

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Deadwood Creek, Lawrence County
09-0060-00
2014

Table 1. Population and Biomass Estimates for Deadwood Creek

Site Number: 8
Site Midpoint (Latitude, Longitude): 44.37166357, -103.73844669
Survey Completed by: Unknown Consultant Firm for mining
Stream Classification: BK1

Date Sampled: 08/27/2014
Site Length (m): 70
Mean Width (m): 2.0
Number of Pass: 3
Conductivity (umhos/cm):
pH:
Water Temperature (C):
Voltage: 195

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)
Brook Trout	<200mm	334	343	351	335	16938	83	4900	6860	73.81	7884	70.6	4.9
Brook Trout	>=200mm	8	8	8	8	395	52	114	160	46.21	184	219.9	131.0
Brook Trout	All	342	350	358	342	17284	129	5000	7000	115.27	8045	74.1	7.5

Site Number: 9
Site Midpoint (Latitude, Longitude): 44.37126918, -103.73941917
Survey Completed by: Unknown Consultant Firm for mining
Stream Classification: BK2

Date Sampled: 08/26/2014
Site Length (m): 60
Mean Width (m): 4.1
Number of Pass: 3
Conductivity (umhos/cm):
pH:
Water Temperature (C):
Voltage:

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)
Brook Trout	<200mm	412	441	458	424	10719	58	7350	4341	51.99	11826	77.2	5.4
Brook Trout	>=200mm	11	11	11	11	267	48	183	108	42.90	295	246.8	179.7
Brook Trout	All	423	452	469	435	10986	109	7533	4449	97.74	12121	81.6	10.0

Site Number: 11
Site Midpoint (Latitude, Longitude): 44.36995592, -103.74076877

Date Sampled: 08/26/2014
Site Length (m): 50
Conductivity (umhos/cm):
pH:

Survey Completed by: Unknown Consultant Firm for mining

Mean Width (m): 5.1

Water Temperature (C):

Stream Classification: BK2

Number of Pass: 3

Voltage: 140

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)
Brook Trout	<200mm	260	279	293	265	5507	41	5580	2230	36.83	8978	88.3	7.5
Brook Trout	>=200mm	6	6	7	6	118	24	120	48	21.32	193	248.2	201.7
Brook Trout	All	266	285	299	271	5625	67	5700	2278	59.70	9171	91.9	11.9

Site Number: 49

Date Sampled: 08/29/2014

Conductivity (umhos/cm):

Site Midpoint (Latitude, Longitude): 44.36269958, -103.78234679

Site Length (m): 100

pH:

Survey Completed by: Unknown Consultant Firm for mining

Mean Width (m): 2.0

Water Temperature (C):

Stream Classification: BK1

Number of Pass: 3

Voltage: 265

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)
Brook Trout	<200mm	254	269	281	257	13636	89	2690	5523	79.04	4328	78.8	6.5
Brook Trout	>=200mm	9	9	11	9	456	53	90	185	47.30	145	219.9	116.1
Brook Trout	All	263	279	292	266	14143	145	2790	5728	129.35	4489	83.6	10.2

Site Number: 63

Date Sampled: 09/02/2014

Conductivity (umhos/cm):

Site Midpoint (Latitude, Longitude): 44.36252000, -103.79661773

Site Length (m): 100

pH:

Survey Completed by: South Dakota Game, Fish and Parks

Mean Width (m): 1.8

Water Temperature (C): 9.0

Stream Classification: BK0

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)
Brook Trout	<200mm	57	57	57	57	3098	79	570	1255	70.48	917	97.0	25.5
Brook Trout	All	156	156	156	156	8478	216	1560	3434	192.90	2510	97.0	25.5

Site Number: 72

Site Midpoint (Latitude, Longitude): 44.35884420, -103.80543515

Survey Completed by: Unknown Consultant Firm for mining

Stream Classification: BK0

Date Sampled: 08/21/2014

Site Length (m): 110

Mean Width (m): 1.7

Number of Pass: 3

Conductivity
(umhos/cm):

pH:

