



Summary of 2021 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 01 and April 21 with crews deploying 556 nets and removing 610 Northern Pike. The final catch-per-unit-effort (CPUE) was 1.1 NP/net-night for the 2021 suppression effort (Figure 1). The Kalispel Natural Resources Department and Washington Department of Fish and Wildlife collected 37 Northern Pike during the 2021 Spring Pike Index Netting (SPIN) Survey conducted May 03 through May 06. The resulting CPUE of 0.62 NP/net-night (95% CI: ± 0.32), in sloughs and the mainstem river between the Riverbend (RM 60-61) and Pioneer Park Campground (RM 86-87) met the abundance target of ≤ 1.73 NP/net-night for these sections of the reservoir (see [BCR Target Abundance](#) document for specifics on the target development). The mean CPUE north of Riverbend was 0.56 (± 0.47) NP/net; not significantly different than the ≤ 0.50 NP/net-night target for this reach.

In total, 18,616 Northern Pike have been removed through the suppression project in Box Canyon Reservoir, which began in 2012.

Mechanical Removal March 01-April 21:

- Netting took place in known spawning locations throughout the reservoir
- Two 3-man crews worked 4 days per week deploying up to 36 nets per day
- Collected biological information such as weight, length, sex, and maturity on all Northern Pike
- Total nets deployed: 556
- Overall CPUE: 1.1 NP/ net-night

Northern Pike catch summary (Table 1):

- Total catch: 610 NP, 0.567 mT (1,250 lbs.)
- Overall size range: 255 mm to 1,055 mm (10-41 inches), weight: 127 g to 9,525 g (0.3 to 21.0 lbs.)
- Males averaged 459 mm TL (18 inches), 796 g (1.8 lbs.)
- Females averaged 499 mm TL (20 inches), 1,169 g (2.6 lbs.)
- Females made up 52% of the total catch (Table 1), of which an estimated 35% were mature, ripe, or spawned out (Table 2)
- Removed 107 mature pre-spawn females and 196 immature females

Mechanical Suppression Bycatch Summary:

- 20 fish species, 4,736 individuals, >90% survival (Table 3)

Spring Pike Index Netting May 03-May 06

- 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: 60
- CPUE for the mainstem river north of Riverbend was 0.56 NP/net-night (target ≤ 0.5); CPUE for all sloughs and mainstem river south of Riverbend was 0.62 NP/net-night (target ≤ 1.73)

SPIN catch summary (Table 1)

- Total catch: 37 NP, 0.03 mT (73.3 lbs.)
- Overall size range: 320 mm to 795 mm TL (12-32 inches), 189 g to 3,728 g (0.4-8.2 lbs.)
- Males averaged 454 mm TL (18 inches), 659 g (1.5 lbs.)
- Females averaged 518 mm TL (20 inches), 1,253 g (2.8 lbs.)
- A total of 20 females were captured (5 Spawned out, 1 mature and 14 immature).

Tables and Figures

Table 1. Data summary and statistics for the 2021 Box Canyon Reservoir Northern Pike mechanical suppression effort and SPIN survey.

	Suppression	SPIN Survey
Sampling Dates:	March 01 to April 21	May 03 to May 06
Days per Week:	4	4
Nets/Day:	13-36	12-27
Total Nets:	556	60
NP Catch-Per-Unit-Effort (CPUE):		
CPUE:	1.10	North: 0.56 Slough and South: 0.62
Percent Positive Catch:	50%	66%
Most Northern Pike in one net:	8	5
NP Catch Statistics:		
Total Number:	610	37
Total Weight:	0.57 mT	0.03 mT
Total Length Range:	255 mm to 1,055 mm	320 mm to 795 mm
Weight Range:	127 g to 9,525 g	189 g to 3,728 g
Mean TL Males:	459 mm	454 mm
Mean TL Females:	499 mm	518 mm
Sex Ratio (% female):	52%	54%
Juvenile Catch (<450 mm):	60%	46%

Table 2. Estimated maturity rates of all Northern Pike removed during 2021 mechanical suppression efforts in Box Canyon Reservoir.

Sex	Immature	Mature	Ripe	Spawned Out
Female	65%	34%	1%	0%
Male	56%	23%	21%	0%

Table 3. Summary of fish bycatch captured during the 2021 Northern Pike mechanical suppression effort in Box Canyon Reservoir. Observed bycatch survival rates were >90% for the project.

