

Steelhead Stock Status Review - British Columbia



**Mark Beere - Senior Fisheries Biologist – Skeena Region
BC Ministry of Forests, Lands and Natural Resource Operations
Asilomar - March 8, 2016**

Status Update - Talking Points

- Any significant changes in wild pop'ns?

Some: reduced abundance noted, particularly in the south

- Status, approaches to wild harvest?

No wild harvest since 80's/90's

- Reporting catch and harvest?

Steelhead angler questionnaire, guide reports, creels

- Actions taken to address drought? Steelhead impacts?

New legislation, angling closures, monitoring; ↓ productivity

- Anomalies?

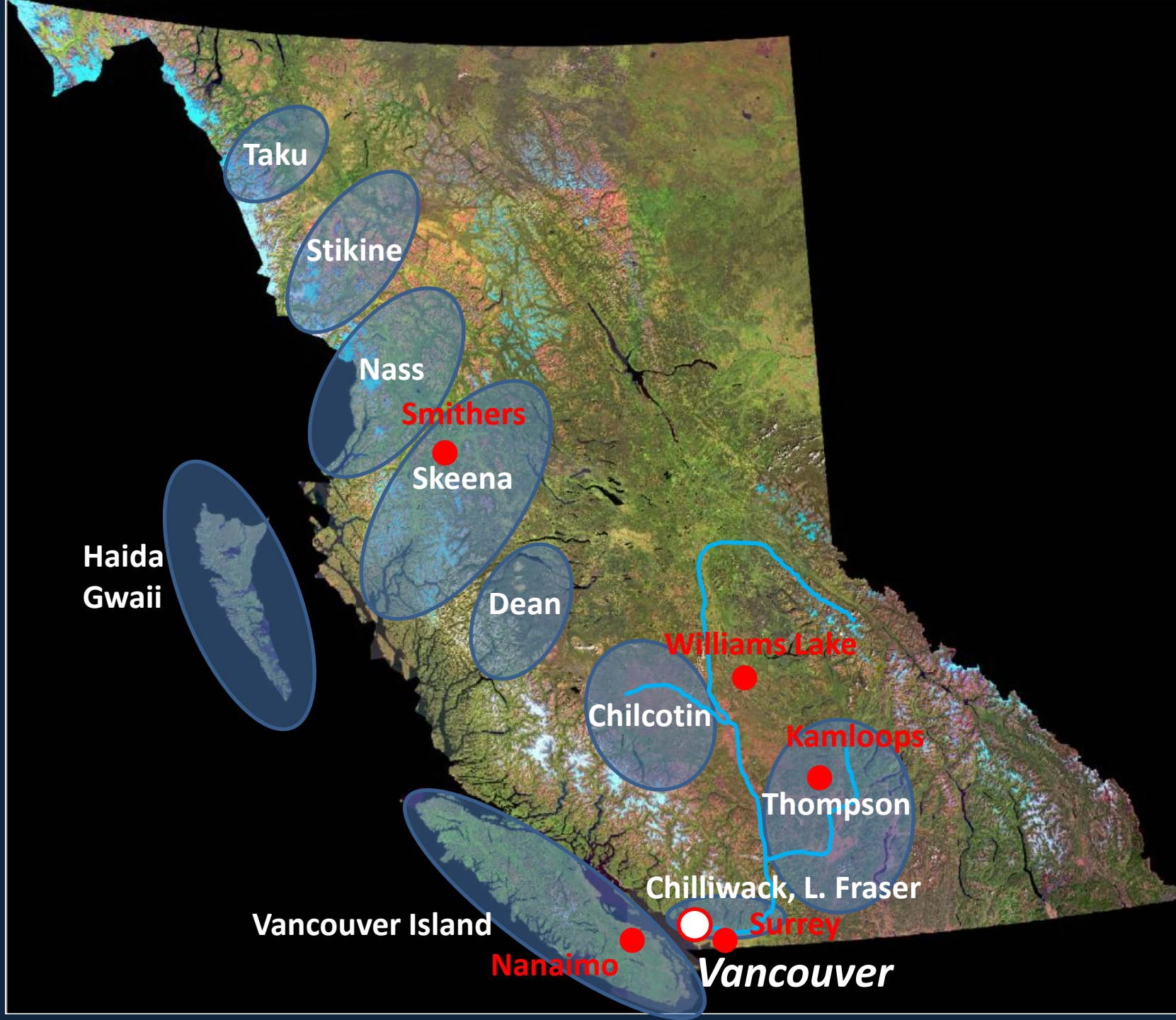
Capacity, fewer hatchery fish

- New management issues, monitoring?

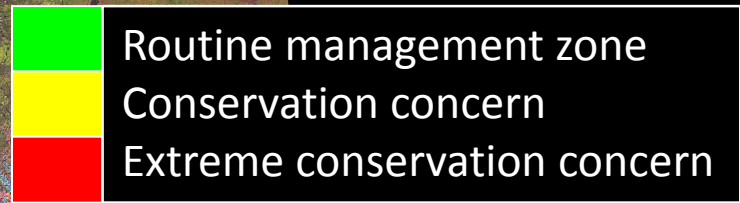
FN's legal precedents, hatcheries, C&R, major projects

Any Significant Changes in Wild Populations?

**BC Steelhead Stock Status
Regional Trends**

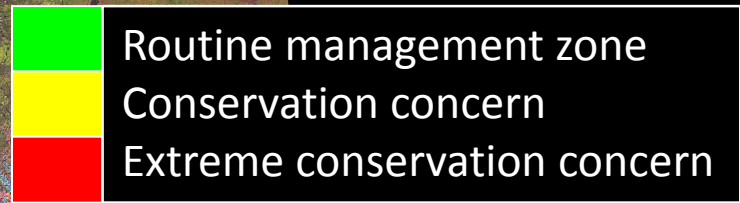


Conservation Status



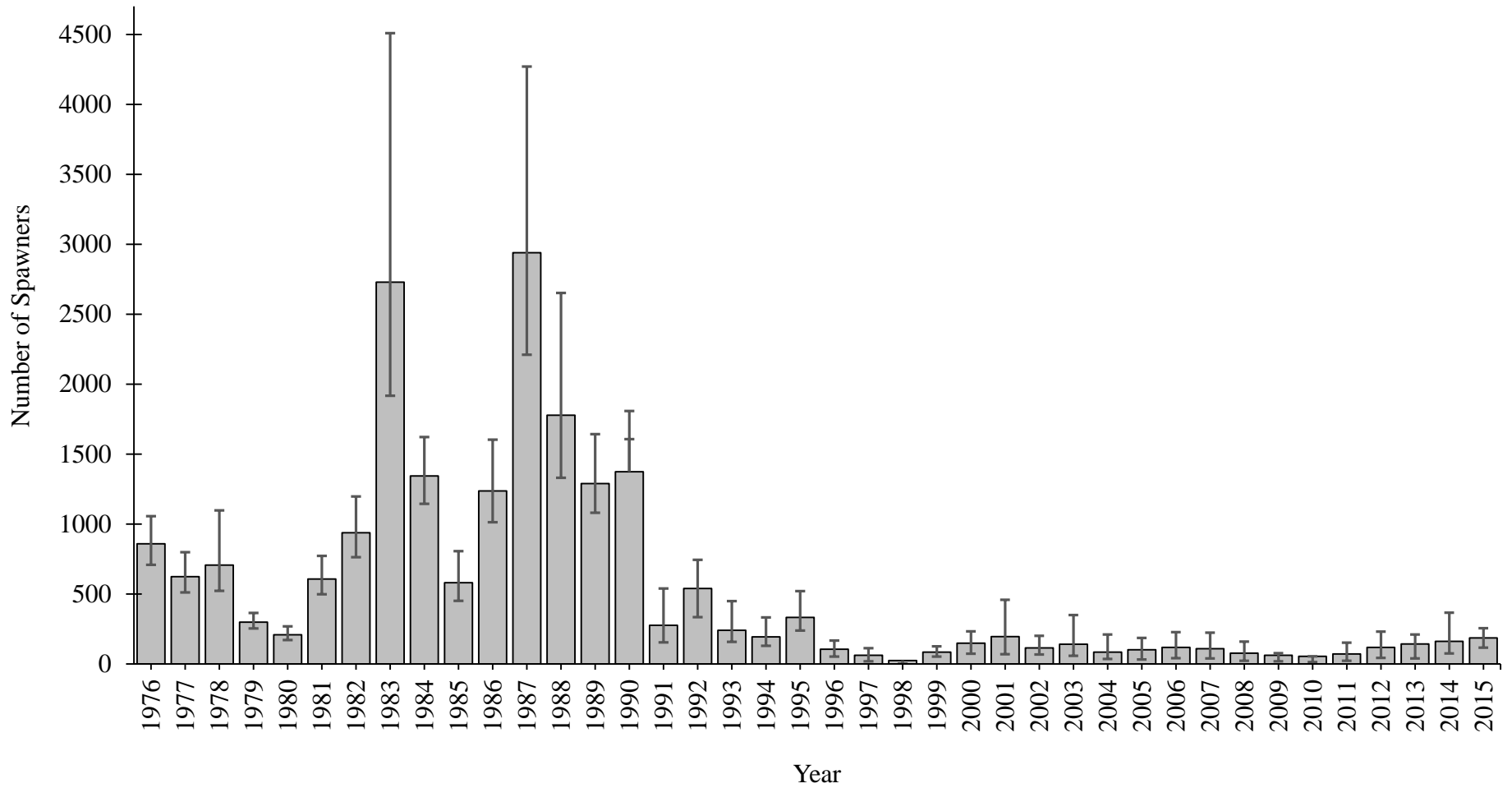
(Beere 2014)