Water Temperature (C):

Voltage:

255

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)
Brook Trout	<200mm	167	170	175	167	9791	108	1545	3965	96.84	2487	90.2	11.1
Brook Trout	All	167	170	175	167	9791	108	1545	3965	96.84	2487	90.2	11.1

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 Deadwood Creek, 2004-2014

Site 8

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Aug 25, 2004	60	59-63	
	Aug 30, 2005	159	151-168	
	Aug 29, 2006	114	107-123	
	Sep 09, 2008	41	41-42	
	Sep 01, 2009	109	103-117	
	Aug 31, 2010	1	1-1	
	Aug 28, 2012	126	123-131	

Brook Trout <200mm	Aug 27, 2014	343	335-351	
Brook Trout >=200mm	Aug 25, 2004	2	2-2	BK2
	Aug 30, 2005	5	5-5	BK3
	Aug 29, 2006	1	1-1	BK3
	Sep 09, 2008	5	5-5	BK3
	Sep 01, 2009	5	5-5	BK3
	Aug 28, 2012	1	1-1	BK3
	Aug 27, 2014	8	8-8	BK1

Site 9

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Aug 25, 2004	43	43-44	
	Aug 30, 2005	265	250-280	
	Aug 29, 2006	124	120-130	
	Sep 09, 2008	39	39-40	
	Sep 01, 2009	112	111-115	
	Aug 28, 2012	81	77-87	

Brook Trout <200mm	Aug 26, 2014	441	424-458	
Brook Trout >=200mm	Aug 25, 2004	1	1-1	BK3
	Aug 30, 2005	2	2-2	BK3
	Aug 29, 2006	1	1-1	BK3
	Sep 09, 2008	4	4-4	BK3
	Sep 01, 2009	2	2-2	BK3
	Aug 28, 2012	3	3-3	BK3
	Aug 26, 2014	11	11-11	BK2

Site 11

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 01, 2009	68	68-69	
	Aug 26, 2014	279	265-293	
Brook Trout >=200mm	Sep 01, 2009	2	2-2	BK3
	Aug 26, 2014	6	6-7	BK2

Site 49

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Aug 25, 2004	89	86-94	

Brook Trout <200mm	Aug 29, 2005	68	66-72	
	Aug 29, 2006	43	42-46	
	Sep 02, 2009	191	184-199	
	Aug 31, 2010	4	4-4	
	Aug 30, 2011	45	41-53	
	Aug 29, 2012	129	124-136	
	Aug 29, 2014	269	257-281	
Brook Trout >=200mm	Aug 25, 2004	4	4-4	BK2
	Aug 29, 2005	3	3-3	BK3
	Aug 29, 2006	5	5-5	BK3
	Sep 02, 2009	8	8-8	BK3
	Aug 30, 2011	1	1-1	BK3
	Aug 29, 2014	9	9-11	BK1

Site 63

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jul 16, 2008	69	69-69	

Brook Trout <200mm	Sep 02, 2014	57	57-57	
Brook Trout >=200mm	Jul 16, 2008	4	4-4	BK2

