

2026 REPORT

STATE OF SALMON

British Columbia
& Yukon

PACIFIC SALMON
FOUNDATION

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State of Salmon Website

See the online, interactive website at stateofsalmon.ca.

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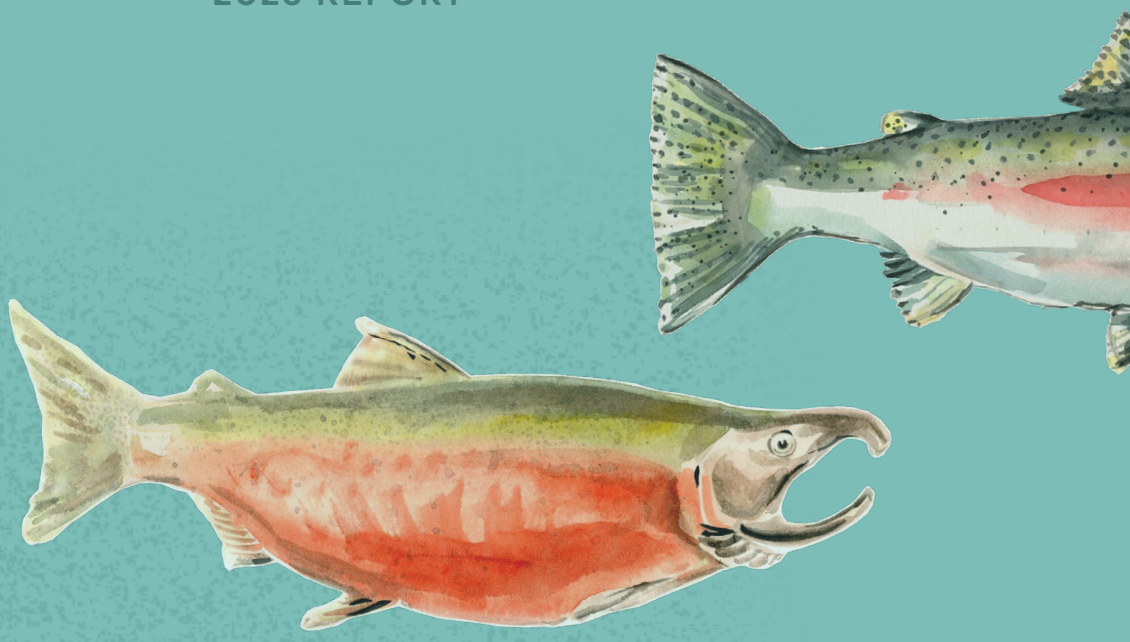
PACIFIC SALMON FOUNDATION



STATE OF

SALMON

2026 REPORT



British Columbia
& Yukon



Pacific salmon returns are increasingly variable and hard to predict. This year's data tell a different story depending on where, and how closely, you look — with real gains for some populations in 2025 and continued declines for others. Tracking the State of Salmon remains essential to understanding where recovery efforts are paying off and where urgent concerns persist.

The State of Salmon 2026 Report provides a data-driven overview of the state and trends for six species of Pacific salmon, including steelhead, across ten regions in British Columbia and the Yukon. This year marks the third annual report, providing an opportunity to reflect on how the state of salmon, and this report, have evolved.

Our assessments of the current state of Pacific salmon change incrementally from year to year, and this is by design: the metrics aim to capture meaningful changes in abundance and not be overly influenced by any one year This year, approximately half of salmon populations were below their long-term averages – a reason for cautious optimism.

The State of Salmon report unpacks that statistic to examine the current state and trends across Pacific salmon species within each region. Sockeye and pink salmon showed relatively strong returns in 2025, exemplified by a Fraser sockeye return that exceeded forecasts by several million fish. Coho populations are up in some southern regions, while most northern populations remain near or below average. Meanwhile, chum and steelhead remain below average in almost every region. Steelhead in particular are approaching record lows – and in some cases disappearing altogether. The test fishery that provides a spawner forecast for Interior Fraser steelhead caught zero steelhead in 2025[1] and telemetry studies tracking steelhead in the Columbia Rivvvver detected just a single steelhead in the Canadian portion[2].

A lower-than-expected Fraser sockeye return in 2026 is also reinforcing that any single year must be interpreted with caution. As climate change leads to increasingly variable ocean conditions – including a Super El Niño currently brewing in the Pacific[3] – management systems are struggling to adapt to this no-analogue future, and the of trajectory for salmon remains uncertain.

The State of Salmon 2026 Report expands on how climate change and five other major factors (aquaculture, fisheries, hatcheries, industrial development, and urban development) are affecting Pacific salmon throughout their Canadian range. This list of factors is not exhaustive, but captures pressures that are within human control, where local actions can make a difference for salmon either by directly addressing those factors or mitigating the impacts on salmon habitats.

A clear message emerges from examining the factors affecting salmon: we know a great deal about the challenges they face, and many of these challenges have solutions. What has been missing is implementation, coordination, and accountability at the scale needed to reverse declines. We have entered a new era for Pacific salmon, and our institutions, governance systems, and policies must adapt. In this year's Report, we offer a Path Forward built on a foundation of coordination, monitoring salmon and their habitats, filling knowledge gaps, and on-the-ground action. The state of salmon remains urgent, and the future of wild salmon will be determined by how we choose to respond.





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MESSAGE FROM THE CEO

As the Pacific Salmon Foundation (PSF) enters its third consecutive year of reporting on the State of Salmon, we continue to deepen our understanding of how salmon are doing, underscoring the importance of this critical work.

As the Pacific Salmon Foundation (PSF) enters its third consecutive year of reporting on the State of Salmon, we continue to deepen our understanding of how salmon are doing, underscoring the importance of this critical work.

We first launched the report in 2024 to help people with varying levels of salmon knowledge make sense of conflicting headlines, from fisheries closures to record returns, and to provide clear answers on how salmon are doing by species and region. Three editions in, that purpose has held: it remains the first publication of its kind to bring disparate data, from monitoring by individual First Nations to Pacific Salmon Commission datasets, together in one accessible place.

PSF acts at the nexus of science and action. We invest in the State of Salmon Report, other data tools, and monitoring efforts to raise public awareness about the state of salmon, build political will, and support evidence-based decision making. The State of Salmon connects critical information with the public, governments, and the private sector. With the right knowledge, we can act on the serious state of salmon and ensure these fish persist and thrive into the future.

I am pleased that the State of Salmon team has added two brand-new additions to this year's report. The first is an overview of six major human-caused factors impacting salmon survival: climate change aquaculture, fisheries, hatcheries, industrial development, and urban development. This in-depth section illuminates what is driving the state of salmon. The second is a Path Forward: our vision for a more coordinated, collaborative approach to salmon recovery and long-term resilience. The data show widespread long-term declines, but also incremental improvements in recent years and the capacity for salmon to rebound. The Path Forward is a solutions-oriented proposal to address persistent declines and create more opportunities for salmon to recover. I would like to thank the PSF team for their commitment to annually producing and updating the State of Salmon Report, as well as the First Nations, creek walkers, volunteers, and data experts beyond PSF that count and monitor salmon – an invaluable undertaking essential to our collective baseline understanding on the state of salmon.

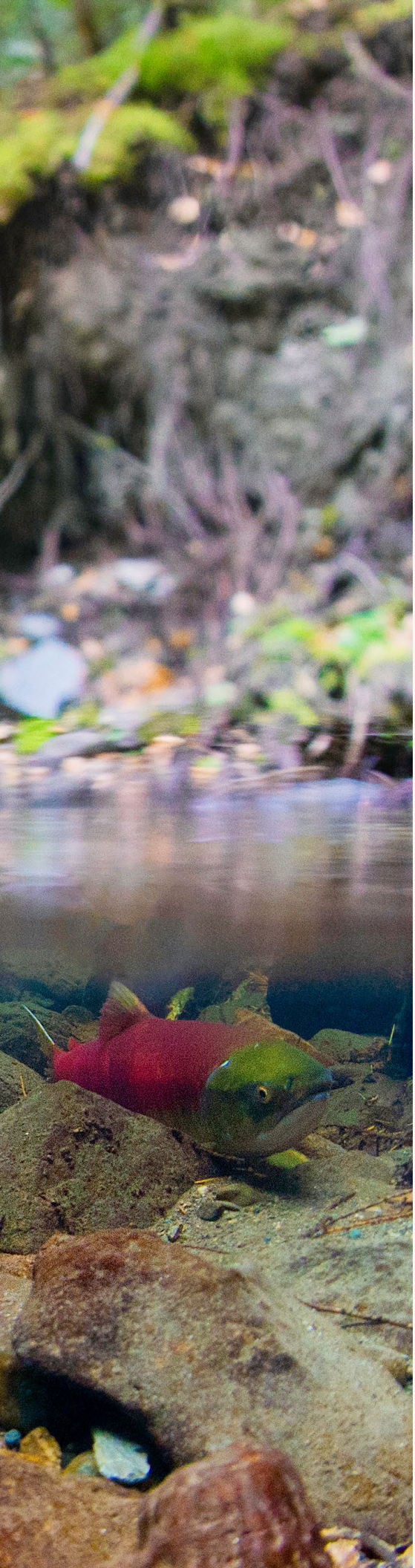
Michael Meneer

President & CEO, Pacific Salmon Foundation









The Pacific Salmon Foundation's State of Salmon 2026 Report provides a data-driven overview of the state and trends for all six species of Pacific salmon, including steelhead, throughout British Columbia and the Yukon.

Despite the wealth of information on Pacific salmon, and news stories that alternately lament poor returns or celebrate salmon booms, there remains a need for a robust, consistent assessment that cuts through the noise and offers objective, data-driven information to inform public dialogue and conservation conversations. First published in 2024, the State of Salmon Report fills that need. Updated annually, it provides a high-level assessment of regional-scale changes in spawner abundance (fish that return to reproduce) and total abundance (spawners plus fish harvested or lost during migration).

Now in its third edition, PSF's State of Salmon Report continues to evolve and improve. In addition to more current data for all populations, the 2026 Report fills previous data gaps for Northern Transboundary steelhead and Haida Gwaii Chinook. Expanded Technical Documentation improves the transparency and reproducibility of results, detailing specific data sources and associated assumptions and limitations.

This year's Report includes substantial new content describing Factors Affecting the State of Salmon – a glimpse into six major human-driven impacts that are influence salmon abundance: climate change, aquaculture, climate change, fisheries, hatcheries, industrial development, and urban development. Building on that, there is also a new section on the Path Forward that recognizes the power of distributed and place-based efforts to recover salmon and describes a visionary approach to salmon recovery grounded in coordination among First Nations, researchers, stewardship groups, agencies, and non-profits doing that important work. Summarized in this pdf format, the web version of the report offers a visually compelling and interactive way to explore this new content – visit stateofsalmon.ca!

INTRODUCTION

We report on the state of salmon in each of the ten regions that represent all major Pacific salmon-bearing watersheds in Canada: Yukon, Northern Transboundary, Haida Gwaii, Nass, Skeena, Central Coast, Fraser, East Vancouver Island & Mainland Inlets, West Vancouver Island, and Columbia. These regions are consistent with the regions visualized on the Pacific Salmon Explorer (salmonexplorer.ca), the Pacific Salmon Foundation's online tool for communicating the status and trends of Pacific salmon Conservation Units*.

*Conservation Units are irreplaceable groups of salmon that have unique genetic and life-history traits. Maintaining multiple Conservation Units within a region strengthens the resilience of the species as a whole and helps salmon withstand and adapt to changing conditions.

YUKON - YU

NORTHERN TRANSBOUNDARY - TB

HAIDA GWAII - HG

NASS - NA

SKEENA - SK

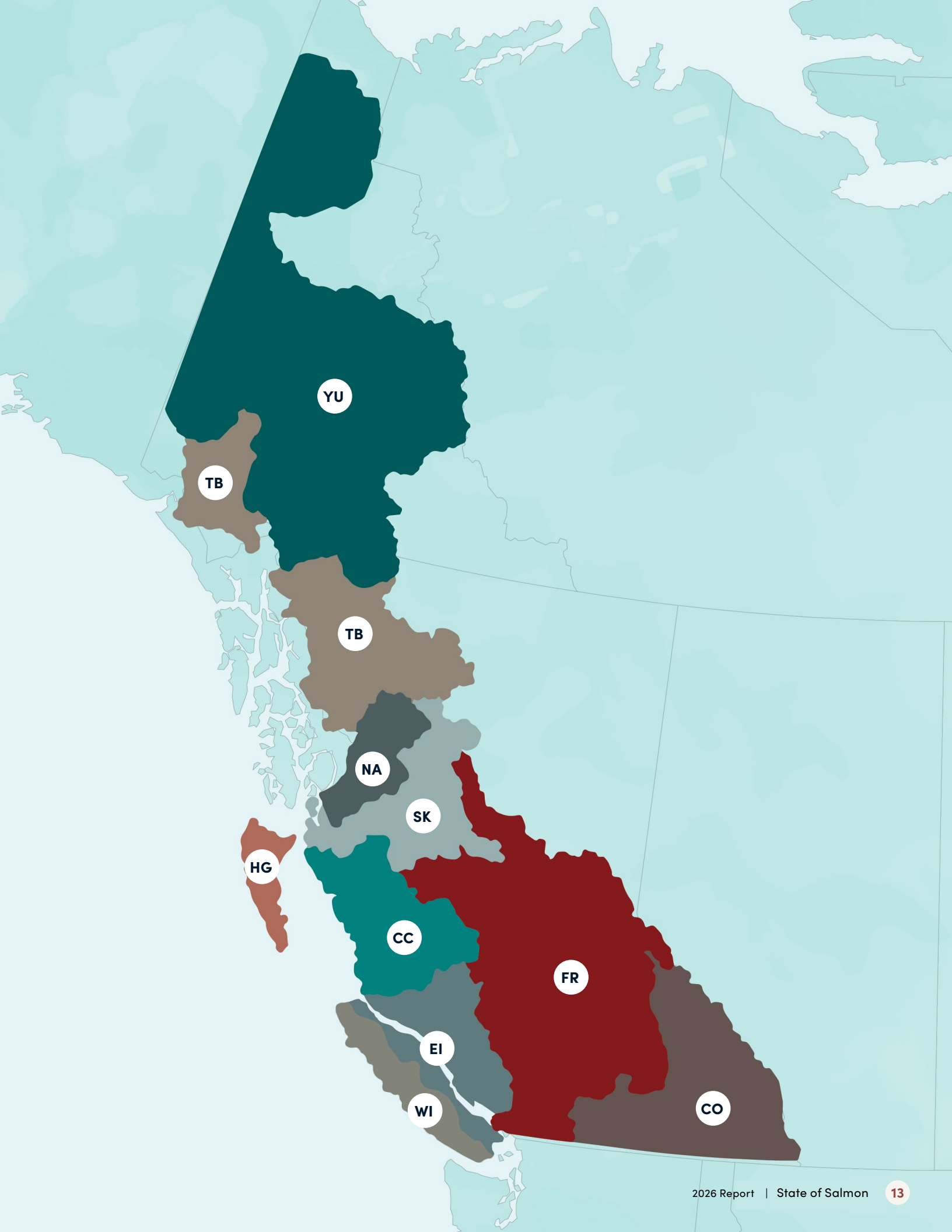
CENTRAL COAST - CC

FRASER - FR

EAST VANCOUVER ISLAND & MAINLAND INLETS - EI

WEST VANCOUVER ISLAND - WI

COLUMBIA - CO


YU
TB
TB
NA
SK
HG
CC
FR
EI
WI
CO

Our Approach

There are different ways to measure the state of salmon, and each approach tells us something unique about how salmon are doing.

CURRENT STATE is the spawner abundance or total abundance over the most recent generation as a per cent anomaly from the long-term average and provides information on how abundant salmon are now relative to past years.

TRENDS measure the direction of change, either over the short-term (most recent three generations) or long-term (all available years). This is complementary information to the current state, and a species that has a declining trend may be a conservation concern even if the current state is above average.

Where possible, we report on these metrics using both spawner abundance and total abundance. Spawner abundance (also called "escapement") provides information on the number of salmon that "escape" fisheries and make it back to spawn. These salmon are available to meet ecological needs within watersheds and can reproduce and contribute to future generations. As such, understanding spawner abundance is important to salmon conservation.

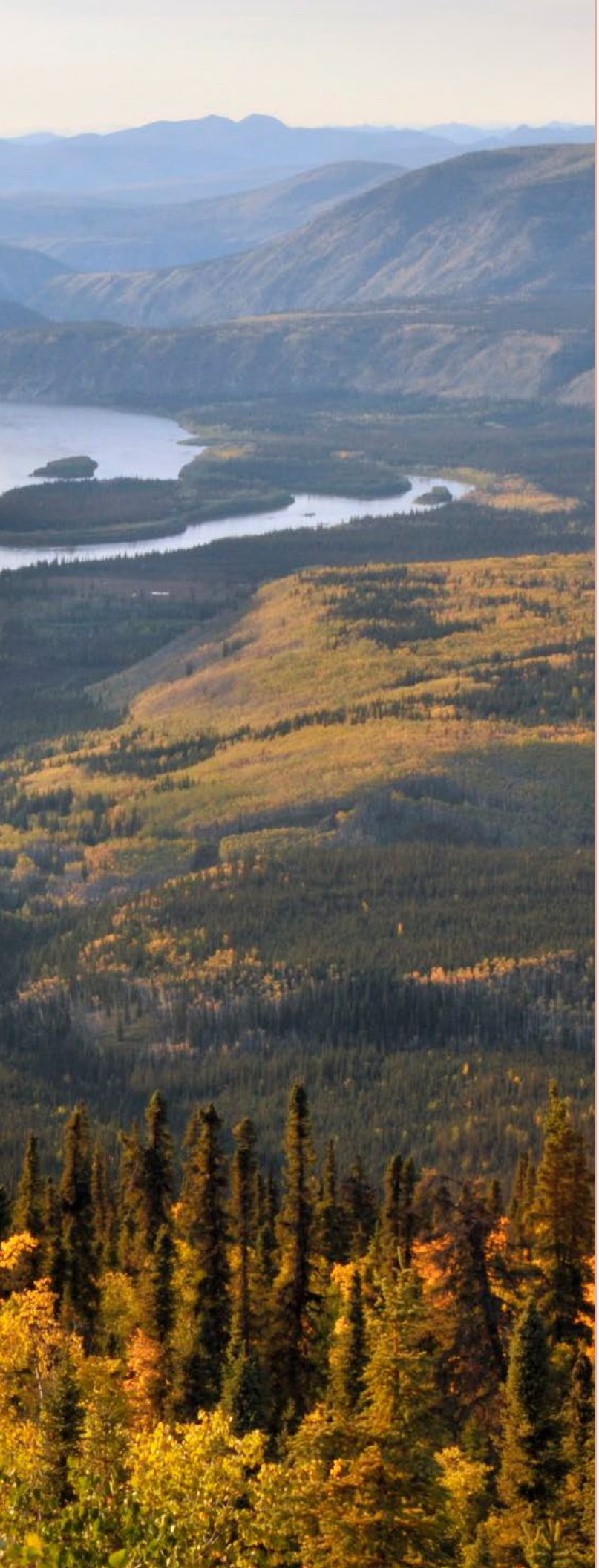
Where data are available, we also report on total abundance, which is the sum of spawners, catch, and (in some cases) mortality of salmon after they have entered freshwater but prior to spawning. In some years, a substantial proportion of salmon that survive to maturity are caught in commercial fisheries. Tracking total abundance provides information on the survival and productivity of salmon as well as their ability to provide economic opportunities through fisheries. Often, the state and trends for spawner abundance are more optimistic than for total abundance because of widespread declines in commercial catches of Pacific salmon in Canada since the mid 1990s.

Our approach to assessing the State of Salmon is based in Western science and offers a data-driven perspective on broad-scale state and trends. For many regions and species, the scientific record is relatively short and may not adequately represent changes in abundance that have undoubtedly occurred over centuries of colonization, settlement, and human development. However, these data represent a type of information that can be relatively easily compiled, analysed, and compared across broad spatial scales. We encourage readers to seek out additional sources of information about salmon in their area, in particular from local First Nations who often have deep intergenerational knowledge and relationships with salmon.









BC & YUKON OVERVIEW



1

The state of salmon remains precarious, with approximately half of all salmon populations across British Columbia and the Yukon below their long-term average.

Viewed over the longer term, Pacific salmon are in decline. Yet we have seen incremental improvements over three years of reporting, with some populations moving from just below to just above their long-term averages: sockeye and pink showed relatively strong returns in 2025, even as chum and steelhead remain below average in most regions.

2

Sockeye had above-average spawner abundance in all but one region – East Vancouver Island & Mainland Inlets.

Strong returns in 2025, including a Fraser sockeye return that exceeded forecasts, were encouraging. However, lower-than-expected returns in 2026 reinforce the importance of interpreting any single year with caution. Salmon abundance can vary considerably from year to year, and changing ocean conditions are adding uncertainty about future returns.





3

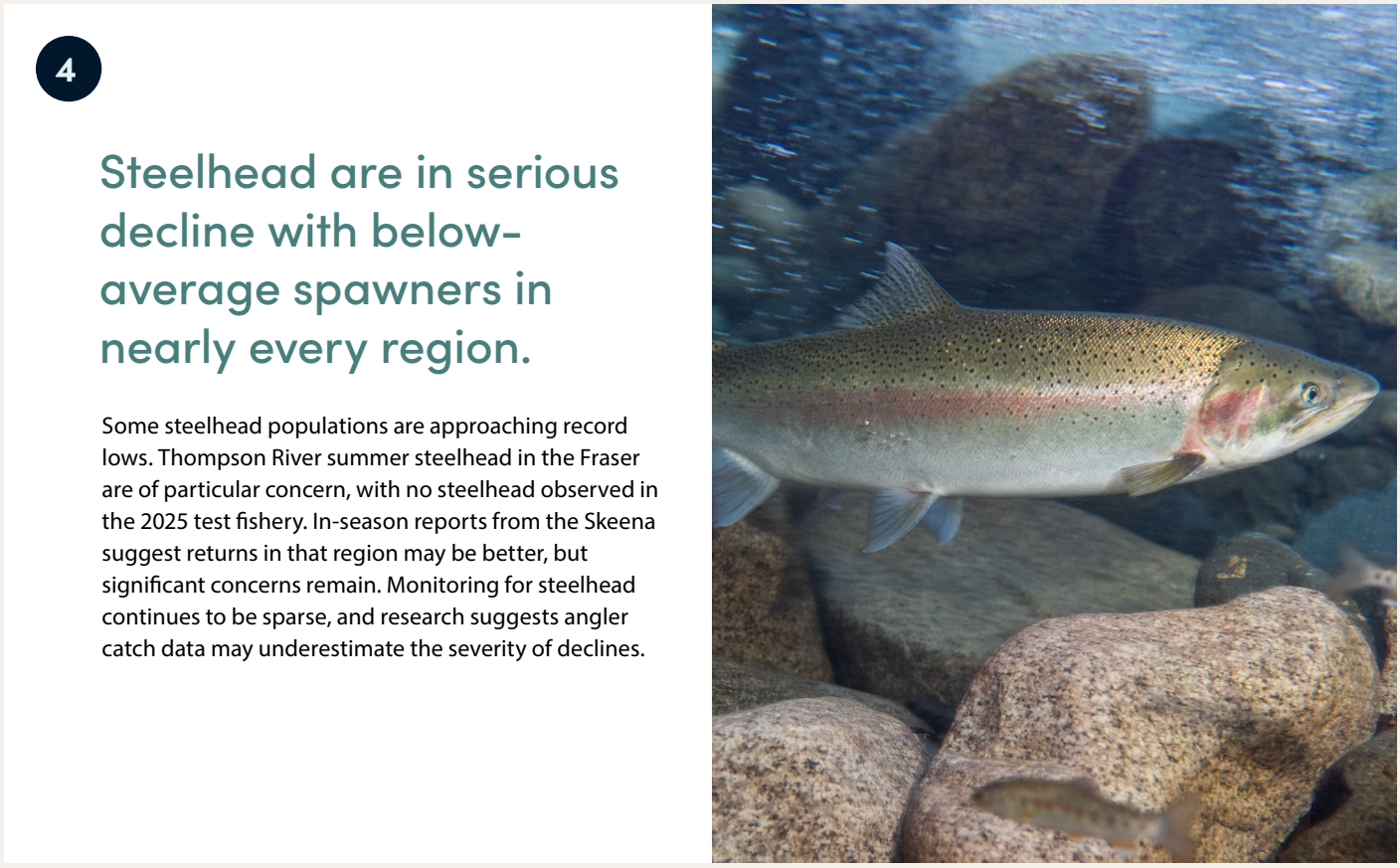
Coho populations are up in some southern regions, while most northern populations remain near or below average.

Positive trends in the Fraser and East Vancouver Island & Mainland Inlets reflect strong marine survival and a broader shift towards increased productivity for populations residing in the Strait of Georgia. These gains have not extended farther north, where regions such as Haida Gwaii continue to experience declines.

4

Steelhead are in serious decline with below-average spawners in nearly every region.

Some steelhead populations are approaching record lows. Thompson River summer steelhead in the Fraser are of particular concern, with no steelhead observed in the 2025 test fishery. In-season reports from the Skeena suggest returns in that region may be better, but significant concerns remain. Monitoring for steelhead continues to be sparse, and research suggests angler catch data may underestimate the severity of declines.





SPECIES AT A GLANCE



Chinook

Chinook have increased in abundance in southern regions but are still below average in much of northern B.C. and the Yukon.



Pink

Pink salmon are well-above average in most regions, despite 2025 returns that fell short of expectations in several regions.



Chum

Chum salmon have experienced the most precipitous declines of any species with spawner abundance below the long-term average in all regions except the Nass.



Sockeye

Sockeye spawner abundance has increased above average in all regions except East Vancouver Island & Mainland Inlets.



Coho

Coho are thriving in southern regions, but northern populations from Haida Gwaii to Northern Transboundary remain near or below average.



Steelhead

Steelhead have the lowest abundance of all six species and are below the long-term average for spawner abundance in all regions except the Nass.

REGIONS AT A GLANCE

Yukon (YU)
Chinook and chum salmon have experienced precipitous declines in recent years.

Northern Transboundary (TB)
All species except sockeye are below average but recent improvements are encouraging.

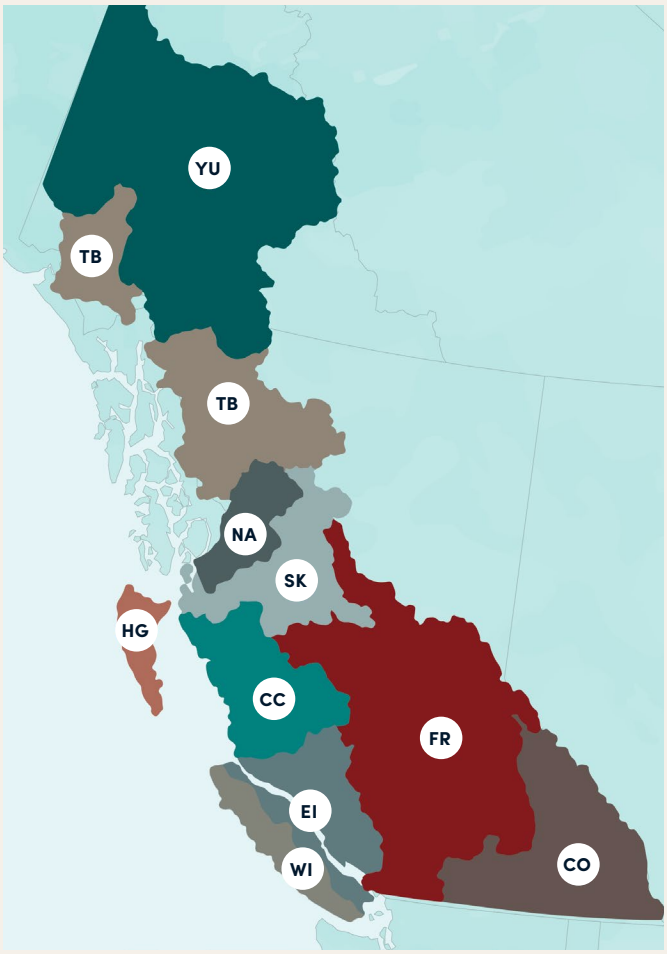
Haida Gwaii (HG)
Chinook, pink salmon, and sockeye have increased to above-average spawner abundance, while the state of chum salmon and coho in the region has worsened.

Nass (NA)
Chinook have below-average spawner abundance, while other species – including steelhead – are faring relatively well.

Skeena (SK)
Chinook and chum salmon have declined dramatically, while pink salmon and sockeye are above average and increasing.

Central Coast (CC)
Chum salmon are struggling on the Central Coast, and while other species are holding near or above average, reduced monitoring is adding uncertainty.

Fraser (FR)
Abundances have recently increased for most species but total abundance has lagged and steelhead demand urgent attention.



East Vancouver Island & Mainland Inlets (EI)
A striking split in the region sees increasing numbers of Chinook, coho, and pink salmon while chum salmon, sockeye, and steelhead remain below average.

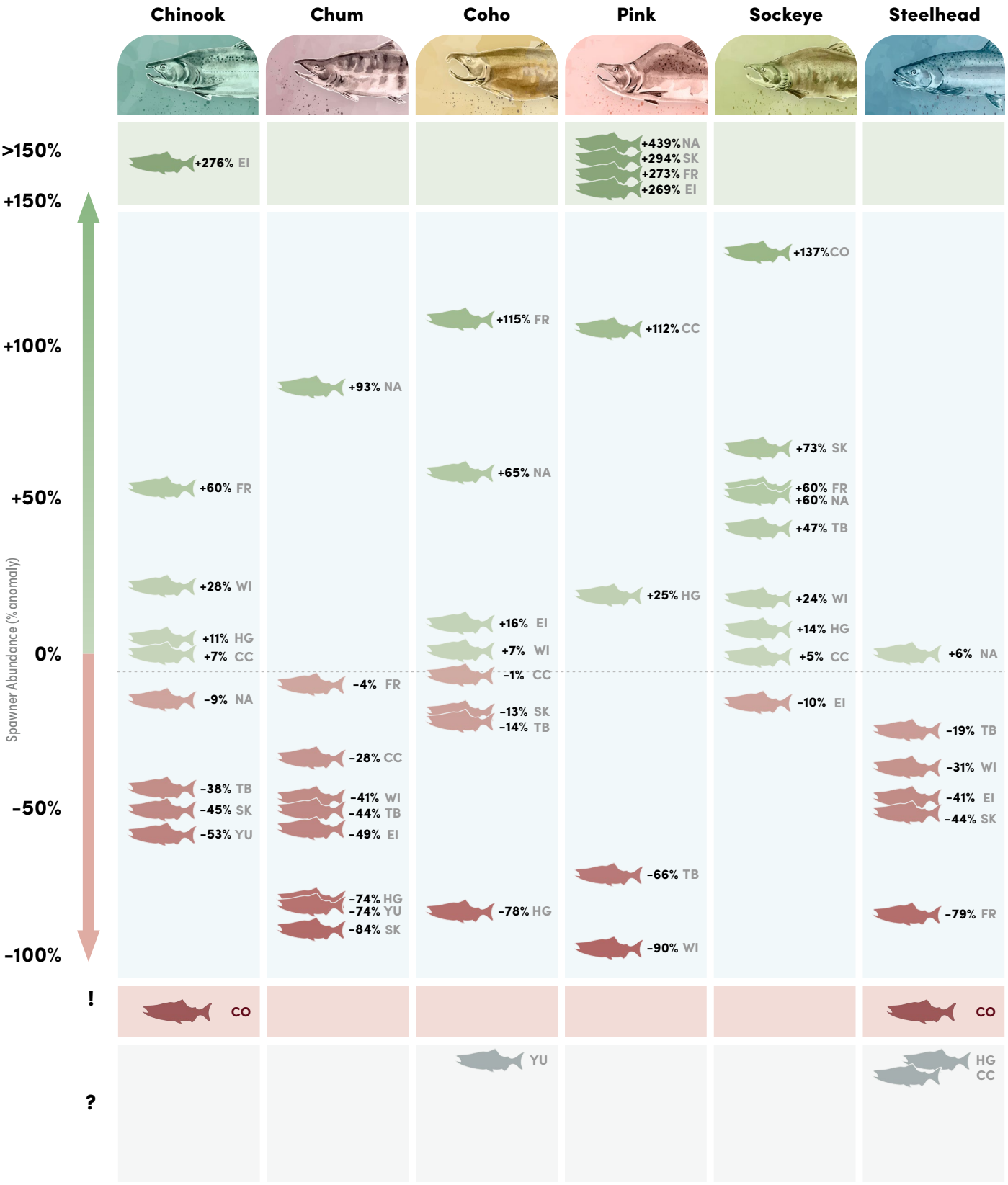
West Vancouver Island (WI)
Chinook and sockeye remain above average spawner abundance, while steep declines in chum, coho, and steelhead are cause for concern.

Columbia (CO)
Sockeye are well above average, while Chinook and steelhead face critically low abundances.

CURRENT STATE

The following figures communicate the current state of salmon for each species across all regions of British Columbia and the Yukon. Each fish below shows the per cent anomaly of current spawner or total abundance over the most recent generation compared to the long-term average (horizontal line) for each region and species.

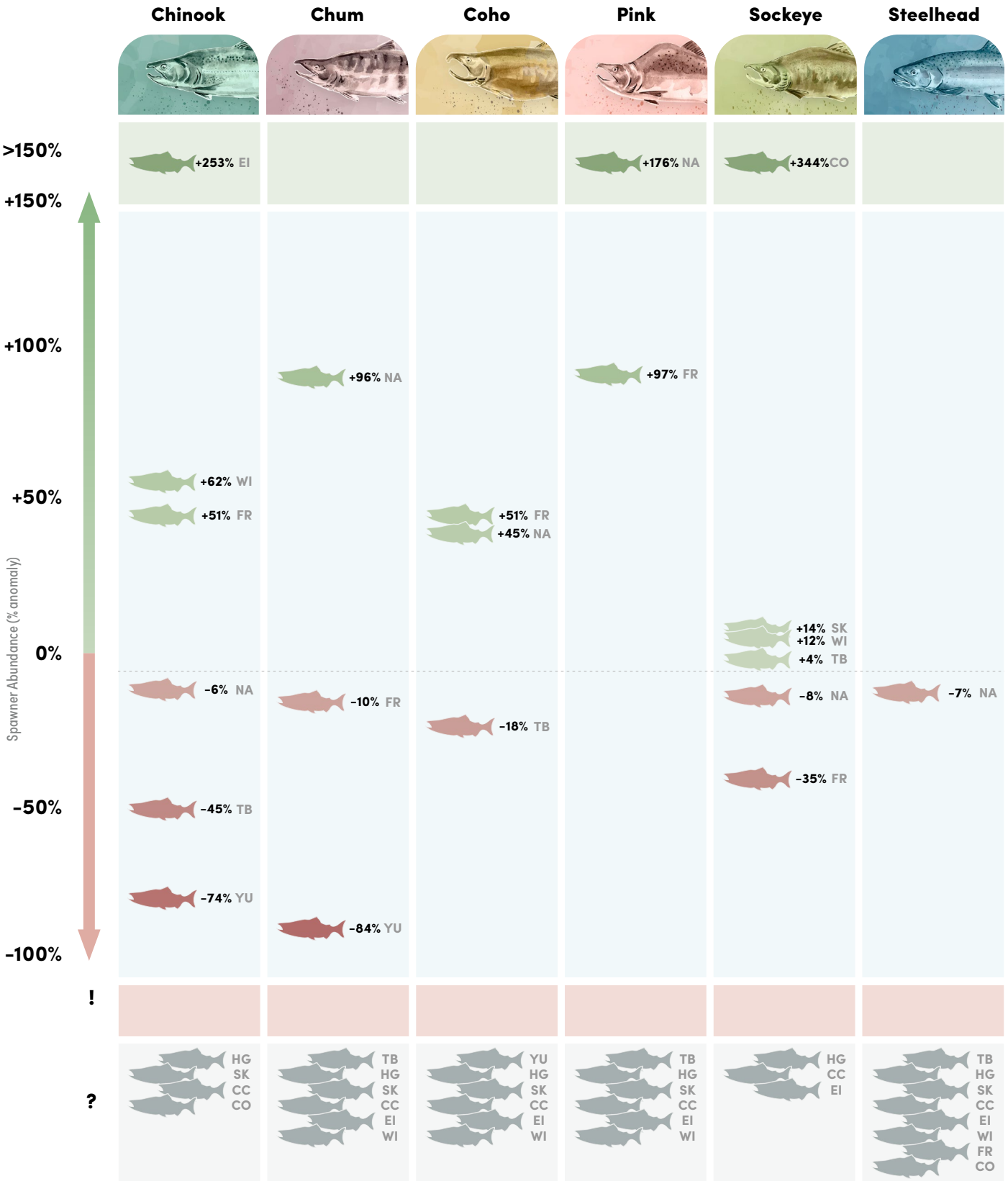
Spawner Abundance



Well-above long-term average. No conservation concern.
Above long-term average. Current outlook is good.
At or near long-term average. Precaution is warranted.
Below long-term average. Current outlook is poor.
Well-below long-term average. Significant conservation concern.
! Critically low. At risk of local extinction.
? Unknown state due to a lack of readily accessible data.

YU - YUKON
TB - NORTHERN TRANSBOUNDARY
HG - HAIDA GWAII
NA - NASS
SK - SKEENA
CC - CENTRAL COAST
FR - FRASER
EI - EAST VANCOUVER ISLAND & MAINLAND INLETS
WI - WEST VANCOUVER ISLAND
CO - COLUMBIA

Total Abundance

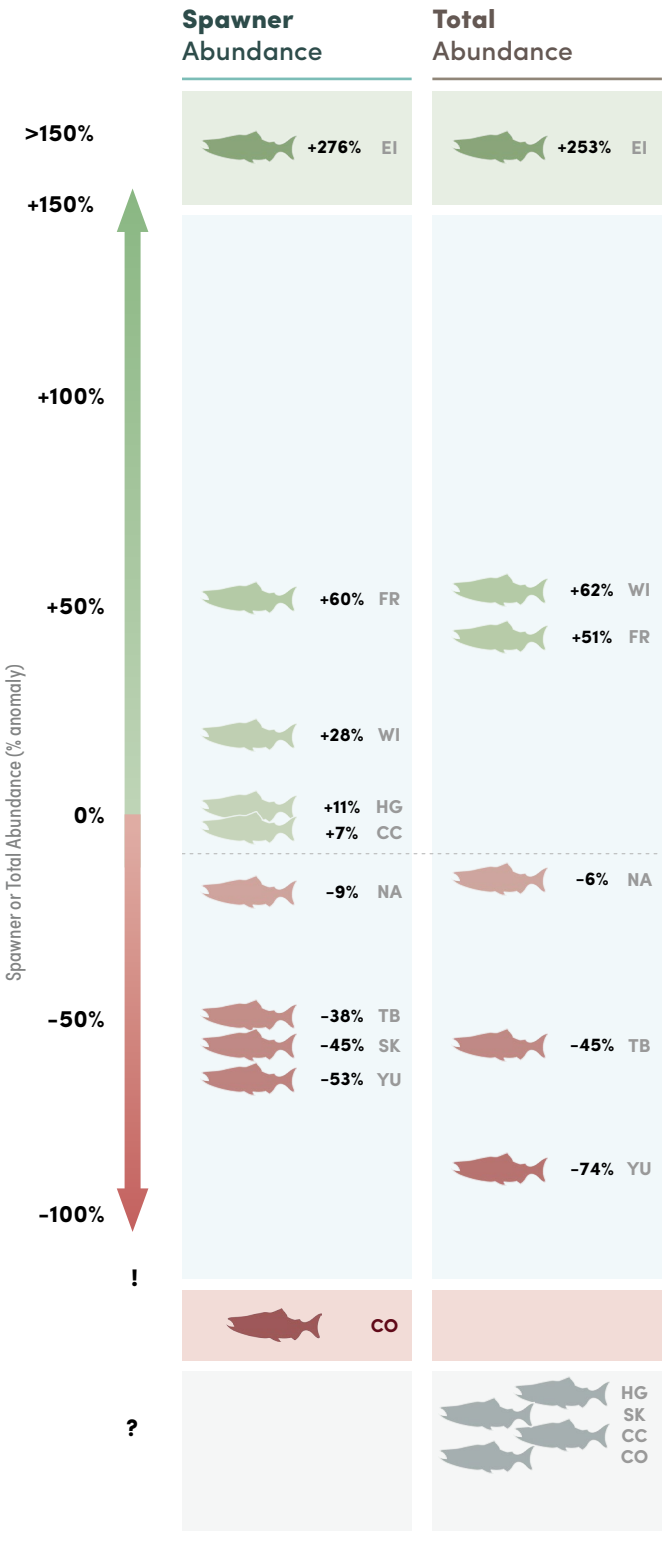




Chinook have increased in abundance in southern regions but are still below average in much of northern B.C. and the Yukon.

Despite remaining below average, the current state of spawners in the Skeena, Nass, and Northern Transboundary has improved over the three years we've been reporting. The northern exception is Yukon Chinook, which had a total abundance of 25,000 fish in 2025 – a far cry from the ~150,000 fish that returned on average until the mid-2000s. This dramatic decline prompted a seven-year moratorium on all fishing of Chinook in the mainstem Yukon River and Canadian tributaries[4] and ongoing work to develop both domestic and international rebuilding plans. In contrast, many Chinook populations are thriving further south. In West Vancouver Island and East Vancouver Island & Mainland Inlets, both spawner and total abundances are well-above the long-term average. This is driven in part by hatchery enhancement of wild populations. While hatcheries can support conservation and recovery, there is growing evidence that long-term reliance on them may hinder the recovery of self-sustaining wild salmon (see Factors: Hatcheries). Still, strong ocean survival is benefiting both wild and hatchery Chinook in these southern regions and is an encouraging trend for salmon and the ecosystems they support.

Following an exceptionally high return of Chinook to the Fraser in 2023, the last two years saw a smaller - but still above average - abundances. However, recent increases are largely driven by ocean-type Chinook that migrate to sea early in their first year, while the proportion of Chinook that spend a year or more rearing in freshwater has declined from the 1980s. This shift may reflect growing climate change threats in freshwater habitats, including warmer river temperatures, droughts, and landslides, that make freshwater residence risky (see Factors: Climate Change). In the Columbia, spawner abundance has generally been increasing since the early 2000s, but the 2025 return was just 12 fish. Their critically small population size means that Columbia Chinook face an imminent risk of extirpation with the Okanagan population of Columbia Chinook listed as Endangered in 2017 by the Committee on the Status of Endangered Wildlife in Canada.





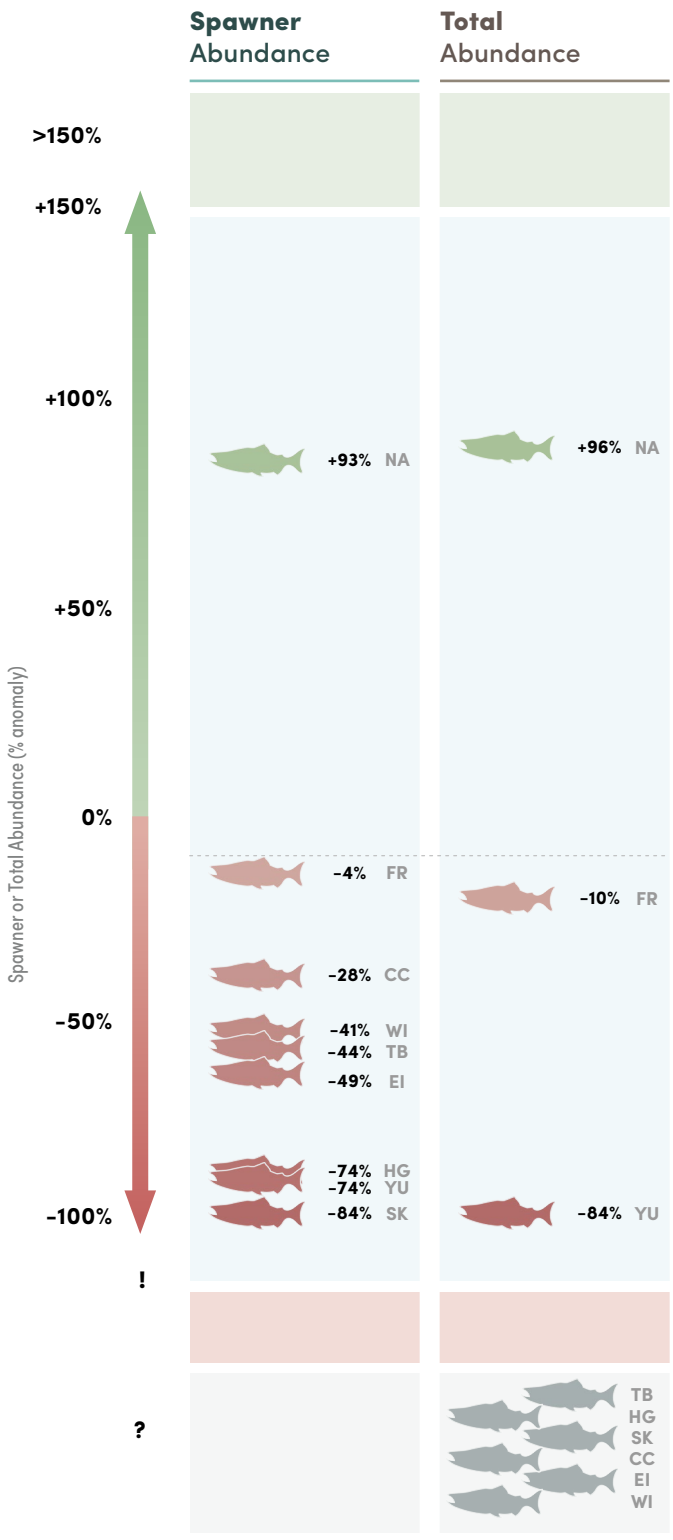
Chum salmon have experienced the most precipitous declines of any species with spawner abundance below the long-term average in all regions except the Nass.

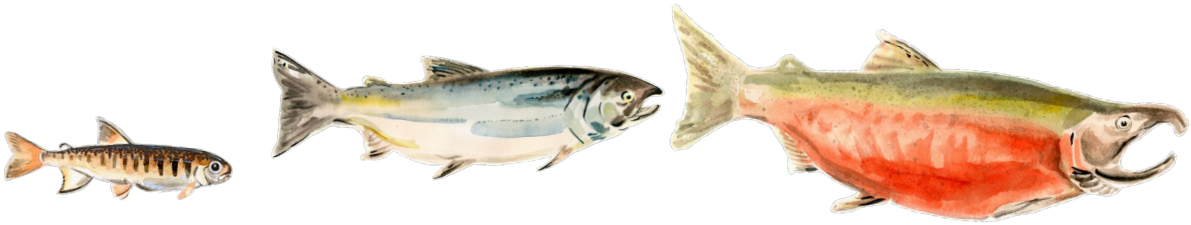
The largest declines are found in the northernmost regions including the Yukon, Northern Transboundary, Haida Gwaii, and Skeena.

In the Yukon, where dismal returns of Chinook have dominated headlines for years, returns of chum salmon have also plummeted to historic lows with fisheries closures along the Yukon in recent years. The current state and trends for Northern Transboundary chum salmon have been similar, although assessments for this vast region are based on a single fish wheel in the Taku River, which is operated primarily to target Chinook, coho, and sockeye.

While declines are less severe in other regions, the Nass stands out as the only region where chum salmon abundance is above average. There, chum salmon have rebounded from a low in 2011 to consistently above-average spawner and total abundances over the past five years.

Historically, chum salmon were a mainstay of commercial fisheries in Canada, providing the greatest annual catch by weight of any species[5]. It's not clear why chum salmon have experienced such dramatic declines. However, the crash is not isolated to Canadian rivers[6], suggesting that shifts in the broader North Pacific, for example due to climate change and competition at sea with increasing numbers of hatchery-produced salmon, may be contributing to their decline.





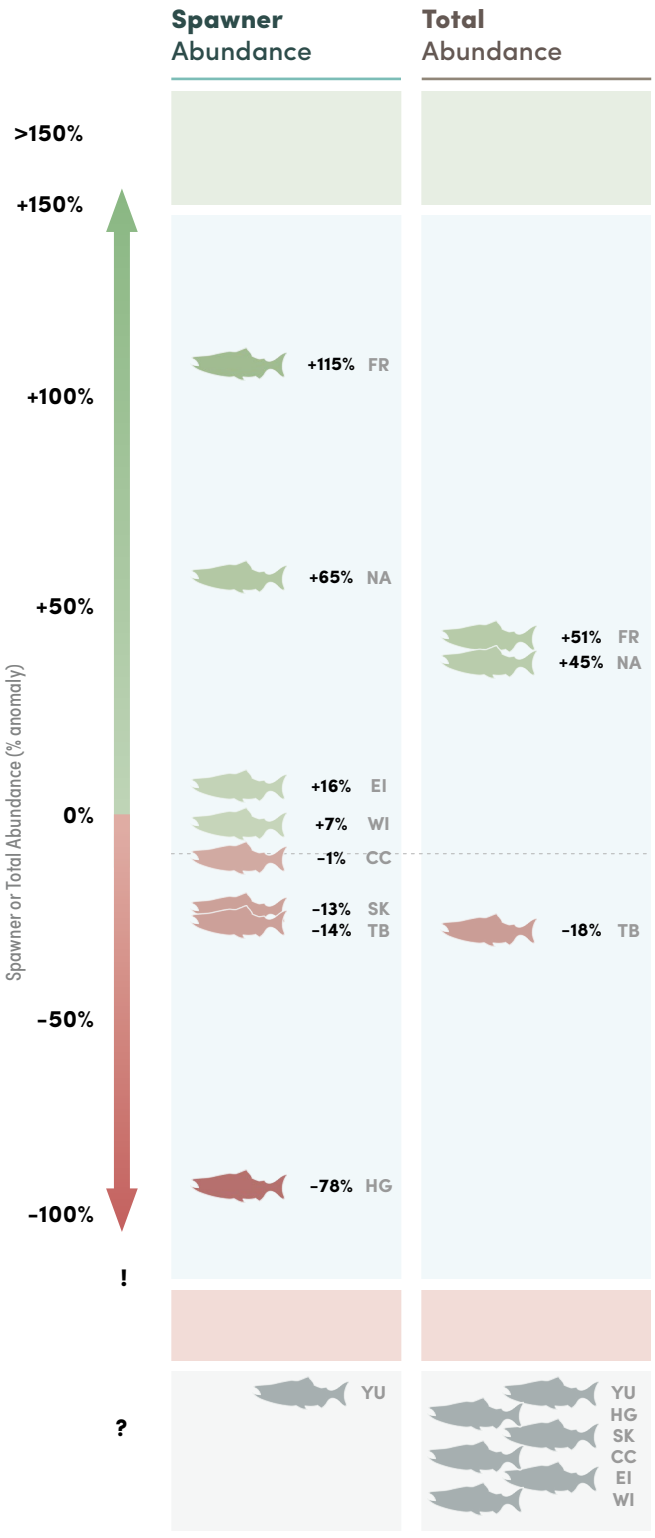
Coho are thriving in southern regions, but northern populations from Haida Gwaii to Northern Transboundary remain near or below average.

In all regions, coho spawners crashed in the late 1990s, reportedly due to poor ocean conditions and low smolt-to-adult survival[7]. By the early 2000s, following the cessation of fisheries, many populations had recovered to average spawner abundance, though total abundance and commercial catches have remained low relative to historical baselines. In more recent years, coho abundance has diverged among regions, with current spawner abundance below the long-term average in the Northern Transboundary, Haida Gwaii, Skeena, Central Coast, and above average in the Nass, East Vancouver Island & Mainland Inlets, West Vancouver Island, and Fraser.

