

An Overview of Dam Safety Compliance

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Outline

- Overview of program
- Statutory Authority
- Compliance and Enforcement Actions
- Case Studies



Program Outline



Michigan's Dam Safety Program

- Established in the 1970s following failure of the Buffalo Creek and Teton Dams, which sparked the national dam safety movement
- Originally part of MDNR's Engineering Division
 - Permitted construction of new dams, but had little regulatory authority over safety of existing dams
- 1989 – Act 300, Dam Safety Act, established permitting authority over construction, alteration, and removal of dams; set forth safety requirements; and provided compliance and enforcement authorities
- 1994 – Part 315, Dam Safety, and Part 307, Inland Lake Levels, of the NREPA replace previous laws regulating dams



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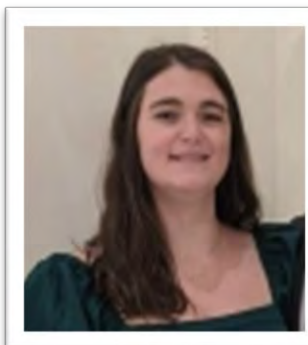
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Report Dam Safety emergencies to EGLE's Pollution Emergency Alerting System (PEAS) hotline: 800-292-4706.

Central Staff



Mitch Thelen

- Statewide coverage
- Program Development
- Internal/External Training
- Mentoring



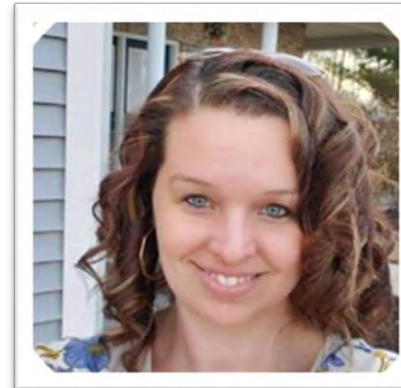
Luke Trumble

- Section Manager



Mason Manuszak

- Statewide coverage
- Grant Administrator
 - Dam Risk Reduction
 - FEMA NDSP/HHPD
 - Local Grants
- Dam Removal/Stream Restoration
- Risk Assessment



Kendra Preston

- Unit Secretary

Statutory Authority



Part 315, Dam Safety

- Part 315, Dam Safety, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended
- Mandates inspection of regulated dams
- DSU to inspect state and municipally owned dams
- Review and provide comment on consultant inspection reports for privately owned dams
- Grants the department the authority to enforce statute and issue permits for dam related activities
- Review Emergency Action Plans (EAPs)
- Take enforcement actions when dams are out of compliance

Part 315 Criteria

- At least 6 feet in hydraulic height **AND** at least 5 acres of impoundment surface area during the design storm



Dams Exempt from Part 315

- Hydroelectric dams regulated by the Federal Energy Regulatory Commission (FERC)
- Projects located on boundary waters under the jurisdiction and supervision of the United States Army Corps of Engineers
- Impoundments licensed pursuant to Part 115 that contain or are designed to contain Type III wastes as defined in rules promulgated under that part

Inspection Report Frequency

- High Hazard Potential: every 3 years
- Significant Hazard Potential: every 4 years
- Low Hazard Potential: every 5 years



Inspection Report Requirements

- Must be conducted by a licensed professional engineer
- Evaluation of dam's overall condition, including physical condition of the principal features of the dam
- Evaluation of dam's spillway capacity with hydrologic data provided by the department
- Identification of any deficiencies that, if left uncorrected, could lead to failure of the dam
- Recommendations as necessary to meet safety standards

Hazard Potential

High

Serious damage to:

- inhabited homes
- agricultural buildings
- campgrounds or recreational facilities
- industrial or commercial buildings
- public utilities, main highways, or Class I carrier railroads

Serious environmental degradation, damage to structures, and potential for loss of life

Significant

Damage limited to:

- isolated inhabited homes
- agricultural buildings
- structures
- public utilities, secondary highways, short line railroads

Environmental degradation, danger to structures and individuals

Low

Damage limited to:

- agriculture
- uninhabited buildings
- local roads

Minimal environmental degradation and danger to individuals

Hazard Potential Rating Can Change

- Changes in downstream development
- Residential construction
- Road construction or improvement
- Revisions to dam breach analysis



Permits

- **324.31507 Prohibited conduct; exception.**
- Sec. 31507.
- (1) A person shall not construct, enlarge, repair, reconstruct, alter, remove, or abandon any dam except in a manner provided for in this part.
- (2) This section does not apply to maintenance performed on a dam that does not affect the structural integrity of the dam.

Compliance and Enforcement

A person who willfully or recklessly violates Part 315 can be subject to:

- Up to 1 year in prison
- \$2,500 to \$25,000 for each day of violation
- Up to 2 years in prison and not less than \$10,000 a day for a second time offender

When damage to person, property, or natural resources is anticipated at a dam, the Department can:

