

## Creel and Lake Information

### Lake Information

**Lake Name:** Bitter  
**Lake Code:** UBS-Lake-409-800  
**Surface Area:** 7,601.03 Hectares  
**County:** Day  
**Start Date:** 1/4/2017  
**End Date:** 8/6/2017  
**Months Included:** January, February, March, May, June, July, August

Table 1. Percent of angling parties interviewed primarily targeting a species (or any species) by month and overall for Bitter during 2016 - 2017. Any Species (ANY), Black Crappie (BLC), Common Carp (COC), Northern Pike (NOP), Rock Bass (ROB), Walleye (WAE), White Bass (WHB), Yellow Perch (YEP).

Year	Month	# of Interviews	Percent of Anglers Targeting							
			ANY	BLC	COC	NOP	ROB	WAE	WHB	YEP
2016	January	198	16.2	0.0	0.0	0.5	0.0	61.6	0.0	21.7
	February	75	6.7	0.0	0.0	5.3	0.0	65.3	0.0	22.7
	March	9	22.2	0.0	0.0	0.0	0.0	33.3	0.0	44.4
	May	71	0.0	0.0	0.0	0.0	0.0	98.6	1.4	0.0
	June	100	3.0	0.0	0.0	0.0	0.0	94.0	3.0	0.0
	July	154	3.2	0.0	0.0	0.0	0.0	96.8	0.0	0.0
	August	50	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0
	December	30	3.3	0.0	0.0	6.7	0.0	46.7	0.0	43.3
	Overall	687	7.0	0.0	0.0	1.0	0.0	80.2	0.6	11.2
2017	January	93	6.5	0.0	0.0	0.0	0.0	37.6	0.0	55.9
	February	37	16.2	0.0	0.0	0.0	0.0	43.2	0.0	40.5
	March	3	0.0	0.0	0.0	33.3	0.0	66.7	0.0	0.0
	May	60	1.7	0.0	0.0	3.3	0.0	90.0	5.0	0.0
	June	152	1.3	0.0	0.0	0.0	0.0	94.7	3.9	0.0
	July	269	1.9	0.0	0.0	0.0	0.0	98.1	0.0	0.0
	August	45	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0
	Overall	659	3.0	0.0	0.0	0.5	0.0	85.0	1.4	10.2

Table 2. Monthly and overall number of interviews, angler hours, angler days, mean trip length, mean party size, percent of parties interviewed that were South Dakota residents, percent of angling activity from a boat or shack and percent of angling activity that occurred on weekends and holidays at Bitter (80% confidence interval).

Year	Month	# Interviews	Angler Hours	Angler Days	Trip Length (h)	Party Size	% SD Residents	% Boat or Shack	% Weekend/Holidays
2015-2016	January	198	7,082 (5,638)	821	8.63 (4.43)	1.98 (0.39)	48	94	60
	February	75	129,838 (69,790)	8,749	14.84 (1.03)	2.40 (0.22)	27	89	47
	March	9	76,711 (29,382)	11,930	6.43 (0.13)	1.89 (0.32)	22	78	0
	Overall	282	223,871 (76,234)	21,341	10.49 (1.74)	2.12 (0.19)	41	92	53
2016	May	71	24,380 (10,139)	5,358	4.55 (1.56)	2.28 (0.79)	56	79	38
	June	100	23,843 (4,279)	5,106	4.67 (0.65)	2.29 (0.40)	46	84	43
	July	154	46,010 (19,450)	9,526	4.83	2.58 (0.54)	47	99	41
	August	50	17,945 (2,434)	3,561	5.04	2.54	46	98	28
	Overall	375	112,178 (22,479)	23,517	4.77 (0.42)	2.42 (0.26)	49	91	39
2016-2017	January	93	24,473 (25,815)	2,046	11.96 (3.44)	2.10 (0.56)	45	96	43
	February	37	75,126 (6,002)	5,468	13.74 (0.15)	2.09 (0.74)	38	89	57
	March	3	21,667 (18,518)		0.00	1.32	100	0	67
	Overall	133	124,234 (32,337)	9,668	12.85 (1.72)	1.85 (0.32)	49	93	44
2017	May	60	11,865 (3,473)	2,678	4.43 (1.36)	2.45 (1.15)	40	82	38
	June	152	25,290 (6,454)	5,280	4.79 (0.77)	2.51 (0.75)	34	92	36
	July	269	39,781 (9,905)	79	502.85	2.40	61	100	52
	August	45	5,641 (2,698)	1,108	5.09	2.34	58	98	31
	Overall	526	82,577 (12,613)	634	130.30 (0.39)	2.42 (0.34)	50	95	44

Table 3. Estimated fishing pressure (angler hours) by month during the summer season 2017 daylight period on Bitter (80% confidence interval).

Lake	Month				Total
	April	May	June	July	
Bitter	11,865 (3,473)	25,290 (6,454)	39,781 (9,905)	5,641 (2,698)	82,577 (12,613)
Bitter Lake	0	0	0	0	82,577 (12,613)

Table 4. Estimated number of fish harvested, by species and month, for the summer season 2017 daylight period on Bitter (80% confidence interval).

Species	Month				Total
	May	June	July	August	
Black Crappie	0	0	0	21 (40)	0
Common Carp	0	0	0	0	0
Northern Pike	23 (39)	316 (157)	93 (48)	7 (13)	432 (244)
Rock Bass	0	0	0	0	0
Walleye	2,797 (1,082)	13,826 (3,829)	6,276 (3,486)	1,702 (1,193)	22,899 (8,397)
White Bass	722 (941)	358 (255)	69 (93)	39	1,149 (1,289)
Yellow Perch	23 (15)	94 (38)	15 (11)	7 (13)	133 (65)
Total	3,566 (2,076)	14,594 (4,279)	6,453 (3,639)	1,775 (1,259)	24,613 (9,994)

Table 5a. Estimated monthly and overall angler catch rate per hour fished (C/h) for all anglers by species at Bitter (80% confidence interval). Abbreviations for species are as follows: Black Crappie (BLC), Common Carp (COC), Northern Pike (NOP), Rock Bass (ROB), Walleye (WAE), White Bass (WHB), Yellow Perch (YEP) and other species (Other).