Increases in Fraser coho over the last generation have pushed spawner and total abundances to levels not seen since the late 1990s. Harvest reductions under Interior Fraser Coho recovery plans may be showing results, but simultaneous booms in Chinook and other species in the Strait of Georgia point to improved early marine conditions as another likely factor.

By contrast, in the Skeena and Central Coast, coho spawner abundance is below average and declining over both the short and long term. However, relatively abundant spawners in the Skeena in 2023 and Central Coast numbers fluctuating around the long-term average for the fourth consecutive year provide some hope that coho may also begin to recover further north.

The status of coho in the Yukon is "Unknown"; there is little information on Canadian-origin coho because they migrate and spawn late in the year, when ice covers the rivers and monitoring is impossible.



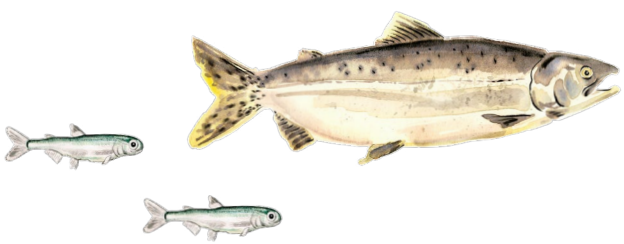


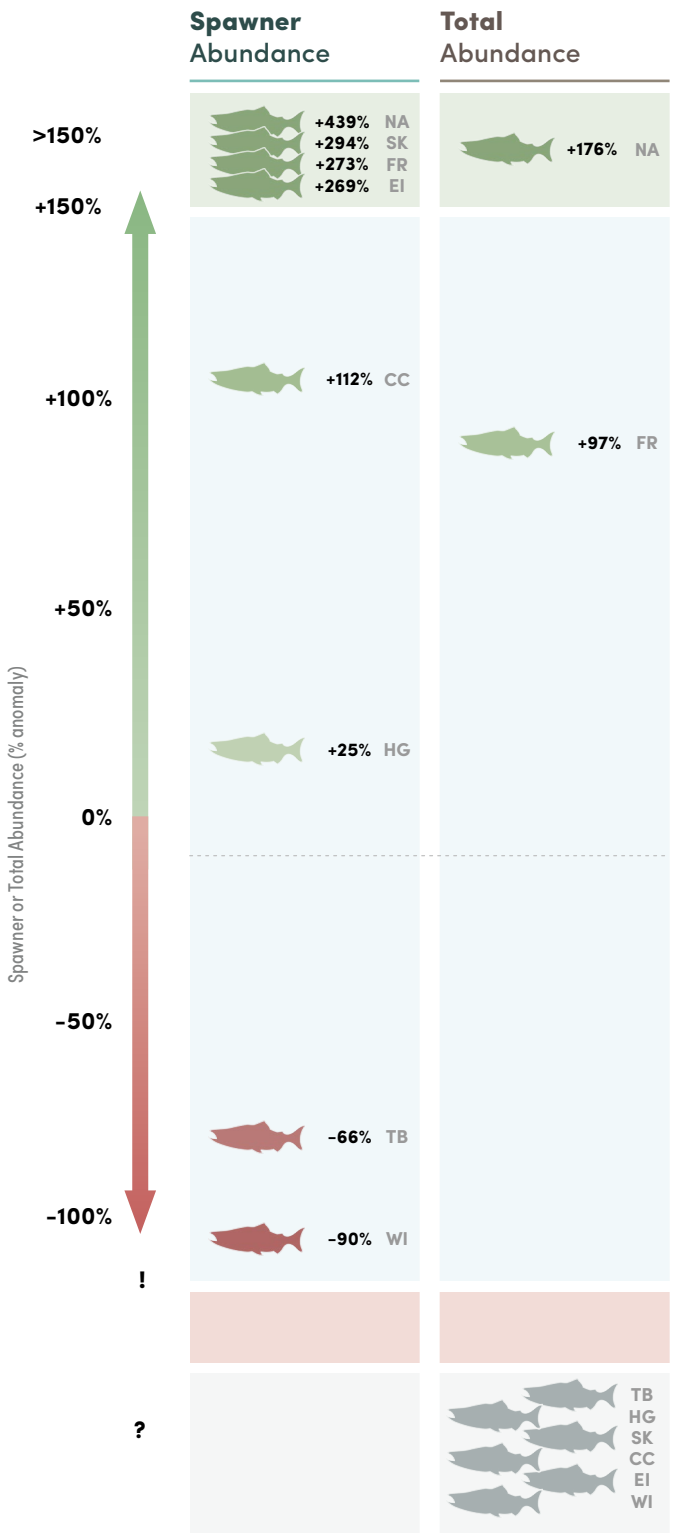
Pink salmon are well-above average in most regions, despite 2025 returns that fell short of expectations in several regions.

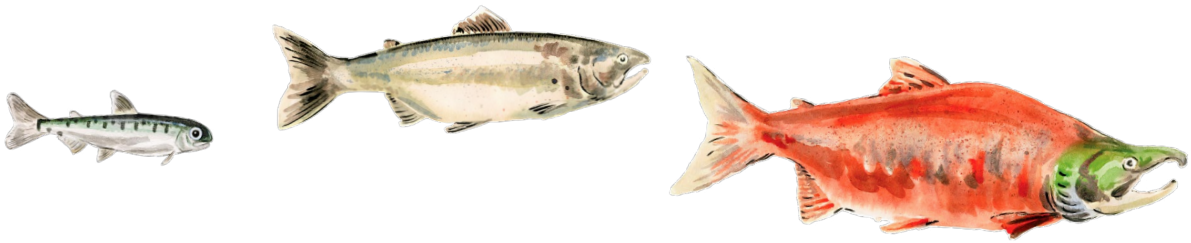
Pink salmon have a short two-year lifecycle, and their abundance tends to fluctuate more than other species in response to changes in ocean conditions. Favourable ocean conditions may explain the impressive pink salmon returns in recent years. With the addition of 2025 data, the current state of spawner abundance flipped from negative to positive for Haida Gwaii and Central Coast pink salmon. This shift is also reflected in positive or stable short-term trends in spawner abundance everywhere except the Northern Transboundary.

The extraordinary abundance of pink salmon forecasted for the Fraser in 2025 didn't materialize as expected but still led to spawner and total abundances well above average. Pink salmon return in significant numbers to the Fraser only every two years (in odd years) - in fact, most rivers tend to have a dominant pink salmon return in either even or odd years. This pattern reflects their precise two-year life cycle and may be reinforced by competition for resources between year classes.

The only regions that remain below average are Northern Transboundary and West Vancouver Island – both places where pink salmon are not historically as abundant and monitoring is sparse.







Sockeye spawner abundance has increased above average in all regions except East Vancouver Island & Mainland Inlets.

In the Fraser, spawner abundance is well above average after a strong 2025 return of nearly 10 million fish, but total abundance remains well below average and far below 1990s levels. The 2026 run, expected to be a dominant year in the four-year cycle, appears far below forecast, reflecting the growing unpredictability climate change brings.

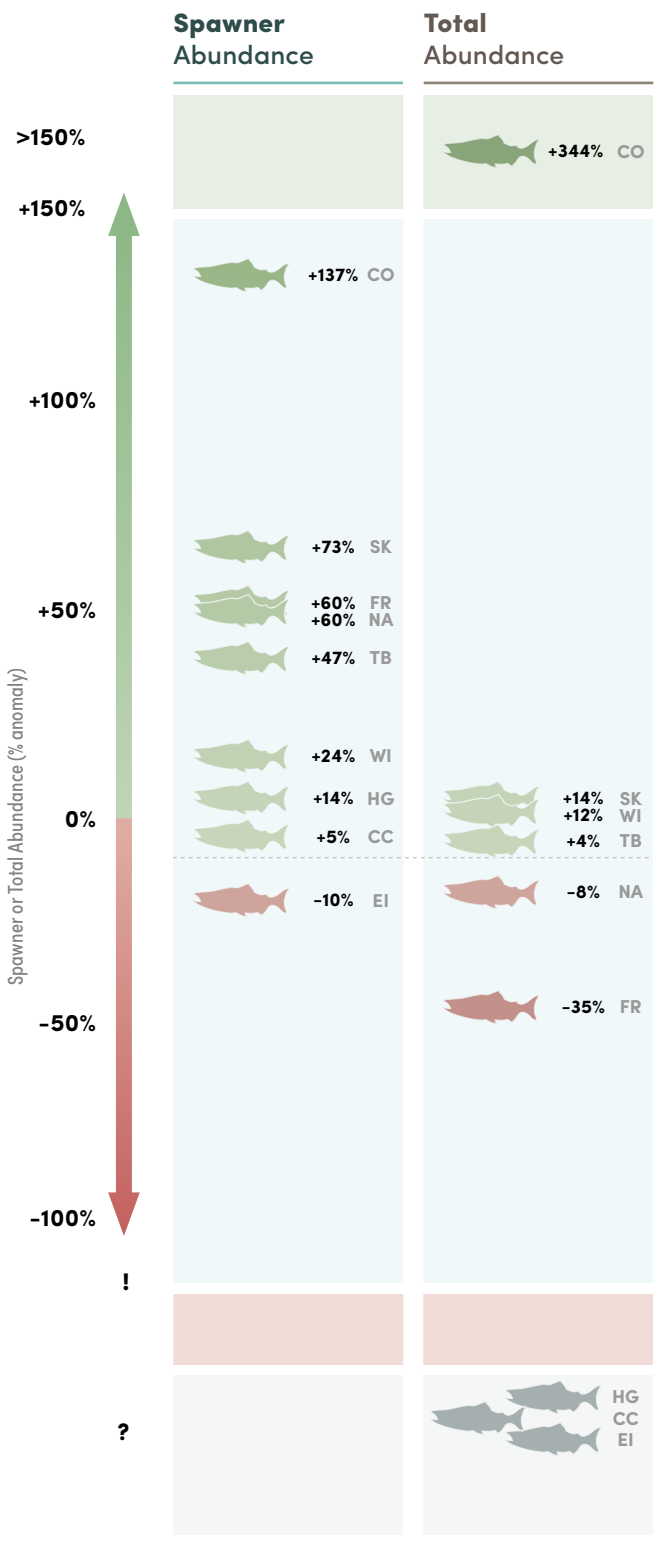
Sockeye are above average on West Vancouver Island and slightly above on the Central Coast, where Owikeno and Long Lakes historically produced two of B.C.'s largest runs[8]. Owikeno sockeye have recovered from late-1990s lows, but monitoring has ceased for many other populations, so the regional trend may not apply to all.

In the Nass and Skeena, spawners are above average but total abundance, which peaked in the 1990s, is less positive. Babine Lake spawning channels have offset wild Skeena declines, at a cost to biodiversity and resilience[9].

In the Northern Transboundary, sockeye are the only species with above-average spawners, driven largely by increases in river-type and enhanced Tahltan lake-type populations[10]. But unique lake-type populations such as Kuthai Lake and Neskatahin are doing poorly[11], underscoring the need to prioritize biodiversity conservation.

The Columbia is the only region where spawners did not improve from last year, as warm water challenged the 2025 migration, but sockeye remain well above average after near-extinction in the 1990s[12].

Finally, East Vancouver Island & Mainland Inlets is the only region below average, reflecting low returns to rivers such as the Nimpkish – a troubling anomaly from improvements seen elsewhere.

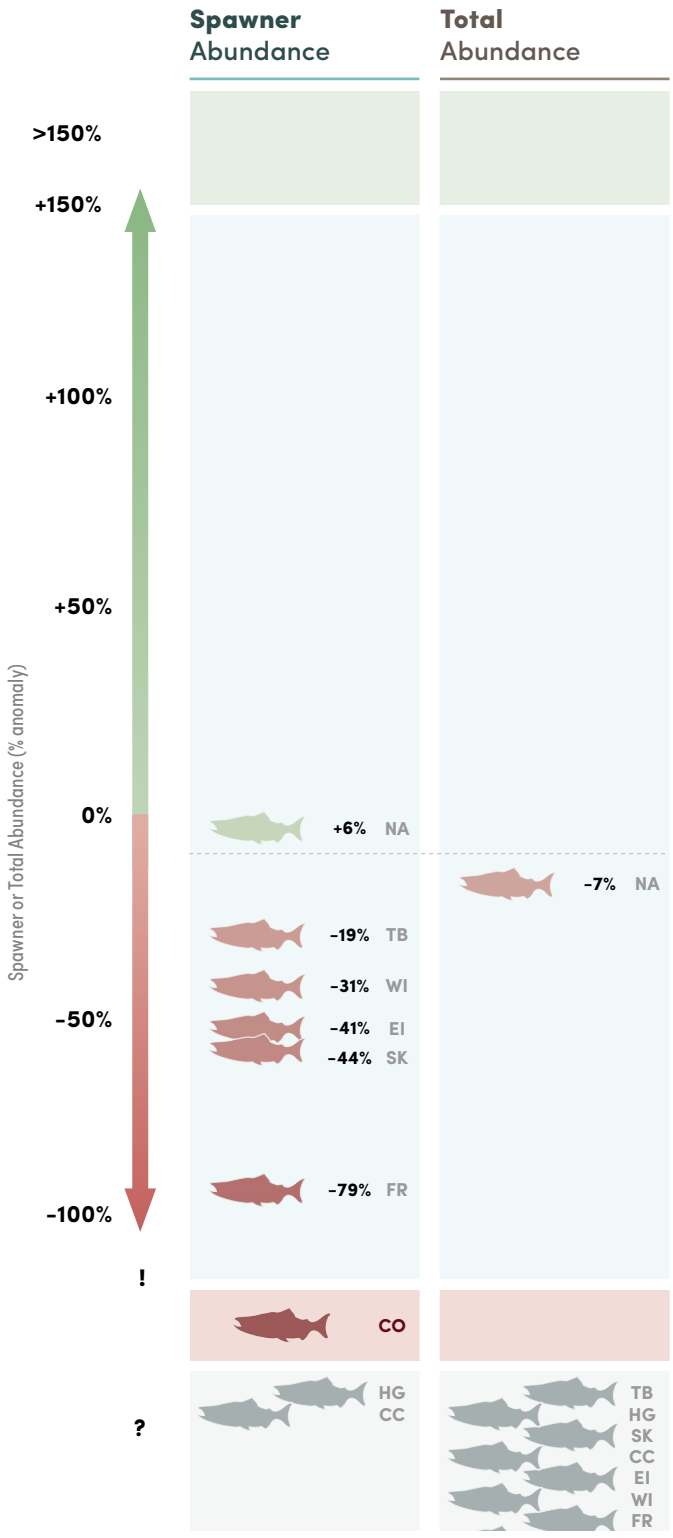




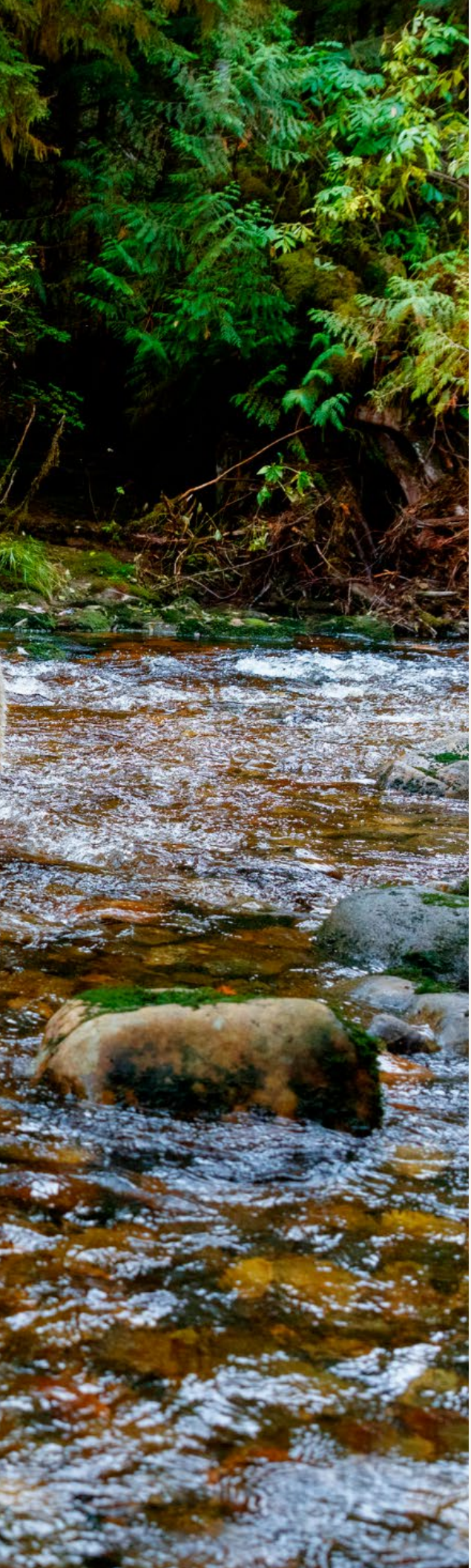
Steelhead have the lowest abundance of all six species and are below the long-term average for spawner abundance in all regions except the Nass.

Many steelhead populations face an imminent risk of extinction, including in the Fraser where two populations are listed as Endangered[13] by the Committee on the Status of Endangered Wildlife in Canada. In fall 2025, the test fishery for Thompson River Summer steelhead in the Fraser caught zero fish – a first in the 40-years history of operations[1]. Similarly, in the Columbia, steelhead are assessed as "critically low" with only one spawner recorded in 2025[2].

In-season reports from the Skeena suggest the 2026 return may be better there, but concerns remain. In general, data on steelhead abundance are sparse and new research from PSF suggests that relying on angler catch data may underestimate the severity of the declines[14]. There were no abundance data for steelhead in the Haida Gwaii or Central Coast, whose current state is unknown. With this dearth of information, many steelhead populations may be disappearing, unrecorded[15].







REGIONAL OVERVIEWS



YUKON

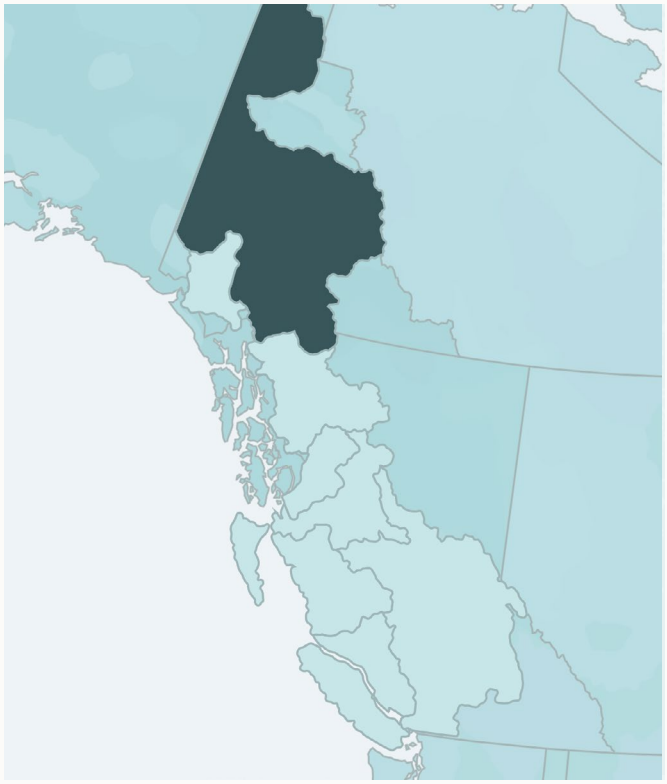
Chinook and chum salmon have experienced precipitous declines in recent years.

Both spawner and total abundances are well below the long-term average for Chinook and chum salmon. Chinook have been steadily declining since the 1980s, reaching an all-time low total abundance of just over 13,000 in 2022. A moratorium on fishing Chinook in the mainstem Yukon River and Canadian tributaries began in 2024 and efforts are underway both within Canada and internationally to identify further strategies for rebuilding.

Returns of chum salmon have also recently plummeted to historic lows, causing fisheries closures[16] and putting further stress on salmon ecosystems along the Yukon River. Preliminary data for 2026 suggest abundances of both Yukon Chinook and chum salmon have improved from recent years but are still below the long-term averages.

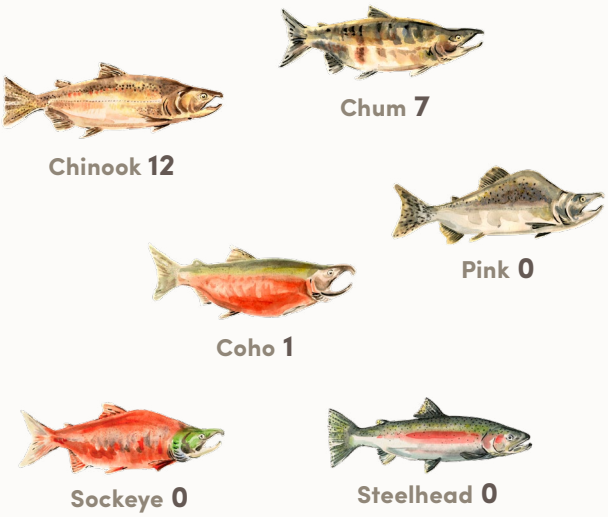
Coho salmon are also found in the Yukon River basin however their Canadian distribution is limited to the Porcupine River and they are not found in the Canadian portion of the mainstem Yukon River. Coho are not routinely monitored in the Yukon, making it impossible to assess their status.





Salmon Biodiversity

The number of Conservation Units below represents the region's salmon biodiversity.



Notable Salmon-Bearing Rivers

Big Salmon River, Fishing Branch River, Kluane River, Pelly River, Yukon River.

Region Profile

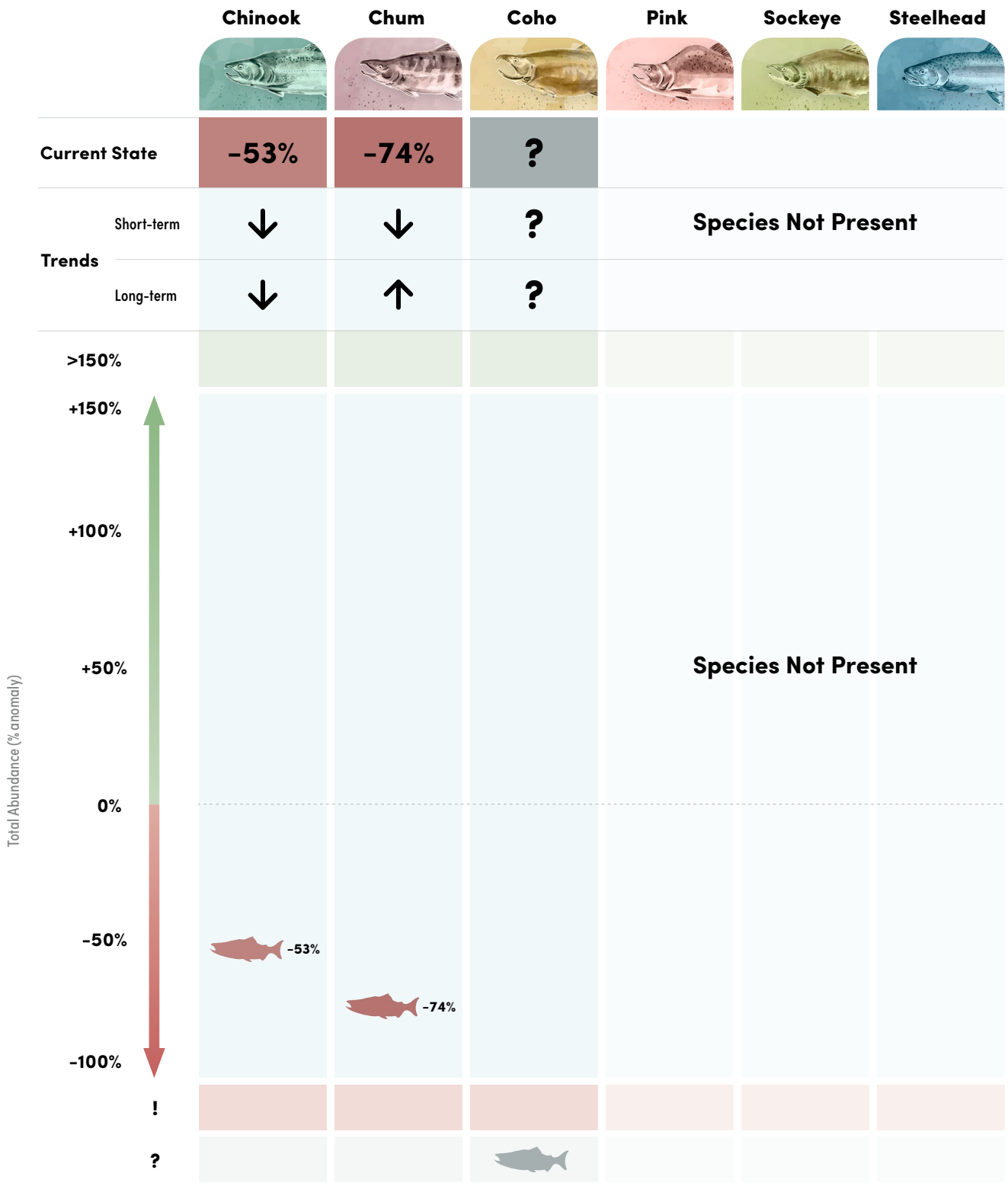
The Yukon River flows from its headwaters in northwestern British Columbia, through the Yukon Territory, and into Alaska before emptying into the Bering Sea. Canadian-origin Yukon salmon undertake the longest migrations of any salmon in the world, some travelling over 3,000 kilometres between the ocean and their spawning grounds. The Yukon River watershed is home to a rugged landscape and pristine wilderness, dominated by glaciers, mountains, plateaus, and river valleys. Despite its far northern location, the Yukon is warming three times faster than the global average[17] dramatically altering the landscape, melting glaciers and permafrost, rerouting rivers, increasing stream temperatures, and significantly impacting the locations and quality of salmon habitats. Climate change is also causing warmer water and a loss of sea ice in the Bering Sea. This has led to massive changes in the marine ecosystem that likely impact salmon survival, such as lower quality of food available to juvenile salmon during their early marine life stage[18].

Yukon Chinook have evolved to be some of the largest and oldest salmon in the world, allowing them to survive the harsh northern environment and epic migrations. Yukon Chinook can weigh up to 45 kilograms and live as long as eight years. However, returning Yukon Chinook are now smaller and younger (typically six years old), likely as a result of decades of selective fisheries that have preferentially harvested larger and older fish[19]. Since younger, smaller females typically produce fewer and smaller eggs, the reproductive potential of female Yukon Chinook has declined by an estimated 24-35 per cent since the 1970s[20].

YUKON

Tables and figures in this section show the current state and trends for each species of salmon in the Yukon. The current state is the per cent anomaly of current spawner or total abundance over the most recent generation compared to the long-term average for each species. Trends measure the direction of change and are reported as short-term (over the most recent three generations) and long-term (over all available years).

Spawner Abundance



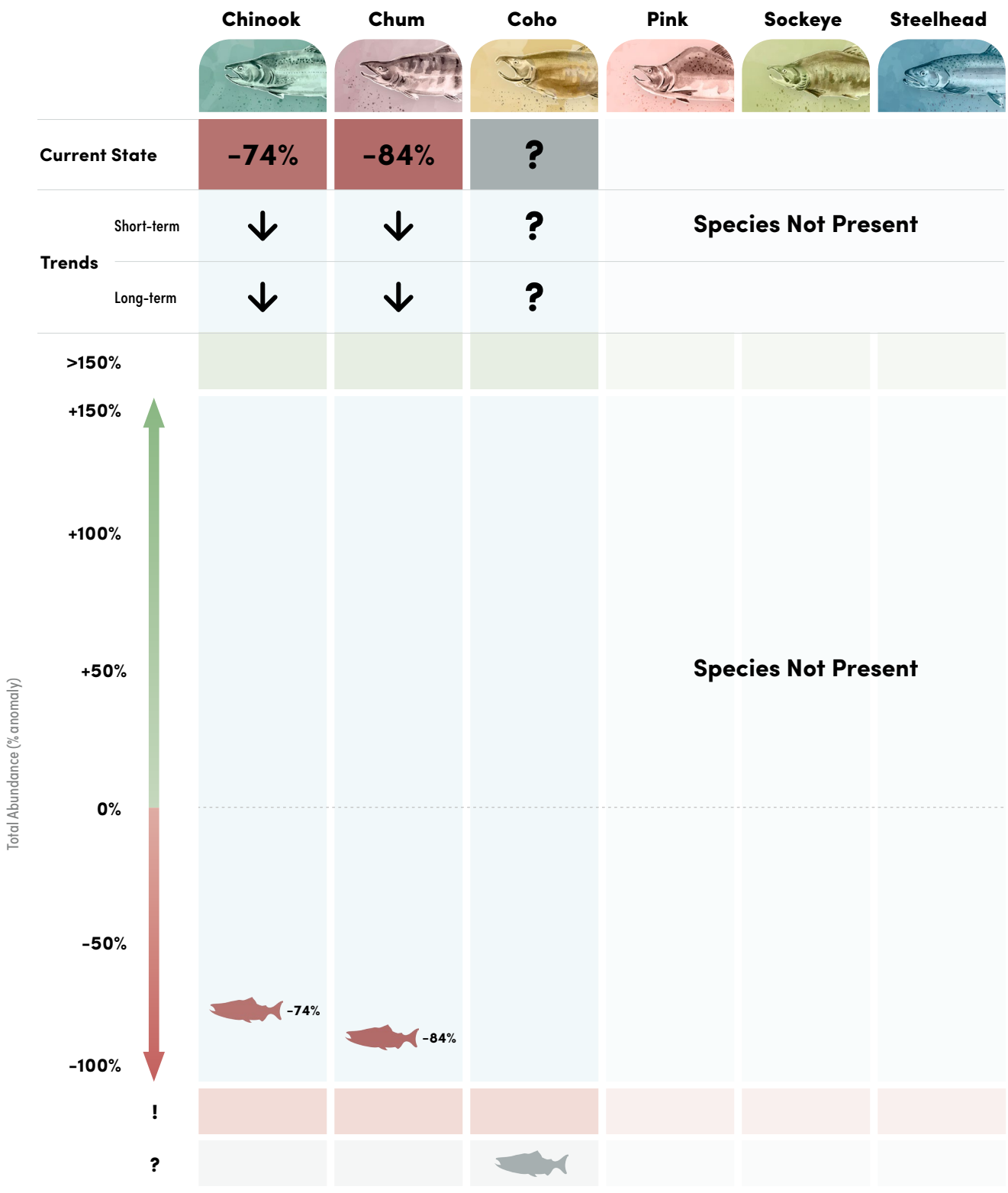
Well-above long-term average. No conservation concern.
Above long-term average. Current outlook is good.
At or near long-term average. Precaution is warranted.
Below long-term average. Current outlook is poor.
Well-below long-term average. Significant conservation concern.
Critically low. At risk of local extinction.
Unknown state due to a lack of readily accessible data.

Arrows indicate if the trend in abundance is increasing or decreasing.

A horizontal line indicates if the trend in abundance is stable.

A question mark indicates an unknown current state or trend due to a lack of readily accessible data.

Total Abundance

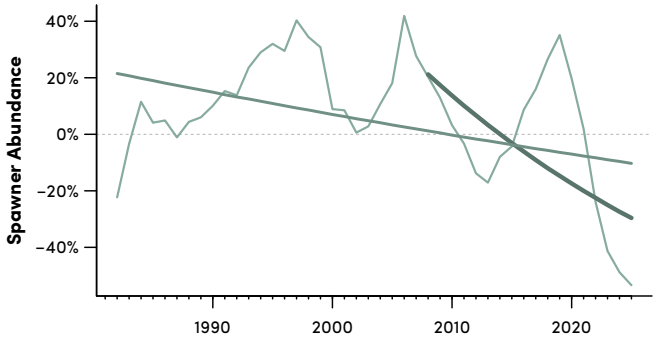


Chinook

The current state of spawner abundance and total abundance are both well-below the long-term average. Negative short-term and long-term trends in both highlight the current crisis hitting Yukon River Chinook. Preliminary returns in 2026 show an increase from the previous six years, providing hope for recovery. Chinook are long-lived, up to seven years, meaning that declining trends can be slow to reverse. Numbers below represent absolute estimates of Canadian-origin Chinook for the Yukon River mainstem.

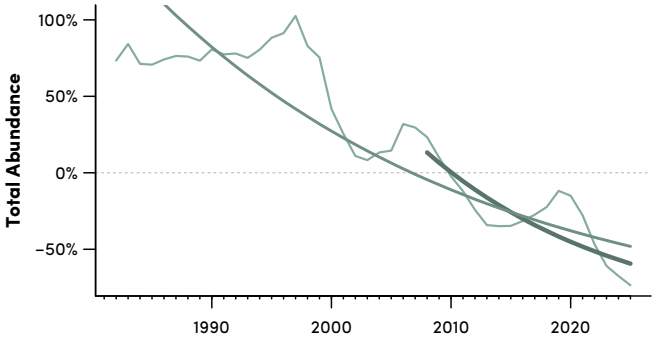
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-53%	↓	↓	21,453 (2020–2025)	46,029 (1982–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-74%	↓	↓	24,775 (2020–2025)	93,555 (1982–2025)

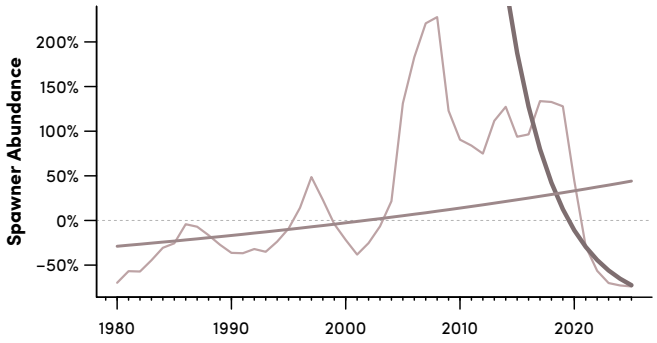


Chum

The current state of spawner abundance and total abundance are both well-below the long-term average. Relatively high abundance over past decades (2005-2019) combined with reduced catches led to a positive long-term trend in spawners. However, the precipitous decline over the most recent generation is reflected by negative short-term trends in both spawner abundance and total abundance. Preliminary data for 2026 suggest a strong return of fall chum to the Yukon River, though the proportion of those making it to Canada has been steadily dwindling over the past decade. Numbers below represent absolute estimates of Canadian-origin chum salmon for the Yukon River mainstem.

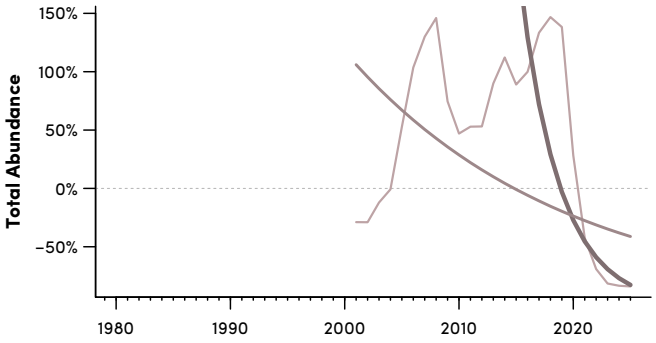
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-74%	↓	↑	19,813 (2022–2025)	75,973 (1980–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-84%	↓	↓	20,284 (2022–2025)	126,804 (2001–2025)



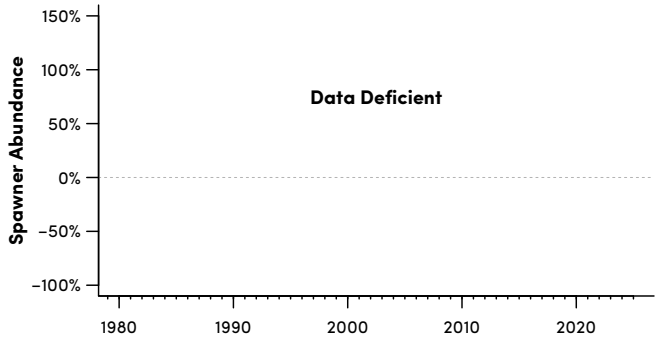
Short-Term Trends — Long-Term Trends —

Coho

Canadian-origin coho salmon spawn in the Porcupine River, a tributary of the Yukon River that joins the mainstem in Alaska. There is little information on these coho because they migrate and spawn late in the year, when ice covers the rivers and monitoring is not possible.

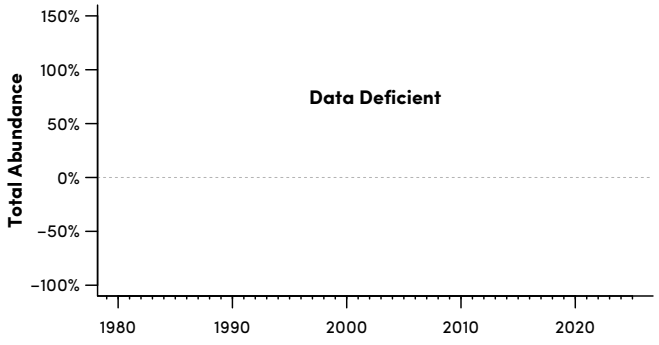
Spawner Abundance

Current State	Trends: Short-Term	Trends: Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?



Total Abundance

Current State	Trends: Short-Term	Trends: Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?







NORTHERN TRANSBOUNDARY

All species except sockeye are below average but recent improvements are encouraging.

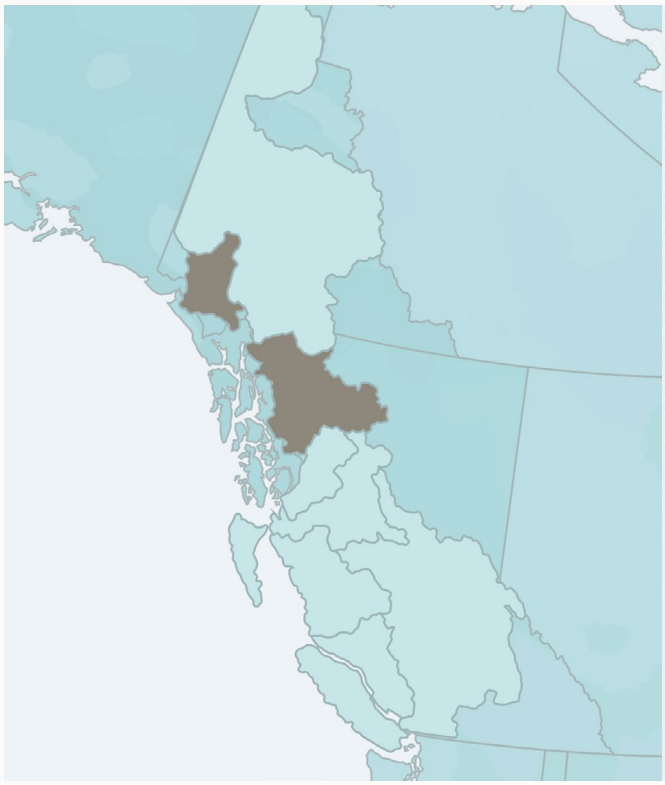
Despite moderate increases in abundance in 2025, Chinook, chum salmon, coho, pink salmon and steelhead have also all declined over the past three generations. Northern Transboundary Chinook saw a relatively strong return in 2025, primarily in the Taku River. However, poor ocean survival in recent years has led to a severe reduction in Chinook harvest opportunities[21], and total abundance remains well below average and declining.

Although sockeye spawners are currently above the long-term average and have a positive short-term and long-term trends, there are some small lake-type sockeye populations in this region that are struggvvling[11]. Total abundance has also moved above average, with Canadian harvest in 2025 the highest it's been since 2017. With the increase in fisheries comes the risk that less abundant stocks may be overharvested (see Factors: Fisheries).

Data are sparvvvvse in the Northern Transboundary region, casting some uncertainty on these outcomes. For example, chum and pink salmon and steelhead assessments for this vast region are based on a single fish wheel in the Taku River and may not be representative of all populations.

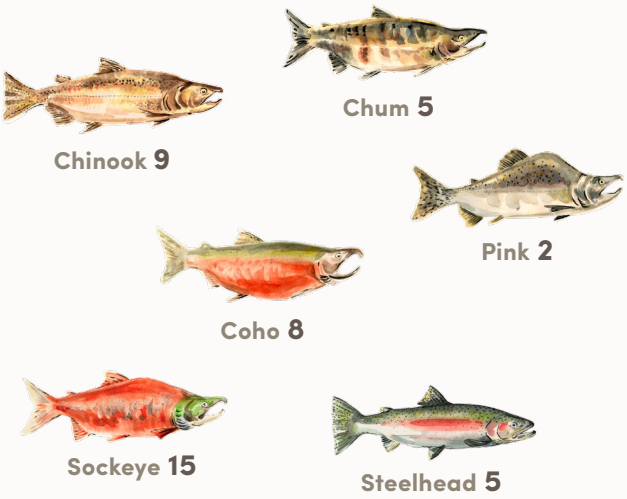


NORTHERN TRANSBOUNDARY



Salmon Biodiversity

The number of Conservation Units below represents the region's salmon biodiversity.



Notable Salmon-Bearing Rivers

Alsek River, Klukshu River, Stikine River, Taku River, Tahltan River.

Region Profile

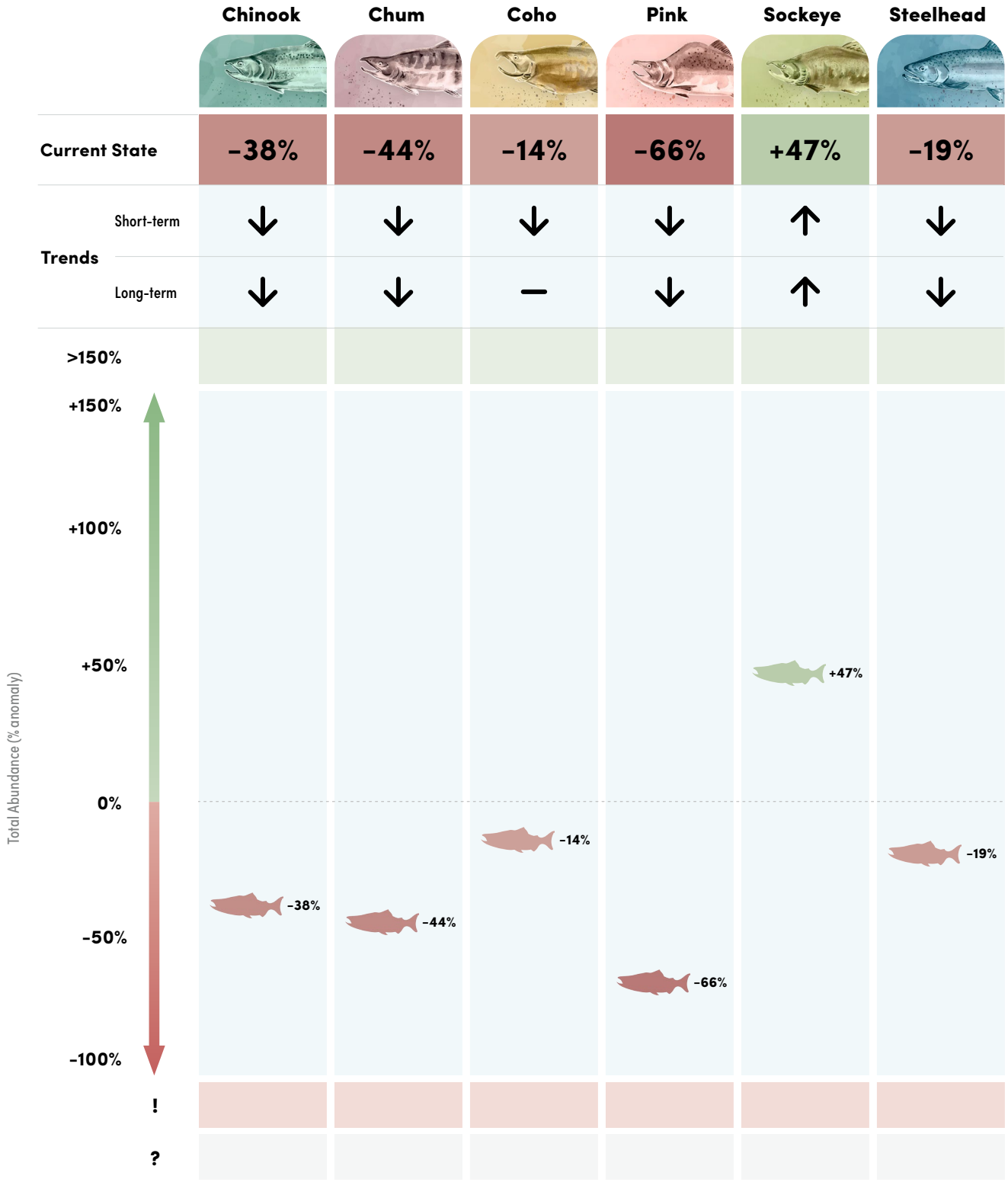
The Northern Transboundary Region comprises six river basins - the Alsek, Chilkat, Taku, Whiting, Stikine, and Unuk - that cover 110,000 square kilometres. These river basins provide a diversity of freshwater spawning and rearing habitats for all six species of salmon.

The rivers of the Northern Transboundary originate in Canada but enter the ocean in southeast Alaska. The transboundary nature of the region introduces several challenges for salmon conservation and requires international cooperation to ensure the sustainable management of salmon populations. Under the Pacific Salmon Treaty, an international agreement and cooperative fishery management process between Canada and the United States, the Transboundary Panel is responsible for the management, monitoring, and enhancement of salmon originating in the Alsek, Taku, and Stikine watersheds. However, the smaller Chilkat, Unuk, and Whiting watersheds are not within the scope of the Treaty, meaning that little salmon monitoring and assessment is carried out for these smaller, but important salmon-bearing watersheds.

NORTHERN TRANSBOUNDARY

Tables and figures in this section show the current state and trends for each species of salmon in the Northern Transboundary. The current state is the per cent anomaly of current spawner or total abundance over the most recent generation compared to the long-term average for each species. Trends measure the direction of change and are reported as short-term (over the most recent three generations) and long-term (over all available years).

Spawner Abundance



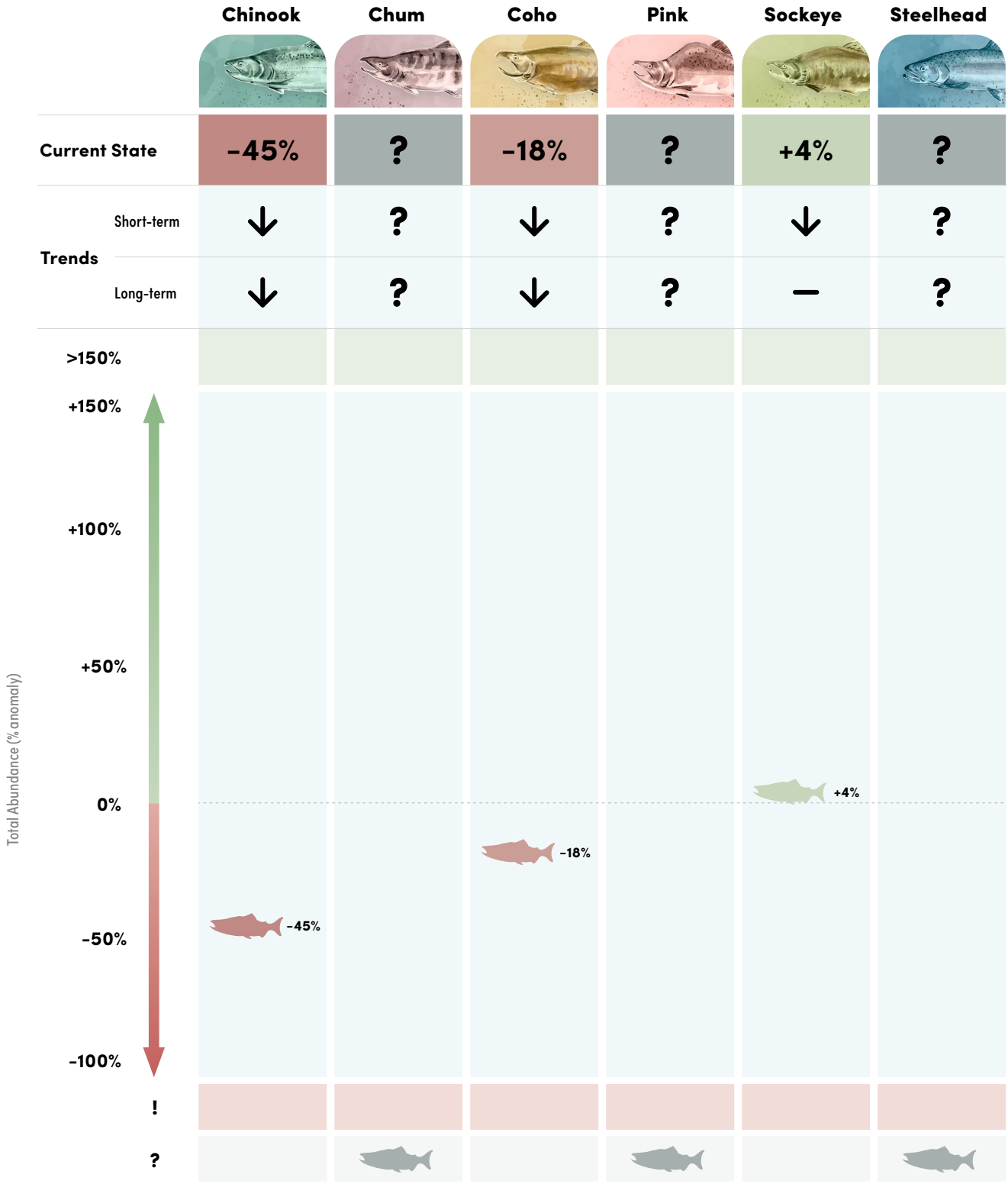
Well-above long-term average. No conservation concern.
Above long-term average. Current outlook is good.
At or near long-term average. Precaution is warranted.
Below long-term average. Current outlook is poor.
Well-below long-term average. Significant conservation concern.
Critically low. At risk of local extinction.
Unknown state due to a lack of readily accessible data.

Arrows indicate if the trend in abundance is increasing or decreasing.

A horizontal line indicates if the trend in abundance is stable.

A question mark indicates an unknown current state or trend due to a lack of readily accessible data.

Total Abundance



Chinook

The current state of spawner and total abundances are both well-below the long-term average despite a strong return in 2025. Short-term and long-term trends are both negative, highlighting that abundances are still both low and declining - a cause for concern. Numbers below represent the sum of estimated abundance for three major watersheds (Alsek, Stikine, and Taku).