Conservation Status

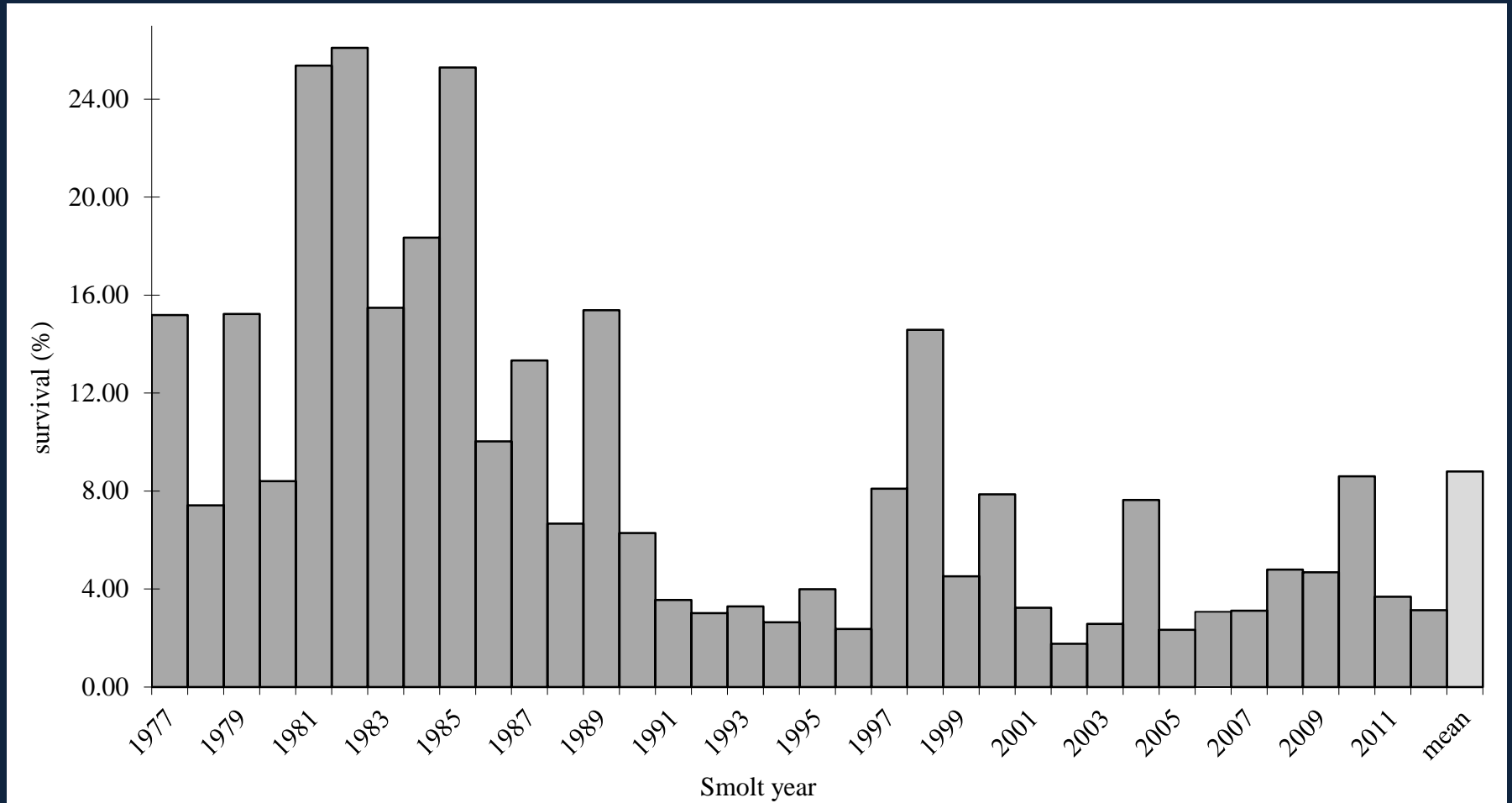


(Beere 2016)

Keogh River Adult Abundance (Coastal Winter Stock)



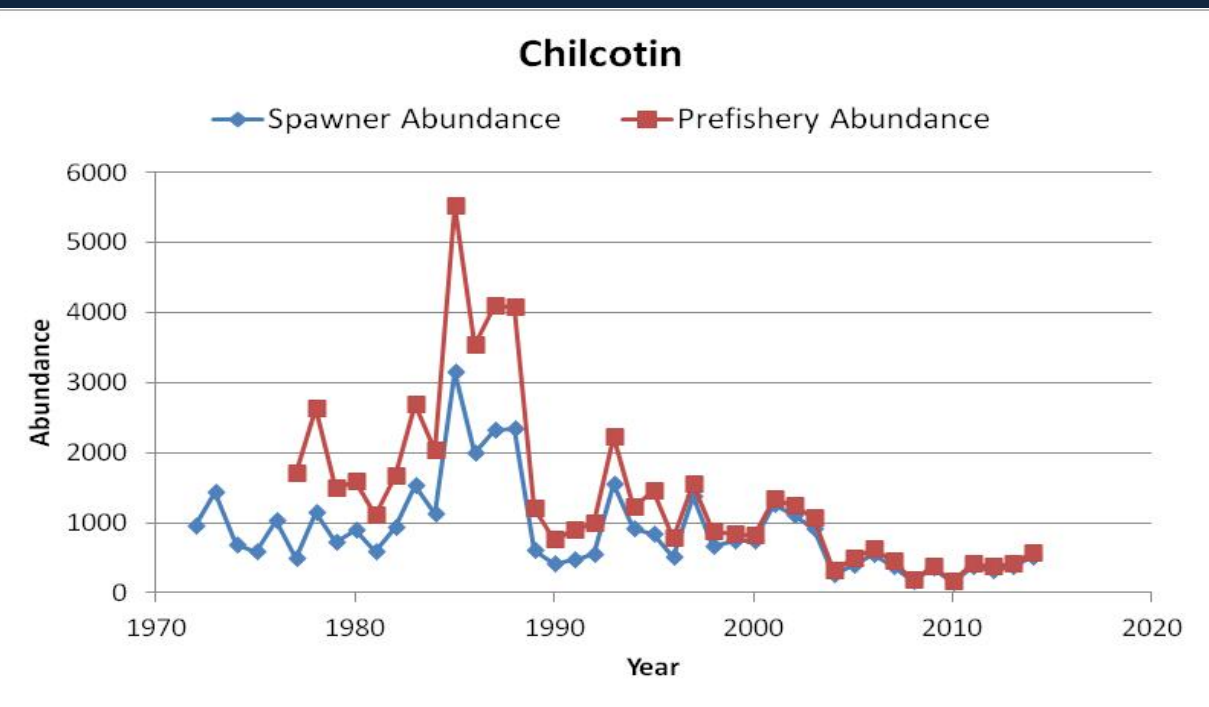
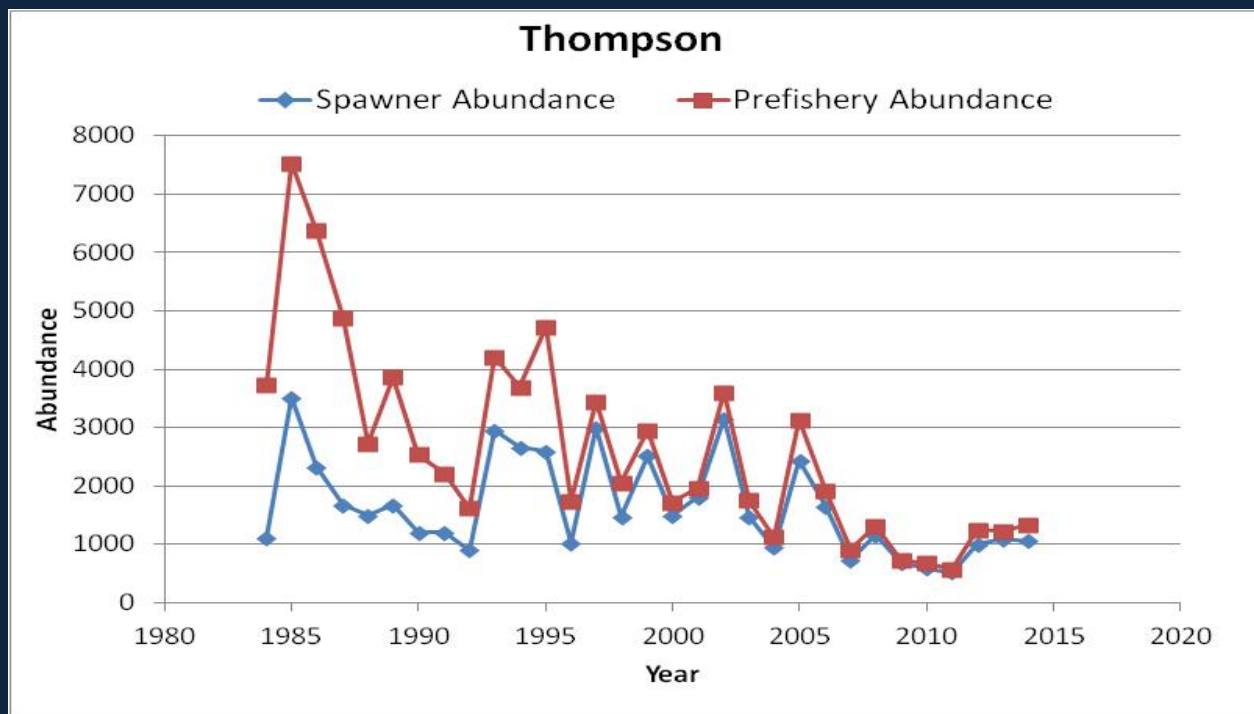
Marine Survival Estimates for Steelhead Smolts by Year of Ocean Entry, Keogh River, BC 1977- 2012



NB: Data for 2012 requires data from additional returns in 2016 for the complete estimate.

