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March 30, 2021

MEMORANDUM

TO: Fish and Wildlife Committee Members

FROM: Todd Ungerecht, Policy Analyst, Idaho Office

SUBJECT: Lake Pend Oreille multi-species fishery recovery update.

BACKGROUND:

Presenters: Mr. Andy Dux, Panhandle Regional Fishery Manager, Idaho Department of Fish & Game
Dr. Matt Corsi, Principal Fisheries Research Biologist, Idaho Department of Fish and Game

Summary: Mr. Dux and Dr. Corsi will update the Committee on progress for a successful, Council-funded resident fish program (IDFG #2019-005-00) to suppress predatory lake trout and walleye and allow for multi-species fisheries and native fish conservation in Lake Pend Oreille in Northern Idaho.

Lake Pend Oreille includes diverse fish populations, including Endangered Species Act-listed native Bull Trout, Rainbow Trout, Westslope Cutthroat Trout, Lake Whitefish, and Smallmouth Bass, among many others. Lake Pend Oreille is also home to kokanee, a keystone species and cornerstone of one of the most popular fisheries in Idaho.

Nonnative Lake Trout in Lake Pend Oreille increased exponentially in the late 1990's, leading to significant predation of kokanee, as well as Endangered Species Act-listed native Bull Trout. In 2000, as a result of low kokanee abundance, the fishery was closed.

In response, IDFG embarked on an aggressive Lake Trout suppression program funded by the Bonneville Power Administration and Avista, using both incentivized angling and contract netting (gill nets and deep-water trap nets). As a result of these efforts, the Bull Trout population has remained robust and stable and kokanee has rebounded to levels similar to those observed prior to Lake Trout population expansion.

A few years ago, a rapidly growing Walleye population emerged as a new threat to the long-term sustainability of the sport fishery and native fish conservation efforts. In 2018, IDFG convened a panel of experts from across the U.S. and Canada to identify the scope of the problem. IDFG contracted a commercial netting company to catch and remove 2,684 using targeted gillnets.

Additionally, IDFG instituted a modified incentivized angling program in 2019 that has resulted in the removal of 1,645 additional walleyes. By using the best scientifically informed management practices, IDFG has been successfully addressing Walleye much the same way as with Lake Trout, and population monitoring suggests a substantial reduction in Walleye population abundance.

Lake Pend Oreille Multi-species Fishery Update

-A Success Story-



NPCC Update
4/6/2021



Matt Corsi
Principal Fishery Research Biologist
Project Lead: 2019-005-00



Andy Dux
Regional Fishery Manager
IDFG Panhandle Region



Partnerships

- **Bonneville Power Administration**
- **US Army Corps of Engineers**
- **Avista Corporation**
- **Hickey Bros. Research, LLC**
- **Numerous agencies and cooperators**
- **Anglers and other public supporters**

Lake Pend Oreille Fishery

Background

- Historically the largest sport fishery in Idaho
- Diverse, multi-species fishery
 - 13 sport fish species caught
- 200,000 hours of angler effort (2014)
- World class trophy opportunity



Limiting Factors?

2008

Corsi et al. 2019.
Hydrobiologia

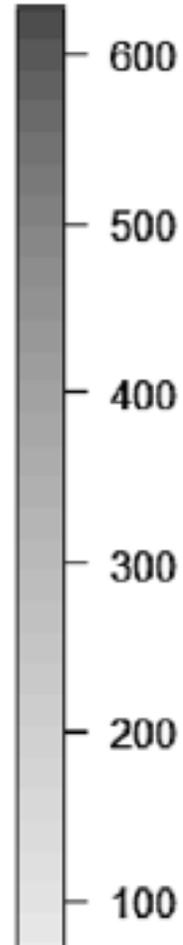
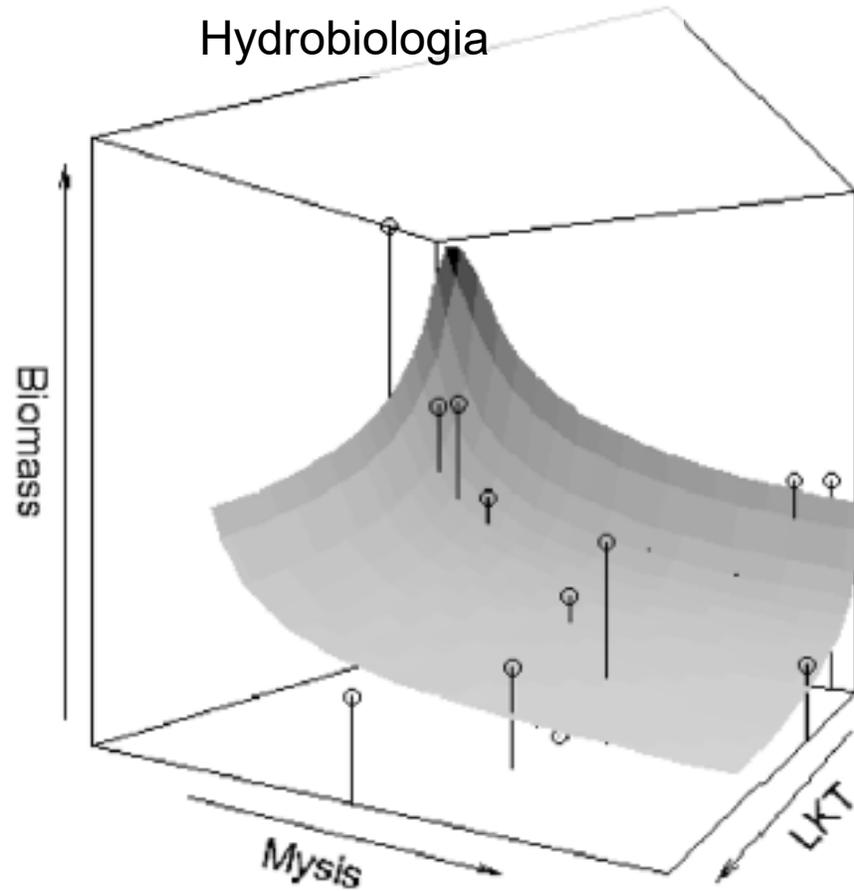
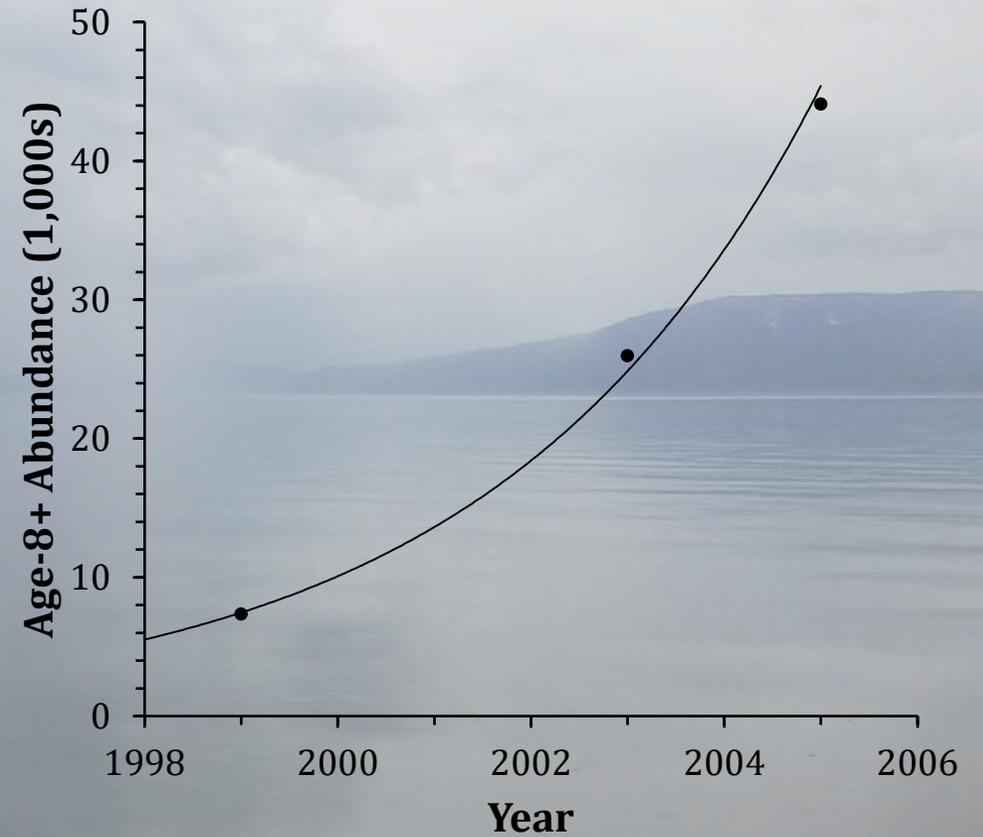


illustration by Joseph Tomelleri

Lake Trout Threat Emerged

Late-1990s

- Delayed response to mysid shrimp
- Predation limiting factor for kokanee
- Threat to Bull Trout population
- Options:
 - Suppress Lake Trout
 - Do nothing – collapse of fishery
- Lake Trout population objectives:
 - Reduce to late-90s abundance
 - Maintain low density population



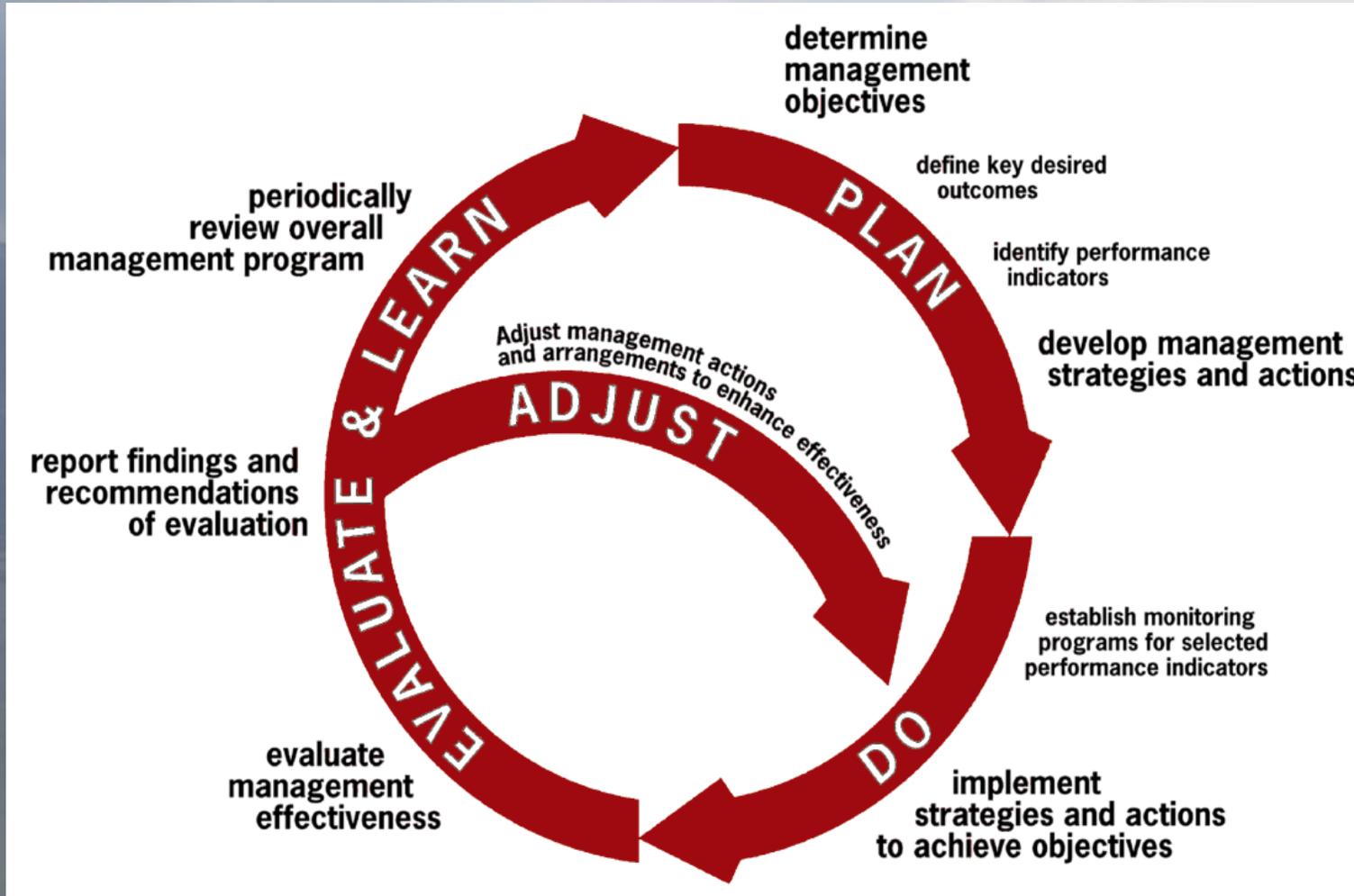
Lake Trout Suppression

- Should it be done? – Set quantitative goals
 - Evaluate Current/possible Exploitation rates
 - Can it be done? – Convened expert panel
 - Michael Hansen - UWSP
 - Mark Ebener – Chippewa Ottawa RA
 - John Gunn – Laurentian University
- Commonly overharvested in native range
- Populations collapsed in Great Lakes
 - Can we afford it? – BPA/Avista cost share

Lake Trout Suppression

- How best to do it?
 - Mike Hansen – Sabbatical
 - “Squeeze” fish: target adults and juveniles; anglers and nets
 - Modeling:
 - how much effort?
 - which gears?
 - how long to suppression goals?

