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Appendices

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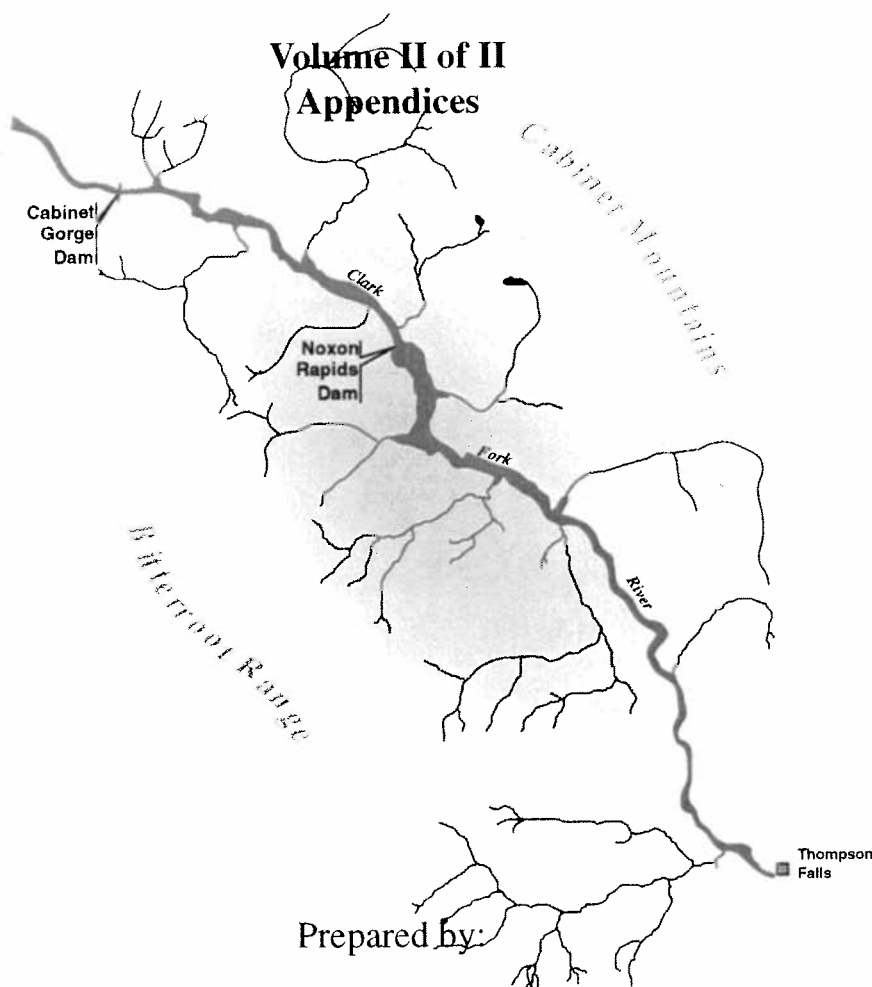
Lower Clark Fork River Tributary Survey

Final Report

for a
Cooperative Challenge Cost Share Project
between:

Washington Water Power Company
United States Forest Service
Montana Department of Fish, Wildlife, and Parks

Volume II of II Appendices



WASHINGTON WATER POWER COMPANY
Spokane, Washington

November 1996

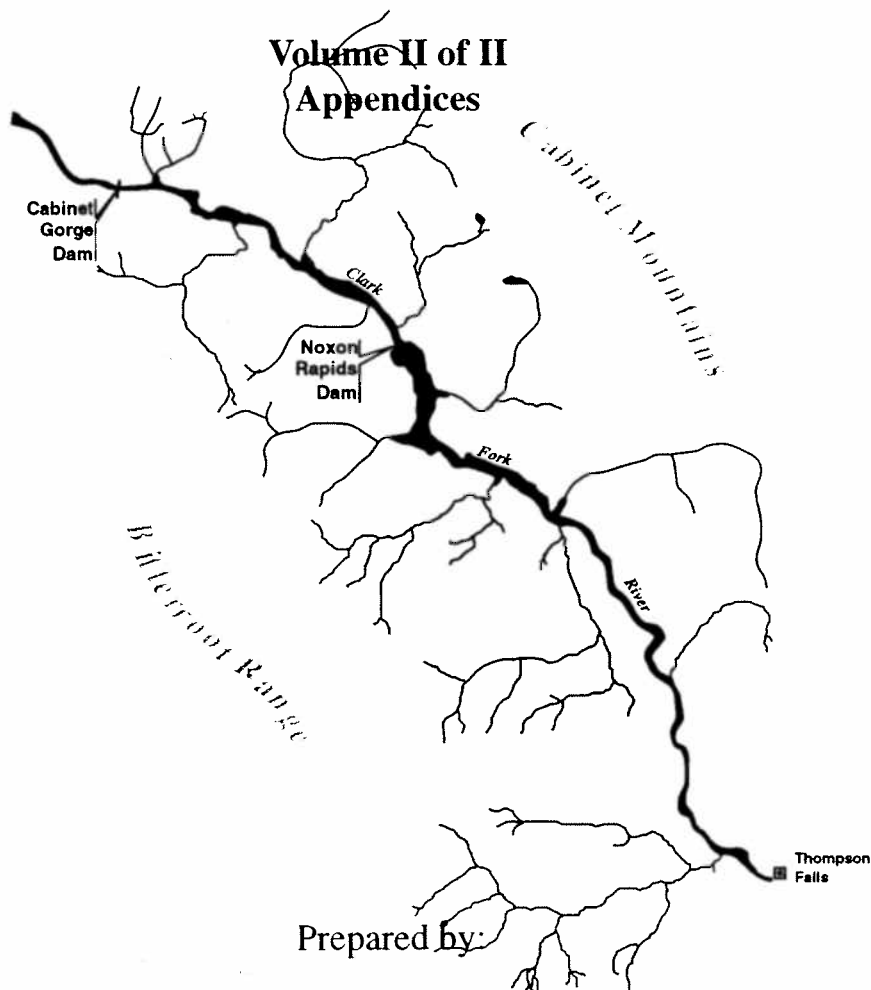
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APPENDIX A

ELECTROPHORETIC ANALYSIS FOR WESTSLOPE CUTTHROAT AND BULL TROUT. LOWER CLARK FORK RIVER DRAINAGE, MONTANA. TRIBUTARY SURVEY, 1992-1994.

- **Enzymes and loci examined in the electrophoretic analysis of westslope cutthroat trout.**
- **Diagnostic loci between westslope and Yellowstone cutthroat trout and westslope cutthroat and rainbow trout.**
- **Enzymes and loci examined in the electrophoretic analysis of bull trout.**

Table A-1. Enzymes and loci examined in the electrophoretic analysis of westslope cutthroat trout (Sage 1993)
Lower Clark Fork River drainage, Montana. Tributary Survey, 1992-1994.

Enzyme	Loci	Tissue
Adenylate kinase	AK-1*, AK-2*	Muscle
Alcohol dehydrogenase	AHD*	Liver
Aspartate aminotransferase	sAAT-1*, sAAT-2* sAAT-3,4*	Liver Muscle
Creatine kinase	CK-A1*, CK-A2* CK-B*, CK-C1*, CK-C2*	Muscle Eye
Dipeptidase	PEPA-1*, PEPA-2*	Eye
Glucose-6-phosphate isomerase	GPI-A*, GPI-B1*, GPI-B2*	Muscle
Glyceraldehyde-3-phosphate dehydrogenase	GAPDH-3*, GAPDH-4*	Eye
Glycerol-3-phosphate dehydrogenase	G3PDH-1*, G3PDH-2*	Liver
Isocitrate dehydrogenase	mIDHP-1*, mIDHP-2* sIDHP-1*, sIDHP-2*	Muscle Eye
L-Iditol dehydrogenase	IDDH*	Liver
L-Lactate dehydrogenase	LDH-A1*, LDH-A2* LDH-B1*, LDH-B2*, LDH-C*	Muscle Eye
Malate dehydrogenase	sMDH-A1, 2* sMDH-B1, 2*	Liver Muscle
Malic enzyme	mMEP-1*, mMEP-2*, sMEP-1* sMEP-2*	Muscle Liver
Phosphoglucomutase	PGM-1*, PGM-2*	Muscle
Phosphogluconate dehydrogenase	PGDH*	Muscle
Superoxide dismutase	sSOD-1*	Liver
Tripeptide aminopeptidase	PEPB*	Eye
Xanthine dehydrogenase-like	XDH/*	Liver

Table A-2. Diagnostic loci between westslope and Yellowstone cutthroat trout and between westslope cutthroat and rainbow trout (Sage 1993).

Locus	Characteristic alleles		Locus	Characteristic alleles	
	Westslope	Yellowstone		Westslope	Rainbow
sAAT-1*	200 250	165	sAAT-1*	200 250	100
CK-C1*	100 38	38	CK-A2*	84	100
GPI-A*	92 100	100	GPI-A*	92 100	100
IDDH*	40 100	100	IDDH*	40 100	100 200 40
mIDHP-1*	100	-75	sIDHP-1, 2*	86 114 100 71 40 20	100 114 71 40
sIDHP-1*	86 114 71	71	mMEP-1*	88	null
mMEP-1*	88	null			
sMEP-1*	100	90			
sMEP-2*	100	110			
PEPA-1*	100	101			
PEPB*	100	null			
PGM-1*	100 110 null	null			

When more than one allele exists at a locus within a taxon the most common allele is listed first.

Table A-3. Enzymes and loci examined in the electrophoretic analysis of bull trout (Leary 1994). Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

Enzyme	Loci	Tissue
Adenylate kinase	AK-1*, AK-2*	Muscle
Alcohol dehydrogenase	ADH*	Liver
Aspartate aminotransferase	sAAT-1*, sAAT-2* sAAT-3, 4*	Liver Muscle
Creatine kinase	CK-A1*, CK-A2* CK-B*	Muscle Eye
Dipeptidase	PEPA*	Eye
Fumarate hydratase	FH-1*, FH-2*	Liver
Glucose-6-phosphate isomerase	GPI-A* GPI-B1*, GPI-B2*	Eye Muscle
Glyceraldehyde-3-phosphate dehydrogenase	GAPDH-3, 4*	Eye
Glycerol-3-phosphate dehydrogenase	G3PDH-1*	Liver
N-acetyl-beta-glucosaminidase	bGLUA*	Liver
Iditol dehydrnase	IDDH*	Liver
Isocitrate dehydrnase	mIDHP-1*, mIDHP-2* sIDHP-1*, sIDHP-2*	Muscle Eye
Lactate dehydrnase	LDH-A1*, LDH-A2* LDH-B1*, LDH-B2*, LDH-C*	Muscle Eye
Malate dehydrogenase	sMDH-A1, 2* sMDH-B1, 2*	Liver Muscle
Malic acid	mMEP-1*, mMEP-2* sMEP-1*, sMEP-2*	Muscle Liver
Phosphogluconate dehydrogenase	PGDH*	Muscle
Phosphoglucomutase	PGM-1*, PGM-2*	Muscle
Pyruvate kinase	PK-3*, PK-4*	Eye
Superoxide dismutase	sSOD-1*	Liver
Tripeptide aminopeptidase	PEPB*	Eye

