



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

Mechanical suppression of Northern Pike (NP) in Box Canyon Reservoir occurred between March 19 and April 18 with crews deploying 306 nets and removing 427 Northern Pike. The final catch-per-unit-effort (CPUE) was 1.40 NP/net-night for the 2019 suppression effort. The Kalispel Natural Resources Department and Washington Department of Fish and Wildlife collected 19 Northern Pike during the 2019 Spring Pike Index Netting (SPIN) Survey conducted April 29 through May 2. The resulting CPUE of 0.36 NP/net-night (95% CI: ± 0.25), in sloughs and mainstem river between Riverbend and Pioneer Park Campground met the abundance target of ≤ 1.73 NP/net-night for these sections of the reservoir. No Northern Pike were captured in mainstem river north of Riverbend, which met the target of ≤ 0.50 NP/net-night.

In total, 17,891 Northern Pike have been removed since the suppression project in Box Canyon Reservoir began in 2012.

Mechanical Removal March 19-April 18:

- Netting took place in known spawning locations throughout the reservoir
- Two 3-man crews worked 4 days per week deploying up to 32 nets per day
- Collected biological information such as weight, length, sex and maturity on all Northern Pike
- Total nets deployed: 306
- Overall CPUE: 1.40 NP/ net-night

Northern Pike catch summary (Table 1):

- Total catch: 427 NP, 0.823 mT (1,814 lbs.)
- Overall size range: 313 mm to 1,090 mm TL (12-43 inches), weight: 164 g to 13,400 g (0.4 to 29.5 lbs.)
- Males averaged 603 mm TL (24 inches), 1,709 g (3.8 lbs.)
- Females averaged 643 mm TL (25 inches), 2,176 g (4.8 lbs.)
- Females made up an estimated 46% of the total catch, of which an estimated 84% were mature, ripe or spawned out (Table 2)
- Removed 155 mature pre-spawn females and 32 immature females

Mechanical Suppression Bycatch Summary:

- 20 fish species, 5,383 individuals, >90% survival (Table 3)

Spring Pike Index Netting April 29-May 2

- Net placement sites were selected using a reservoir-wide spatially balanced random sampling design
- Collected biological information such as weight, length, sex and maturity, as well as growth structures for later analysis on all NP collected
- Total nets deployed: 62
- CPUE for the mainstem river north of Riverbend was 0.00 NP/net-night (target ≤ 0.5); CPUE for all sloughs and mainstem river south of Riverbend was 0.36 NP/net-night (target ≤ 1.73)

SPIN catch summary (Table 1)

- Total catch: 19 NP, 0.05 mT (103.6 lbs)
- Overall size range: 603 mm to 872 mm TL (24-34 inches), 1,404 g to 4,964 g (3.0-10.9 lbs.)
- Males averaged 702 mm TL (28 inches), 2,546 g (5.6 lbs)
- Females averaged 695 mm TL (27 inches), 2,409 g (5.3 lbs)
- All but one female was spawned out (n=10)

Tables and Figures

Table 1. Data summary and statistics for the 2019 Box Canyon Reservoir Northern Pike mechanical suppression effort and SPIN survey.

	Suppression	SPIN Survey
Sampling Dates:	March 19 to April 18	April 29 to May 2
Days per Week:	4	4
Nets/Day:	12-32	7-22
Total Nets:	306	62
NP Catch-Per-Unit-Effort (CPUE):		
CPUE:	1.40	North: 0.0 Slough and South: 0.36
Percent Positive Catch:	58%	19%
Most Northern Pike in one net:	16	5
NP Catch Statistics:		
Total Number:	427	19
Total Weight:	0.823 mT	0.05 mT
Total Length Range:	313 mm to 1,090 mm	603 mm to 872 mm
Weight Range:	164 g to 13,400 g	1,404 g to 4,964 g
Mean TL Males:	603 mm	702 mm
Mean TL Females:	643 mm	695 mm
Sex Ratio (% female):	46%	53%
Juvenile Catch (<450 mm):	12%	0%

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

Sex	Immature	Mature	Ripe	Spawned Out
Female	16%	79%	3.5%	1.5%
Male	10%	19.5%	70%	0.5%

Table 3. Summary of fish bycatch captured during the 2019 Northern Pike mechanical suppression efforts. Observed bycatch survival rates were >90 % for the project.

Common Name	Species Name	Number	% of Total
Salmonidae			
Brown Trout	<i>Salmo trutta</i>	117	2.17
Eastern Brook Trout	<i>Salvelinus fontinalis</i>	82	1.52
Lake Trout	<i>Salvelinus namaycush</i>	3	0.06
Lake Whitefish	<i>Coregonus clupeaformis</i>	5	0.09
Mountain Whitefish	<i>Prosopium williamsoni</i>	1	0.02
Rainbow Trout	<i>Oncorhynchus mykiss</i>	15	0.28
Westslope Cutthroat Trout	<i>Oncorhynchus clarki lewisi</i>	11	0.20
Esocidae			
Grass Pickerel	<i>Esox americanus vermiculatus</i>	30	0.56
Cyprinidae			
Northern Pikeminnow	<i>Ptychocheilus oregonensis</i>	41	0.76
Peamouth	<i>Mylocheilus caurinus</i>	49	0.91
Tench	<i>Tinca tinca</i>	998	18.54
Catostomidae			
Largescale Sucker	<i>Catostomus macrocheilus</i>	29	0.54
Longnose Sucker	<i>Catostomus catostomus</i>	7	0.13
Ictaluridae			
Brown Bullhead	<i>Ameiurus nebulosus</i>	383	7.12
Centrarchidae			
Black Crappie	<i>Pomoxis nigromaculatus</i>	502	9.33
Largemouth Bass	<i>Micropterus salmoides</i>	271	5.04
Pumpkinseed	<i>Lepomis gibbosus</i>	709	13.17
Smallmouth Bass	<i>Micropterus dolomieu</i>	11	0.20
Percidae			
Walleye	<i>Sander vitreus</i>	23	0.43
Yellow Perch	<i>Perca flavescens</i>	2,095	38.93
Grand Total (all species)		5,383	100