

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Deadwood Creek, Lawrence County
09-0060-00
2008

Table 1. Population and Biomass Estimates for Deadwood Creek

Site Number: 8
Site Midpoint (Latitude, Longitude): 44.37166357, -103.73844669
Survey Completed by: Chadwick Ecological Services
Stream Classification: BK3, BR0

Date Sampled: 09/09/2008
Site Length (m): 103
Mean Width (m): 0.0
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	41	41	42	41	0	0	398	0	0.00	640	135.2	30.9
Brook Trout	>=200mm	5	5	5	5	0	0	49	0	0.00	78	215.8	114.2
Brook Trout	All	46	46	47	46	0	0	447	0	0.00	719	144.0	39.9
Brown Trout	<200mm	14	14	16	14	0	0	136	0	0.00	219	92.7	9.2
Brown Trout	All	14	14	16	14	0	0	136	0	0.00	219	92.7	9.2

Site Number: 9
Site Midpoint (Latitude, Longitude): 44.37126918, -103.73941917
Survey Completed by: Chadwick Ecological Services
Stream Classification: BK3, BR3

Date Sampled: 09/09/2008
Site Length (m): 100
Mean Width (m): 0.0
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	39	39	40	39	0	0	390	0	0.00	628	100.5	11.1
Brook Trout	>=200mm	4	4	4	4	0	0	40	0	0.00	64	235.8	149.0
Brook Trout	All	45	45	46	45	0	0	450	0	0.00	724	113.1	23.9
Brown Trout	<200mm	32	32	34	32	0	0	320	0	0.00	515	112.9	19.5

Brown Trout	>=200mm	5	5	6	5	0	0	50	0	0.00	80	226.0	119.8
Brown Trout	All	38	38	40	38	0	0	380	0	0.00	611	128.2	32.4

Site Number: 15
Site Midpoint (Latitude, Longitude): 44.37074701, -103.74538988
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BK2, BR1

Date Sampled: 07/16/2008
Site Length (m): 100
Mean Width (m): 3.2
Number of Pass: 1
Conductivity (umhos/cm): 923
pH: 8.5
Water Temperature (C): 16.5
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	2	2	2	2	63	2	20	26	1.97	32	156.5	35.0
Brook Trout	>=200mm	5	5	5	5	158	20	50	64	17.48	80	223.4	124.2
Brook Trout	All	7	7	7	7	221	22	70	89	19.45	113	204.3	98.7
Brown Trout	<200mm	4	4	4	4	126	8	40	51	6.92	64	174.3	61.5
Brown Trout	>=200mm	15	15	15	15	473	85	150	191	75.56	241	252.5	179.0
Brown Trout	All	19	19	19	19	599	92	190	243	82.48	306	236.1	154.3

Site Number: 15
Site Midpoint (Latitude, Longitude): 44.37074701, -103.74538988
Survey Completed by: Chadwick Ecological Services
Stream Classification: BK3, BR3

Date Sampled: 09/09/2008
Site Length (m): 101
Mean Width (m): 0.0
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	41	43	48	41	0	0	426	0	0.00	685	91.1	7.5
Brook Trout	>=200mm	1	1	1	1	0	0	10	0	0.00	16	209.0	130.0
Brook Trout	All	45	47	52	45	0	0	465	0	0.00	749	93.9	10.5
Brown Trout	<200mm	27	27	28	27	0	0	267	0	0.00	430	111.0	20.6

Brown Trout	>=200mm	14	14	14	14	0	0	139	0	0.00	223	268.4	225.2
Brown Trout	All	42	42	43	42	0	0	416	0	0.00	669	164.7	92.2

Site Number: 46
Site Midpoint (Latitude, Longitude): 44.36428734, -103.77938126
Survey Completed by: Chadwick Ecological Services
Stream Classification: BK3, BR0

Date Sampled: 09/10/2008
Site Length (m): 100
Mean Width (m): 0.0
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	115	117	121	115	0	0	1170	0	0.00	1883	117.7	19.5
Brook Trout	>=200mm	15	15	15	15	0	0	150	0	0.00	241	235.4	106.9
Brook Trout	All	133	134	137	133	0	0	1340	0	0.00	2156	131.3	29.6
Brown Trout	<200mm	11	11	12	11	0	0	110	0	0.00	177	96.9	9.5
Brown Trout	All	12	12	13	12	0	0	120	0	0.00	193	96.9	9.5