APPENDIX B
FIGURES

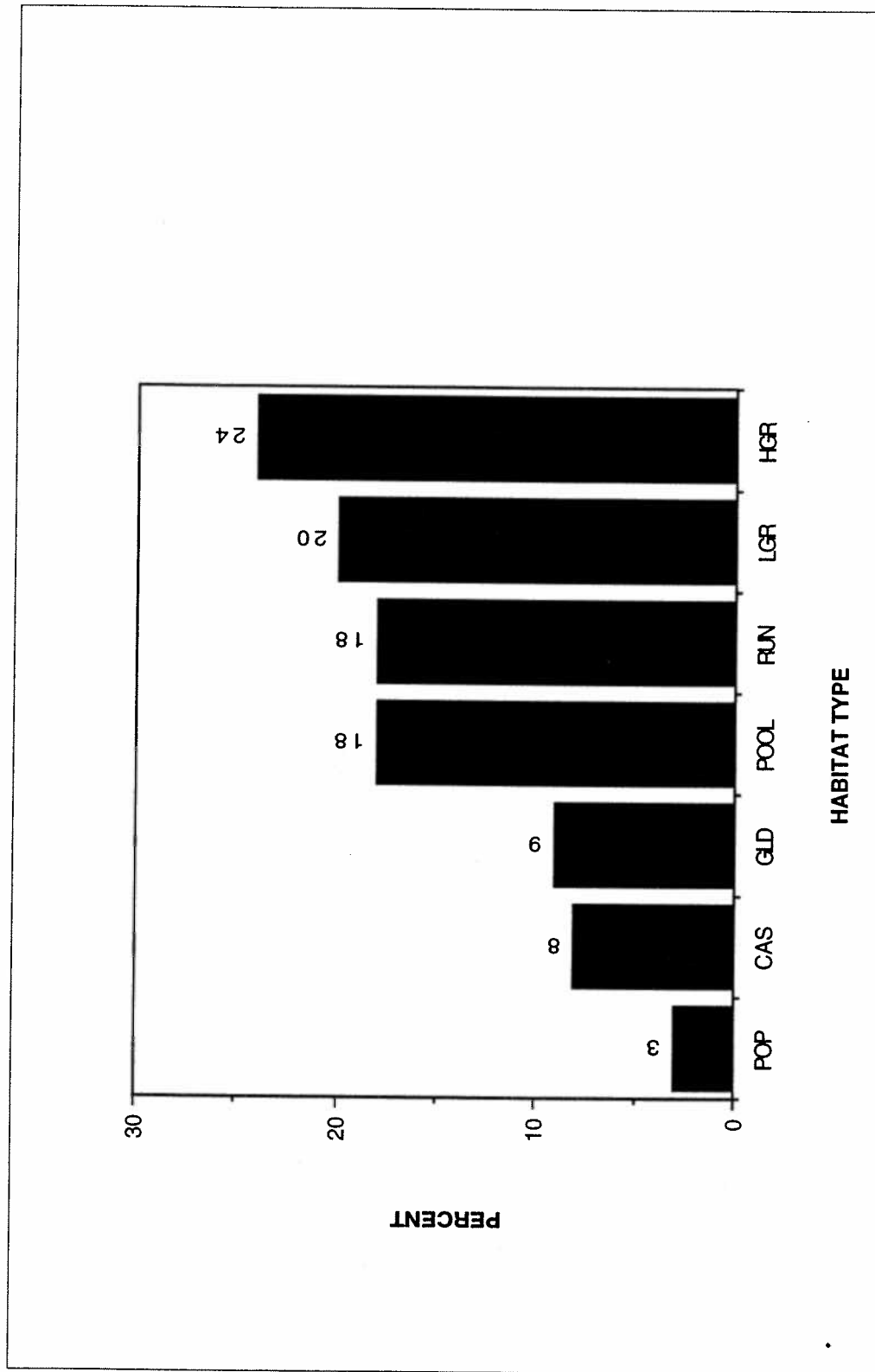


Figure B-1. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

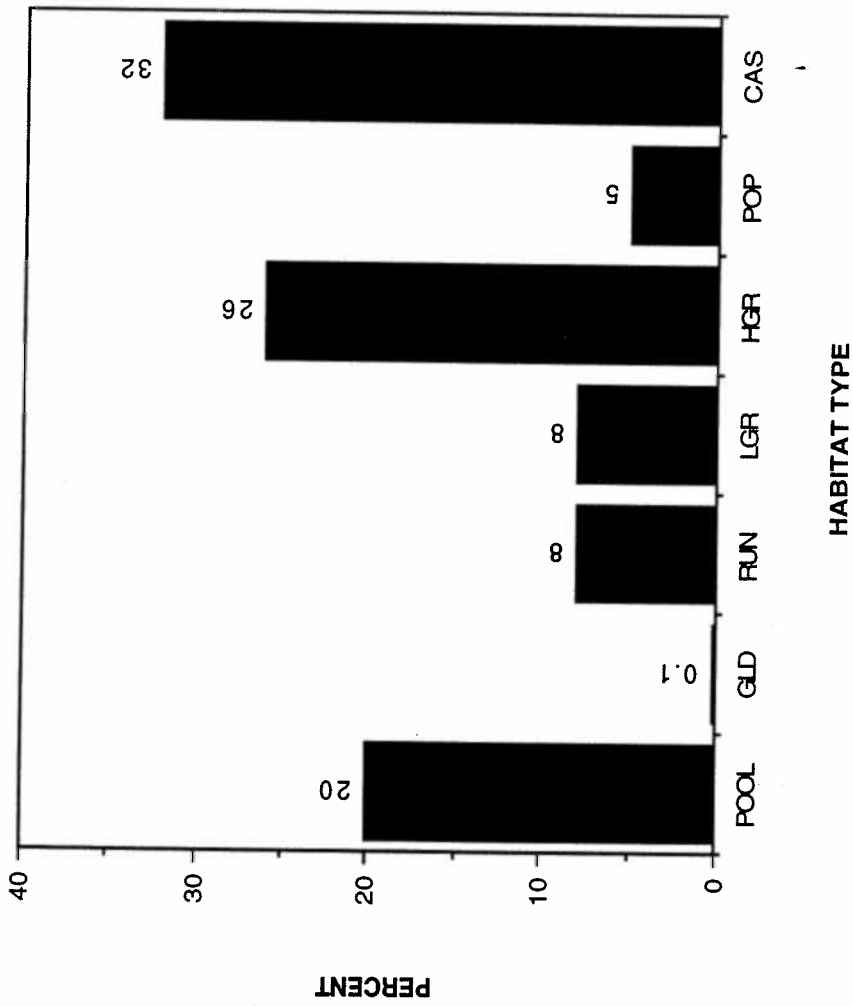


Figure B-2. Habitat composition, channel type "A". Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

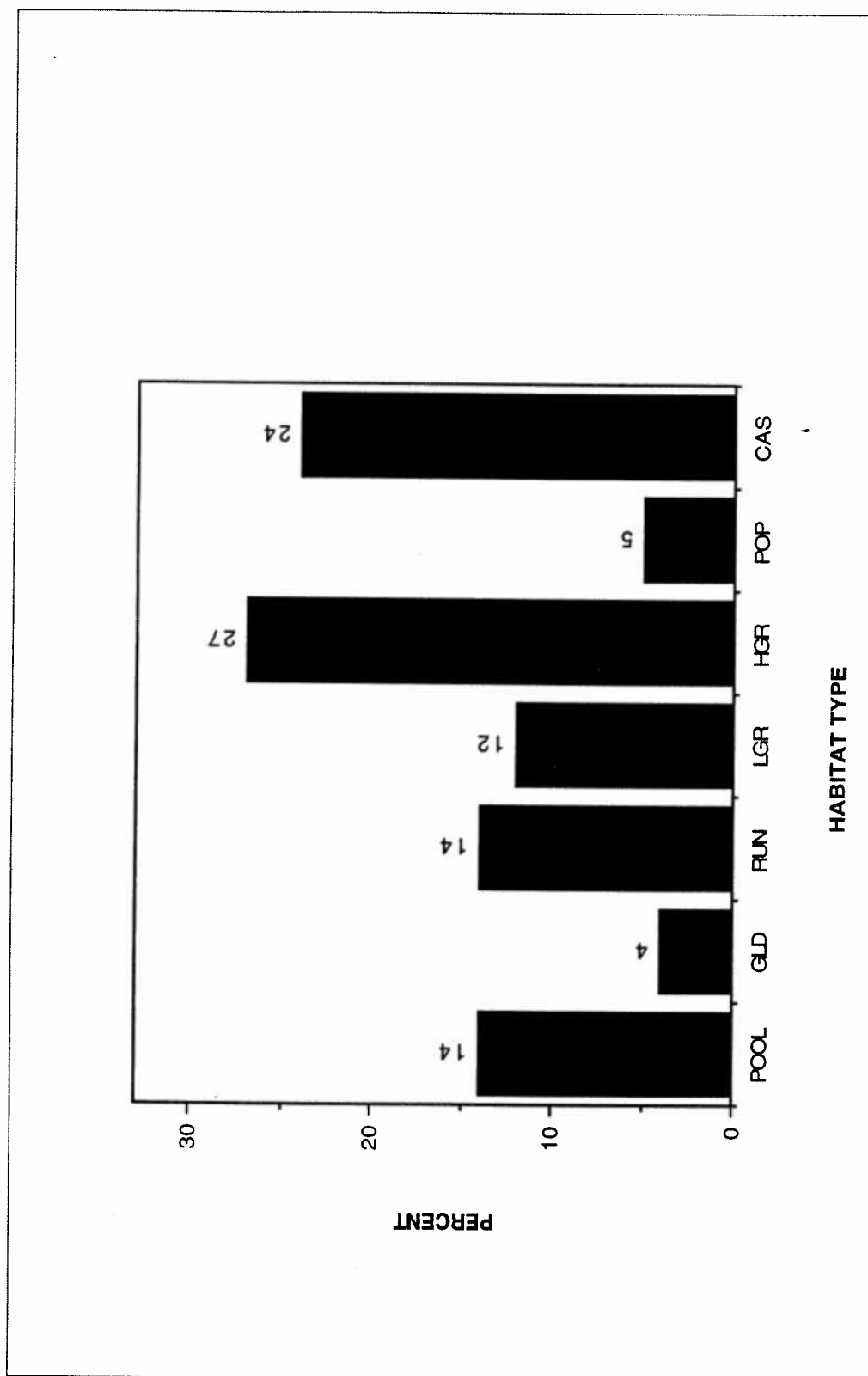


Figure B-3. Habitat composition, channel type "B" : Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

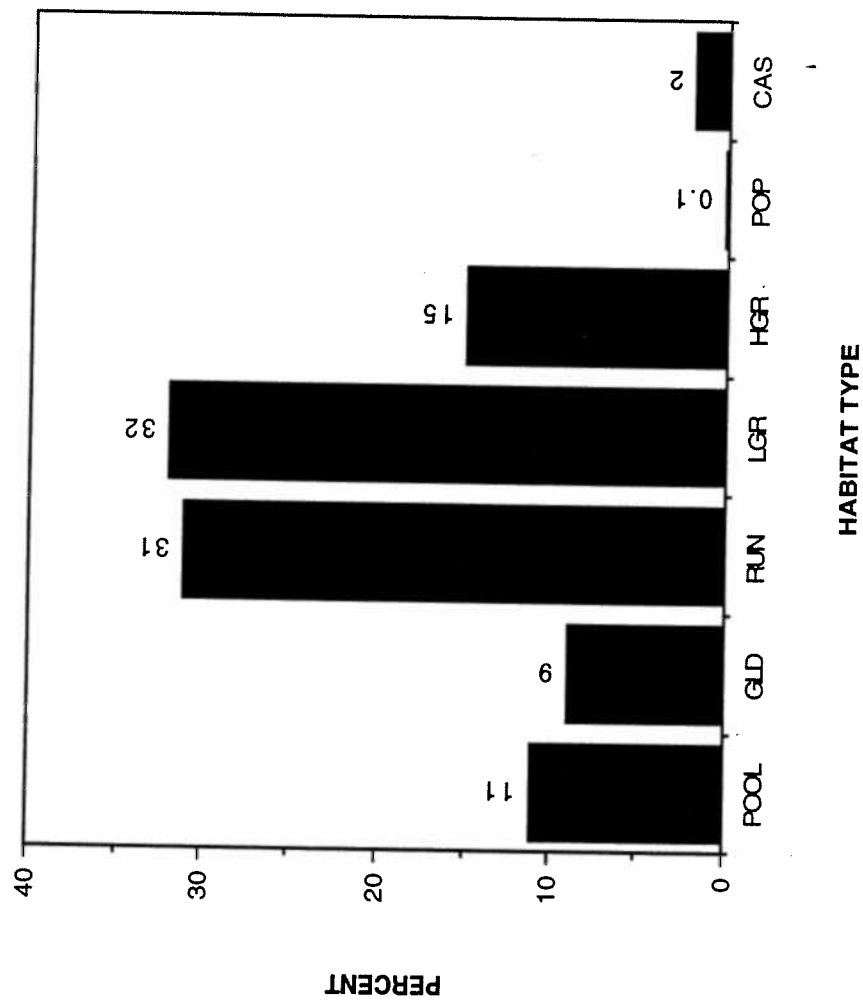


Figure B-4. Habitat composition, channel type "C". Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

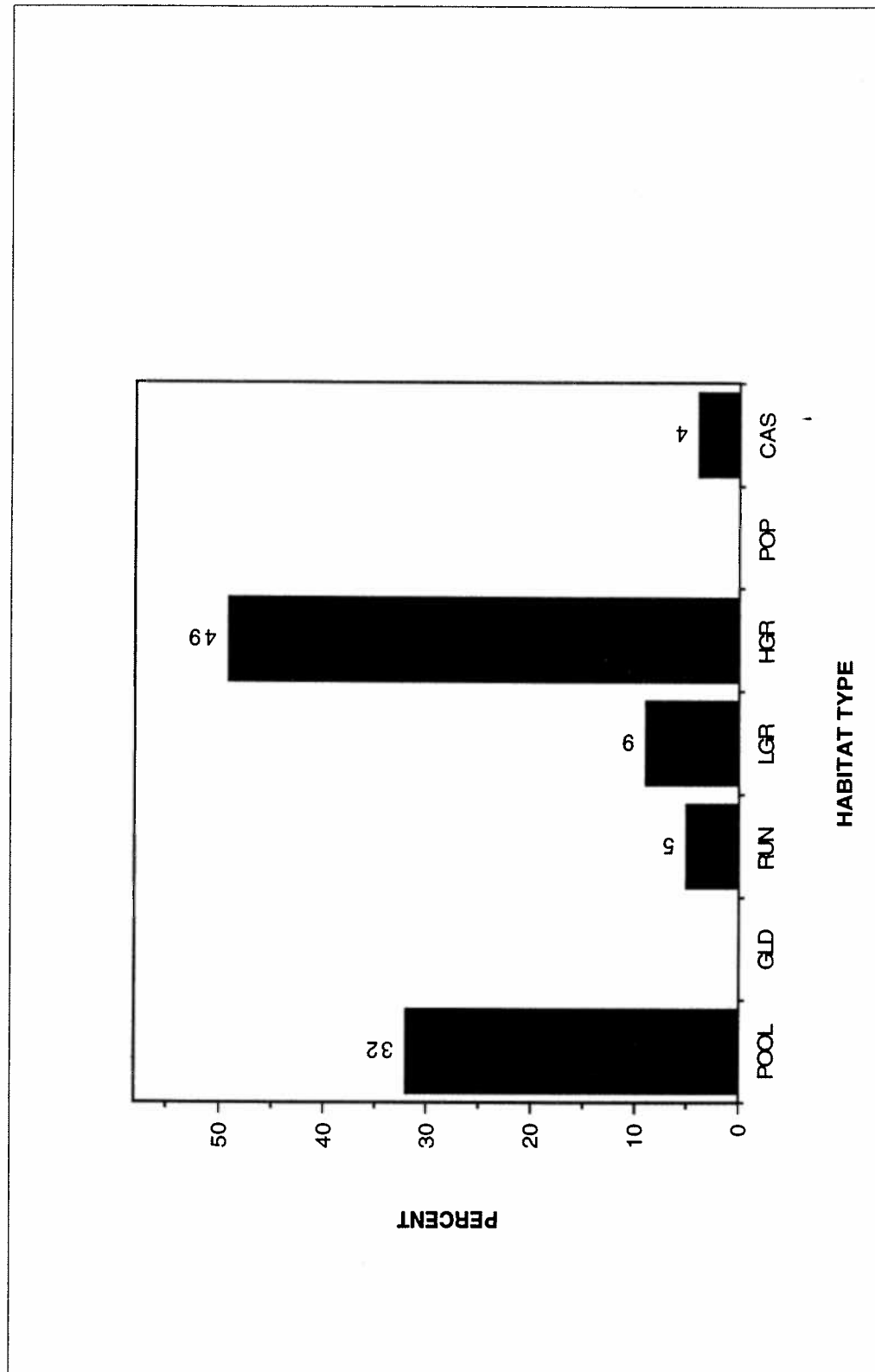


Figure B-5. Habitat composition, channel type "D". Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

