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# Eklutna Fish & Wildlife Program Anchorage Assembly Worksession

December 7, 2023



# Agenda

- 1991 Agreement Requirements
- Project Update
  - Alternatives Analysis
  - Draft Fish and Wildlife Program
- Next Steps
- Questions



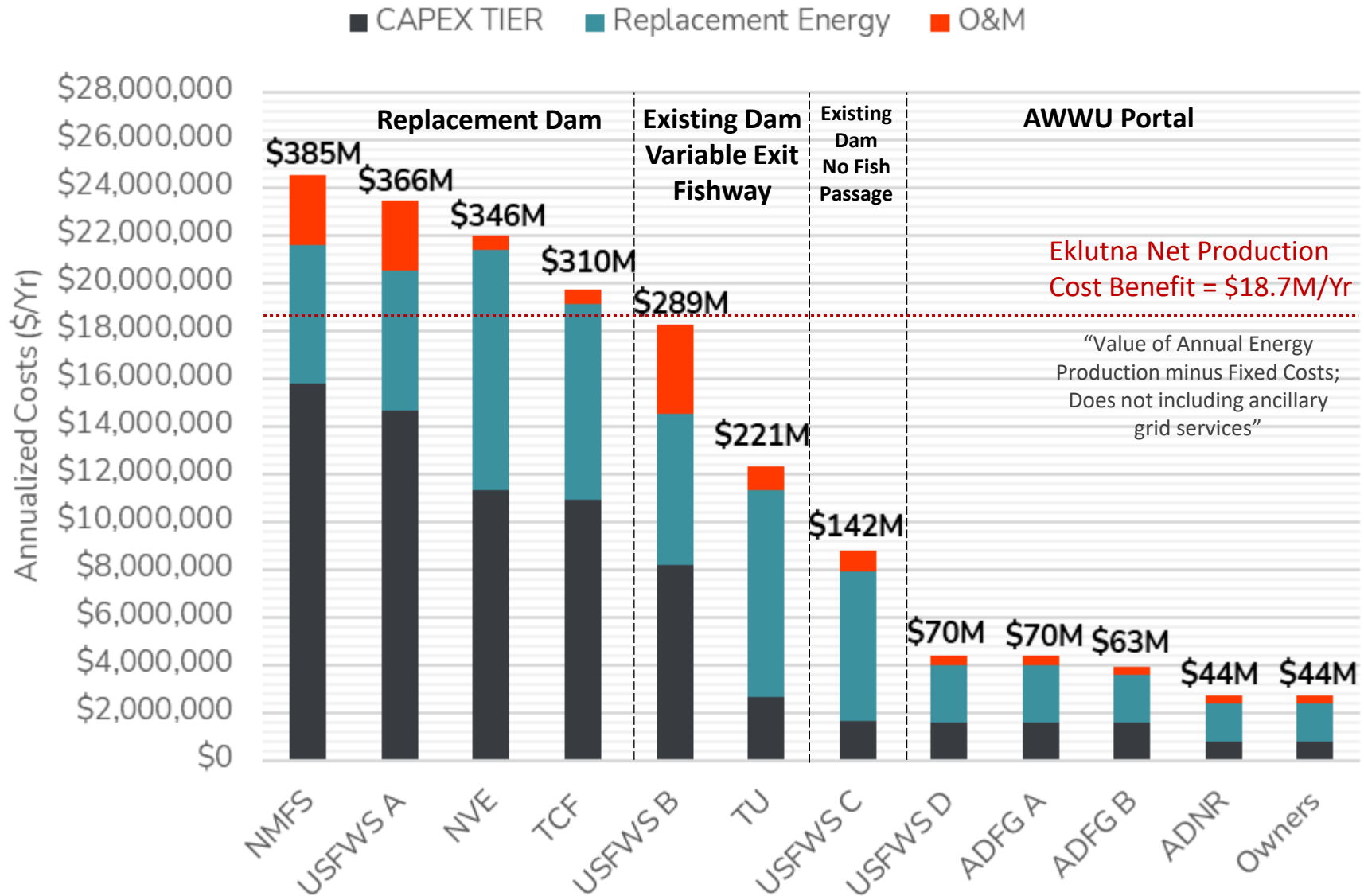
# 1991 Agreement Requirements

# Governor must give equal consideration to:

1. Purposes of efficient and economical power production
2. Energy conservation
3. Protection, mitigation of damage to, and enhancement of fish and wildlife
4. Protection of recreation opportunities
5. Municipal water supplies
6. Preservation of other aspects of environmental quality
7. Other beneficial public uses
8. Requirements of State law