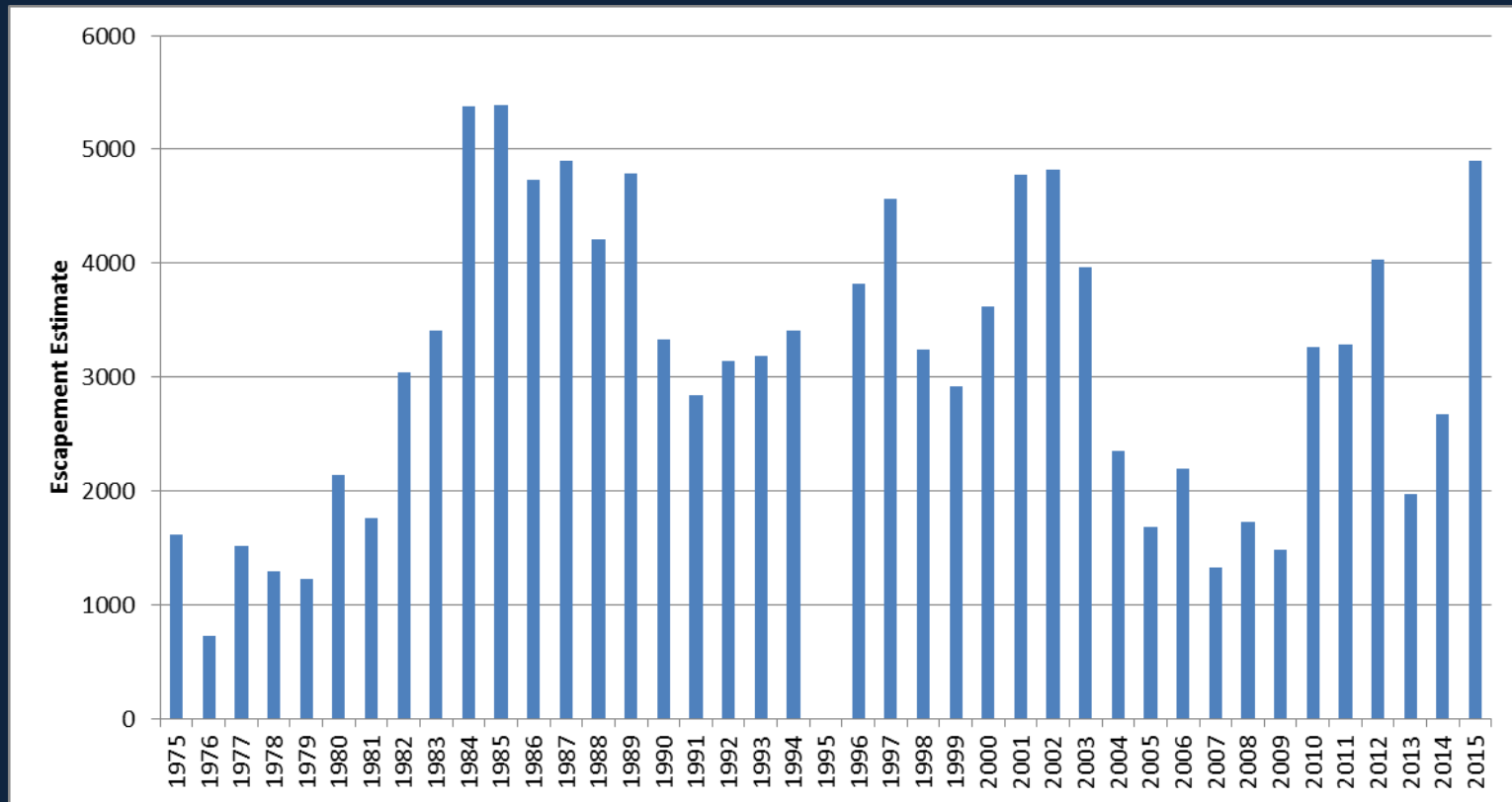
Thompson/ Interior Fraser

Interior Summer Stocks



Central Coast

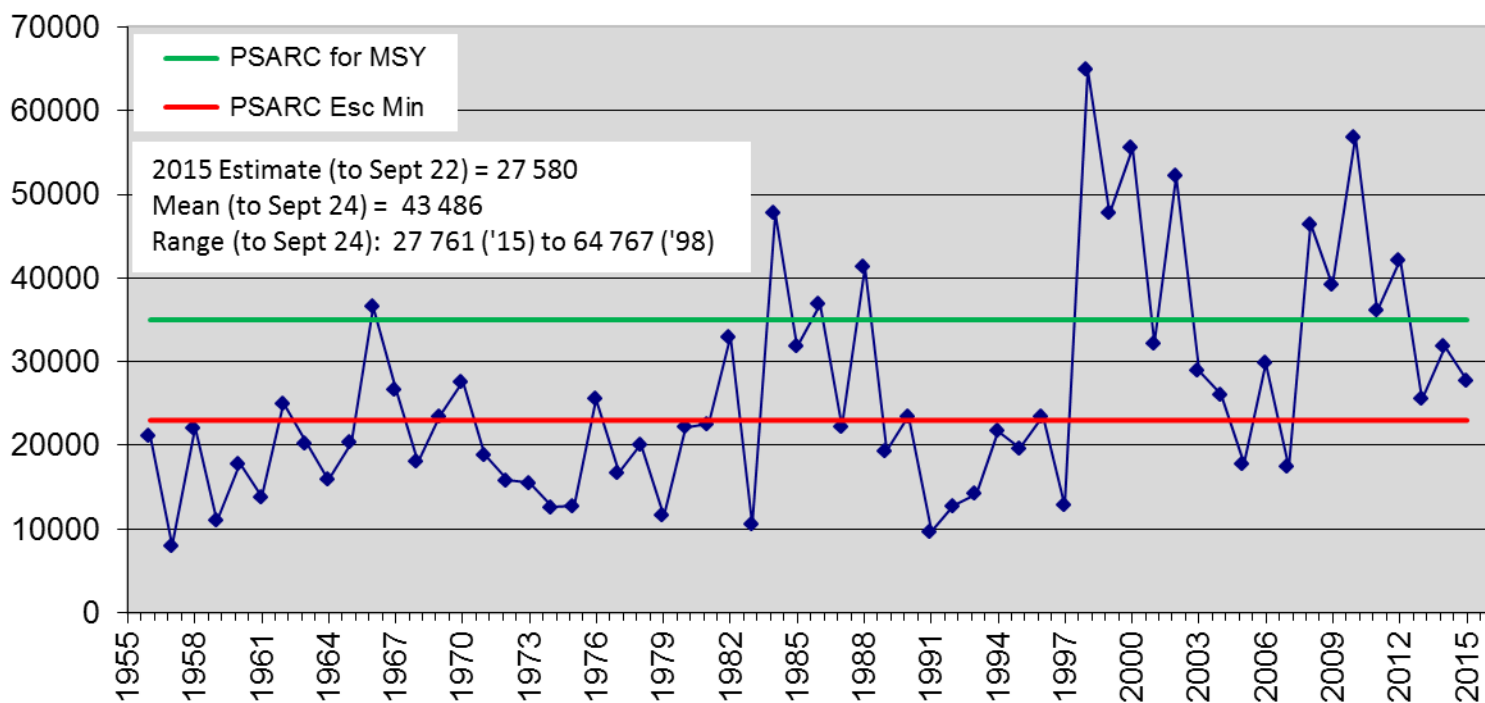
Dean River (Coastal Summer Stock)