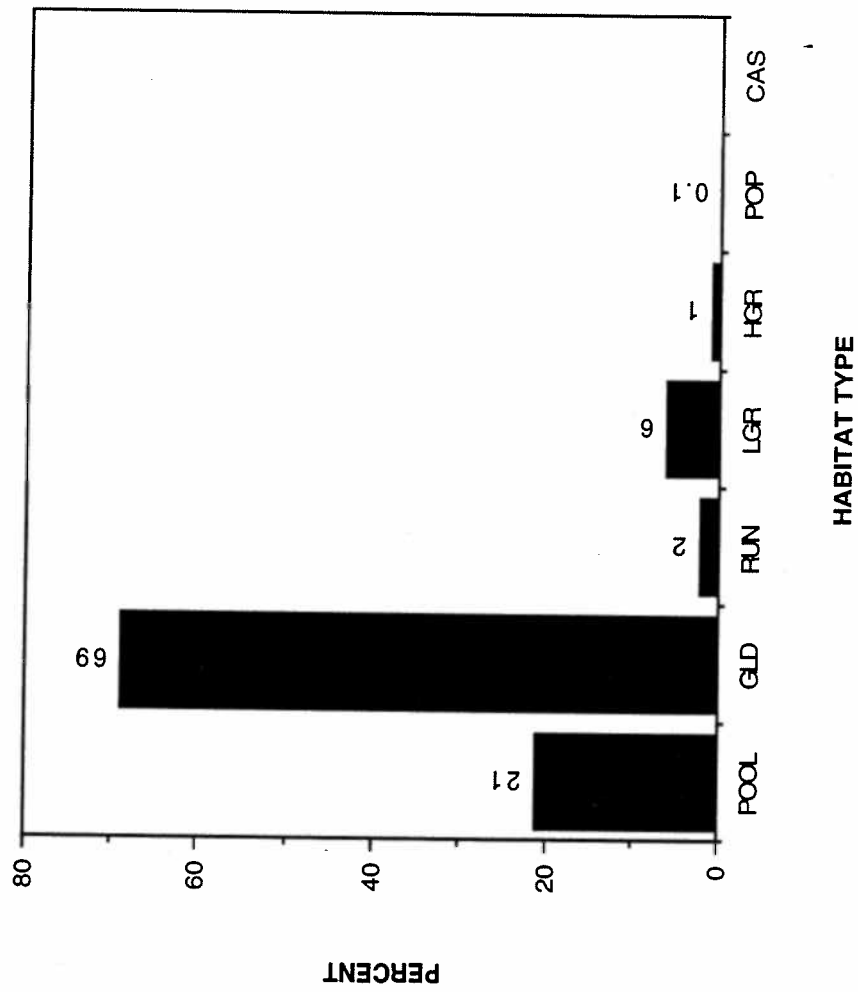


Figure B-6. Habitat composition, channel type "E". Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

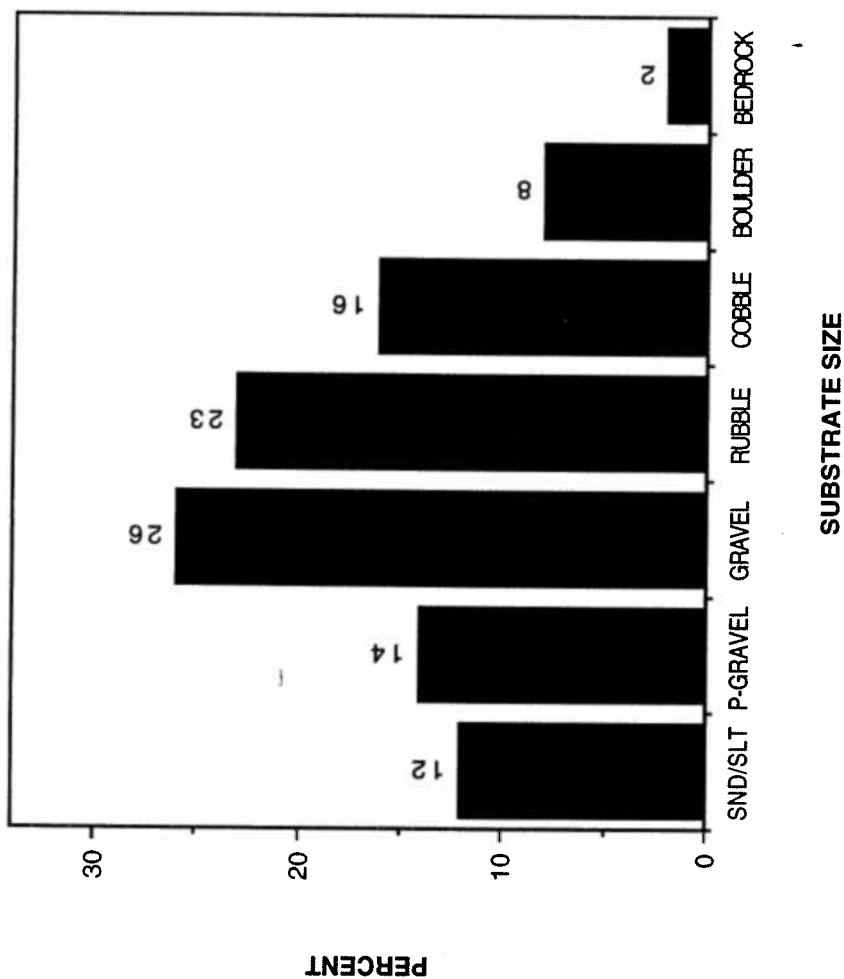


Figure B-7. Percent substrate composition. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

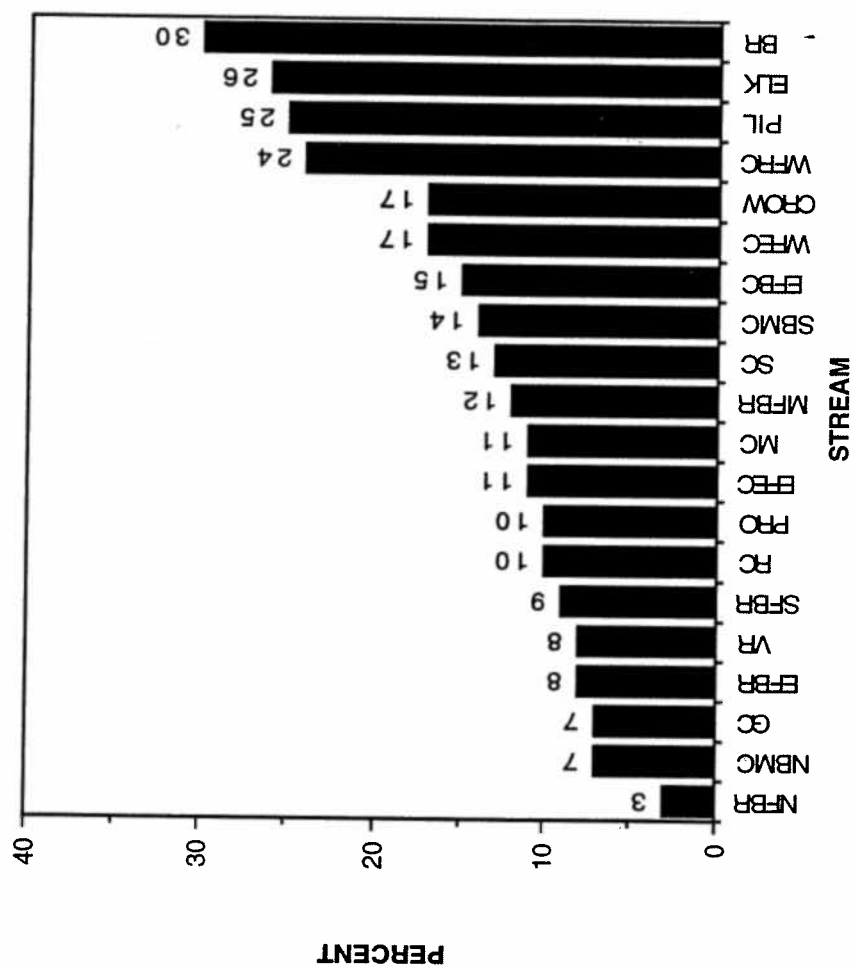


Figure B-8. Percent surface fines (<6.35 mm) by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

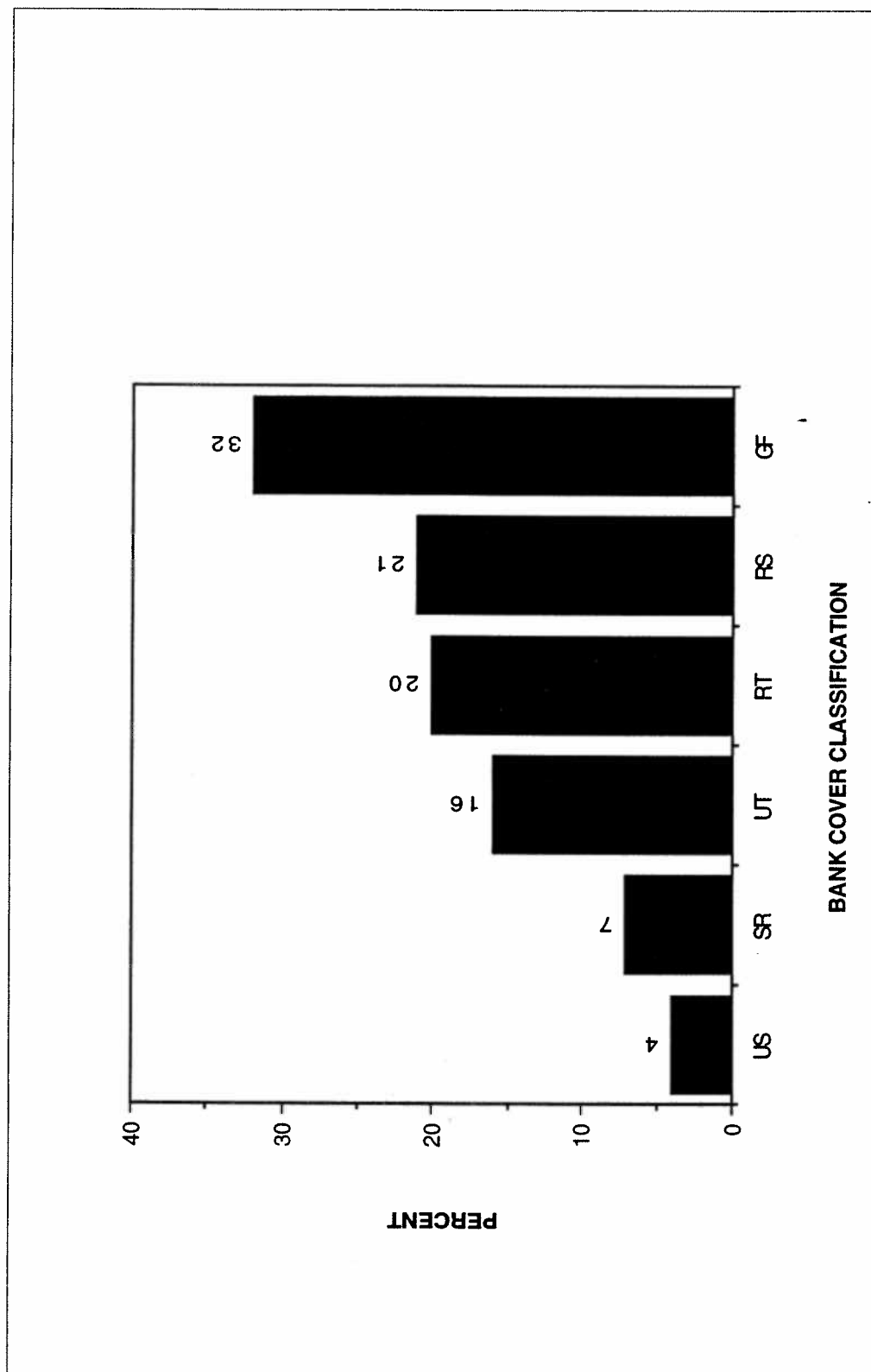


Figure B-9. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT), Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

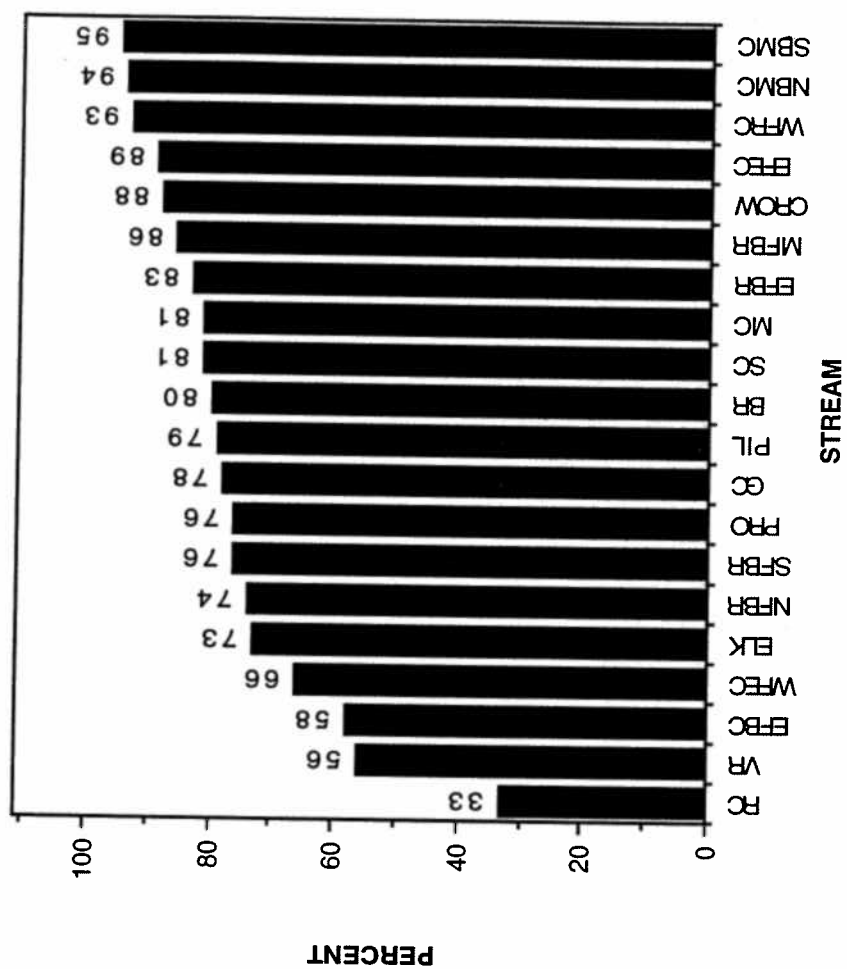


Figure B-10. Percent vegetated bank cover by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

