

**Current Condition of Streams in the North Fork Shenandoah River Drainage,
Dry River Ranger District, George Washington-Jefferson National Forest, VA**



United States Department of Agriculture Forest Service
Southern Research Station
Center for Aquatic Technology Transfer

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Introduction

Throughout the summer of 2002 we conducted stream habitat surveys on North Fork Shenandoah River drainage streams within the Dry River Ranger District, George Washington-Jefferson National Forest (GWJNF), Virginia, to quantify stream habitat conditions. Over 78 kilometers (49 miles) of stream habitat (35 streams) were classified and inventoried between 27 May and 23 August 2002, using Basinwide Visual Estimation Techniques (BVET) (Dolloff et. al 1993). We were unable to complete surveys on six streams due to lack of water or stream access problems (see Index of Stream Summaries). A multi-year drought likely increased the number of dewatered sections we encountered in many streams (see features tables associated with each survey), and also affected water depth and surface area estimates, and habitat unit counts (Herger et al. 1996, Hilderbrand et al. 1999).

We modified standard BVET methods to measure stream habitat parameters identified in the GWJNF forest plan. Included in the forest plan is an outline of the desired-future-condition (DFC) for all the streams within the GWJNF. The pertinent DFCs for the GWJNF include: woody debris loading - 78 to 186 pieces per kilometer, and percent pool habitat - 30 to 70 percent of the total stream habitat.

The purpose of this report is to describe the current condition of Dry River Ranger District streams in a format useful to the Dry River Ranger District and the GWJNF. The enclosed report is intended to provide baseline information for Forest planning, habitat improvement projects, and land use decisions.

Methods

Surveys began at confluences for streams contained within National Forest boundaries and at the downstream USFS boundary for all other streams. Surveys were terminated when we encountered an upstream USFS boundary, or when the wetted channel was < 1 m average wetted width for > 500 m.

Two-stage visual estimation techniques were used to quantify habitat and DFCs in selected Dry River Ranger District streams. During the first stage habitat was stratified into similar groups based on naturally occurring habitat units including pools (areas in the stream with concave bottom profile, gradient equal to zero, greater than average depth, and smooth water surface), and riffles (areas in the stream with convex bottom profile, greater than average gradient, less than average depth, and turbulent water surface). Glides (areas in the stream similar to pools, but with average depth and flat bottom profile) were identified during the survey but were grouped with pools for data analysis. Runs (areas in the stream similar to riffles but with average depth, less turbulent flow, and flat bottom profile) and cascades (areas in the stream with > 12% gradient, high velocity, and exposed bedrock or boulders) were grouped with riffles for data analysis.

Habitat in each stream was classified and inventoried by a two-person crew. One crew member identified each habitat unit by type (as described above), estimated average wetted width, average and maximum depth, riffle crest depth (RCD), and substrate composition for each habitat unit, and determined

if pool substrates were embedded. The length (0.1 m) of each habitat unit was measured with a hip chain. Average wetted width was visually estimated. Average and maximum depth of each habitat unit were estimated by taking depth measurements at various places across the channel profile with a graduated staff marked in 5 cm increments. The RCD was estimated by measuring water depth at the deepest point in the hydraulic control between riffles and pools. The RCD was subtracted from average pool depth to obtain an estimate of residual pool depth. Substrates were assigned to one of nine size classes (see Appendix A). Dominant substrate (covered greatest amount of surface area in habitat unit) and subdominant substrate (covered 2nd greatest amount of surface area in habitat unit) were visually estimated. Substrate was considered to be embedded if sand, silt, or clay filled the interstitial spaces between larger size substrates over greater than 35% of the surface area of the stream bed in a given habitat unit.

The second crew member classified and inventoried large woody debris (LWD) within the stream channel, determined the Rosgen's channel type (see Appendix A) associated with each habitat unit, and recorded data on a Husky Fex21 data logger. LWD was assigned to one of four size classes (see Appendix A). All woody debris less than 1 m long and less than 10 cm in diameter were omitted from the survey. Rosgen's channel type was visually estimated using criteria found in Rosgen (1996).

The first unit of each habitat type selected for intensive (second stage) sampling (i.e. accurate measurement of wetted width) was determined randomly. Additional units were selected systematically (every 10th habitat unit type for streams >1000 m and every 5th habitat unit type for streams <500 m). The wetted width of each systematically selected habitat unit was measured with a meter tape across at least three transects. In each of the systematically selected (second stage) riffles we also estimated the bankfull stream channel width and riparian width as described by Harrelson et al. (1994), and measured channel gradient. We estimated bankfull channel width by measuring the width of the bankfull channel perpendicular to flow. We estimated riparian width by measuring from the edge of the bankfull channel to the intersection with the nearest landform at a predetermined flood stage. The flood stage was calculated from a formula specific to Virginia streams, based on watershed area. Gradient was estimated by using a clinometer to site from the downstream to the upstream end of the selected riffle.

We used the ratio of measured to estimated area to develop a calibration ratio, which allowed us to correct visual estimates and estimate stream area with confidence intervals (Hankin and Reeves 1988). BVET calculations were computed with a Microsoft Excel spreadsheet using formulas found in Dolloff et al. (1993). Data were summarized using Excel spreadsheets and SigmaPlot graphics software.

Literature Cited

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User's Guide

Stream summaries are organized in alphabetical order by U. S. Geological Survey (USGS) 1:24,000 Topographic Quadrangle, and then by stream name. The upper right hand corner of each page in the 'Stream Summaries' section contains the USGS quadrangle name for the selected stream.

Data for each stream section were collected, analyzed, and presented separately. Each stream or stream section summary contains:

1. several tables summarizing stream characteristics;
2. figures showing frequency of substrate types, area in pools and riffles, average, maximum, and residual depths, and LWD per kilometer;
3. table describing features encountered on the stream;
4. figures showing the distribution of LWD, substrate types, and Rosgen's channel types.

GWJNF's DFCs are indicated on all pertinent tables and graphs.

We also included several summary tables (see 'Summary Tables' section) that summarize all data collected. The tables allow managers to quickly compare between Dry River Ranger District streams.

Summary Tables

Survey information and summary of general stream habitat characteristics for streams surveyed using the BVET habitat survey on the Dry River District during summer 2002. NA = data was not recorded. No access = stream was not surveyed due to lack of access. 'Length' is total survey length, 'Width' is mean bankfull channel width, 'Gradient' is mean channel gradient, and 'Temperature' is mean water temperature.

Stream	Quad	Survey Date	Length (km)	Width (m)	Gradient (%)	Temperature (°C)
Capon Run	Bergton	06/03/02	1.2	11	2	24
Crab Run	Bergton	no access				
N.F. Shenandoah River	Bergton	06/30/02	0.5	21	2	20
Rattlesnake Run	Bergton	no access				
Siever Run	Bergton	no access				
Sirks Run	Bergton	06/05/02	1.1	11	3	NA
Spring Run	Bergton	06/11/02	4.3	7	7	14
Spruce Run	Bergton	no access				
Beech Lick Run	Cow Knob	06/27/02	1.2	3	9	NA
Camp Rader Run	Cow Knob	07/15/02	2.0	6	5	16
Carr Run	Cow Knob	06/28/02	3.2	5	5	NA
Clay Lick Hollow	Cow Knob	06/29/02	3.1	4	9	NA
Cold Spring River	Cow Knob	06/13/02	1.1	7	4	19
Cold Spring Run	Cow Knob	06/28/02	1.0	3	16	16
Dull Hunt Hollow	Cow Knob	06/27/02	3.0	7	3	16
German River	Cow Knob	06/26/02	2.8	5	7	15
Seventy Buck Lick Run	Cow Knob	06/30/02	1.7	4	5	17
Snake Hollow	Cow Knob	06/27/02	0.5	4	9	NA
Straight Hollow Run	Cow Knob	06/12/02	3.0	6	6	17
Sumac Run	Cow Knob	06/27/02	1.6	4	7	16
Blue Lick Run	Fulks Run	06/25/02	1.6	6	6	19
Camp Hollow	Fulks Run	06/30/02	1.5	5	5	18
Gate Run	Fulks Run	06/04/02	3.8	6	3	15
Grove Hollow	Fulks Run	06/12/02	1.6	3	6	18
Lairs Run	Fulks Run	07/15/02	4.9	6	5	17
Little Dry River	Fulks Run	06/03/02	0.1	23	1	19
Marshall Run	Fulks Run	06/26/02	5.0	6	4	17
Martin Lick Run	Fulks Run	06/06/02	4.1	5	5	18
Mud Lick Run	Fulks Run	06/26/02	1.1	3	4	18
Rocky Spur Hollow	Fulks Run	06/11/02	1.7	4	6	18
Root Run	Fulks Run	06/13/02	2.4	5	5	17
Bennett Run	Milam	06/06/02	1.2	5	3	18
Overly Run	Milam	06/10/02	1.2	5	5	20
Overly Run (upper)	Milam	06/10/02	0.6	3	6	NA
Black Lick Run	Singers Glen	06/11/02	1.0	5	6	20
Buck Lick Run	Singers Glen	06/05/02	5.2	6	3	16
Cross Mountain Run	Singers Glen	06/10/02	1.4	5	7	20
Hogpen Run	Singers Glen	06/03/02	2.2	8	3	17
Little Hogpen Run	Singers Glen	06/04/02	0.5			
Shoemaker River	Singers Glen	no access				
Slate Lick Branch (lower)	Singers Glen	06/12/02	1.9	6	3	17
Slate Lick Branch (upper)	Singers Glen	06/12/02	4.1	6	4	16

Summary of pool habitat characteristics for streams surveyed using the BVET habitat survey on the Dry River District during summer 2002. The GWJNF DFC is between 30% and 70% of total stream area in pools. Highlighted streams are outside the DFC range. Asterisk indicates confidence interval could not be calculated. ‘Total Area (%)’ is percent of total stream surface area in pools (includes glides), ‘Total Area (m²)’ is surface area of stream in pools, ‘Mean Area’ is mean surface area of individual pools, ‘Mean Max Depth’ is the mean maximum depth of all pools, ‘Mean Ave Depth’ is mean average depth of all pools, ‘Mean Resid Depth’ is mean residual depth of all pools, ‘Glides’ is percent of pool habitat units surveyed as glides, ‘>35% Embed’ is percent of pools with greater than 35% of substrate materials embedded.

Stream	Total Area (%)	Total Area (m ²)	Total Count (n)	# per km	Mean Area (m ²)	Mean Max Depth (cm)	Mean Ave Depth (cm)	Mean Resid Depth (cm)	Glides (%)	>35% Embed (%)
Capon Run	53	4159±762	24	20	173	53	33	10	17	8
Crab Run										
N.F. Shenandoah River	88	7332±14251	6	11	1222	65	38	10	50	0
Rattlesnake Run										
Siever Run										
Sirks Run	38	1705±339	37	35	46	38	25	7	27	8
Spring Run	20	1870±173	93	22	20	36	25	12	12	15
Spruce Run										
Beech Lick Run	20	158±11	28	24	6	21	11	2	14	79
Camp Rader Run	26	1105±343	37	19	30	41	25	11	14	14
Carr Run	27	934±81	82	26	11	30	17	7	20	18
Clay Lick Hollow	21	574±70	78	25	7	24	14	4	22	55
Cold Spring River	24	304±52	15	13	20	32	22	11	20	27
Cold Spring Run	25	191±16	53	53	4	16	10	9	15	79
Dull Hunt Hollow	25	1852±730	59	20	31	43	28	20	14	0
German River	23	1131±76	72	26	16	40	21	6	8	31
Seventy Buck Lick Run	36	591±95	47	27	13	31	17	7	13	28
Snake Hollow	12	37±*	5	9	7	33	19	9	40	80
Straight Hollow Run	12	719±258	37	12	19	38	27	16	0	5
Sumac Run	25	314±50	37	23	8	26	16	5	24	78
Blue Lick Run	29	487±129	53	34	9	22	14	11	8	4
Camp Hollow	18	641±58	54	36	12	25	15	14	9	13
Gate Run	23	2305±124	89	23	26	38	25	16	6	7
Grove Hollow	17	352±31	36	22	10	21	15	13	22	0
Lairs Run	33	1916±162	151	31	13	22	14	11	5	5
Little Dry River	42	408±*	3	26	136	87	57	55	0	0
Marshall Run	29	2592±150	150	30	17	30	19	16	13	3
Martin Lick Run	22	2213±112	102	25	22	28	18	13	14	0
Mud Lick Run	52	410±43	57	51	7	22	14	16	14	0
Rocky Spur Hollow	38	1225±139	59	35	21	28	19	14	10	5
Root Run	31	801±110	80	33	10	23	16	12	5	4
Bennett Run	19	1743±674	29	24	20	34	20	8	14	69
Overly Run	24	805±155	37	32	22	31	17	7	27	22
Overly Run (upper)	21	153±18	14	22	11	26	15	6	14	79
Black Lick Run	36	542±101	34	33	16	31	21	15	3	6
Buck Lick Run	48	6788±861	149	29	46	37	25	14	15	0
Cross Mountain Run	38	650±271	28	20	23	33	24	18	7	7
Hogpen Run	41	3164±475	42	19	75	42	28	18	7	10
Little Hogpen Run										
Shoemaker River										
Slate Lick Branch (lower)	50	4257±611	52	27	82	47	28	13	21	13
Slate Lick Branch (upper)	50	4782±640	80	20	60	49	30	16	8	16

Summary of riffle habitat characteristics for streams surveyed using the BVET habitat survey on the Dry River District during summer 2002. Asterisk indicates confidence interval could not be calculated. ‘Total Area (%)’ is percent of total stream surface area in riffles (includes runs and cascades), ‘Total Area (m²)’ is surface area of stream in riffles, ‘Mean Area’ is mean surface area of individual riffles, ‘Mean Max Depth’ is the mean maximum depth of all riffles, ‘Mean Ave Depth’ is mean average depth of all riffles, ‘Runs’ is percent of riffle habitat units surveyed as runs, ‘Cascades’ is percent of riffle habitat units surveyed as cascades.

Stream	Total Area (%)	Total Area (m ²)	Count (n)	# per km	Mean Area (m ²)	Mean Max Depth (cm)	Mean Ave Depth (cm)	Runs (%)	Cascades (%)
Capon Run	47	3725±1933	22	18	169	28	16	0	0
Crab Run									
N.F. Shenandoah River	12	986±*	4	7	246	15	10	25	0
Rattlesnake Run									
Siever Run									
Sirks Run	62	2838±904	27	25	105	25	13	0	0
Spring Run	80	7508±1114	78	18	96	22	9	0	0
Spruce Run									
Beech Lick Run	80	651±135	24	20	27	14	5	0	0
Camp Rader Run	74	3208±1870	37	19	87	20	9	0	0
Carr Run	73	2469±306	71	22	35	14	5	3	0
Clay Lick Hollow	79	2135±443	72	23	30	13	5	3	0
Cold Spring River	76	954±338	14	13	68	18	7	7	0
Cold Spring Run	75	577±53	49	49	12	7	3	0	18
Dull Hunt Hollow	75	5548±4304	62	21	89	20	12	2	0
German River	77	3717±383	70	25	53	20	7	0	0
Seventy Buck Lick Run	64	1064±205	47	27	23	13	5	0	0
Snake Hollow	88	283±*	9	16	31	12	4	0	11
Straight Hollow Run	88	5090±3999	40	13	127	21	12	0	3
Sumac Run	75	951±482	35	22	27	12	4	3	0
Blue Lick Run	71	1218±209	47	30	26	12	4	2	0
Camp Hollow	82	2856±234	47	31	61	15	7	0	2
Gate Run	77	7762±1164	77	20	101	23	12	5	1
Grove Hollow	83	1720±236	35	22	49	13	6	11	0
Lairs Run	67	3882±525	117	24	33	10	4	1	0
Little Dry River	58	566±812	4	34	142	21	14	25	0
Marshall Run	71	6314±1032	121	24	52	14	8	4	1
Martin Lick Run	78	7722±1041	94	23	82	18	9	5	0
Mud Lick Run	48	376±38	27	24	14	10	5	33	0
Rocky Spur Hollow	62	1982±543	50	30	40	17	7	4	2
Root Run	69	1743±674	56	23	31	14	6	2	0
Bennett Run	81	2466±853	28	23	88	17	6	0	0
Overly Run	76	2544±290	32	28	79	16	5	0	0
Overly Run (upper)	79	566±180	14	22	40	12	5	7	0
Black Lick Run	64	958±88	33	32	29	15	10	0	0
Buck Lick Run	52	7497±1720	119	23	63	21	13	0	0
Cross Mountain Run	62	1074±219	26	19	41	13	7	0	4
Hogpen Run	59	4596±3333	39	18	118	16	8	0	0
Little Hogpen Run									
Shoemaker River									
Slate Lick Branch (lower)	50	4311±475	43	23	100	28	13	12	0
Slate Lick Branch (upper)	50	4842±1042	66	16	73	19	9	5	0

Summary of LWD per km and Rosgen's channel types for streams surveyed using the BVET habitat survey on the Dry River District during summer 2002. The GWJNF DFC for total LWD is between 78 and 186 pieces per km. Highlighted streams are outside the DFC range. NA = data not recorded. LWD sizes: 1) <5 m long, <55 cm diameter, 2) < 5 m long, >55 cm diameter, 3) >5 m long, <55 cm diameter, 4) >5 m long, >55 cm diameter. See Appendix A for description of Rosgen channel types.

Stream	Large Woody Debris per km					Rosgen's Channel Type						
	1	2	3	4	Total	A	B	C	D	E	F	G
Capon Run	11	7	0	3	20	0	0	100	0	0	0	0
Crab Run												
N.F. Shenandoah River	2	0	15	0	17	0	100	0	0	0	0	0
Rattlesnake Run												
Siever Run												
Sirks Run	38	44	23	18	122	0	100	0	0	0	0	0
Spring Run	53	45	15	30	143	41	59	0	0	0	0	0
Spruce Run												
Beech Lick Run	54	4	4	1	63	NA						
Camp Rader Run	40	10	7	10	66	NA						
Carr Run	31	15	33	18	96	23	34	0	0	0	0	44
Clay Lick Hollow	58	2	12	7	78	51	49	0	0	0	0	0
Cold Spring River	29	30	18	21	97	0	100	0	0	0	0	0
Cold Spring Run	101	4	54	22	181	98	2	0	0	0	0	0
Dull Hunt Hollow	84	0	16	0	100	0	100	0	0	0	0	0
German River	44	20	40	29	133	0	100	0	0	0	0	0
Seventy Buck Lick Run	22	14	24	15	75	21	20	0	0	0	0	60
Snake Hollow	38	2	7	2	49	100	0	0	0	0	0	0
Straight Hollow Run	52	3	18	14	86	23	70	6	0	0	0	0
Sumac Run	55	6	19	3	83	NA						
Blue Lick Run	110	6	96	13	226	0	90	0	0	0	0	10
Camp Hollow	42	2	14	13	73	0	100	0	0	0	0	0
Gate Run	69	24	7	17	118	0	100	0	0	0	0	0
Grove Hollow	63	2	46	8	119	0	100	0	0	0	0	0
Lairs Run	98	0	52	5	155	0	73	27	0	0	0	0
Little Dry River	9	0	43	9	60	0	100	0	0	0	0	0
Marshall Run	75	4	41	12	132	15	42	42	0	0	0	1
Martin Lick Run	70	11	44	20	146	1	99	0	0	0	0	0
Mud Lick Run	89	1	72	0	162	15	85	0	0	0	0	0
Rocky Spur Hollow	49	2	46	9	106	1	64	35	0	0	0	0
Root Run	65	2	49	12	128	0	100	0	0	0	0	0
Bennett Run	62	21	4	5	92	0	100	0	0	0	0	0
Overly Run	38	13	1	3	55	0	100	0	0	0	0	0
Overly Run (upper)	49	24	0	3	76	0	100	0	0	0	0	0
Black Lick Run	85	0	7	1	93	32	68	0	0	0	0	0
Buck Lick Run	66	0	12	0	78	0	73	0	0	0	0	27
Cross Mountain Run	51	0	6	0	58	82	18	0	0	0	0	0
Hogpen Run	47	0	12	0	58	0	100	0	0	0	0	0
Little Hogpen Run												
Shoemaker River												
Slate Lick Branch (lower)	196	49	4	10	259	NA						
Slate Lick Branch (upper)	71	35	3	8	117	26	0	74	0	0	0	0

Summary of riparian width calculations for streams surveyed using the BVET habitat survey on the Dry River District during summer 2002. The left riparian width, right riparian width, and bankfull channel widths were added together before values for 'Riparian Width Total' were calculated. Left and right riparian widths were pooled together before values for 'Riparian Left & Right Width' were calculated.

Stream	Riparian Width Total (m)					Riparian Left & Right Width (m)				
	Mean	Max	75 th	25 th	Min	Mean	Max	75 th	25 th	Min
Capon Run	40	56	46	34	22	14	35	24	4	2
Crab Run										
N.F. Shenandoah River	56	56	56	56	56	17	22	20	15	12
Rattlesnake Run										
Siever Run										
Sirks Run	43	79	58	26	14	16	37	27	3	1
Spring Run	23	41	31	15	10	8	33	11	3	1
Spruce Run										
Beech Lick Run	10	17	13	6	5	3	13	4	1	1
Camp Rader Run	16	19	19	14	10	5	10	6	2	1
Carr Run	20	41	21	16	5	7	20	12	2	1
Clay Lick Hollow	21	44	24	15	8	9	26	13	4	1
Cold Spring River	25	39	32	18	12	9	27	10	3	2
Cold Spring Run	9	13	11	7	6	3	8	5	1	1
Dull Hunt Hollow	20	22	21	19	16	6	14	9	2	1
German River	13	17	15	11	7	4	10	6	2	1
Seventy Buck Lick Run	12	18	14	10	5	4	13	5	1	0
Snake Hollow	5	5	5	5	5	1	1	1	1	1
Straight Hollow Run	15	22	16	11	10	4	12	6	1	0
Sumac Run	15	18	17	14	12	6	12	8	3	1
Blue Lick Run	13	19	16	11	7	4	7	6	1	1
Camp Hollow	11	13	13	10	5	3	6	5	1	0
Gate Run	17	28	23	11	7	6	21	7	2	1
Grove Hollow	9	16	9	6	6	3	10	4	1	0
Lairs Run	28	109	26	12	10	11	77	16	2	1
Little Dry River	124	149	137	112	100	51	120	87	3	3
Marshall Run	29	50	40	14	10	11	32	16	3	1
Martin Lick Run	21	34	26	16	8	8	22	8	3	2
Mud Lick Run	9	12	10	7	6	3	6	4	1	1
Rocky Spur Hollow	14	20	19	9	9	5	15	6	3	1
Root Run	18	34	19	14	10	6	16	11	1	1
Bennett Run	14	35	13	9	9	5	23	5	1	0
Overly Run	25	46	33	14	8	10	40	12	1	0
Overly Run (upper)	19	27	24	15	8	8	14	12	5	1
Black Lick Run	12	22	13	8	7	4	14	4	2	1
Buck Lick Run	21	50	28	11	8	7	30	11	1	0
Cross Mountain Run	14	24	16	11	8	5	17	4	2	1
Hogpen Run	19	40	20	11	10	5	18	5	2	2
Little Hogpen Run										
Shoemaker River										
Slate Lick Branch (lower)	90	120	108	82	42	42	80	68	15	11
Slate Lick Branch (upper)	28	58	32	18	10	12	36	16	4	2

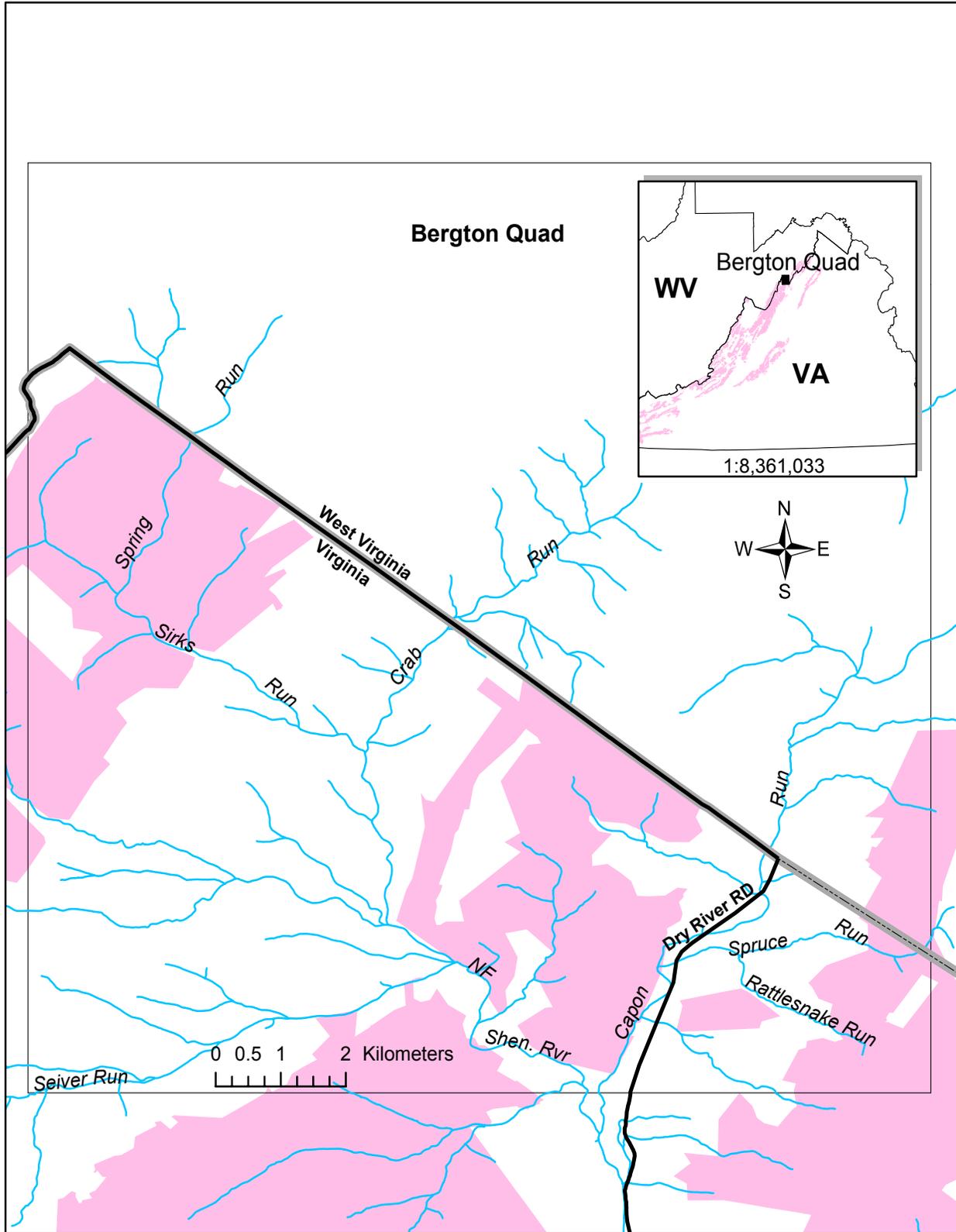
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*stream not surveyed – no access or lack of water

Stream Summaries

Streams inventoried on the Bergton Quadrangle using BVET habitat surveys during summer 2002.



Stream:	Capon Run
District:	Dry River
USGS Quadrangle:	Bergton
Survey Date:	06/03/02
Downstream Starting Point:	163 m downstream from State Route 820 next to trash/recycling center
Total Distance Surveyed (km):	1.2

	Pools	Riffles
Percent of Total Stream Area:	53	47
Total Area (m ²):	4159±762	3725±1933
Correction Factor Applied:	1.38	1.60
Number of Paired Samples:	5	5
Total Count:	24	22
Number per km:	20	18
Mean Area (m ²):	173	169
Mean Maximum Depth (cm):	53	28
Mean Average Depth (cm):	33	16
Mean Residual Depth (cm):	10	--
Percent Surveyed as Glides:	17	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	8	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	11
< 5 m long, > 55 cm diameter:	7
> 5 m long, 10 cm – 55 cm diameter:	0
> 5 m long, > 55 cm diameter:	3
Total:	20

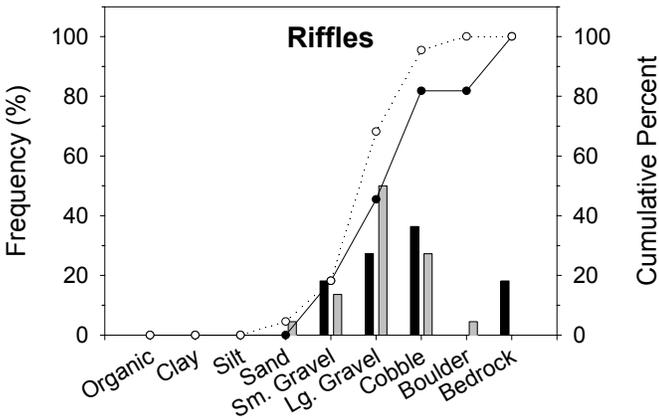
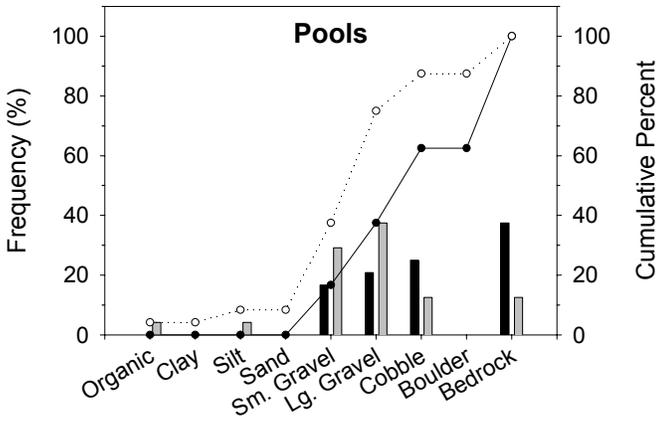
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	40	14
Maximum	56	35
75 th Percentile	46	24
25 th Percentile	34	4
Minimum	22	2

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

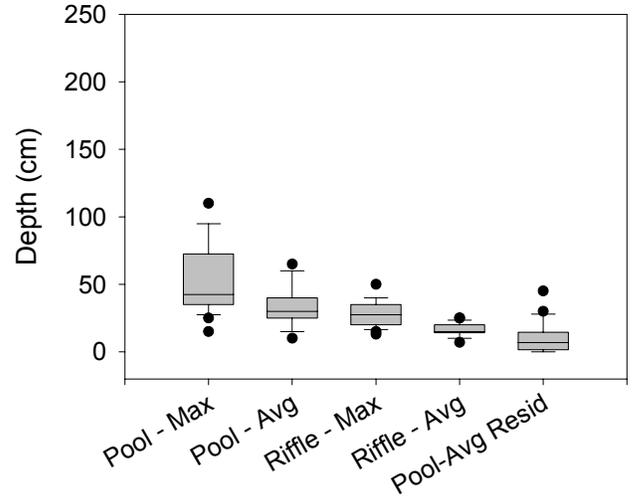
Rosgen's Channel Type	Frequency (%)
A:	0
B:	0
C:	100
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	11
Mean Channel Gradient (%):	2
Median Water Temperature (C):	24

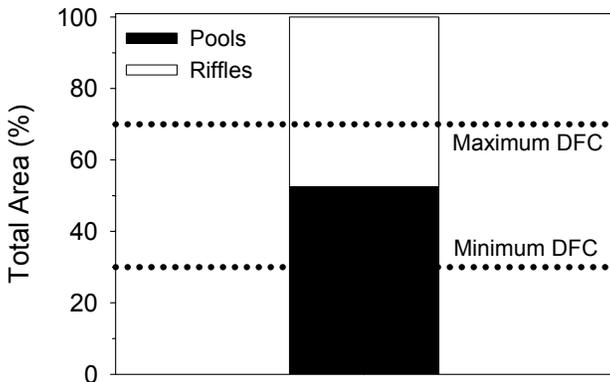


- █ Dominant %
- █ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

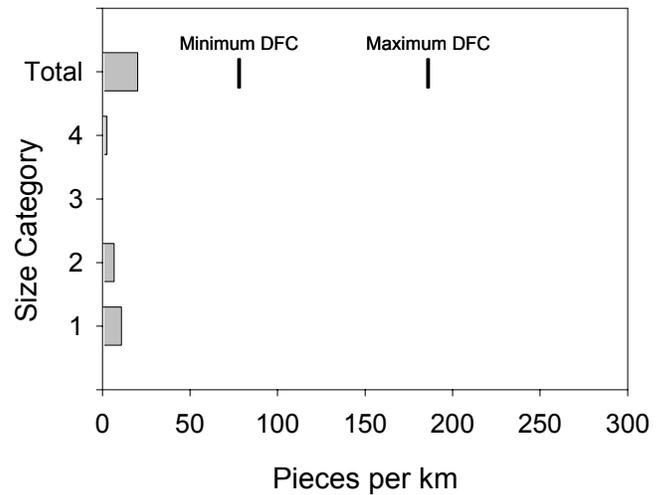
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Capon Run, summer 2002.



Maximum and average depths and residual pool depths for pools and riffles in Capon Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.



Estimated area of Capon Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

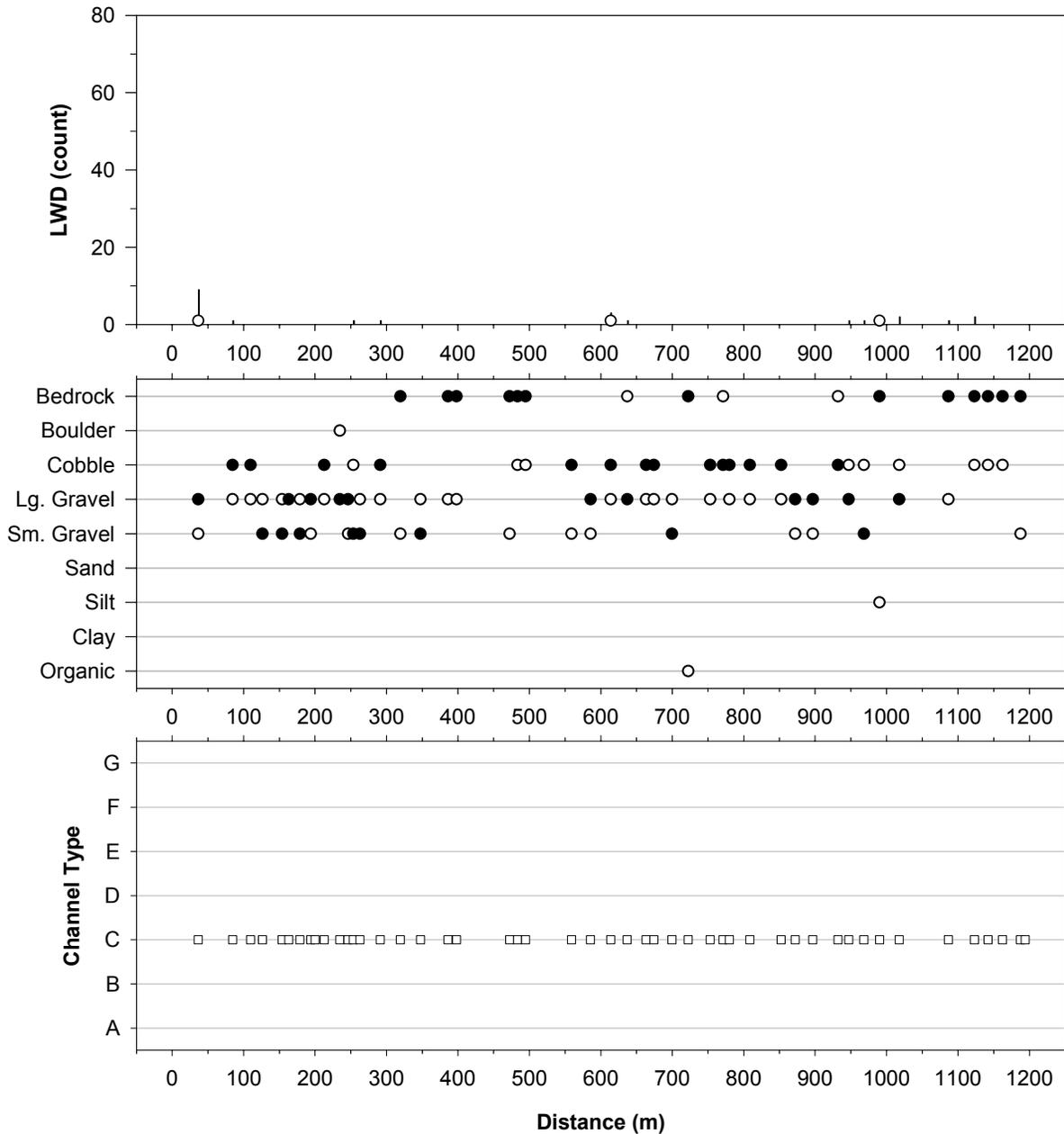


LWD per kilometer in Capon Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Capon Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Side Channel In	990.0		on left



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen’s channel types in Capon Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from 163 m downstream State Route 820 next to trash/recycling center.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen’s Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Crab Run
District:	Dry River
USGS Quadrangle:	Bergton
Survey Date:	NA
Downstream Starting Point:	No access, all private land
Total Distance Surveyed (km):	0.0

Stream:	North Fork Shenandoah River
District:	Dry River
USGS Quadrangle:	Bergton
Survey Date:	06/30/02
Downstream Starting Point:	USFS Boundary downstream from Blue Hole Recreation Area
Total Distance Surveyed (km):	0.5

	Pools	Riffles
Percent of Total Stream Area:	88	12
Total Area (m ²):	7332±14251	986±*
Correction Factor Applied:	1.52	1.37
Number of Paired Samples:	2	1
Total Count:	6	4
Number per km:	11	7
Mean Area (m ²):	1222	246
Mean Maximum Depth (cm):	65	15
Mean Average Depth (cm):	38	10
Mean Residual Depth (cm):	10	--
Percent Surveyed as Glides:	50	--
Percent Surveyed as Runs:	--	25
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	0	--

*Could not calculate, not enough paired samples.

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	2
< 5 m long, > 55 cm diameter:	0
> 5 m long, 10 cm – 55 cm diameter:	15
> 5 m long, > 55 cm diameter:	0
Total:	17

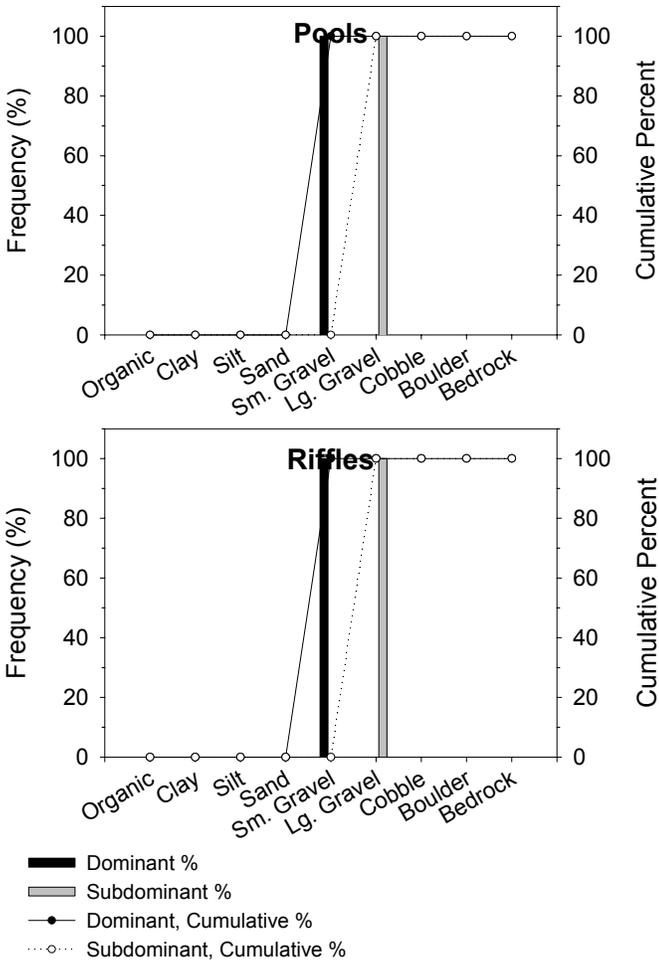
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	56	17
Maximum	56	22
75 th Percentile	56	20
25 th Percentile	56	15
Minimum	56	12

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

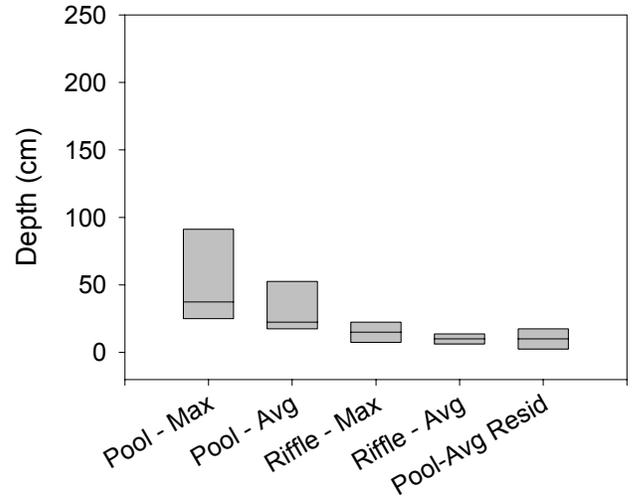
**Left and right riparian widths were grouped (not added) together for calculations

Rosen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

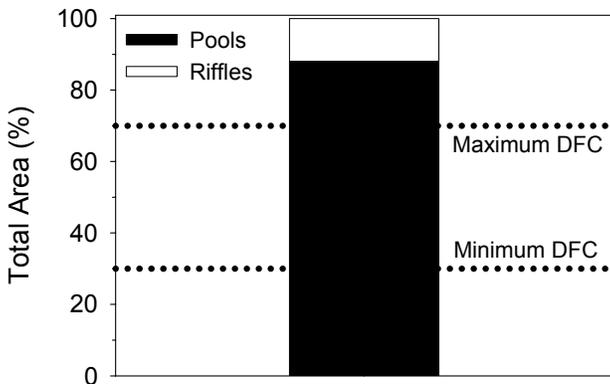
Other Stream Attributes	
Mean Bankfull Channel Width (m):	21
Mean Channel Gradient (%):	2
Median Water Temperature (C):	20



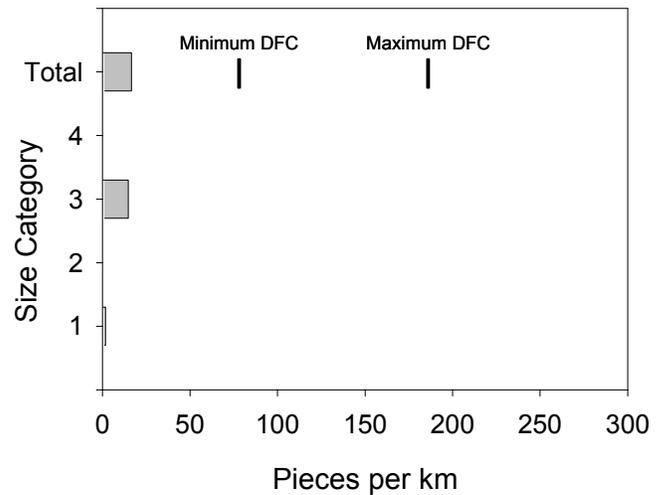
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in the North Fork Shenandoah River, summer 2002.



Maximum and average depths and residual pool depths for pools and riffles in the North Fork Shenandoah River, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.



Estimated area of the North Fork Shenandoah River in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

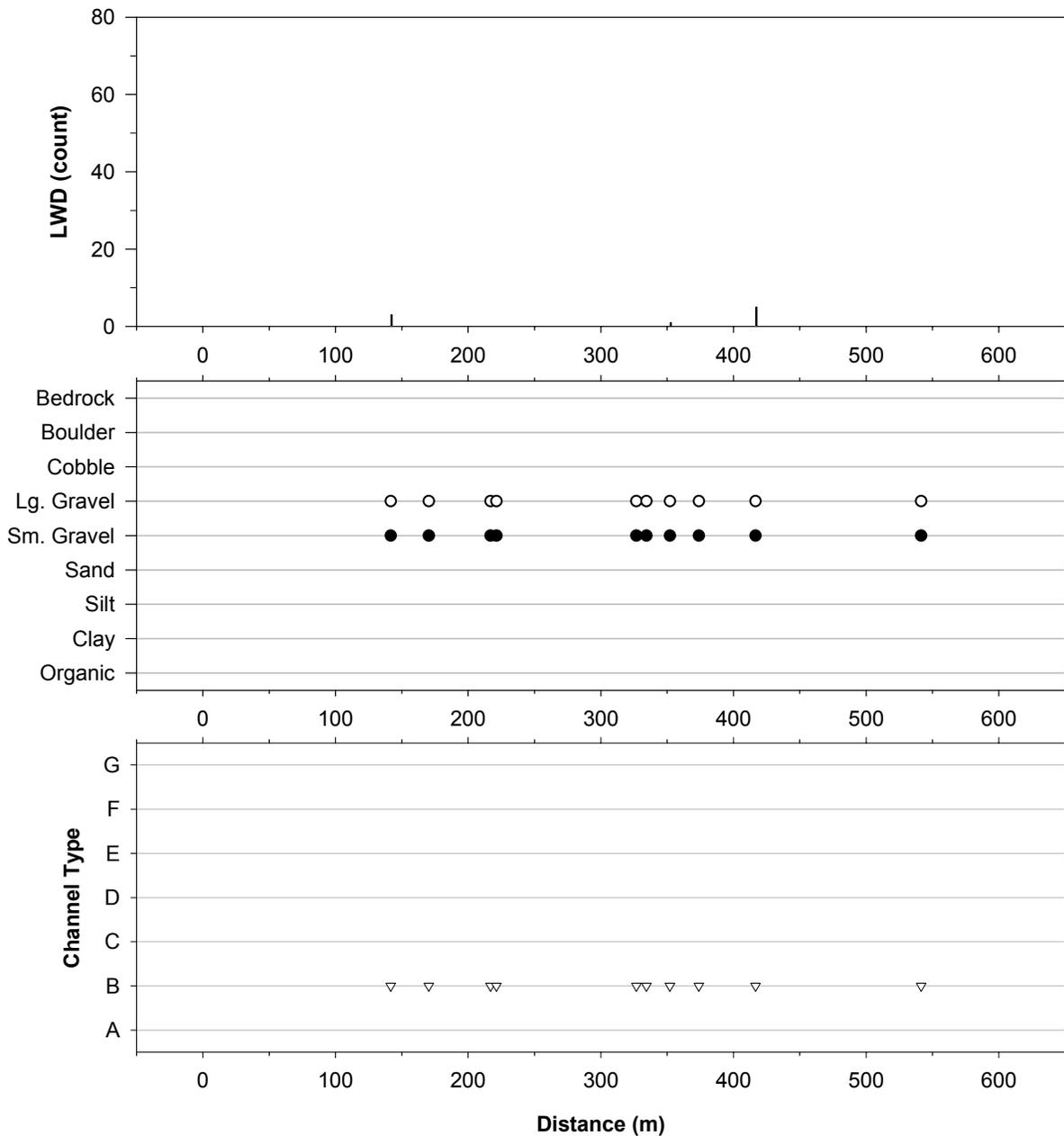


LWD per kilometer in the North Fork Shenandoah River, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on the North Fork Shenandoah River during BVET habitat survey, summer 2002.
Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Side Channel In	107.1	1.5	on right, not flowing in stream but has water in it
Side Channel In	416.6	4.0	on right
Side Channel Out	512.7		on right, dry
Bridge	541.4		concrete bridge, State Route 820



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in the North Fork Shenandoah River, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary downstream from Blue Hole Recreation Area.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Rattlesnake Run
District:	Dry River
USGS Quadrangle:	Bergton
Survey Date:	NA
Downstream Starting Point:	No access, all private land
Total Distance Surveyed (km):	0.0

Stream:	Siever Run
District:	Dry River
USGS Quadrangle:	Bergton
Survey Date:	NA
Downstream Starting Point:	No access, all private land
Total Distance Surveyed (km):	0.0

Stream:	Sirks Run
District:	Dry River
USGS Quadrangle:	Bergton
Survey Date:	06/05/2002
Downstream Starting Point:	USFS Boundary at end of FS road 424A
Total Distance Surveyed (km):	1.1

	Pools	Riffles
Percent of Total Stream Area:	38	62
Total Area (m ²):	1705±339	2838±904
Correction Factor Applied:	0.94	0.96
Number of Paired Samples:	4	3
Total Count:	37	27
Number per km:	35	25
Mean Area (m ²):	46	105
Mean Maximum Depth (cm):	38	25
Mean Average Depth (cm):	25	13
Mean Residual Depth (cm):	7	--
Percent Surveyed as Glides:	27	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	8	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	38
< 5 m long, > 55 cm diameter:	44
> 5 m long, 10 cm – 55 cm diameter:	23
> 5 m long, > 55 cm diameter:	18
Total:	122

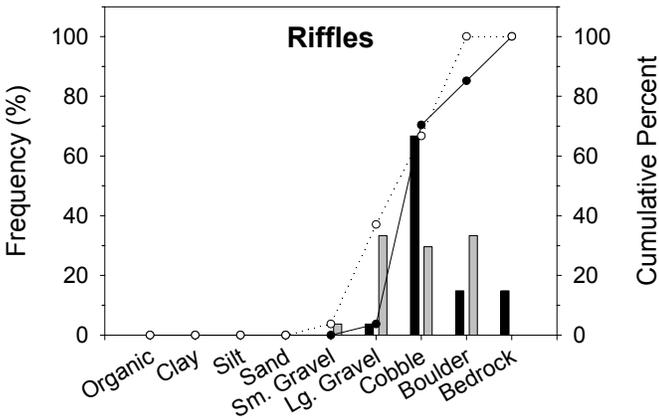
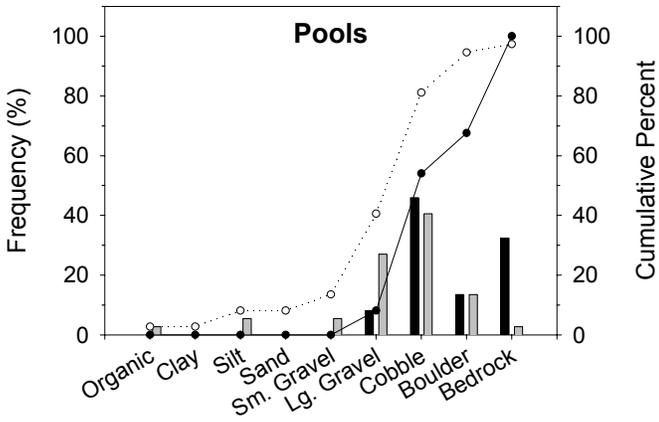
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	43	16
Maximum	79	37
75 th Percentile	58	27
25 th Percentile	26	3
Minimum	14	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

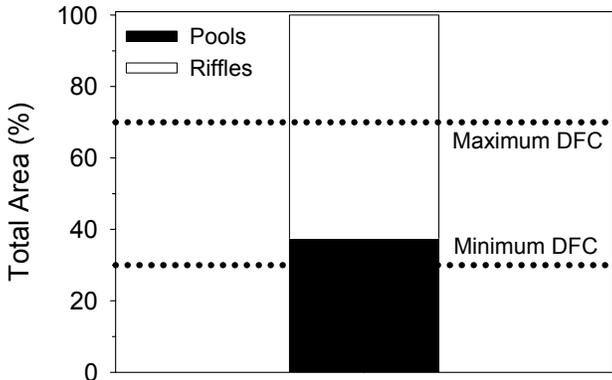
Rosgen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	11
Mean Channel Gradient (%):	3
Median Water Temperature (C):	Not Recorded

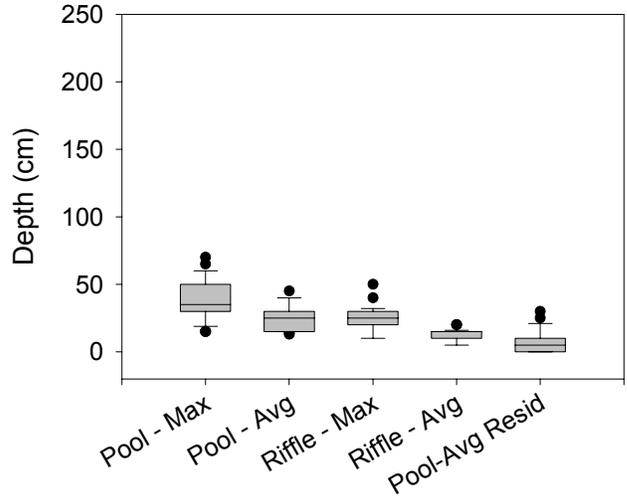


- █ Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

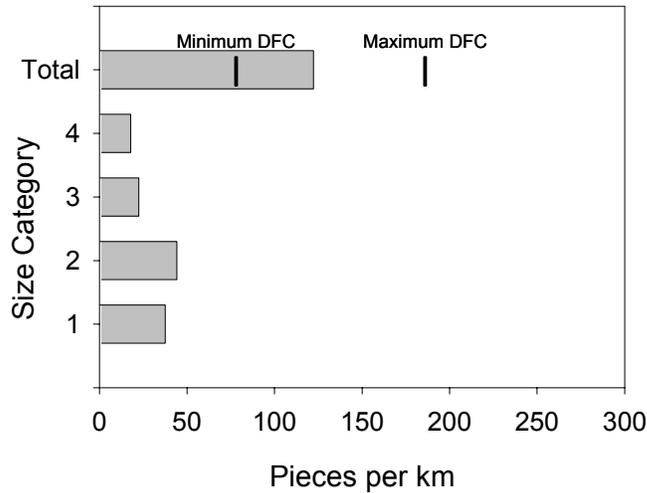
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Sirks Run, summer 2002.



Estimated area of Sirks Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.