# Alternatives Analysis

# Alternatives Analysis





# Alternatives Analysis

Stakeholder	Habitat Gains (Acres)				
	Chinook Spawning	Coho Spawning	Sockeye Spawning	Chinook Rearing	Coho Rearing
Project Owners	1.5	1.6	1.2	6.3	9.9
ADNR	1.5	1.6	1.2	6.3	9.9
ADFG Alt B	1.5	1.6	1.2	7.7	11.6
ADFG Alt A	1.6	1.6	1.2	8.7	12.7
USFWS Alt D	1.5	1.2	0.5	12.6	18.5
USFWS Alt C	2.0	2.1	1.1	19.1	28.2
TU	4.7	5.0	4.2	18.2	27.1
USFWS Alt B	4.9	5.0	4.0	19.1	28.2
TCF	3.8	3.9	2.7	19.0	28.1
NVE	3.1	3.6	2.5	21.0	31.0
USFWS Alt A	3.9	4.0	3.0	15.5	22.8
NMFS	3.9	4.0	3.0	15.5	22.8



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# Draft Fish and Wildlife Program



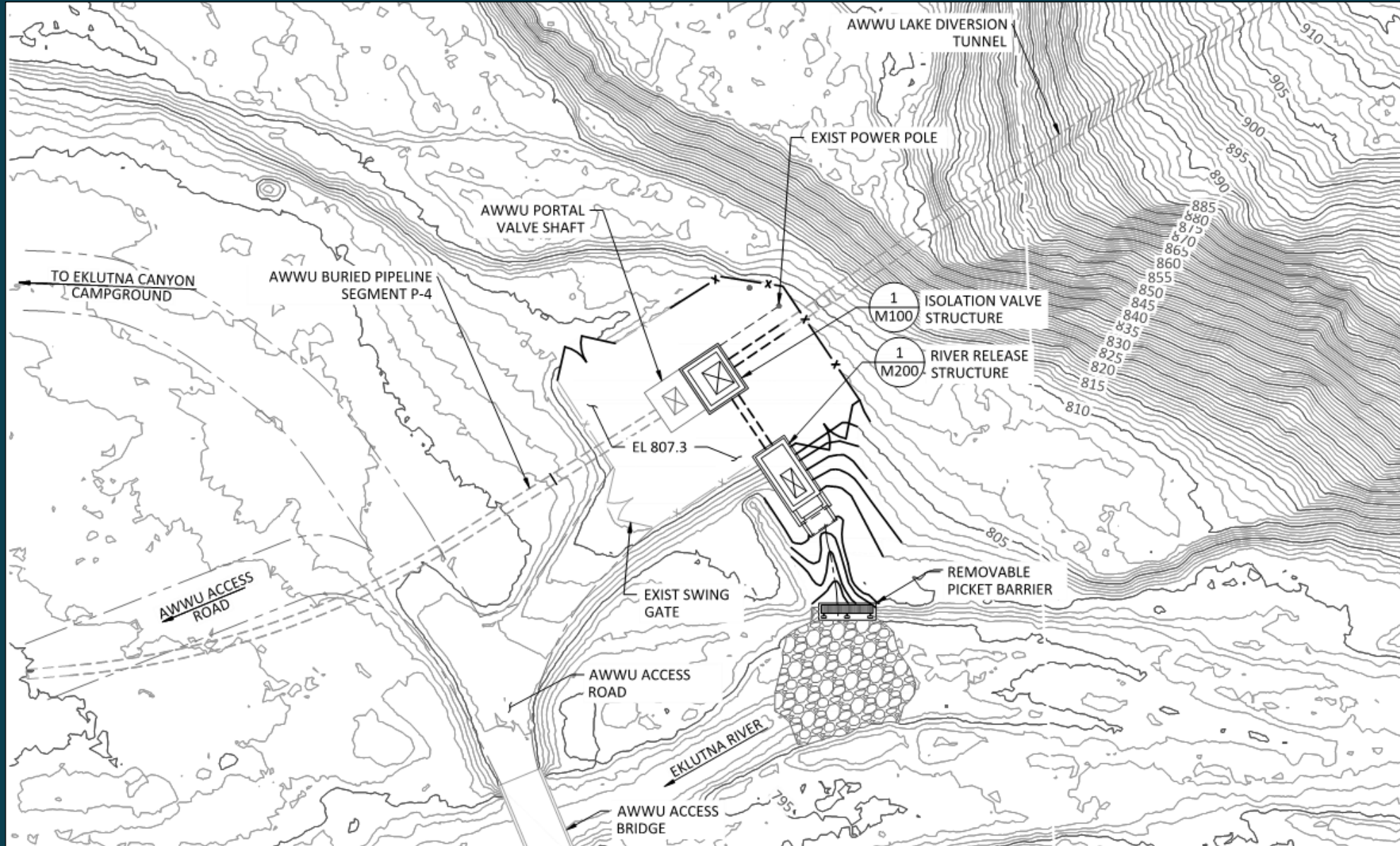
# What's Included in the Draft Program?