Adaptive Management Cycle



Fishery Recovery Goals

Restore kokanee population that supports consistent harvest fishery and trophy Rainbow Trout/Bull Trout fishery



Restore consistent trophy Rainbow Trout fishery



Maintain/enhance Bull Trout population and restore harvest



Maintain/enhance Westslope Cutthroat Trout population



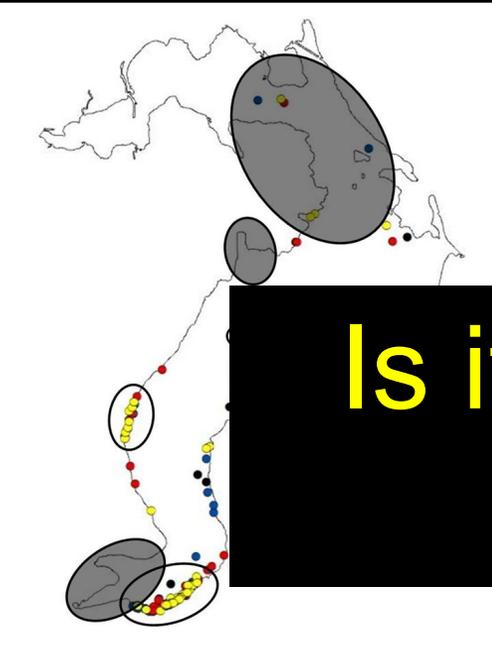
Lake Trout Suppression

- Contracted commercial fishing company
 - Hickey Bros. Research
- Angler Incentive Program (\$15/fish) to remove LKT
- Removals began in 2006
- Funded by Avista and BPA
- Research and monitoring (BPA)
 - Telemetry, population estimates, catch rates, growth, etc.

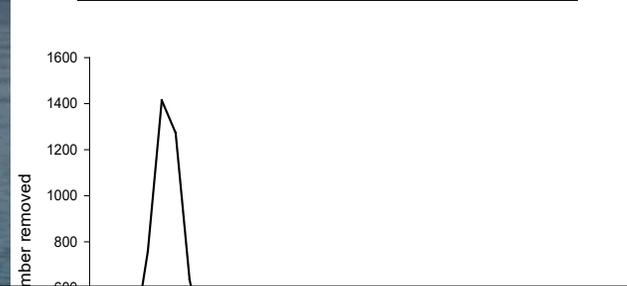


Monitoring Strategy

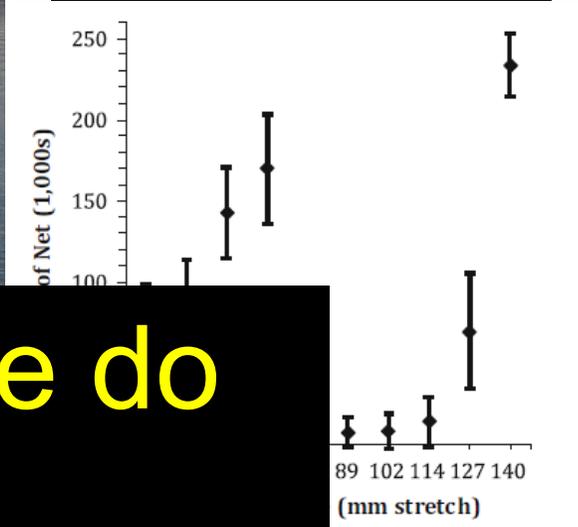
Telemetry



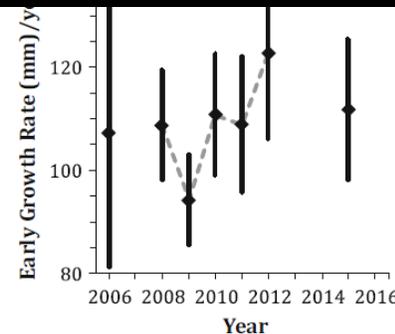
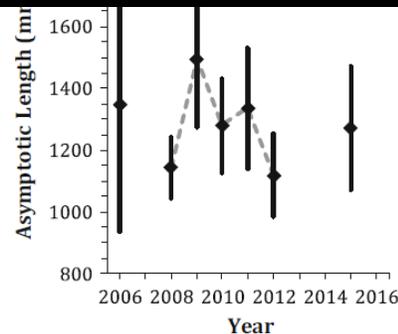
Length/Age Structure



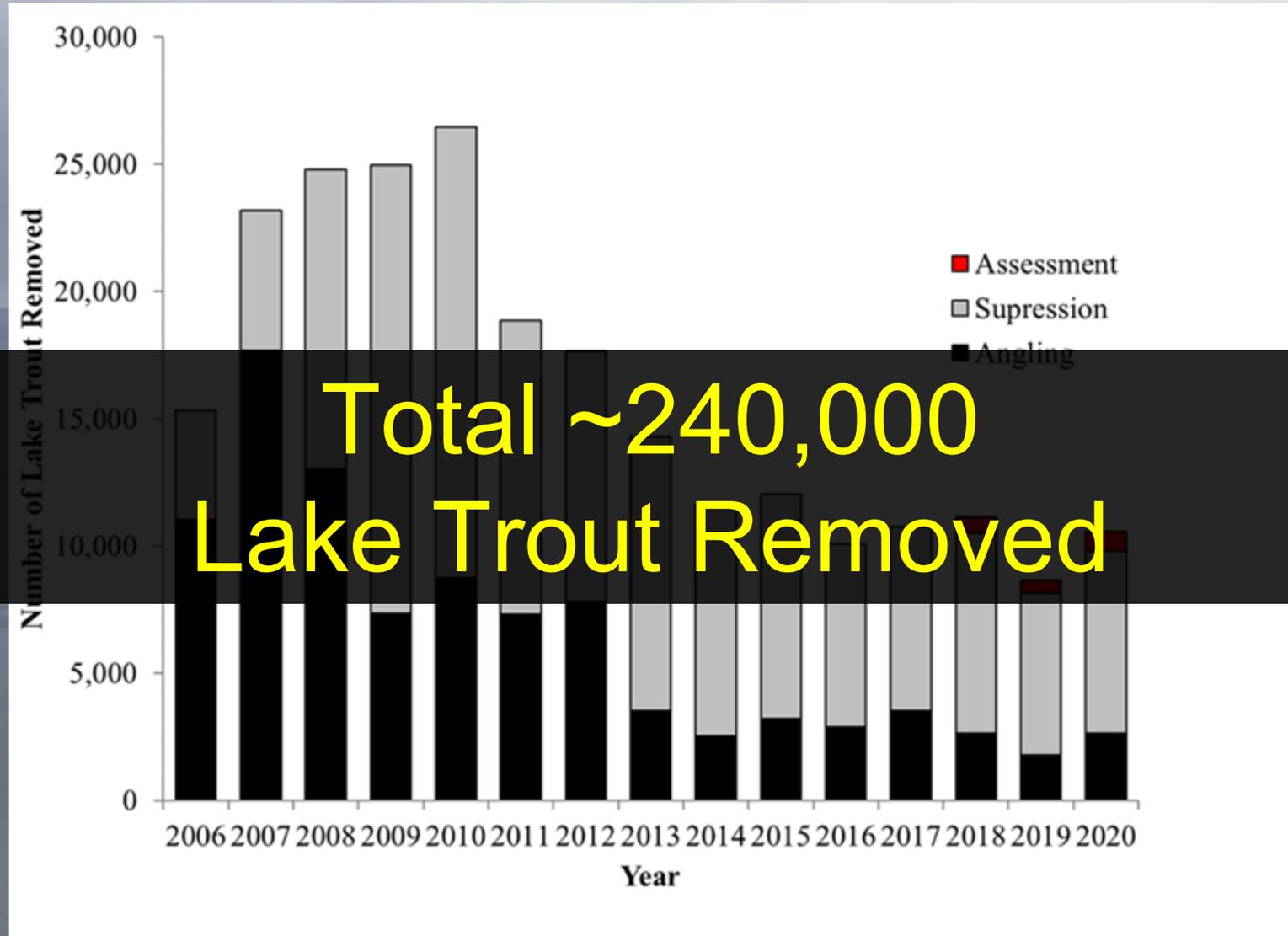
Assessment Netting



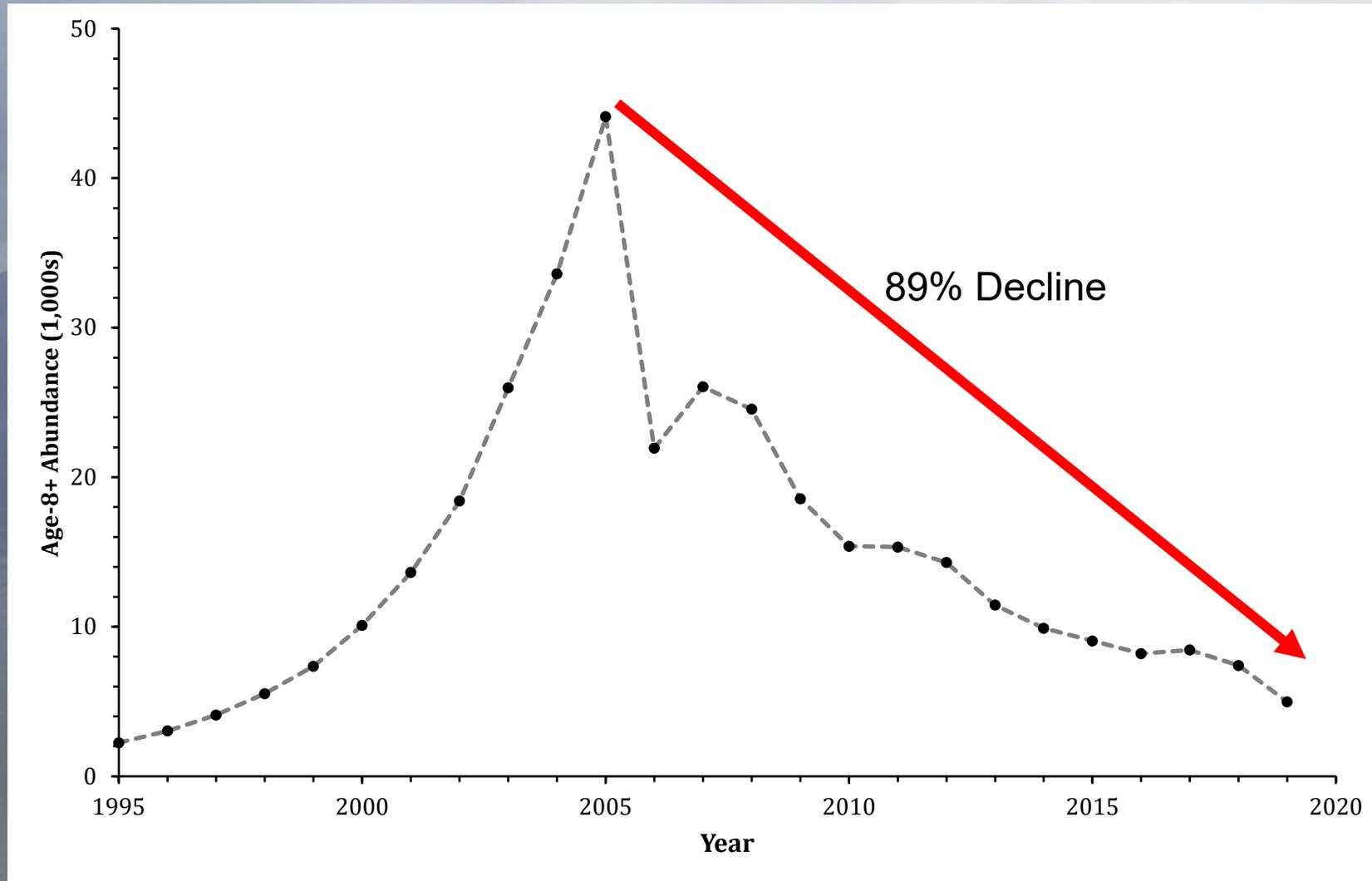
Is it working, can we do better?