North Coast

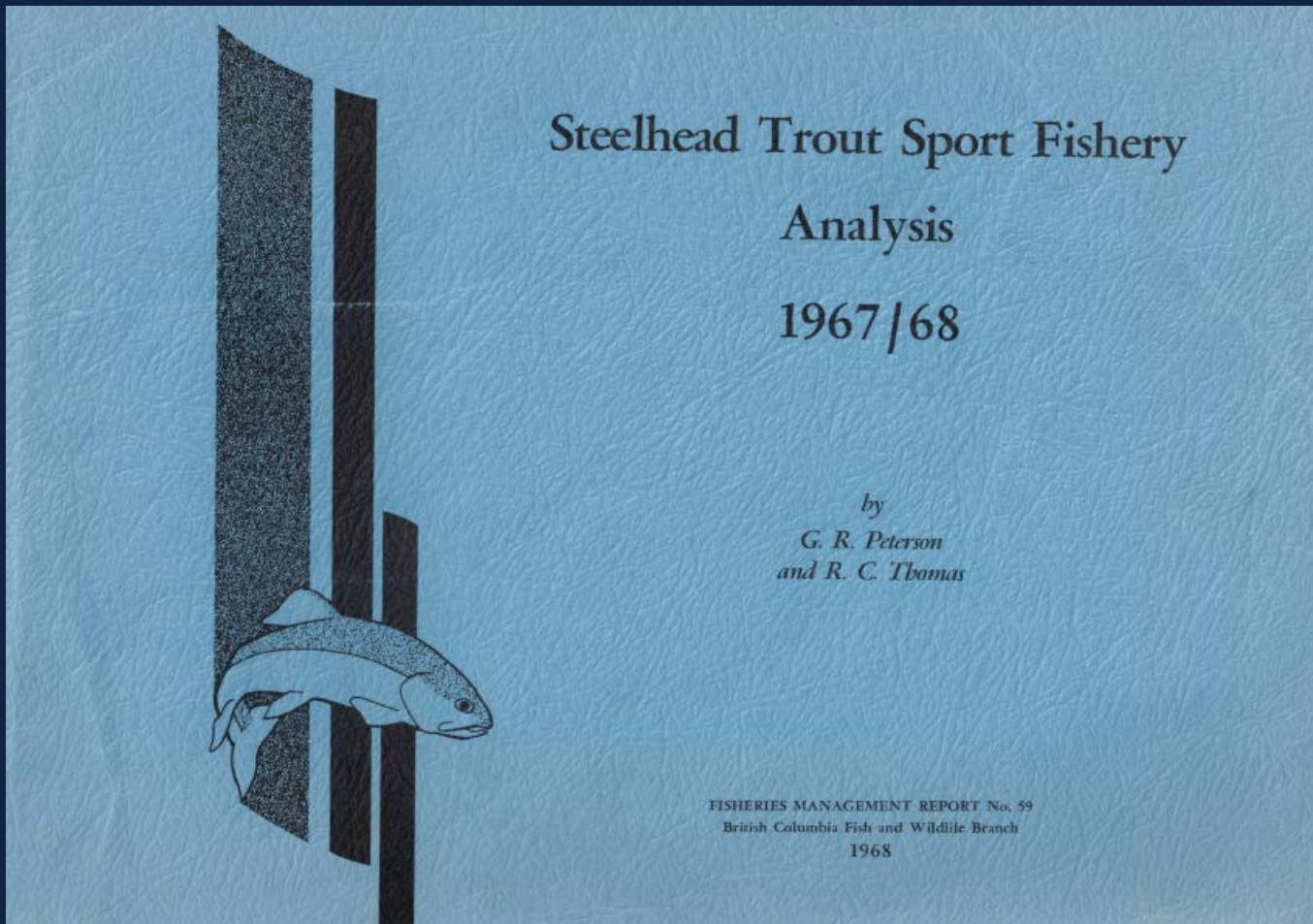
Skeena (Interior Summer Stocks)

**Estimated Escapement of Skeena Summer Steelhead at the Tyee Test Fishery,
1956 - 2015 - All Years to Last Day of the Fishery**



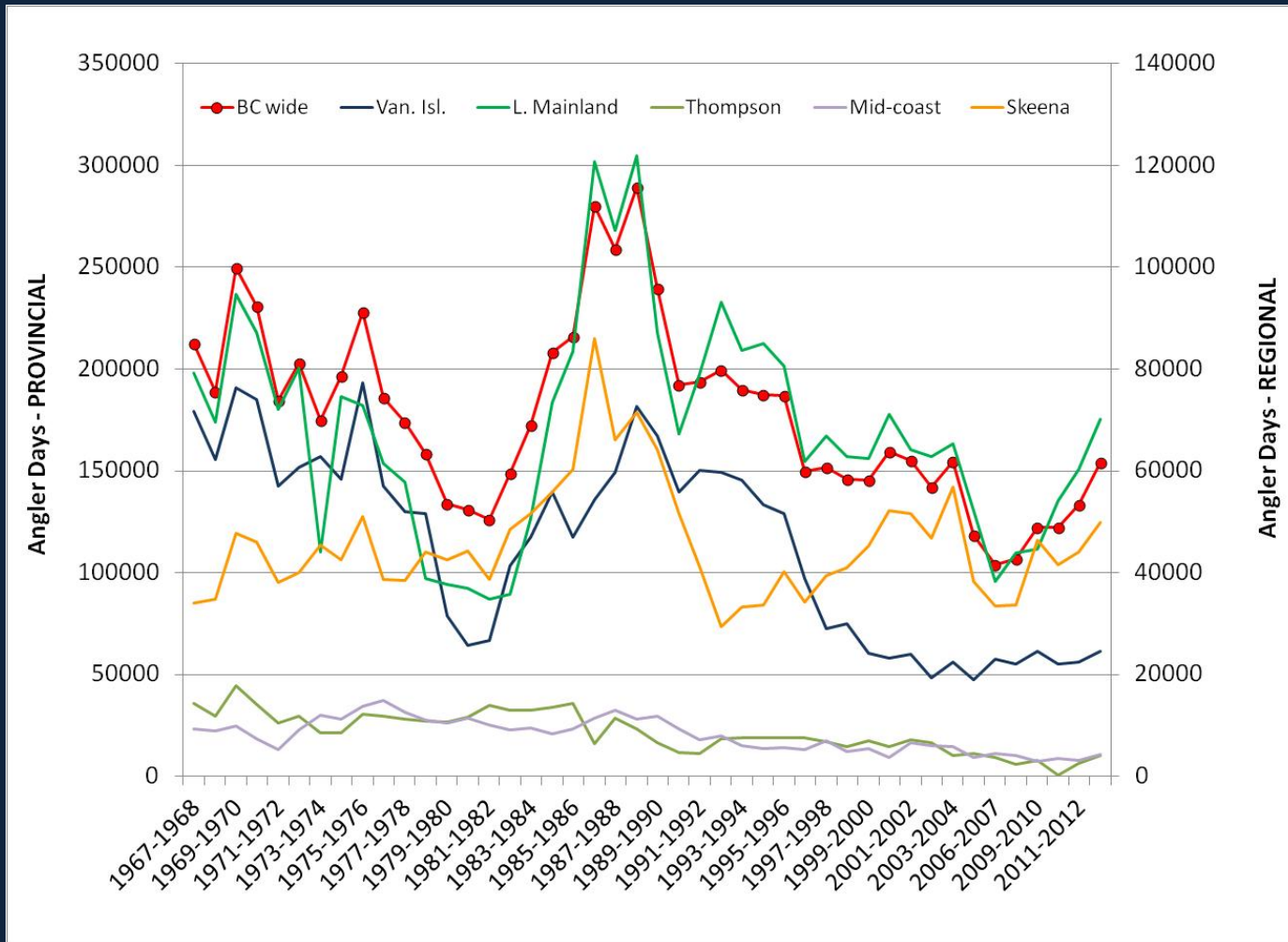
Reporting Catch and Harvest

Steelhead Angler Questionnaire



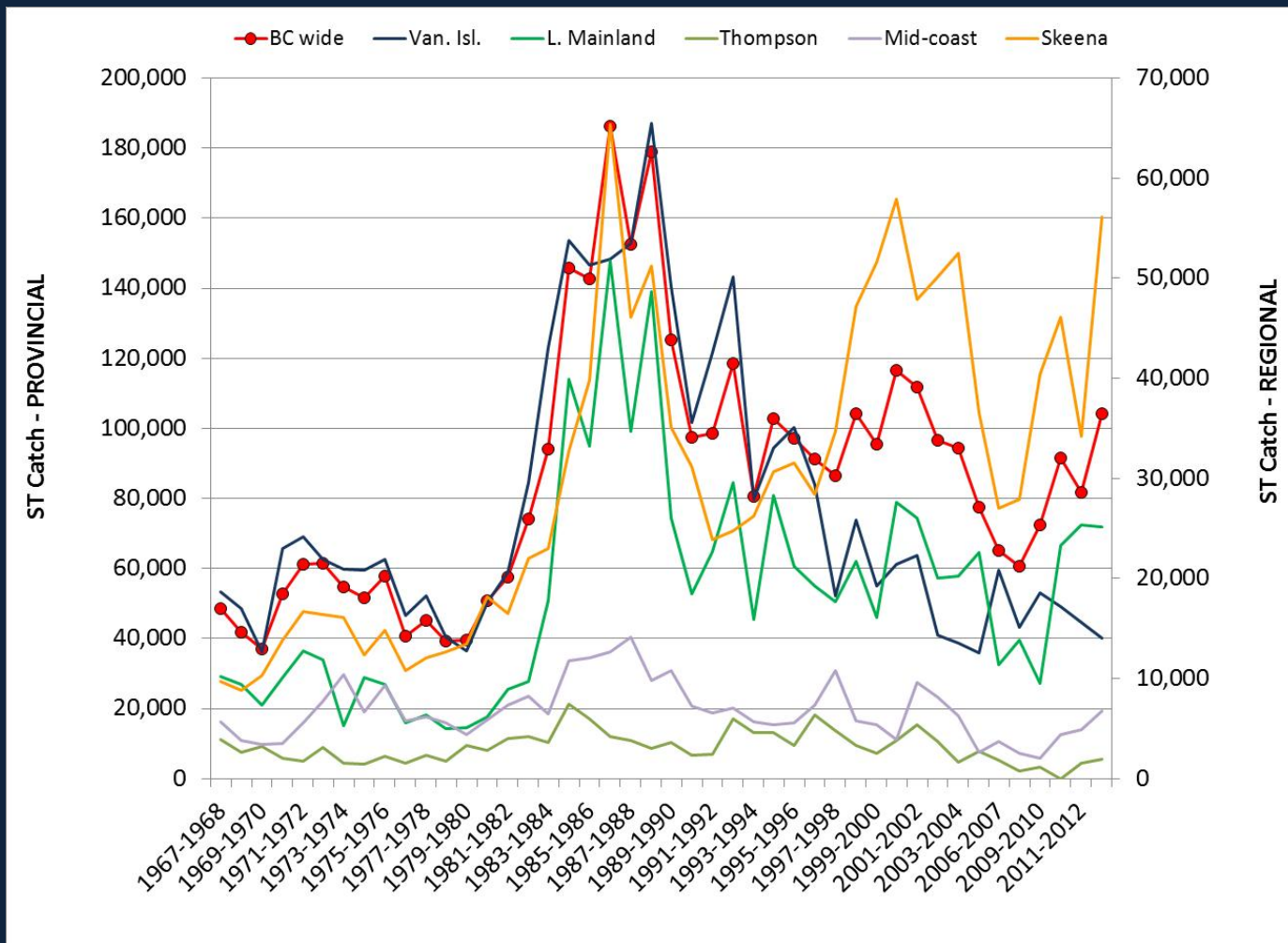
Results of Steelhead Harvest Analysis (SHA)

