



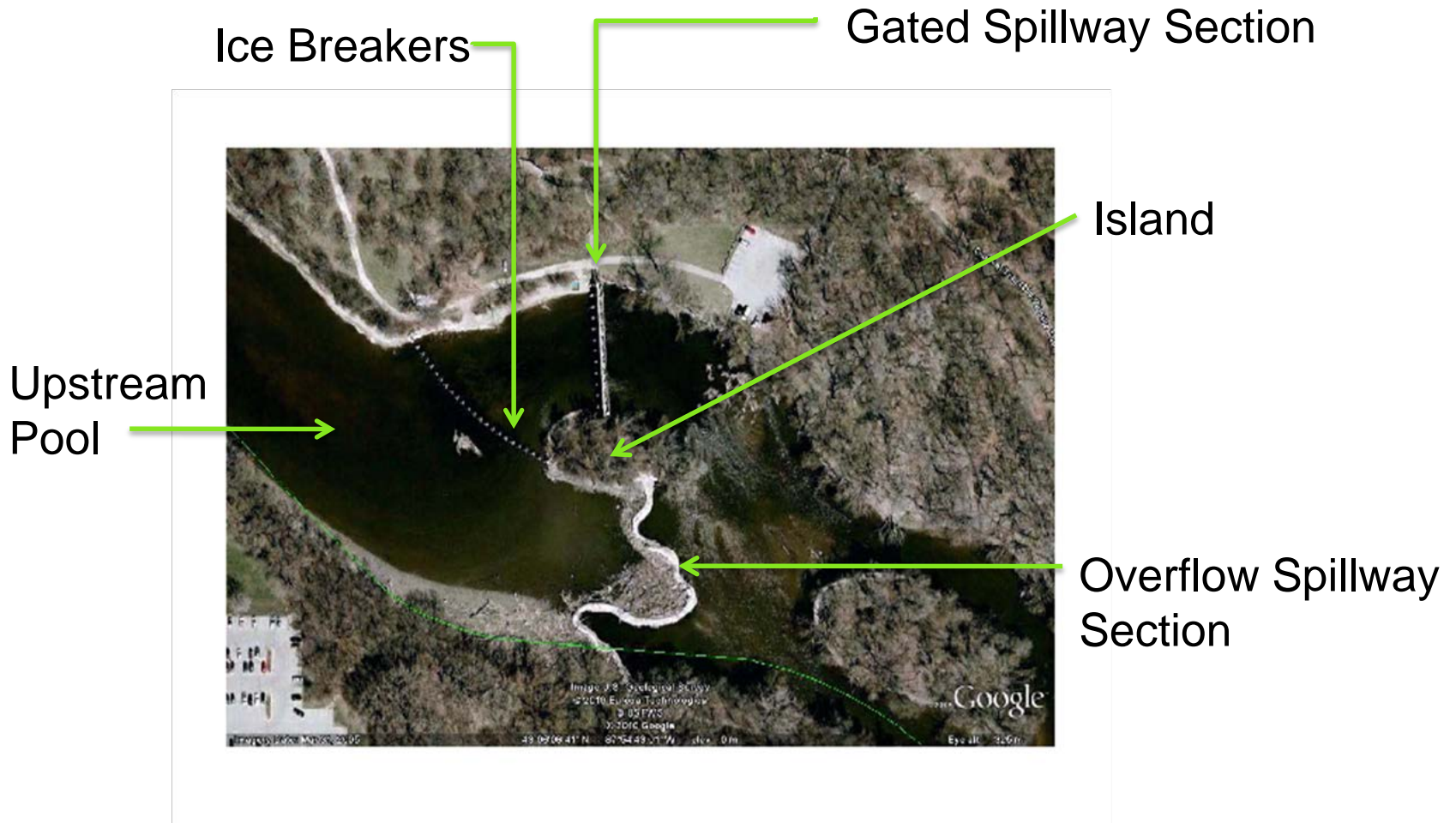
Estabrook Dam – Environmental Assessment Update

Milwaukee County Parks, Energy, and Environment Committee Meeting –
October 28, 2014

