Non-Native Northern Pike in Pend Oreille River and Other Eastern Washington Waters

Newport Public Meeting April 19, 2011

Spokane Public Meeting April 20, 2011

Washington Department of Fish and Wildlife

Kalispel Tribe Natural Resources Department

Recent WDFW and KNRD surveys have documented a rapid increase in the number of northern pike in the Pend Oreille River, and a reduction in forage fish such as native minnows, whitefish and suckers, as well as non-native sportfish such as largemouth bass.

Left unchecked, northern pike could severely impact other fish- including native westslope cutthroat and bull trout , and undermine efforts to restore native fish populations in the river system.

Native salmon, steelhead and other species could also be at risk if pike migrated downstream into the Columbia River.

Meeting Outline

Meeting Purpose: Discuss non-native northern pike in Pend Oreille River and other eastern Washington waters, and take public input on options to control them and minimize their impacts on native fish.

- **Overview of Northern Pike History & Survey Results in NE WA - 20 mins.**
- **WDFW and KNRD Management Goals - 15 mins.**
  - **Control Options**
  - **Outreach and Education**
- **Questions from the Audience – 20 mins.**
- **Public Input on Control Options - 40 mins.**

Status and Management of Northern Pike in Box Canyon Reservoir (Pend Oreille River), Washington

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and

Jason Connor[2]

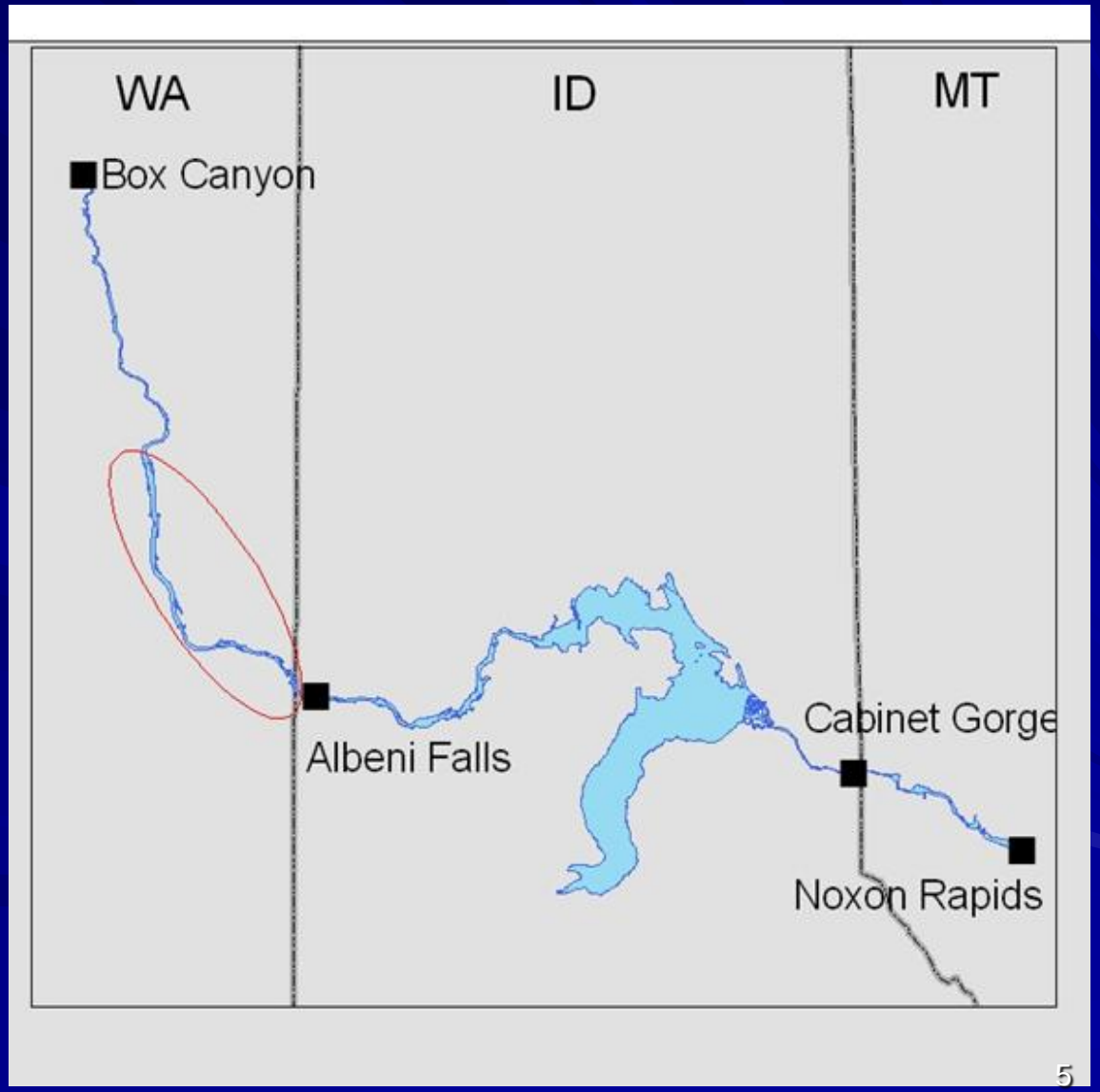
[1]Washington Department of Fish and Wildlife

