

Four Lakes Task Force

Gladwin and Midland Counties' Delegated Authority
of the Four Lakes Special Assessment District

Welcome



Four Lakes Task Force

FLTF is a 501(c)(3) non-profit that was formed by the lake associations in 2018 to support the counties in obtaining the court order for Part 307 and acquiring the lake and dam properties, creating the Four Lakes Special Assessment District

Welcome and Thanks for Being Here

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- Today you'll hear from many experts including the director of EGLE
- Schedule of sessions is in your program
- Stick around for lunch – there will be food trucks in the parking lot
- If you need help with something, find someone with an **orange staff** name badge
- Don't forget to visit the 16 vendors in the Red Carpet Lobby

Thank You Event Sponsors

3



Clark Hill

GEI



Consultants

Spicer
group

TRAPANI
COMMUNICATIONS



Thank You Donors – Builders, Champions & Leaders



FOUR LAKES LEGACY SOCIETY

Donors who give at these levels make a remarkable investment that exceeds \$10,000 which will help restore the local economy and make these lakes thriving destinations once again.

\$5.62 million
Private Donations to-Date



THE HERBERT H. AND GRACE A.
DOW FOUNDATION

THE
CHARLES J. STROSACKER
FOUNDATION

Rollin M.
Gerstacker
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Secord Township

HARRY A. & MARGARET D.
TOWSLEY FOUNDATION



Consumers Energy
Count on Us



*Patti and Dave
Kepler*

WIXOM LAKE
ASSOCIATION

*Kolevar
Charitable Fund*



Anonymous Donors

5

Dam Failure and Lake Drawdown

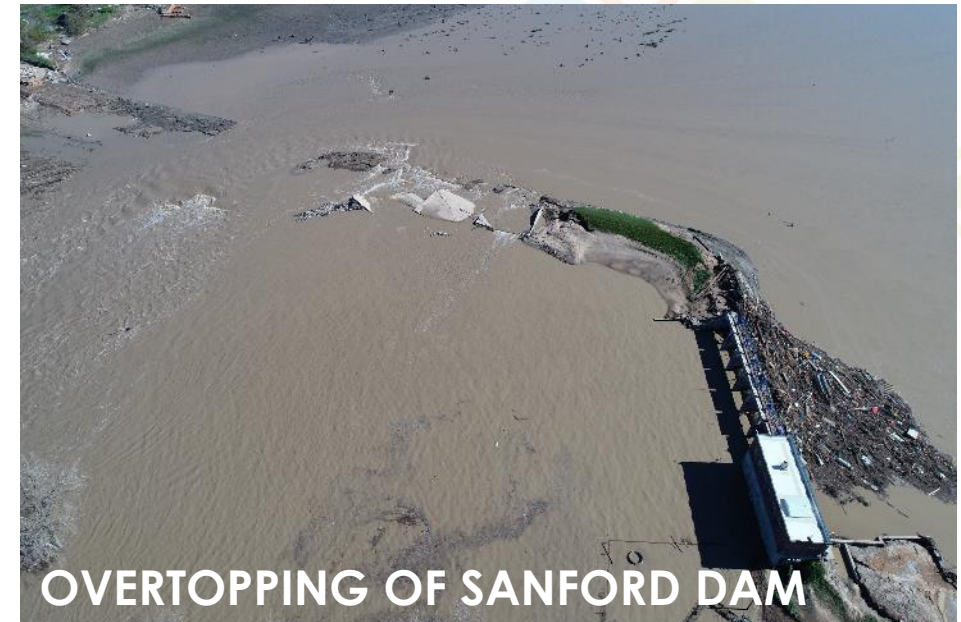
Dam Failures and Their Impact

6

- ❑ February 2018, FERC proposed revoking the Edenville Dam hydropower license
- ❑ Four Lakes Task Force was formed, and state legal lake levels were established
- ❑ May 19, 2020, a historic storm elevated the Wixom Lake level



