

REGIONAL & NATIONAL IMPACTS TRIGGERED BY LSRD BREACHING

QUICK SUMMARY OF TRANSPORTATION, CLIMATE AND SOCIAL JUSTICE CONCERNS

Introduction

LSR dam breaching would have detrimental economic, climate and social justice impacts for local governments, communities, property owners, farmers and businesses in Washington, Oregon and Idaho.

Pacific Northwest Waterways Association contracted with FCS GROUP (financial and economic consultants) to provide an independent and economically conservative evaluation of the social/infrastructure/transportation/ farm impacts that would be caused by Lower Snake River (LSR) dam breaching and closure of four LSR locks.

With the elimination of the Snake River barge transportation option and reduction in the aquifers that over 7,640 farms in Washington, Oregon and Idaho depend upon, LSR dam breaching will fundamentally change this tri-state region. The paper evaluates the expected economic and social justice impacts on 12 counties and several cities located in the tri-state region.

Overall findings illustrate that dam breaching would exacerbate existing climate and social justice issues in a tri-state region that includes 350,183 people and 90,124 jobs. It is expected that existing social justice concerns will grow exponentially should the land be left without a reliable, consistent supply of surface water.

Social Justice Findings

- The tri-state study region includes 350,183 residents (U.S. Census, ACS, 2021). The majority of residents are White (83.5%). Other races include Latino/Hispanic (17.2%) and American Indian (2.03%).
- The share of the study region's population that is disabled (15.3%) is higher than the national average (13%).
- The median age of the region's residents is older (41.2) than the national median (38.8).
- Net cash income for farms reporting receipts averaged only \$52,695 in 2017.
- In addition to households experiencing poverty (16.5%), United Way indicates that 31% of the study region's households are Asset Limited Income Constrained and Employed (ALICE). The combination of poverty and ALICE measurements indicate that nearly half of all households in the region are living "on the edge" — going paycheck to paycheck to make ends meet relative to housing, childcare, health care and transportation costs.
- Regional income is lower and poverty rates are higher in the study region compared with the nation. In 2021, 16.5% of the study region's residents between the age of 18 and 64 were below the poverty level — compared to 11.9% for the nation. Exhibit 1 reflects Census Tracts within the region that have "Persistent Poverty."
- Home ownership rates in the region (58.7%) are lower than the national average (69.4%).
- The share of regional households experiencing severe rent burden (with over half of annual income paid towards housing) is higher (24.4%) than the national average (22.9%).
- The share of households participating in SNAP (Supplemental Nutrition Assistance Programs) is higher in the study region (13.4%) than the nation (12.3%).
- The share of unemployed civilians in the region is higher than the national average. The crucial jobs at risk of being lost include hard working haulers, planters, pruners, harvesters -- all crucial

for providing agricultural produce to consumers. They are already in short supply with first generation Americans, seasonal farm workers, and disadvantaged workers.

- According to current White House Climate and Social Justice data, the region is at a relative disadvantage in terms of unemployment, poverty, energy cost burdens, risk of natural hazards (such as fire), asthma and travel barriers. See Exhibit 2.

