



The Columbia River Basin is the biggest watershed on the West Coast and includes many storied steelhead waters, including the Deschutes, John Day, Grande Ronde, Snake, Clearwater, and many other rivers. But steelhead returns have plummeted, making now the time to take action.

COLE LEISHMAN - PHOTO

THE MIGRATION

NOW OR NEVER

ALMOST 150 MILES UPRIVER FROM THE MOUTH OF THE COLUMBIA RIVER, THE BONNEVILLE LOCK AND DAM IS THE FIRST MASSIVE HYDROPOWER DAM STEELHEAD AND SALMON MUST CROSS ON THEIR JOURNEY HOME TO SPAWN. STEELHEAD AND SALMON HAVE BEEN COUNTED HERE EACH YEAR SINCE THE HUGE DAM WAS COMPLETED IN 1938. THIS PAST SEASON SAW THE WORST SUMMER STEELHEAD NUMBERS EVER RECORDED.

Let that fact settle hard in your heart and mind: Throughout history, no one has ever seen such a tiny number of steelhead enter the Columbia Basin. The last few seasons have been terrible, but this year was a new, miserable benchmark. In the modern era, steelhead numbers have varied widely. When we had productive

ocean conditions, some years were much better than others, but today these incredible fish are facing an undeniable crisis.

By mid-December of 2021, months after the historic annual peak of the run, the total steelhead count at Bonneville stood at 70,563 fish. This total includes “clipped” and “unclipped” fish.

FOR THE COLUMBIA AND SNAKE RIVER BASIN'S WILD STEELHEAD

RICH SIMMS & GREG FITZ

Clipped fish originate from hatchery programs where their adipose fins are removed to differentiate them from wild fish. Unclipped fish are mostly wild steelhead, but testing has revealed that up to a quarter of these can end up being unmarked fish from hatchery programs.

In 2021, between June and November, only about 25,000 of the steelhead counted at Bonneville were unclipped.

The last decade (2011–2020) has been the worst average on record for steelhead returns in the Columbia and still managed to average around 200,000 fish per year. (The last five years have been especially awful, and pulled the average down considerably.) The previous decade, 2001–2010, one of the best on record,

averaged more than twice as many. Anglers who were fishing those years will tell you how good it was. In 2001, an astounding 633,000 steelhead passed Bonneville. Of those, nearly 150,000 were unclipped fish. We are a far, far cry from those kinds of numbers right now.

In qualitative terms, the grim steelhead numbers of 2021 are only about 35% of the last decade's average and less than 20% of the first decade of the century.

Sadly, the Columbia Basin's terrible steelhead returns weren't an isolated event. On Oregon's coast, the famous North Umpqua was closed due to unprecedented low fish counts, low flows, and high water temperatures. Only 73 steelhead are expected to return

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to the storied Thompson River. The iconic Skeena River system in British Columbia, which includes famous rivers like the Babine, Sustut, Bulkley, and Kispiox, saw its worst returns on record. Post-season analysis from Washington revealed that last winter's steelhead aggregated returns to coastal and Olympic Peninsula rivers were a new low record, too.

All told, for many of us across the Pacific Northwest, it was a heartbreaking year to be a steelhead angler.

ROLL ON COLUMBIA

The Columbia Basin consists of the Snake and Columbia Rivers and thousands of cumulative miles of tributaries. Combined, it is the biggest watershed in North America entering the Pacific Ocean. It spans vast areas of Washington, Oregon, and Idaho, and reaches into Montana, Nevada, Utah, and Wyoming and deep into southern British Columbia. Estimates vary, but it is believed to

have historically seen runs of 16 million salmon and steelhead annually. Much of the basin was logged extensively; its dams provide immense amounts of electricity to the region; barges travel as far inland as Lewiston, Idaho; the estuary is dredged; and its waters irrigate 600,000 acres of farmland, not to mention providing drinking water and cooling for data centers along its course. Fewer than a million salmon and steelhead now return to the basin each year.