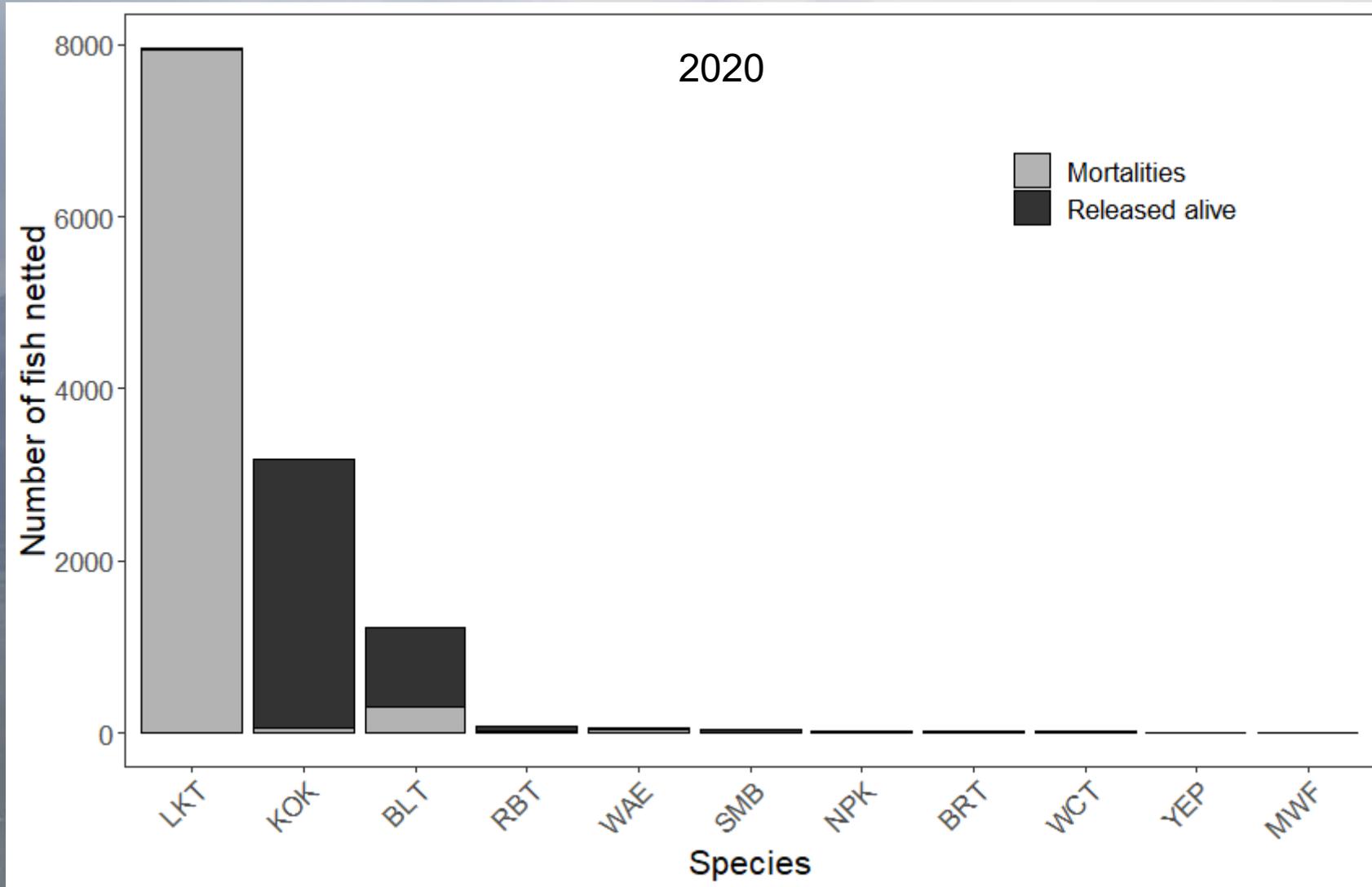
Lake Trout Removed



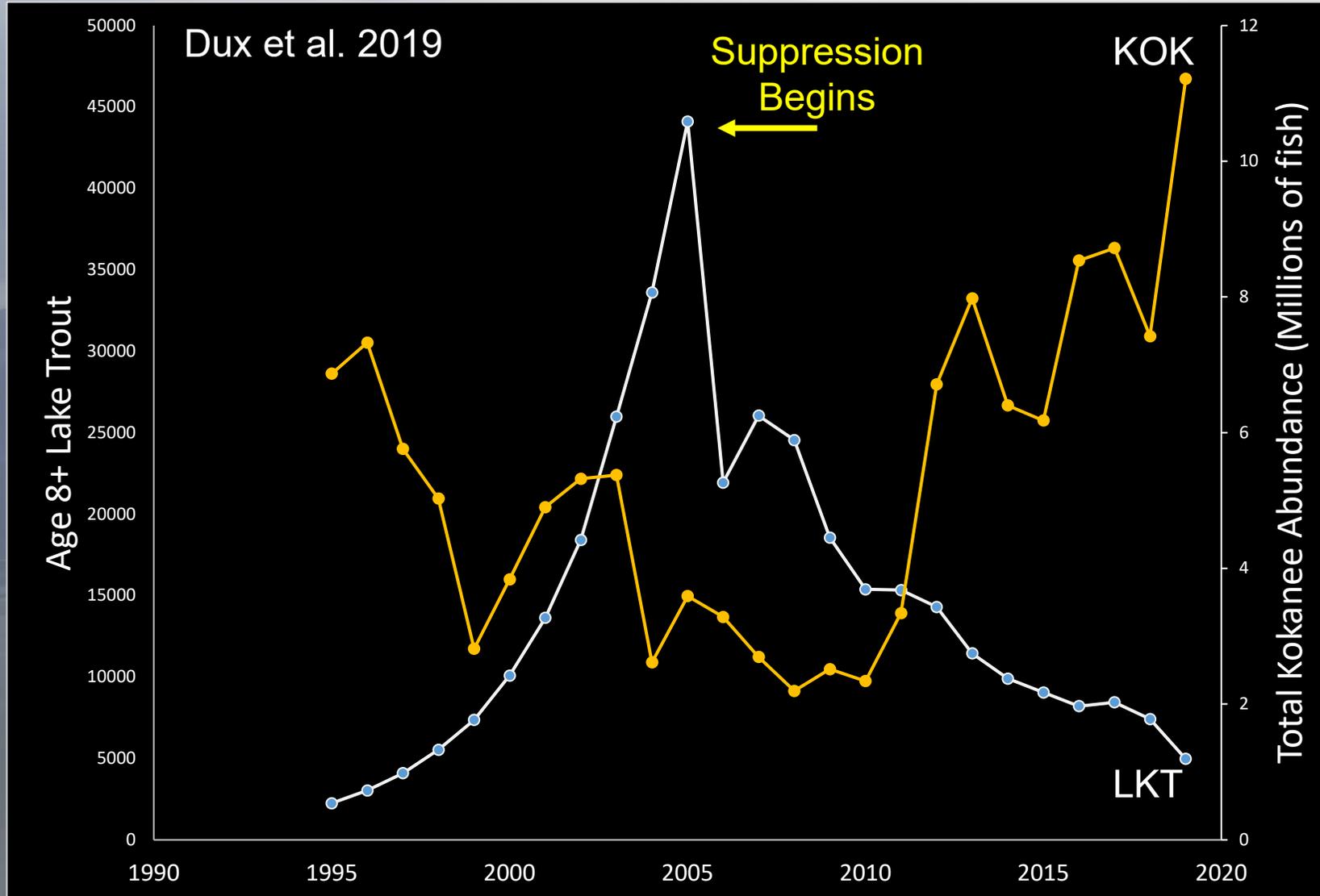
Lake Trout Abundance



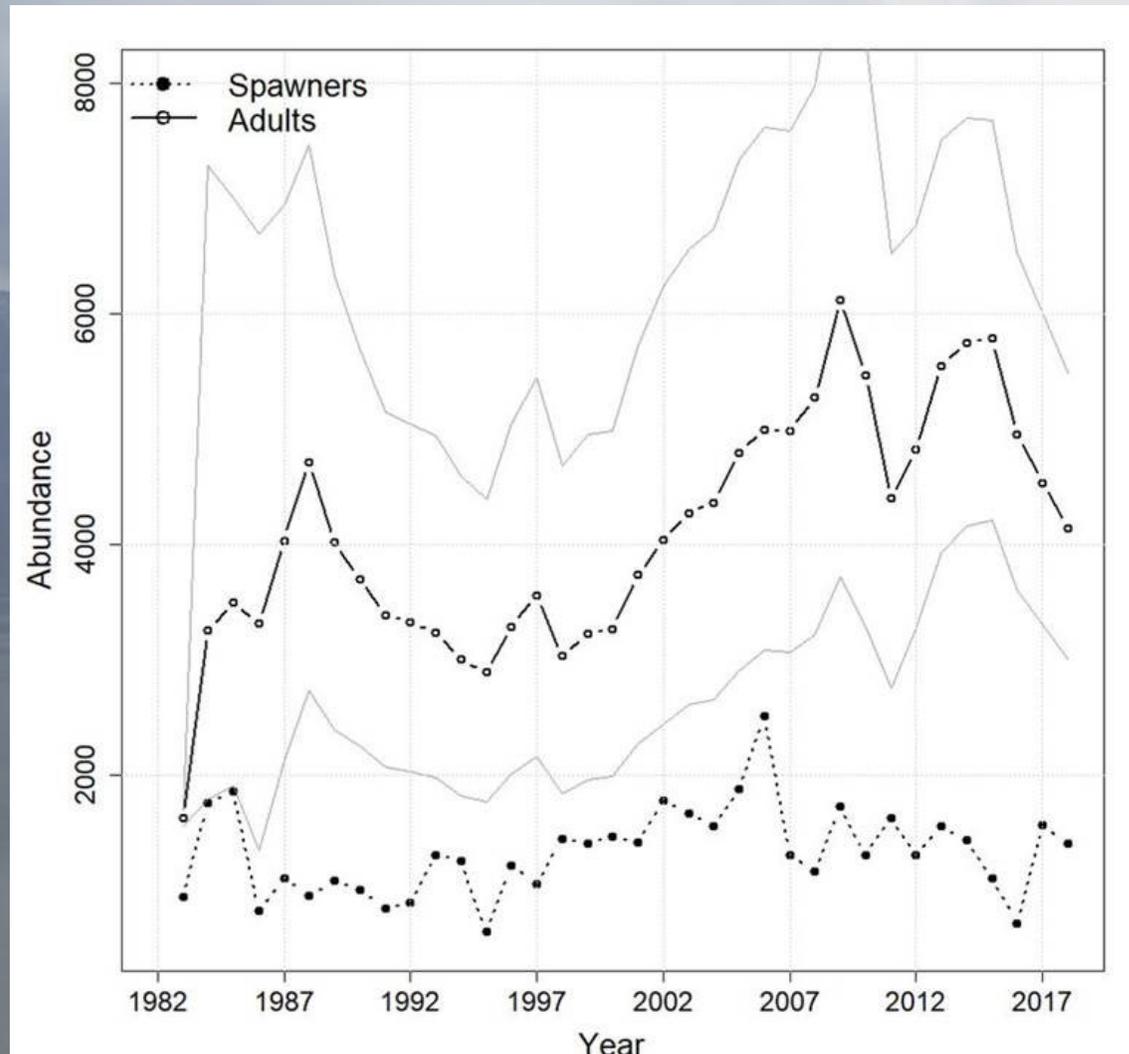
Lake Trout Netting Bycatch



Desired Response?



