



Summary of 2017 Northern Pike Suppression Results on Box Canyon Reservoir, Pend Oreille River, WA.

During this year of mechanical suppression of Northern Pike (NP) in Box Canyon Reservoir, crews deployed 220 nets and removed 34 northern pike between March 6 and April 20, with a final catch-per-unit-effort (CPUE) of 0.15 NP/net-night. The Kalispel Natural Resources Department and Washington Department of Fish and Wildlife collected 4 Northern Pike during the 2017 Spring Pike Index Netting (SPIN) Survey conducted May 1 through May 3. The resulting CPUE of 0.06 NP/ net-night (95% CI: \pm 0.09), in sloughs and mainstem river between Riverbend and Pioneer Park Campground met the abundance target of \leq 1.73 NP/net-night for these sections of the reservoir. The CPUE north of Riverbend was 0.10 NP/net-night and was below the target of \leq 0.50 NP/net-night. There was no Phase 2 (post SPIN) mechanical suppression effort implemented in 2017.

In total, 17,193 NP were removed during the ongoing suppression effort in Box Canyon Reservoir which began in 2012

Phase 1 - Mechanical Removal March 6-April 20:

- Netting took place in known spawning locations throughout the reservoir
- Two 3 man crews worked 4 days per week deploying 30 nets per day
- Collected biological information such as weight, length, sex and maturity on all Northern Pike caught
- Total nets deployed: 220
- Overall CPUE: 0.15 NP/ net-night

Phase 1 northern pike catch summary (Table 1):

- Total catch: 34 NP, 0.061 mT (134.3 lbs)
- Overall size range: 462 mm to 890 mm TL (18-35 inches), weight: 631 g to 5,670 g (1.4 to 12.5 lbs.)
- Males averaged 572 mm TL (22 inches)
- Females averaged 671 mm TL (26 inches)
- Females made up an estimated 51% of the total catch, of which an estimated 94% were mature, ripe or spawned out (Table 2)
- Removed 13 mature pre-spawn females and 1 immature female
- All NP were over 450 mm TL (18 inches)

Mechanical Suppression Bycatch Summary:

- 19 fish species, 2,955 individuals, >90% survival (Table 3)

Spring Pike Index Netting May 1-May 3

- 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: 60
- CPUE for the mainstem river north of Riverbend was 0.10 NP/net-night (target ≤ 0.5); CPUE for all sloughs and mainstem river south of Riverbend was 0.06 NP/net-night (target ≤ 1.73)

SPIN catch summary (Table 1)

- Total catch: 4 NP, 0.02 mT (32.7 lbs)
- Overall size range: 671 mm to 950 mm TL (26-37 inches), 2,035 g to 8,000 g (4.5-17.6 lbs.)
- Males averaged 709 mm TL (28 inches), 2,282 g (5 lb)
- One female was caught, measuring 950 mm TL (37 inches) and weighed 8,000 g (17.6 lbs)

Tables and Figures

Table 1. Data summary and statistics for the 2017 Box Canyon Reservoir Northern Pike mechanical suppression effort and SPIN survey.

	Suppression Phase I	SPIN Survey
Sampling Dates:	March 6 to April 20	May 1 to May 3
Days per Week:	4	4
Nets/Day:	30	10-50
Total Nets:	220	60
NP Catch-Per-Unit-Effort (CPUE):		
Overall CPUE:	0.15	North: 0.10 Slough and South: 0.06
Most northern pike in one net:	3	2
NP Catch Statistics:		
Total Number:	34	4
Total Weight:	0.061 mT (134.3 pounds)	0.02 mT (32.7 pounds)
Total Length Range:	462 mm to 890 mm	671 mm to 950 mm
Weight Range:	631 g to 5,670 g	2,035 g to 8,000 g
Mean TL Males:	572 mm	709 mm
Mean TL Females:	671 mm	950 mm
Sex Ratio (% female):	51%	25%
Juvenile Catch (<450 mm):	0%	0%

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

Sex	Immature	Mature	Ripe	Spawned Out
Female	6%	76%	0%	18%
Male	0%	50%	44%	6%

Table 3. Summary of fish bycatch captured during the 2017 Northern Pike mechanical suppression efforts. Observed bycatch survival rates were >90 % for the project.

Common Name	Species Name	Number	% of Total
Salmonidae			
Rainbow Trout	<i>Oncorhynchus mykiss</i>	4	0.14
Lake Whitefish	<i>Coregonus clupeaformis</i>	5	0.17
Eastern Brook Trout	<i>Salvelinus fontinalis</i>	11	0.37
Brown Trout	<i>Salmo trutta</i>	5	0.17
Westslope Cutthroat Trout	<i>Oncorhynchus clarki lewisi</i>	1	0.03
Lake Trout	<i>Salvelinus namaycush</i>	4	0.14
Esocidae			
Grass Pickerel	<i>Esox americanus vermiculatus</i>	2	0.07
Cyprinidae			
Peamouth	<i>Mylocheilus caurinus</i>	55	1.86
Northern Pikeminnow	<i>Ptychocheilus oregonensis</i>	20	0.68
Tench	<i>Tinca tinca</i>	427	14.45
Catostomidae			
Longnose Sucker	<i>Catostomus catostomus</i>	9	0.30
Largescale Sucker	<i>Catostomus macrocheilus</i>	35	1.18
Ictaluridae			
Brown Bullhead	<i>Ameiurus nebulosus</i>	282	9.54
Centrarchidae			
Pumpkinseed	<i>Lepomis gibbosus</i>	445	15.06
Smallmouth Bass	<i>Micropterus dolomieu</i>	3	0.10
Largemouth Bass	<i>Micropterus salmoides</i>	86	2.91
Black Crappie	<i>Pomoxis nigromaculatus</i>	238	8.05
Percidae			
Yellow Perch	<i>Perca flavescens</i>	1,312	44.40
Walleye	<i>Sander vitreus</i>	11	0.37
Grand Total (all species)		2,955	100