Maximum and average depths and residual pool depths for pools and riffles in Sirks Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

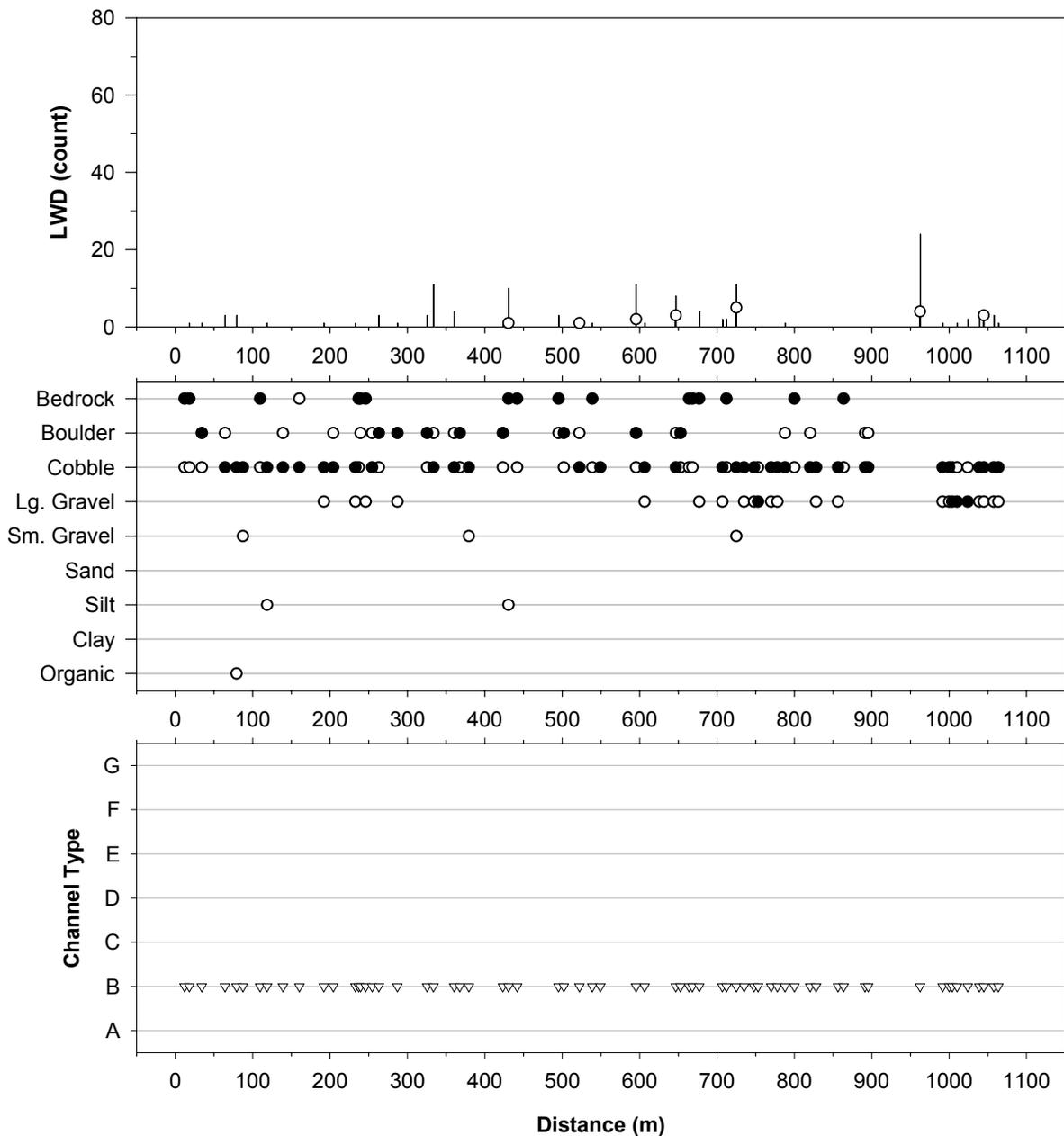


LWD per kilometer in Sirks Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Sirks Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Fall	247.0		1.2 m high
Braid	962.5	30.0	from 895.5 m to 962.5 m, last 20 m is dry



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Sirks Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary at end of FS road 424A.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Spring Run
District:	Dry River
USGS Quadrangle:	Bergton
Survey Date:	06/11/02
Downstream Starting Point:	Confluence with Sirks Run
Total Distance Surveyed (km):	4.3

	Pools	Riffles
Percent of Total Stream Area:	20	80
Total Area (m ²):	1870±173	7508±1114
Correction Factor Applied:	0.97	1.22
Number of Paired Samples:	9	7
Total Count:	93	78
Number per km:	22	18
Mean Area (m ²):	20	96
Mean Maximum Depth (cm):	36	22
Mean Average Depth (cm):	25	9
Mean Residual Depth (cm):	12	--
Percent Surveyed as Glides:	12	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	15	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	53
< 5 m long, > 55 cm diameter:	45
> 5 m long, 10 cm – 55 cm diameter:	15
> 5 m long, > 55 cm diameter:	30
Total:	143

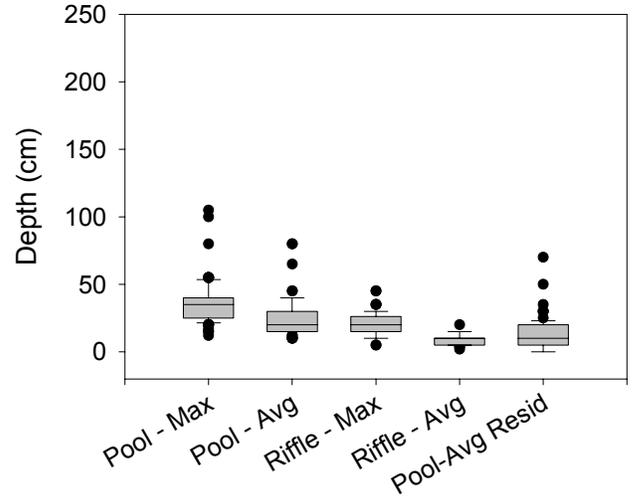
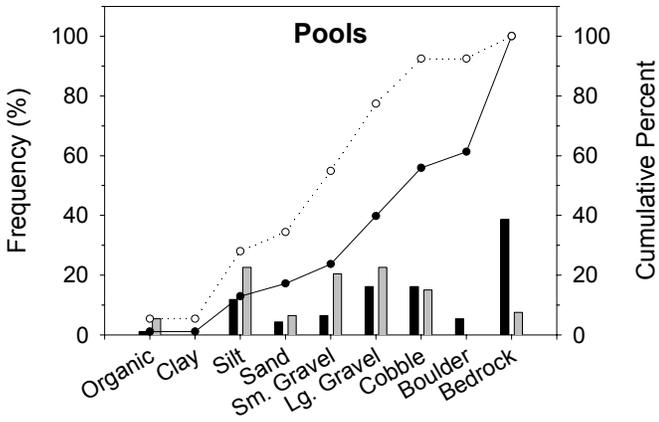
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	23	8
Maximum	41	33
75 th Percentile	31	11
25 th Percentile	15	3
Minimum	10	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

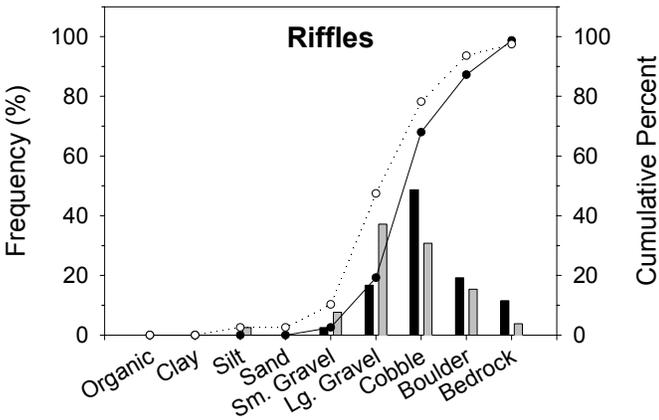
**Left and right riparian widths were grouped (not added) together for calculations

Rosgen's Channel Type	Frequency (%)
A:	41
B:	59
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	7
Mean Channel Gradient (%):	7
Median Water Temperature (C):	14

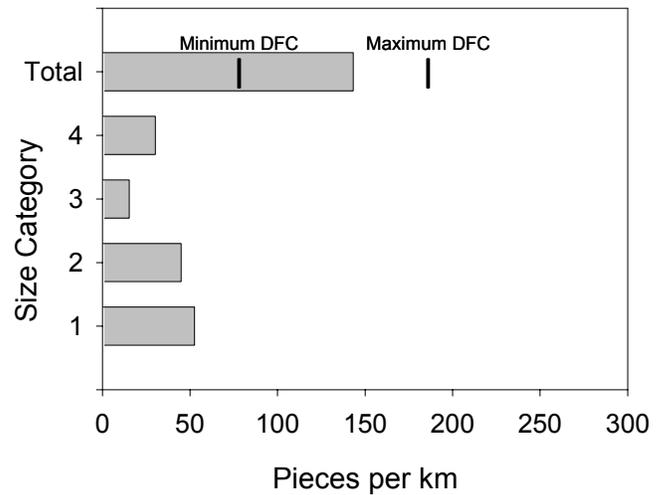


Maximum and average depths and residual pool depths for pools and riffles in Spring Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.



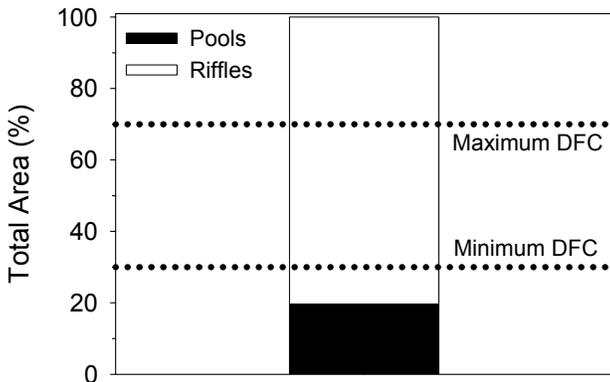
- █ Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Spring Run, summer 2002.



LWD per kilometer in Spring Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

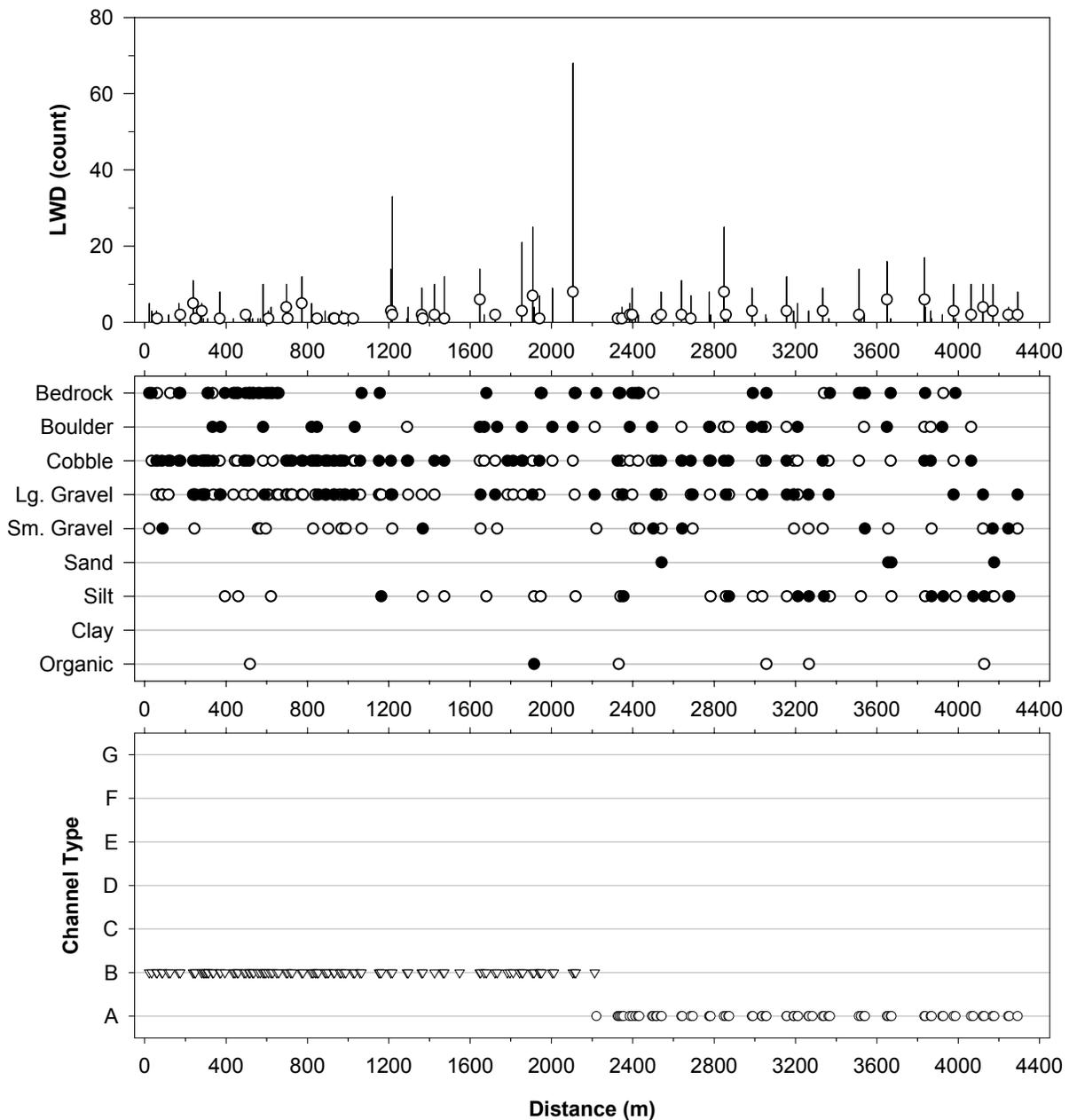
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Spring Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Spring Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Tributary	615.7		on left, gradient over 15%
Fall	629.6		.9 m tall
Side Channel In	743.2		on right
Side Channel Out	772.0		on right
Side Channel In	952.5		on right
Side Channel In	1088.0		on left
Other	1303.7		3 m diameter pothole approximately 70 cm deep
Underground	1467.3		from 1424.8 m to 1467.3 m
Underground	1548.3		from 1473.2 m to 1548.3 m
Underground	1796.4		from 1784.0 m to 1796.4 m
Underground	1843.2		from 1811.5 m to 1843.2 m
Side Channel In	2050.0		on left
Tributary	2758.4		on left, WV state line crosses stream at this distance
Side Channel In	3264.2		on left
Underground	3282.4		from 3266.2 m to 3282.4 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Spring Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from confluence with Sirks Run.

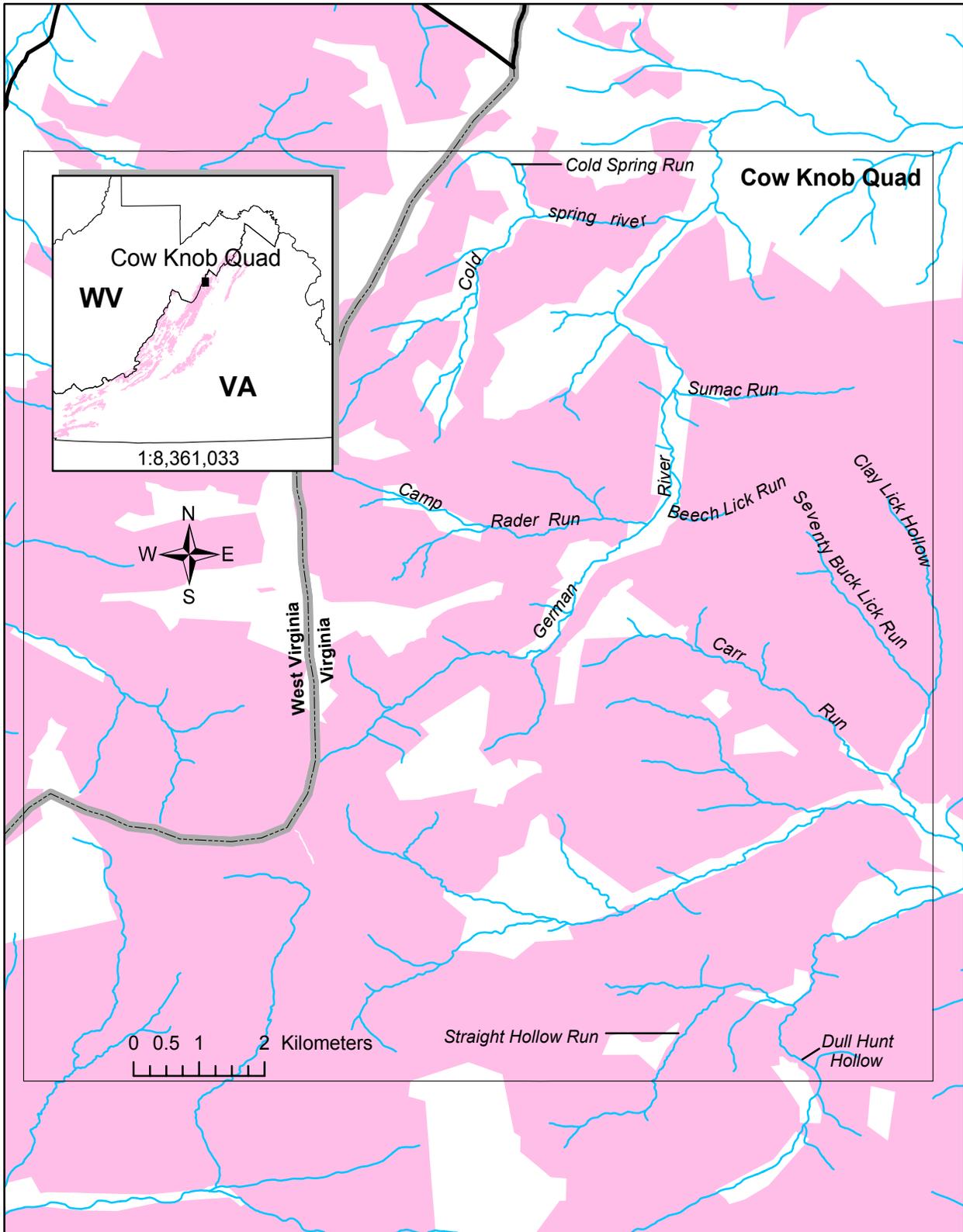
LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Spruce Run
District:	Dry River
USGS Quadrangle:	Singers Glen
Survey Date:	NA
Downstream Starting Point:	No access, all private land
Total Distance Surveyed (km):	0.0

Streams inventoried on the Cow Knob Quadrangle using BVET habitat surveys during 2002.



Stream:	Beech Lick Run
District:	Dry River
USGS Quadrangle:	Cow Knob
Survey Date:	06/27/02
Downstream Starting Point:	USFS Boundary at confluence with German River
Total Distance Surveyed (km):	1.2

	Pools	Riffles
Percent of Total Stream Area:	20	80
Total Area (m ²):	158±11	651±135
Correction Factor Applied:	1.24	0.83
Number of Paired Samples:	5	5
Total Count:	28	24
Number per km:	24	20
Mean Area (m ²):	6	27
Mean Maximum Depth (cm):	21	14
Mean Average Depth (cm):	11	5
Mean Residual Depth (cm):	2	--
Percent Surveyed as Glides:	14	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	79	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	54
< 5 m long, > 55 cm diameter:	4
> 5 m long, 10 cm – 55 cm diameter:	4
> 5 m long, > 55 cm diameter:	1
Total:	63

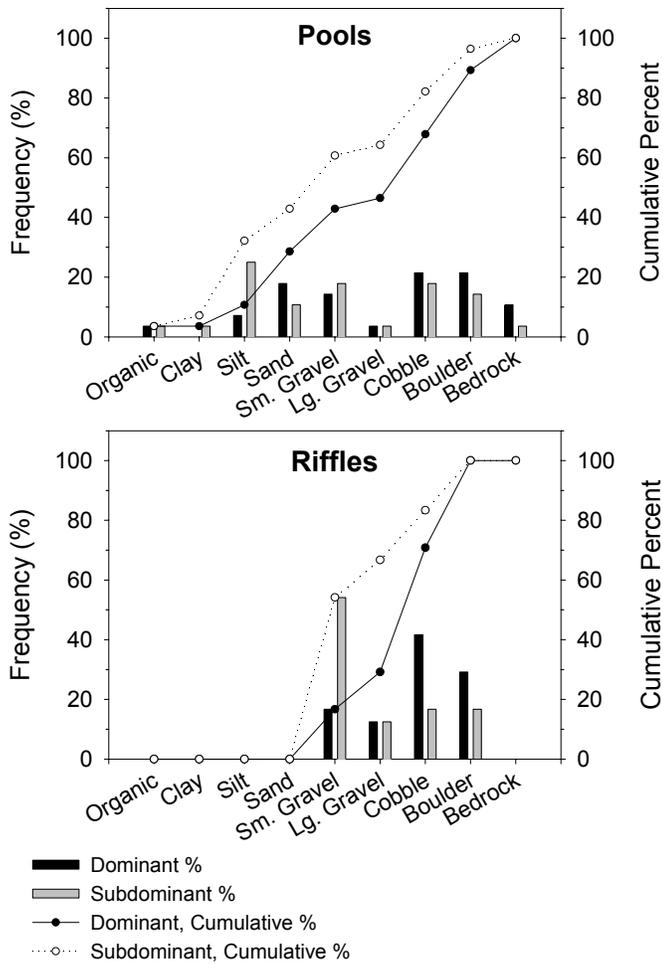
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	10	3
Maximum	17	13
75 th Percentile	13	4
25 th Percentile	6	1
Minimum	5	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

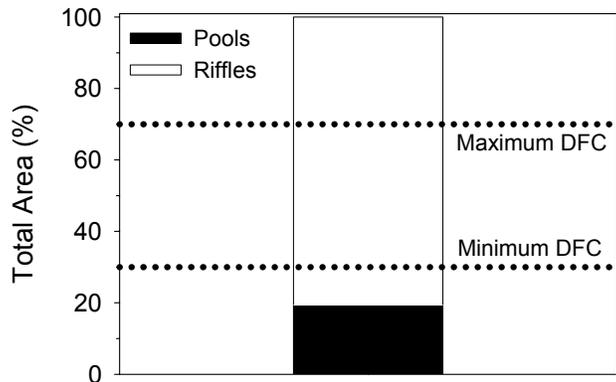
**Left and right riparian widths were grouped (not added) together for calculations

Rosgen's Channel Type	Frequency (%)
A:	Not Recorded
B:	
C:	
D:	
E:	
F:	
G:	

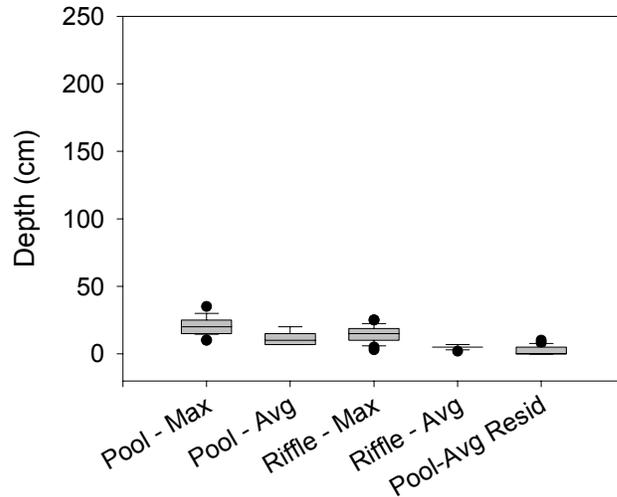
Other Stream Attributes	
Mean Bankfull Channel Width (m):	3
Mean Channel Gradient (%):	9
Median Water Temperature (C):	Not Recorded



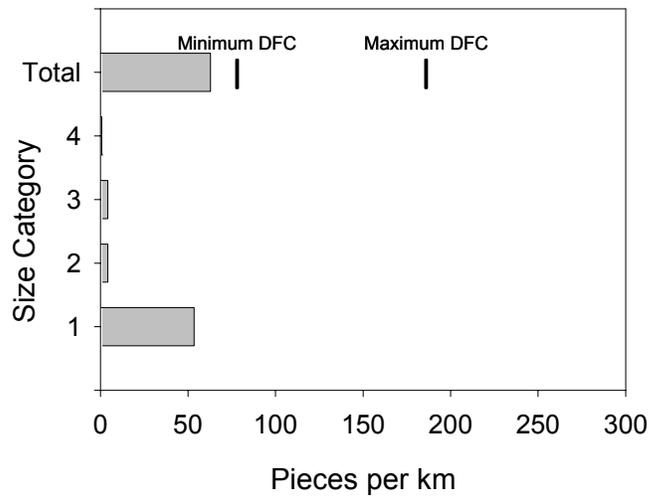
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Beech Lick Run, summer 2002.



Estimated area of Beech Lick Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.



Maximum and average depths and residual pool depths for pools and riffles in Beech Lick Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

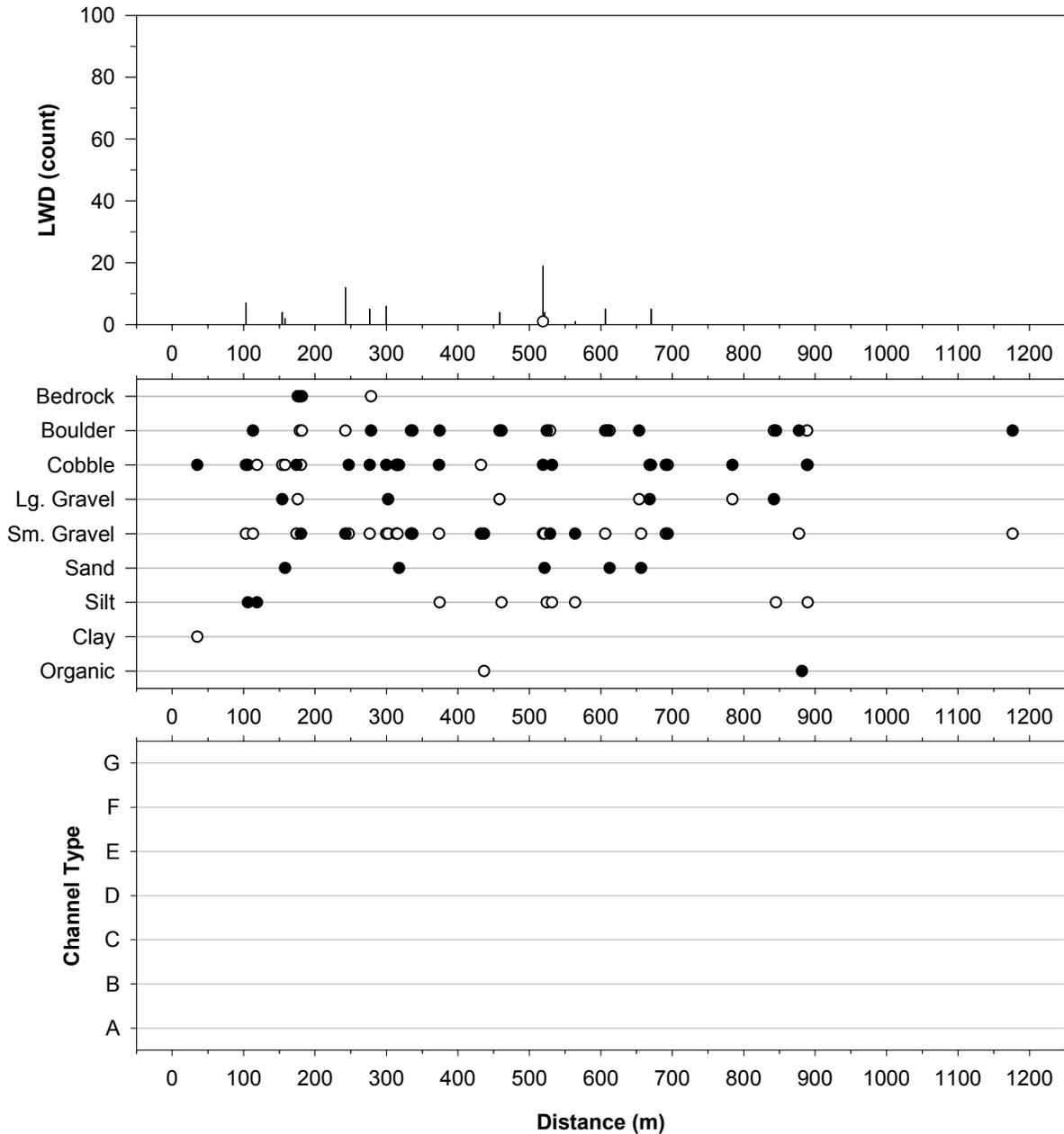


LWD per kilometer in Beech Lick Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Beech Lick Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	31.5		from 0.0 m to 31.5 m
Underground	37.7		from 31.5 m to 37.7 m
Trail Crossing	323.0		
Side Channel In	361.3		on left
Side Channel Out	374.5		on left
Seep	441.0		on right
Tributary	490.0		on right, dry
Underground	553.3		from 531.7 m to 553.3 m
Tributary	633.7		on right
Underground	817.3		from 784.3 m to 817.3 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Beech Lick Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary at confluence with German River.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: Data not recorded.

Stream:	Camp Rader Run
District:	Dry River
USGS Quadrangle:	Cow Knob
Survey Date:	07/15/02
Downstream Starting Point:	USFS Boundary upstream from confluence with German River
Total Distance Surveyed (km):	2.0

	Pools	Riffles
Percent of Total Stream Area:	26	74
Total Area (m ²):	1105±343	3208±1870
Correction Factor Applied:	1.18	0.95
Number of Paired Samples:	3	3
Total Count:	37	37
Number per km:	19	19
Mean Area (m ²):	30	87
Mean Maximum Depth (cm):	41	20
Mean Average Depth (cm):	25	9
Mean Residual Depth (cm):	11	--
Percent Surveyed as Glides:	14	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	14	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	40
< 5 m long, > 55 cm diameter:	10
> 5 m long, 10 cm – 55 cm diameter:	7
> 5 m long, > 55 cm diameter:	10
Total:	66

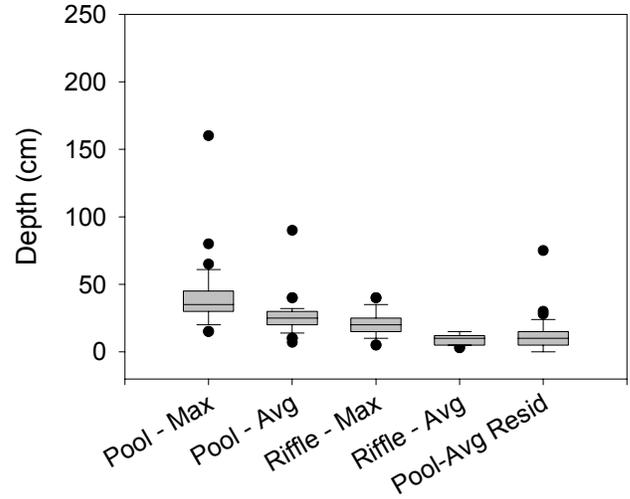
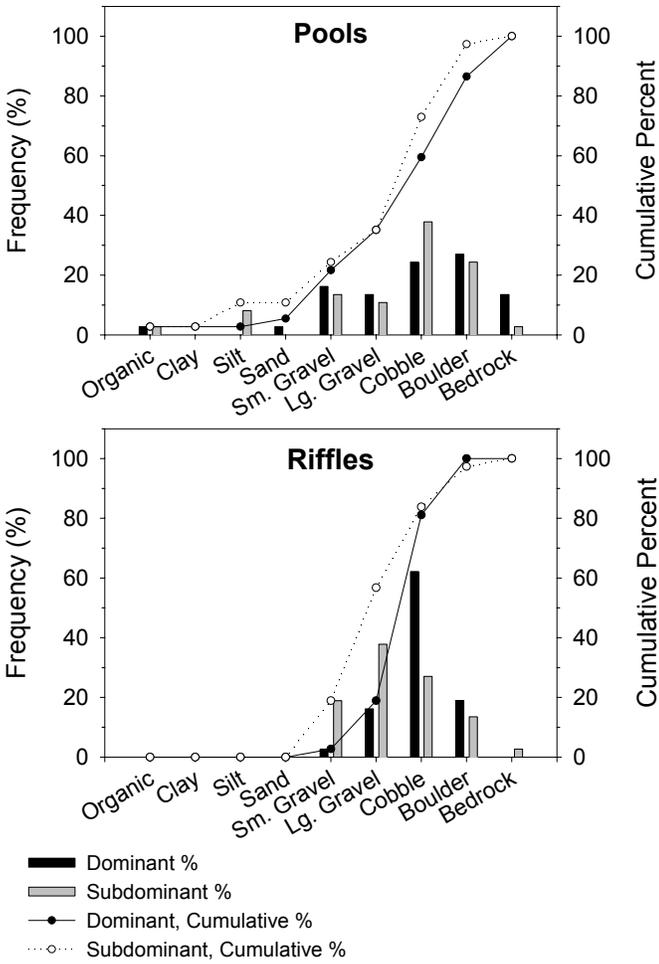
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	16	5
Maximum	19	10
75 th Percentile	19	6
25 th Percentile	14	2
Minimum	10	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

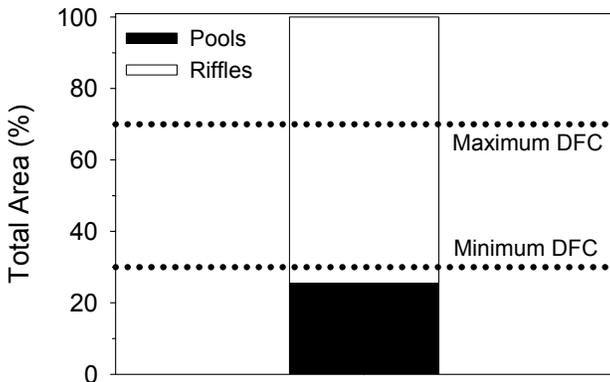
Rosgen's Channel Type	Frequency (%)
A:	Not Recorded
B:	
C:	
D:	
E:	
F:	
G:	

Other Stream Attributes	
Mean Bankfull Channel Width (m):	6
Mean Channel Gradient (%):	5
Median Water Temperature (C):	16

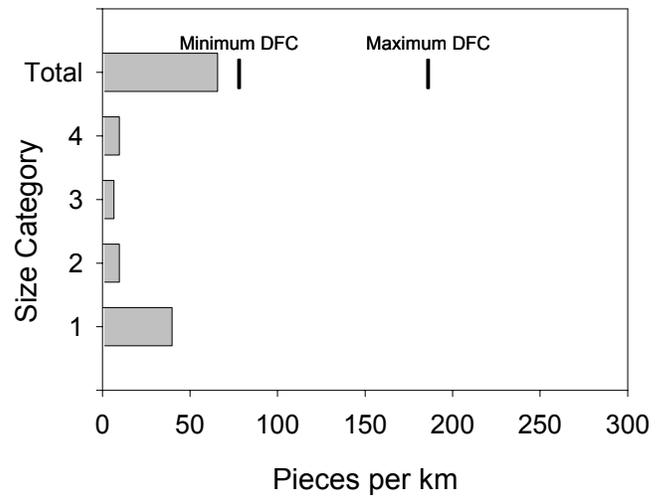


Maximum and average depths and residual pool depths for pools and riffles in Camp Rader Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Camp Rader Run, summer 2002.



Estimated area of Camp Rader Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

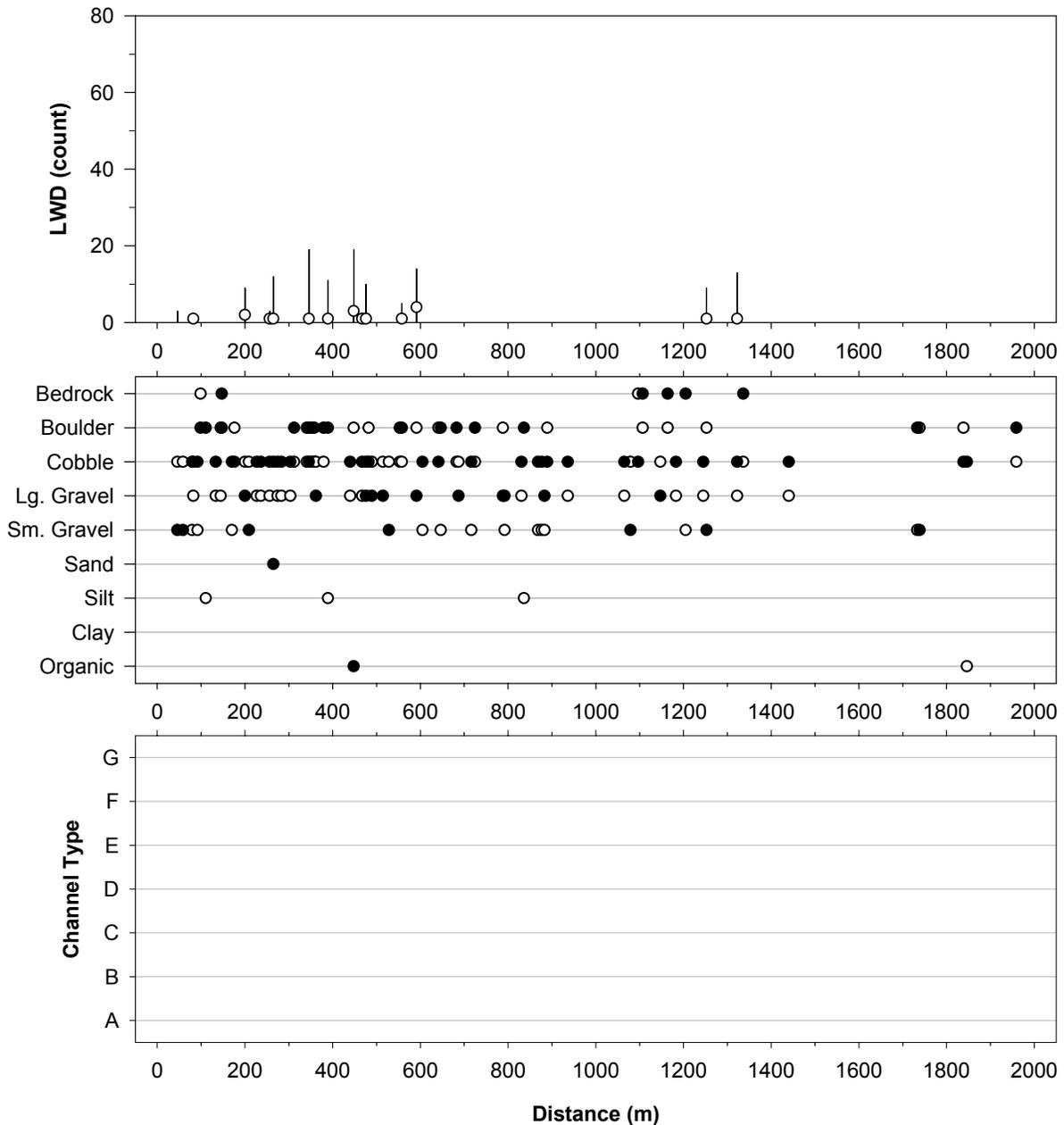


LWD per kilometer in Camp Rader Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Camp Rader Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Side Channel In	110.5		on left
Side Channel Out	129.0		on left
Tributary	293.3		on right
Underground	411.1		from 389.1 m to 411.1 m
Tributary	660.0		on right
Side Channel In	762.0		on left
Trail Crossing	883.0		
Underground	910.0		from 889.1 m to 910.0 m
Underground	1014.0		from 936.3 m to 1014.0 m
Underground	1622.0		from 1440.0 m to 1622.0 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Camp Rader Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary upstream from confluence with German River.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: Data not recorded.

Stream:	Carr Run
District:	Dry River
USGS Quadrangle:	Cow Knob
Survey Date:	06/28/02
Downstream Starting Point:	USFS Boundary at end of private drive
Total Distance Surveyed (km):	3.2

	Pools	Riffles
Percent of Total Stream Area:	27	73
Total Area (m ²):	934±81	2469±306
Correction Factor Applied:	0.99	1.05
Number of Paired Samples:	8	7
Total Count:	82	71
Number per km:	26	22
Mean Area (m ²):	11	35
Mean Maximum Depth (cm):	30	14
Mean Average Depth (cm):	17	5
Mean Residual Depth (cm):	7	--
Percent Surveyed as Glides:	20	--
Percent Surveyed as Runs:	--	3
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	18	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	31
< 5 m long, > 55 cm diameter:	15
> 5 m long, 10 cm – 55 cm diameter:	33
> 5 m long, > 55 cm diameter:	18
Total:	96

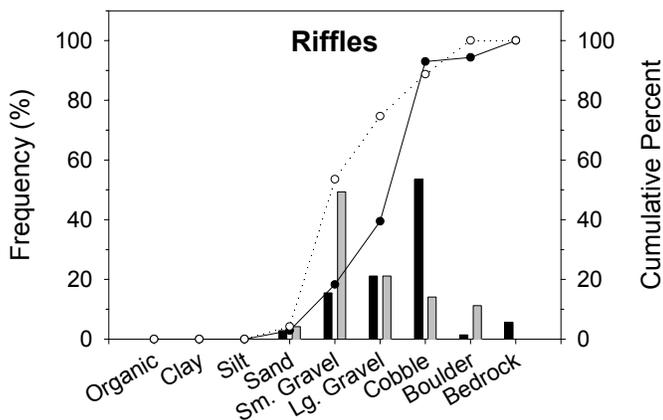
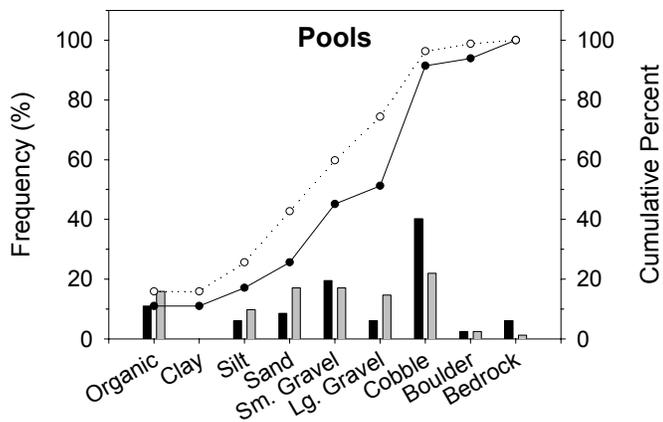
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	20	7
Maximum	41	20
75 th Percentile	21	12
25 th Percentile	16	2
Minimum	5	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

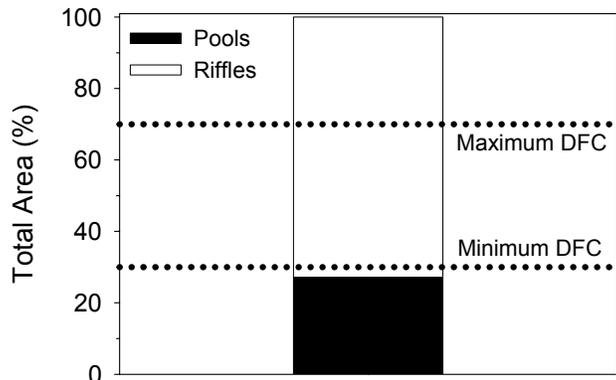
Rosgen's Channel Type	Frequency (%)
A:	23
B:	34
C:	0
D:	0
E:	0
F:	0
G:	44

Other Stream Attributes	
Mean Bankfull Channel Width (m):	5
Mean Channel Gradient (%):	5
Median Water Temperature (C):	Not Recorded

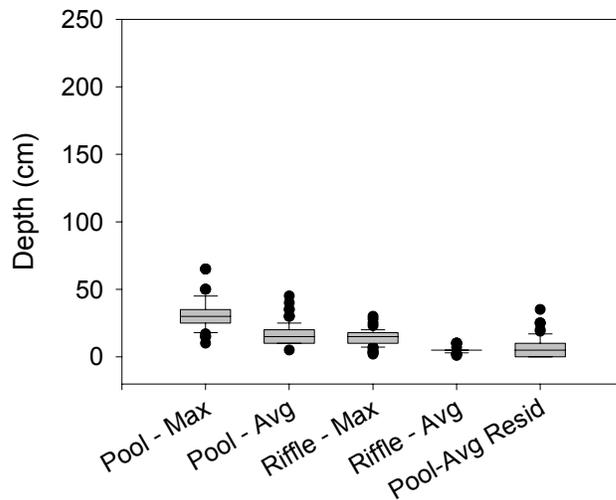


- █ Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

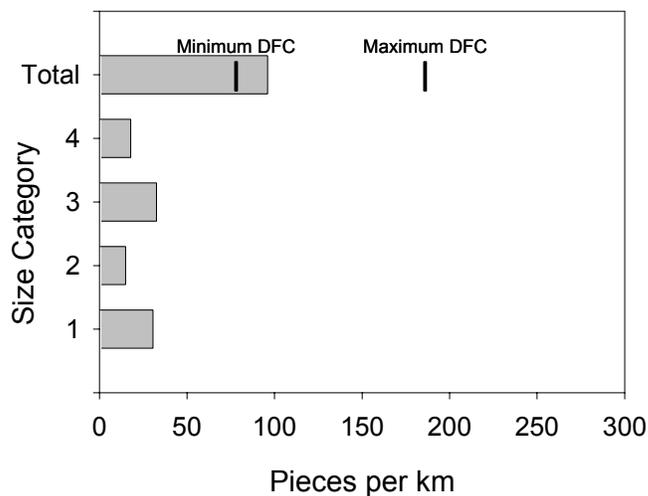
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Carr Run, summer 2002.



Estimated area of Carr Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.



Maximum and average depths and residual pool depths for pools and riffles in Carr Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

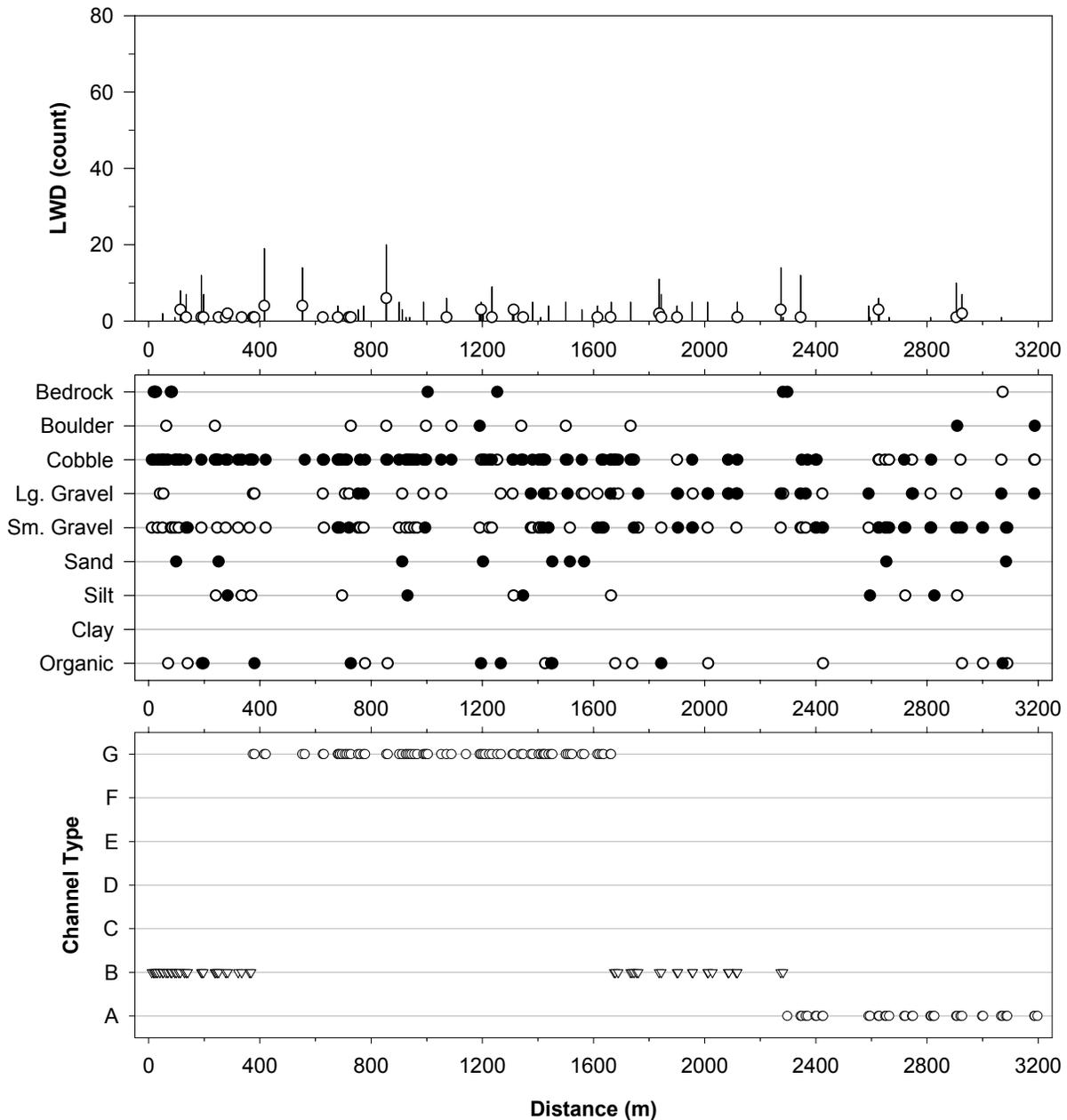


LWD per kilometer in Carr Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Carr Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	128.3		from 113.5 m to 128.3 m
Underground	415.5		from 380.1 m to 415.5 m
Side Channel In	445.0		
Side Channel Out	484.0		
Underground	552.3		from 420.3 m to 552.3 m
Ford	1023.0		
Underground	1071.0		from 1051.7 m to 1071.0 m
Underground	1141.2		from 1088.8 m to 1141.2 m
Road Crossing	1394.0		
Tributary	1472.0		on right
Underground	1522.6		from 1515.0 m to 1522.6 m
Underground			no distance recorded
Tributary	1823.6		on right
Underground	1836.4		from 1761.0 m to 1836.4 m
Road Crossing	1857.5		
Road Crossing	2001.0		
Underground	2028.4		from 2013.0 m to 2028.4 m
Tributary	2136.0		on right
Seep	2298.0		
Tributary	2732.0		on right
Road Crossing	2805.5		
Underground	2822.1		from 2814.7 m to 2822.1 m
Underground	3197.5		from 3187.3 m to 3197.5 m
USFS Boundary	3197.5		end of survey



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Carr Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary at end of private drive.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Clay Lick Hollow
District:	Dry River
USGS Quadrangle:	Cow Knob
Survey Date:	06/29/02
Downstream Starting Point:	USFS Boundary next to 4WD trail off State Route 818
Total Distance Surveyed (km):	3.1

	Pools	Riffles
Percent of Total Stream Area:	21	79
Total Area (m ²):	574±70	2135±443
Correction Factor Applied:	0.98	1.00
Number of Paired Samples:	7	7
Total Count:	78	72
Number per km:	25	23
Mean Area (m ²):	7	30
Mean Maximum Depth (cm):	24	13
Mean Average Depth (cm):	14	5
Mean Residual Depth (cm):	4	--
Percent Surveyed as Glides:	22	--
Percent Surveyed as Runs:	--	3
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	55	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	58
< 5 m long, > 55 cm diameter:	2
> 5 m long, 10 cm – 55 cm diameter:	12
> 5 m long, > 55 cm diameter:	7
Total:	78

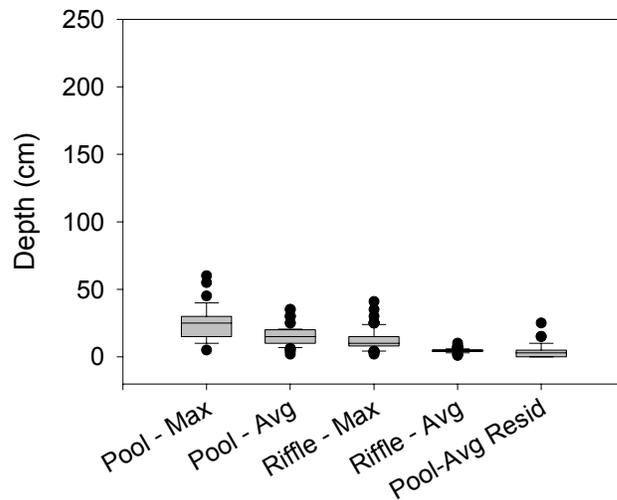
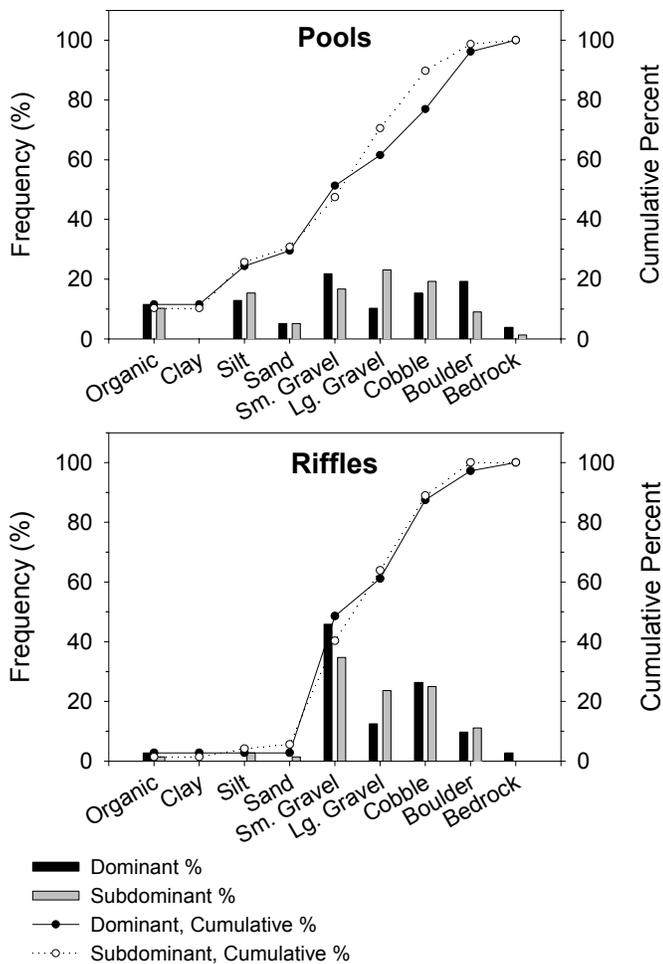
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	21	9
Maximum	44	26
75 th Percentile	24	13
25 th Percentile	15	4
Minimum	8	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

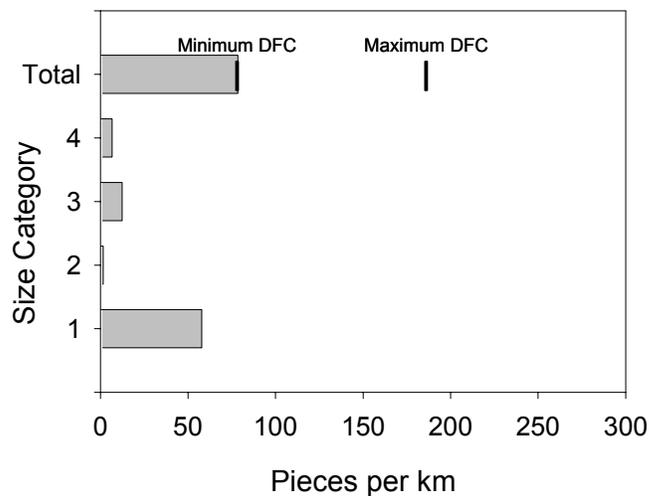
Rosgen's Channel Type	Frequency (%)
A:	51
B:	49
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	4
Mean Channel Gradient (%):	9
Median Water Temperature (C):	Not Recorded



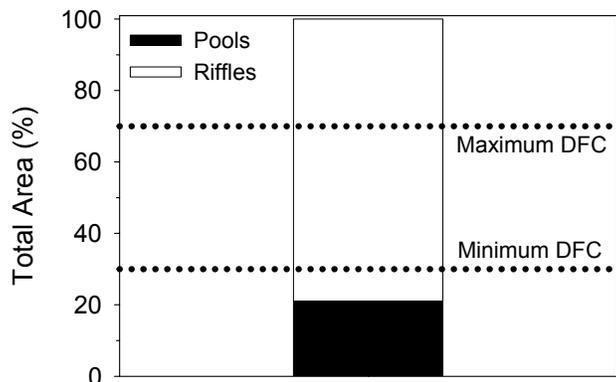
Maximum and average depths and residual pool depths for pools and riffles in Clay Lick Hollow, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Clay Lick Hollow, summer 2002.