Results – Bull Trout Abundance



Results – Rainbow Trout Growth



THE SPOKESMAN-REVIEW

Spokane, Washington Est. May 19, 1883

34° Clear

2021 NCAA Tournaments Gonzaga Basketball WSU Football Outdoors NWPredsNow Gonzaga Women's Basketball Chiefs

The 2021 Subaru Forester?



Discover More

SPORTS - OUTDOORS

Rainbow revival at Lake Pend Oreille

Sun., March 21, 2021



Carson Jeffres, right, with his cousin Nathan Jeffres, of Sandpoint, holds a 22-pound rainbow he caught last year in Lake Pend Oreille. (COURTESY PHOTO)

Twitter Facebook Email Reddit

Information for anglers

State of the Lake: The annual Lake Pend Oreille update meeting, set for 6 p.m. on March 24, will be virtual this year as Idaho Fish and Game researchers report on their fisheries programs. Information is posted in advance online so the public can send in questions before and during the webinar.

Info: See "press releases" at idfg.idaho.gov.

By Rich Landers
For The Spokesman-Review

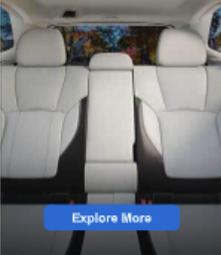
The fish that made Idaho's largest lake famous are getting back to trophy form.

For 15 years, the Idaho Fish and Game Department has been aggressively reducing the number of invasive lake trout in Lake Pend Oreille to help bring back the popular kokanee fishery that was crashing at the end of the 1990s. Fishing for kokanee was closed in 2000 until they were declared recovered in 2013, when fishing for the "silvers" reopened to the delight of anglers who love their red meat.

Meanwhile, the thriving kokanee fishery also has been a feast that's fueled impressive growth in rainbows and bull trout.

The 2021 Subaru Forester?

Right-sized SUV with up to 76.1 cubic feet of cargo volume.



Explore More

SUBARU

Top stories in Outdoors



OUTDOORS
Rainbow trout removal project proposed on wilderness stream that flows into Yellowstone
6 a.m.

Q-and-A with the Kootenai Environmental Alliance's new executive director ...

After perilous climbing fall, Idaho outdoorsman has lessons to share on pride, safety ...

Spokane Audubon meeting features Yellowstone, Grand Teton wildlife photography ...

Idaho Fish and Game Commission cancels two meetings, postpones agenda until May 6 ...

Fishery Recovery Goals

Restore kokanee population that supports consistent harvest fishery and trophy Rainbow Trout/Bull Trout fishery



Restore consistent trophy Rainbow Trout fishery



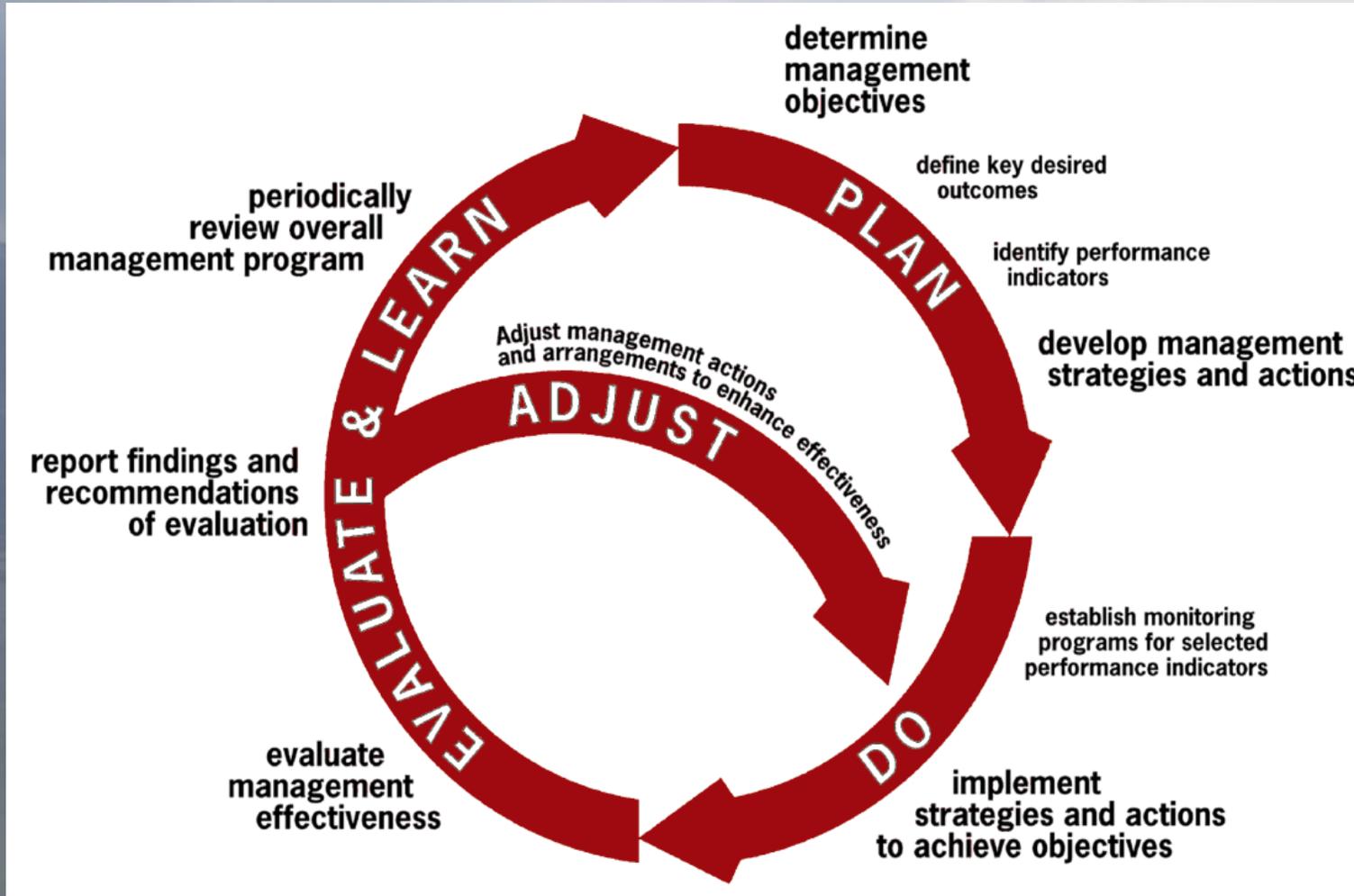
Maintain/enhance Bull Trout population and restore harvest



Maintain/enhance Westslope Cutthroat Trout population



Adaptive Management Cycle



Effort in the Long-Term

- Goal: 90% reduction from 2006 Lake Trout abundance
- Continue high level of effort for ~7 yrs*
 - Once goal is reached, only 30% of current effort will be required to keep it there

Hydrobiologia

<https://doi.org/10.1007/s10750-019-3890-2>

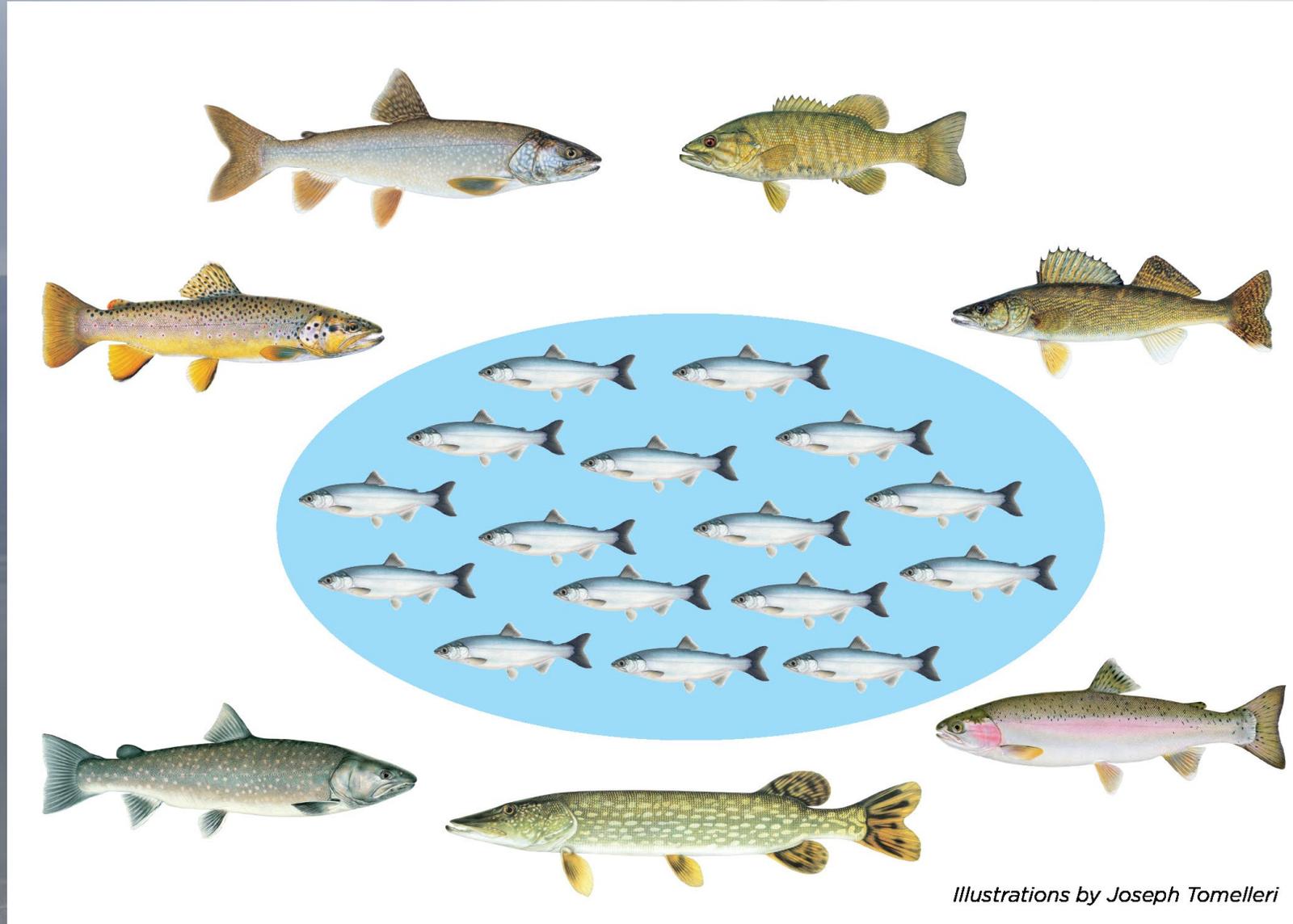


CHARR III

Long-term suppression of the Lake Trout (*Salvelinus namaycush*) population in Lake Pend Oreille, Idaho