Presenters

- Kevin Haley, PLA, Milwaukee County
- Don Pirrung, P.E., PH, AECOM

Estabrook Dam Aerial View, with Features



Discussion Topics

- Overview of Environmental Assessment
- BLM Jurisdiction of Island at Dam
- Dam Structural Condition
- Fish Passage
- Public Comments
- Property Values

Overview of Environmental Assessment

- Project Costs for Alternatives
- Environmental Impacts

Project Costs

Alternative	Estimated Capital Cost	Annual Estimated O&M Cost
1A – Rehabilitate Dam, Fish Passage	\$2,518,000	\$160,000
2 – Remove Dam	\$1,674,000	\$0
4 – Rock Ramp at Dam, Fish Passage	\$2,419,000	\$55,000

Funding

1. County has \$1,600,000 Bonding Capacity through annual budget process.
2. WDNR Municipal Dam Grant Program: \$400,000 for dam repair. County can request funds for dam removal or rock ramp.
3. Wisconsin Stewardship Fund: Up to \$1,000,000 available for dam repair, dam removal, and fish passage.
4. US Fish & Wildlife authorized a grant for \$220,000 for fish passage.
5. Annual O&M Costs – County responsibility.

Present Worth Analysis

Alternative	Estimated Capital Cost	Present Worth O&M Cost	Total Present Worth
1A – Rehabilitate Dam, Fish Passage	\$2,518,000	\$2,616,000	\$5,134,000
2 – Remove Dam	\$1,674,000	\$0	\$1,674,000
4 – Rock Ramp at Dam, Fish Passage	\$2,419,000	\$899,000	\$3,318,000

Alternative 2 – Lowest capital cost, no O&M cost, and lowest total present worth cost.

Present worth analysis based on 2% interest, 20-year period.

BLM Jurisdiction

- BLM Jurisdiction of Island at Dam
 - ▶ Continues under review by BLM

Dam Structural Condition

- Structural improvements
- Upgrading gates
- Tree removal at dam structure
- Alternative 1A – Same as Proposed Action plus Fish Passage