- Year-Round Base Flows
  - Eklutna River Release Facility (at AWWU Portal Valve)
  - Flow Regime
    - 40 cfs in the Summer
    - 27 cfs in the Winter
- Periodic Channel Maintenance Flows
  - Automate the Existing Drainage Outlet Gate at the Dam
  - 220 cfs in 3 out of every 10 years
- New AWWU Bridges
  - 8 Total
- Monitoring and Adaptive Management Plan
  - Committee
  - Water Budgets
  - Funding Commitment

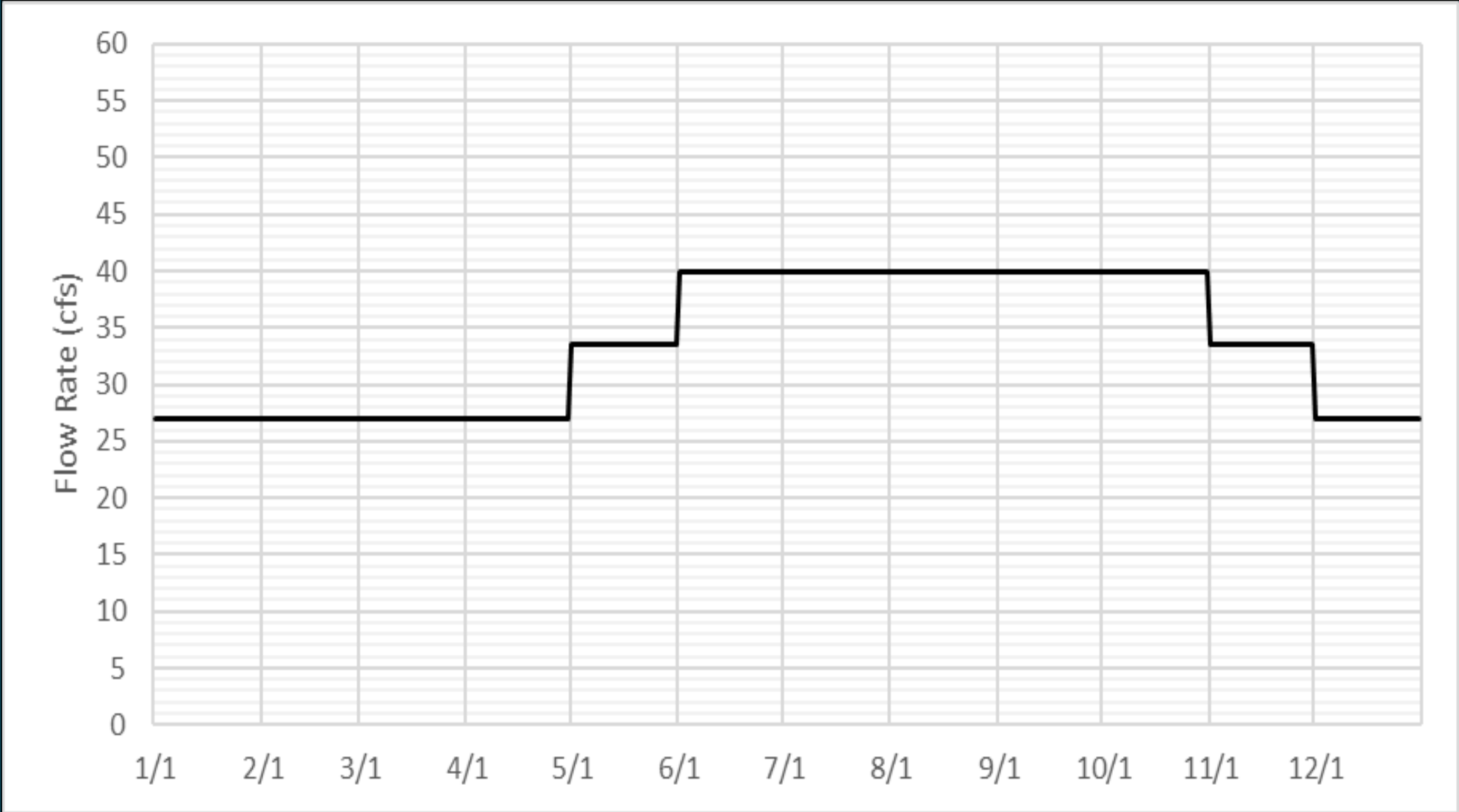