LWD per kilometer in Clay Lick Hollow, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

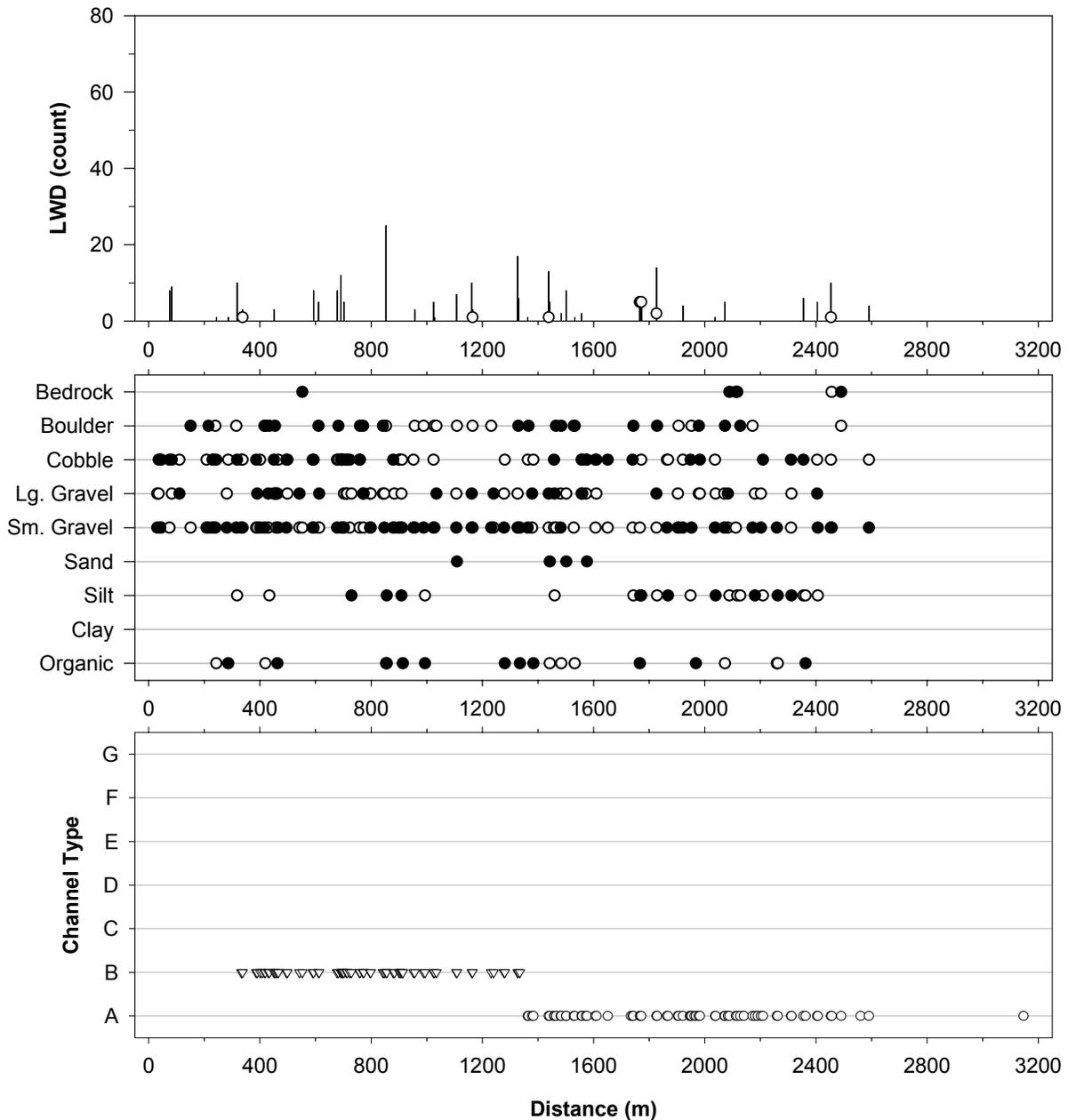
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Clay Lick Hollow in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Clay Lick Hollow during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	147.0		from 110.4 m to 147.0 m
Tributary	233.8		on left, Seventy Buck Lick Run
Underground	408.1		from 400.5 m to 408.1 m
Seep	548.7		on right
Seep	964.0		on left
Side Channel In	1579.6		on left
Side Channel Out	1597.7		out left
Underground	1734.4		from 1651.0 m to 1734.4 m
Underground	1946.4		from 1921.6 m to 1946.4 m
Underground	1963.4		from 1952.3 m to 1963.4 m
Underground	2140.5		from 2127.8 m to 2140.5 m
Underground	2190.2		from 2180.7 m to 2190.2 m
Tributary	2291.0		on left
Underground	2560.3		from 2490.8 m to 2560.3 m
Underground	3147.0		from 2591.0 m to 3147.0 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Clay Lick Hollow, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary next to 4WD trail off State Route 818.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Cold Spring River
District:	Dry River
USGS Quadrangle:	Cow Knob
Survey Date:	06/13/02
Downstream Starting Point:	USFS Boundary 100 m upstream FS road 439 bridge
Total Distance Surveyed (km):	1.1

	Pools	Riffles
Percent of Total Stream Area:	24	76
Total Area (m ²):	304±52	954±338
Correction Factor Applied:	0.95	0.94
Number of Paired Samples:	4	2
Total Count:	15	14
Number per km:	13	13
Mean Area (m ²):	20	68
Mean Maximum Depth (cm):	32	18
Mean Average Depth (cm):	22	7
Mean Residual Depth (cm):	11	--
Percent Surveyed as Glides:	20	--
Percent Surveyed as Runs:	--	7
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	27	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	29
< 5 m long, > 55 cm diameter:	30
> 5 m long, 10 cm – 55 cm diameter:	18
> 5 m long, > 55 cm diameter:	21
Total:	97

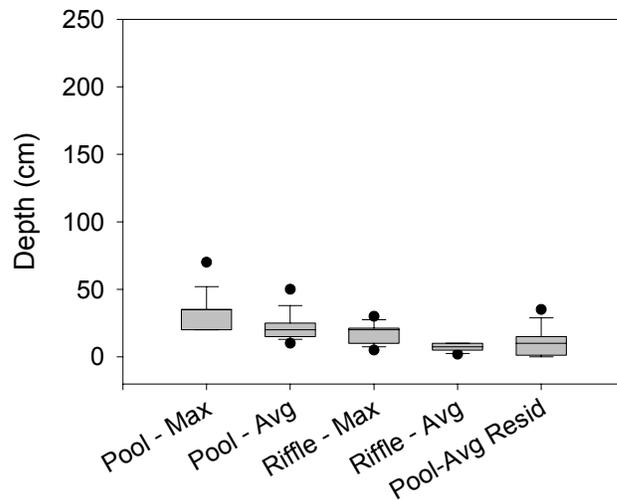
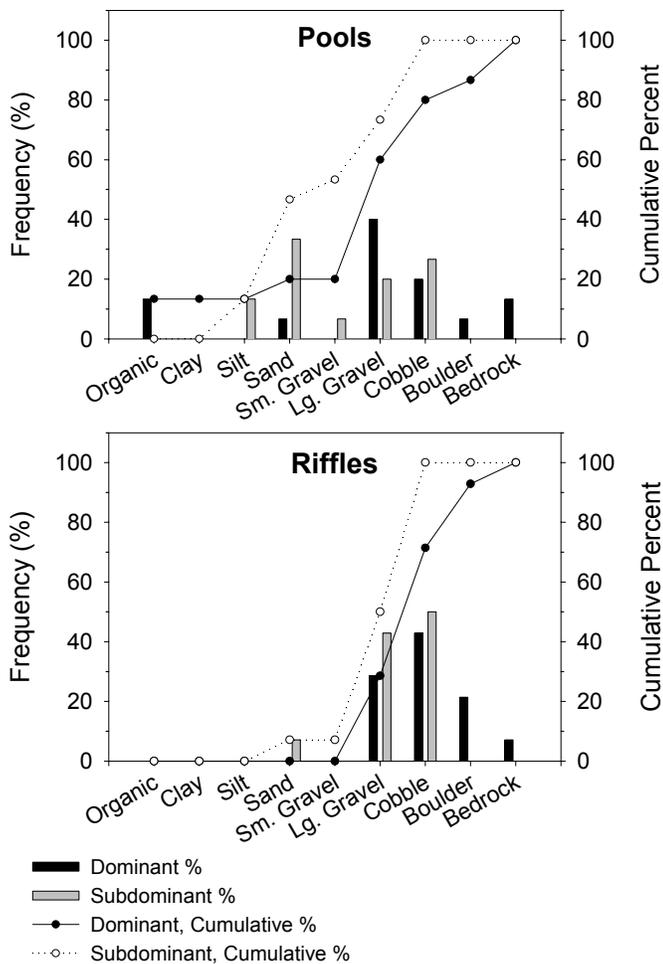
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	25	9
Maximum	39	27
75 th Percentile	32	10
25 th Percentile	18	3
Minimum	12	2

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

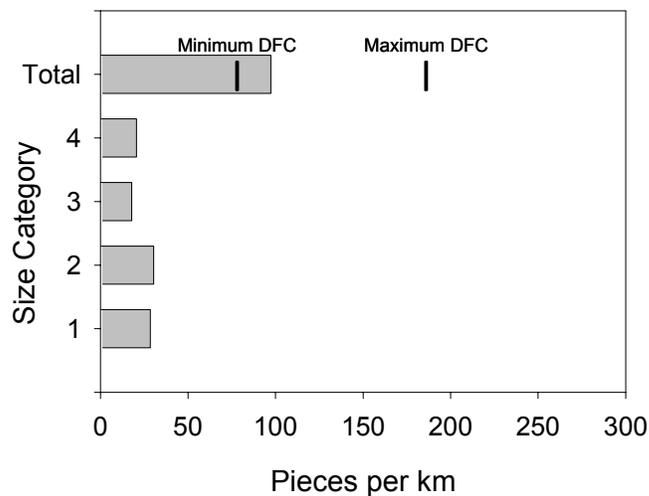
Rosgen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	7
Mean Channel Gradient (%):	4
Median Water Temperature (C):	19



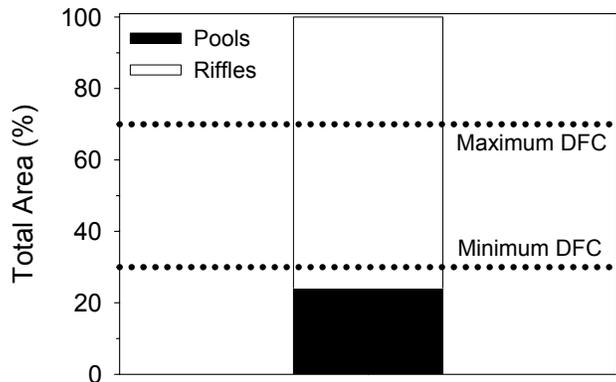
Maximum and average depths and residual pool depths for pools and riffles in Cold Spring River, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Cold Spring River, summer 2002.



LWD per kilometer in Cold Spring River, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

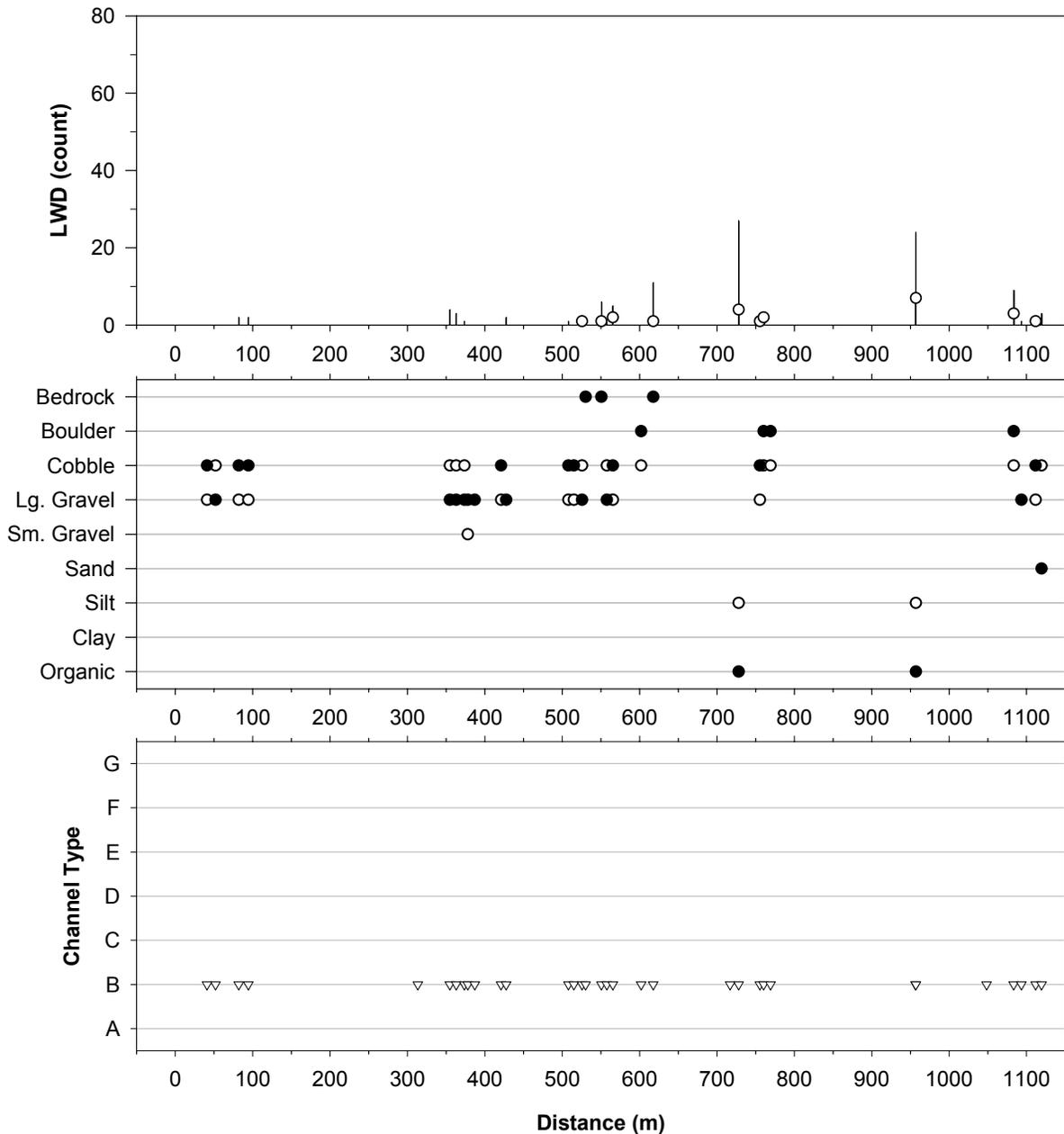
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Cold Spring River in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Cold Spring River during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	313.5		from 94.4 m to 313.5 m
Tributary	561.1		on left
Tributary	619.5		on right
Underground	717.0		from 617.6 m to 717.0 m
Underground	956.6		from 769.2 m to 956.6 m
Underground	1048.6		from 957.1 m to 1048.6 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Cold Spring River, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary 100 m upstream of FS road 439 bridge.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Cold Spring Run
District:	Dry River
USGS Quadrangle:	Cow Knob
Survey Date:	06/28/02
Downstream Starting Point:	USFS Boundary at edge of timber harvest
Total Distance Surveyed (km):	1.0

	Pools	Riffles
Percent of Total Stream Area:	25	75
Total Area (m ²):	191±16	577±53
Correction Factor Applied:	1.00	1.20
Number of Paired Samples:	8	7
Total Count:	53	49
Number per km:	53	49
Mean Area (m ²):	4	12
Mean Maximum Depth (cm):	16	7
Mean Average Depth (cm):	10	3
Mean Residual Depth (cm):	9	--
Percent Surveyed as Glides:	15	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	18
Percent with Substrate > 35% Embedded:	79	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	101
< 5 m long, > 55 cm diameter:	4
> 5 m long, 10 cm – 55 cm diameter:	54
> 5 m long, > 55 cm diameter:	22
Total:	181

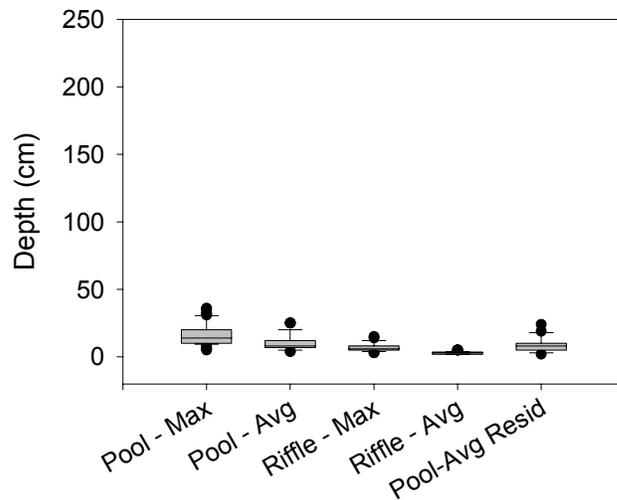
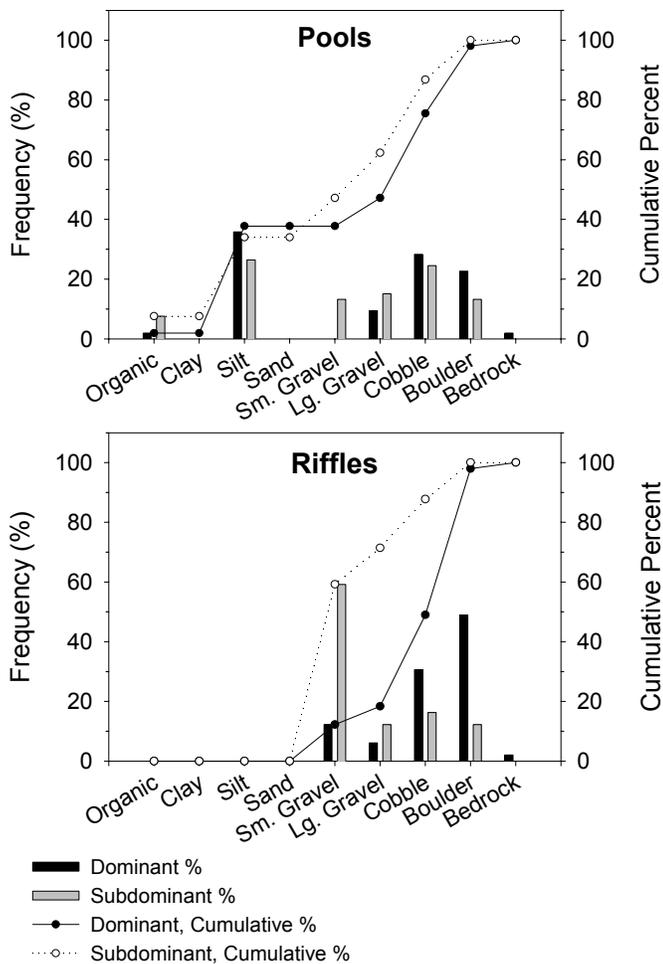
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	9	3
Maximum	13	8
75 th Percentile	11	5
25 th Percentile	7	1
Minimum	6	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

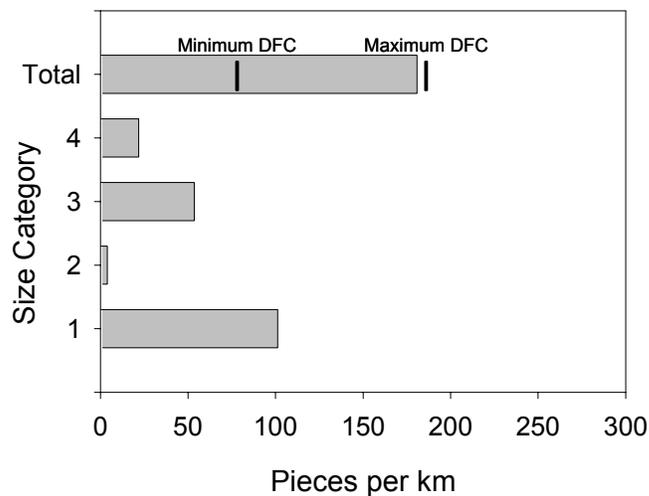
Rosgen's Channel Type	Frequency (%)
A:	98
B:	2
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	3
Mean Channel Gradient (%):	16
Median Water Temperature (C):	16



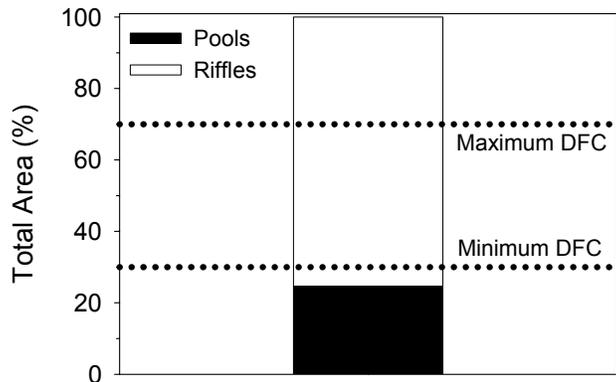
Maximum and average depths and residual pool depths for pools and riffles in Cold Spring Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Cold Spring Run, summer 2002.



LWD per kilometer in Cold Spring Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

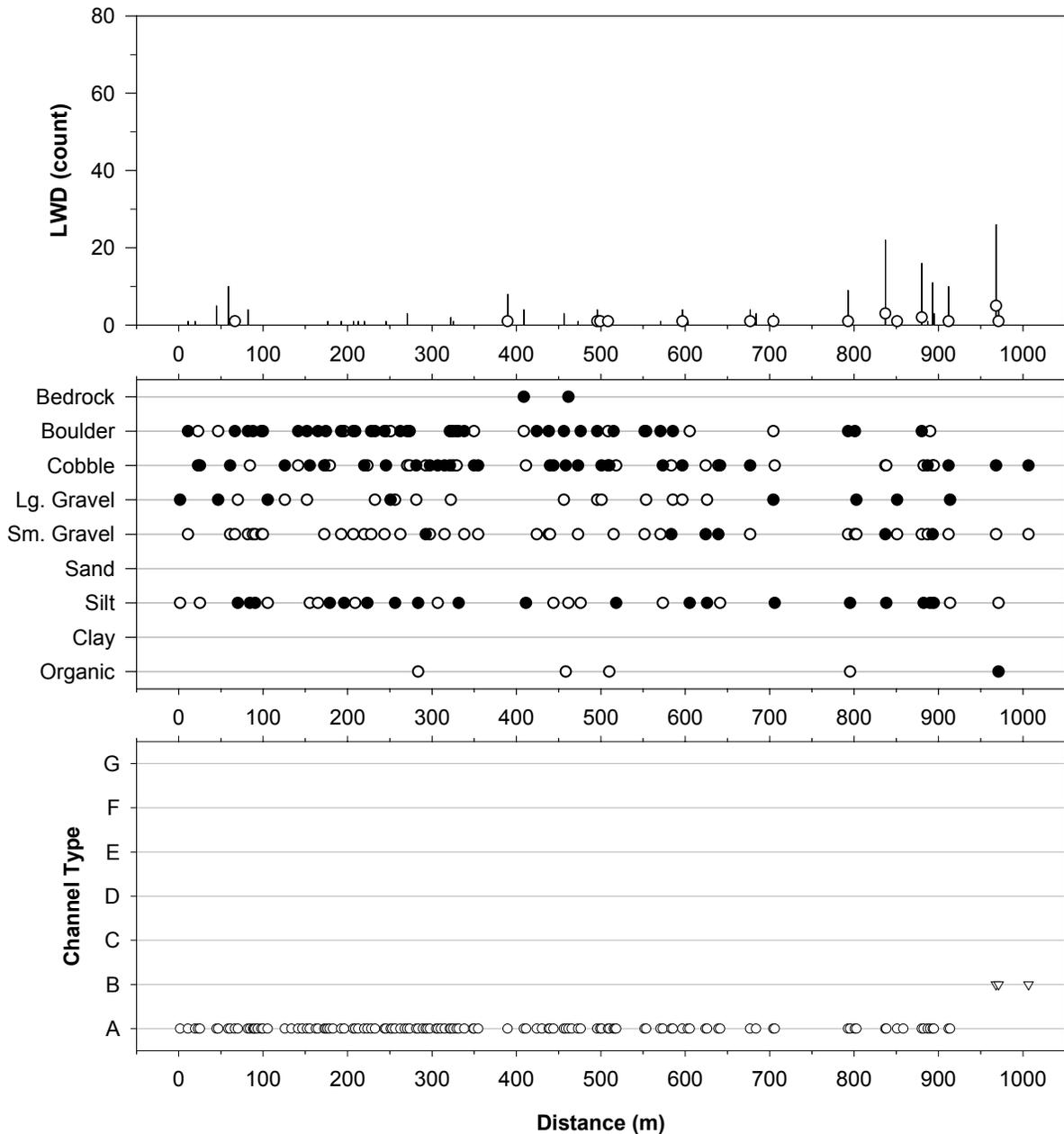


Estimated area of Cold Spring Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Cold Spring Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	19.4		from 10.9 m to 19.4 m
Underground	44.7		from 25.1 m to 44.7 m
Underground	58.7		from 46.7 m to 58.7 m
Underground	89.2		from 87.9 m to 89.2 m
Underground	93.4		from 90.6 m to 93.4 m
Side Channel In	128.5		on right, dry
Underground	133.5		from 125.7 m to 133.5 m
Underground	146.4		from 141.5 m to 146.4 m
Side Channel Out	146.4		on right
Side Channel In	152.0		on right, dry
Underground	162.6		from 155.3 m to 162.6 m
Side Channel Out	170.4		on right, dry
Underground	176.4		from 174.3 m to 176.4 m
Underground	182.7		from 178.8 m to 182.7 m
Side Channel In	203.5	0.2	on right
Underground	212.6		from 208.9 m to 212.6 m
Side Channel Out	223.5		on right
Underground	252.7		from 250.9 m to 252.7 m
Underground	267.7		from 262.4 m to 267.7 m
Underground	289.2		from 283.5 m to 289.2 m
Side Channel In	292.6	0.1	on left
Underground	294.6		from 292.6 m to 294.6 m
Underground	305.1		from 297.5 m to 305.1 m
Underground	310.3		from 306.8 m to 310.3 m
Side Channel Out	310.3		on left
Side Channel In	310.3		on right, dry
Side Channel In	338.2		on left, dry
Underground	348.8		from 338.2 m to 348.8 m
Side Channel Out	354.7		on left
Side Channel In	354.7		on right, dry
Side Channel Out	389.6		on right
Underground	389.6		from 354.7 m to 389.6 m
Side Channel In	424.2		on right, dry
Underground	430.3		from 424.2 m to 430.3 m
Side Channel Out	441.2	0.3	on right
Tributary	456.3		on right, dry
Underground	465.4		from 461.5 m to 465.4 m
Underground	499.2		from 495.7 m to 499.2 m
Underground	516.8		from 515.2 m to 516.8 m
Side Channel In	522.4		on left, dry
Side Channel Out	535.5		on left
Underground	603.1		from 596.6 m to 603.1
Side Channel In	603.1	0.3	on right
Side Channel Out	683.7		on right, dry
Underground	683.7		from 676.8 m to 683.7 m
Side Channel In	704.4		on right, dry
Side Channel Out	712.6		on right
Side Channel In	712.6	0.2	on left
Side Channel In	756.9	0.2	on right
Side Channel Out	781.4		on right, dry

Stream Feature	Distance (m)	Width (m)	Comments
Side Channel In	821.4	0.1	on right
Side Channel Out	830.6		on right, dry
Side Channel In	846.2	0.1	on left
Side Channel Out	858.3		on left
Underground	858.3		from 850.9 m to 858.3 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Cold Spring Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary at edge of timber harvest.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Dull Hunt Hollow
District:	Dry River
USGS Quadrangle:	Cow Knob/Rawley Springs
Survey Date:	06/27/02
Downstream Starting Point:	Confluence with Bible Run
Total Distance Surveyed (km):	3.0

	Pools	Riffles
Percent of Total Stream Area:	25	75
Total Area (m ²):	1852±730	5548±4304
Correction Factor Applied:	0.87	1.25
Number of Paired Samples:	6	6
Total Count:	59	62
Number per km:	20	21
Mean Area (m ²):	31	89
Mean Maximum Depth (cm):	43	20
Mean Average Depth (cm):	28	12
Mean Residual Depth (cm):	20	--
Percent Surveyed as Glides:	14	--
Percent Surveyed as Runs:	--	2
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	0	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	84
< 5 m long, > 55 cm diameter:	0
> 5 m long, 10 cm – 55 cm diameter:	16
> 5 m long, > 55 cm diameter:	0
Total:	100

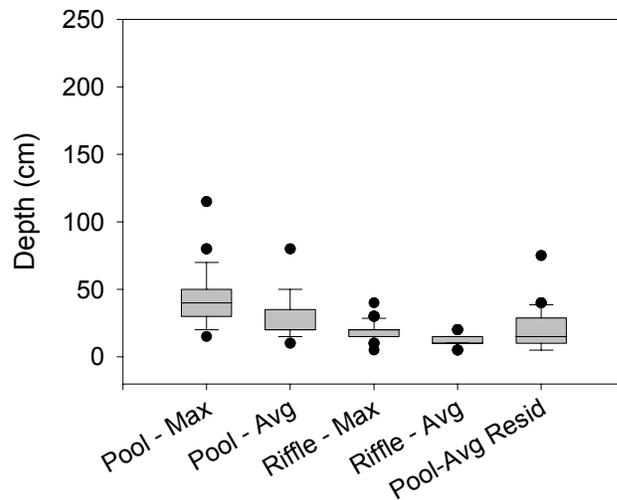
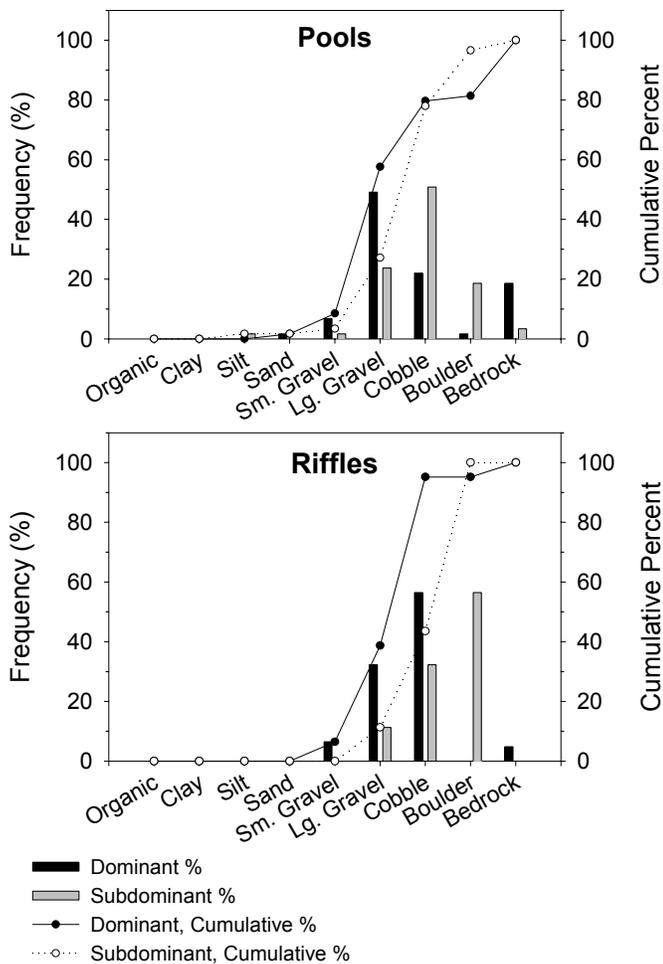
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	20	6
Maximum	22	14
75 th Percentile	21	9
25 th Percentile	19	2
Minimum	16	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

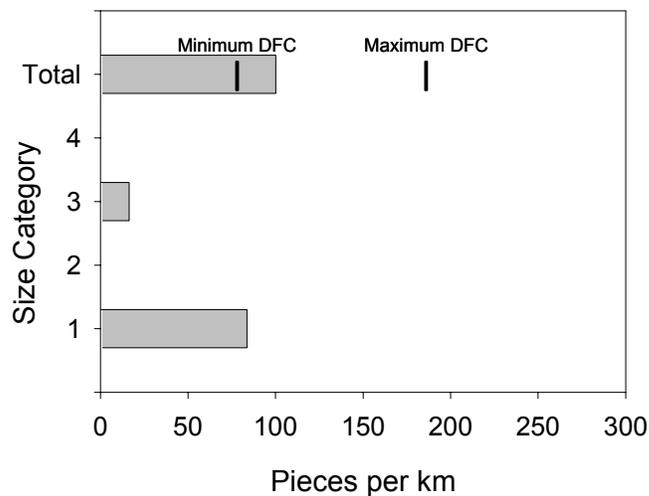
Rosgen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	7
Mean Channel Gradient (%):	3
Median Water Temperature (C):	16



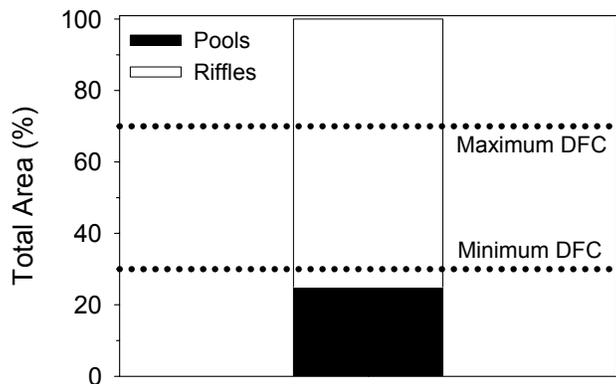
Maximum and average depths and residual pool depths for pools and riffles in Dull Hunt Hollow, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Dull Hunt Hollow, summer 2002.



LWD per kilometer in Dull Hunt Hollow, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

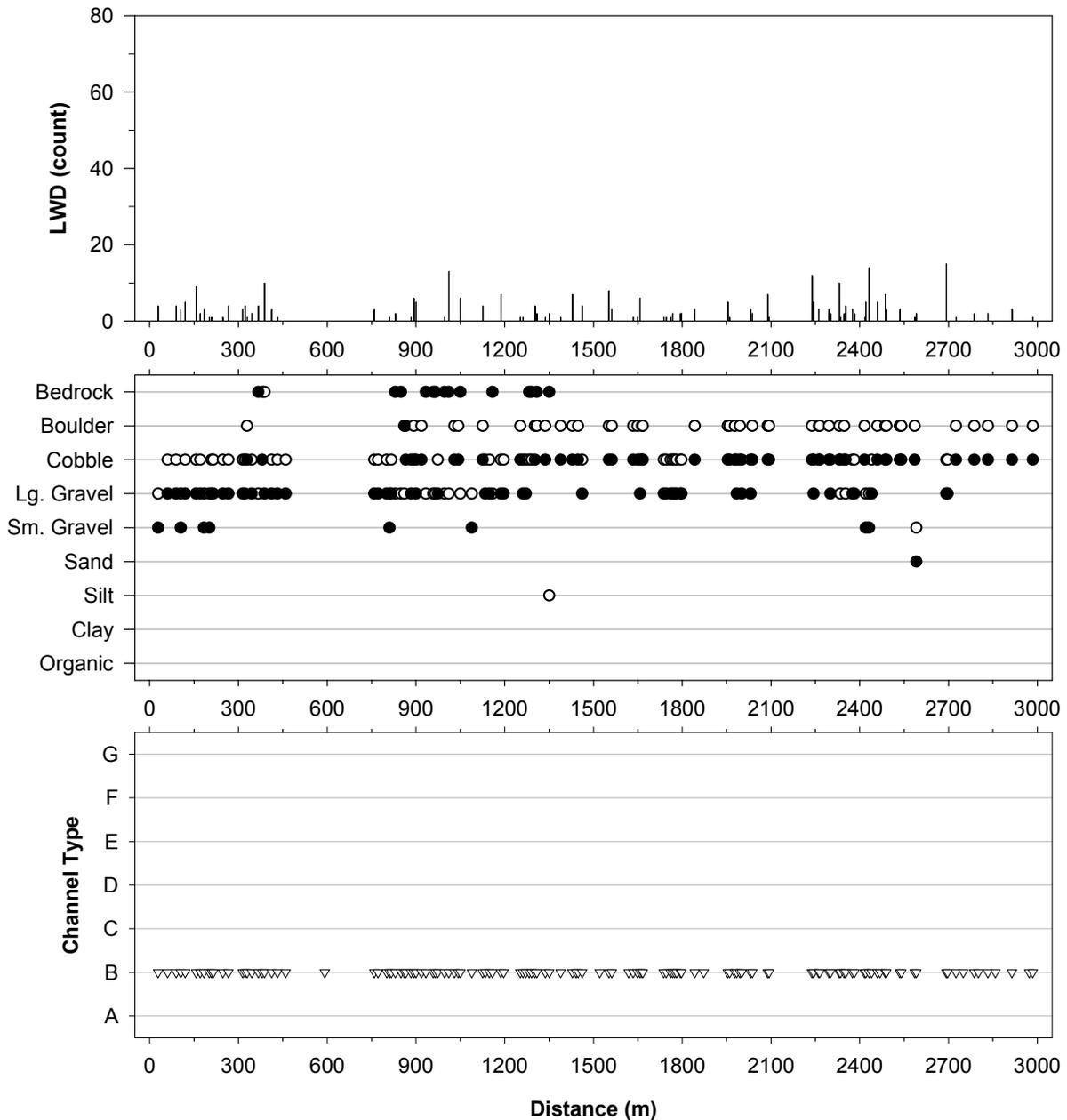
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Dull Hunt Hollow in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Dull Hunt Hollow during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Trail Crossing	410.1		USFS trail 422
Side Channel	472.7		
Underground	592.0		from 459.8 m to 592.0 m
Tributary	852.6	0.5	on left
Seep	985.3		on left
Seep	1007.3		on left
Tributary	1269.7		on left
Underground	1440.6		from 1428.3 m to 1440.6 m
Underground	1520.7		from 1461.3 m to 1520.7 m
Underground	1618.5		from 1561.7 m to 1618.5 m
Road Crossing	1702.6		USFS Road 240
Tributary	1725.5		on left, dry
Tributary	1797.1		on right
Underground	1872.6		from 1842.1 m to 1872.6 m
Tributary	2284.4		on right
Underground	2468.7		from 2459.5 m to 2468.7 m
Tributary	2568.8		on right, dry
Underground	2749.6		from 2725.0 m to 2749.6 m
Tributary	2765.1		on left
Underground	2800.6		from 2786.6 m to 2800.6 m
Underground	2858.2		from 2832.8 m to 2858.2 m
Underground	2972.6		from 2914.2 m to 2972.6 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Dull Hunt Hollow, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from the confluence with Bible Run.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	German River
District:	Dry River
USGS Quadrangle:	Cow Knob
Survey Date:	06/26/02
Downstream Starting Point:	USFS Boundary off FS road 232
Total Distance Surveyed (km):	2.8

	Pools	Riffles
Percent of Total Stream Area:	23	77
Total Area (m ²):	1131±76	3717±383
Correction Factor Applied:	0.93	1.13
Number of Paired Samples:	7	7
Total Count:	72	70
Number per km:	26	25
Mean Area (m ²):	16	53
Mean Maximum Depth (cm):	40	20
Mean Average Depth (cm):	21	7
Mean Residual Depth (cm):	6	--
Percent Surveyed as Glides:	8	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	31	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	44
< 5 m long, > 55 cm diameter:	20
> 5 m long, 10 cm – 55 cm diameter:	40
> 5 m long, > 55 cm diameter:	29
Total:	133

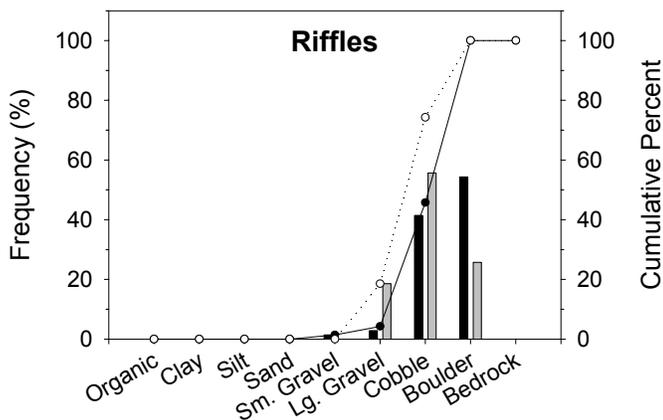
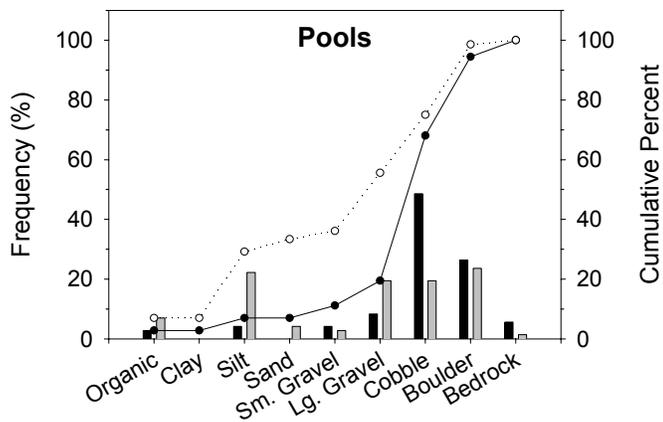
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	13	4
Maximum	17	10
75 th Percentile	15	6
25 th Percentile	11	2
Minimum	7	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

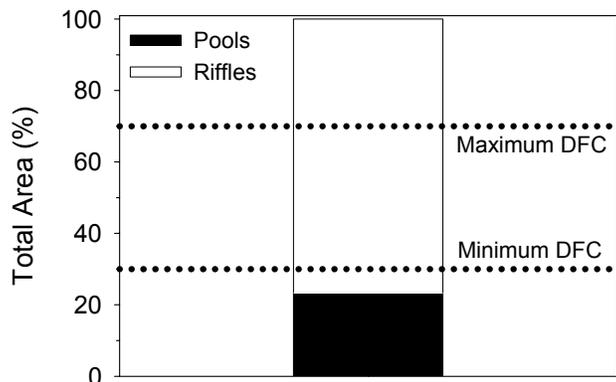
Rosgen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	5
Mean Channel Gradient (%):	7
Median Water Temperature (C):	15

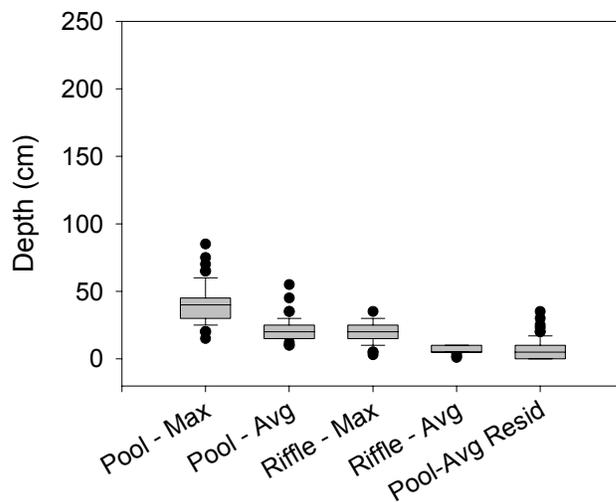


- █ Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

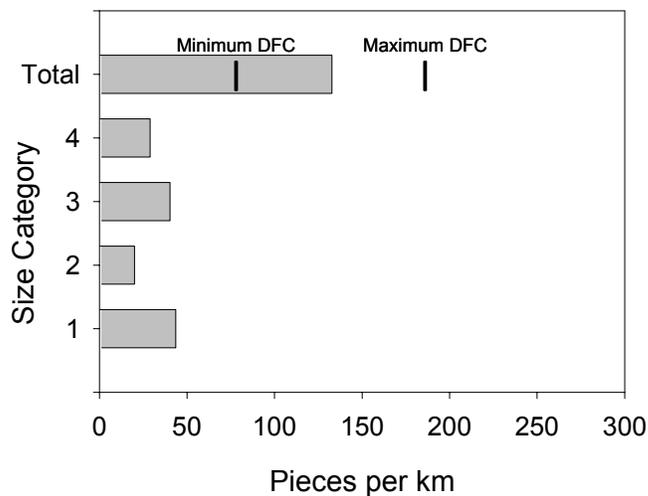
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in the German River, summer 2002.



Estimated area of the German River in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.



Maximum and average depths and residual pool depths for pools and riffles in the German River, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

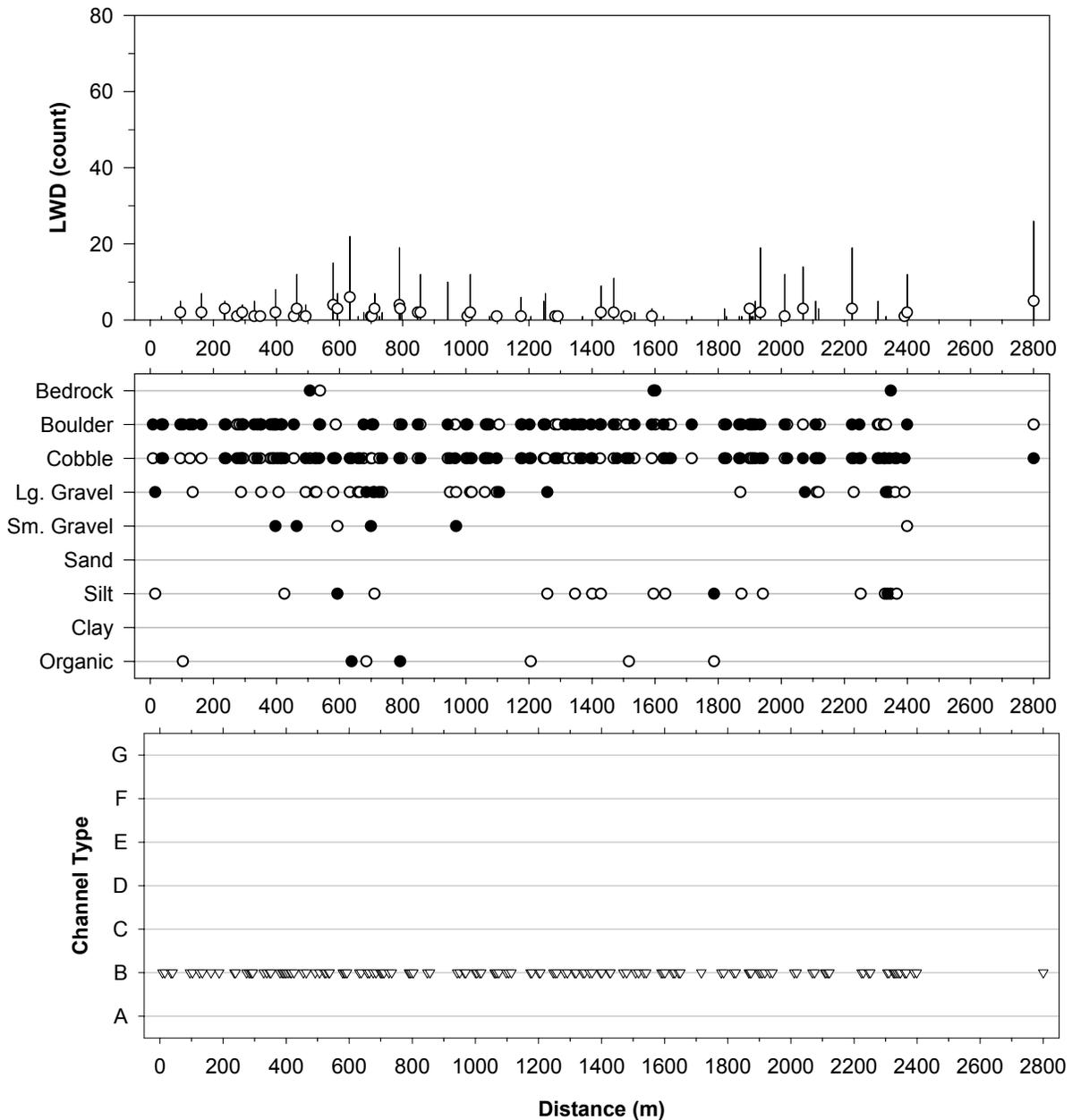


LWD per kilometer in the German River, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on the German River during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Ford	121.3		USFS Road 1117
Underground	187.5		from 161.7 m to 187.5 m
Underground	802.7		from 796.7 m to 802.7 m
Side Channel In	1060.3		on left
Side Channel In	1105.0		on left
Underground	1114.2		from 1105.0 m to 1114.2 m
Underground	1779.8		from 1716.2 m to 1779.8
Tributary	1957.0		on right
Tributary	2432.3		on right



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in the German River, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary off FS road 232.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Seventy Buck Lick Run
District:	Dry River
USGS Quadrangle:	Cow Knob
Survey Date:	06/30/02
Downstream Starting Point:	Confluence with Clay Lick Hollow
Total Distance Surveyed (km):	1.7

	Pools	Riffles
Percent of Total Stream Area:	36	64
Total Area (m ²):	591±95	1064±205
Correction Factor Applied:	1.00	1.05
Number of Paired Samples:	4	4
Total Count:	47	47
Number per km:	27	27
Mean Area (m ²):	13	23
Mean Maximum Depth (cm):	31	13
Mean Average Depth (cm):	17	5
Mean Residual Depth (cm):	7	--
Percent Surveyed as Glides:	13	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	28	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	22
< 5 m long, > 55 cm diameter:	14
> 5 m long, 10 cm – 55 cm diameter:	24
> 5 m long, > 55 cm diameter:	15
Total:	75

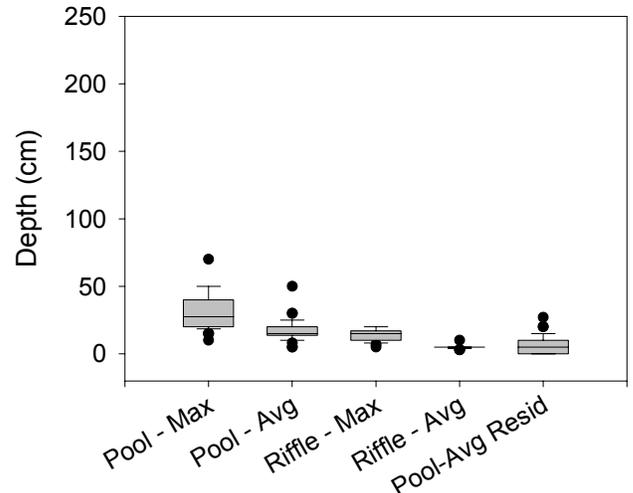
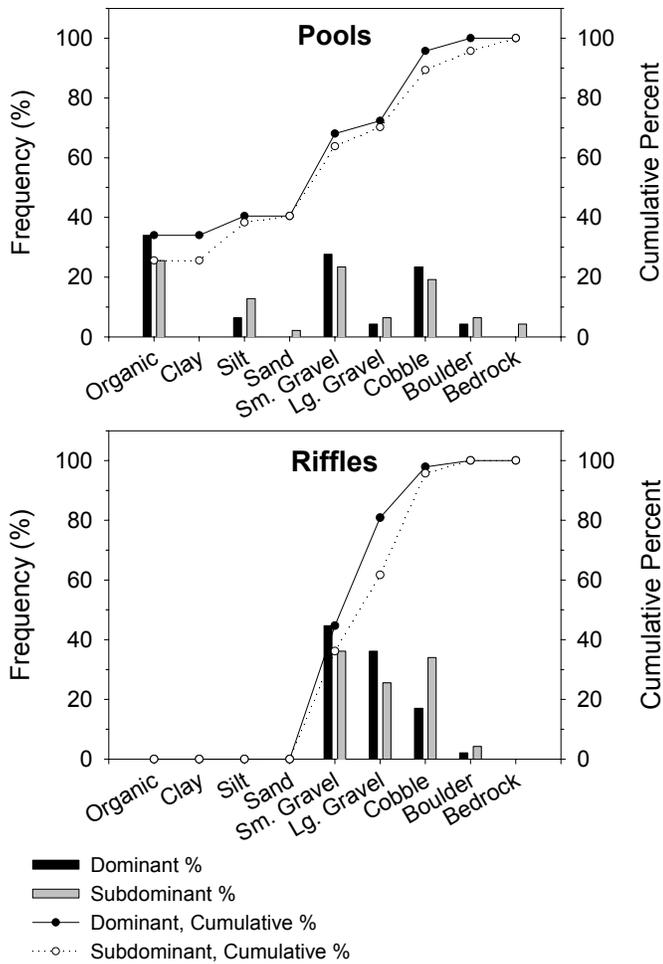
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	12	4
Maximum	18	13
75 th Percentile	14	5
25 th Percentile	10	1
Minimum	5	0

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

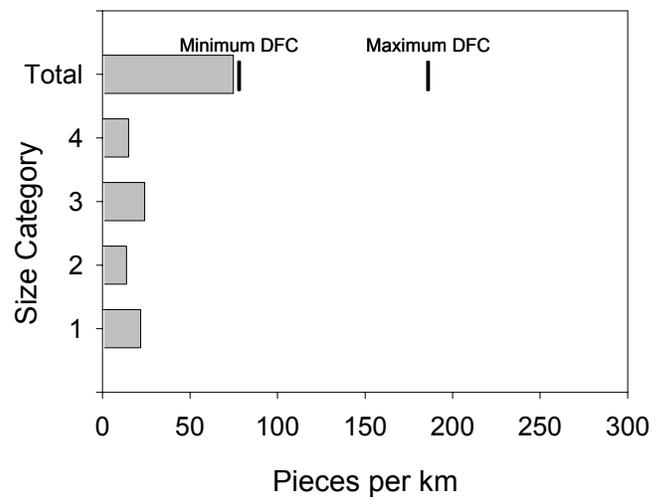
Rosgen's Channel Type	Frequency (%)
A:	21
B:	20
C:	0
D:	0
E:	0
F:	0
G:	60

Other Stream Attributes	
Mean Bankfull Channel Width (m):	4
Mean Channel Gradient (%):	5
Median Water Temperature (C):	17



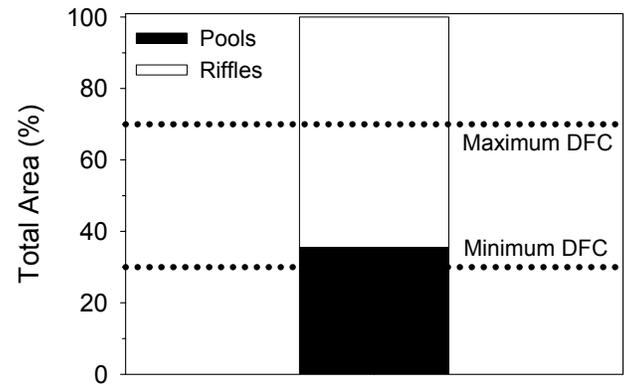
Maximum and average depths and residual pool depths for pools and riffles in Seventy Buck Lick Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Seventy Buck Lick Run, summer 2002.