77-Year Old Dam





Repair stairs at both ends of gated spillway

Photo 7/8/10

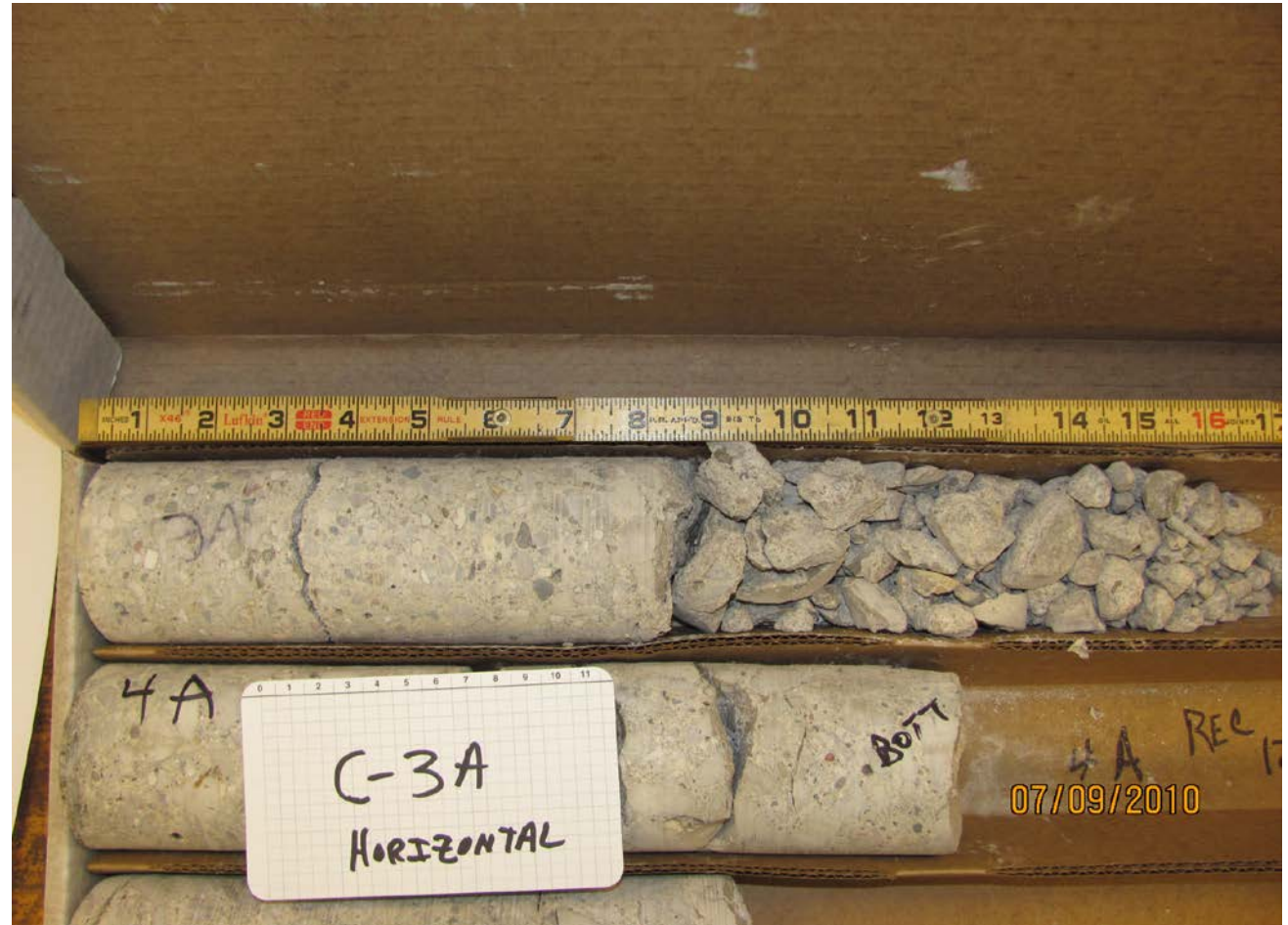


Repair deterioration below water line at gate piers

Photo 8/8/10

Concrete Core

Concrete Core of Pier



Overflow Spillway Debris Pre- and Post-July 2010 Flood

- Debris management is key element in annual O&M



Overflow Spillway Before
July 22, 2010

Photo 6/25/10

Spillway After July 22,
2010
(Taken 8/12/10)



Fish Passage

- Allows fish to travel and migration
- Improves fishing and recreation
- Ozaukee County invested \$8 Million in fish passage
- Improves fish and aquatic life diversity

Public Input

- June 5, 2014 – Public Scoping Meeting
- September 3, 2014 – Public Information Meeting

❖ Over 125 attended on September 3, 2014

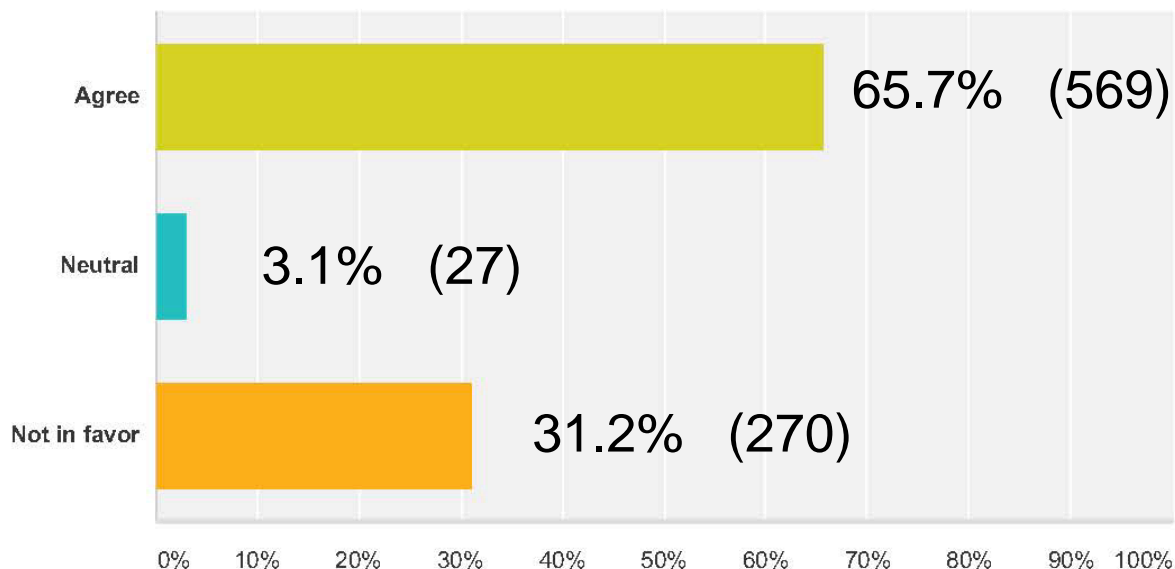
- County Website Survey
 - 866 responses
 - Survey plus written comments
- Written Comments at Meeting – 85 responses
- Emails to County
- Total – Over 1,000 comments