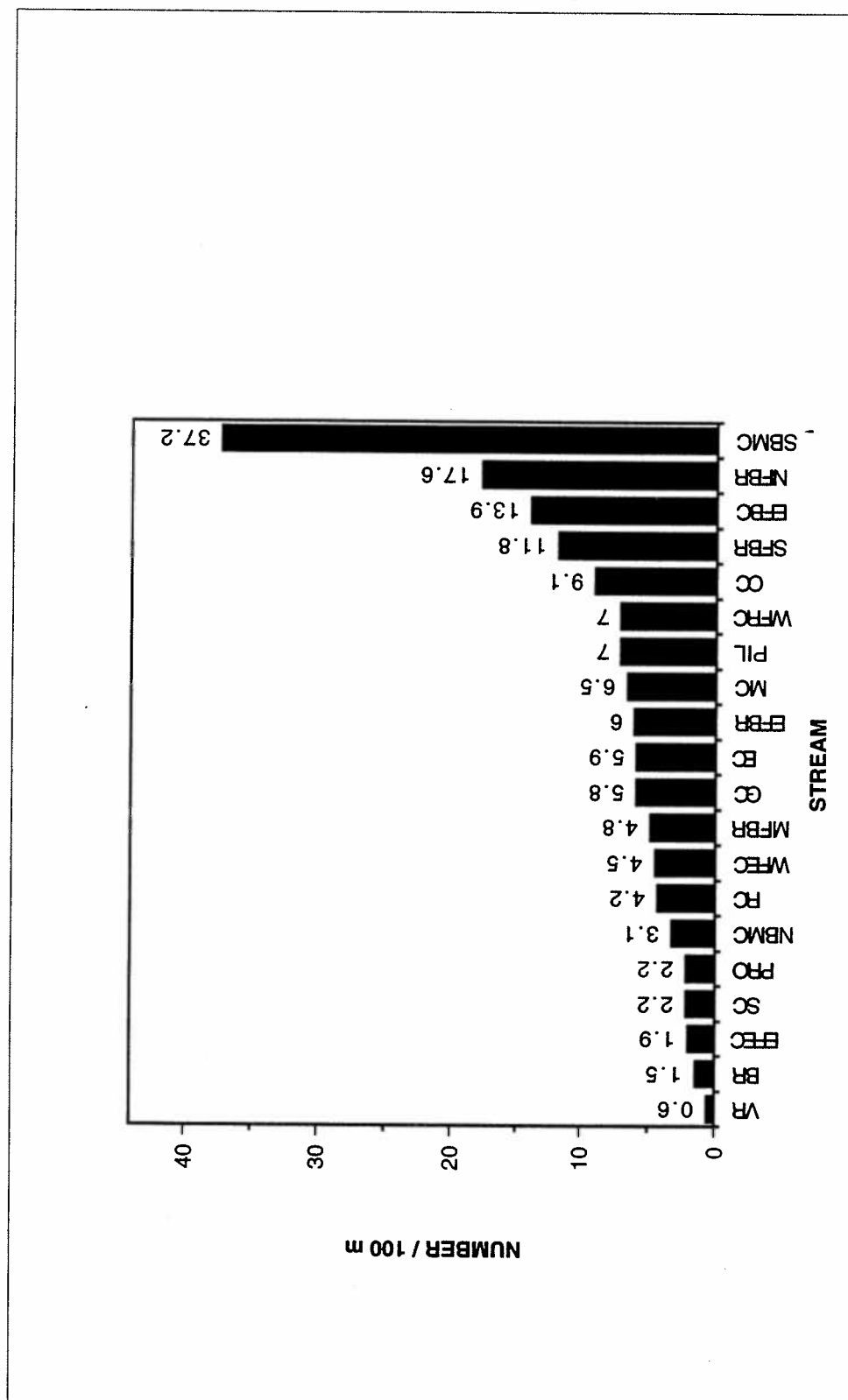


Figure B-11. Large woody debris (number/100 m) <3.0 m in length by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

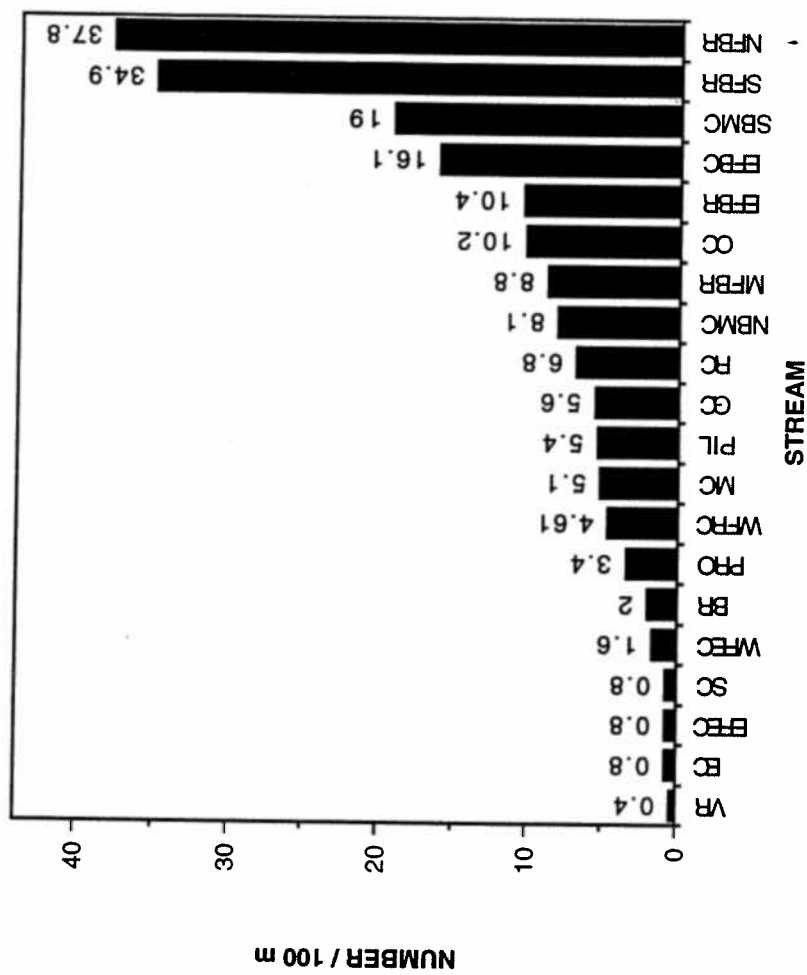


Figure B-12. Large woody debris (number/100 m) >3.0 m in length by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

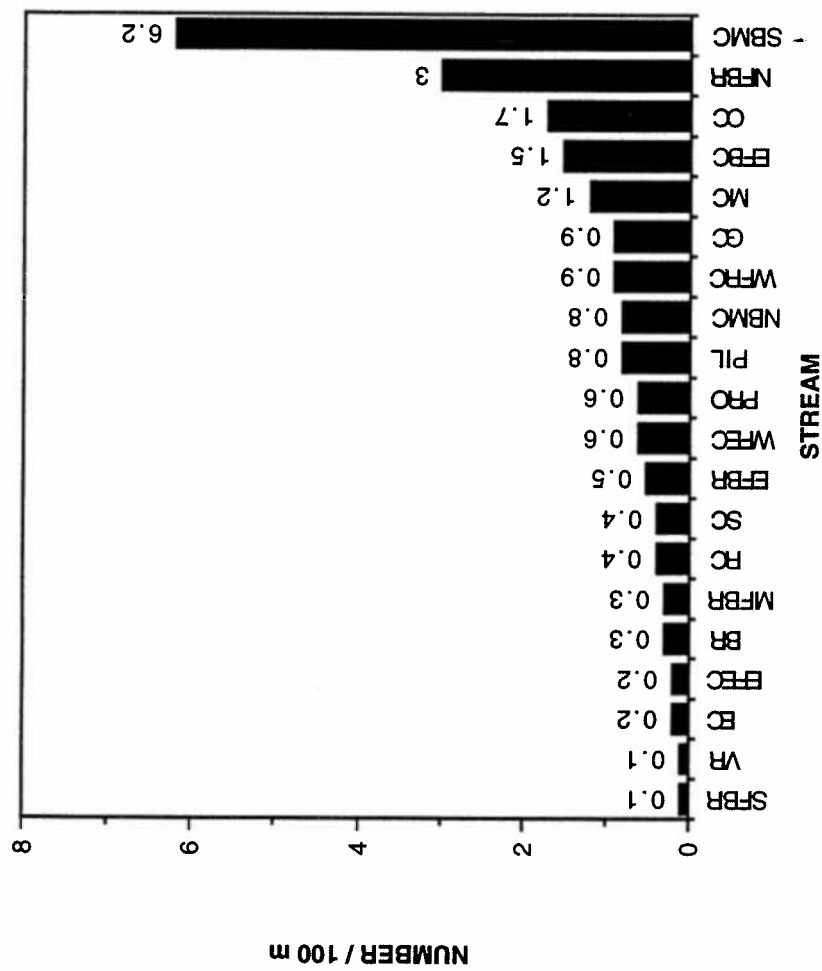


Figure B-13. Large woody debris aggregations (number/100 m) by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

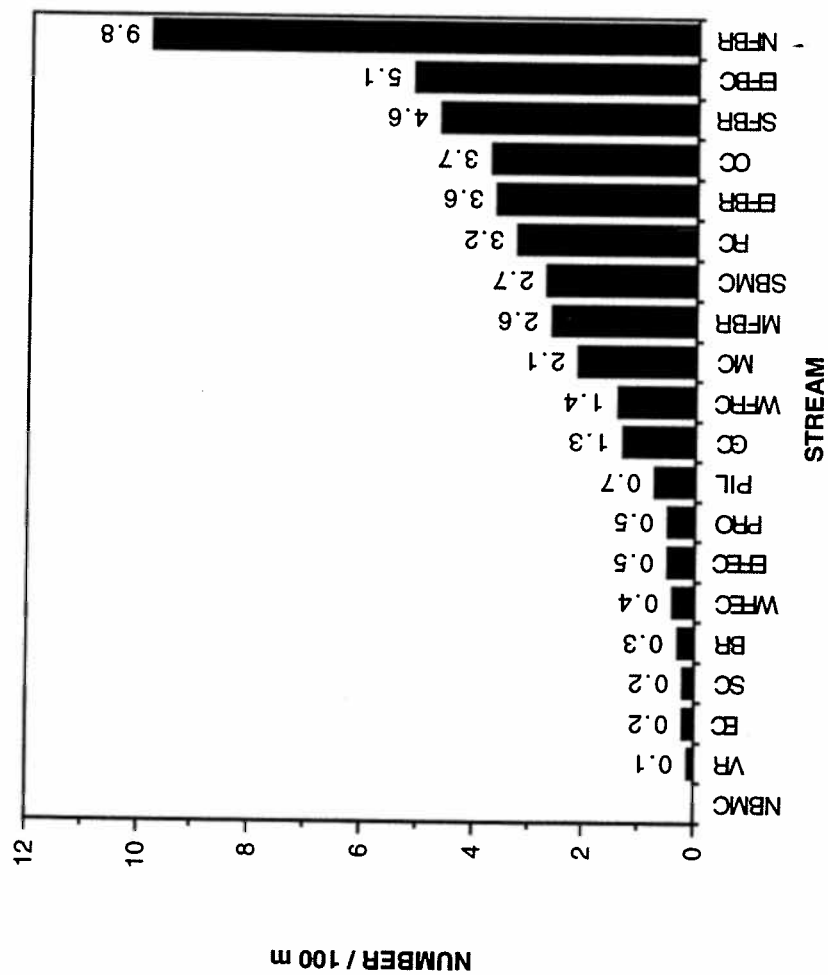


Figure B-14. Large woody debris root-wads (number/100 m) by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

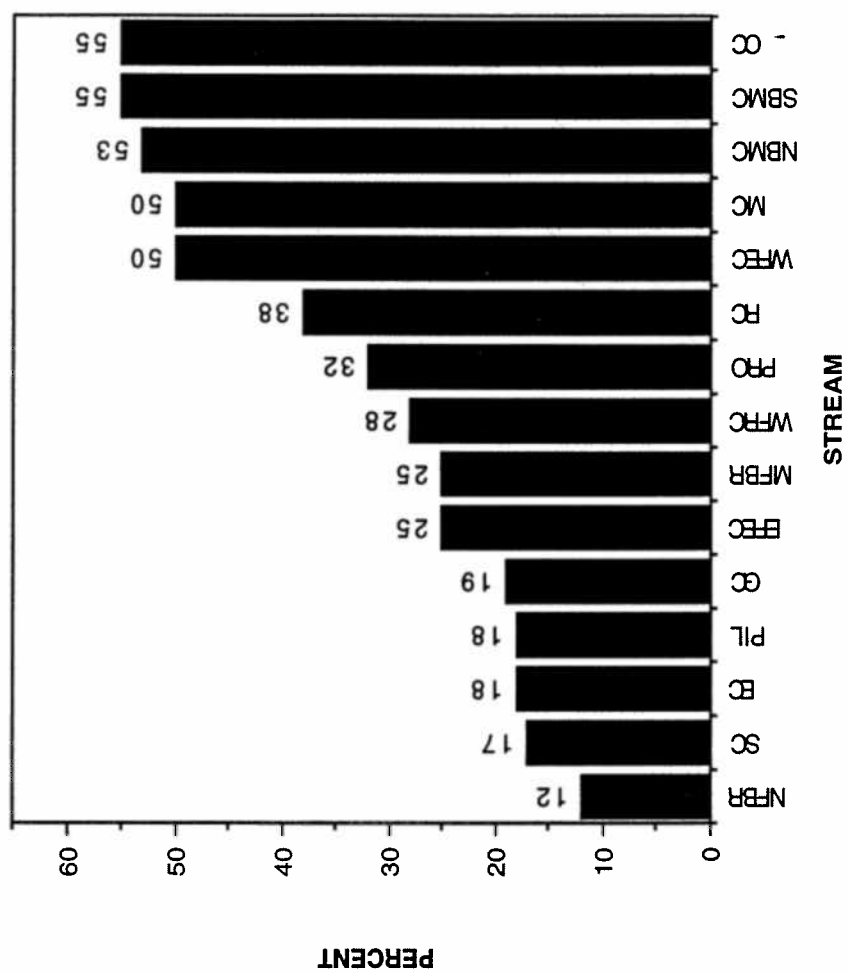


Figure B-15. Intermittent streams and percent of dry channel. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

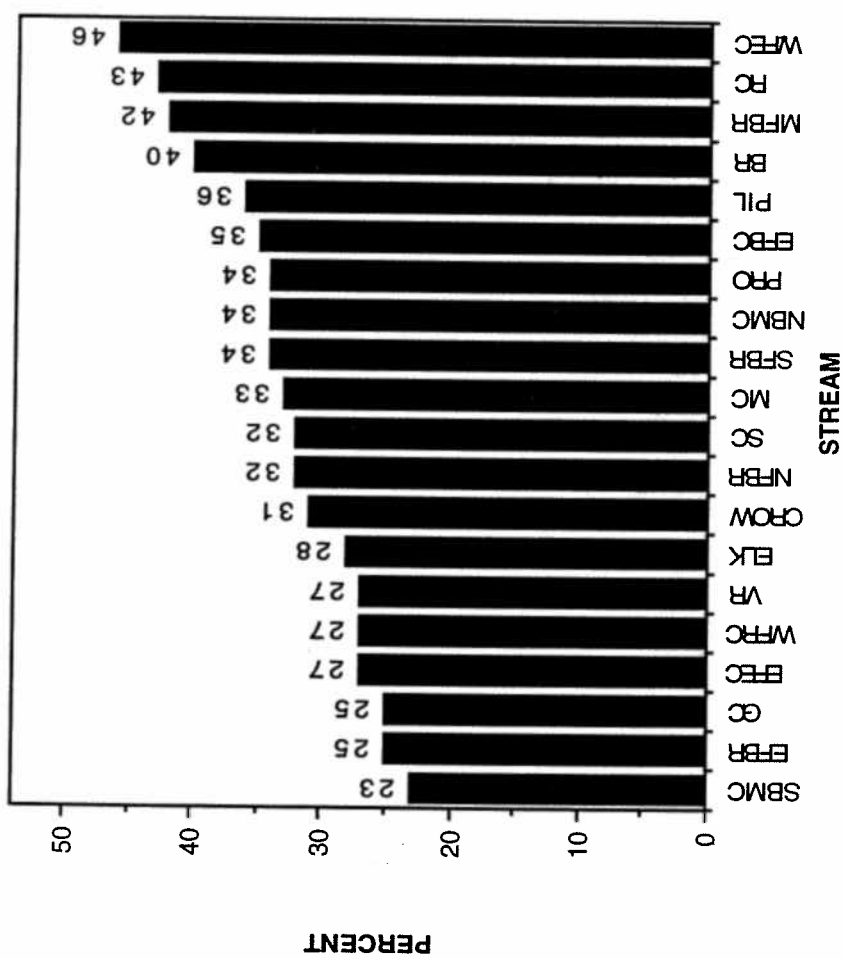


Figure B-16. Median percent fines (<6.35 mm) for McNeil core samples by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