EMBANKMENT FAILURE AT EDENVILLE DAM



OVERTOPPING OF SANFORD DAM

EDENVILLE DAM

May 21, 2020



SANFORD DAM

May 22, 2020



SMALLWOOD AND SECORD DAM DAMAGED

Smallwood Dam - May 20, 2020



SECORD AND SMALLWOOD LAKE – FERC ORDER TO LOWER

Secord Lake - September 13, 2020



- 10,000 people evacuated
- Homes destroyed
- Wells went dry
- Personal property lost
- Key infrastructure damaged
- Declared a national disaster area
- Eroding shorelines
- Dams left in unsafe conditions

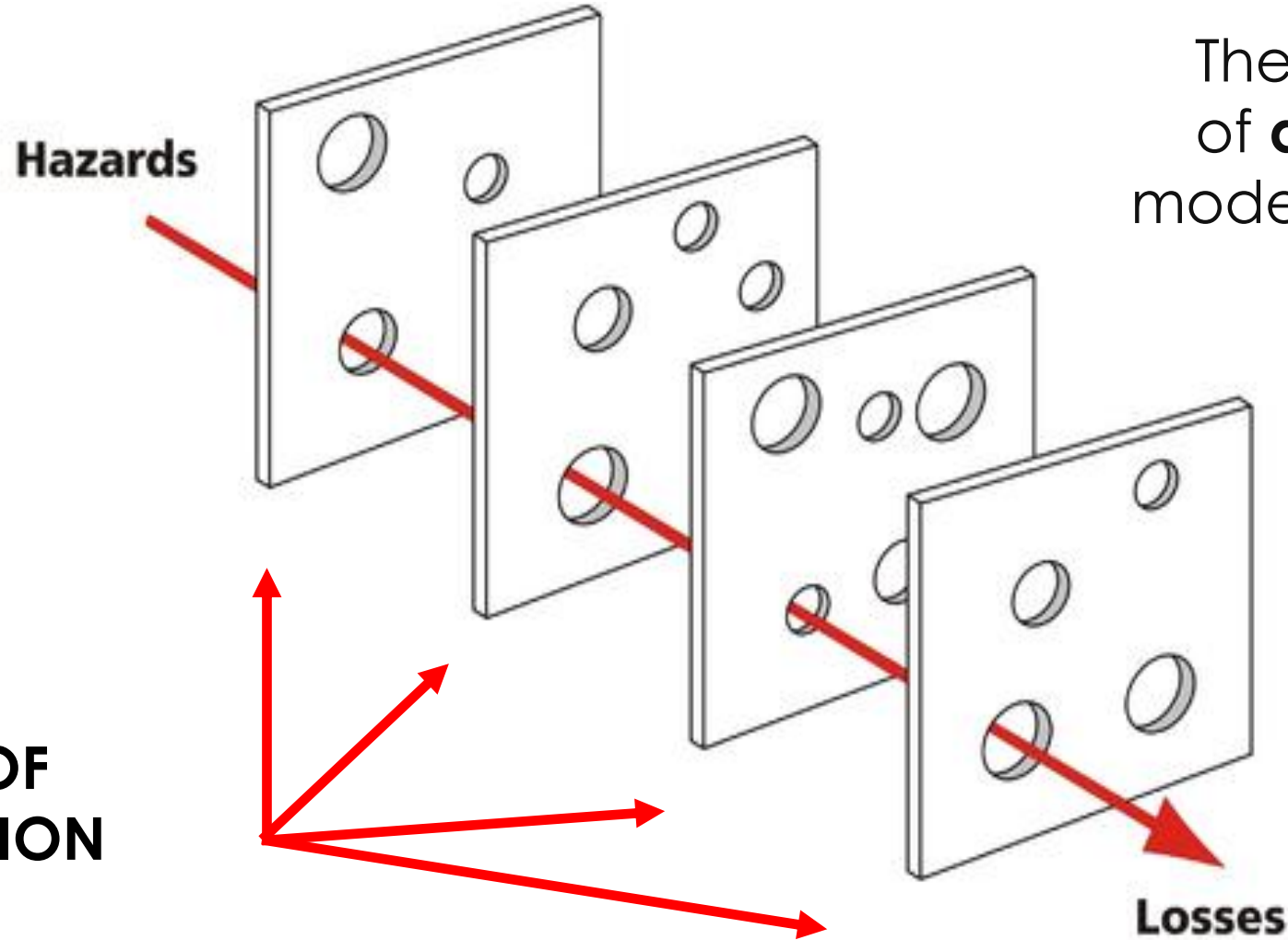


M-30 BRIDGE



Risk Management – What Happened?

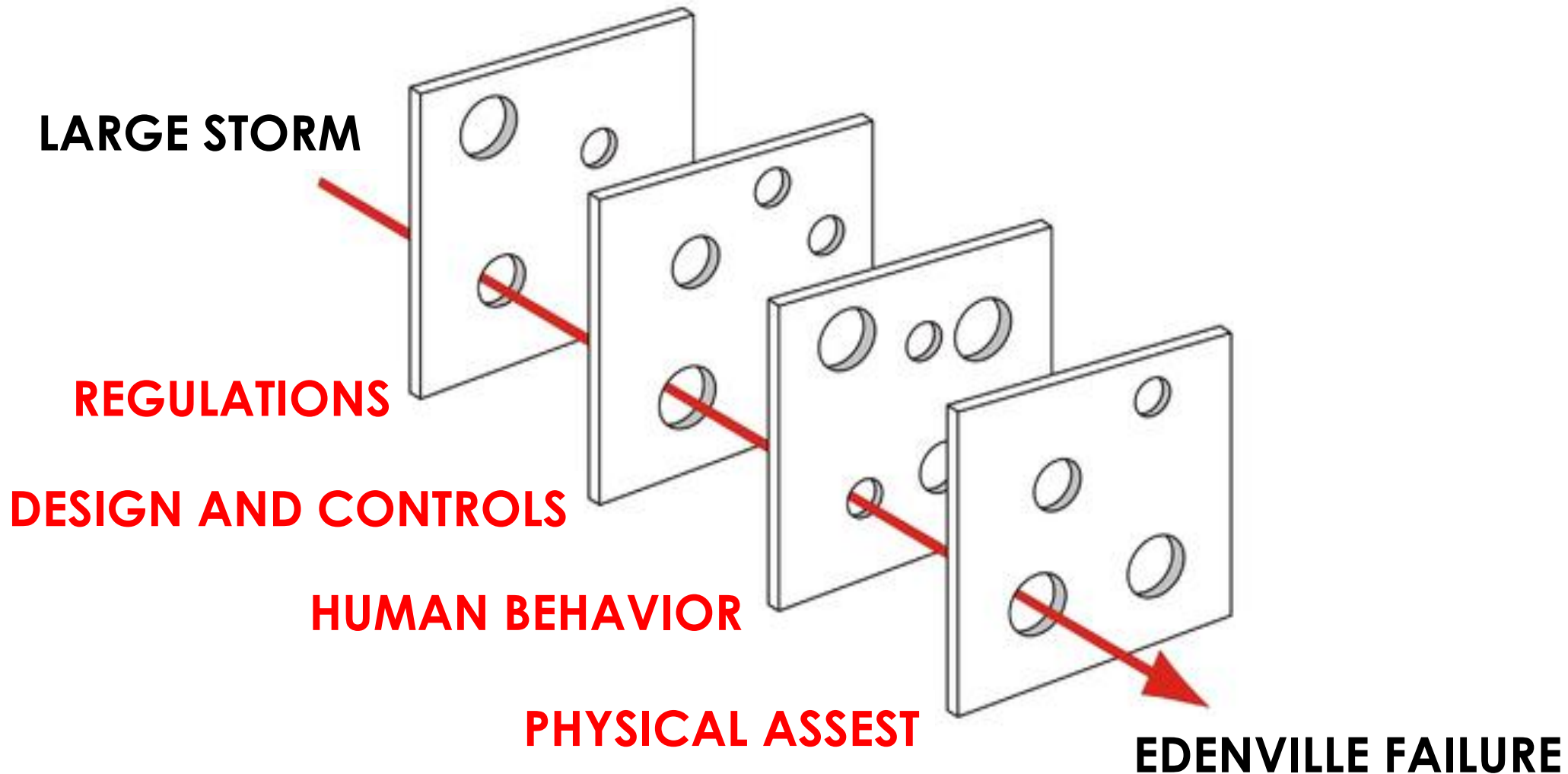
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The “Swiss cheese model” of **accident causation** is a model used in risk analysis and risk management.