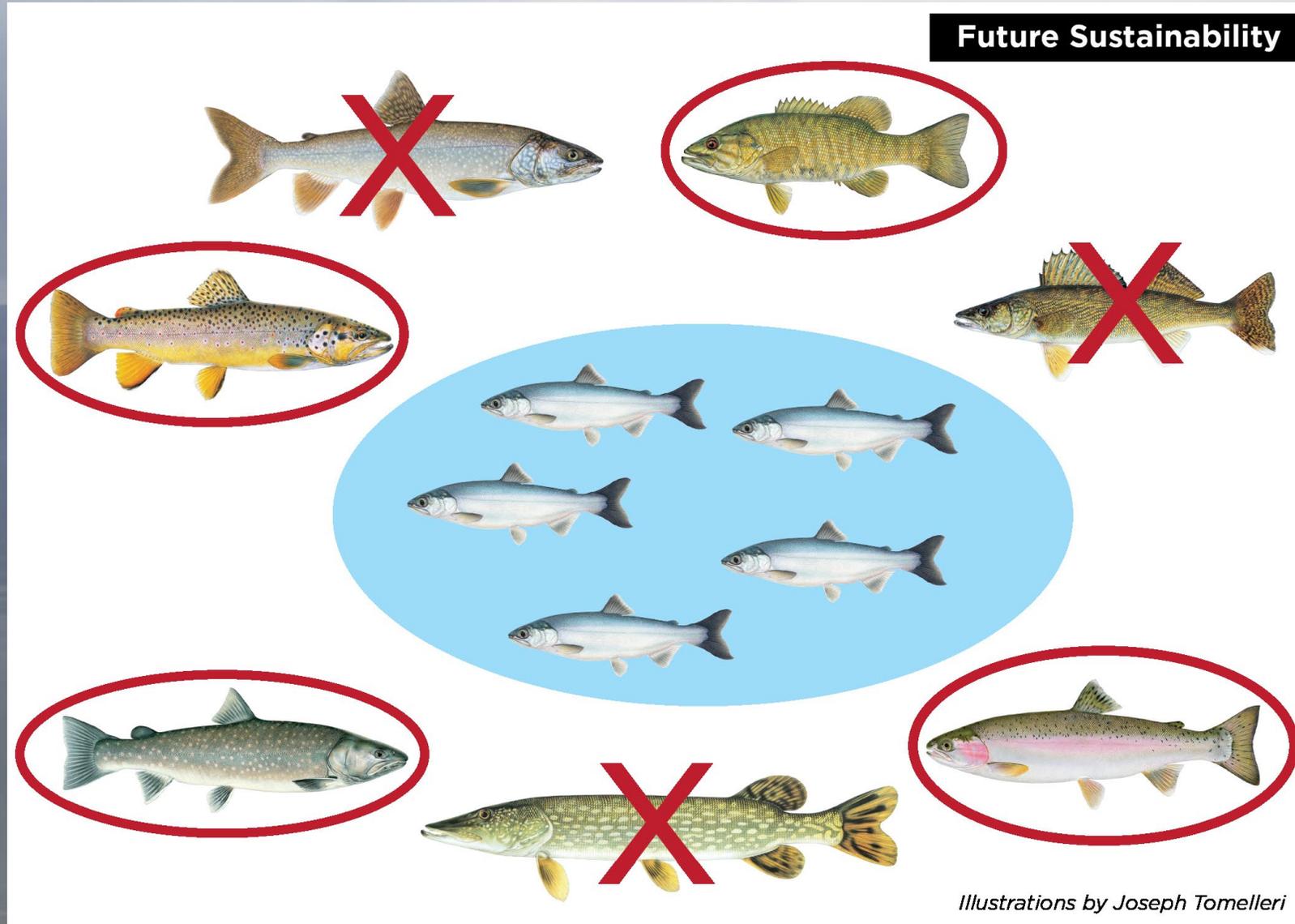
Michael J. Hansen · Matthew P. Corsi · Andrew M. Dux

Where does that leave us now?



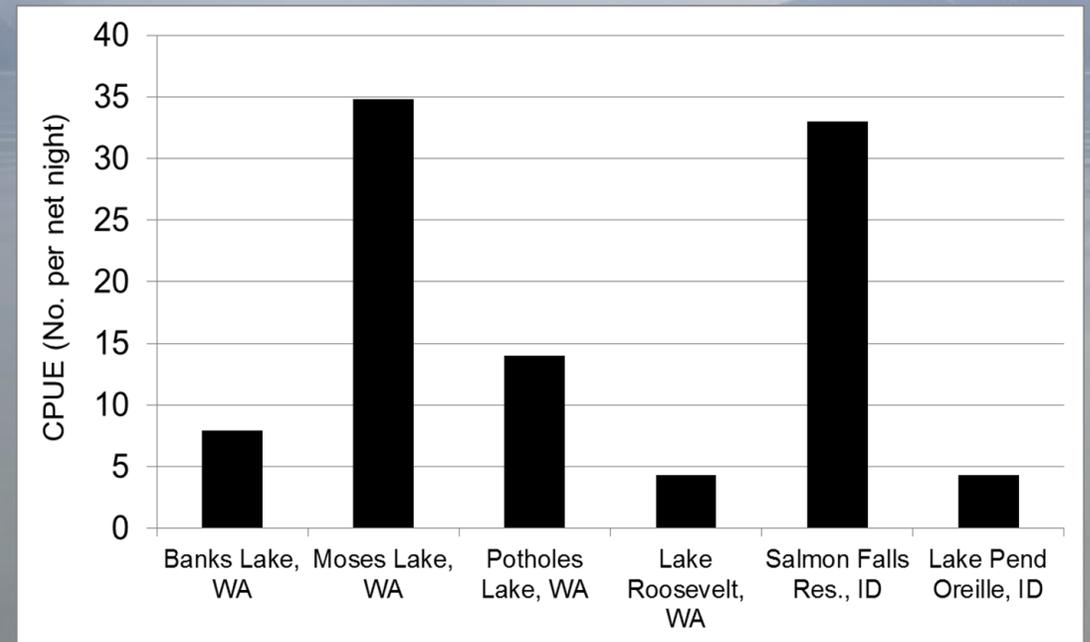
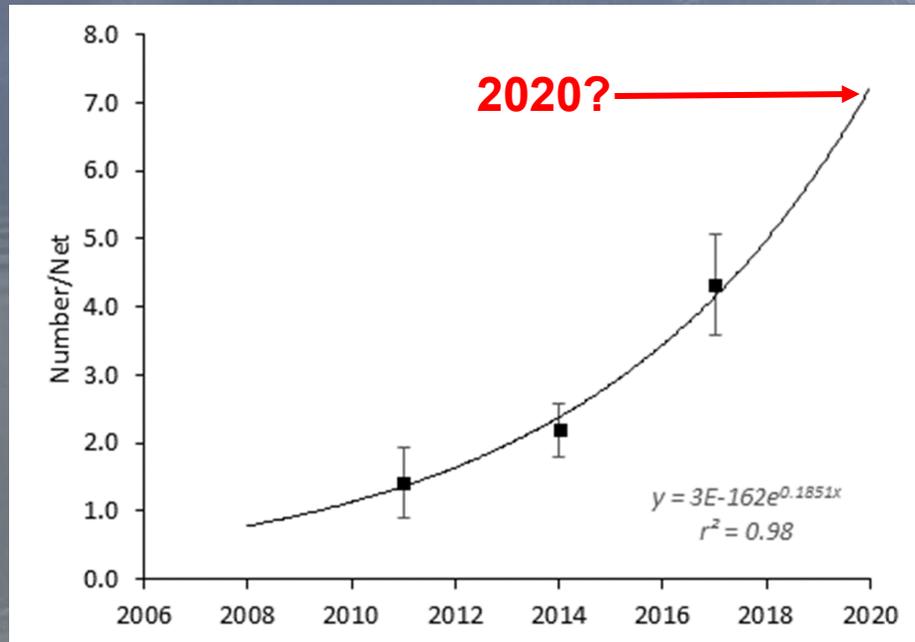
Illustrations by Joseph Tomelleri

Managing for a Sustainable Fishery



Walleye: A New Threat to Fishery

- 1991 – Walleye illegally introduced in MT
- 2005 – first documented in IDFG survey
- 2009 – first large year-class
- 2011 – initiated standardized monitoring (FWIN)



Why Are We Concerned?

Walleye biology:

- Thrive in many western U.S. waters
- Highly effective predators
 - Especially for trout, kokanee, and soft-rayed fish
 - Diverse diet – can switch prey easily
- High reproductive potential
 - Mature early (2-4 years)
 - High fecundity
 - Diverse spawning habitat
- Commonly live 10-20 years



Walleye Introductions Widespread

MANAGEMENT

Walleye and Northern Pike: Boost or Bane to Northwest Fisheries?

By Thomas E. McMahon and David H. Bennett

ABSTRACT

Introductions of nonnative walleye (*Stizostedion vitreum*) and northern pike (*Esox lucius*) have created popular recreational fisheries in many Northwest waters. Rising demand for expanded angling opportunities for these species, especially walleye, has been met with growing concern about long-term risks associated with the introduction of a top predator. Proposed introductions, and long-range movements of the species from the point of release. We urge a cautious approach to future introductions of these species in the northwestern United States and outline some approaches for evaluating risks and benefits. Stricter risk assessment procedures for species introductions have been adopted by many states, but illegal introductions of both species are a continuing problem. Greater efforts are needed to educate the public about the risks of illegal transplants, and stronger statutes are necessary to discourage this activity.

The popularity of nonnative walleye (*Stizostedion vitreum*) and northern pike (*Esox lucius*) as sport fishes has mushroomed in recent years in the northwestern United States (Conover 1986). The walleye fishery in Lake Roosevelt, Washington, provides 200,000 angler-hours of fishing annually at catch rates of 0.5 fish/h with fish in the 2-kg to 5-kg size range commonly caught (Hallock and Fletcher 1991). Northern pike in Coeur d'Alene Lake, Idaho, exhibit the highest growth rates of the species in North America, and catches of fish >12 kg are common (Rich 1993). These and other trophy fisheries have received national publicity in angling magazines and television programs, thus fueling interest for similar angling opportunities elsewhere in the region. Proposed introductions are often controversial due to perceived risk to the region's prized salmonid fisheries (Conover 1986). Managing such top predators can be troublesome because potential top-down effects have been

shown to significantly alter entire fish communities, even in large waterbodies (Colby et al. 1987; Knight and Vondracek 1993). Colonization of new waters beyond the point of release is an additional concern. Some western states prohibit stocking of walleye into certain waters (Idaho Department of Fish and Game [IDFG] 1982; Colby and Hunter 1989). However, demand for angling opportunities continues to mount, especially for walleye, and Idaho (IDFG 1982) and Montana (Colby and Hunter 1989) have conducted environmental assessments to guide stocking policies. Unfortunately, while state agencies have initiated detailed environmental reviews to evaluate risks and benefits of proposed introductions, illegal introductions of both species may be rising (Vaahro 1990, 1998).

Throughout North America the use of species introductions as a management tool has come under increased scrutiny (Moyle et al. 1986; Spencer et al. 1991; Bain 1993). Walleye and northern pike management

in the Northwest illustrates that weighing potential recreational and economic benefits derived from introductions against potential long-term ecosystem effects is fraught with complex biological and social considerations. In this article, we review the current distribution of walleye and northern pike in the region and summarize case studies describing how local systems have responded to pike and walleye introductions. Our aim is to outline approaches for evaluating risks and benefits of proposed introductions and for curtailing illegal ones.

Current Distribution

Walleye and northern pike were first introduced to the Northwest in the 1940s and 1950s (Brown 1971; the 1940s and 1950s (Brown 1971; Beamesderfer and Nigro 1989) and now occur throughout the Columbia and upper Missouri River basins (Figure 1). Their range continues to expand as they colonize and are introduced into additional waterbodies.