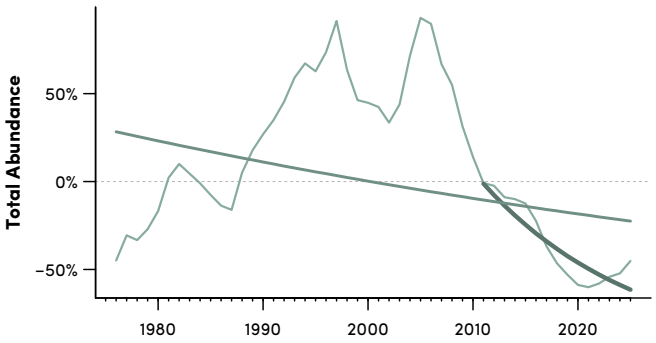
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-38%	↓	↓	**34,683** (2021–2025)	**55,860** (1976–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-45%	↓	↓	**37,748** (2021–2025)	**68,892** (1976–2025)

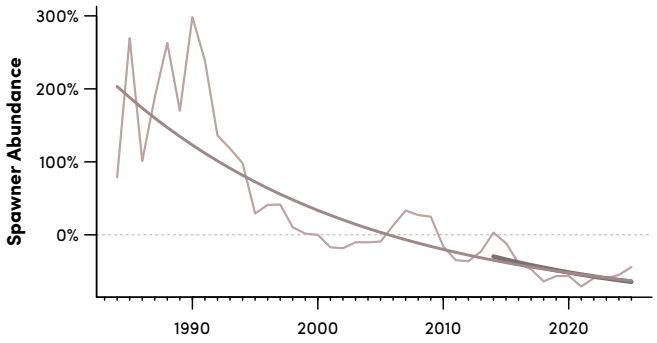


Chum

All three metrics concur that chum salmon spawners in the region are of conservation concern. Data on chum abundance for this expansive region are limited to a single fish wheel on the Taku River, and more monitoring of catch and of other rivers would shed light on the pervasiveness of these declines. Numbers below represent adjusted counts from a single fish wheel on the Taku River.

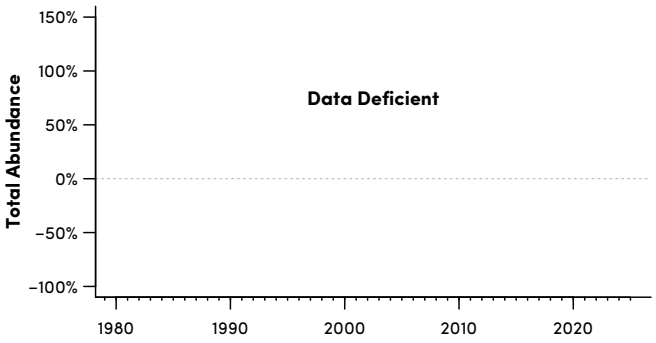
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-44%	↓	↓	**130** (2022–2025)	**233** (1984–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?



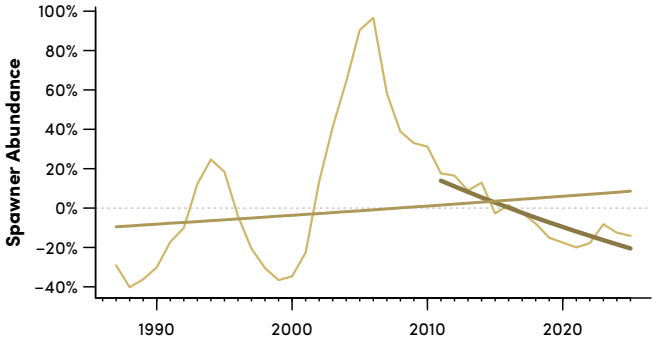
Short-Term Trends — Long-Term Trends —

Coho

The current state of spawner and total abundances are both below the long-term average. The current state and short-term trends are both down, highlighting that abundances are both low and declining - a cause for concern. Relatively high spawner abundance in the mid 2000s means that the long-term trend (1987-2025) in spawners is stable, though total abundance has declined over the long-term. Numbers below represent estimated abundance for a single watershed (Taku).

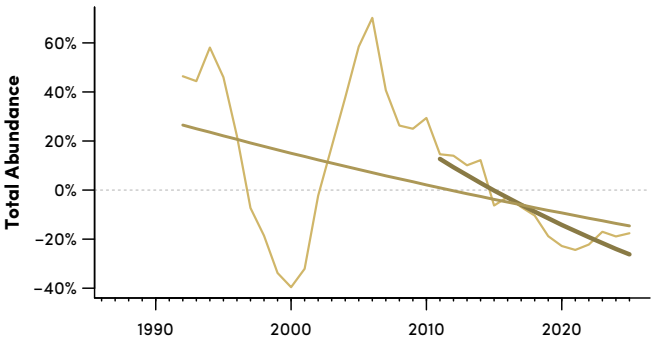
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-14%	↓	—	67,222 (2021–2025)	78,255 (1987–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-18%	↓	↓	92,334 (2021–2025)	112,038 (1992–2025)

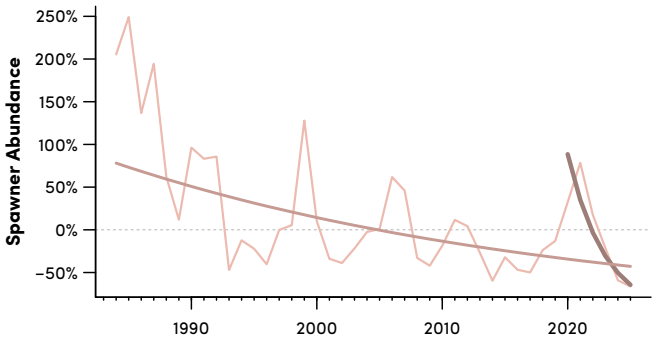


Pink

The current state of spawners is below the long-term average with negative short- and long-term trends. Data on pink salmon abundance for this expansive region are limited to a single fish wheel on the Taku River, where odd-year returns have dominated over recent decades. More monitoring of catch and of other rivers is needed to fully understand the state of pink salmon in the region. Numbers below represent adjusted counts from a single fish wheel on the Taku River.

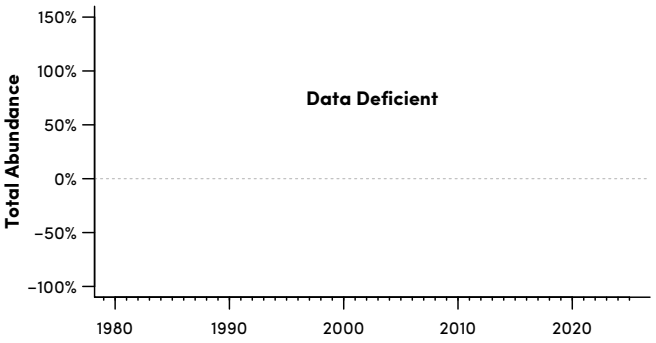
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-66%	↓	↓	3,015 (2024–2025)	8,953 (1984–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

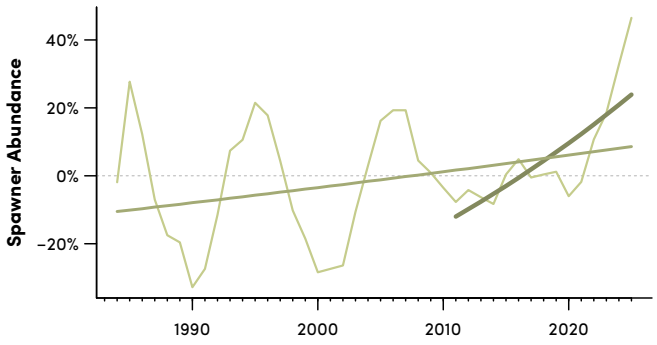


Sockeye

The current state of spawners is above the long-term average with positive short- and long-term trends. Total abundance is just above average, a change from last year, but the short-term trend remains negative, indicating declines looking back three generations. The long-term trend in total abundance is stable, but abundances haven't stayed the same: cycles every ~10 years since the time series began in 1984 are averaged over when we estimate the long-term trend. Numbers below represent the sum of estimated abundance for two major watersheds (Stikine and Taku).

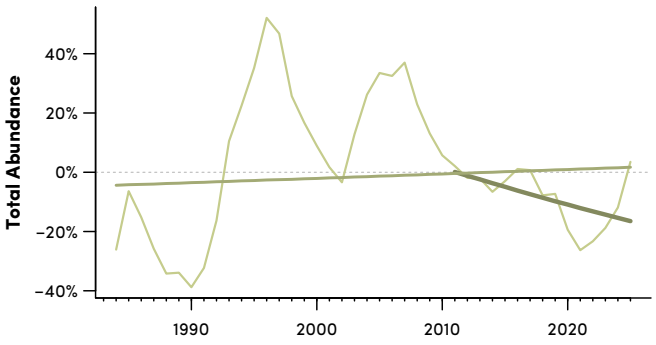
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+47%	↑	↑	**206,440** (2021–2025)	**140,871** (1984–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+4%	↓	—	**330,835** (2021–2025)	**319,647** (1984–2025)

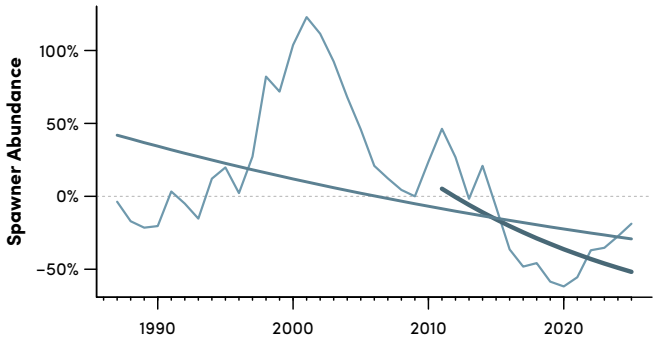


Steelhead

Steelhead are below-average spawner abundance and declining. The 2026 report marks our first assessment of Northern Transboundary steelhead, with the publication of an improved dataset from the fish wheel on the Taku River. Nonetheless, abundance is low and the fish wheel is not operated to target steelhead, so outcomes should be interpreted with caution. Numbers below represent adjusted counts from a single fish wheel on the Taku River.

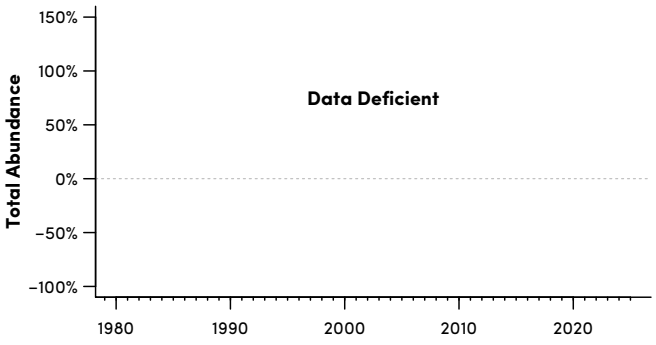
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
−19%	↓	↓	**37** (2021–2025)	**46** (1987–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?







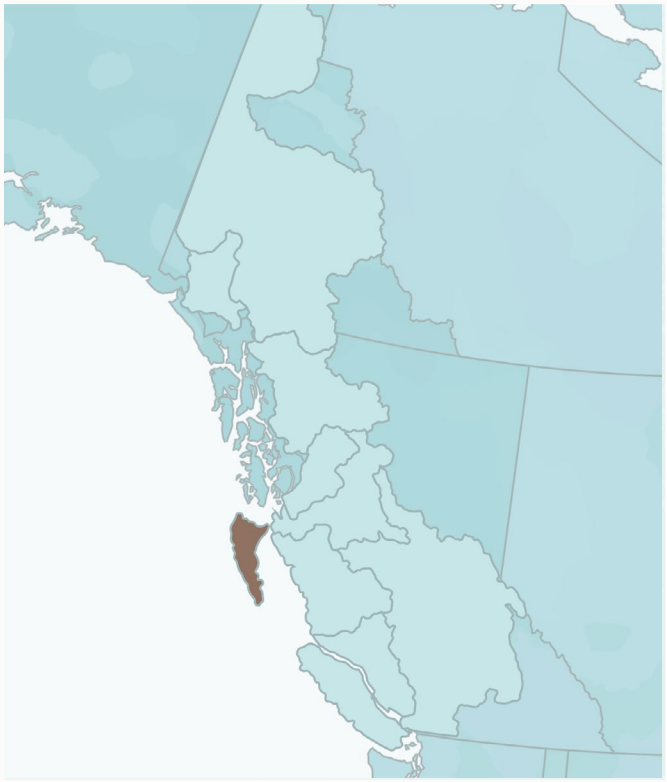
HAIDA GWAII

Chinook, pink salmon, and sockeye have increased to above-average spawner abundance, while the state of chum salmon and coho in the region has worsened.

The State of Salmon in Haida Gwaii has changed more than in any other region. A Haida-led sonar monitoring project on the Yakoun River has provided five recent years of data, filling a gap in previous reports and putting Chinook above average spawner abundance. Returns of pink salmon and sockeye in 2024 put those species also above average spawner abundance – a change from previous years' reports.

In contrast, chum salmon have been declining steadily for decades and coho salmon have seen very low numbers of spawners over the past four years of data (2021-2024). For all species, reduced monitoring in Haida Gwaii since the 1980s means that this assessment may not even be capturing the full picture of salmon declines, including the loss of critical genetic diversity. Indeed, the current state for steelhead remains unknown due to a lack of available data.





Salmon Biodiversity

The number of Conservation Units below represents the region's salmon biodiversity.



Chinook **2**



Chum **5**



Coho **3**



Pink **6**



Sockeye **13**



Steelhead **1**

Notable Salmon-Bearing Rivers

Copper Creek, Deena Creek, Naden River, Pallant Creek, Yakoun River.

Region Profile

Haida Gwaii is an isolated archipelago of more than 200 islands covering 10,180 square kilometres. Hecate Strait separates Haida Gwaii from mainland British Columbia by about 100 kilometres. Salmon-bearing watersheds on Haida Gwaii range from small streams scattered along the coastline to larger well-known salmon rivers such as the Yakoun and Tlell Rivers. Often called the "Galapagos of the North," it is home to ecologically diverse temperate rainforest and freshwater wetlands which support a diversity of spawning and rearing habitats for all species of Pacific salmon and steelhead.

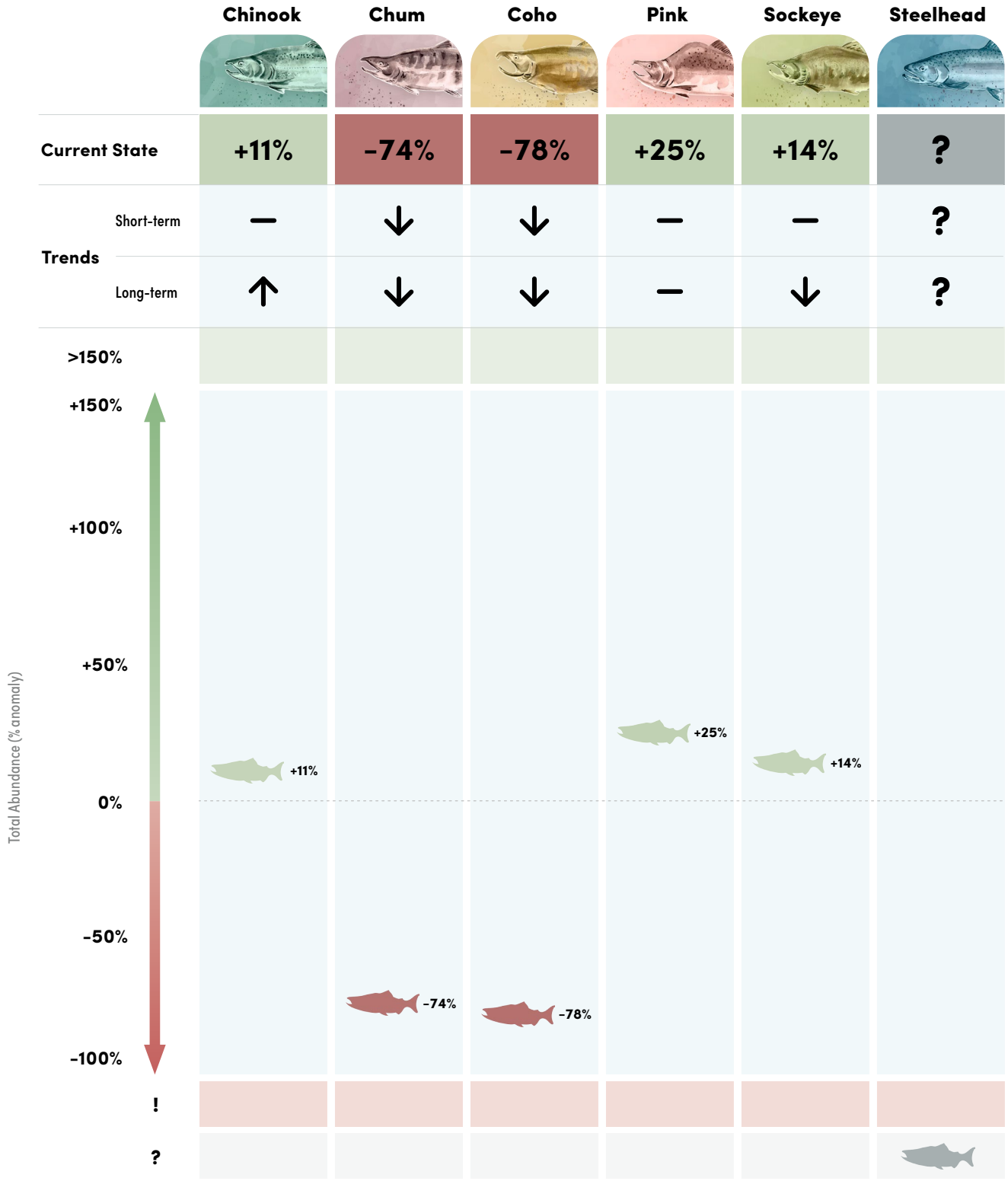
Decades of industrial logging have profoundly impacted the structure and function of salmon ecosystems across Haida Gwaii. Although the legacy of logging will take decades to repair, steps have been made to protect and restore Haida Gwaii's ecosystems[22] . In 1993, the Gwaii Haanas National Park Reserve and Haida Heritage Site was established to protect 1,500 square kilometres of the archipelago and, since 2012, logging rates have been significantly reduced under co-management by the Haida Nation and the provincial government.

Recreational and commercial fisheries in the region typically intercept salmon on their migrations to other spawning areas. Although the numbers of salmon that spawn on Haida Gwaii are relatively small, salmon are a mainstay of cultures and communities in this remote island region. Most streams have a strong return of pink salmon only during even-numbered years. Sockeye populations are smaller and are mainly harvested in First Nations Food, Social, and Ceremonial fisheries.

HAIDA GWAII

Tables and figures in this section show the current state and trends for each species of salmon in Haida Gwaii. The current state is the per cent anomaly of current spawner or total abundance over the most recent generation compared to the long-term average for each species. Trends measure the direction of change and are reported as short-term (over the most recent three generations) and long-term (over all available years).

Spawner Abundance



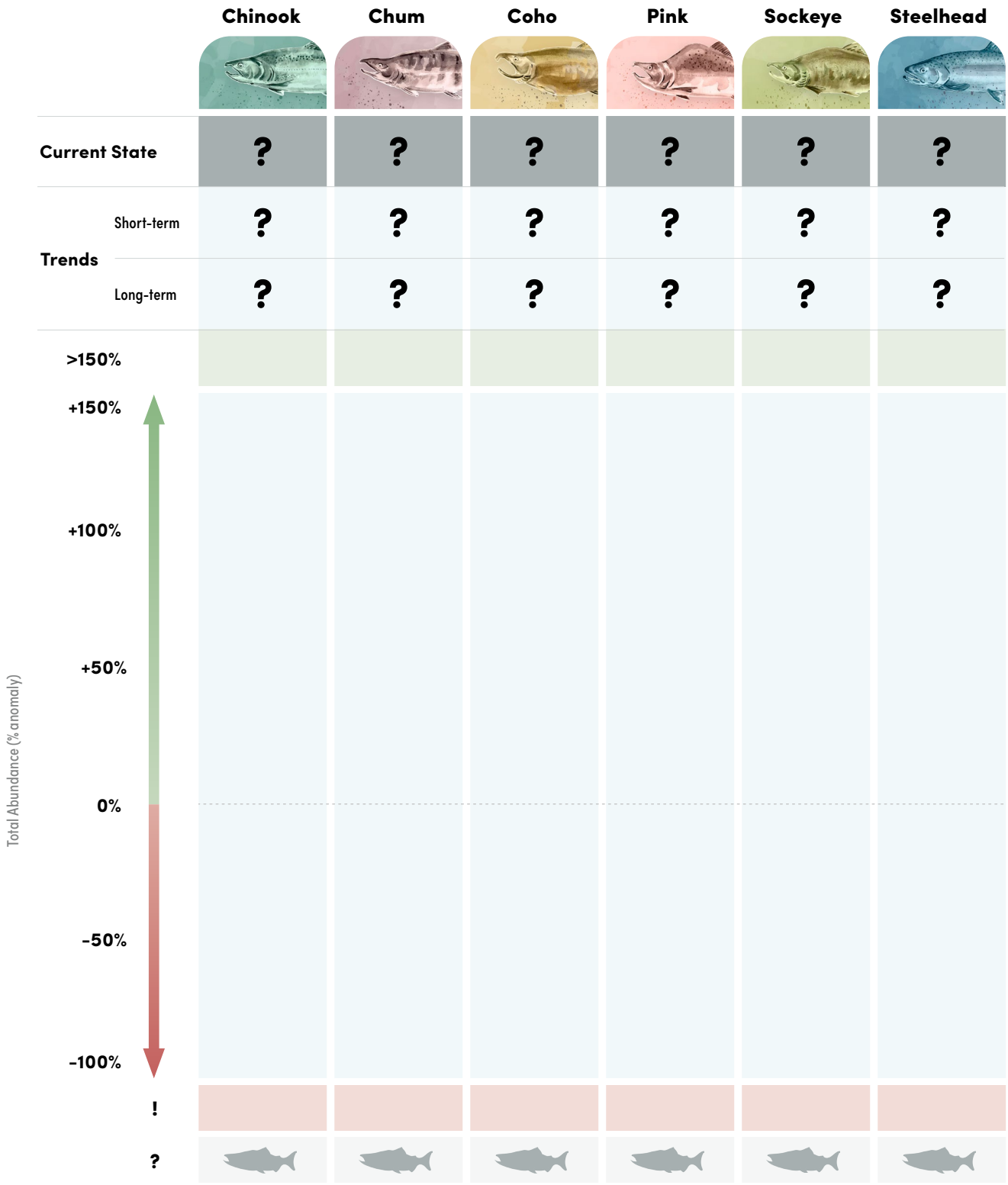
Well-above long-term average. No conservation concern.
Above long-term average. Current outlook is good.
At or near long-term average. Precaution is warranted.
Below long-term average. Current outlook is poor.
Well-below long-term average. Significant conservation concern.
Critically low. At risk of local extinction.
Unknown state due to a lack of readily accessible data.

Arrows indicate if the trend in abundance is increasing or decreasing.

A horizontal line indicates if the trend in abundance is stable.

A question mark indicates an unknown current state or trend due to a lack of readily accessible data.

Total Abundance

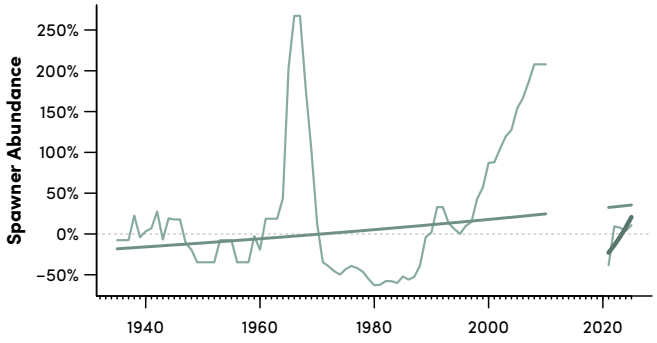


Chinook

The current state is above the long-term average according to recently resumed monitoring on the Yakoun River. The long-term trend is positive, but the lack of data from 2010-2020 means that missing information could be impacting these metrics. Furthermore, only monitoring a single river for Chinook in this region may overlook differing trends in other, smaller populations. Numbers below represent estimated abundance for the Yakoun River.

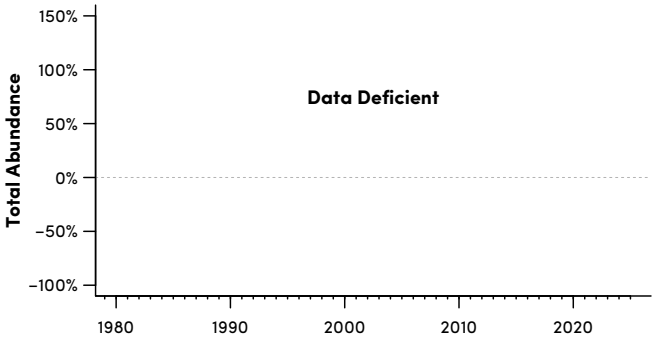
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+11%	—	↑	1,800 (2021–2025)	1,624 (1935–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

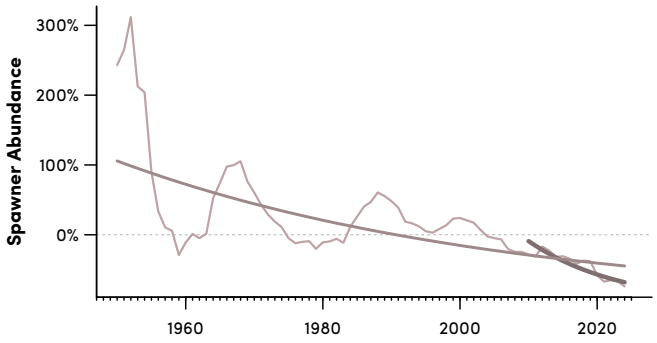


Chum

All three metrics concur that chum salmon spawners in the region are of conservation concern. A negative long-term trend reflects a steady decline since the 1960s, and the current state is among the lowest in this year's report. Numbers below represent the sum of estimated abundance for 209 surveyed streams in the region.

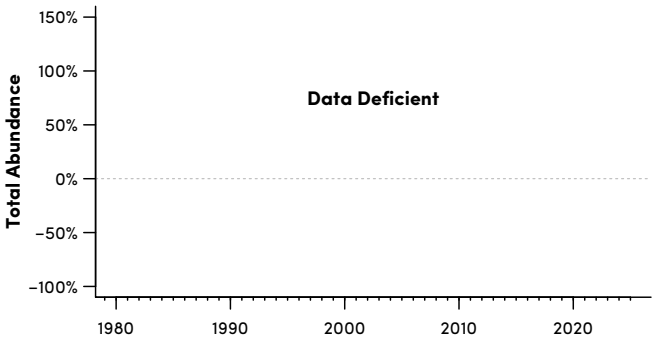
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-74%	↓	↓	67,251 (2020–2024)	258,388 (1950–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?



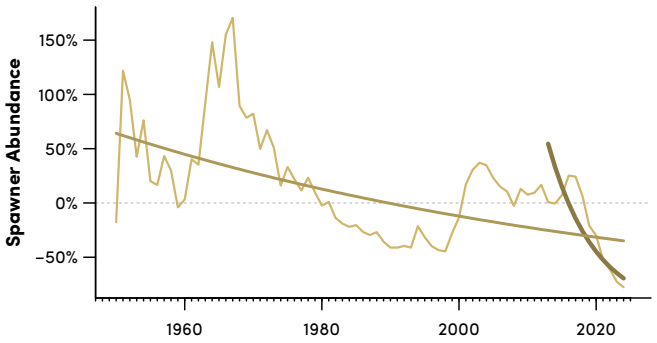
Short-Term Trends — Long-Term Trends ——

Coho

The current state is below the long-term average, with the three lowest returns on record (since 1950) occurring since 2020. The recent, sharp decline is reflected in a negative short-term trend, while a less-steep but declining long-term trend points to a sustained downward trajectory. Numbers below represent the sum of estimated abundance for 201 surveyed streams in the region.

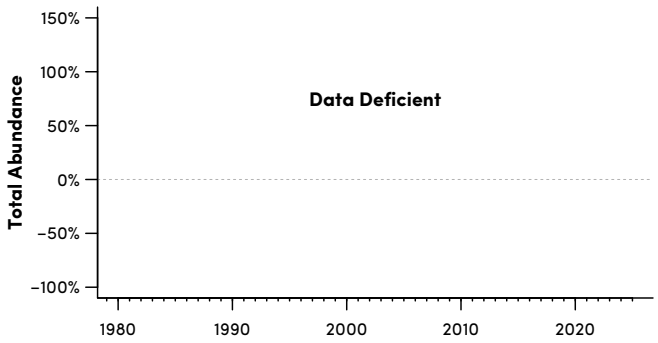
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-78%	↓	↓	16,894 (2021–2024)	75,571 (1950–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

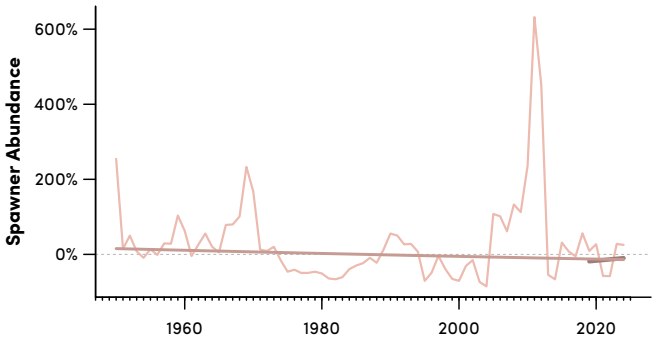


Pink

The current state is above the long-term average with stable short- and long-term trends. However, pink salmon abundance tends to fluctuate more widely than other species, with relatively high returns in recent even years and lows in odd years. Numbers below represent the sum of estimated abundance for 184 surveyed streams in the region.

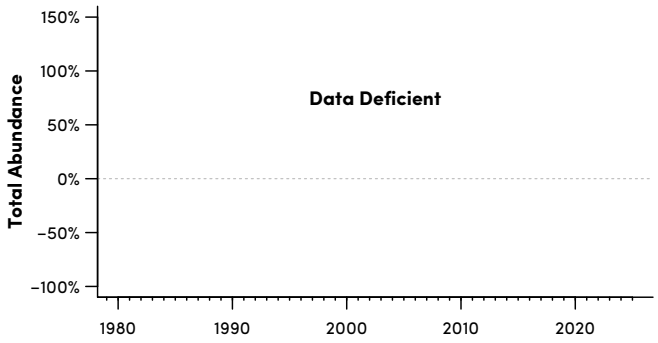
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+25%	—	—	425,554 (2023–2024)	339,998 (1950–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?



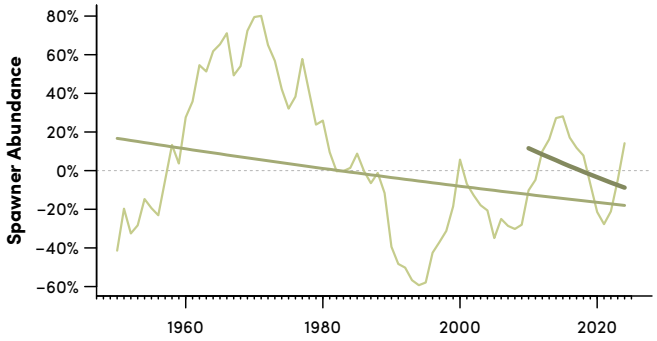
HAIDA GWAII

Sockeye

The current state is above the long-term average with a stable short-term trend. The last three years of data (2022-2024) show a promising uptick in spawner abundance following a sustained decline since 2015. However, a negative long-term trend reflects an overall reduction in abundance since the 1950s. Numbers below represent the sum of estimated abundance for 50 surveyed streams in the region.

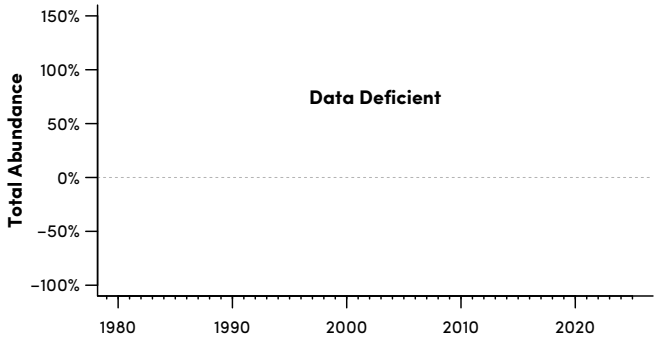
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+14%	—	↓	40,249 (2020–2024)	35,233 (1950–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

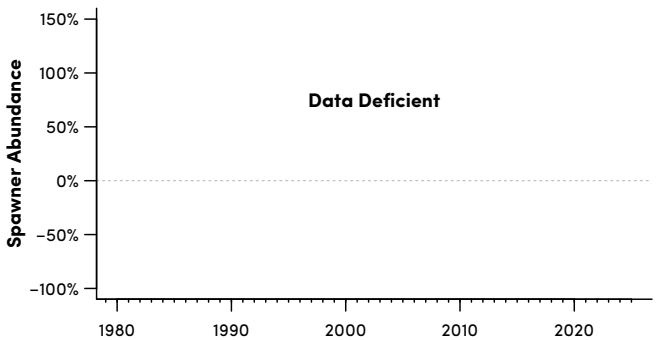


Steelhead

There are no data available on steelhead abundance in the region.

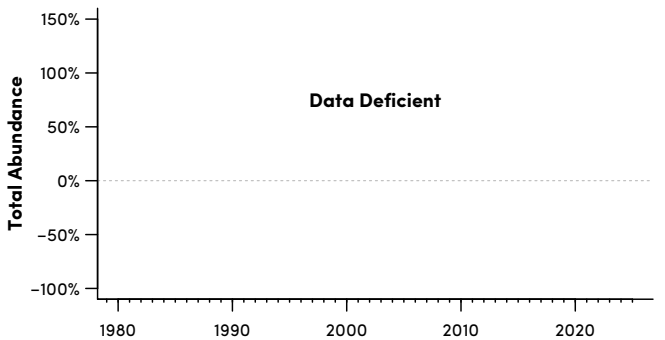
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?







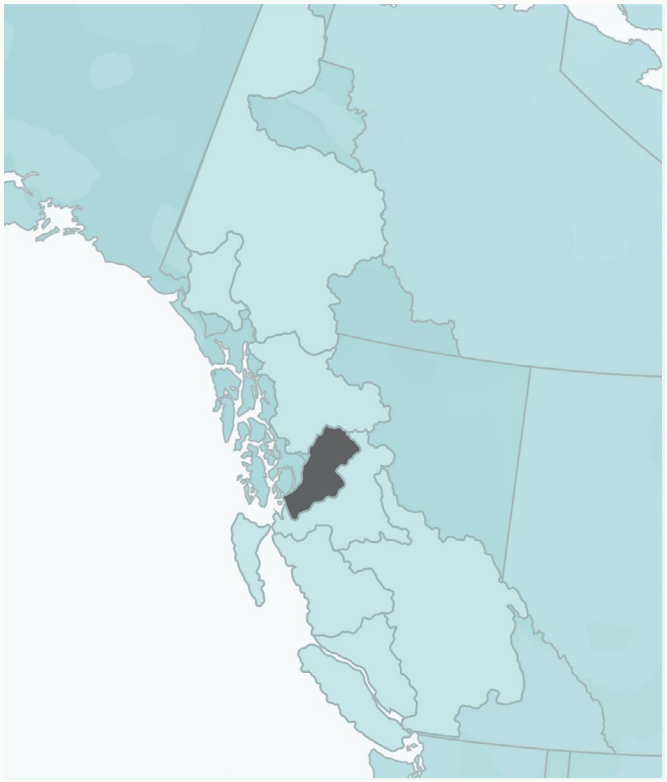
NASS

Chinook have below-average spawner abundance, while other species – including steelhead – are faring relatively well.

Nass salmon currently have one of the most positive outlooks of all regions. Chinook spawner and total abundances are just below their long-term averages – an improvement from a historic low of under 5,000 spawners in 2017. All species except steelhead have increased in both spawner and total abundance over the last generation and have positive or stable short-term trends. Pink and chum salmon in particular saw record-high returns in 2025.

Although sockeye spawner abundance is above the long-term average, total abundance remains below average. The largest population - Meziadin Lake - has shown encouraging signs of recovery after failing to meet its spawning goal[23] for five consecutive years (2016-2020). This recent improvement offers hope for the revitalization and long-term sustainability of sockeye fisheries in the region.





Salmon Biodiversity

The number of Conservation Units below represents the region's salmon biodiversity.



Chinook **2**



Chum **3**



Coho **3**



Pink **3**



Sockeye **10**



Steelhead **2**

Notable Salmon-Bearing Rivers

Cranberry River, Damdochax Creek, Meziadin River, Khutzeymateen River, Kwinageese River.

Region Profile

The Nass is British Columbia's third-largest river basin, with a drainage area of 20,700 square kilometres. The region supports all species of salmon and steelhead and is the northernmost river basin that lies entirely in Canada.

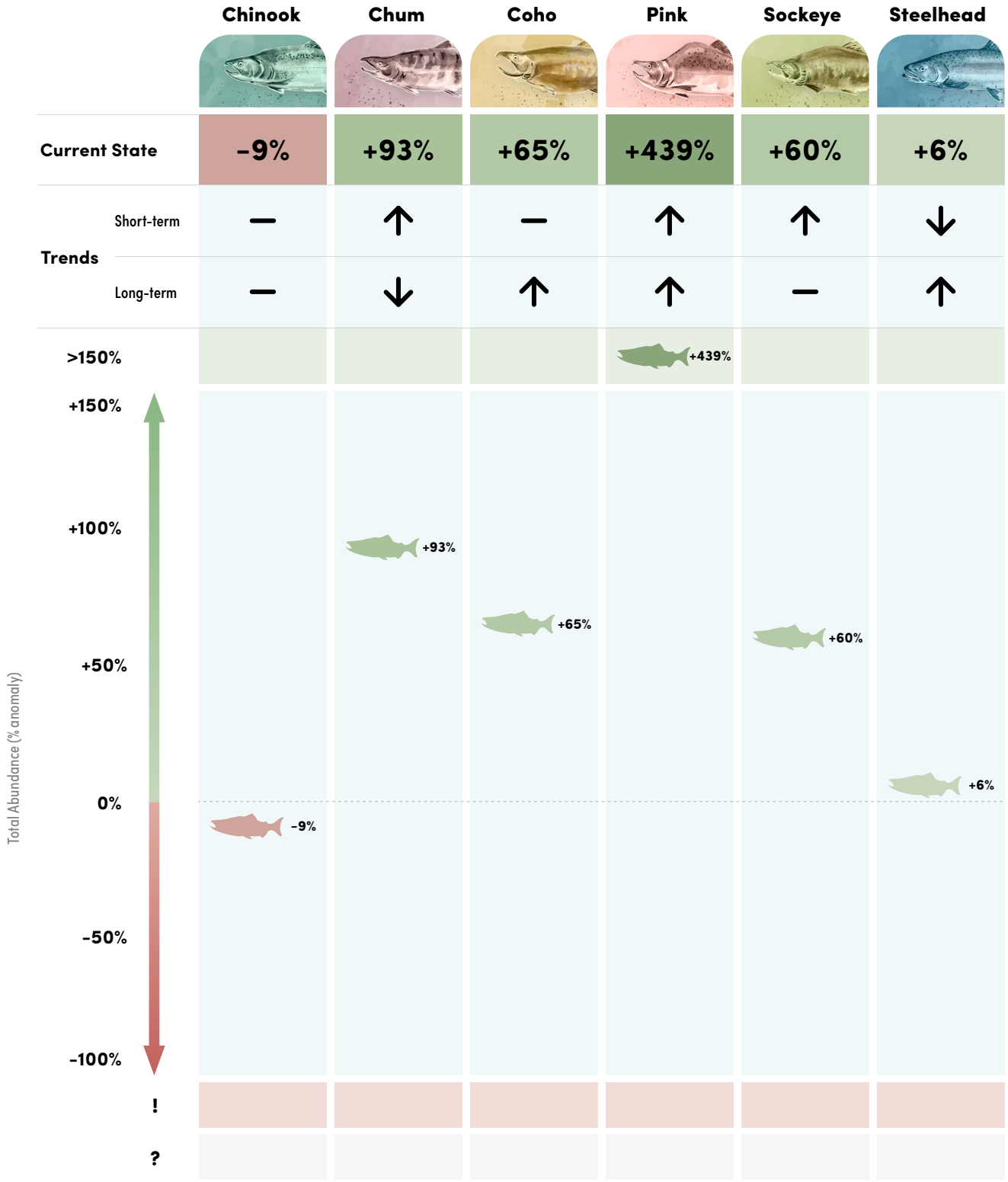
Under the Nisga'a Final Agreement of 1992, the Nisga'a Fish and Wildlife Department is responsible for salmon monitoring and management throughout much of the watershed. The Nisga'a operate several fishwheels, along with a fishway at the outlet of Meziadin Lake, which are used for biological sampling and developing spawner estimates for many Nass salmon populations[24] There is also a counting fence at Ksi Tsoohl Tsap that supports the only coded-wire tag indicator program on a wild coho population in the province.

The Gitanyow Fisheries Authority is also monitoring several salmon systems in the region, including the Bear River and the Meziadin River. Meziadin Lake hosts a large, naturally productive sockeye population, which accounts for 70-80 per cent of all Nass sockeye[23]. However, more than 250 other populations of spawning salmon contribute to high levels of biodiversity in the region.

NASS

Tables and figures in this section show the current state and trends for each species of salmon in Nass. The current state is the per cent anomaly of current spawner or total abundance over the most recent generation compared to the long-term average for each species. Trends measure the direction of change and are reported as short-term (over the most recent three generations) and long-term (over all available years).

Spawner Abundance



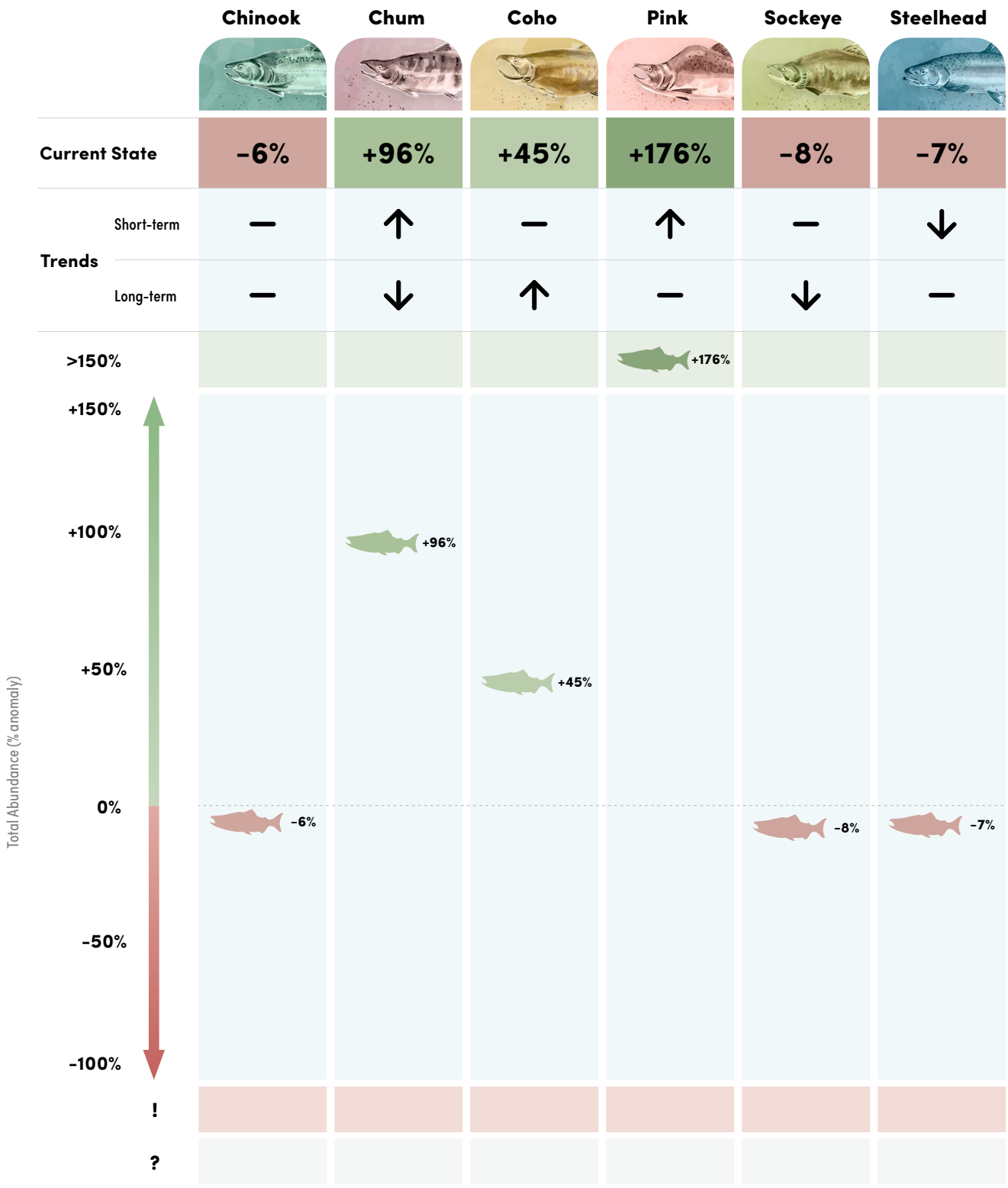
Well-above long-term average. No conservation concern.
Above long-term average. Current outlook is good.
At or near long-term average. Precaution is warranted.
Below long-term average. Current outlook is poor.
Well-below long-term average. Significant conservation concern.
Critically low. At risk of local extinction.
Unknown state due to a lack of readily accessible data.

Arrows indicate if the trend in abundance is increasing or decreasing.

A horizontal line indicates if the trend in abundance is stable.

A question mark indicates an unknown current state or trend due to a lack of readily accessible data.

Total Abundance

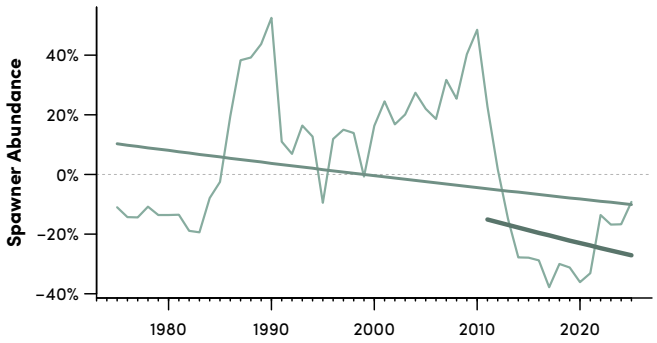


Chinook

Chinook spawner and total abundances are just below their long-term averages – an improvement from a historic low of under 5,000 spawners in 2017. The short-term trends are stable — an encouraging reversal of declines seen over previous generations. The long term-term trends are also stable as abundances slowly increase towards the long-term average following periods of high (1986-2011) and low (2013-2024) returns. Numbers below represent absolute estimates of Chinook for the Nass River.

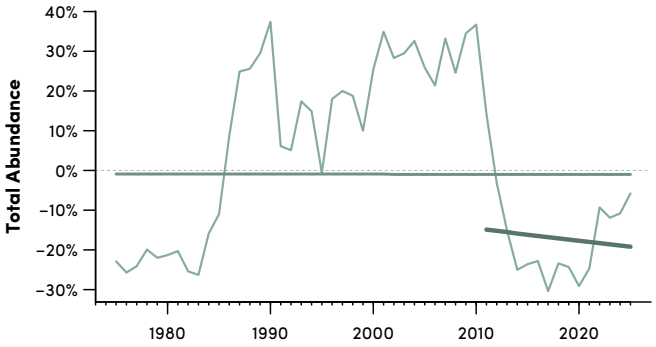
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-9%	—	—	**15,192** (2021–2025)	**16,740** (1975–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-6%	—	—	**21,836** (2021–2025)	**23,184** (1975–2025)

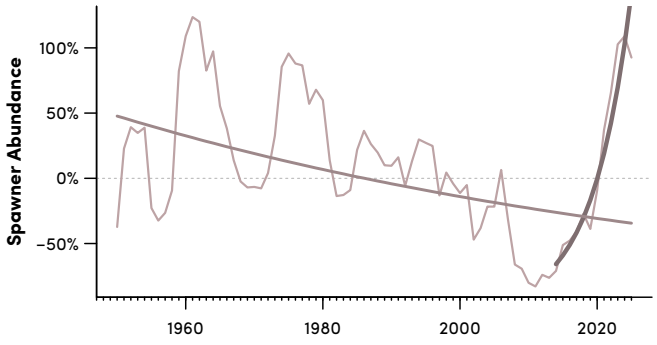


Chum

The current state is well above the long-term average for both spawner abundance and total abundance, despite a slight decline in 2025 compared to 2024. After relatively low abundance since the early 2000s, sharp positive short-term trends and a doubling of both spawner and total abundance from 2020 to 2023 provide hope for this struggling species. Negative long-term trends are the result of a period of low total and spawner abundance in the 2010s. Numbers below represent absolute estimates of chum salmon for the Nass River.

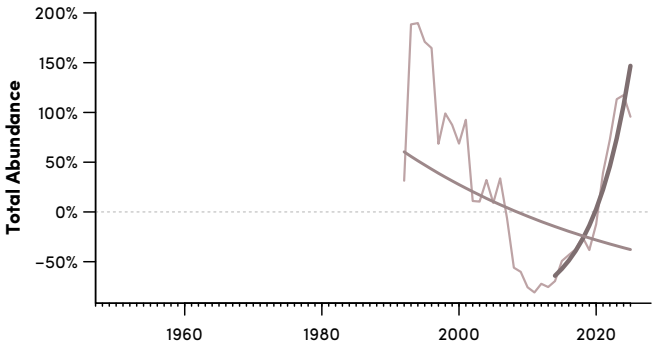
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+93%	↑	↓	**85,056** (2022–2025)	**44,168** (1950–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+96%	↑	↓	**99,764** (2022–2025)	**50,982** (1992–2025)



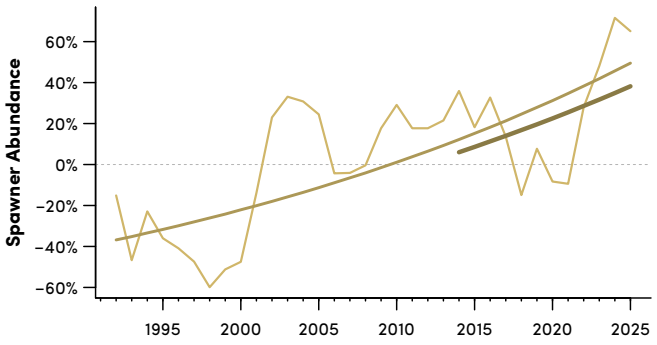
Short-Term Trends — Long-Term Trends —

Coho

The current state is above the long-term average for both spawner abundance and total abundance. Coho have experienced positive long-term trends from historic low abundances in the late 1990s - contrary to trends in many other species and regions. Increases appear to have slowed recently, with stable short-term trends in spawner abundance and total abundance. Numbers below represent absolute estimates of coho salmon for the Nass River.