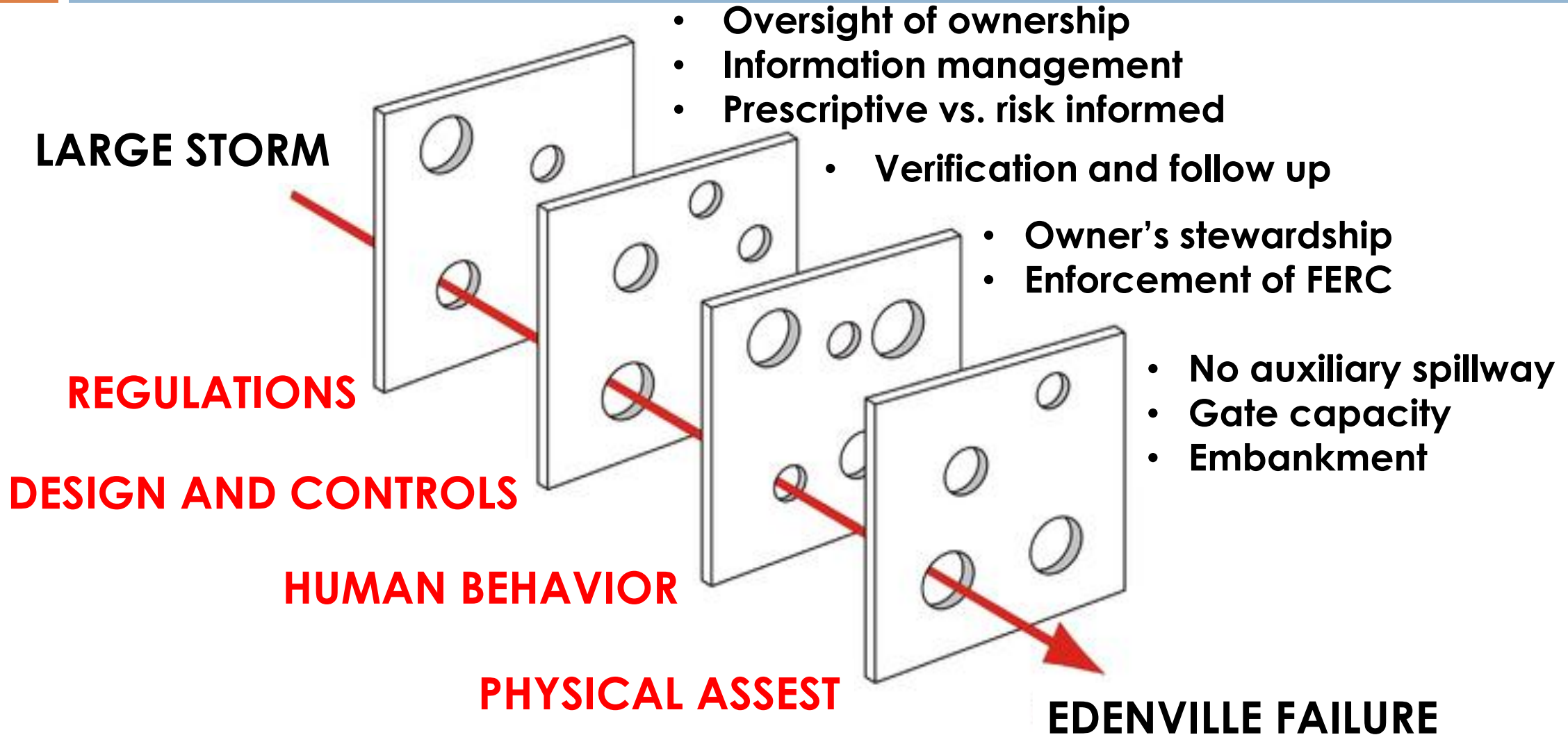
Risk Management – The Edenville Failure

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Gaps in Layers of Protection

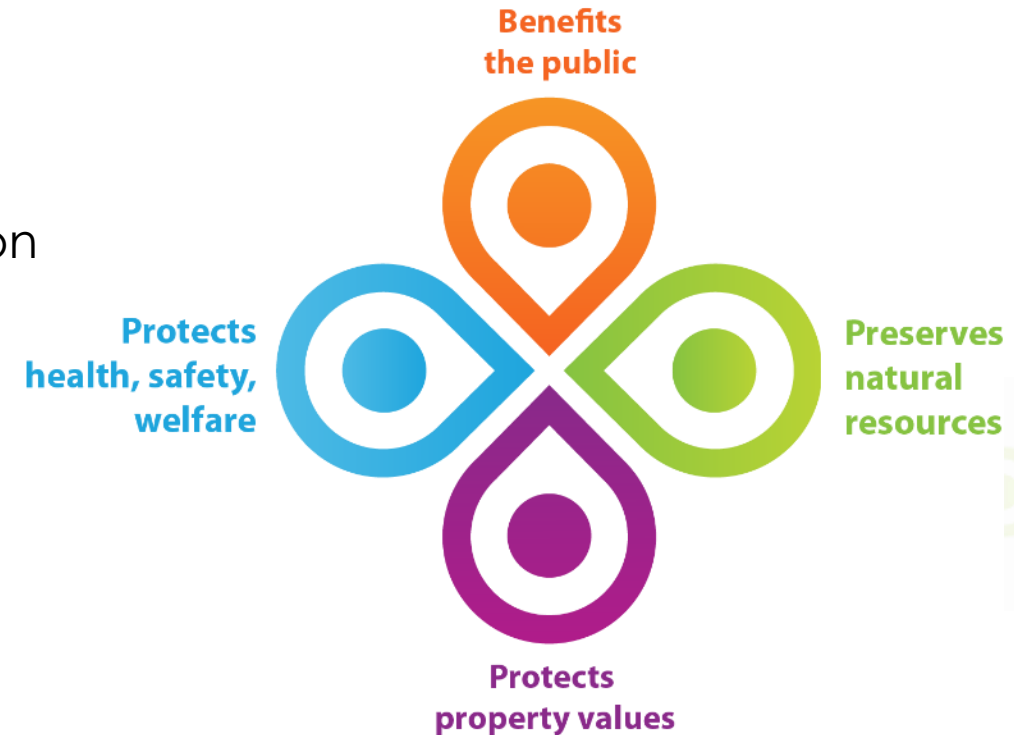
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A Lake Owner's Stewardship Obligation

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- The most benefit to the public
 - Re-creating our **OUR MICHIGAN** promise
- Preserves the natural resources of the state
 - Environmental impact management of construction
 - Long term management of habitat
 - Water quality
- Protects the value of property around the lake
 - Keeping the lakes affordable for property owners
 - Restore the lake levels
- Protects the public health, safety and welfare
 - Design, construction, maintenance and operations
 - Sustained investment in the infrastructure



