

Creel and Lake Information

Lake Information

Lake Name: Deerfield
Lake Code: RAP-Lake-31-000
Surface Area: 168.21 Hectares
County: Pennington
Start Date: 1/2/2016
End Date: 10/30/2016
Months Included: January, February, March, April, May, June, July, August, September, October, November, December

Table 1. Percent of angling parties interviewed primarily targeting a species (or any species) by month and overall for Deerfield during 2015 - 2016. Any Species (ANY), Brown Trout (BNT), Rainbow Trout (RBT), Yellow Perch (YEP), Lake Trout (LAT).

Year	Month	# of Interviews	Percent of Anglers Targeting				
			ANY	BNT	LAT	RBT	YEP
2015	November	24	8.3	4.2	12.5	66.7	8.3
	December	51	21.6	0.0	17.6	21.6	37.3
	Overall	75	17.3	1.3	16.0	36.0	28.0
2016	January	97	22.7	0.0	10.3	17.5	49.5
	February	76	10.5	0.0	11.8	25.0	47.4
	March	33	6.1	0.0	21.2	6.1	66.7
	April	26	23.1	0.0	26.9	30.8	19.2
	May	55	27.3	0.0	5.5	45.5	20.0
	June	30	20.0	0.0	6.7	60.0	13.3
	July	17	52.9	0.0	0.0	41.2	5.9
	August	19	15.8	0.0	0.0	73.7	10.5
	September	31	22.6	0.0	12.9	61.3	3.2
	October	43	9.3	0.0	25.6	55.8	9.3
	Overall	427	19.2	0.0	12.4	35.8	31.4

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 Deerfield (80% confidence interval).

Year	Month	# Interviews	Angler Hours	Angler Days	Trip Length (h)	Party Size	% SD Residents	% Boat or Shack	% Weekend/Holidays
2015-2016	November	24	243 (97)	141	1.73 (0.18)	1.63 (0.32)	91.67	17	62
	December	51	1,694 (659)	458	3.70 (0.85)	1.90 (0.43)	98.04	37	49
	January	97	5,437 (1,000)	1,458	3.73 (1.35)	1.89 (0.42)	95.88	37	81
	February	76	8,712 (2,420)	2,263	3.85 (0.67)	1.97 (0.41)	89.47	18	51
	March	33	1,806 (1,122)	514	3.51	1.76 (0.49)	100.00	3	39
	Overall	281	17,891 (2,925)	5,422	3.30 (0.35)	1.83 (0.19)	94.66	26	61
2016	April	26	1,199 (549)	366	3.28 (0.60)	1.78 (0.50)	88.46	19	77
	May	55	3,477 (1,691)	1,327	2.62 (0.33)	2.07 (0.34)	90.91	24	49
	June	30	3,931 (781)	973	4.04 (0.75)	2.57 (0.35)	90.00	50	70
	July	17	5,324 (1,192)	1,463	3.64 (0.36)	2.42 (0.32)	94.12	59	76
	August	19	2,639 (840)	974	2.71 (0.69)	2.23 (0.57)	73.68	32	37
	September	31	1,388 (536)	404	3.44 (0.75)	2.28 (0.61)	90.32	65	55
	October	43	913 (262)	266	3.44 (1.01)	1.94 (0.54)	97.67	37	58
	Overall	221	18,872 (2,501)	5,702	3.31 (0.26)	2.19 (0.18)	90.50	38	59

Table 3. Estimated fishing pressure (angler hours) by month during the summer season 2016 daylight period on Deerfield (80% confidence interval).

Lake	Month							Total
	April	May	June	July	August	September	October	
Deerfield Reservoir	1,199 (549)	3,477 (1,691)	3,931 (781)	5,324 (1,192)	2,639 (840)	1,388 (536)	913 (262)	18,872 (2,501)

Table 4. Estimated number of fish harvested, by species and month, for the summer season 2016 daylight period on Deerfield (80% confidence interval).

