

# RECLAMATION

*Managing Water in the West*

*Henry's Fork Basin Study  
Workgroup Meeting -- May 8, 2012*

## ***DSS (Decision Support System) Progress/Overview***

In Cooperation with:  
Idaho Water Resource Board



and



U.S. Department of the Interior  
Bureau of Reclamation

Henry's Fork Watershed Council

# Outline

- **DSS (Decision Support System) Purposes and Uses**
- **DSS Elements**
  1. Alternative/Action types
  2. Data used for comparisons
  3. Base results and best/worst identification
  4. Conversion to common unit of measure
  5. Comparison of alternatives at different levels of aggregation
- **Development Status**

# DSS Purposes and Uses

- **Decision *support*, not decision *making***
- **“Apples to apples” comparison of alternatives – with disparate characteristics and different units of measure**
- **Aggregation of results (i.e. composite score for multiple characteristics)**
- **If desired, assignment of higher weight/importance to some characteristics over others (not done or planned to date)**

# DSS Elements

## 1. Alternatives/Action Types

- Surface Storage
- Groundwater
- Conservation

*Comparisons within & across action types*

# DSS Elements

## 2. Data Used for Comparison of Alternatives: A Hierarchy

- Perspective
- Category
- Factor
- Criteria

*DSS enables comparison of alternatives at each level*

# DSS Elements

Perspective		
Categories	Factors	Criteria
<b>A. Hydrology, Hydropower and Flood Control Benefits</b>		
Primary Benefits	Water Supply Volume	
	Potential Water Supply Benefits	In-Basin Agriculture
		In-Basin M & I
		State
Secondary Benefits	Hydropower	
	Flood Control	
<b>B. Implementation Costs and Legal/Regulatory Constraints</b>		
Cost	Development Cost	Total Cost
		Cost Per Acre-Foot
Legal, Institutional, or Policy Constraints		

# DSS Elements

Perspective		
Categories	Factors	Criteria
<b>C. Biophysical Resources-Opportunities and Constraints</b>		
Wildlife Habitat		Large Game Habitat Value
Federal Listed Species		
Wetland/Habitat Value		
State Species of Special Concern-- Yellowstone Cutthroat Trout		Presence in Affected Stream; Conservation Status If Present
Special Designation		BLM/USFS Eligible Stream, State Natural River, State Recreational River, or Designated Wilderness
Stream Connectivity		
<b>D. Socio-Cultural Resources-Opportunities and Constraints</b>		
Land Management		Land Ownership or Special Designation
Recreation/Economic Value		Relative Value and Potential for Significant Adverse Impact (qualitative rating)
Infrastructure/Developed Land Use		Relative Value and Potential for Significant Adverse Impact (qualitative rating)

# DSS Elements 3. Base Results & B/W

 = Best  
 = Worst

~30 Alternatives →

Lane Lake (LL)

## Varied Units of Measure

LL-T

LL-CoF

LL-B

### A. Hydrology, Hydropower & Flood Control

#### Acre-Feet

68,000

68,000

67,820

Potential In-Basin Subareas Benefited: 0 (none) to 4 (all) = Worst to Best

3

3

3

Potential For Towns In Basin Subareas To Benefit: 0 (none) to 4 (all) = Worst to Best

3

3

3

#### Kilowatt Potential

3,100

3,100

3,100

Flood control potential: 0 (none) to 4 (high) = Worst to Best

0

0

0

### B. Costs and Legal/Regulatory Constraints

\$

\$345 Million

\$315 Million

\$267 Million

\$

\$ 5,100

\$ 4,600

\$ 3,900

Constraint level: Significant = 1; High = 2; Moderate = 3; Low/none = 4

2

2

2

### C. Biophysical Resources...

### D. Socio-Cultural Resources...

# DSS Elements

## 4. Conversion to common unit of measure

	Acre-feet	or	Cost per acre foot	=	Conversion to common scale	Basin subareas potentially served	=	Conversion to common scale
Best	74,000	or	\$ 1,300	=	10.0	4	=	10.0
Worst	8,000	or	\$ 11,600	=	1.0	1	=	2.5