Over 30 separate groups of native people, spanning six separate language groups, have inhabited the basin for thousands of years. Celilo Falls, a key fishing site in the lower Columbia Basin, was one of the longest continuously occupied sites in North America until it was inundated by the impoundment behind the Dalles Dam in 1957. Farther upriver, the same thing happened to Kettle Falls, another key ancient fishing location, when the Grand Coulee Dam was completed without any fish passage.

Some steelhead enter the Columbia and peel off toward the Lewis and Cowlitz rivers—among others—or turn to head up the Willamette River before ever reaching Bonneville Dam. Those passing the dam are heading to dispersed homewaters throughout the basin. The Deschutes, Hood, and Klickitat are relatively close. The Umatilla, Yakima, and John Day are a bit farther. On the upper Columbia, the Wenatchee, Methow, and Okanogan are far into Washington. A large percentage of steelhead will turn and swim up the Snake River, heading hundreds of miles farther inland and eventually climbing thousands of feet of elevation to reach spawning tributaries in the headwaters of the Grande Ronde, Salmon, and Clearwater rivers.

Steelhead and salmon used to go much farther. Today nearly 40% of the basin's habitat is completely blocked by impassable dams, big and small. On the two main stem rivers, Chief Joseph Dam

blocks the Columbia in northern Washington, and the Hells Canyon Complex ends migration on the Snake. According to the Northwest Power and Conservation Council, over a hundred distinct populations of Columbia River Basin salmon and steelhead are already extinct, many of which were lost when dams completely choked off access to upstream spawning habitat. Look at a map, and the vast network of rivers completely void of salmon and steelhead today is staggering.

Even where dams are built with fish passage, they slow the current and dangerously heat the water. Ladders might let migrating adult salmon and steelhead pass upstream, but if the water is too hot they die before they can reach their spawning grounds. The stagnant, hot reservoirs filled with invasive predators like walleyes, smallmouth bass, and channel catfish take an immense toll on smolts heading to the Pacific in the spring.

Salmon and steelhead evolved to be carried out to the Pacific on high water each spring, but the impounded river means the little fish must swim instead. The journey takes much longer now and as a result, the fish arrive at the ocean smaller, weaker, and in lower numbers. To avoid these devastating losses, hatchery smolts are barged around the dams at great expense. Massive flocks of cormorants in the lower river are also intense consumers of small fish, and sea lions feast on the returning adults congregated below fish ladders and in the estuary. Shad, an invasive species from Atlantic coastal rivers, are now one of the largest fish populations in the Columbia Basin. One has to wonder how they are competing with native steelhead and salmon for food and habitat.

The massive main stem dams, including the four notorious fish killers on the lower Snake River, have the biggest impacts, but many tributaries suffer the same degradations, all of which compound downstream on one another. For example, Lake Billy Chinook is having devastating water quality and temperature impacts on the lower Deschutes River, one of the lower Columbia's crucial coldwater refuges for migrating fish, and one of the most popular summer steelhead rivers in the country. Dworshak Dam on the North Fork Clearwater prevents the iconic B-run steelhead, a unique strain of some of the largest summer run steelhead anywhere in North America, from reaching key spawning habitat.

In a bitter irony, water released from the cold reservoir behind Dworshak Dam

is used extensively by the Army Corps of Engineers to help cool the impoundments of the lower Snake River dams, especially Lower Granite Dam, so they don't kill too many fish during summer heat.

Steelhead anglers primarily fish tributaries, and so do many salmon anglers, but there are also popular salmon fisheries in the Columbia Basin's main stem. Commercial gillnet fisheries operate in the lower river, and tribal treaty fisheries operate upstream. Like all mixed-stock fisheries, these commercial nets have a nearly impossible time separating abundant stocks and hatchery fish from wild fish swimming through the same waters. Treaty fisheries are allowed certain levels of steelhead impacts, and the lower river commercial fisheries are managed with such little scrutiny that no one really knows how many steelhead are being caught and killed. The larger B-run steelhead are especially susceptible to interception by nets targeting salmon.