Species	Month							Total
	April	May	June	July	August	September	October	
Brown Trout	0	0	0	0	0	0	0	0
Lake Trout	12 (12)	0	0	14 (15)	25 (44)	0	10 (9)	61 (49)
Rainbow Trout	104 (70)	539 (446)	79 (63)	957 (394)	915 (648)	369 (149)	246 (99)	3,210 (903)
Yellow Perch	824 (704)	1,946	2,141 (1,385)	2,791 (532)	2,468 (161)	97 (142)	54 (58)	10,321 (1,497)
Total	940 (786)	2,485 (446)	2,220 (1,447)	3,762 (940)	3,407 (853)	466 (291)	310 (166)	13,591 (2,449)

Table 5a. Estimated monthly and overall angler catch rate per hour fished (C/h) for all anglers by species at Deerfield (80% confidence interval). Abbreviations for species are as follows: Brown Trout (BNT), Rainbow Trout (RBT), Yellow Perch (YEP), Lake Trout (LAT) and other species (Other).

Year	Month	BNT	LAT	RBT	YEP
		C/h	C/h	C/h	C/h
2015- 2016	November	0.00	0.17 (0.21)	0.77 (1.02)	0.00
	December	0.00	0.05 (0.07)	0.34	0.32 (0.87)
	January	<0.01 (<0.01)	0.03 (0.01)	0.46 (0.19)	0.76
	February	<0.01 (<0.01)	0.03 (0.03)	0.29 (0.16)	0.89 (0.74)
	March	0.00	0.04 (0.04)	0.14 (0.15)	2.65 (3.54)
	Overall	<0.01 (<0.01)	0.04 (0.02)	0.34 (0.10)	0.96 (0.47)
	2016	April	0.00	0.13 (0.31)	0.30 (0.54)
May		0.00	0.01 (<0.01)	0.46 (0.39)	0.89 (1.63)
June		0.00	<0.01 (<0.01)	0.30 (0.24)	1.63 (0.80)
July		0.00	<0.01 (<0.01)	0.25 (0.14)	0.93 (0.49)
August		0.00	0.01 (0.02)	0.67 (0.50)	1.23 (0.44)
September		0.00	<0.01 (<0.01)	0.58 (0.45)	0.76
October		0.00	0.04 (0.05)	0.68	0.25 (0.21)
Overall		0.00	0.01 (<0.01)	0.41 (0.13)	1.07 (0.41)

Table 5b. Estimated monthly and overall angler harvest rate per hour fished (H/h) for all anglers by species at Deerfield (80% confidence interval). Abbreviations for species are as follows: Brown Trout (BNT), Rainbow Trout (RBT), Yellow Perch (YEP), Lake Trout (LAT) and other species (Other).

Year	Month	BNT	LAT	RBT	YEP
		H/h	H/h	H/h	H/h
2015- 2016	November	0.00	0.02 (0.03)	0.34 (0.53)	0.00
	December	0.00	0.01 (0.02)	0.11 (0.08)	0.07 (0.18)
	January	0.00	0.01	0.14 (0.05)	0.45
	February	0.00	0.00	0.12 (0.09)	0.67 (0.49)
	March	0.00	0.00	0.02 (0.02)	1.81 (2.46)
	Overall	0.00	<0.01 (<0.01)	0.12 (0.05)	0.65 (0.30)
	2016	April	0.00	0.01 (0.03)	0.09 (0.15)
	May	0.00	0.00	0.15 (0.22)	0.56
	June	0.00	0.00	0.02 (0.04)	0.54 (0.35)
	July	0.00	<0.01 (<0.01)	0.18 (0.10)	0.52 (0.18)
	August	0.00	0.01 (0.02)	0.35 (0.32)	0.94 (0.30)
	September	0.00	0.00	0.27 (0.24)	0.07
	October	0.00	0.01 (0.02)	0.27 (0.20)	0.06 (0.06)
	Overall	0.00	<0.01 (<0.01)	0.17 (0.07)	0.55 (0.12)

Table 6a. Estimated monthly and overall angler catch rate per hour fished (C/h) only for anglers primarily targeting a species at Deerfield. (80% confidence interval). Abbreviations for species are as follows: Brown Trout (BNT), Rainbow Trout (RBT), Yellow Perch (YEP), Lake Trout (LAT) and Other Species (Other).