Year	Month	BLC	COC	NOP	ROB	WAE	WHB	YEP
		C/h	C/h	C/h	C/h	C/h	C/h	C/h
2015-2016	January	<0.01	0.00	0.02	0.00	0.31	0.00	0.03
	February	<0.01	0.00	0.01	0.00	0.13	0.00	0.01
	March	0.00	0.00	<0.01	0.00	0.07	0.00	0.05
	Overall	<0.01	0.00	0.01	0.00	0.11	0.00	0.02
2016	May	0.00	0.00	0.07 (0.05)	0.00	1.06 (1.10)	0.05 (0.03)	0.01 (<0.01)
	June	<0.01 (<0.01)	<0.01 (<0.01)	0.05 (0.02)	0.00	1.76 (0.66)	0.01 (<0.01)	0.01 (<0.01)
	July	0.00	<0.01 (<0.01)	0.02 (0.02)	<0.01 (<0.01)	1.39 (1.30)	0.01 (0.01)	0.01 (<0.01)
	August	<0.01 (<0.01)	0.00	0.01 (<0.01)	0.01 (<0.01)	0.94 (0.21)	0.01 (<0.01)	0.01
	Overall	<0.01 (<0.01)	<0.01 (<0.01)	0.04 (0.01)	<0.01 (<0.01)	1.32 (0.60)	0.02 (<0.01)	0.01 (<0.01)
2016-2017	January	<0.01	0.00	<0.01	0.00	0.17	0.00	0.28
	February	0.00	0.00	<0.01	0.00	0.04	0.01	0.03
	March	0.00	0.00	0.00	0.00	0.01	0.00	0.00
	Overall	<0.01	0.00	<0.01	0.00	0.06	<0.01	0.08
2017	May	0.00	<0.01 (<0.01)	0.04	0.00	0.26 (0.16)	0.07 (0.08)	<0.01 (<0.01)
	June	0.00	0.00	0.03 (0.01)	0.00	0.92 (0.50)	0.04 (0.03)	0.01 (<0.01)
	July	0.00	<0.01 (<0.01)	0.01 (<0.01)	<0.01 (<0.01)	0.32 (0.28)	0.01 (0.02)	<0.01 (<0.01)
	August	<0.01 (<0.01)	0.00	<0.01 (<0.01)	0.00	0.57 (0.36)	0.04	<0.01 (<0.01)
	Overall	<0.01 (<0.01)	<0.01 (<0.01)	0.02 (<0.01)	<0.01 (<0.01)	0.51 (0.20)	0.03 (0.02)	<0.01 (<0.01)

Table 5b. Estimated monthly and overall angler harvest rate per hour fished (H/h) for all anglers by species at Bitter (80% confidence interval). Abbreviations for species are as follows: Black Crappie (BLC), Common Carp (COC), Northern Pike (NOP), Rock Bass (ROB), Walleye (WAE), White Bass (WHB), Yellow Perch (YEP) and other species (Other).

Year	Month	BLC	COC	NOP	ROB	WAE	WHB	YEP
		H/h	H/h	H/h	H/h	H/h	H/h	H/h
2015-2016	January	<0.01	0.00	0.01	0.00	0.14	0.00	0.03
	February	<0.01	0.00	0.01	0.00	0.06	0.00	0.01
	March	0.00	0.00	0.00	0.00	0.04	0.00	0.01
	Overall	<0.01	0.00	<0.01	0.00	0.05	0.00	0.01
2016	May	0.00	0.00	0.01 (<0.01)	0.00	0.61 (0.58)	0.01 (<0.01)	0.01 (<0.01)
	June	0.00	0.00	0.00	0.00	0.56 (0.24)	<0.01 (<0.01)	0.01 (<0.01)
	July	0.00	0.00	<0.01 (<0.01)	<0.01 (<0.01)	0.58 (0.54)	<0.01 (<0.01)	0.01 (<0.01)
	August	<0.01 (<0.01)	0.00	0.01 (<0.01)	0.01 (<0.01)	0.48 (0.11)	<0.01 (<0.01)	<0.01
	Overall	<0.01 (<0.01)	0.00	<0.01 (<0.01)	<0.01 (<0.01)	0.57 (0.26)	<0.01 (<0.01)	0.01 (<0.01)
2016-2017	January	<0.01	0.00	<0.01	0.00	0.05	0.00	0.19
	February	0.00	0.00	<0.01	0.00	0.01	0.00	0.03
	March	0.00	0.00	0.00	0.00	0.01	0.00	0.00
	Overall	<0.01	0.00	<0.01	0.00	0.02	0.00	0.05
2017	May	0.00	0.00	<0.01 (<0.01)	0.00	0.24 (0.15)	0.06 (0.08)	<0.01 (<0.01)
	June	0.00	0.00	0.01 (<0.01)	0.00	0.55 (0.29)	0.01 (0.01)	<0.01 (<0.01)
	July	0.00	0.00	<0.01 (<0.01)	0.00	0.16 (0.13)	<0.01 (<0.01)	<0.01 (<0.01)
	August	<0.01 (<0.01)	0.00	<0.01 (<0.01)	0.00	0.30 (0.26)	0.01	<0.01 (<0.01)
	Overall	<0.01 (<0.01)	0.00	0.01 (<0.01)	0.00	0.30 (0.11)	0.01 (0.01)	<0.01 (<0.01)

Table 6a. Estimated monthly and overall angler catch rate per hour fished (C/h) only for anglers primarily targeting a species at Bitter. (80% confidence interval). Abbreviations for species are as follows: Black Crappie (BLC), Common Carp (COC), Northern Pike (NOP), Rock Bass (ROB), Walleye (WAE), White Bass (WHB), Yellow Perch (YEP) and Other Species (Other).

Year	Month	BLC	COC	NOP	ROB	WAE	WHB	YEP
		C/h	C/h	C/h	C/h	C/h	C/h	C/h
2015-2016	January	0.00	0.00	0.00	0.00	0.36 (0.30)	0.00	0.09(0.04)
	February	0.00	0.00	0.19	0.00	0.15 (0.14)	0.00	0.04(0.09)
	March	0.00	0.00	0.00	0.00	0.14	0.00	0.39
	Overall	0.00	0.00	0.15	0.00	0.25 (0.15)	0.00	0.13(0.04)
2016	May	0.00	0.00	0.00	0.00	1.11 (0.54)	0.00	0.00
	June	0.00	0.00	0.00	0.00	1.64 (0.44)	0.09	0.00
	July	0.00	0.00	0.00	0.00	1.41 (0.50)	0.00	0.00
	August	0.00	0.00	0.00	0.00	0.80 (0.37)	0.00	0.00
	Overall	0.00	0.00	0.00	0.00	1.31 (0.26)	0.04	0.00
2016-2017	January	0.00	0.00	0.00	0.00	0.17 (0.31)	0.00	0.48(0.44)
	February	0.00	0.00	0.00	0.00	0.07	0.00	0.03(0.02)
	March	0.00	0.00	0.00	0.00	0.23	0.00	0.00
	Overall	0.00	0.00	0.00	0.00	0.14 (0.14)	0.00	0.35(0.31)
2017	May	0.00	0.00	0.30 (3.59)	0.00	0.28 (0.24)	1.84	0.00
	June	0.00	0.00	0.00	0.00	1.00 (0.35)	1.10 (0.24)	0.00
	July	0.00	0.00	0.00	0.00	0.27 (0.54)	0.00	0.00
	August	0.00	0.00	0.00	0.00	0.48 (0.25)	0.00	0.00
	Overall	0.00	0.00	0.30 (3.59)	0.00	0.52 (0.17)	1.47 (0.12)	0.00

Table 6b. Estimated monthly and overall angler harvest rate per hour fished (H/h) only for anglers primarily targeting a species at Bitter. (80% confidence interval). Abbreviations for species are as follows: Black Crappie (BLC), Common Carp (COC), Northern Pike (NOP), Rock Bass (ROB), Walleye (WAE), White Bass (WHB), Yellow Perch (YEP) and Other Species (Other).