Site Number: 63
Site Midpoint (Latitude, Longitude): 44.36252000, -103.79661773
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BK2

Date Sampled: 07/16/2008
Site Length (m): 100
Mean Width (m): 2.0
Number of Pass: 1
Conductivity (umhos/cm): 207
pH: 8.2
Water Temperature (C): 15.4
Voltage: 300

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	69	69	69	69	3450	67	690	1397	59.40	1110	114.4	19.3
Brook Trout	>=200mm	4	4	4	4	200	20	40	81	17.59	64	219.3	98.5
Brook Trout	All	73	73	73	73	3650	88	730	1478	78.98	1175	120.2	24.2

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, 1998-2008

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	
Brook Trout >=200mm	Aug 25, 2004	2	2-2	BK2
	Aug 30, 2005	5	5-5	BK3
	Aug 29, 2006	1	1-1	BK3

Brook Trout >=200mm	Sep 09, 2008	5	5-5	BK3
Brown Trout <200mm	Sep 09, 2008	14	14-16	

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	
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
Brown Trout <200mm	Aug 25, 2004	1	1-1	
	Aug 30, 2005	55	55-57	
	Aug 29, 2006	60	59-63	
	Sep 09, 2008	32	32-34	

Brown Trout >=200mm

Sep 09, 2008

5

5-6

BR3

Site 15

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 12, 1998	33	33-35	
	Aug 26, 2004	48	48-49	
	Aug 30, 2005	181	176-187	
	Jul 16, 2008	2	2-2	
	Sep 09, 2008	43	41-48	
Brook Trout >=200mm	Sep 12, 1998	5	5-5	BK2
	Aug 26, 2004	7	7-7	BK2
	Aug 30, 2005	3	3-3	BK3
	Jul 16, 2008	5	5-5	BK2
	Sep 09, 2008	1	1-1	BK3
Brown Trout <200mm	Aug 26, 2004	2	2-2	
	Aug 30, 2005	24	22-30	
	Jul 16, 2008	4	4-4	

Brown Trout <200mm	Sep 09, 2008	27	27-28	
Brown Trout >=200mm	Aug 26, 2004	6	6-6	BR2
	Aug 30, 2005	2	2-2	BR3
	Jul 16, 2008	15	15-15	BR1
	Sep 09, 2008	14	14-14	BR3

Site 46

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Oct 17, 2001	204	197-211	
	Aug 28, 2002	50	50-51	
	Sep 10, 2008	117	115-121	
Brook Trout >=200mm	Oct 17, 2001	1	1-2	BK3
	Sep 10, 2008	15	15-15	BK3
Brown Trout <200mm	Sep 10, 2008	11	11-12	

