

Irrigation Sector Economic Impacts--Lower Snake River Benchmark Review for Dam Breaching and Mitigation Costs



Prepared For:

Office of Columbia River
WA State Department of Ecology
and the Washington State Legislature

Prepared By:

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Irrigation Sector Impacts Review–Timeline

- ✓ This Benchmark Review Is Preceded by 30 Years of Lower Snake River (LSR) Litigation 1992-2023.
- ✓ 2016/2020 EIS-BiOp Challenged by Earth Justice, et al. State of Oregon, Tribes.
- ✓ Gov. Jay Inslee and Sen. Patty Murray 2021 Review.
 - LSR Dams Should Be **Breached**.
 - But Not Until **“Replacement Services” Viable**.
- ✓ 2023 WA State Legislative Calls for Further Impact Study.
 - Determine Impacts/Replacement Costs.
 - Determine Mitigation-Compensation.

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Irrigation Sector Impacts Review—*Today's Reality*

- ✓ This **Benchmark Review is already dated** as it is being written, unknown future, where dam breaching decisions on the Lower Snake River (LSR) are far from being certain.
- ✓ The **January 2024, LSR EIS Litigation Settlement Agreement**, approved by the Plaintiffs and Defendants in federal mediation, defers significant changes to the LSR hydro projects by at least five to ten years.
- ✓ In real-world terms, **reconstruction measures would need to be executed today, for irrigation systems to be operational by 2030.**
- ✓ The **economic impacts can be placed in today's context** for executive and legislative understanding.

Irrigation Sector Economic Impacts--Lower Snake River

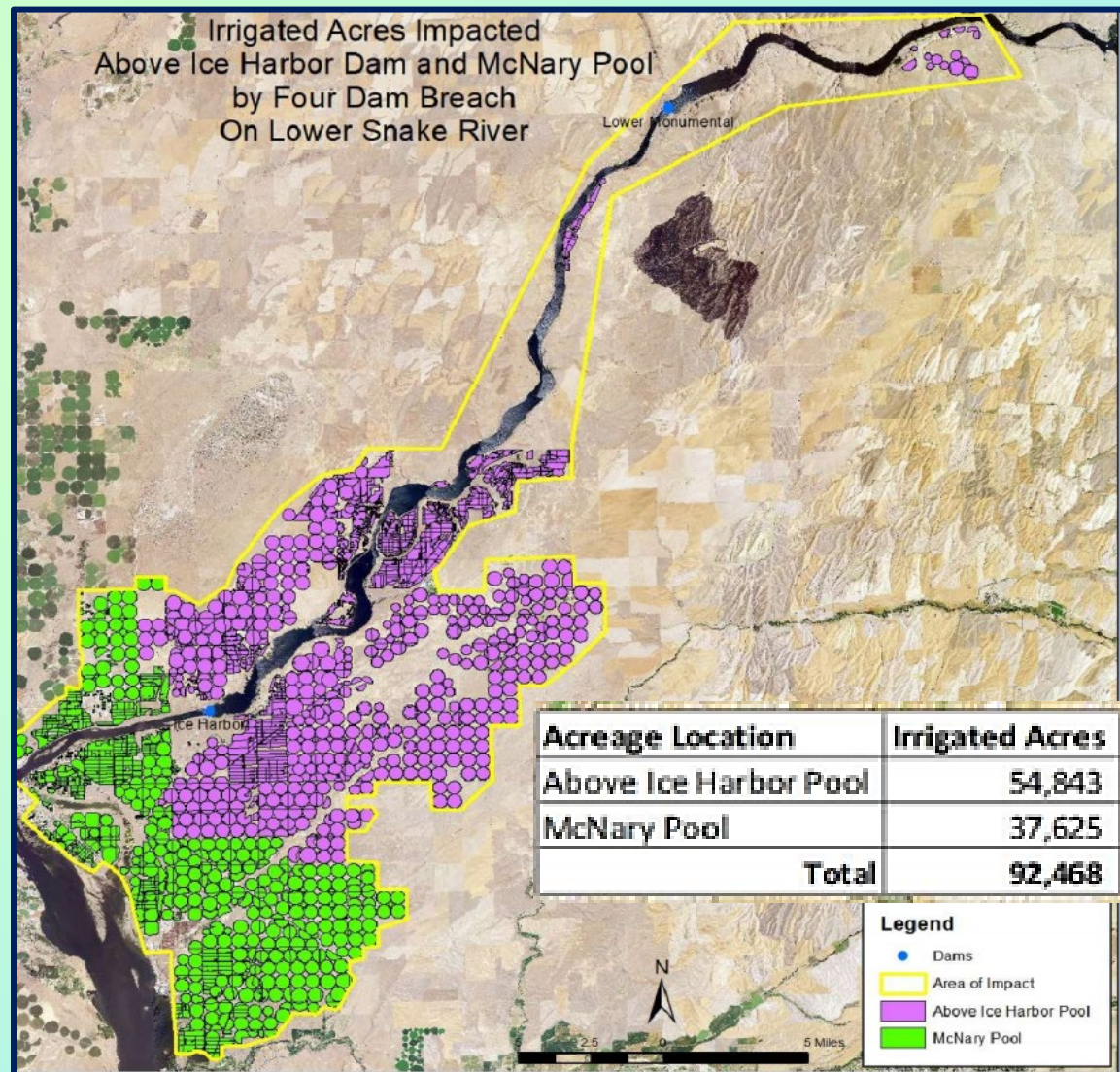
Benchmark Review for Dam Breaching and Mitigation Costs