Effort by Region and Provincially

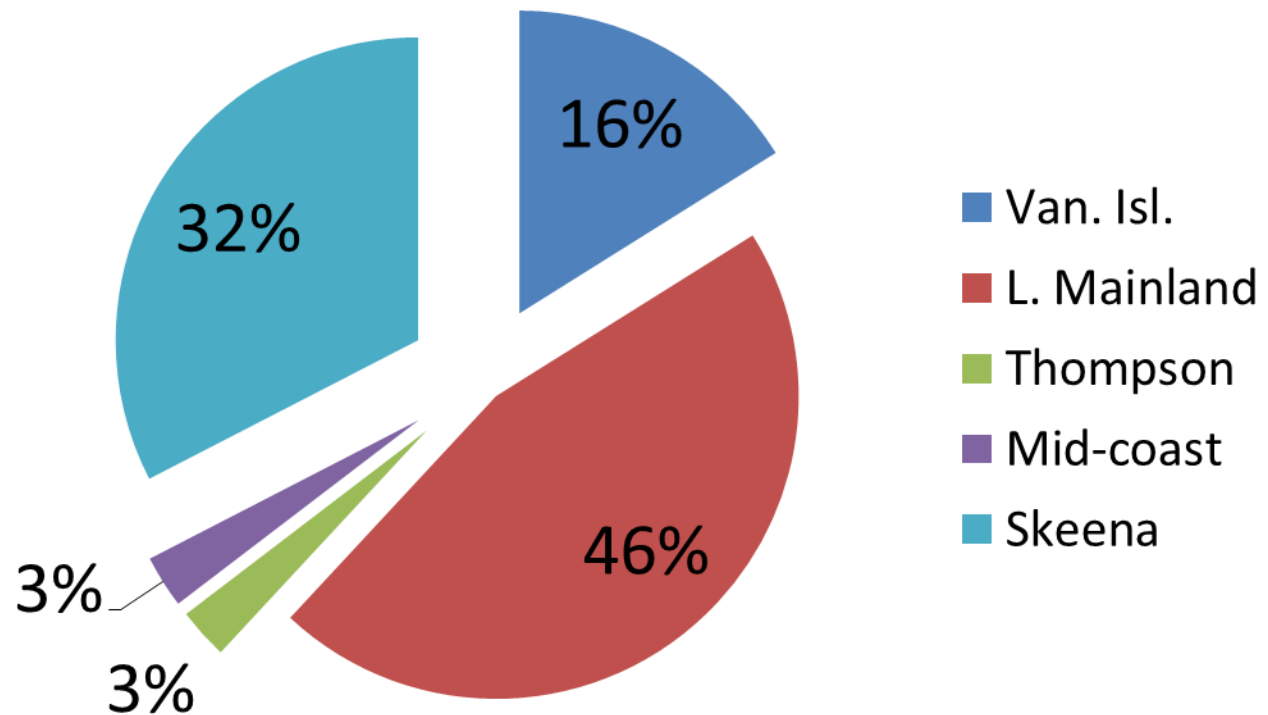


Results of Steelhead Harvest Analysis (SHA)

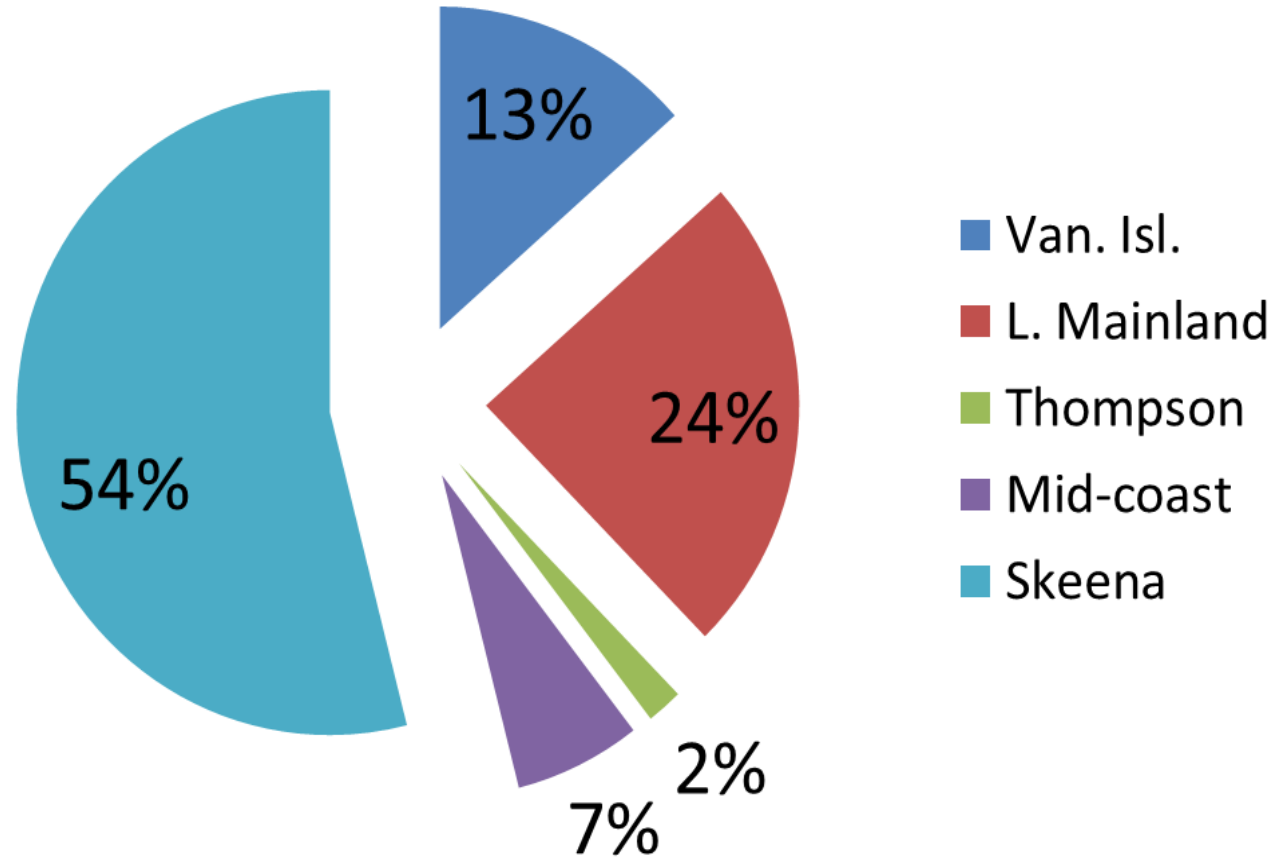
Catch by Region and Provincially



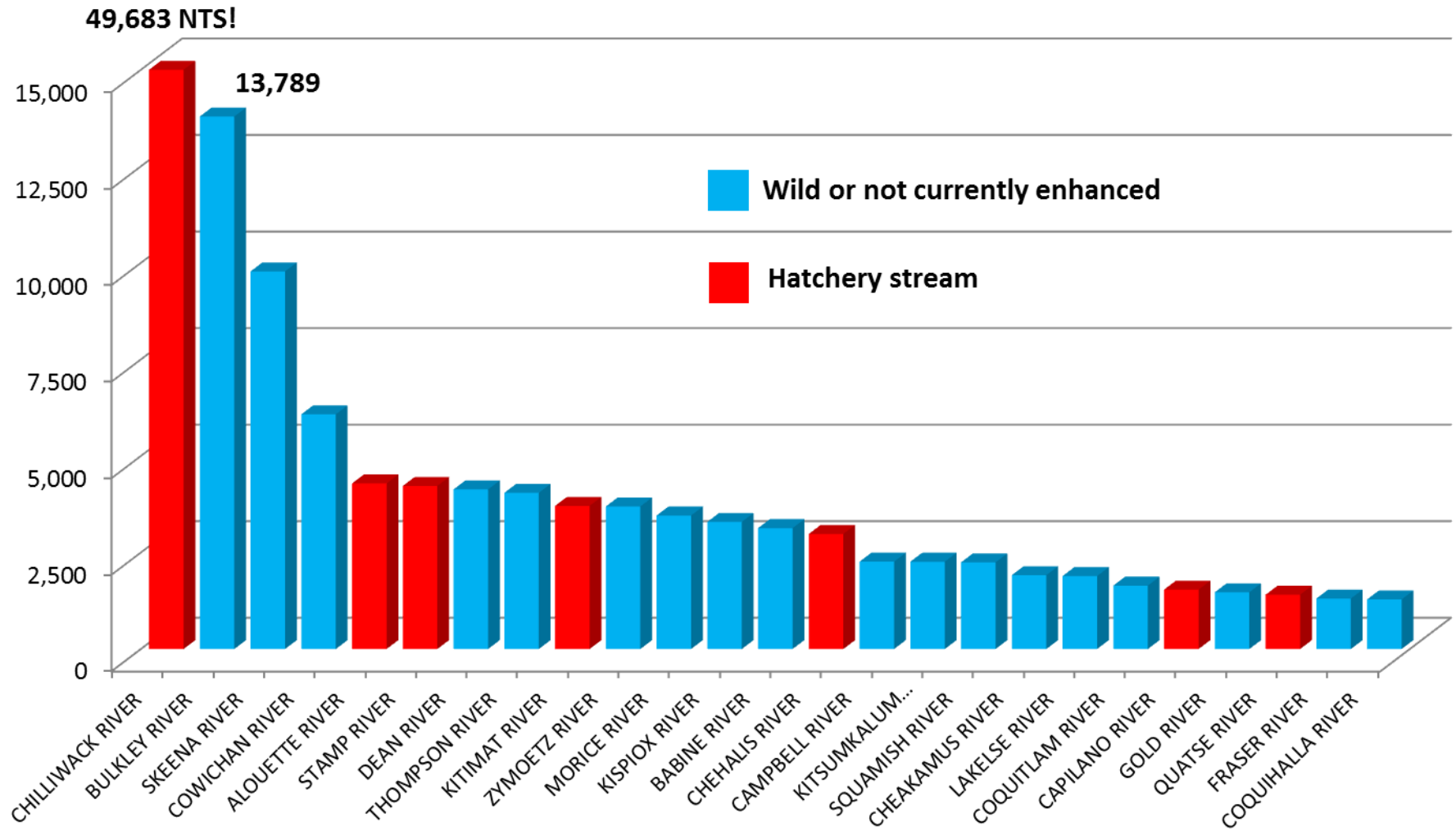
BC Steelhead Angler Days By Region from SHA Data