Economic Impacts

- Removal of the locks is likely to bankrupt thousands of farms (producers) as they attempt to change their freight distribution network from efficient river barges to far more costly long-haul truck or rail service.
- The existing highway and rail network would need a short-term capital investment of \$1.3 billion to handle the 4.2 million tons of annual shipments to and from the tri-state region. (Source: Appendix A, engineering cost estimates prepared for the Washington Transportation Commission, adjusted to 2023 dollars).
- If billions in federal dollars were somehow appropriated to increase the highway and rail capacity and address required local street and infrastructure needed to mitigate the impact of LSR locks/dam removal, the design and permitting time would take several years and inflationary pressure would push these cost estimates up even higher.
- Potentially shifting commodity exports from barge to truck and rail would increase the overall cost of shipping commodities to export terminals along the Pacific. Moving commodities by truck/rail would increase the cost per bushel of wheat by 8% or more. An increase in the wholesale cost of grain would push the breakeven price for grain up to nearly \$8.00 per bushel — well above the spot price of \$7.19 in today's market (per USDA, Wheat Index, July 26, 2023).
- Because the market price for grain is determined by global factors such as international demand, global supplies, and currency rates, increasing wholesale prices for commodities is not really an option and has a high probability of bankrupting over 7,600 farms, unless U.S. farm subsidies to the tri-state region increased by \$55M/year or \$1.65 billion over 30 years (FCS Group estimates).
- Removal of the LSR dams would also impact underground aquifers by requiring irrigation water for crops to be pulled from groundwater sources. Non-irrigated land in this region is inhospitable for food production. With nearly 352,000 acres of irrigated farmland in the tri-state region, the loss of irrigated farmland would potentially reduce land value by \$1.1 to \$1.6 billion (values reported by the USDA, Land Values Summary, Aug. 2022).
- As farmland valuation is reduced, local assessed values will decline in the tri-state region. This will in-turn reduce local property tax revenue by over \$17 million per year in the tri-state region — \$520 million over 30 years. The consequential negative fiscal impact would devastate local municipalities, schools and special districts — as municipal and county tax revenue is reduced by \$12M/year (\$360M over 30 years) and public-school tax revenue is reduced by \$6M/year (\$180M over 30 years) in the tri-state region.
- Regional farm and government sectors account for nearly 15% of the tri-state GDP with 15,700 jobs. The long-term permanent job losses in the tri-state region attributed to LSR breaching is difficult to quantify but would likely place 15,000 jobs at risk. The secondary and tertiary impacts of these job losses would be far greater.
- The Port of Clarkston has identified six specific businesses and cruise ship operations at risk, which support 6,811 workers. These businesses generate \$625.7 million in total annual GDP. A subset of GDP includes \$65.5 million in state and local tax payments and \$86.6 million in annual Federal tax payments.

- Multiple cruise lines would cease ALL operations if the Snake River portion of the waterway is unavailable. This would cause a ripple effect on local economies and at several ports of call along the lower Columbia River in Oregon and Washington.
- At least three cities (Clarkston, Lewiston and Asotin), regional counties and major industrial businesses have permits for discharge of treated wastewater into the river. A share of the economic contribution of these communities will be at-risk with dam breaching, with nearly \$1.5 billion in combined annual GDP. Note, this is a conservative estimate of the regional GDP, since many other communities in Washington and Idaho will also be impacted.

Transportation Impacts

- The removal of four lower Snake River dams are expected to increase transportation and related environmental costs in the U.S. by over \$8.1 billion over 30 years. This equates to a net present value of \$4.2 billion (based on standard 7.0% annual discount rate).
- Removing the Snake River locks would cause diesel fuel consumption to increase by nearly 5 million gallons per year as barges are replaced by less efficient truck-to-rail shipments.
- The current distribution of commodities moving out of the 10-county bi-state region to deep draft export ports as follows: 90% barge and 10% rail. With removal of the LSR locks, commodities transported by barge would decrease — as producers try to shift commodity freight from efficient river barge to truck and rail.
- Even if billions in federal and state transportation mitigation was appropriate, LSR dam breaching would require at least 201 additional unit trains and 23.8 million miles in additional trucking activity annually.
- Related engineering studies have concluded that over \$1.3 billion in infrastructure investments would need to be constructed in the near-term to address transportation, railroad, grain storage capacity and local infrastructure changes that would result with LSR dam breaching.
- Increased reliance on truck-to-rail or truck-to-barge terminal shipping (on Lower Columbia) is expected to result in an increase of 23.8 million miles of travel per year on county, state and federal highways. The increased trucking activity will increase fuel costs, highway maintenance costs, terminal facility maintenance cost, driver time, and vehicle maintenance costs by over \$69 million per year.
- Diesel fuel consumption will increase by nearly 5 million gallons per year; thereby reducing our nation's ability to achieve energy independence.
- An increase in unit trains of 1-2 per day enhances the probability of train related incidents and fatalities, the cost of train safety incidents has not been included in this study.

Climate Impacts

Shifting commodity flows from barge to truck and rail will result in increases in NOx, CO2 and other harmful emissions by over 1,251,000 tons per year (source: Appendix C, FCS Group).

This annual amount of harmful air emissions is equivalent to:

- Removing 6,927 acres of trees through deforestation
- Adding 181,889 passenger cars
- Adding 90,365 standard size homes
- Adding one new large coal fired power plant every 2-3 years — such as the recently decommissioned PGE plant in Boardman, Oregon.