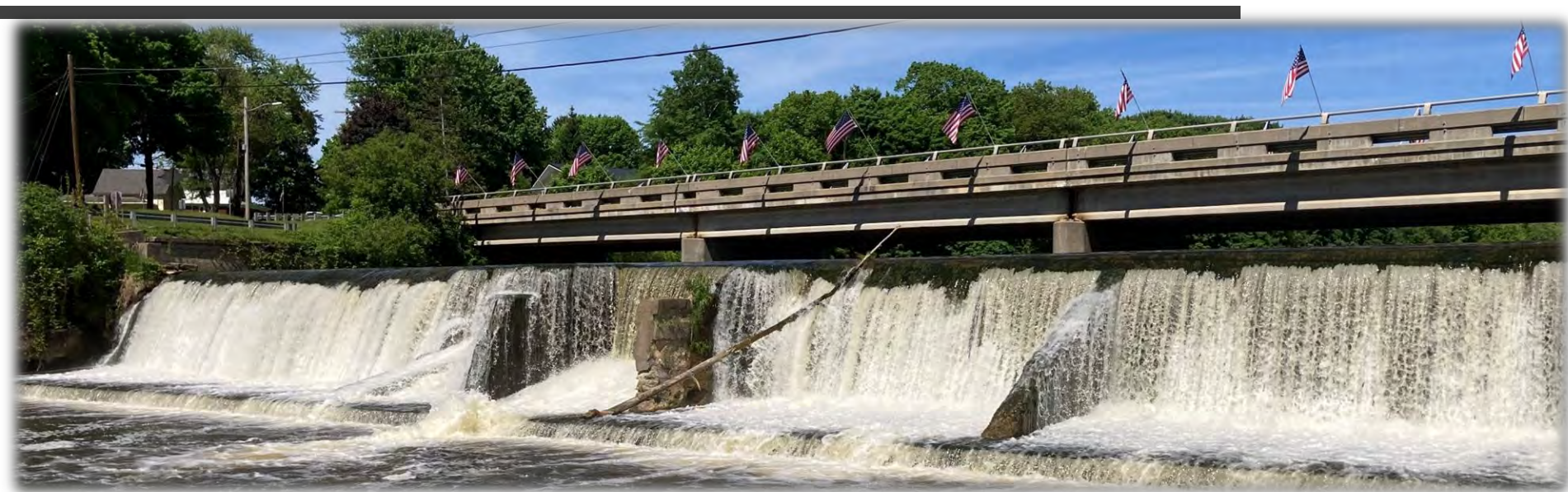
- Order a release of water (run of river)
- Issue an order for removal
- Order immediate repair, drawdown, breach or cease of operation at a dam

Part 307, Inland Lake Levels

- Process to establish and maintain legal lake levels
- Set up special assessment districts to fund construction, inspection, maintenance, repair of dams
- Requires dam inspection every 3 years, EGLE reviews and provides comments
- Do not issue permits under Part 307 – review plans and provide comments to Resources staff



Compliance and Enforcement Actions



Part 315, Section 31518

- If an inspection report discloses the need for a more detailed investigation... the department may order the completion and submission of that detailed investigation or evaluation at the expense of the owner.
- If, based on the findings and recommendations of the inspection report and an inspection by the department, the department finds that a condition exists which endangers a dam, it shall order the owner to take actions that the department considers necessary to alleviate the danger.

Part 315, Section 31519

- Where significant damage to the public health, safety, welfare, property, and natural resources or the public trust or damage to persons or property occurs or is anticipated to occur due to the operation of a dam, the department may order the owner to:
 - Limit dam operations
 - Remove dam

Emergency Orders, Section 31521

- When a dam is in imminent danger of failure and is causing or threatening to cause harm to public health, safety, welfare, property, or the natural resources or the public trust, EGLE may issue an order to the owner to:
 - Immediately repair the dam
 - Drawdown the impoundment
 - Breach the dam
 - Cease dam operations

Emergency Orders, Section 31521 (cont.)

- If an owner fails to comply, or is unable to be contacted, EGLE may:
 - Undertake the ordered action(s)
 - Recover costs
- EGLE shall provide opportunity for hearing under administrative procedures



Drawdowns

- In many instances, a drawdown is necessary to do rehabilitation work on a dam or lower the risk at a degrading dam
- Drawdown of an impoundment is regulated under Part 301, Inland Lakes and Streams



Emergency Conditions and Permitting

Part 315 does not prohibit an owner from taking actions necessary to mitigate emergency conditions if imminent danger of failure exists.



Compliance and Enforcement Examples



Dam Removal: Breedsville Dam



Dam Removal: Breedsville Dam



Dam Removal: Breedsville Dam



What Happened Next?

- Violations of Part 315, Part 301, Part 303, Part 31
- EGLE issued an order for removal of spillway debris and removal of the dam





- Dam owner complied with limited debris removal but not with dam removal; debris was a constant battle
- Followup emergency order under Part 31521

What Happened Next?



What Happened Next?

- EGLE worked with DTMB to develop scope of work and a request for proposals for full dam removal.
- The dam was removed, the site was stabilized
- It was ordered that the dam owner is responsible to EGLE for the costs involved.



Dam Removal: Breedsville Dam



Dam Removal: Breedsville Dam



Dam Removal: Breedsville Dam



Drawdown: White Cloud Dam



Drawdown: White Cloud Dam

- Received a DRRG for study
- Study found dam to be in poor condition
- EGLE ordered a plan be developed



Drawdown: White Cloud Dam

- Engineer recommended immediate drawdown
- EGLE ordered that drawdown take place
- Dam owner complied
- Currently drawn down while long term plans are developed and funded



Violation: Black River Dam



Violation: Black River Dam

- Violation to Part 315, Part 301, Part 303, and Part 31
- Sediment mobilized
- Fish/Mussels killed
- Lake diminished
- Wetlands drained



Violation: Black River Dam

- VN issued to dam owner, information requested
- Sedimentation survey
- Wetland delineation, pre-and post-failure
- Plan for stabilization of sediment and management or removal plan for dam



Violation: Black River Dam

- Dam owner answered all our questions
- Dam is currently in process of being removed



Questions?

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