Four Lakes Restoration

Safety Lakes Local Economy Value Preservation Recreation Natural Resources Environment

Restoring Lake and Stream Functions

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- Lake Function
 - ▣ Restoration of lake levels brings back habitat for many species
- Stream Function
 - ▣ Reconnection of streams with restored legal lake levels
- Sediment Management
 - ▣ System will be able to stabilize with lower velocities
- Reestablishing Ecosystem Services
 - ▣ benefits to people from a healthy ecosystem



Recovery – Nearing Completion

In June of 2020 Four Lakes Task Force, through the counties' resolutions, became their agent to take the Boyce properties and coordinate post-flood-disaster recovery.

FLTF became the local sponsor of the Natural Resources Conservation Service (NRCS) Emergency Watershed Protection (EWP) Program.

Wixom Lake Shoreline Stabilization Efforts

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- Seven shoreline stabilization projects completed
- Approximately 4,966 feet of shoreline stabilized
- Stabilization methods:
 - Grade control structures
 - Rip rap spillways
 - Various rip rap bank stabilization
 - Subsurface drainage
- Four culverts stabilization projects
- Culverts stabilization methods:
 - Box culvert stabilization
 - Culvert extensions
- Approximately \$3,162,228 spent

ANDERSON DRIVE



DUNDAS ROAD SOUTH



Sanford Lake Shoreline Stabilization Efforts

19

- Seven shoreline stabilization projects completed
- Approximately 5,668 feet of shoreline stabilized
- Stabilization methods included
 - Grade control structures
 - Rip rap spillways
 - Various rip rap bank stabilization
 - Subsurface drainage
- Four culverts stabilization projects
- Culverts stabilization methods included
 - Complete removal and replacement
 - Culvert extensions
- Approximately \$3,371,822 spent

CURTIS ROAD



DONALD DRIVE



Wixom Lake Debris Removal Efforts

20

- Wixom Lake debris removal is approximately 70% complete
- Contract cost: \$3,052,542
- Over 1,300 debris points identified
 - ▣ Natural woody debris
 - ▣ Boats
 - ▣ Boats hoists
 - ▣ Milled wood
 - ▣ Other manmade debris
- Project timeline
 - ▣ Started in May 2022
 - ▣ Estimated substantial completion: December 31, 2022