Year	Month	BNT	LAT	RBT	YEP
		C/h	C/h	C/h	C/h
2015- 2016	November	0.00	0.81 (2.66)	1.29 (2.05)	0.00
	December	0.00	0.28 (0.14)	0.81 (1.19)	0.69 (0.52)
	January	0.00	0.18 (0.15)	0.40 (0.35)	1.19 (0.72)
	February	0.00	0.23 (0.20)	0.56 (0.59)	3.05 (2.39)
	March	0.00	0.24 (1.00)	0.17	5.63 (4.25)
	Overall	0.00	0.29 (0.30)	0.67 (0.54)	1.91 (0.78)
	2016	April	0.00	0.38 (0.15)	1.05 (0.62)
	May	0.00	0.00	0.75 (0.37)	1.75 (0.74)
	June	0.00	0.00	0.31 (0.40)	2.75 (1.46)
	July	0.00	0.00	0.12 (0.08)	2.29
	August	0.00	0.00	0.79 (0.85)	3.03
	September	0.00	0.08	0.60 (0.30)	3.40
	October	0.00	0.23 (0.10)	0.79 (6.17)	1.07 (1.90)
	Overall	0.00	0.14 (0.04)	0.65 (1.50)	2.21 (0.52)

Table 6b. Estimated monthly and overall angler harvest rate per hour fished (H/h) only for anglers primarily targeting a species at Deerfield. (80% confidence interval). Abbreviations for species are as follows: Brown Trout (BNT), Rainbow Trout (RBT), Yellow Perch (YEP), Lake Trout (LAT) and Other Species (Other).

Year	Month	BNT	LAT	RBT	YEP
		H/h	H/h	H/h	H/h
2015- 2016	November	0.00	0.09 (0.26)	0.93 (1.66)	0.00
	December	0.00	0.00	0.52 (1.62)	0.13 (0.11)
	January	0.00	0.04 (0.07)	0.29 (0.16)	0.75 (0.33)
	February	0.00	0.00	0.31 (0.81)	1.89 (1.00)
	March	0.00	0.00	0.17	3.69 (3.07)
	Overall	0.00	0.01 (0.02)	0.46 (0.58)	1.13 (0.43)
	2016	April	0.00	0.04 (0.03)	0.87 (0.58)
	May	0.00	0.00	0.19 (0.06)	1.57 (0.68)
	June	0.00	0.00	0.02 (0.04)	1.22 (0.65)
	July	0.00	0.00	0.06 (0.08)	1.14
	August	0.00	0.00	0.30 (0.65)	3.03
	September	0.00	0.00	0.41 (0.17)	1.86
	October	0.00	0.02 (0.07)	0.36 (0.11)	0.45 (0.86)
	Overall	0.00	0.01 (0.02)	0.29 (0.08)	1.63 (0.43)

Table 7a. Estimated monthly and overall angler catch (C) for all anglers by species at Deerfield (80% confidence interval). Abbreviations for species are as follows: Brown Trout (BNT), Rainbow Trout (RBT), Yellow Perch (YEP), Lake Trout (LAT) and other species (Other).

Year	Month	BNT	LAT	RBT	YEP
		C	C	C	C
2015- 2016	November	0	41 (36)	188 (134)	0
	December	0	93 (67)	571	539 (344)
	January	9 (12)	165 (14)	2,524 (696)	4,132
	February	12 (15)	300 (179)	2,524 (819)	7,734 (5,894)
	March	0	78 (56)	256 (218)	4,776 (2,537)
	Overall	22 (20)	678 (203)	6,063 (1,104)	17,182 (6,406)
	2016	April	0	156 (134)	359 (199)
	May	0	20 (23)	1,591 (628)	3,083 (1,072)
	June	0	7 (12)	1,183 (324)	6,418 (2,968)
	July	0	14 (15)	1,336 (575)	4,972 (2,092)
	August	0	25 (44)	1,780 (1,029)	3,255 (411)
	September	0	7 (9)	798 (290)	1,057
	October	0	36 (25)	624 (580)	227 (154)
	Overall	0	265 (147)	7,672 (1,533)	20,199 (3,813)

Table 7b. Estimated monthly and overall angler harvest (H) for all anglers by species at Deerfield (80% confidence interval). Abbreviations for species are as follows: Brown Trout (BNT), Rainbow Trout (RBT), Yellow Perch (YEP), Lake Trout (LAT) and other species (Other).