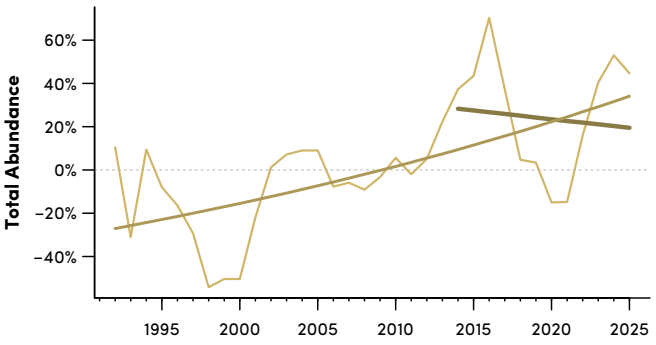
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+65%	—	↑	**211,823** (2022–2025)	**128,328** (1992–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+45%	—	↑	**399,423** (2022–2025)	**276,097** (1992–2025)

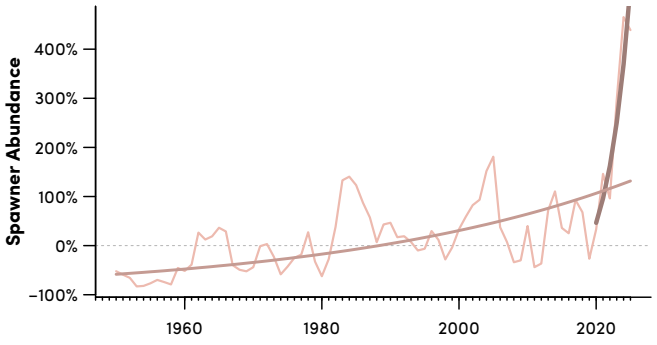


Pink

The current state of spawner abundance is well above the long-term average with positive short- and long-term trends. Total abundance is also up more than three times over the last generation, leading to a positive short-term trend and a current state that is over double the long-term average. The long-term trend in total abundance (1992-2025) remains stable. Numbers below represent absolute estimates of pink salmon for the Nass River.

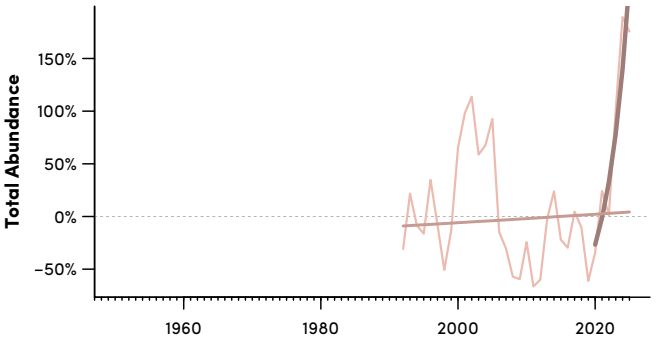
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+439%	↑	↑	**1,388,898** (2024–2025)	**257,778** (1950–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+176%	↑	—	**1,550,765** (2024–2025)	**562,628** (1992–2025)



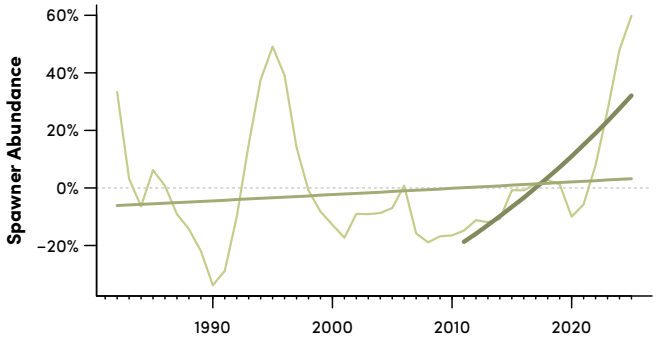
NASS

Sockeye

The current state of spawner abundance is above the long-term average, with a positive short-term trend and a stable long-term trend. In contrast, total abundance is below average and shows a negative long-term trend, although its short-term trend has stabilized. These divergent results are due, in part, to changes in the exploitation rate. High exploitation rates, which peaked in the early 2000s, drove a strong decline in abundance. Subsequent fishery closures allowed populations to recover, and more salmon to reach the spawning grounds in recent years, a promising sign for the revitalisation of sockeye fisheries. Numbers below represent absolute estimates of sockeye salmon for the Nass River.

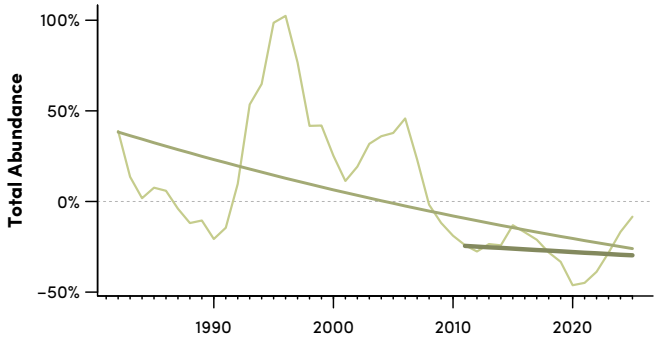
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+60%	↑	—	419,516 (2021–2025)	262,475 (1982–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-8%	—	↓	607,238 (2021–2025)	662,852 (1982–2025)

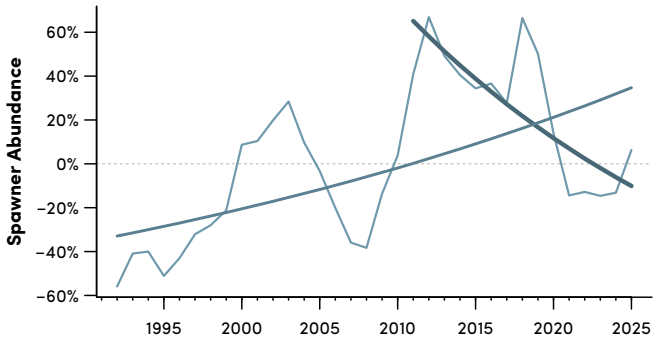


Steelhead

The current state of spawner abundance is slightly above the long-term average, an encouraging sign after lows in 2021 and 2024, though total abundance remains below average. Declining short-term trends are due to lower in abundances in the 2020s relative to abundances in the 2010s, when both total abundance and spawner abundance peaked. Positive long-term trends in spawner abundance and stable long-term trends in total abundance indicate reduced harvest, allowing more fish to return to spawning grounds. Numbers below represent absolute estimates of steelhead for the Nass River.

Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+6%	↓	↑	12,057 (2021–2025)	11,347 (1992–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-7%	↓	—	16,451 (2021–2025)	17,741 (1992–2025)







SKEENA

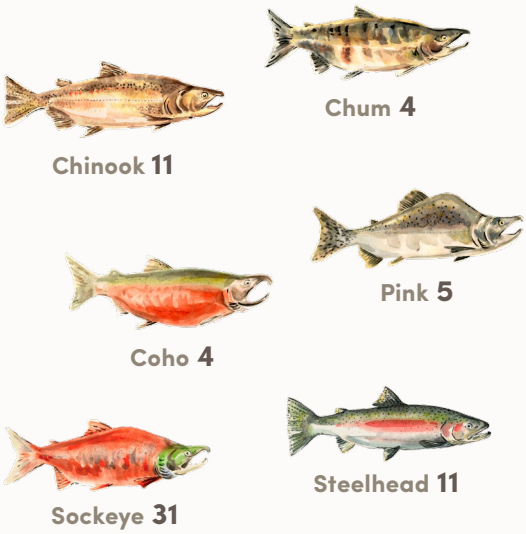
Chinook and chum salmon have declined dramatically, while pink salmon and sockeye are above average and increasing.

Skeena Chinook numbers have increased annually from a low in 2020, but abundances are still far below the long-term average. The story for chum salmon is similar – below average and declining over both the short- and long-term. Coho and steelhead are also below average with negative short-term trends. Initial reports of a relatively good steelhead return in 2026 are encouraging, with the Upper Sustut weir reporting the highest since operations began in 2002.

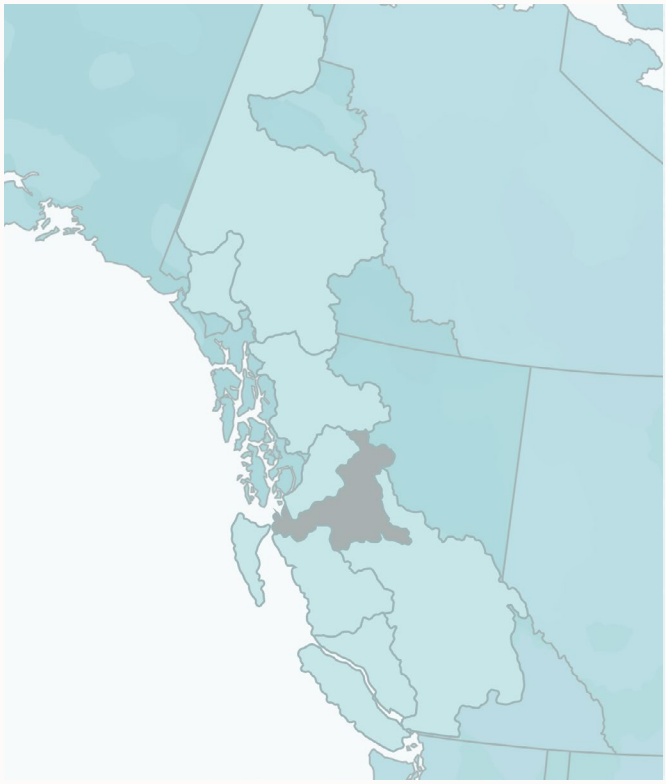
Pink salmon continue to increase well-above average spawners and sockeye spawner abundance and total abundance are both above the long-term average for the first time since the early 2000s. Although this is a positive sign, trends in the aggregate abundance have masked the erosion of smaller, unique groups within that provide diversity and resilience to Skeena sockeye as a whole[9].

Salmon Biodiversity

The number of Conservation Units below represents the region's salmon biodiversity.







Region Profile

The Skeena is one of British Columbia's largest salmon-bearing watersheds, second only to the Fraser, and drains an area of 54,432 square kilometres. With its headwaters in British Columbia's northern interior, the 580-kilometre-long river flows southwest to enter the ocean just south of Prince Rupert.

The Skeena River watershed is one of the most productive salmon watersheds in Canada. All six species of Pacific salmon spawn and rear in a diversity of habitats found throughout the watershed, including the Skeena River Estuary and the lower mainstem Skeena River. Salmon habitat is relatively pristine but faces increasing pressures from industrial development, particularly associated with Liquefied Natural Gas (LNG) pipelines and ports.

The Skeena supports Canada's second largest salmon fishery and an internationally renowned recreational salmon fishery. In the mid 1960s and early 1970s, two artificial spawning channels were created in two tributaries to Babine Lake - Fulton River and Pinkut Creek - to provide more spawning habitat and boost total sockeye production. Over the past 50 years, these spawning channels have fundamentally changed the composition of salmon populations in the Skeena and eroded the salmon biodiversity of the region[9].

Commercial fisheries have been dwindling since the 1990s. Although Canadian fisheries for Skeena sockeye have not operated in several recent years due to low abundances, in 2024 there were opportunities for Indigenous Food, Social, and Ceremonial, recreational, and commercial harvest of Skeena sockeye. More generally, harvest rates of Skeena salmon have been curtailed since the turn of the century to also protect critically low numbers of co-migrating steelhead in the Skeena River[25]. However, harvest for sockeye and pink salmon in 2022 exceeded the previous 10-year average (2012-2021)[26], which - together with above-average spawners for these species - is potentially good news for the region.

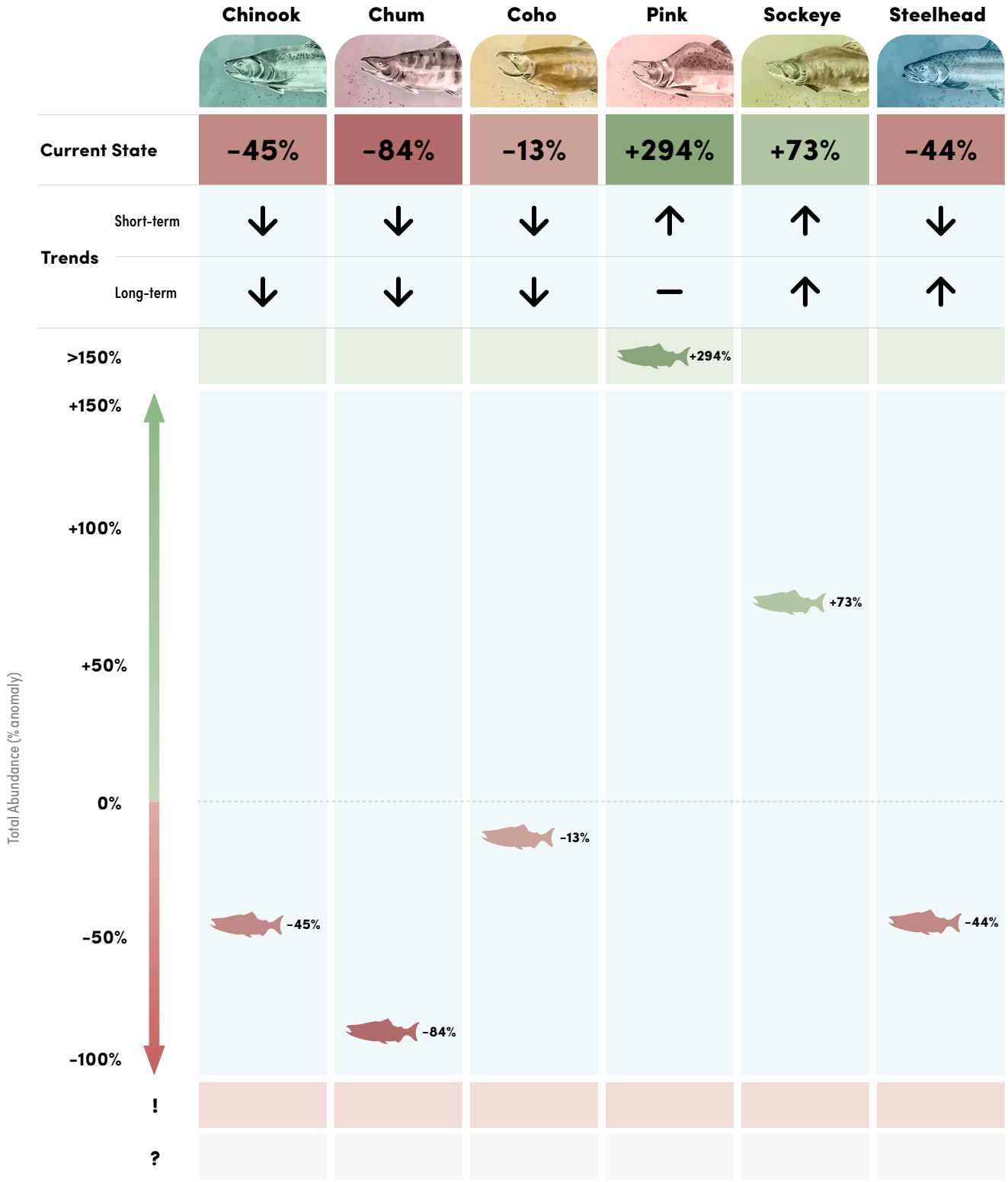
Notable Salmon-Bearing Rivers

Babine Lake, Fulton River, Kitwanga River, Lakelse River, Skeena River.

SKEENA

Tables and figures in this section show the current state and trends for each species of salmon in the Skeena. The current state is the per cent anomaly of current spawner or total abundance over the most recent generation compared to the long-term average for each species. Trends measure the direction of change and are reported as short-term (over the most recent three generations) and long-term (over all available years).

Spawner Abundance



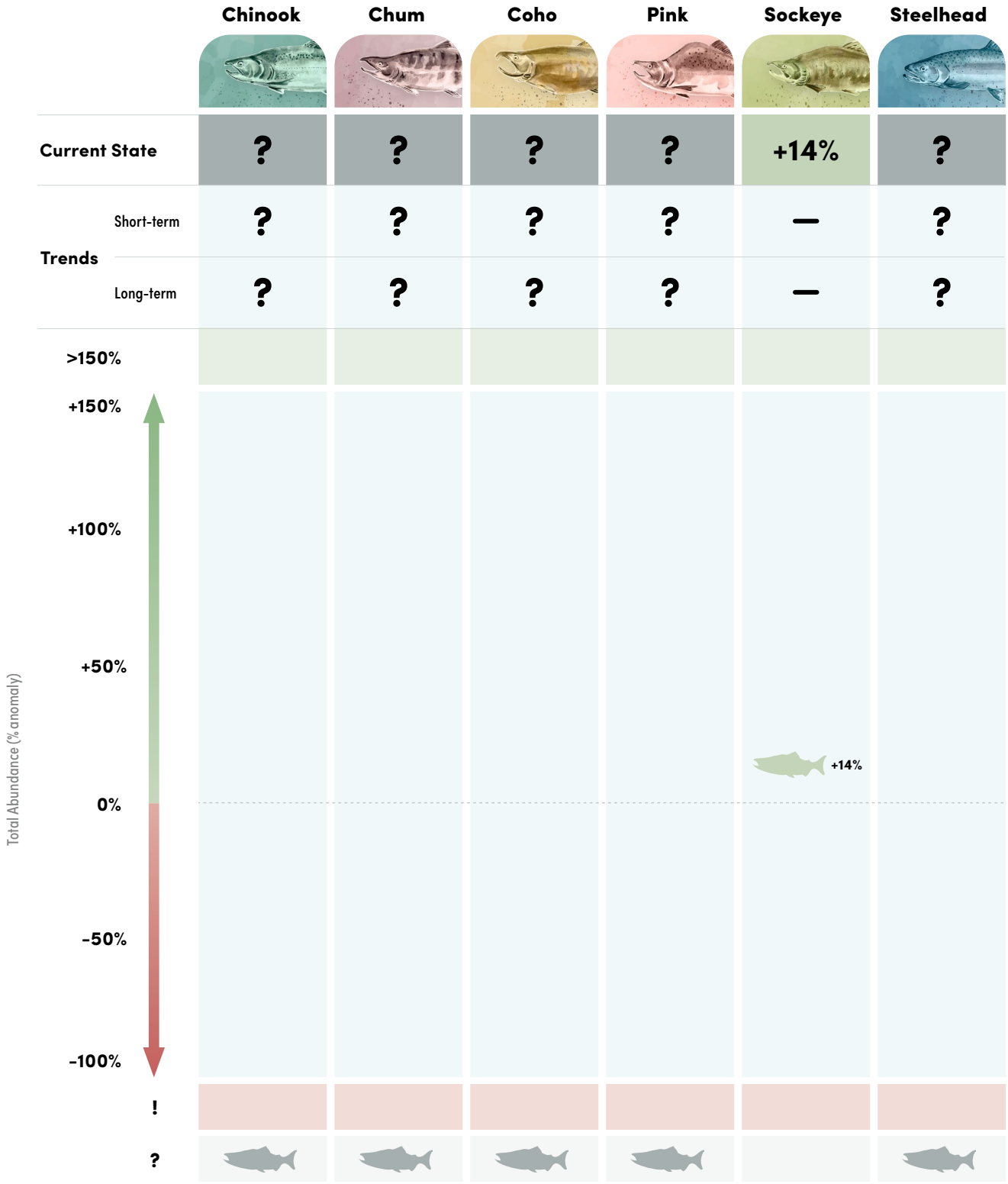
Well-above long-term average. No conservation concern.
Above long-term average. Current outlook is good.
At or near long-term average. Precaution is warranted.
Below long-term average. Current outlook is poor.
Well-below long-term average. Significant conservation concern.
Critically low. At risk of local extinction.
Unknown state due to a lack of readily accessible data.

Arrows indicate if the trend in abundance is increasing or decreasing.

A horizontal line indicates if the trend in abundance is stable.

A question mark indicates an unknown current state or trend due to a lack of readily accessible data.

Total Abundance

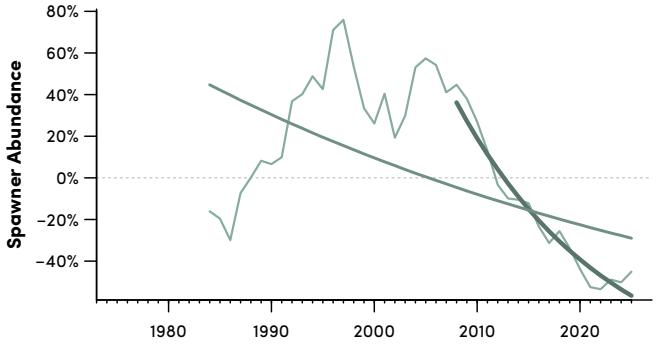


Chinook

The current state remains well-below the long-term average. A negative long-term trend and even steeper, negative short-term trend reflect declines from relatively high spawner abundance in the 1990s and early 2000s. Year-over-year increases in the annual spawner abundance since 2020 provide hope for recovery. Numbers below represent absolute estimates of Chinook for the Skeena River.

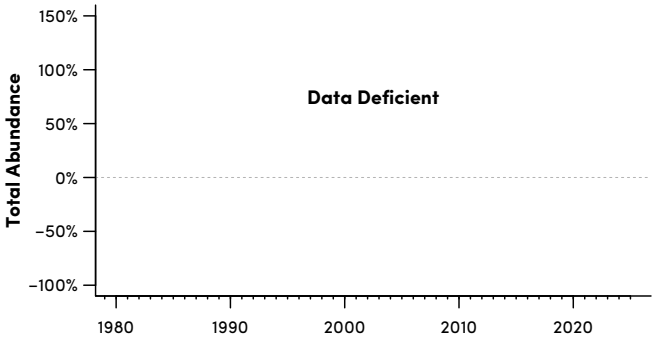
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-45%	↓	↓	24,708 (2020–2025)	45,036 (1984–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

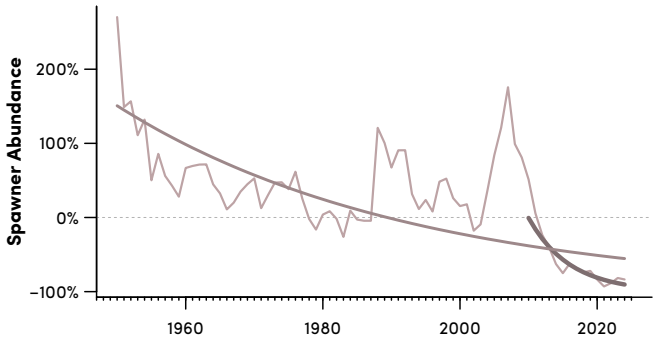


Chum

The current state is well-below the long-term average. Though there have been single-year increases, the general negative long-term trend from 1950-2024 and even steeper short-term decline are concerning. A decline in monitoring of chum salmon concurrent with these changes in abundance has created some uncertainty around recent assessments. Numbers below represent the sum of estimated abundance for 76 surveyed streams in the region.

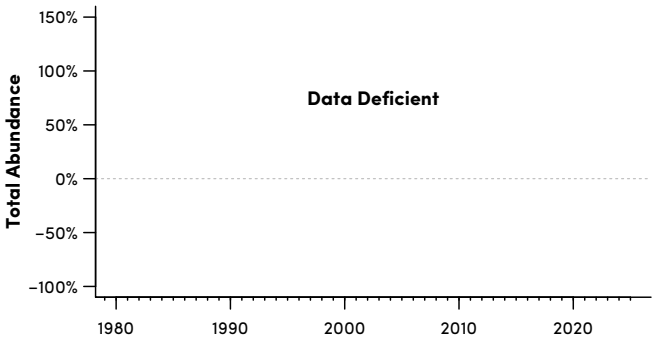
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-84%	↓	↓	1,876 (2020–2024)	11,427 (1950–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?



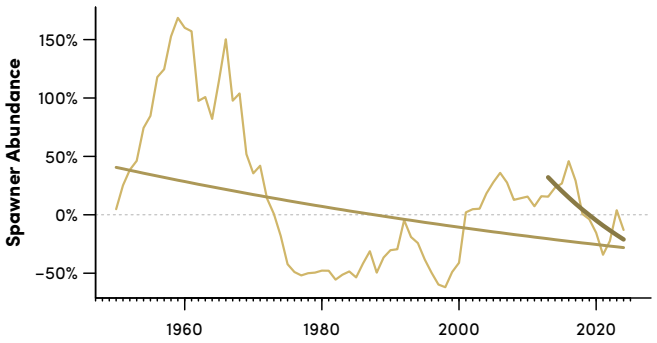
Short-Term Trends — Long-Term Trends —

Coho

The current state is below the long-term average. A negative long-term trend highlights declines since record numbers of spawners in the 1950s and 1960s.The short-term trend is also negative, reflecting declines from a peak around 2013-2016 to the lowest annual spawner count in over 25 years in 2024. Numbers below represent the sum of estimated abundance for 214 surveyed streams in the region.

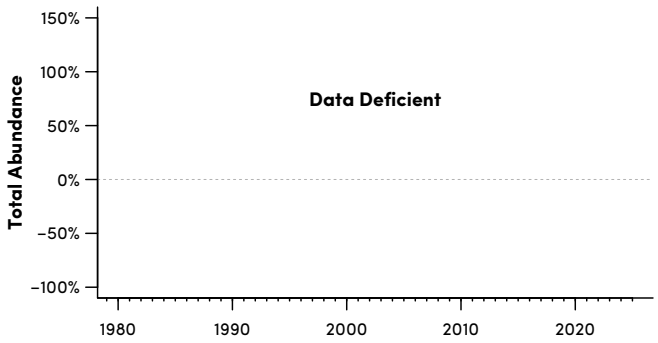
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-13%	↓	↓	76,465 (2021–2024)	87,874 (1950–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

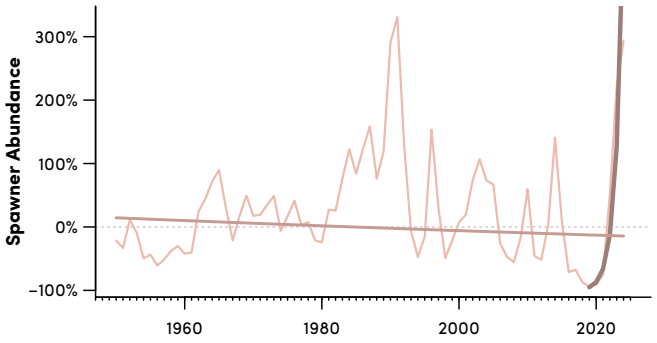


Pink

The current state is well-above the long-term average with a steep, positive short-term trend following an exceptionally high spawner count in both 2023 and 2024. Frequent fluctuations in spawner abundance since the 1950s mean there is no significant long-term trend in spawners. Numbers below represent the sum of estimated abundance for 164 surveyed streams in the region.

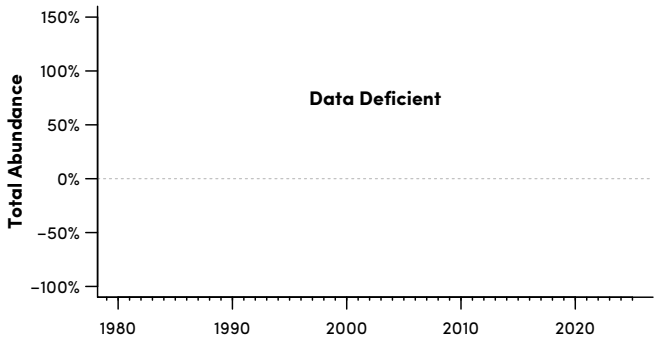
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+294%	↑	—	4,215,882 (2023–2024)	1,070,037 (1950–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?



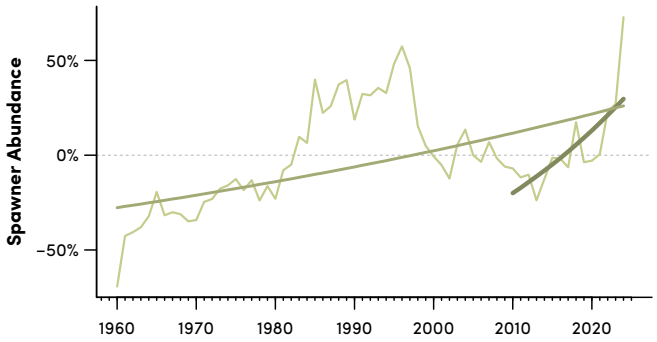
SKEENA

Sockeye

The current state of spawner abundance remains above the long-term average, and total abundance is also above average. Positive trends in spawners over the short-term and long-term are not reflected in trends in total abundance. These results partly reflect reduced sockeye harvest since the 1990s, which allowed more fish to reach their spawning grounds in recent years, yet total run size has not recovered. Recent increases in spawner abundance are also not indicative of returns among all rivers, and there are concerns about the increasing dominance of enhanced sockeye populations within the region. There was a relatively good year for Skeena sockeye in 2025 that is not yet reflected in our data. Numbers below represent absolute estimates of sockeye for the Skeena River.

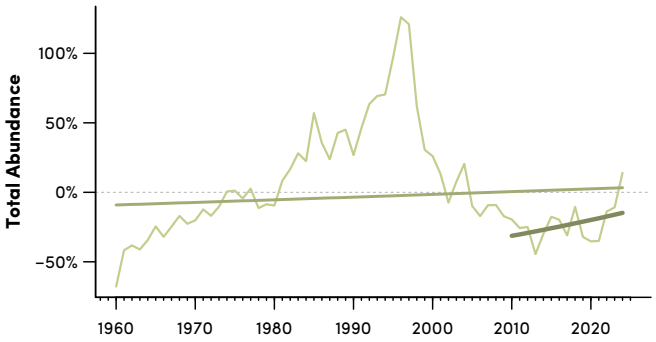
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+73%	↑	↑	**1,704,656** (2020–2024)	**986,505** (1960–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+14%	—	—	**2,367,527** (2020–2024)	**2,077,621** (1960–2024)

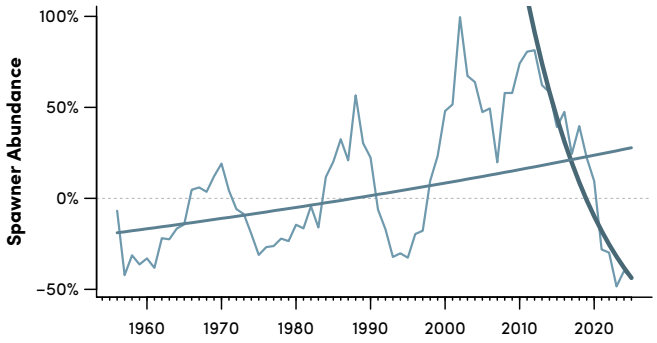


Steelhead

The current state is well-below the long-term average. Although there has been a long-term increase over the entire time series (1956-2024), a steep, negative short-term trend is cause for concern. Although the annual estimate of spawner abundance for 2024 was relatively high, record-low returns in 2021 and several poor years since then mean that the current abundance over the most recent generation is still below average. Preliminary data for 2026 – not yet included here - suggest an improvement. Numbers below represent an index of steelhead abundance from the Tyee Test Fishery.

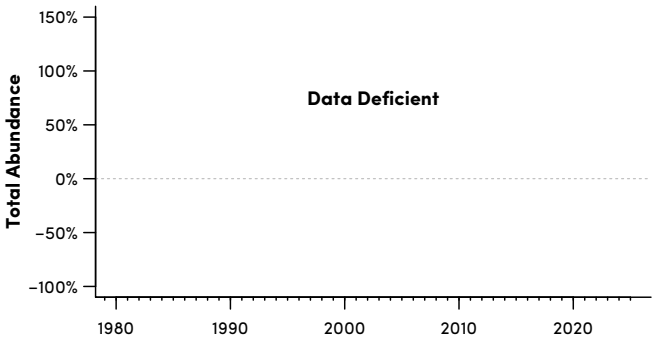
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-44%	↓	↑	**12,200** (2021–2025)	**21,634** (1956–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?







CENTRAL COAST

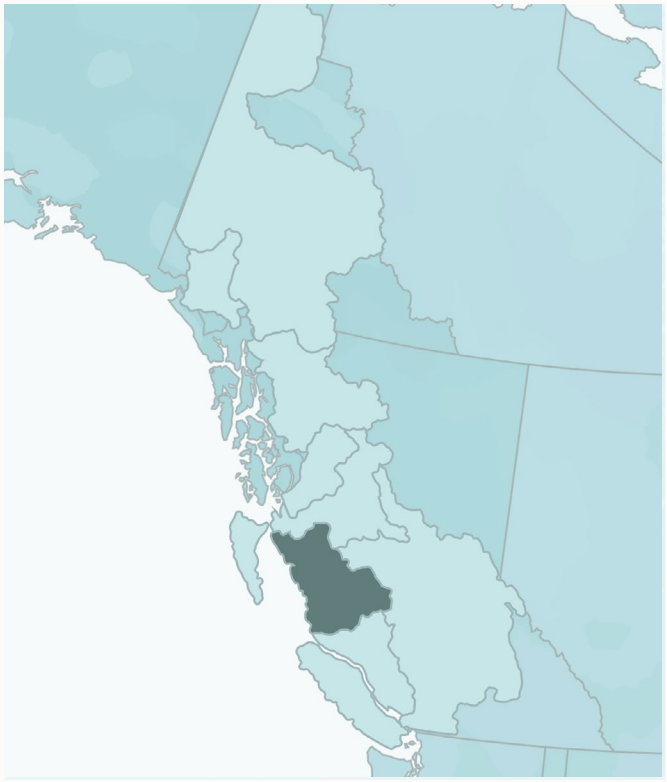
Chum salmon are struggling on the Central Coast, and while other species are holding near or above average, reduced monitoring is adding uncertainty.

The Central Coast, home to the highest salmon biodiversity in any region, has seen some improvements in spawner abundance across all species in the last generation. But with chum and coho still below average, and less than half of historically surveyed streams being monitored, the situation remains critical.

Chum salmon remain below average and declining in both the short- and long-term, meanwhile reductions in monitoring obscure the extent of losses. In recent years, over 50% of the regional chum salmon abundance has been attributed to the Bella Coola River, where large-scale hatchery production of chum salmon occurs[27].

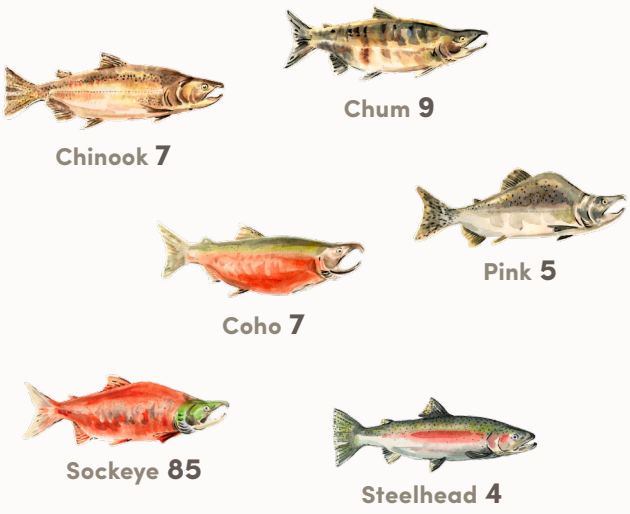
Sockeye spawners are above their long-term average for the first time since the mid 1990s. Historically, Owikeno Lake and Long Lake were one of the three largest salmon runs in British Columbia8. These populations have crashed in recent decades and all major commercial sockeye fisheries in the region have been curtailed.





Salmon Biodiversity

The number of Conservation Units below represents the region's salmon biodiversity.



Region Profile

The Central Coast Region is part of the Great Bear Rainforest, one of the largest remaining tracts of intact temperate rainforest left in the world. The Central Coast stretches from Douglas Channel and Banks, McCauley, and Pitt Islands in the north to Rivers Inlet and Smith Inlet in the south, covering 54,813 square kilometres. It comprises large inland fjords, thousands of coastal islands, and numerous small- to medium-size rivers that drain more than 132,400 square kilometres of streams into Hecate Strait and Queen Charlotte Sound.

With a diversity of stream, river, lake, and estuary habitats, the region offers some of British Columbia's most intact and productive spawning habitats, which support a rich diversity of salmon. All six species of salmon and steelhead occur on the Central Coast, with hundreds of uniquely adapted populations.

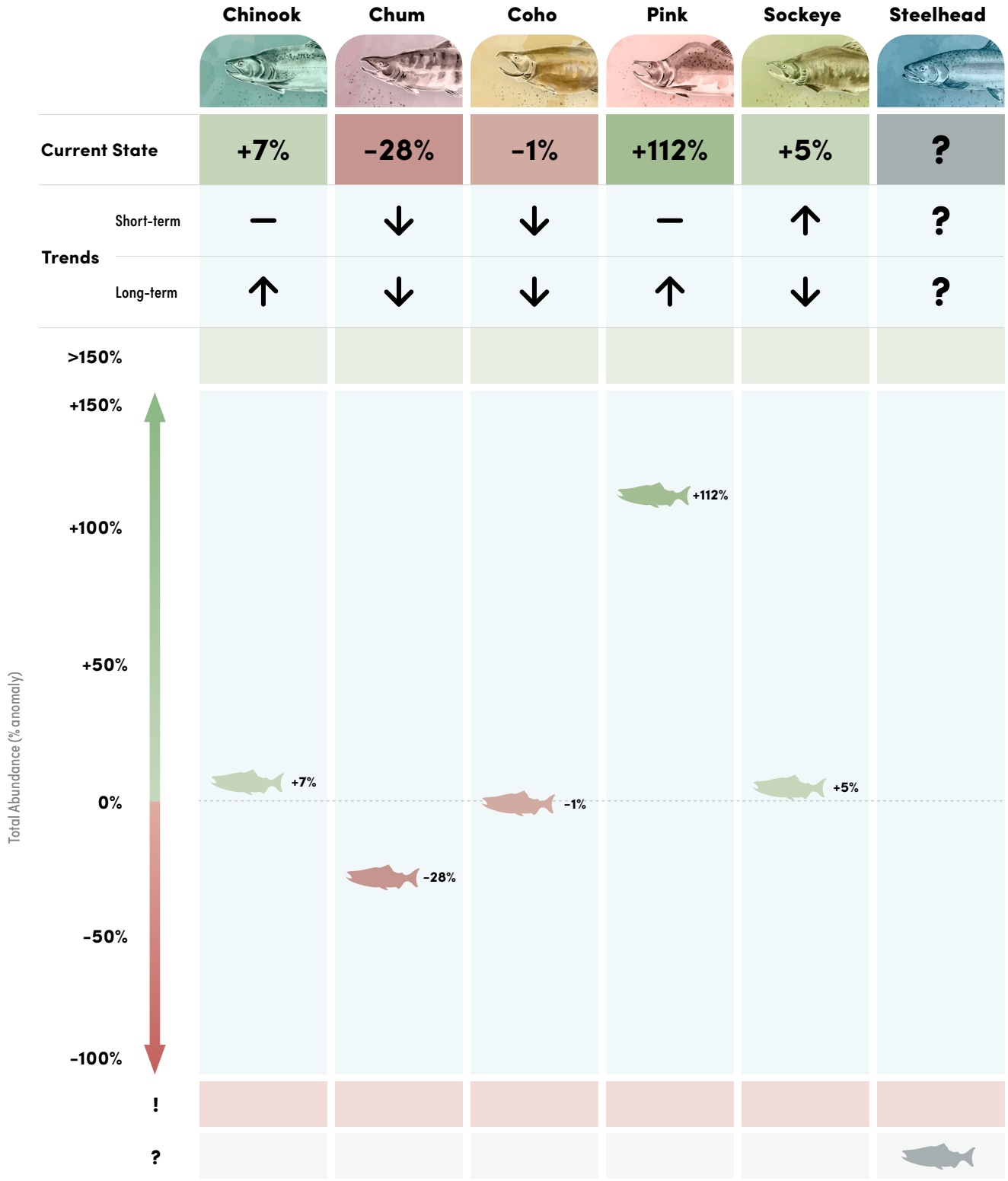
Notable Salmon-Bearing Rivers

Atnarko River, Bella Coola River, Kainet Creek, Kemano River, Quaal River.

CENTRAL COAST

Tables and figures in this section show the current state and trends for each species of salmon in the Central Coast. The current state is the per cent anomaly of current spawner or total abundance over the most recent generation compared to the long-term average for each species. Trends measure the direction of change and are reported as short-term (over the most recent three generations) and long-term (over all available years).

Spawner Abundance



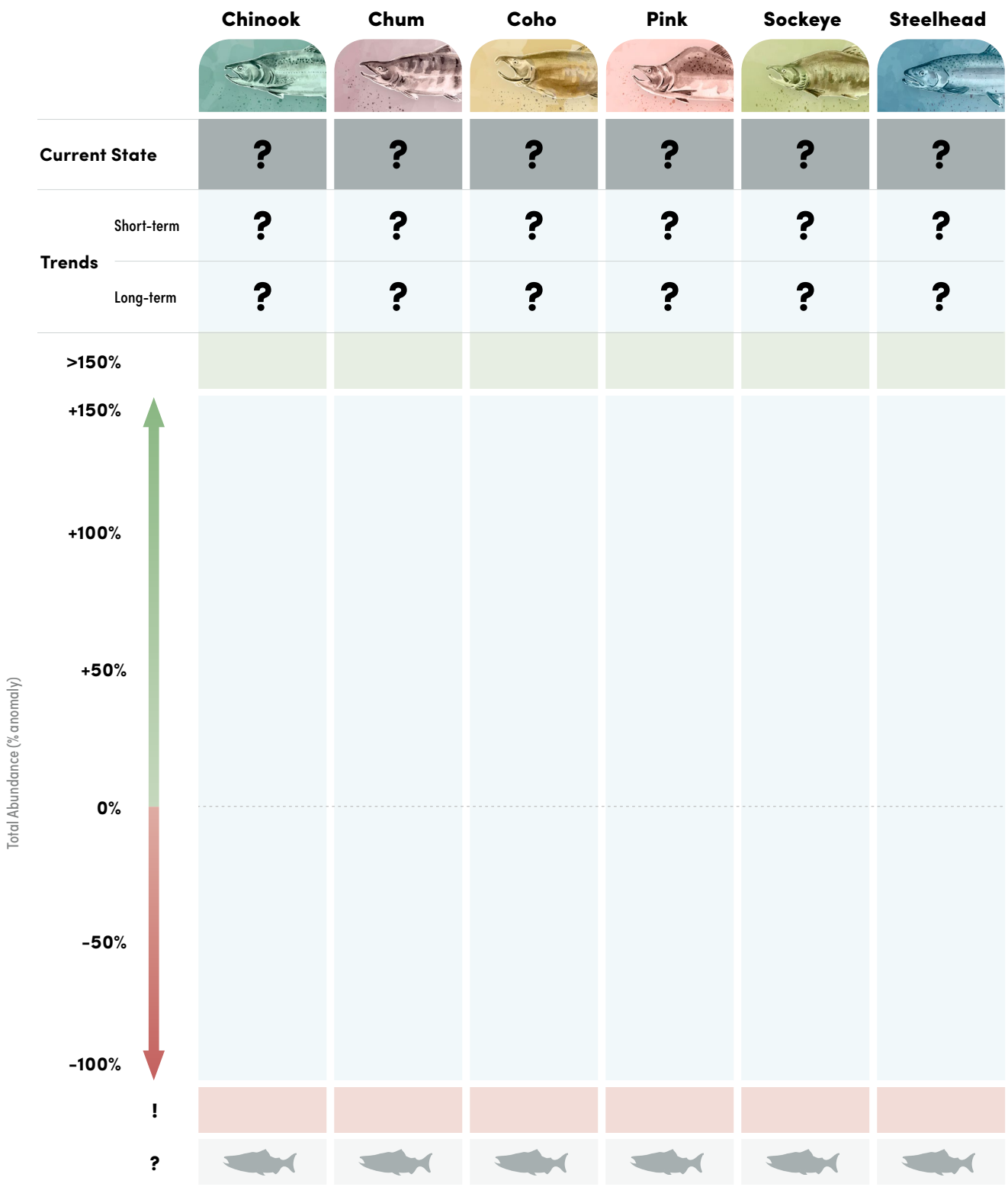
Well-above long-term average. No conservation concern.
Above long-term average. Current outlook is good.
At or near long-term average. Precaution is warranted.
Below long-term average. Current outlook is poor.
Well-below long-term average. Significant conservation concern.
Critically low. At risk of local extinction.
Unknown state due to a lack of readily accessible data.

Arrows indicate if the trend in abundance is increasing or decreasing.

A horizontal line indicates if the trend in abundance is stable.

A question mark indicates an unknown current state or trend due to a lack of readily accessible data.

Total Abundance

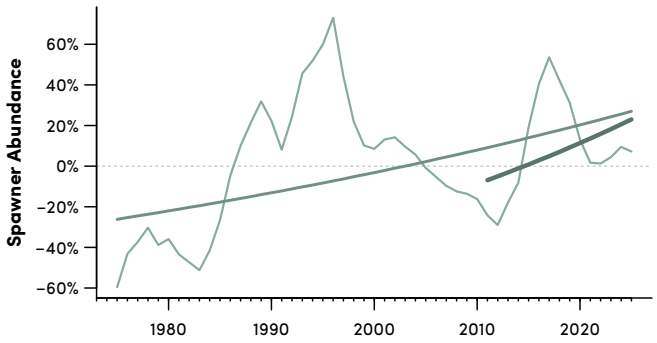


Chinook

The current state of spawner abundance is above the long-term average with a stable short-term trend and a slight increase over the long term (1975–2025). This assessment is based on two enhanced indicator stocks - the Atnarko River and Rivers Inlet - and patterns in Chinook abundance may differ among the many small, coastal watersheds within the region. Numbers below represent the sum of two indicator stocks (Atnarko River and Rivers Inlet).

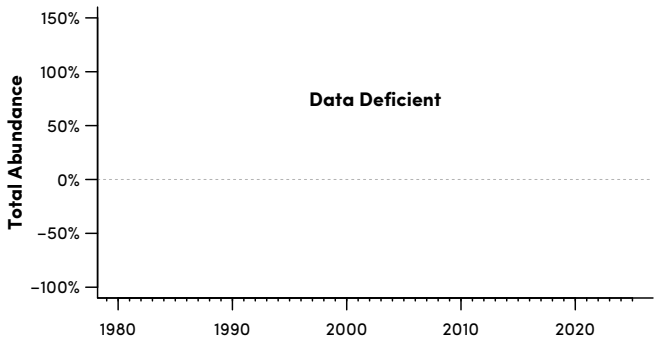
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+7%	—	↑	17,899 (2021–2025)	16,696 (1975–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

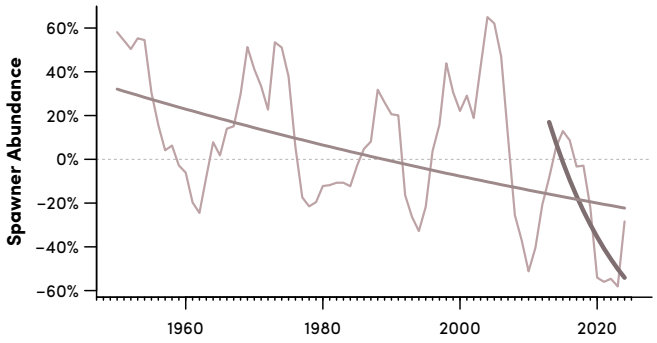


Chum

The current state is below the long-term average. Declines since 2015 have resulted in a negative short-term trend, while a less-severe long-term trend indicates a general decline since the start of the time series in 1950. Significant hatchery production of chum salmon in the Bella Coola River began in the mid-1980s, and subsequent declines in unenhanced populations have raised concern about the erosion of chum salmon biodiversity in the region. Numbers below represent the sum of estimated abundance for 353 surveyed streams in the region.

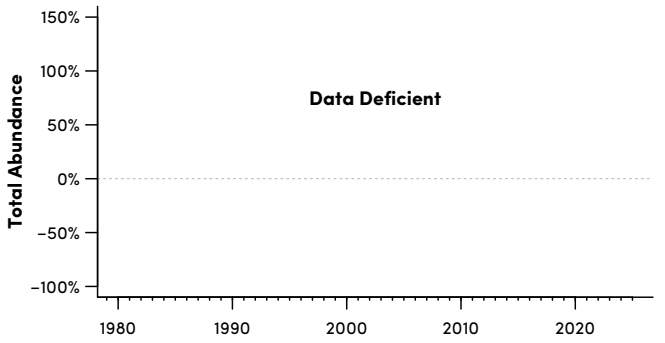
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-28%	↓	↓	432,964 (2021–2024)	604,372 (1950–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?



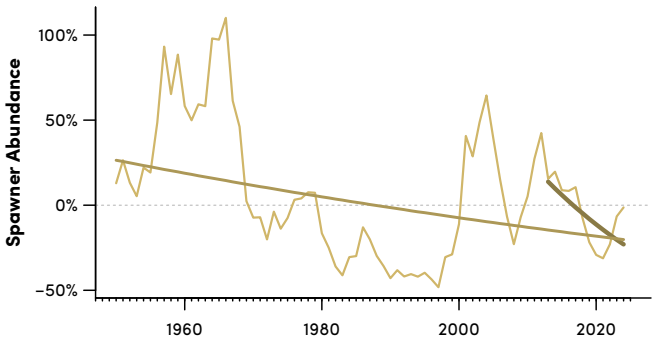
Short-Term Trends — Long-Term Trends ———

Coho

The current state is below the long-term average despite recent years with above-average spawner counts (2021–2023), due to a sharp decline over two decades starting in the early 2000s. A negative long-term trend indicates a general decrease since the time series began in 1950. Numbers below represent the sum of estimated abundance for 354 surveyed streams in the region.

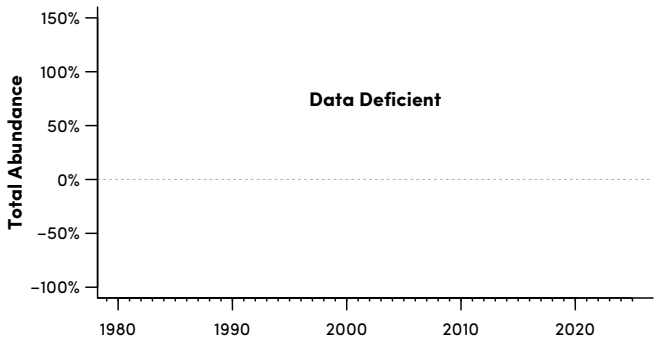
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-1%	↓	↓	188,355 (2021–2024)	190,826 (1950–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

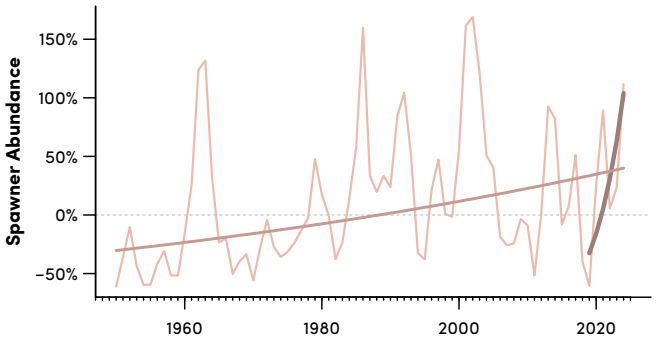


Pink

The current state is well above the long-term average. Spawner abundance has fluctuated around average over the past decade, and the short-term trend is stable. A small but positive long-term trend has occurred from 1950-2024. Numbers below represent the sum of estimated abundance for 353 surveyed streams in the region.