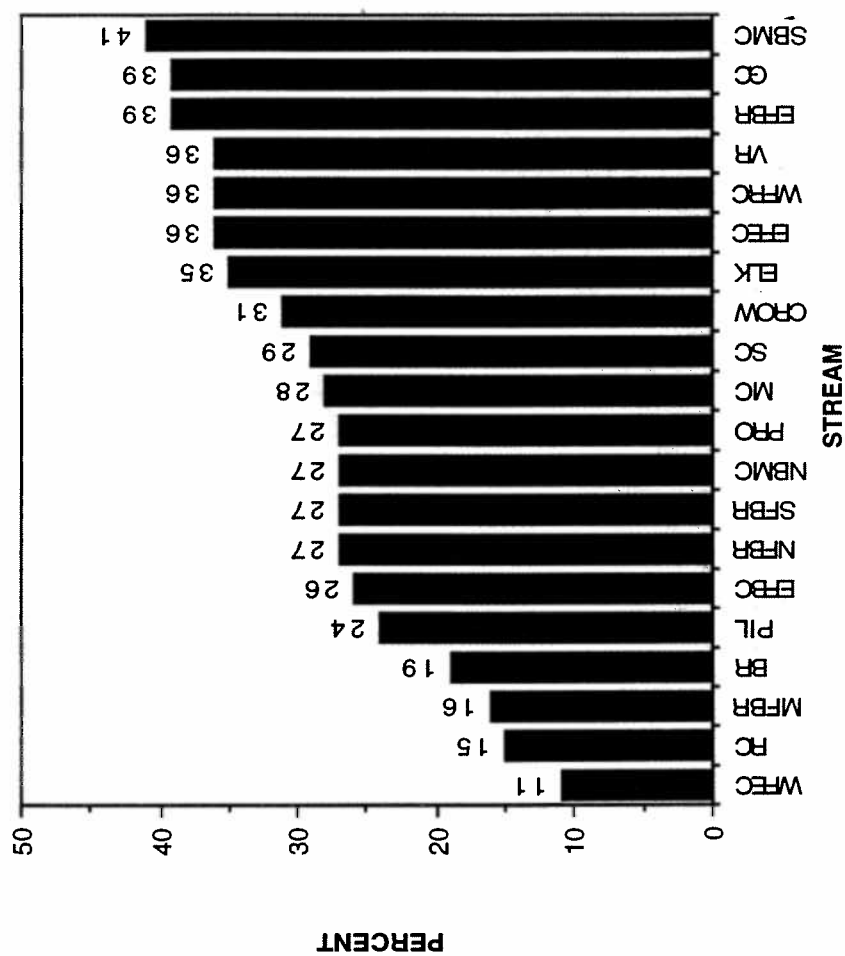


Figure B-17. Percent embryo survival to emergence for cutthroat trout by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

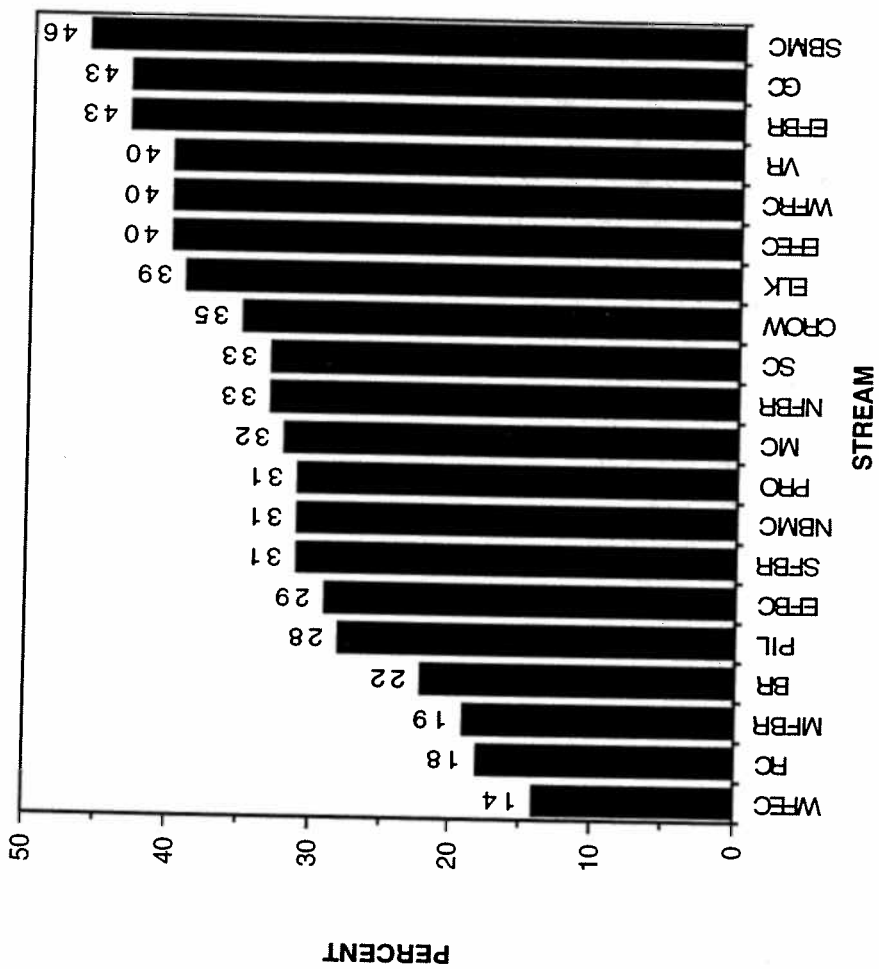


Figure B-18. Percent embryo survival to emergence for bull trout by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

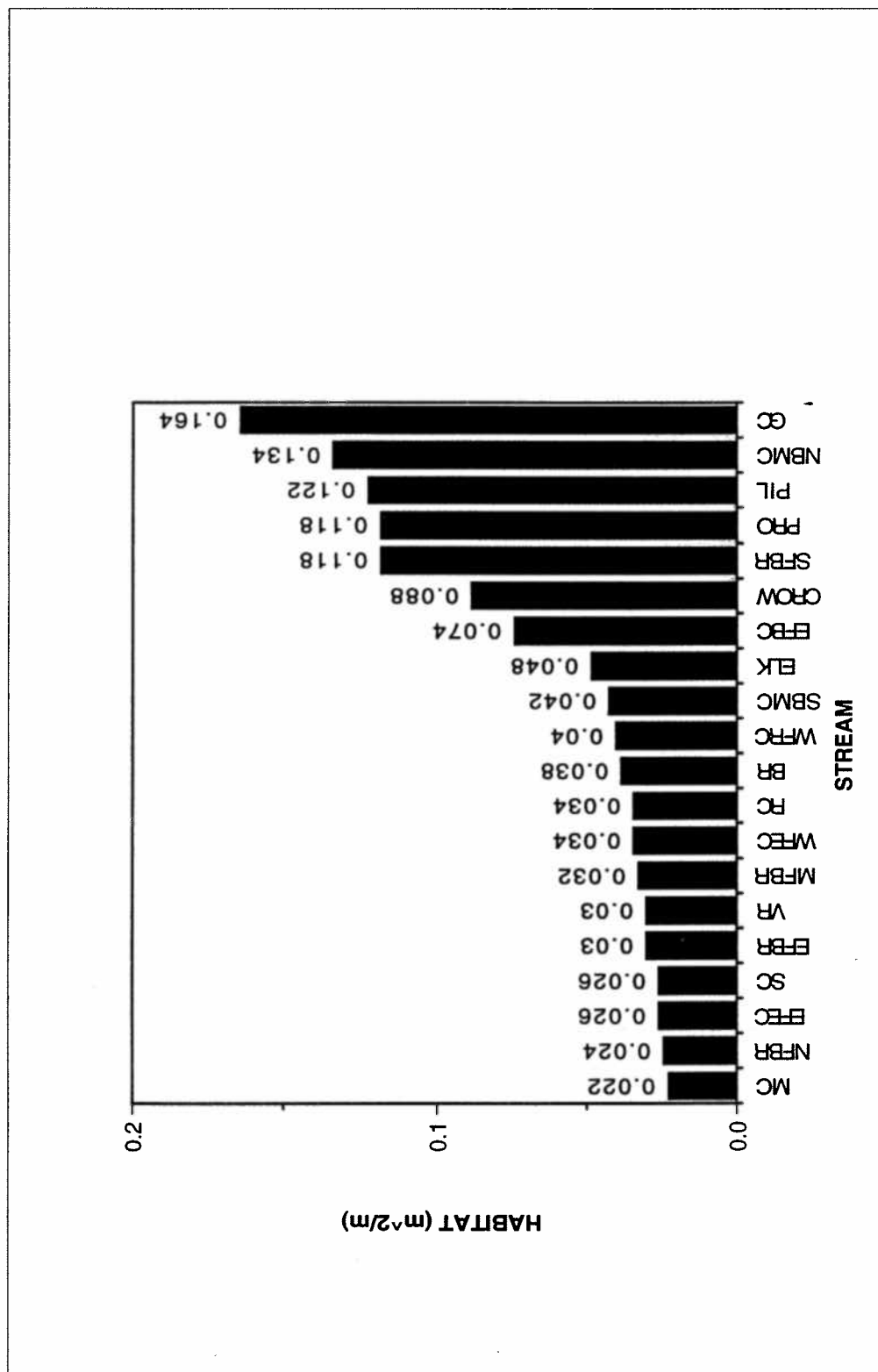


Figure B-19. Spawning habitat for fall spawning salmonids by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

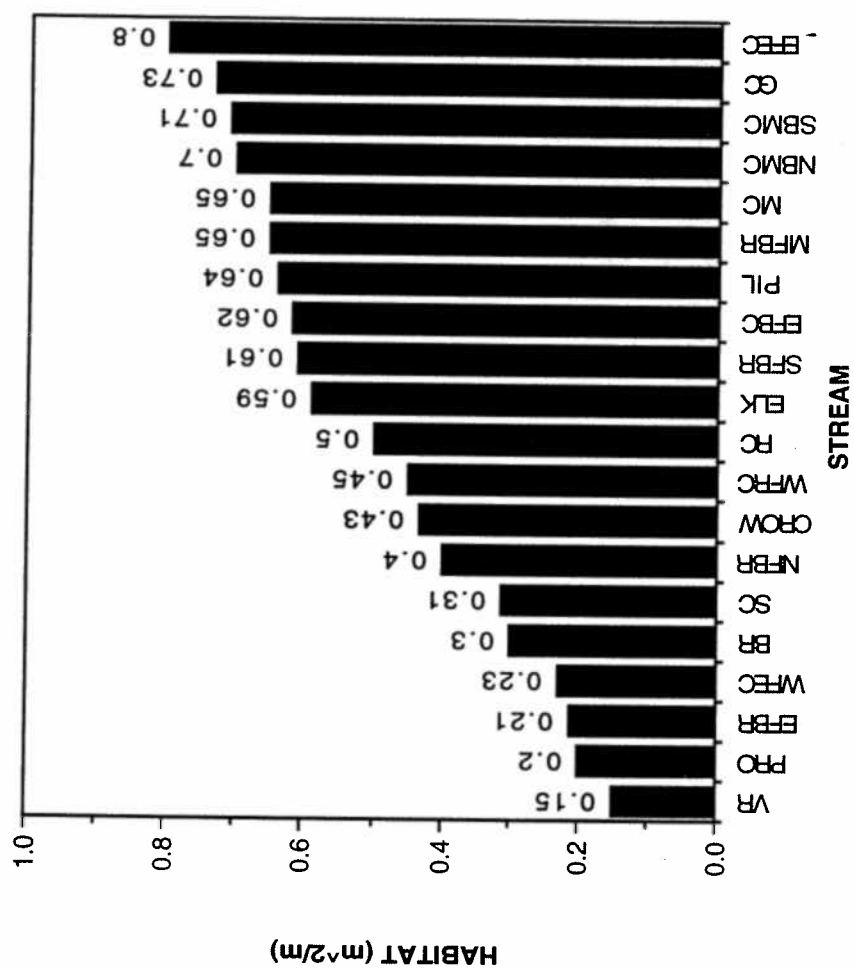


Figure B-20. Rearing habitat for juvenile salmonids by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

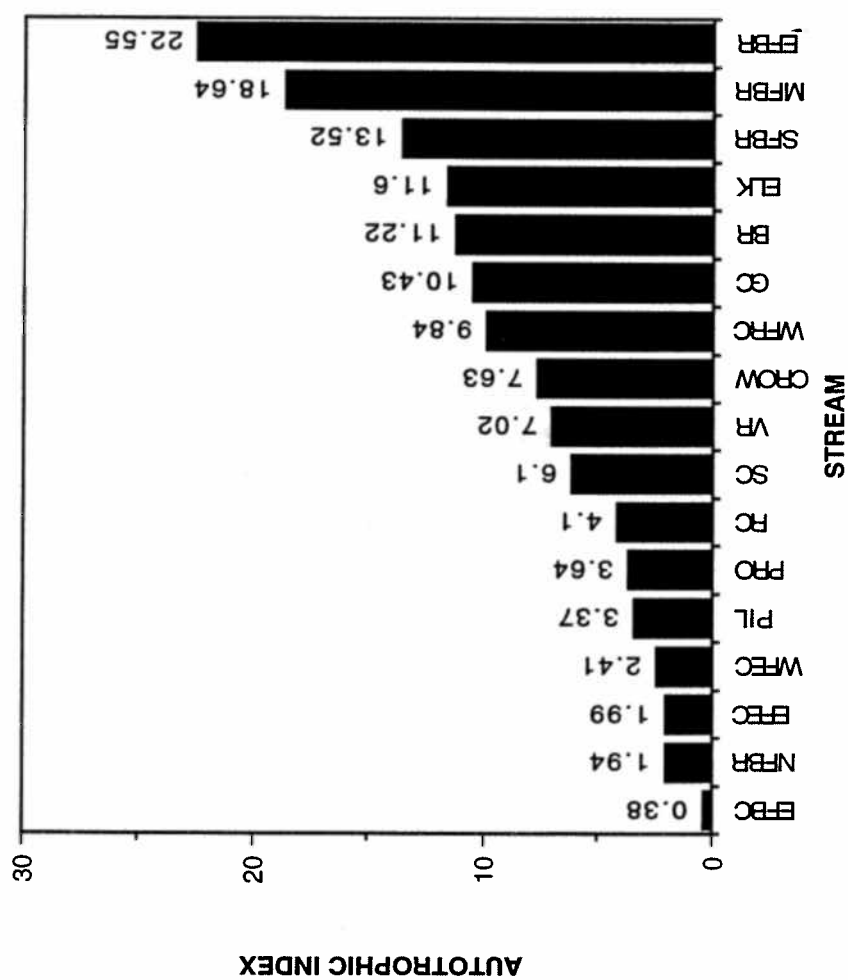


Figure B-21. Average autotrophic index by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