[2]Kalispel Tribe Natural Resources Department

Box Canyon Reservoir

Reservoir length = 55 miles

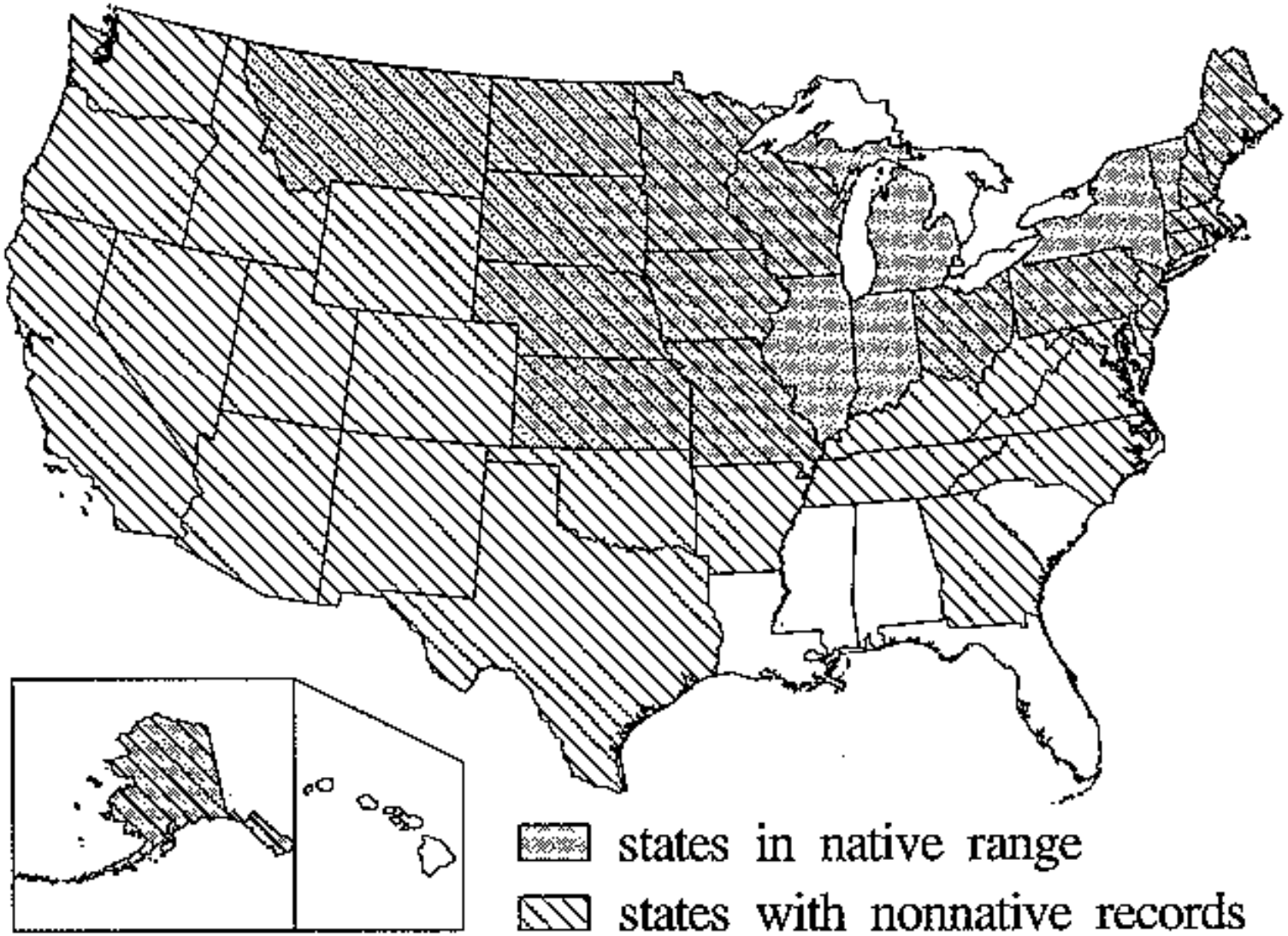
Area ≈ 8788 surface acres

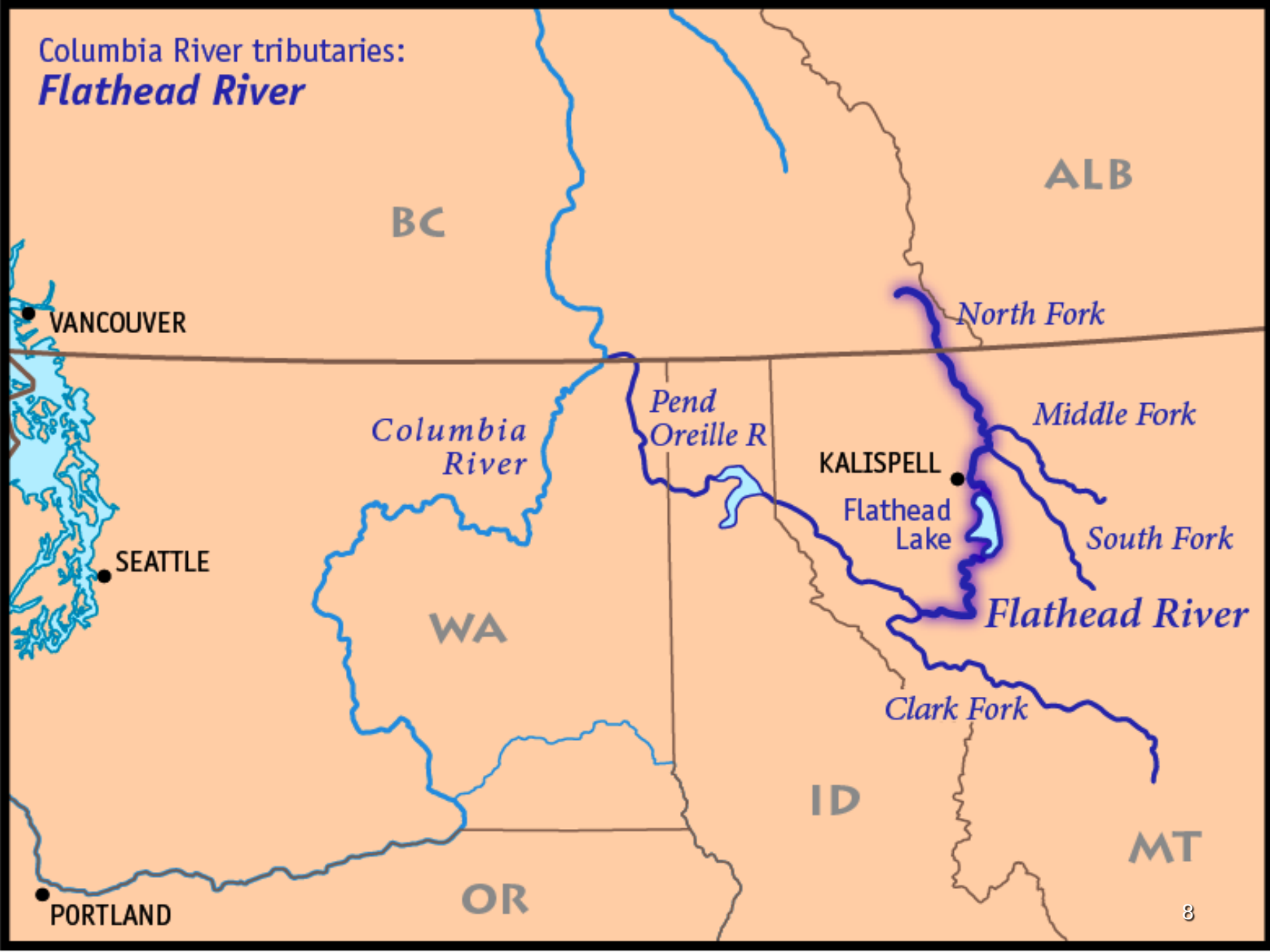


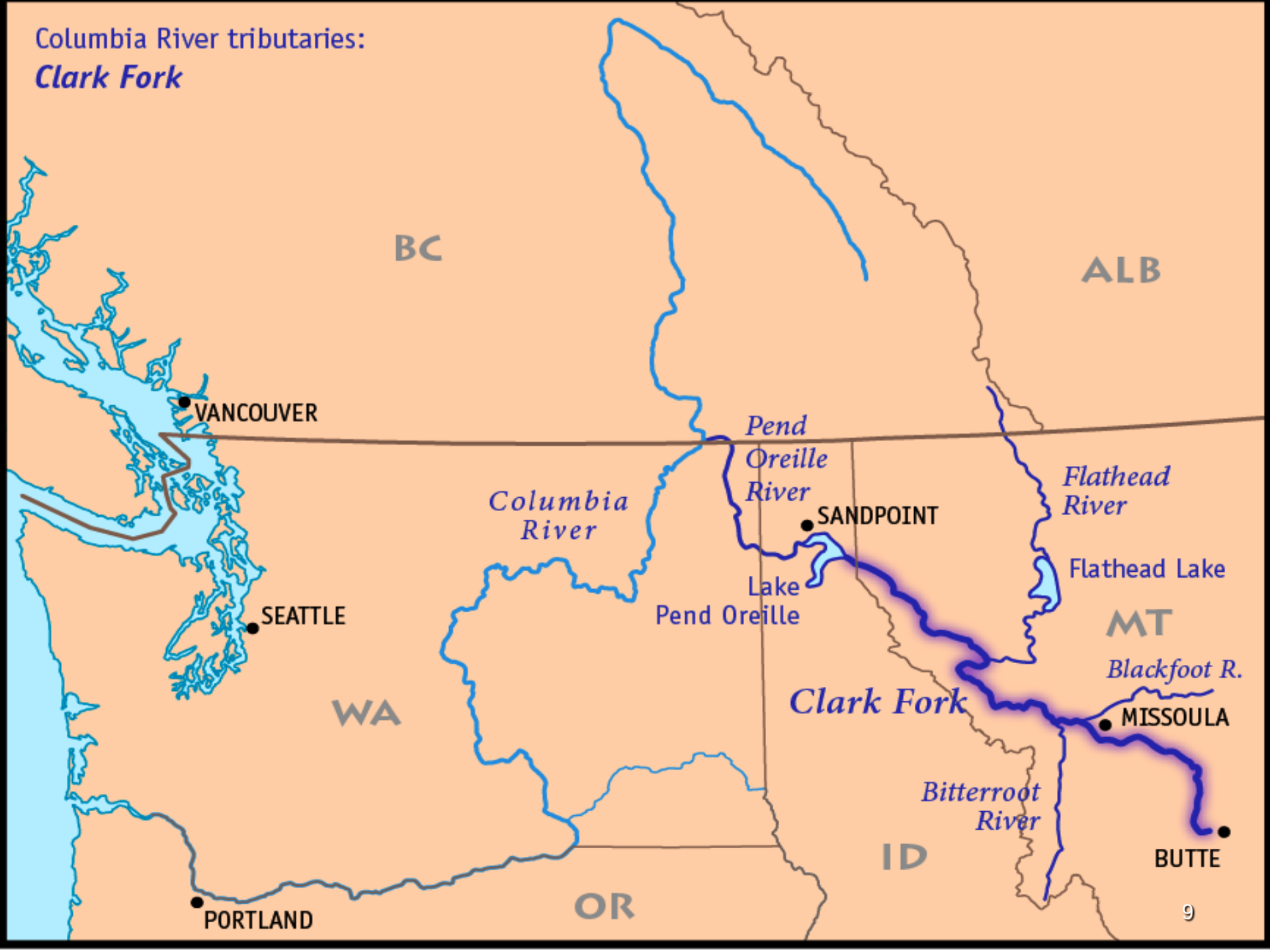
Northern pike history and management in Box Canyon Reservoir

- Angler reports of pike since the late 1980's
  - First survey captures in 2004 (WDFW, KNRD, EWU)
    - Angling regulation: No minimum size / no daily limit

