

Boardman Watershed Project

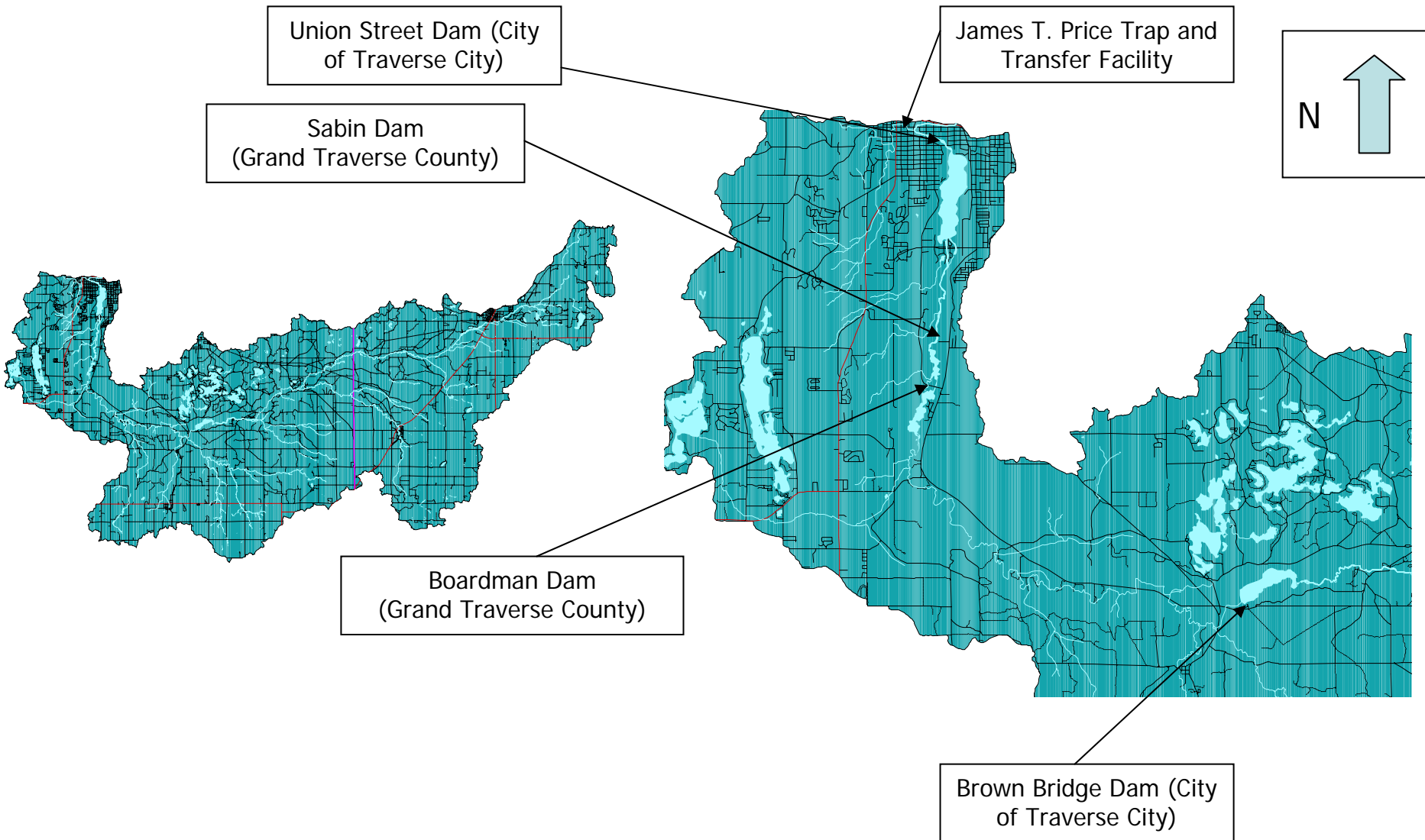
- Overview of the Boardman Watershed Project
- Review of existing watershed conditions
- Dam removal
- Watershed sustainability and stewardship
- Project transferability
- Next steps