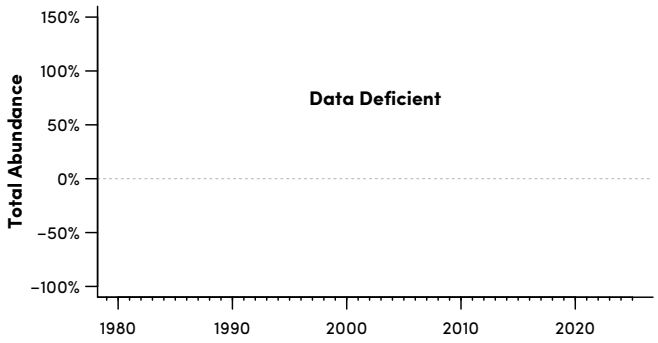
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+112%	—	↑	5,433,519 (2023–2024)	2,568,083 (1950–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

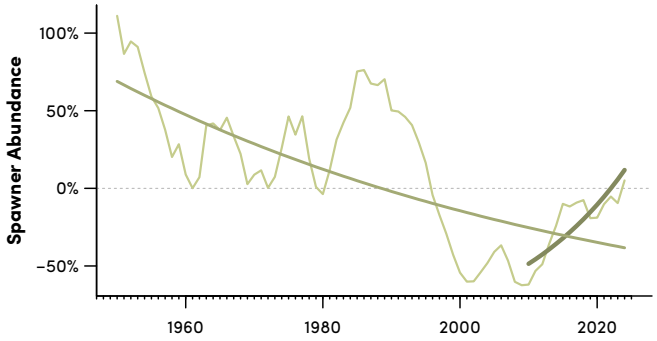


Sockeye

The current state is above the long-term average based on spawner abundances in the most recent generation (2020-2024), a change from below -average in previous years' reports. A negative long-term trend reflects a tipping point in the mid 1990s from generally above-average spawner abundance to over a decade of mostly below average returns. The short-term trend is positive, however, reflecting a general increase over the most recent three generations. Numbers below represent the sum of estimated abundance for 228 surveyed streams in the region.

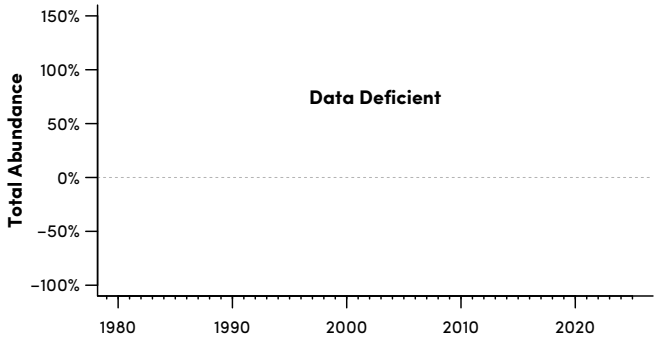
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+5%	↑	↓	492,916 (2020–2024)	468,955 (1950–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

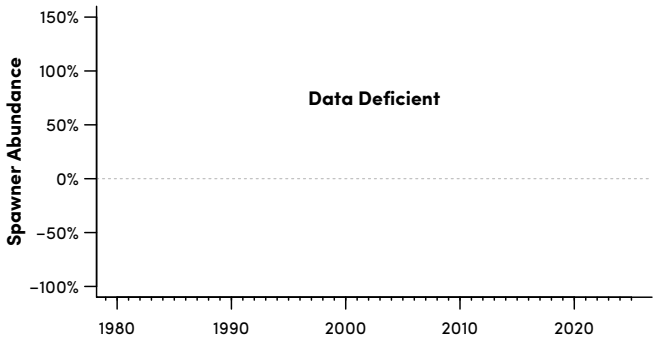


Steelhead

There are no data available on steelhead abundance in the region.

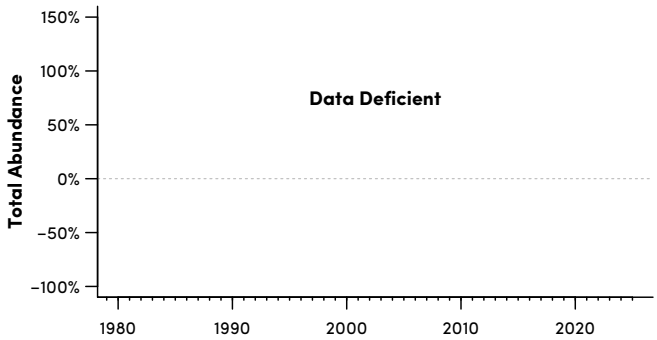
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?







FRASER

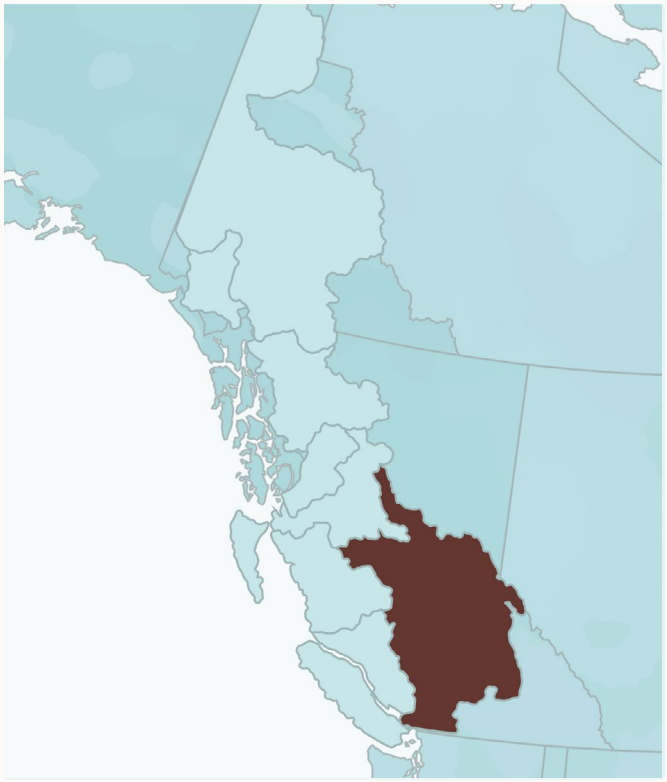
Abundances have recently increased for most species but total abundance has lagged and steelhead demand urgent attention.

Fraser sockeye saw an unexpectedly high return in 2025 and yet total abundance remains below avverage, highlighting that fisheries have not yet recovered. The return in 2026, expected to be a dominant year, has not yet materialized as projected, raising questions about what happened to the four-year-old fish and concerns for populations like the critically endangered Early Stuart sockeye[28].

Recent above-average returns of Chinook, pink, and coho likely reflect favourable ocean conditions in the Strait of Georgia and beyond. However, Chinook populations in the upper reaches of the Fraser that spend more time in freshwater are making up a smaller proportion of Fraser returns, highlighting that gains in aggregate abundance can mask the loss of biodiversity within.

Interior steelhead (Chilcotin and Thompson River populations) face imminent risk of extinction and are listed as Endangered by the Committee on the Status of Endangered Wildlife in Canada.





Salmon Biodiversity

The number of Conservation Units below represents the region's salmon biodiversity.



Chinook **19**



Chum **1**



Coho **8**



Pink **1**



Sockeye **32**



Steelhead **6**

Notable Salmon-Bearing Rivers

Chilko River, Fraser River, Harrison River, Lillooet River, Thompson River.

Region Profile

The Fraser River Basin is the largest salmon-bearing watershed in British Columbia, draining an area almost the size of California. From its source in the Rockies, the Fraser River travels 1,375 kilometres to the Strait of Georgia. It consists of 13 sub-watersheds defined by major tributaries, such as the Harrison, Thompson, Adams, Nechako, Chilko, Chilcotin, and Lillooet rivers.

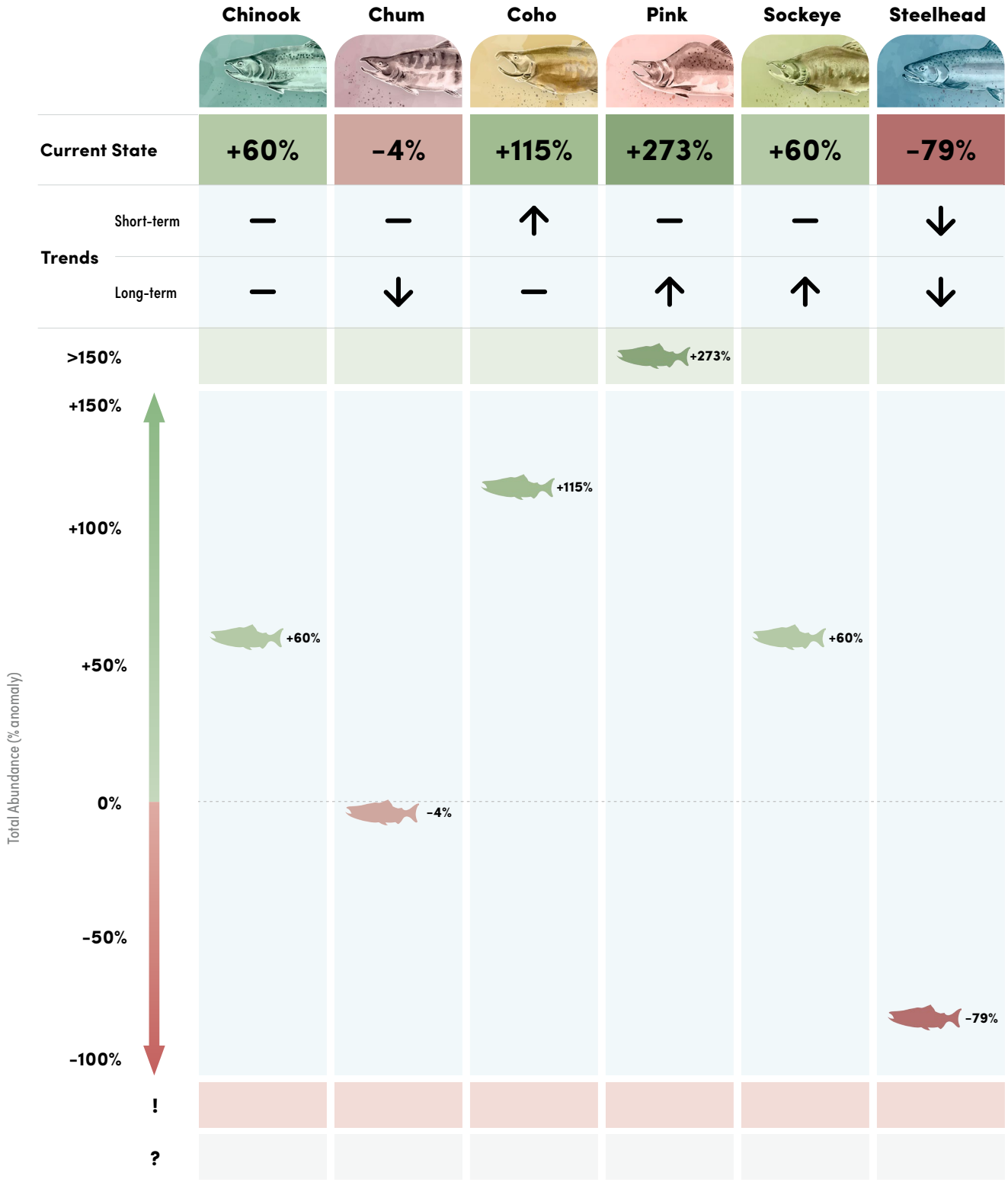
The region supports an incredible diversity of Pacific salmon. It boasts British Columbia's most abundant sockeye populations, with historical abundance in the millions. At the same time, the Fraser River Basin is home to three million people, nearly two-thirds of the total population in the province. The region is significantly impacted by urban and industrial development. In particular, the land around the Fraser estuary is heavily populated, exposing salmon to the cumulative pressures of habitat degradation and pollution, yet the estuary is critically important to hundreds of populations of salmon across all species of Pacific salmon including steelhead.

Historical and recent landslides have created a legacy of impacts for Fraser salmon. In 1914, a massive human-caused landslide in Hells Gate blocked passage for migrating salmon, causing significant declines in salmon populations, which never fully recovered. A century later, a landslide at Big Bar near Lillooet in 2019 created a five-metre waterfall that trapped migrating salmon below the slide. A nature-like fishway was developed, but fish passage remains a challenge in other areas of the watershed, especially for early migrating sockeye in years of high flow. In summer 2024, a landslide on the Chilcotin River formed a temporary dam, blocking migrating salmon and damaging critical habitat. Yet by October, both sockeye and Chinook were observed upstream of the slide — an impressive display of salmon resilience in the face of disruption.

FRASER

Tables and figures in this section show the current state and trends for each species of salmon in the Fraser. The current state is the per cent anomaly of current spawner or total abundance over the most recent generation compared to the long-term average for each species. Trends measure the direction of change and are reported as short-term (over the most recent three generations) and long-term (over all available years).

Spawner Abundance



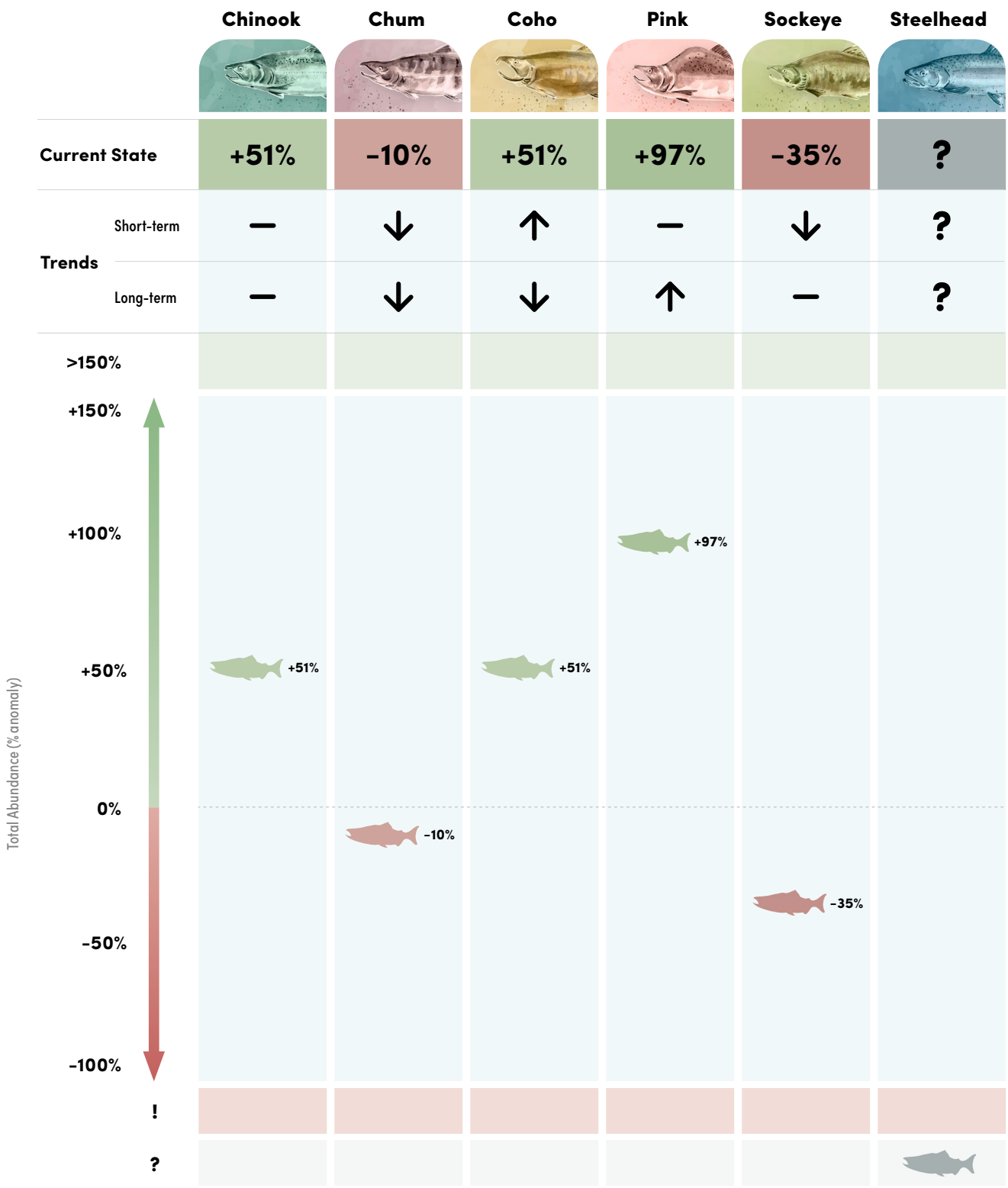
Well-above long-term average. No conservation concern.
Above long-term average. Current outlook is good.
At or near long-term average. Precaution is warranted.
Below long-term average. Current outlook is poor.
Well-below long-term average. Significant conservation concern.
Critically low. At risk of local extinction.
Unknown state due to a lack of readily accessible data.

Arrows indicate if the trend in abundance is increasing or decreasing.

A horizontal line indicates if the trend in abundance is stable.

A question mark indicates an unknown current state or trend due to a lack of readily accessible data.

Total Abundance

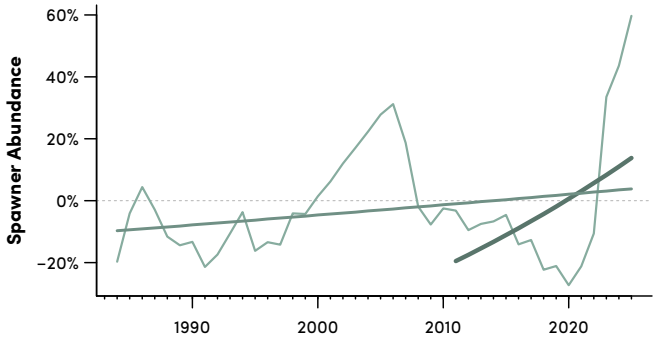


Chinook

The current state is above the long-term average due to above-average returns of primarily ocean-type Chinook to the Fraser since 2022. The short-term and long-term trends in spawner abundance and total abundance are stable, owing to cycles in abundance over past decades. Numbers below represent the sum of abundances for five run-timing groups, provided by Fisheries and Oceans Canada.

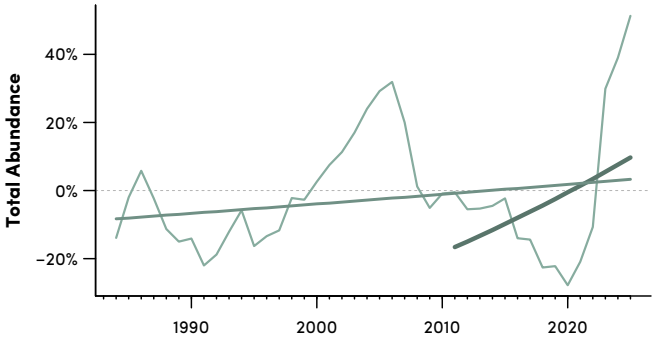
Spawner Abundance

Current State	Trends: Short-Term	Trends: Long-Term	Current Abundance	Long-Term Average
+60%	—	—	**368,747** (2021–2025)	**230,971** (1984–2025)



Total Abundance

Current State	Trends: Short-Term	Trends: Long-Term	Current Abundance	Long-Term Average
+51%	—	—	**403,010** (2021–2025)	**266,290** (1984–2025)

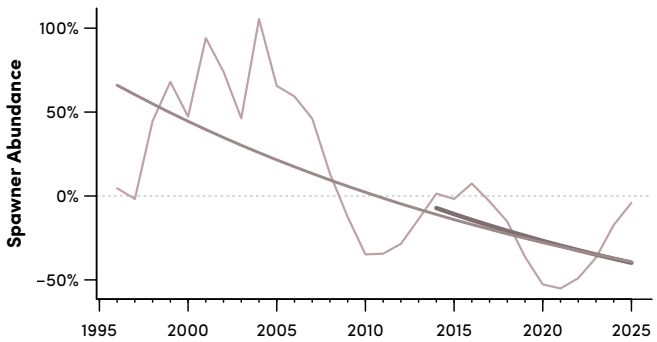


Chum

The current states are below the long-term average for both spawner and total abundances following two decades of declines since reliable monitoring began in 1998. A stable short-term trend in spawner abundance reflects steady increases over the last six years, but the negative long-term trends reflect the backdrop of declines since 1996. The total abundance has been slower to turn around, the short-term trend remaining below average and declining. Numbers below represent estimates of chum salmon for the Fraser River.

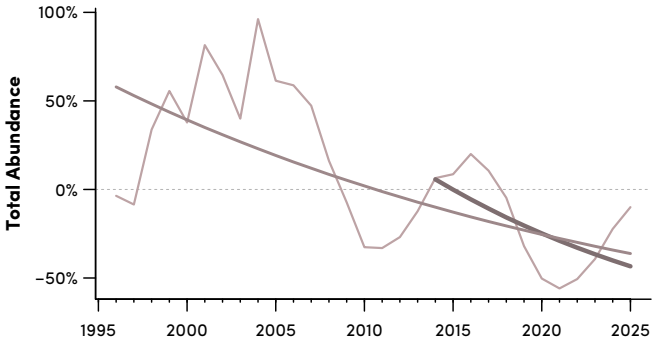
Spawner Abundance

Current State	Trends: Short-Term	Trends: Long-Term	Current Abundance	Long-Term Average
−4%	—	↓	**1,088,052** (2022–2025)	**1,134,196** (1996–2025)



Total Abundance

Current State	Trends: Short-Term	Trends: Long-Term	Current Abundance	Long-Term Average
−10%	↓	↓	**1,133,166** (2022–2025)	**1,258,527** (1996–2025)



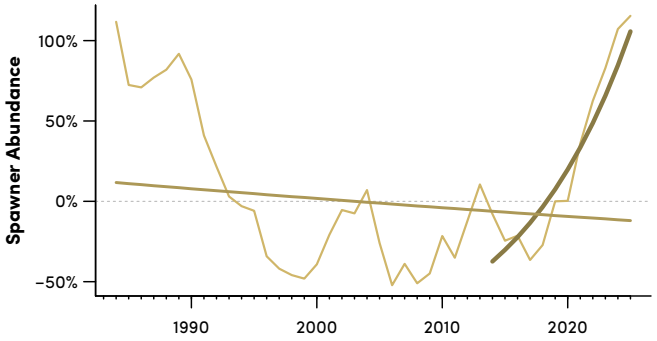
Short-Term Trends ——— Long-Term Trends ———

Coho

The current state is well-above the long-term average for spawner abundance and total abundance. Although these recent increases are reflected by positive short-term trends for both spawner and total abundances, a negative long-term trend in total abundance highlights that current abundances remain well below what was seen before the dramatic declines in the 1980s and 1990s that prompted fisheries closures. Numbers below represent the estimated abundance for interior Fraser coho.

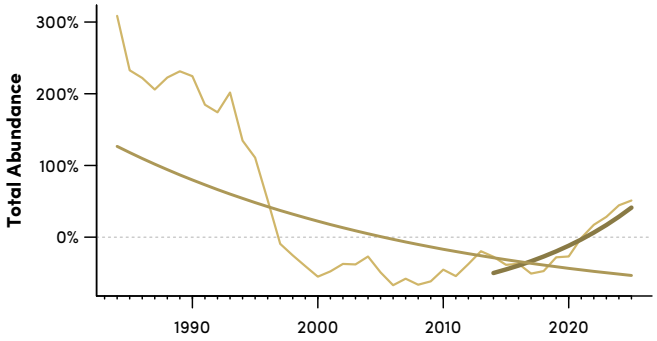
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+115%	↑	—	**86,619** (2022–2025)	**40,217** (1984–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+51%	↑	↓	**98,599** (2022–2025)	**65,234** (1984–2025)

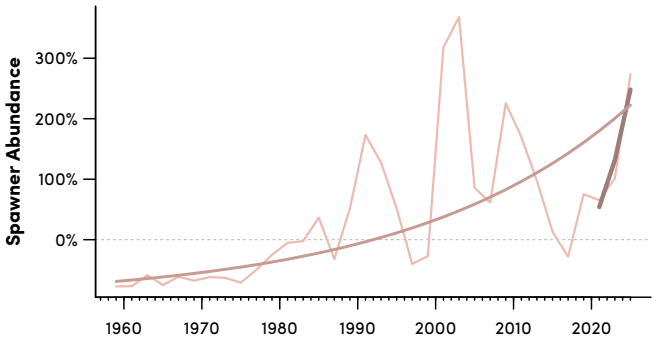


Pink

The current state is well above the long-term average for spawner abundance, with total abundance also above average reflecting a relatively good return in 2025. The long-term trend in spawner abundance and total abundance is positive, but short-term trends are stable. Numbers below represent absolute estimates of pink salmon for the Fraser River.

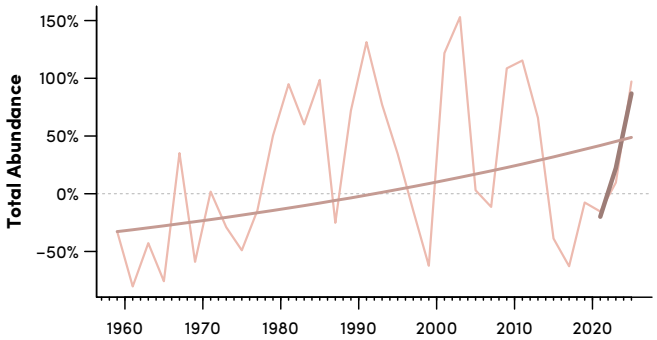
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+273%	—	↑	**17,695,303** (2024–2025)	**4,739,417** (1959–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+97%	—	↑	**18,909,506** (2024–2025)	**9,586,594** (1959–2025)

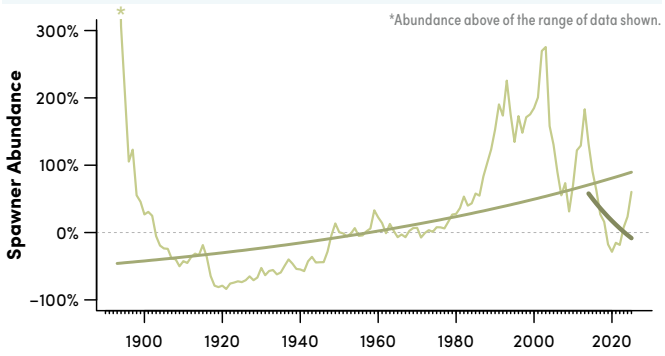


Sockeye

The current state of spawner abundance is well above average, but a long-term decline in fisheries and abysmal returns in 2024 put total abundance below average despite a strong 2025 return. The positive long-term trend in spawners reflects steady increases from 1920 to 2000, whereas total abundance has been stable over the long term. Reductions in harvest rates from historically high levels mean that spawners are making up a higher proportion of total abundance. The usual four-year cycle, with peak abundance in dominant years and low returns in sub-dominant years, appears to have been disrupted, with lower-than-expected returns in 2026. These returns are not yet captured in our data. Numbers below represent absolute estimates of sockeye salmon for the Fraser River.

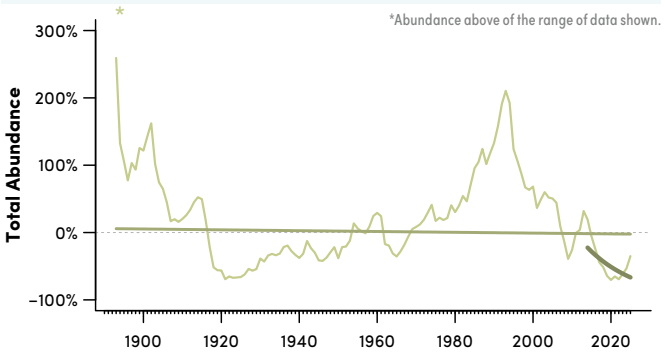
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+60%	—	↑	**1,699,036** (2022–2025)	**1,059,266** (1893–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-35%	↓	—	**2,957,318** (2022–2025)	**4,547,181** (1893–2025)

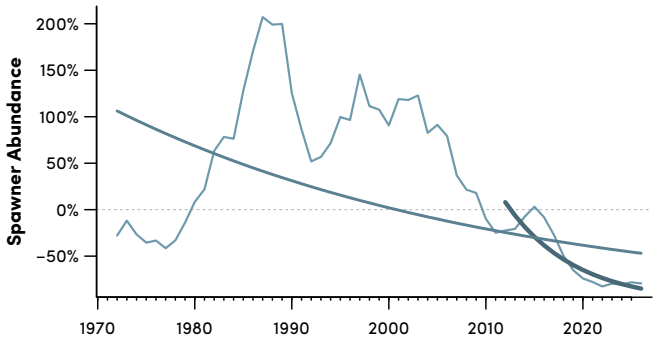


Steelhead

The current state is well-below the long-term average. Both the short-term and long-term trends are negative, indicating that Fraser steelhead are of conservation concern. Numbers below represent the sum of two out of five steelhead Conservation Units in the region.

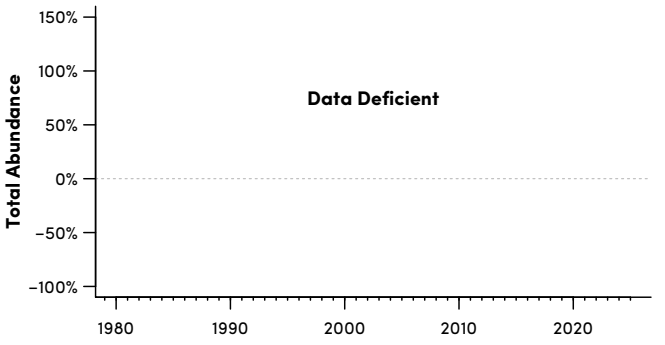
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-79%	↓	↓	**275** (2022–2026)	**1,331** (1972–2026)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?





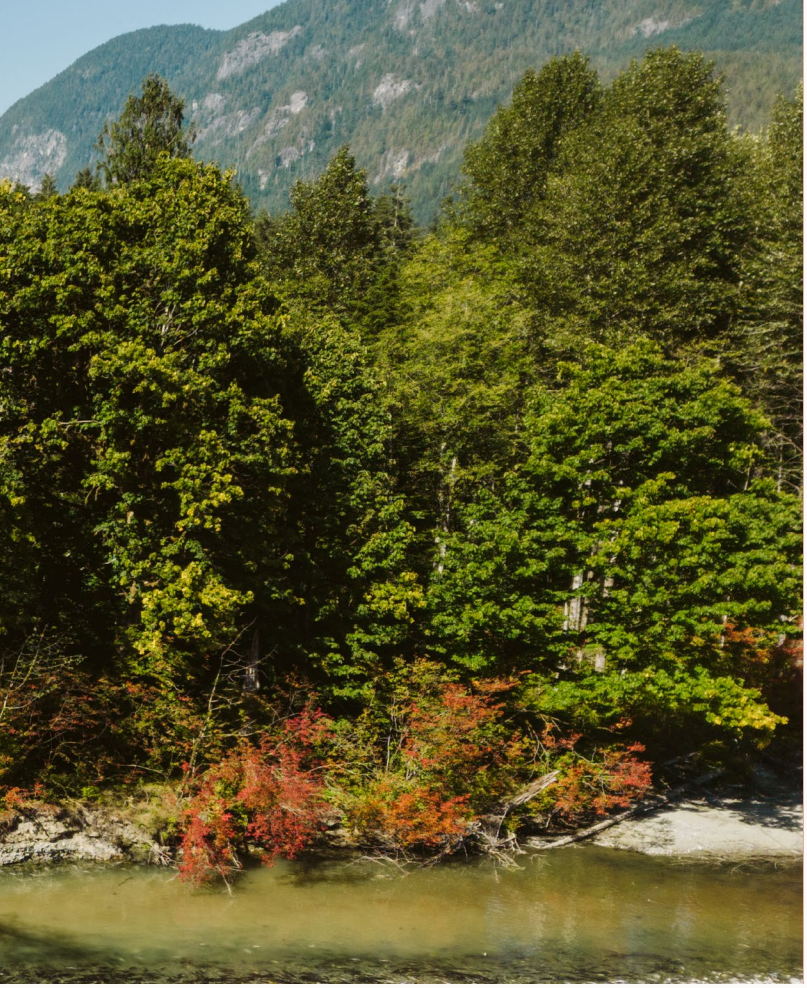
EAST VANCOUVER ISLAND & MAINLAND INLETS

A striking split in the region sees increasing numbers of Chinook, coho, and pink salmon while chum salmon, sockeye, and steelhead remain below average.

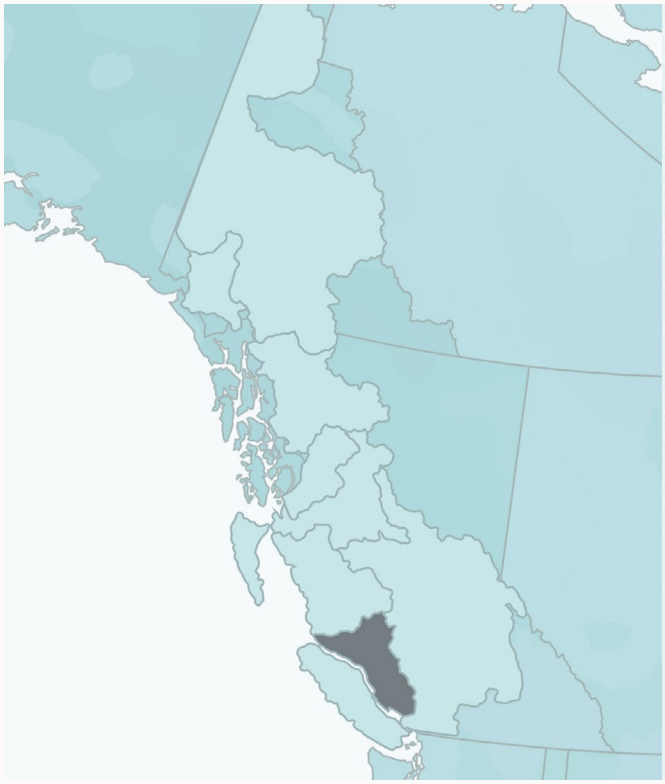
East Vancouver Island & Mainland Inlets is one of the southern regions where Chinook are above their long-term average. Several populations are thriving, including in the Cowichan River where Chinook returns have reached record highs after a low of just 500 natural spawners in 2009. Many Chinook populations in the region are supplemented by hatcheries (see Factors: Hatcheries), but favourable conditions in the Strait of Georgia are benefiting wild salmon as well.

Coho and pink salmon are also above average. Chum salmon returned in relatively high abundance in 2024 but remain below average based on the most recent generation. Sockeye spawners are also below average and counts in rivers such as the Nimpkish have lagged increases in nearby Fraser and West Vancouver Island regions. Steelhead are below average and declining, with 2025 spawner surveys finding just half the usual counts.

Except for Chinook, assessments in this region draw from hundreds of stream surveys, but still many streams go unmonitored. As such, these estimates don't reflect all the spawners in the region - and can't be added to catch statistics to yield total abundance.



EAST VANCOUVER ISLAND & INLETS



Salmon Biodiversity

The number of Conservation Units below represents the region's salmon biodiversity.



Notable Salmon-Bearing Rivers

Cowichan River, Kakweiken River, Nanaimo River, Nimpkish River, Qualicum River.

Region Profile

The East Vancouver Island & Mainland Inlets Region encompasses 53,305 square kilometres across the east coast of Vancouver Island and the adjacent mainland fjords and inlets, from Burrard Inlet and Howe Sound in the south to Smith Inlet and the Broughton Archipelago in the north. This region includes large, glacier-fed rivers in the mainland inlets to small coastal streams on Vancouver Island. Southeast Vancouver Island has a uniquely dry micro-climate compared to the rest of the region due to the rain-shadow effect from the surrounding Vancouver Island and Olympic mountain ranges, making streams more prone to drought conditions. This climate is in stark contrast to the rest of the region, which has high annual rainfall typical of temperate rainforest ecosystems.

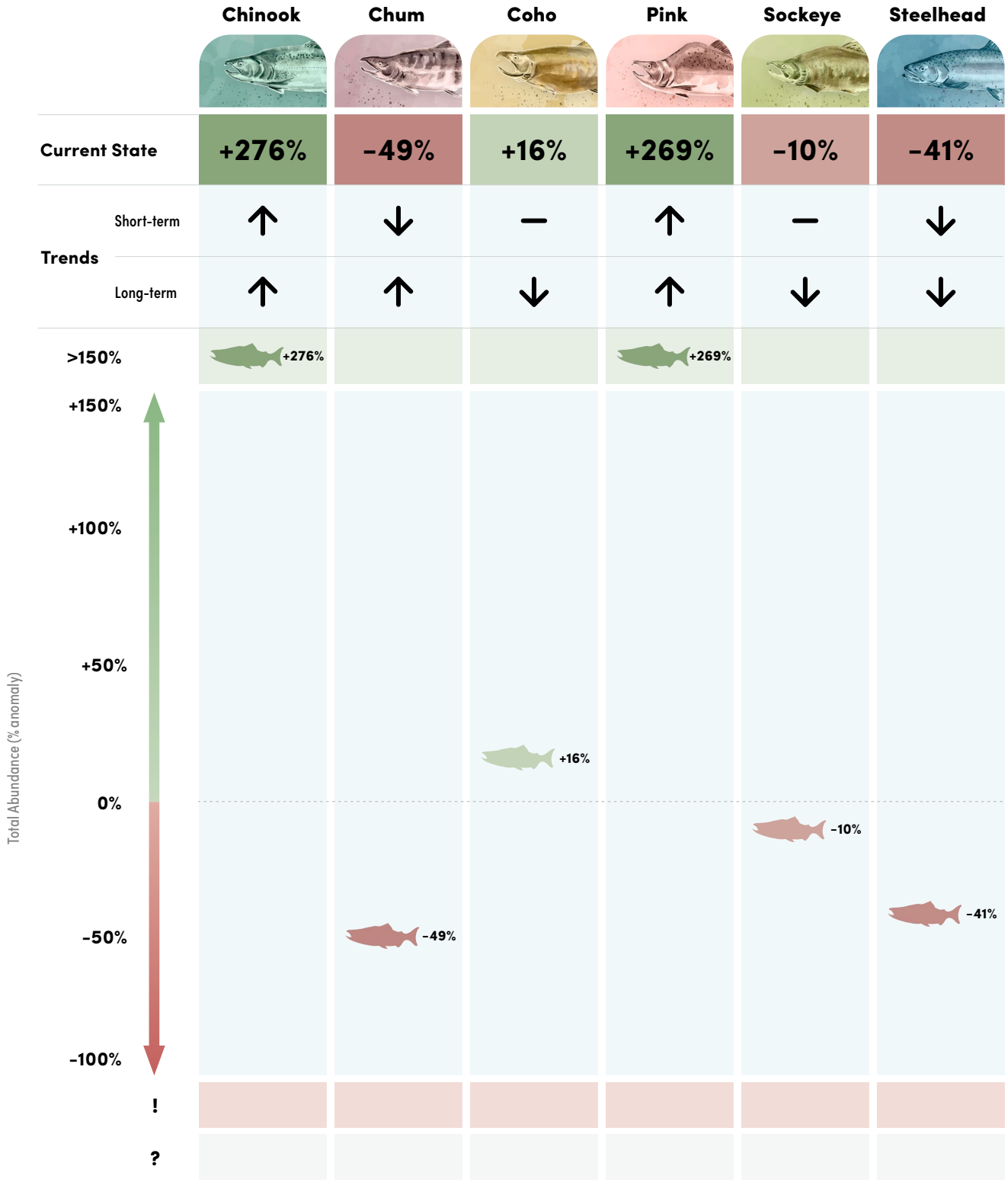
East Vancouver Island is highly urbanized, impacting the natural functioning of aquatic ecosystems. The Nanaimo River estuary is one heavily developed area with ferry terminals, a shipping terminal, marinas, and log booms affecting salmon habitat[29]. The vast array of armoured coastlines along east Vancouver Island also impacts salmon by eliminating spawning and rearing habitat and reducing prey supply.

Many salmon from the region spend their early marine life in the Salish Sea, a semi-enclosed sea between Vancouver Island and the mainland, with a significant freshwater influence from the Fraser River. Most of these salmon exit the Salish Sea through Johnstone Strait in the north. The Salish Sea has experienced cycles in productivity that influence early marine survival of salmon and were associated with sharp decreases in survival of Chinook, coho, and steelhead in the 1990s. Higher survival of Chinook and coho over the last few years suggest this may be changing.

EAST VANCOUVER ISLAND & MAINLAND INLETS

Tables and figures in this section show the current state and trends for each species of salmon in East Vancouver Island & Mainland Inlets. The current state is the per cent anomaly of current spawner or total abundance over the most recent generation compared to the long-term average for each species. Trends measure the direction of change and are reported as short-term (over the most recent three generations) and long-term (over all available years).

Spawner Abundance



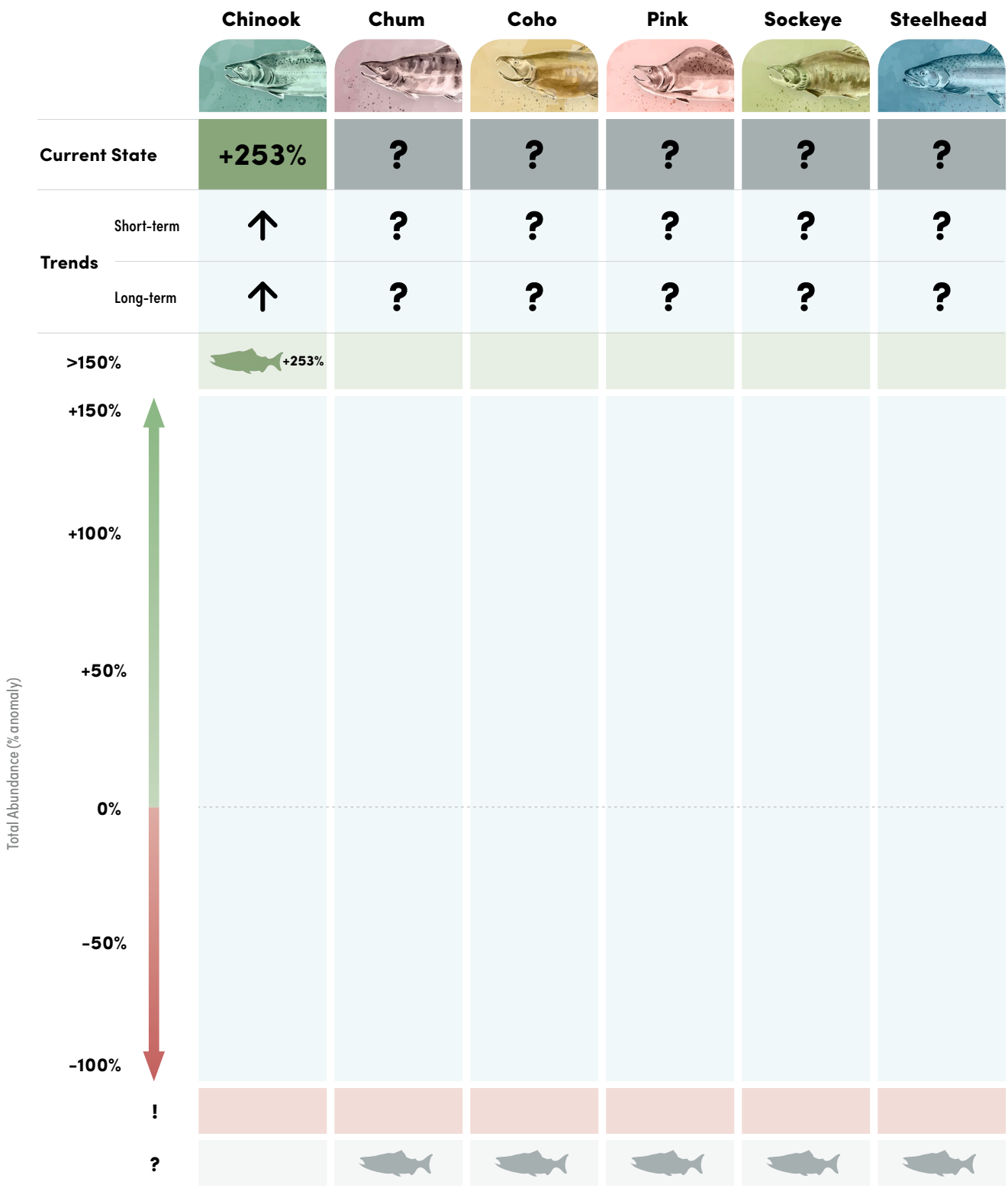
Well-above long-term average. No conservation concern.
Above long-term average. Current outlook is good.
At or near long-term average. Precaution is warranted.
Below long-term average. Current outlook is poor.
Well-below long-term average. Significant conservation concern.
Critically low. At risk of local extinction.
Unknown state due to a lack of readily accessible data.

Arrows indicate if the trend in abundance is increasing or decreasing.

A horizontal line indicates if the trend in abundance is stable.

A question mark indicates an unknown current state or trend due to a lack of readily accessible data.

Total Abundance

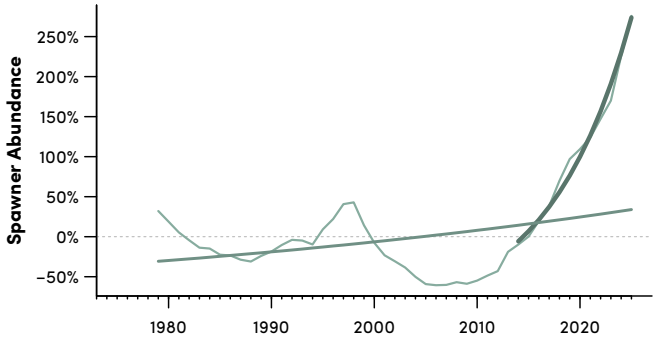


Chinook

The current states of spawner abundance and total abundance are well-above the long-term average, with both short-term trends pointing to increasing abundance. The total abundance is also increasing over the short and long term. However, at least some of this positive outlook is attributable to significant hatcheries that enhance the production of Chinook in the region (see Factors: Hatcheries). Numbers below represent the sum of estimated abundance for three indicator stocks (Nanaimo, Cowichan, and Phillips).

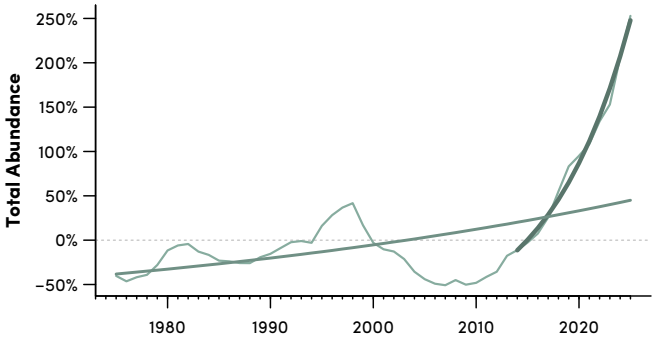
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+276%	↑	↑	**30,443** (2022–2025)	**8,098** (1979–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+253%	↑	↑	**34,729** (2022–2025)	**9,841** (1975–2025)

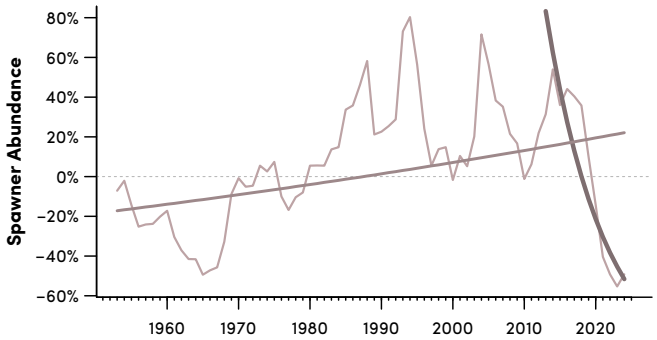


Chum

The current state is below the long-term average, despite a more positive return in 2024. Relatively high spawners from the mid 1980s to the mid 2000s resulted in a positive long-term trend from 1953-2024. However, spawners have declined dramatically over the short-term from a peak in 2016 to a historic low spawner abundance in 2023. Numbers below represent the sum of estimated abundance for 333 surveyed streams in the region.

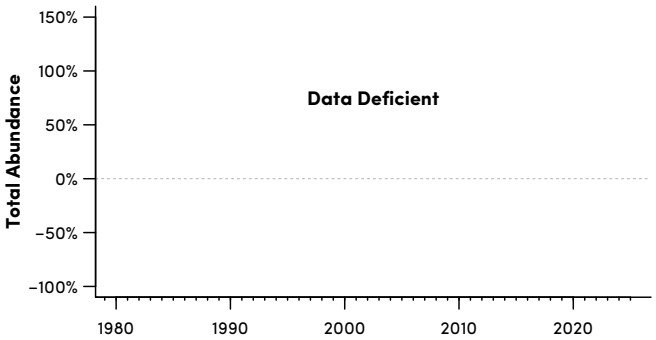
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-49%	↓	↑	**418,121** (2021–2024)	**823,487** (1953–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?



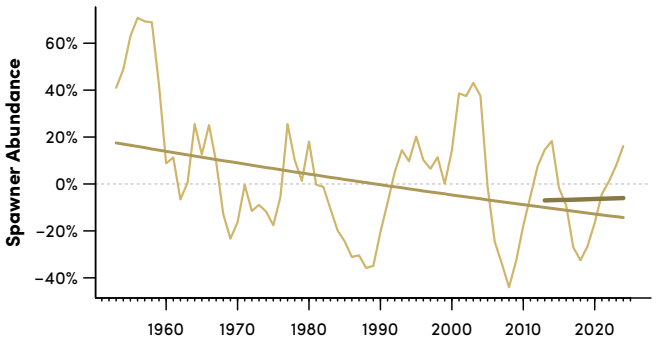
Short-Term Trends — Long-Term Trends —

Coho

Coho salmon have increased above their long-term average in recent years, stabilizing the short-term trend in spawner abundance. However, a long-term decline remains cause for concern and reflects declines from peak spawners in the 1950s. Numbers below represent the sum of estimated abundance for 357 surveyed streams in the region.

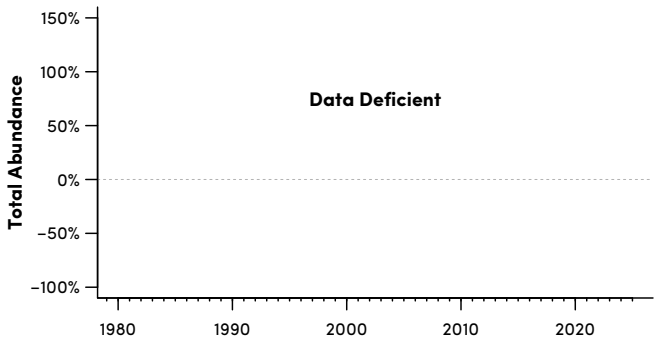
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+16%	—	↓	307,337 (2021–2024)	264,553 (1953–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

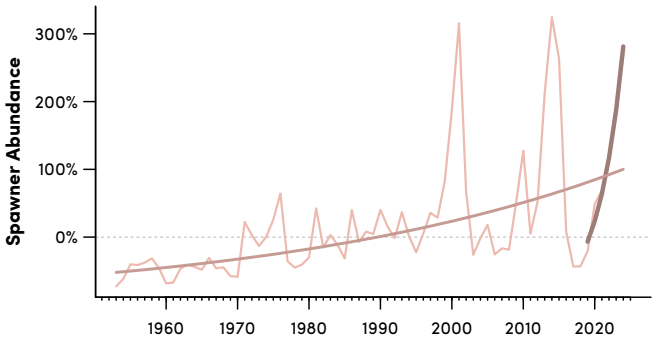


Pink

The current state is well-above the long-term average with a positive short-term trend reflecting a sharp increase since 2017. The long-term trend is also positive, with high spawner abundances in 2000, 2014, and 2024 driving an upward trajectory from 1953-2024. Numbers below represent the sum of estimated abundance for 210 surveyed streams in the region.

