



Summary of 2019 Northern Pike Suppression Results on Boundary Reservoir, Pend Oreille River, WA.

This was the fourth year of mechanical suppression of Northern Pike (NP) in Boundary Reservoir. A total of 30 nets were deployed with 44 Northern Pike removed between April 8 and April 11, with a final catch-per-unit-effort (CPUE) of 1.46 NP/net-night. The Kalispel Natural Resources Department collected 7 Northern Pike during the 2019 Spring Pike Index Netting (SPIN) Survey conducted May 6 through May 9. The resulting CPUE of 0.18 NP/ net-night (95% CI: ± 0.17), in sloughs and mainstem river between Box Canyon Dam and Metaline Falls, meeting the abundance target of ≤ 0.50 NP/net-night for these sections of the reservoir.

In total, 590 NP have been removed since the suppression effort began in Boundary Reservoir in 2016.

Mechanical Removal:

- Netting took place from 4/9/2019 - 4/11/19
- Netting locations were concentrated from Box Canyon Dam to Metaline Falls (upper reservoir)
- Collected biological information such as weight, length, sex and maturity on all NP collected
- Total nets deployed: 30
- Overall CPUE: 1.46 NP/net-night

Northern Pike catch summary (Table 1):

- Total catch: 44 NP, 0.09 mT (205 lbs.)
- Overall size range: 499 mm to 785 mm TL (19-31 inches), weight: 730 g to 3,104 g (1.6 to 6.8 lbs.)
- Males averaged 644 mm TL (24 inches), 1,958 g (3.8 lbs.)
- Females averaged 674 mm TL (26 inches), 2,244 g (4.9 lbs.)
- Females made up an estimated 54% of the total catch, of which an estimated 79% were sexually mature (Table 2)
- Removed 5 immature females
- All NP were over 450 mm TL (18 inches)

Mechanical Suppression Bycatch Summary:

- 18 fish species, 180 individuals (Table 3)

Spring Pike Index Netting

- Netting took place 5/6/19 – 5/9/19

- Net placement sites were selected using a spatially balanced random sampling design focused on the upper section of the reservoir (Metaline Falls to Box Canyon Dam)
- One 3-person crews deployed 10-15 nets/day
- Collected biological information such as weight, length, sex and maturity on all NP collected
- Total nets deployed: 40
- CPUE for mainstem river sites was 0.10 NP/net-night; CPUE for sloughs sites was 0.20 NP/net-night.

SPIN catch summary (Table 1)

- Total catch: 7 NP, 0.016 mT (37.0 lbs.)
- Overall size range: 655 mm to 765 mm TL (26-30 inches), 1,854 g to 3,051 g (4.0-6.7 lbs.)
- No Males were caught during SPIN survey
- Females averaged 699 mm TL (27.5 inches), 2,396 g (5.2 lb)
- Females made up 100% of the total catch, of which 100% were mature
- No juvenile NP (less than 450 mm TL (18 inches)) were caught during SPIN survey

Tables and Figures

Table 1. Data summary and statistics for the 2019 Northern Pike suppression effort and SPIN survey in Boundary Reservoir.

	Suppression	SPIN Survey
Sampling Dates:	April 8 to April 11	May 6 to May 9
Days per Week:	4	4
Nets/Day:	10	10-15
Total Nets:	30	40
NP Catch-Per-Unit-Effort (CPUE):		
Overall CPUE:	1.46	0.17
		Sloughs: 0.20 River: 0.10
Percent Positive Catch:	63%	13%
Most Northern Pike in one net:	8	3
NP Catch Statistics:		
Total Number:	44	7
Total Weight:	0.09 mT (205 pounds)	0.016 mT (37.0 pounds)
Total Length Range:	499 mm to 785 mm	655 mm to 765 mm
Weight Range:	730 g to 3,104 g	1,854 g to 3,051 g
Mean TL Males:	644 mm	NA
Mean TL Females:	674 mm	699 mm
Sex Ratio (% female):	54%	100%
Juvenile Catch (<450 mm):	0%	0%

Table 2. Estimated maturity rates of all Northern Pike removed during 2019 mechanical suppression efforts in Boundary Reservoir.

Sex	Immature	Mature	Ripe	Spawned Out
Female	21%	79%	0%	0%
Male	0%	0%	100%	0%

Table 3. Summary of fish bycatch captured during the 2019 Northern Pike mechanical suppression effort in Boundary Reservoir.

Common Name	Species Name	Number	% of Total
Salmonidae			
Brown Trout	<i>Salmo trutta</i>	1	0.56
Lake Trout	<i>Salvelinus namaycush</i>	3	1.67
Lake Whitefish	<i>Coregonus clupeaformis</i>	1	0.56
Rainbow Trout	<i>Oncorhynchus mykiss</i>	2	1.11
Westslope Cutthroat Trout	<i>Oncorhynchus clarki lewisi</i>	2	1.11
Cyprinidae			
Northern Pikeminnow	<i>Ptychocheilus oregonensis</i>	11	6.11
Tench	<i>Tinca tinca</i>	27	15.00
Catostomidae			
Largescale Sucker	<i>Catostomus macrocheilus</i>	48	26.67
Longnose Sucker	<i>Catostomus catostomus</i>	1	0.56
Ictaluridae			
Brown Bullhead	<i>Ameiurus nebulosus</i>	9	5.00
Centrarchidae			
Black Crappie	<i>Pomoxis nigromaculatus</i>	3	1.67
Largemouth Bass	<i>Micropterus salmoides</i>	6	3.33
Pumpkinseed	<i>Lepomis gibbosus</i>	3	1.67
Smallmouth Bass	<i>Micropterus dolomieu</i>	3	1.67
Largemouth Bass	<i>Micropterus salmoides</i>	6	3.33
Percidae			
Walleye	<i>Stizostedion vitreum</i>	35	19.44
Yellow Perch	<i>Perca flavescens</i>	23	12.78
Gadiformes			
Burbot	<i>Lota lota</i>	2	1.1
Grand Total (all species)		180	100