Site 72

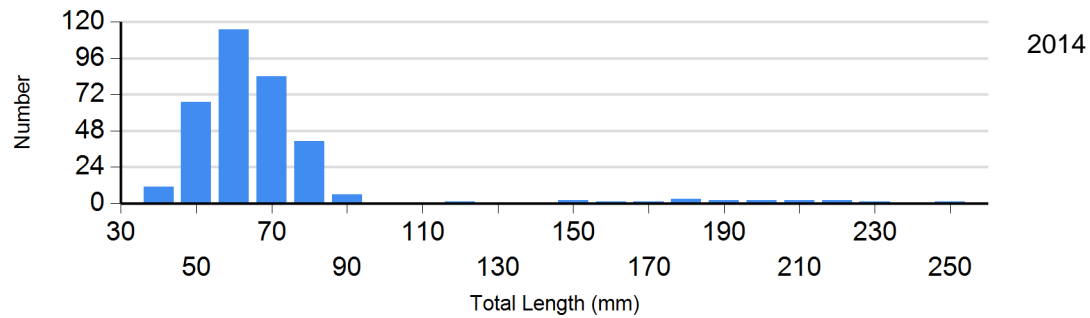
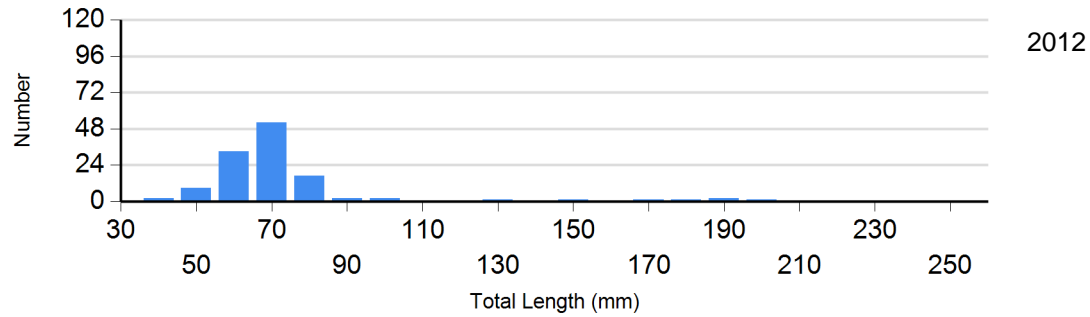
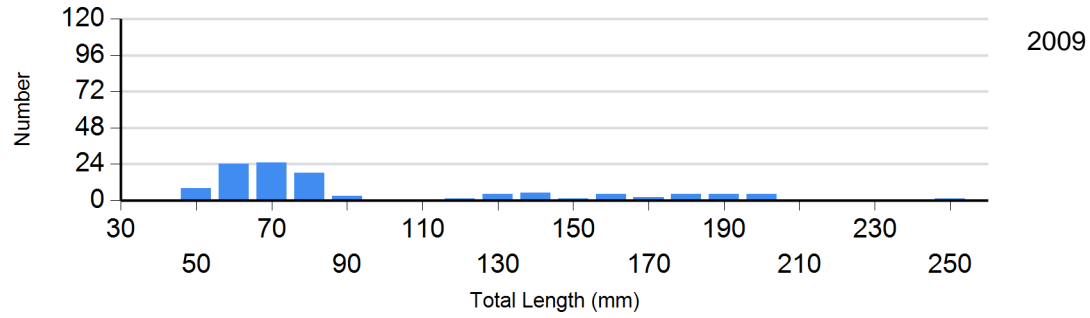
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 03, 2004	30	30-32	
	Aug 25, 2005	15	15-15	
	Aug 25, 2011	138	135-143	
	Aug 22, 2012	117	114-122	
	Aug 21, 2014	170	167-175	