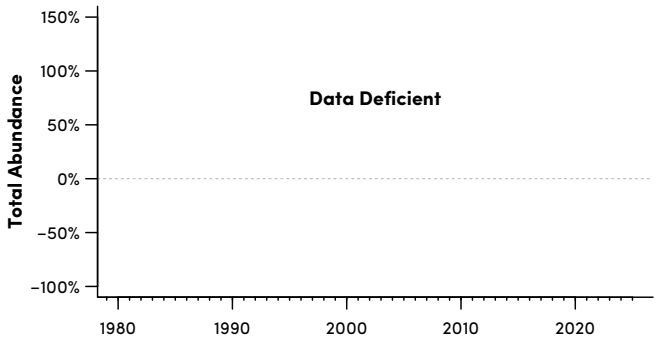
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+269%	↑	↑	4,174,842 (2023–2024)	1,130,212 (1953–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

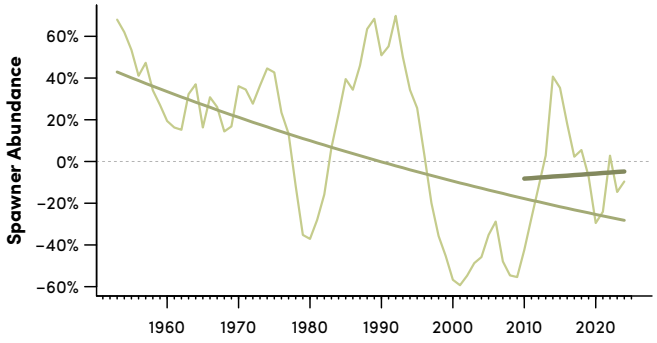


Sockeye

The current state is below the long-term average. A negative long-term trend reflects a general decline in spawner abundance from 1953-2024, but annual spawner estimates have fluctuated around average over the past three generations, leading to a stable short-term trend. Numbers below represent the sum of estimated abundance for 102 surveyed streams in the region.

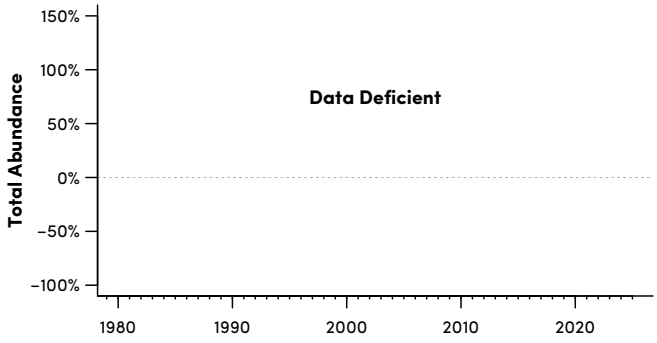
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-10%	—	↓	100,162 (2020–2024)	110,741 (1953–2024)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

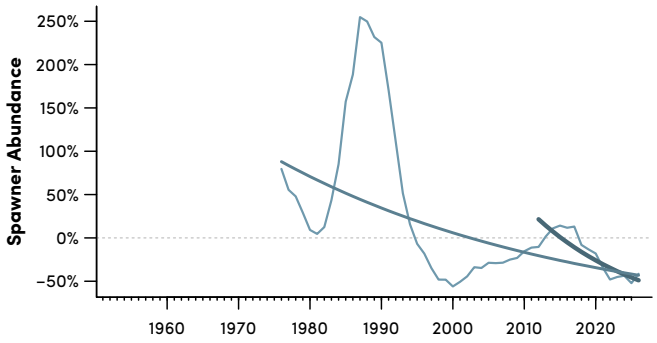


Steelhead

The current state is well-below the long-term average with negative short- and long-term trends. Slight increases since 2022 are encouraging, but spawner abundances are far below what was seen in the 1980s. Numbers represent the sum of estimated abundance for 5 surveyed streams in the region.

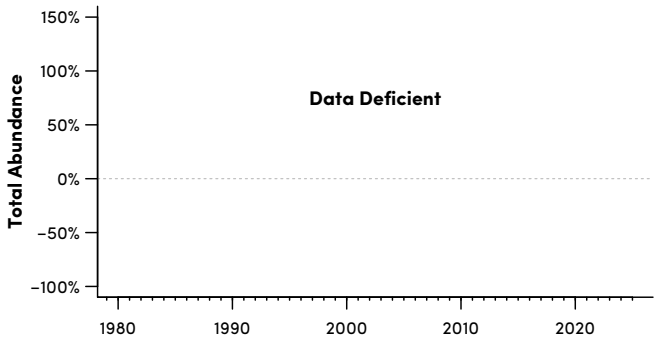
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-41%	↓	↓	664 (2022–2026)	1,134 (1976–2026)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?







WEST VANCOUVER ISLAND

Chinook and sockeye remain above average spawner abundance, while steep declines in chum, coho, and steelhead are cause for concern.

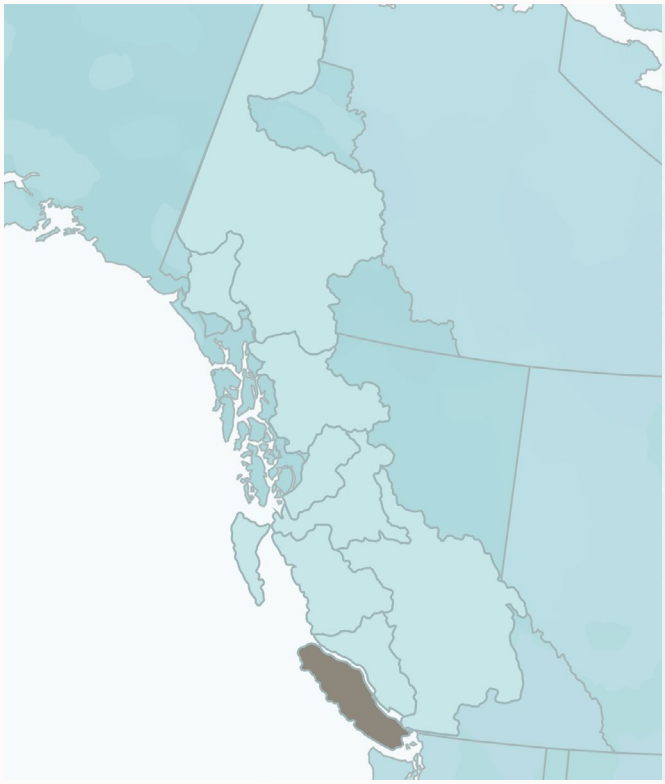
Chinook on West Vancouver Island have above-average spawner abundance, though 2025 had the lowest number in over a decade. Two Vancouver Island Chinook populations have been assessed as Threatened by the Committee on the Status of Endangered Wildlife in Canada, with straying of hatchery-origin spawners raising concerns about potential impacts on the genetic diversity of wild Chinook within the region.

Barkley Sound sockeye, including those in the Somass River, are also above average spawner abundance and total abundance. Coho, however, have declined steeply over the past decade and are hovering near their long-term average while chum and steelhead are far below their long-term average spawner abundance.

There have been very few pink salmon in rivers on West Vancouver Island in recent decades, though historical data from the 1970s suggest they were once abundant.

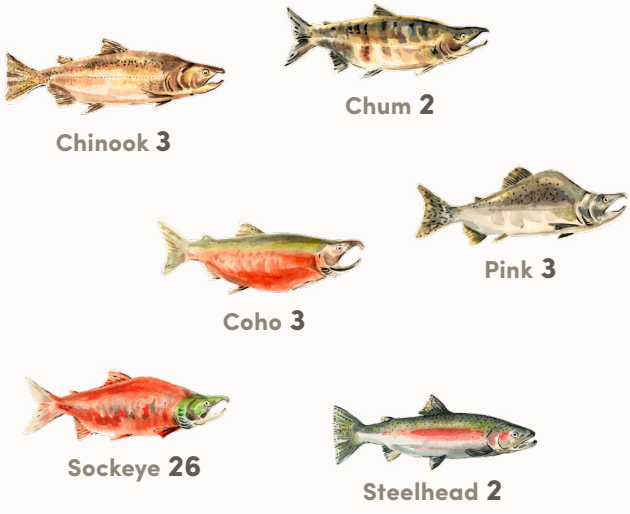


WEST VANCOUVER ISLAND



Salmon Biodiversity

The number of Conservation Units below represents the region's salmon biodiversity.



Notable Salmon-Bearing Rivers

Conuma River, Great Central Lake, Nitinat River, Sarita River, Sproat Lake.

Region Profile

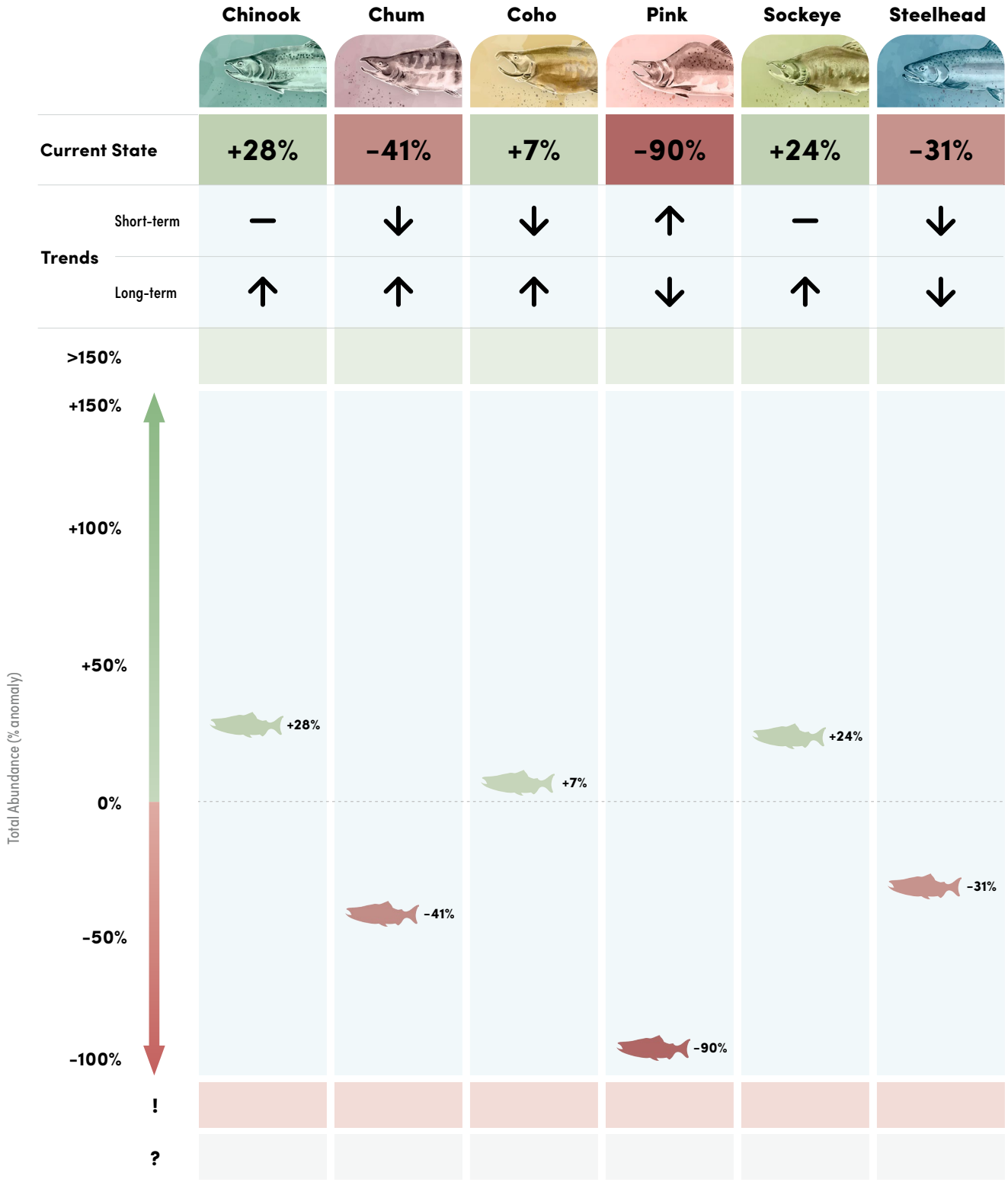
The West Vancouver Island Region spans 17,674 square kilometres west of Vancouver Island's mountain ranges, stretching from San Josef Bay to Sooke. Characterized by remote inlets, small coastal streams, and a mosaic of islands, the region supports rich and diverse terrestrial and aquatic ecosystems. However, decades of industrial logging have stripped much of the old-growth forest and significantly altered salmon habitats.

Chinook salmon here are notably large, often exceeding 13 kilograms. They are a key food source for the endangered Southern Resident killer whale, which relies on the west coast of Vancouver Island as a critical foraging area. These Chinook also support socially and economically valuable fisheries from Vancouver Island to southeast Alaska. However, changes in the marine ecosystem have affected the survival rates of juvenile Chinook and wild diversity is being undermined by interbreeding of hatchery fish and size-selective fishing. In recent years, drought has also impacted these rain-dominated streams, affecting the ability of salmon to access spawning grounds.

WEST VANCOUVER ISLAND

Tables and figures in this section show the current state and trends for each species of salmon in West Vancouver Island. The current state is the per cent anomaly of current spawner or total abundance over the most recent generation compared to the long-term average for each species. Trends measure the direction of change and are reported as short-term (over the most recent three generations) and long-term (over all available years).

Spawner Abundance



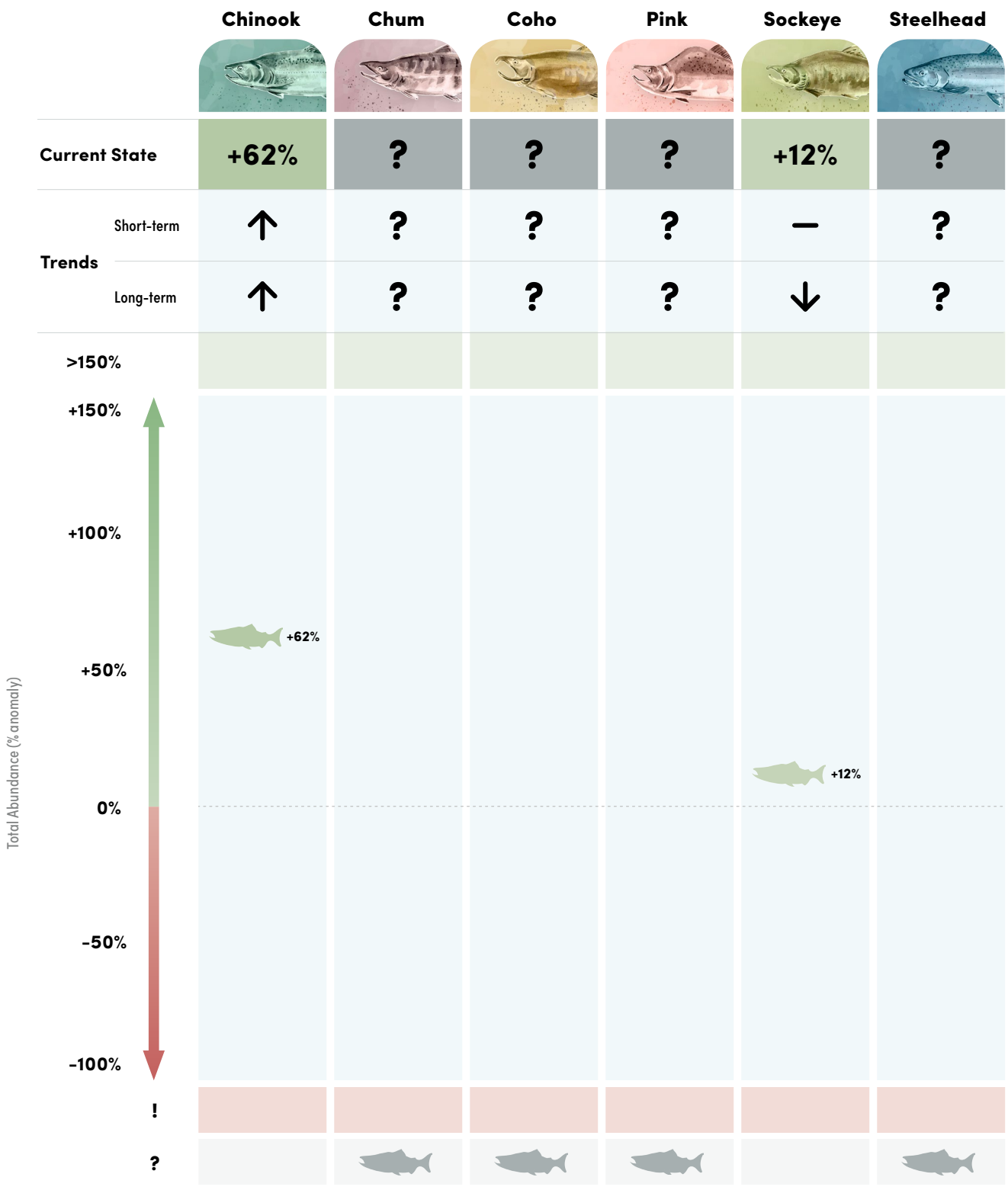
Well-above long-term average. No conservation concern.
Above long-term average. Current outlook is good.
At or near long-term average. Precaution is warranted.
Below long-term average. Current outlook is poor.
Well-below long-term average. Significant conservation concern.
Critically low. At risk of local extinction.
Unknown state due to a lack of readily accessible data.

Arrows indicate if the trend in abundance is increasing or decreasing.

A horizontal line indicates if the trend in abundance is stable.

? A question mark indicates an unknown current state or trend due to a lack of readily accessible data.

Total Abundance

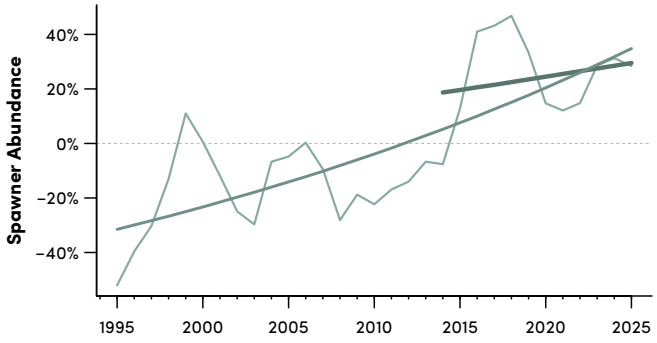


Chinook

The current state is above average with a positive long-term (1995-2025) trend in both spawner abundance and total abundance. The short-term trend in total abundance is increasing. The short-term trend in spawner abundance is stable. Despite this encouraging assessment, some populations within the region are struggling. Spawner abundance numbers below represent a 14-stream index of primarily naturally spawned Chinook compiled by the Pacific Salmon Commission, while the total abundance includes catch and spawners from abundant hatchery populations in the region, provided by Fisheries and Oceans Canada.

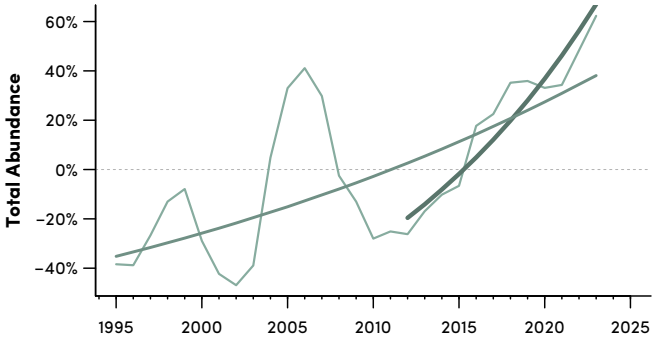
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+28%	—	↑	15,963 (2022–2025)	12,434 (1995–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+62%	↑	↑	355,233 (2020–2023)	218,935 (1995–2023)

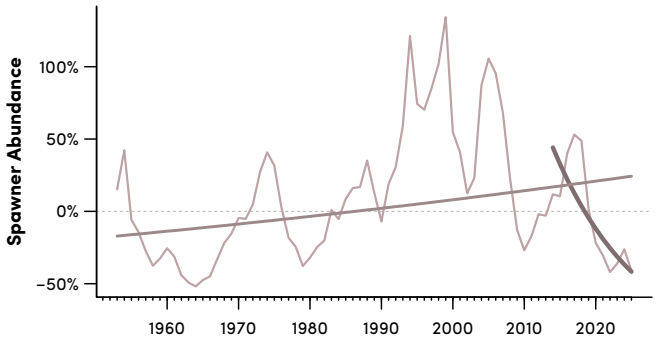


Chum

The current state is well below average with a negative short-term trend marking declines since the 2010s. A positive long-term trend is driven by generally below-average spawner abundance prior to 1990 and a peak abundance in the 1990s. Numbers represent the sum of estimated abundance for 275 surveyed streams in the region.

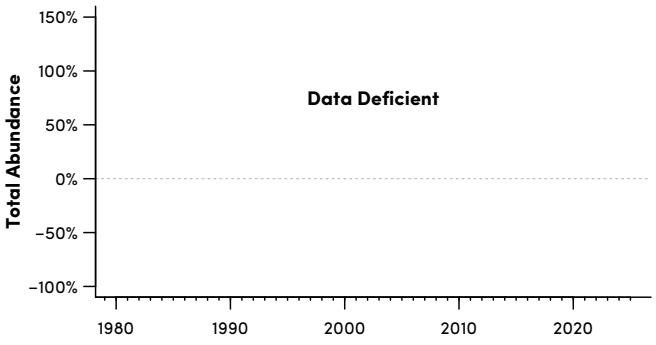
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-41%	↓	↑	291,791 (2022–2025)	494,611 (1953–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?



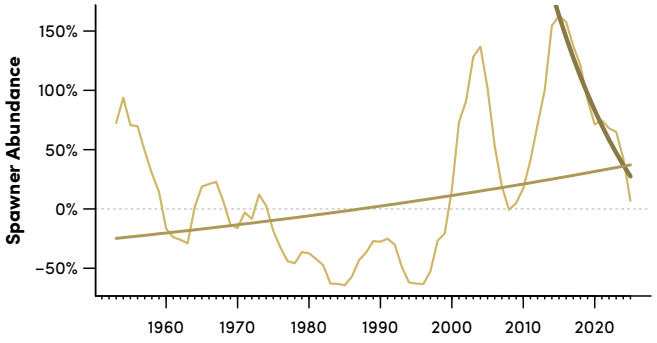
Short-Term Trends ——— Long-Term Trends ———

Coho

The current state is slightly above average following declines from peak spawner abundances in 2013–2018. A negative short-term trend marks this recent, sharp decline. The long-term trend is increasing due to a period of low abundance in the 1980s and early 90s followed by higher abundances since 2000. Though the recent patterns are consistent with previous years' reports, the inclusion of additional streams in our 2026 assessment has changed the long-term average and current state. Numbers below represent the sum of estimated abundance for 281 surveyed streams in the region.

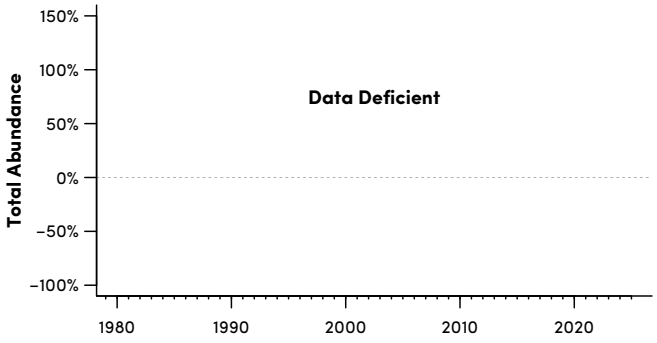
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+7%	↓	↑	105,135 (2022–2025)	98,248 (1953–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

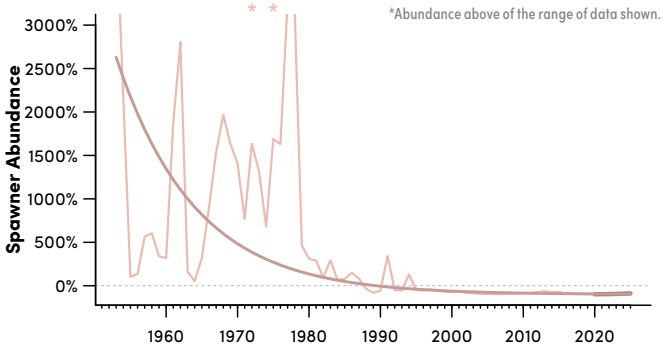


Pink

The current state is well-below average, but there are very few pink salmon recorded on West Vancouver Island and monitoring is sparse. Since the 1990s, there has been only several hundred pink salmon recorded annually, far from the half million seen in the 1970s. This decline is reflected in the negative long-term trend, while a positive short-term trend is due to steady increases in abundance over the last decade. Numbers below represent the sum of estimated abundance for 129 surveyed streams in the region.

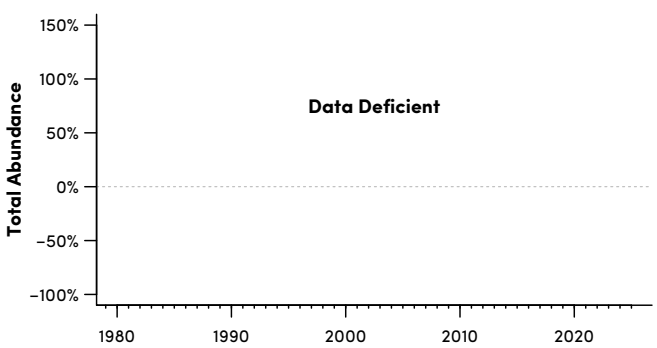
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
−90%	↑	↓	852 (2024–2025)	8,679 (1953–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

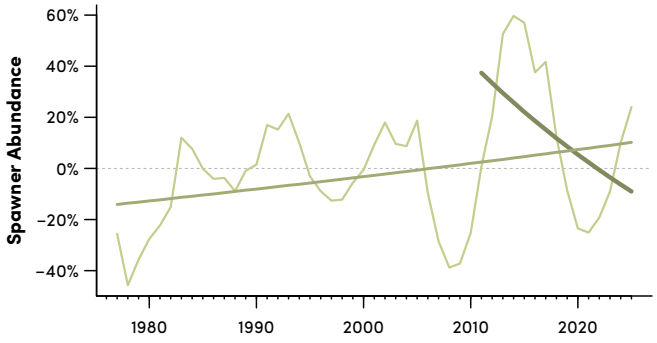


Sockeye

The current state of both spawner abundance and total abundance is above average. The long-term trend is negative for total abundance but positive for spawner abundance. These patterns can result in part from lower harvest rates now than in previous decades, allowing more salmon to reach their spawning ground. Despite negative short-term trends in both spawner and total abundance over the past three generations (15 years), above-average spawners over the last two years (2024-2025) are encouraging. Numbers represent the sum of estimated abundance for 3 Conservation Units (Great Central, Sproat, and Hucuktlis).

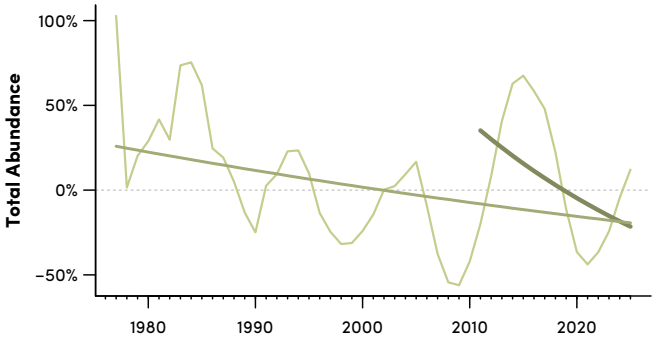
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+24%	—	↑	496,665 (2021–2025)	400,465 (1977–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+12%	—	↓	785,232 (2021–2025)	700,427 (1977–2025)

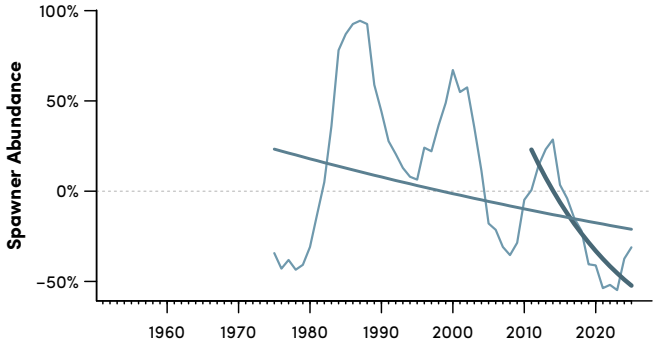


Steelhead

The current state is below average with a negative short-term trend highlighting declines from a peak in 2014. However, 2024 saw above-average numbers of steelhead spawners and a recent uptick in spawner abundance is reason for hope. The long-term trend is negative due to above-average spawner abundances in the 1980s. Numbers represent the sum of estimated abundance for 3 surveyed streams in the region.

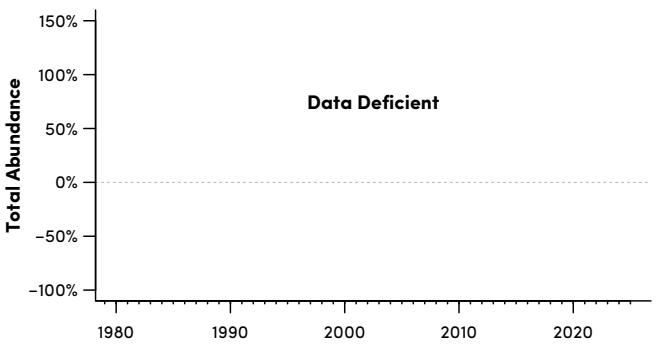
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
-31%	↓	↓	426 (2021–2025)	618 (1975–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?







COLUMBIA

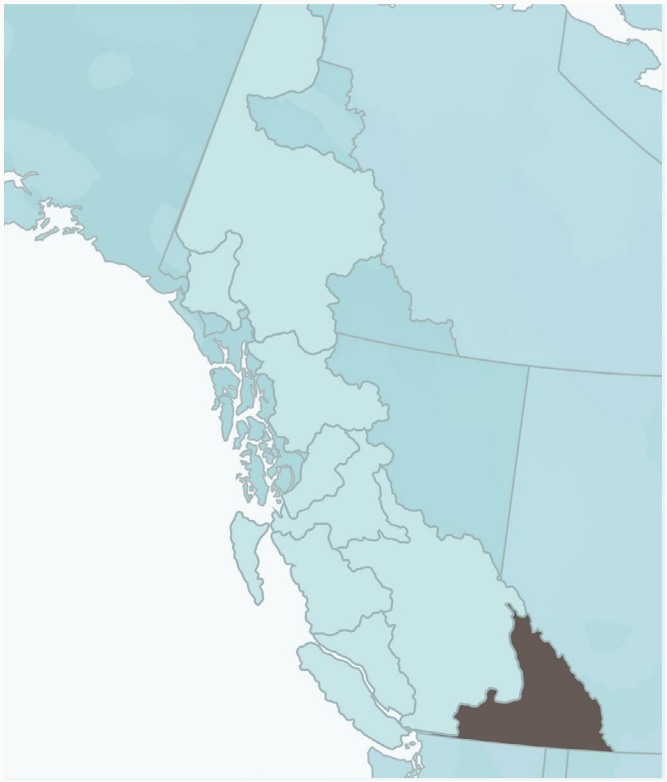
Sockeye are well above average, while Chinook and steelhead face critically low abundances.

The Columbia River has an extensive history of development including major dams. Salmon have been virtually eliminated from most of the Canadian portion of the Columbia for more than 80 years[12].

Less than 30 years ago, Columbia sockeye faced extinction, but Indigenous-led efforts have helped an impressive recovery with sockeye now spawning and rearing in Osoyoos, Skaha, and Okanagan Lakes[30]. The current state remains well-above average due to relatively high spawner abundance and total abundance over the most recent generation. In 2025, however, warm waters challenged sockeye migration and fewer than 12,000 spawners returned to Canada – the lowest count in over 20 years. Hot and dry conditions are making 2026 another challenging year for salmon migrations, with the Syilx Okanagan Nation declaring a watershed emergency in May[31] - though 2026 abundances are not yet captured in our data.

The current state of both Chinook and steelhead are categorized as "critically low" because the absolute numbers suggest less than a few dozen spawners in the Canadian portion of the watershed, putting these species at high risk of extinction in the region. The Okanagan population of Columbia Chinook was listed as Endangered by the Committee on the Status of Endangered Wildlife in Canada in 2017.





Salmon Biodiversity

The number of Conservation Units below represents the region's salmon biodiversity.



Chinook **1**



Chum **0**



Coho **0**



Pink **0**



Sockeye **1**



Steelhead **1**

Notable Salmon-Bearing Rivers

Inkaneep Creek, Okanagan River, Osoyoos Lake, Skaha Lake.

Region Profile

The Canadian headwaters of the Columbia River are part of a vast drainage system the size of France (668,000 square kilometres), most of which is found within the United States. Originating in Columbia Lake in the Rocky Mountains, British Columbia, the river flows northwest and then south and west for 2,000 kilometres to join the ocean at Astoria, Oregon.

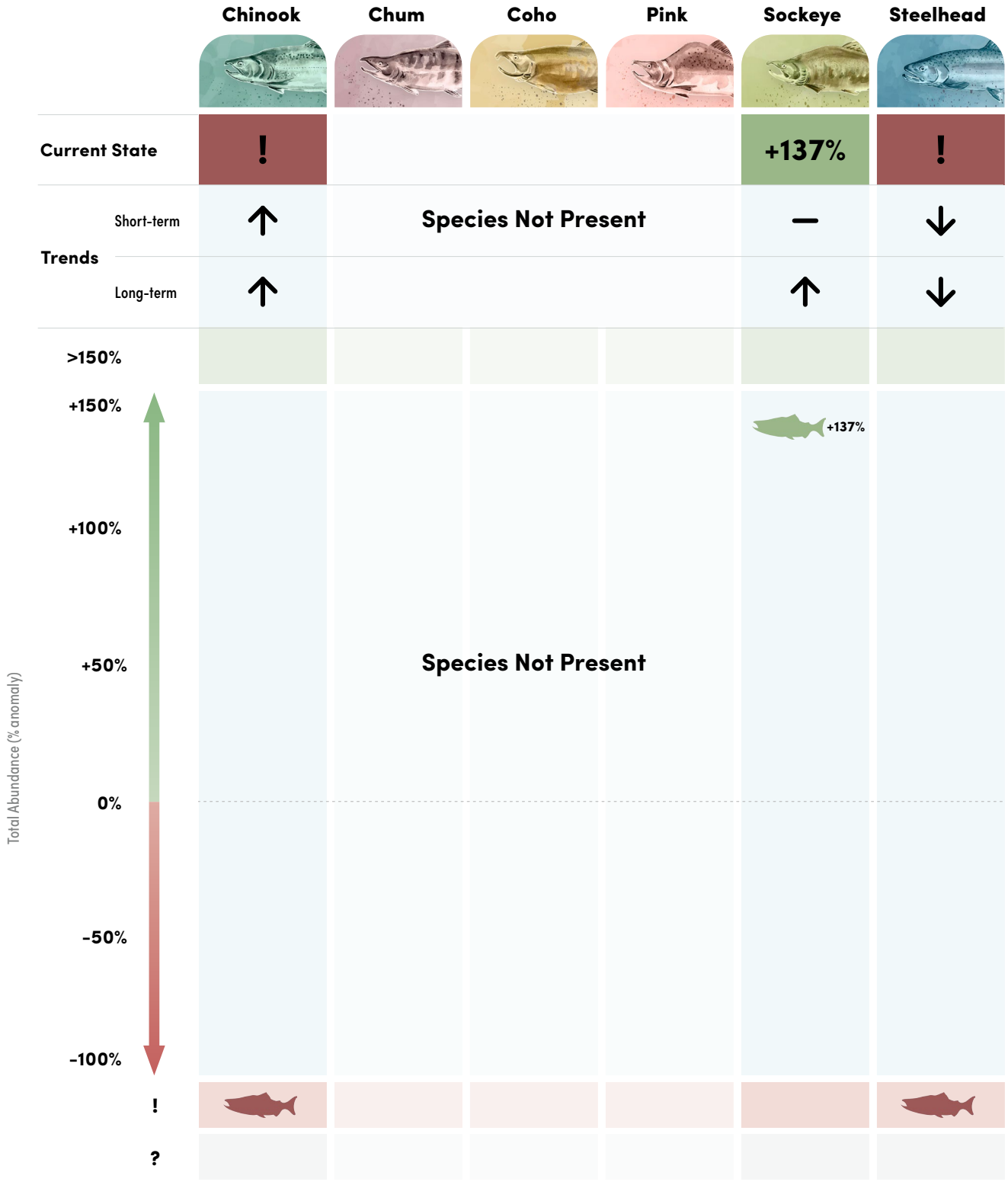
The upper Columbia River Basin once supported robust Pacific salmon populations, with historic returns of up to four million fish. But an extensive history of development, including 12 major dams, devastated salmon habitat and has virtually eliminated salmon from most of the Canadian portion of the Columbia for more than 80 years. Reintroduction efforts led by Indigenous communities through the Okanagan Nation Alliance and the Canadian and British Columbia governments have led to an impressive recovery for sockeye.

The Okanagan River, a major tributary to the Columbia River, is the only portion of the Columbia watershed currently accessible to anadromous salmon in Canada. The Okanagan River and the Okanagan, Skaha, and Osoyoos Lakes support sockeye, summer spawning Chinook, and steelhead. Based on local and traditional knowledge as well as downstream observations, a spring Chinook population and coho salmon may also be present[32].

COLUMBIA

Tables and figures in this section show the current state and trends for each species of salmon in Columbia. The current state is the per cent anomaly of current spawner or total abundance over the most recent generation compared to the long-term average for each species. Trends measure the direction of change and are reported as short-term (over the most recent three generations) and long-term (over all available years).

Spawner Abundance



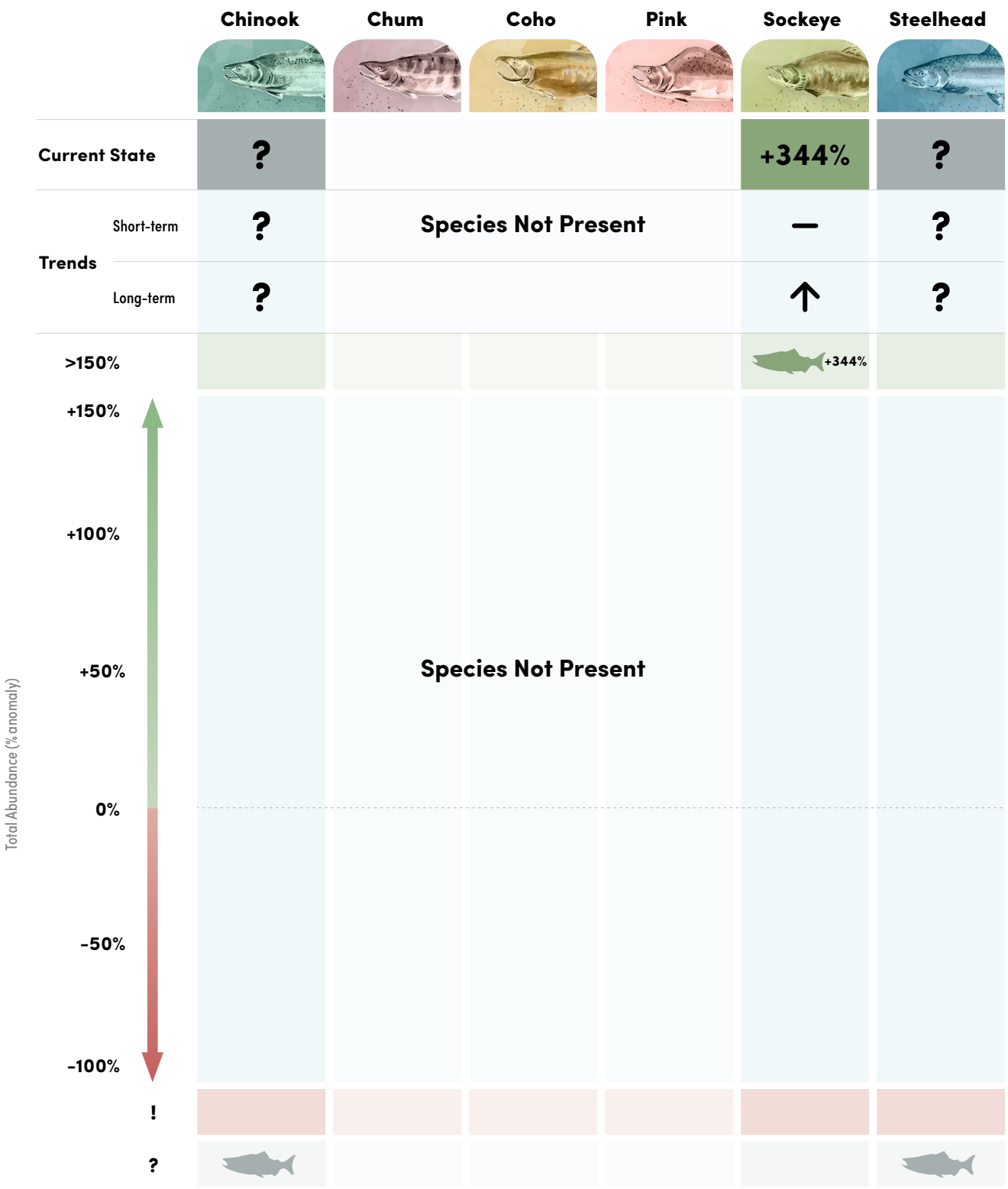
Well-above long-term average. No conservation concern.
Above long-term average. Current outlook is good.
At or near long-term average. Precaution is warranted.
Below long-term average. Current outlook is poor.
Well-below long-term average. Significant conservation concern.
Critically low. At risk of local extinction.
Unknown state due to a lack of readily accessible data.

Arrows indicate if the trend in abundance is increasing or decreasing.

A horizontal line indicates if the trend in abundance is stable.

A question mark indicates an unknown current state or trend due to a lack of readily accessible data.

Total Abundance

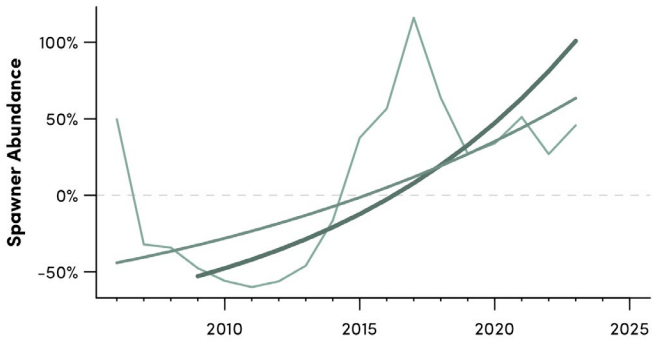


Chinook

The current state is critically low because spawner abundance was less than 1,500 in the most recent generation. Although spawner abundance has increased since monitoring began in 2006, with positive short- and long-term trends, the critically low numbers leave Okanagan Chinook at high risk of extinction. Historically, Chinook returns to the Columbia River Basin were in the millions, and they were a primary food source for First Nations and central to their cultures and community well-being. Numbers below represent absolute abundance for the Okanagan Chinook Conservation Unit.

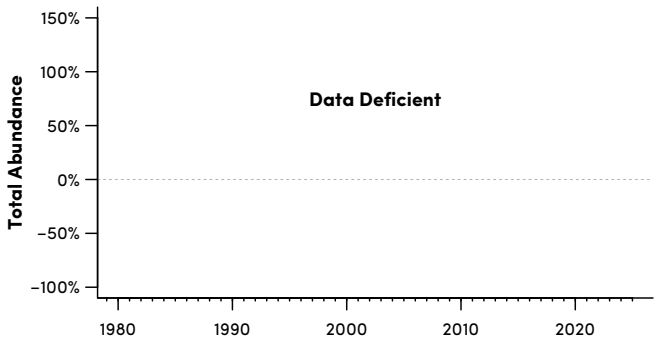
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
!	↑	↑	33 (2019–2023)	23 (2006–2023)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?

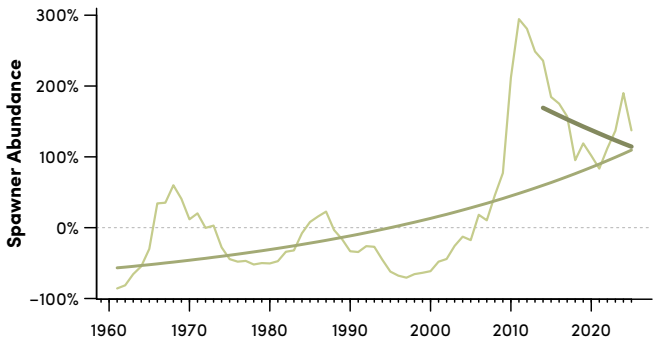


Sockeye

The current state of both spawner abundance and total abundance is well-above the long-term average with positive long-term trends, despite the weak return in 2025. Stable short-term trends in spawner abundance and total abundance are the result of declines from peak abundances around 2010. Numbers below represent absolute abundance for the Osoyoos sockeye Conservation Unit.

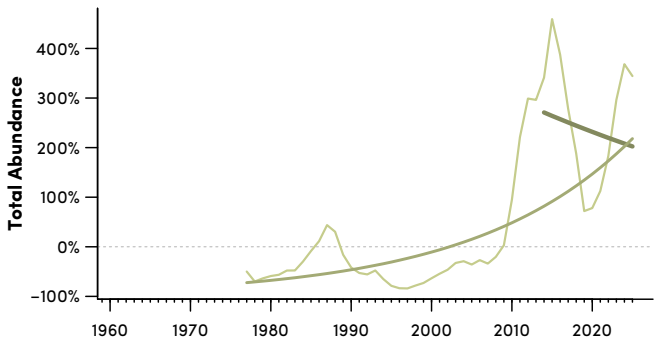
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+137%	—	↑	52,924 (2022–2025)	22,297 (1961–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
+344%	—	↑	294,105 (2022–2025)	66,188 (1977–2025)



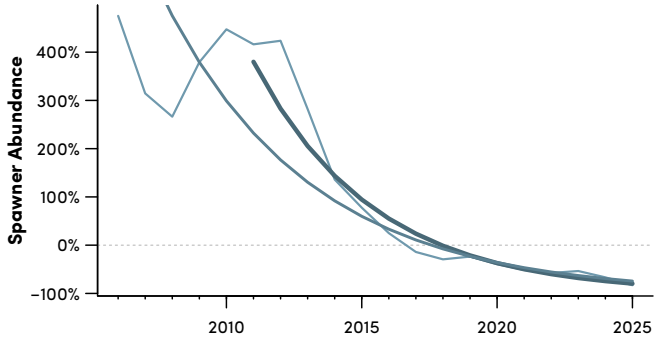
Short-Term Trends —— Long-Term Trends ——

Steelhead

The current state is critically low because spawner abundance was less than 1,500 in the most recent generation. Since 2006, when monitoring began, there have been negative short- and long-term trends with just one spawner detected in 2025. Numbers below represent absolute estimate of Canadian-spawning steelhead.

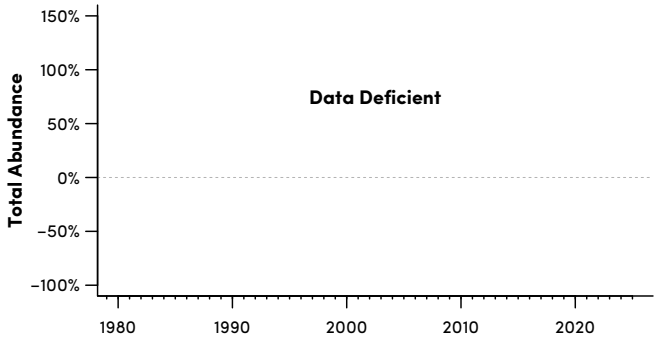
Spawner Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
!	↓	↓	7 (2021–2025)	41 (2006–2025)



Total Abundance

Current State	Trends Short-Term	Trends Long-Term	Current Abundance	Long-Term Average
?	?	?	?	?





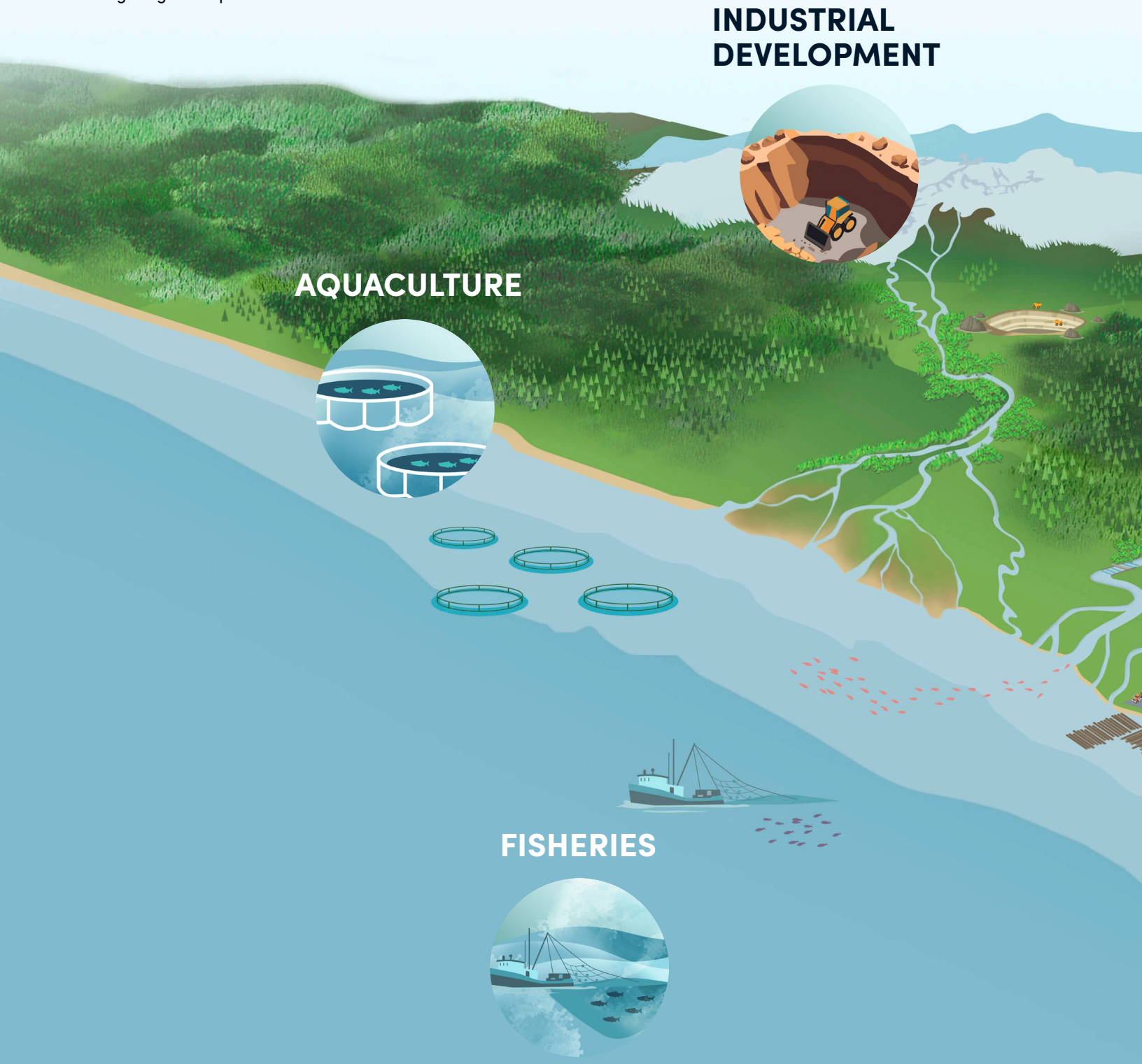
FACTORS AFFECTING THE STATE OF SALMON

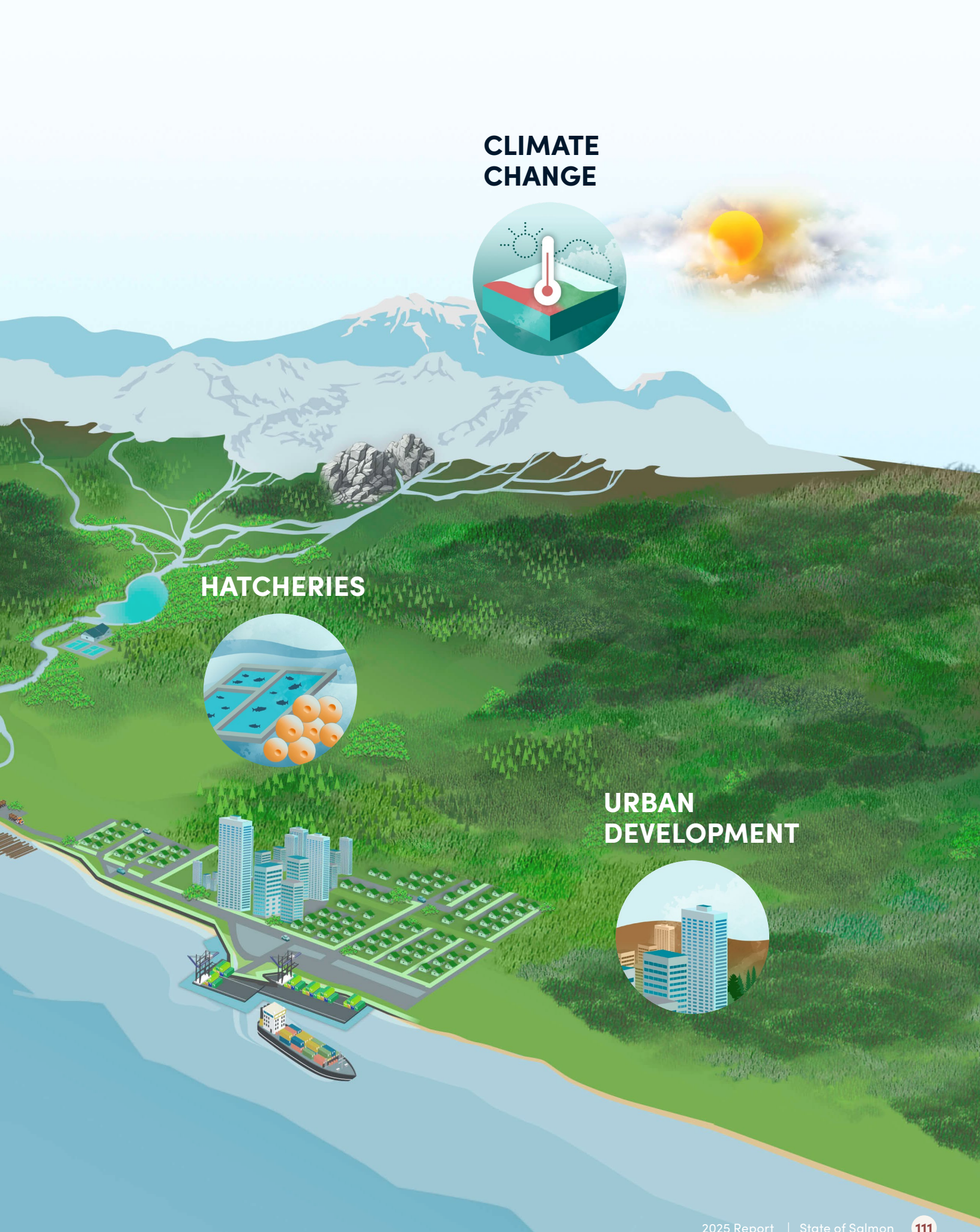




FACTORS AFFECTING THE STATE OF SALMON

The current state of salmon is the outcome of many interacting pressures throughout their life cycle. We chose to highlight factors that are within our control, where local actions can make a difference for salmon either by directly addressing those factors or mitigating the impacts on vital habitat.