Despite these compounding impacts and threats, steelhead keep fighting to hang on in the Columbia and Snake systems, and many dedicated anglers from across the region, and even throughout the country, eagerly await their arrival each season. We watch the updated dam counts closely, hoping the numbers tell us the fish are doing all right. But this year, the steelhead simply weren't showing up.

HOT WATER AND FISH LOST AT SEA

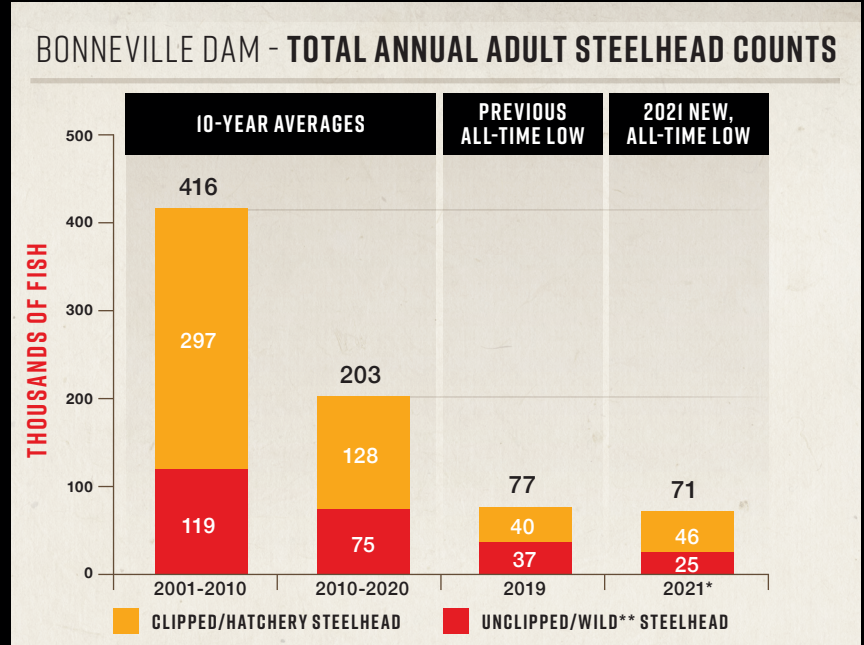
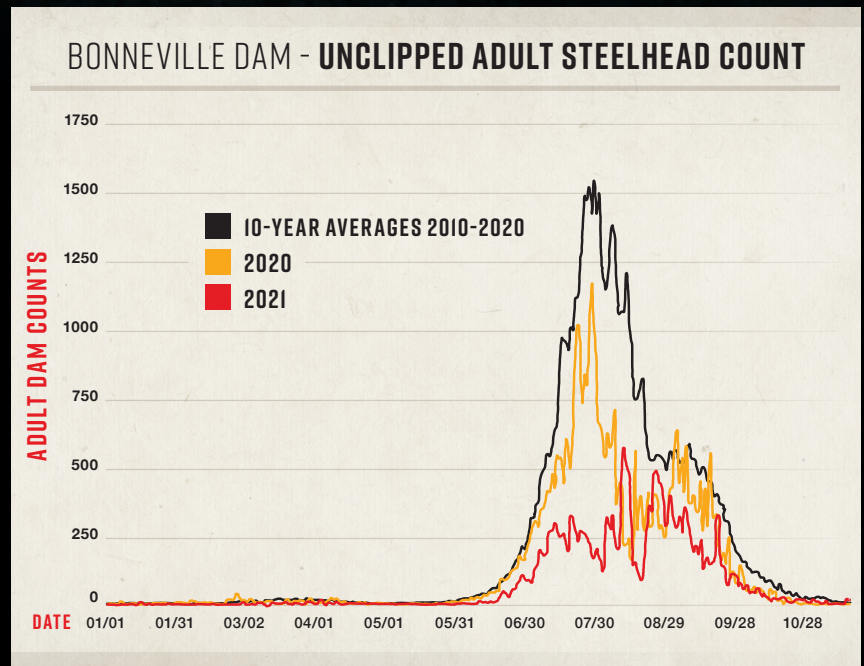
After a couple decades of relatively stable steelhead returns and good fishing seasons, anglers were lulled into a false sense of security. It made it easy for too many of us to ignore the structural problems leading to terrible smolt survival in the Columbia and Snake watershed. Five years ago, when run counts started falling, we kept fishing and hoping that the next year would be better. But that's not what happened.