Esox lucius




Columbia River tributaries:
Flathead River
BC
ALB
VANCOUVER
North Fork
Pend Oreille R
Columbia River
Middle Fork
KALISPELL
Flathead Lake
South Fork
SEATTLE
WA
Flathead River
Clark Fork
ID
MT
OR
PORTLAND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Clark Fork
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Flathead River
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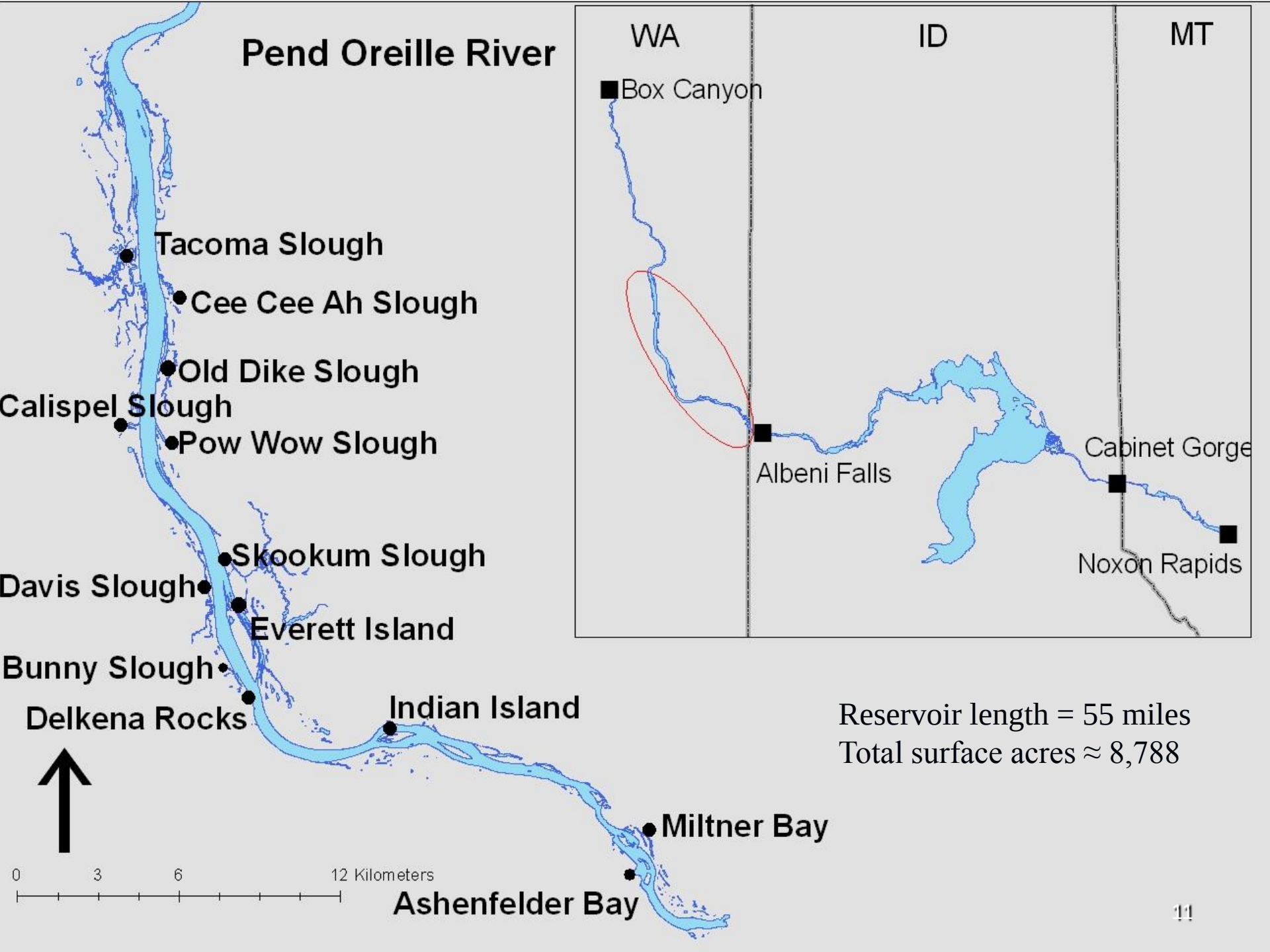
Lake Pend Oreille
SEATTLE
MT
Blackfoot R.
WA
Clark Fork
MISSOULA
Bitterroot River
ID
BUTTE
OR
PORTLAND



Reservoir length = 55 miles
Total surface acres ≈ 8,788

Assessment Surveys

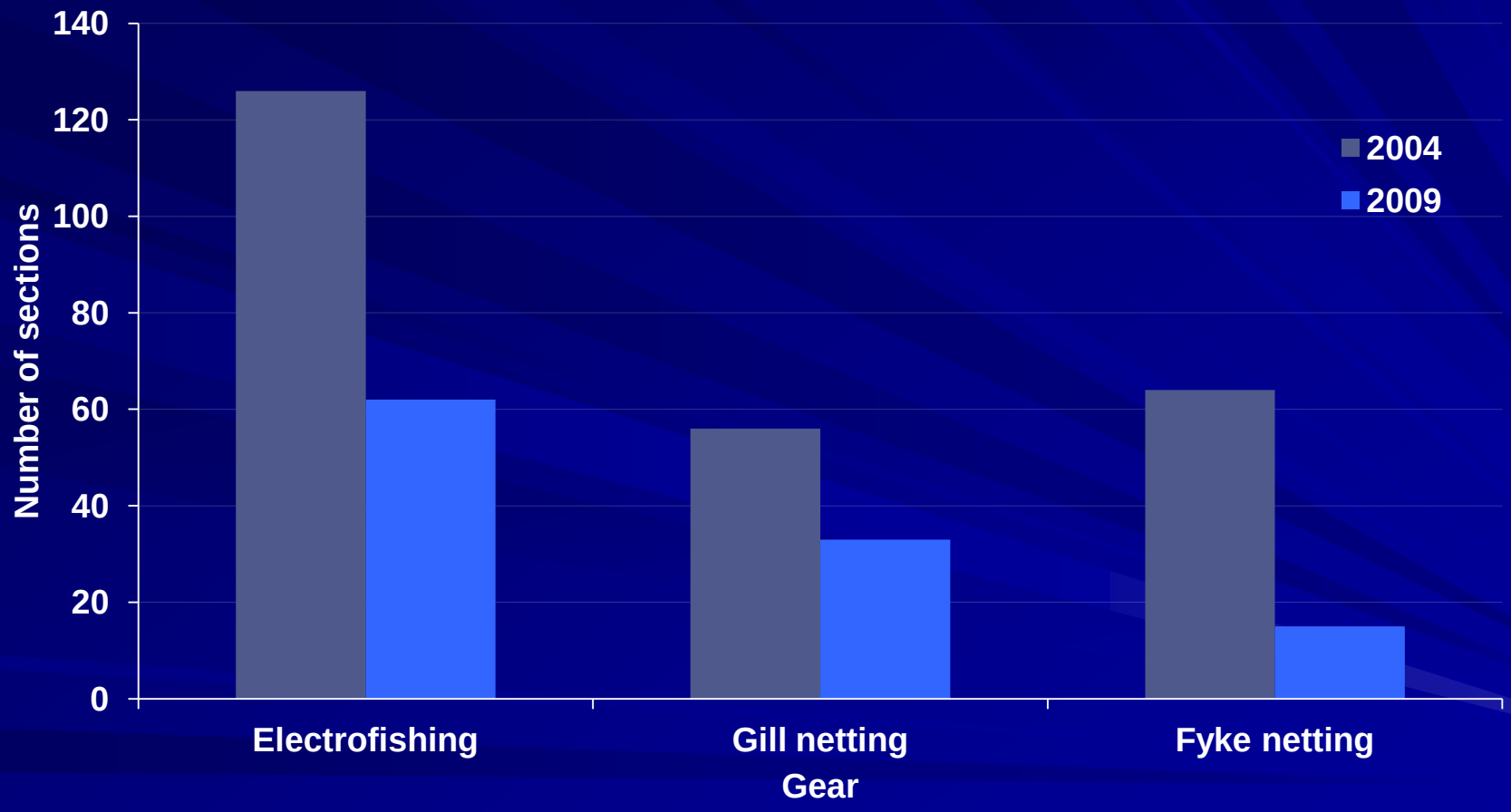
- **Reservoir-wide Standardized Warmwater Surveys 2004, 2009 (WDFW, KNRD, EWU)**
- **Mark-recapture population estimates 2006, 2010 (KNRD and WDFW)**
- **Spring Pike Index Netting (SPIN) 2010 (WDFW and KNRD)**
- **Angler Creel Survey 2010 (KNRD)**