CLIMATE CHANGE
HATCHERIES
URBAN DEVELOPMENT



CLIMATE CHANGE

The single biggest threat

Warming rivers, extreme flows, and an unpredictable ocean are threatening the future of wild salmon

Climate change is rapidly reshaping the environments that Pacific salmon depend on, from the open ocean to headwaters.

Salmon have successfully weathered environmental changes over the past 10,000 years, with hundreds of locally adapted populations providing diversity and resilience[33,34]. Today, climate change is unfolding rapidly, introducing a level of unpredictability that leaves the future of wild salmon in jeopardy[35].



In 2025, the world was 1.47°C warmer than it was before the industrial revolution[36]. Further warming could fundamentally alter salmon ecosystems and the communities that depend on them.

The ocean is warmer than ever, and salmon feel the heat

The North Pacific Ocean, where all Pacific salmon spend part of their life, is changing quickly[37]. Climate change is leading to more frequent and intense heatwaves that are disrupting food webs, shifting where salmon prey can be found and their nutritional quality[38]. Closer to shore, sea level rise is squeezing important estuary habitats that salmon depend upon as juveniles –particularly where dikes, sea walls, or jetties prevent these habitats from shifting inland. Though many climate-driven impacts may seem beyond our control, local efforts to improve conditions – like restoring natural coastlines - can allow salmon to persist and adapt[39].



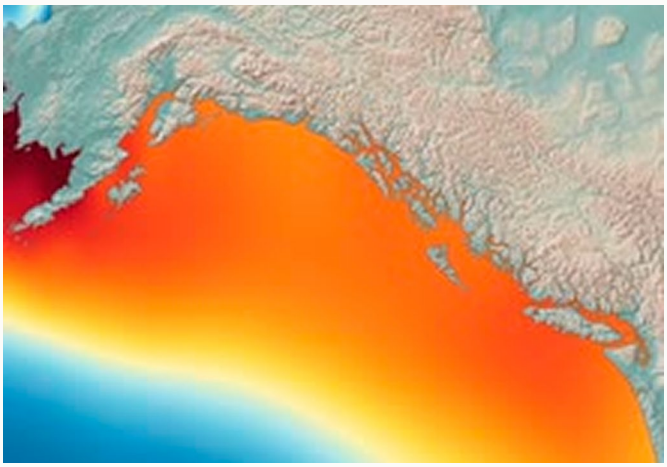
Marine heatwaves

A massive marine heatwave nicknamed The Blob[40] has reappeared periodically, including a record-breaking event in 2025-2026 that stretched more than 8,000 kilometres from the west coast of North America to the east coast of Asia[41]. Although the impacts of this recent heat wave are still unfolding, it's clear that these changing conditions increase pressures on salmon in the ocean.

FIRST IDENTIFIED
2013

EXTENT
8000km+

SEA SURFACE TEMPERATURE
(Sep 2025): 20.6°C[41]



Monthly change in sea surface temperature during the first Blob event from 2013 to 2016.

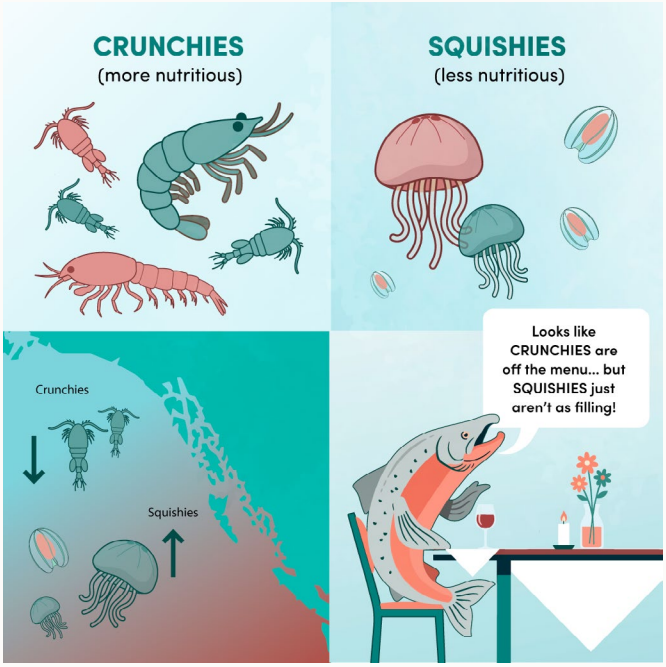
What El Niños mean for salmon

The El Niño-Southern Oscillation (known commonly as El Niño) is a natural climate pattern that occurs every few years when the surface waters of the central and eastern tropical Pacific Ocean warm up significantly (> 0.5 ˚C above the long-term average). This reduces upwelling of cold-nutrient rich water along the coast and brings warmer, drier conditions to western North America. For salmon, that means less food, warmer rivers, lower flows, and tougher conditions for migration, spawning, and survival[42].

A super El Niño is unfolding in 2026, with sea surface temperatures predicted to reach > 2˚C above the long-term average[3], raising concerns for salmon. The consequences may not be fully understood for years, but past super El Niños, like the one in 1977, caused a significant change in salmon survival across regions[43].

The shrinking nutritional value of salmon's menu

In the ocean, many salmon primarily eat zooplankton - nearly microscopic marine animals. There are many species and types of zooplankton. Salmon often eat whatever is available, but not all prey has the same nutritional value. Northern zooplankton species including krill and other shrimp-like animals ("crunchies") are high in nutritious fatty acids and oils, while southern types are dominated by more gelatinous species ("squishies") that have less nutritional value[44]. During warm periods, zooplankton communities off the B.C. coast have shifted towards warm-water squishies[45] – leaving less nutritious options for salmon.



Zooplankton on the menu: shrimp-like "crunchies" are the nutritious choice; gelatinous "squishies" offer far less.





Freshwater in flux: Extreme conditions compound

In salmon watersheds, stream temperatures are rising and the timing and magnitude of freshwater flows are shifting, bringing more frequent floods and droughts. These pressures are compounded by urban and industrial developments, which strip watersheds of their natural ability to buffer against severe weather. Increasingly extreme conditions hit salmon hardest at the stages that matter most — in their first weeks of life, and on their final journey home to spawn.

The Struggle to Spawn

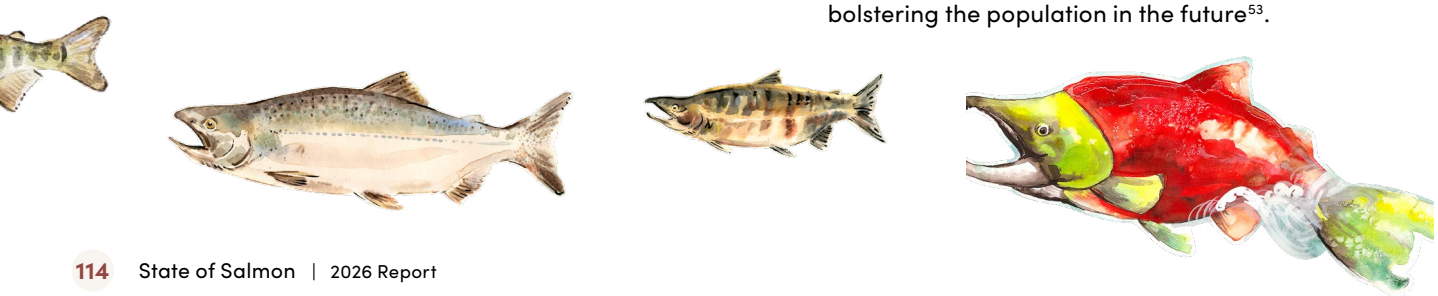
In the Fraser River, over 90% of returning sockeye have died before spawning in some years[46,47], with increasing evidence that high water temperatures are a major contributing factor to spawning success[48]. Warmer temperatures increase stress and make fish more susceptible to diseases[49] and predators[50]. Other stages are also affected: development of eggs and fry speeds up at warmer temperatures, which can lead to a mismatch between the timing of eggs hatching or smolts entering the ocean and the food they need during those life stages[51].

Climate Change in the Fraser: A deluge with lasting damage

Climate change is affecting rain and snowfall, altering flows, and making both droughts and floods more frequent. In regions like the Fraser, reduced snowpack and warmer winters are shifting flows from peaking during the spring freshet – when snowmelt from the mountains typically swells rivers – to peaking during fall and winter rains[52]. Extremely high flows like those seen during the 2021 "atmospheric river" event in the Lower Mainland can flush away incubating salmon eggs, impede migrations, and even leave fish stranded when riverbanks fail.

Climate Change in the Columbia: Running on Empty

In May 2026, the Syilx Okanagan Nation declared a state of watershed emergency after observing trout in local streams struggling to swim in shallow water[31]. Although spring usually brings higher flows as snow melts from surrounding mountains, this year's snowpack was well below average, making streams and rivers in the area shallower and warmer. Droughts like these can prevent salmon from reaching their spawning grounds, and push water temperatures above what salmon can survive. In recent years, Okanagan First Nations and partners have had to trap sockeye salmon in Washington and transport them by truck to Canadian hatcheries in hopes of bolstering the population in the future[53].

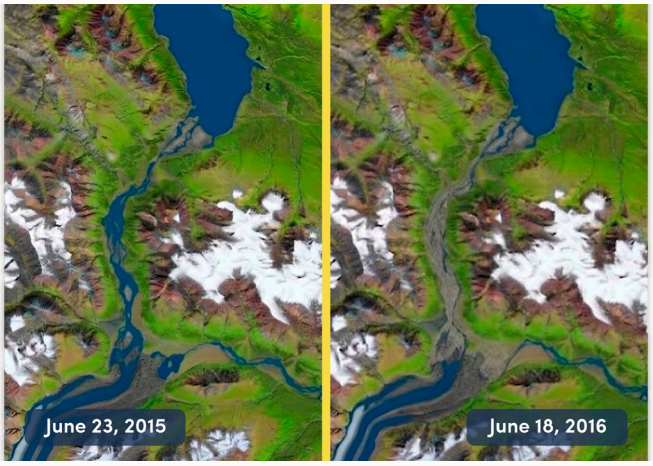


Cumulative Effects: A Slippery Slope for Salmon Watersheds

Natural disturbances such as forest fires and landslides have shaped salmon watersheds for millennia, but the increasing pressures of climate change combined with industrial development are leading to more frequent and catastrophic events. Intense rains, deforestation, and wildfires can all contribute to large landslides, such as the Chilcotin River slide in summer 2024. This massive landslide cut off thousands of salmon from their spawning grounds, leading to a 50% loss of that year's sockeye run[54].

The Thawing North: Peril and Promise for Salmon

Northern Canada is warming three times faster than the global average[17], dramatically altering salmon watersheds. Glaciers are retreating, permafrost is thawing, and watersheds are being redrawn. In 2016, the receding Kaskawulsh Glacier triggered "river piracy," diverting water that fed the Kluane watershed south toward Alaska[55]. The distinct Kluane chum population has since collapsed[56], a warning about what disappearing glaciers can set off downstream. Yet the same forces driving these losses may also open a lifeline for salmon. As glaciers recede, entirely new rivers and lakes are created, with the potential for salmon to use these new habitats[57]. Salmon, however, are not the only ones eyeing these newly exposed landscapes: the retreat of glacial ice is also uncovering previously inaccessible mineral deposits, and with fish and other wildlife not yet established in these areas, few regulations exist to protect from industrial development[58]. Farther north, warming seas are enabling salmon to push into Arctic waters that were once inhospitable, expanding their range into regions where they have never historically occurred[59].



One year, and a river, apart: recession of the Kaskawulsh Glacier has re-routed the Slims River in southwest Yukon, diverting water from chum salmon habitat in the Kluane watershed.

What's still in our hands

While the impacts of climate change extend beyond any one community, meaningful action to reduce its effects on salmon remains within reach. Every life stage matters — reducing pressures at one stage can build the resilience salmon need to withstand the threats climate change brings. Local initiatives like restoring coastlines and floodplain habitat can be the difference between populations too stressed to recover and ones strong enough to adapt.

Emergency measures like those in the Okanagan have already carried fish through years they might not have survived, and salmon returning through the Chilcotin landslide within weeks of passage being cleared shows they are ready to respond when we act. As climate change reshapes which habitats are suitable for salmon, ensuring they can reach those habitats becomes paramount — making proactive habitat protection one of the most important investments we can make for the future of wild salmon.

Salmon have **survived for millennia.** Recovery and resilience are within reach.





AQUACULTURE

The risks open-net pens pose to wild salmon

Open net-pen farms expose wild salmon to pathogens and pollution.

Aquaculture has long been part of coastal food systems in British Columbia.

For millennia, First Nations managed and enhanced marine resources through practices such as clam gardens and fish traps that helped sustain abundant seafood harvests[60]. Industrial salmon aquaculture emerged in the 1970s and expanded rapidly. By the mid 1990s, there were over 100 open-net pen farms operating along the coast, creating new pathways for the exchange of water, waste, chemicals, pathogens, and parasites between farmed fish, the marine environment, and wild salmon.

What happens in the pen doesn't stay in the pen

Open net-pen salmon farms, which primarily raise Atlantic salmon, are an ideal place for parasites, viruses, and bacteria – collectively referred to as pathogens – to multiply and spill over to wild Pacific salmon. Farms can introduce new pathogens with eggs imported from other countries or concentrate and spread pathogens that are found naturally in our oceans[61].

The global emergence of Piscine orthoreovirus

A virus called Piscine orthoreovirus (PRV) has spread from Europe across the world with the expansion of salmon farming. PRV can infect wild Pacific salmon[62] and lead to jaundice, anemia, liver and kidney failure, and heart inflammation[63].

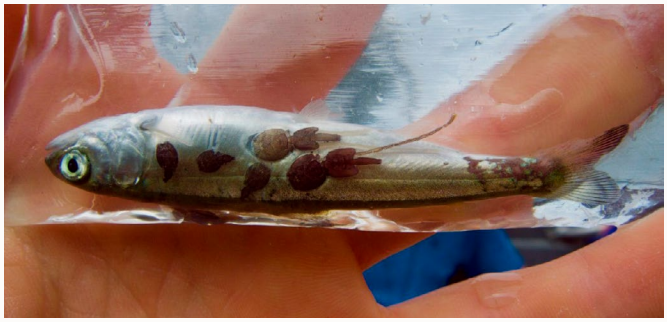
This, in turn, can hurt their swimming performance and migration success, make them more vulnerable to predators as well as other stressors and diseases, and contribute to lower overall survival of a population[64,65].



The global emergence of PRV-1 from salmon aquaculture. Adapted from: Mordecai et al. (2021).

A Familiar Bacteria, an Unfamiliar Risk

Other pathogens naturally occur within Pacific salmon populations, but the location and conditions on salmon farms can amplify natural infection levels. The bacterium Tenacibaculum can result in ulcers on skin and fins and mouth rot in Chinook salmon[66], with reduced body condition and higher mortality in infected fish[64]. Wild sockeye experience infection pressure 12.7 times higher than background levels as they migrate past salmon farms in the Discovery Islands[67], raising concerns about how farm amplification of Tenacibaculum may affect wild salmon survival.



Small, scaleless juvenile salmon are far more vulnerable to sea lice than adult salmon. Inset: a single louse, magnified. Photo: Stephanie Peacock

A year-round reservoir of sea lice

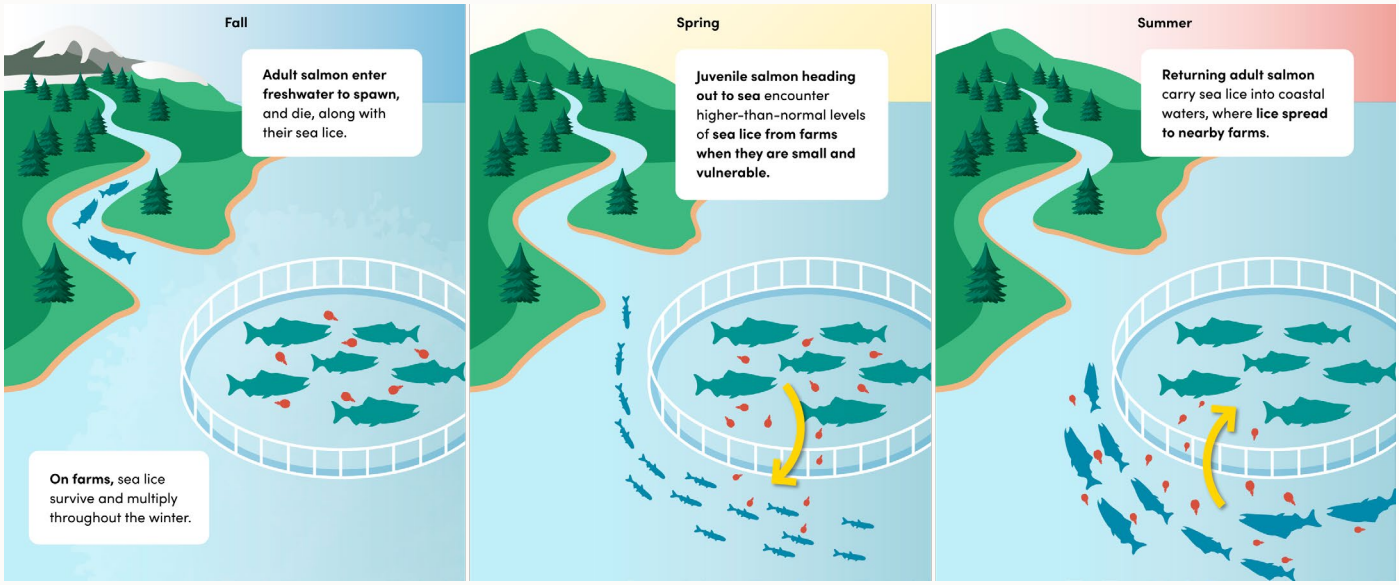
Sea lice are parasites that feed on fish skin and blood and are commonly found on adult wild salmon. However, small, scaleless juvenile salmon are far more vulnerable to the impacts of these parasites[68].

When wild salmon die after spawning, it naturally breaks the cycle of sea lice infection — their parasites die with them. But farmed salmon are present year-round and continue to carry sea lice through the winter, acting as a reservoir that can re-infect the next generation of salmon when they enter the ocean.

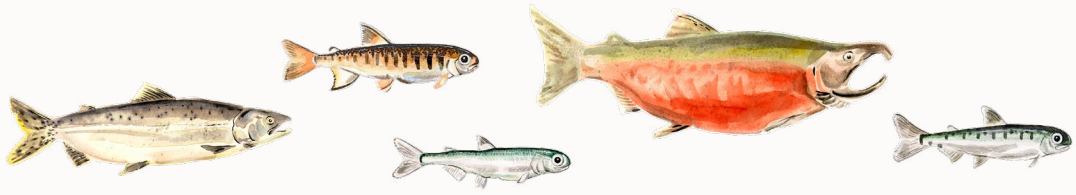
In salmon farming regions, juvenile wild salmon leaving their home streams in spring may encounter sea lice from farms at levels 73 times higher than in areas without farms[69].



Increase in sea lice infection pressure near salmon farms relative to ambient levels[69].



The spillover and spillback of sea lice between wild and farmed salmon.

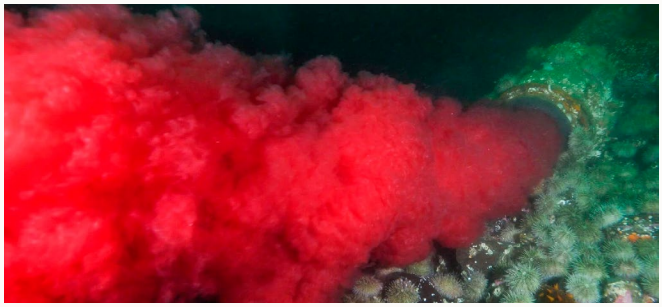




Open Net-Pens transfer costs to the environment

The clean-up

Salmon farms produce large amounts of organic waste that is deposited on the sea floor below open net-pens where fish are raised, taking advantage of the marine environment's natural ability to dilute and recycle it. When organic material breaks down, it consumes oxygen, creating "dead zones" in the water or on the sea floor below the net pens where there is not enough oxygen to support marine life. Chemicals, feed, and excess nutrients from the farms also accumulate in the sediment and affect other species[70].



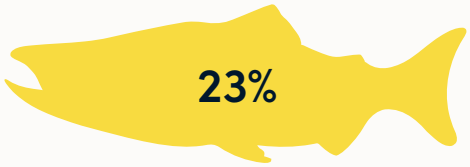
Wastewater from farmed salmon processing is discharged into B.C. coastal waters. Concerns about pathogens in these discharges prompted stronger treatment and disinfection requirements.

What farmed salmon eat

Farming carnivorous fish like salmon requires specialized feed made largely from wild-caught forage fish: anchovies, sardines, and herring. Those same forage fish feed seabirds, marine mammals, and wild salmon. Harvesting too many of these small fish disrupts the food web that wild salmon and other species depend on, impacting ecosystems worldwide. Salmon aquaculture is often held up as a solution to global protein demand given declines in wild-capture fisheries, but this ignores costs in the food web. Alternative feed ingredients, such as algae and insects, are being studied and in some cases, already used in more sustainable feeds[71].



Wild-caught anchovies, a commonly used in aquaculture feed but also play a vital role in marine food webs.



Proportion of marine capture fishery production that was made into fish meals and fish oils, **primarily for feed in aquaculture,** globally in 2024[72].

Ending Open Net-Pens: A Commitment Worth Keeping

A substantial body of research has established the connection between salmon farming and weaker wild returns, backed by studies of Atlantic salmon across Europe[61,73]. Even when infections aren't severe enough to kill salmon directly, they impact the ability of salmon to migrate, avoid predators, and compete for food – all of which translates to fewer returning spawners for the population[74]. In recognition of this threat, the Government of Canada has committed to ending open net-pen salmon farming in B.C. by June 29, 2029[75]. Transitioning to fully closed containment salmon farms that eliminate the transfer of pathogens and waste to the environment is the path forward.

The phase-out of open net-pen salmon farms **is a win** for wild salmon, but the risks **will remain** until the transition is fully complete.





FISHERIES

How We Fish Matters

For wild salmon, sustainability depends on more than numbers — where, when, and which fish we catch matters just as much.

Pacific salmon undertake some of the longest and most remarkable migrations in the animal world, travelling from the streams where they are born to the open ocean and back again to spawn.

Along the way, they move through diverse environments and encounter fisheries in offshore marine waters, along coastlines, at the mouths of major rivers, and in rivers and streams.

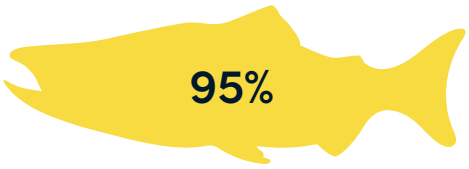
Harvesting salmon through time

First Nations have sustainably harvested salmon for millennia, with salmon deeply woven into cultural identities, food systems, economies, governance, and spiritual traditions. Following colonization, industrial fishing technologies and larger vessels dramatically increased the scale and reach of salmon harvests, allowing fisheries to operate farther from shore, intercept salmon in different habitats, and fish for longer periods of time. This shift affected the abundance and traits of fish left to spawn, with consequences that are still being uncovered today. Salmon are part of life in western Canada, and for many people, our connection to salmon through food and culture is also the reason we work to conserve them.

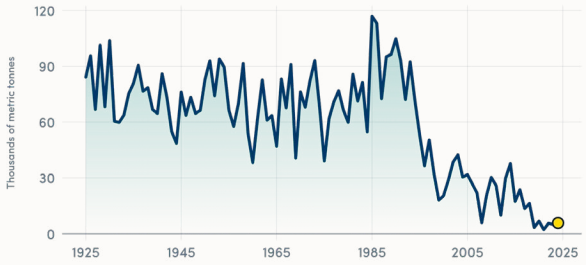
Canadian Pacific Salmon Fisheries: Then and Now

Canadian commercial Pacific salmon catches have changed dramatically over the past century. During much of the 20th century — especially from the 1950s through the 1980s — commercial salmon fisheries in British Columbia were among the largest and most economically important fisheries in Canada, with annual catches often reaching tens of thousands of tonnes[76]. Advances in fishing technology, larger vessels, and expanding global markets allowed fisheries to harvest salmon at increasingly large scales.

Since the late 1980s and 1990s, however, commercial salmon catches have declined sharply due to a combination of overfishing, habitat loss, climate change, warming oceans and rivers, changing marine food webs, and conservation-driven fishery restrictions aimed at protecting declining salmon populations. Average catches and economic returns since the late 1990s have remained far below historical levels[77].



The decline in commercial catch of Canadian salmon between 1985 and 2025[76].



Total weight of Pacific salmon (all species) caught in Canadian commercial fisheries since 1925. Data source: NPAFC (2025)

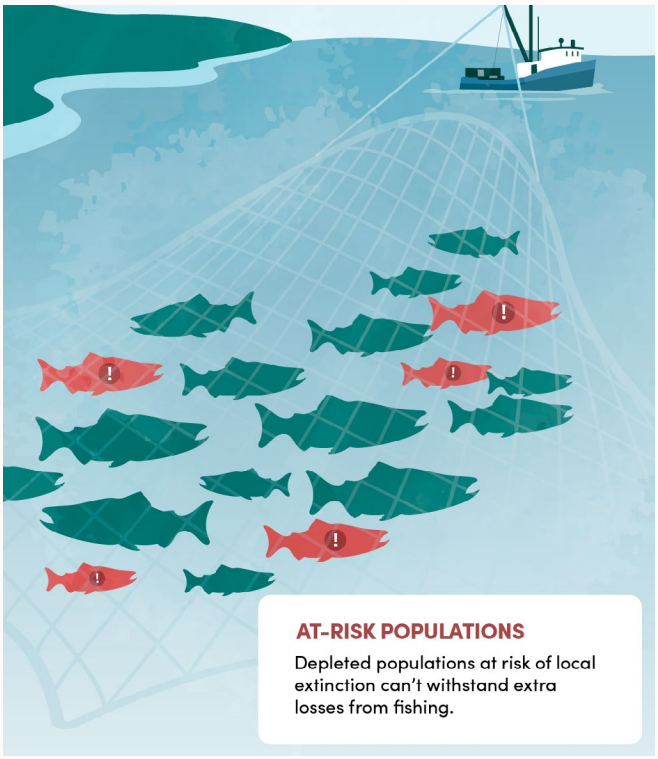
Today, many commercial salmon fisheries are far smaller, more restricted, or periodically closed compared to historical levels, particularly for at-risk populations of Chinook and sockeye. At the same time, management increasingly prioritizes conservation, Indigenous food, social and ceremonial fisheries, and rebuilding depleted salmon populations.

Catching the right fish

Many fisheries target salmon in the ocean during their return migration, harvesting a mix of fish from many different populations at once. In these "mixed-stock fisheries," it is difficult, or even impossible, to avoid catching salmon from less abundant or at-risk populations alongside more abundant ones. Traditionally, harvest levels have been set based on what the most abundant and productive populations can sustain, unintentionally leading to overfishing of weaker populations[79].

In many cases, managers do not know exactly which populations were caught until after the fish have already been harvested. These risks are especially pronounced in large river systems such as the Skeena and the Fraser, where numerous distinct salmon populations return through the same migration corridors. As a result, mixed-stock fisheries have become one of the central challenges in balancing salmon harvest opportunities with the long-term conservation of Pacific salmon diversity.





Fishing closer to home lowers the risk

Terminal fisheries catch salmon closer to spawning grounds, ensuring that a single or a few known populations are being harvested, and the number of returning spawners can be easily tracked. Technology like fish weirs, structures that stretch across rivers to trap migrating salmon, have been used for millennia by Indigenous people and are experiencing a resurgence as their relative sustainability benefits are recognized. At the same time, many commercial fisheries need to catch salmon in the ocean, before their meat starts to darken once they enter freshwater. Operating marine fisheries at the river mouth, and with careful timing, can prevent harvesting non-target populations in many cases.

The Accidental Harvest

When salmon are unintentionally caught in fisheries targeting other species, it is known as bycatch. Bycatch has become a growing concern in large industrial fisheries. In Alaska's Bering Sea pollock fishery — one of the world's largest fisheries — tens of thousands of Chinook and chum salmon can be caught incidentally in some years, including salmon originating from rivers across western Alaska, Canada, and Asia[80].

Similarly, increased monitoring of B.C.'s bottom trawl groundfish fisheries in 2023 and 2024 revealed that more than 28,000 salmon — mostly Fraser River Chinook, including some COSEWIC-listed threatened populations — had been caught as bycatch[81]. Improved monitoring allowed managers to respond quickly, reducing salmon bycatch in the following year by more than half. However, salmon bycatch remains poorly understood in many fisheries.



A young man poses next to an 85 lb Chinook in Dawson, Yukon in 1924 - a size rarely, if ever, seen in the river today.

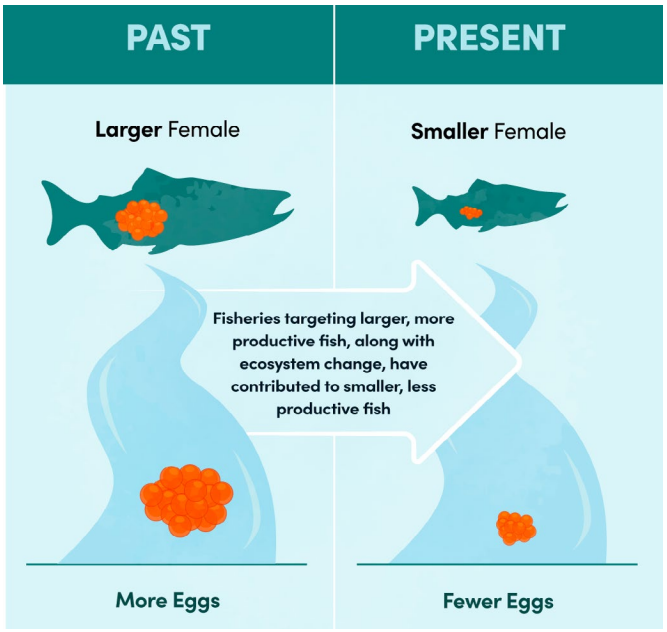
Selective fisheries have impacted salmon traits

Historic photos of Canadian Pacific salmon fisheries often show fishers posing with their catch weighing close to 100 pounds, a size that salmon in our waters rarely reach anymore. Most Pacific salmon species are now smaller at a given age than they were in the past. Selective fishing, changing ocean conditions, and other ecosystem changes have likely all contributed to this long-term shift.

Fisheries can impact more than just the number of salmon – they can also change traits like size and the age at which fish return. Large fish are the most economically valuable and have historically been targeted in fisheries, meaning only the smaller fish make it to their natal streams to spawn.

Over time, the gene pool of salmon populations can become skewed toward smaller, younger fish, which produce fewer, and smaller, eggs. This decline in reproductive potential means that a salmon population is less able to replace itself, making it less resilient to challenging conditions. It's bad news for fisheries too – not only are small fish less valuable and harder to process, but fisheries also need to allow more salmon to spawn, since each spawner can make fewer offspring for the next generation.

Size declines have been more severe in some populations than others. Chinook returning to the Yukon River, for example, have drawn concern over progressively smaller returning salmon over several decades. As a result, the weight of eggs produced per female has declined up to 35% since 1970[20]. However, the fishery is not the only culprit – it's unclear how much the contemporary and historic fishing practices, changing ocean conditions, and changes along their long freshwater migration routes have each contributed[82]. Fisheries have likely caused widespread size and reproductive potential declines historically, but the impacts depend heavily on the gear and locations that fisheries are allowed to use[83], and modern fisheries seem to better protect against these impacts[84]. Still, the potential for fishing to slowly change salmon traits over time is a pitfall that must be managed carefully – it can unfold quietly for years or generations before it is detected, eroding salmon populations' resilience to environmental change, fisheries, and other challenges.

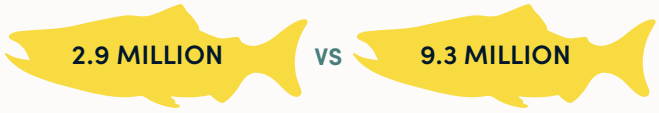


The loss of large females from a population reduces the reproductive output of future generations. Adapted from Ohlberger et al. (2020)†.

Fisheries management must adapt to a no-analogue future

When the forecasts no longer hold

Fisheries management has relied on predicting salmon returns based on patterns from previous years but, with climate change, those historical patterns are no longer reliable indications of the future. As ocean and freshwater environments change rapidly, salmon abundance, migration timing, and distribution are becoming increasingly difficult to forecast. In 2025, for example, long-standing models predicted a Fraser River sockeye return of 2.9 million fish, yet the actual return was far greater than what was expected.

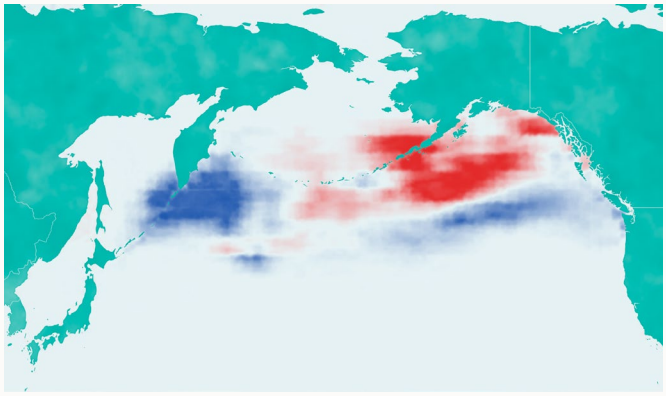


Forecasted versus actual Fraser River sockeye return in 2025[87].

Moving Targets in a Warming Ocean

Climate change is also changing where salmon are found in the ocean, potentially increasing their exposure to fisheries. Recent research found that Chinook salmon move into deeper waters during warmer ocean conditions, increasing the chances of being caught as bycatch in groundfish fisheries[86].

At the same time, warmer water temperatures can reduce the survival of fish that are caught and released[85]. Together, these changes are creating new challenges for sustainable fisheries management and increasing uncertainty about how salmon populations will respond in the decades ahead.



Sockeye salmon distribution has changed: blue areas were used more by sockeye during cooler times (1980s) and red areas in warmer times (2010s).

Managing fisheries in a changing world

Although fisheries management in Canada is far from perfect, it continues to evolve in response to changing environmental conditions, new science, and shifting priorities. Conservation concerns have already led to the closure or restriction of many Canadian salmon fisheries, reducing overall harvests to a fraction of historical levels. Continuing to take precautionary approaches — including limiting mixed-stock fisheries and improving monitoring — will be critical to rebuilding salmon populations and ensuring future generations can continue to experience and benefit from Pacific salmon.



How we fish **today** shapes the salmon we have **tomorrow.**





HATCHERIES

A Tool for Recovery, Not a Silver Bullet

Salmon hatcheries have been used across B.C. and the Yukon to support fisheries, compensate for habitat loss, and help rebuild threatened populations.

A single female salmon can produce thousands of eggs, but in the wild only ~2% of these eggs survive to become smolts and migrate to the ocean.

Hatcheries raise eggs and juveniles under controlled conditions, dramatically increasing survival during early life stages before releasing fish into the wild. They have contributed to the recovery of threatened populations and remain an important tool in the salmon recovery toolbox. But hatcheries also come with risks – releasing large numbers of hatchery fish can alter natural patterns of competition, predation, disease transmission, and can affect the genetic diversity and fitness of wild populations. Some of these impacts occur locally, within individual rivers and watersheds. Others extend far beyond them. Billions of hatchery salmon are released across the North Pacific each year, contributing to an ocean now supporting historically high numbers of salmon. At this scale, hatchery production can intensify competition for limited food and other resources, with potential consequences for the growth and survival of wild salmon.

Different hatcheries, different goals

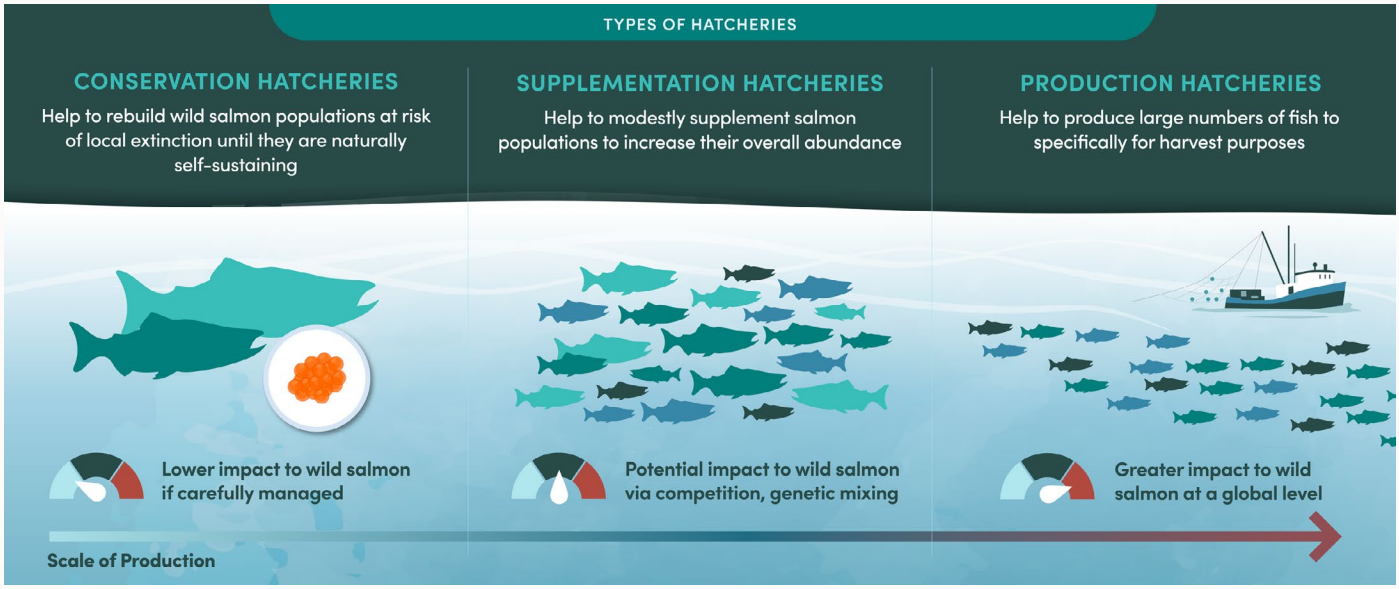
Not all hatcheries operate the same way in terms of their practices for sourcing eggs, releasing fish, and the number of fish they release. Their practices are guided by their objectives, and some present more risks to wild salmon than others[88].

Production hatcheries release large numbers of fry, sometimes from non-local populations, to support fisheries. These fish are the most different from local wild populations they may interact with, and risk introducing unfit genes to wild salmon.

Supplementation hatcheries often have a dual goal of bolstering fisheries and enhancing local naturally spawning populations – as a result, they may periodically collect eggs from wild fish to ensure that the hatchery and wild strains are genetically similar.

Conservation hatcheries rebuild depleted wild populations until they are self-sustaining again, eventually winding down enhancement efforts as populations rebuild, and usually collect eggs from the wild to minimize genetic risks.





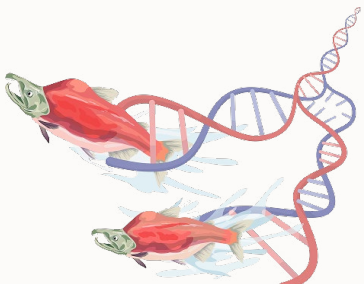
Spawning channels: Another Tool, Another Trade-off

Artificial spawning channels are another form of salmon enhancement. Rather than raising fish in a hatchery, these channels provide carefully managed flows and spawning gravel to improve the survival of eggs and young salmon in a more natural setting. Because fish spawn naturally and eggs are not collected and reared, spawning channels can avoid some of the risks associated with hatcheries—but they can still have broader ecological and fisheries consequences.

The Skeena River provides a striking example. Spawning channels have helped dramatically increase sockeye salmon returning to Babine Lake, with returns in some recent years exceeding those of Fraser River sockeye. But this success has also created trade-offs. Large numbers of Babine sockeye can increase competition and support fisheries that can intercept smaller, less abundant salmon populations migrating at the same time, raising concerns about their long-term resilience[9].

What kind of hatcheries operate in B.C. and the Yukon?

Most hatcheries in B.C. and the Yukon are supplementation hatcheries operated by the Department of Fisheries and Oceans, First Nations, or community stewardship groups. They vary in scale from hundreds of thousands of releases per year to a few fry raised in school classrooms.



Hatchery and wild salmon are genetically different B.C.?

Hatchery fish are raised in controlled environments that improve their growth and survival prior to release. Unlike wild salmon, they are not exposed to the same natural pressures early in life, such as predation, competition, and changing environmental conditions. As a result, hatchery fish can become less adapted to surviving and reproducing in the wild. The extent of these differences depends partly on hatchery practices, including whether hatcheries regularly incorporate wild fish into their breeding programs and whether the eggs originated from the local environment. Regardless, a large body of research shows that hatchery salmon have lower survival and reproductive success in natural environments, even after only a single generation of being raised in hatcheries[89,90].

Hatchery salmon tend to return to rivers where they were released and may interbreed with local wild populations, mixing their gene pools. While wild populations sustain a diversity of traits in their gene pool to buffer against the unpredictable environment, including timing of migrations and ages at return, hatcheries rarely mimic the same level of diversity[91]. When hatchery and wild populations interbreed, the wild gene pool can become skewed toward the uniform traits of the hatchery fish and away from its natural diversity[92], a process that cannot be reversed. Less diversity often means less resilience to environmental change - including to climate change. A study from the U.S. Northwest Fisheries Science Center found that hatcheries were a factor in the loss of diverse run-timing variants of California salmon that would have provided more resilience to hot summer temperatures and droughts[93].

The resurgence of Cowichan Chinook

The resurgence of Cowichan River Chinook illustrate both the value and the limits of hatcheries as a recovery tool. A hatchery established in 1979 through a partnership between Cowichan Tribes and Fisheries and Oceans Canada ramped up production through the 1990s, eventually releasing an average of 1.9 million juvenile Chinook annually by the 2000s—partly in an effort to offset declining survival in the ocean. Despite these efforts, Chinook abundance continued to fall, reaching just 540 natural spawners in 2009[21].

Research provided an important clue as to why. Hatchery-origin Chinook were surviving at rates 6 to 24 times lower than their wild counterparts[89]. Hatchery production was moderated and efforts increasingly shifted to address the conditions wild Chinook need to survive—including improved river flows, habitat restoration and reduced harvest pressure. In recent years, Cowichan Chinook have experienced a remarkable resurgence, with more than 22,000 natural spawners returning in 2024.

The broader recovery approach continues today. Cowichan Tribes and partners are undertaking a major restoration of the Cowichan Estuary, restoring 70 hectares of marshland that provides important habitat for salmon and other species, while also improving the watershed's resilience to climate change and flooding[94].

The Cowichan story reinforces an important lesson about salmon enhancement: hatcheries can support depleted populations and buy time for recovery, but producing more fish is not a substitute for addressing the reasons wild salmon declined in the first place. The greatest value comes when hatcheries are used strategically alongside actions that restore the conditions salmon need to survive in the wild.

Marked selective fisheries – the future of salmon fishing?

Hatcheries are often used to support commercial, recreational, and Indigenous fisheries by increasing the number of fish available for harvest and reducing pressure on wild populations. However, hatchery production can also unintentionally increase fishing pressure on wild salmon. Large returns of hatchery fish can create opportunities for increased harvest, but wild salmon migrating alongside them may be caught at the same time. In these mixed-stock fisheries, hatchery and wild salmon are harvested together, creating a risk that at-risk wild populations are caught at unsustainable rates.

In this way, producing more hatchery salmon can create a difficult trade-off: more fish available for harvest, but potentially greater fishing pressure on the wild populations we are trying to protect.

Marked-selective fisheries offer one way to reduce this trade-off. Before release, hatchery salmon can be marked by clipping their adipose fin, allowing fishers to visually distinguish them from unmarked salmon. Fisheries can then allow marked hatchery fish to be retained while requiring unmarked fish to be released—creating fishing opportunities while reducing harvest of wild salmon. This approach has been used in parts of southern B.C.'s recreational Chinook fishery since 2021[95].

But selective fisheries are not without risk. Releasing a wild salmon does not guarantee it will survive: mortality following capture and release can be as high as 45% [96], although rates vary widely depending on fishing methods, handling and environmental conditions[85,97]. Fisheries and Oceans Canada has announced plans to expand hatchery marking, including a commitment to mark 90% of hatchery Chinook released in southern B.C. by 2027, in part to support more marked-selective fisheries[98].



Sharing a finite ocean

Hatchery juveniles are often larger than their wild counterparts when released, potentially giving them a competitive advantage when food, habitat or other resources are limited[99]. But the effects of hatchery production extend far beyond individual rivers.

Once salmon enter the ocean, they join fish from across the North Pacific competing for a shared and changing food supply. Access to enough food is critical: salmon need energy to grow, avoid predators, complete long migrations and ultimately return to reproduce.

Hatchery fish do not always directly out-compete wild salmon[99], but adding hundreds of millions of fish to the North Pacific can intensify competition when food is limited. In Alaska, where more than 700 million hatchery salmon are released in some years, research has linked high hatchery abundance with reduced survival of wild pink salmon—likely reflecting increased competition for shared food resources[100].

More salmon than ever before

Since 1975, the number of hatchery salmon released into the North Pacific has more than doubled, reaching over five billion fish in recent years. As hatchery releases — particularly of pink salmon — have increased, salmon populations returning to rivers across North America have shown declining growth and survival, suggesting increasing competition for food in the open ocean[101]. Evidence of competition at sea has now been documented across all six Pacific salmon species, and may even affect broader marine ecosystems, including seabirds and whales that rely on similar food resources[102]. Canada contributes only about 5% of hatchery salmon released into the North Pacific – so if competition at sea is going to be addressed, it has to be on the world stage[103].



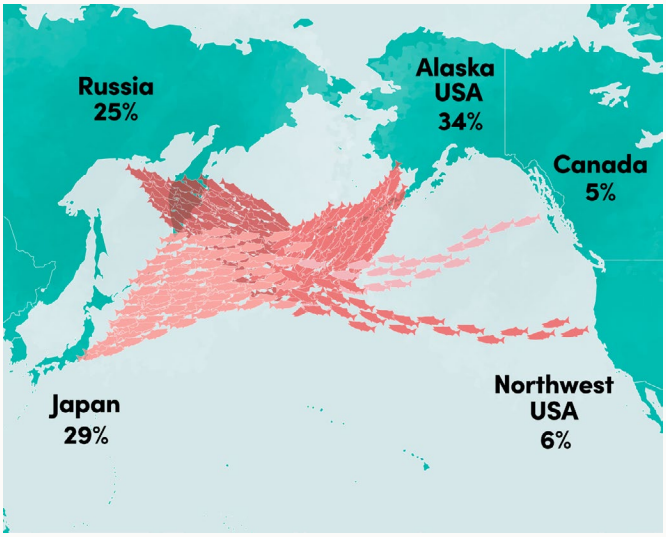
Hatchery salmon released into the North Pacific on average over the past decade[104].



Abundant pink salmon on their return migration to spawn.

A Natural Experiment in Competition

Pink salmon are now the most abundant salmon species in the North Pacific and are increasing both through hatchery production and favourable ocean conditions related to climate change[105]. Pink salmon have a consistent two-year life cycle with greater abundances in the North Pacific in odd years than in even years. This pattern matches changes in growth, size, and survival of other salmon species, allowing scientists to more clearly document the negative impacts of competition with pink salmon.