Year	Month	BLC	COC	NOP	ROB	WAE	WHB	YEP
		H/h	H/h	H/h	H/h	H/h	H/h	H/h
2015-2016	January	0.00	0.00	0.00	0.00	0.17 (0.07)	0.00	0.07 (0.03)
	February	0.00	0.00	0.19	0.00	0.07 (0.07)	0.00	0.02 (<0.01)
	March	0.00	0.00	0.00	0.00	0.10	0.00	0.05
	Overall	0.00	0.00	0.15	0.00	0.12 (0.04)	0.00	0.05 (0.02)
2016	May	0.00	0.00	0.00	0.00	0.62 (0.16)	0.00	0.00
	June	0.00	0.00	0.00	0.00	0.60 (0.15)	0.09	0.00
	July	0.00	0.00	0.00	0.00	0.58 (0.33)	0.00	0.00
	August	0.00	0.00	0.00	0.00	0.41 (0.08)	0.00	0.00
	Overall	0.00	0.00	0.00	0.00	0.57 (0.09)	0.04	0.00
2016-2017	January	0.00	0.00	0.00	0.00	0.04 (0.11)	0.00	0.36 (0.27)
	February	0.00	0.00	0.00	0.00	0.03	0.00	0.01 (0.01)
	March	0.00	0.00	0.00	0.00	0.23	0.00	0.00
	Overall	0.00	0.00	0.00	0.00	0.06 (0.05)	0.00	0.26 (0.19)
2017	May	0.00	0.00	0.00	0.00	0.26 (0.22)	1.71	0.00
	June	0.00	0.00	0.00	0.00	0.59 (0.18)	1.08 (0.14)	0.00
	July	0.00	0.00	0.00	0.00	0.13 (0.30)	0.00	0.00
	August	0.00	0.00	0.00	0.00	0.32 (0.19)	0.00	0.00
	Overall	0.00	0.00	0.00	0.00	0.34 (0.11)	1.40 (0.07)	0.00



Table 7a. Estimated monthly and overall angler catch (C) for all anglers by species at Bitter (80% confidence interval). Abbreviations for species are as follows: Black Crappie (BLC), Common Carp (COC), Northern Pike (NOP), Rock Bass (ROB), Walleye (WAE), White Bass (WHB), Yellow Perch (YEP) and other species (Other).

Year	Month	BLC	COC	NOP	ROB	WAE	WHB	YEP
		C	C	C	C	C	C	C
2015-2016	January	3	0	116	0	2,178	0	242
	February	59	0	1,227	0	16,605	0	1,359
	March	0	0	289	0	5,119	0	3,611
	Overall	62	0	1,632	0	23,902	0	5,212
2016	May	0	0	1,629 (856)	0	25,761 (15,037)	1,175 (465)	153 (198)
	June	39 (48)	39 (60)	1,264 (320)	0	41,921 (10,917)	261 (174)	206 (194)
	July	0	83 (85)	849 (392)	47 (47)	63,758 (30,604)	374 (250)	372 (173)
	August	17 (13)	0	197 (37)	129 (13)	16,788 (2,085)	191 (53)	146 (26)
	Overall	56 (50)	122 (104)	3,939 (995)	176 (49)	148,229 (35,864)	2,001 (558)	877 (328)
2016-2017	January	24	0	26	0	4,272	0	6,879
	February	0	0	68	0	2,854	410	2,570
	March	0	0	0	0	254	0	0
	Overall	24	0	95	0	7,379	410	9,450
2017	May	0	58 (93)	421 (182)	0	3,128 (1,239)	878 (946)	23 (15)
	June	0	0	747 (266)	0	23,210 (6,983)	910 (677)	271 (184)
	July	0	15 (17)	419 (234)	<1 (<1)	12,609 (7,348)	546 (614)	23 (15)
	August	21 (40)	0	7 (13)	0	3,211 (1,321)	219	7 (13)
	Overall	21 (40)	73 (94)	1,594 (399)	<1 (<1)	42,158 (10,298)	2,553 (1,315)	324 (186)

Table 7b. Estimated monthly and overall angler harvest (H) for all anglers by species at Bitter (80% confidence interval). Abbreviations for species are as follows: Black Crappie (BLC), Common Carp (COC), Northern Pike (NOP), Rock Bass (ROB), Walleye (WAE), White Bass (WHB), Yellow Perch (YEP) and other species (Other).

Year	Month	BLC	COC	NOP	ROB	WAE	WHB	YEP
		H	H	H	H	H	H	H
2015-2016	January	3	0	49	0	976	0	202
	February	59	0	838	0	7,691	0	712
	March	0	0	0	0	3,097	0	433
	Overall	62	0	888	0	11,764	0	1,347
2016	May	0	0	158 (127)	0	14,828 (7,389)	361 (133)	126 (158)
	June	0	0	0	0	13,462 (3,829)	24 (30)	206 (194)
	July	0	0	75 (60)	19 (33)	26,489 (12,654)	75 (82)	288 (155)
	August	17 (13)	0	146 (26)	112	8,663 (791)	34 (20)	73 (30)
	Overall	17 (13)	0	379 (143)	131 (33)	63,441 (15,166)	492 (160)	693 (296)
2016-2017	January	24	0	26	0	1,104	0	4,542
	February	0	0	68	0	958	0	1,901
	March	0	0	0	0	254	0	0
	Overall	24	0	94	0	2,316	0	6,443
2017	May	0	0	23 (39)	0	2,797 (1,082)	722 (941)	23 (15)
	June	0	0	316 (157)	0	13,826 (3,829)	358 (255)	94 (38)
	July	0	0	93 (48)	0	6,276 (3,486)	69 (93)	15 (11)
	August	21 (40)	0	7 (13)	0	1,702 (1,193)	39	7 (13)
	Overall	21 (40)	0	439 (169)	0	24,602 (5,423)	1,187 (979)	139 (45)

Table 8. Estimated number and rate (number per hour) of Black Crappie (BLC), Common Carp (COC), Northern Pike (NOP), Rock Bass (ROB), Walleye (WAE), White Bass (WHB), Yellow Perch (YEP) caught and harvested by anglers during the summer and winter fisheries on Bitter, (80% confidence interval).