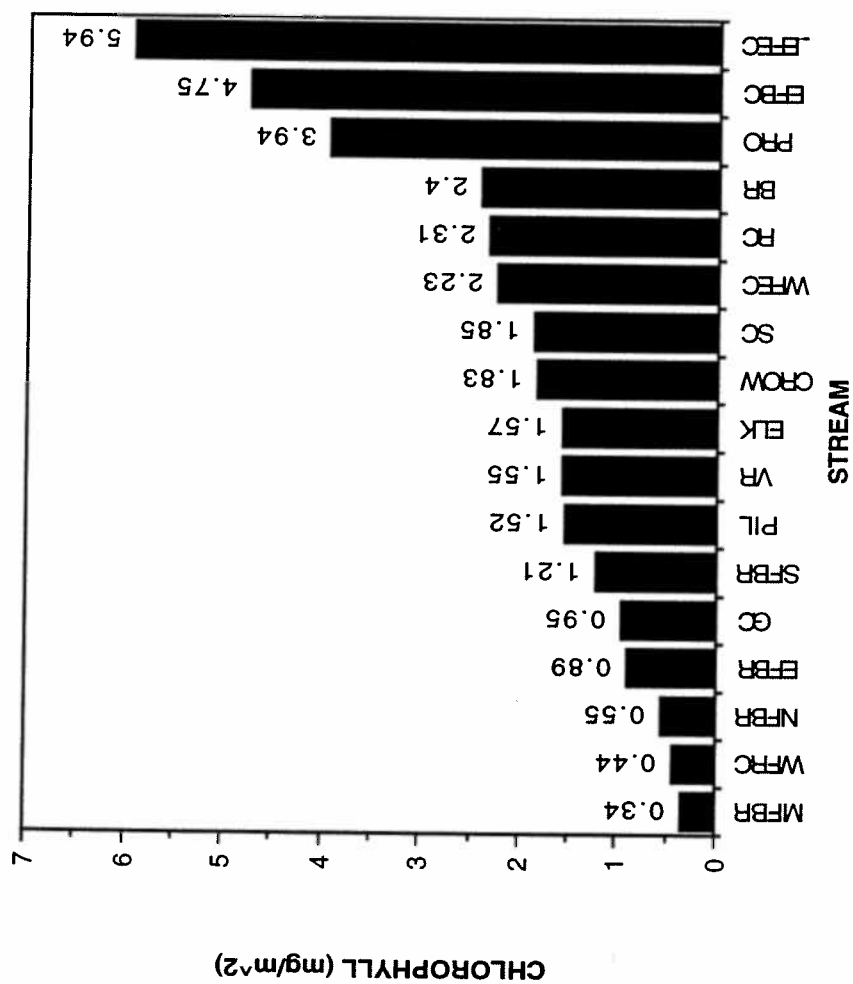


Figure B-22. Periphyton chlorophyll content by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

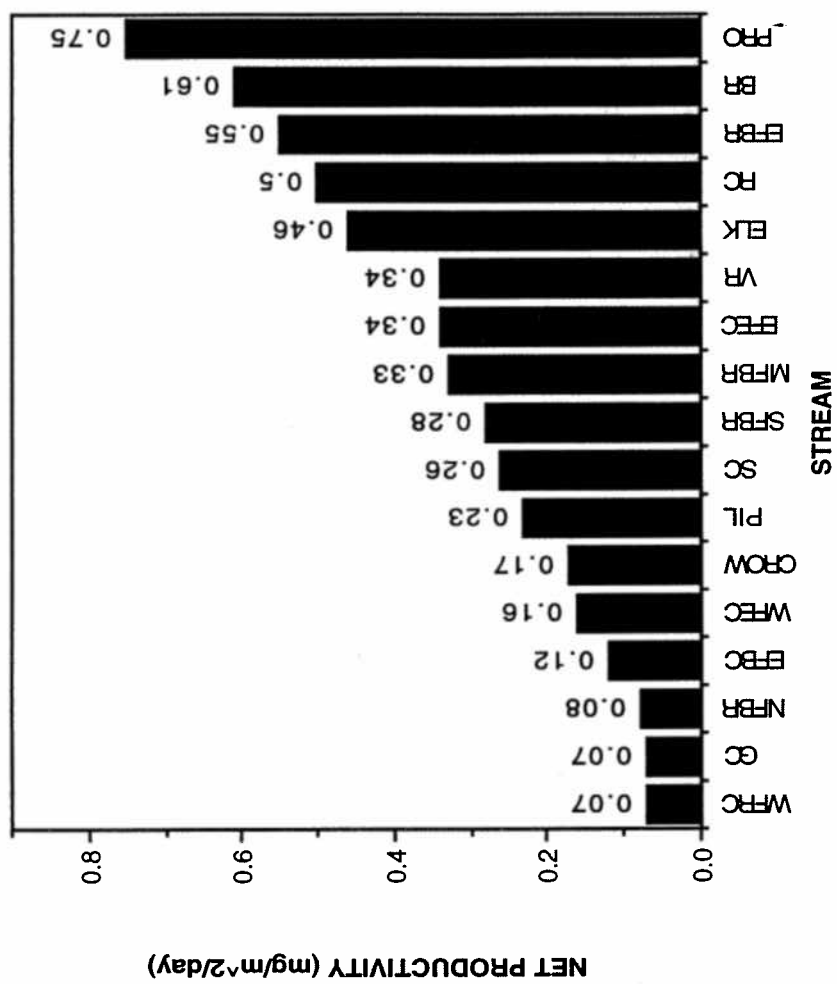


Figure B-23. Net productivity by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

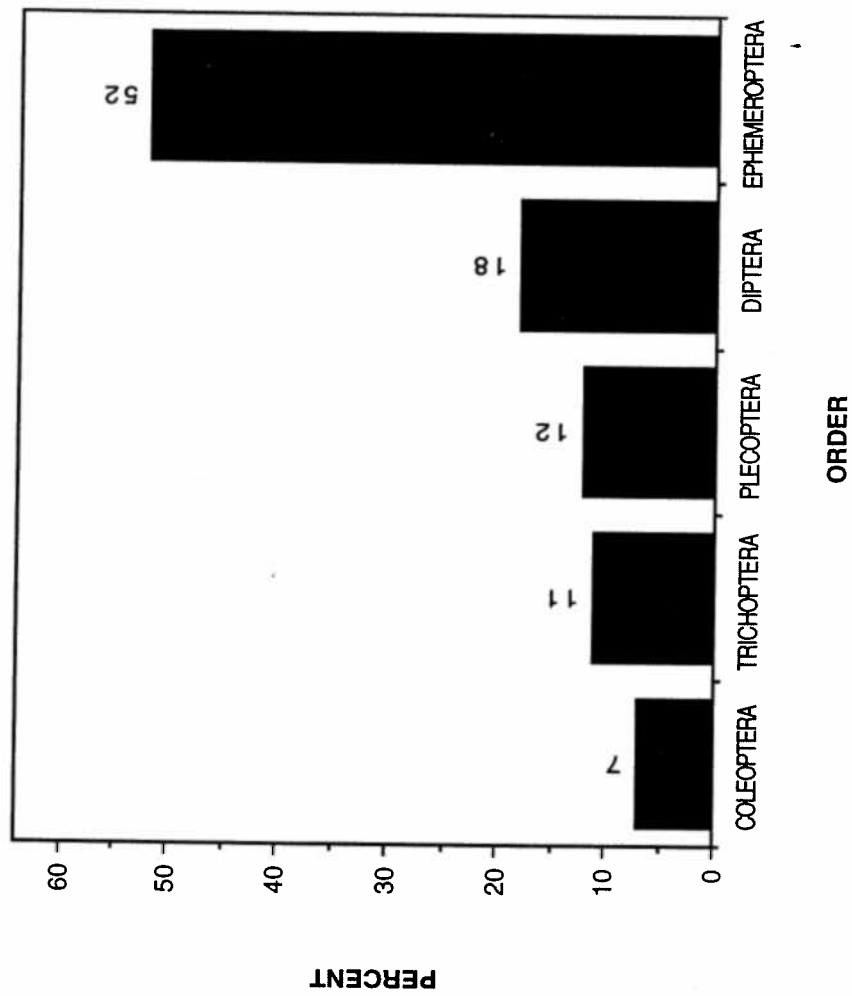


Figure B-24. Percent composition, benthic invertebrate population by taxonomic order. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

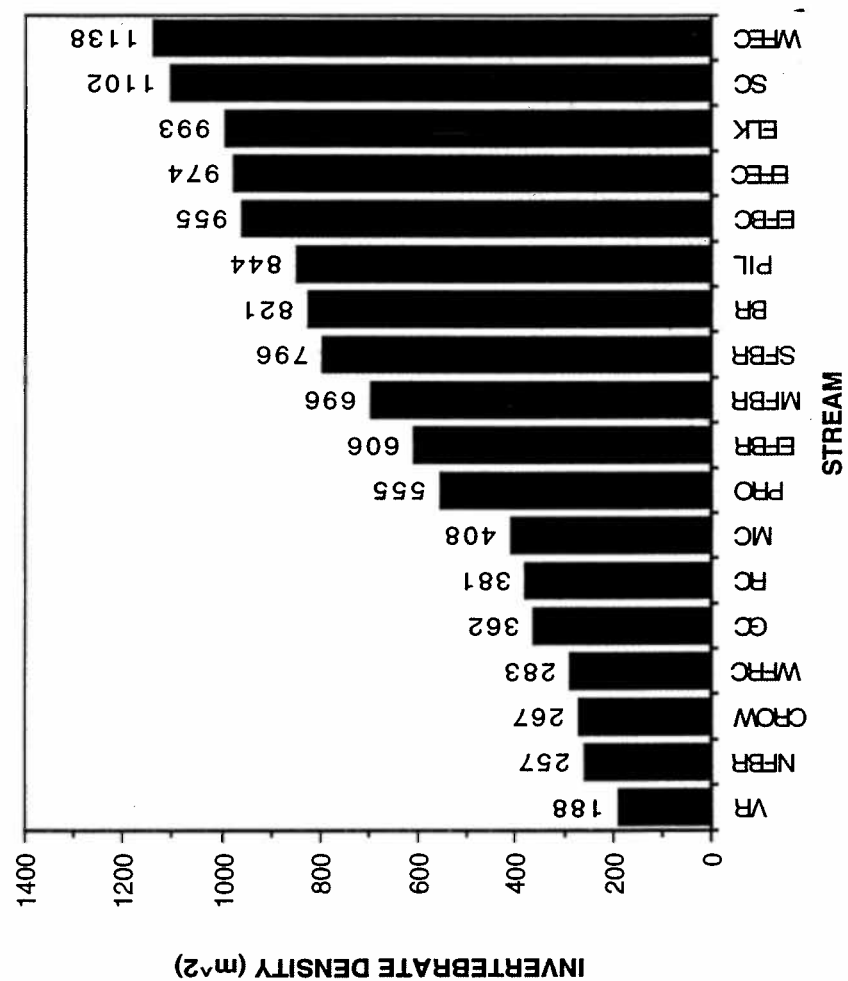


Figure B-25. Average aquatic macroinvertebrate densities by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

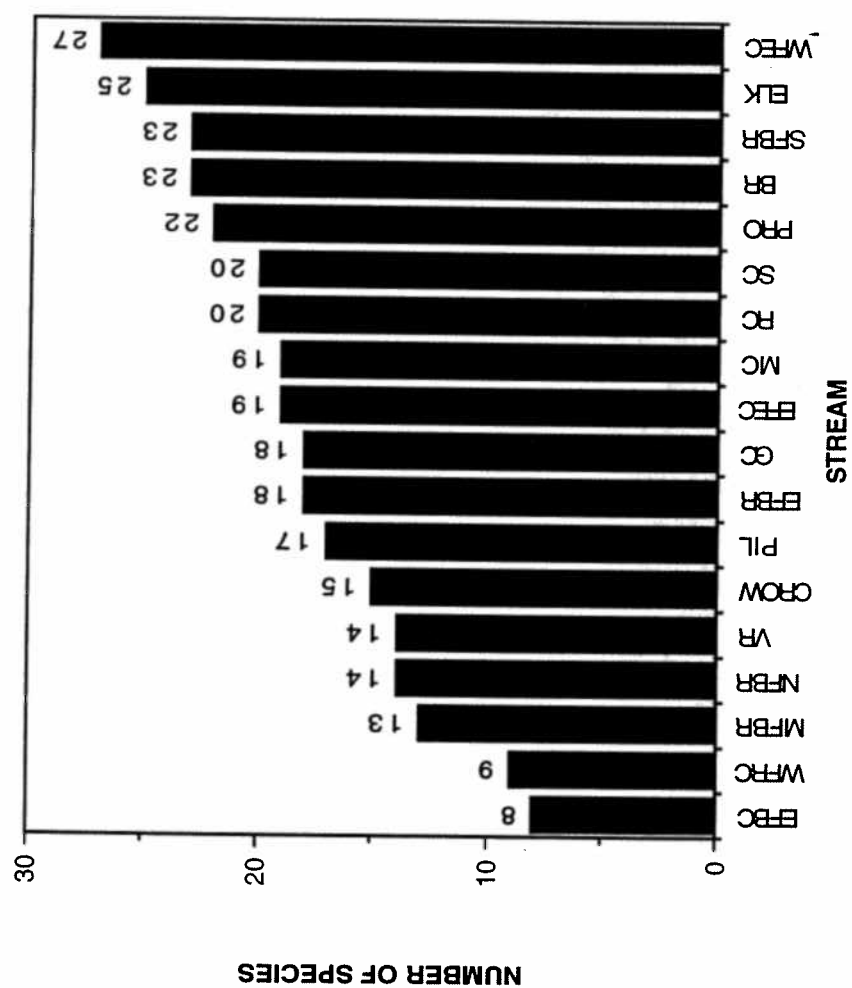


Figure B-26. Invertebrate species richness by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

