

**Table 1. Eightmile Dam Alternative Considerations**

Eightmile Lake Consideration	Existing Conditions	No Action Alternative	Action Alternatives	
			Narrow Spillway with Gates (formerly Alternative 1A)	Wide Spillway Without Gates
Description	2020 Lake Conditions with Existing Infrastructure Current <sup>1</sup> Full WSEL = 4,667	No change to the existing dam or operations (same as existing conditions), until dam failure or the Dam Safety Office requires removal.	Automated Control Gates Lake Full WSEL=4,671	No Control Gates. Hard crest spillway Lake Full WSEL=4,671
Automation <sup>2</sup>	None		Automated primary spillway control gate and automated low-level outlet pipe	Automated low-level outlet pipe
Total Lake Area at Maximum Water Surface Elevation (WSEL) (acres)	76.6		81.4	81.4
Total Lake Volume at Maximum WSEL (acre-feet)	2,698		3,010	3,010
Useable Storage Volume (acre-feet)	~1,540		2,000	2,000
When Would Lake be Full?	Annually; Mid May-Late July		Annually; Mid May-Late July	Annually; Mid May-Late July
When would Lake be drawn down to lowest level?	Almost Every Year; Late Sep-Early Oct		Only Drought Years; (~1 in 5 Years) Late Sep-Early Oct	Only Drought Years; (~1 in 5 Years) Late Sep-Early Oct
<b>Primary Spillway:</b>				
Spillway Crest Length (feet)	65		60	180
Spillway Hard Crest Elev. (feet)	4,667.0		4,667.0	4,671.0
Control Gate Height above Primary Spillway Crest (feet)	N/A		4	N/A
Primary Spillway Elev. With Gate Up (feet)	N/A		4,671.0	N/A

Eightmile Lake Consideration	Existing Conditions	No Action Alternative	Action Alternatives	
			Narrow Spillway with Gates (formerly Alternative 1A)	Wide Spillway Without Gates
<b>Intermediate Spillway:</b>				
Intermediate Spillway Length (feet)	N/A		20	N/A
Intermediate Spillway Crest Elev. (feet)	N/A		4,671.5	N/A
<b>Secondary Spillway:</b>				
Secondary Spillway Length (feet)	12		24	24
Secondary Spillway Crest Elev. (feet)	4,671.0		4,673.0	4,673.0
<b>Outlet Pipe:</b>				
Low WSEL Without Pumping (feet)	~4,640		4,636	4,636
Total Lake Area at Low WSEL (acres)	~41.2		38.7	38.7
Total Lake Volume at Low WSEL (acre-feet)	~1,158		1,010	1,010
Storage Volume Accessible Without Pumping (acre-feet)	~1,540		2,000	2,000
Invert Elevation at Pipe Intake in Lake (feet)	4,648.65		4,632.0	4,632.0
Invert Elevation at Dam (feet)	4,648.50		4,650.5	4,650.5
Invert Elevation at Outlet to Creek (feet)	4,645.49		4,631.0	4,631.0

1. Historical Lake Full WSEL is 4,671 ft
2. To comply with Department of Ecology Dam Safety Office requirements, both alternatives require automated equipment and permanent monitoring equipment. Both alternatives have an automated low-level outlet pipe.

**Table 2. Primary Rationale and Secondary Benefits**

Eightmile Lake Consideration	No Action Alternative	Narrow Spillway with Gates (formerly Alternative 1A)	Wide Spillway Without Gates
Automation	No automation. Inefficient manual operation requiring hike-in access.	Improves operations and management of flows through remote access. Potential instream flow benefits.	Passive operation uninterruptable by power outages. Potential instream flow benefits.
Spillway Crest Length		Narrow spillway reduces footprint, and amount of concrete required.	Wide spillway crest would be more natural looking than narrow spillway, because it would have no mechanical gate on top.
Control Gate	N/A	Improved flow control.	No visible gate, flows controlled passively.
Outlet pipe	Entirely within Special Warranty Deed Area.	Restores pipe capacity. Entirely within Special Warranty Deed Area. Does not trigger NEPA or Presidential approval	Restores pipe capacity. Entirely within Special Warranty Deed Area. Does not trigger NEPA or Presidential approval