**Black Crappie**

Season	Year	Catch	Harvest	Catch Rate	Harvest Rate
Summer	2015	21 (10)	16 (10)	<0.01 (<0.01)	<0.01 (<0.01)
Summer	2016	56 (50)	17 (13)	<0.01 (<0.01)	<0.01 (<0.01)
Summer	2017	21 (40)	21 (40)	<0.01 (<0.01)	<0.01 (<0.01)
Winter	2011-2012	986	360	0.01	<0.01
Winter	2012-2013	87	87	<0.01	<0.01
Winter	2013-2014	439	439	<0.01	<0.01
Winter	2014-2015	112	112	<0.01	<0.01
Winter	2015-2016	62	62	<0.01	<0.01
Winter	2016-2017	24	24	<0.01	<0.01

**Common Carp**

Season	Year	Catch	Harvest	Catch Rate	Harvest Rate
Summer	2008	6 (8)	0	<0.01 (<0.01)	0.00
Summer	2015	29 (42)	0	<0.01 (<0.01)	0.00
Summer	2016	122 (104)	0	<0.01 (<0.01)	0.00
Summer	2017	73 (94)	0	<0.01 (<0.01)	0.00

**Northern Pike**

Season	Year	Catch	Harvest	Catch Rate	Harvest Rate
Summer	2008	1,395 (413)	419 (168)	0.03 (0.01)	0.01 (<0.01)
Summer	2009	392 (201)	79 (60)	0.01 (<0.01)	<0.01 (<0.01)
Summer	2010	2,585 (1,259)	279 (264)	0.11 (0.07)	0.01 (0.01)
Summer	2012	23,879 (5,626)	3,528 (844)	0.17 (0.06)	0.03 (<0.01)
Summer	2013	24,009 (13,880)	1,188 (873)	0.23 (0.22)	0.01 (0.01)
Summer	2014	13,204 (3,886)	1,863 (710)	0.17 (0.09)	0.02 (0.01)
Summer	2015	5,226 (1,568)	607 (245)	0.12 (0.06)	0.01 (<0.01)
Summer	2016	3,939 (995)	379 (143)	0.04 (0.01)	<0.01 (<0.01)
Summer	2017	1,594 (399)	439 (169)	0.02 (<0.01)	0.01 (<0.01)
Winter	2007-2008	510	392	0.04	0.03
Winter	2008-2009	24	23	<0.01	<0.01
Winter	2009-2010	14	12	<0.01	<0.01
Winter	2010-2011	218	172	0.02	0.02
Winter	2011-2012	1,137	716	0.01	0.01
Winter	2012-2013	4,055	2,443	0.04	0.03
Winter	2013-2014	3,060	775	0.03	0.01
Winter	2014-2015	2,009	763	0.02	0.01
Winter	2015-2016	1,632	888	0.01	<0.01
Winter	2016-2017	95	94	<0.01	<0.01

**Rock Bass**

Season	Year	Catch	Harvest	Catch Rate	Harvest Rate
Summer	2016	176 (49)	131 (33)	<0.01 (<0.01)	<0.01 (<0.01)
Summer	2017	<1 (<1)	0	<0.01 (<0.01)	0.00

**Walleye**

Season	Year	Catch	Harvest	Catch Rate	Harvest Rate
Summer	2008	32,307 (8,358)	21,164 (5,116)	0.62 (0.30)	0.40 (0.19)
Summer	2009	10,930 (2,805)	6,320 (1,826)	0.27 (0.14)	0.16 (0.08)
Summer	2010	6,782 (2,551)	3,579 (1,437)	0.29 (0.16)	0.16 (0.09)
Summer	2012	140,773 (25,439)	60,235 (11,062)	1.03 (0.36)	0.44 (0.16)
Summer	2013	134,718 (69,010)	26,861 (13,404)	1.29 (0.99)	0.26 (0.20)
Summer	2014	104,940 (36,865)	10,348 (3,068)	1.37 (0.76)	0.14 (0.07)
Summer	2015	107,186 (34,334)	9,813 (3,230)	2.37 (1.28)	0.22 (0.11)
Summer	2016	148,229 (35,864)	63,441 (15,166)	1.32 (0.60)	0.57 (0.26)
Summer	2017	42,158 (10,298)	24,602 (5,423)	0.51 (0.20)	0.30 (0.11)
Winter	2007-2008	1,033	368	0.08	0.03
Winter	2008-2009	682	436	0.10	0.07
Winter	2009-2010	117	16	0.02	<0.01
Winter	2010-2011	406	74	0.04	0.01
Winter	2011-2012	15,711	1,078	0.17	0.01
Winter	2012-2013	43,130	684	0.47	0.01
Winter	2013-2014	41,460	1,318	0.38	0.01
Winter	2014-2015	17,084	747	0.14	0.01
Winter	2015-2016	23,902	11,764	0.11	0.05
Winter	2016-2017	7,379	2,316	0.06	0.02

**White Bass**

Season	Year	Catch	Harvest	Catch Rate	Harvest Rate
Summer	2008	772 (227)	129 (62)	0.01 (<0.01)	<0.01 (<0.01)
Summer	2009	402 (213)	16 (21)	0.01 (<0.01)	<0.01 (<0.01)
Summer	2010	188 (266)	0	0.01 (0.01)	0.00
Summer	2012	6,565 (3,025)	657 (880)	0.05 (0.03)	<0.01 (<0.01)
Summer	2013	4,600 (2,115)	98	0.04 (0.02)	<0.01 (<0.01)
Summer	2014	7,138 (962)	5,635 (485)	0.09 (0.03)	0.07 (0.02)
Summer	2015	4,330 (2,388)	1,427 (1,444)	0.10 (0.06)	0.03 (0.03)
Summer	2016	2,001 (558)	492 (160)	0.02 (<0.01)	<0.01 (<0.01)
Summer	2017	2,553 (1,315)	1,187 (979)	0.03 (0.02)	0.01 (0.01)
Winter	2011-2012	209	209	<0.01	<0.01
Winter	2016-2017	410	0	<0.01	0.00

**Yellow Perch**

Season	Year	Catch	Harvest	Catch Rate	Harvest Rate
Summer	2010	222 (172)	191 (172)	0.01 (<0.01)	0.01 (<0.01)
Summer	2012	17,228 (4,985)	13,035 (3,595)	0.13 (0.05)	0.10 (0.04)
Summer	2013	1,782 (836)	1,310 (680)	0.02 (0.01)	0.01 (<0.01)
Summer	2014	544 (354)	225 (169)	0.01 (<0.01)	<0.01 (<0.01)
Summer	2015	87 (53)	66 (46)	<0.01 (<0.01)	<0.01 (<0.01)
Summer	2016	877 (328)	693 (296)	0.01 (<0.01)	0.01 (<0.01)
Summer	2017	324 (186)	139 (45)	<0.01 (<0.01)	<0.01 (<0.01)
Winter	2007-2008	1,144	936	0.09	0.07
Winter	2008-2009	5	5	<0.01	<0.01
Winter	2009-2010	225	147	0.04	0.02
Winter	2010-2011	8,737	4,853	0.97	0.54
Winter	2011-2012	45,343	38,069	0.48	0.40
Winter	2012-2013	37,365	24,945	0.41	0.27
Winter	2013-2014	27,751	22,107	0.25	0.20
Winter	2014-2015	21,707	18,363	0.18	0.15
Winter	2015-2016	5,212	1,347	0.02	0.01
Winter	2016-2017	9,450	6,443	0.08	0.05

Table 9. The number of fish harvested with each species by length group (mm) for the winter and summer fisheries at Bitter. Abbreviations for species are as follows: Black Crappie (BLC), Common Carp (COC), Northern Pike (NOP), Rock Bass (ROB), Walleye (WAE), White Bass (WHB), Yellow Perch (YEP).