Year	Month	BNT	LAT	RBT	YEP
		H	H	H	H
2015- 2016	November	0	5 (6)	83 (84)	0
	December	0	18 (17)	187 (144)	119 (83)
	January	0	41	760 (198)	2,445
	February	0	0	1,018 (430)	5,856 (3,874)
	March	0	0	29 (24)	3,264 (1,777)
	Overall	0	63 (15)	2,077 (502)	11,684 (4,222)
	2016	April	0	12 (12)	104 (70)
	May	0	0	539 (446)	1,946
	June	0	0	79 (63)	2,141 (1,385)
	July	0	14 (15)	957 (394)	2,791 (532)
	August	0	25 (44)	915 (648)	2,468 (161)
	September	0	0	369 (149)	97 (142)
	October	0	10 (9)	246 (99)	54 (58)
	Overall	0	61 (49)	3,210 (903)	10,321 (1,497)

Table 8. Estimated number and rate (number per hour) of Brown Trout (BNT), Rainbow Trout (RBT), Yellow Perch (YEP), Lake Trout (LAT) caught and harvested by anglers during the summer and winter fisheries on Deerfield, (80% confidence interval).

Brown Trout

Season	Year	Catch	Harvest	Catch Rate	Harvest Rate
Summer	2013	15 (15)	15 (15)	0.01 (<0.01)	0.01 (<0.01)
Summer	2014	51 (51)	22 (27)	0.01 (<0.01)	<0.01 (<0.01)
Winter	2006-2007	10	0	<0.01	0.00
Winter	2015-2016	22 (20)	0	<0.01 (<0.01)	0.00

Lake Trout

Season	Year	Catch	Harvest	Catch Rate	Harvest Rate
Summer	2016	265 (147)	61 (49)	0.01 (<0.01)	<0.01 (<0.01)
Winter	2015-2016	678 (203)	63 (15)	0.04 (0.02)	<0.01 (<0.01)

Rainbow Trout

Season	Year	Catch	Harvest	Catch Rate	Harvest Rate
Summer	2009	2,639 (579)	1,600 (399)	0.16 (0.04)	0.10 (0.02)
Summer	2013	688 (592)	442 (345)	0.36 (0.20)	0.23 (0.18)
Summer	2014	1,864 (688)	752 (197)	0.20 (0.08)	0.08 (0.02)
Summer	2016	7,672 (1,533)	3,210 (903)	0.41 (0.13)	0.17 (0.07)
Winter	2006-2007	18,012 (3,626)	13,637 (2,583)	1.00 (0.28)	0.75 (0.19)
Winter	2013-2014	279 (158)	118 (79)	0.12 (0.08)	0.05 (0.04)
Winter	2015-2016	6,063 (1,104)	2,077 (502)	0.34 (0.10)	0.12 (0.05)

Yellow Perch

Season	Year	Catch	Harvest	Catch Rate	Harvest Rate
Summer	2009	1,066 (230)	455 (125)	0.07 (0.02)	0.03 (<0.01)
Summer	2013	634 (431)	110 (66)	0.33 (0.66)	0.06 (0.09)
Summer	2014	1,136 (464)	285 (139)	0.12 (0.05)	0.03 (0.02)
Summer	2016	20,199 (3,813)	10,321 (1,497)	1.07 (0.41)	0.55 (0.12)
Winter	2006-2007	225 (96)	163 (90)	0.01 (<0.01)	0.01 (<0.01)
Winter	2013-2014	613 (648)	312 (302)	0.26 (0.29)	0.13 (0.14)
Winter	2015-2016	17,182 (6,406)	11,684 (4,222)	0.96 (0.47)	0.65 (0.30)

Table 9. The number of fish harvested with each species by length group (mm) for the winter and summer fisheries at Deerfield. Abbreviations for species are as follows: Brown Trout (BNT), Rainbow Trout (RBT), Yellow Perch (YEP), Lake Trout (LAT).

Winter 2015-2016				
Length Group (mm)	BNT (N=0)	LAT (N=22)	RBT (N=121)	YEP (N=237)
160				2
170				3
180				17
190				50
200				89
210				57
220			2	11
230			1	5
240				1
250			1	
260			2	
270			3	
280			9	
290			13	
300			20	
310			23	1
320			18	1
330			11	
340			5	
350			3	
360			4	
370			3	
380			2	
390			1	
480		1		
490				
500				
510				
520				
530				
540				
550				
560				
570		1		
580				
590				
600				
610		3		
620		1		
630		2		
640		1		
650		2		
660		2		
670		3		
680				
690		2		
700				
710				
720				
730		2		
740				
750				
760				
770				
780		1		
790				
800		1		