Length Frequency Distribution

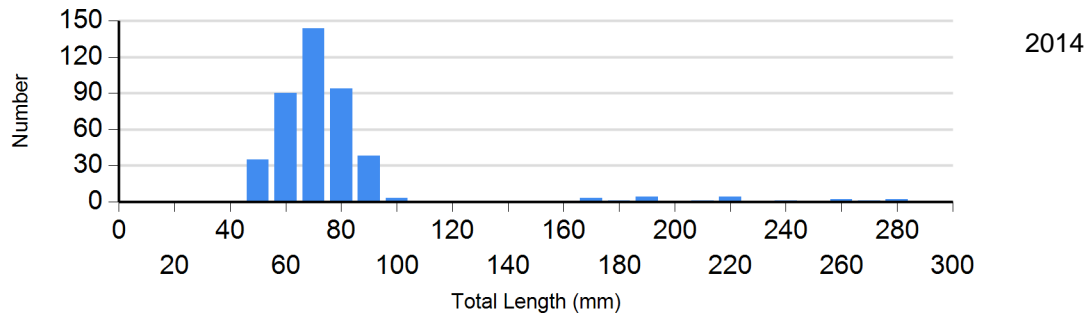
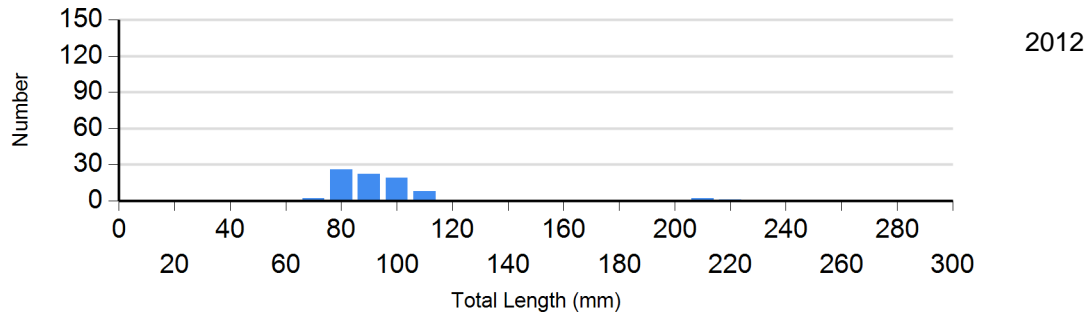
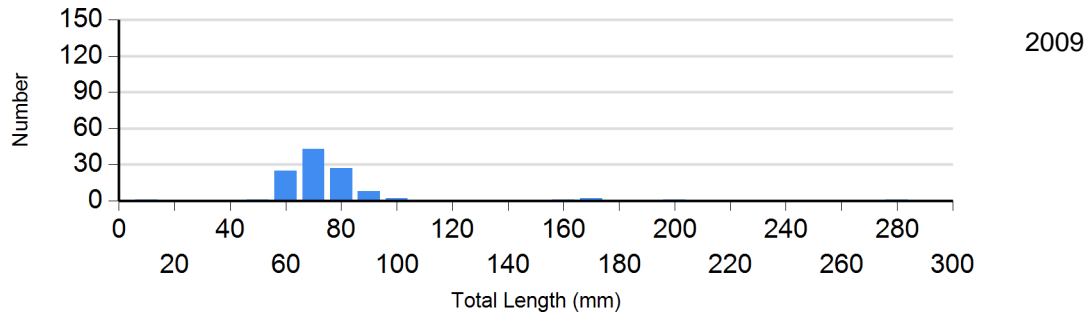
Length frequency histogram of species sampled by year.

Site: 8

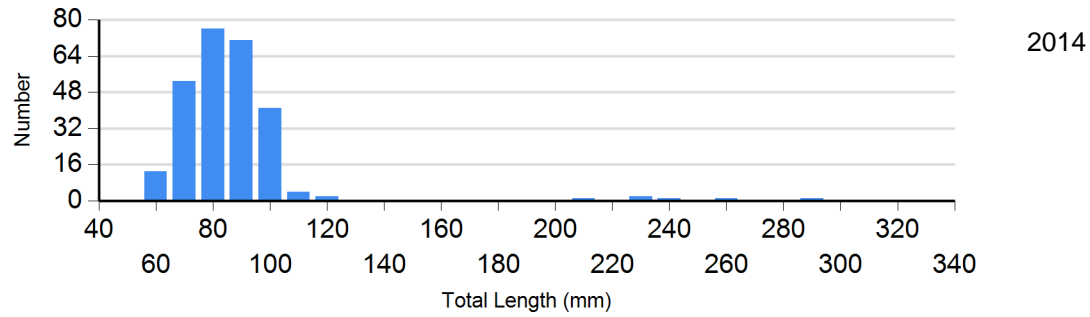
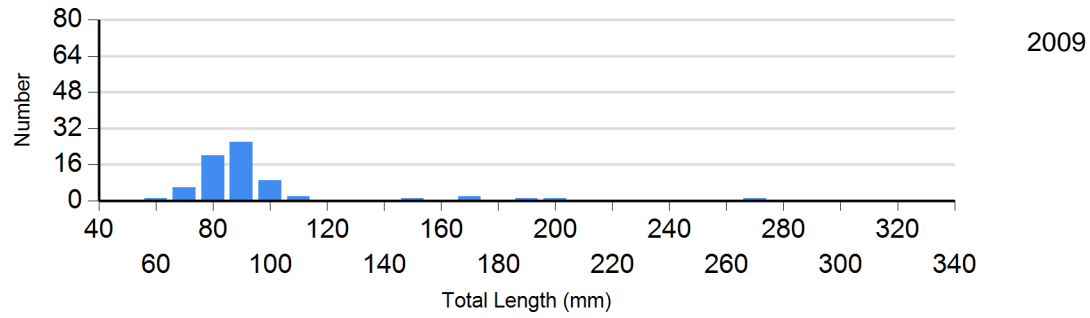
Species: Brook Trout