<b>Winter 2015-2016</b>							
Length Group (mm)	BLC (N=4)	COC (N=0)	NOP (N=11)	ROB (N=0)	WAE (N=219)	WHB (N=0)	YEP (N=48)
200							2
210							
220							2
230							4
240							2
250							5
260							4
270							1
280					2		5
290					2		8
300	1				2		4
310	3				2		5
320					12		2
330					11		2
340					24		1
350					37		1
360					38		
370					37		
380					28		
390					7		
400					6		
410					5		
420					3		
430					1		
440					1		
450							
460							
470							
480							
490							
500							
510							
520							
530					1		
540			1				
550			2				
560							
570							
580			2				
590			1				
600							
610							
620			1				
630							
640							
650							
660							
670			1				
680			1				
690							
700							
710							
720							
730							
740							
750							
760							
770			1				
780							
790							
800							
810							
820							
830							
840							
850							
860							



870  
880  
890  
900  
910  
920  
930  
940  
950  
960  
970  
980  
990  
1000  
1010

1

**Summer 2016**

Length Group (mm)	BLC (N=1)	COC (N=0)	NOP (N=11)	ROB (N=3)	WAE (N=1783)	WHB (N=15)	YEP (N=22)
230				1			
240						1	1
250							1
260				1			
270				1			1
280					3		2
290					1		3
300					4		3
310	1				9		4
320					28	1	2
330					56		3
340					120		2
350					194		
360			1		324	2	
370					318	2	
380					272	3	
390					159	2	
400					112	2	
410					68	1	
420					37		
430					19	1	
440					16		
450					5		
460					4		
470					2		
480					5		
490					5		
500					1		
510							
520					2		
530					3		
540					2		
550			1				
560					3		
570							
580					5		
590			2		1		
600			2		1		
610			1		1		
620							
630			1				
640							
650							
660			1				
670							
680					2		
690							
700							
710			1				
720			1		1		

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**Winter 2016-2017**

Length Group (mm)	BLC (N=0)	COC (N=0)	NOP (N=2)	ROB (N=0)	WAE (N=57)	WHB (N=0)	YEP (N=111)
180							1
190							
200							1
210							8
220							19
230							18
240							5
250							13
260							5
270							6
280					1		7
290					1		3
300					1		5
310					2		11
320					6		3
330					3		3
340					5		3
350					2		
360					7		
370					7		
380					8		
390					3		
400					4		
410					3		
420					2		
430					1		
440					1		
580			1				
590							
600							
610							
620							
630			1				

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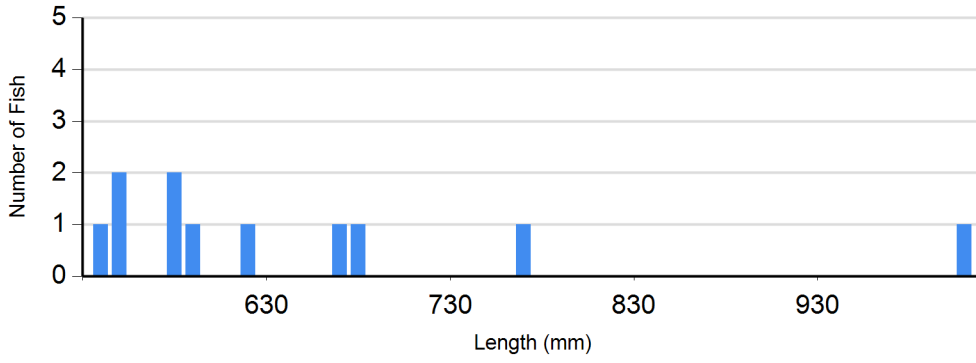
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**Summer 2017**

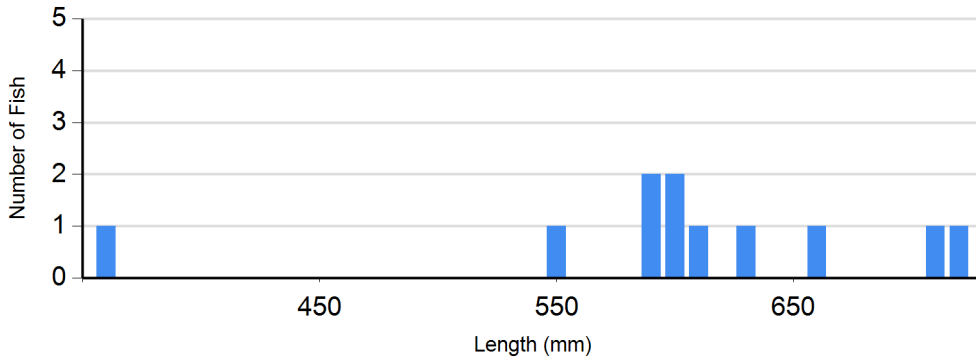
Length Group (mm)	BLC (N=0)	COC (N=0)	NOP (N=29)	ROB (N=0)	WAE (N=1213)	WHB (N=47)	YEP (N=9)
280							1
290					1		
300							
310					4		
320					3	1	1
330					19		1
340					16		2
350					45	1	4
360					59		
370					86		
380					124	11	
390					122	2	
400					125	8	
410					124	10	
420					130	1	
430					92	6	
440					84	5	
450					59		
460					33	1	
470					29		
480					29	1	
490					15		
500					4		
510					2		
520					4		
530							
540							
550					2		
560			1				
570							
580			4				
590			2				
600			1				
610			2		1		
620							
630			1				
640			1				
650			2				
660			1				
670			3				
680			2		1		
690			2				
700							
710			1				
720							
730			1				
740							
750			1				
760			1				
770			2				
780							
790							
800							
810							
820							
830							
840							
850			1				

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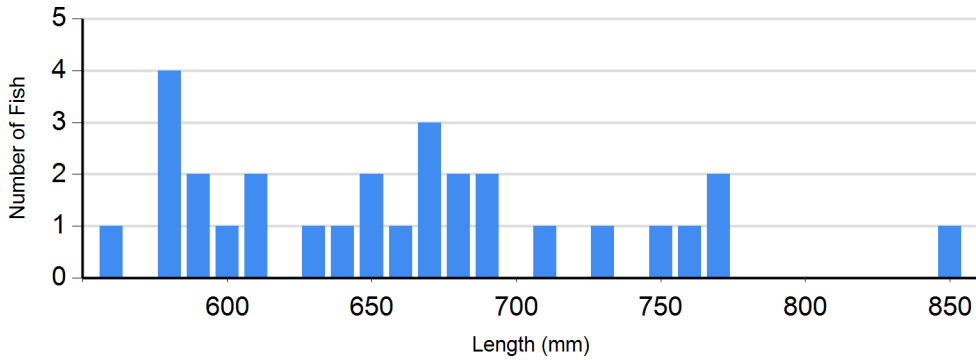
Length frequency of angler-harvested Northern Pike measured by the creel clerk during creel surveys on Bitter.