# DSS Elements

## 5. Comparison of alternatives at different levels of aggregation

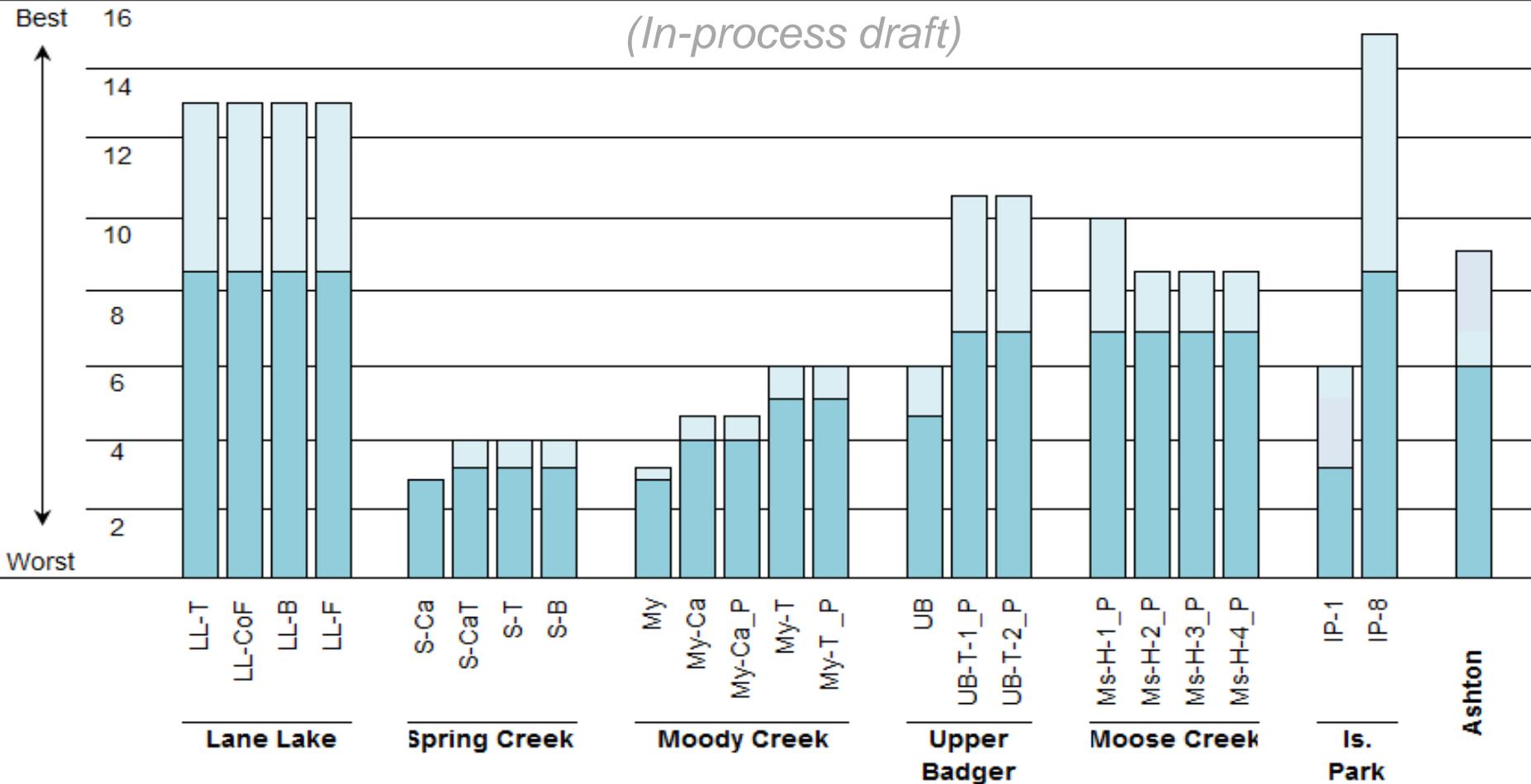
				Lane Lake (LL)		
Perspective				LL-T		
Categories	Factors	Criteria				
<b>A. Hydrology, Hydropower and Flood Control</b>						
Primary Benefits	Water Supply Volume		9.1	8.3	6.6	
	Potential Water Supply Benefits	In-Basin Agriculture	7.5			
		In-Basin M & I	7.5			
		State	9.1			
Secondary Benefits	Hydropower		10.0	5.0		
	Flood Control		0.0			
<b>B. Costs and Legal/Regulatory Constraints</b>						
Cost	Development Cost	Total Cost	0.0	3.1	4.1	
		Cost Per Acre-Foot	6.3			
Legal, Institutional, or Policy Constraints			5.0	5.0		

