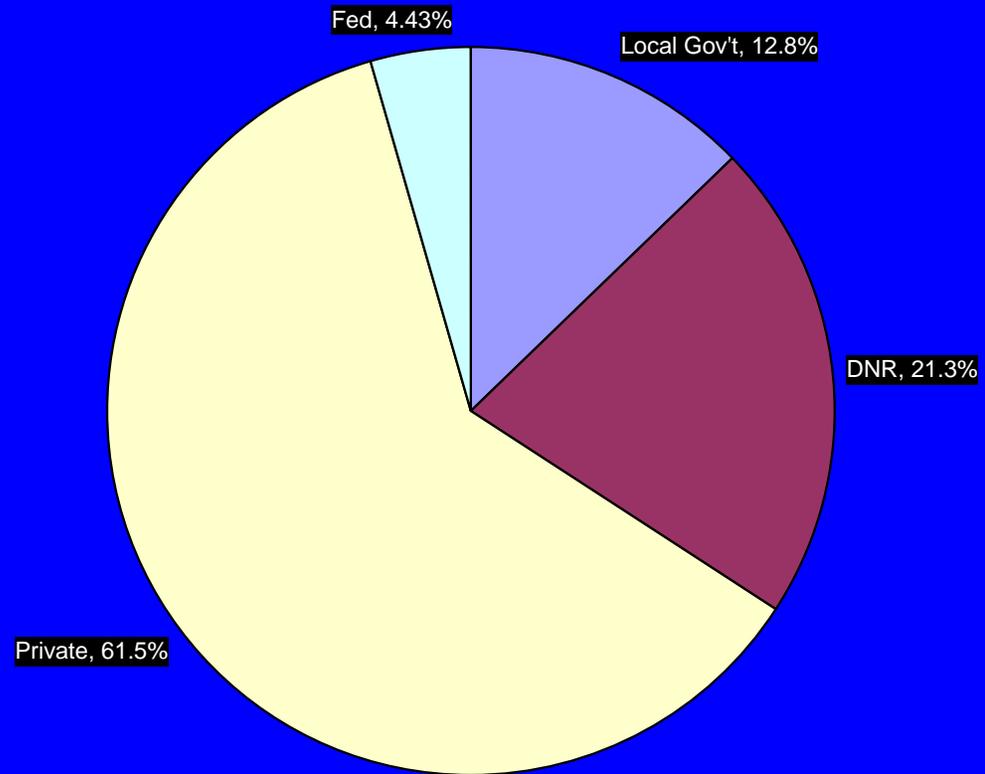
# Organizations Potentially Involved

- DNRE Fisheries Division
- DNRE Land and Water Management Division  
(three program areas)
- DNRE Remediation and Redevelopment Division
- DNRE Waste and Hazardous Material Division
- DNRE Water Bureau
- Michigan Department of Transportation



AIC

### Ownership Type



**POLICIES AND MEASURES THAT CAN BE TAKEN TO  
ADDRESS DEGRADING DAMS IN MICHIGAN**

May 11, 2004

**Prepared by:**

Byron P. Lane, P.E., Chief  
Dam Safety Program  
Geological and Land Management Division

# Voluntary Dam Removal Pilot Project

---

May 12, 2004

**Prepared by**  
Dam Safety Program  
Water Management Section  
Geological and Land Management Division  
Byron Lane, P.E., Chief  
James Pawloski, P.E.  
James Hayes, P.E.  
Paul Wessel, P.E.

## *Provide Project Management Assistance*

“Another partial solution to the problem is to aid owners in their efforts to find private funding and to navigate the DEQ permitting process.”




**Michigan.gov**  
The Official State of Michigan Website

Michigan.gov Home    DNR Home | Links | Site Map | Contact DNR | Ask DNR

- ing**
- Ladders and Weirs
- Disease
- e Fish Hatcheries
- ter Angler & State  
ords
- earch
- ns and Dam Removal**
- Identification
- al Coordination Unit
- life Action Plan
- ting**
- reation & Camping**
- Enforcement**
- ists, Land & Water**
- de DNR**
- liffe & Habitat**
- s & Leases**
- ation & Outreach**
- lications & Maps**
- missions, Boards  
ommittees**