Winter 2015-2016  
 N = 11  
 Mean TL = 649 mm

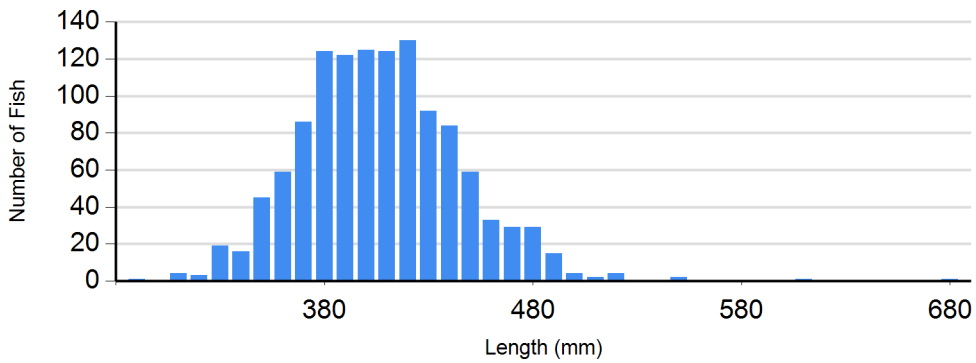
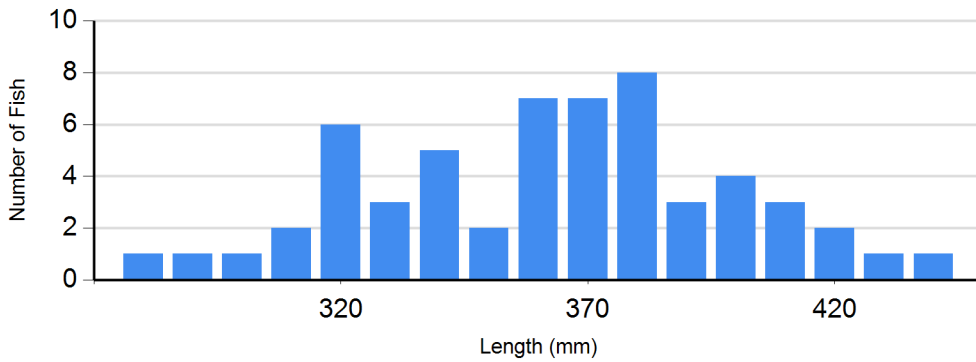
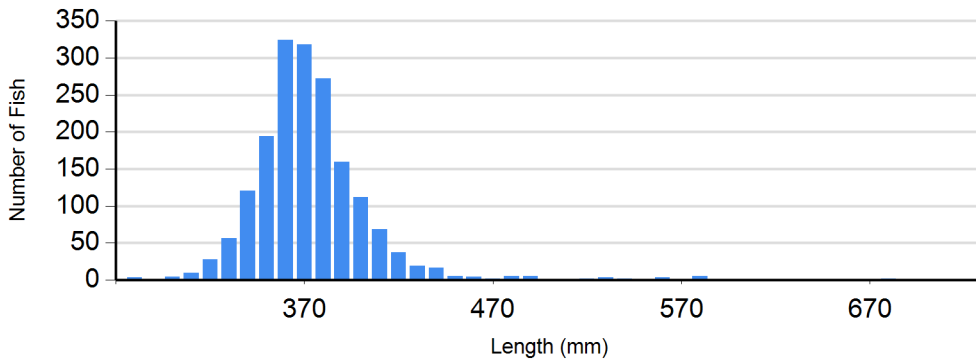
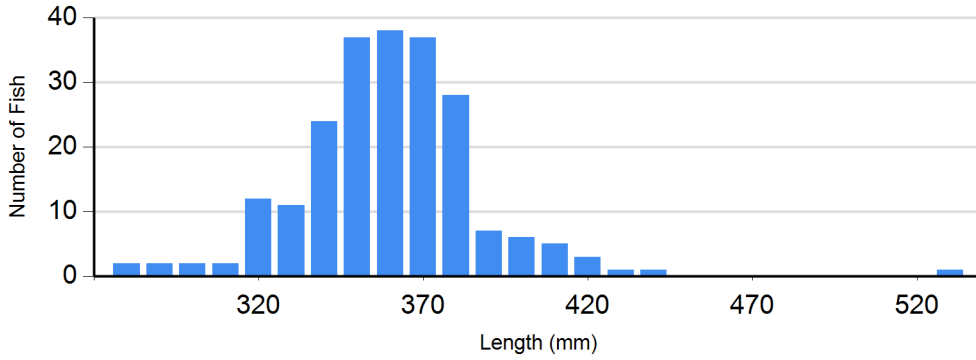


Summer 2016  
 N = 11  
 Mean TL = 601 mm

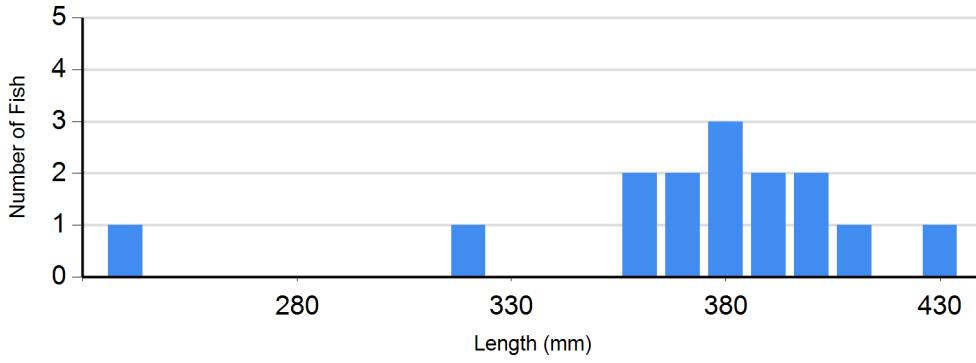


Summer 2017  
 N = 29  
 Mean TL = 662 mm

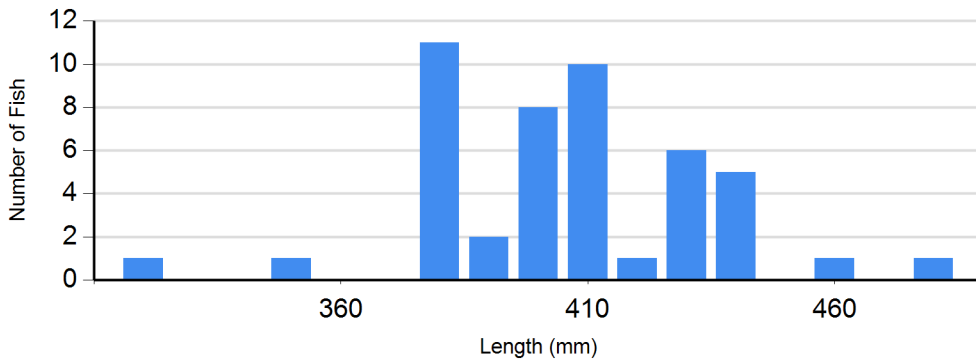
Length frequency of angler-harvested Walleye measured by the creel clerk during creel surveys on Bitter.



Length frequency of angler-harvested White Bass measured by the creel clerk during creel surveys on Bitter.