Irrigation Sector Impacts Review—Methodology

- ✓ **Federal and State Level Resource Economics Standards (\$/Acre).**
- ✓ **Pump Station Direct Reconstruction Cost Estimates (25 Separate Pumping Units).**
- ✓ **Direct Net Social Welfare Measures (NED), Asset Value Impacts.**
 - ✓ **Risk and Distressed (Land Value) Assets.**
- ✓ **Regional Economic Development (RED), Household Income Impacts.**
 - ✓ **Production, Services, Food Processing (Irrigated Ag. Industry). Direct, Indirect, and Induced Income Impacts.**
- ✓ **Water Rights—No Impacts to Existing Rights.**
- ✓ **What Cannot Be Mitigated?**

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- ✓ **Impact Area:
About 92,500
Irrigated Acres.**
- ✓ **Ice Harbor Pool and
Above: 54,840 Acres
(Purple).**
- ✓ **Upper McNary Pool
Below Ice Harbor
Dam to Walla Walla
River Confluence:
37,600 Acres
(Green).**



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Direct Pump Station Reconstruction:

✓ Infrastructure Impacts May Include:

- Excavation.
- Screens-Intakes-Pipe.
- Pumping Deck-Manifolds.
- Electrical/Pumps.
- New Wells (Groundwater).

✓ Separate Pumping Units:

- 25 Production Irrigation Pumping Units
- About 51 Irrigation Water Rights.

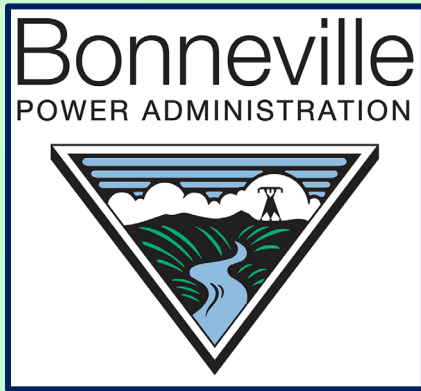
✓ Estimated Direct Reconstruction Costs:

- \$1,000-2,000/Acre.
- \$92-184 Million (Costs Escalating).
- Pipeline Configuration \$500M-\$1B??

✓ Timeline:

- 2-4 Years Design to Operations.
- 1-2 Years Pumping Interruption.

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Distressed Market (NED) Values:

✓ **Baseline Asset (Land) Values:**

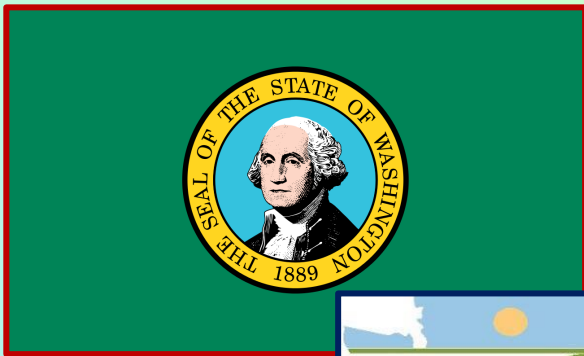
- Market Value Determination.
- About \$1.526 Billion Capital Asset.
- \$16,500/Acre 2021\$.

✓ **Risk Mitigation Assests:**

- Market Willingness-to-Pay for Distressed Asset? Market Response.
- 30-50% Mitigation Payment.
- \$578-750 Million Mitigation Payment to Irrigators' Trust Program (CSRIA).
- Pump Station-Land Owners Absorb All Costs and Reconstruction Responsibility.

✓ **Shared Financial Mitigation Obligation:**

- BPA and State Treasury-General Obligation Bonds.
- Payments, \$35 to \$47 Million Annually.



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Estimated Regional Economic Development Annual Household Income Impacts

\$450-464 Million-Full Mitigation Not Realistic

| Regional Income Model-Sectors | Acres | Annual Income/Acre Estimated 2021\$ | Total Annual Income 2021\$ |
|---|-----------|--|-------------------------------|
| Ice Harbor Pool USBR INPLAN Model | 48,999 | \$5,020 | \$245,683,000 |
| Ice Harbor-Upper McNary Pools- USBR INPLAN Model | 92,500 | \$5,020 | \$464,350,000 |
| WA State Irrigated Ag. Estimate BEA Data-Multipliers | 1,850,000 | \$4,870 | \$9,005,800,000 |
| Project Area Irrigated Ag. Estimate BEA Data-Multipliers | 92,500 | \$4,870 | \$450,475,000 |
| Regional Irrigated Ag. Estimate-NASS-BEA-Data-Mult. | 92,500 | \$4,280 | \$394,000,000 |

Estimates Based on INPLAN and BEA Economic Sector Models.

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Irrigation Sector Impacts Review—Future Actions?



- ✓ Benchmark Review Fulfills **Replacement Services Standard.**
- ✓ Implementation Phase Possible Per Regional Decisions.
- ✓ OR: Other Irrigation and Hydro System Measures.