Public Input

➤ Question 1 Responses

Q1 Estabrook Dam Alternative 1A: Rehabilitate the dam and add a fish passage structure.

Answered: 866 Skipped: 0



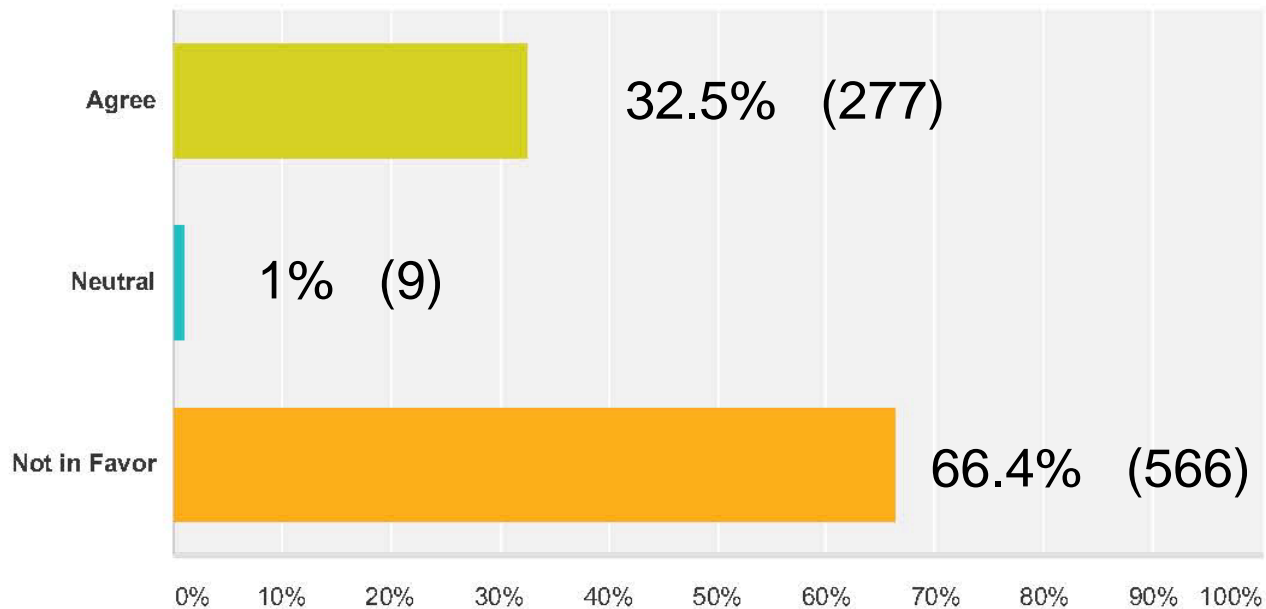
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Public Input

➤ Question 2 Responses

Q2 Estabrook Dam Alternative 2: Remove the dam.