LWD per kilometer in Seventy Buck Lick Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

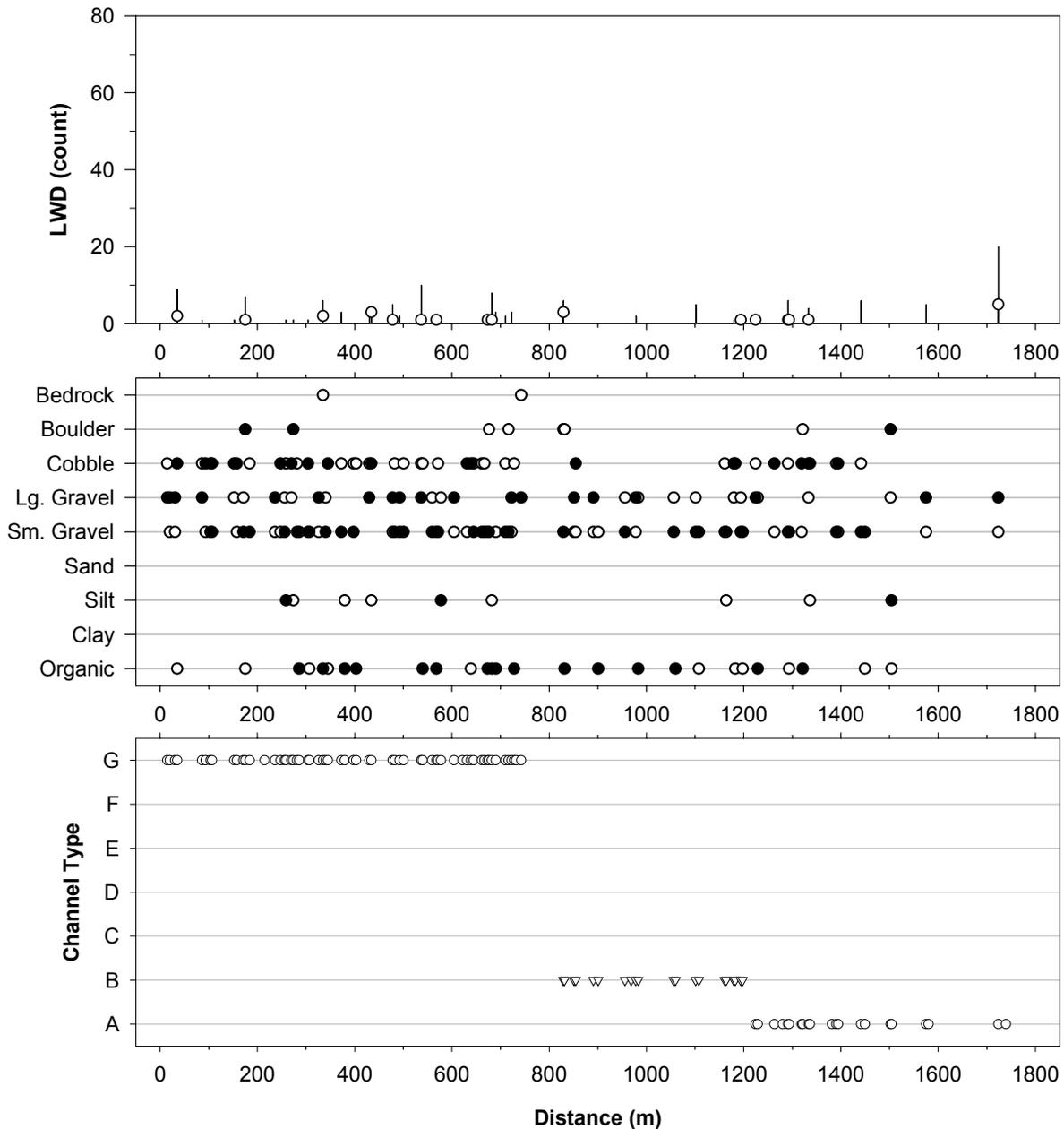
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Seventy Buck Lick Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Seventy Buck Lick Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	214.8		from 183.8 m to 214.8 m
Underground	621.9		from 604.5 m to 621.9 m
Underground	732.0		from 727.8 m to 732.0 m
Trail Crossing	862.0		
Underground	968.7		from 955.9 m to 968.7 m
Trail Crossing	1182.7		
Underground	1280.0		from 1263.2 m to 1280.0 m
Underground	1381.6		from 1336.3 m to 1381.6 m
Underground	1739.4		from 1723.7 m to 1739.4 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Seventy Buck Lick Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from the confluence with Clay Lick Hollow.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Snake Hollow
District:	Dry River
USGS Quadrangle:	Cow Knob
Survey Date:	06/27/02
Downstream Starting Point:	USFS Boundary off of FS road 1280
Total Distance Surveyed (km):	0.5

	Pools	Riffles
Percent of Total Stream Area:	12	88
Total Area (m ²):	37±*	283±*
Correction Factor Applied:	1.00	1.50
Number of Paired Samples:	1	1
Total Count:	5	9
Number per km:	9	16
Mean Area (m ²):	7	31
Mean Maximum Depth (cm):	33	12
Mean Average Depth (cm):	19	4
Mean Residual Depth (cm):	9	--
Percent Surveyed as Glides:	40	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	11
Percent with Substrate > 35% Embedded:	80	--

*Could not be calculated, not enough paired samples

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	38
< 5 m long, > 55 cm diameter:	2
> 5 m long, 10 cm – 55 cm diameter:	7
> 5 m long, > 55 cm diameter:	2
Total:	49

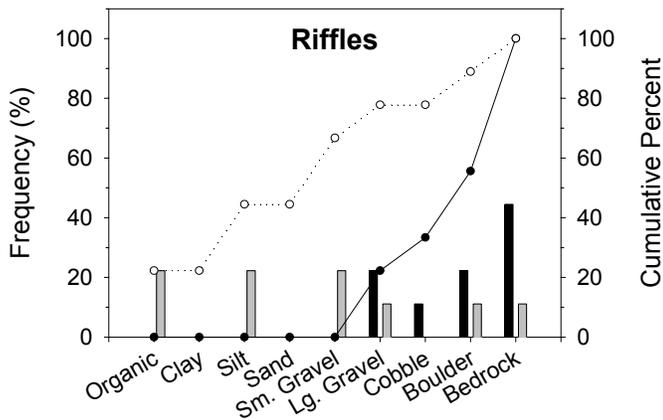
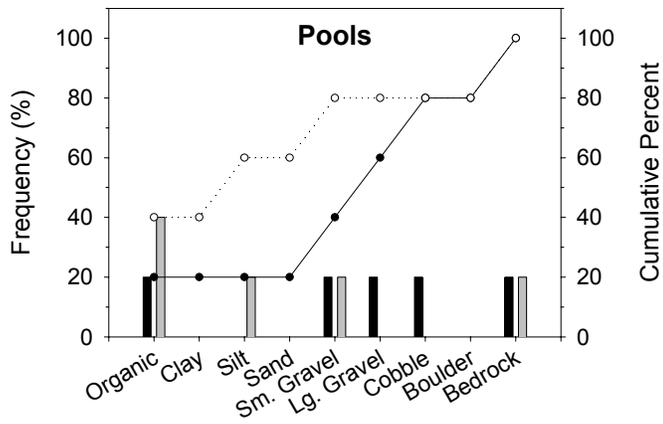
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	5	1
Maximum	5	1
75 th Percentile	5	1
25 th Percentile	5	1
Minimum	5	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

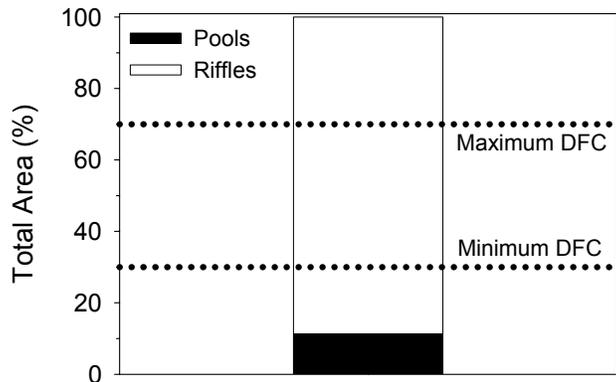
Rosgen's Channel Type	Frequency (%)
A:	100
B:	0
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	4
Mean Channel Gradient (%):	9
Median Water Temperature (C):	Not Recorded

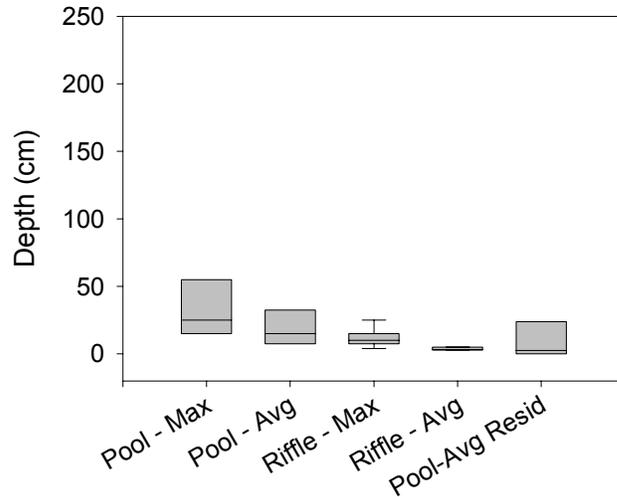


- Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

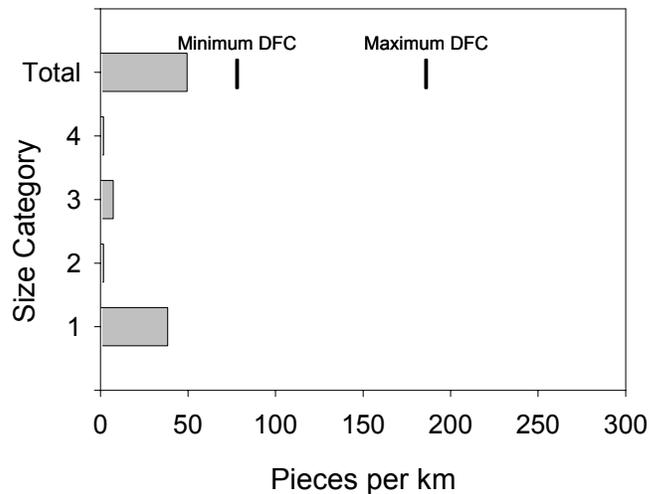
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Snake Hollow, summer 2002.



Estimated area of Snake Hollow in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.



Maximum and average depths and residual pool depths for pools and riffles in Snake Hollow, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

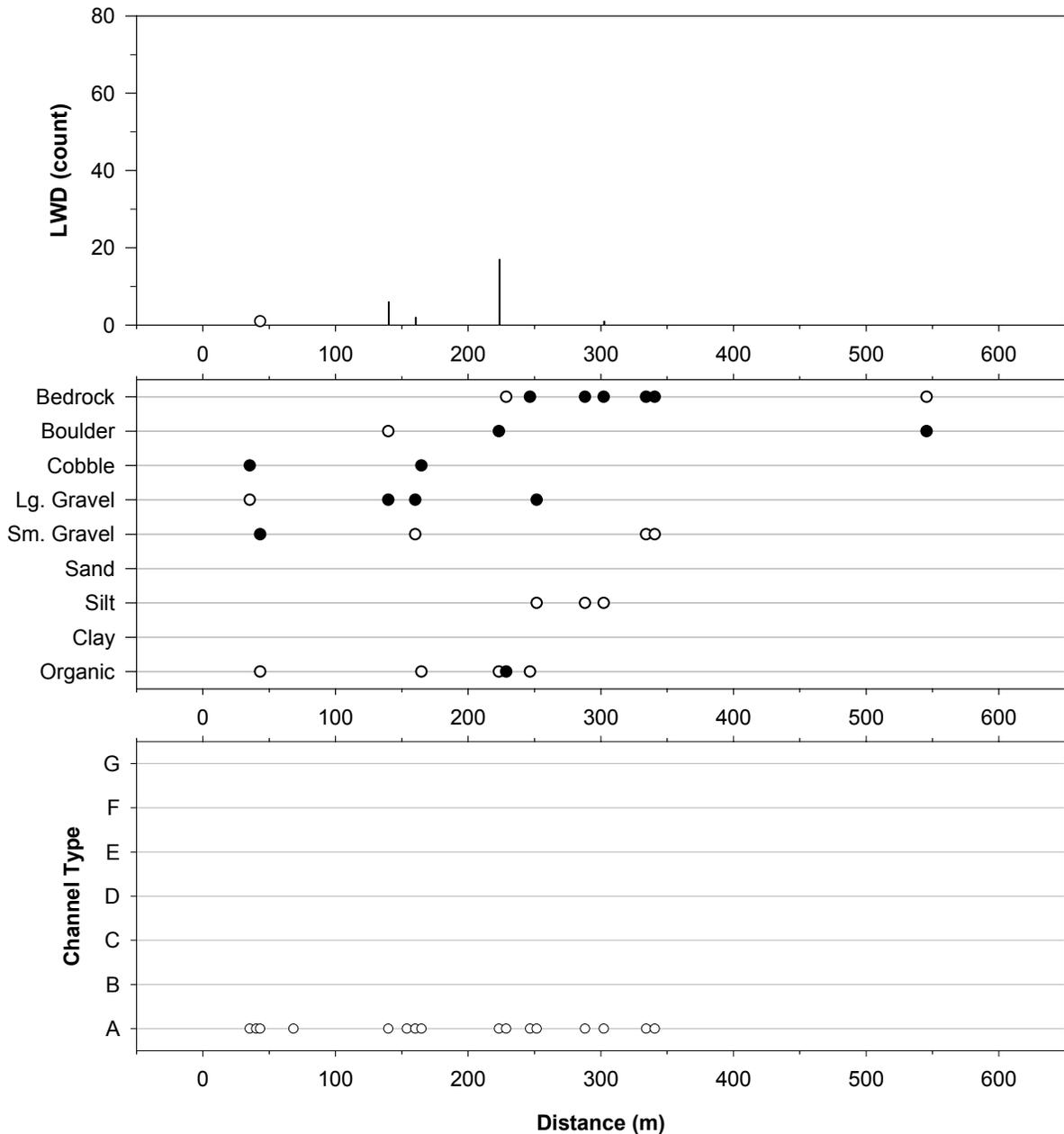


LWD per kilometer in Snake Hollow, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Snake Hollow during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	40.2		from 35.3 m to 40.2 m
Underground	68.2		from 43.2 m to 68.2 m
Underground	153.8		from 139.7 m to 153.8 m
Tributary	325.0		on right
Tributary	337.8		on right



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Snake Hollow, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary off FS road 1280.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Straight Hollow Run
District:	Dry River
USGS Quadrangle:	Cow Knob/Rawley Springs
Survey Date:	06/12/02
Downstream Starting Point:	Confluence with Spruce Lick Run
Total Distance Surveyed (km):	3.0

	Pools	Riffles
Percent of Total Stream Area:	12	88
Total Area (m ²):	719±258	5090±3999
Correction Factor Applied:	0.90	1.11
Number of Paired Samples:	4	4
Total Count:	37	40
Number per km:	12	13
Mean Area (m ²):	19	127
Mean Maximum Depth (cm):	38	21
Mean Average Depth (cm):	27	12
Mean Residual Depth (cm):	16	--
Percent Surveyed as Glides:	0	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	3
Percent with Substrate > 35% Embedded:	5	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	52
< 5 m long, > 55 cm diameter:	3
> 5 m long, 10 cm – 55 cm diameter:	18
> 5 m long, > 55 cm diameter:	14
Total:	86

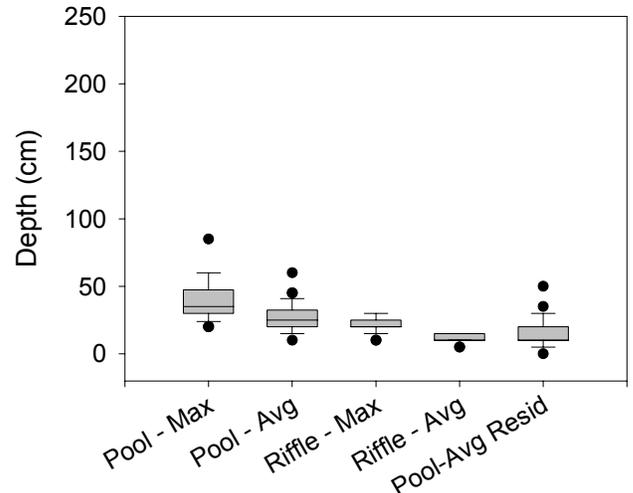
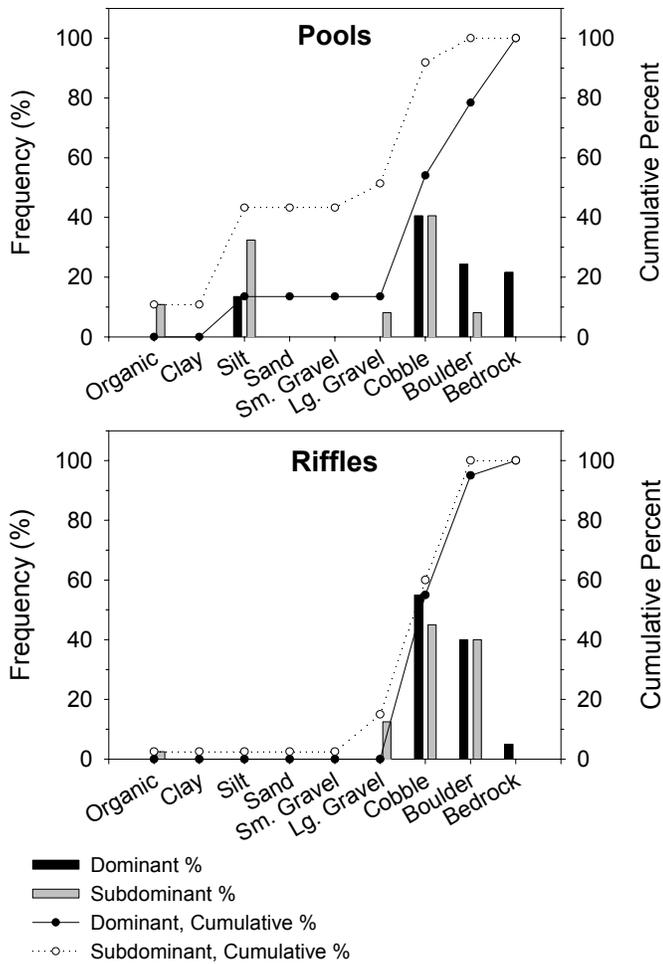
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	15	4
Maximum	22	12
75 th Percentile	16	6
25 th Percentile	11	1
Minimum	10	0

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

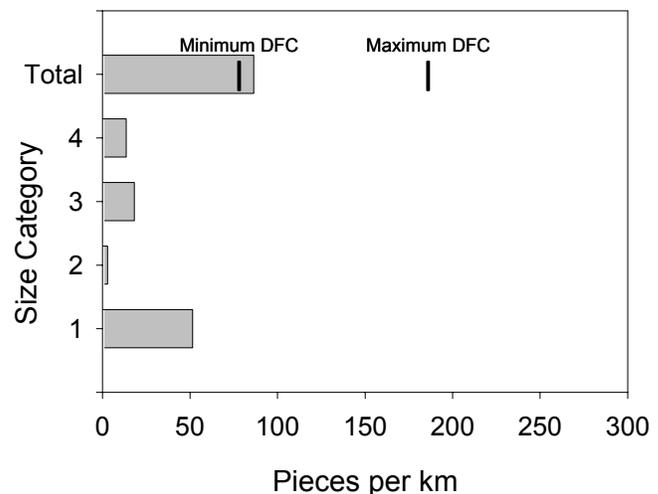
Rosgen's Channel Type	Frequency (%)
A:	23
B:	70
C:	6
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	6
Mean Channel Gradient (%):	6
Median Water Temperature (C):	17



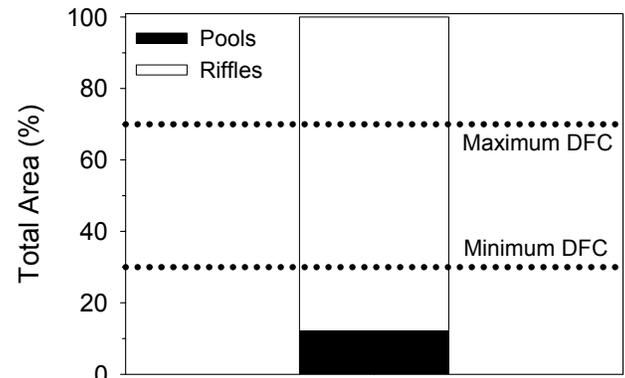
Maximum and average depths and residual pool depths for pools and riffles in Straight Hollow Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Straight Hollow Run, summer 2002.



LWD per kilometer in Straight Hollow Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

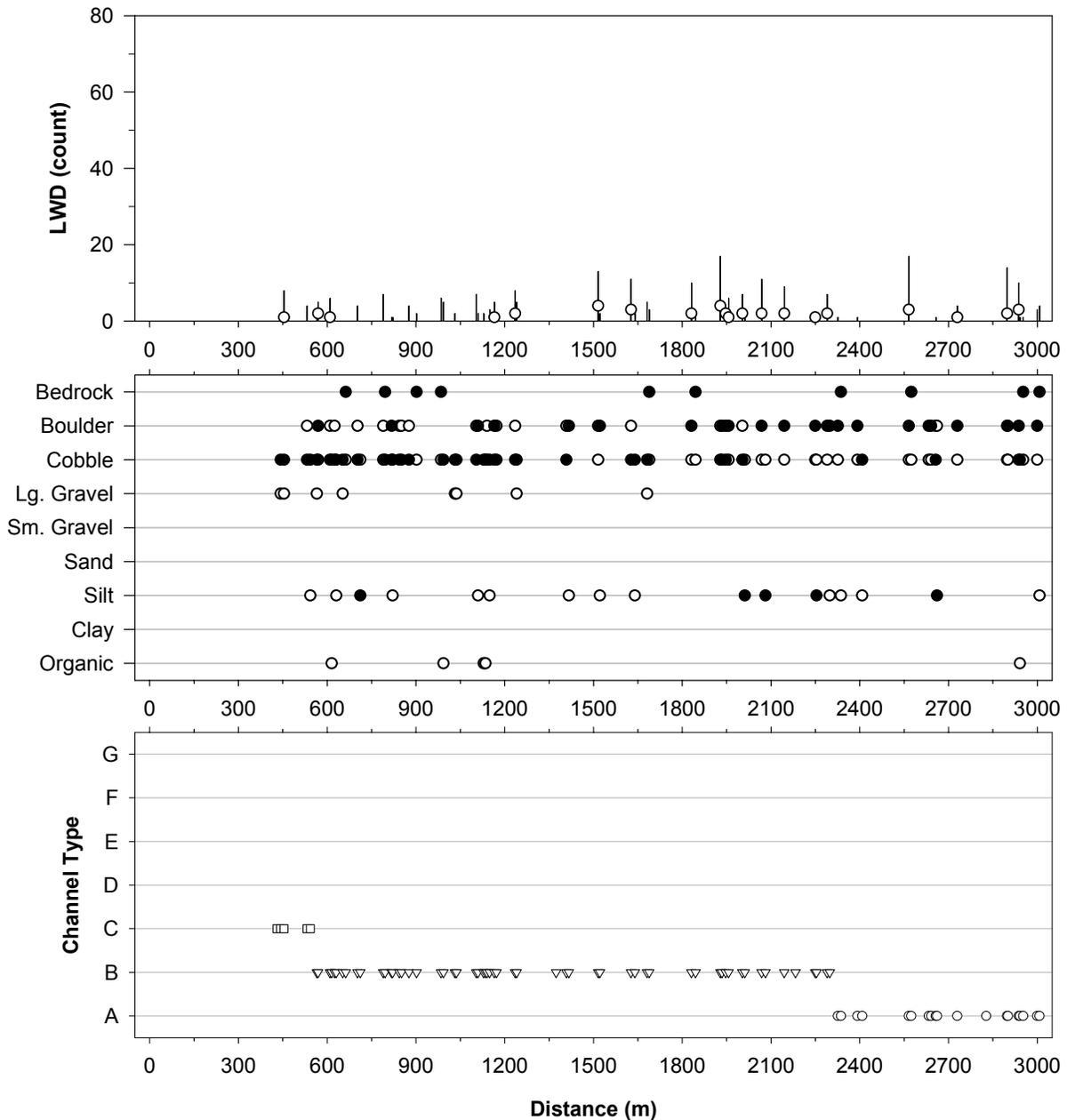
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Straight Hollow Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Straight Hollow Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	431.0		from 0.0 m to 431 m
Tributary	946.9		on left, dry
Tributary	1036.6	1.0	on right
Tributary	1183.7		on left, dry
Underground	1373.7		from 1240.4 m to 1373.7 m
Tributary	1554.5		on right, dry
Side Channel In	1946.6	1.0	on left
Side Channel Out	2002.9		on left, dry
Side Channel In	2116.9	1.0	on right
Side Channel Out	2156.8		on right, dry
Underground	2183.0		from 2144.7 m to 2183.0 m
Side Channel In	2446.3	0.5	on right
Tributary	2457.5	0.5	on left
Side Channel Out	2479.3		on left
Tributary	2620.2		on left
Trail Crossing	2651.1		
Underground	2827.3		from 2729.3 m to 2827.3 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Straight Hollow Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from confluence with Spruce Lick Run.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Sumac Run
District:	Dry River
USGS Quadrangle:	Cow Knob
Survey Date:	06/27/02
Downstream Starting Point:	USFS Boundary off FS road 232A
Total Distance Surveyed (km):	1.6

	Pools	Riffles
Percent of Total Stream Area:	25	75
Total Area (m ²):	314±50	951±482
Correction Factor Applied:	0.93	0.83
Number of Paired Samples:	4	3
Total Count:	37	35
Number per km:	23	22
Mean Area (m ²):	8	27
Mean Maximum Depth (cm):	26	12
Mean Average Depth (cm):	16	4
Mean Residual Depth (cm):	5	--
Percent Surveyed as Glides:	24	--
Percent Surveyed as Runs:	--	3
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	78	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	55
< 5 m long, > 55 cm diameter:	6
> 5 m long, 10 cm – 55 cm diameter:	19
> 5 m long, > 55 cm diameter:	3
Total:	83

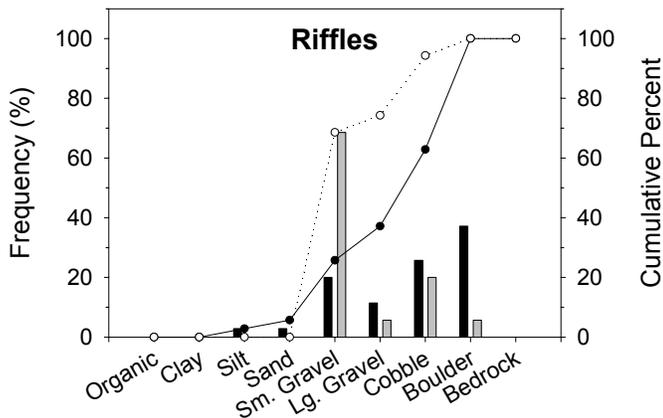
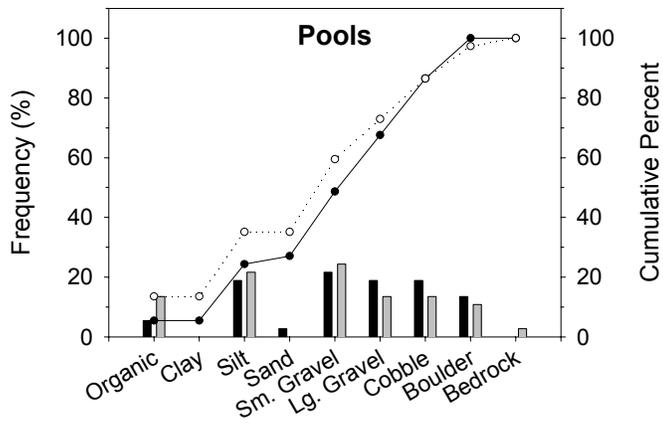
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	15	6
Maximum	18	12
75 th Percentile	17	8
25 th Percentile	14	3
Minimum	12	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

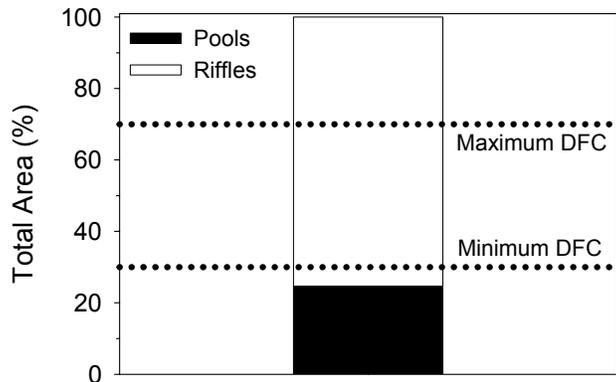
Rosgen's Channel Type	Frequency (%)
A:	Not Recorded
B:	
C:	
D:	
E:	
F:	
G:	

Other Stream Attributes	
Mean Bankfull Channel Width (m):	4
Mean Channel Gradient (%):	7
Median Water Temperature (C):	16

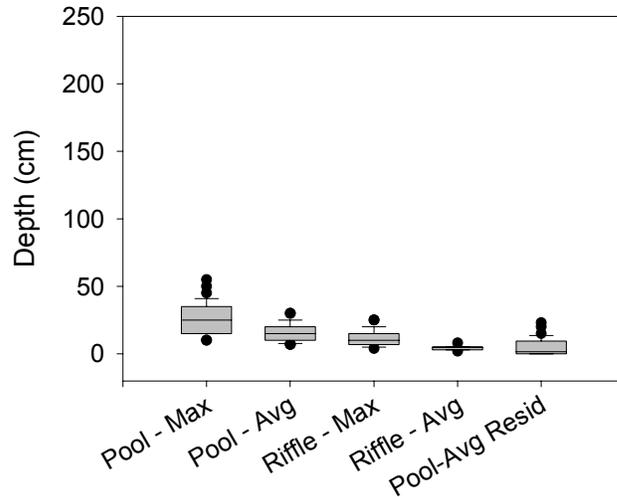


- Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

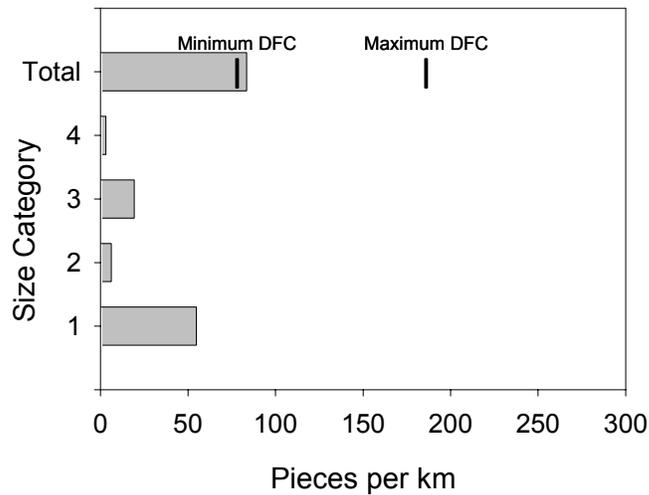
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Sumac Run, summer 2002.



Estimated area of Sumac Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.



Maximum and average depths and residual pool depths for pools and riffles in Sumac Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

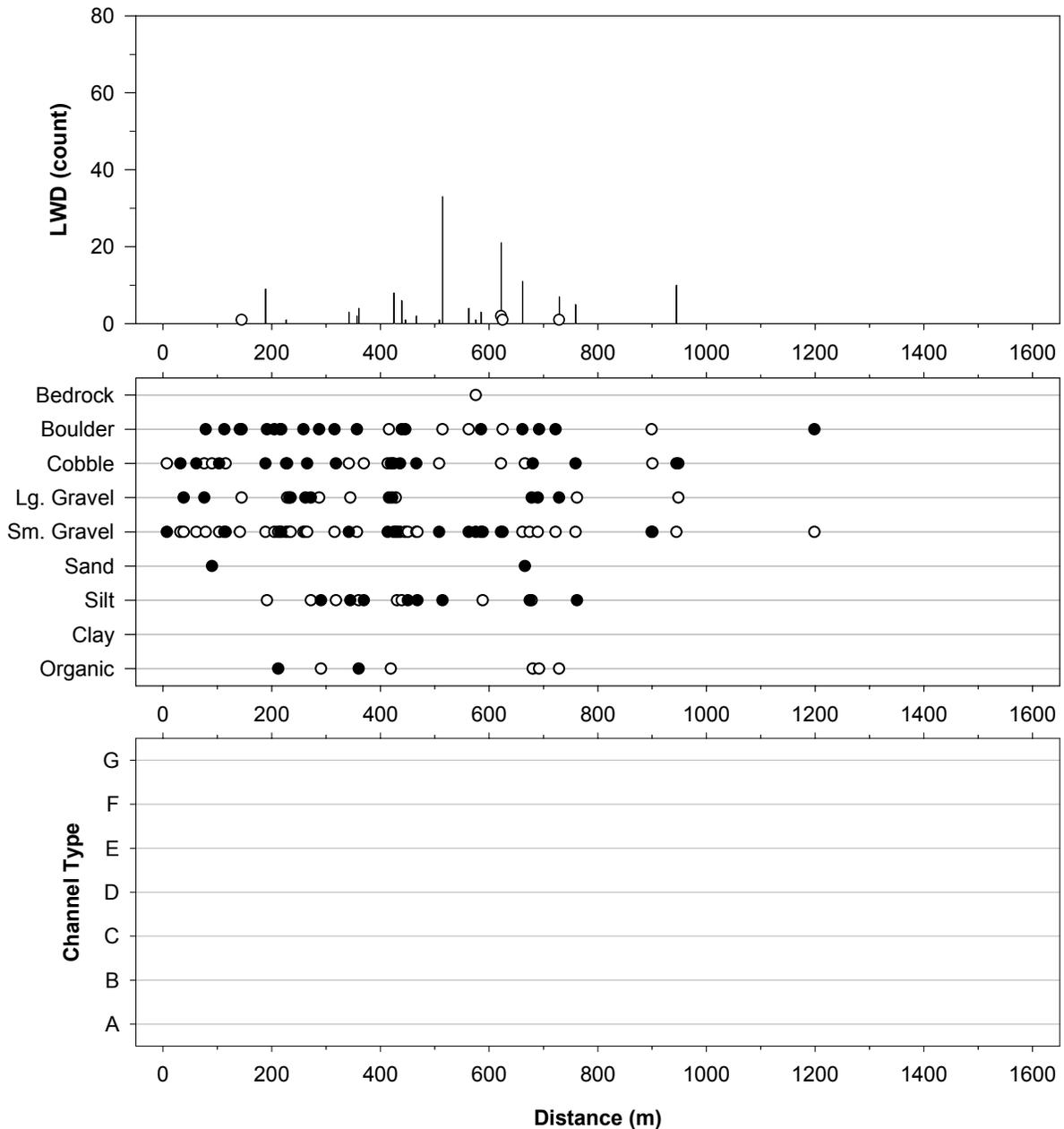


LWD per kilometer in Sumac Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Sumac Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Tributary	58.8		on left
Underground	71.1		from 61.1 m to 71.1 m
Underground	197.0		from 191.2 m to 197.0 m
Underground	208.2		from 204.8 m to 208.2 m
Tributary	680.4		on right
Side Channel In	895.0		on left, 50 cm deep pocket pool in side channel
Side Channel Out	912.3		on left
Tributary	939.0		on right
Underground	1605.2		from 1198.4 m to 1605.2 m
Tributary	1261.0		on left



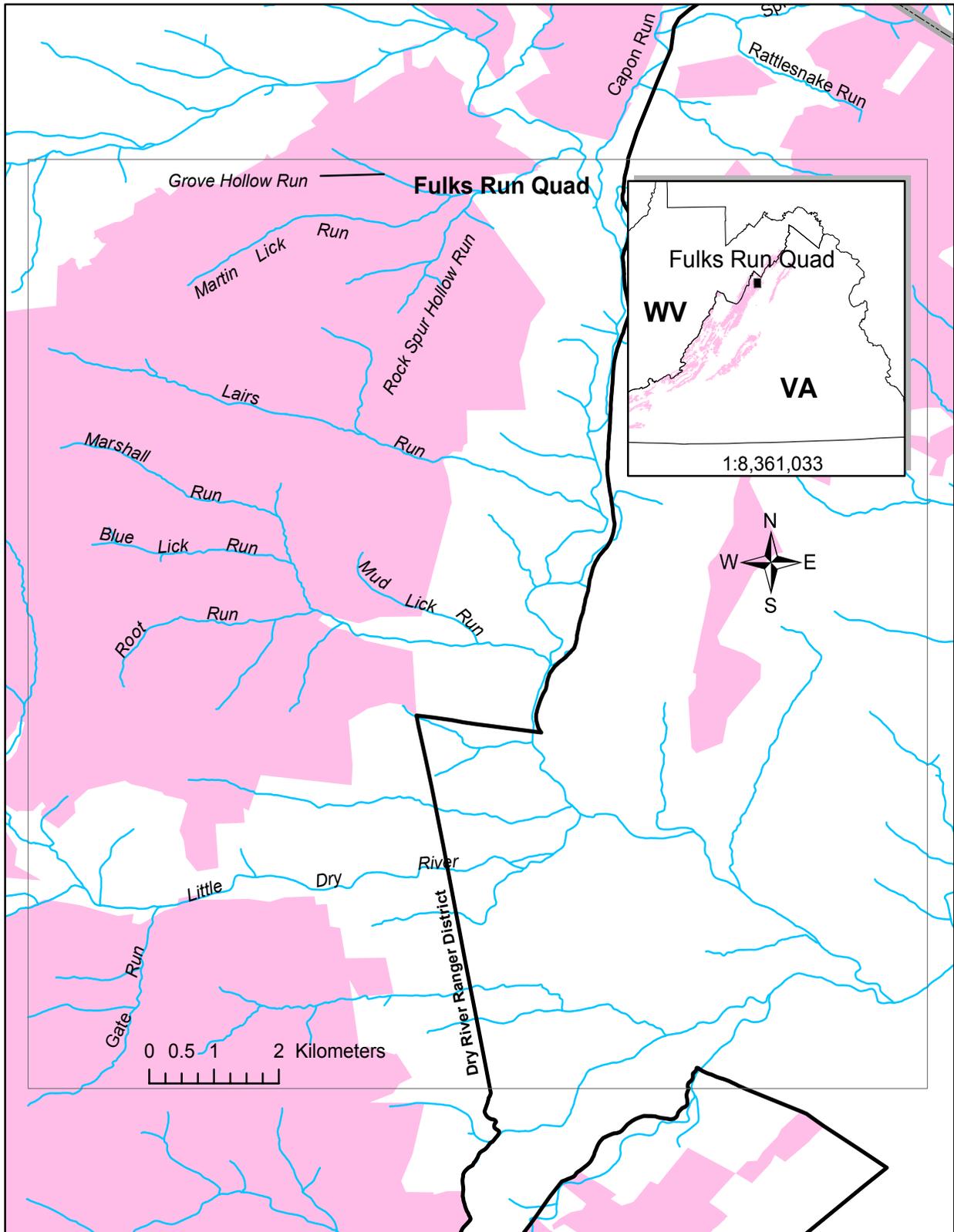
Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Sumac Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary off FS road 232A.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: Data not recorded.

Streams inventoried on the Fulks Run Quadrangle using BVET habitat surveys during summer 2002.



Stream:	Blue Lick Run
District:	Dry River
USGS Quadrangle:	Fulks Run
Survey Date:	06/25/02
Downstream Starting Point:	Confluence with Marshall Run
Total Distance Surveyed (km):	1.6

	Pools	Riffles
Percent of Total Stream Area:	29	71
Total Area (m ²):	487±129	1218±209
Correction Factor Applied:	0.97	1.29
Number of Paired Samples:	5	5
Total Count:	53	47
Number per km:	34	30
Mean Area (m ²):	9	26
Mean Maximum Depth (cm):	22	12
Mean Average Depth (cm):	14	4
Mean Residual Depth (cm):	11	--
Percent Surveyed as Glides:	8	--
Percent Surveyed as Runs:	--	2
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	4	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	110
< 5 m long, > 55 cm diameter:	6
> 5 m long, 10 cm – 55 cm diameter:	96
> 5 m long, > 55 cm diameter:	13
Total:	226

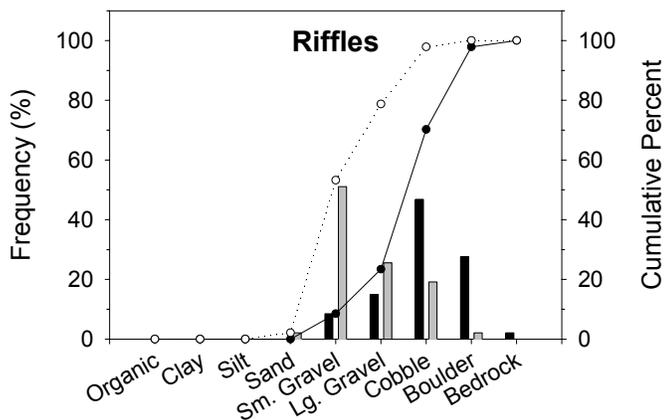
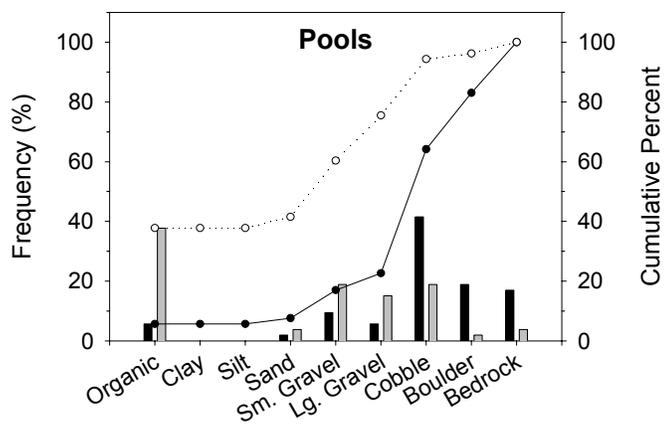
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	13	4
Maximum	19	7
75 th Percentile	16	6
25 th Percentile	11	1
Minimum	7	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

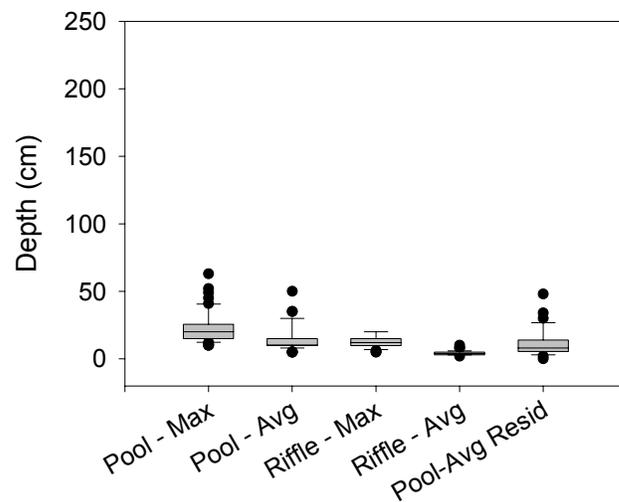
Rosgen's Channel Type	Frequency (%)
A:	0
B:	90
C:	0
D:	0
E:	0
F:	0
G:	10

Other Stream Attributes	
Mean Bankfull Channel Width (m):	6
Mean Channel Gradient (%):	6
Median Water Temperature (C):	19

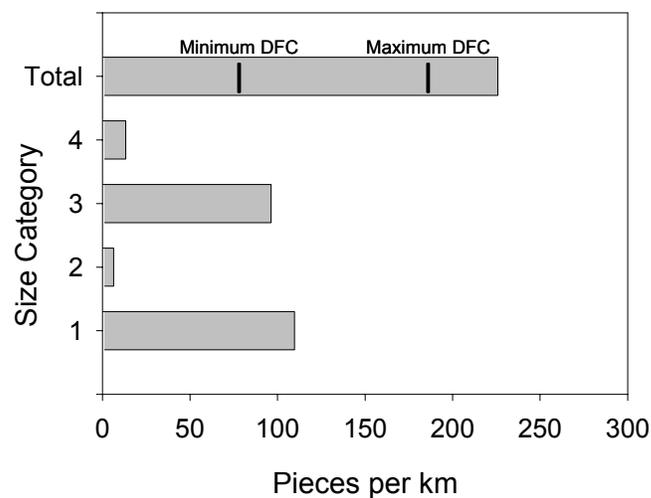


- █ Dominant %
- █ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Blue Lick Run, summer 2002.

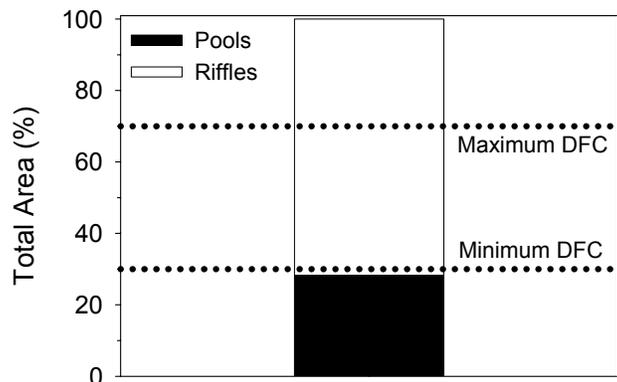


Maximum and average depths and residual pool depths for pools and riffles in Blue Lick Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.



LWD per kilometer in Blue Lick Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

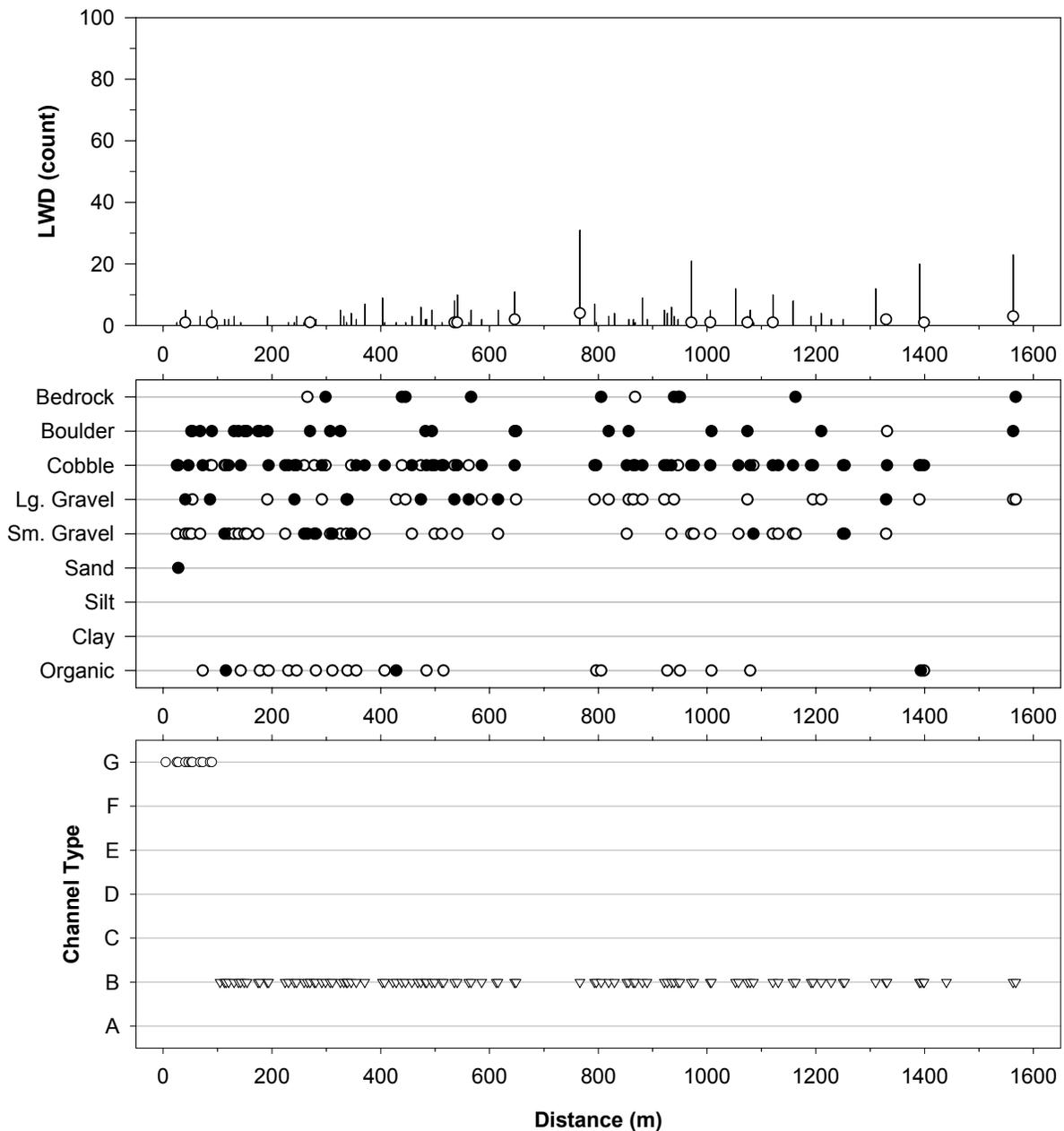
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Blue Lick Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Blue Lick Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	4.9		from 0.0 m to 4.9 m
Underground	104.6		from 89.6 m to 104.6 m
Trail Crossing	323.8		from right to left, not evident on left side
Underground	332.0		from 325.9 m to 332.0 m
Side Channel In	354.9	0.5	on left
Side Channel Out	360.0		on left
Underground	403.1		from 370.7 m to 403.1 m
Underground	422.5		from 407.1 m to 422.5 m
Underground	468.0		from 457.3 m to 468.0 m
Trail Crossing	501.9		
Trail Crossing	585.7		
Underground	612.5		from 585.7 m to 612.8 m
Side Channel Out	748.0		on left
Underground	766.1		from 648.8 m to 766.1 m
Underground	829.5		from 819.0 m to 829.5 m
Side Channel In	868.3	0.3	on right
Side Channel Out	881.1		on right
Underground	889.8		from 881.1 m to 889.8 m
Underground	1052.3		from 1008.1 m to 1052.3 m
Side Channel In	1195.1	0.2	on right
Underground	1228.3		from 1209.8 m to 1228.3 m
Side Channel Out	1243.7		on left
Seep	1249.2		on right
Underground	1309.9		from 1252.9 m to 1309.9 m
Side Channel In	1339.3	0.3	on left
Side Channel Out	1379.0		on left
Underground	1397.7		from 1393.0 m to 1397.7 m
Side Channel Out	1440.0		on left
Underground	1440.0		from 1398.9 m to 1440.0 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Blue Lick Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from confluence with Marshall Run.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Camp Hollow
District:	Dry River
USGS Quadrangle:	Fulks Run
Survey Date:	06/30/02
Downstream Starting Point:	Confluence with Lairs Run
Total Distance Surveyed (km):	1.5

	Pools	Riffles
Percent of Total Stream Area:	18	82
Total Area (m ²):	641±58	2856±234
Correction Factor Applied:	1.03	1.06
Number of Paired Samples:	5	4
Total Count:	54	47
Number per km:	36	31
Mean Area (m ²):	12	61
Mean Maximum Depth (cm):	25	15
Mean Average Depth (cm):	15	7
Mean Residual Depth (cm):	14	--
Percent Surveyed as Glides:	9	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	2
Percent with Substrate > 35% Embedded:	13	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	42
< 5 m long, > 55 cm diameter:	4
> 5 m long, 10 cm – 55 cm diameter:	14
> 5 m long, > 55 cm diameter:	13
Total:	73

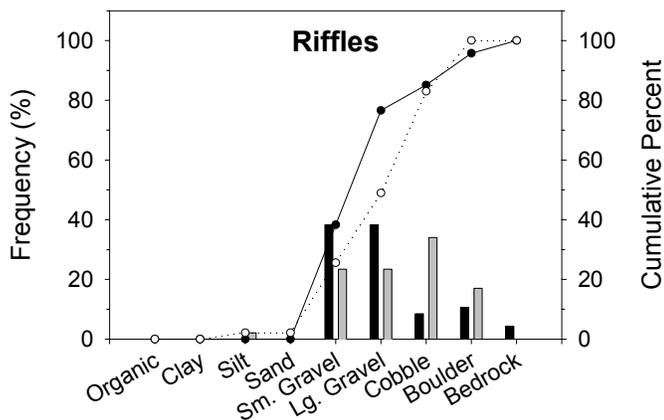
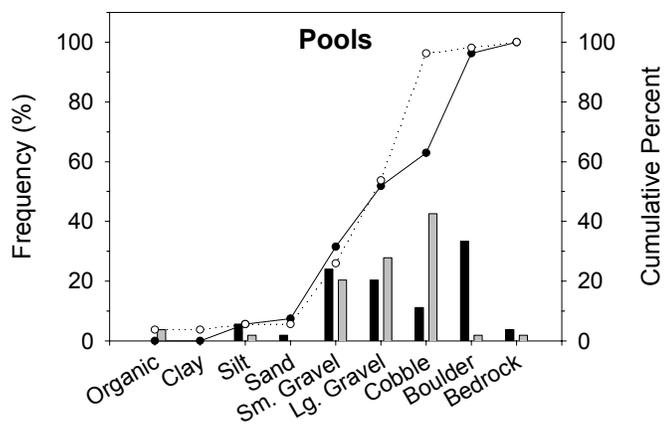
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	11	3
Maximum	13	6
75 th Percentile	13	5
25 th Percentile	10	1
Minimum	5	0

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

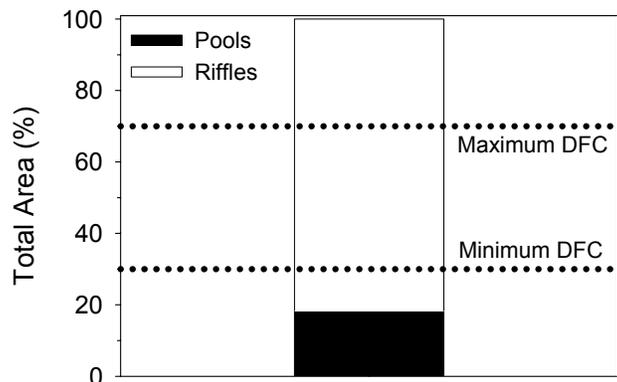
Rosgen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	5
Mean Channel Gradient (%):	5
Median Water Temperature (C):	18

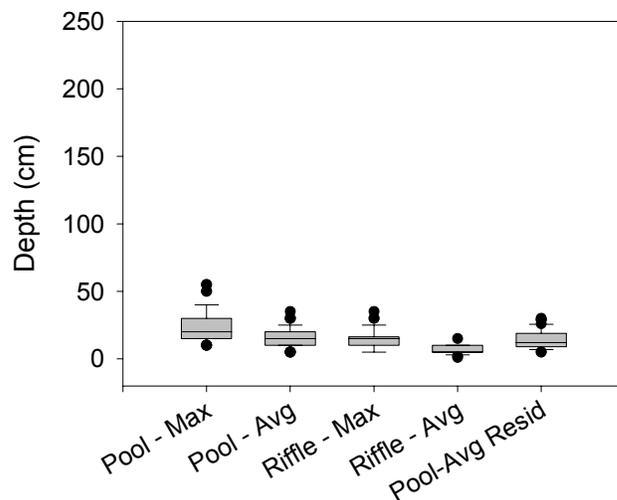


- █ Dominant %
- █ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

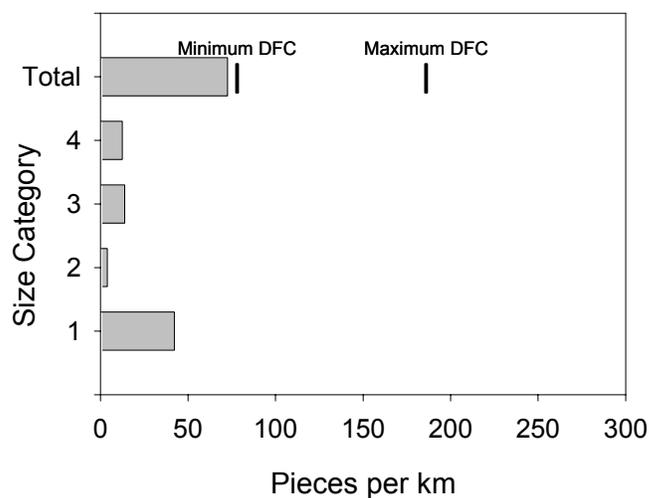
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Camp Hollow, summer 2002.



