

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Fall River, Fall River County
27-0023-00
2015

Table 1. Population and Biomass Estimates for Fall River

Site Number: 30	Date Sampled: 05/20/2015	Conductivity (umhos/cm): 1236
Site Midpoint (Latitude, Longitude): 43.40294269, -103.41199702	Site Length (m): 100	pH: 7.7
Survey Completed by:	Mean Width (m): 6.3	Water Temperature (C): 19.6
Stream Classification: None	Number of Pass: 3	Voltage: 145

Species	Size Class	Total Number Captured	Est. # in site	Upper 95% CI	Lower 95% CI	# per Hectacre	Kg per Hectacre	# per Km	# per Acre	lb. per Acre	# per Mile	Mean Length (mm)	Mean Weight (grams)
Creek Chub	All	24	36	66	24	572	13	360	232	11.29	579	120.9	22.1
Green Sunfish	All	2	2	6	2	32	3	20	13	2.75	32	160.5	97.0
Mountain Sucker	All	2	2	2	2	32	2	20	13	1.50	32	168.0	53.0
White Sucker	All	17	17	18	17	270	27	170	109	23.90	274	174.9	99.1

Site Number: 88	Date Sampled: 05/19/2015	Conductivity (umhos/cm): 145
Site Midpoint (Latitude, Longitude): 43.41812442, -103.45778048	Site Length (m): 100	pH:
Survey Completed by:	Mean Width (m): 5.1	Water Temperature (C):
Stream Classification: None	Number of Pass: 3	

Species	Size Class	Total Number Captured	Est. # in site	Upper 95% CI	Lower 95% CI	# per Hectacre	Kg per Hectacre	# per Km	# per Acre	lb. per Acre	# per Mile	Mean Length (mm)	Mean Weight (grams)
Creek Chub	All	26	26	27	26	508	28	260	206	25.02	418	164.5	55.2
Jack Dempsey	All	23	23	25	23	449	26	230	182	23.51	370	111.4	58.6
Mountain Sucker	All	4	4	4	4	78	1	40	32	1.05	64	112.3	15.0
White Sucker	All	7	8	14	7	156	8	80	63	7.34	129	144.4	52.6

Site Number: 117
Site Midpoint (Latitude, Longitude): 43.43429803, -103.48116151
Survey Completed by:
Stream Classification: None

Date Sampled: 05/19/2015 **Conductivity (umhos/cm):** 1176
Site Length (m): 100 **pH:** 7.7
Mean Width (m): 8.0 **Water Temperature (C):** 22.4
Number of Pass: 3 **Voltage:** 180

Species	Size Class	Total Number Captured	Est. # in site	Upper 95% CI	Lower 95% CI	# per Hectacre	Kg per Hectacre	# per Km	# per Acre	lb. per Acre	# per Mile	Mean Length (mm)	Mean Weight (grams)
Creek Chub	All	9	9	10	9	113	6	90	46	4.91	145	146.9	48.8
Green Sunfish	All	1	1	1	1	13	1	10	5	0.80	16	148.0	71.0
Jack Dempsey	All	170	699	1908	170	8767	328	6990	3551	293.18	11247	107.4	37.5

Site Number: 131
Site Midpoint (Latitude, Longitude): 43.44260315, -103.48381983
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: None

Date Sampled: 08/27/2015 **Conductivity (umhos/cm):** 770
Site Length (m): 85 **pH:** 8.3
Mean Width (m): 3.5 **Water Temperature (C):** 21.3
Number of Pass: 1 **Voltage:** 225

Species	Size Class	Total Number Captured	Est. # in site	Upper 95% CI	Lower 95% CI	# per Hectacre	Kg per Hectacre	# per Km	# per Acre	lb. per Acre	# per Mile	Mean Length (mm)	Mean Weight (grams)
Creek Chub	All	23	23	23	23	654	25	271	265	22.15	435	142.8	38.0
Jack Dempsey	All	5	5	5	5	142	5	59	58	4.57	95	119.8	36.0
White Sucker	All	1	1	1	1	28	2	12	12	2.00	19	193.0	79.0