Printer Friendly   Text Version   Email Page   A- A+ Text Size

## Overview

- History of Michigan's Dams  
Dams have been built and rebuilt across Michigan to meet a variety of needs that reflect the evolution of the State's economy and society over the decades.
- Dams in Michigan  
Maps of Michigan dams.
- Environmental Impacts of Dams  
Protection and restoration of river environments is essential for sustainable, diverse, and productive stream fisheries. Over the last two decades, fisheries managers and ecologists have explored the changes dams cause in the ecological processes of river environments.
- Regulation of Dams

## Great Lakes, Great Times, Great Outdoors

- Dam Removal Guidelines for Owners **PDF**  
The purpose of this guidance document is to suggest issues that may need to be considered when deciding the future of a dam, and to assist in implementing a dam removal project.
- Dam Removal  
Most dams in Michigan were built decades ago and many have deteriorated due to age, erosion, poor maintenance, flood damage, and poor designs. Those dams that no longer make sense, that stand in disrepair, or are not removed are at significant risk of failure, particularly during high flow events.

### Dams Removed in MI      Funding Sources

- Big Rapids Dam
- Stronach Dam
- Grant Sources
- Paying for Dam Removal **PDF**

Search

- Departments/Agencies
- Online Services
- Surveys
- RSS Feeds**

### Quick Links

- Citizens Committee for State Parks
- Land Use Permits
- Grants
- Contact the DNR
- State of Michigan Vacancy Postings
- Recreational Safety Classes
- Natural Resources Commission
- Press Releases
- Voter Registration **PDF**
- Waterways Commission
- Land Consolidation Strategy
- Laws and Legislation

### DNR Stories and Photos





# Michigan Dams

Overview Discussions News Jobs Subgroups Manage More...

Group Profile

Start a Discussion Submit news Share group

## Discussions

Recent Activity Recent Discussions Most Comments



**American Rivers will soon release our new DVD "Restoring America's Rivers: Preparing for the Future."**

By Stephanie Lindloff 6 hours ago  
Follow discussion | Add comment »



**Does anyone know if the Forest Lake dam in Arenac County (Alger area) is considered a high hazard dam?**

By Roger Garner 14 days ago  
Stop following | 3 comments »

Start a discussion

My discussions | More »

## News

Most Activity Latest News



**Dam bid awarded — at \$160,000 under budget | SouthCoastToday.com**

From: southcoasttoday.com | 14 views | March 29, 2010 | Follow discussion | Share | See 2 comments »



The true fact is that Right now any one interested in any type of construction or demolition is faced with a fantastic opportunity. We are in one of the best BUYERS MARKETS in my lifetime and you...

Comment posted 1 day ago by Mike Sarrazin



**Alpena National Fish and Wildlife Conservation Office - Dept of the Interior...**

From: recovery.doi.gov | 10 views | March 30, 2010 | Stop following | Share | See 2 comments »



**Teen drowns, another one injured when canoe swept over low-head dam**

From: kansascity.com | 9 views | March 25, 2010 | Stop following | Share | Add comment »

## People I'm Following (last 7 days)



**Stephanie Lindloff** started a discussion: **American Rivers will soon release our new DVD "Restoring America's Rivers: Preparing for the Future."**

6 hours ago · Add comment

See all updates »

## Updates: Last 7 Days



**Stephanie Lindloff** started a discussion: **American Rivers will soon release our new DVD "Restoring America's Rivers: Preparing for the Future."**

6 hours ago · Add comment



**Byron Lane** recommends reading: **Forge Pond Dam In Danger Of Collapse After Days Of Heavy Rain In Freetown - wbztv.com - wbztv.com**

8 hours ago · Start discussion



**Andrea Ania** has joined the group.

1 day ago · Send message



**Stephanie Lindloff** recommends reading: **Torpedo the dams — to prevent more floods - The Boston Globe - boston.com**

1 day ago · Start discussion



**Mike Sarrazin** commented on: **Dam bid awarded — at \$160,000 under budget | SouthCoastToday.com - southcoasttoday.com**



# Announcements



**E-mail** - In an effort to reduce mailing and handling costs, and to improve our ability to quickly disseminate dam safety information to you, we ask that you provide us with the e-mail address for the primary contact person for the dam. This can be most easily done by sending an e-mail note to [egejm@michigan.gov](mailto:egejm@michigan.gov) providing the name of the primary contact and the ID number of the dam.