Sanford Lake Debris Removal Efforts

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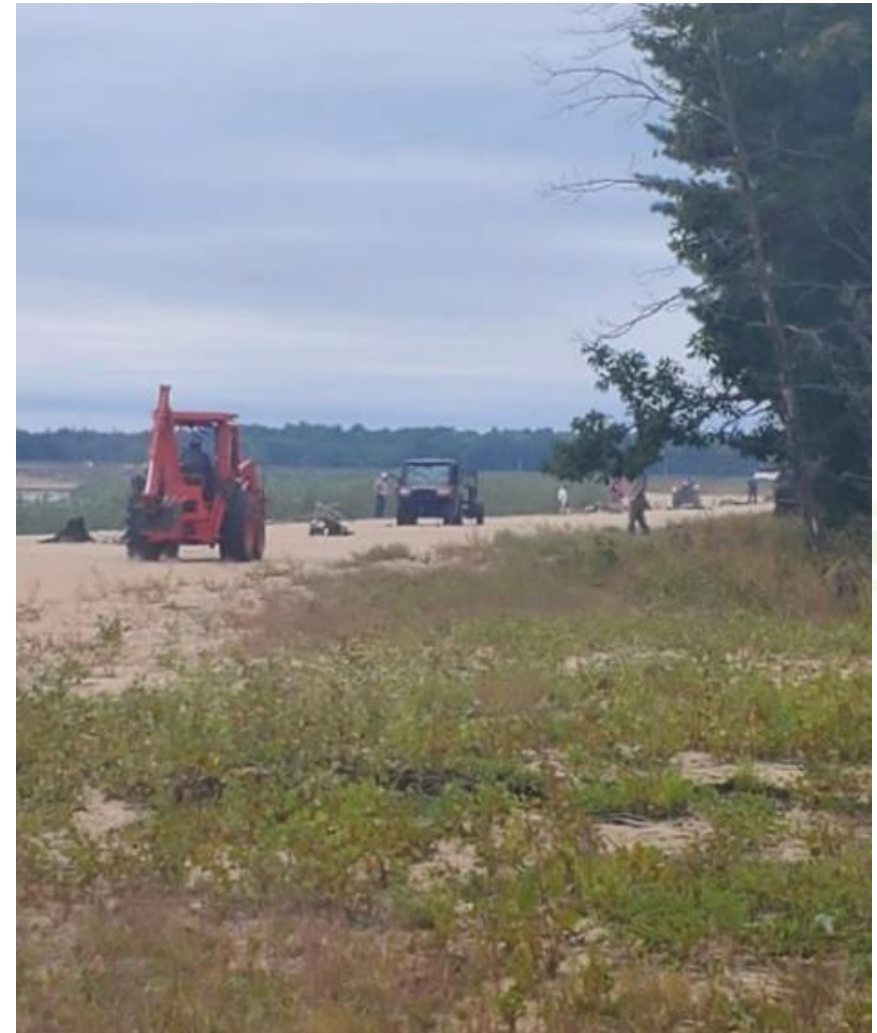
- Sanford Lake debris removal is approximately 75% completed
- Contract cost \$1,269,000
- Over 1,000 debris points identified
 - Natural woody debris
 - Boats
 - Boats hoists
 - Milled wood
 - Other manmade debris
- Project timeline
 - Started in May 2022
 - Estimated substantial completion: December 31, 2022
- Other debris removal projects
 - Sanford Sam debris removal \$245,000
 - River Trails Heritage Park \$225,000
 - Sanford Lake Park \$56,000



Volunteer Efforts

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- ❑ Grass roots support for funding
- ❑ Management and project leadership
- ❑ Lake associations organized several lakebottom cleanup crews to retrieve and organize debris
- ❑ 200 stranded pontoon boats returned to owners
- ❑ Lake residents are voluntarily working with contractors removing debris
- ❑ DIY shoreline repairs workshop by NRCS
- ❑ Pro-bono work by contractors and consultants
- ❑ Lake improvement boards and townships working on vegetation management and erosion support



Secord Dam Repairs

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Smallwood Dam Repairs

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MAJOR ACCOMPLISHMENT

October 28, 2021 | Tittabawassee River once again flows in its original path through the Edenville Dam