Walleye
One of the more significant walleye introductions in the region was to the upper Columbia River system (Figure 1). Although the history of its introduction is unclear, a popular

Not a new issue:

- Pros:
 - Popular sportfish
 - Adds diversity to fishery
- Cons:
 - Difficult to sustain popular recreation fisheries
 - Native species impacts
 - Difficult to sustain prey base

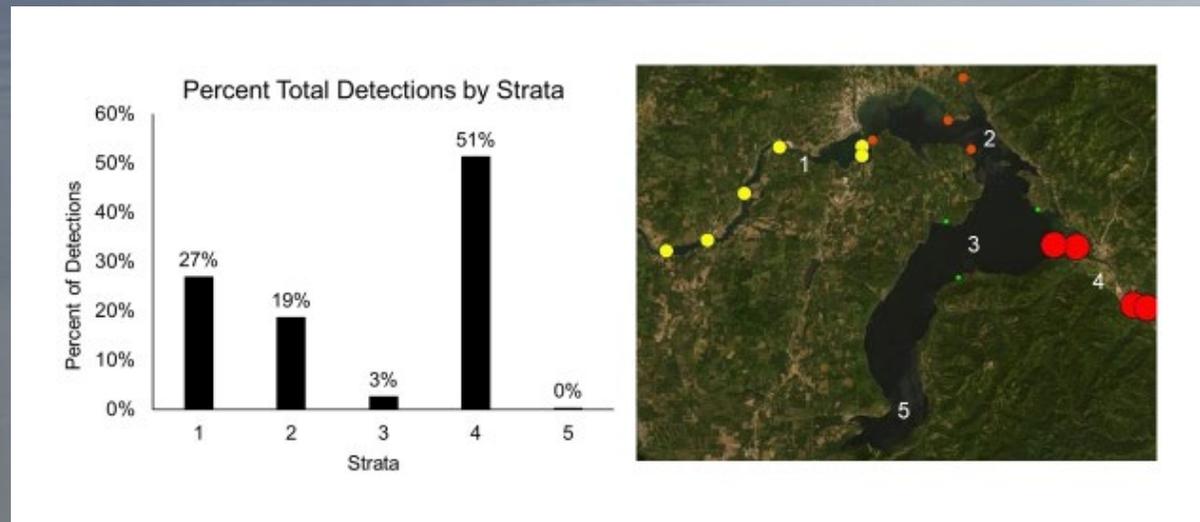
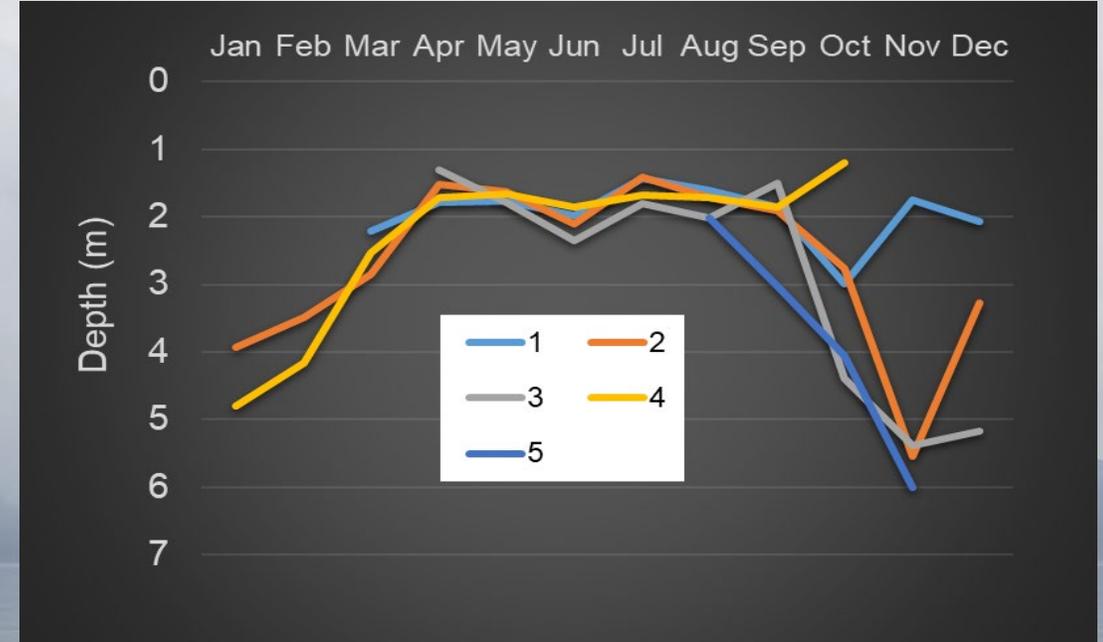
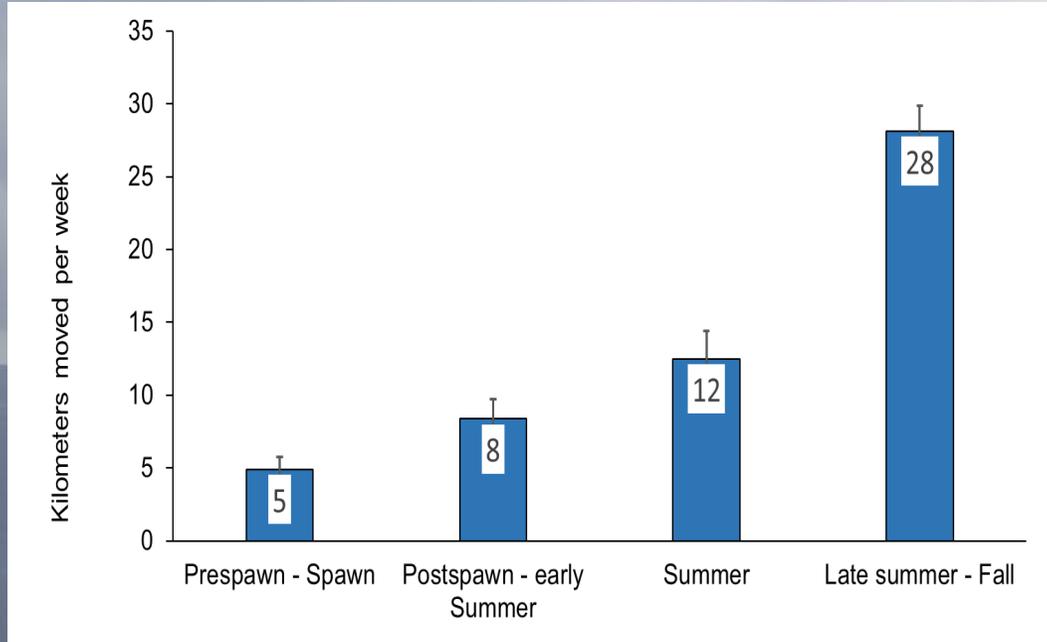


2018 Walleye Summit

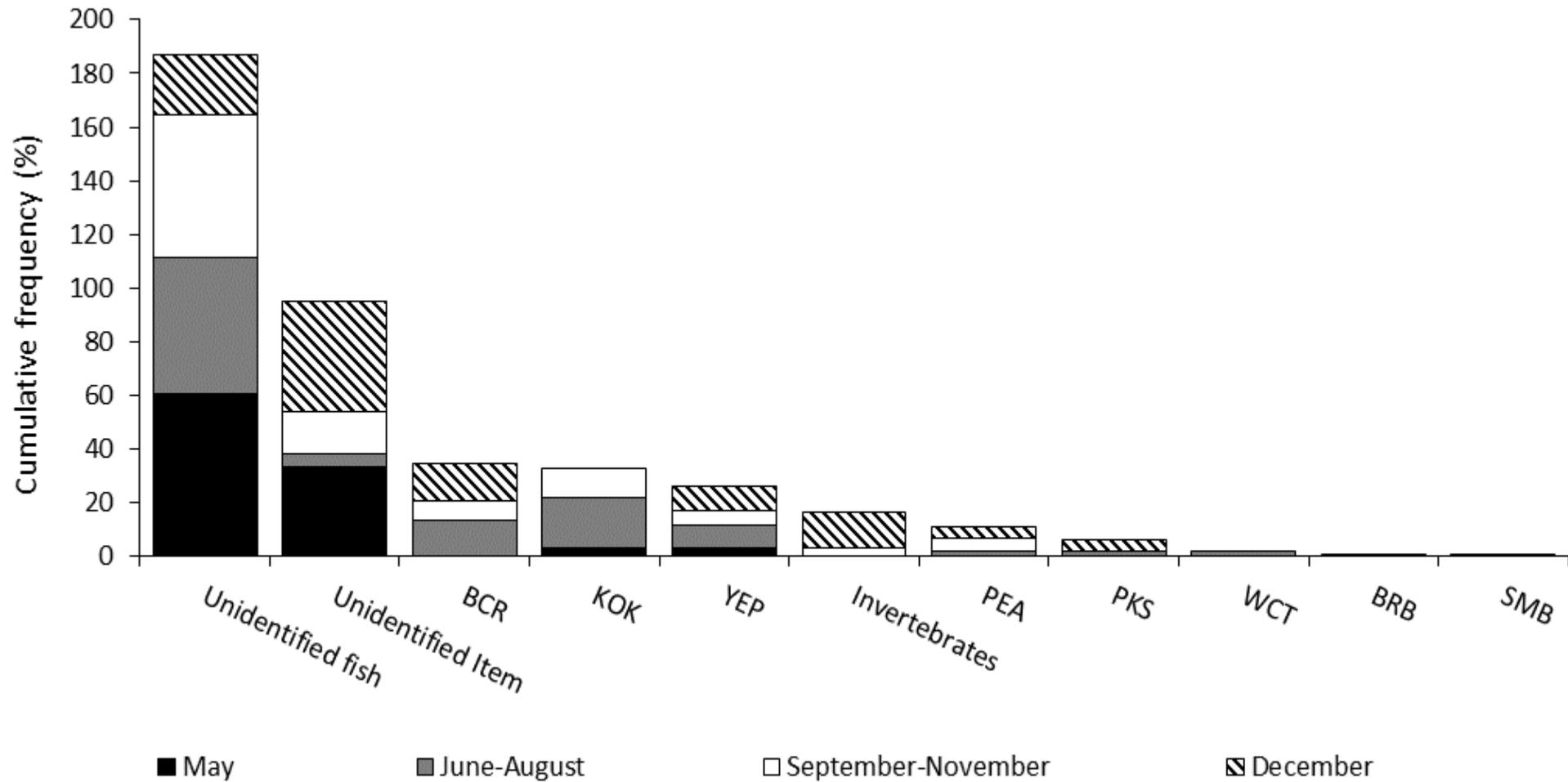
- Brought in outside Walleye experts
- Identified research questions to answer:
 - Population trend?
 - Distribution?
 - Diet?
 - Reproduction?
 - ***Can we suppress population?***
- Recommended we start immediately
- 2018 – suppression gillnetting begins
- 2019 – angler incentive program begins
- 2020 – repeated population survey