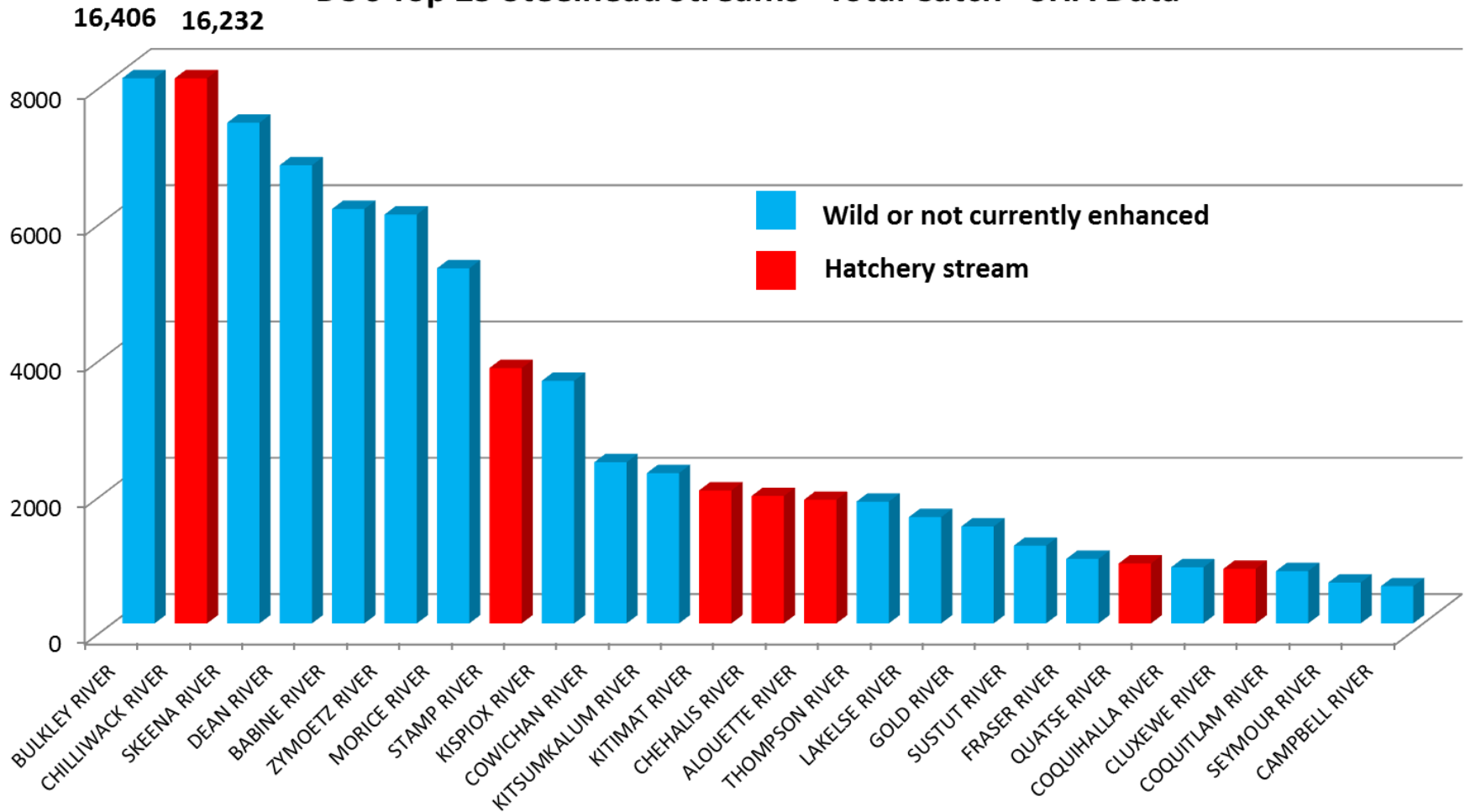
BC Steelhead Catch By Region From SHA Data



BC's Top 25 Steelhead Streams - Days Fished - SHA Data



BC's Top 25 Steelhead Streams - Total Catch - SHA Data



Actions Taken to Address Drought



Water Sustainability Act

New Water Sustainability Act:

- “Consider” environmental flow needs in new water allocation decisions
- Groundwater licencing
- regulate during scarcity
- “First-in time, first in right” FITFIR concerns – potentially old, inflated licences stand; short-term permits to provide water for fracking that can be repeated

Forests, Lands and Natural Resource Operations

Fishing closures part of comprehensive drought response

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Release

Friday, July 10, 2015 3:15 PM

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PENTICTON - Responding to dry conditions, the Government of B.C. has announced a Level 3 drought rating for the South Thompson, Nicola, Similkameen, Okanagan-Kettle and Skagit regions, and taken the additional action of suspending angling in streams and rivers throughout the South Okanagan due to ongoing low stream flows and warming water temperatures.

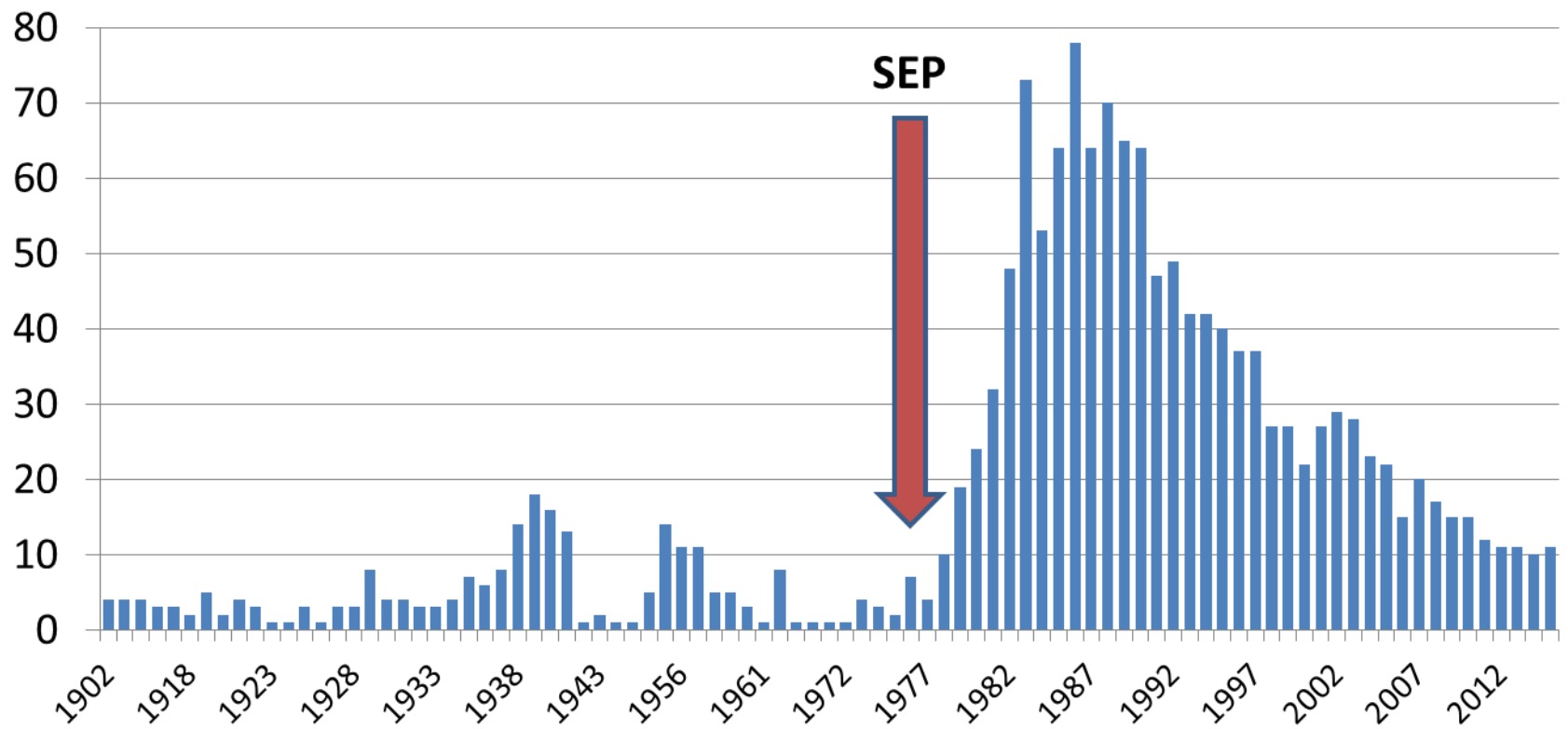
Effective July 15 through Sept. 15, 2015, all streams and rivers in the Similkameen drainage as well as the Kettle and West Kettle Rivers, and all tributary streams in these areas will be closed to angling. The angling closure covers all streams in Wildlife Management Units 8-2 through 8-7 and 8-12 through 8-14. The closure has been put in place to protect fish stocks at a time when they are vulnerable due to low flows and high water temperatures. The geographic area covers most of the south Okanagan. Lake fishing is not affected by the order.