Site 63

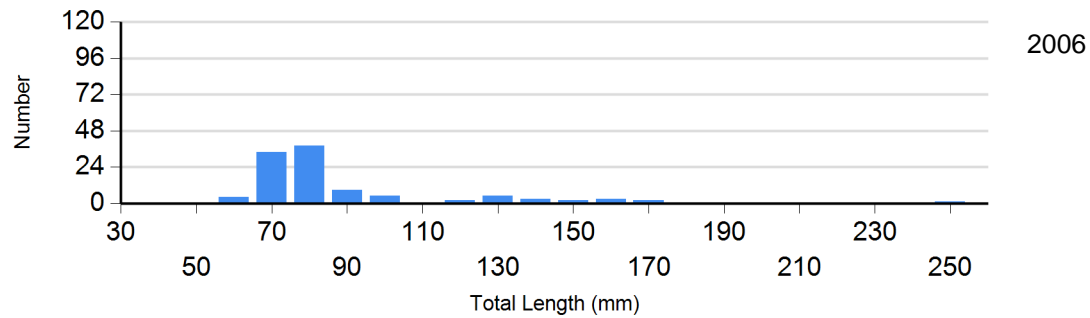
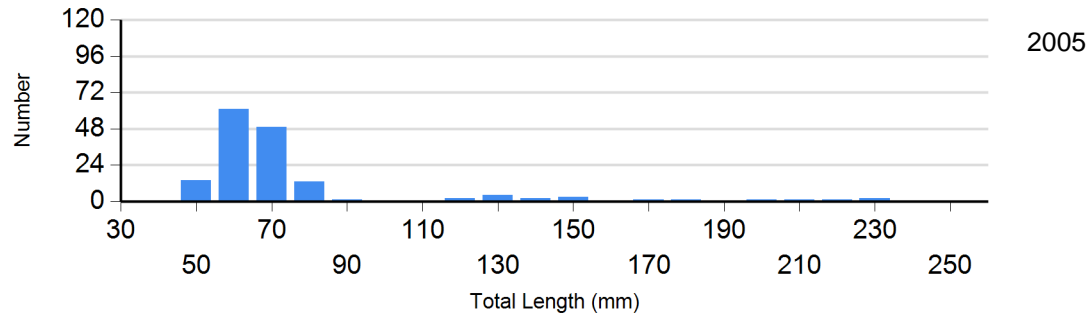
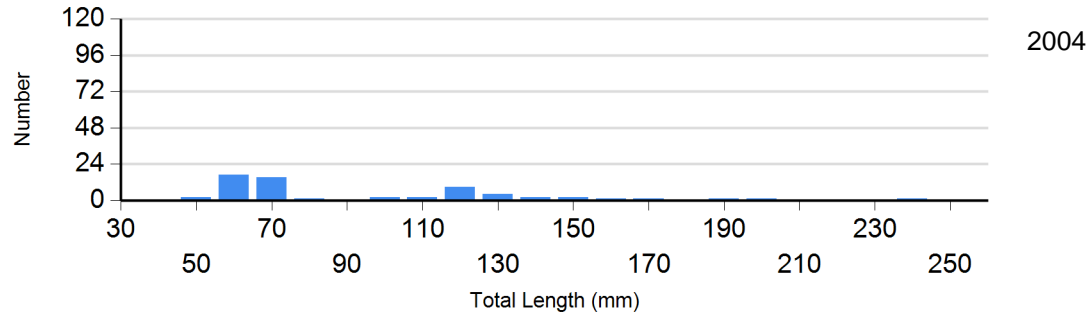
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jul 16, 2008	69	69-69	
Brook Trout >=200mm	Jul 16, 2008	4	4-4	BK2

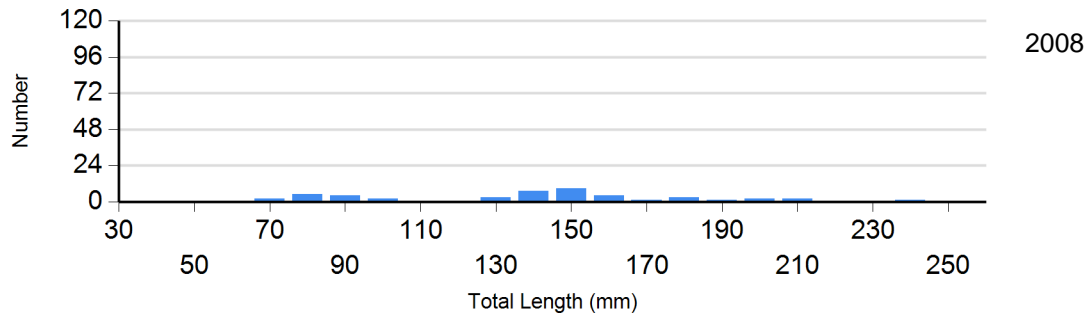
Length Frequency Distribution

Length frequency histogram of species sampled by year.