Standardized Warmwater Survey

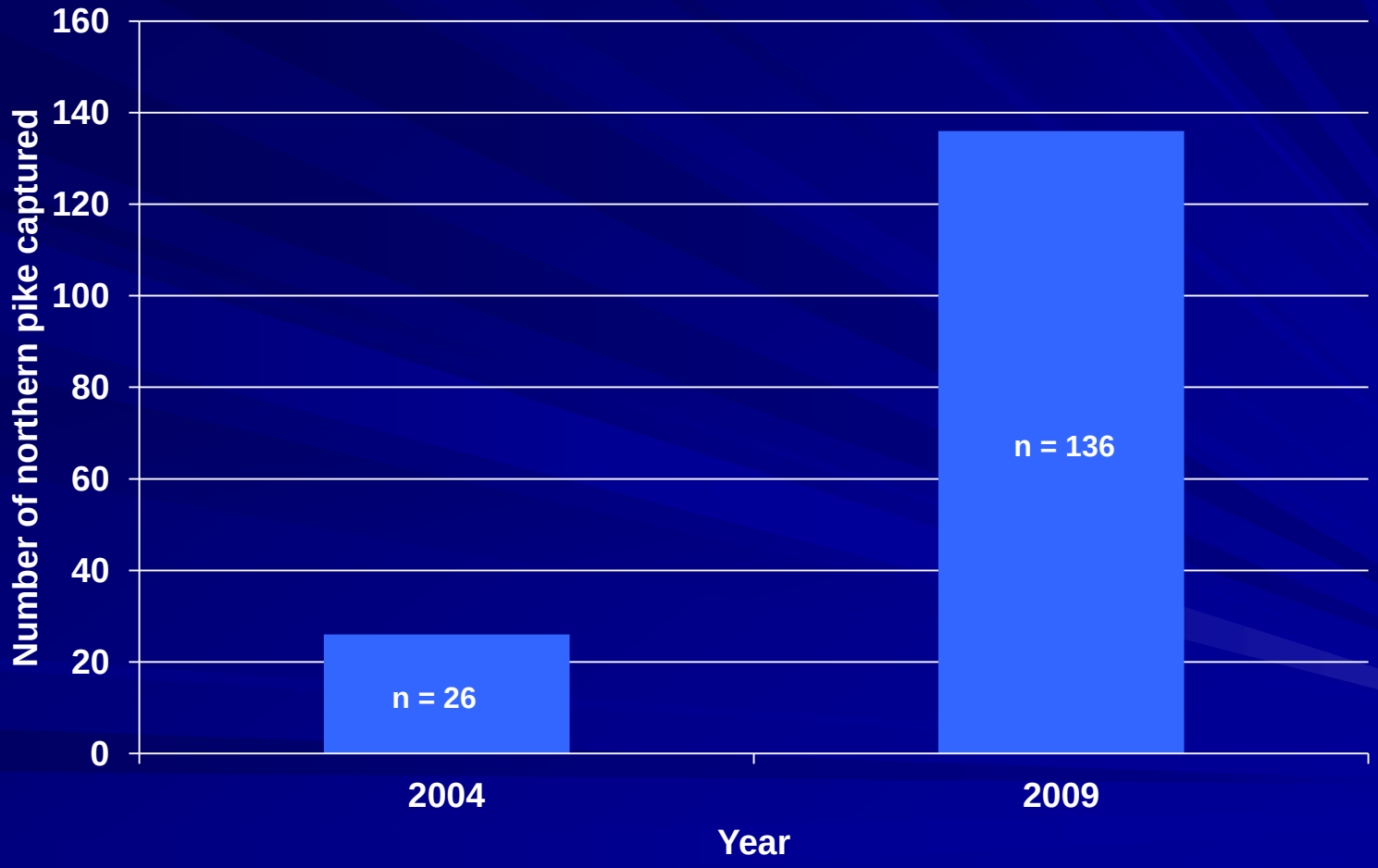
Standardized Warmwater Survey

- Combination of:
  - Electrofishing
  - Gill netting
  - Fyke netting
- Designed to provide an overall picture of the fish community.
- Conducted in 2004 and 2009

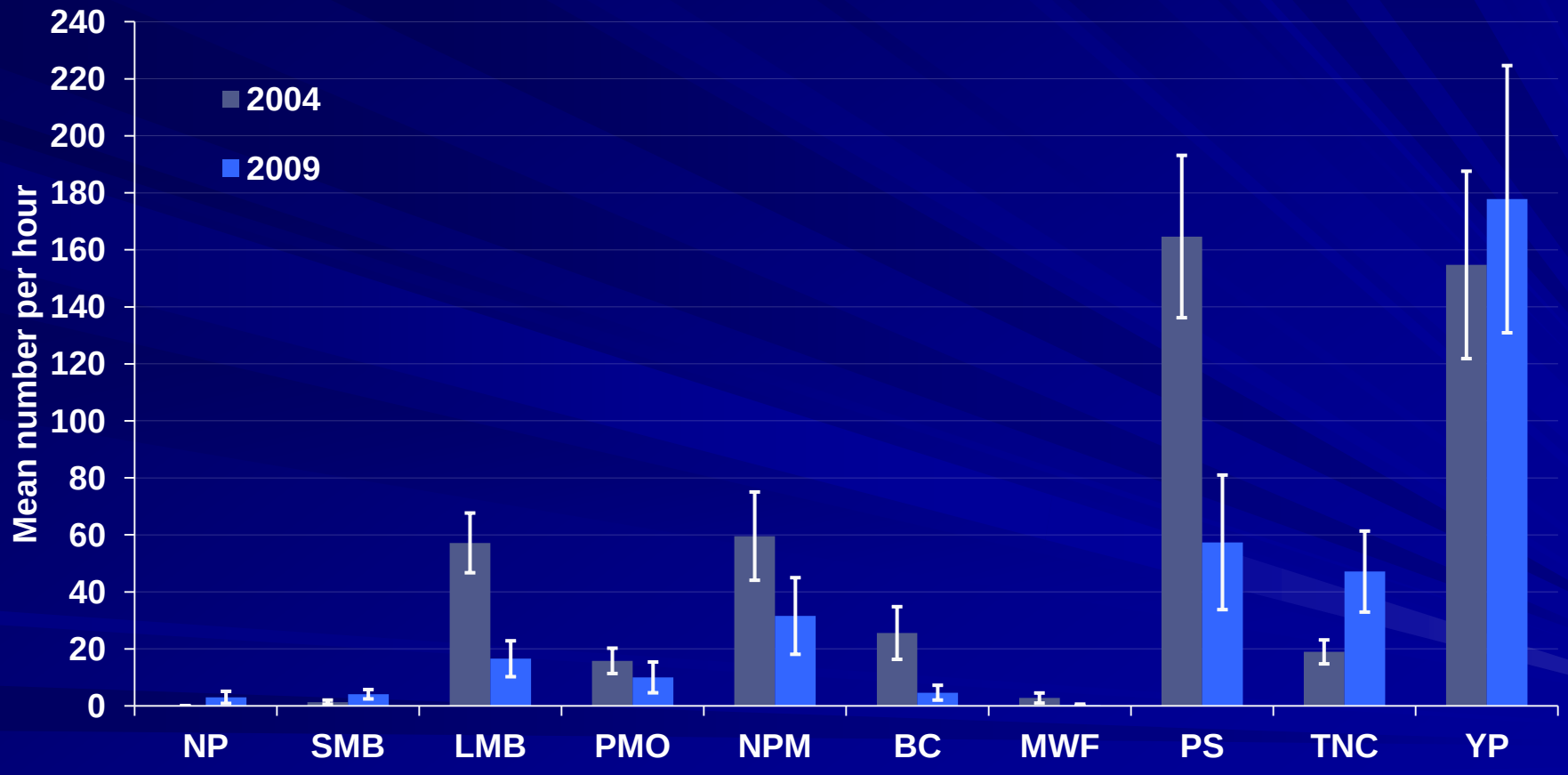
Standardized Warmwater Survey Effort comparisons