Estimated area of Camp Hollow in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.



Maximum and average depths and residual pool depths for pools and riffles in Camp Hollow, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

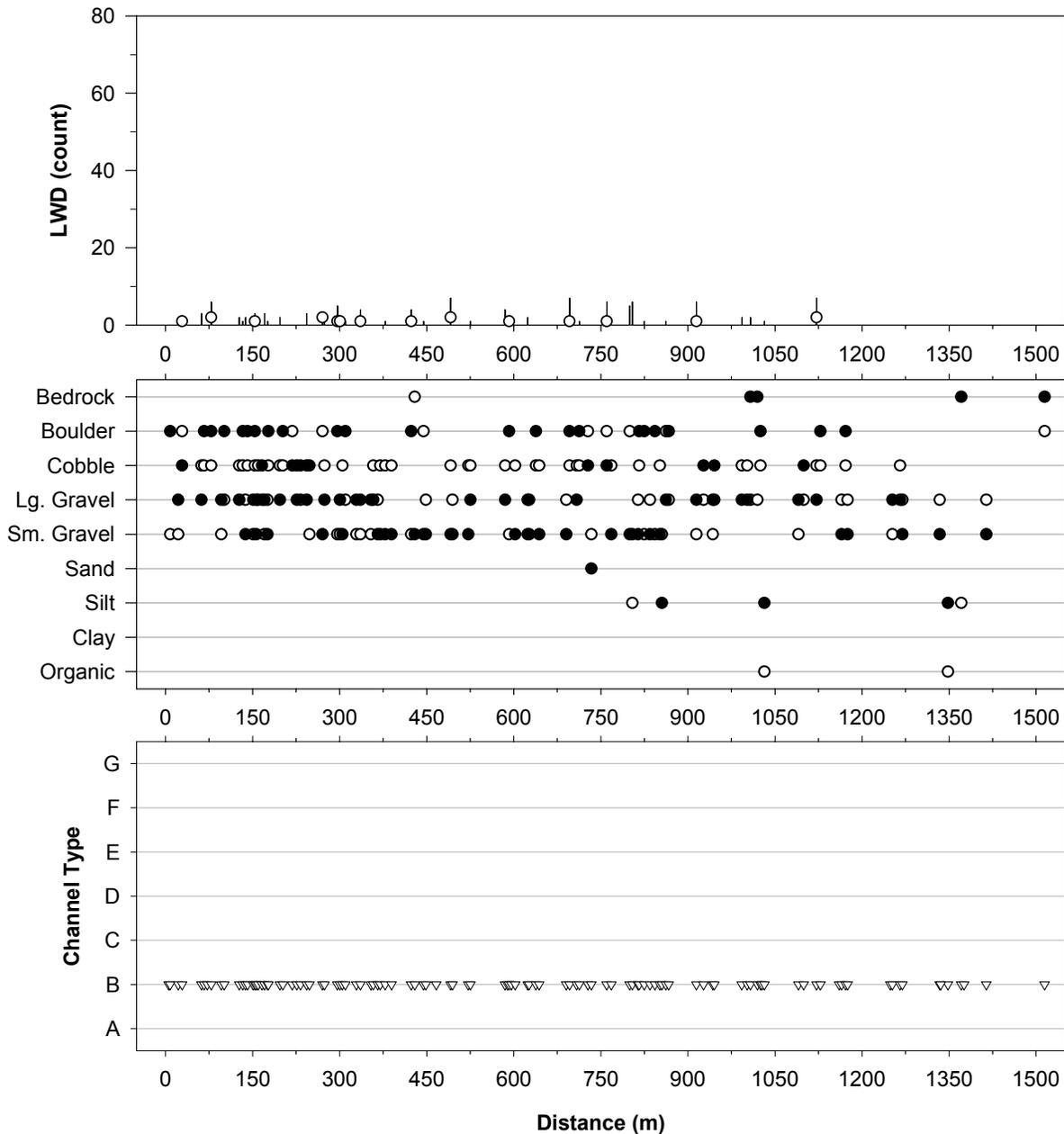


LWD per kilometer in Camp Hollow, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Camp Hollow during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	5.4		from 0.0 m to 5.4 m
Underground	71.6		from 66.3 m to 71.6 m
Trail Crossing	114.9		
Trail Crossing	378.5		
Trail Crossing	466.3		
Trail Crossing	566.0		
Underground	589.3		from 585.0 m to 589.3 m
Underground	595.8		from 591.9 m to 595.8 m
Trail Crossing	715.2		
Side Channel Out	727.6	1.0	on left
Tributary	881.8		on right, dry
Trail Crossing	918.6		
Underground	1027.6		from 1025.1 m to 1027.6 m
Tributary	1070.6	0.5	on left
Trail Crossing	1121.5		
Underground	1160.7		from 1128.2 m to 1160.7 m
Trail Crossing	1223.6		
Trail Crossing	1375.7		
Underground	1375.7		from 1371 m to 1375.7
Side Channel In	1394.9		on left
Side Channel In	1399.4		on right
Tributary	1399.4		on right, dry
Side Channel Out	1414.2		on left
Side Channel Out	1422.3	0.5	on right
Underground	1435.4		from 1414.2 m to 1435.4
Trail Crossing	1477.4		
Tributary	1514.6		on right, dry
Trail Crossing	1514.6		



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Camp Hollow, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from confluence with Lairs Run.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Gate Run
District:	Dry River
USGS Quadrangle:	Fulks Run
Survey Date:	06/04/02
Downstream Starting Point:	USFS Boundary close to FS road 1134 gate
Total Distance Surveyed (km):	3.8

	Pools	Riffles
Percent of Total Stream Area:	23	77
Total Area (m ²):	2305±124	7762±1164
Correction Factor Applied:	1.00	1.06
Number of Paired Samples:	9	8
Total Count:	89	77
Number per km:	23	20
Mean Area (m ²):	26	101
Mean Maximum Depth (cm):	38	23
Mean Average Depth (cm):	25	12
Mean Residual Depth (cm):	16	--
Percent Surveyed as Glides:	6	--
Percent Surveyed as Runs:	--	5
Percent Surveyed as Cascades:	--	1
Percent with Substrate > 35% Embedded:	7	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	69
< 5 m long, > 55 cm diameter:	24
> 5 m long, 10 cm – 55 cm diameter:	7
> 5 m long, > 55 cm diameter:	17
Total:	118

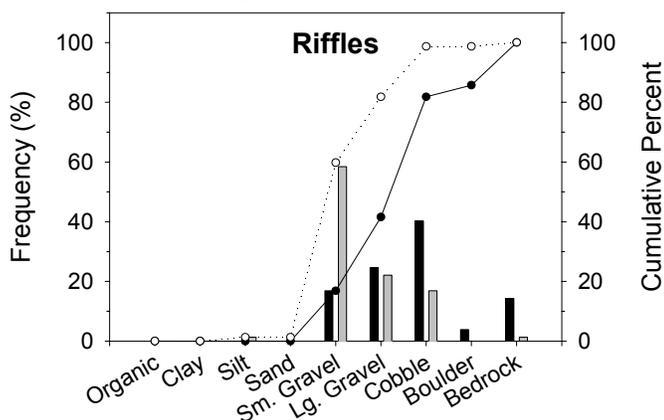
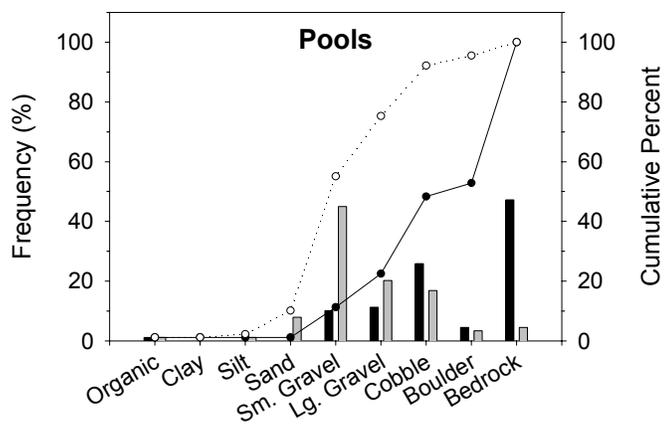
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	17	6
Maximum	28	21
75 th Percentile	23	7
25 th Percentile	11	2
Minimum	7	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

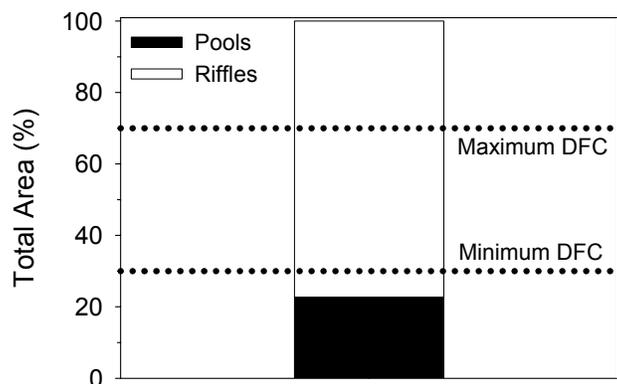
Rosgen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	6
Mean Channel Gradient (%):	3
Median Water Temperature (C):	15

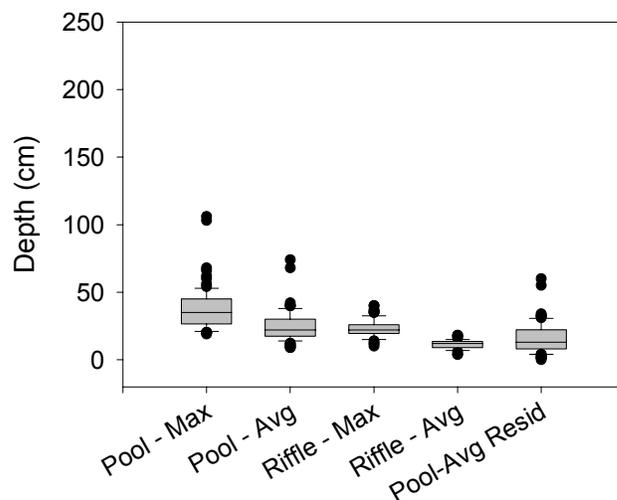


- █ Dominant %
- █ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

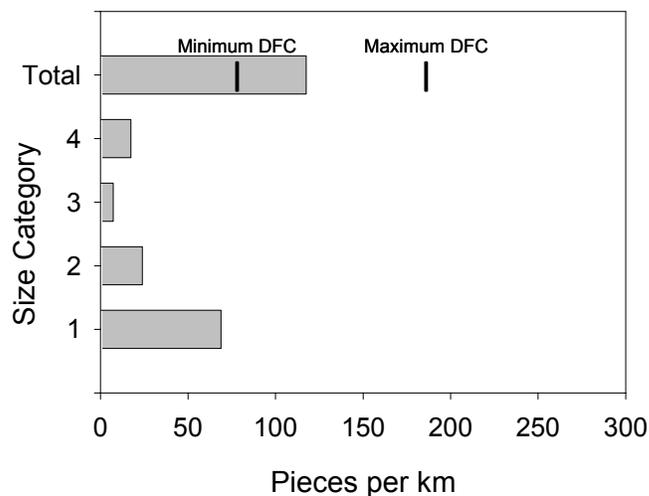
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Gate Run, summer 2002.



Estimated area of Gate Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.



Maximum and average depths and residual pool depths for pools and riffles in Gate Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

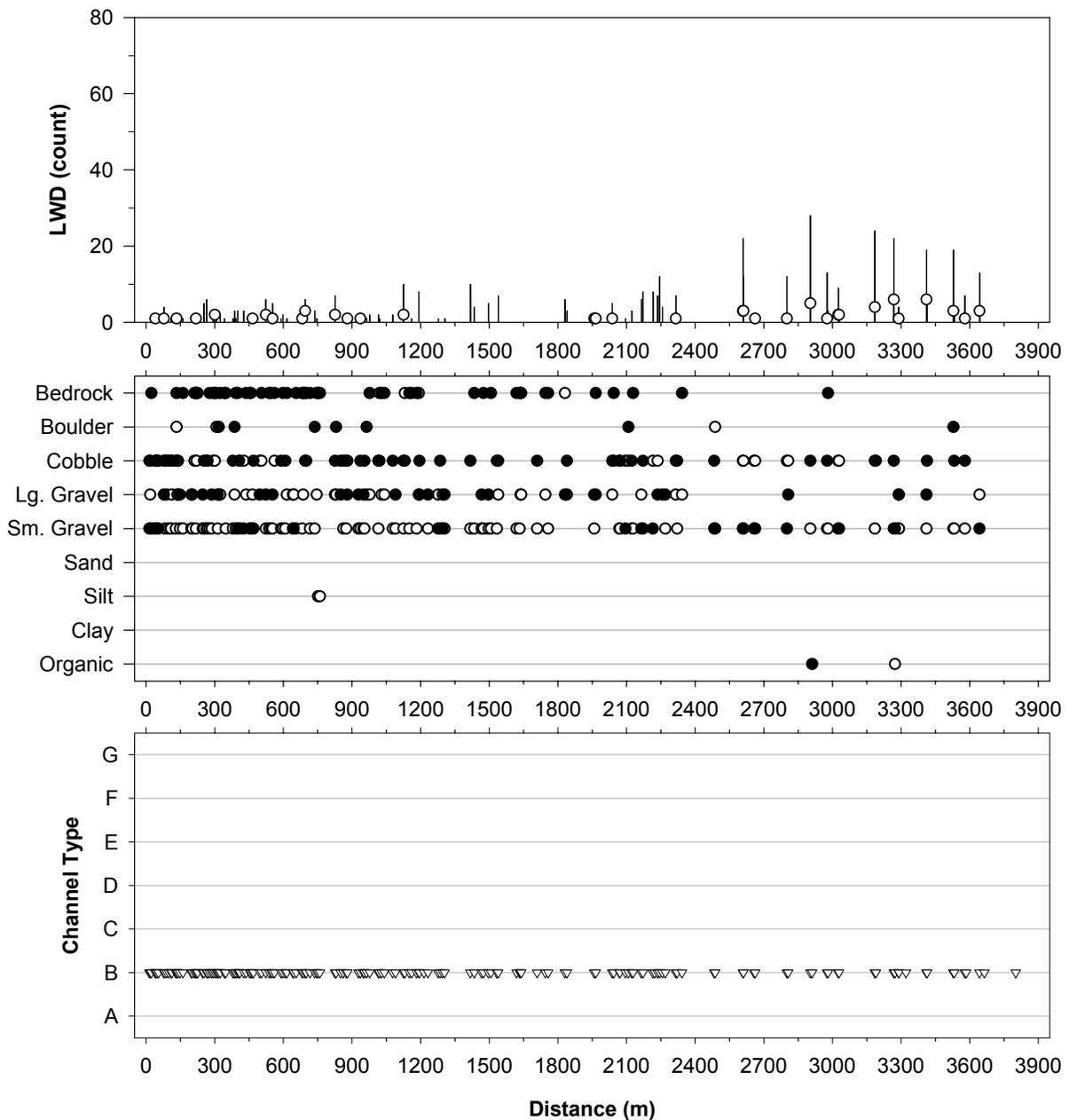


LWD per kilometer in Gate Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Gate Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Tributary	231.9	1.5	on left
Side Channel In	232.5	2.0	on right
Side Channel Out	262.8		on right
Side Channel In	350.6	1.0	on left
Side Channel Out	363.0		on left
Tributary	572.9	1.0	on right
Waterfall	646.9		height: 1.5 m
Side Channel In	682.8	1.0	on right
Tributary	1054.2	0.5	on right
Tributary	1073.1	0.5	on left
Side Channel In	1188.0	0.7	on left
Side Channel In	1188.5	0.8	on left
Underground	1215.3		from 1195.0 m to 1215.3 m
Side Channel In	1358.3	1.0	on left
Tributary	2058.6		on left, dry
Side Channel In	2206.9	0.8	on left
Underground	2223.5		from 2215.6 m to 2223.5 m
Underground	2244.8		from 2236.0 m to 2244.8 m
Tributary	2519.3	0.6	on right
Tributary	2859.6	1.0	
Underground	3321.5		from 3290.9 m to 3321.5 m
Underground	3584.7		from 3578.8 m to 3584.7 m
Underground	3664.6		from 3642.9 m to 3664.6 m
Tributary	3735.7		



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Gate Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS boundary close to FS road 1134 gate.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Grove Hollow
District:	Dry River
USGS Quadrangle:	Fulks Run
Survey Date:	06/12/02
Downstream Starting Point:	Confluence with Martin Lick Run
Total Distance Surveyed (km):	1.6

	Pools	Riffles
Percent of Total Stream Area:	17	83
Total Area (m ²):	352±31	1720±236
Correction Factor Applied:	1.13	1.46
Number of Paired Samples:	6	6
Total Count:	36	35
Number per km:	22	22
Mean Area (m ²):	10	49
Mean Maximum Depth (cm):	21	13
Mean Average Depth (cm):	15	6
Mean Residual Depth (cm):	13	--
Percent Surveyed as Glides:	22	--
Percent Surveyed as Runs:	--	11
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	0	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	63
< 5 m long, > 55 cm diameter:	2
> 5 m long, 10 cm – 55 cm diameter:	46
> 5 m long, > 55 cm diameter:	8
Total:	119

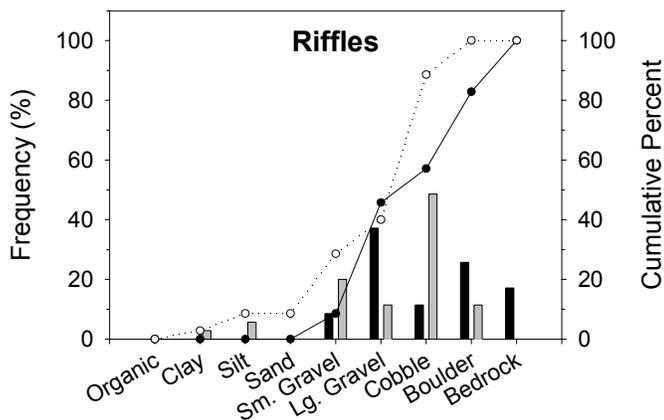
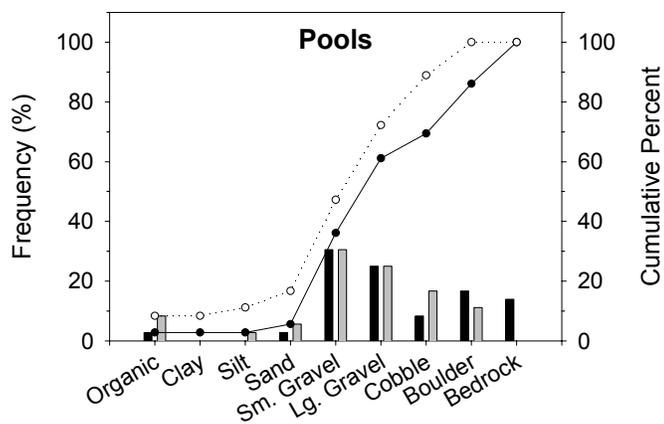
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	9	3
Maximum	16	10
75 th Percentile	9	4
25 th Percentile	6	1
Minimum	6	0

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

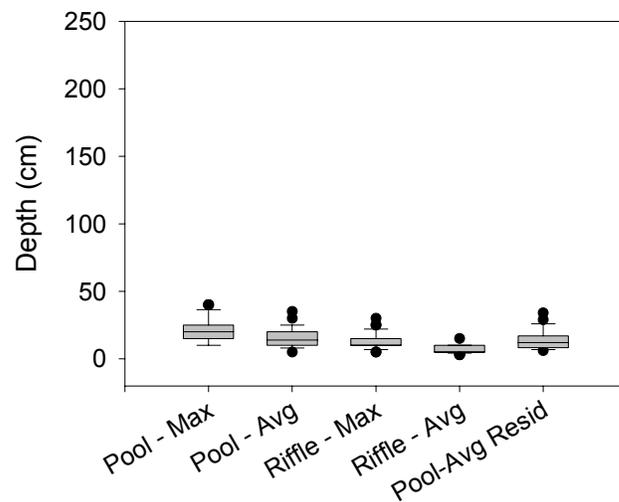
Rosgen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	3
Mean Channel Gradient (%):	6
Median Water Temperature (C):	18

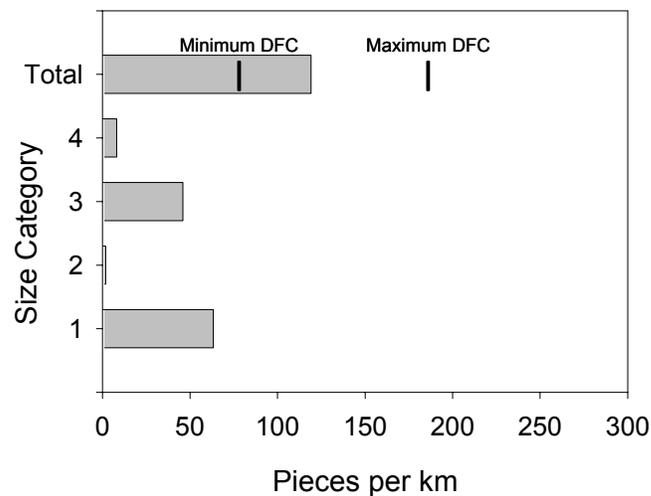


- █ Dominant %
- █ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Grove Hollow, summer 2002.

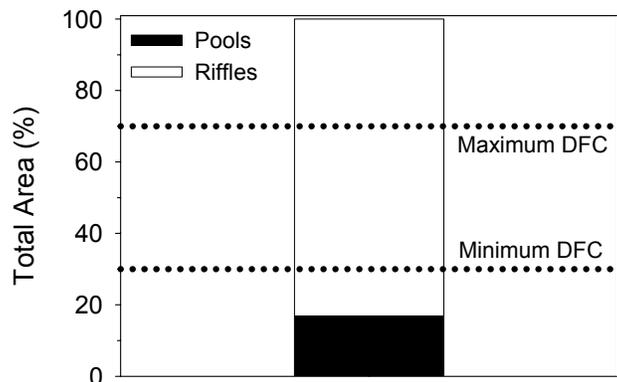


Maximum and average depths and residual pool depths for pools and riffles in Grove Hollow, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.



LWD per kilometer in Grove Hollow, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

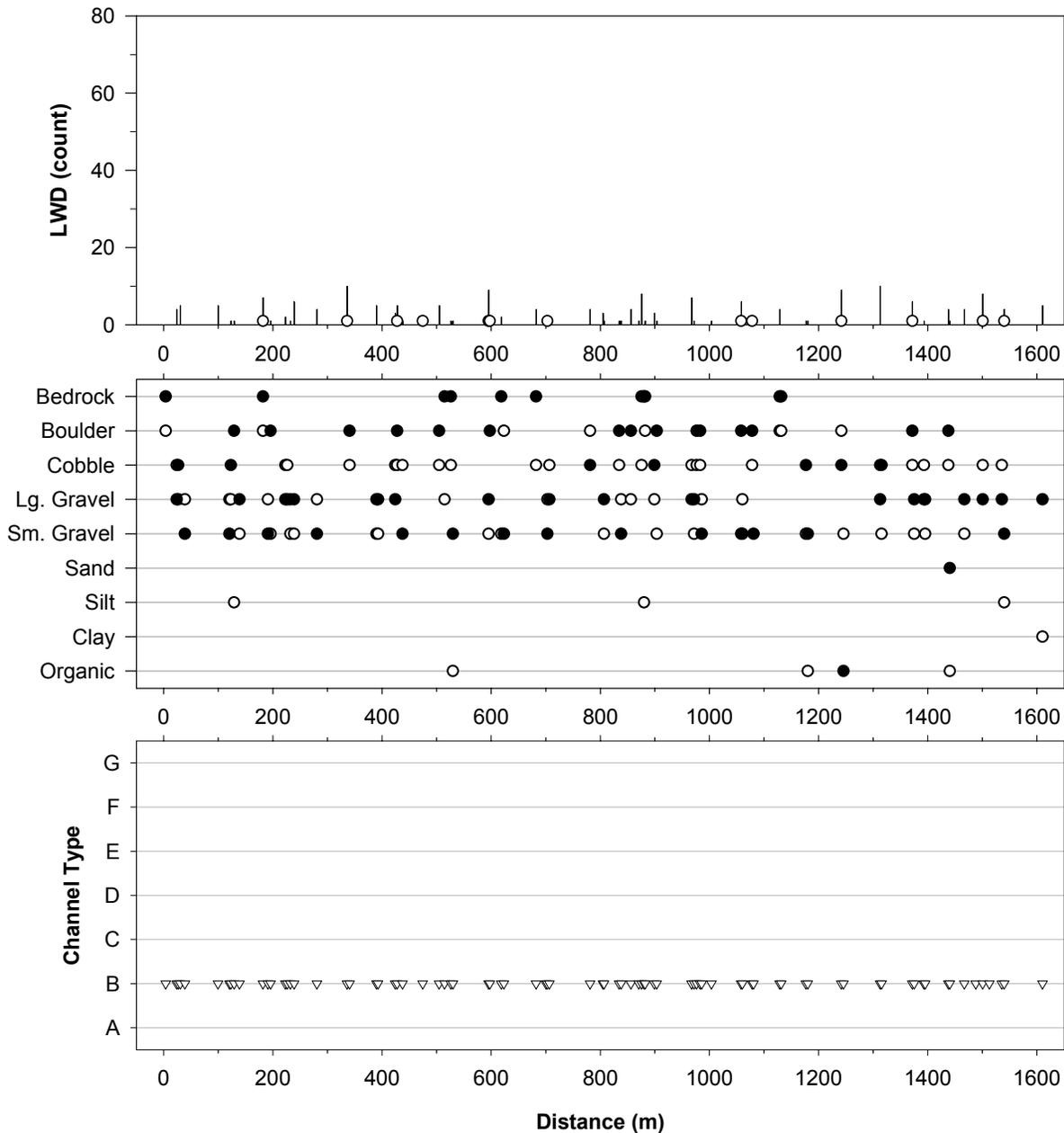
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Grove Hollow in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Grove Hollow during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	30.2		from 26.6 m to 30.2 m
Culvert	51.9	1.5	
Underground	99.5		from 38.7 m to 99.5 m
Trail Crossing	183.0		
Trail Crossing	244.0		
Side Channel In	305.1		on right
Underground	335.9		from 280.8 m to 335.9 m
Side Channel Out	335.9		on right
Side Channel In	362.4		on left, dry
Side Channel Out	383.5		on left
Side Channel In	434.0		on right
Side Channel Out	468.5		on right
Underground	474.7		from 437.6 m to 474.7 m
Trail Crossing	572.4		
Underground	700.3		from 682.3 m to 700.3 m
Side Channel In	767.1		on left, dry
Side Channel Out	797.6		on left
Underground	804.7		from 706.5 m to 804.7 m
Underground	870.5		from 856.0 m to 870.5 m
Underground	1003.6		from 985.6 m to 1003.6 m
Tributary	1402.5		dry
Underground	1487.7		from 1466.7 m to 1487.7 m
Underground	1512.7		from 1500.6 m to 1512.7 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Grove Hollow, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from confluence with Martin Lick Run.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Lairs Run
District:	Dry River
USGS Quadrangle:	Fulks Run
Survey Date:	07/15/02
Downstream Starting Point:	USFS Boundary off FS road 234
Total Distance Surveyed (km):	4.9

	Pools	Riffles
Percent of Total Stream Area:	33	67
Total Area (m ²):	1916±162	3882±525
Correction Factor Applied:	1.04	1.23
Number of Paired Samples:	14	10
Total Count:	151	117
Number per km:	31	24
Mean Area (m ²):	13	33
Mean Maximum Depth (cm):	22	10
Mean Average Depth (cm):	14	4
Mean Residual Depth (cm):	11	--
Percent Surveyed as Glides:	5	--
Percent Surveyed as Runs:	--	1
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	5	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	98
< 5 m long, > 55 cm diameter:	0
> 5 m long, 10 cm – 55 cm diameter:	52
> 5 m long, > 55 cm diameter:	5
Total:	155

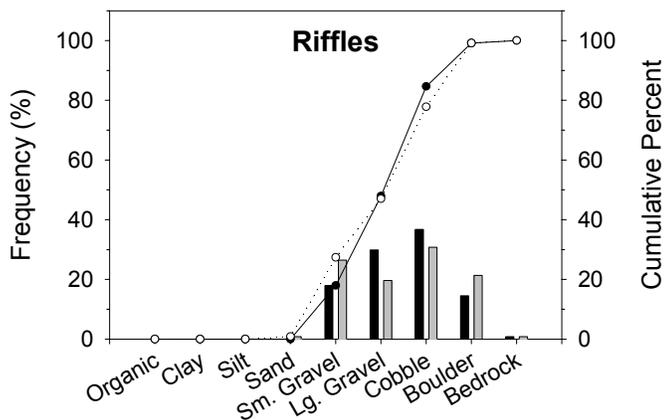
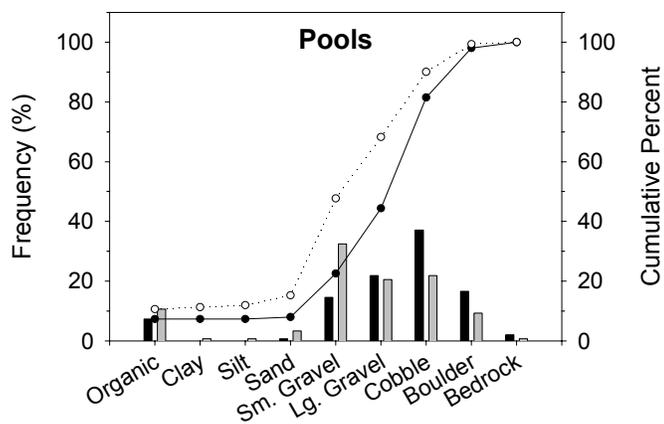
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	28	11
Maximum	109	77
75 th Percentile	26	16
25 th Percentile	12	2
Minimum	10	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

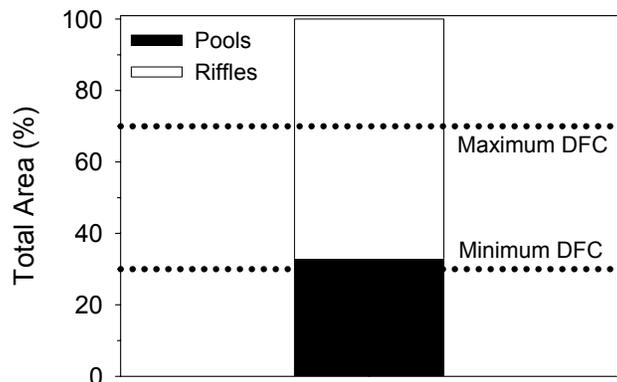
Rosgen's Channel Type	Frequency (%)
A:	0
B:	73
C:	27
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	6
Mean Channel Gradient (%):	5
Median Water Temperature (C):	17

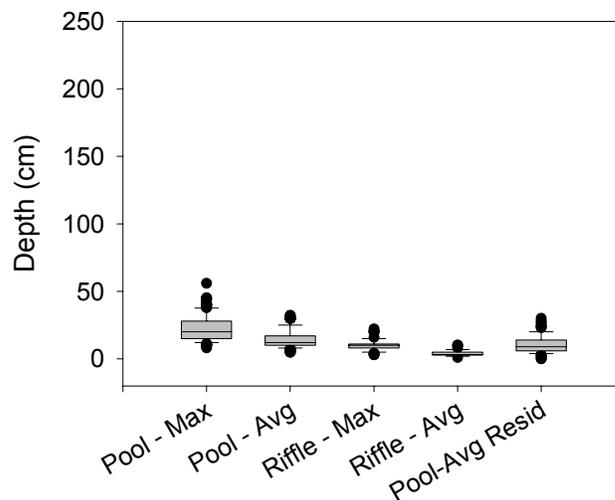


- █ Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

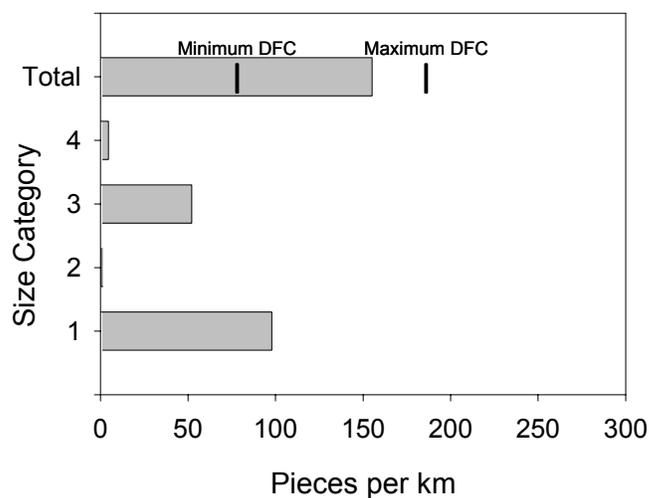
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Lairs Run, summer 2002.



Estimated area of Lairs Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.



Maximum and average depths and residual pool depths for pools and riffles in Lairs Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.



LWD per kilometer in Lairs Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

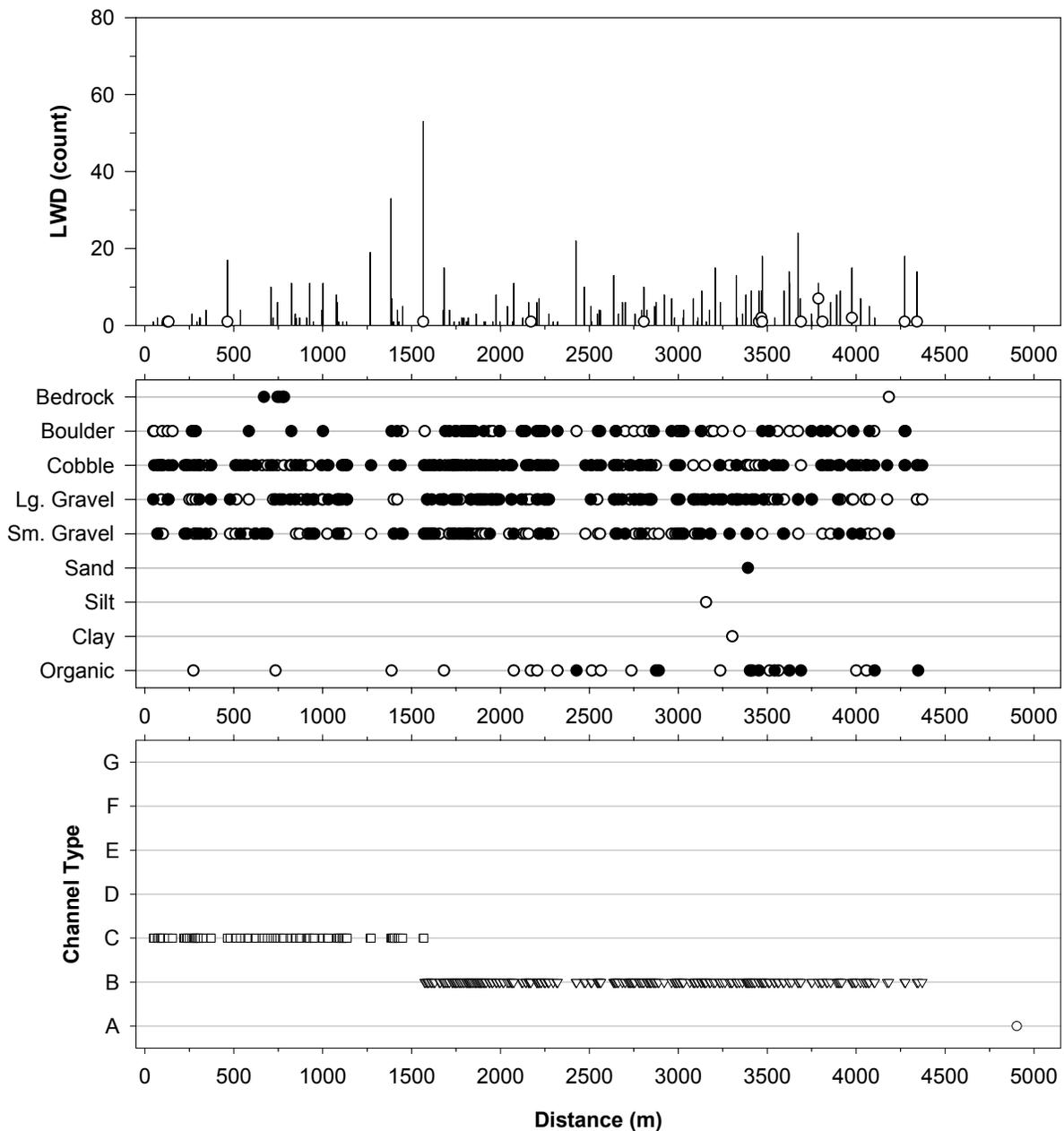
Stream features found on Lairs Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Side Channel In	52.4		on left, dry
Side Channel In	165.7		on right, dry
Side Channel Out	187.5		on right, dry
Underground	217.9		from 155.8 m to 217.9 m
Underground	291.8		from 285.9 m to 291.8 m
Underground	328.4		from 312.1 m to 328.4 m
Side Channel In	351.8	1.0	on right right bank is eroded very bad, ~15-20 feet high
Side Channel In	372.8		on right, dry
Side Channel Out	346.3		on right, dry
Side Channel Out	346.3		on left, dry
Underground	464.5		from 372.8 m to 464.5 m
Tributary	464.5		on right, dry rainwater tributary
Side Channel In	493.8		on left, dry
Side Channel Out	537.4	1.0	on left
Underground	922.0		from 916.9 m to 922.0 m
Side Channel In	1025.7		on right, dry
Side Channel Out	1041.5		on right dry
Underground	1077.0		from 1032.0 m to 1077.0 m
Tributary	1095.3	1.0	on right this is camp hollow
Side Channel In	1153.7		on left, dry
Side Channel Out	1183.7		on left, dry
Trail Crossing	1228.0		
Underground	1267.1		from 1137.5 m to 1267.1 m
Side Channel In	1310.2		on right, dry
Side Channel Out	1324.0		on right, dry
Underground	1384.1		from 1272.2 m to 1384.1 m
Underground	1392.6		from 1387.4 m to 1392.6 m
Seep	1425.0	2.5	on left, standing pool but no flow into main channel
Underground	1428.0		from 1419.0 m to 1428.0 m
Side Channel In	1432.4		on left, dry
Side Channel Out	1480.7		on left, dry
Underground	1565.1		from 1449.7 m to 1565.1 m, horse trail on left
Underground	1699.5		from 1688.6 m to 1699.5 m
Underground	1862.7		from 1854.3 m to 1862.7 m
Underground	1875.0		from 1868.7 m to 1875.0 m
Side Channel In	1992.9		on left, dry
Side Channel Out	2026.4		on left, dry
Underground	2038.2		from 2017.2 m to 2038.2 debris jam in underground section
Trail Crossing	2038.2		
Underground	2067.6		from 2063.9 m to 2067.6 m, horse trail on right
Trail Crossing	2126.9		
Side Channel In	2150.9		on left, dry
Side Channel Out	2167.9		on left, dry
Underground	2167.9		from 2162.7 m to 2167.9 m
Underground	2316.8		from 2296.2 m to 2316.8 m
Side Channel In	2348.7		on right, dry
Side Channel In	2348.7		on left, dry

Stream Feature	Distance (m)	Width (m)	Comments
Side Channel Out	2392.0		on right, dry
Side Channel Out	2405.7		on left, dry
Underground	2424.2		from 2320.5 m to 2424.5 m, debris jam where side channel left exits
Underground	2470.8		from 2427.0 m to 2470.8 m, horse trail on left
Underground	2553.9		from 2548.1 m to 2553.9 m
Underground	2562.0		from 2559.8 m to 2562.0 m
Side Channel In	2601.0		on right, dry
Side Channel Out	2616.9		on right, dry
Underground	2635.8		from 2564.3 m to 2635.8 m
Underground	2699.4		from 2685.2 m to 2699.4 m
Underground	2718.3		from 2701.2 m to 2718.3 m
Underground	2743.7		from 2736.0 m to 2743.7 m
Underground	2806.2		from 2796.8 m to 2806.2 m
Underground	2867.1		from 2861.4 m to 2867.1 m
Trail Crossing	2877.4		
Underground	2886.8		from 2874.2 m to 2886.8 m
Underground	2920.6		from 2889.9 m to 2920.6 m small debris jam, timber rattlesnake ~3.5 ft long and the girth of a tennis ball
Underground	2978.5		from 2962.0 m to 2978.5 m
Trail Crossing	2998.7		
Underground	3027.7		from 3021.6 m to 3027.7 m
Underground	3064.9		from 3029.9 m to 3064.9 m, horse trail on left
Underground	3090.9		from 3084.6 m to 3090.9 m
Underground	3106.2		from 3093.1 m to 3106.2 m
Underground	3143.9		from 3131.9 m to 3143.9 m
Underground	3154.0		from 3148.1 m to 3154.0 m
Underground	3175.5		from 3155.8 m to 3175.5 m
Underground	3207.2		from 3197.9 m to 3207.2 m, debris jam at bottom of unit
Underground	3262.8		from 3249.0 m to 3262.8 m
Underground	3297.0		from 3287.8 m to 3297.0 m
Side Channel In	3330.0		on left, dry
Side Channel Out	3343.7		on left, dry
Underground	3360.8		from 3343.7 m to 3360.8 m
Trail Crossing	3360.8		
Underground	3395.8		from 3391.4 m to 3395.8 m
Underground	3410.2		from 3402.7 m to 3410.2 m
Underground	3424.5		from 3415.1 m to 3424.5 m
Underground	3451.2		from 3431.5 m to 3451.2 m
Underground	3466.5		from 3452.9 m to 3466.5 m
Underground	3489.9		from 3482.7 m to 3489.9 m
Underground	3622.2		from 3593.8 m to 3622.2 m
Underground	3637.9		from 3625.5 m to 3637.9 m
Underground	3685.6		from 3674.5 m to 3685.6 m
Underground	3787.3		from 3751.6 m to 3787.3 m
Underground	3833.6		from 3810.3 m to 3833.6 m
Underground	3889.9		from 3856.3 m to 3889.9 m
Underground	3920.1		from 3911.4 m to 3920.1 m
Underground	3993.6		from 3983.6 m to 3993.6 m
Underground	4042.8		from 4024.3 m to 4042.8 m

Fulks Run

Stream Feature	Distance (m)	Width (m)	Comments
Side Channel In	4371.0		on left, dry
Side Channel Out	4397.8		on left, dry
Underground	4903.7		from 4371.0 m to 4903.7 m, dry for 500 meters, horse trail on left



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Lairs Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary off FS road 234.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Little Dry River
District:	Dry River
USGS Quadrangle:	Fulks Run
Survey Date:	06/03/02
Downstream Starting Point:	USFS Boundary downstream ford on FS road 1134
Total Distance Surveyed (km):	0.1

	Pools	Riffles
Percent of Total Stream Area:	42	58
Total Area (m ²):	408±*	566±812
Correction Factor Applied:	1.15	1.28
Number of Paired Samples:	1	2
Total Count:	3	4
Number per km:	26	34
Mean Area (m ²):	136	142
Mean Maximum Depth (cm):	87	21
Mean Average Depth (cm):	57	14
Mean Residual Depth (cm):	55	--
Percent Surveyed as Glides:	0	--
Percent Surveyed as Runs:	--	25
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	0	--

*Could not be calculated not enough paired samples.

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	9
< 5 m long, > 55 cm diameter:	0
> 5 m long, 10 cm – 55 cm diameter:	43
> 5 m long, > 55 cm diameter:	9
Total:	60

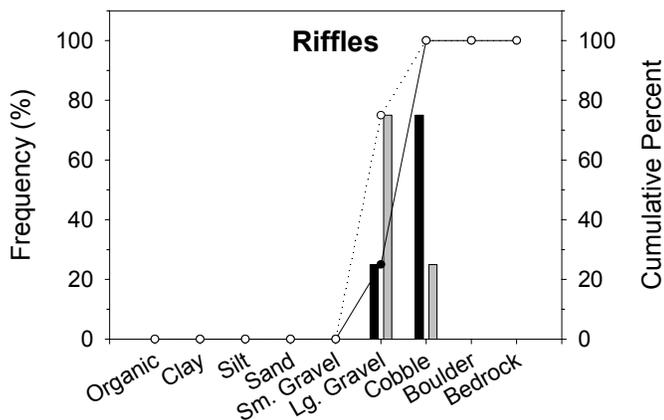
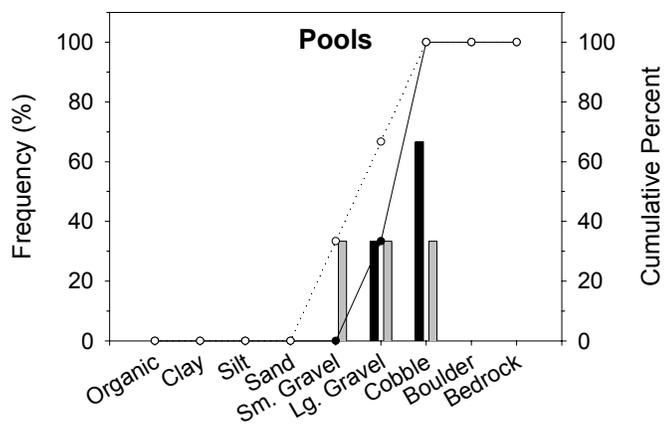
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	124	51
Maximum	149	120
75 th Percentile	137	87
25 th Percentile	112	3
Minimum	100	3

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

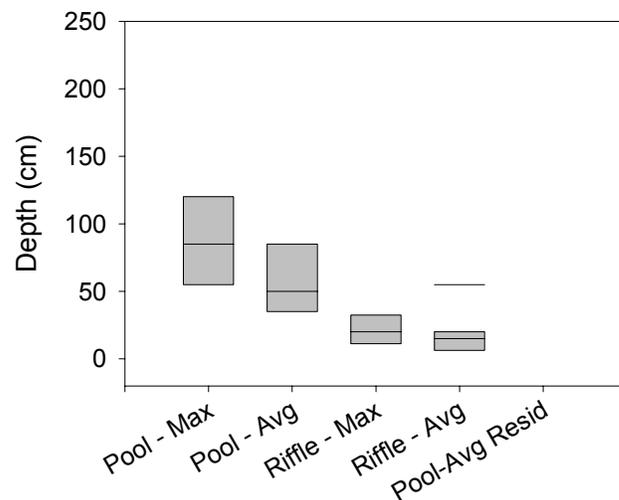
Rosgen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	23
Mean Channel Gradient (%):	1
Median Water Temperature (C):	19

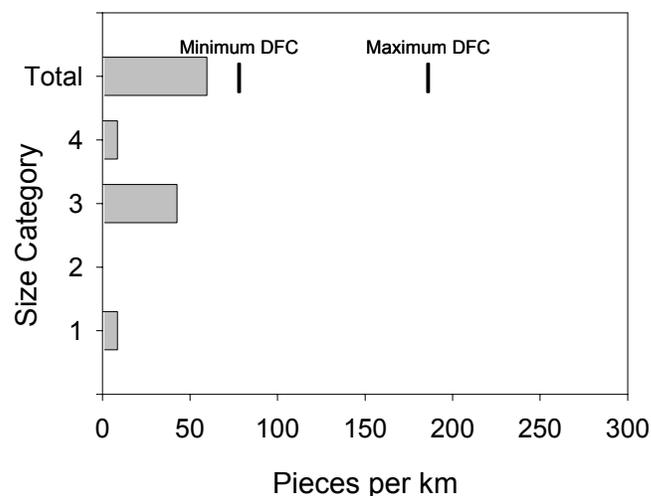


- █ Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Little Dry River, summer 2002.

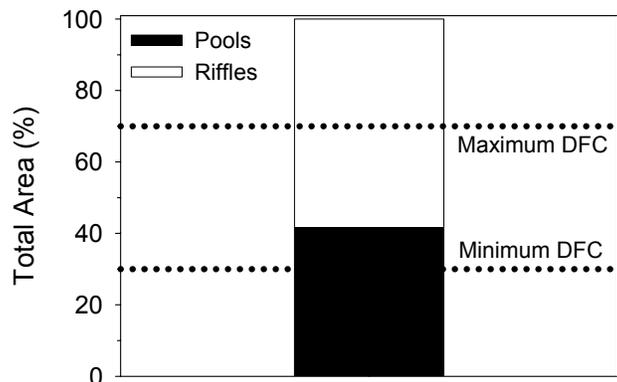


Maximum and average depths and residual pool depths for pools and riffles in Little Dry River, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.



LWD per kilometer in Little Dry River, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

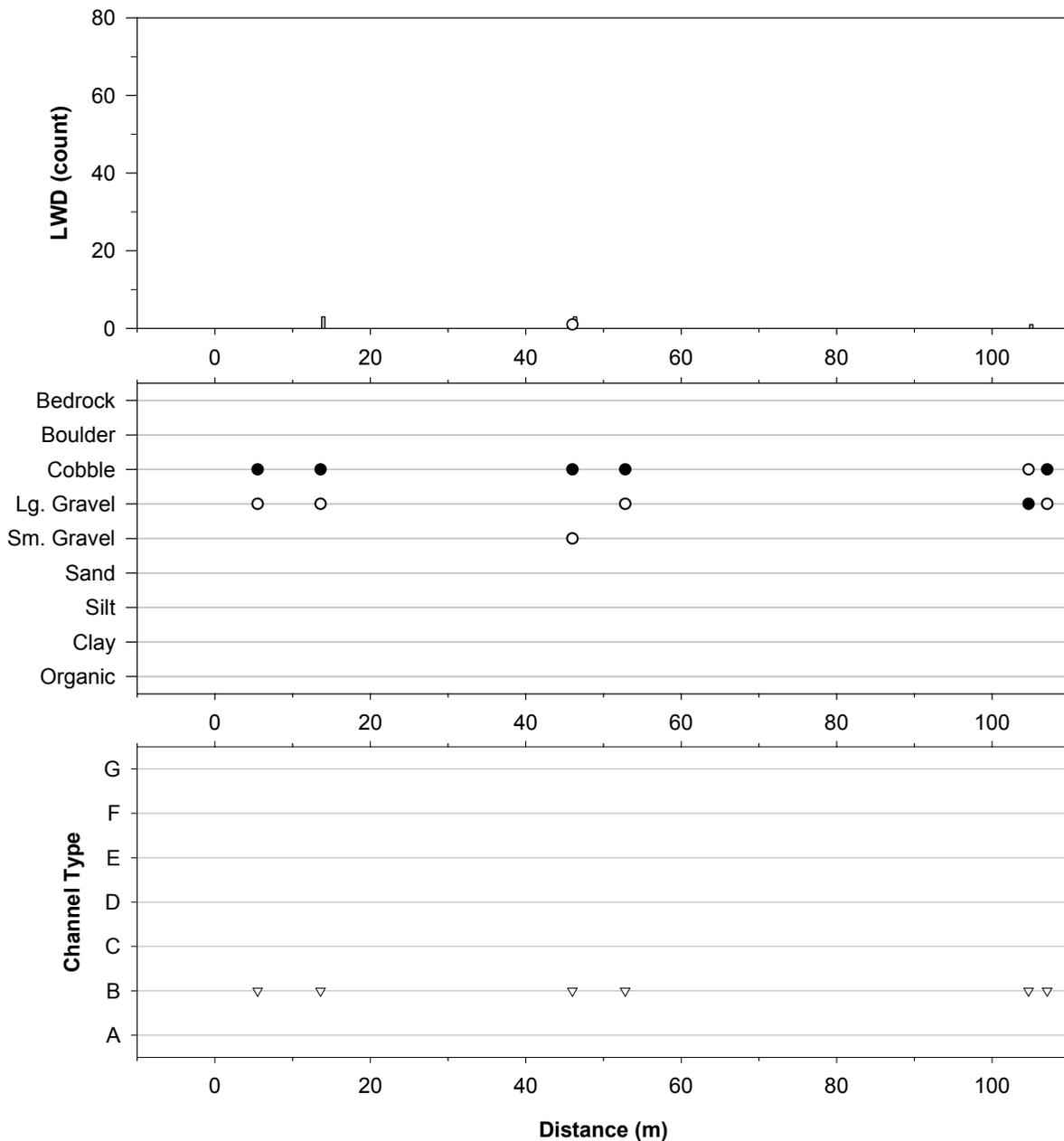


Estimated area of Little Dry River in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Fulks Run

Stream features found on Little Dry River during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Side Channel In	65.1	3.2	on left
Side Channel Out	90.6	5.5	on left, two rootwads



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Little Dry River, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary downstream ford on FS road 1134.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Marshall Run
District:	Dry River
USGS Quadrangle:	Fulks Run
Survey Date:	06/26/02
Downstream Starting Point:	USFS Boundary off FS road 235A
Total Distance Surveyed (km):	5.0

	Pools	Riffles
Percent of Total Stream Area:	29	71
Total Area (m ²):	2592±150	6314±1032
Correction Factor Applied:	0.98	1.14
Number of Paired Samples:	14	10
Total Count:	150	121
Number per km:	30	24
Mean Area (m ²):	17	52
Mean Maximum Depth (cm):	30	14
Mean Average Depth (cm):	19	8
Mean Residual Depth (cm):	16	--
Percent Surveyed as Glides:	13	--
Percent Surveyed as Runs:	--	4
Percent Surveyed as Cascades:	--	1
Percent with Substrate > 35% Embedded:	3	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	75
< 5 m long, > 55 cm diameter:	4
> 5 m long, 10 cm – 55 cm diameter:	41
> 5 m long, > 55 cm diameter:	12
Total:	132

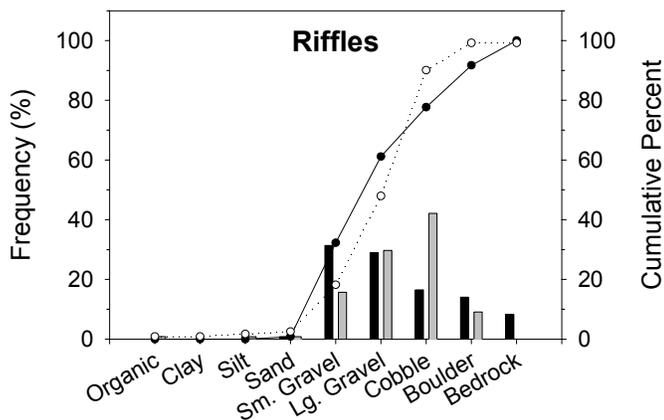
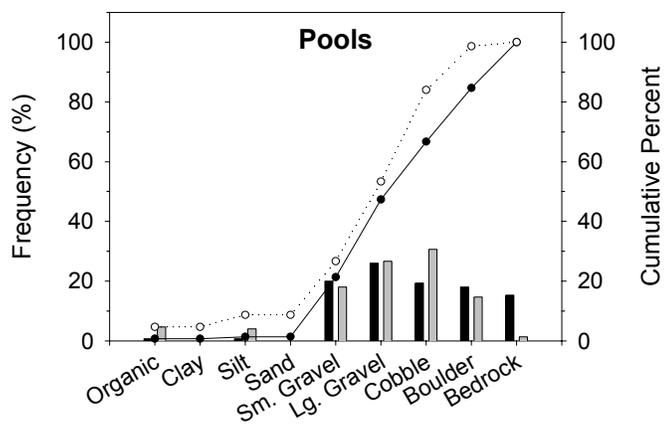
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	29	11
Maximum	50	32
75 th Percentile	40	16
25 th Percentile	14	3
Minimum	10	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

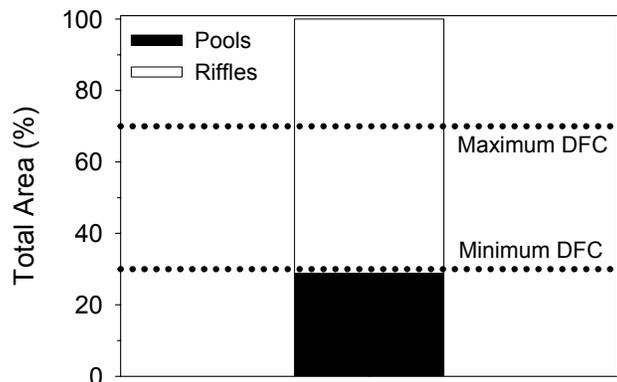
Rosgen's Channel Type	Frequency (%)
A:	15
B:	42
C:	42
D:	0
E:	0
F:	0
G:	1

Other Stream Attributes	
Mean Bankfull Channel Width (m):	6
Mean Channel Gradient (%):	4
Median Water Temperature (C):	17

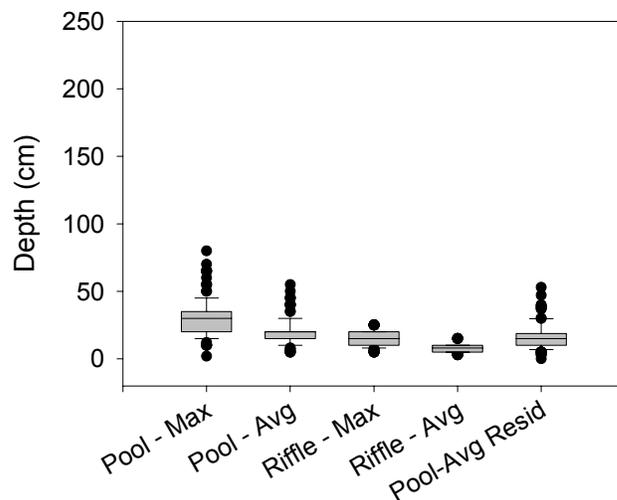


- █ Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

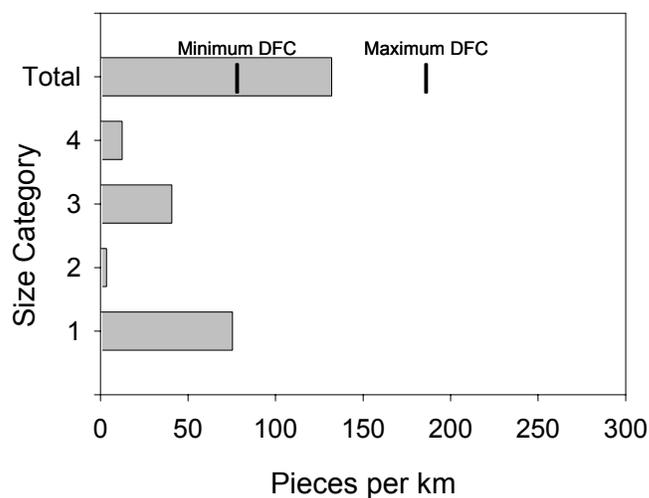
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Marshall Run, summer 2002.