Site Number: 163
Site Midpoint (Latitude, Longitude): 43.44698252, -103.50437989
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: None

Date Sampled: 09/24/2015 **Conductivity (umhos/cm):** 751
Site Length (m): 88 **pH:** 8.2
Mean Width (m): 3.9 **Water Temperature (C):** 23.0
Number of Pass: 1 **Voltage:** 350

Species	Size Class	Total Number Captured	Est. # in site	Upper 95% CI	Lower 95% CI	# per Hectacre	Kg per Hectacre	# per Km	# per Acre	lb. per Acre	# per Mile	Mean Length (mm)	Mean Weight (grams)
Creek Chub	All	14	14	14	14	360	16	159	146	14.04	256	144.4	43.7

Stream sites are classified based on the estimates of adult trout over eight inches that exist within the site. Estimates are derived from 3-pass backpack electrofishing surveys at 100-meter sites within streams. While all fish in the site are collected and measured, only trout species are used for classifications. Sites are numbered in accordance for the distance (m) from the stream confluence of a higher order stream/river.

Based on number of trout in excess of eight inches	
Class BR1	Number of wild Brown Trout exceeds 150 per acre
Class BR2	Number of wild Brook Trout ranges from 25 to 150 per acre
Class BR3	Number of wild Brown Trout is less than 25 per acre
Class BK1	Number of wild Brook Trout exceeds 150 per acre
Class BK2	Number of wild Brook Trout ranges from 25 to 150 per acre
Class BK3	Number of wild Brook Trout is less than 25 per acre
Class RB1	Number of wild Rainbow Trout exceeds 25 per acre
Class RB2	Number of wild Rainbow Trout is less than 25 per acre

Table 2. Species composition and population estimates on Fall River, 2005-2015

Site 30

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Creek Chub	May 20, 2015	36	24-66	
Green Sunfish	May 20, 2015	2	2-6	
Mountain Sucker	May 20, 2015	2	2-2	
White Sucker	May 20, 2015	17	17-18	

Site 88

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Creek Chub	May 19, 2015	26	26-27	
Jack Dempsey	May 19, 2015	23	23-25	

Mountain Sucker	May 19, 2015	4	4-4
White Sucker	May 19, 2015	8	7-14

Site 117

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Creek Chub	May 19, 2015	9	9-10	
Green Sunfish	May 19, 2015	1	1-1	
Jack Dempsey	May 19, 2015	699	170-1908	

Site 131

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Creek Chub	Aug 27, 2015	23	23-23	
Jack Dempsey	Aug 27, 2015	5	5-5	
White Sucker	Aug 27, 2015	1	1-1	

Site 163

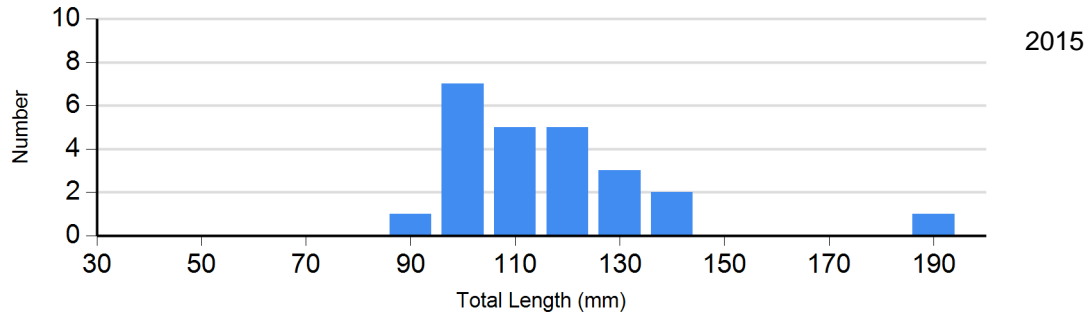
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Creek Chub	Sep 24, 2015	14	14-14	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