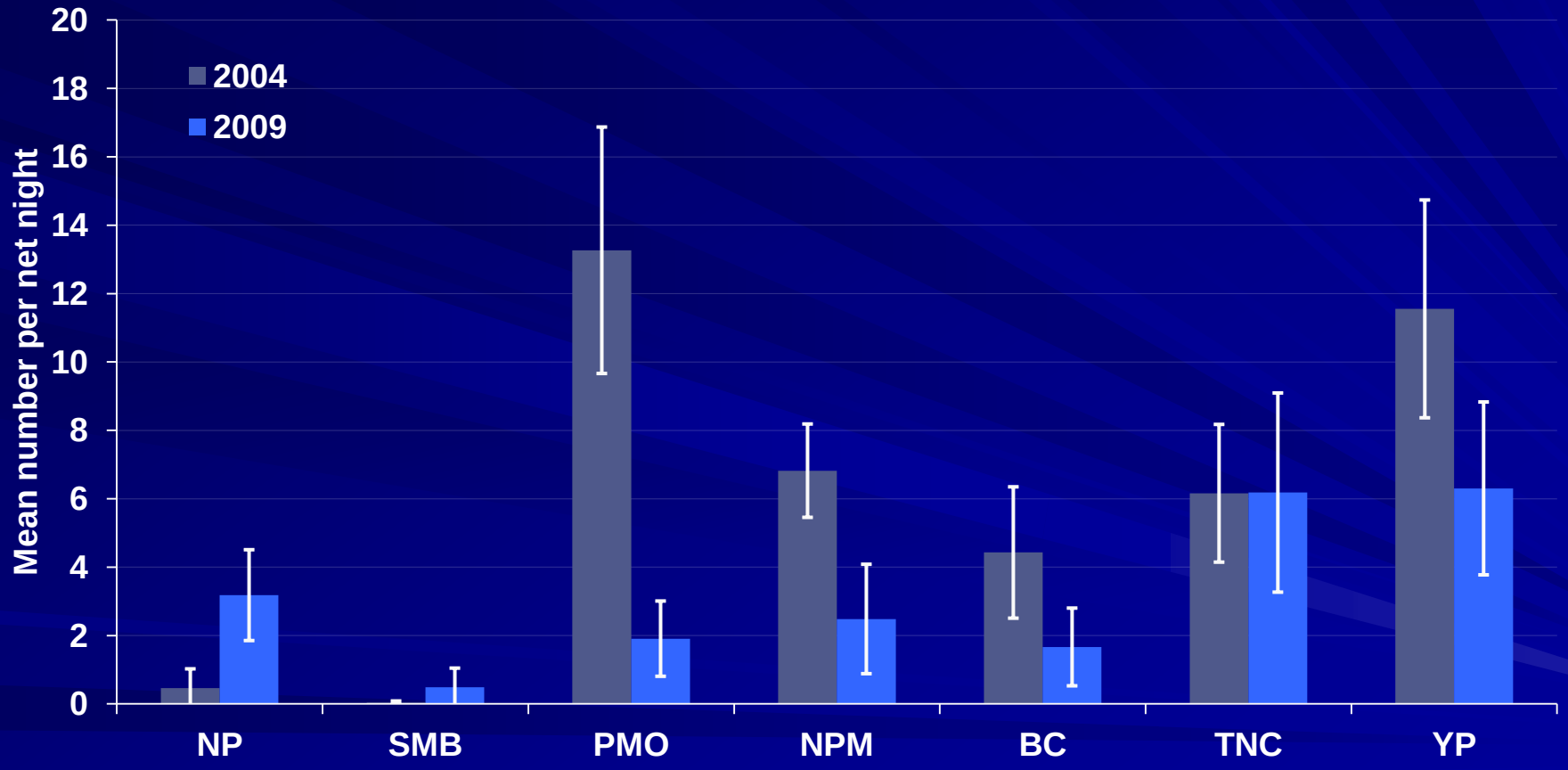
Northern pike capture comparisons
Standardized WW Surveys



Catch Per Effort Comparison
(Electrofishing)



Catch Per Effort Comparison
(Gill netting)



Adult northern pike population estimates (2006 and 2010)

2006

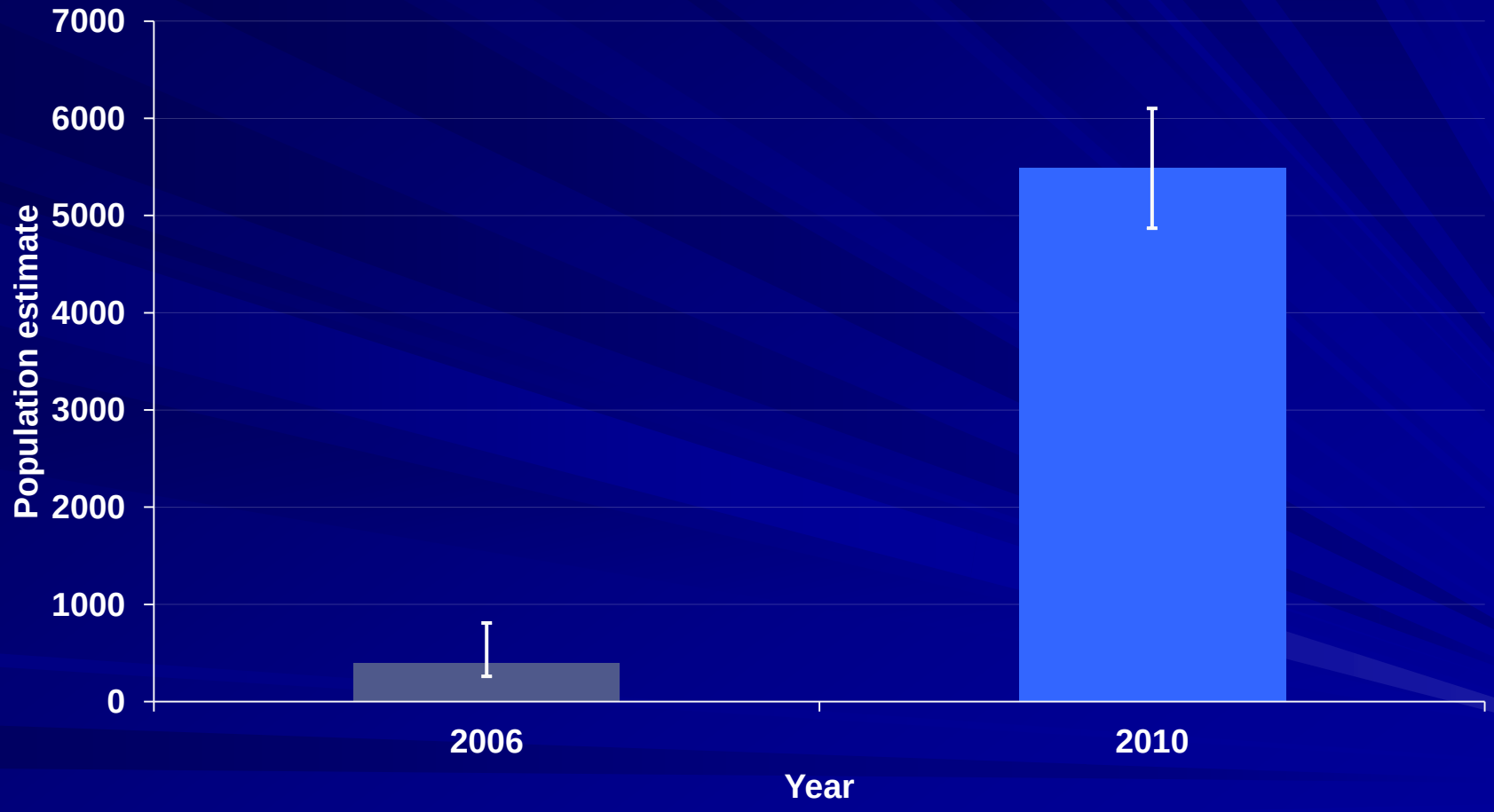
- **73 marked**
- **7 recaptured**

2010

- **288 marked**
- **37 recaptured**

Northern pike population estimates

Box Canyon Reservoir (2006 vs. 2010)