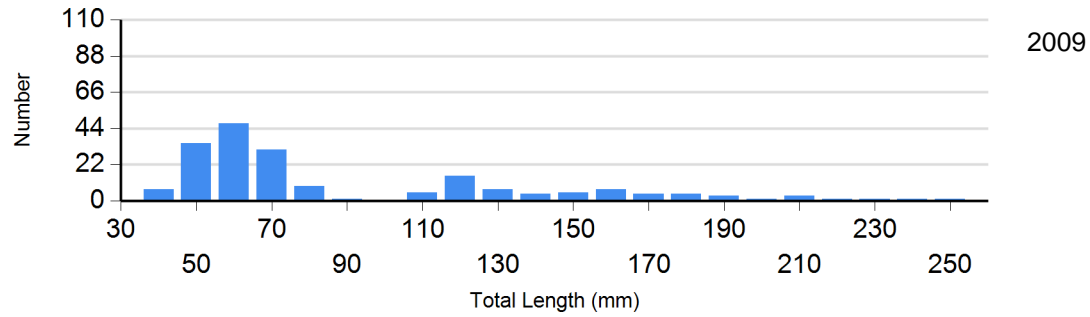
Site: 9
Species: Brook Trout

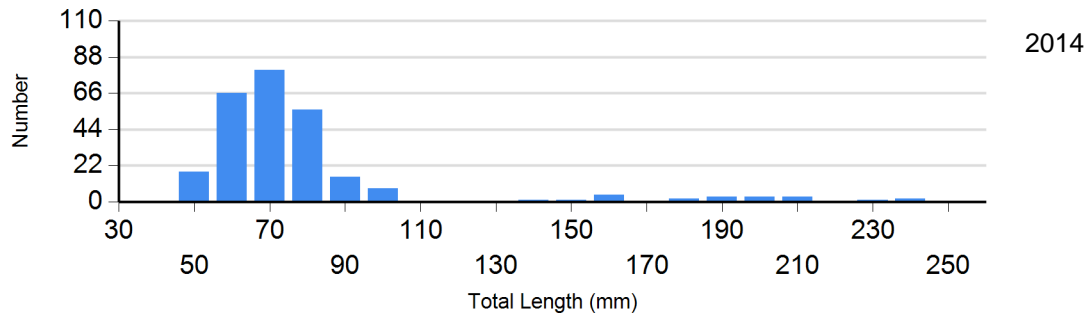
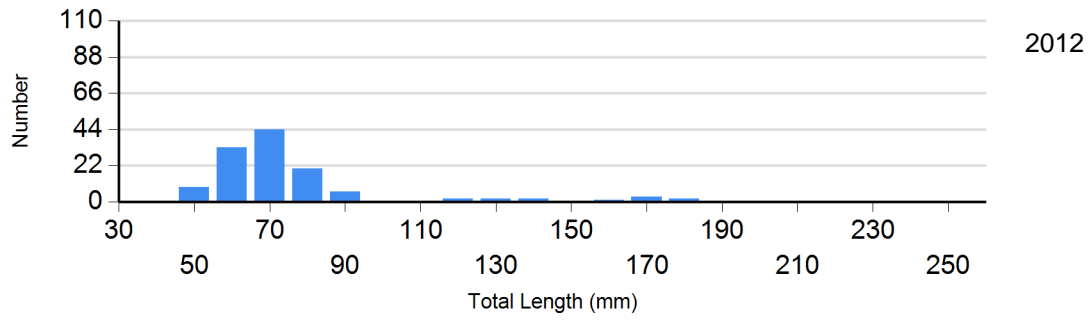
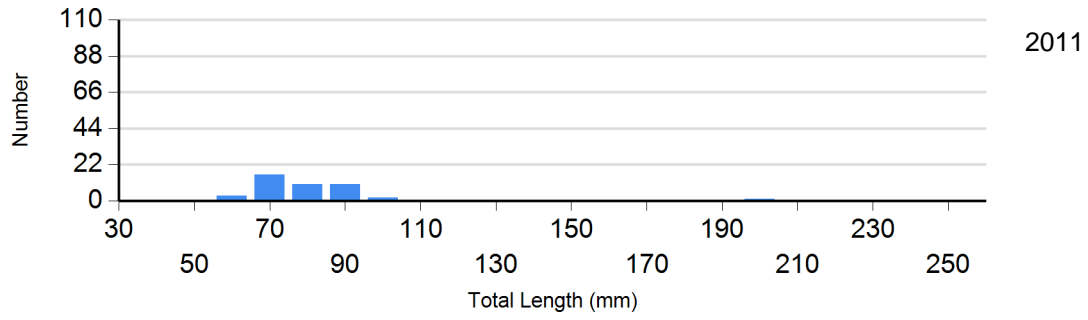