# Eklutna River Release Facility

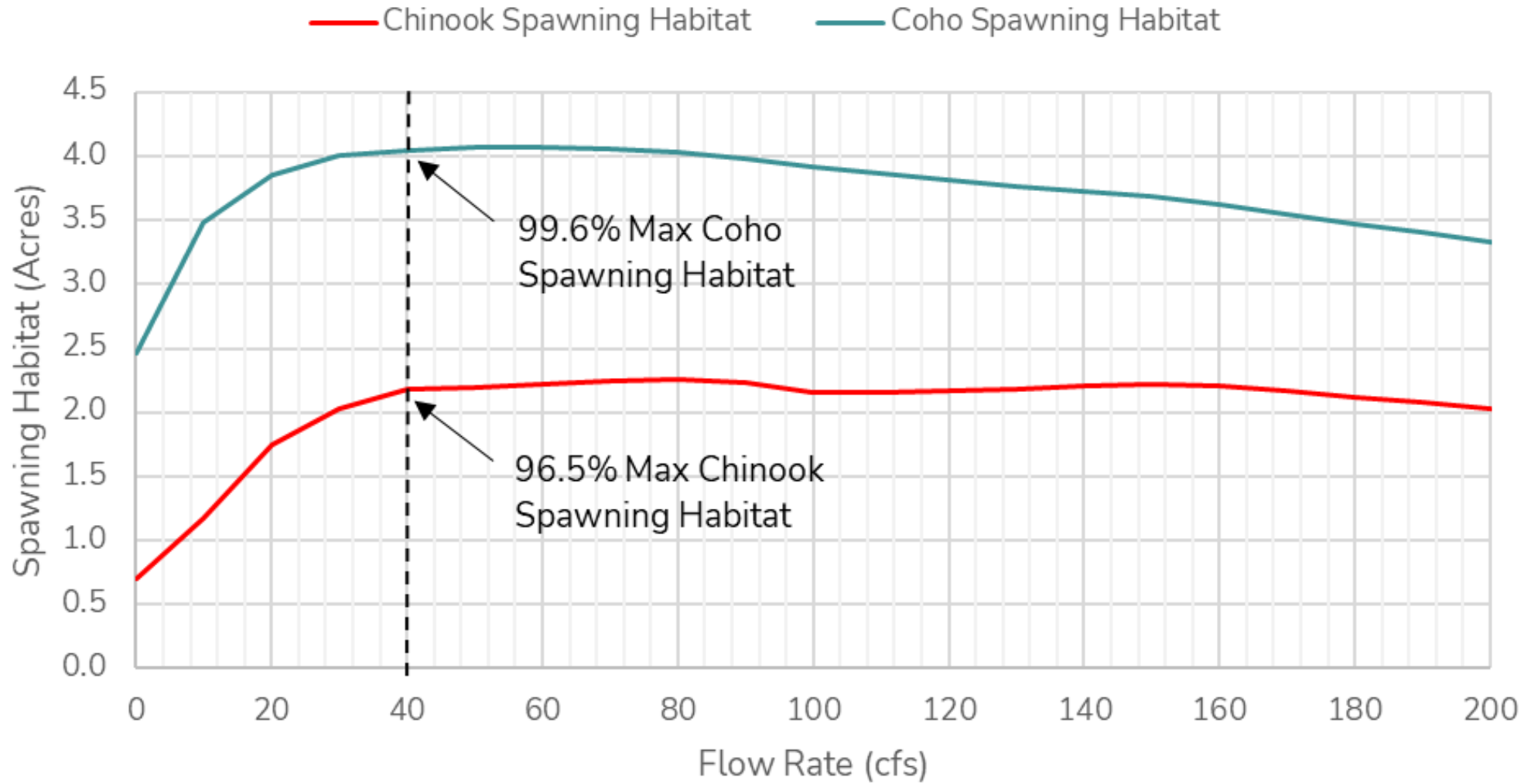


# Year-Round Base Flows



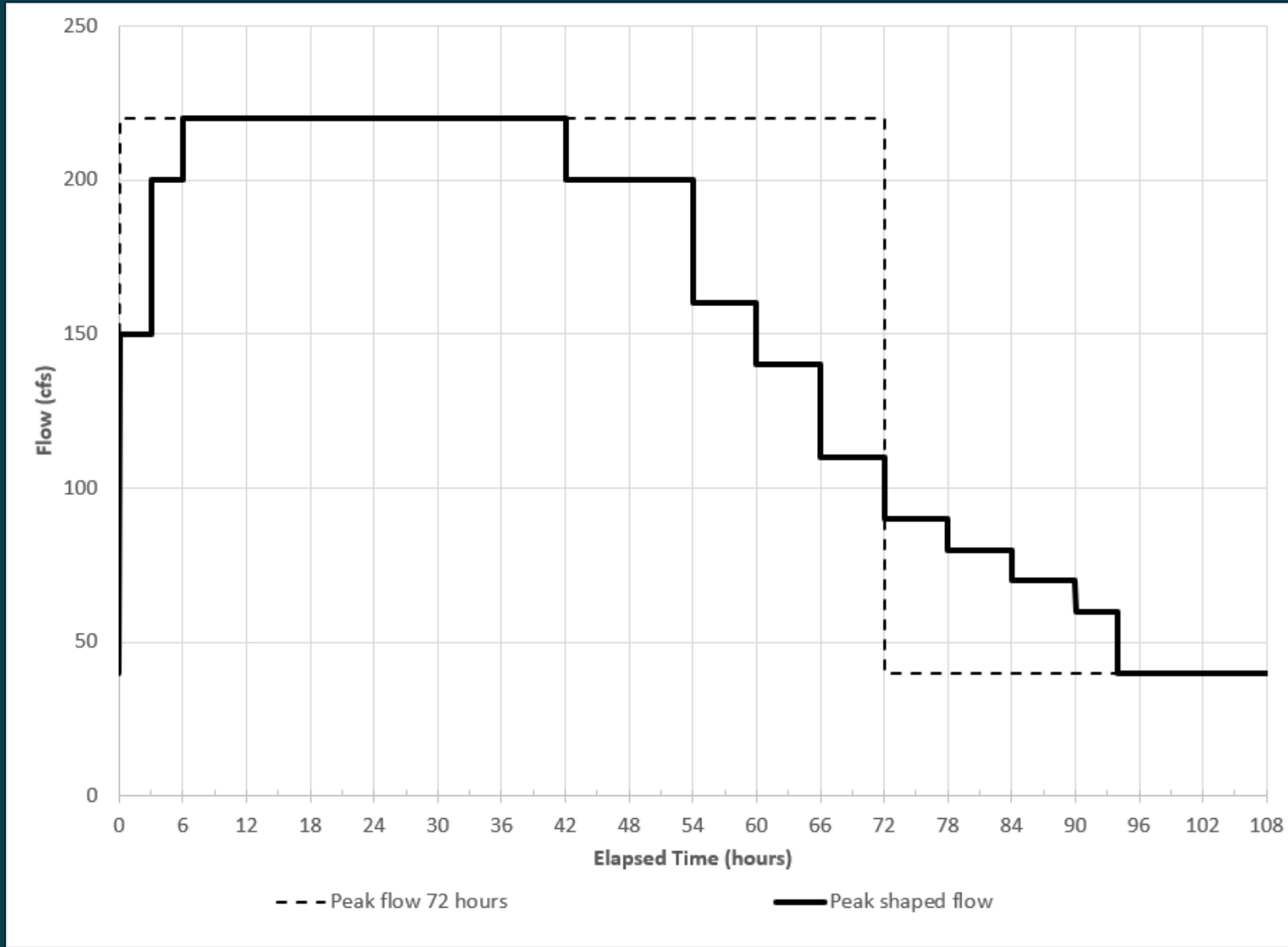
Does not impact AWWU's ability to use up to 41 million gallons per day