On July 3, a similar angling closure order was put in place for southern Vancouver Island and the Gulf Islands. B.C. government fisheries biologists are monitoring approximately 60 other key angling streams throughout the province, and if conditions warrant, additional closures are possible. Angling closures are enabled through the British Columbia Sport Fishing Regulations of the federal Fisheries Act.

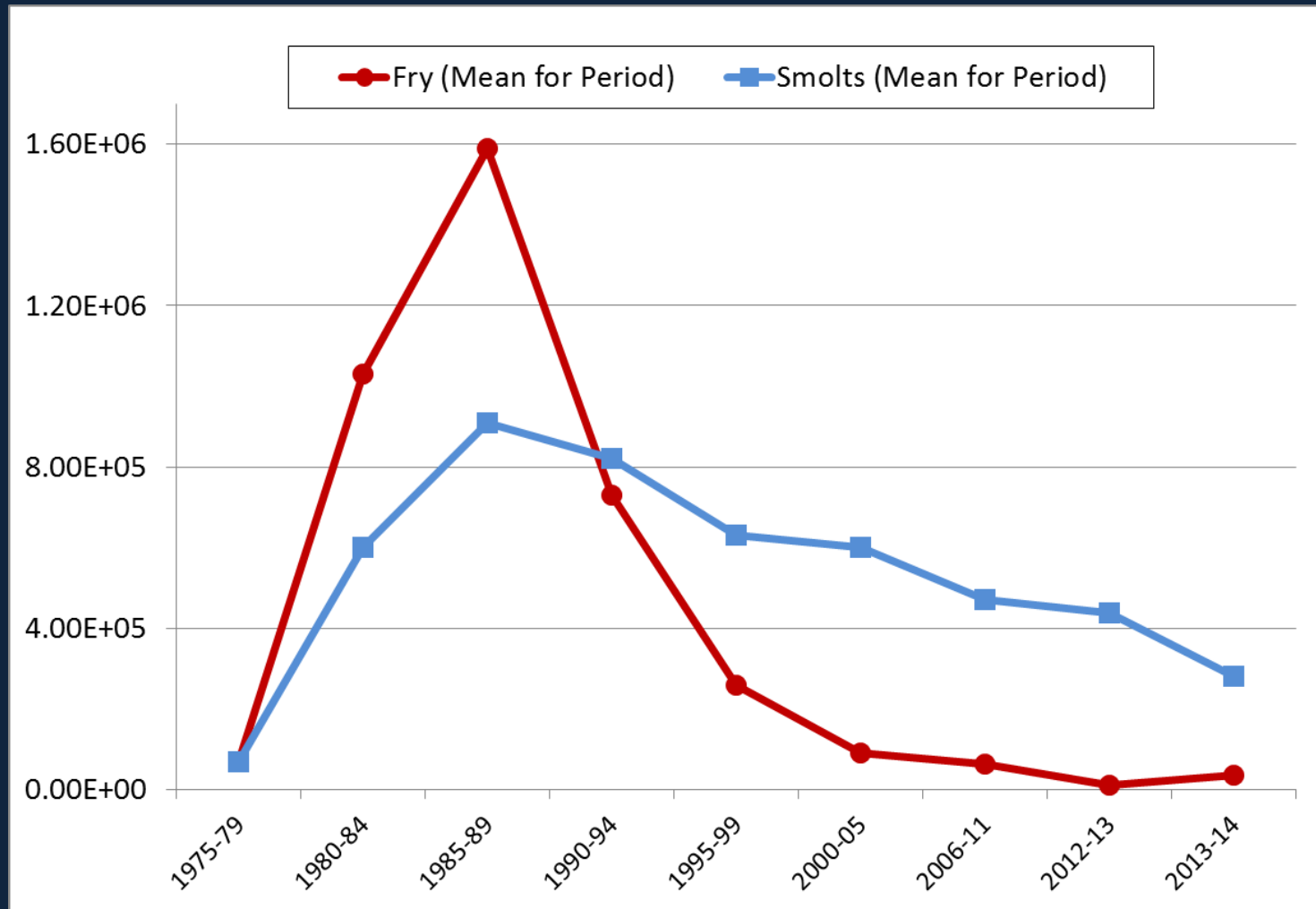
Anomalies:

Capacity, Hatchery Program

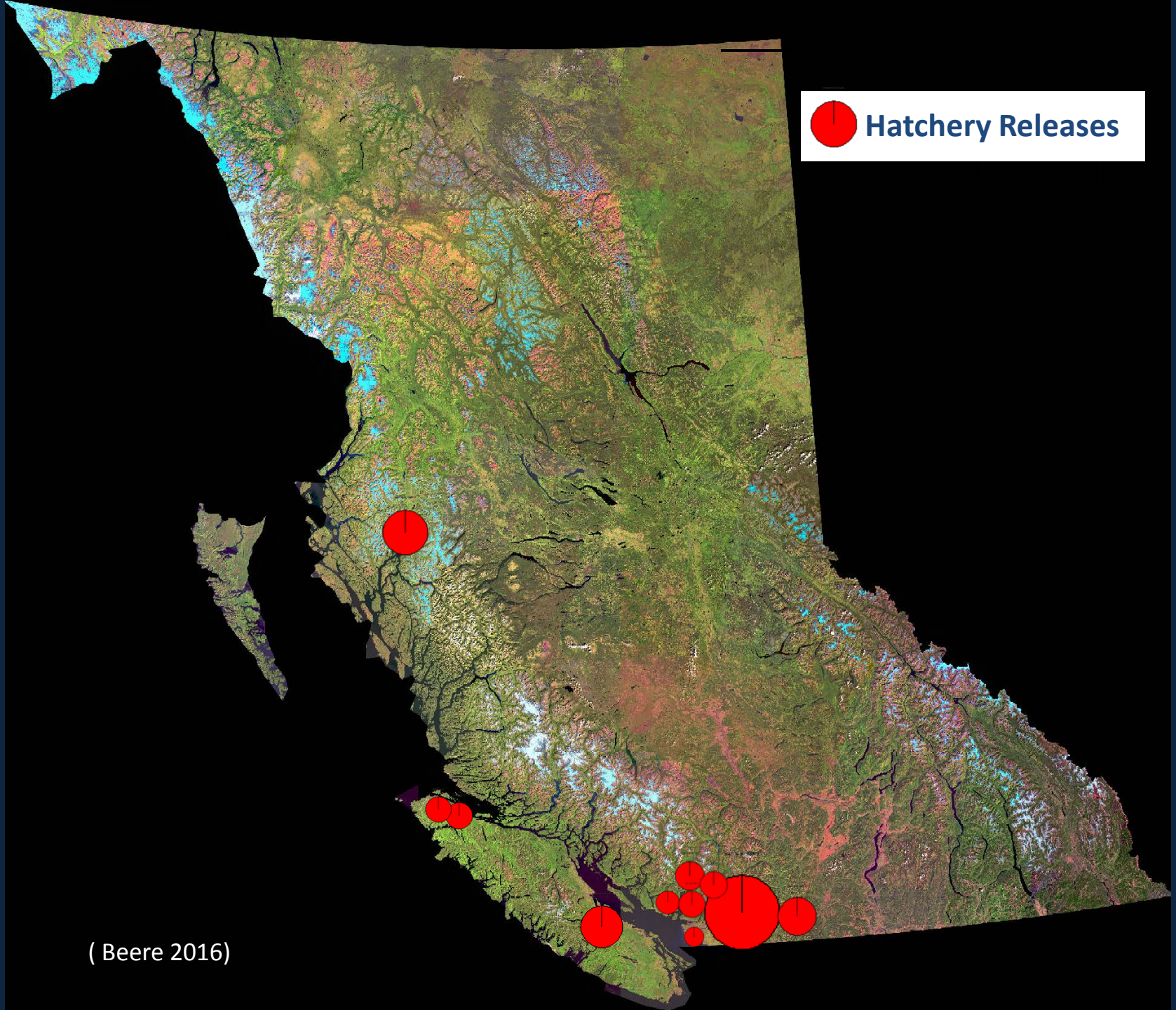
Number of BC Streams Stocked with Steelhead Juveniles - 1902 - 2015



BC Hatchery Steelhead Releases



 Hatchery Releases



(Beere 2016)

New Management Issues, Monitoring

Provincial Framework for Steelhead Management in British Columbia



Ministry of Forests, Lands and
Natural Resource Operations
Fish and Wildlife Branch
Victoria, B.C.