**Dam Removal** – The removal of unneeded dams is becoming increasingly popular around the country and around Michigan. Many of Michigan's 2500 dams have outlived their usefulness and have become costly maintenance headaches for their owners. If you are interested in looking into the possibility of removing your dam, visit our website at [www.michigan.gov/deqdamsafety](http://www.michigan.gov/deqdamsafety) or the Department of Natural Resources' website at [www.michigan.gov/dnrdams](http://www.michigan.gov/dnrdams) for helpful information on dam removal and a listing of possible funding sources.

Byron Lane, P.E., Chief  
Dam Safety Program  
Michigan Department of Environmental Quality  
[laneb@michigan.gov](mailto:laneb@michigan.gov)  
517-241-9862



# Dam Removal Application Shepherding Concept

- Dam Safety Program staff issues dam removal permit and coordinates permit processing.

# Diamondale Dam, Eaton Co.



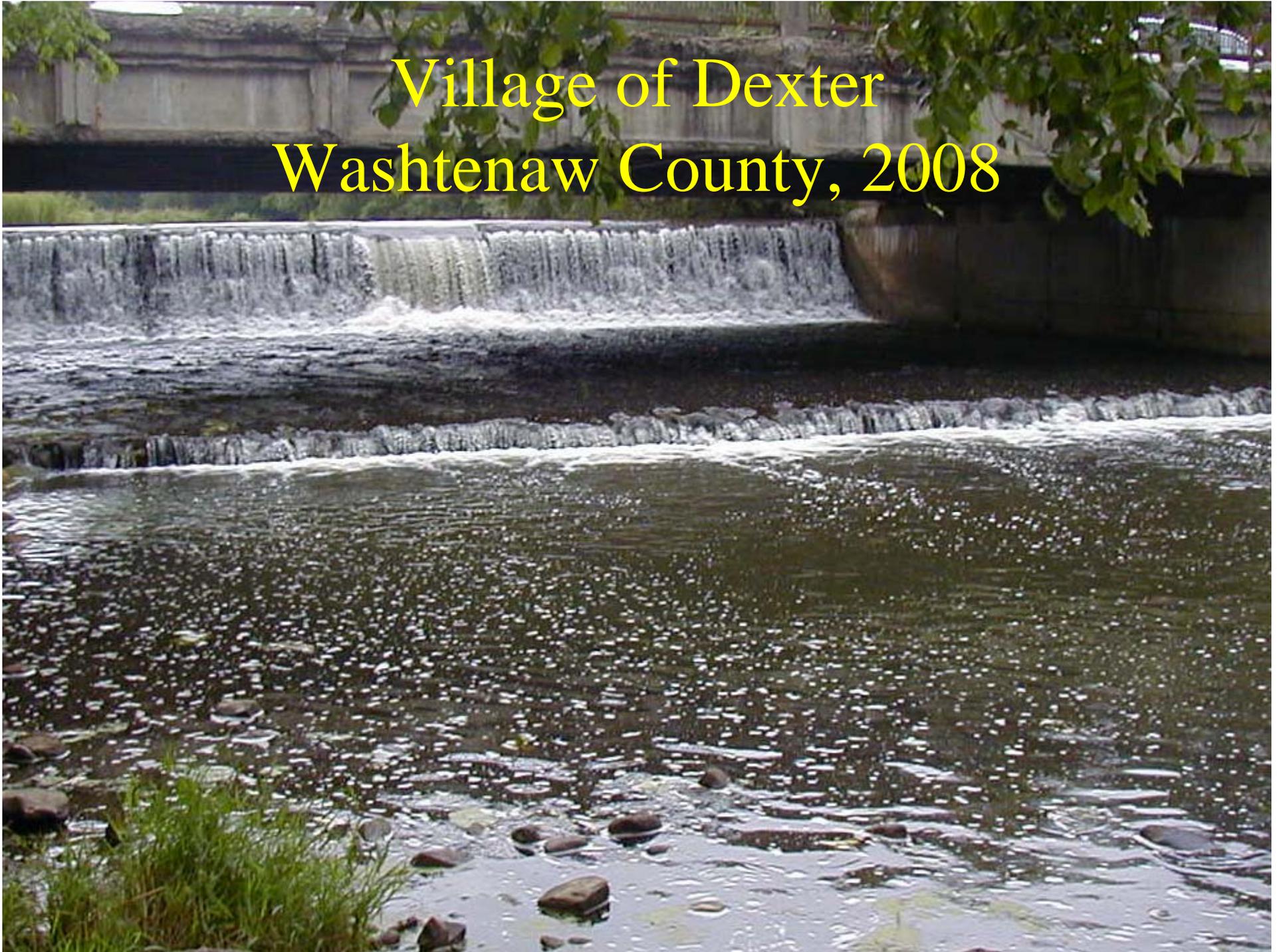




Removed 2006



Village of Dexter  
Washtenaw County, 2008



# Village of Dexter Dam Removal Project

1. Consultant for owner contacted DEQ and asked for project input – 8/06
2. DEQ and DNR staff met with owner and consultant's staff at dam site – 8/06

Mill Creek Dam Removal Project

Permitting Requirements Meeting - 8/24/06

Attendees

<u>Name</u>	<u>Affiliation</u>	<u>Phone</u>	<u>Email</u>
Mike Donahue	URS	248-994-7431	michael-donahue@urscorp.com
Mike Tarazi	URS	616-574-8381	mike-tarazi@URScorp.com
Jan Hauser	URS	248-994-7438	jan.hauser@URScorp.com
Sherry Sloman	URS	(616) 560-5245	sherry-sloman@urscorp.com
Dan Rockafellow	MDEQ	517-335-4191	rockafel@michigan.gov
James Sallee	MDEQ	517-780-7910	sallee@michigan.gov
Mary Vandelaar	MDEQ	517-780-7915	vandelaar@michigan.gov
Mizu Adelman	DEQ	517-780-7852	adelmanm@michigan.gov
Jeff Braunscheidel	MDNR-Fisheries	248-359-9048	braunscje@michigan.gov
Deborah Snell	MDEQ	517-780-7929	snellde@michigan.gov