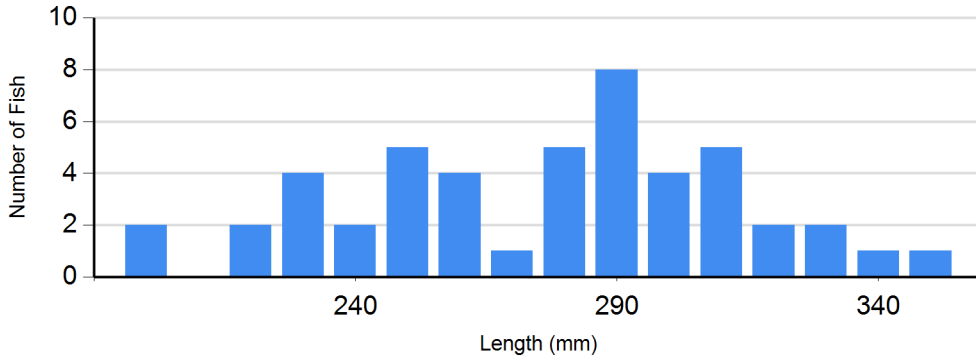


Summer 2016  
N = 15  
Mean TL = 372 mm

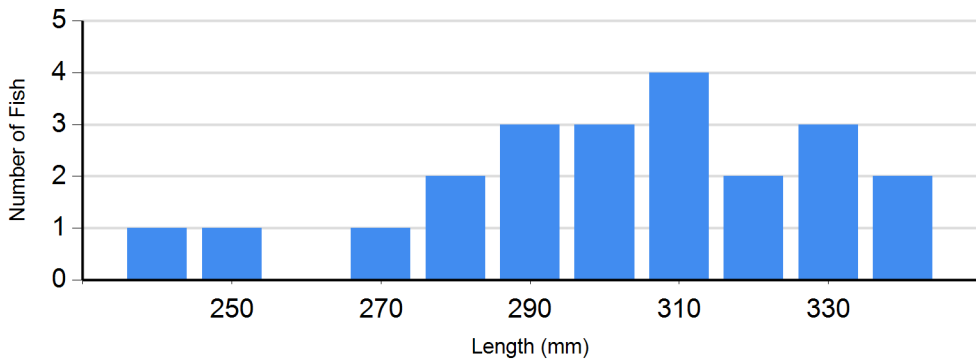


Summer 2017  
N = 47  
Mean TL = 405 mm

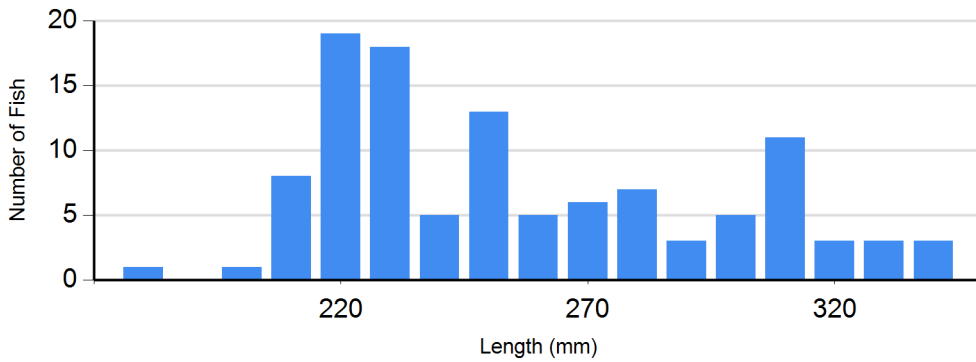
Length frequency of angler-harvested Yellow Perch measured by the creel clerk during creel surveys on Bitter.



Winter 2015-2016  
 N = 48  
 Mean TL = 276 mm



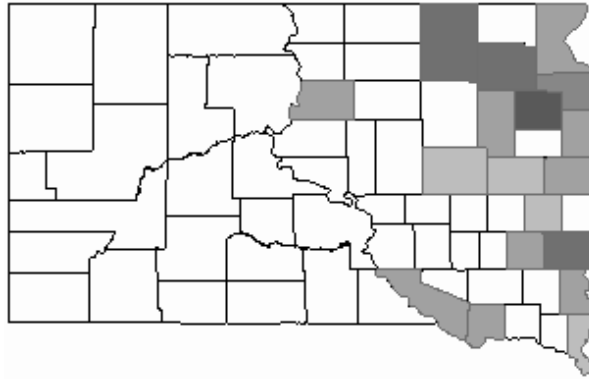
Summer 2016  
 N = 22  
 Mean TL = 301 mm



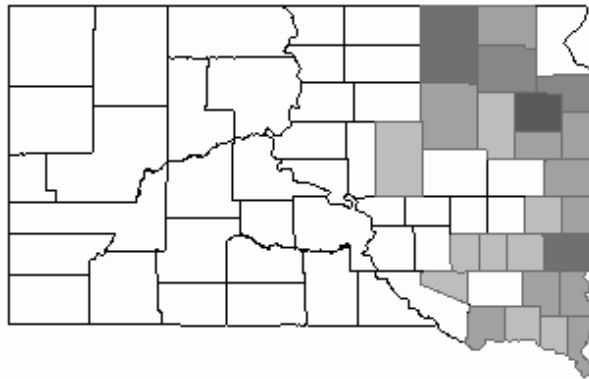
Winter 2016-2017  
 N = 111  
 Mean TL = 256 mm

South Dakota county of residence for winter and summer resident anglers fishing Bitter, South Dakota between January 2016 and August 2017.

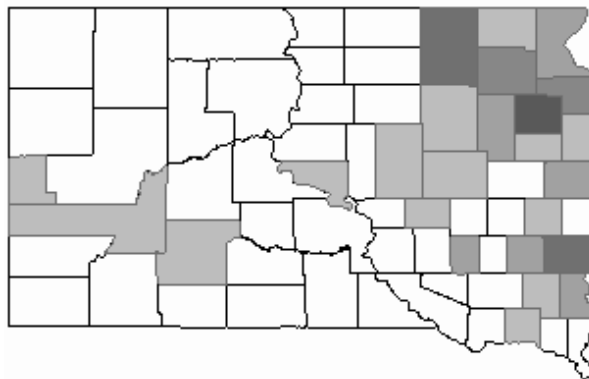
Winter 2015-2016



Summer 2016



Summer 2017



Winter 2016-2017

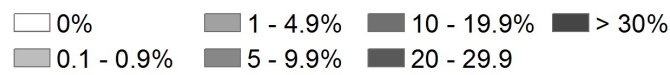
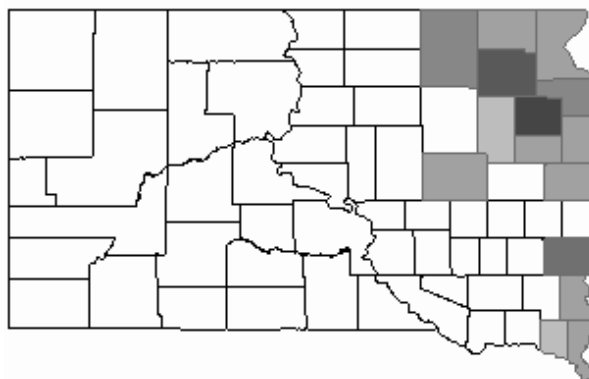




Table 10. Number of parties or anglers interviewed that harvested (or caught) a specified number of fish total over selected strata for a species.