# DSS Elements

## ...Comparison at Perspective & Category Levels

### A. Hydrology, Hydropower and Flood Control Benefits

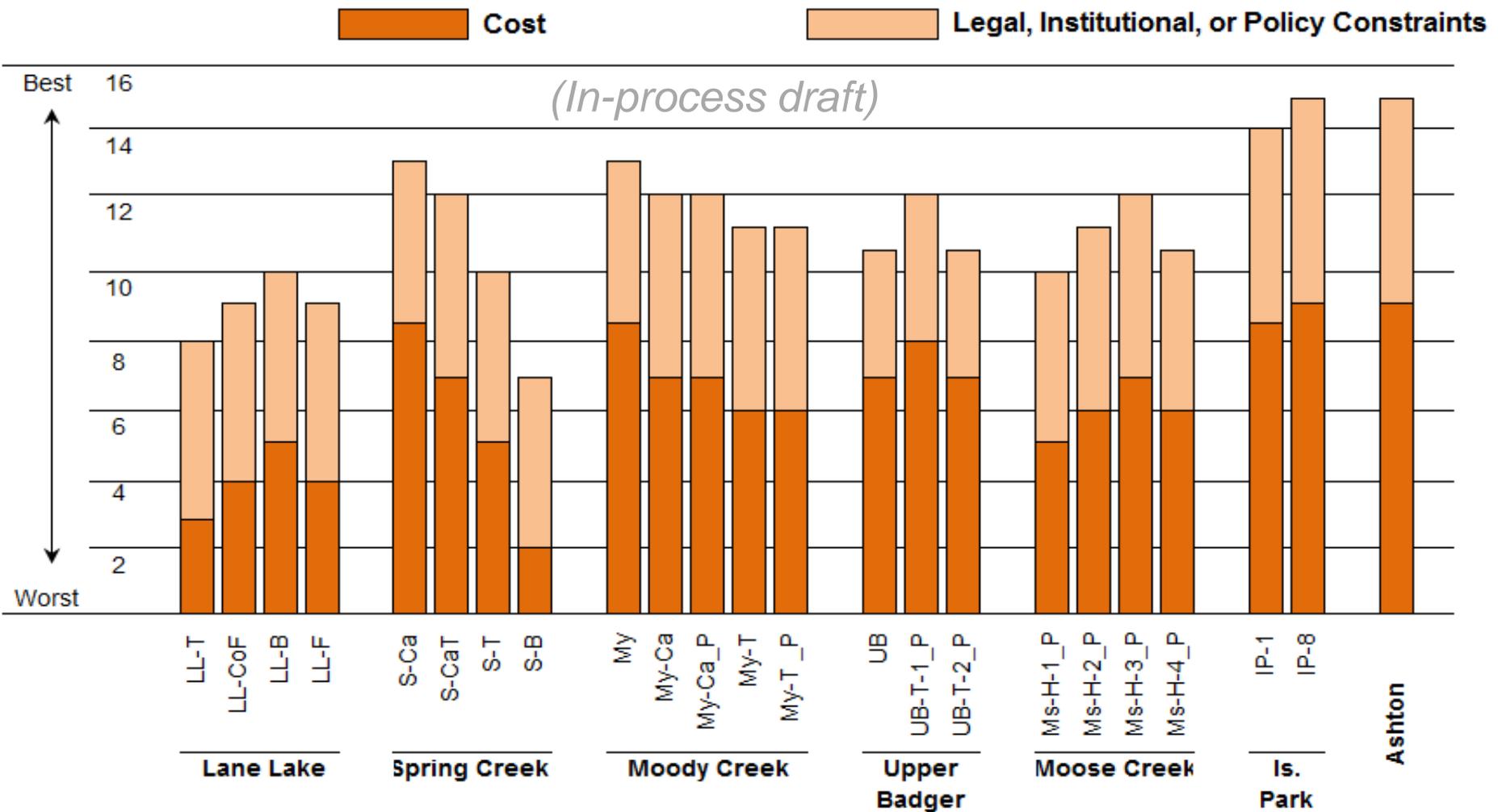
Primary Benefits