Photo taken May 11, 2022

Sediment Plug Removal – Below Edenville Dam

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Bridges Repaired by MDOT



MAJOR ACCOMPLISHMENT

August 24, 2022 | Tittabawasse River is back on course through the Sanford Dam

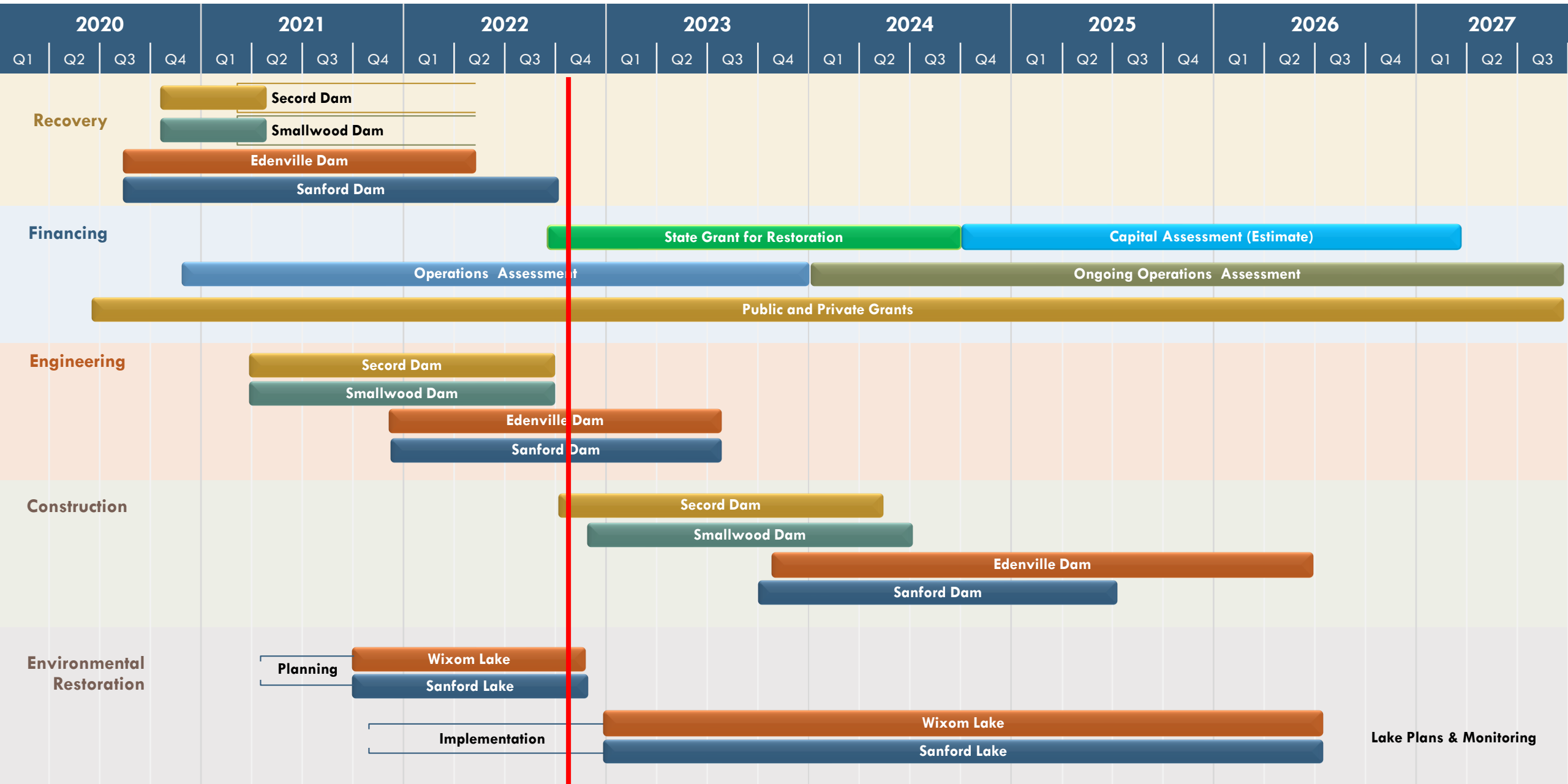


Lake Restoration Plan

A major planning effort has been underway during recovery

- ▣ Flood, engineer and environmental investigations and study
- ▣ Over \$260 million of funding obtained for recovery and restoration
- ▣ Counties approved the project estimates and approved the special assessment methodology for funding

Dam and Lake Restoration Timeline



Lake Restoration Plan

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- Session 2: Hydrology and Hydraulics of the Tittabawassee and Tobacco Rivers
- Session 3: Engineering Design and Construction of the Proposed Repairs and Reconstruction of the Four Lakes Dams
- Session 6: An Ecosystems Approach to Lake Restoration



Stick around for the next session to learn about the flood studies recently performed on the Tittabawassee River watershed and how the proposed spillway capacity upgrades at the FLTF dams will safely pass extreme flood events.

Help Us Restore the Four Lakes

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- The lakes are the heart of our communities
- Still significant debris removal, weed management, erosion control, canal dredging and long-term restoration work that needs to be done and cannot be paid for with the Special Assessment District
- Please donate today. With your support, we're investing in the safety and recovery of the community

