



## Summary of 2020 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 02 and March 18 with crews deploying 155 nets and removing 115 Northern Pike. The 2020 suppression effort was expected to run through April 30 but was suspended for the season due to the COVID19 pandemic. The final catch-per-unit-effort (CPUE) was 0.74 NP/net-night for the 2020 suppression effort. The Kalispel Natural Resources Department collected 28 Northern Pike during the 2020 Spring Pike Index Netting (SPIN) Survey conducted May 11 through May 14. The resulting CPUE of 0.54 NP/net-night (95% CI:  $\pm 0.42$ ), in sloughs and the mainstem river between the Riverbend (RM 60-61) and Pioneer Park Campground (RM 86-87) areas, met the abundance target of  $\leq 1.73$  NP/net-night for these sections of the reservoir (see [BCR Target Abundance](#) document for specifics on the target development). No Northern Pike were captured in mainstem river section north of Riverbend, which met the target of  $\leq 0.50$  NP/net-night.

In total, 18,006 Northern Pike have been removed through the suppression project in Box Canyon Reservoir, which began in 2012.

### Mechanical Removal March 02-March 18:

- Netting took place in known spawning locations throughout the reservoir
- Two 3-man crews worked 4 days per week deploying up to 31 nets per day
- Collected biological information such as weight, length, sex, and maturity on all Northern Pike
- Total nets deployed: 155
- Overall CPUE: 0.75 NP/ net-night

### Northern Pike catch summary (Table 1):

- Total catch: 115 NP, 0.165 mT (363 lbs.)
- Overall size range: 285 mm to 1,168 mm TL (11-46 inches), weight: 136 g to 12,739 g (0.3 to 28.0 lbs.)
- Males averaged 486 mm TL (19 inches), 990 g (2.1 lbs.)
- Females averaged 610 mm TL (24 inches), 1,985 g (4.3 lbs.)
- Females made up 37% of the total catch, of which an estimated 74% were mature, ripe, or spawned out (Table 2)
- Removed 29 mature pre-spawn females and 13 immature females

## Mechanical Suppression Bycatch Summary:

- 15 fish species, 1,770 individuals, >90% survival (Table 3)

## Spring Pike Index Netting May 11-May 14

- Net placement sites were selected using a reservoir-wide spatially balanced random sampling design
- Collected biological information such as weight, length, sex, and maturity on all Northern Pike
- Total nets deployed: 62
- CPUE for the mainstem river north of Riverbend was 0.00 NP/net-night (target  $\leq 0.5$ ); CPUE for all sloughs and mainstem river south of Riverbend was 0.54 NP/net-night (target  $\leq 1.73$ )

## SPIN catch summary (Table 1)

- Total catch: 28 NP, 0.03 mT (73.3 lbs)
- Overall size range: 365 mm to 725 mm TL (14-29 inches), 311 g to 2,763 g (0.7-6.1 lbs.)
- Males averaged 514 mm TL (20 inches), 1,040 g (2.3 lbs)
- Females averaged 601 mm TL (24 inches), 1,628 g (3.6 lbs)
- A total of 7 females were captured (5 Spawned out and 2 immature).

## Tables and Figures

**Table 1.** Data summary and statistics for the 2020 Box Canyon Reservoir Northern Pike mechanical suppression effort and SPIN survey.

	Suppression	SPIN Survey
Sampling Dates:	March 02 to March 18	May 11 to May 14
Days per Week:	4	4
Nets/Day:	10-31	6-7
Total Nets:	155	62
<b>NP Catch-Per-Unit-Effort (CPUE):</b>		
CPUE:	0.75	North: 0.0 Slough and South: 0.54
Percent Positive Catch:	40%	18%
Most Northern Pike in one net:	7	9
<b>NP Catch Statistics:</b>		
Total Number:	115	28
Total Weight:	0.165 mT	0.03 mT
Total Length Range:	285 mm to 1,168 mm	365 mm to 725 mm
Weight Range:	136 g to 12,739 g	311 g to 2,763 g
Mean TL Males:	486 mm	514 mm
Mean TL Females:	610 mm	601 mm
Sex Ratio (% female):	37%	25%
Juvenile Catch (<450 mm):	44%	43%

**Table 2.** Estimated maturity rates of all Northern Pike removed during 2020 mechanical suppression efforts in Box Canyon Reservoir.

Sex	Immature	Mature	Ripe	Spawned Out
Female	31%	64%	5%	0%
Male	36%	51%	13%	0%

**Table 3.** Summary of fish bycatch captured during the 2020 Northern Pike mechanical suppression efforts. Observed bycatch survival rates were >90% for the project.

Common Name	Species Name	Number	% of Total
<b>Salmonidae</b>			
Brown Trout	<i>Salmo trutta</i>	22	1.24
Eastern Brook Trout	<i>Salvelinus fontinalis</i>	35	1.98
Lake Trout	<i>Salvelinus namaycush</i>	2	0.11
Rainbow Trout	<i>Oncorhynchus mykiss</i>	11	0.62
Westslope Cutthroat Trout	<i>Oncorhynchus clarki lewisi</i>	1	0.06
<b>Esocidae</b>			
Grass Pickerel	<i>Esox americanus vermiculatus</i>	21	1.19
<b>Cyprinidae</b>			
Northern Pikeminnow	<i>Ptychocheilus oregonensis</i>	21	1.19
Tench	<i>Tinca tinca</i>	109	6.16
<b>Catostomidae</b>			
Largescale Sucker	<i>Catostomus macrocheilus</i>	3	0.17
<b>Ictaluridae</b>			
Brown Bullhead	<i>Ameiurus nebulosus</i>	29	1.64
<b>Centrarchidae</b>			
Black Crappie	<i>Pomoxis nigromaculatus</i>	273	15.42
Largemouth Bass	<i>Micropterus salmoides</i>	43	2.43
Pumpkinseed	<i>Lepomis gibbosus</i>	246	13.90
<b>Percidae</b>			
Walleye	<i>Sander vitreus</i>	5	0.28
Yellow Perch	<i>Perca flavescens</i>	949	53.62
<b>Grand Total (all species)</b>		1,770	100