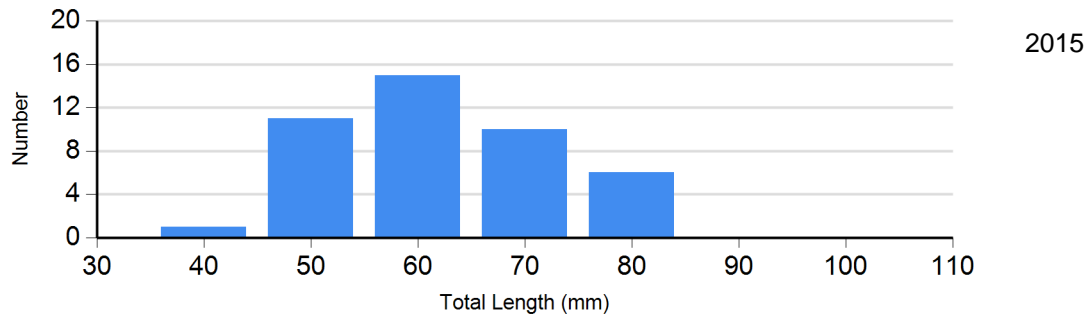
Site: 30

Species: Creek Chub



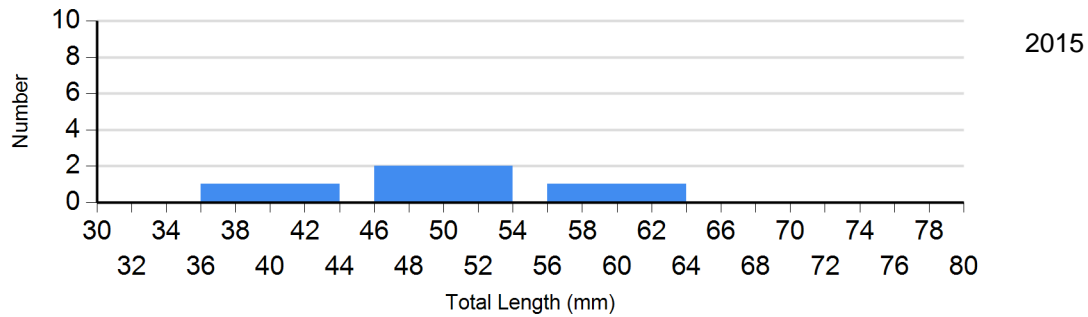
Site: 30

Species: Longnose Dace

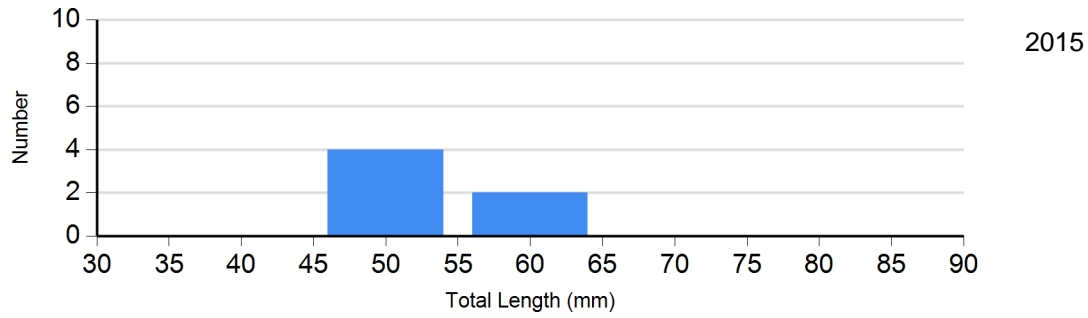


Site: 30

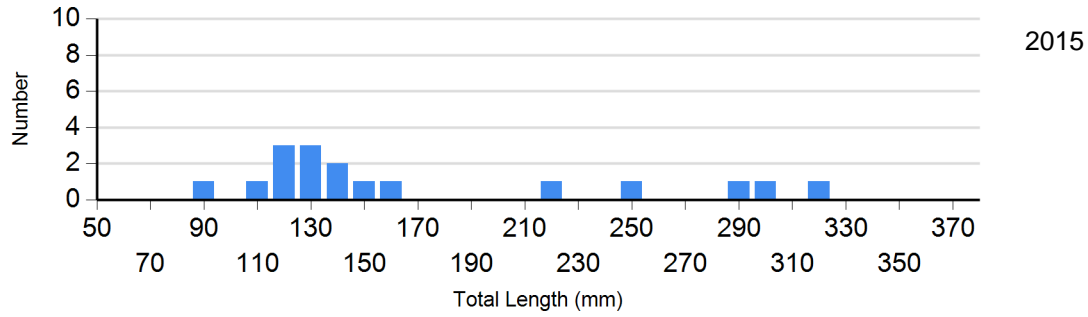
Species: Plains Topminnow