Answered: 852 Skipped: 14



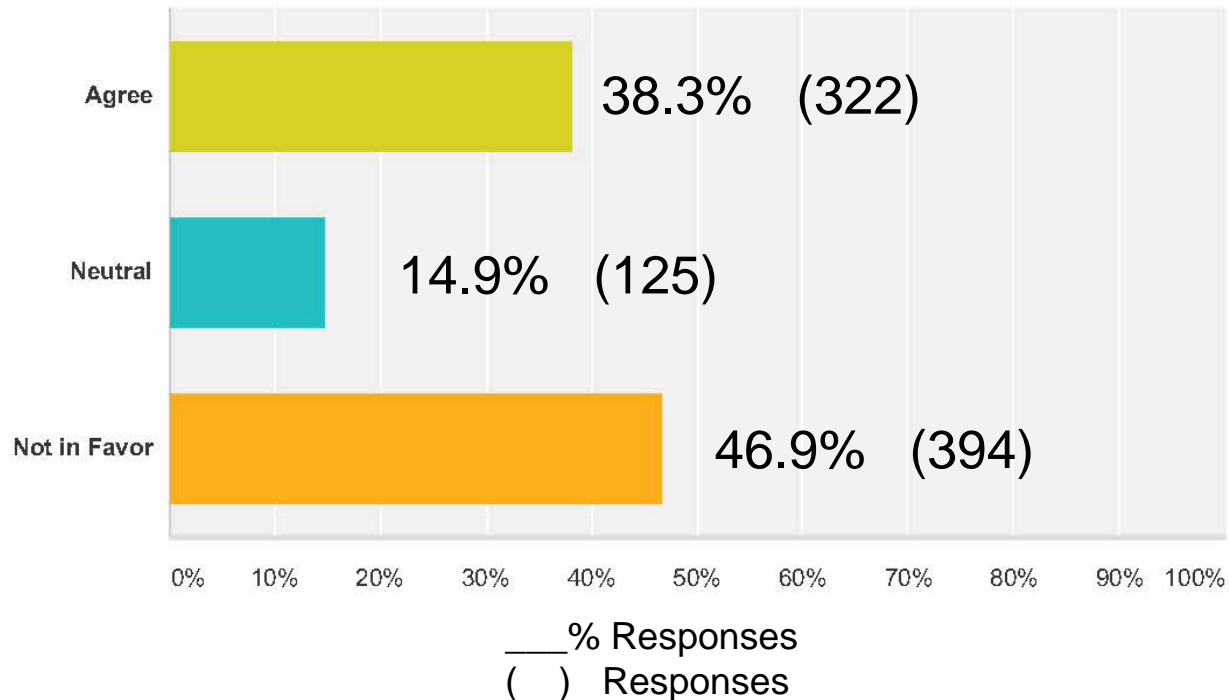
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Public Input