Summer 2016

Length Group (mm)	BNT (N=0)	LAT (N=11)	RBT (N=213)	YEP (N=108)
140				2
150				
160				1
170				1
180				2
190				11
200				29
210			3	33
220			1	9
230			2	14
240			1	3
250				
260			4	1
270			1	
280			6	
290			27	
300			35	
310			26	
320			28	2
330			33	
340			21	
350			12	
360			6	
370			5	
380			1	
390			1	
520		1		
530				
540				
550		1		
560				
570				
580		1		
590				
600		1		
610		1		
620		1		
630		1		
640		1		
650				
660		1		
670				
680		2		

Figure 1a. Length frequency of angler-harvested Lake Trout measured by the creel clerk during creel surveys on Deerfield.

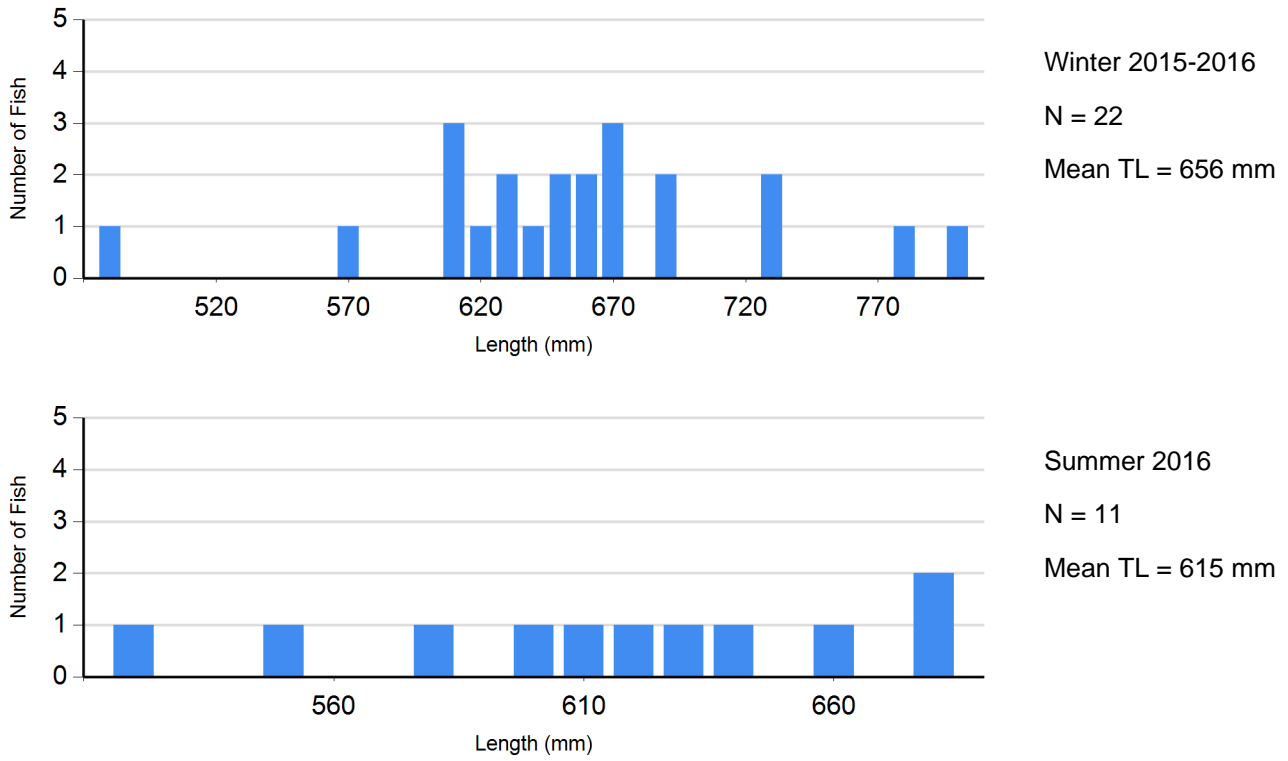
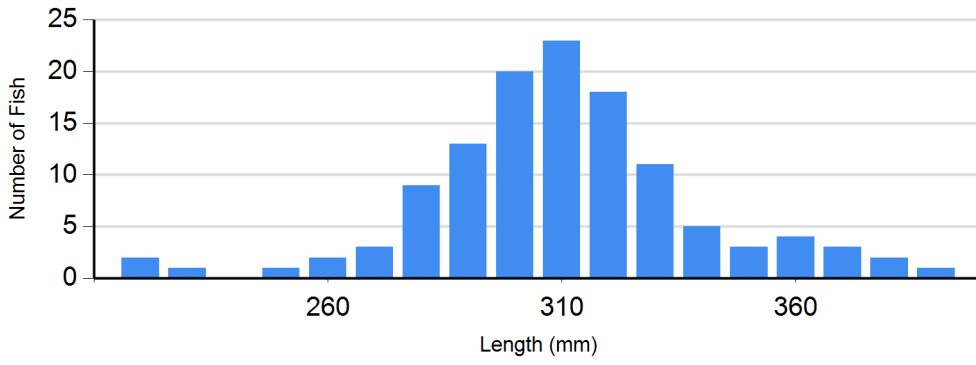
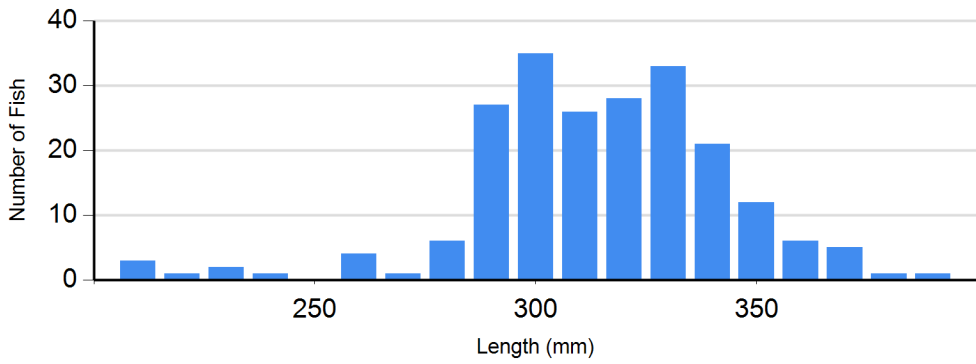