Common Name	Species Name	Number	% of Total
Salmonidae			
Brown Trout	<i>Salmo trutta</i>	152	3.21
Bull Trout	<i>Salvelinus confluentus</i>	1	0.02
Eastern Brook Trout	<i>Salvelinus fontinalis</i>	70	1.48
Lake Trout	<i>Salvelinus namaycush</i>	5	0.11
Lake Whitefish	<i>Coregonus clupeaformis</i>	4	0.08
Rainbow Trout	<i>Oncorhynchus mykiss</i>	95	2.01
Westslope Cutthroat Trout	<i>Oncorhynchus clarki lewisi</i>	33	0.70
Esocidae			
Grass Pickerel	<i>Esox americanus vermiculatus</i>	9	0.19
Cyprinidae			
Northern Pikeminnow	<i>Ptychocheilus oregonensis</i>	161	3.40
Peamouth	<i>Mylocheilus caurinus</i>	62	1.31
Tench	<i>Tinca tinca</i>	637	13.45
Catostomidae			
Largescale Sucker	<i>Catostomus macrocheilus</i>	59	1.25
Longnose Sucker	<i>Catostomus catostomus</i>	6	0.13
Ictaluridae			
Brown Bullhead	<i>Ameiurus nebulosus</i>	200	4.22
Centrarchidae			
Black Crappie	<i>Pomoxis nigromaculatus</i>	400	8.45
Largemouth Bass	<i>Micropterus salmoides</i>	169	3.57
Pumpkinseed	<i>Lopomis gibbosis</i>	336	7.09
Smallmouth Bass	<i>Micropterus dolomieu</i>	13	0.27
Percidae			
Yellow Perch	<i>Perca flavescens</i>	2,248	47.47
Walleye	<i>Stizostedion vitreum</i>	76	1.60
Grand Total (all species)		4,736	100

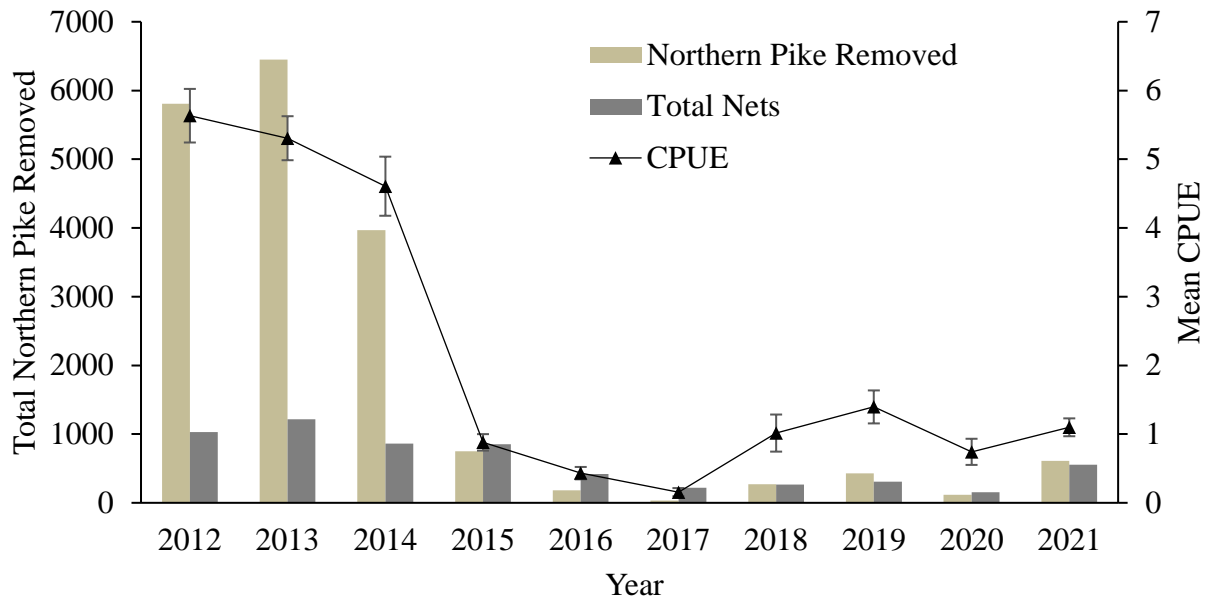


Figure 1. Box Canyon Reservoir total catch, gill net effort, and mean gill net catch-per-unit-effort (CPUE) of Northern Pike collected during suppression efforts since 2012.