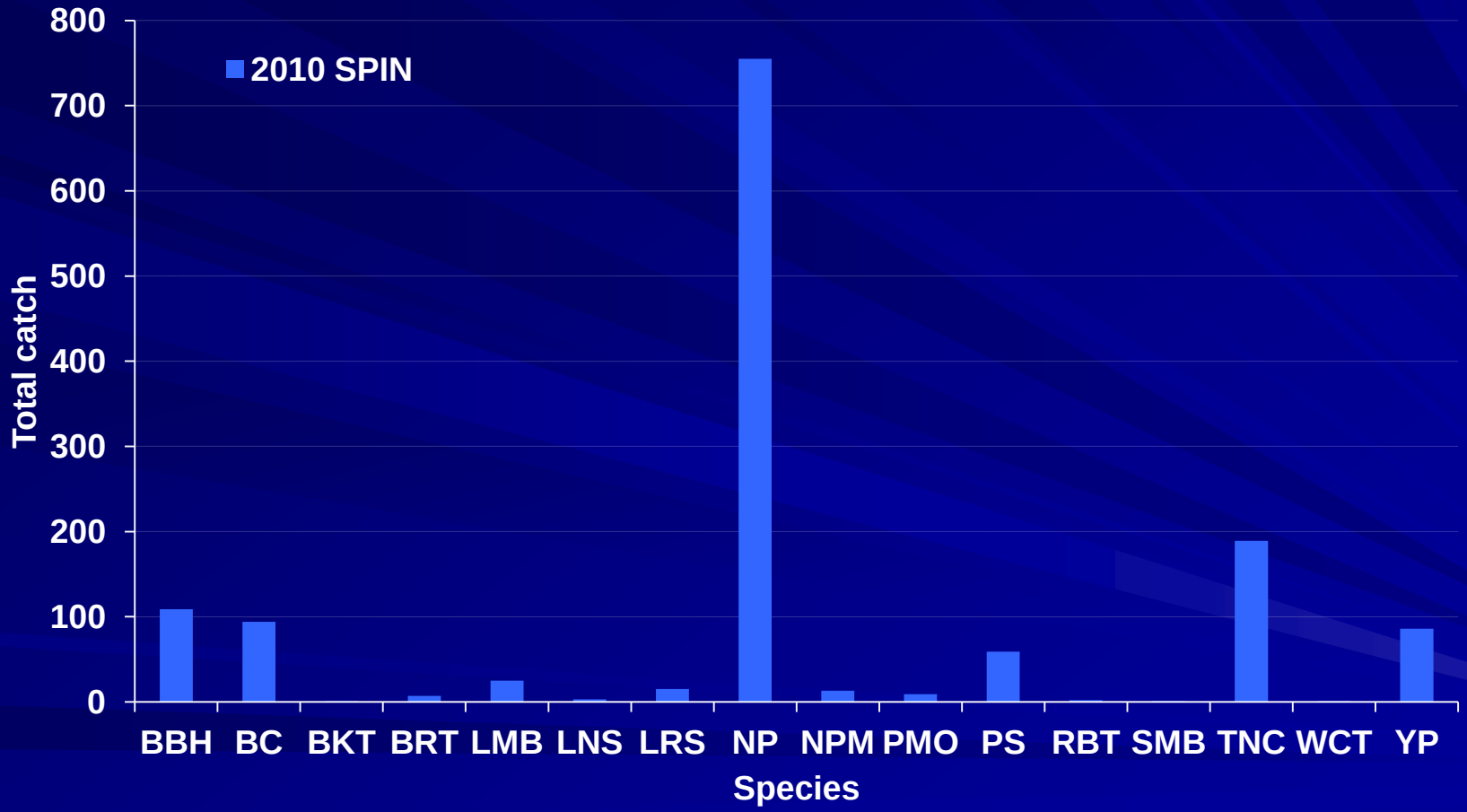


Spring Pike Index Netting (SPIN)

Spring Pike Index Netting (SPIN)

- Gillnet survey – Standard method used throughout the Midwestern US to sample northern pike populations.
- Nets designed to target adult northern pike with little by-catch.
- 2010 – Pilot year. Will conduct yearly in near future.
- 60 net sets in the southern half of the reservoir (highest northern pike concentration).
  - Captured 755 northern pike (Avg. 12 fish / net).
- 12 net sets in the northern half of the reservoir.
  - Captured 38 northern pike (Avg. 3 fish / net).

Spring Pike Index Netting (SPIN)
Total catch

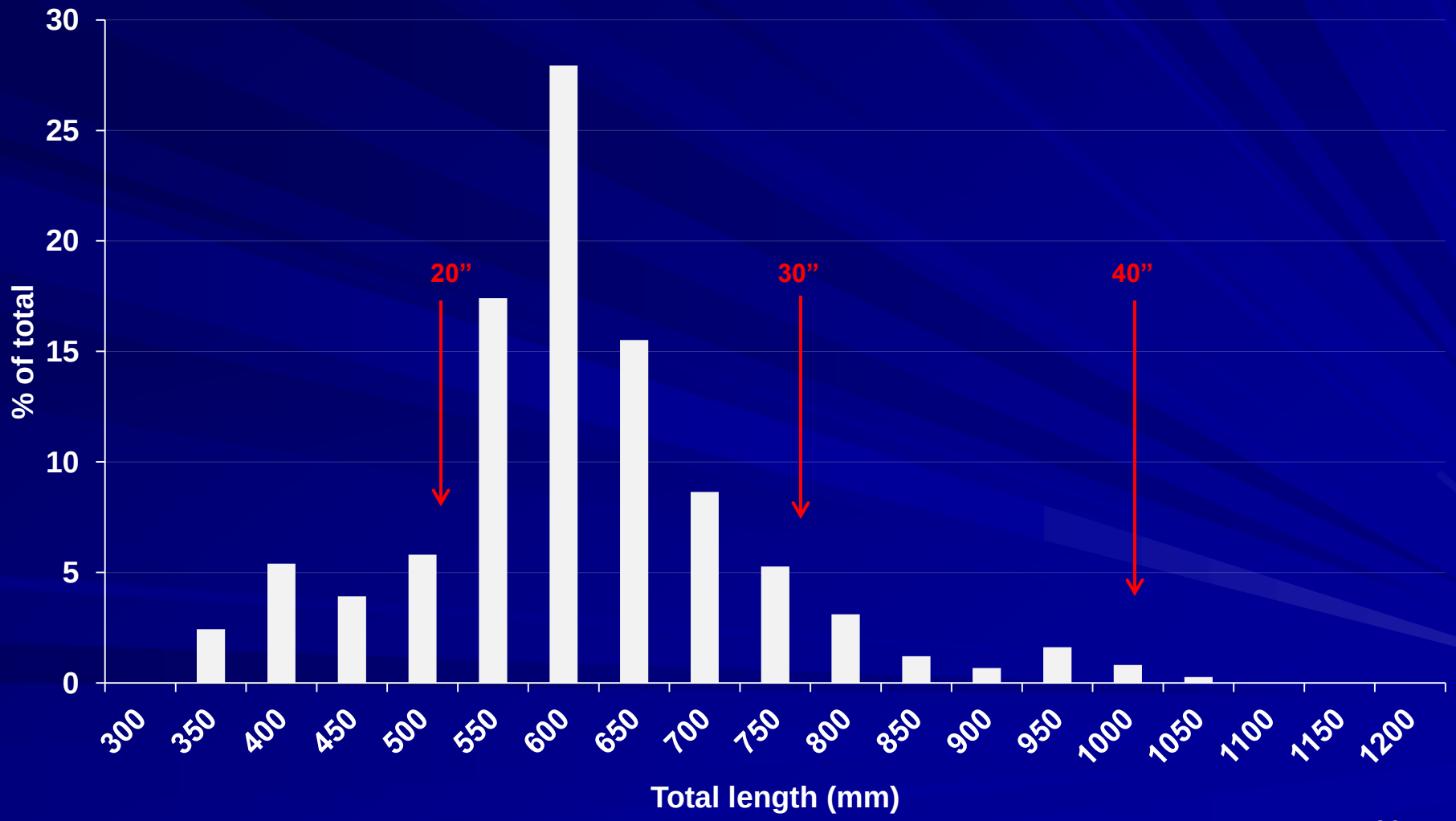


Spring Pike Index Netting (SPIN)