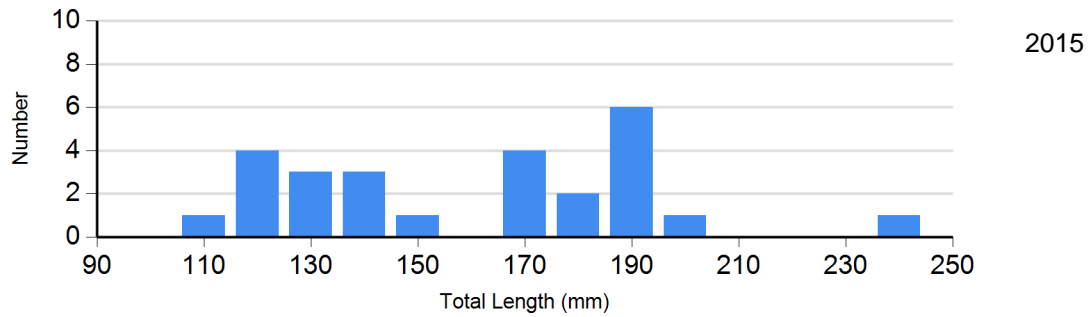
Site: 30
Species: Sand Shiner



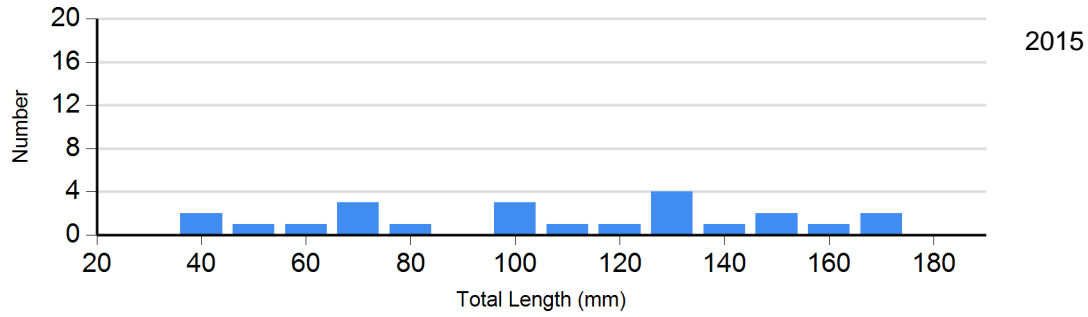
Site: 30
Species: White Sucker



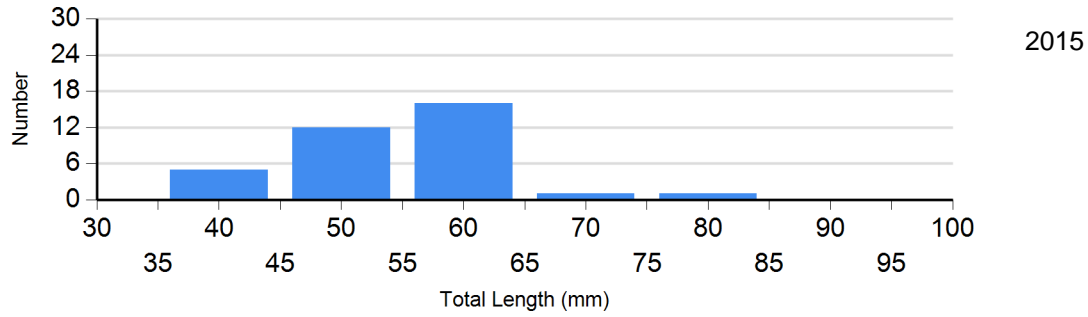
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Species: Creek Chub