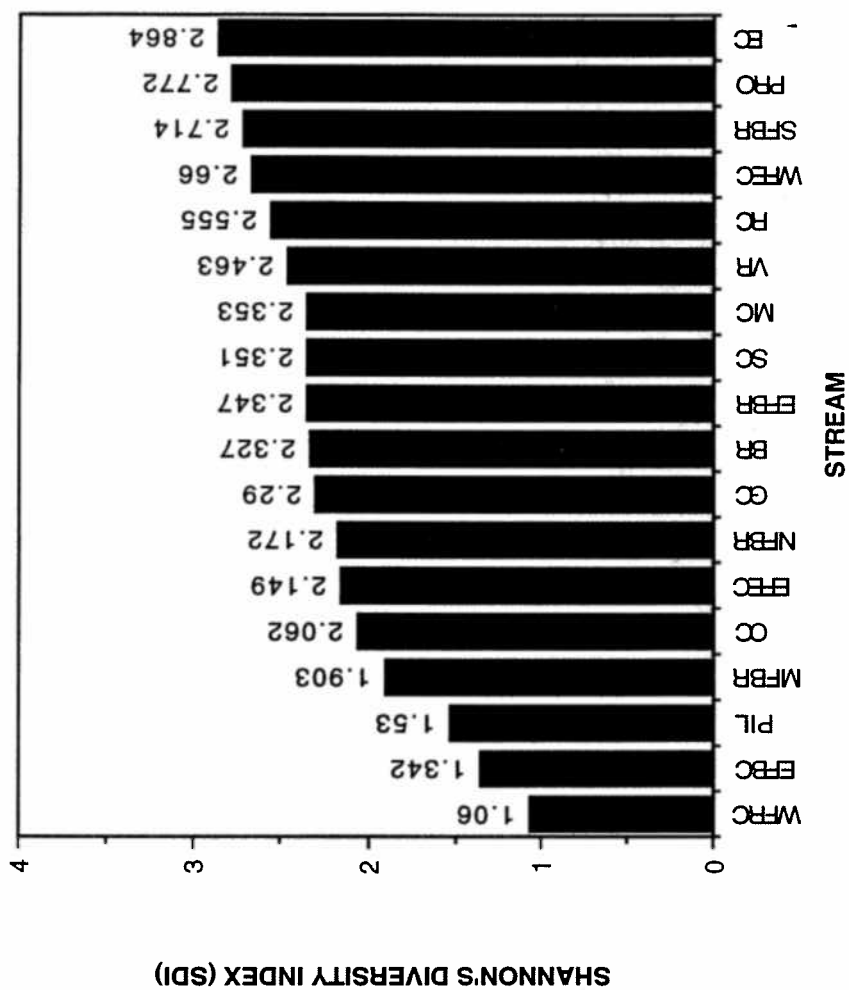


Figure B-27. Shannon's Diversity Index by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

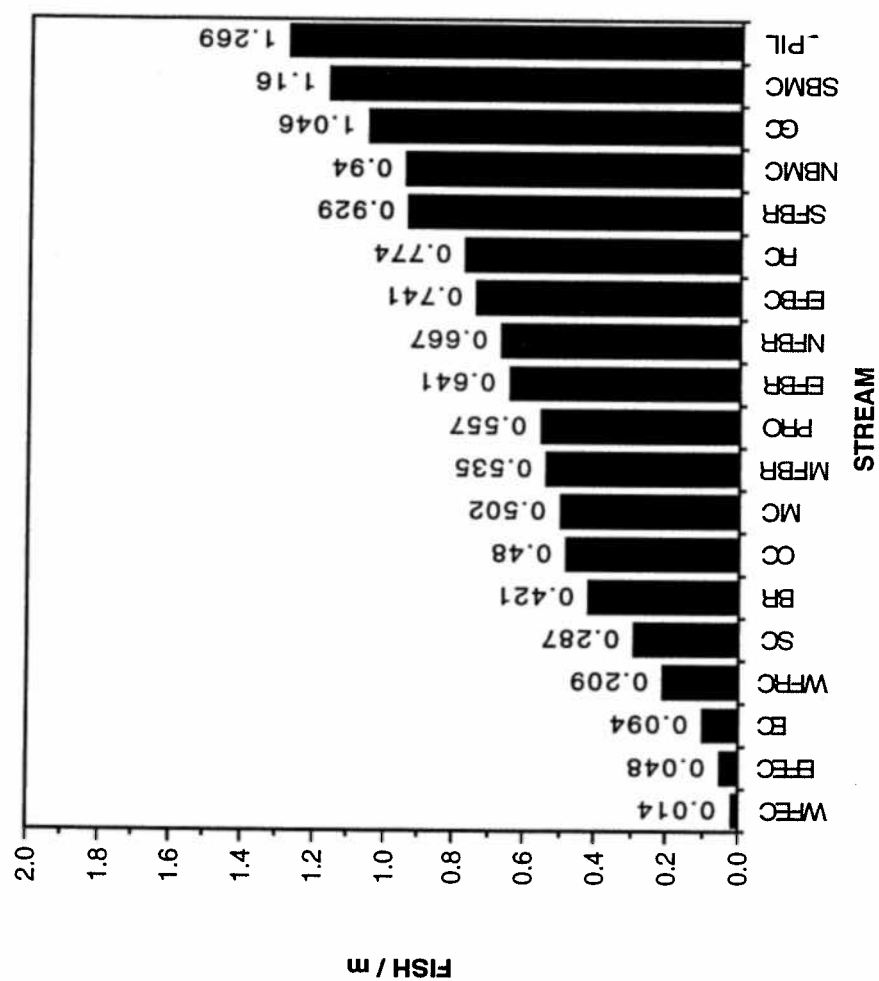


Figure B-28. Distribution of cutthroat trout by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

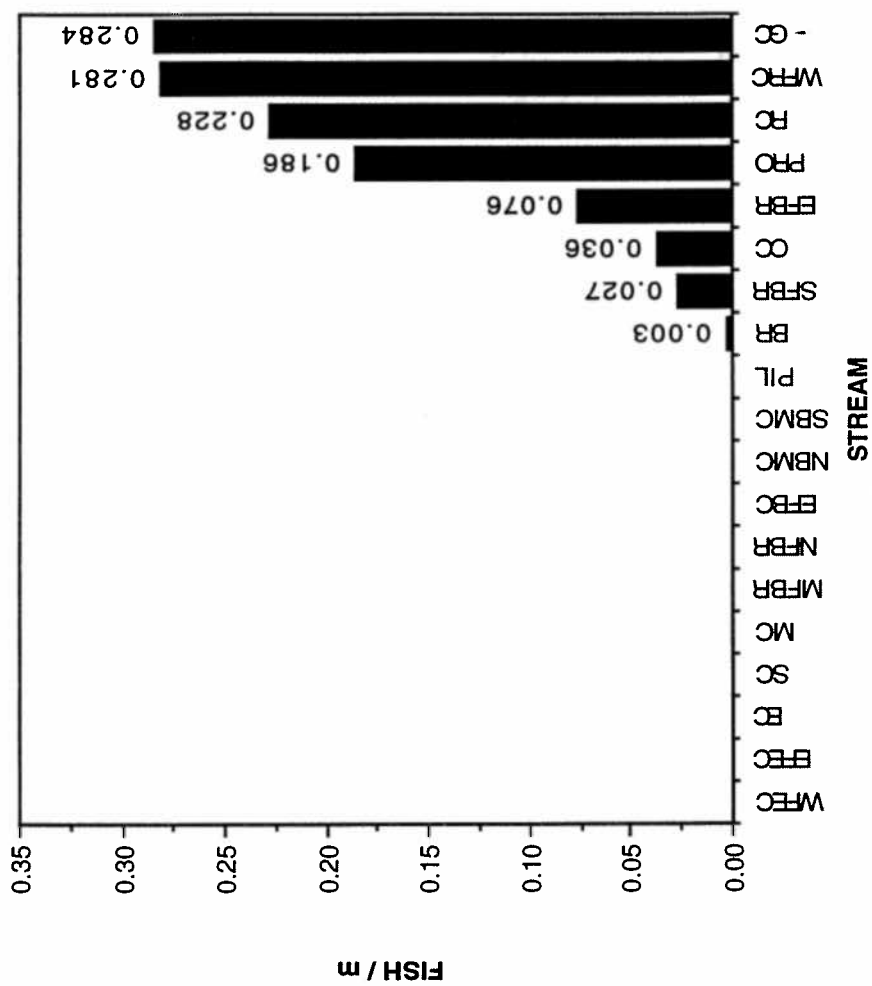


Figure B-29. Distribution of bull trout by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

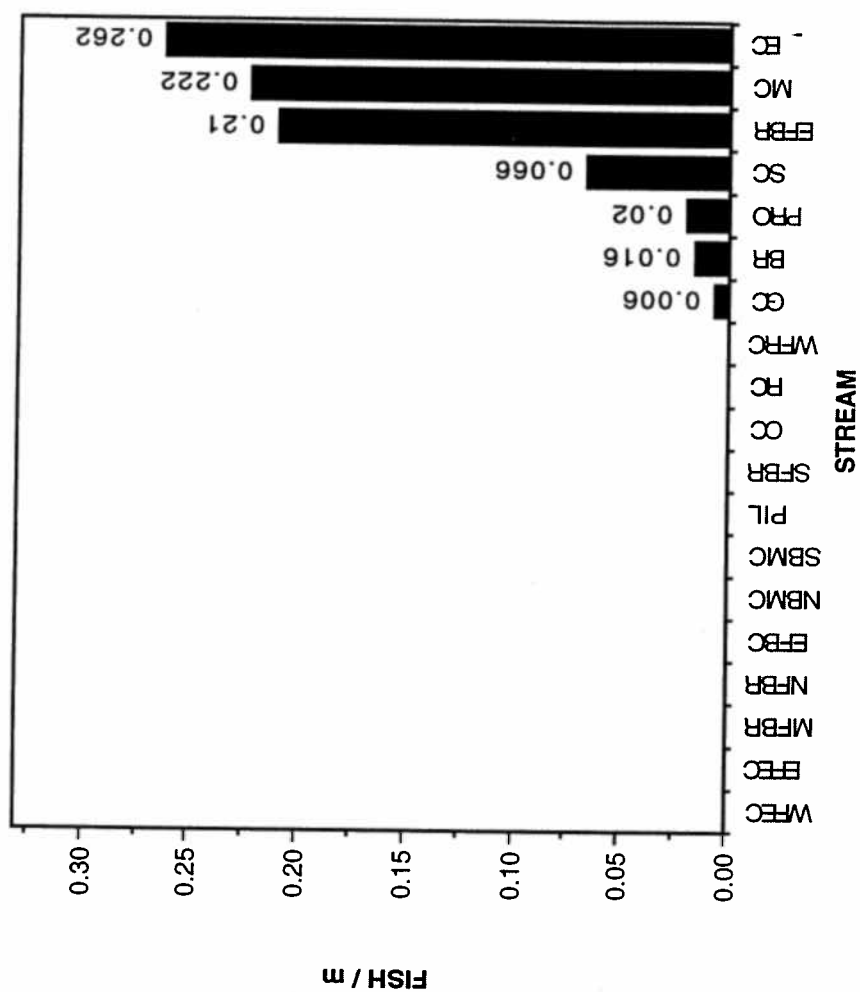


Figure B-30. Distribution of brown trout by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

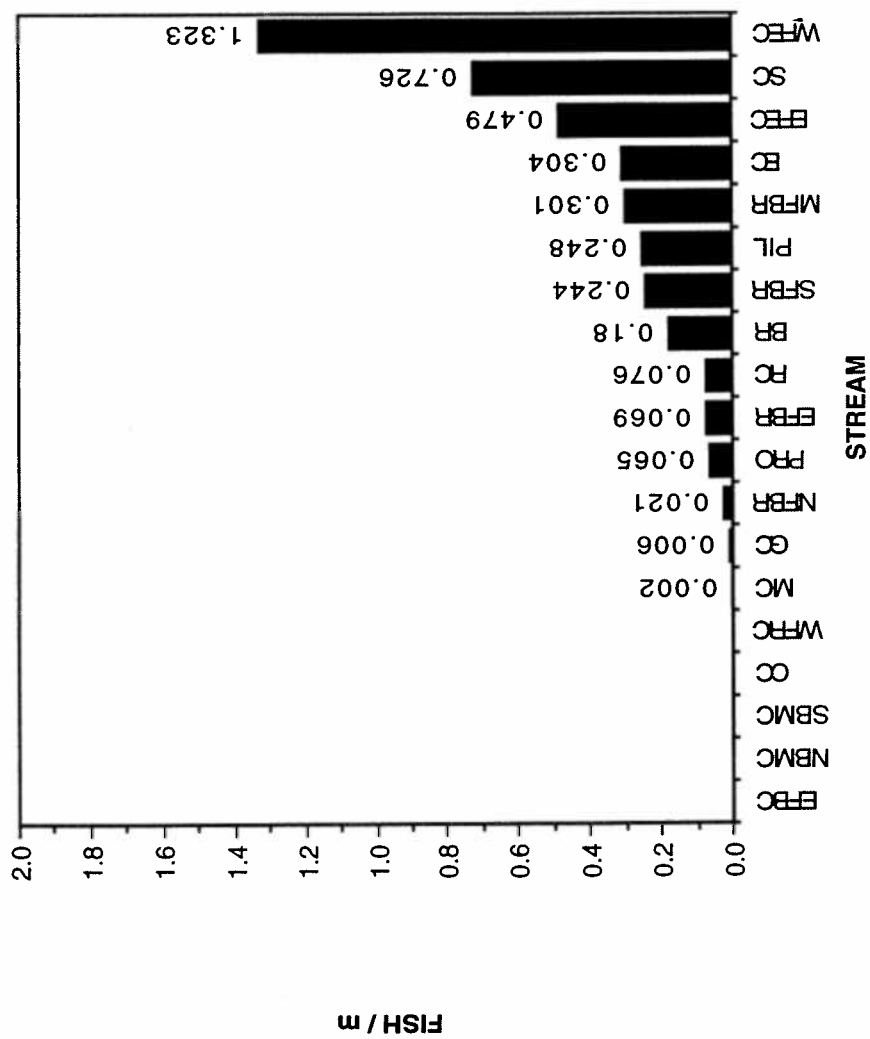


Figure B-31. Distribution of brook trout by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