Figure 1b. Length frequency of angler-harvested Rainbow Trout measured by the creel clerk during creel surveys on Deerfield.



Winter 2015-2016
N = 121
Mean TL = 310 mm



Summer 2016
N = 213
Mean TL = 314 mm

Figure 1c. Length frequency of angler-harvested Yellow Perch measured by the creel clerk during creel surveys on Deerfield.

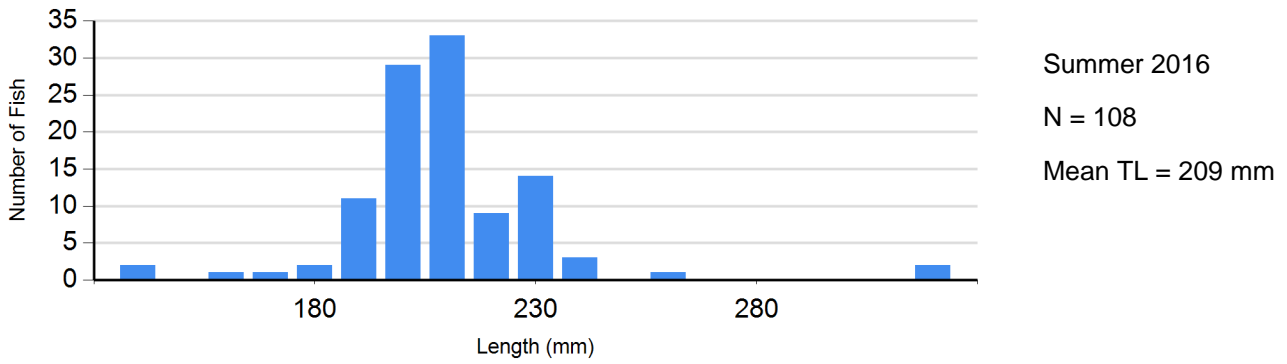
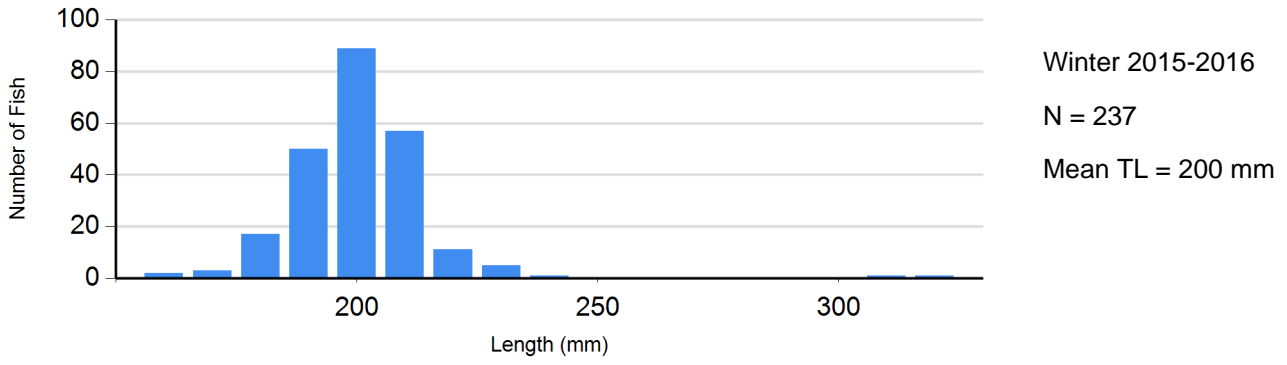