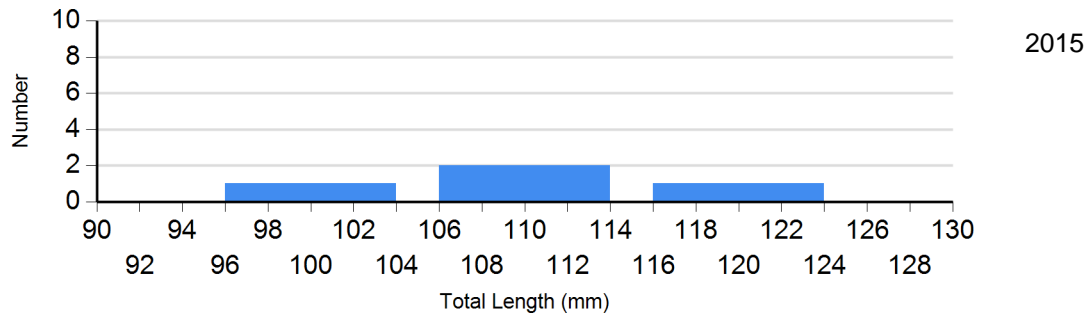
Site: 88
Species: Jack Dempsey



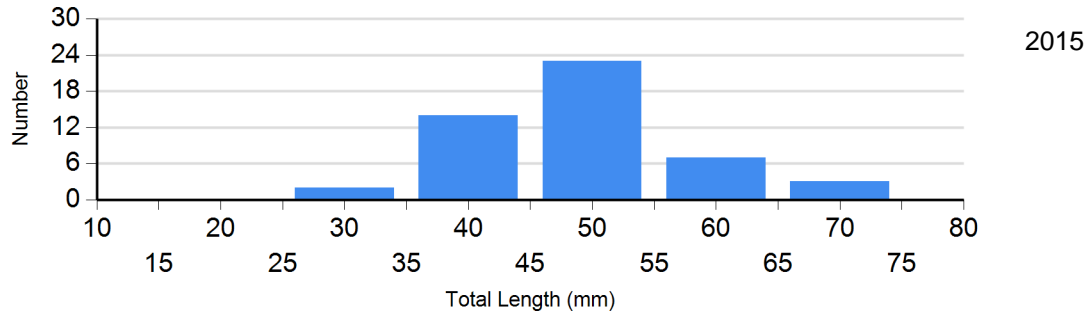
Site: 88
Species: Longnose Dace



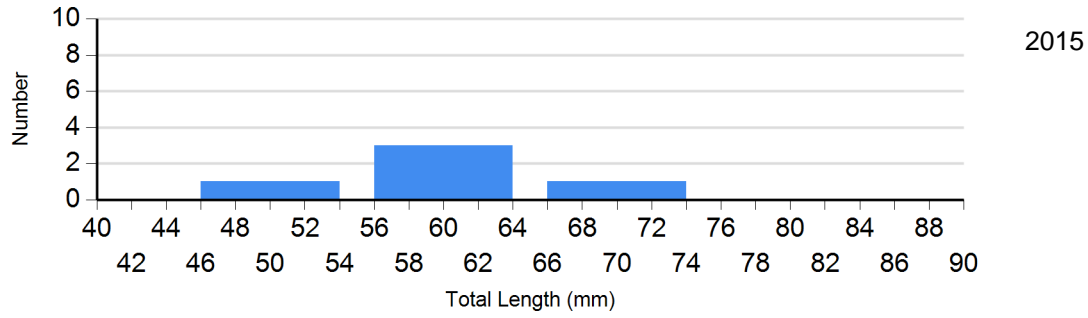
Site: 88
Species: Mountain Sucker



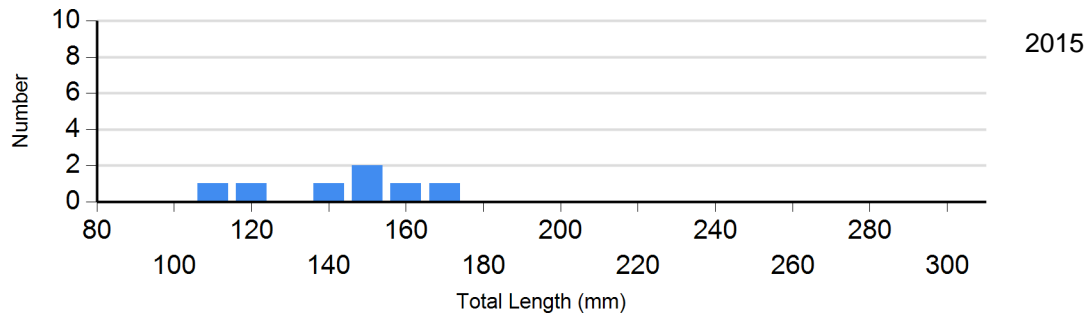
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Species: Plains Topminnow