Angler Harvest	Count						
	BLC (n=0)	COC (n=0)	NOP (n=4)	ROB (n=5593)	WAE (n=5593)	WHB (n=51)	YEP (n=363)
0.00	0	0	0	0	0	0	0
0.20	0	0	0	0	1	1	0
0.25	0	0	0	0	1	0	0
0.33	0	0	0	0	4	0	0
0.50	0	0	0	0	12	0	0
0.67	0	0	0	0	12	0	0
0.75	0	0	0	0	3	0	0
1.00	0	0	0	0	27	0	0
1.17	0	0	0	0	7	0	0
1.20	0	0	0	0	6	0	0
1.25	0	0	0	0	15	0	0
1.33	0	0	0	0	8	0	0
1.50	0	0	0	0	39	0	0
1.67	0	0	0	0	20	0	0
1.80	0	0	0	0	9	0	0
2.00	0	0	0	0	68	4	0
2.33	0	0	0	0	42	0	0
2.40	0	0	0	0	24	0	0
2.50	0	0	0	0	65	0	0
2.60	0	0	0	0	13	0	0
2.67	0	0	0	0	64	0	0
2.75	0	0	0	0	11	0	0
3.00	0	0	0	0	216	0	0
3.20	0	0	0	0	16	0	0
3.33	0	0	0	0	30	0	0
3.50	0	0	0	0	77	0	0
3.67	0	0	0	0	33	0	0
4.00	0	0	0	0	1432	0	0

Angler Harvest	Count						
	BLC (n=0)	COC (n=0)	NOP (n=4)	ROB (n=5593)	WAE (n=5593)	WHB (n=51)	YEP (n=363)
0.00	0	0	0	0	0	0	0
0.25	0	0	0	0	2	0	0
0.33	0	0	0	0	8	0	0
0.50	0	0	0	0	22	0	0
0.60	0	0	0	0	3	0	0
0.67	0	0	0	0	14	0	0
0.75	0	0	0	0	6	0	0
0.80	0	0	0	0	4	0	0
1.00	0	0	0	0	84	0	0
1.25	0	0	0	0	10	5	0
1.33	0	0	0	0	28	0	0
1.40	0	0	0	0	7	0	0
1.50	0	0	0	0	84	0	0
1.67	0	0	0	0	45	5	0
1.75	0	0	0	0	28	0	0
1.80	0	0	0	0	9	0	0
2.00	0	0	0	0	150	6	0
2.25	0	0	0	0	9	0	0
2.33	0	0	0	0	28	0	0
2.50	0	0	0	0	50	0	0
2.67	0	0	0	0	96	0	0
2.75	0	0	0	0	11	0	0
2.80	0	0	0	0	14	0	0
3.00	0	0	0	0	234	12	0
3.25	0	0	0	0	13	0	0
3.33	0	0	0	0	60	0	0
3.50	0	0	0	0	84	0	0
3.67	0	0	0	0	44	0	0
4.00	0	0	0	0	1612	8	0
5.00	0	0	0	0	0	10	0

Winter 2015-2016

Count

Angler Harvest	BLC (n=0)	COC (n=0)	NOP (n=4)	ROB (n=5593)	WAE (n=5593)	WHB (n=51)	YEP (n=363)
0.00	0	0	0	0	0	0	0
0.25	0	0	0	0	2	0	0
0.33	0	0	0	0	3	0	3
0.50	0	0	1	0	12	0	6
0.67	0	0	0	0	4	0	2
0.75	0	0	0	0	0	0	3
1.00	0	0	3	0	18	0	9
1.17	0	0	0	0	7	0	0
1.25	0	0	0	0	10	0	0
1.33	0	0	0	0	4	0	8
1.50	0	0	0	0	21	0	15
1.67	0	0	0	0	5	0	0
1.75	0	0	0	0	7	0	0
2.00	0	0	0	0	44	0	2
2.25	0	0	0	0	9	0	0
2.33	0	0	0	0	0	0	7
2.50	0	0	0	0	35	0	5
2.67	0	0	0	0	32	0	0
3.00	0	0	0	0	63	0	3
3.50	0	0	0	0	21	0	0
4.00	0	0	0	0	136	0	0
5.00	0	0	0	0	0	0	5
6.00	0	0	0	0	18	0	0
8.00	0	0	0	0	24	0	0
9.00	0	0	0	0	0	0	9
11.50	0	0	0	0	0	0	23

Winter 2016-2017

Count

Angler Harvest	BLC (n=0)	COC (n=0)	NOP (n=4)	ROB (n=5593)	WAE (n=5593)	WHB (n=51)	YEP (n=363)
0.00	0	0	0	0	0	0	0
0.33	0	0	0	0	2	0	1
0.50	0	0	0	0	2	0	4
0.67	0	0	0	0	4	0	2
1.00	0	0	0	0	8	0	20
1.33	0	0	0	0	4	0	0
1.50	0	0	0	0	9	0	3
2.00	0	0	0	0	8	0	4
2.25	0	0	0	0	9	0	0
2.33	0	0	0	0	0	0	14
2.50	0	0	0	0	5	0	5
3.00	0	0	0	0	6	0	12
3.50	0	0	0	0	7	0	7
4.00	0	0	0	0	40	0	24
5.50	0	0	0	0	0	0	22
6.00	0	0	0	0	0	0	24
7.00	0	0	0	0	0	0	7
7.50	0	0	0	0	0	0	15
8.00	0	0	0	0	0	0	32
9.00	0	0	0	0	0	0	45
10.00	0	0	0	0	0	0	10
12.00	0	0	0	0	0	0	12

Table 11 The number (N) and percent of total interviews in supplemental-response categories by question asked during interviews at Bitter.

Question: Considering all factors, how satisfied are you with your fishing trip today?

Response	Summer 2017 (n = 524)
Moderately Satisfied/no min (4 daily)/oppose <input type="checkbox"/>	23%
Moderately Dissatisfied <input type="checkbox"/>	5%
Neutral/other <input type="checkbox"/>	9%
Slightly Dissatisfied/no opinion <input type="checkbox"/>	6%
Slightly Satisfied/no min (2 daily)/no opinion <input type="checkbox"/>	10%
Very Dissatisfied <input type="checkbox"/>	5%
Very Satisfied/15" min (4 daily)/support <input type="checkbox"/>	42%

Question: Which of the following walleye harvest regulation options would you prefer on this lake?

Response	Summer 2017 (n = 523)
Moderately Satisfied/no min (4 daily)/oppose <input type="checkbox"/>	42%
Neutral/other <input type="checkbox"/>	4%
Slightly Dissatisfied/no opinion <input type="checkbox"/>	8%
Slightly Satisfied/no min (2 daily)/no opinion <input type="checkbox"/>	1%
Very Satisfied/15" min (4 daily)/support <input type="checkbox"/>	44%