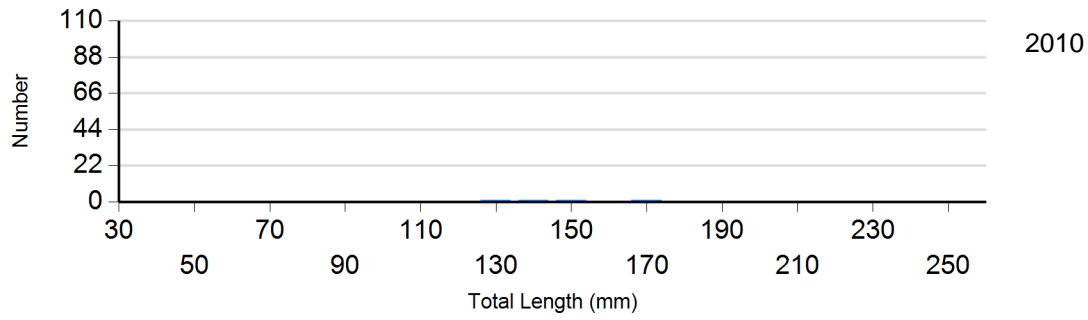


Site: 11
Species: Brook Trout

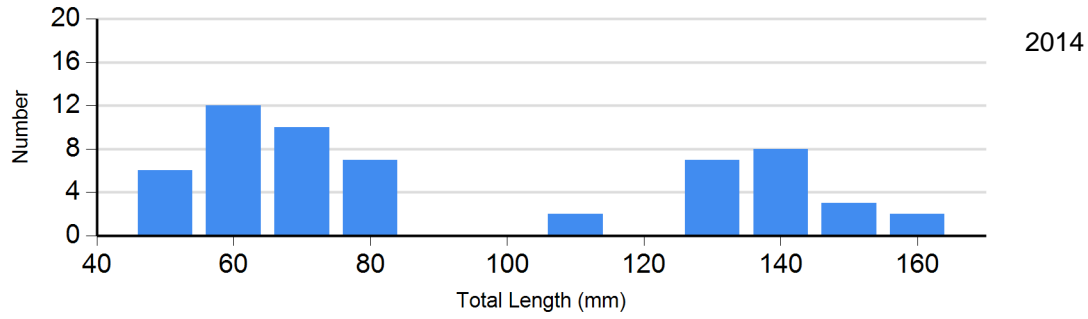


Site: 49
Species: Brook Trout





Site: 63
Species: Brook Trout



Site: 72
Species: Brook Trout