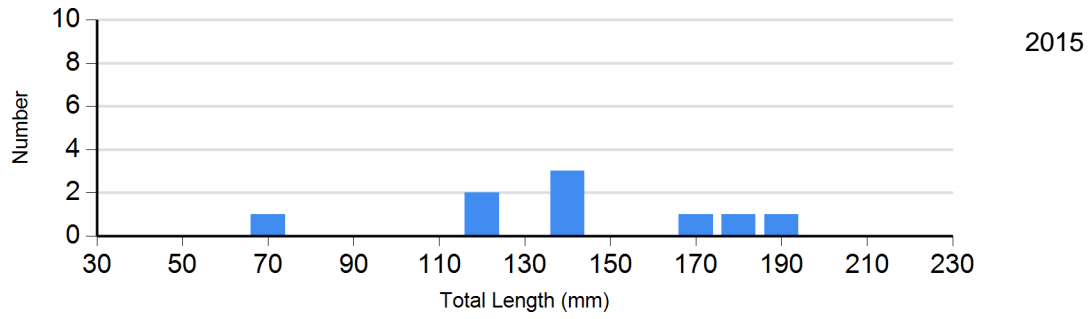
Site: 88
Species: Sand Shiner



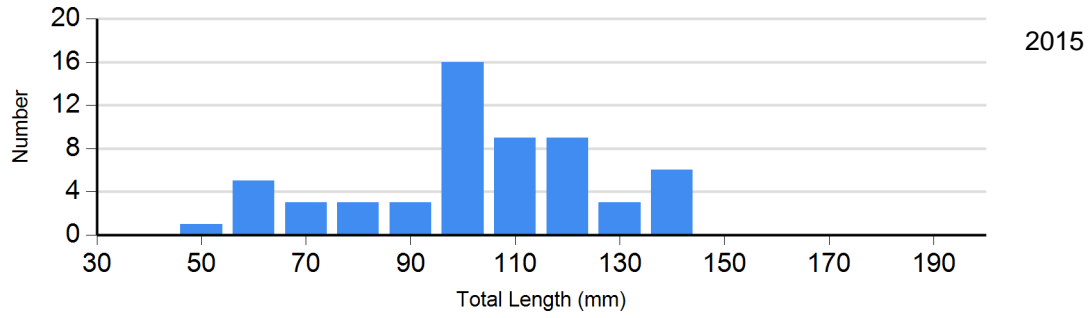
Site: 88
Species: White Sucker



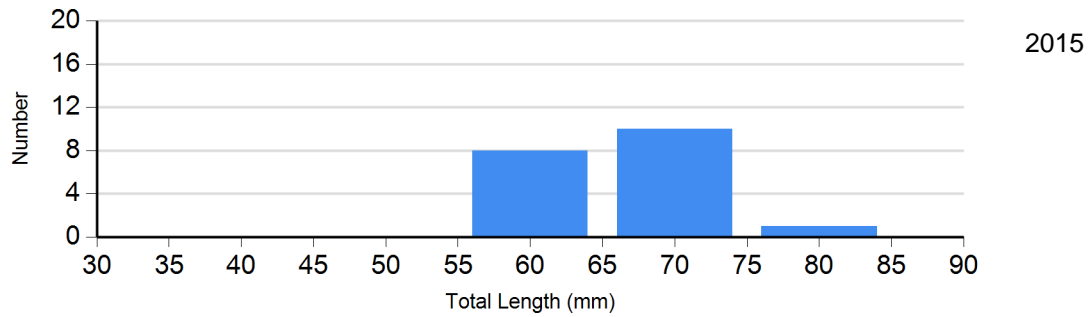
Site: 117
Species: Creek Chub



