

# Salmon and the LSRD

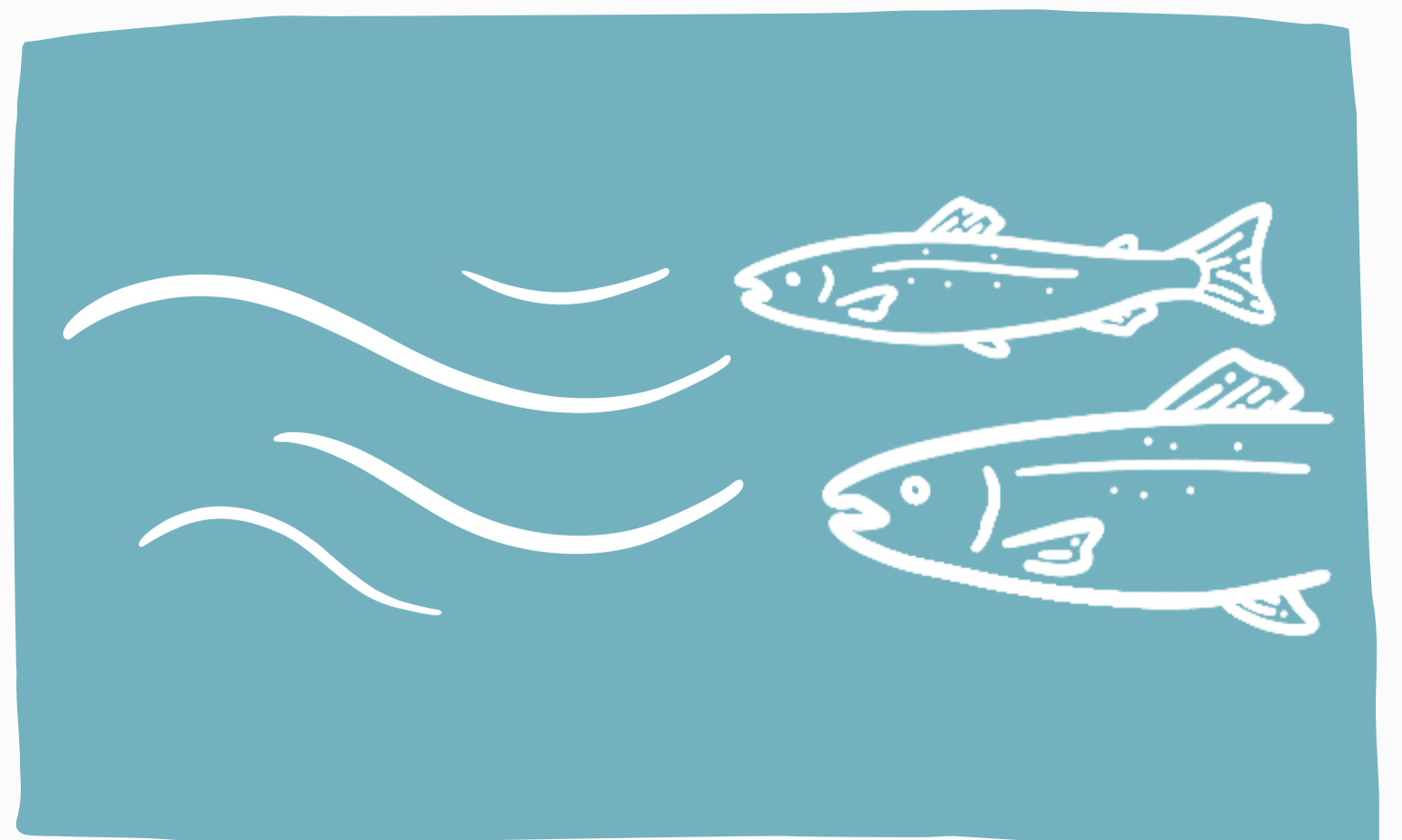
## THE FOUR LOWER SNAKE RIVER DAMS ARE THE PROBLEM:

- The dams have been killing upwards of a million salmon and steelhead annually for more than 40 years.
- The dams impede passage of salmon and steelhead between their spawning and rearing habitat and the Pacific Ocean.
- The dams have inundated Snake River fall Chinook salmon spawning habitat.
- The dams have disrupted the free flowing Snake River and turned it into a series of slack water reservoirs.
- Snake River slack water reservoirs are deadly to salmon and steelhead.
  1. Slack water reservoirs slow smolt migration to the ocean.
  2. Slack water reservoirs cause water temperatures to rise to lethal levels for salmon and steelhead. The four Snake River dams can add 6 to 12 degrees Fahrenheit to water temperatures. The high water temperatures caused by drought, climate change and dams were catastrophic to migrating fish in 2015.
  3. Since the reservoirs are ideal for salmon predators, they allow increased predation on salmon and steelhead by both native and non-native predators.
  4. The reservoirs increase disease both by degrading the water quality and increasing its temperature.
  5. Slack water reservoirs interfere with smolt navigation and physical development.

Steelhead, and Sockeye, 2014 Annual Report, BPA Contract #19960200, November 2014, p. xxv & Chapter 4; 2014 FCRPS Biological Opinion.

## THE SNAKE RIVER FISH MITIGATION MEASURES DO NOT WORK

- Hatcheries are not able to compensate for dam impacts to wild salmon. Instead, hatchery fish compete with wild salmon and impair genetic diversity in both wild and hatchery fish.
- Barging and trucking salmon around the dams have not restored salmon and steelhead runs. This unnatural transporting interferes with smoltification, and with navigation by adults returning to spawn. Smoltification is the complex transformation that involves physiological, biochemical, morphological, and behavioral changes that juvenile salmon undergo to transition from living in freshwater to living in saltwater.
- The design of the dams causes hydraulic action that creates eddies strong enough to trap smolts migrating down river. This makes them easy prey for predators. Bounties are now paid from \$5 to \$8 per pike minnow in an attempt to diminish this natural predator that thrives in the slow moving water created by the dams. In 2010 one angler made \$81,000 in bounties from fishing out pike minnows in the reservoirs. The bounty earned by the top angler over the last several years averages \$70,000.
- Severe reductions in commercial and sport fishing have not stopped the salmon and steelhead decline.
- The federal agencies have spent hundreds of millions of taxpayer dollars to improve fish passage through, over and around the dams. None of this has worked to recover salmon and steelhead runs on the Snake River. Spending hundreds of millions of dollars more to mitigate the dams' impact on salmon is a waste of taxpayer dollars.