Estimated area of Marshall Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.



Maximum and average depths and residual pool depths for pools and riffles in Marshall Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.



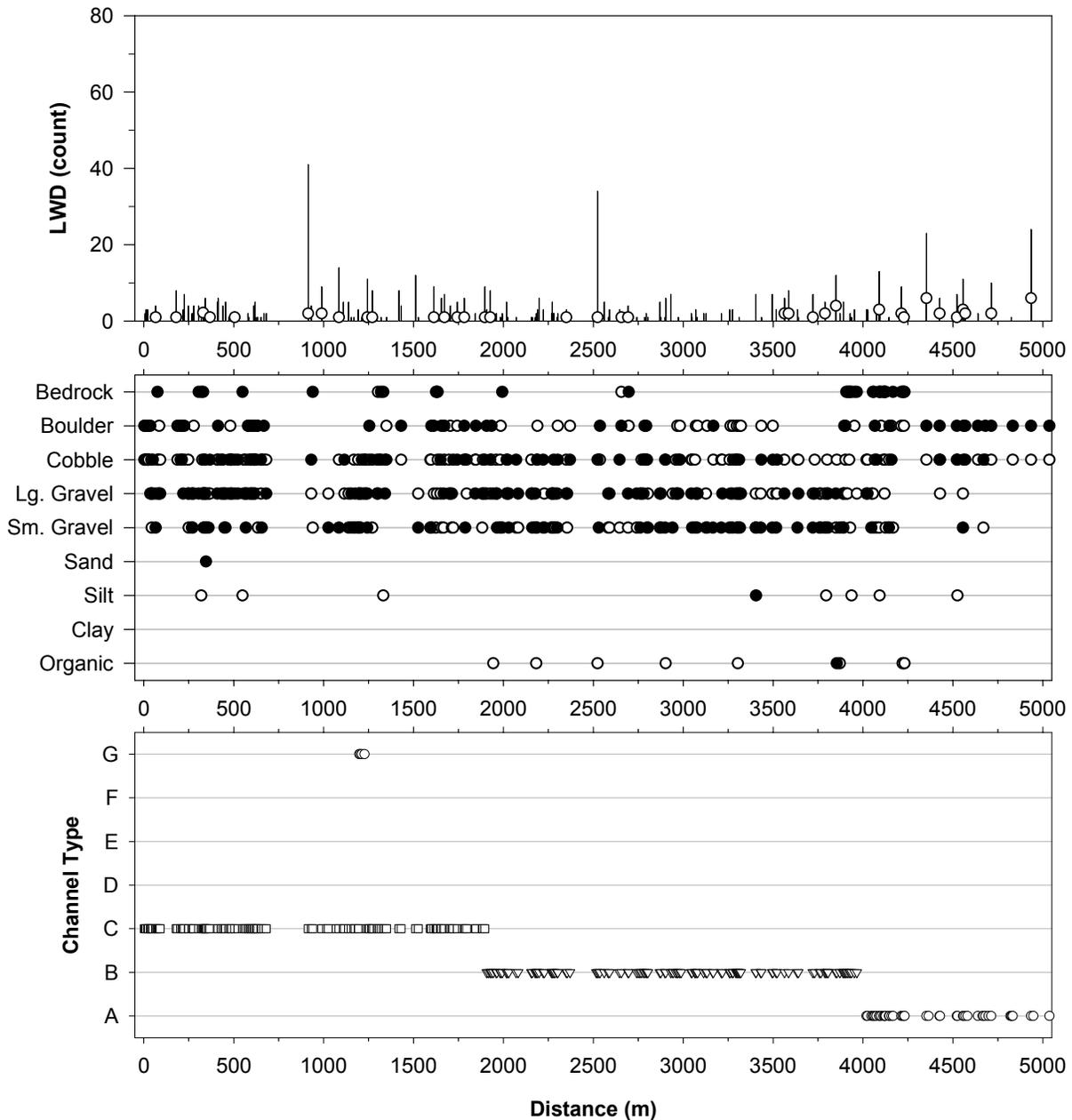
LWD per kilometer in Marshall Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Marshall Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Side Channel Out	23.2		on right
Underground	69.5		from 66.2 m to 69.5 m
Underground	180.2		from 91.9 m to 180.2 m, 115.4 m a stagnant pocket pool
Ford	169.8		usfs road 235C, gate on left
Tributary	186.6		Root Run enters left, dry
Side Channel In	396.2		on left, dry
Side Channel Out	430.1		on left
Ford	510.2		usfs road 235C
Underground	628.2		from 626.9 m to 628.2 m
Dam	701.2		k-dam
Side Channel In	778.0		on left, dry
Side Channel Out	793.8		on left, after exit divides into 2 channels and then merges back to 1
Side Channel In	800.0		on left, dry
Side Channel In	856.2		on right, dry
Side Channel Out	872.8		on left, dry
Side Channel Out	897.5		on right, dry
Underground	914.6		from 680.3 m to 914.6 m
Ford	988.7		usfs road 235C
Underground	1017.5		from 939.9 m to 988.7 m, pocket pool on left with lwd
Tributary	1022.6		Blue Lick Run on left, dry at confluence then water ~50m upstream
Underground	1070.5	2.0	from 1026.5 m to 1070.5 m
Underground	1109.8		from 1085.3 m to 1109.8 m
Underground	1251.6		from 1243.1 m to 1251.6 m
Side Channel In	1257.4		on right
Underground	1266.7	0.5	from 1254.3 m to 1266.7 m
Underground	1277.8		from 1270.4 m to 1277.8 m
Side Channel Out	1277.8		on right
Tributary	1343.0		on right
Trail Crossing	1345.8	1.0	
Side Channel In	1374.1		on right, dry
Side Channel Out	1388.9		on right, dry
Underground	1418.3		from 1349.1 m to 1418.3 m
Underground	1511.3		from 1431.1 m to 1511.3 m, ailianthus trees abundant-nonnative
Side Channel In	1770.1		on right
Underground	1772.0	0.3	from 1742.9 m to 1772.0 m
Side Channel Out	1782.0		on right
Tributary	1839.9		on right
Trail Crossing	1853.4	1.0	
Underground	1916.6		from 1906.8 m to 1916.6 m
Underground	1928.9		from 1926.6 m to 1928.9 m
Side Channel In	2082.1		on left, dry
Seep	2093.0		right
Side Channel Out	2094.0	1.0	on left
Underground	2198.8		from 2189.3 m to 2198.8 m
Side Channel In	2289.6		on right

Stream Feature	Distance (m)	Width (m)	Comments
Side Channel In	2384.8	1.0	on left
Side Channel Out	2463.8		on left, multiply side channels difficult to follow
Underground	2516.9		from 2370.6 m to 2516.9 m
Side Channel In	2534.8		on left
Side Channel Out	2560.4	1.0	on left
Underground	2560.4		from 2537.3 m to 2560.4 m
Side Channel In	2726.8		on right
Trail Crossing	2750.2	1.0	
Side Channel Out	2750.2		on right
Underground	2752.4		from 2741.6 m to 2752.4 m
Trail Crossing	2819.6		
Trail Crossing	2885.5		
Side Channel In	2923.4		on right, dry
Underground	2931.1		from 2902.6 m to 2931.1 m
Trail Crossing	2943.3		
Underground	2944.9		from 2940.5 m to 2944.9 m
Seep	3077.6		on left
Underground	3113.9		from 3075.1 m to 3113.9 m
Side Channel In	3146.9	1.0	on right, dry
Side Channel Out	3177.1		on right, dry at bottom of channel and wet at top
Trail Crossing	3231.5		
Side Channel In	3320.4		on left, dry
Side Channel Out	3351.1		on left
Tributary	3377.6	1.5	on right, dry
Side Channel In	3534.7		on right
Side Channel Out	3562.6		on right, dry
Underground	3585.9		from 3562.6 m to 3585.9 m
Underground	3802.9		from 3801.2 m to 3802.9 m
Side Channel In	4025.0		on right, dry
Side Channel Out	4033.0		on left, dry
Underground	4364.5		from 4352.2 m to 4364.5 m
Tributary	4391.2	0.2	on right, dry
Side Channel In	4485.1		on right
Side Channel Out	4496.2		on right
Trail Crossing	4518.0		
Side Channel In	4555.4		on left, dry
Side Channel In	4571.6		on right, dry
Underground	4580.5		from 4568.6 m to 4580.5 m
Side Channel Out	4624.2		on right
Trail Crossing	4625.9		right side washed out by side channel
Side Channel In	4638.7		on left, dry
Side Channel Out	4664.5		on left, dry
Underground	4664.5		from 4638.7 m to 4664.5 m
Tributary	4675.9		on right, dry
Underground	4697.3		from 4680.3 m to 4697.3 m, trail on left side of stream
Underground	4819.9		from 4713.3 m to 4819.9 m
Underground	4827.8		from 4824.8 m to 4827.8 m
Underground	4947.7		from 4934.6 m to 4947.7 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Marshall Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary off FS road 235A.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Martin Lick Run
District:	Dry River
USGS Quadrangle:	Fulks Run
Survey Date:	06/06/02
Downstream Starting Point:	USFS Boundary downstream FS road 302 crossing
Total Distance Surveyed (km):	4.1

	Pools	Riffles
Percent of Total Stream Area:	22	78
Total Area (m ²):	2213±112	7722±1041
Correction Factor Applied:	1.07	1.29
Number of Paired Samples:	10	9
Total Count:	102	94
Number per km:	25	23
Mean Area (m ²):	22	82
Mean Maximum Depth (cm):	28	18
Mean Average Depth (cm):	18	9
Mean Residual Depth (cm):	13	--
Percent Surveyed as Glides:	14	--
Percent Surveyed as Runs:	--	5
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	0	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	70
< 5 m long, > 55 cm diameter:	11
> 5 m long, 10 cm – 55 cm diameter:	44
> 5 m long, > 55 cm diameter:	20
Total:	146

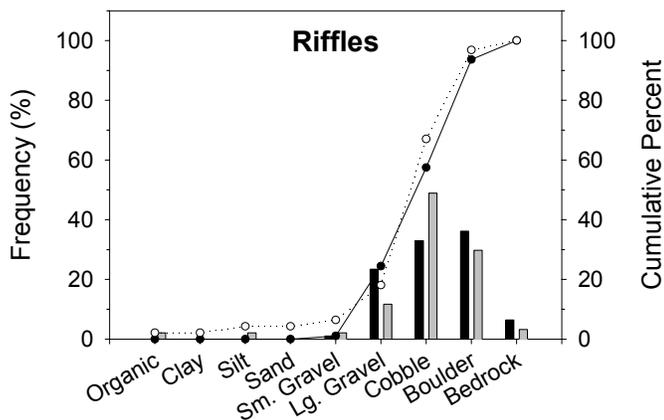
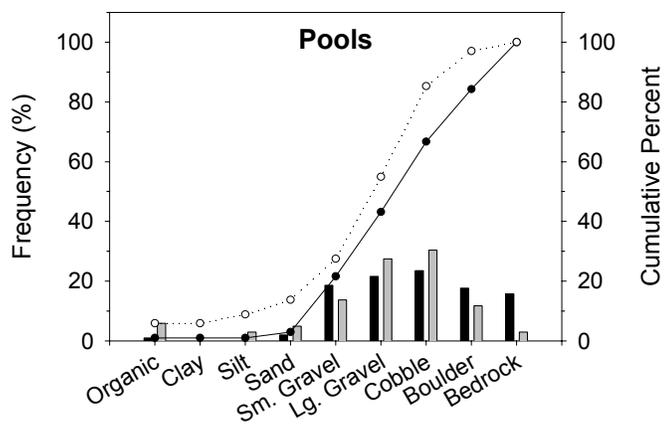
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	21	8
Maximum	34	22
75 th Percentile	26	8
25 th Percentile	16	3
Minimum	8	2

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

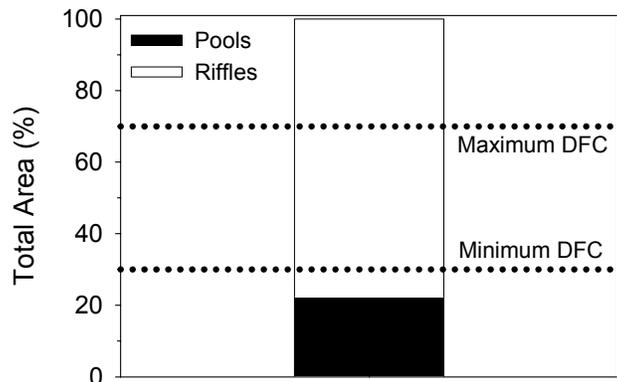
Rosgen's Channel Type	Frequency (%)
A:	1
B:	99
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	5
Mean Channel Gradient (%):	5
Median Water Temperature (C):	18

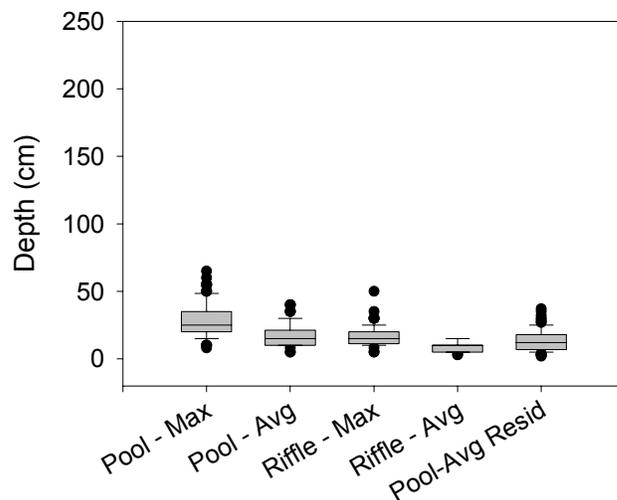


- █ Dominant %
- █ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

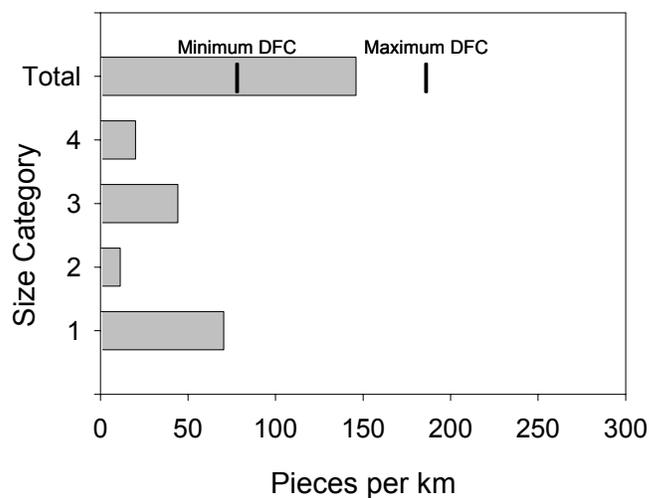
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Martin Lick Run, summer 2002.



Estimated area of Martin Lick Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.



Maximum and average depths and residual pool depths for pools and riffles in Martin Lick Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

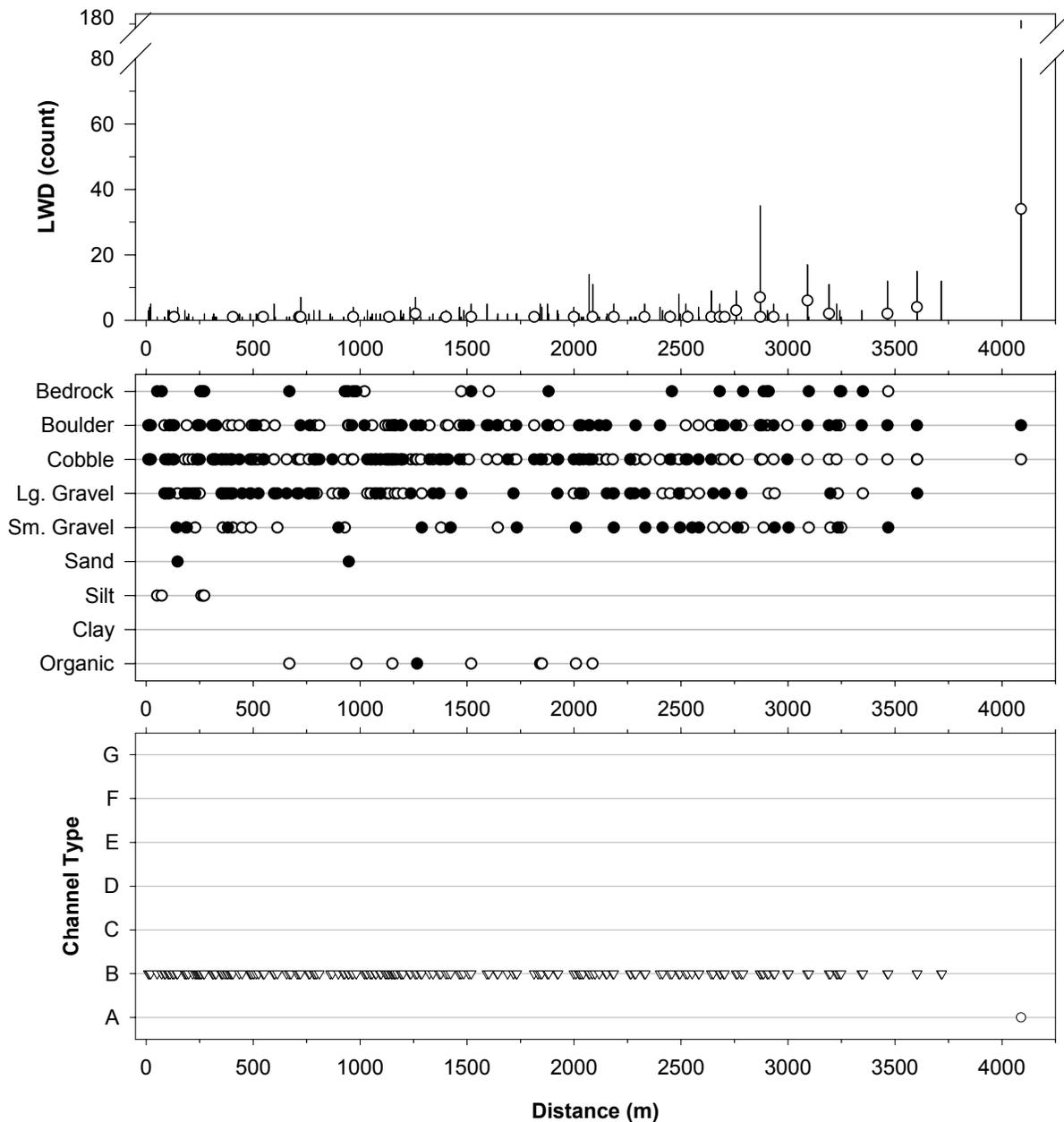


LWD per kilometer in Martin Lick Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Martin Lick Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Side Channel In	29.4	1.0	on right
Side Channel Out	36.4		on right
Tributary	203.6	1.5	on right
Side Channel In	234.0	1.0	on left
Trail Crossing	263.9		
Side Channel In	516.8	1.0	on left
Side Channel Out	522.0		on left
Culvert	559.6	2	usfs road 302
Underground	603.9		from 596.1 m to 603.9 m
Tributary	716.3	1.5	on right
Underground	788.1		from 736.2 m to 788.1 m
Side Channel In	867.4	1.0	on right
Side Channel Out	888.3		on right, underground
Underground	955.1		from 947.0 m to 955.1 m
Side Channel In	1063.3	1.0	on left
Trail Crossing	1089.6		
Trail Crossing	1558.0		
Trail Crossing	1626.1		
Side Channel In	1626.1	1.0	on right
Underground	1758.8		from 1740.7 m to 1758.8 m
Side Channel Out	1767.0		on right
Side Channel In	1898.8		on left, dry
Trail Crossing	1957.8		
Side Channel In	2004.2	0.5	on right
Underground	2024.2		from 2013.2 m to 2024.2 m
Side Channel Out	2033.3		on right
Side Channel In	2286.4	0.5	on left
Side Channel Out	2300.0		on left
Side Channel In	2353.1		on left, dry
Side Channel Out	2373.0	1.5	on left, top third has water
Side Channel In	2422.3	1.0	on right
Tributary	2422.3	1.0	tributary flows into side channel
Side Channel Out	2449.3		on right
Trail Crossing	2550.0		old trail
Seep	2820.6	0.2	on right
Trail Crossing	3064.6		old logging road
Underground	3646.2		from 3643.0 m to 3646.2 m, yellow poplar and basswood



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Martin Lick Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary downstream FS road 302 crossing.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Mud Lick Run
District:	Dry River
USGS Quadrangle:	Fulks Run
Survey Date:	06/26/02
Downstream Starting Point:	USFS Boundary upstream from trail off State road 819
Total Distance Surveyed (km):	1.1

	Pools	Riffles
Percent of Total Stream Area:	52	48
Total Area (m ²):	410±43	376±38
Correction Factor Applied:	0.89	1.20
Number of Paired Samples:	7	4
Total Count:	57	27
Number per km:	51	24
Mean Area (m ²):	7	14
Mean Maximum Depth (cm):	22	10
Mean Average Depth (cm):	14	5
Mean Residual Depth (cm):	16	--
Percent Surveyed as Glides:	14	--
Percent Surveyed as Runs:	--	33
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	0	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	89
< 5 m long, > 55 cm diameter:	1
> 5 m long, 10 cm – 55 cm diameter:	72
> 5 m long, > 55 cm diameter:	0
Total:	162

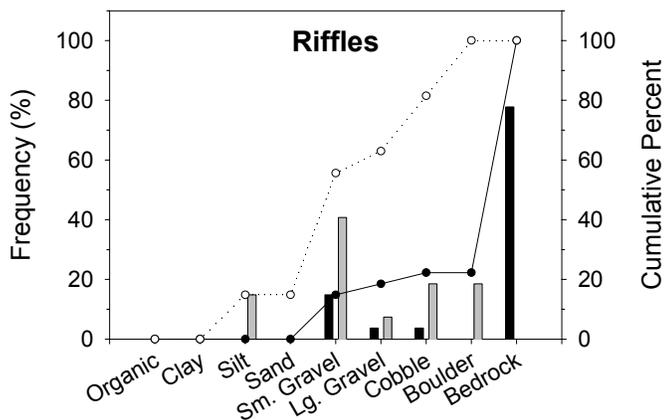
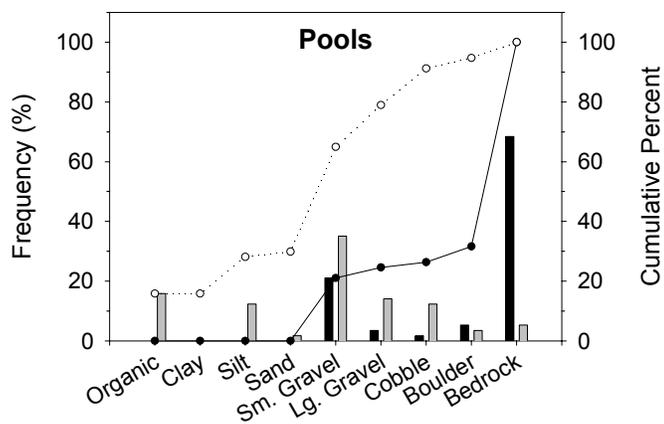
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	9	3
Maximum	12	6
75 th Percentile	10	4
25 th Percentile	7	1
Minimum	6	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

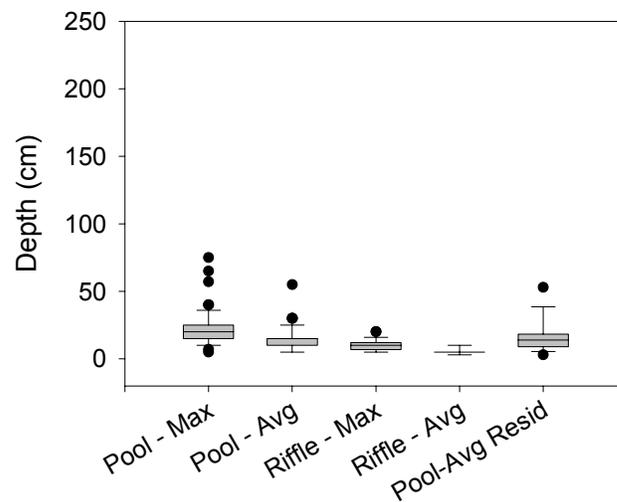
Rosgen's Channel Type	Frequency (%)
A:	15
B:	85
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	3
Mean Channel Gradient (%):	4
Median Water Temperature (C):	18

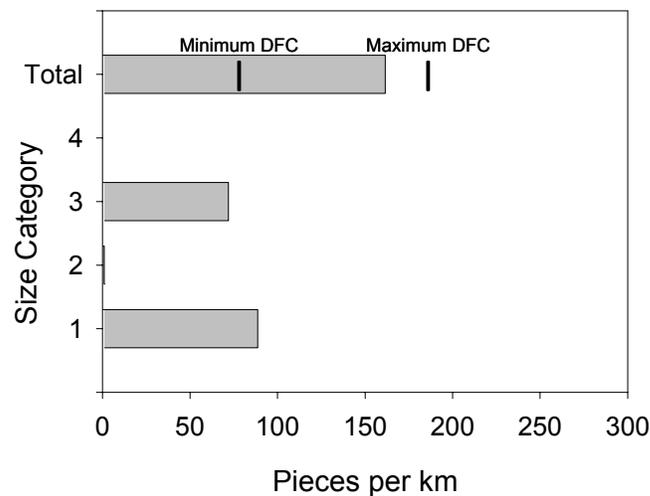


- █ Dominant %
- █ Subdominant %
- Dominant, Cumulative %
- ⋯ Subdominant, Cumulative %

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Mud Lick Run, summer 2002.

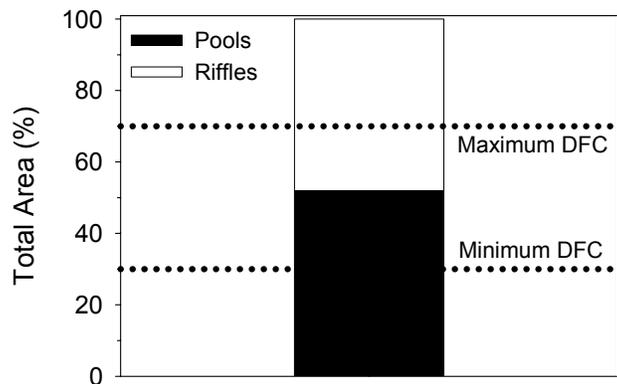


Maximum and average depths and residual pool depths for pools and riffles in Mud Lick Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.



LWD per kilometer in Mud Lick Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

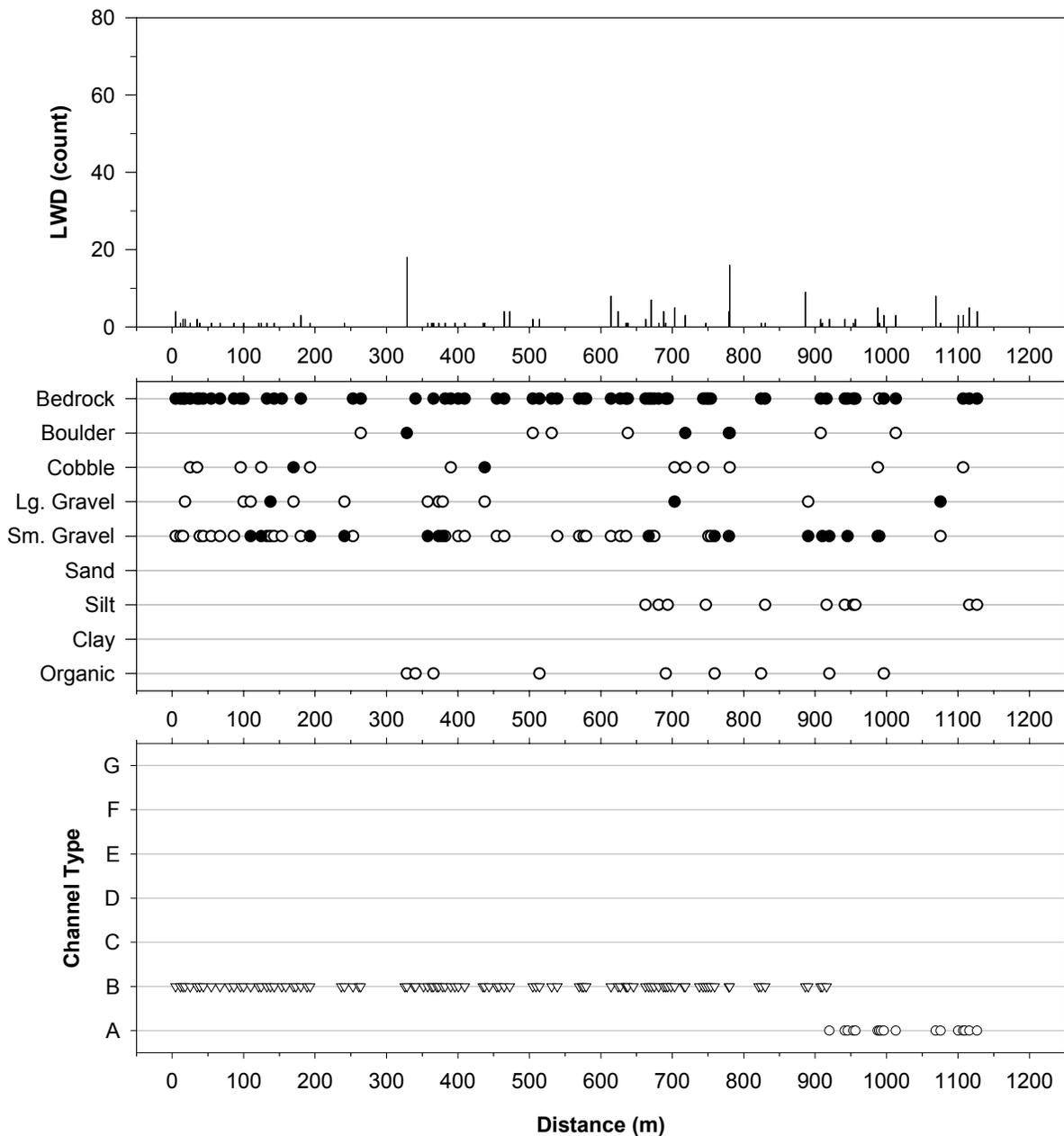
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Mud Lick Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Mud Lick Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	80.0		from 66.8 m to 80.0 m
Underground	120.9		from 109.7 m to 120.9 m
Underground	158.9		from 153.3 m to 158.9 m
Underground	173.0		from 169.9 m to 173.0 m
Underground	188.8		from 179.9 m to 188.8 m
Trail Crossing	202.9		
Underground	236.7		from 193.0 m to 236.7 m
Underground	261.4		from 253.1 m to 261.4 m
Seep	263.9		on right
Trail Crossing	263.9		
Underground	325.6		from 263.9 m to 325.6 m
Underground	338.8		from 328.5 m to 338.8 m
Underground	351.9		from 340.5 m to 351.9 m
Underground	363.2		from 357.6 m to 363.2 m
Underground	370.7		from 365.7 m to 370.7 m
Underground	395.8		from 390.0 m to 395.8 m
Trail Crossing	430.5		foot trail
Underground	435.1		from 409.4 m to 435.1 m
Underground	443.6		from 437.3 m to 443.6 m
Underground	457.6		from 454.6 m to 457.6 m
Underground	472.4		from 464.7 m to 472.4 m
Underground	509.3		from 504.8 m to 509.3 m
Trail Crossing	536.6		
Underground	573.7		from 569.5 m to 573.7 m, lots of small hemlock
Underground	624.1		from 614.1 m to 624.1 m
Underground	636.7		from 635.1 m to 636.7 m
Trail Crossing	639.0		
Underground	645.5		from 637.8 m to 645.5 m
Underground	687.8		from 681.0 m to 687.8 m
Side Channel In	687.8		two side channels one in on left, one in on right
Side Channel Out	698.2		on left
Underground	698.2		from 693.8 m to 698.2 m
Side Channel Out	703.3		on right
Underground	716.8		from 703.3 m to 716.8 m
Underground	738.0		from 718.1 m to 738.0 m
Side Channel In	749.8		dry
Tributary	785.0		dry
Underground	820.9		from 780.4 m to 820.9 m
Underground	886.4		from 829.9 m to 886.4 m
Underground	918.1		from 916.1 m to 918.1 m
Underground	992.2		from 989.9 m to 992.2 m
Side Channel Out	1046.0		on left
Underground	1068.8		from 1012.8 m to 1068.8 m
Trail Crossing	1075.4		
Underground	1100.2		from 1075.4 m to 1100.2 m
Underground	1109.6		from 1107.2 m to 1109.6 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Mud Lick Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary upstream from trail off State road 819.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Rocky Spur Hollow
District:	Dry River
USGS Quadrangle:	Fulks Run
Survey Date:	06/11/02
Downstream Starting Point:	USFS Boundary near FS road 302
Total Distance Surveyed (km):	1.7

	Pools	Riffles
Percent of Total Stream Area:	38	62
Total Area (m ²):	1225±139	1982±543
Correction Factor Applied:	0.97	1.07
Number of Paired Samples:	6	5
Total Count:	59	50
Number per km:	35	30
Mean Area (m ²):	21	40
Mean Maximum Depth (cm):	28	17
Mean Average Depth (cm):	19	7
Mean Residual Depth (cm):	14	--
Percent Surveyed as Glides:	10	--
Percent Surveyed as Runs:	--	4
Percent Surveyed as Cascades:	--	2
Percent with Substrate > 35% Embedded:	5	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	49
< 5 m long, > 55 cm diameter:	2
> 5 m long, 10 cm – 55 cm diameter:	46
> 5 m long, > 55 cm diameter:	9
Total:	106

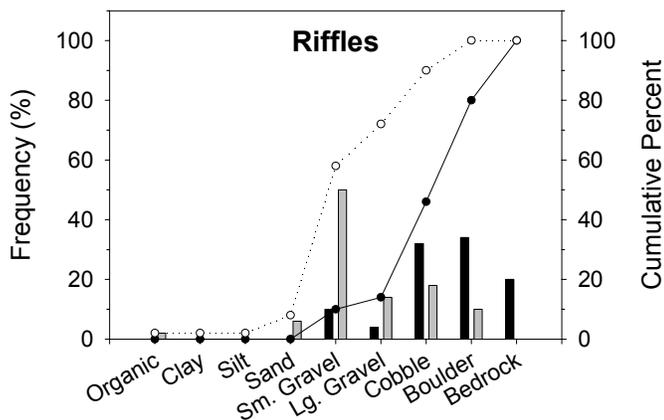
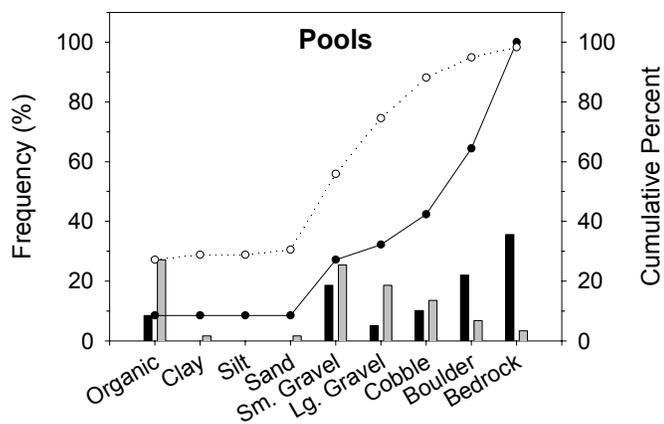
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	14	5
Maximum	20	15
75 th Percentile	19	6
25 th Percentile	9	3
Minimum	9	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

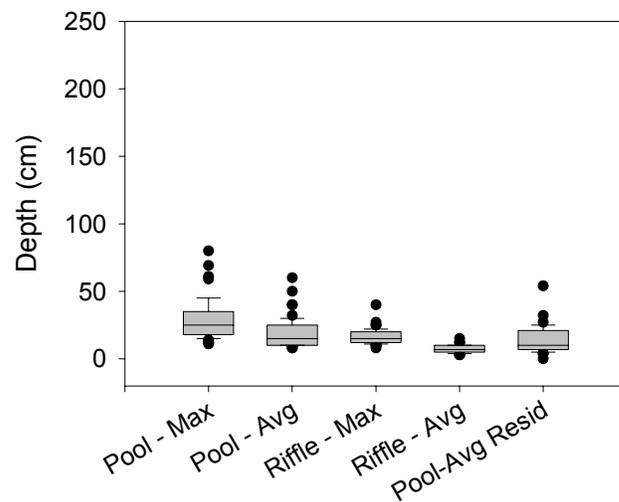
Rosgen's Channel Type	Frequency (%)
A:	1
B:	64
C:	35
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	4
Mean Channel Gradient (%):	6
Median Water Temperature (C):	18

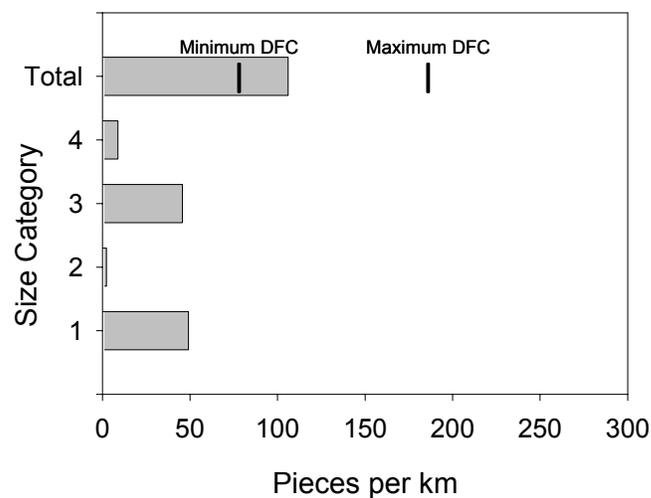


- Dominant %
- Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Rocky Spur Hollow, summer 2002.

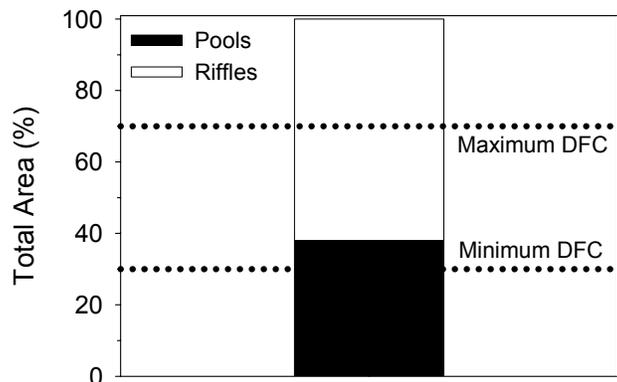


Maximum and average depths and residual pool depths for pools and riffles in Rocky Spur Hollow, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.



LWD per kilometer in Rocky Spur Hollow, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

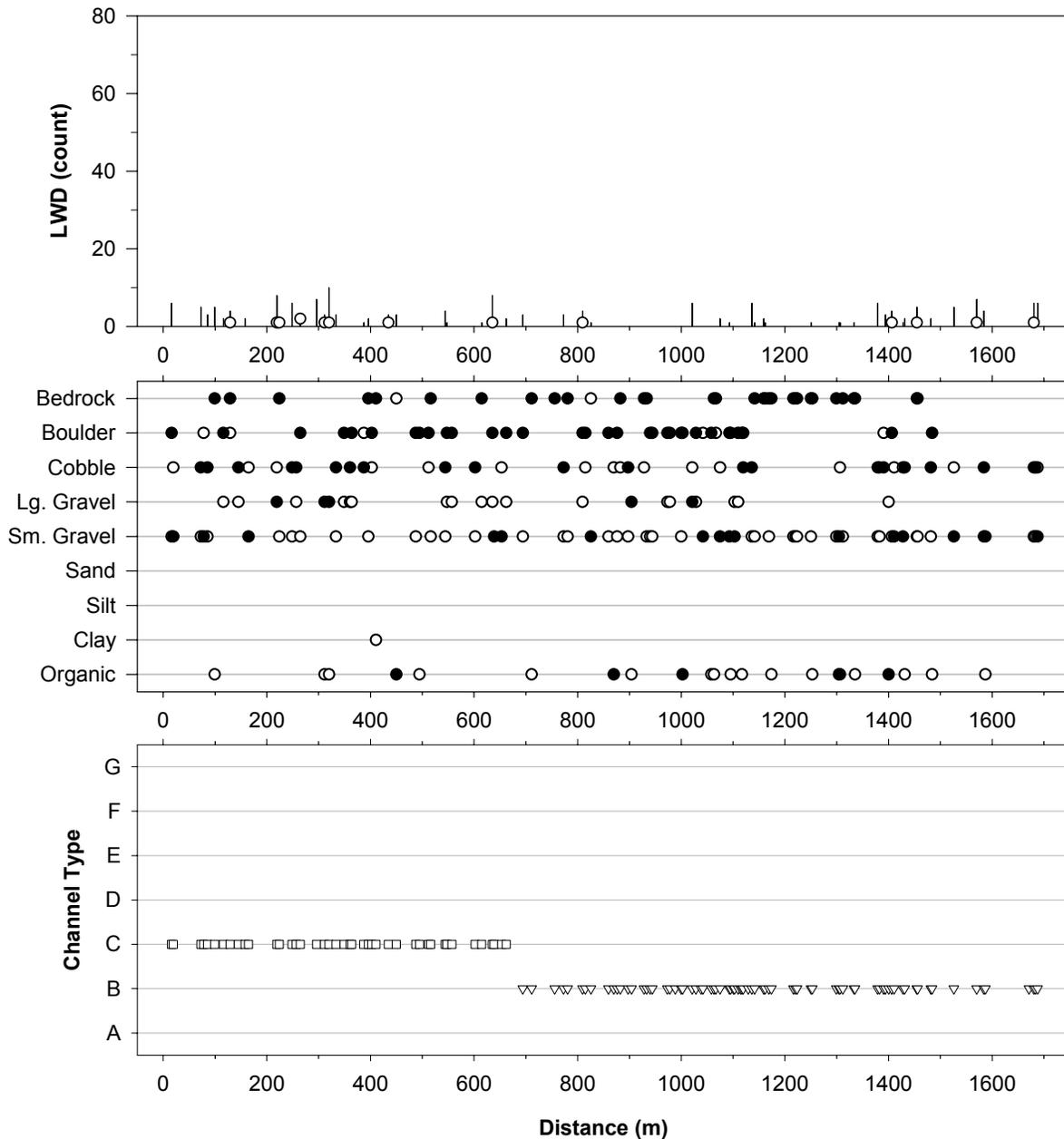
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Rocky Spur Hollow in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Rocky Spur Hollow during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	157.9		from 145.2 m to 157.9 m, rootwad in channel
Side Channel In	256.8	1.5	on right
Underground	295.9		from 264.4 m to 295.9 m
Side Channel Out	295.9		on right
Underground	434.7		from 410.5 m to 434.7 m
Side Channel In	614.8		on right, dry
Side Channel Out	635.2		on right
Trail Crossing	809.2		on right, now old logging road parallelling stream
Trail Crossing	859.4		
Underground	988.5		from 977.9 m to 988.5 m
Tributary	1028.2		on right
Underground	1038.1		from 1028.2 m to 1038.1 m, start of day, 6/12/02
Trail Crossing	1092.9		on left, old logging road
Underground	1100.7		from 1095.2 m to 1100.7 m
Underground	1114.4		from 1109.5 m to 1114.4 m
Underground	1129.1		from 1119.5 m to 1129.1 m
Trail Crossing	1174.6		on right, old logging road
Tributary	1181.3	0.4	on left
Seep	1212.9	0.5	on left
Underground	1394.1		from 1390.4 m to 1394.1 m
Side Channel In	1511.9		on left, dry
Side Channel Out	1538.8		on left dry
Underground	1570.0		from 1526.0 m to 1570.0 m
Seep	1578.0	0.5	on right
Tributary	1597.9	0.2	on left
Underground	1671.1		from 1587.0 m to 1671.1 m, old car/tractor parts in stream bed



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Rocky Spur Hollow, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary near FS road 302.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Root Run
District:	Dry River
USGS Quadrangle:	Fulks Run
Survey Date:	06/13/02
Downstream Starting Point:	Confluence with Marshall Run
Total Distance Surveyed (km):	2.4

	Pools	Riffles
Percent of Total Stream Area:	31	69
Total Area (m ²):	801±110	1743±674
Correction Factor Applied:	1.02	0.89
Number of Paired Samples:	8	6
Total Count:	80	56
Number per km:	33	23
Mean Area (m ²):	10	31
Mean Maximum Depth (cm):	23	14
Mean Average Depth (cm):	16	6
Mean Residual Depth (cm):	12	--
Percent Surveyed as Glides:	5	--
Percent Surveyed as Runs:	--	2
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	4	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	65
< 5 m long, > 55 cm diameter:	2
> 5 m long, 10 cm – 55 cm diameter:	49
> 5 m long, > 55 cm diameter:	12
Total:	128

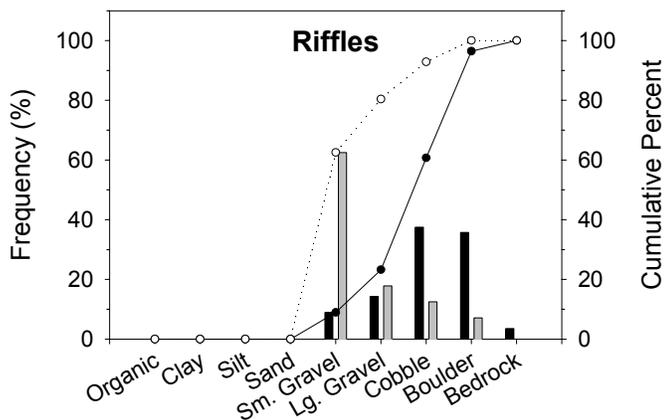
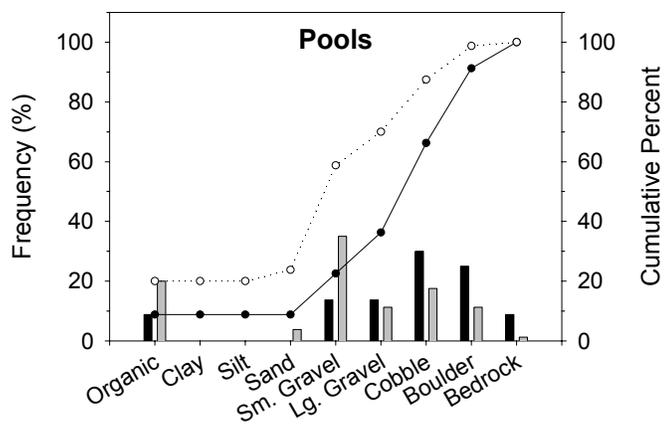
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	18	6
Maximum	34	16
75 th Percentile	19	11
25 th Percentile	14	1
Minimum	10	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

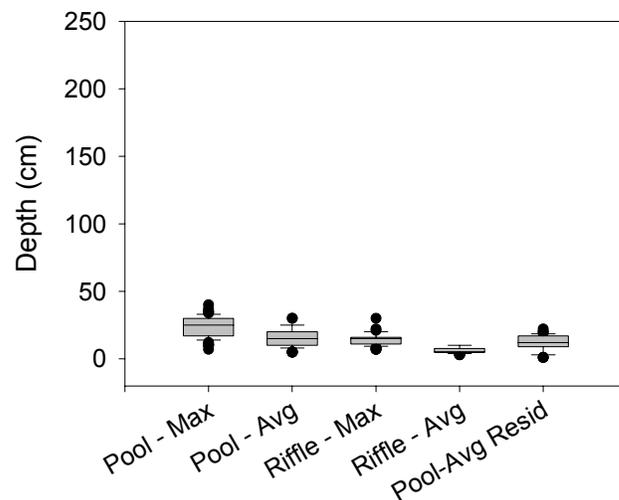
Rosgen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	5
Mean Channel Gradient (%):	5
Median Water Temperature (C):	17

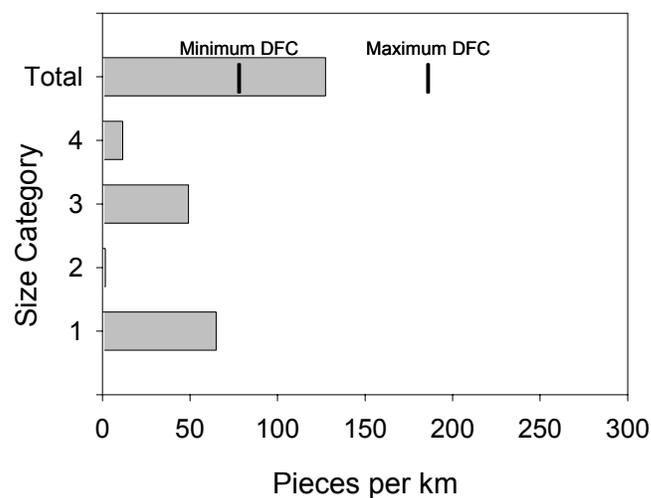


- Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Root Run, summer 2002.

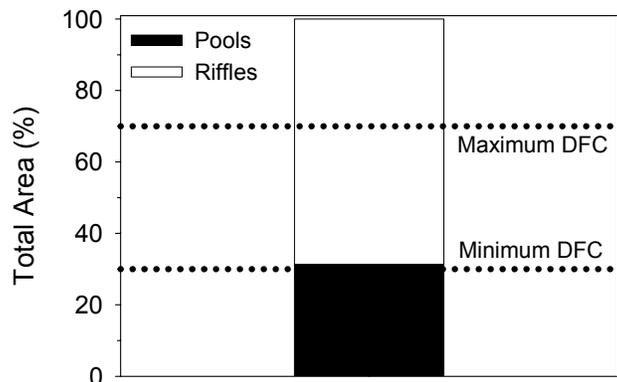


Maximum and average depths and residual pool depths for pools and riffles in Root Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.