Figure 2. South Dakota county of residence for winter and summer resident anglers fishing Deerfield, South Dakota between November 2015 and October 2016.

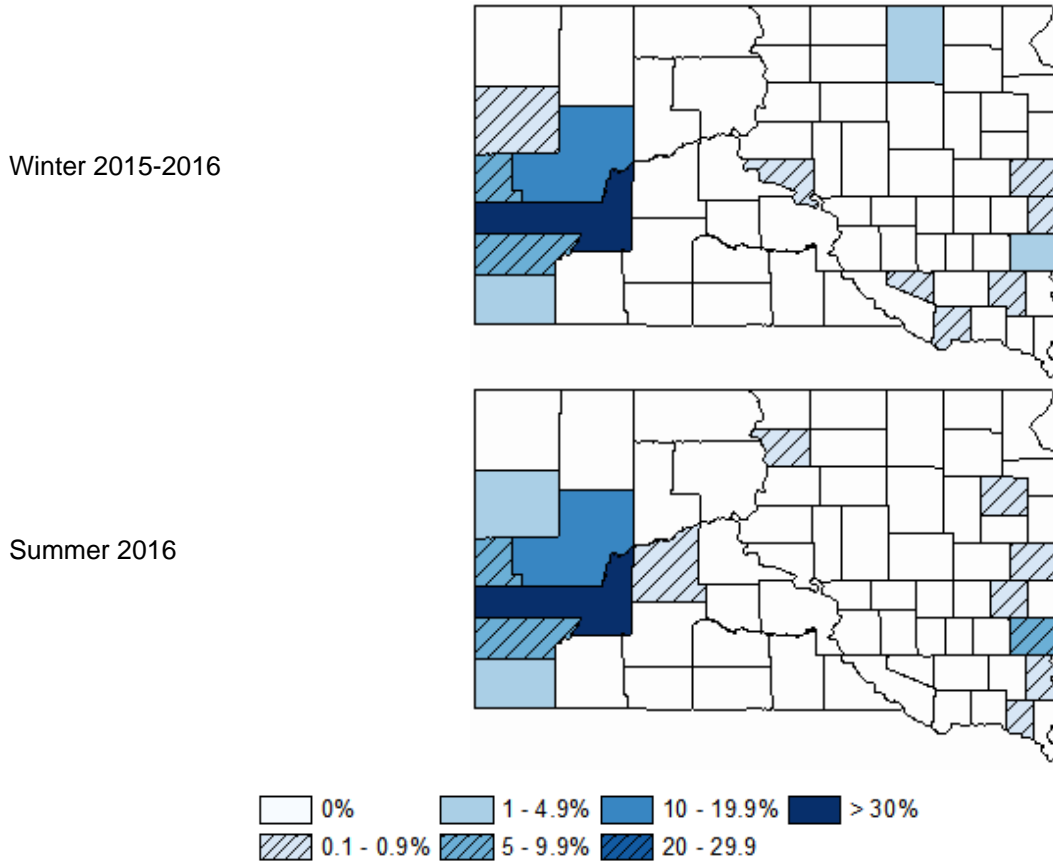


Table 10. Number of parties interviewed that harvested (or caught) a specified number of fish totaled over selected strata for a species.