# Spawning Habitat



% of Maximum Available Spawning Habitat in the Eklutna River below the AWWU Portal Valve

# Periodic Channel Maintenance Flows



Released from a combination of:

- The Eklutna River Release Facility (at the AWWU Portal Valve)
- The Existing Drainage Outlet Gate (at Eklutna Dam)

In 3 out of every 10 years

# New AWWU Bridges



8 New Bridges

Other benefits to AWWU:

- New Isolation Valve Structure
- Replacement of Outdated Communication System
- New Redundant Flow Meters

These improvements total \$7.3M

# Monitoring and Adaptive Management Plan

- Adaptive Management Committee
  - Parties and NVE (excluding the Project Owners)
- Water Budgets
  - Instream Flows – 24,280 AF ± Banked Water
  - Channel Maintenance Flows – 2,913 AF for each 10-Year Period
- Monitoring
  - Flow Meters
  - Funding Commitment for Other Monitoring Efforts
    - Conduct Adult Salmon Surveys
    - Record Winter Water Temperatures in Rearing Reaches
    - Measure Sediment Grain Size in Spawning Reaches
    - Assess Straying Rate from the Tailrace to the River
- Adaptive Management
  - Based on Monitoring Results
  - Committee can Request Alternative Flows within Water Budgets

Month	Flow (cfs)	Volume (acre-feet)
January	27	1,660
February	27	1,500
March	27	1,660
April	27	1,607
May	34	2,060
June	40	2,380
July	40	2,460
August	40	2,460
September	40	2,380
October	40	2,460
November	34	1,993
December	27	1,660
<b>Total</b>	-	<b>24,280</b>

# Anticipated Costs

Cost Description	Value
Capital Cost (\$)¹	\$15,433,800
O&M Cost (\$/Yr)	\$315,900
Replacement Energy Cost (\$/Yr)	\$1,365,600
Monitoring Program Cost (\$)	\$270,000
Annualized Cost (\$/Yr)	\$3,485,000
Present Value of Annualized Costs (\$)	\$57,100,000
CEA Rate Impact (%)	+ 0.67%
MEA Rate Impact (%)	+ 0.87%
MOA Tax Impact (\$/100k)	\$0.54

¹ Capital costs at this level of design have an expected accuracy range of -30% to +50%.



# What's Not Included in the Draft Program?

- Higher Year-Round Flow Releases from the AWWU Portal Valve (RM 11)
  - Incremental gains in habitat are minor when compared to increased costs
- Year-Round Flow Releases from the AWWU Pipeline (RM 5.5)
  - Significantly reduced habitat gains for almost the same cost as the AWWU Portal Valve alternative
- Year-Round Flow Releases from a New Bypass Tunnel (RM 11.5)
  - Significantly increased costs for almost the same habitat gains as the AWWU Portal Valve alternative
- Year-Round Flow Releases from Eklutna Dam (RM 12)
  - Requires the power plant to be shut down through the winter to keep the reservoir high
- Replacement Dam (RM 12)
  - Cost prohibitive and decreases reservoir storage capacity by 40%
- Fish Passage
  - Concerns regarding viability, feasibility, costs, and/or impacts



# Summary

- Benefits all 4 species of salmon currently spawning in the Eklutna River
  - Provides habitat in 11 out of 12 miles of the river
  - Achieves 96.5% of max spawning habitat for Chinook below the AWWU Portal Valve (99.6% for coho)
  - Allows for adaptive management to improve habitat over time
- Indirectly benefits wildlife
- Protects the public water supply
- Avoids impacts to recreation
- Maintains Eklutna hydro as a year-round resource
- Minimizes costs to rate payers and taxpayers
- Minimizes increases in carbon emissions
- Achieves an equitable balance of costs, benefits, and impacts



# Next Steps

# | Next Steps

- **December 12-14, 2023** – Attempt to resolve differences with Parties and NVE
- **January 16-17, 2024** – Public Meetings (Anchorage and Palmer)
- **April 2024** – Submit Proposed Final Fish and Wildlife Program to the Governor
  - 60 days for Parties to review and comment
  - 30 days for Project Owners to respond
  - Additional 2 months for Governor to consider
- **October 2024** – Governor issues Final Fish and Wildlife Program

Questions?