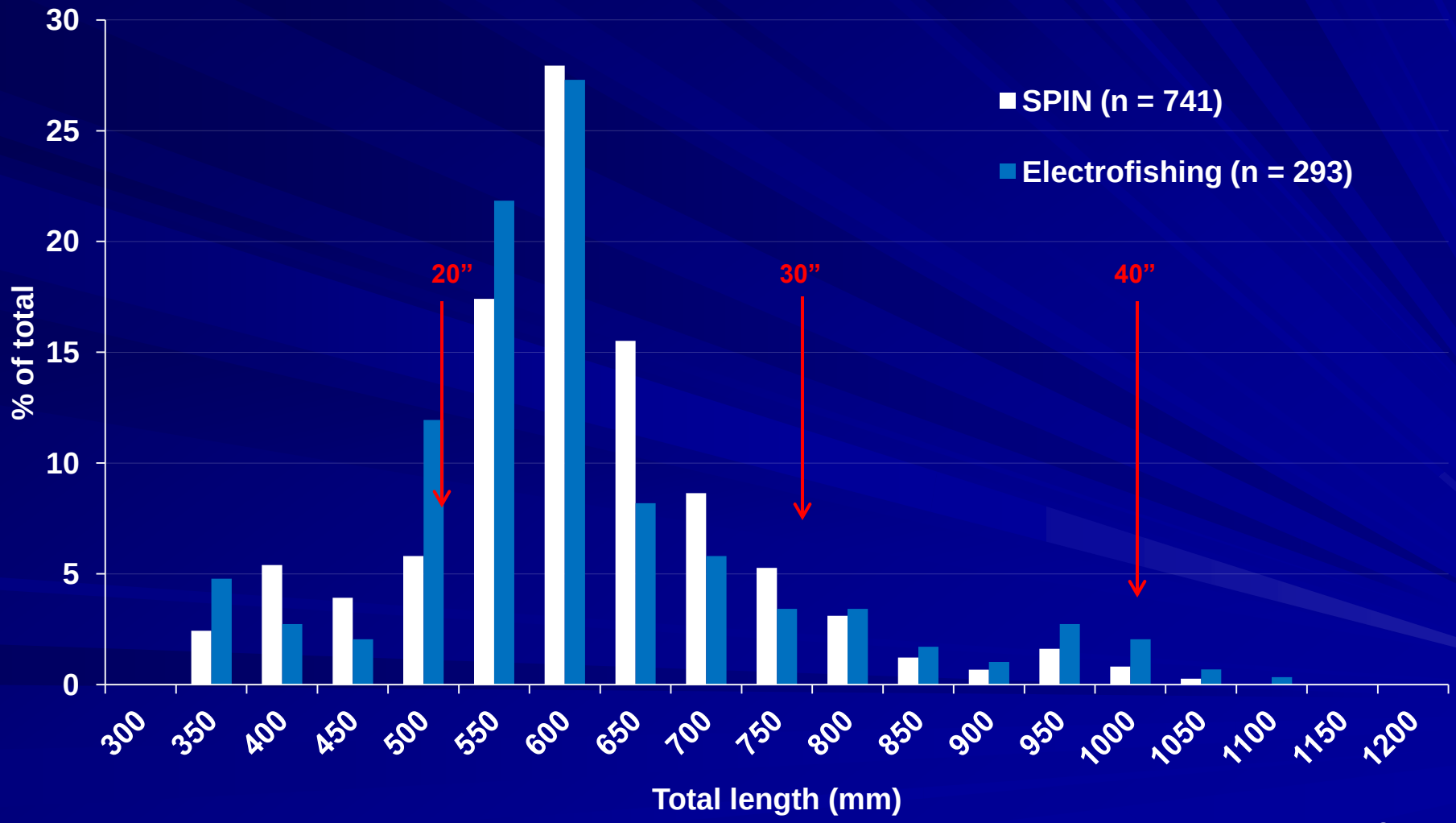
Data Collection

- Species
- Length
- Weight
- Scales
- Cleithra
- Sex
- Maturity
- Fecundity
- Diet

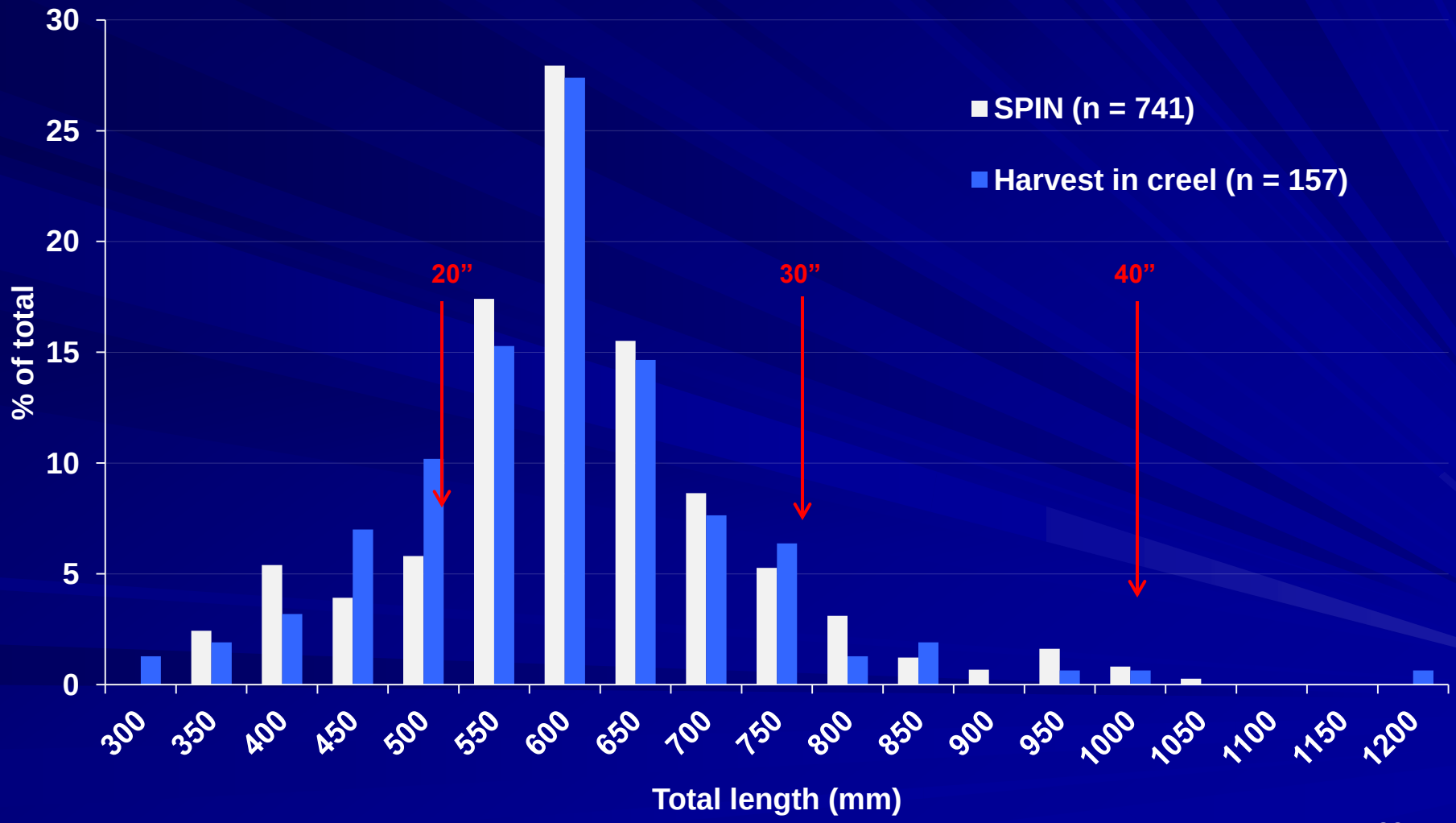
Length frequency distribution
2010 SPIN data