LWD per kilometer in Root Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

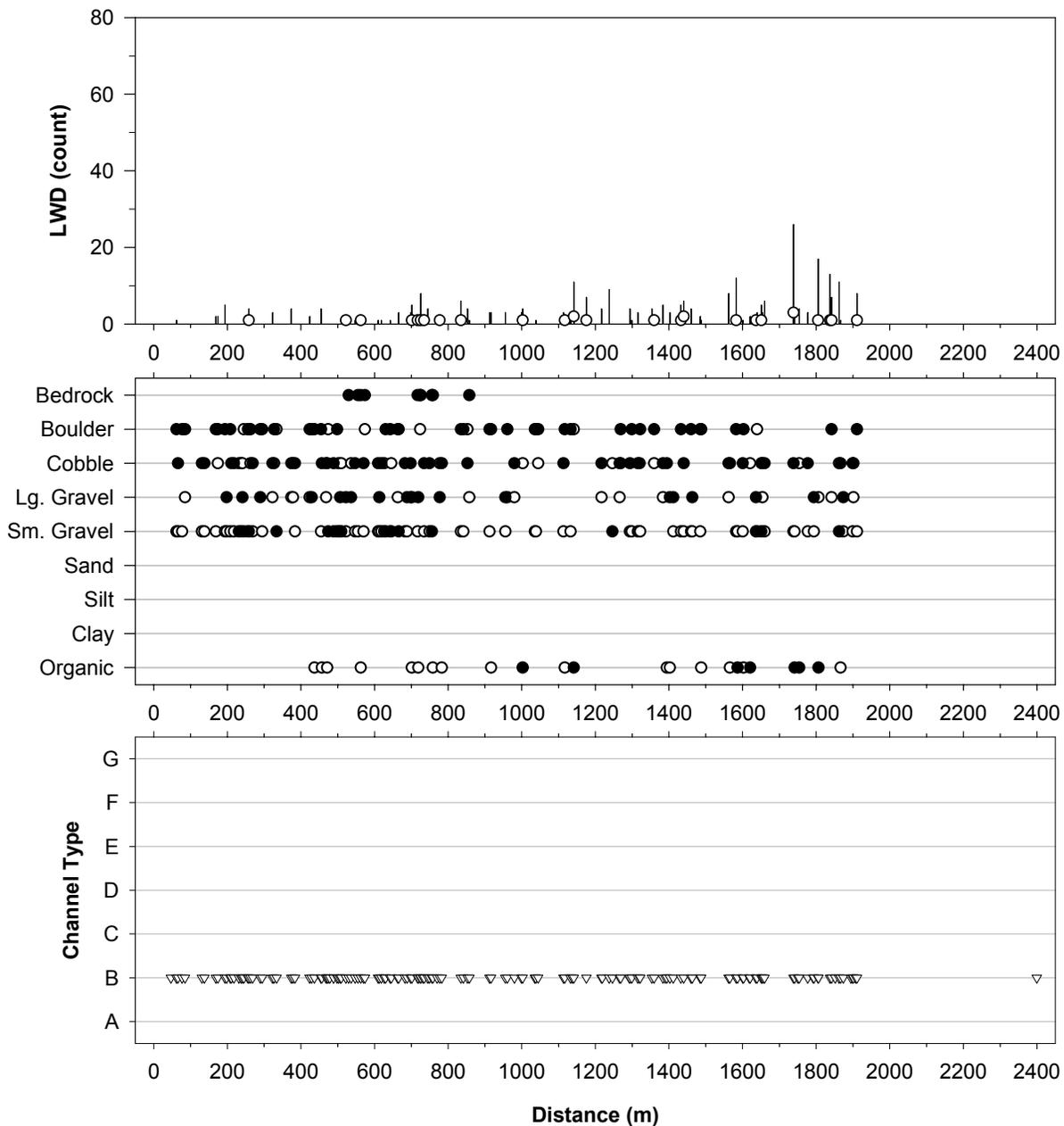
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Root Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Root Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	46.7		from 0.0 m to 46.7 m, small foot bridge xing stream
Trail Crossing	120.8		usfs road 235A
Tributary	444.8		on left, dry
Underground	479.0		from 474.5 m to 479.0 m
Side Channel In	682.6		on right
Underground	731.6		from 725.6 m to 731.6 m
Underground	744.8		from 734.6 m to 744.8 m
Underground	770.1		from 758.4 m to 770.1
Side Channel In	770.1		on left, very little water
Underground	999.4		from 980.3 m to 999.4 m
Side Channel In	1040.6		on right, dry
Side Channel Out	1056.8		on right, dry
Underground	1137.8		from 1132.8 m to 1137.8 m
Underground	1175.5		from 1141.6 m to 1175.5 m
Trail Crossing	1175.5		
Underground	1237.6		from 1218.8 m to 1237.6 m
Tributary	1292.7		on left, dry
Underground	1292.7		from 1268.9 m to 1292.7 m
Underground	1354.0		from 1321.9 m to 1354.0 m
Underground	1390.4		from 1383.9 m to 1390.4 m
Underground	1618.6		from 1602.8 m to 1618.6 m
Underground	1656.1		from 1653.8 m to 1656.1 m
Side Channel In	1687.1	0.5	on right
Side Channel Out	1714.8		on right
Underground	1750.8		from 1741.3 m to 1750.8 m
Side Channel In	1777.3	0.3	on left
Underground	1792.4		from 1777.3 m to 1792.4 m
Side Channel In	1799.4		on right, dry
Side Channel In	1799.4		on left, dry
Underground	1805.4		from 1793.8 m to 1805.4 m
Underground	1837.5		from 1806.3 m to 1837.5 m
Underground	1851.8		from 1841.9 m to 1851.8 m
Underground	1894.7		from 1874.1 m to 1894.7 m
Underground	1907.7		from 1901.6 m to 1907.7 m
Side Channel In	1933.5		on right, dry
Underground	2399.6		from 1911.0 m to 2399.6 m, end of root run



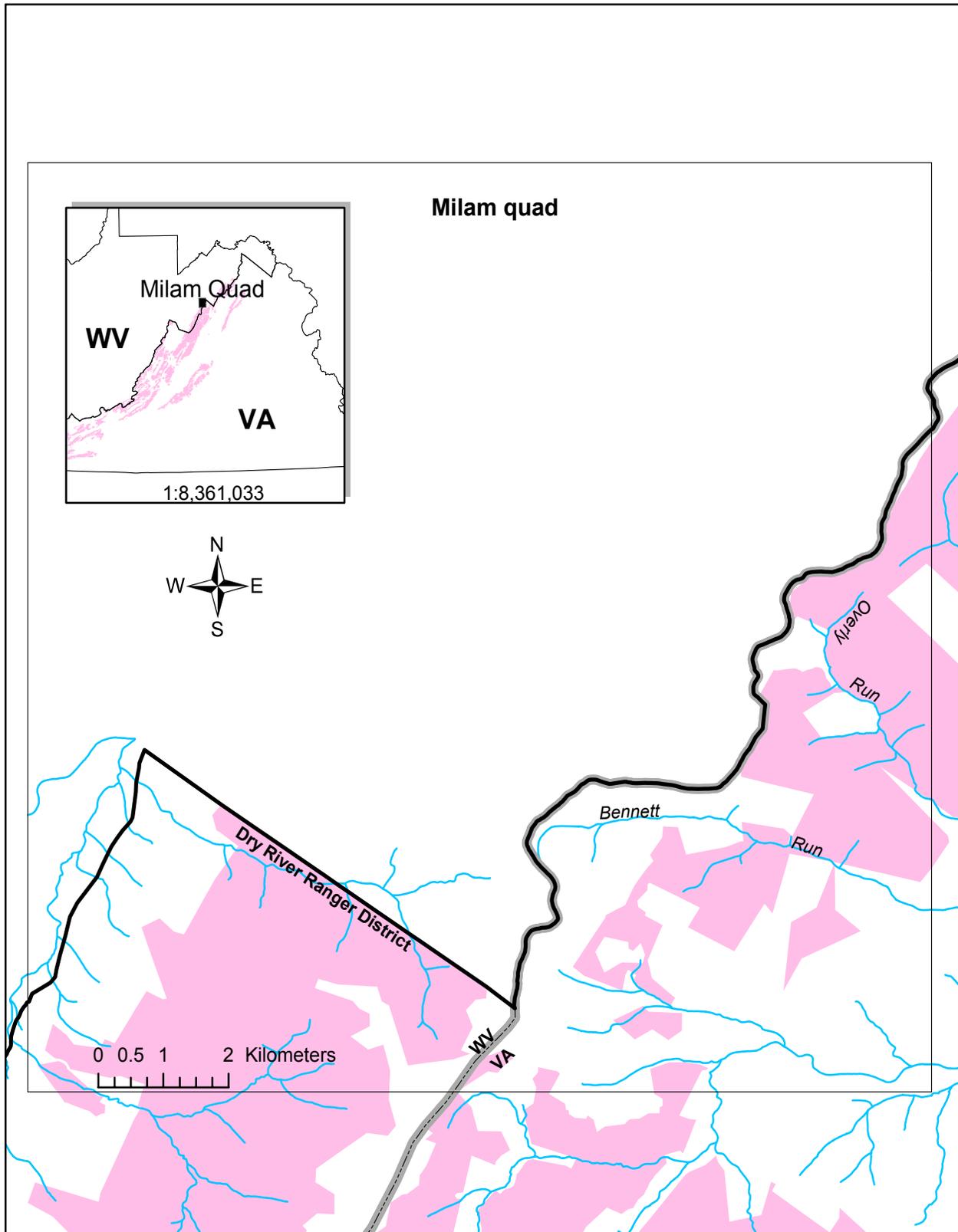
Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Root Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from confluence with Marshall Run.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Streams inventoried on the Milam Quadrangle using BVET habitat surveys during summer 2002.



Stream:	Bennett Run
District:	Dry River
USGS Quadrangle:	Milam
Survey Date:	06/06/02
Downstream Starting Point:	USFS Boundary off State road 824
Total Distance Surveyed (km):	1.2

	Pools	Riffles
Percent of Total Stream Area:	19	81
Total Area (m ²):	586±64	2466±853
Correction Factor Applied:	0.96	1.03
Number of Paired Samples:	7	7
Total Count:	29	28
Number per km:	24	23
Mean Area (m ²):	20	88
Mean Maximum Depth (cm):	34	17
Mean Average Depth (cm):	20	6
Mean Residual Depth (cm):	8	--
Percent Surveyed as Glides:	14	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	69	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	62
< 5 m long, > 55 cm diameter:	21
> 5 m long, 10 cm – 55 cm diameter:	4
> 5 m long, > 55 cm diameter:	5
Total:	92

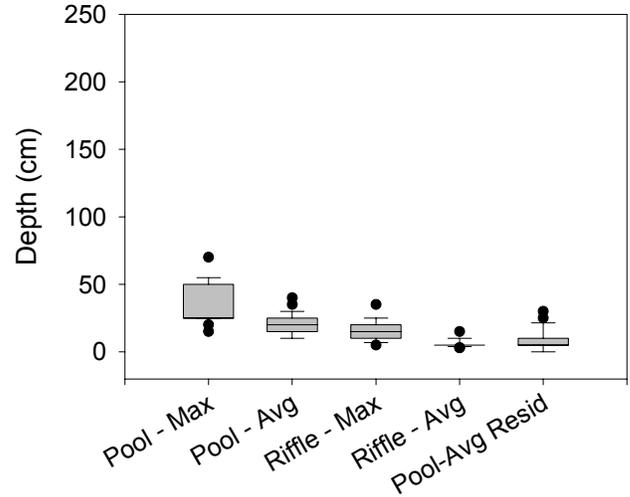
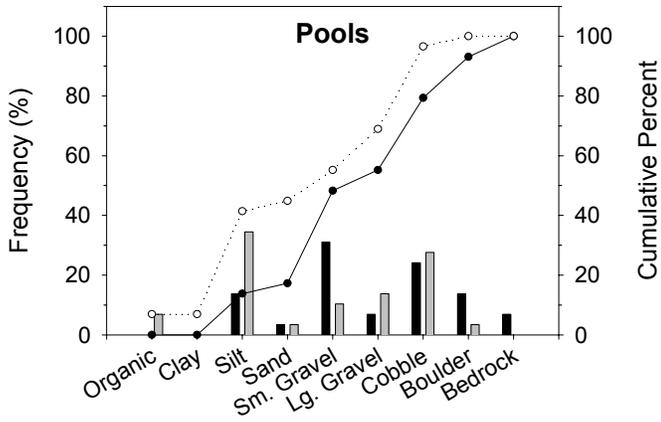
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	14	5
Maximum	35	23
75 th Percentile	13	5
25 th Percentile	9	1
Minimum	9	0

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

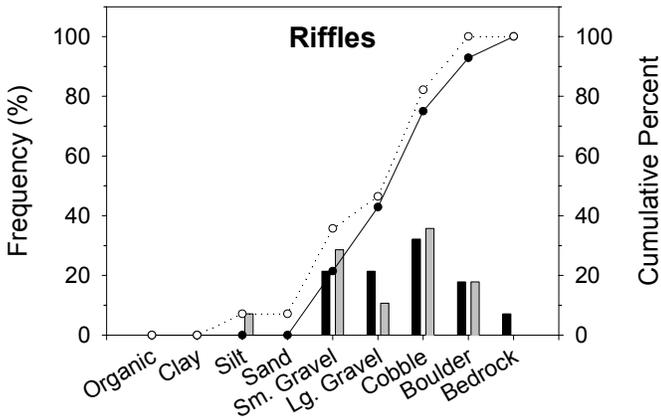
**Left and right riparian widths were grouped (not added) together for calculations

Rosgen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	5
Mean Channel Gradient (%):	3
Median Water Temperature (C):	18

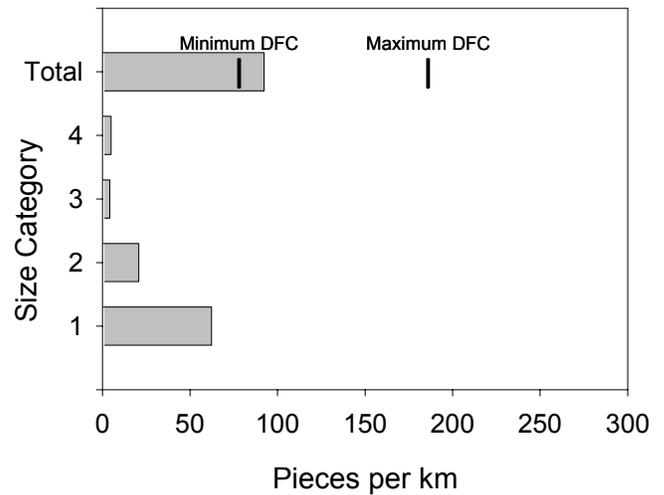


Maximum and average depths and residual pool depths for pools and riffles in Bennett Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.



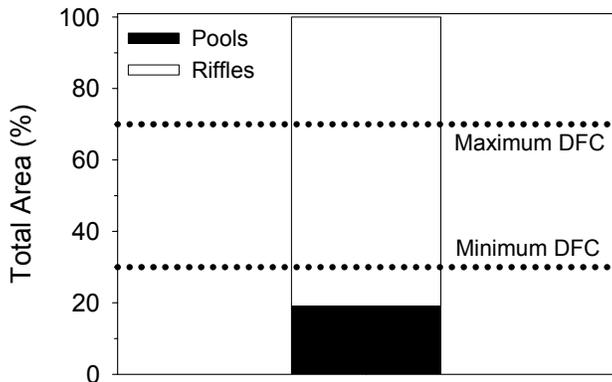
- Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Bennett Run, summer 2002.



LWD per kilometer in Bennett Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

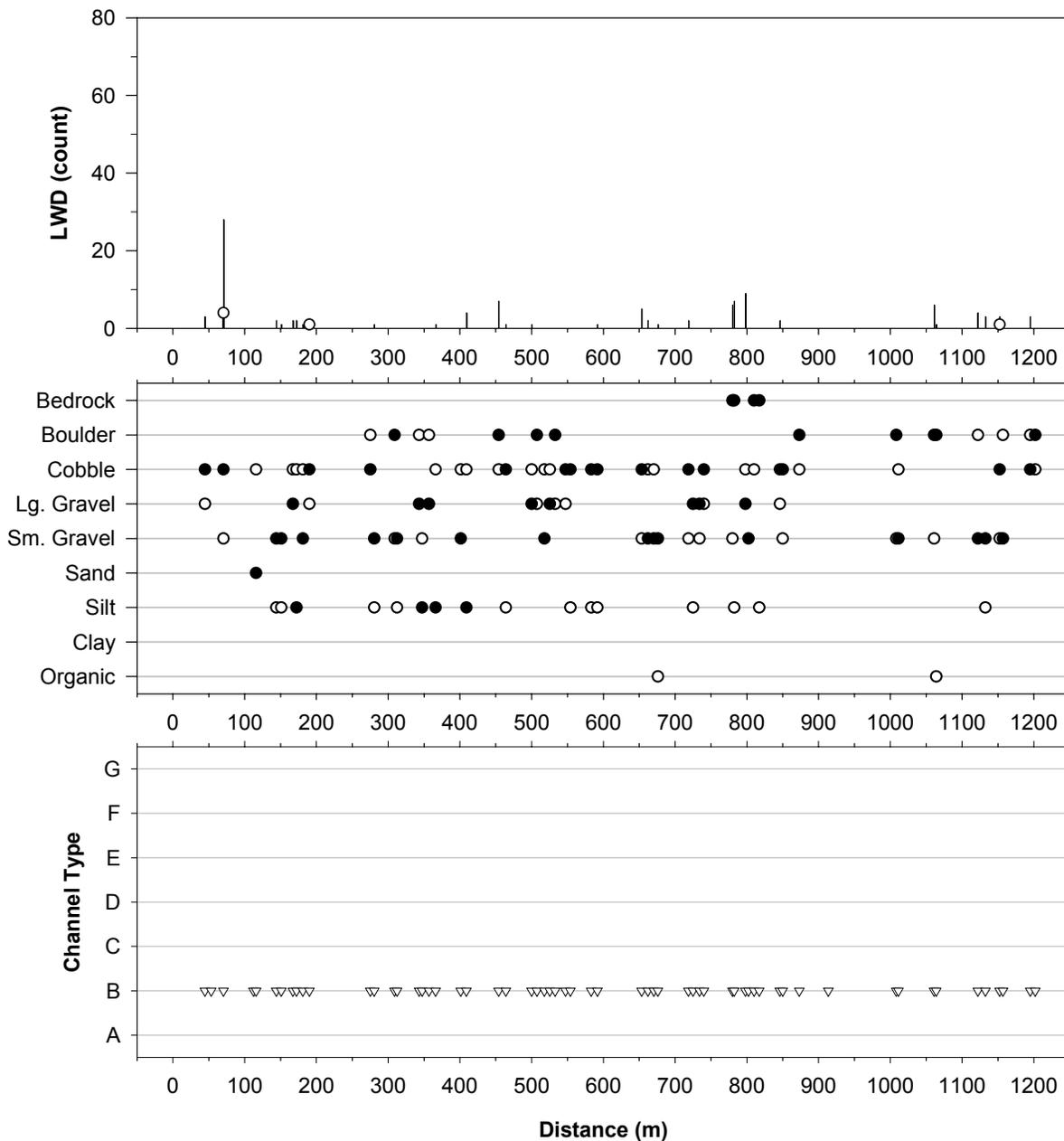
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Bennett Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Bennett Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Side Channel In	11.5		on right
Underground	53.3		from 44.5 m to 53.3 m
Underground	112.3		from 70.4 m to 112.3 m
Road Crossing	281.5		concrete substrate
Ford	571.0		
Culvert	862.0		from 850 m to 862 m
Underground	913.6		from 873 m to 913.6 m
Tributary	979.0		on left, dry
Culvert	1024.0		
Seep	1062.0		on right
USFS Boundary	1212.5		ended survey



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Bennett Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary off State road 824.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Overly Run (lower)
District:	Dry River
USGS Quadrangle:	Milam
Survey Date:	06/10/02
Downstream Starting Point:	USFS Boundary off State road 823
Total Distance Surveyed (km):	1.2

	Pools	Riffles
Percent of Total Stream Area:	24	76
Total Area (m ²):	805±155	2544±290
Correction Factor Applied:	0.96	1.14
Number of Paired Samples:	4	3
Total Count:	37	32
Number per km:	32	28
Mean Area (m ²):	22	79
Mean Maximum Depth (cm):	31	16
Mean Average Depth (cm):	17	5
Mean Residual Depth (cm):	7	--
Percent Surveyed as Glides:	27	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	22	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	38
< 5 m long, > 55 cm diameter:	13
> 5 m long, 10 cm – 55 cm diameter:	1
> 5 m long, > 55 cm diameter:	3
Total:	55

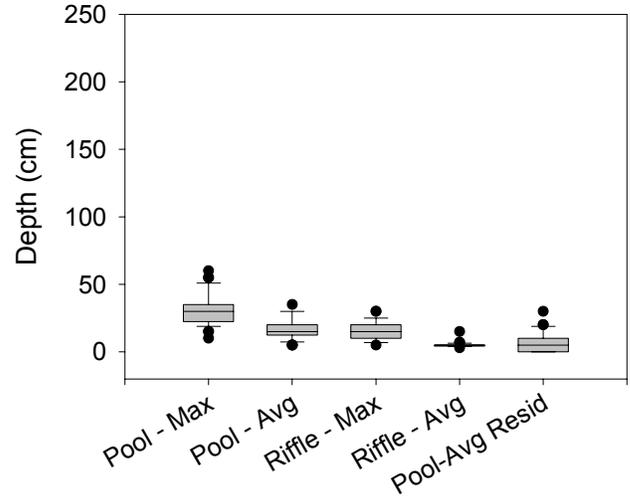
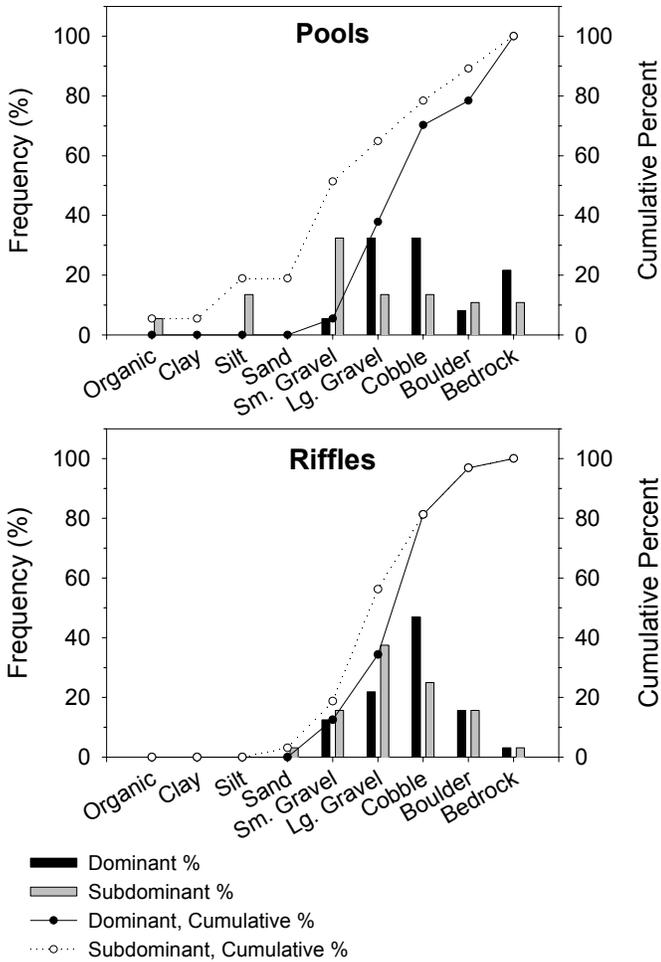
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	25	10
Maximum	46	40
75 th Percentile	33	12
25 th Percentile	14	1
Minimum	8	0

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

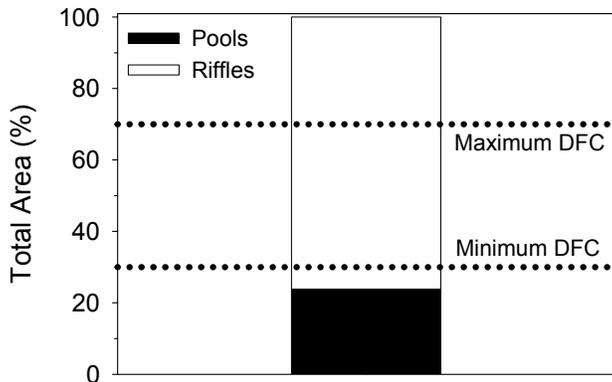
Rosgen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	5
Mean Channel Gradient (%):	5
Median Water Temperature (C):	20

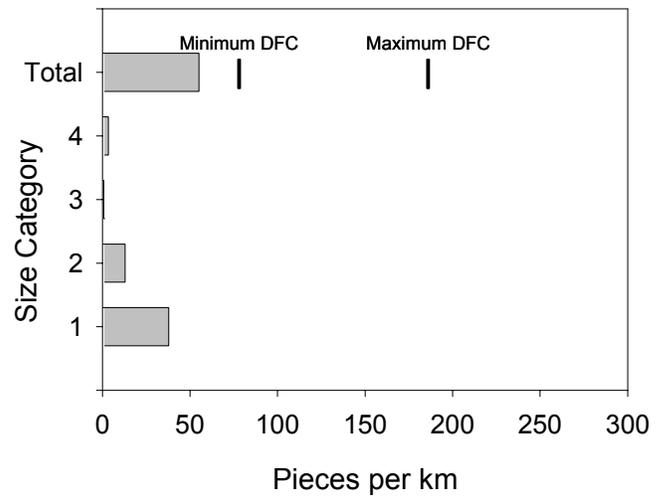


Maximum and average depths and residual pool depths for pools and riffles in Overly Run (lower), summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Overly Run (lower), summer 2002.



Estimated area of Overly Run (lower) in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

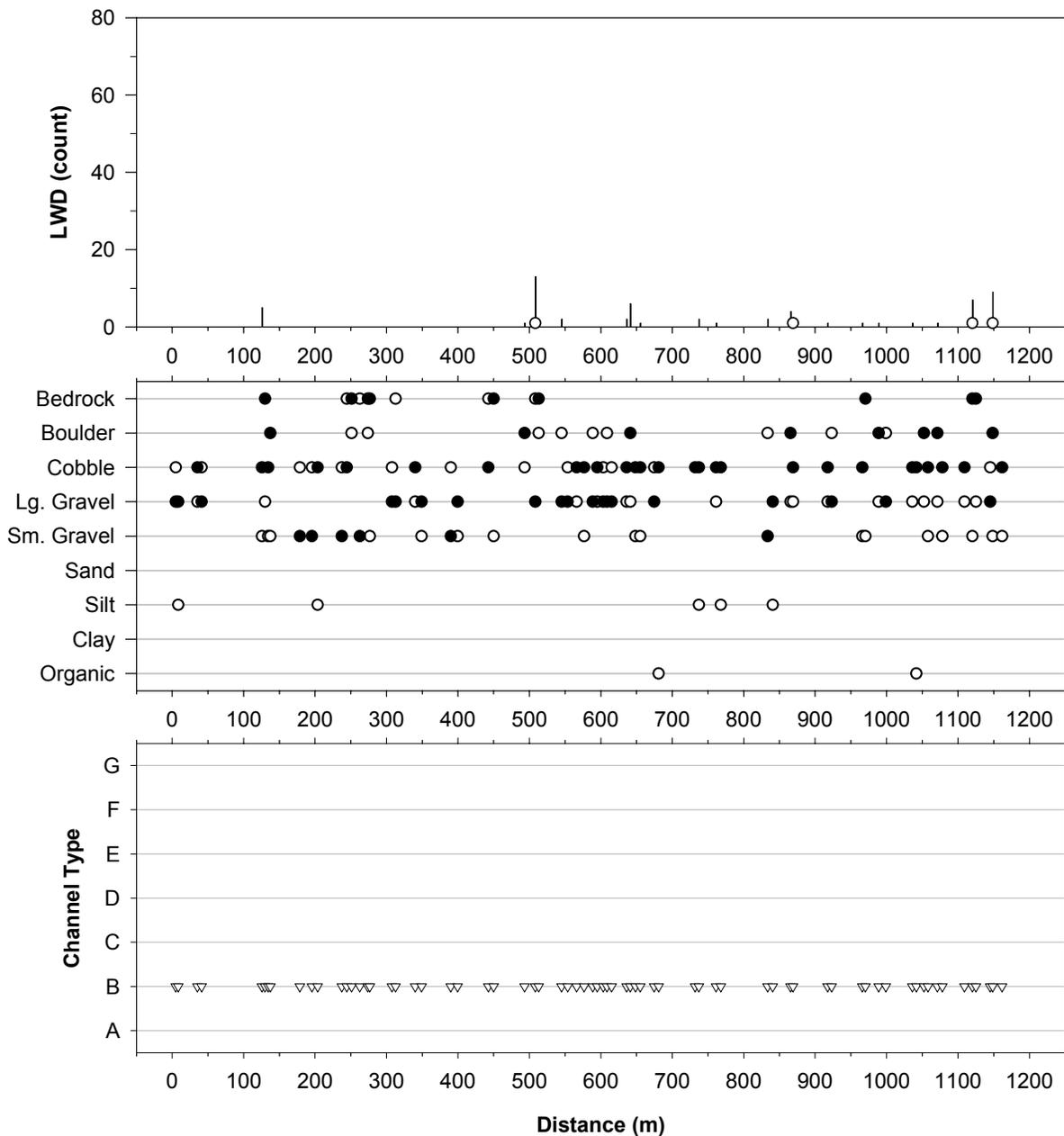


LWD per kilometer in Overly Run (lower), summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Overly Run (lower) during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Culvert	41.0	3.0	culvert is ~10m long
Ford	545.0		
Tributary	721.0		on left
Tributary	874.0		on right, dry
Tributary	1126.0		on left



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Overly Run (lower), summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary off State road 823.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Overly Run (upper)
District:	Dry River
USGS Quadrangle:	Milam
Survey Date:	06/10/02
Downstream Starting Point:	USFS Boundary off State road 823
Total Distance Surveyed (km):	0.6

	Pools	Riffles
Percent of Total Stream Area:	21	79
Total Area (m ²):	153±18	566±180
Correction Factor Applied:	0.92	1.25
Number of Paired Samples:	3	3
Total Count:	14	14
Number per km:	22	22
Mean Area (m ²):	11	40
Mean Maximum Depth (cm):	26	12
Mean Average Depth (cm):	15	5
Mean Residual Depth (cm):	6	--
Percent Surveyed as Glides:	14	--
Percent Surveyed as Runs:	--	7
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	79	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	49
< 5 m long, > 55 cm diameter:	24
> 5 m long, 10 cm – 55 cm diameter:	0
> 5 m long, > 55 cm diameter:	3
Total:	76

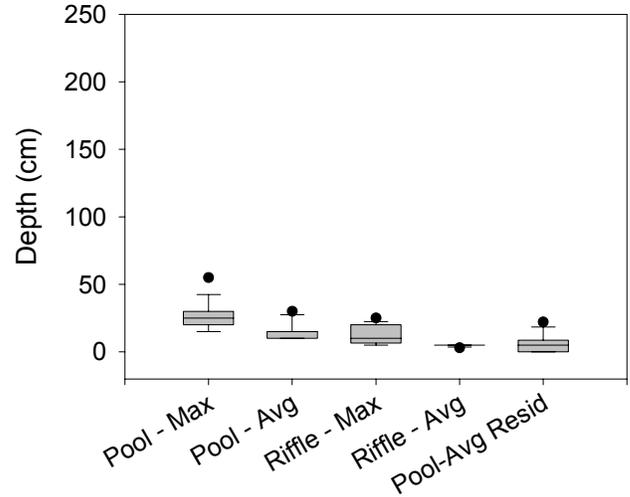
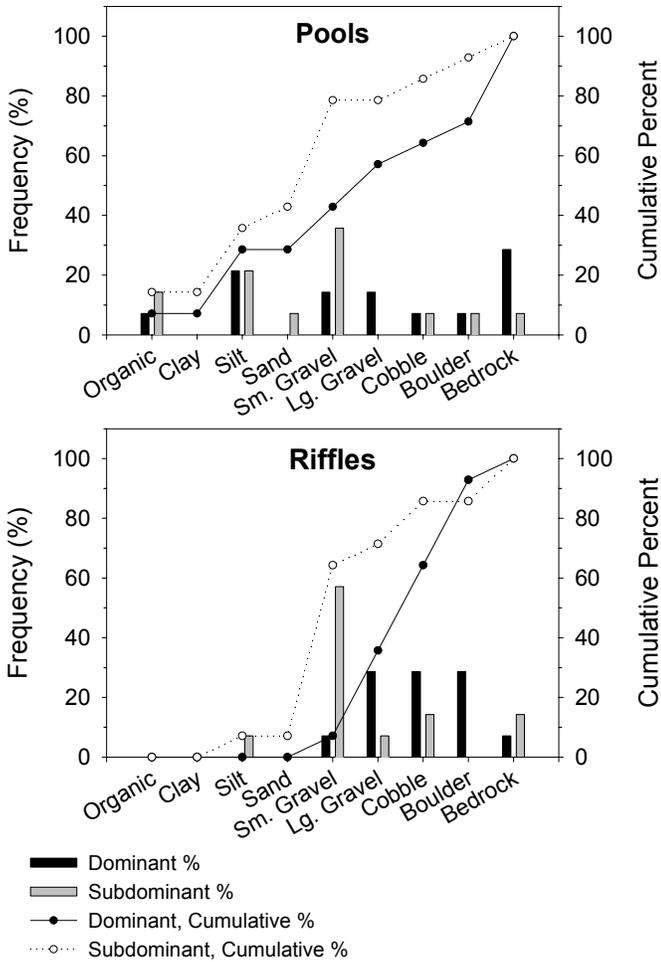
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	19	8
Maximum	27	14
75 th Percentile	24	12
25 th Percentile	15	5
Minimum	8	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

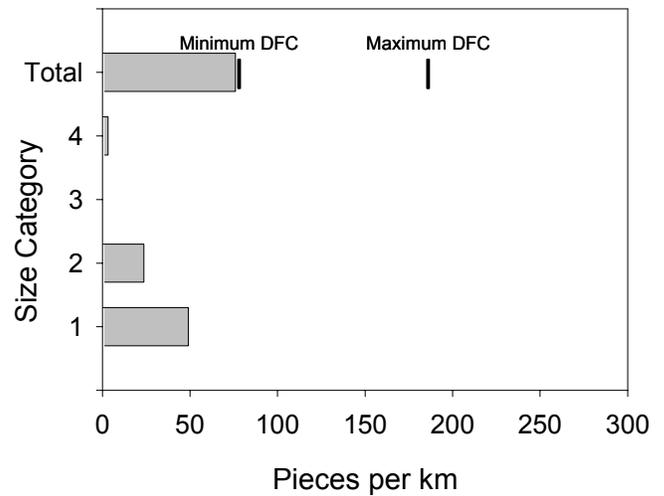
Rosgen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	3
Mean Channel Gradient (%):	6
Median Water Temperature (C):	Not recorded



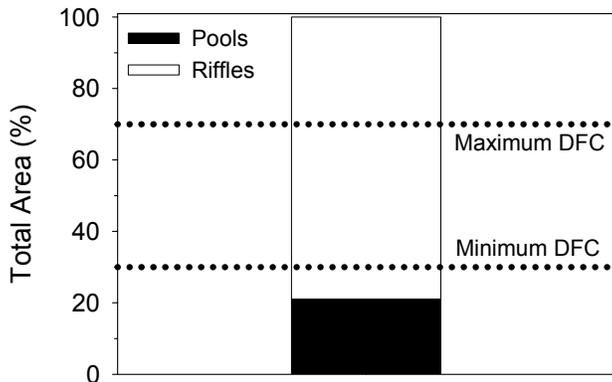
Maximum and average depths and residual pool depths for pools and riffles in Overly Run (upper), summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Overly Run (upper), summer 2002.



LWD per kilometer in Overly Run (upper), summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

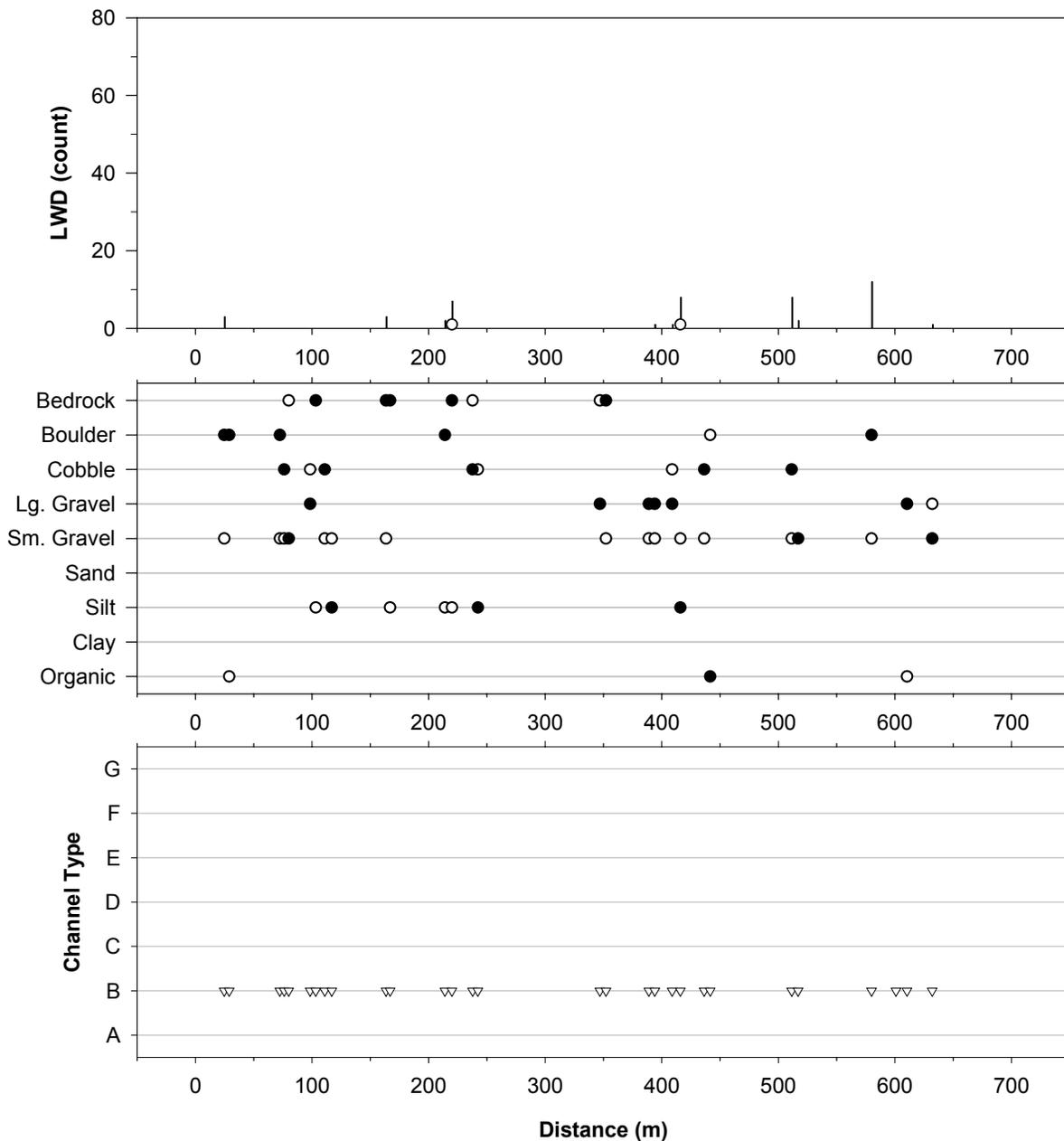
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Overly Run (upper) in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Overly Run (upper) during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Tributary	235.5		on right, dry
Side Channel In	544.0		on right
Underground	601.0		from 580.0 m to 601.0 m



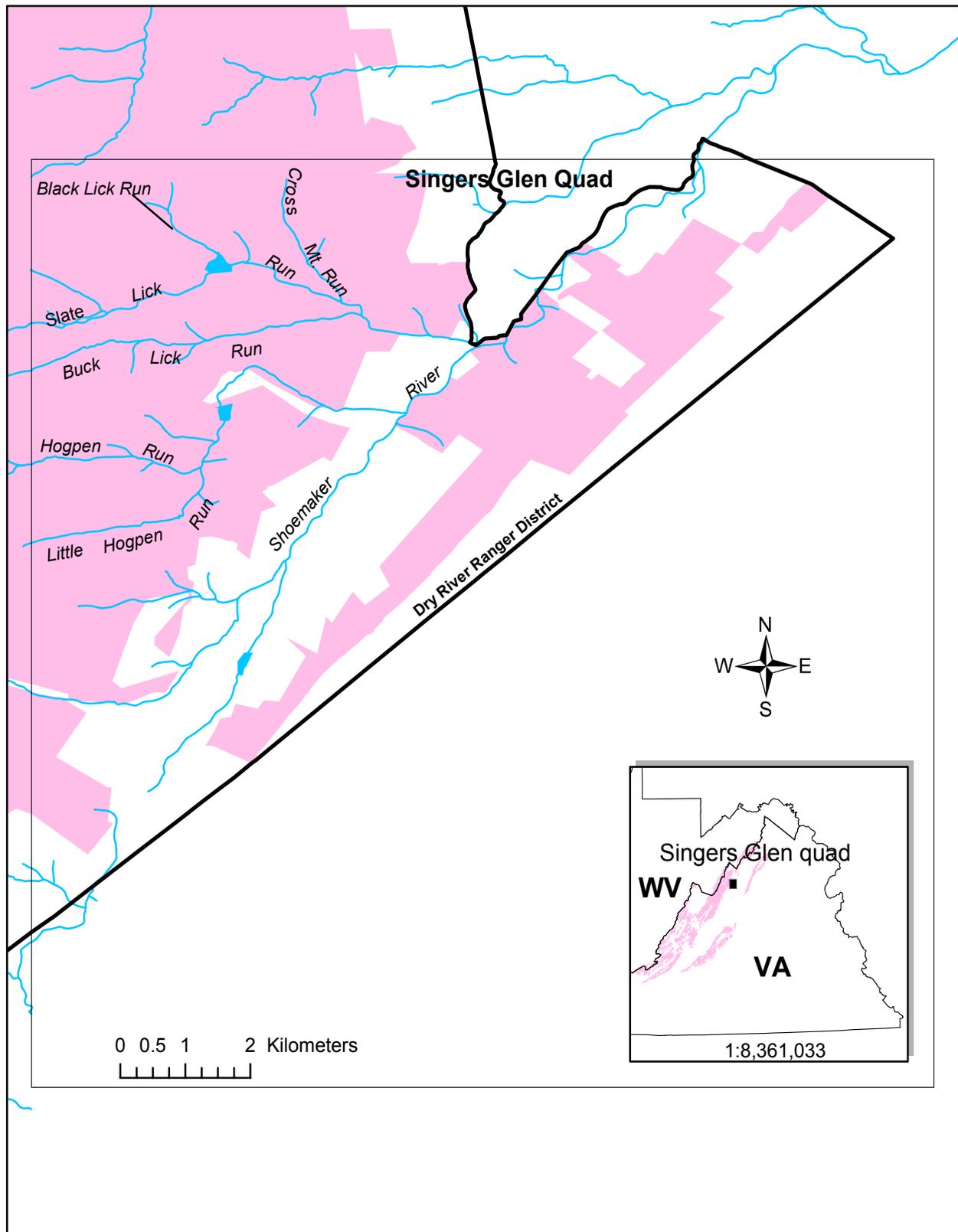
Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Overly Run (upper), summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary off State road 823.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Streams inventoried on the Singers Glen Quadrangle using BVET habitat surveys during summer 2002.



Stream:	Black Lick Run
District:	Dry River
USGS Quadrangle:	Singers Glen
Survey Date:	06/11/02
Downstream Starting Point:	Confluence with Slate Lick Lake
Total Distance Surveyed (km):	1.0

	Pools	Riffles
Percent of Total Stream Area:	36	64
Total Area (m ²):	542±101	958±88
Correction Factor Applied:	1.04	1.14
Number of Paired Samples:	7	6
Total Count:	34	33
Number per km:	33	32
Mean Area (m ²):	16	29
Mean Maximum Depth (cm):	31	15
Mean Average Depth (cm):	21	10
Mean Residual Depth (cm):	15	--
Percent Surveyed as Glides:	3	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	6	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	85
< 5 m long, > 55 cm diameter:	0
> 5 m long, 10 cm – 55 cm diameter:	7
> 5 m long, > 55 cm diameter:	1
Total:	93

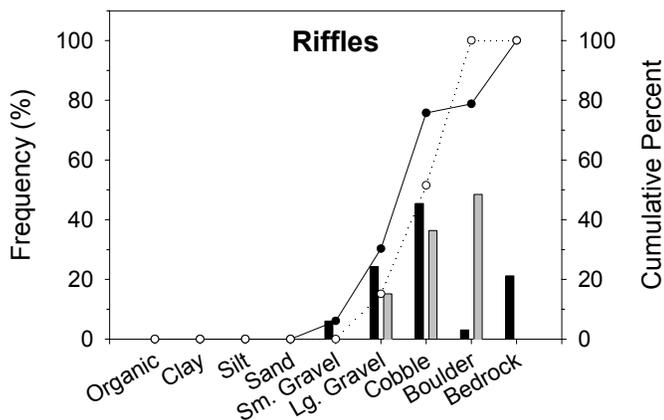
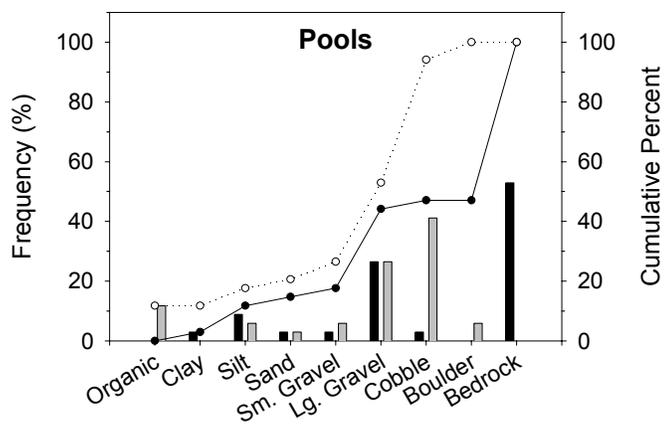
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	12	4
Maximum	22	14
75 th Percentile	13	4
25 th Percentile	8	2
Minimum	7	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

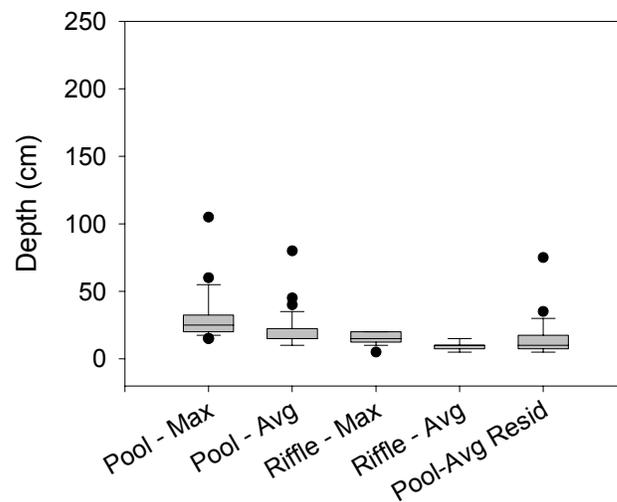
Rosgen's Channel Type	Frequency (%)
A:	32
B:	68
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	5
Mean Channel Gradient (%):	6
Median Water Temperature (C):	20

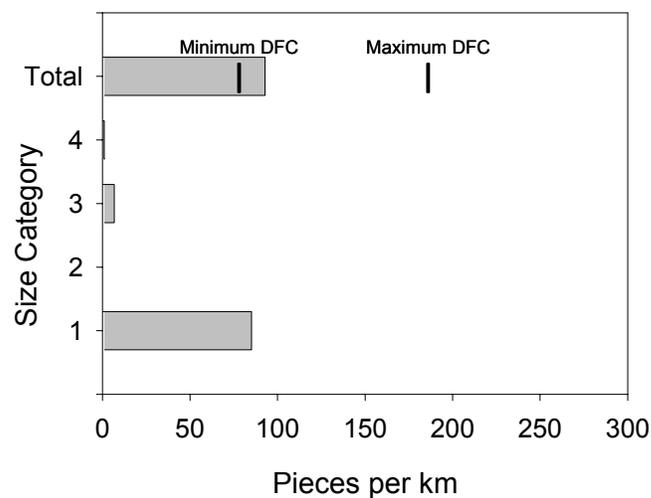


- Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Black Lick Run, summer 2002.

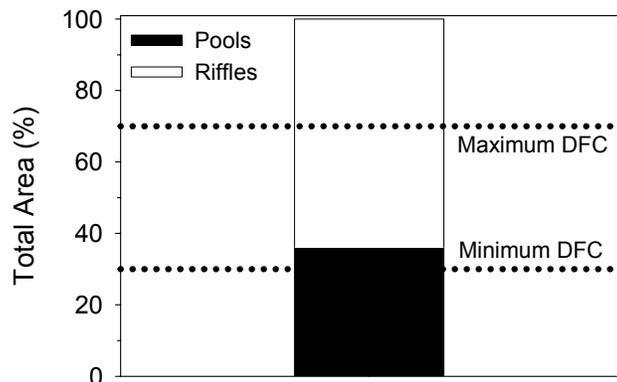


Maximum and average depths and residual pool depths for pools and riffles in Black Lick Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.



LWD per kilometer in Black Lick Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

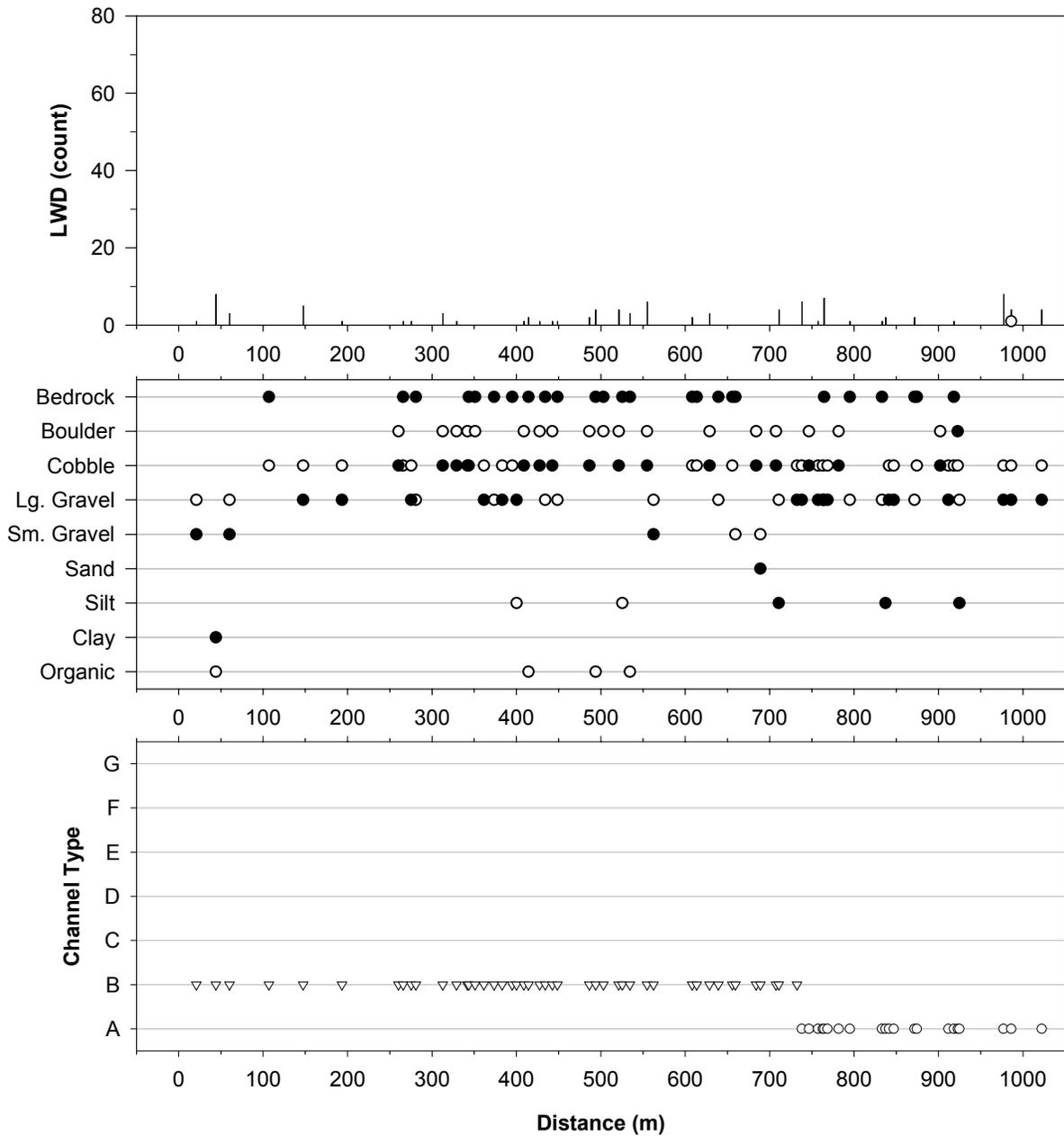
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Black Lick Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Black Lick Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	95.4		from 60.1 m to 95.4 m
Underground	124.6		from 106.8 m to 124.6 m
Side Channel In	137.3		on left
Side Channel Out	165.6		on left
Underground	182.6		from 147.4 m to 182.6 m
Trail Crossing	201.7		
Underground	206.8		from 193.3 m to 206.8 m
Side Channel In	242.6		on left
Side Channel Out	261.7		on left
Tributary	507.7		right, dry
Seep	781.9		on right
Tributary	816.2		on left
Trail Crossing	859.1		
Tributary	891.5		on left, dry
Tributary	1022.3		on right



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Black Lick Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from confluence with Slate Lick Lake.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Buck Lick Run
District:	Dry River
USGS Quadrangle:	Singers Glen/Rawley Springs
Survey Date:	06/05/02
Downstream Starting Point:	USFS Boundary off FS road 230
Total Distance Surveyed (km):	5.2

	Pools	Riffles
Percent of Total Stream Area:	48	52
Total Area (m ²):	6788±861	7497±1720
Correction Factor Applied:	0.97	1.01
Number of Paired Samples:	15	12
Total Count:	149	119
Number per km:	29	23
Mean Area (m ²):	46	63
Mean Maximum Depth (cm):	37	21
Mean Average Depth (cm):	25	13
Mean Residual Depth (cm):	14	--
Percent Surveyed as Glides:	15	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	0	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	66
< 5 m long, > 55 cm diameter:	0
> 5 m long, 10 cm – 55 cm diameter:	12
> 5 m long, > 55 cm diameter:	0
Total:	78

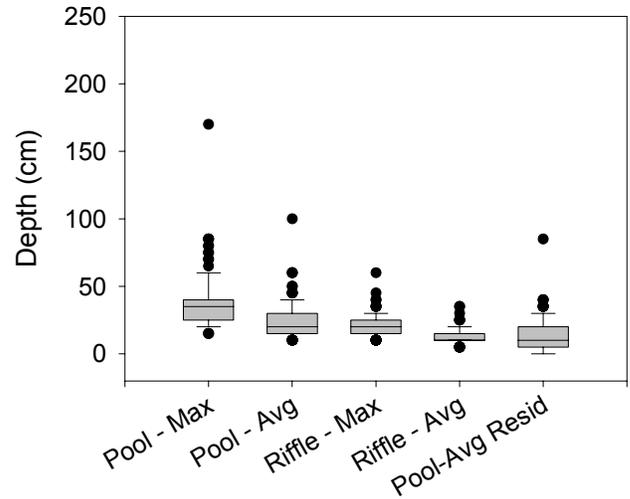
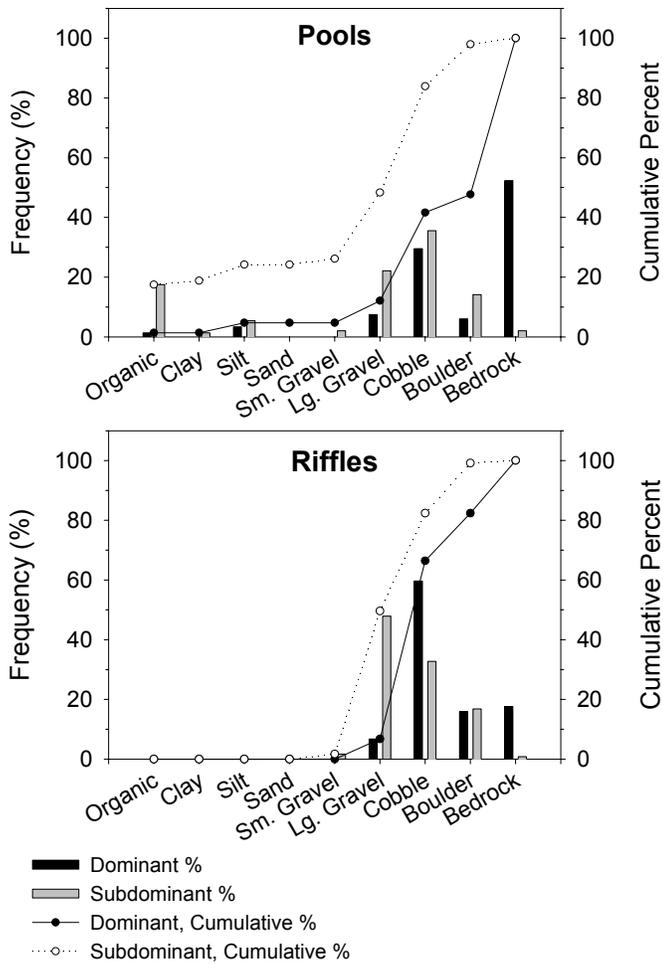
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	21	7
Maximum	50	30
75 th Percentile	28	11
25 th Percentile	11	1
Minimum	8	0

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

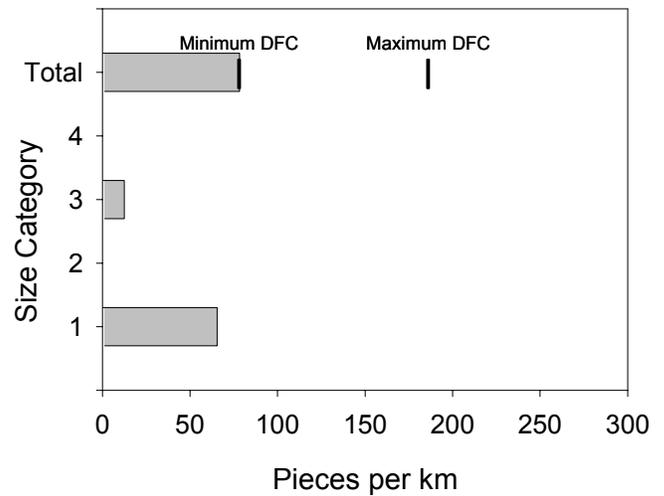
Rosgen's Channel Type	Frequency (%)
A:	0
B:	73
C:	0
D:	0
E:	0
F:	0
G:	27

Other Stream Attributes	
Mean Bankfull Channel Width (m):	6
Mean Channel Gradient (%):	3
Median Water Temperature (C):	16



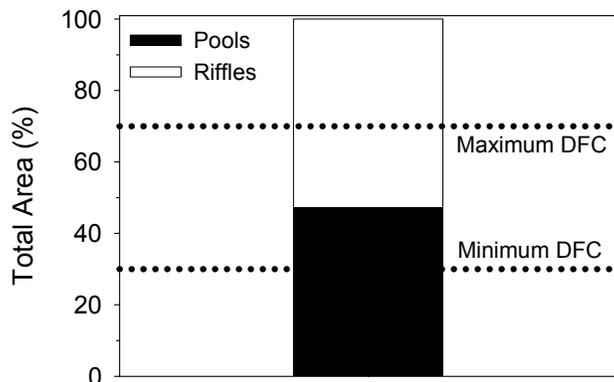
Maximum and average depths and residual pool depths for pools and riffles in Buck Lick Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Buck Lick Run, summer 2002.