  Secondary Benefits



# DSS Elements

## ...Comparison at Perspective & Category Levels

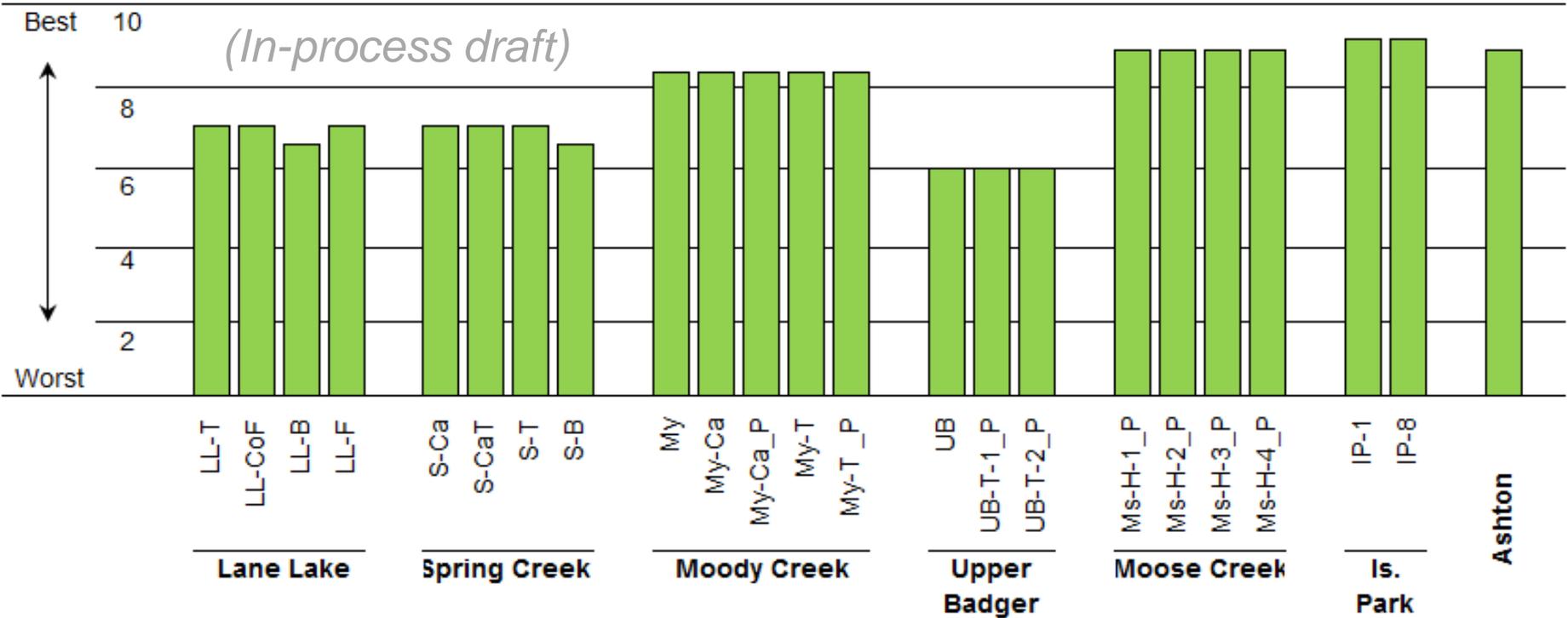
### B. Implementation Costs and Legal/Regulatory Constraints