Todd Kalish
MDNRE-Fisheries Division
Boardman River Dams Implementation Team Chair

The Boardman Watershed Project



Boardman River Watershed



Boardman Watershed Project Timeline

- Community-based dam disposition assessment (2005-2008)
 - Assess current conditions
 - Assess alternatives
 - Provide recommendation
- Watershed restoration project (2009~2015)
- Watershed sustainability and stewardship project (2005-perpetuity)

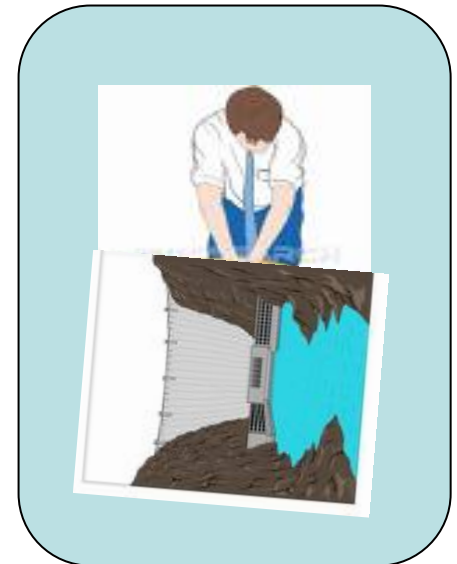
Dam Disposition CPR

-Content, Process, and Relationships-

- Content

- What/Why/When

- Dam removal or disposition
 - Environmental, economical, social
 - Project context
 - Short and long-term goals
 - Ecosystem and holistic driven versus issue driven



Boardman Watershed Project

Existing Conditions

- **Most comprehensive dam removal project in the Great Lakes Region**
- **Environmental**
 - Natural River, Blue Ribbon, threatened species, game species, water quality, local and regional context
- **Economical**
 - Tourism, jobs, 2 million recreational user days/year
- **Social**
 - Quality of life, recreational opportunities

Boardman Watershed Project

Existing Conditions

- Hydropower
 - Environmental
 - Significant, documented negative affects on aquatic populations and habitat
 - Economical
 - Present value of gross revenue over 30 years: \$9,690,000
 - Present value of cost to relicense, operation, maintenance, and repairs: \$16,768,000
 - Social
 - Green energy, flood control



Boardman Watershed Project

Assessment of Alternative Conditions

- Assessed pros and cons of dam retention, modification, and removal
- Compiled 15 technical reports
- Geotechnical engineer, Civil engineer, Structural engineer, Hydrologist, Floodplain modelling specialist, Cost estimator, Aquatic biologist, Fisheries biologist, Wildlife biologist, Wetland ecologist, Botanist, GIS/GPS specialist, Environmental planner, Stream ecologist, Stream geomorphologist, Sediment toxicologist, Landscape ecologist, Surveyor, Erosion and sedimentation control specialists, Natural resource economist, Archaeologist, Historian

Boardman Watershed Project

Dam Removal Option

- Environmental
 - 253 acres of wetland habitat restored, 169 miles of riverine connection, 3.4 miles of river restored, 57 acres of upland habitat restored, increased habitat diversity
- Economic
 - Increased waterfront property values (0.6%), increased recreational value (\$241,000), increased tourism spending (\$1.58 million), new tourism-based jobs
- Social
 - Community stewardship, holistic and ecosystem-based management, short-term and long-term focus

