



Summary of 2017 Northern Pike Suppression and SPIN Results on Boundary Reservoir, Pend Oreille River, WA.

This was the second year of mechanical suppression of Northern Pike (NP) in Boundary Reservoir. In total, 146 nets were deployed with 307 Northern Pike captured (303 NP removed; 4 tagged NP were released) between March 13 and April 20, with a final catch-per-unit-effort (CPUE) of 2.09 NP/net-night (including released fish). The Kalispel Natural Resources Department collected 28 Northern Pike during the 2017 Spring Pike Index Netting (SPIN) Survey conducted May 8 through May 10. The resulting CPUE of 0.70 NP/ net-night (95% CI: ± 0.42), in sloughs and mainstem river between Box Canyon Dam and Metaline Falls. While not meeting the abundance target of ≤ 0.50 NP/net-night for these sections of the reservoir, it does fall within the confidence interval range.

In total, 414 NP were removed in 181 overnight gillnet sets during the two years of suppression in Boundary Reservoir (111 NP in 2016 and 303 NP in 2017), with 4 additional tagged NP released (Seattle City Light study).

Mechanical Removal:

- Netting took place from 3/13/17 - 4/20/17
- Netting locations were concentrated from Box Canyon Dam to Metaline Falls (upper reservoir) with one overnight set (9 nets) between Metaline Falls and Boundary Dam
- Collected biological information such as weight, length, sex and maturity on all NP collected
- Total nets deployed: 146
- Overall CPUE: 2.10 NP/net-night (including 4 tagged NP released as part of a Seattle City Light study)

Northern Pike catch summary (Table 1):

- Total catch: 307 NP (303 removed; 4 released), 0.45 mT (990 lbs)
- Overall size range: 395 mm to 1,100 mm TL (15-43 inches), weight: 380 g to 12,200 g (0.84 to 26.8 lbs.)
- Males averaged 569 mm TL (22 inches)
- Females averaged 606 mm TL (24 inches)
- Females made up an estimated 46% of the total catch, of which an estimated 64% were sexually mature (Table 2)
- Removed 50 immature females
- 5% of NP catch was less than 450 mm TL (18 inches)

Mechanical Suppression Bycatch Summary:

- 15 fish species, 308 individuals (Table 3)

Spring Pike Index Netting May 2-May 5

- Netting took place 5/8/16 – 5/10/16
- 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)
- Two 3 person crews deployed 10 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 0.0 NP/net-night; CPUE for sloughs sites was 0.93 NP/net-night. Two tagged pike were released and included in the CPUE calculations

SPIN catch summary (Table 1)

- Total catch: 28 NP, 0.025 mT (55.2 lbs)
- Overall size range: 386 mm to 674 mm TL (15-27 inches), 324 g to 2,034 g (0.7-4.5 lbs.)
- Males averaged 496 mm TL (20 inches), 777 g (1.7 lb)
- Females averaged 547 mm TL (21.5 inches), 1,153 g (2.5 lb)
- Females made up an estimated 70% of the total catch, of which an estimated 70% were mature (all mature females were spawned out)
- Removed no mature pre-spawn females and 5 immature females
- 33% of NP catch was less than 450 mm TL (18 inches)

Tables and Figures

Table 1. Data summary and statistics for the 2017 Northern Pike suppression effort and SPIN survey in Boundary Reservoir. *Data includes removed Northern Pike only (4 tagged fish released).

	Suppression	SPIN Survey
Sampling Dates:	March 13 to April 20	May 8 to May 10
Days per Week:	4	3
Nets/Day:	10-20	20
Total Nets:	146	40
NP Catch-Per-Unit-Effort (CPUE):		
Weekly Mean CPUE Range:	N/A	N/A
Overall CPUE:	2.09	River: 0.0 Sloughs: 0.93 Combined: 0.70
Percent Positive Catch:	65%	35%
Most northern pike in one net:	14	6
NP Catch Statistics:		
Total Number:	*303	28
Total Weight:	*0.45 mT (990 pounds)	0.025 mT (55.2 pounds)
Total Length Range:	*395 mm to 1,100 mm	386 mm to 674 mm
Weight Range:	*380 g to 12,200 g	324 g to 2,034 g
Mean TL Males:	*569 mm	496 mm
Mean TL Females:	*606 mm	547 mm
Sex Ratio (% female):	*46%	70%
Juvenile Catch (<450 mm):	*5%	33%

Table 2. Estimated maturity rates of all Northern Pike removed during 2017 mechanical suppression efforts in Boundary Reservoir.

Sex	Immature	Mature	Ripe	Spawned Out
Female	36%	47%	12%	5%
Male	5%	68%	27%	0%

Table 3. Summary of fish bycatch captured during the 2017 Northern Pike mechanical suppression effort in Boundary Reservoir.

Common Name	Species Name	Number	% of Total
Salmonidae			
Rainbow Trout	<i>Oncorhynchus mykiss</i>	8	2.60
Lake Whitefish	<i>Coregonus clupeaformis</i>	3	0.97
Brown Trout	<i>Salmo trutta</i>	3	0.97
Lake Trout	<i>Salvelinus namaycush</i>	4	1.30
Cyprinidae			
Northern Pikeminnow	<i>Ptychocheilus oregonensis</i>	9	2.92
Tench	<i>Tinca tinca</i>	2	0.65
Catostomidae			
Longnose Sucker	<i>Catostomus catostomus</i>	2	0.65
Largescale Sucker	<i>Catostomus macrocheilus</i>	149	48.38
Ictaluridae			
Brown Bullhead	<i>Ameiurus nebulosus</i>	1	0.32
Centrarchidae			
Pumpkinseed	<i>Lepomis gibbosus</i>	9	2.92
Smallmouth Bass	<i>Micropterus dolomieu</i>	2	0.65
Black Crappie	<i>Pomoxis nigromaculatus</i>	14	4.55
Percidae			
Yellow Perch	<i>Perca flavescens</i>	77	25.06
Walleye	<i>Stizostedion vitreum</i>	19	6.11
Gadiformes			
Burbot	<i>Lota lota</i>	6	1.95
Grand Total (all species)		308	100