Angler Harvest	Counts			
	BNT (n=221)	LAT (n=221)	RBT (n=221)	YEP (n=221)
0.00	221	215	143	188
0.17	0	0	1	0
0.20	0	0	1	0
0.25	0	0	1	1
0.33	0	1	6	0
0.40	0	0	1	2
0.50	0	3	10	0
0.67	0	0	2	1
0.75	0	0	2	0
1.00	0	2	12	3
1.25	0	0	1	0
1.33	0	0	2	0
1.50	0	0	8	0
1.60	0	0	0	1
1.67	0	0	1	0
1.75	0	0	0	1
1.80	0	0	1	0
2.00	0	0	6	0
2.50	0	0	6	2
2.67	0	0	1	1
3.00	0	0	5	2
3.50	0	0	1	1
4.00	0	0	3	2
4.50	0	0	2	1
5.00	0	0	5	0
6.00	0	0	0	1
6.50	0	0	0	1
7.67	0	0	0	1
9.00	0	0	0	1
10.00	0	0	0	2
11.00	0	0	0	1
12.00	0	0	0	1
13.00	0	0	0	2
15.00	0	0	0	4
43.50	0	0	0	1

Winter 2015-
2016

Counts

Angler Harvest	BNT (n=281)	LAT (n=281)	RBT (n=281)	YEP (n=281)
0.00	281	270	202	196
0.14	0	0	1	0
0.20	0	2	1	2
0.25	0	1	0	1
0.33	0	1	3	2
0.38	0	0	1	0
0.43	0	0	1	0
0.50	0	3	11	2
0.67	0	1	2	0
0.75	0	0	1	0
0.80	0	0	1	0
0.86	0	0	1	0
0.88	0	0	0	1
1.00	0	3	21	5
1.33	0	0	1	1
1.50	0	0	4	1
1.60	0	0	1	0
1.67	0	0	1	1
1.80	0	0	1	0
2.00	0	0	9	5
2.50	0	0	2	2
3.00	0	0	6	1
3.50	0	0	1	2
4.00	0	0	3	5
4.20	0	0	0	1
4.50	0	0	3	3
4.67	0	0	0	1
5.00	0	0	3	2
5.50	0	0	0	1
6.00	0	0	0	1
7.00	0	0	0	4
7.14	0	0	0	1
7.50	0	0	0	2
8.00	0	0	0	2
8.86	0	0	0	1
9.00	0	0	0	1
9.50	0	0	0	1
10.00	0	0	0	1
12.00	0	0	0	2
12.50	0	0	0	1
14.00	0	0	0	2
15.00	0	0	0	27

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

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

Response	Summer 2016 (n = 494)
Very Satisfied	68%
Moderately Satisfied	19%
Moderately Dissatisfied	3%
Very Dissatisfied	1%
Neutral	6%
No Answer	2%

Question: This lake is stocked with 11 inch Rainbow Trout, how satisfied are you with the number of Rainbow Trout you caught today?

Response	Summer 2016 (n = 494)
Very Satisfied	24%
Moderately Satisfied	12%
Moderately Dissatisfied	2%
Very Dissatisfied	4%
Neutral	6%
No Answer	50%
No Opinion	0%

Question: How satisfied are you with the number of Yellow Perch you caught today?

Response	Summer 2016 (n = 494)
Very Satisfied	10%
Moderately Satisfied	2%
Moderately Dissatisfied	1%
Very Dissatisfied	1%
Neutral	1%
No Answer	85%
No Opinion	0%

Question: How satisfied are you with the size of Yellow Perch you caught today?

Response	Summer 2016 (n = 494)
Very Satisfied	2%
Moderately Satisfied	3%
Moderately Dissatisfied	5%
Very Dissatisfied	0%
Neutral	2%
No Answer	87%
No Opinion	1%

Question: Would you support a limited/harvest on lake trout at this reservoir, similar to the Pactola regulation.

Response	Summer 2016 (n = 494)
Very Satisfied	0%
Yes	13%
No	0%
No Answer	86%