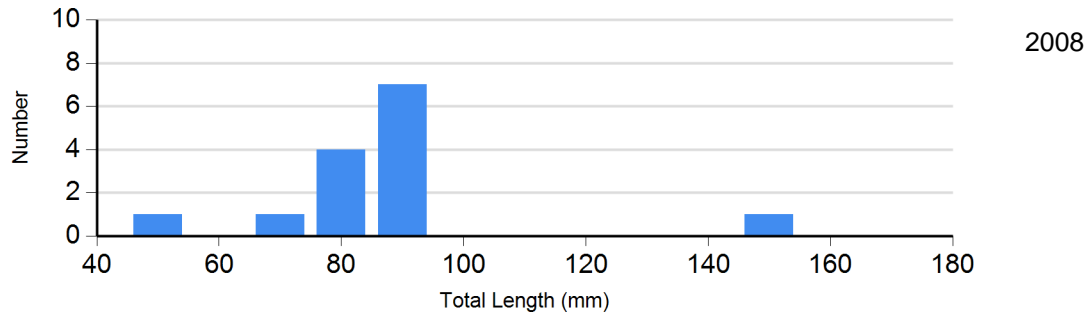
Site: 8

Species: Brook Trout

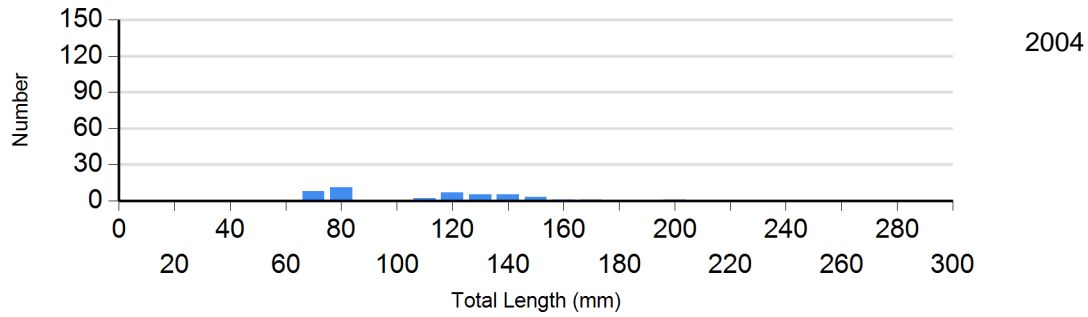


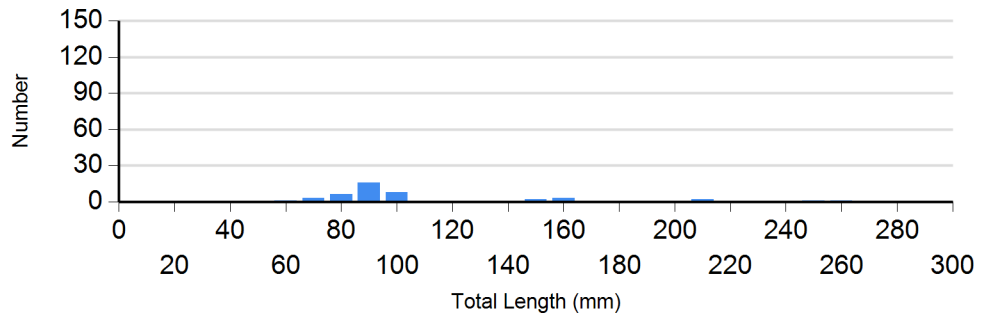
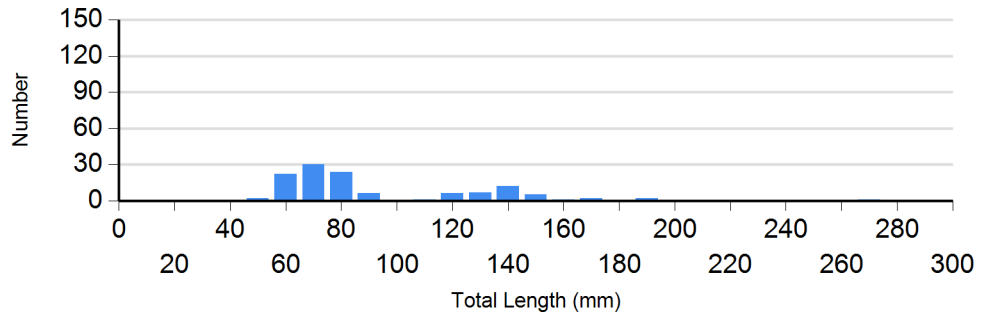
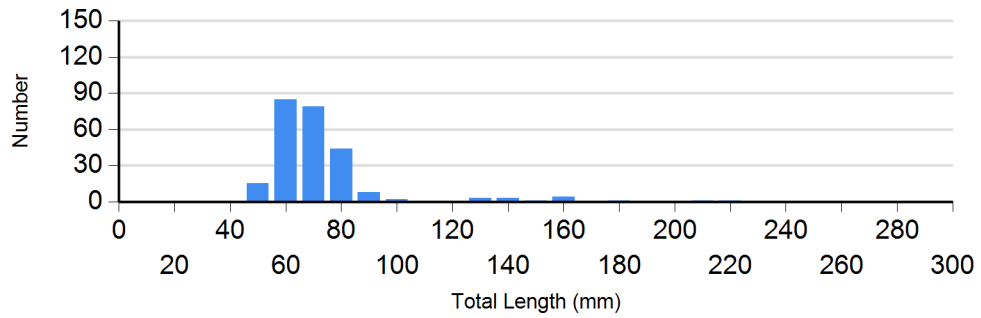