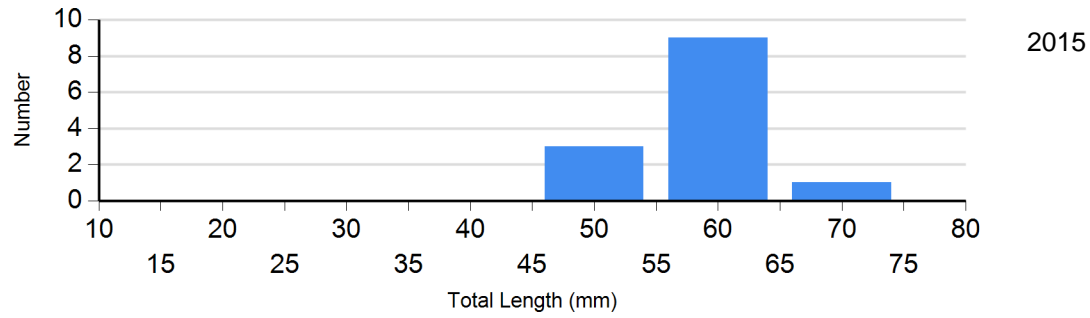
Site: 117
Species: Jack Dempsey



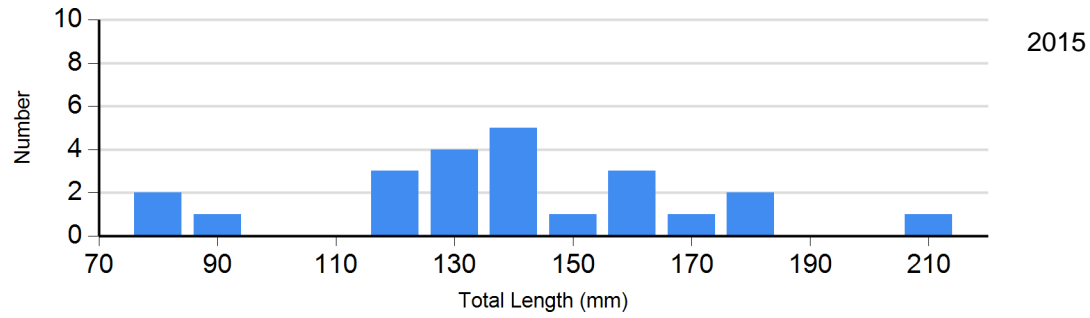
Site: 117
Species: Longnose Dace



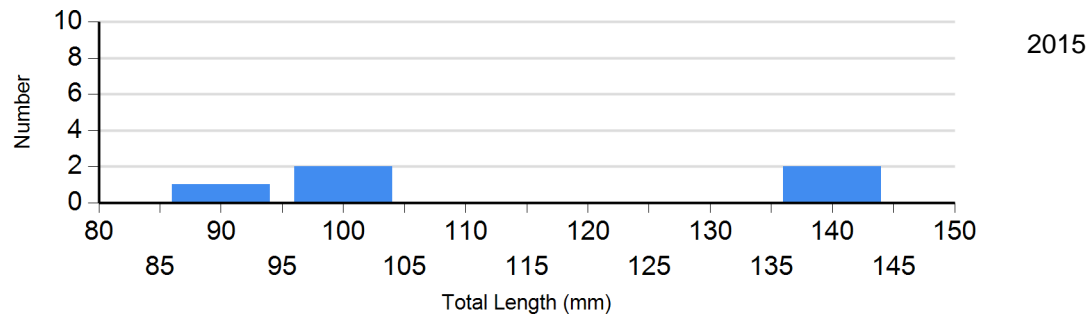
Site: 117
Species: Plains Topminnow