Walleye Telemetry - Movement

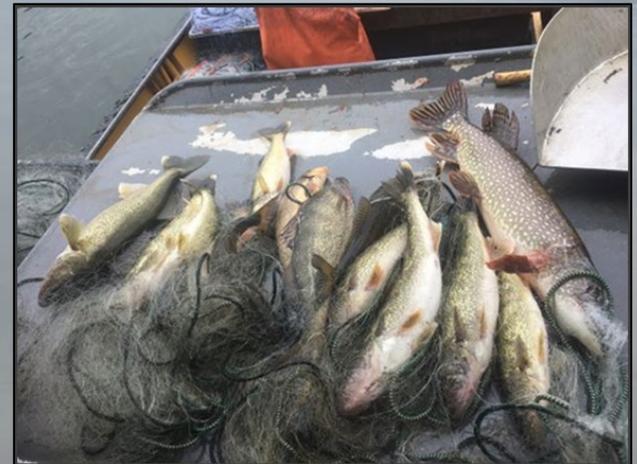


Walleye Food Habits



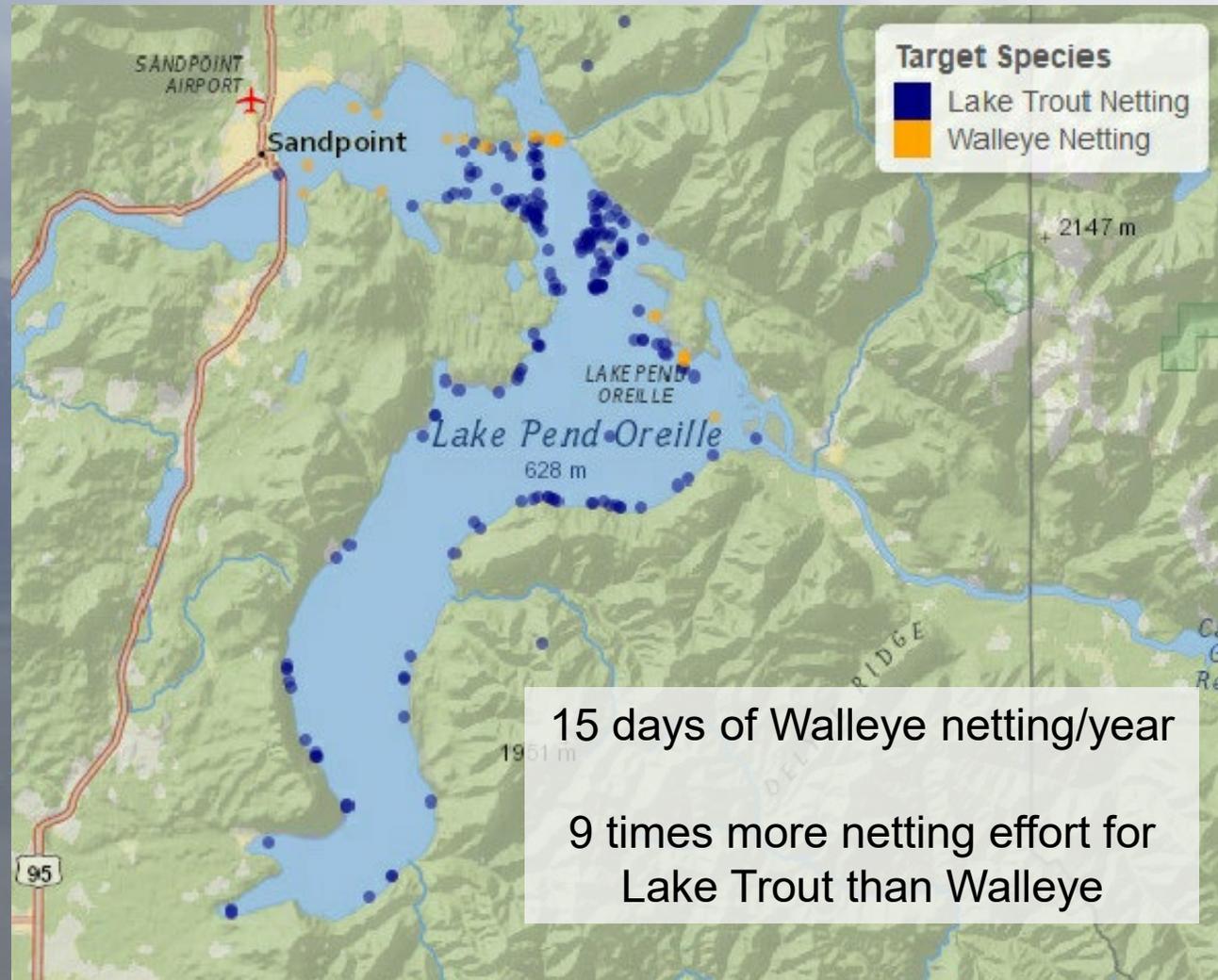
Walleye Suppression Netting

- Contracted with Hickey Bros. Research
- 3-week effort in spring (April/May)
- Pre-spawning/spawning aggregations
- Guided by telemetry
- Gill nets (short-duration sets)
 - Minimize bycatch mortality
- Walleye distributed to food banks

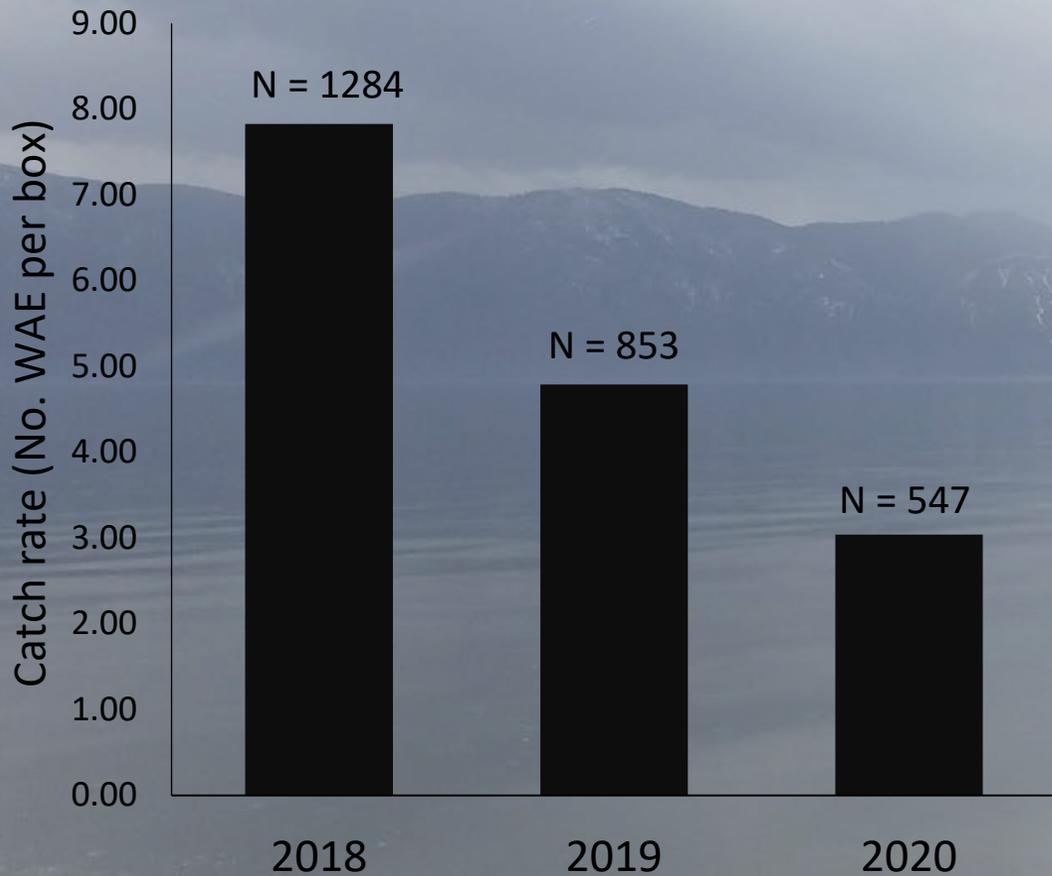


Walleye Suppression Netting

2020 Netting Locations



Walleye Suppression Netting



Species	Number Caught	Number Released	Number Removed
Walleye	576	29	547
Black Crappie	24	24	0
Brown Trout	31	30	1*
Bull Trout	52	37	15*
Cutthroat Hybrid	0	0	0
Lake Trout	87	0	87
Largemouth Bass	2	2	0
Northern Pike	68	0	68
Rainbow Trout	45	43	2*
Smallmouth Bass	349	349	0
Westslope Cutthroat Trout	70	68	2*
Yellow Perch	108	108	0



Walleye Angler Incentive Program

- Increase angler effort, encourage harvest, test effectiveness of angling as suppression tool
- Two ways to win
 - Tagged fish (coded wire)
 - 112 tagged
 - \$1,000 reward
 - Monthly drawings
 - 1 entry per head submitted
 - 10 rewards of \$100



Walleye Reward Program

Turn in fish heads for your chance to **win up to \$1,000**



LOTTERY

Two ways to win:

- Every fish head submitted enters the angler in to a monthly drawing for ten **\$100** awards. The more heads you submit, the more chances to win!
- A limited number of fish (all sizes) are marked with a microscopic tag worth **\$1,000**. Heads must be submitted and scanned to determine the winners.

How To Enter:

1. Remove heads from walleye caught in Lake Pend Oreille and its tributaries. This includes the Clark Fork River downstream of Cascade Gorge Dam and the Pend Oreille River and its tributaries upstream of Abner Falls Dam, including the Priest River.
2. The entire head along with a completed data slip must be bagged and deposited into marked freezers for inclusion in the program. Data slips available at all freezer locations.
3. The number of walleye harvested, by location, must be clearly recorded with each bag submitted.
4. Winners will be notified monthly, based on the information provided on the data slip.

Freezer Locations

North 40, Ponderay
Annie's Grocery, Kootenai
Beck Larocace Supplies & Farm Store, Sagle
Islander's Bay Boat Launch, Barge
Earle's Bay Public Boat Launch, Sagle
Huge Motors, Hope
Holiday Stores, Hope
Lionel Park West, Priest River
MacDonald's Hudson Bay Resort, Bayview
Fish & Game File Office, Bayview
Fish & Game Regional Office, Coeur d'Alene

For more information call
Idaho Department of Fish and Game at
(208) 769-1414

A pilot angler incentive program brought
to you in partnership by Avista and the
Idaho Department of Fish and Game



<https://idfg.idaho.gov/lake-pend-oreille-angler-incentive-program>



Walleye Angler Incentive Program

	2019	2020
January		12
February		17
March	26	60
April	89	53
May	79	71
June	154	121
July	156	137
August	171	206
September	76	130
October	18	25
November	9	14
December	7	14
Total	785	860

PRESS RELEASE

Three anglers win big in Pend Oreille walleye lottery

By Kiira Siitari, Regional Communications Manager
Tuesday, June 16, 2020 - 10:38 AM MDT

After 15 months with no tagged winners, May produces three \$1,000 fish

Three Idaho anglers won \$1,000 each after catching reward-tagged fish in the Pend Oreille walleye lottery during the month of May. These are the first reward tag winners since the program launched in March 2019.

Mike Gordon of Sandpoint caught his winning fish in the Clark Fork River while fishing for smallmouth bass. "I told my father-in-law this is going to be the one," said Gordon.



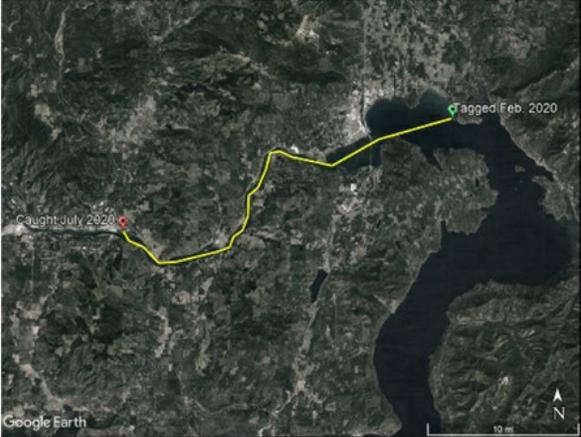
IDFG, Google Maps

PRESS RELEASE

Another \$1,000 reward tag turns up in Pend Oreille walleye lottery

By Kiira Siitari, Regional Communications Manager
Monday, July 13, 2020 - 11:39 AM MDT