Site: 8
Species: Brown Trout

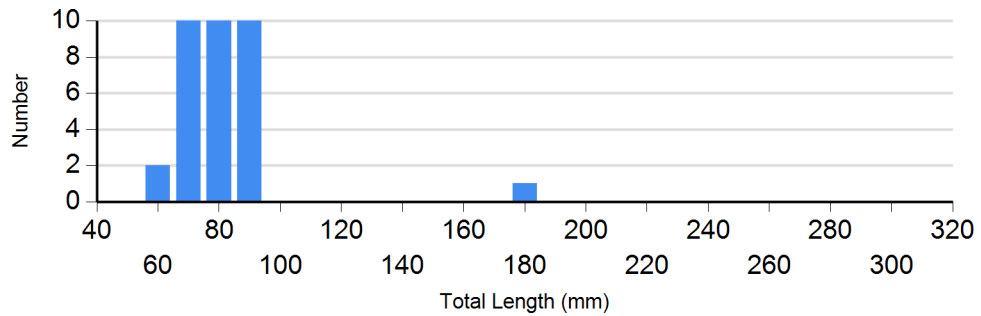


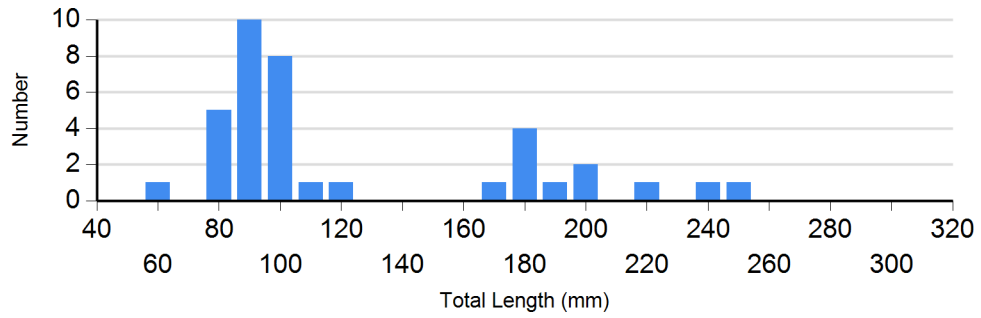
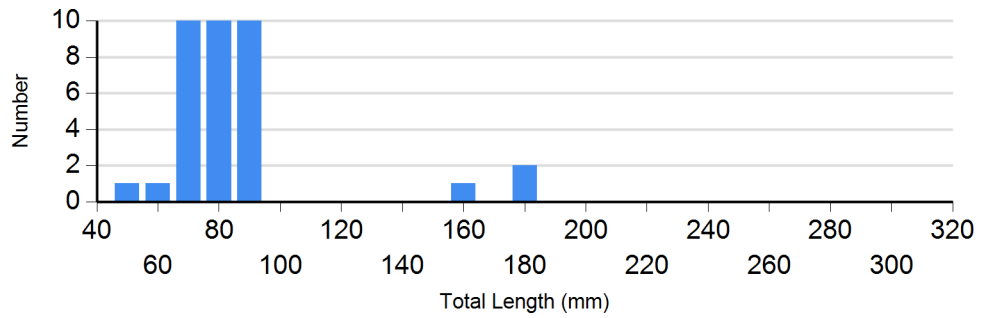
Site: 9
Species: Brook Trout