Laura Rubin	HRWC	734-765-5123	lrubin@hrwc.org
John Hanlon	Village of Dexter	426-8307	jhanlon@villageofdexter.org
Scott Bell	LTI/Village of Dexter	734-330-1200	sbell@lmi.com
Bryan Lane	MDEQ/DAM SAFETY	517-241-7852	LANEB@MICHIGAN.gov
Paul Wessel	MDEQ/DAM SAFETY	517-335-6748	wesselpt@michigan.gov
Paul Cousins	Village of Amherst	734-426-4765	mcilpond89@comcast.net
Jerry Falter	MDEQ-LWMD	517-335-3172	Falterj@Mich.gov

# Village of Dexter Dam Removal Project

1. Consultant for owner contacted DEQ and asked for project input – 8/06
2. DEQ and DNR staff met with owner and consultant's staff at dam site – 8/06
3. DEQ staff worked with owner & consultant to address sediment, floodplain and other issues 2006 - 07.
4. Permit application submitted – 10/07
5. Public hearing - 1/08
6. Permit issued - 2/08



# Village of Dexter Dam Removal Project

1. Consultant for owner contacted DEQ and asked for project input – 8/06
2. DEQ and DNR staff met with owner and consultant's staff at dam site – 8/06
3. DEQ WB, RRD & LWMD worked with owner & consultant to address sediment and other issues 2006 - 07.
4. Permit application submitted – 10/07
5. Public hearing - 1/08
6. Permit issued - 2/08
7. Project issues addressed by appropriate team members as they arose.
8. Dam removed - 2008

# Dexter Dam - After



# Others

- Buckies Pond Dam, Luce Co. – 2008
- Chesaning Dam, Saginaw Co. - 2009
- Rice Creek Dam, Calhoun Co. - 2009
- Nashville Dam, Barry County - 2009

# Dam Removal *Team* Concept

- Dam Safety Program staff issues dam removal permit and coordinates permit processing.
- Appropriate staff meet with owner early in the design process.
- Establishment of an informal dam removal core team with representatives of each organization.
- Team members are consulted when questions arise related to a dam removal project.

# Future

- Creation of a formal standing dam removal team.

Questions?