## THE SNAKE RIVER DAMS CONTRIBUTE TO CLIMATE CHANGE

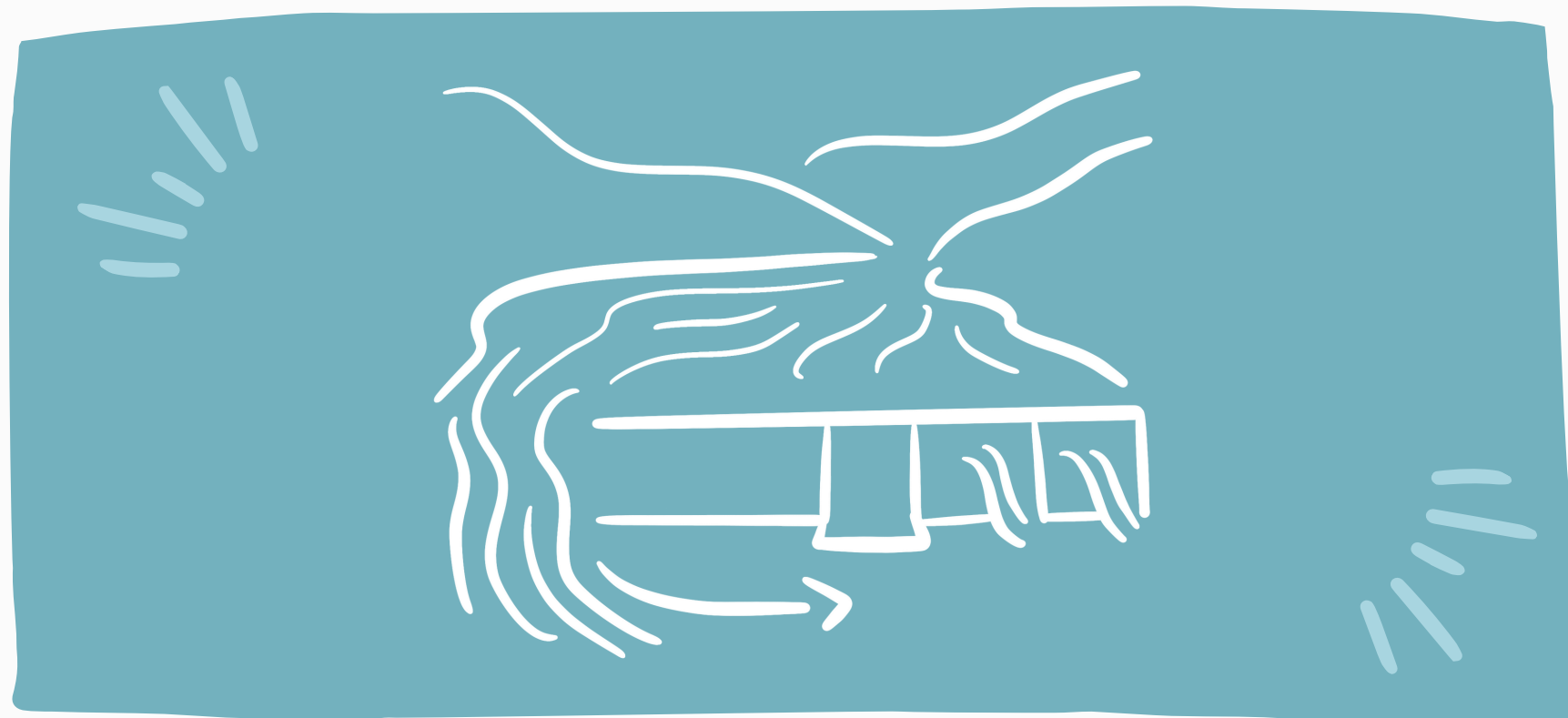
“Until recently, it was believed that about 20 percent of all man-made methane emissions come from the surface of reservoirs. New research suggests that figure may be much higher than 20 percent, but it’s unclear how much higher because too little data is available to estimate. Methane is about 35 times as potent a greenhouse gas as carbon dioxide over the span of a century.”

## THE SNAKE RIVER DAMS NO LONGER MEET THEIR CONGRESSIONALLY AUTHORIZED INTENT, IF THE COSTS EXCEED THE BENEFITS

In a Biological Opinion, NOAA could tell the Army Corps and other involved federal agencies that breaching is a Reasonable and Prudent Alternative to avoid jeopardy to endangered and threatened species listed under the Endangered Species Act.

## PRESIDENTIAL EXECUTIVE ACTION IS LEGAL, FEASIBLE AND PRACTICAL

- The dams are harmful and costly. They do not “pencil out” because the costs exceed the benefits. The Principles and Guidelines for Water Resource Agencies require the benefits to exceed the costs.
- Congressional authorization is not needed to breach the dams, since their economic benefit does not pencil out.



## BREACHING IS NOT COMPLICATED

- Breaching can be done through channel bypass by removing part of the earthen berms adjacent to the concrete structures. Structures can remain in place.

## CONGRESSIONAL APPROPRIATION TO BREACH THE DAMS IS NOT NEEDED

- Dam breaching can be paid for through fish mitigation credits.