# DSS Elements

...Comparison at Perspective Level Only

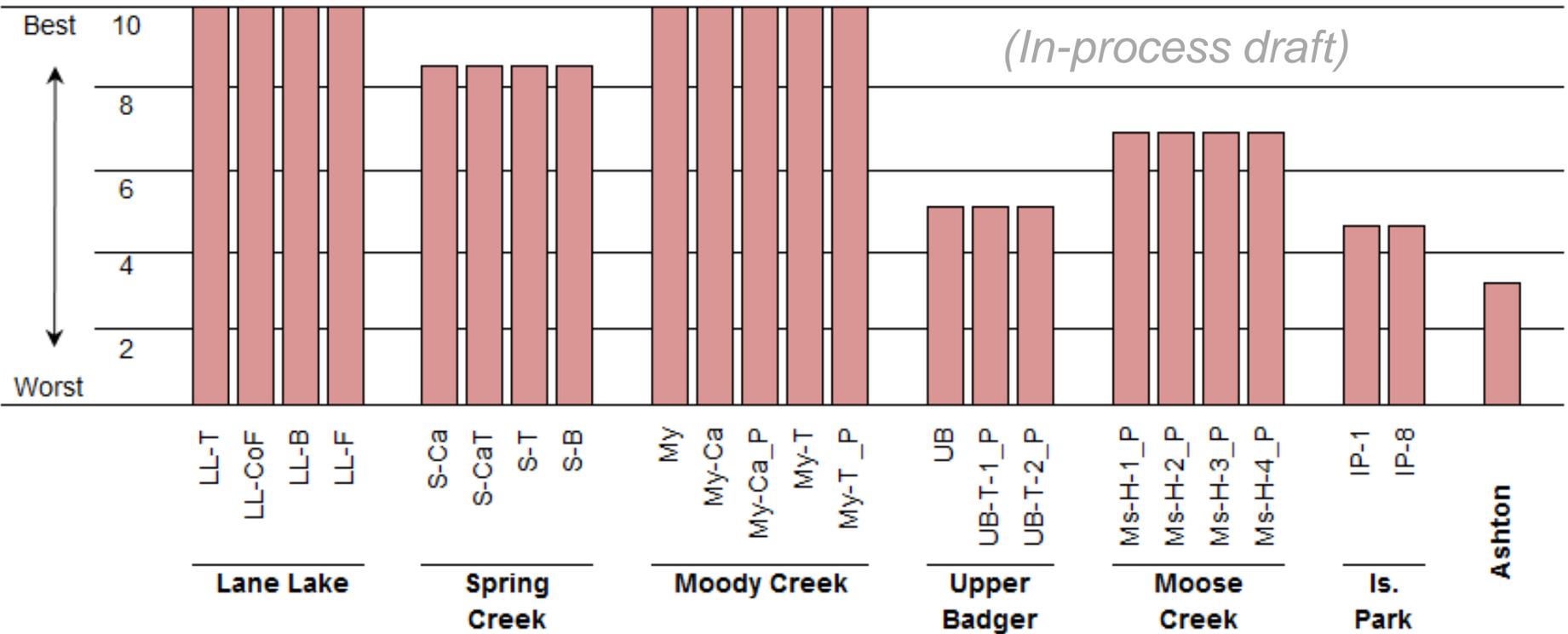
## C. Natural Resource Opportunities and Constraints



# DSS Elements

...Comparison at Perspective Level Only

## D. Socio-Cultural Opportunities and Constraints



# Development Status

- Finalizing *data categories* to be used in comparing alternatives.
- Completing *data collection* for all candidate actions (surface storage, groundwater & conservation options)
- *Finishing development* of the tool (formula linkages, etc.)
- Running *analysis* to compare *individual actions*