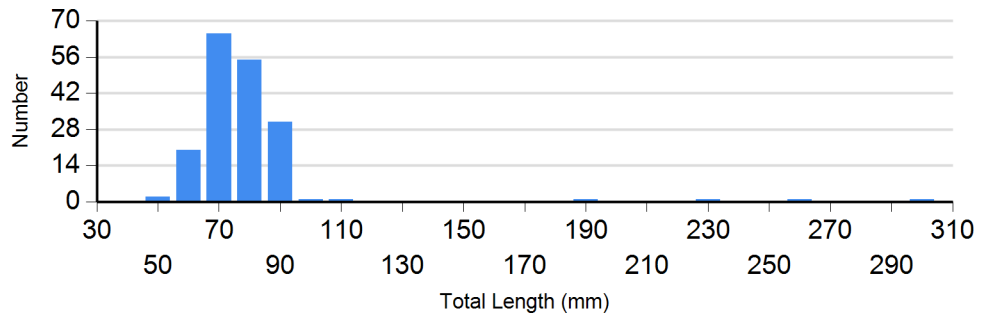
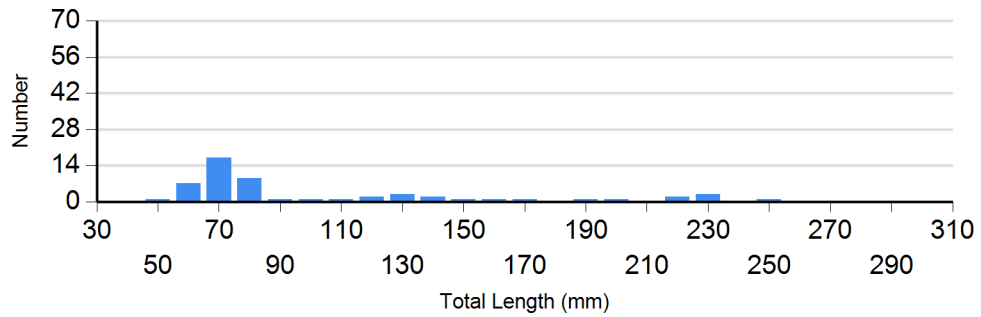