Winning fish tagged in Lake Pend Oreille, caught in Priest River



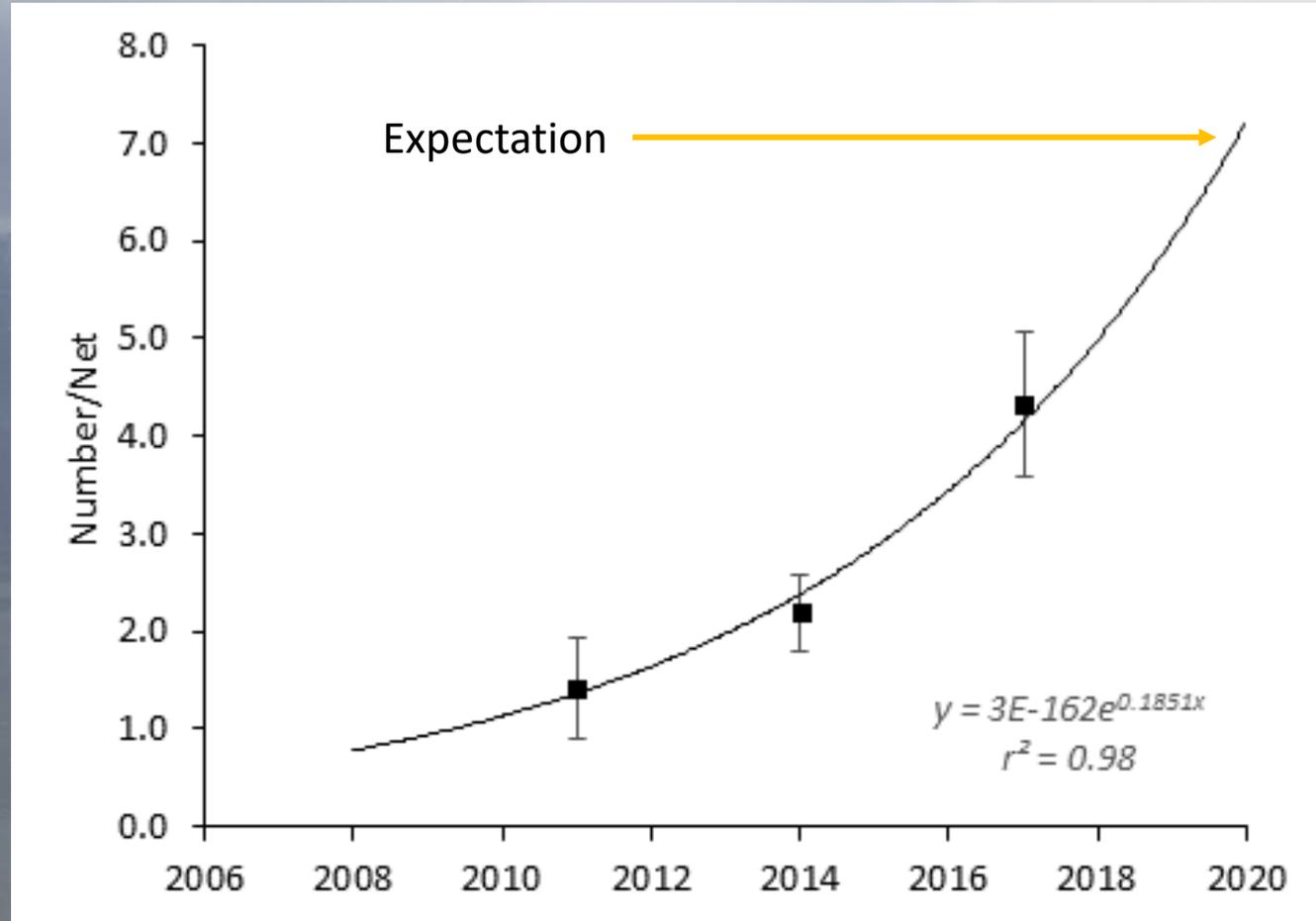
A fisherman from Priest River won \$1,000 after catching a reward-tagged walleye in the Lake Pend Oreille Angler Incentive Program. Leon Russell caught his winning fish in early July in the lower reaches of the Priest River.

The reward fish was tagged in Feb. 2020 off of Fisherman's Island in northern Lake Pend Oreille. The 21-inch walleye travelled over 27 miles across the lake and down the Pend Oreille River to ultimately land in Russell's creel.

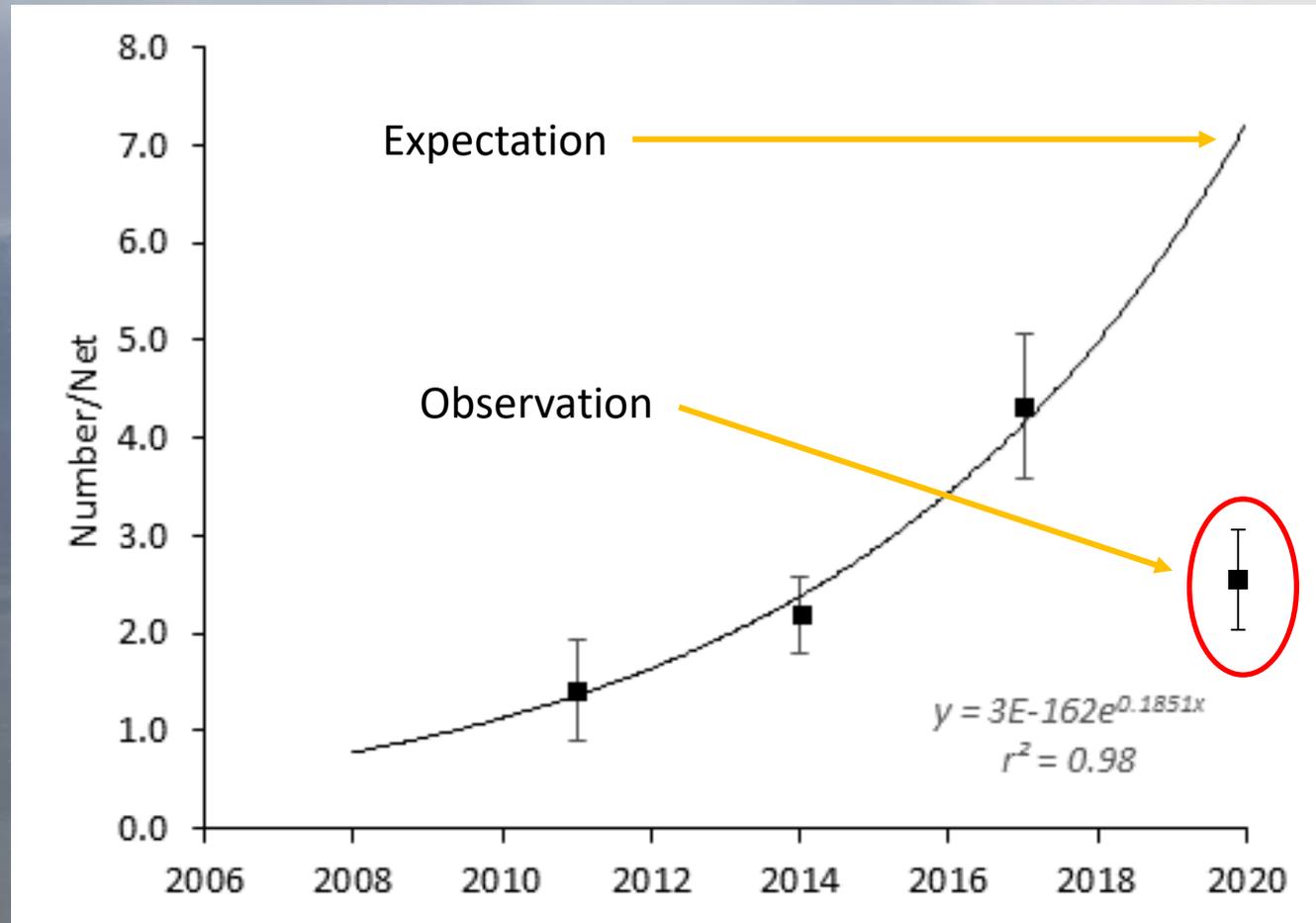
This is the fourth \$1,000 walleye to be caught in the program. In May, three Idaho anglers turned in reward-tagged walleye.

IDFG, Google Maps

A Population Level Effect?



A Population Level Effect?



Overall Fishery Status

- Fishery recovery goals largely achieved
 - Sustaining strong kokanee population
 - Lake Trout remain at low density
 - Rainbow Trout supporting trophy fishery
 - Bull Trout strong and stable
 - Cutthroat Trout prevalent
- Other compatible species providing opportunity
 - Smallmouth Bass strong
 - Yellow Perch, Brown Trout, Black Crappie, Lake Whitefish, etc.

Overall Fishery Status

- Emerging threats being managed
 - Walleye trending downward
 - Northern pike trend?
- Fishery is performing at a high level overall
 - Diverse opportunity; good catch rates for most species
 - Trophy potential of fishery is world-class
- Future sustainability
 - Managing predation is the key

Fishery Performance



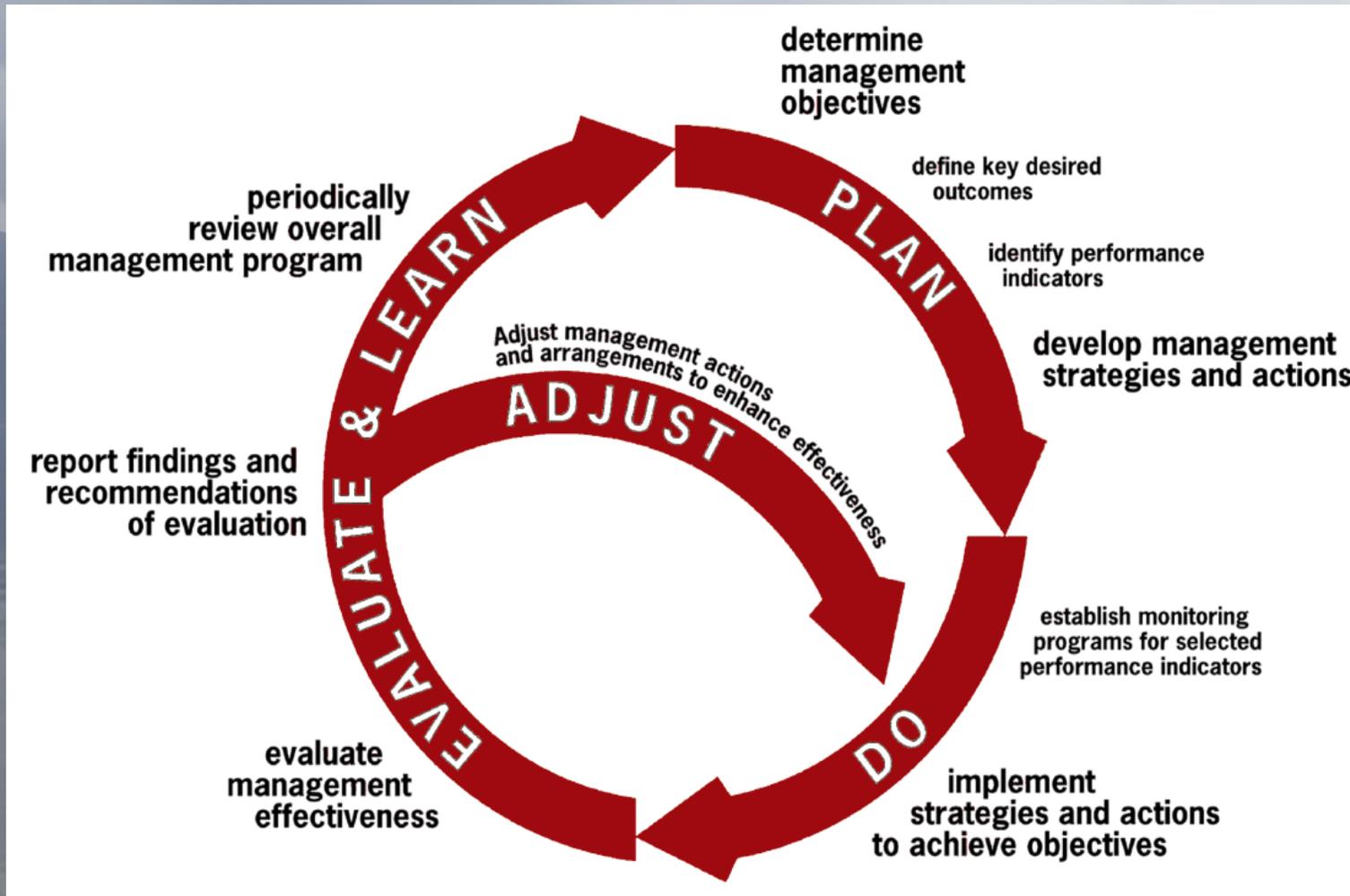
Pend Oreille Charters

4m · 🌐

Congrats Matt on your monster catch 39 Inch 31 lb plus Bull trout. Great release. Catch and Release record pending but shattered the old record. Just missed the world record of 32 lbs. set back in 1949. Being a protected species on our waters we have to be happy to watch her swim away, but what a day. I hope you enjoyed the trip with us and hope to see you in the future.



Keys to Success



- Dynamic and adaptive program
- Holistic approach
- Public involvement and support