

DAM DECOMMISSIONING WORKSHOP: OPTIONS, OPPORTUNITIES AND CHALLENGES

Northwestern Michigan College - Great Lakes Campus, Hagerty Center
Traverse City, Michigan

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Restoration Alternatives

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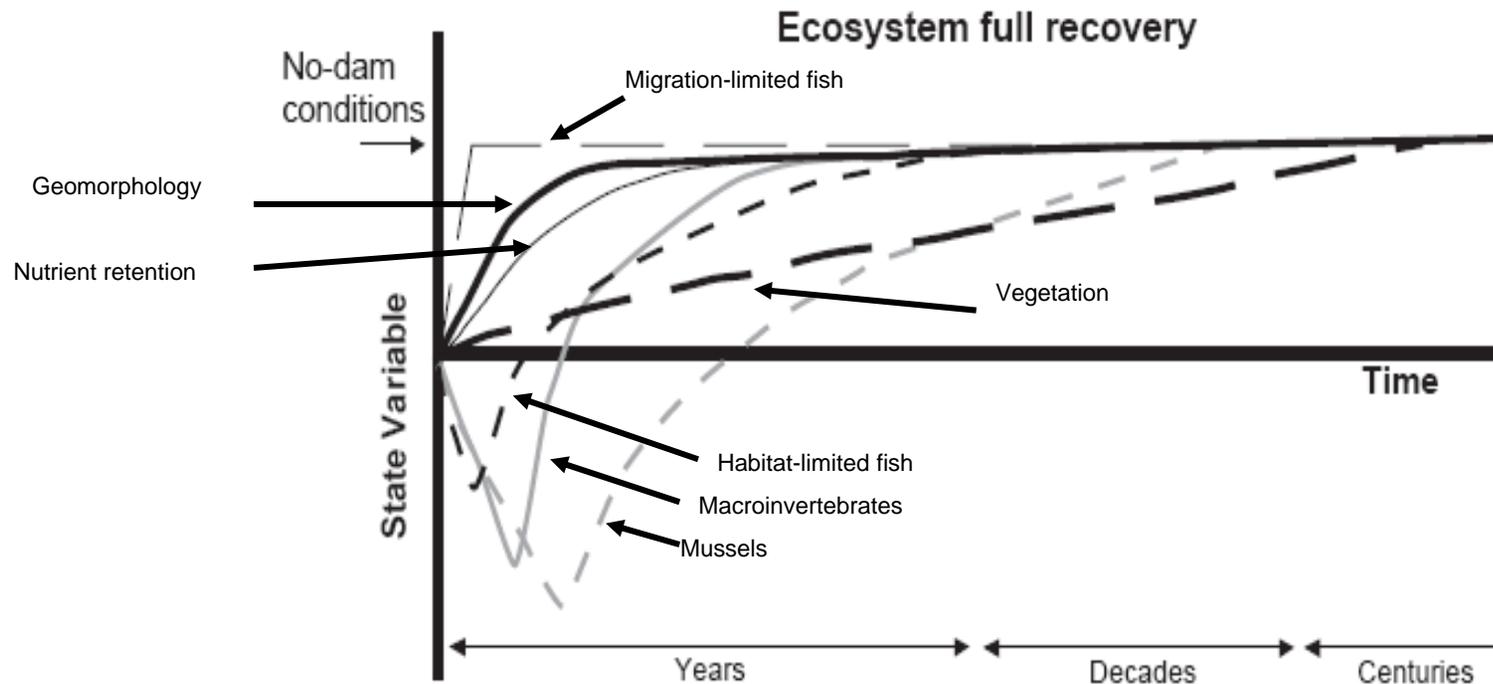
Decommissioning Alternatives

- **Consider components and permutations**
 - Physical components (e.g., channel restoration, partial breaching)
 - Ecological components (e.g., vegetation succession plan, invasive species control plan)
 - Societal components (e.g. mitigation banking, flood damage reduction, avoided costs)
- **Consider response**
 - Maximize rate of recovery of physical and ecological systems
 - Minimize negative aspects of removal
 - Identify sensitive species or systems
 - Mitigate potential impacts



Goal-Setting

- **Realistic expectations may guide alternatives**
 - **Short-term (e.g., migration-limited fish)**
 - **Long-term (e.g., geomorphology, mussels)**

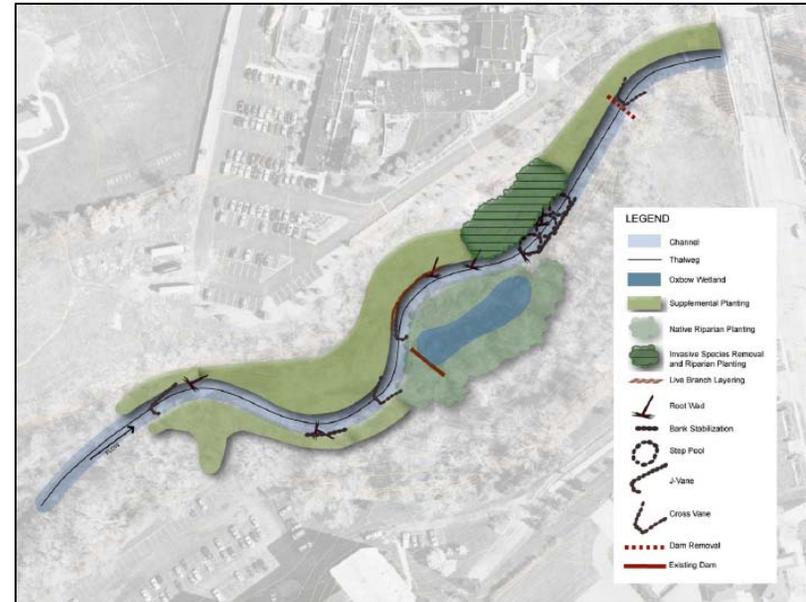


Doyle, MW, EH. Stanley, CH Orr, AR Sellec, SA Sethi, JM Harbor (2005) "Stream ecosystem response to small dam removal: Lessons from the Heartland" *Geomorphology* 71 (2005) 227–244



Restoration Alternatives Example

- **Requirement: Public Safety**
 - Removal
 - Cutoff
 - Grouting
 - Increase spillway capacity
 - Decrease height
 - Repair
 - By-pass
 - Partial breaching
 - Rock ramp
 - Permutations



Concept for Bypass for West Creek, OH

(<http://www.westcreek.org/west%20creek%20DAE%20report%204-5-06.pdf>)

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Dam Decommissioning Workshop, Traverse City MI, 24-25 April 2006



Simple unweighted