➤ Question 3 Responses

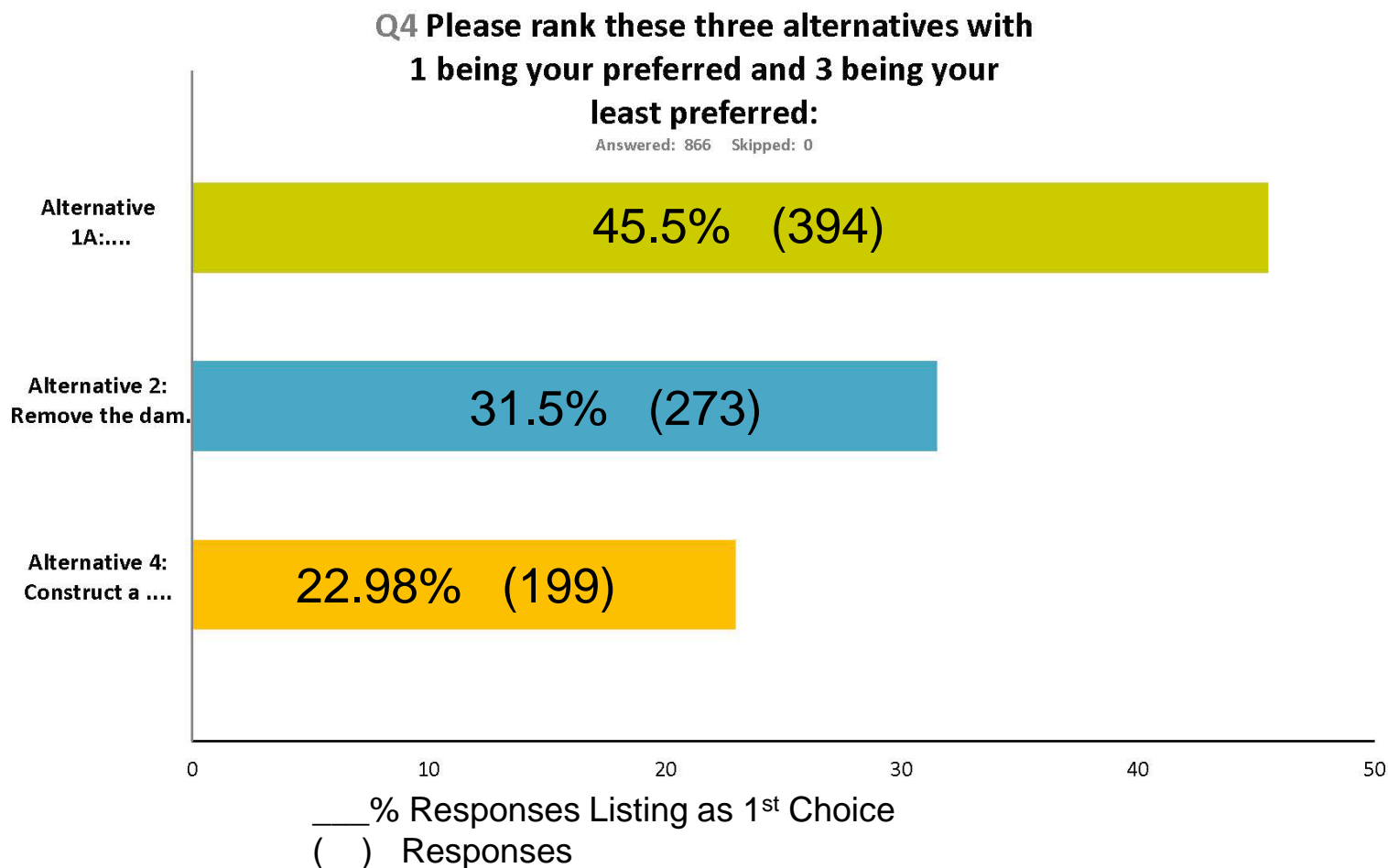
Q3 Estabrook Dam Alternative 4: Construct a 6' 3" rock ramp at dam to create an impoundment and provide fish passage.