LWD per kilometer in Buck Lick Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

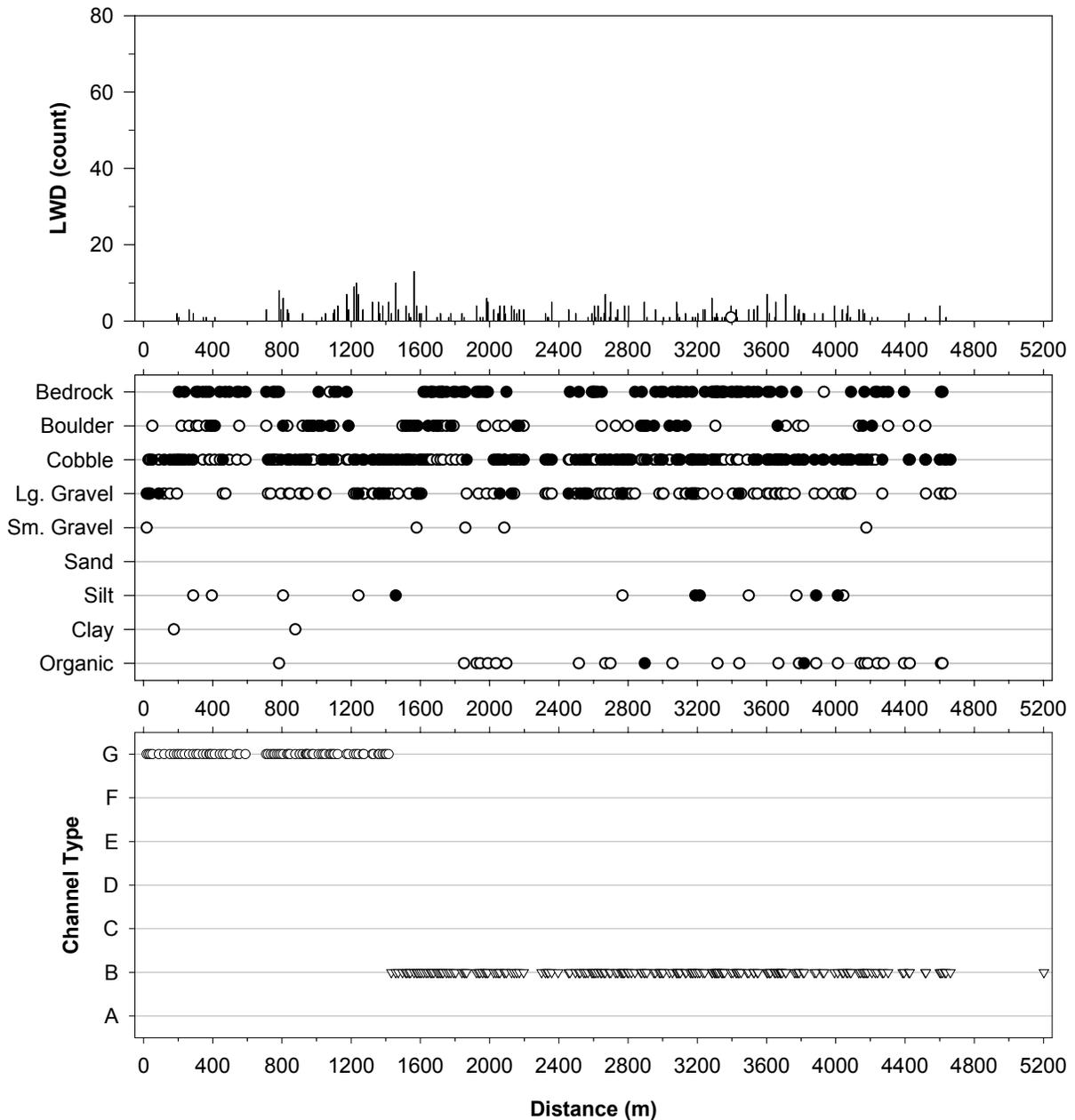
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Buck Lick Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Buck Lick Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Tributary	352.8		in on left, dry
Tributary	749.9	5.0	in on right, Slate Lick Run
Tributary	1128.6	0.5	in on right
Side Channel In	1269.1	0.3	right
Side Channel Out	1301.4	0.3	right
Side Channel In	1329.5		right
Underground	1402.9		from 1394.5 m to 1402.9
Side Channel Out	1432.0		out on right
Tributary	1463.0		in on left
Tributary	1523.9		in on right, dry
Side Channel In	2031.7	1.5	left
Side Channel Out	2083.4	0.5	left
Side Channel In	2177.7	0.5	left
Underground	2299.8		from 2196.8 m to 2299.8 m
Underground	2395.8		from 2358.6 m to 2395.8 m
Tributary	2808.5		in on right
Tributary	2867.5		on left, dry
Tributary	2928.1	1.5	
Tributary	3056.5		on right, dry
Side Channel In	3118.8		on left, dry
Side Channel Out	3155.1		on left
Tributary	3239.4		on right, dry
Tributary	3431.8		on right, dry
Waterfall	3443.7		1.5 m tall
Tributary	3464.8		on left
Tributary	3545.9		on left, dry
Waterfall	4230.0		1.5 m tall
Underground	4386.5		from 4302.8 m to 4386.5 m
Tributary	4414.5		on left, dry
Side Channel In	4416.7		on right, dry
Side Channel Out	4450.4		on right, dry
Tributary	4450.4		on left
Side Channel Out	4512.8		on left
Side Channel In	4639.6		on right
Side Channel In	4639.6		on left
Side Channel Out	4671.6		on right
Side Channel Out	4705.1		on left
Tributary	4715.5		on left, dry
Underground	5202.8		from 4662.3 m to 5202.8 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Buck Lick Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from USFS Boundary off FS road 230.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Cross Mountain Run
District:	Dry River
USGS Quadrangle:	Singers Glen
Survey Date:	06/10/02
Downstream Starting Point:	Confluence with Slate Lick Branch
Total Distance Surveyed (km):	1.4

	Pools	Riffles
Percent of Total Stream Area:	38	62
Total Area (m ²):	650±271	1074±219
Correction Factor Applied:	1.60	1.60
Number of Paired Samples:	6	5
Total Count:	28	26
Number per km:	20	19
Mean Area (m ²):	23	41
Mean Maximum Depth (cm):	33	13
Mean Average Depth (cm):	24	7
Mean Residual Depth (cm):	18	--
Percent Surveyed as Glides:	7	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	4
Percent with Substrate > 35% Embedded:	7	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	51
< 5 m long, > 55 cm diameter:	0
> 5 m long, 10 cm – 55 cm diameter:	6
> 5 m long, > 55 cm diameter:	0
Total:	58

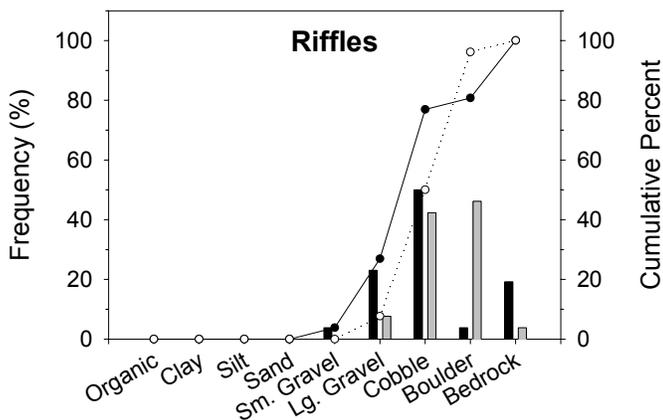
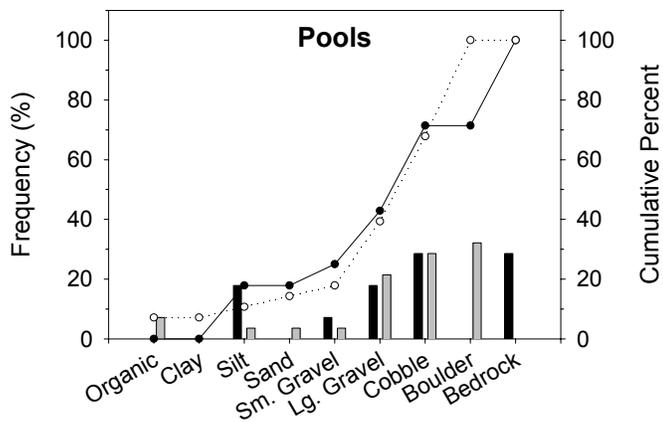
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	14	5
Maximum	24	17
75 th Percentile	16	4
25 th Percentile	11	2
Minimum	8	1

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

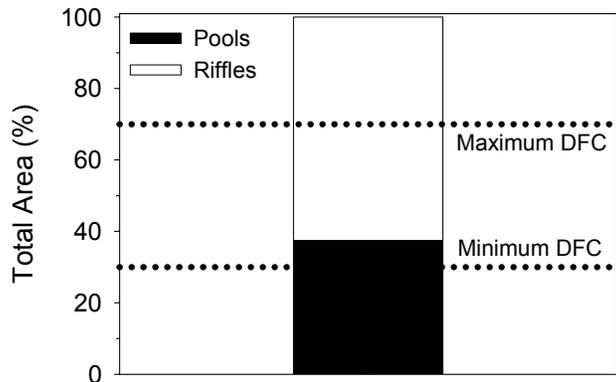
Rosgen's Channel Type	Frequency (%)
A:	82
B:	18
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	5
Mean Channel Gradient (%):	7
Median Water Temperature (C):	20

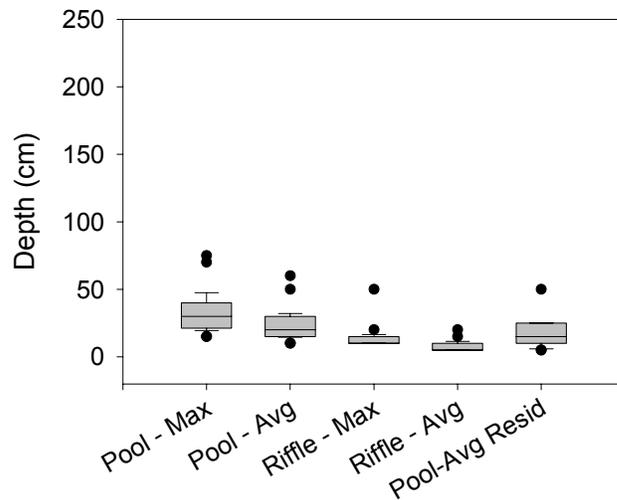


- Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

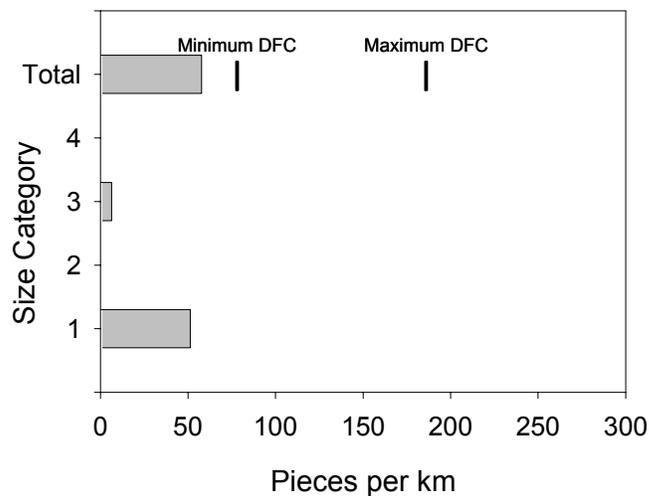
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Cross Mountain Run, summer 2002.



Estimated area of Cross Mountain Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.



Maximum and average depths and residual pool depths for pools and riffles in Cross Mountain Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

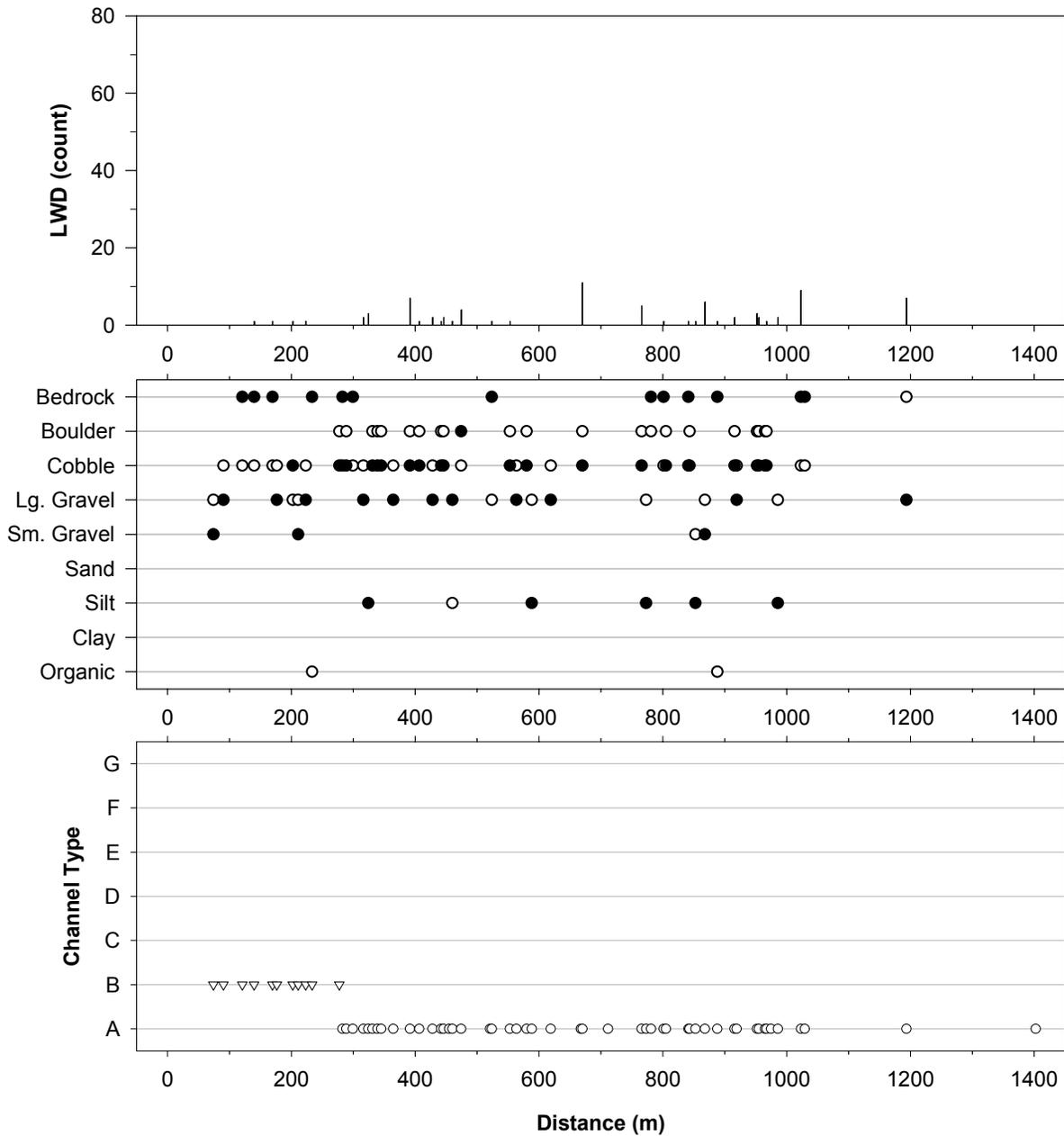


LWD per kilometer in Cross Mountain Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Cross Mountain Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Underground	52.5		from 0.0 m to 52.5 m
Trail Crossing	313.3		
Side Channel In	447.4		on left
Underground	454.9		from 445.9 m to 454.9
Side Channel Out	469.3		on left
Underground	521.1		from 474.4 m to 521.1 m
Side Channel In	548.6		on right
Side Channel In	610.1		on right
Side Channel Out	646.8		on right
Underground	667.6		from 619.0 m to 667.6 m
Underground	711.5		from 670.1 m to 711.5 m
Tributary	720.2		on right
Trail Crossing	899.0		
Tributary	921.9	1.0	on right
Underground	974.9		from 967.5 m to 974.9 m
Side Channel In	1084.2		on right
Side Channel In	1125.3		on left
Side Channel Out	1154.9		on right
Side Channel Out	1238.1		on left
Underground	1402.4		from 1193.5 m to 1402.4 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Cross Mountain Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from confluence with Slate Lick Branch.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Hogpen Run
District:	Dry River
USGS Quadrangle:	Singers Glen/Rawley Springs
Survey Date:	06/03/02
Downstream Starting Point:	Confluence with Hogpen Lake
Total Distance Surveyed (km):	2.2

	Pools	Riffles
Percent of Total Stream Area:	41	59
Total Area (m ²):	3164±475	4596±3333
Correction Factor Applied:	2.04	4.35
Number of Paired Samples:	4	4
Total Count:	42	39
Number per km:	19	18
Mean Area (m ²):	75	118
Mean Maximum Depth (cm):	42	16
Mean Average Depth (cm):	28	8
Mean Residual Depth (cm):	18	--
Percent Surveyed as Glides:	7	--
Percent Surveyed as Runs:	--	0
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	10	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	47
< 5 m long, > 55 cm diameter:	0
> 5 m long, 10 cm – 55 cm diameter:	12
> 5 m long, > 55 cm diameter:	0
Total:	58

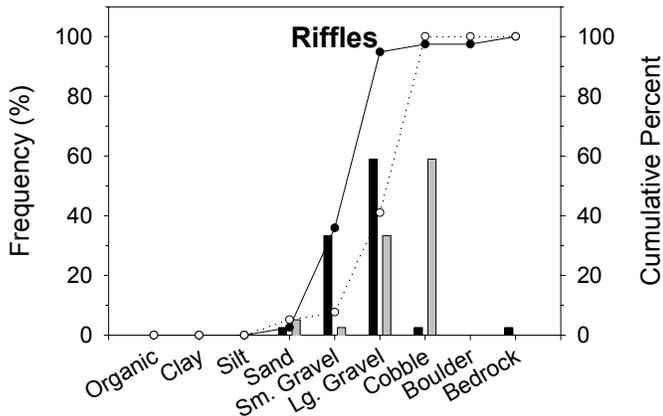
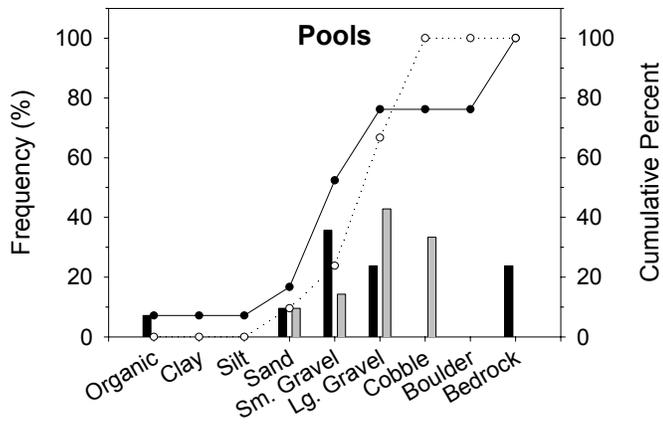
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	19	5
Maximum	40	18
75 th Percentile	20	5
25 th Percentile	11	2
Minimum	10	2

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

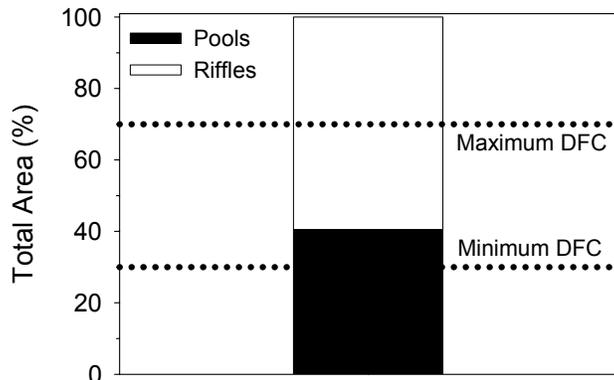
Rosgen's Channel Type	Frequency (%)
A:	0
B:	100
C:	0
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	8
Mean Channel Gradient (%):	3
Median Water Temperature (C):	17

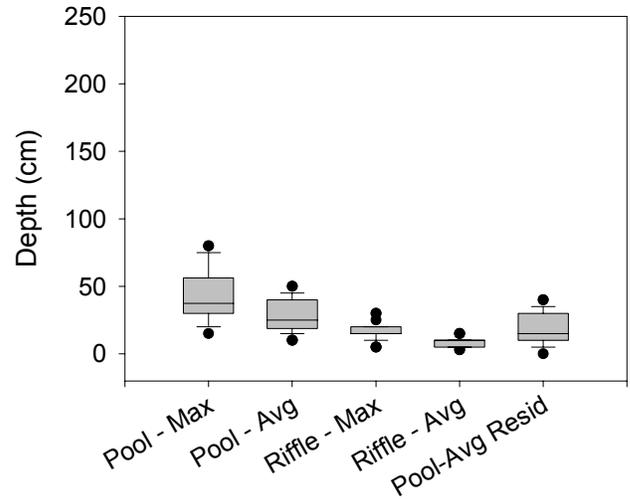


- █ Dominant %
- ▒ Subdominant %
- Dominant, Cumulative %
- Subdominant, Cumulative %

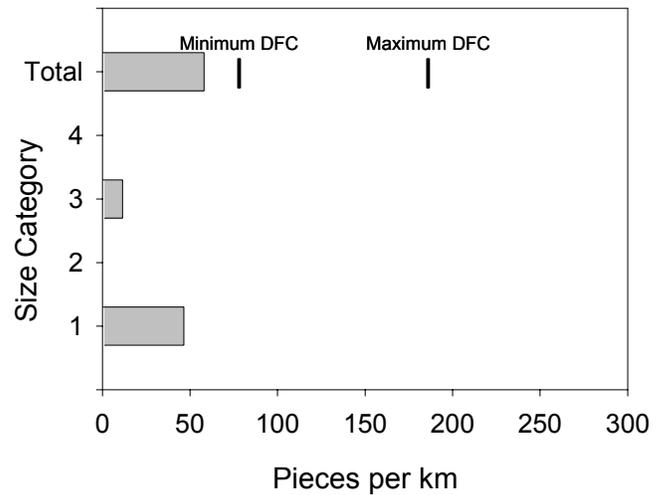
Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Hogpen Run, summer 2002.



Estimated area of Hogpen Run in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.



Maximum and average depths and residual pool depths for pools and riffles in Hogpen Run, summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

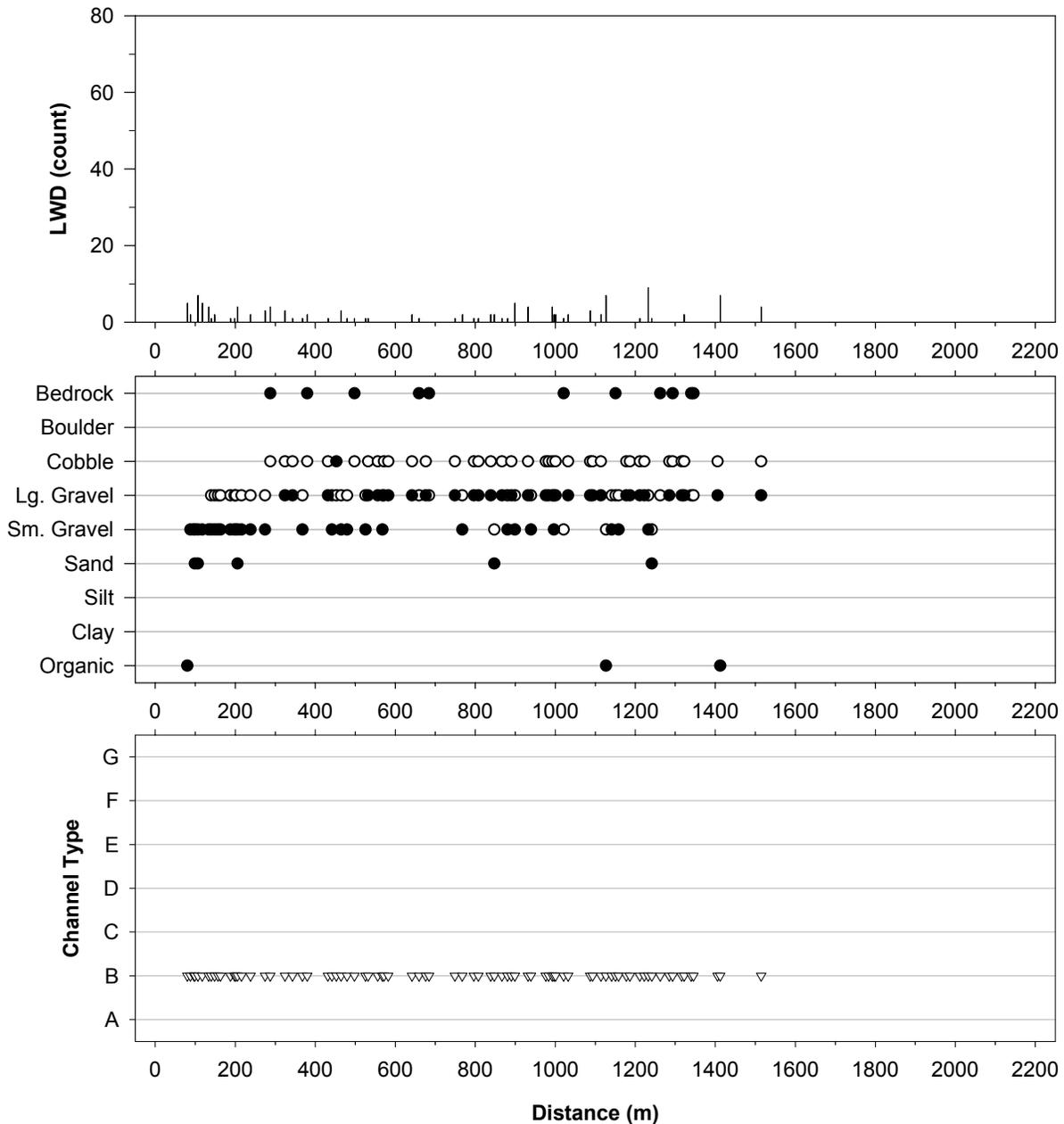


LWD per kilometer in Hogpen Run, summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Hogpen Run during BVET habitat survey, summer 2002. Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Tributary	160.8	1.0	on right, dry
Tributary	664.4	2.0	on right
Seep	884.5	0.5	on left
Side Channel In	994.6	0.2	on left
Side Channel Out	1013.4	0.5	on left
Tributary	1118.0		on left, dry
Tributary	1385.0	1.5	on left, Little Hogpen Run
Tributary	1446.2	1.0	on left
Tributary	1486.5	0.5	on right
Underground	2169.5		from 1514.4 m to 2169.5 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Hogpen Run, summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from confluence with Hogpen Lake.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Stream:	Little Hogpen Run*
District:	Dry River
USGS Quadrangle:	Singers Glen
Survey Date:	06/04/02
Downstream Starting Point:	Confluence with Hogpen Run
Total Distance Surveyed (km):	.5

*No data recorded stream was dry.

Stream:	Shoemaker River
District:	Dry River
USGS Quadrangle:	Singers Glen
Survey Date:	NA
Downstream Starting Point:	No access, all private land
Total Distance Surveyed (km):	0.0

Stream:	Slate Lick Branch (lower)
District:	Dry River
USGS Quadrangle:	Singers Glen
Survey Date:	06/12/02
Downstream Starting Point:	Confluence with Buck Lick Run
Total Distance Surveyed (km):	1.9

	Pools	Riffles
Percent of Total Stream Area:	50	50
Total Area (m ²):	4257±611	4311±475
Correction Factor Applied:	1.09	0.88
Number of Paired Samples:	5	4
Total Count:	52	43
Number per km:	27	23
Mean Area (m ²):	82	100
Mean Maximum Depth (cm):	47	28
Mean Average Depth (cm):	28	13
Mean Residual Depth (cm):	13	--
Percent Surveyed as Glides:	21	--
Percent Surveyed as Runs:	--	12
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	13	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	196
< 5 m long, > 55 cm diameter:	49
> 5 m long, 10 cm – 55 cm diameter:	4
> 5 m long, > 55 cm diameter:	10
Total:	259

Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	90	42
Maximum	120	80
75 th Percentile	108	68
25 th Percentile	82	15
Minimum	42	11

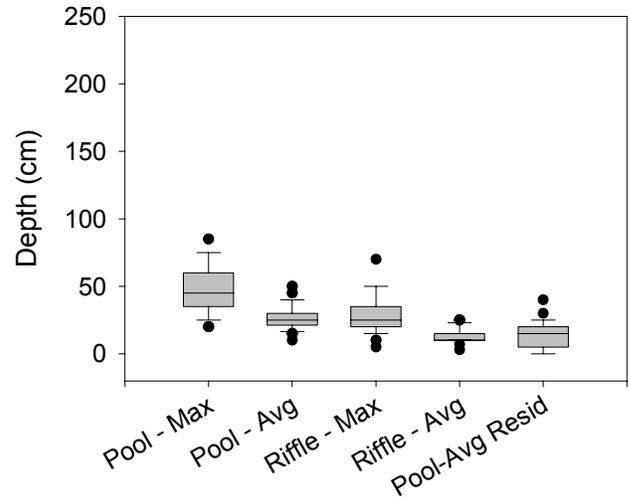
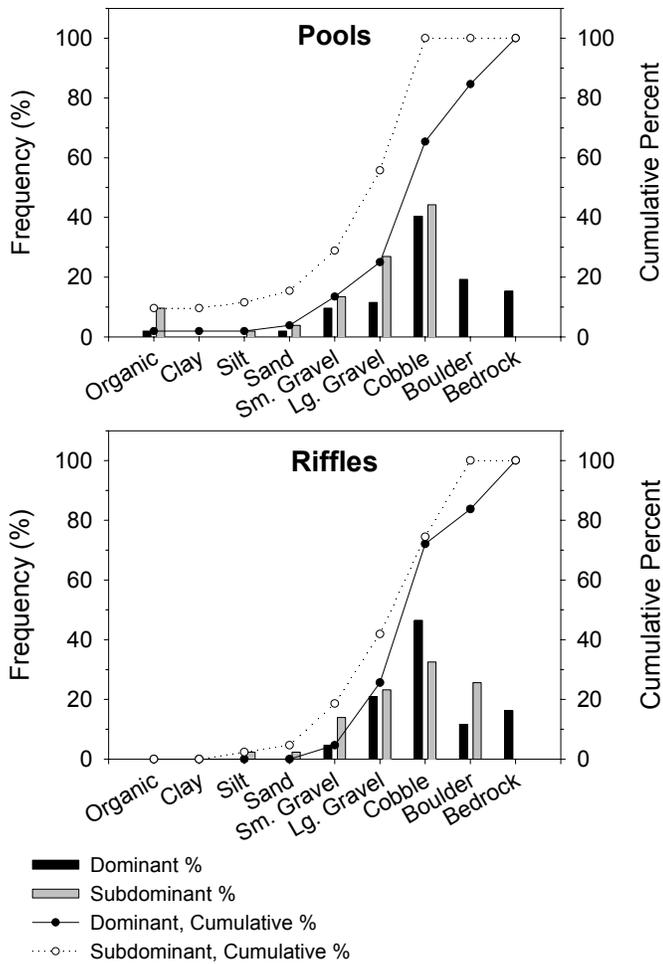
*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

Rosgen's Channel Type	Frequency (%)
A:	Not Recorded
B:	--
C:	--
D:	--
E:	--
F:	--
G:	--

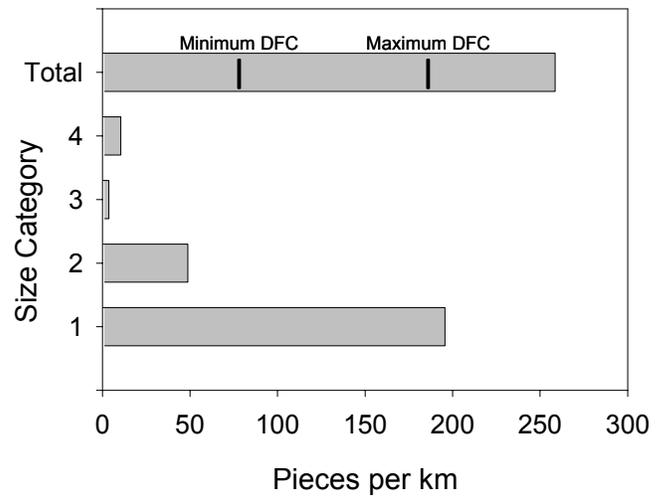
Other Stream Attributes

Mean Bankfull Channel Width (m):	6
Mean Channel Gradient (%):	3
Median Water Temperature (C):	17



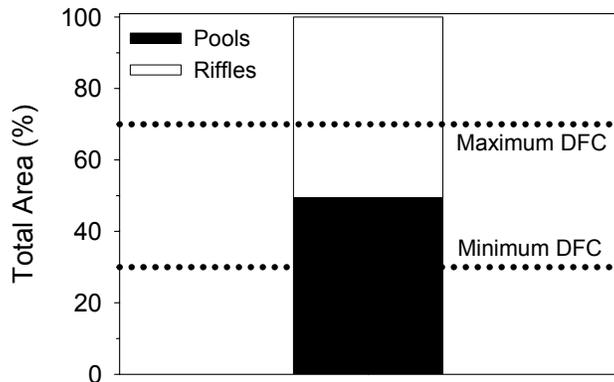
Maximum and average depths and residual pool depths for pools and riffles in Slate Lick Branch (lower), summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Slate Lick Branch (lower), summer 2002.



LWD per kilometer in Slate Lick Branch (lower), summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

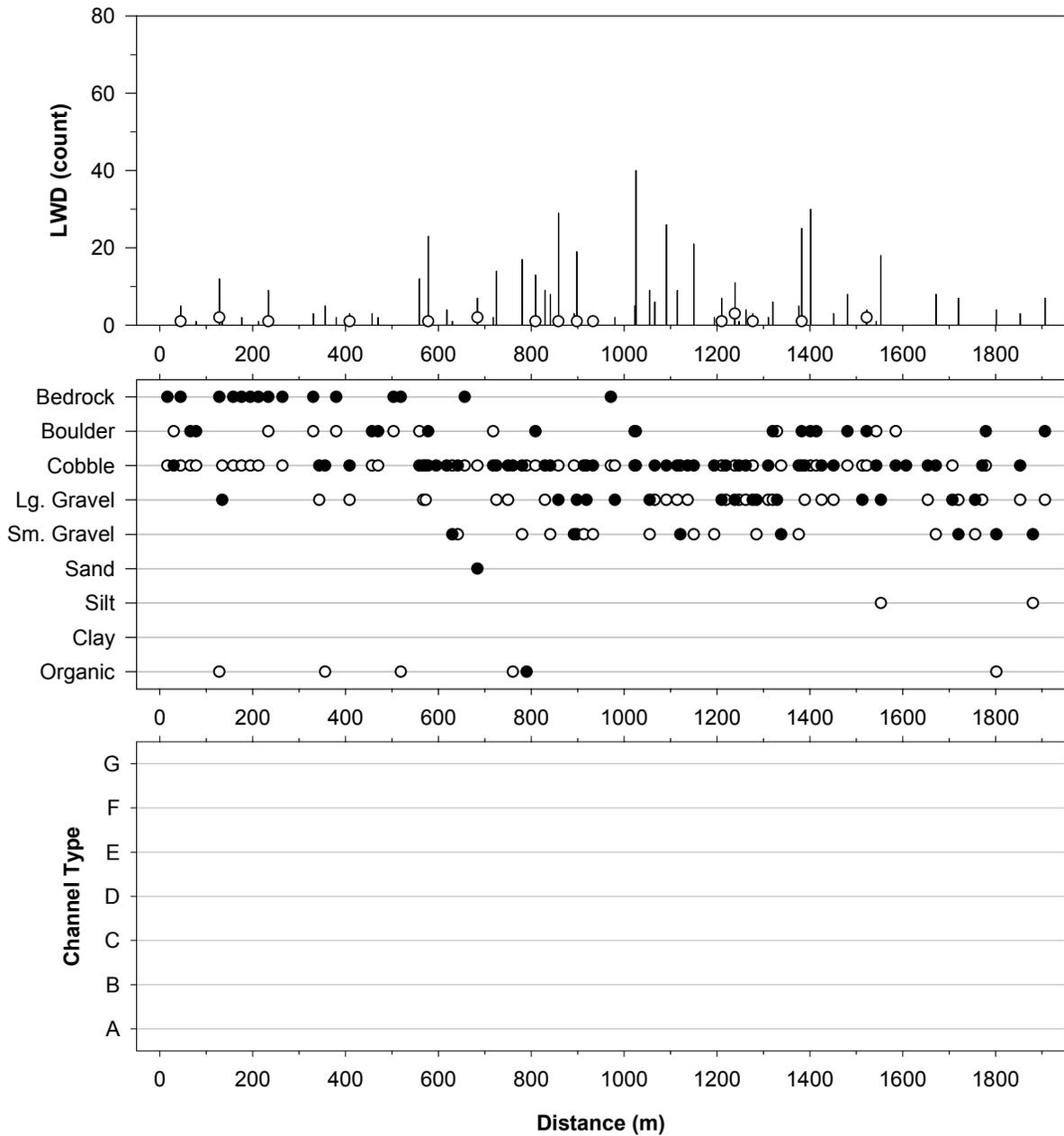
- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter



Estimated area of Slate Lick Branch (lower) in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

Stream features found on Slate Lick Branch (lower) during BVET habitat survey, summer 2002.
Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Ford	141.2		
Tributary	540.0		on right
Tributary	736.0		on left
Tributary	960.0		on right
Tributary	1000.0		on right
Ford	1070.0		
Tributary	1094.0		on right
Ford	1126.0		
Tributary	1462.0		on right
Dam	1910.0		Slate Lick Lake 530 m long



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Slate Lick Branch (lower), summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from confluence with Buck Lick Run.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: Data not recorded.

Stream:	Slate Lick Branch (upper)
District:	Dry River
USGS Quadrangle:	Singers Glen
Survey Date:	06/12/02
Downstream Starting Point:	Confluence with Slate Lick Lake
Total Distance Surveyed (km):	4.1

	Pools	Riffles
Percent of Total Stream Area:	50	50
Total Area (m ²):	4782±640	4842±1042
Correction Factor Applied:	0.85	0.71
Number of Paired Samples:	7	6
Total Count:	80	66
Number per km:	20	16
Mean Area (m ²):	60	73
Mean Maximum Depth (cm):	49	19
Mean Average Depth (cm):	30	9
Mean Residual Depth (cm):	16	--
Percent Surveyed as Glides:	8	--
Percent Surveyed as Runs:	--	5
Percent Surveyed as Cascades:	--	0
Percent with Substrate > 35% Embedded:	16	--

Large Woody Debris Size	Pieces per km
< 5 m long, 10 cm – 55 cm diameter:	71
< 5 m long, > 55 cm diameter:	35
> 5 m long, 10 cm – 55 cm diameter:	3
> 5 m long, > 55 cm diameter:	8
Total:	117

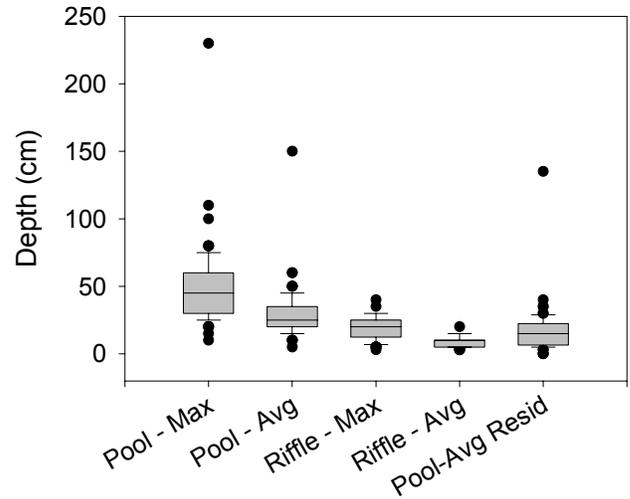
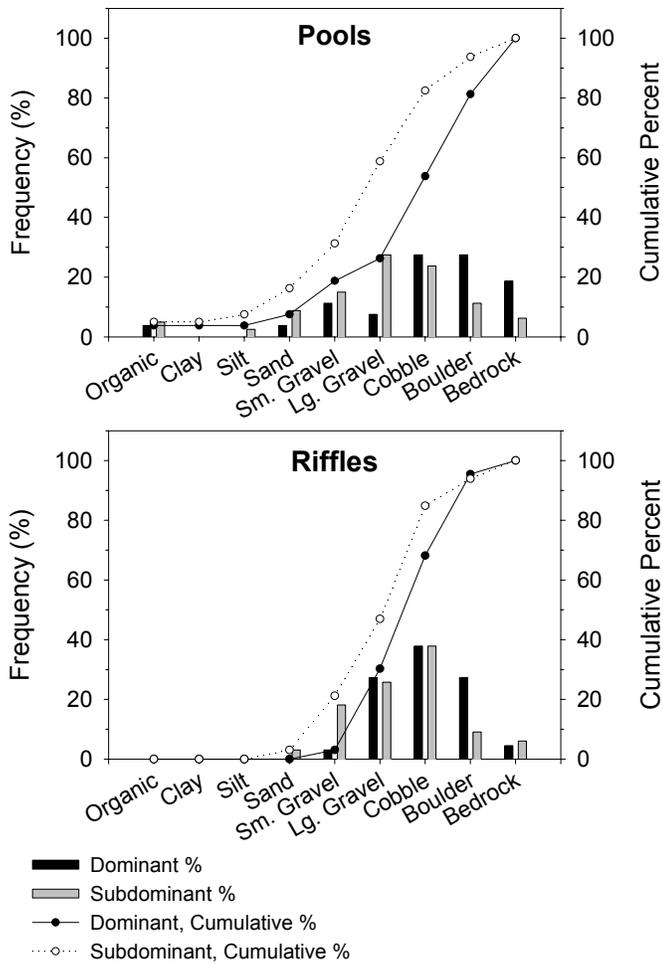
Riparian Width	Total Width* (m)	Left & Right Width** (m)
Mean	28	12
Maximum	58	36
75 th Percentile	32	16
25 th Percentile	18	4
Minimum	10	2

*Left riparian, right riparian, and bankfull channel widths were added together for calculations

**Left and right riparian widths were grouped (not added) together for calculations

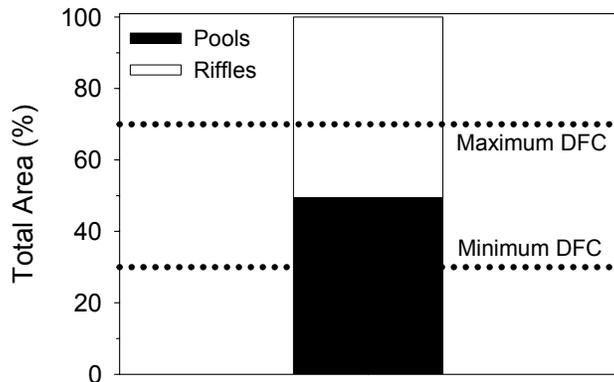
Rosgen's Channel Type	Frequency (%)
A:	26
B:	0
C:	74
D:	0
E:	0
F:	0
G:	0

Other Stream Attributes	
Mean Bankfull Channel Width (m):	6
Mean Channel Gradient (%):	4
Median Water Temperature (C):	16

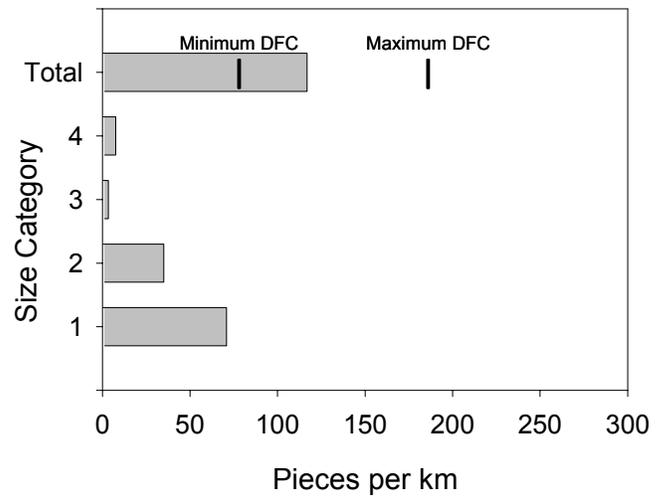


Maximum and average depths and residual pool depths for pools and riffles in Slate Lick Branch (upper), summer 2002. The top and bottom of the boxes represent the 25th and 75th percentiles, the bar in the center of the box represents the median, whiskers represent the 10th and 90th percentiles, and closed circles represent the entire range of the data.

Frequency (percent) and cumulative percent of dominant and subdominant substrate occurrence for pools and riffles in Slate Lick Branch (upper), summer 2002.



Estimated area of Slate Lick Branch (upper) in pools and riffles as calculated using BVET techniques, summer 2002. The GWJNF DFC is between 30 and 70 percent of total stream area in pools.

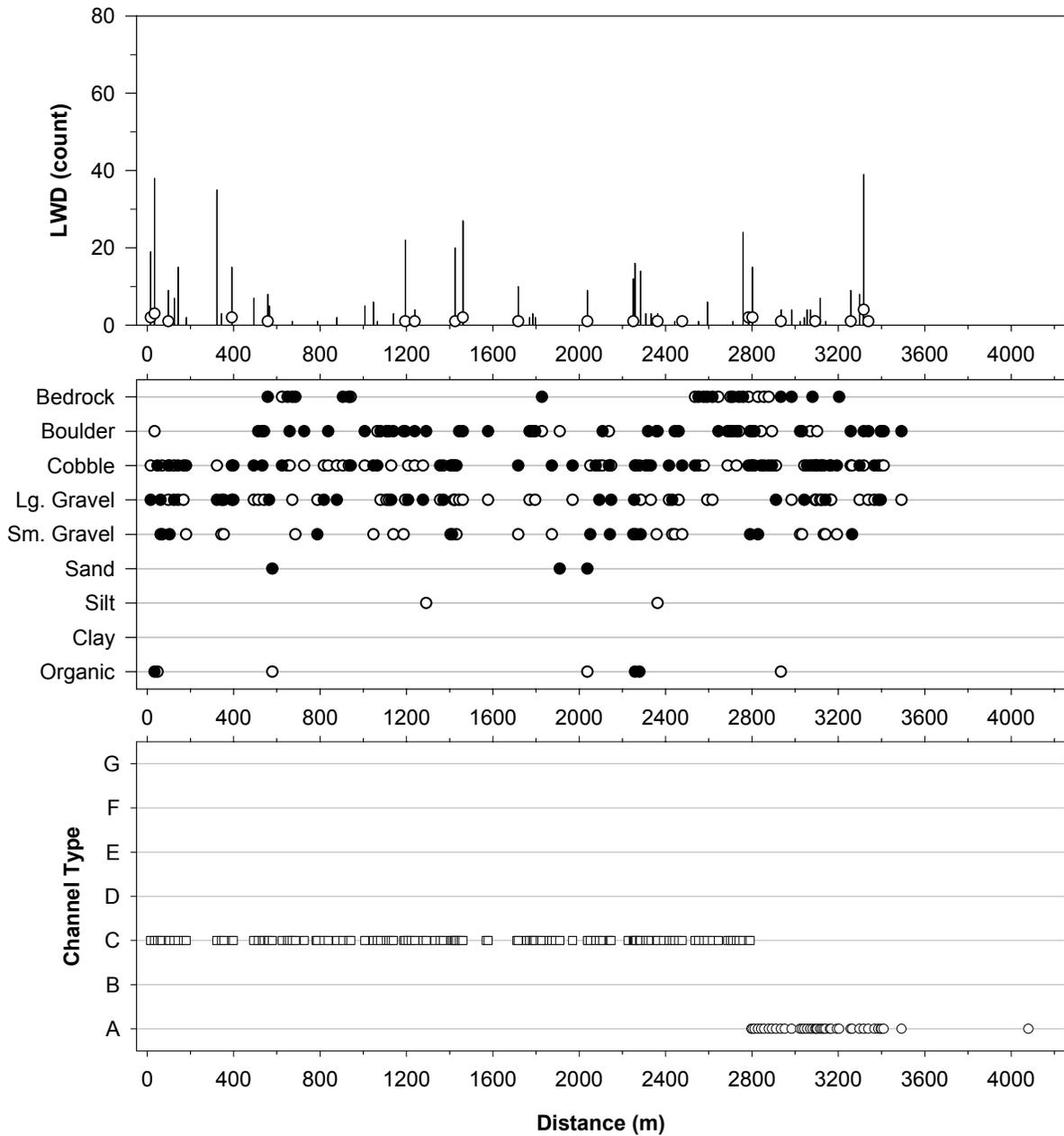


LWD per kilometer in Slate Lick Branch (upper), summer 2002. Y-axis labels are LWD size classes described below. The GWJNF DFC for total LWD is between 78 and 186 pieces per km.

- Size 1: < 5 m long, 10-55 cm diameter
- Size 2: < 5 m long, > 55 cm diameter
- Size 3: > 5 m long, 10-55 cm diameter
- Size 4: > 5 m long, > 55 cm diameter

Stream features found on Slate Lick Branch (upper) during BVET habitat survey, summer 2002.
Distance is meters from start of survey.

Stream Feature	Distance (m)	Width (m)	Comments
Side Channel In	320.0		on left
Tributary	603.0		on right
Tributary	686.0		on right
Underground	781.0		from 726.5 m to 781.0 m
Tributary	875.0		on right
Side Channel In	898.0		on left
Underground	1222.3		from 1207.5 m to 1222.3 m
Underground	1331.5		from 1291.0 m to 1331.5 m
Side Channel In	1443.7		on right, on map
Underground	1453.0		from 1443.7 m to 1453.0 m
Underground	1569.0		from 1461.0 m to 1569.0 m
Underground	1711.6		from 1577.8 m to 1711.6 m
Underground	1757.0		from 1717.5 m to 1757.0 m
Underground	1789.0		from 1784.0 m to 1789.0 m
Underground	1820.0		from 1796.0 m to 1820.0 m
Underground	1860.0		from 1827.3 m to 1860.0 m
Tributary	1872.0		on left
Underground	1888.8		from 1873.0 m to 1888.8 m
Tributary	2121.0		on left
Underground	2226.5		from 2147.5 m to 2226.5 m
Side Channel Out	2218.0		on left, dry
Seep	3410.0		on right
Underground	4079.5		from 3492.0 m to 4079.5 m



Distribution and abundance of LWD, distribution of substrates, and distribution of Rosgen's channel types in Slate Lick Branch (upper), summer 2002. LWD, substrate, and channel type were recorded for each habitat unit in the stream. X-axis indicates distance upstream from confluence with Slate Lick Lake.

LWD figure: Vertical bars indicate total count of LWD. Open circles represent the amount of the total LWD that was >5 m in length, >55 cm in diameter (size 4).

Substrate figure: Closed circles are dominant substrates, open circles are subdominant substrates. See Appendix A for substrate sizes.

Rosgen's Channel Type figure: See Appendix A for channel type descriptions.

Appendix A:

Size classes used to categorize large woody debris during BVET habitat surveys on the Dry River Ranger District, summer 2002. Woody debris < 1.0 m in length or < 10 cm in diameter were omitted.

Size Class	Length (m)	Diameter (cm)
1	< 5	10-55
2	< 5	> 55
3	> 5	10-55
4	> 5	> 55

Size classes used to categorize substrate particles during BVET habitat surveys on the Dry River Ranger District, summer 2002. Size was visually estimated on the intermediate axis (b-axis).

Size Class	Name	Size (mm)	Description
1	Organic	--	Dead organic matter, leaves, detritus, etc.
2	Clay	< 0.00024	Sticky
3	Silt	0.00024-0.0039	Slippery
4	Sand	0.0039-2	Gritty
5	Small Gravel	2-10	Sand to thumbnail
6	Large Gravel	11-100	Thumbnail to fist
7	Cobble	101-300	Fist to head
8	Boulder	>300	Larger than head
9	Bedrock	--	Solid parent material

Bankfull channel characteristics used to determine Rosgen channel types in the field during BVET habitat surveys on the Dry River Ranger District, summer 2002.

Channel Type	A	B	C	D	E	F	G
Entrenchment	< 1.4	1.4 – 2.2	> 2.2	n/a	> 2.2	< 1.4	< 1.4
W/D Ratio	< 12	> 12	> 12	> 40	< 12	> 12	< 12
Slope (%)	4 – 9.9	2 – 3.9	< 2	< 4	< 2	< 2	2 – 3.9