A marine heat wave known as "The Blob" settled over the North Pacific from 2013 through 2016, and again in 2019, and suddenly steelhead weren't surviving their time at sea. The warm water limited the amount of cold upwelling at sea and important zooplankton and copepods, other foundations of the food web, weren't available to juvenile steelhead, or the squid and forage fish adult steelhead eat. High regional summer temperatures and drought conditions killed 250,000 sockeye salmon returning to the Columbia in 2015, but



GREG FITZ - PHOTO

STEELHEAD BY NUMBERS



*2021 annual figure is up-to-date as of November 22, 2021. In all but two years since 1980, 100% of fish have crossed by this point. **Note that some unclipped fish also come from hatcheries. Data source: Fish Passage Center www.fpc.org.

Thanks to David Moskowitz of The Conservation Angler for help with historical Columbia run count analysis. www.theconservationangler.org.

WILD STEELHEAD
NOW OR NEVER

SCAN THIS CODE TO READ CHAPTER I:



COLE LEISHMAN - PHOTO

The Grande Ronde (shown here) is a tributary that joins the Snake River near the junction of Oregon, Washington, and Idaho. To get here, steelhead must pass the four lower dams on the Snake River and also four dams on the Columbia River.

also had devastating impacts on steelhead and other salmon smolts. Research began to show that the massive numbers of pink salmon being stocked into the Pacific by Alaskan hatcheries to create commercial fisheries were eating a huge share of the food that was available, adding to the disruption of the food web. Steelhead were starving to death.

In early 2021, fishery managers were expecting a run of about 100,000 steelhead to return, a lousy number by any measure, but it ended up much lower. In late spring, the Nez Perce Tribe's Fisheries Department issued a report saying that many of Idaho's spawning tributaries had so few steelhead in recent years that they were hovering at "quasi-extinction" levels and couldn't sustain too much of an impact without a risk of blinking out. (The numbers for spring Chinook were even worse.)

Last summer, a massive heat wave and drought settled over the region. Portland, Oregon reached record-breaking temperatures of 116 degrees at the end of June. Water roasted in the basin's reservoirs, and the Lower Columbia and Snake rivers for weeks held temperatures lethal to salmon and steelhead. The lower Deschutes hit dangerous temperatures

that triggered some sporadic "hoot owl" fishing closures from the Oregon Department of Fish and Wildlife, and caused the regional utility PGE to release cold water from the Pelton Round Butte Hydropower Project to cool the lower river temporarily.

Far ahead of the annual average peak of the run, it was already clear steelhead numbers were dismal. Conservationists and some anglers were ringing alarm bells. Fishery managers waited until August to respond, and policies were inconsistent. Oregon closed seasons and protected some coldwater refuges in the main stem, notably on the Deschutes, but Washington only made minor adjustments to seasons and did little to protect fish in coldwater refuges, despite most of them being on their side of the river. Oregon and Washington allowed the lower river commercial gillnet fisheries to proceed. Washington has even made efforts in recent years to expand these indiscriminate fisheries. Idaho reduced harvest on hatchery steelhead and simply watched Washington and Oregon intercept the few fish migrating through.