Boardman Watershed Project

Costs

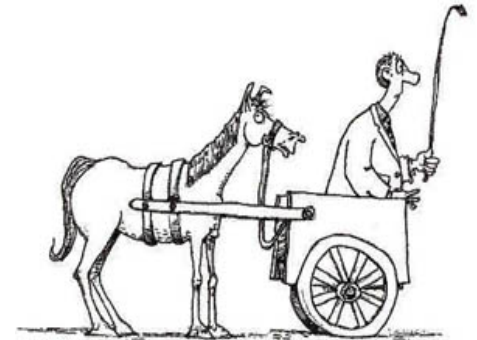
Funding source	Amount	Allocation
GLFT	\$476,000	Project administration, capacity building, and engineering and feasibility
US ACOE	\$368,000	Engineering and feasibility
FWS Tribal Wildlife	\$200,000	Engineering and feasibility
Grand Traverse County	\$150,000	Project administration and engineering and feasibility
MI DNR	\$100,000	Project administration and engineering and feasibility
City of Traverse City	\$50,000	Project administration and engineering and feasibility
TCLP	\$50,000	Project administration and engineering and feasibility
TC Rotary	\$45,000	Project administration
US FWS	\$35,000	Engineering and feasibility
Total	\$1,474,000	
Current project	Estimated cost: ~\$16 million	\$5.6 million with ACOE 65% cost share
City of Traverse City	\$25,000	Project Manager
Grand Traverse County	\$25,000	Project Manager
US FWS	\$25,000	Bottomland management
Tribal Wildlife Grant (FWS, expected)	\$200,000	Dam removal permitting, planning, and data collection
BIA-Circle of Flight (expected)	\$873,965	Technical support, permitting, planning, and data collection

