

DECISION MATRIX

A consequence table is a summary matrix that illustrates how each alternative performs relative to each project objective. It provides concise estimates of the predicted outcomes, highlighting the trade-offs among objectives across the different alternatives under consideration. By clearly organizing this information, the consequence table makes subjective values visible, discussable, and comparable. Given the complexity of most dam decisions—and the number of competing objectives—the consequence table provides a visual structure for tracking and comparing impacts. Without such a framework, discussions can easily revert to entrenched positions or rely on quick cognitive shortcuts, rather than informed, value-based reasoning.

Once the feasibility studies have been completed, the decision matrix can be filled in to reflect the results of those studies. The matrix serves as a summary table, linking each alternative to its expected performance on the project objectives. It helps both the project team and the community visualize trade-offs and understand how different choices align with shared goals.

If the matrix is being used as part of an early exploratory round, the feasibility studies may not yet be complete—and that's okay. At this stage, the goal is not precision but understanding. The matrix can be filled in using constructed or qualitative scales to reflect general relationships rather than detailed quantitative data. For example, an early matrix might simply indicate “greater fish passage” versus “less fish passage,” “higher cost” versus “lower cost,” or “water levels will be lower” versus “water levels remain the same.”

As studies progress, the decision matrix can be refined and updated with more detailed, quantitative information drawn from hydrologic modeling, ecological assessments, cost estimates, and engineering analyses. The matrix is designed to be iterative—evolving alongside the project as new information emerges and as participants deepen their understanding of values, trade-offs, and consequences.

Facilitators can use this evolving table to guide discussion and highlight how new data may shift perceptions of alternatives. Whether qualitative or quantitative, the key is to ensure the matrix remains transparent, understandable, and relevant to the decision at hand—supporting informed dialogue and helping the group move toward a clear, shared understanding of the choices before them.

PRE-WORKSHOP PREPARATION

Before the workshop, organizers should prepare a decision matrix. List the alternatives along the top of the sheet and the objectives or trade-offs along the left side. Within each cell, indicate the impact of each alternative on the corresponding objective. Depending on the stage of the process, the matrix may include general qualitative impacts (e.g., positive, neutral, negative) or quantitative data from feasibility studies. To make the matrix visually accessible, consider using icons, symbols, or color coding to communicate the relative impact of each alternative.

- Print the matrix on 11x17 sheets of paper. Every participant should have one matrix.
- Bring enough green, yellow, and red dots for everyone to have a couple of each color.

SETTING UP THE EXERCISE

Hand out a copy of the decision matrix to each participant. Display the matrix using a projector or screen share, and take time to walk through the evaluation of how each alternative performs relative to the objectives.

RANKING

Provide each participant with red, yellow, and green stickers, and ask them to rank the alternatives using the following system:

GREEN = Preferred option – “This is a great solution.”

YELLOW = Acceptable option – “Not the best, but I could support it.”





















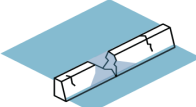
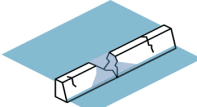
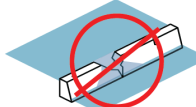
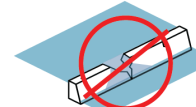
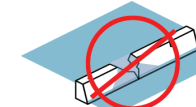
RED = Opposed – “I cannot support this option.”

Each participant must use at least one green and one yellow sticker. The yellow “acceptable” category helps participants identify areas of potential negotiation or compromise.

Once participants have placed their stickers, go around the circle and ask them to briefly explain their reasoning—why they support or oppose specific alternatives. As participants speak, the note taker should compile the rankings into a master sheet, recording the number of preferred, acceptable, and opposed votes for each alternative.

After the discussion, participants may re-rank the alternatives to reflect any shifts in perspective that occurred during dialogue. Provide each participant with a new set of stickers (one green, one red, two yellow, and one optional color). Ask participants to share their final rankings and reasoning. As before, the facilitator should record the results on the master sheet to document how the group’s preferences evolved through discussion.

PROJECT OBJECTIVES		Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
ECOLOGICAL OBJECTIVES	Ecological Objective 1						
	Ecological Objective 2						
CULTURAL AND AESTHETIC OBJECTIVES	Cultural and Aesthetic Objective 1						
	Cultural and Aesthetic Objective 1						
INFRASTRUCTURAL OBJECTIVES	Infrastructural Objective 1						
	Infrastructural Objective 2						
ECONOMIC OBJECTIVES	Economic Objective 2						
	Economic Objective 3						
<div>GREEN = Preferred</div> <div>YELLOW = Acceptable</div> <div>RED = Oppose</div> <div>You must use at least one green and one yellow sticker</div>							

RIVER ALTERNATIVES Summary Table		Keep and Repair Dam	Technical Fish Ladder	Nature Like Fishway	Divert River Around Dam + Add Water Feature	Remove Dam	Other
ECOLOGICAL TRADE-OFFS	Improve fish passage up and downstream	0% Passage	30%-50% Passage	60%-70% Passage	90% Passage	100% Passage	
	Improve water quality in the impoundment	 Water quality stays The same	 Water quality stays The same	 Water quality stays The same	 Water quality improved	 Water quality improved	
CULTURAL AND AESTHETIC TRADE-OFFS	Increase recreational opportunities on the river	 Recreation risks maintained	 Recreation risks maintained	 Recreation risks maintained	 River recreation improved	 River recreation improved	
	Maintain visibility of historic dam	 Dam Visible	 Dam Visible	 Dam no longer Visible	 Dam Visible	 Dam no longer Visible	
	Maintain water levels in impoundment	 Water levels maintained	 Water levels maintained	 Water levels maintained	 Water levels lowered	 Water levels lowered	
INFRASTRUCTURAL TRADE-OFFS	Reduce the risk of flooding upstream	1,038 Acres flooded with 100-year storm event	1,038 Acres flooded with 100-year storm event	1,038 Acres flooded with 100-year storm event	645 Acres flooded with 100-year storm event	514 Acres flooded with 100-year storm event	
	Reduce risk to downstream communities if the dam fails	 Risk reduced because of repairs to dam	 Risk reduced because of repairs to dam	 Risk reduced due to repairs and build-up of elevation	 Dam no longer a risk	 Dam no longer a risk	
ECONOMIC TRADE-OFFS	Minimize up-front costs	\$	\$\$	\$\$\$	\$\$\$	\$\$	
	Minimize long-term costs and maintenance	\$	\$\$	\$\$	\$	0	
	Increase the likelihood of external funds to offset upfront cost	NOT LIKELY	LESS LIKELY	LESS LIKELY	POSSIBLE	LIKELY	
GREEN = Preferred YELLOW = Acceptable RED = Oppose You must use at least one green and one yellow sticker							