Guides, outfitters, and local communities lost seasons and income in some places, but were told it was fine to fish others, even

as numbers crashed. It seemed like fishery managers believed it was an emergency in only parts of the watershed, when there was no evidence that any population was thriving. During online Fish and Wildlife Commission meetings, the departments warned that the run numbers were scary and then were congratulated by commissioners for how they were handling it, even as most measures failed to grasp the severity of the emergency. Some folks held out hope that steelhead were simply waiting in the estuary for cooler water temperatures upstream, but as the weeks of the season accumulated, it soon became clear that they just weren't coming at all.

NOW OR NEVER

In late October, the Wild Steelhead Coalition released a three-chapter online campaign called "Wild Steelhead: Now or Never" in celebration of our 20th anniversary. "Now or Never" is a report on the state of steelhead populations, the causes for declines, and investments required to restore populations, and, most importantly, a call for steelhead anglers and the outdoor industry to use our political and economic power to demand that natural



COLE LEISHMAN - PHOTO

Halie Endicott—a board member of the Wild Steelhead Coalition—carefully releases a wild steelhead from the Deschutes River, Oregon. This photo was taken prior to 2021. In the fall of 2021, a few guides and recreational anglers chose not to fish at all in the Columbia River watershed because there were so few steelhead passing Bonneville Dam.

resource agencies and elected leaders make the changes required to restore wild steelhead and their home waters before it is too late. We believe that being a steelheader in the 21st century comes with a profound responsibility to be advocates and conservationists with the same dedication, commitment, and passion that drives us as anglers.

The lessons, work, and tough decisions required are no longer optional anywhere in the native range of wild steelhead, but the Columbia Basin needs all of us who fish the incredible, diverse rivers of the watershed to cease denial, speak up, and push for the huge changes necessary to pull wild steelhead back from the brink. We've seen years where their populations rebound, and we need to provide the healthy ecosystems and protections they need to survive. Generations of habitat degradation and neglect are colliding with the urgency of the changing climate. Now is the time to act.

Idaho Congressman Mike Simpson shocked the political status quo by calling for removal of the four lower Snake River dams, and investments in the region's transportation, energy, and irrigation infrastructure. His proposal didn't receive funding, but it spurred new attention from

regional leaders. Washington Senator Patty Murray and Governor Jay Inslee have announced a new process to recover fish in the basin. Breaching the four lower Snake River dams must be a central facet of any plan. New Clean Water Act regulations have been recently implemented by the EPA to finally set water temperature thresholds for steelhead and salmon survival. Litigation has been temporarily paused to allow for new negotiations between the Biden Administration and the litigants suing over the Army Corps of Engineers' decades of failed management of the Columbia River hydropower system. New infrastructure dollars are flowing to the region and must be used to restore floodplains and estuary and upstream spawning and riparian habitat, add fish passage at dams, and make other crucial investments in resiliency.

We need state managers to finally limit commercial gillnets and move toward selective fisheries like the pound nets being successfully demonstrated in the lower river. We need to ensure cold, clean water for the lower Deschutes River and protect critical coldwater refuges throughout the main stem. We need to stop the excessive stocking of hatchery pink salmon in the Pacific Ocean, and reexamine the other costs of

hatchery programs in the basin and their negative impacts on wild stocks. We need to implement serious efforts to remove invasive warmwater species from the basin to prioritize our native salmon, steelhead, lampreys, and sturgeons. We may need to petition to elevate wild steelhead further up the hierarchy of the Endangered Species Act to gain the legal protections required to force changes to agency management.

This year's low run numbers are a tragedy, but there are paths forward to restoring abundance and diversity of Columbia Basin's wild steelhead. Ensuring they happen will require steelhead anglers to see their fishing and advocacy as inseparable. By raising our voices, and working with tribes, conservationists, and other anglers, we'll force our agencies to heal this incredible watershed. Wild steelhead are struggling, but they are not gone yet. Anglers and industry must be among the last lines of defense. We must stand up and refuse to let these fish slip away on our watch. 🐟

Rich Simms is a cofounder and a board member of the Wild Steelhead Coalition. He was FLY FISHERMAN's 2017 Conservationist of the Year. Greg Fitz is a Wild Steelhead Coalition staff member.