The average proportions of total annual hatchery salmon releases in the North Pacific by country over the last decade. Data Source: NPAFC (2025; npafc.org/statistics)

Finding the right role for hatcheries

Hatcheries can provide important benefits by supporting fisheries and helping rebuild at-risk salmon populations. They've become a lifeline in some places – allowing people to maintain long-held cultural relationships to harvesting salmon. But if not carefully managed, they can also undermine the long-term conservation and recovery of wild salmon. How hatchery and wild fish interact depends on factors like breeding practices, how many are released, and how hatchery fish are managed once they enter the natural environment, though most documented impacts on wild populations have been negative[88,106]. In a rapidly changing world, hatcheries will likely remain part of the future of Pacific salmon management — but they should not come at the expense of healthy wild populations and functioning ecosystems.

Hatcheries can buy time for salmon, but they cannot replace ecosystems that we fail to protect.





INDUSTRIAL DEVELOPMENT

Salmon and industry share the same watersheds

Forestry, agriculture, and mining have reshaped salmon watersheds, but we can build a future for both people and salmon.

B.C. and the Yukon are home to diverse resource industries, including forestry, agriculture, mining, and hydroelectric power generation. Many of these activities occur within watersheds that support Pacific salmon.

While their impacts vary, industrial resource development can affect salmon both directly and indirectly by altering the landscapes and waterways on which they depend. Salmon rely on healthy watersheds – areas of land where rain, snowmelt, and groundwater drain into a common river – to provide clean, cool, and consistently flowing water. Industrial development within a watershed can degrade water quality and alter hydrology, the natural movement of water through the environment.

These changes can reduce summer flows, increase flood peaks, raise water temperatures, increase erosion and sedimentation, and alter the timing of seasonal runoff. Pacific salmon have evolved alongside the natural hydrology of their watersheds over thousands of years. When these natural flow patterns are disrupted, salmon can face significant challenges at every stage of their life cycle, from spawning and egg incubation to juvenile rearing and migration.

Forestry's widespread presence in salmon

Salmon and forests are deeply interconnected. The bodies of spawning salmon carry marine nutrients into coastal forests, while forested watersheds provide the cool, clean, and consistently flowing rivers and streams that salmon need to survive.

Beginning in the late 19th century, industrial logging expanded rapidly across British Columbia. Today, forestry is one of the most widespread human influences on salmon habitat, both where it occurs and downstream. Roads, stream crossings, and timber harvesting can alter how water moves through a watershed, affecting water quality, stream temperatures, sediment levels, and the timing and magnitude of river flows.



Why salmon need forests

Forests act like natural sponges, absorbing rainfall and snowmelt and slowly releasing water into streams throughout the year. When forests are removed, watersheds lose this ability to regulate water. Peak flows become higher, low flows become lower, and rivers experience more extreme fluctuations in water levels[107]. These changes are challenging for salmon, which have evolved over thousands of years to synchronize their migration, spawning, and development with the natural flow patterns of their watersheds. They also depend on reliable stream flows to migrate between spawning grounds and the ocean. Forestry can also increase stream temperatures when riparian forests—the trees and vegetation that border rivers and streams—are removed or inadequately protected. These forests provide shade, stabilize streambanks, filter runoff, and supply the wood that creates pools and complex habitat for salmon. The impacts of forestry do not end once harvesting is complete. Research shows that changes to watershed hydrology can persist for decades, with some of the most significant effects emerging long after logging has occurred[108].

Preserving the Buffer Against a Harsher Climate

Old-growth forests play an irreplaceable role in supporting biodiversity, storing carbon, and maintaining the healthy watersheds that salmon depend on. Yet old-growth logging continues in British Columbia, and many of the province's most productive valley-bottom forests—the forests most closely connected to salmon-bearing streams—have already been harvested or remain vulnerable to future logging.

Recent old-growth deferrals and Indigenous-led stewardship and conservation initiatives have brought renewed attention to protecting the forests that remain. However, important questions remain about how much old growth is needed to sustain healthy watersheds and whether current forestry practices can adapt quickly enough to meet the challenges ahead.

As climate change intensifies droughts, floods, and rising water temperatures, protecting and restoring old-growth forests may become increasingly important for maintaining resilient watersheds and giving Pacific salmon the best chance to adapt to a changing climate.

How logging helps seals hunt salmon

When trees are harvested in coastal British Columbia, the logs are often bundled into floating log booms and stored in estuaries, large rivers, and sheltered coastal waters before transport to mills. Although log booms are an efficient part of the forestry supply chain, they alter the estuary habitats that many species of Pacific salmon depend on as juveniles[110].

Log booms create artificial haul-out sites for harbour seals, natural predators of salmon. Seals are highly effective at locating migration bottlenecks where salmon congregate before entering rivers or passing through narrow channels. By providing resting platforms close to these migration routes, log booms can increase opportunities for seals to intercept salmon, increasing predation beyond what would occur under natural conditions.

Many log booms have been present in coastal estuaries for decades, but their effects may become more pronounced as harbour seal populations remain high and climate change causes salmon to spend more time waiting in estuaries for suitable river conditions. These changes can increase predation pressure during one of the most vulnerable stages of the salmon life cycle.



Harbour seals resting on a log boom, which provides an artificial haul-out site near salmon migration routes and can increase opportunities for predation.



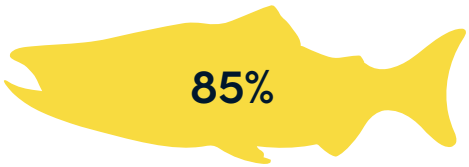
Different Pressures, Different Places

Every resource industry leaves a different footprint on salmon watersheds. The challenge is not whether development occurs, but how we design, manage, and restore landscapes so both people and salmon can thrive.

Agriculture

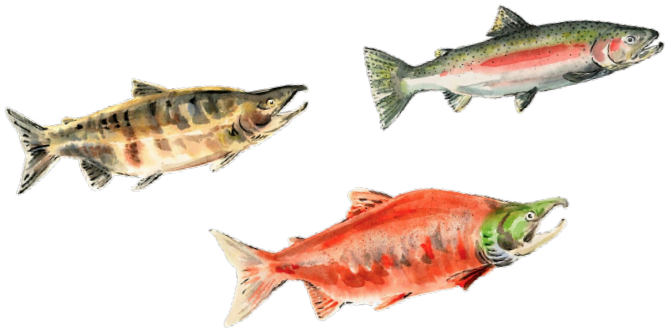
For thousands of years, people have settled along rivers and floodplains, where fertile soils and abundant water create ideal conditions for agriculture. These same floodplains are also among the most productive habitats for Pacific salmon. Naturally connected side channels, wetlands, and seasonally flooded fields provide slow-moving, food-rich environments where juvenile salmon can feed, grow, and find refuge before migrating to the ocean.

The Fraser Valley — including what is now Abbotsford, Langley, and Chilliwack—was once an expansive floodplain that flooded seasonally and remained closely connected to the Fraser River. Throughout the 19th and 20th centuries, dikes, floodgates, and pump stations were constructed to protect farms and growing communities from floods. While these investments supported agriculture and economic development, they also disconnected salmon from much of their rearing habitat. Today, Fraser Valley salmon populations have lost an estimated 85% of their floodplain habitat[111]. Much of the habitat that remains is affected by warmer water temperatures, altered flows, chemical contamination, and other pressures associated with agriculture and urban development.



Historical floodplain habitat for juvenile salmon in the Fraser Valley that has been lost to development[111].

Today, researchers and communities are exploring how floodplains can once again support both people and salmon. As aging flood-control infrastructure is replaced, fish-friendly pump stations, floodgates, and restored natural wetlands can reduce flood risk while reconnecting salmon to critical habitat.



Dams

More than 80 major dams have been built across British Columbia and the Yukon to generate hydroelectric power, reduce flood risk, and store water for communities and agriculture. Dams have reduced access to important spawning and rearing habitat for salmon by blocking or impeding migration, contributing to the loss and decline of some populations. They can also alter river flows, temperatures, sediment and habitat conditions, affecting salmon survival both upstream and downstream of dams. Few places illustrate these impacts more clearly than the Columbia River. For more than 80 years, large dams in Canada and the United States have prevented salmon from reaching much of their spawning habitat, eliminating salmon from vast areas of the upper Columbia Basin.

However, recent salmon returns in the Canadian portion of the Columbia Basin demonstrate what is possible when barriers are reduced and habitat is restored. In the Okanagan River sockeye salmon have rebounded through decades of collaboration focused on improving fish passage, habitat restoration, and hatchery supplementation by Indigenous Nations, governments, and other partners on both sides of the Canada–U.S. border[113]. The Columbia shows both the lasting consequences of blocking salmon migrations and the potential for recovery when people work together to reconnect rivers.

Mining

Mining can have significant impacts on salmon-bearing watersheds. Many mining operations require large volumes of water, alter natural drainage patterns, and generate waste products and tailings that must be carefully managed for decades after a mine closes[114]. These materials are commonly stored behind containment dams or in tailings facilities, where failures can release contaminated water and sediment into rivers and lakes with serious consequences for salmon habitat and water quality.

In the Northern Transboundary region of British Columbia, rich deposits of gold, copper, silver, and other minerals have driven extensive mining development in the headwaters of some of the world's most productive wild salmon rivers, including the Stikine, Taku, and Unuk. In some tributaries of the Stikine River, mining tenures that allow for future development, overlap with as much as 88% of the watershed area connected to salmon habitat[114].

Concerns about the long-term risks of tailings storage intensified following a tailings dam breach in 2014 at the Mount Polley mine, which released millions of cubic metres of mine waste into salmon-bearing rivers and lakes[115]. A decade later, the 2024 failure of the Eagle Gold Mine heap leach facility in Yukon demonstrated that major mining failures remain a risk[116].

As demand for critical minerals grows, difficult choices will increasingly arise over where and how mining occurs. Some of the watersheds under consideration today may become vital climate refuges for Pacific salmon in the future[58], making careful planning, rigorous oversight, and strong partnerships with Indigenous Nations essential to balancing resource development with the long-term protection of wild salmon.



Agricultural lands in the Fraser Valley, where agricultural areas intersect with rivers, streams, and wetlands.

Adding It All Up

In nearly every Pacific salmon watershed, multiple industries operate simultaneously, each altering the water quality, stream flows, habitat connectivity, and ecological processes that salmon depend on. The scale, intensity, and duration of these impacts vary widely. Some developments, such as poorly designed or managed dams or mining failures, can have immediate and catastrophic consequences for individual salmon populations or entire river systems. Others, including forestry, agriculture, and urban development, often cause more gradual but widespread changes that accumulate over decades.

Taken together, the combined effects of industrial activities and the infrastructure that supports them—including roads, culverts, dikes, dams, pipelines, and water withdrawals—have reshaped freshwater ecosystems across much of British Columbia and the Yukon. These cumulative effects are among the greatest challenges facing Pacific salmon today. Understanding how these stressors interact, and planning development at the watershed scale rather than one project at a time, will be essential to building resilient ecosystems that can support both people and salmon in a changing climate.

Within our Control

Unlike many of the challenges salmon face, the impacts of industrial development can often be reduced through thoughtful planning, better management, and restoration. Pacific salmon evolved alongside natural disturbances such as floods, droughts, landslides, and wildfires, making them remarkably resilient when watersheds remain clean, cool, connected, and functioning as healthy ecosystems.

Protecting and restoring these conditions through better land-use planning, habitat protection, fish-friendly infrastructure, and watershed-scale management can allow salmon and human communities to thrive together. The future of Pacific salmon will depend not only on reducing individual impacts, but on understanding how multiple pressures interact across entire watersheds—and making decisions that safeguard the ecological processes salmon have depended on for thousands of years.

Planning with **salmon in mind** can help keep watersheds **working for everyone.**





URBAN DEVELOPMENT

Salmon in the City

Entire salmon streams have been lost to urban growth. Where they still return to cities, salmon prove their resilience – but they aren't invincible.

The human population in B.C. has grown almost tenfold over the past century[117], and the urbanization that followed has reshaped the landscape.

Forests and wetlands have been replaced with roads, buildings, and urban infrastructure in some of the most historically productive salmon watersheds. These changes alter how water moves across the landscape and what it carries with it, often reducing the quality and availability of salmon habitat. Streams and rivers have been straightened, confined, or routed through pipes, and their links to floodplains, wetlands, and estuaries are cut off.

Urban runoff floods streams quickly and can carry toxic contaminants that can harm salmon or their ecosystems. And yet salmon persist in major cities, navigating the province's urban heartland - a display of resilience that should not be mistaken for invincibility. province's urban heartland - a display of resilience that should not be mistaken for invincibility.

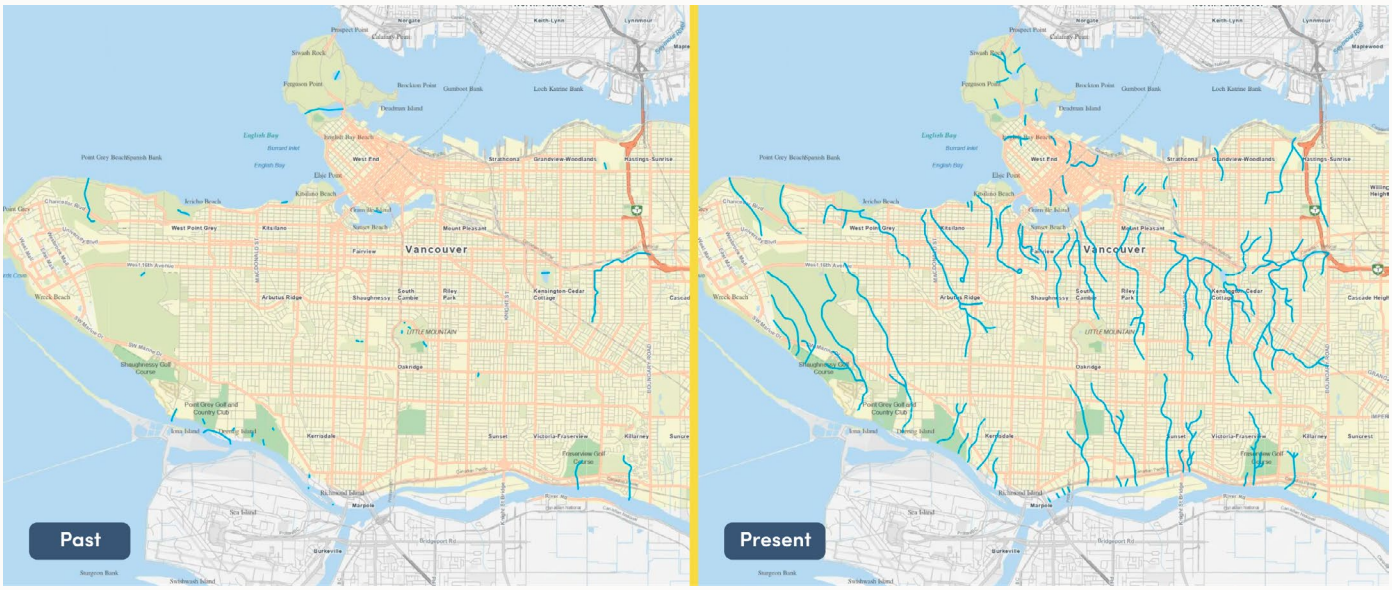
The streams beneath our cities

What is now the city of Vancouver was once home to more than 50 streams, most of them likely used by salmon at one point in time[118]. As part of colonial settlement, almost all streams were eventually confined to pipes and buried beneath pavement. Though invisible, the streams are often still there, transporting rainwater under some of the city's busiest streets. In fact, under Vancouver's Main Street is Brewery Creek, the water source that once drew some of the city's first breweries to open along its banks[119].

Underground, these streams can no longer support salmon. Across the lower Fraser Valley alone, at least 117 streams have been lost since modern day record-keeping began[120], while many others have been heavily altered by culverts, dikes, storm drains, and flood-control infrastructure designed to contain and redirect water. Similar "lost streams" exist beneath cities across BC, where urban development has buried waterways under roads, neighbourhoods, and industrial areas. Although many of these streams still flow underground, they no longer provide the cool, connected habitat salmon need to migrate, spawn, and rear.



> At least 117 streams had been lost in the lower Fraser Valley as of 1998 – today's number is likely much higher[120]. More still have been altered by culverts, dikes, storm drains, and flood-control infrastructure, which can make these habitats unusable for salmon.



Compare Vancouver's streams today with the network that once flowed before most were buried beneath the city. Data Source: City of Vancouver and the University of British Columbia (2019)

Daylighting streams to give salmon a second chance

In recent years, efforts to uncover or "daylight" buried streams have gained momentum in many urban areas. By restoring natural stream banks and reopening sections of waterways that were previously buried underground, communities can gradually reconnect salmon habitat and revive ecological functions that had been lost to urban development. These projects are often complex and long-term, unfolding over decades as opportunities for restoration emerge.

One notable example is Still Creek, which flows through industrial and urban areas of Burnaby and East Vancouver. After years of restoration and daylighting work aimed at improving habitat and reconnecting the stream, chum salmon returned to spawn in Still Creek in 2012 — the first recorded return in decades — becoming a celebrated symbol of urban ecological recovery[121]. Similar projects are underway elsewhere in B.C. through partnerships among municipalities, community groups, and conservation organizations.

The Pacific Salmon Foundation's community grants program, for example, has supported restoration and daylighting efforts along Bowker Creek in Victoria, helping reconnect fragmented habitat and bring salmon back to urban landscapes[122].

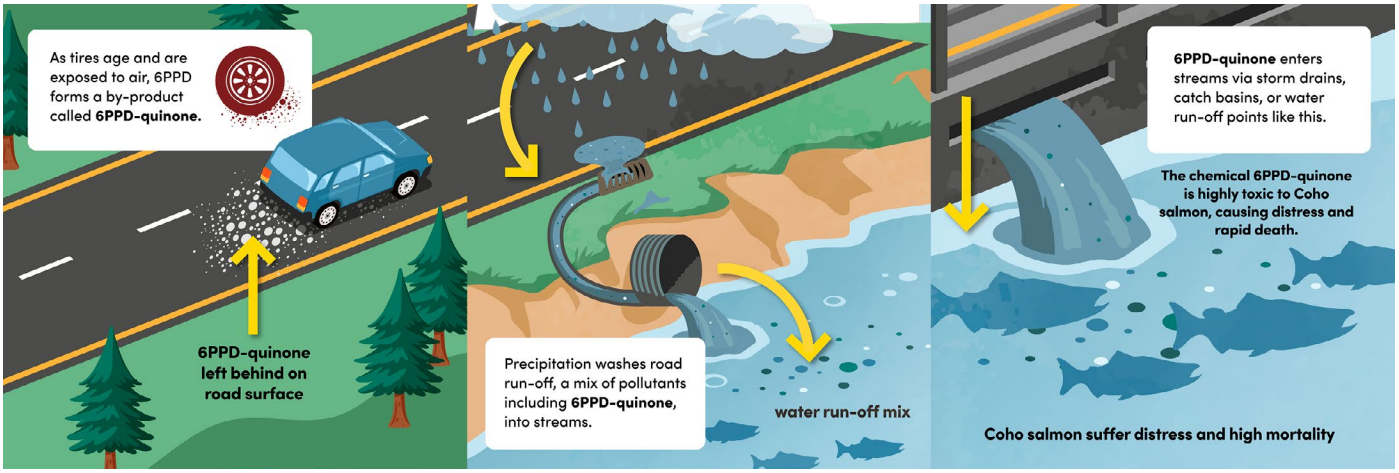
When roads cross streams

Culverts that run under roads, railways, and other infrastructure connect waterways, but are often unsuccessful at connecting salmon habitats – they are often too narrow, too steep, or flow too quickly for salmon to navigate. Fortunately, simple changes can make a big impact: wider culverts embedded into the streambed, and engineered to better mimic natural stream conditions, can turn these barriers into fish-friendly passages that help salmon reach more of their habitat[123].



> Across British Columbia alone, there are over 170,000 culverts that impede fish passage[124]. They are found both within and outside urban centres – in fact, road networks that support industrial development are home to most of these barriers. to most of these barriers.





How 6PPD-Q reaches salmon streams. Adapted from: psf.ca/work/climate/tire-wear-toxin-6ppd-q.

Urban Stream Syndrome

In urbanized areas where salmon still persist, streams and rivers often behave very differently from those in intact natural watersheds — a pattern sometimes referred to as urban stream syndrome[125]. Urban streams tend to be flashy – water levels rise and fall rapidly during rainstorms or snowmelt. In natural watersheds, forests, wetlands, and soils absorb and slowly release water. In cities, however, pavement, rooftops, and storm drains quickly funnel water into streams and rivers. These sudden high flows can erode streambanks, wash away spawning gravel, and remove fallen logs that create the deep pools juvenile salmon rely on for shelter. In severe cases, strong flood events can even scour developing salmon eggs from the streambed. During droughts, urban streams often become unusually warm and shallow, especially where streamside trees and vegetation have been removed[125].

Polluted runoff runs into urban streams

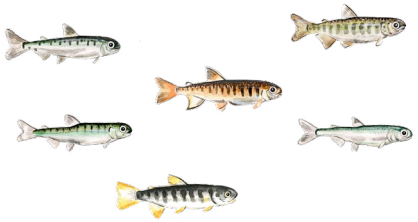
Urban runoff also carries a wide range of contaminants into salmon habitat. Rainwater flowing across roads, parking lots, lawns, and industrial areas can pick up oil, heavy metals, pesticides, tire chemicals, and household pollutants before entering storm drains that often discharge directly into local waterways without treatment. Increasing public awareness about what enters storm drains has become an important part of urban salmon stewardship. Community initiatives such as storm drain marking programs — where yellow fish symbols are painted beside drains to remind people that "only rain goes down the drain" — help connect people to the hidden waterways beneath their neighbourhoods and encourage everyday actions that protect salmon habitat.

The toxic tire chemical killing urban salmon

Starting in the 1990s, scientists and citizens noticed that coho in urban streams were dying after major rainstorms, before they could spawn. It was decades before scientists could isolate the chemical and prove that 6PPD-Q, a derivative of a chemical added to tires to extend their lifespan, was causing the coho deaths. As tires wear, 6PPD-Q is deposited on roads and washed into nearby waterways during rainfall, where it can reach levels that are deadly to adult salmon[126]. There are still unanswered questions, like why 6PPD-Q disproportionately affects coho salmon. This led to PSF and others to ask the federal government to investigate its toxicity, prompting the Government of Canada to agree to add 6PPD-Q to its priority assessment list.

Straightened and armoured shores

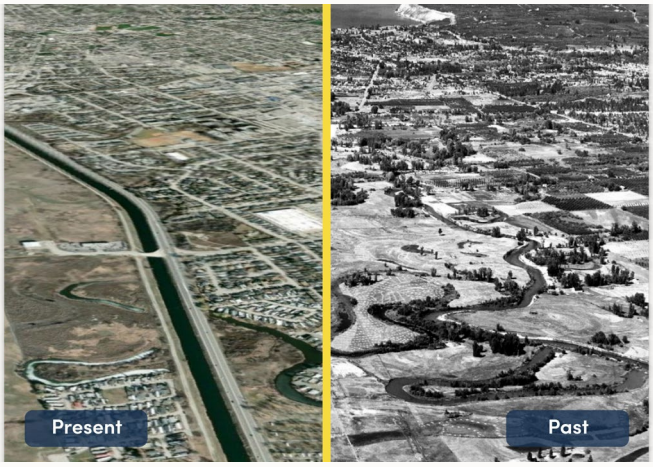
To control flooding, cities straighten banks, armour shorelines, and confine waterways and the fish within them. Over the past two centuries, flood control infrastructure – like dikes, levees, and floodwalls – expanded across urban and industrial landscapes. As climate change continues driving sea level rise and unpredictable flooding, the pressure to build and expand this infrastructure is expected to grow– but there are consequences for salmon, and there may be better alternatives.



Straightened river channels

Channelizing rivers and streams – straightening and reinforcing their banks – is a common way that cities control flows and allow development closer to the waterways, but there are costs. These simplified channels make poor habitats for salmon, who thrive in complex river systems with a variety of connected habitats, like deep pools, shallow side channels, seasonally flooded wetlands, gravel spawning beds, and slow-moving rearing areas. This habitat complexity supports the remarkable diversity of Pacific salmon species and life histories.

When cities are built around rivers, these habitats get developed, leaving only a single, uniform main channel – and salmon diversity can be lost as a result. A large portion of the Okanagan River was channelized in the 1950s, and today, opportunities to restore it back to its natural state are constrained by the cities that grew around it.



The Okanagan River at Penticton, B.C. before and after it was channelized in the 1950s. The remains of meandering river channels are still visible today, but are not connected to the main channel.

Armoured coastal shorelines

Coastal communities are often armoured against tides and storms with hard structures like seawalls and riprap, which replace the productive natural ecosystems that once occupied the shores. However, scientists and city planners are starting to recognize that if left intact, these ecosystems - wetlands, estuaries, and tidal habitats - provide even better and cheaper flood protection in the long term than concrete barriers and other hard infrastructure alone. They absorb floodwaters while providing habitat for growing salmon and other wildlife – a true win-win. A recent PSF project mapped shoreline armouring along eastern Vancouver Island, identifying where more natural shoreline solutions could replace seawalls and riprap. Natural coastal habitats were then restored at select locations, and forage fish – important prey for salmon - quickly returned to spawn in some of those new habitats[127].

Green infrastructure benefits us all

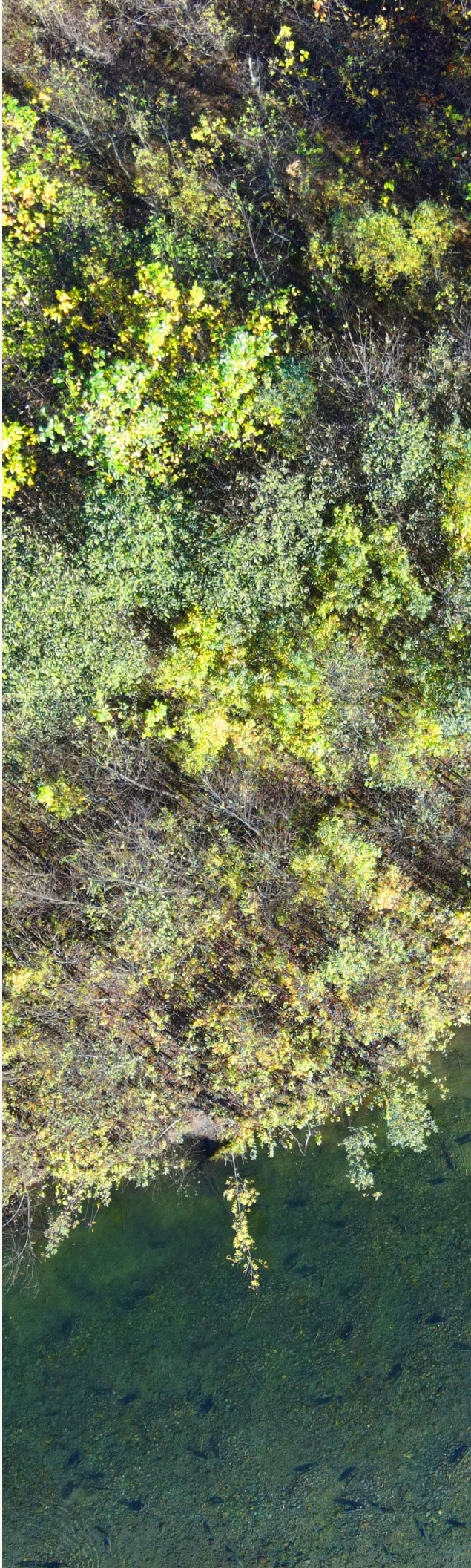
As communities grow, investing in green infrastructure – strategically placed natural spaces that serve purposes like flood control – is a chance to work with nature instead of against it. Green infrastructure systems can be as extensive as constructed wetlands that protect entire communities from flooding, but often are much smaller scale, and include rain gardens, bioswales, and pervious pavement. These slow and reduce the amount of water entering storm drains, moving cities back toward the natural water cycles that existed there before urbanization[128]. There are also benefits to water quality – rain gardens that capture and filter runoff can prevent over 90% of 6PPD-Q from entering waterways[129].

The city of Delta now has over 40 rain gardens, which are also used to teach the importance of watershed management through school partnerships[128]. Making space for natural ecosystems in our future cities, and bringing back ecosystem functions where possible, will confer benefits beyond salmon – to people, wildlife, and future generations alike.

With the right choices, urban landscapes can once again become places where salmon—and people—flourish.



THE PATH FORWARD



The institutional systems responsible for managing and protecting wild Pacific salmon in British Columbia are no longer fit for their purpose.

Roughly half of Pacific salmon populations in B.C. and the Yukon are in long-term decline. Salmon recovery will require more than incremental improvements. It requires a system that enables people, science, technology, and communities to work together in fundamentally different ways. Fortunately, we're not starting from scratch. There is a wealth of knowledge, dedicated people, innovative science, and strong community leadership.

Upending the status quo

Salmon face a dramatically different reality today than when many of our institutions, policies, and management approaches were established. In the 1980s and 1990s, fisheries management largely focused on maximizing harvest. Today, conservation, rebuilding depleted populations, and protecting the biological diversity that underpins resilience have become defining priorities.

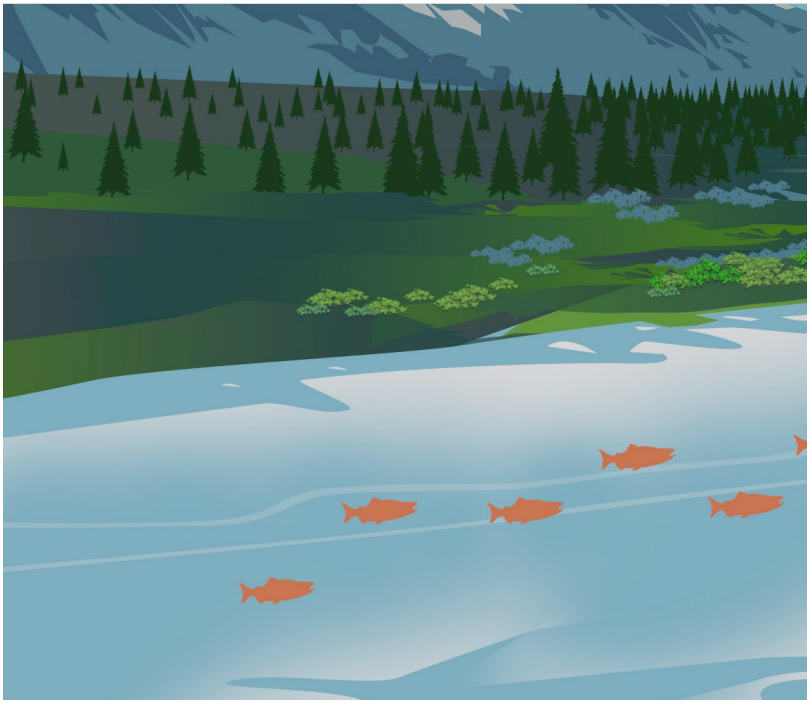
Climate change has also fundamentally altered the context for salmon recovery. Warming rivers and oceans, changing stream flows, and more frequent wildfires, floods, droughts, and marine heatwaves are reshaping salmon habitat in ways largely unforeseen when today's management systems were established.

Turning Commitments into Action

Governments have long recognized the challenges. DFO's Wild Salmon Policy[130], introduced in 2005, envisioned salmon populations being regularly monitored, assessed, and publicly reported, with management action triggered by declines. More than 20 years later, much of that vision remains unrealized. Similarly, B.C.'s Wild Salmon Advisory Council produced a comprehensive roadmap for a made-in-B.C. Wild Salmon Strategy in 2018, but much of it has yet to be fully implemented.

A clear pattern has emerged: we largely understand the challenges facing salmon and many of the solutions. What has been missing is implementation, coordination, and accountability at the scale required to reverse declines.

We've entered a new era for Pacific salmon. Our institutions, governance systems, and policies need to evolve with it.



1. The commitment to salmon already

More than 80 per cent of British Columbians are concerned about the decline of wild salmon. Governments have invested heavily in conservation and recovery, and First Nations, researchers, stewardship groups, agencies, and non-profits are advancing hundreds of initiatives across salmon-bearing watersheds. The commitment is substantial—but so too is the challenge. Yet salmon continue to decline.

2. Isolated efforts

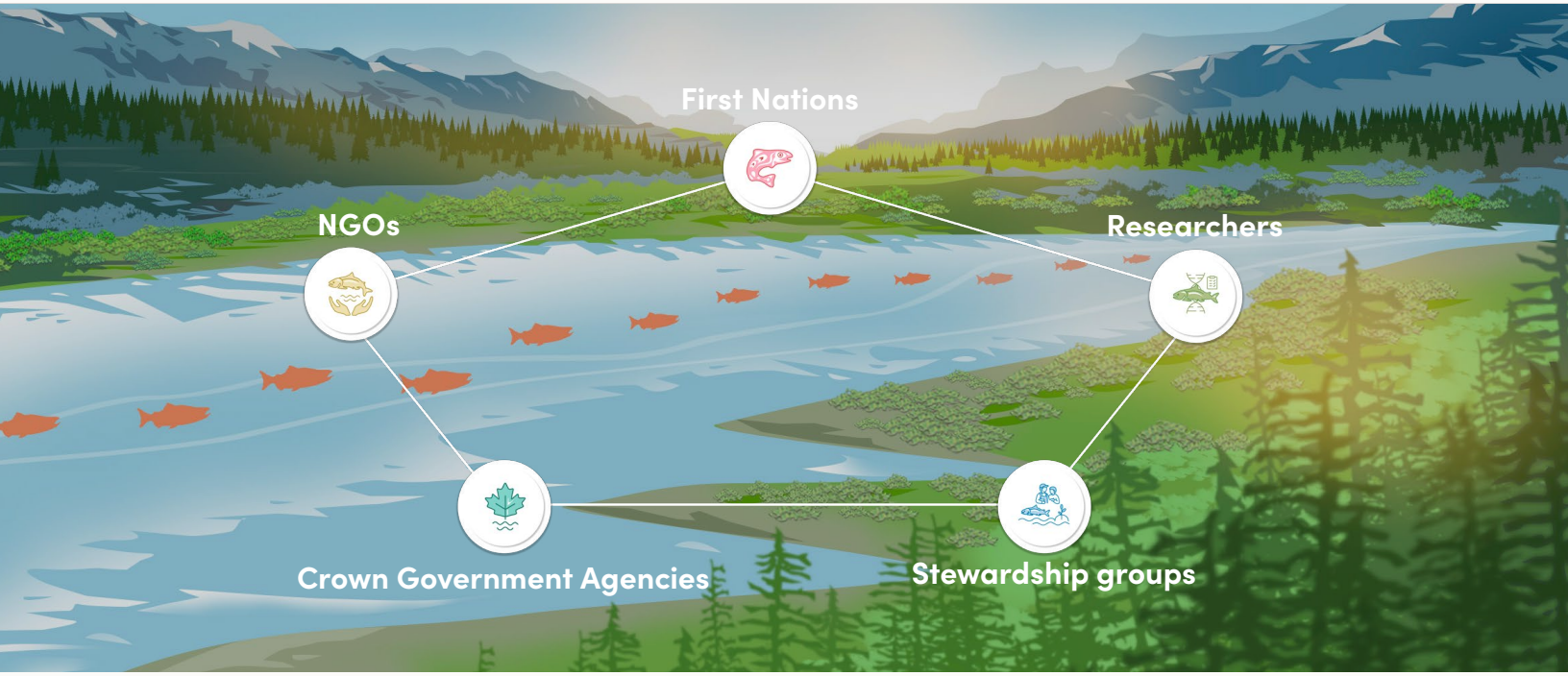
The problem is not a lack of commitment, expertise, or effort. Too often, that effort occurs in isolation rather than as part of a coordinated recovery system.

3. Building a Connected Recovery

We need to shift from fragmented, project-based efforts toward a coordinated, watershed-based recovery system—grounded in locally developed recovery plans, connected across regions and jurisdictions, informed by science and Indigenous knowledge, and sustainably resourced for the long term.

4. A coordinated recovery system

What's missing is a coordinated recovery system built around a common strategy, clearly defined roles, shared responsibility, and collective accountability across Crown governments, First Nations, and community stewards.



Letting salmon do what salmon do

Despite unprecedented challenges, salmon remain remarkably resilient. For millennia, they have adapted to changing climates, shifting habitats, and countless obstacles. Humans have introduced challenges salmon did not evolve to face: rapid climate change, habitat loss and fragmentation, urban and industrial development, pathogen risks associated with open-net pen aquaculture, and growing pressure on freshwater and marine ecosystems. We have disrupted the conditions that allow salmon to thrive. Restoring those conditions requires more than restoring habitat or adjusting regulations. It requires reimagining our institutions, governance, and ways of working together. The challenge is not simply how we manage salmon. It is how we manage ourselves.

Blueprints for Recovery

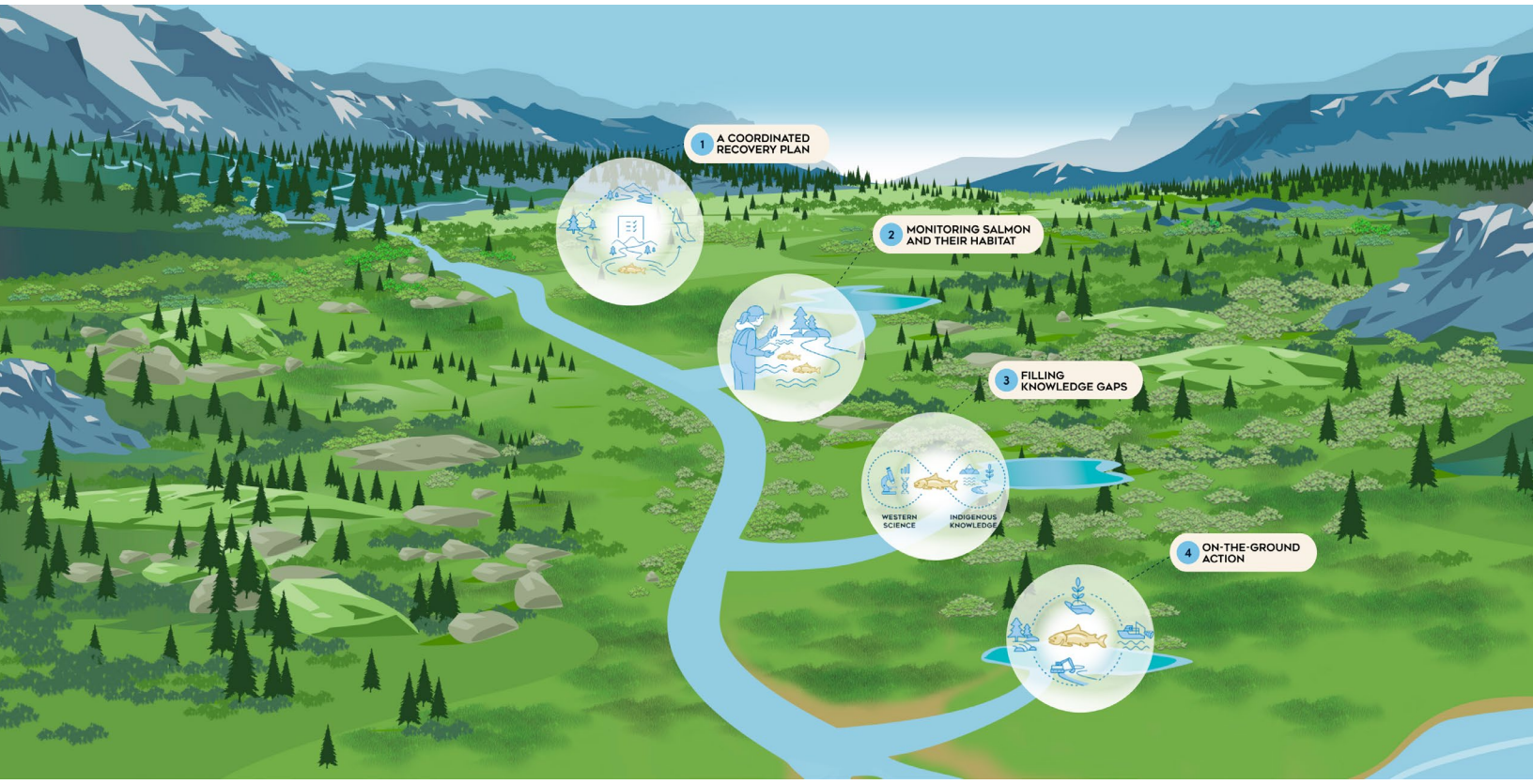
We know this approach can work. On Vancouver Island, the Cowichan River demonstrates what is possible when a watershed comes together around a shared vision. After Chinook returns fell to just 500 spawners in 2009, Cowichan Tribes, Crown governments, industry, and stewardship organizations aligned around a common goal: managing water for fish. That collaboration supported the creation of the Cowichan Watershed Board and innovations in water management, drought response, and real-time monitoring. By 2025, Chinook escapement reached the highest level recorded since monitoring began in 1988, with more than 51,000 returning Chinook, including nearly 29,000 naturally spawning adults.

Recovery Starts in the Watershed

The Columbia watershed offers another example. Just three decades ago, Columbia sockeye were on the brink of extirpation. By 2022, returns had reached record levels. The Okanagan Nation Alliance played a central role through reintroductions, improved fish passage, habitat restoration, and collaborative management across Canadian and U.S. jurisdictions.

These recoveries were not the result of a single project or organization. They were built through long-term collaboration, watershed-scale governance, sustained investment, adaptive management, and shared commitment. There is no single blueprint for recovery. Every watershed is different. But successful approaches share a foundation: local leadership, coordinated planning, shared responsibility, and long-term commitment. The challenge now is to make watershed-based recovery the norm rather than the exception.





Building the System for Recovery

Transforming salmon recovery requires a system that consistently turns knowledge into action. Four interconnected components form its foundation:

1. A coordinated recovery plan

Recovery begins with a shared plan. We need a coordinated framework operating across watershed, regional, and provincial scales that establishes clear objectives, priorities, roles, timelines, funding commitments, and accountability. Planning should be driven from the watershed up while ensuring alignment across regions and governments.

2. Monitoring salmon and their habitat

We cannot manage what we do not measure. Sustained monitoring is needed to track salmon abundance, diversity, distribution, and productivity alongside changing environmental conditions. This information allows us to detect change, measure progress, and adapt management.

3. Filling knowledge gaps

Monitoring tells us how salmon and their habitats are doing, while science and Indigenous knowledge help us understand why. Together, they can identify threats, guide recovery actions, and show where investments will have the greatest impact. New technologies—including artificial intelligence, genomics, and remote sensing—can deepen and accelerate that understanding.

4. On-the-ground action

Knowledge only matters if it informs action. Recovery efforts must focus on interventions most likely to improve outcomes for salmon— from habitat restoration and improved water management to adapting fisheries, removing migration barriers, and responding to climate extremes.

5. Recovery as the norm

The challenge now is to make watershed-based recovery the norm rather than the exception.

The choice ahead



The State of Salmon is urgent.

If we stay the course with institutions, governance, and management systems designed for yesterday's challenges, we risk reinforcing the trajectory salmon are already on. Or we can choose a different path. We can organize the knowledge, commitment, effort, and investment that already exist into a coordinated recovery system capable of meeting the needs of salmon today. We have seen what is possible when First Nations, communities, governments, scientists, and stewardship organizations work together around a shared vision. The challenge is to make those successes the rule rather than the exception.

At the Pacific Salmon Foundation, we believe this transformation is both possible and necessary. That is why we have invested in a Recovery and Resilience team to build capacity and coordinate watershed-scale recovery planning. Longer term, we are working with the First Nations Fisheries Council to develop a proposal for a new watershed-based salmon recovery system in British Columbia, building on the knowledge and support of local salmon experts. The future of wild salmon will not be determined by the challenges they face alone. It will be determined by how we choose to respond. Salmon have shown an extraordinary capacity to recover when given the opportunity.

If we create the conditions for that resilience to flourish, there is every reason to believe they can do so again.







METHODOLOGY, REFERENCES & GLOSSARY



Overview

We report on the state of salmon in each of the ten regions that represent all major Pacific salmon-bearing watersheds in Canada: Yukon, Northern Transboundary, Haida Gwaii, Nass, Skeena, Central Coast, Fraser, East Vancouver Island & Mainland Inlets, West Vancouver Island, and Columbia. These regions are also used to organize data in the Pacific Salmon Explorer. There are a relatively small number of Pacific salmon that spawn in the MacKenzie River basin in Arctic Canada that are currently not considered here.

For each of these regions, we compiled and analysed data on six species of Pacific salmon: Chinook (Oncorhynchus tshawytscha), chum (O. keta), coho (O. kisutch), pink (O. gorbuscha), sockeye (O. nerka), and steelhead (O. mykiss). Where possible, we report on both spawner abundance and total abundance for each region and species. Spawner abundance (also called "escapement") is the number of salmon that "escape" fisheries and make it back to reproduce (or spawn) in rivers. These salmon meet ecological needs like feeding other wildlife and contribute to future generations. As such, assessing spawner abundance is important to inform conservation planning. Where data are available, we also report on total abundance, which is the number of salmon that survive to maturity, and can be calculated as the sum of spawners, catch, and pre-spawn mortality in rivers. In some years, a substantial proportion of mature salmon are caught in commercial and recreational fisheries, in addition to First Nations Food, Social, and Ceremonial fisheries. Tracking total abundance provides information on the productivity of salmon and their ability to support these fisheries. Often, the state and trends for spawner abundance are more optimistic than for total abundance because of widespread declines in Pacific salmon fisheries in Canada (see Factors: Fisheries).

Data Sources

We constructed an index of spawner and total abundances at the regional scale using the best available data. Details of specific data sources for each region and species are outlined in the Technical Documentation and raw data are publicly available in the associated GitHub repository. We often relied on data vetted by the Pacific Salmon Commission and used to assess international obligations under the Pacific Salmon Treaty. Specifically, these data come from the appendices of reports by the Yukon River Joint Technical Committee, Transboundary Technical Committee, Northern Boundary Technical Committee, and Chinook Technical Committee. The Fraser River Panel provides data on pink and sockeye abundance directly via their Annual Report Application. Publication of these appendices may take years and more up-to-date versions were provided to Pacific Salmon Foundation staff directly by Fisheries and Oceans Canada (DFO) upon request. For Haida Gwaii Chinook, we used new data from monitoring by the Haida Nation, which enabled us to report on the current state for the first time in this year's report. In the Nass region, we drew on information from the draft 2025 Post-Season Report from the Nisga'a Lisims Government - Fisheries & Wildlife Department[131]. Fraser coho and chum salmon data were provided directly to Pacific Salmon Foundation staff by DFO upon request. The Fraser coho estimates of spawner and total abundances are based on Interior Fraser coho that spawn upstream of Hells Gate, British Columbia (including five Conservation Units: Fraser Canyon, Interior/Middle Fraser, Lower Thompson, South Thompson, and North Thompson). Columbia Chinook and sockeye data were provided by DFO and the Syilx Okanagan Nation Alliance. Steelhead spawner abundances in the Skeena and Fraser are publicly shared by the Province of British Columbia, and steelhead surveys in the Vancouver Island regions were shared directly with PSF by the Province. Steelhead spawner abundance in the Canadian portion of the Columbia is reported by the Okanagan Basin Monitoring and Evaluation Program.

For regions and species that did not have reliable estimates of aggregate abundance at the regional scale, we constructed an index of spawner abundance from stream spawner surveys reported in DFO's New Salmon Escapement Database System (NuSEDS) up to 2024. Prior to analysis, the data were checked for quality issues including duplicated or conflicting records and missing stream coordinates. We accounted for variable survey effort using a proportional infilling approach to impute missing surveys based on the average decadal contributions of each stream to the aggregate. We then expanded the imputed dataset to account for smaller "non-indicator" streams. The details of this expansion approach are outlined in the Technical Documentation.

In total we compiled spawner abundance for 51 regional salmon populations (i.e. unique region-species combinations), with an average time series length of 58 years (range 20 to 133 years). The temporal currency of data varied among sources, with most regions and species having spawner abundance up to 2025 (n = 33) or 2024 (n = 16). Fewer regions and species had estimates of total abundance because information on which rivers (and regions) salmon are destined for when caught in the ocean is not always available, making it difficult to assign catch to a region. We compiled total abundance for 21 regional salmon populations, with an average time series length of 45 years (range 25 to 133 years). Most total abundance time series were current to 2025 (n = 19).

Analysis

We smoothed the raw time series of spawner and total abundances using a right-aligned running geometric mean over the generation length. This smoothing reduces the influence of dominant years for species with cyclic dynamics (e.g. Fraser sockeye) and produces an index of abundance that is less sensitive to stochastic interannual variability that is common in salmon population dynamics[132]. The generation length is based on the dominant life-history type for each species in a particular region. To facilitate comparison among species that are naturally very different in their absolute abundance, we transformed the smoothed time series into a per cent anomaly from the geometric mean abundance among all years for that species and region.

We summarised the current state as the per cent anomaly for the most recent year of the smoothed time series (i.e. the per cent difference between the geometric mean spawners over the most recent generation and the geometric mean spawners over all years). For species with long generation lengths (e.g. six years for Yukon Chinook), the current state may not reflect recent, dramatic changes in abundance because the generational average lags behind. Where there are noteworthy changes in abundance in specific years that are not obvious from the smoothed time series, we may refer to the raw "annual spawner count" estimates.

We summarised trends as the average annual per cent change in abundance, calculated from the slope of a linear regression model fitted to the log-transformed, smoothed time series. We show both short-term trends based on the slope over the most recent three generations only and long-term trends based on the slope over all available years for each species in a given region.

Data Availability

The outcomes of this State of Salmon report are publicly available through the Salmon Watersheds Program Data Library as two datasets:

Time series of Regional Salmon Abundance by species. This dataset contains both the raw annual abundance and the smoothed time series shown in the trends plots.

State and Trends in Salmon Abundance for each region and species, including the values for the current

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GLOSSARY

Total abundance: The number of salmon that survive to maturity, calculated as spawners plus catch.

Average abundance: The geometric mean of raw, annual estimates of spawner or total abundance over some specified period, such as all years of data ("long-term average abundance") or a generation ("smoothed abundance").

Critically low: Spawner abundances that are less than 1,500 fish and represent absolute counts of the regional salmon population lead to a designation of "critically low" due to the extremely small population size and associated high risk of extirpation from environmental catastrophes (e.g. landslides) or random fluctuations in survival and reproductive success.

River-type sockeye: A life-history type of sockeye salmon that migrate to the ocean shortly after emerging from the river gravel, forgoing a freshwater rearing stage; also called "ocean-type".

Lake-type sockeye: A life-history type of sockeye salmon that rears in lakes for one or more years before migrating to the ocean.

Ocean-type Chinook: A life-history type of Chinook that migrate to the ocean shortly after emerging from the river gravel, forgoing a freshwater rearing stage in rivers.

Stream-type Chinook: A life-history type of Chinook that rear in freshwater for a year before migrating to the ocean.

Spawner abundance: The number of salmon that survive to maturity and make it to spawning grounds in rivers or lakes. Data on spawner abundance may or may not account for salmon that are removed for broodstock (i.e. to provide eggs and milt for hatchery production) or in First Nations fisheries, depending on the data source.

Conservation Unit (CU): An irreplaceable group of salmon that have unique genetic and life-history traits. Maintaining multiple Conservation Units within a region strengthens the resilience of the species as a whole and helps salmon withstand and adapt to changing conditions.

Bioswales: Stormwater channels that include vegetation to slow and absorb urban runoff

Pervious pavement: Paved surfaces that allow water to pass through to the soil below

Riprap: Human-placed materials, usually rocks, used to armour shorelines and riverbanks to protect from erosion.

Floodplains: Low-lying areas adjacent to rivers, that naturally get flooded periodically.

Fry: A young salmon that has recently emerged from the gravel, beginning to swim freely and feed on its own.




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