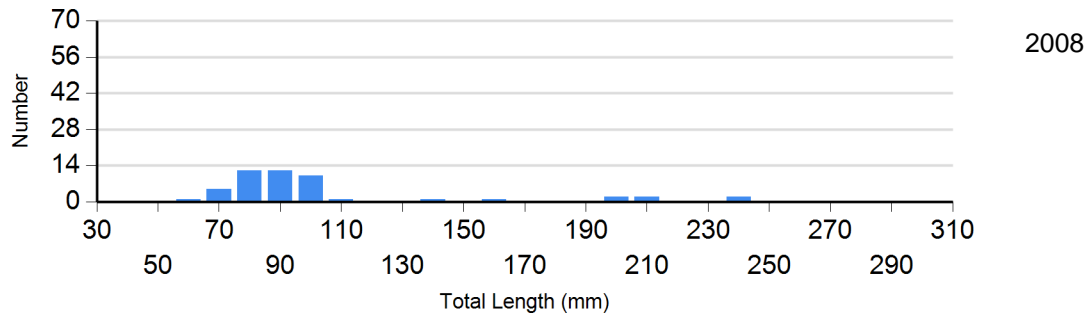
Site: 9
Species: Brown Trout



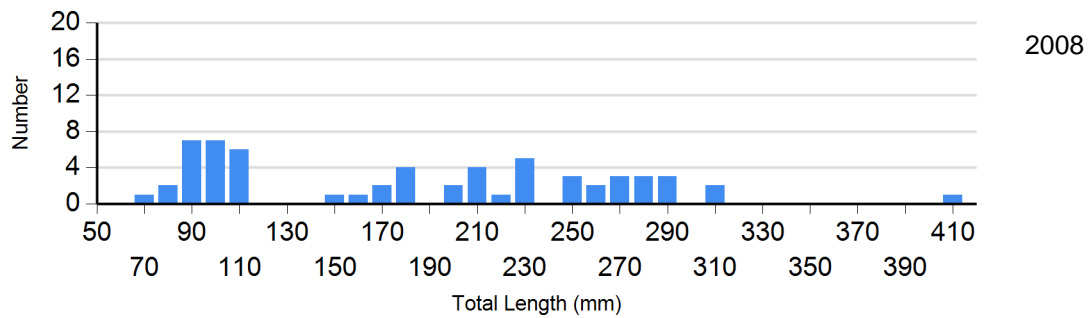
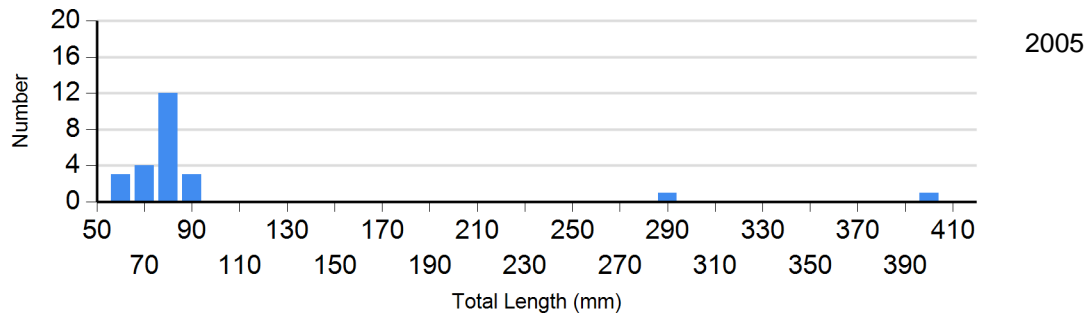
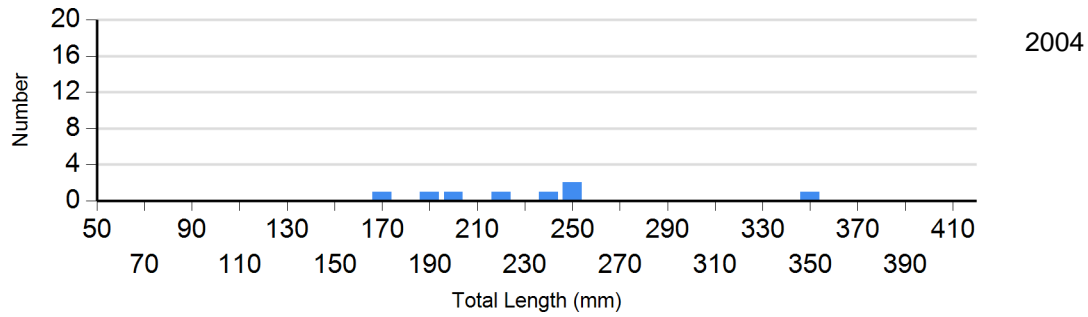


Site: 15
Species: Brook Trout

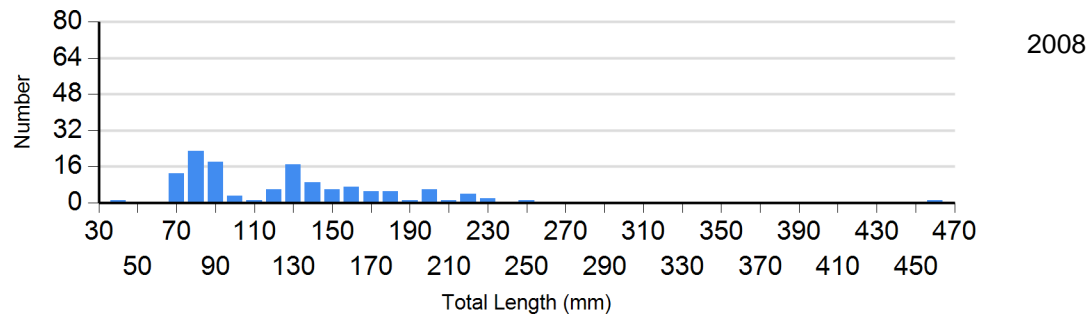




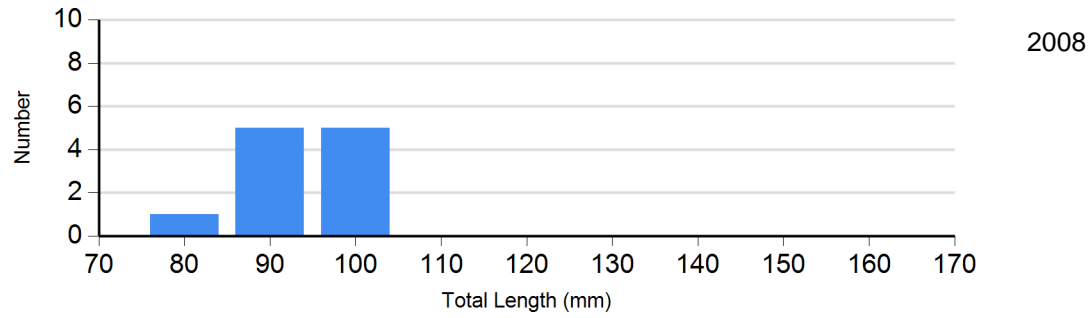
Site: 15
Species: Brown Trout



Site: 46
Species: Brook Trout



Site: 46
Species: Brown Trout



Site: 63
Species: Brook Trout