Length frequency distribution
2010 SPIN vs Electrofishing data



Length frequency distribution
2010 SPIN vs Harvest data

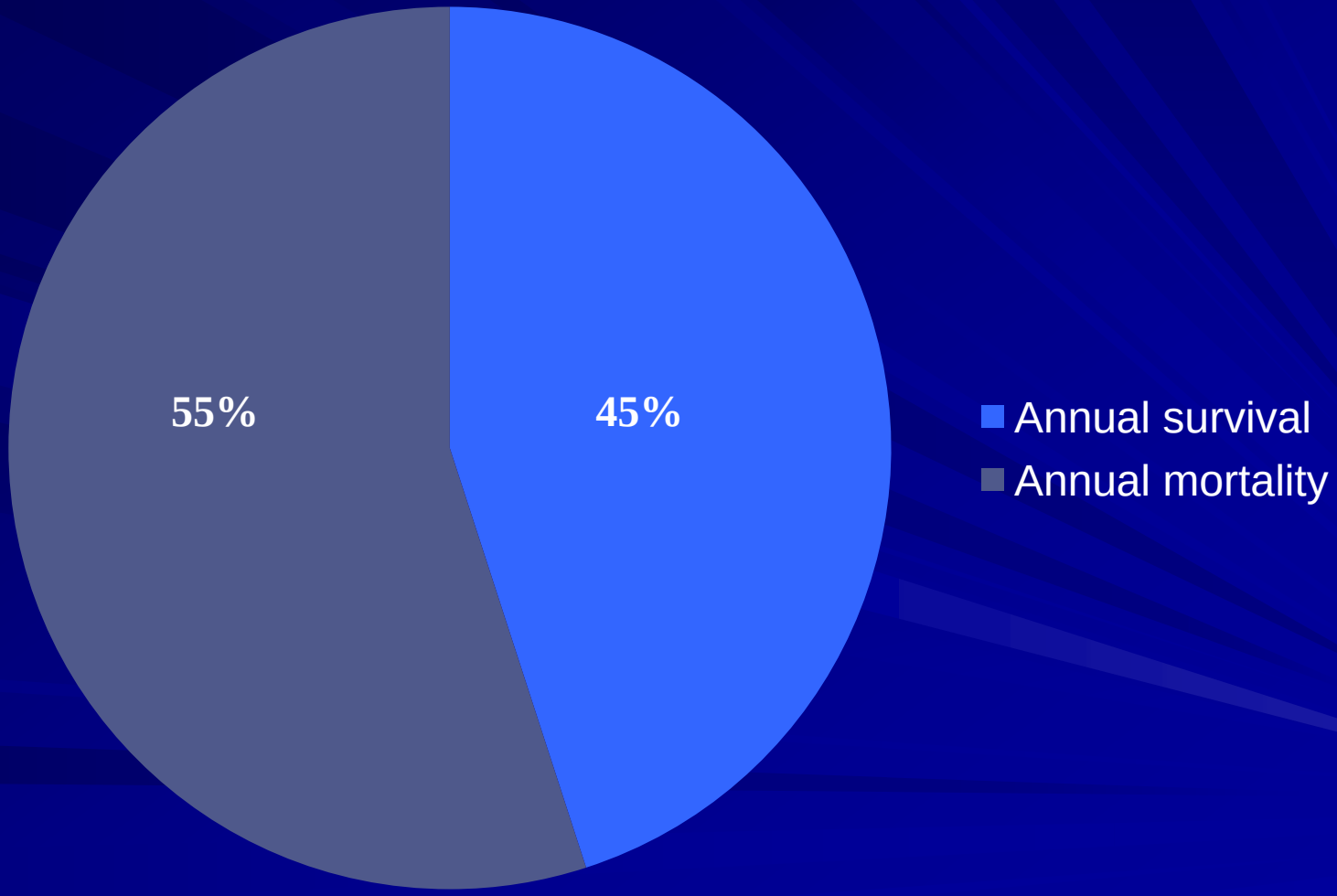


Annual Mortality & Angler Exploitation

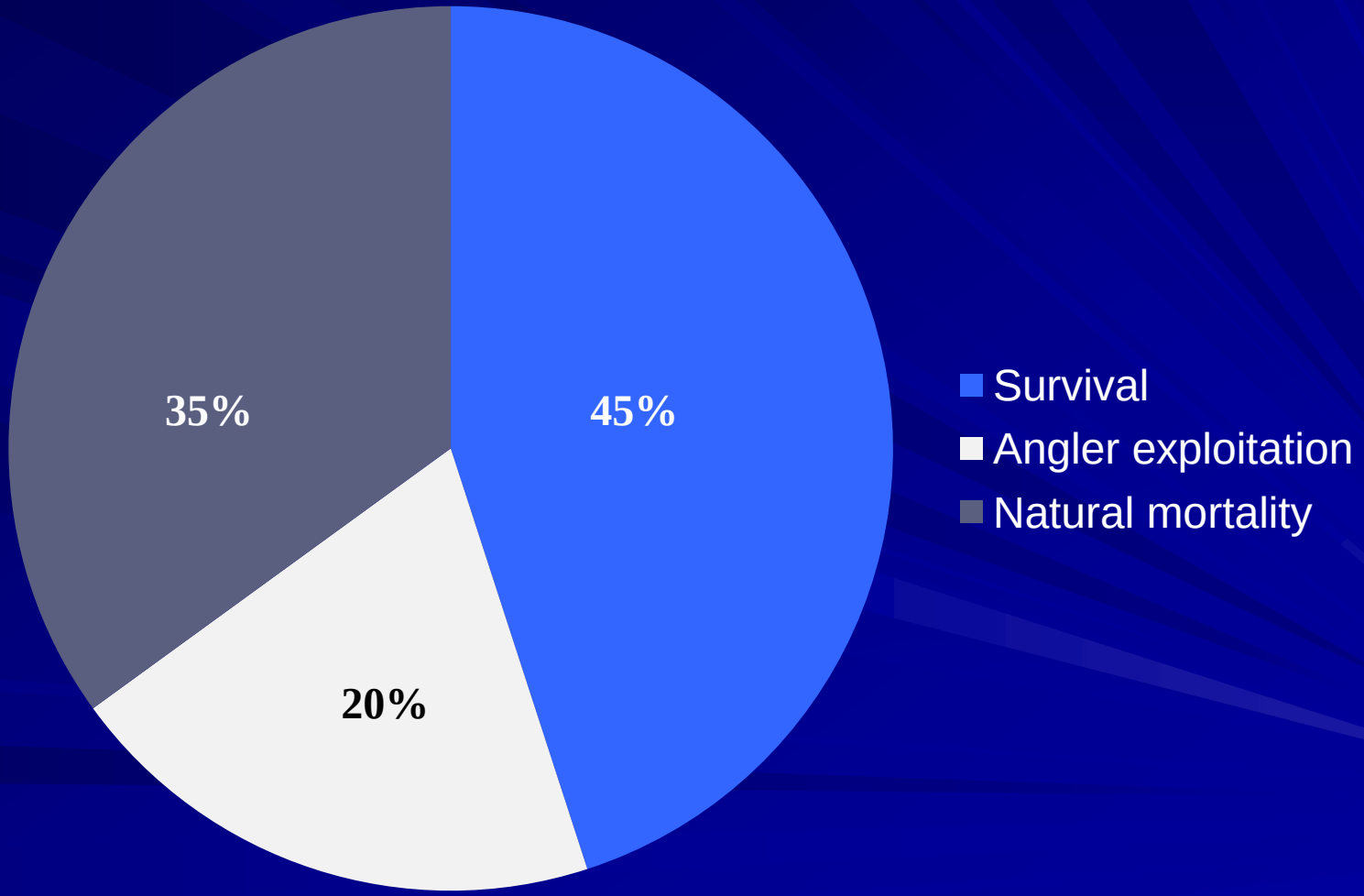
- **Annual mortality – Proportion of pike population that dies each year.**

- **Angler exploitation – proportion of pike population harvested by anglers each year.**

Annual northern pike mortality and survival



Annual northern pike mortality, survival, and angler exploitation



WDFW and KNRD Management Goals

- **Minimize impact of pike to native species.**
- **Reduce numbers of pike in Box Canyon Reservoir.**
- **Prevent/reduce spread of pike to other waters.**

Why?

- **Washington State already has a Tiger Muskie fishery**
- **Northern pike population is expanding rapidly and likely cannot be controlled without active management.**
- **Impacts to other fish species, including native species and sportfish.**
- **Likelihood of downstream entrainment.**
- **Illegal introductions to other waters.**

Next steps

- **Annual monitoring of northern pike population via SPIN.**
  - **SPIN Survey planned for late April 2011.**
- **Periodic monitoring of fish community - Standardized Warmwater Surveys.**
  - **Standardized WW Survey planned for May 2011.**
- **Evaluation of mechanical removal – timing and feasibility**
  - **Initial pilot assessment to be conducted in 2011**
- **SPIN, Standardized Warmwater Surveys, and Pilot study will be used to inform decisions re: management of northern pike in Box Canyon Reservoir**

Control measures being considered for Pend Oreille River

- Netting
- Reward Fishery
- Trapping
- Fishing Tournaments
- Selective Area Rotenone treatments
- Other?

Control measures being considered for other Washington waters (case by case basis)

- Lake Rotenone treatments
- Selective Area Rotenone treatments
- Netting
- Reward Fishery
- Trapping
- Fishing Tournaments
- Other?

Engaging the Public

- Public Outreach via Meetings, News Releases, Website Information

- Taking Public Comment on Control Measures through May 30th
  - At public meetings
  - via e-mail sent to Team Spokane
  - via regular mail sent to WDFW Region 1 Office in Spokane

- Summary of Comments Received Will be Posted on WDFW Website in June

Transporting and Unlawful Release of Live Fish in Washington is Illegal

Introducing predators such as northern pike can cause severe ecological damage and destroy trout and other popular fisheries.

A person found guilty of unlawfully releasing fish within the state is liable for a fine up to $5,000 and a year in jail (RCW 77.15.250.250).

That person can also be ordered to pay all cost of capturing, controlling or killing those fish or their progeny (in excess of $100,000).

Northern pike (Esox lucius)

If you see someone transporting or releasing live fish, please call the Washington State Patrol. They will contact the nearest WDFW officer.
Pend Orielle County WSP Dispatch = 509-227-6560
Spokane County WSP Dispatch = 509-456-4101

Washington Department of FISH and WILDLIFE

- **Presentation Questions**
- **Control Options Comments**

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