A Survey of Steelhead Anglers on the Bulkley, Kispiox, Zymoetz II and Skeena IV Classified Waters in 2013



Kara Pitman¹
&
Paddy Hirshfield



Ministry of
Forests, Lands and
Natural Resource Operations

Ministry of Forests, Lands and Natural Resource Operations
3726 Alfred Avenue, Smithers, B.C.

Skeena Fisheries Report SK 167
October 2014

Aboriginal Rights and Title



Tsilhqot'in Nation v British Columbia and Canada



Summary of the Tsilhqot'in Aboriginal Title Case (William Case) Decision

On June 26, 2014, the Supreme Court of Canada rendered a historic judgment in the Tsilhqot'in Nation's Aboriginal title case. All 8 judges agreed with this decision.

Aboriginal title declared – for the first time in Canada

The Court declared Aboriginal title to approximately 1900 km² of the Claim Area, including Xenl (Nemah Valley) and much of the surrounding area, stretching north into Tachelach'ed (Brittany Triangle) and along the Tsilhqox (Chilko River).

Aboriginal title lands are shown in dark green on the map at the back of this document.

This is the **first time in Canadian history** that a court has declared Aboriginal title to lands outside of a reserve.

The Court rejected the “postage stamp” view of Aboriginal title once and for all. Aboriginal title is not restricted to small, intensively used sites. Aboriginal title extends to all the territory that a First Nation *regularly* and *exclusively* used when the Crown asserted sovereignty. This means ownership is of areas that were used regularly and only by the Tsilhqot'in at the time the Canadian government staked its claim.

Monitor Post Capture Physiological Stress Response in Native Steelhead



Pacific LNG/Petronas Lelu Island - Skeena River Estuary



CEAA releases draft report on Pacific NorthWest LNG project



Image courtesy of Pacific NorthWest LNG

The Canadian Environmental Assessment Agency has on Wednesday issued a draft environmental assessment on the Petronas-led Pacific NorthWest LNG project in British Columbia.

According to CEAA, the \$11.4 billion LNG export terminal planned for Lelu Island in the Port of Prince Rupert would likely harm harbour porpoises and contribute to a large increase in greenhouse gas emissions.

However, after evaluating all components of the LNG project, the Agency concludes that the project is *"not likely to cause significant adverse environmental effects taking into account the implementation of the key mitigation measures,"* the assessment said.

CEAA, which started its review into Pacific NorthWest LNG in April 2013, said a new 30-day public comment period will wrap up March 11.

Any conditions set by federal Environment Minister Catherine McKenna will become legally binding. She is expected to make her decision on or about March 22.

The proposed PNW LNG facility will comprise an initial development of two LNG trains of approximately 6 million tonnes per annum each, and a subsequent development of a third train of approximately 6 mtpa.

Petronas, Sinopec, JAPEX, Indian Oil Corporation and PetroleumBRUNEI are all shareholders in Pacific NorthWest LNG and the associated natural gas supply.

LNG World News Staff

Skeena River Headwaters



Atrum Coal – Skeena Headwaters

Australian firm has high hopes for B.C. coal deposit

Atrum Coal says the ore in its high-grade anthracite prospect has attracted the interest of Asian steel mills

BY DERRICK PENNER, VANCOUVER SUN SEPTEMBER 18, 2015

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Coal ore trucks at bulk loading terminal at Stewart, B.C.

Photograph by: Atrum Coal

In a world awash with coal, Australia-based Atrum Coal reckons there is still room for its proposal for a new anthracite coal mine in northwest British Columbia, even while the rest of the industry is closing mines and cutting back production.

The key is that it's anthracite, which is in short supply, said Atrum executive Peter Doyle Friday to the Coal Association of Canada's annual conference in Vancouver.

While the world market for most metallurgical coal for steel making is oversupplied by millions-of-tonnes-per-year, Doyle said key sources of the more specialized anthracite in Vietnam and Ukraine have been taken out of the market.

In B.C., more than 200 km north west of Smithers, "we believe we have discovered, and are exploring what we believe to be, the largest undeveloped anthracite coal deposit in the world," Doyle said.

Anthracite is the highest-quality coal, renowned for having the highest carbon content with lowest volatility. It is used in specialty steel production and chemical production.

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By-Catch in Commercial Tidal Salmon Fisheries





Wild Steelhead

J.D. McPhail

Biology & Conservation



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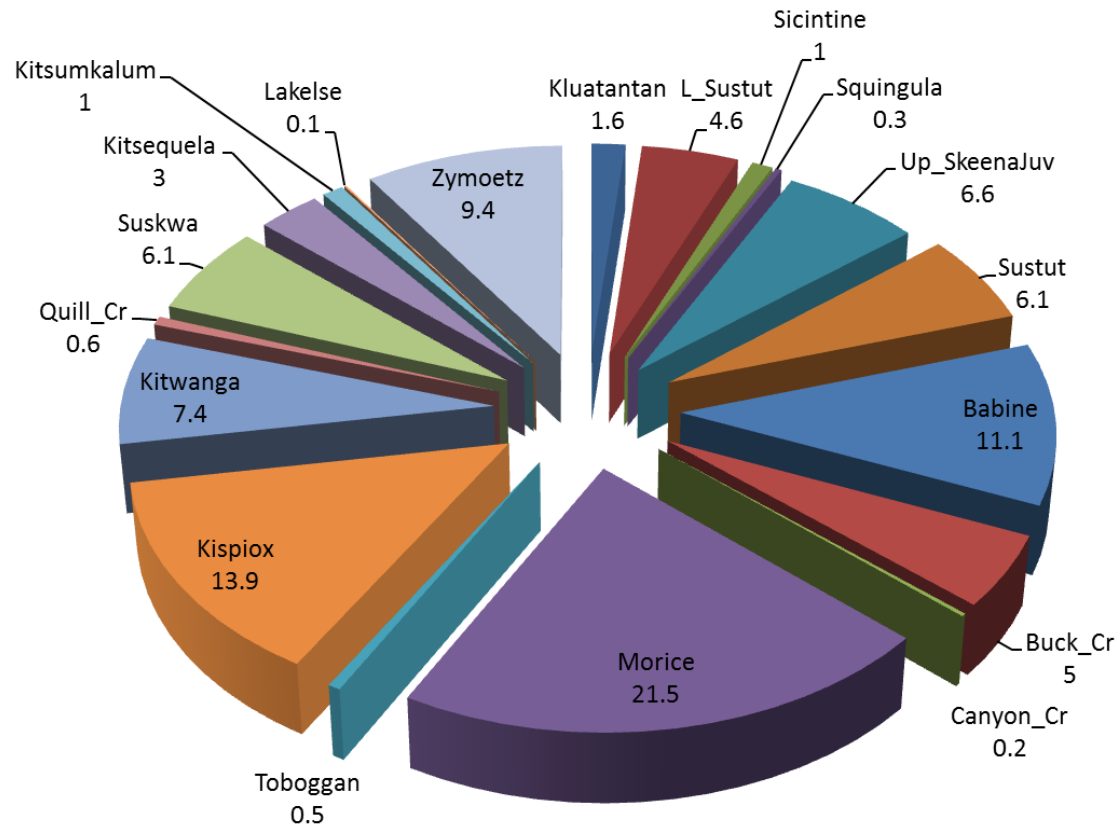


Don McCubbing 1966 - 2015

Tyee Test (Gillnet) Fishery – DFO (1956 – present)



Skeena River Interior Summer Ecotype Stock Composition - 2015



Moricetown Canyon (Bulkley River) Mark-Recapture Project – Wet'suwet'en Fisheries (1999 – present)



Kloiya River Winter Steelhead Resistivity Counter (2006 – present)



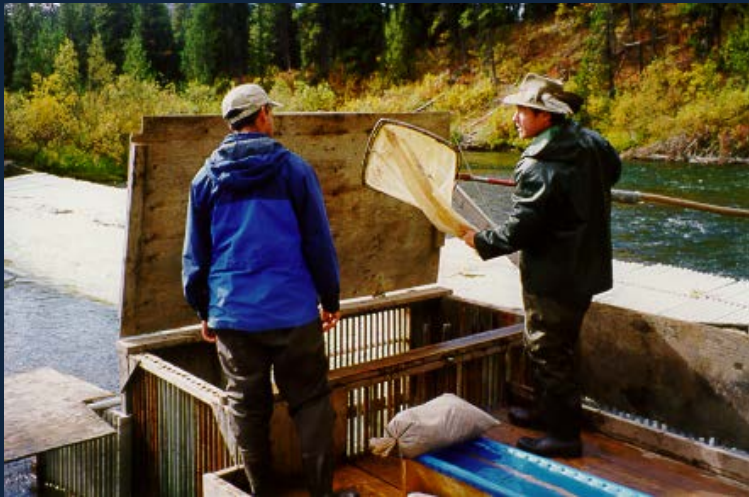
Skeena Region Steelhead Molecular Genetics (1990 – present)



Kitwanga River Resistivity/Dual Beam Sonar – Gitanyow (2003 – present)



Upper Sustut River Enumeration Weir (1985, 1992 - present)



Nass River Fishwheels – Nisga'a/LGL (1992 – present)



Nass Watershed