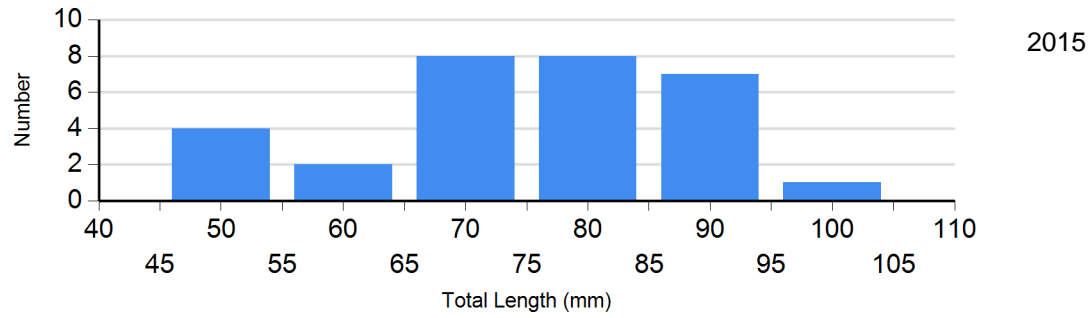
Site: 131
Species: Creek Chub



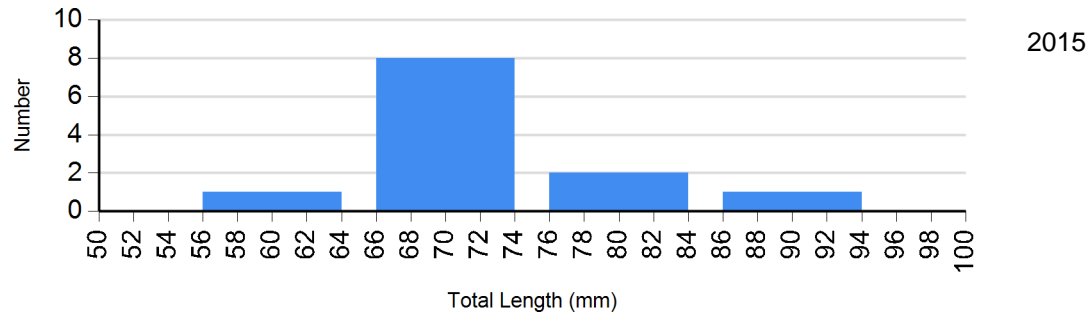
Site: 131
Species: Jack Dempsey



Site: 131
Species: Longnose Dace



Site: 131
Species: Sand Shiner



Site: 163
Species: Creek Chub