Answered: 841 Skipped: 25



Public Input

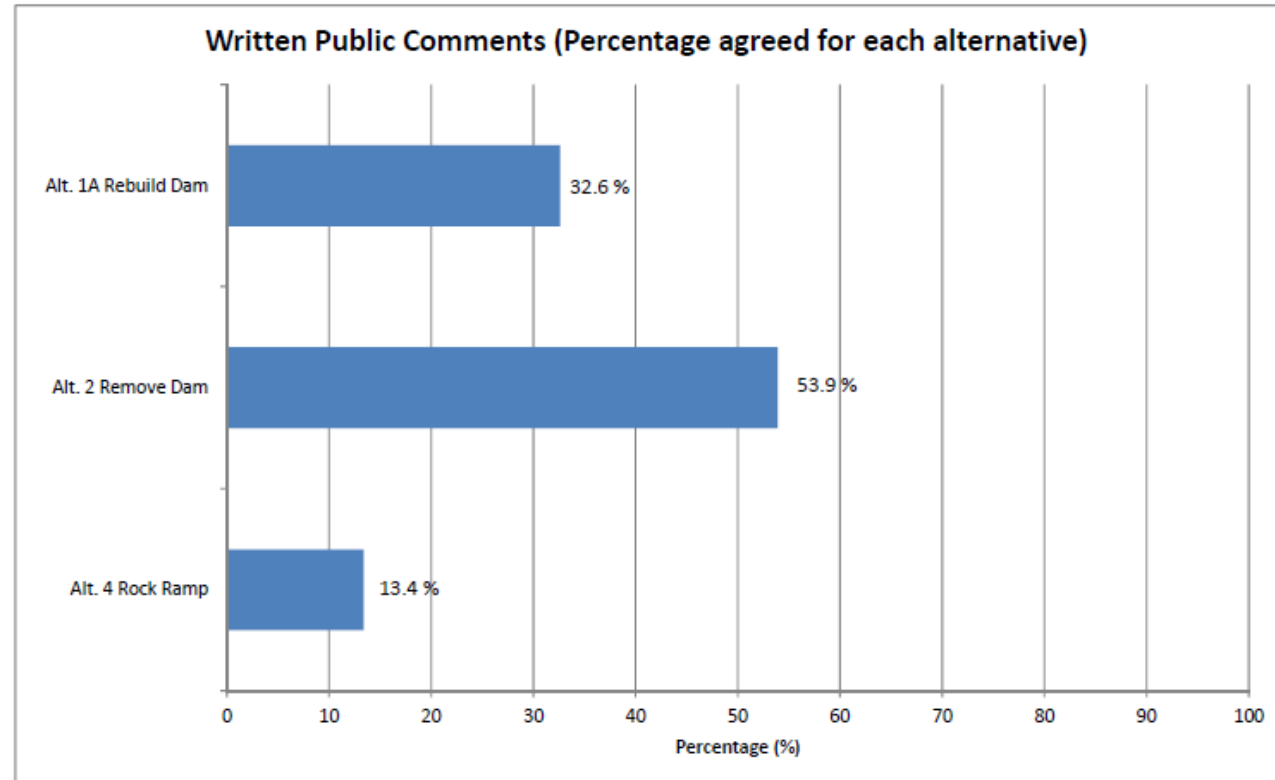
➤ Question 4 Responses



Public Input

➤ Written Comments

➤ 85 Comments



➤ Emails to County

- Rebuild Dam - 6
- Remove Dam - 19

Endorsements

Alternative 2 – Remove Dam

- MMSD
- River Revitalization Foundation
- Milwaukee Riverkeeper
- River Alliance
- J Val Klump, JD, PhD, Great Lakes Water Institute
- Colin Johnson, Local Floodplain Administrator
- David Dunker, Zingen & Braun Insurance Agency
- Executive Committee Wisconsin Council of Trout Unlimited
- Ken Leinbach, Urban Ecology Center

Endorsements

Alternative 1A – Rebuild Dam with Fish Passage*

- Milwaukee River Preservation Association
- *Prefer Rebuilding Dam and No Fish Passage
- Local Real Estate Salespeople (39)

Property Values

- Residential Properties from Dam to West Bender Road: 163
- Residential Properties Assessed Value: \$36,331,900
- Average Residential Property Value: \$222,900
- Assessed Property Values on River/Impoundment
 - ▶ City of Milwaukee: Discretionary increase by Assessor of 25% with water access
 - ▶ City of Glendale: Property value can be affected by personal preference – Fisherman vs. Boater

Property Values

➤ Technical Literature

- ▶ Provencher, UW Madison 2006 Report

➤ Legal Challenges

- ▶ Lake Nemahbin Roller Mill Dam, Delafield, Wisconsin
- ▶ Little Hope Dam, Waupaca County, Wisconsin

➤ North Avenue Dam Removal

- ▶ Property values increased

Recommendations

Recommend Alternative 2 – Remove Dam based on:

1. Lowest capital cost.
2. No long-term operating costs.
3. No liability issues with dam operation.
4. Most environmentally protective of all alternatives.
5. Consistent with fish passages for North Avenue Dam and Ozaukee County's \$8,000,000 investments.
6. Handles the 100-year flood.