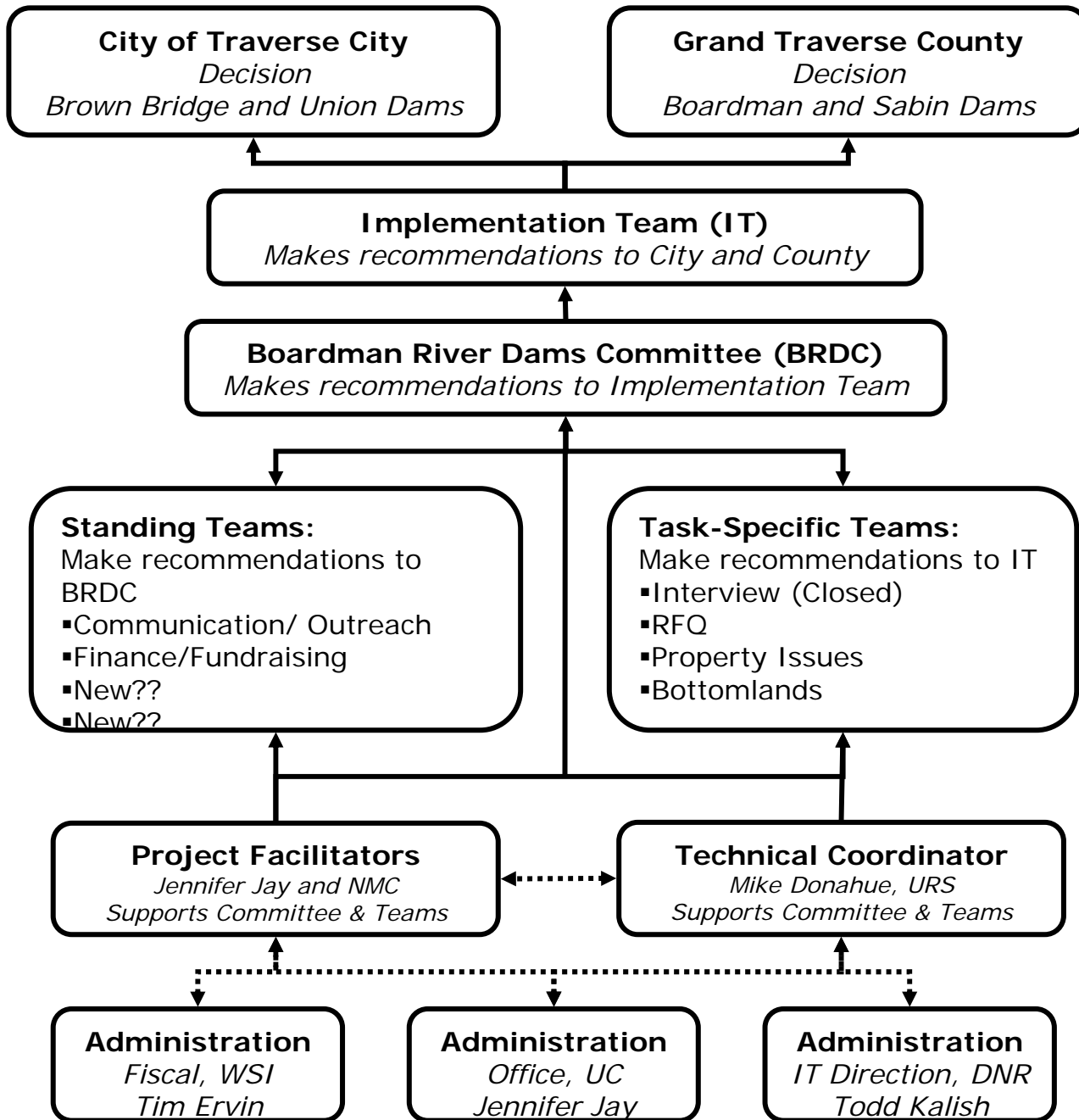
Dam Disposition CPR

- Process

- How

- Develop an **organizational framework** that promotes the effective involvement of diverse stakeholders
 - Decision-making, team composition, experts, etc.
 - Core team

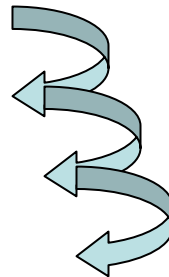




Boardman Watershed Project

Organizational Structure

- “The most significant problems we face today can not be solved using the same level of thinking that created them.”
 - A. Einstein
- Public comment versus involvement
 - Involvement
 - Empowerment
 - Capacity building
 - Stewardship



Participation, Involvement, and Collaboration

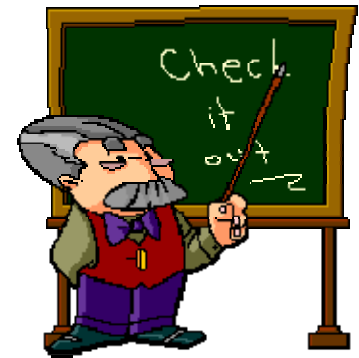
- Over 1,000 members
- Local, State, Tribal, private, non-profit, and Federal participation
- Global interest
- 180 public meetings (2,500 people)
- 2,000 questions answered
- Public survey (18,000 distributed)

Empowerment

- Original 93 questions
- Scope of Work
- Community-driven working teams
- Engineering and Feasibility Study
- 81 original dam alternatives
- Recommendation

Capacity Building

- Facilitation/teambuilding workshops
- Facilitation opportunities at meetings
- Observation and learning
- Internships
- Active engagement with resource professionals and governmental officials



Community Stewardship

- Long-term ecosystem based appreciation and action
- Boardman River Watershed Sustainability project
- DTE Freshwater Institute
- Boardman River Nature Center
- Grand Visioning
- Land Use and Transportation Study



Dam Disposition CPR

- Relationships

- Who

- Broad context
 - People are the foundation and strength of the project



Boardman Watershed Project

Active Participants

- Three Federal agencies, one Tribal agency, two State agencies, four local governmental agencies, two colleges, one high school, three private organizations, eight non-profit groups

Boardman Watershed Project

In-kind match

Organization	In-kind match
Mactech	\$133,200
NMC	\$80,000
BRDC meetings	\$60,646
MDNRE	\$60,000
CRA	\$35,600
Varnuum Rittering	\$25,000
US ACOE	\$25,000
MDEQ	\$14,000
EPA	\$5,000

Boardman Watershed Project

Transferability

- Organizational structure
- Decision-making processes
- Community involvement initiatives
- Facilitation/teambuilding training modules
- Public survey methodology
- Public presentations
- In-kind service matrices
- Communication matrices
- Documentation matrices
- Content-specific information

Next Steps

- IT monthly meetings
 - Bottomlands management
 - Communications
 - Fundraising
 - Permitting
 - Implementation
- Boardman Watershed Stewardship Team

Conclusion

- This project is more about the watershed than the dams
- "When we tug at a single thing in nature, we find it attached to the rest of the world."
- John Muir