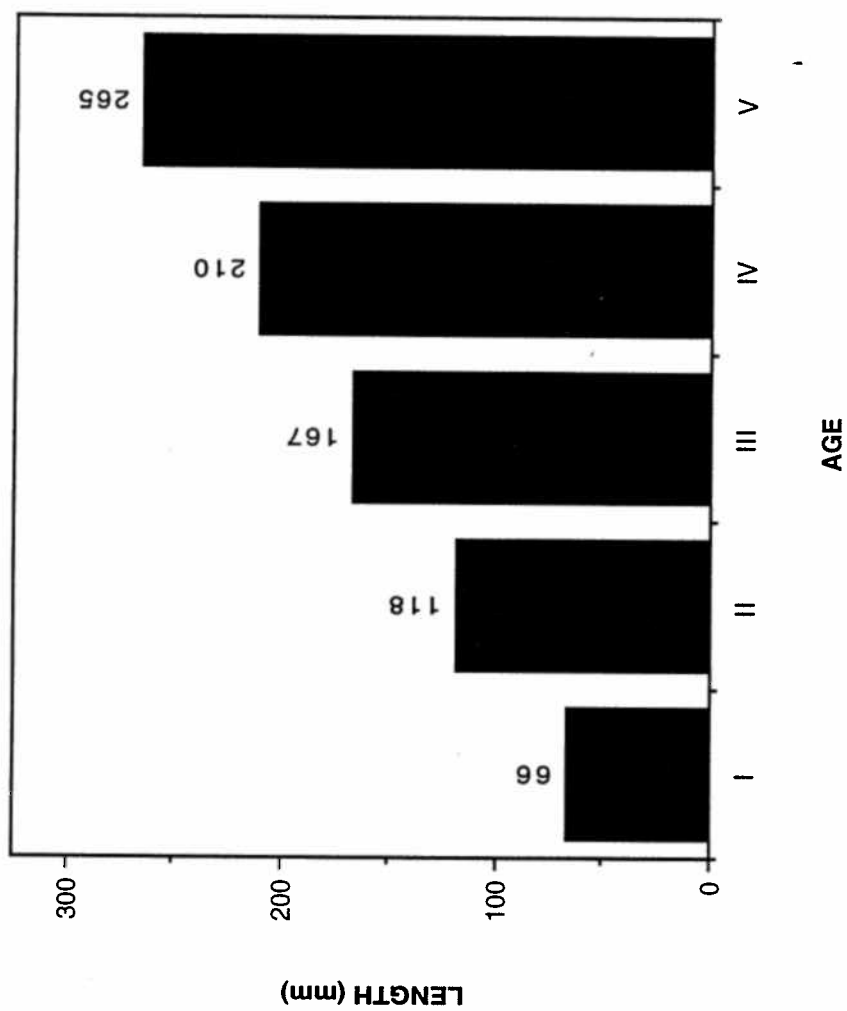


Figure B-32. Growth of cutthroat trout by year class. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

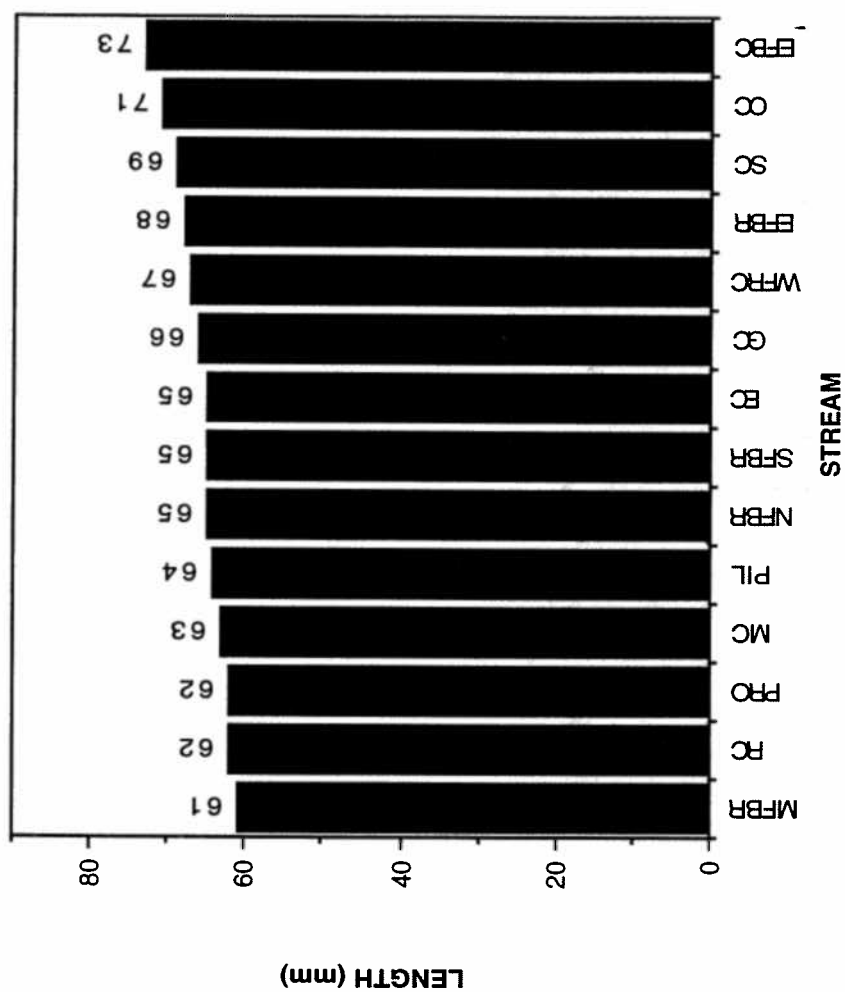


Figure B-33. Growth of age I+ cutthroat trout by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

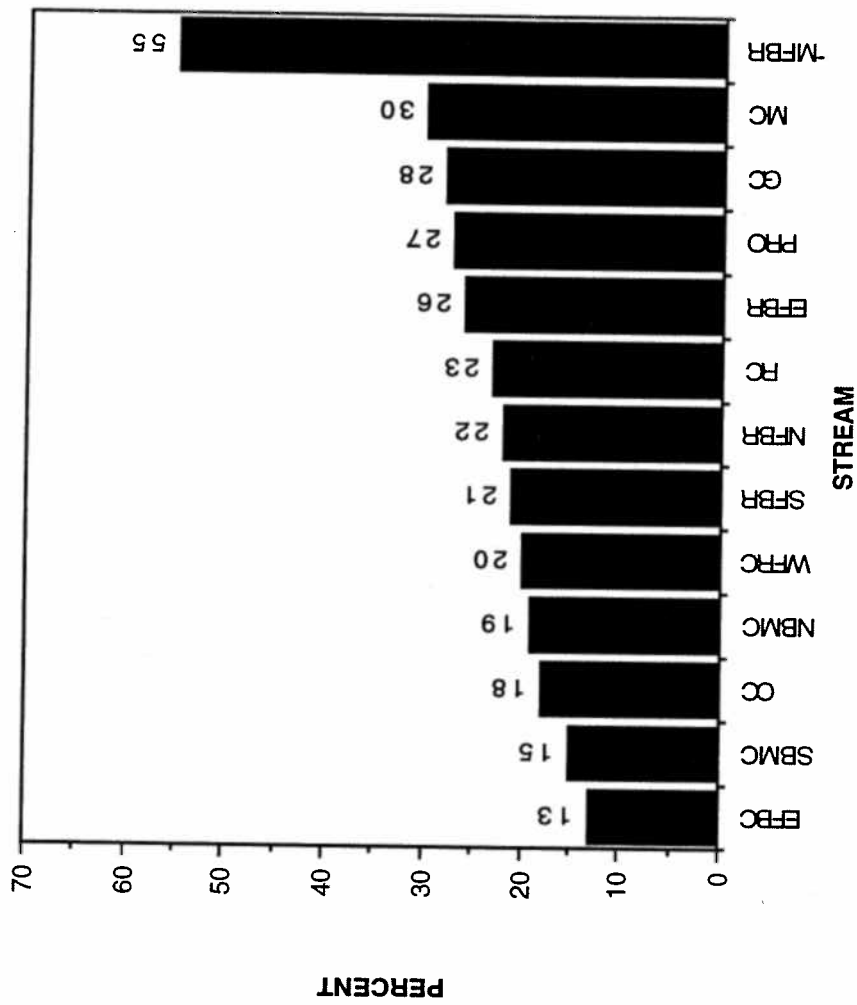


Figure B-34. Survival of cutthroat trout by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

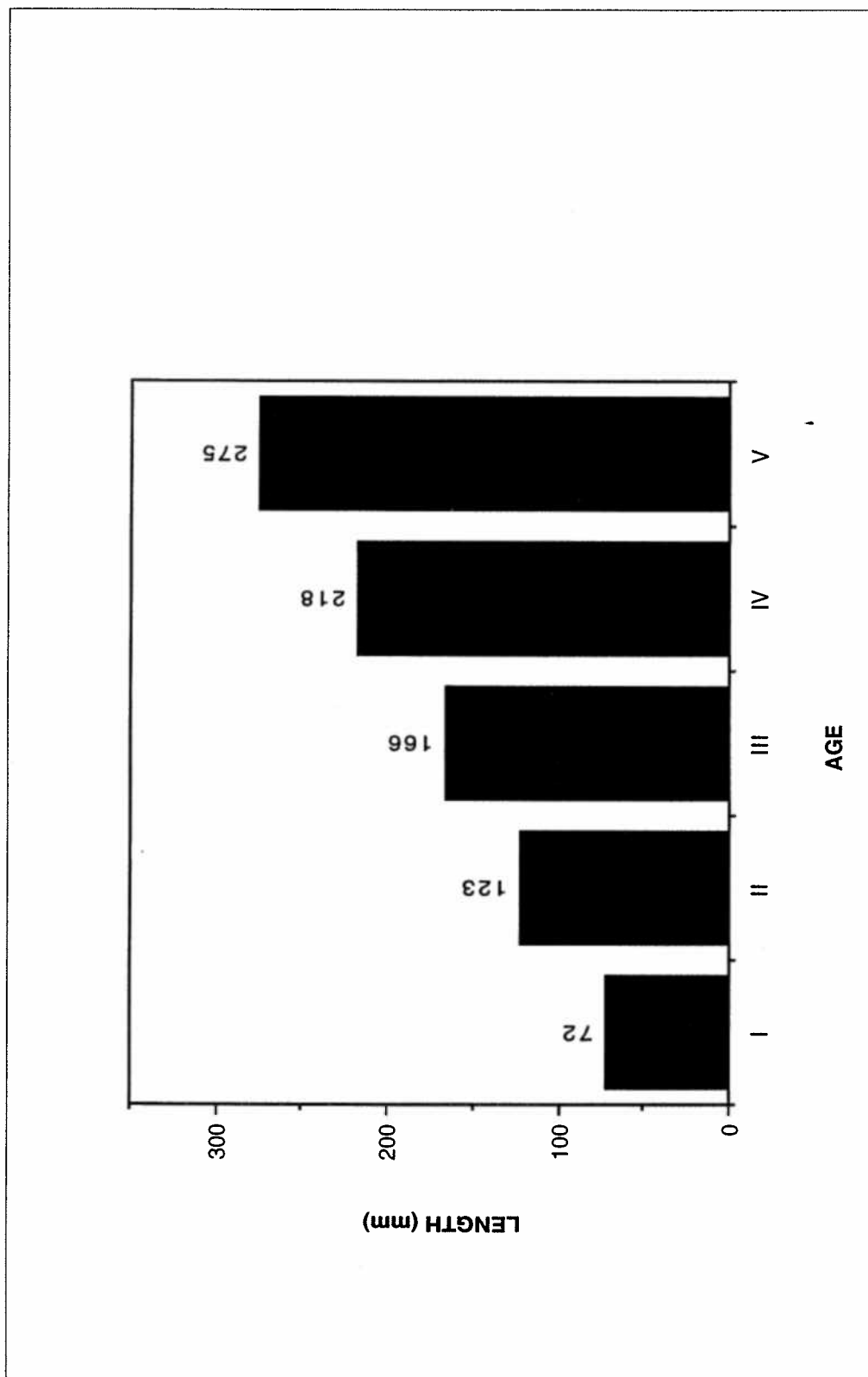


Figure B-35. Growth of bull trout by age class. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

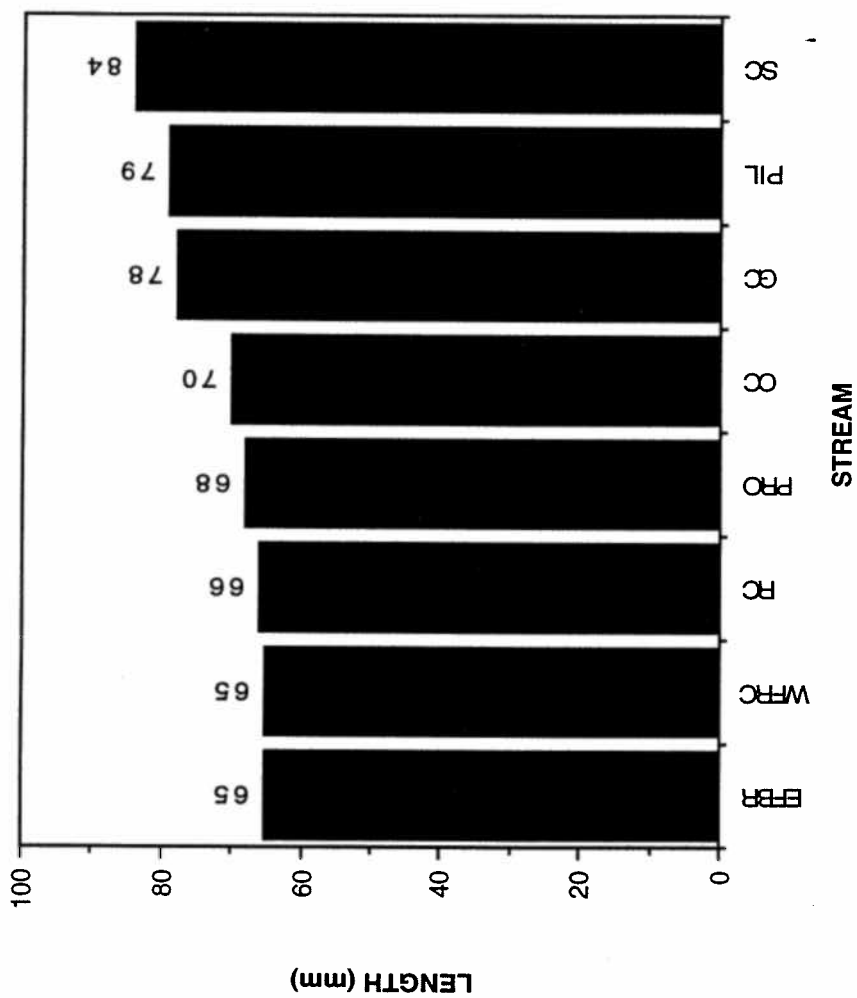


Figure B-36. Growth of age I+ bull trout by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

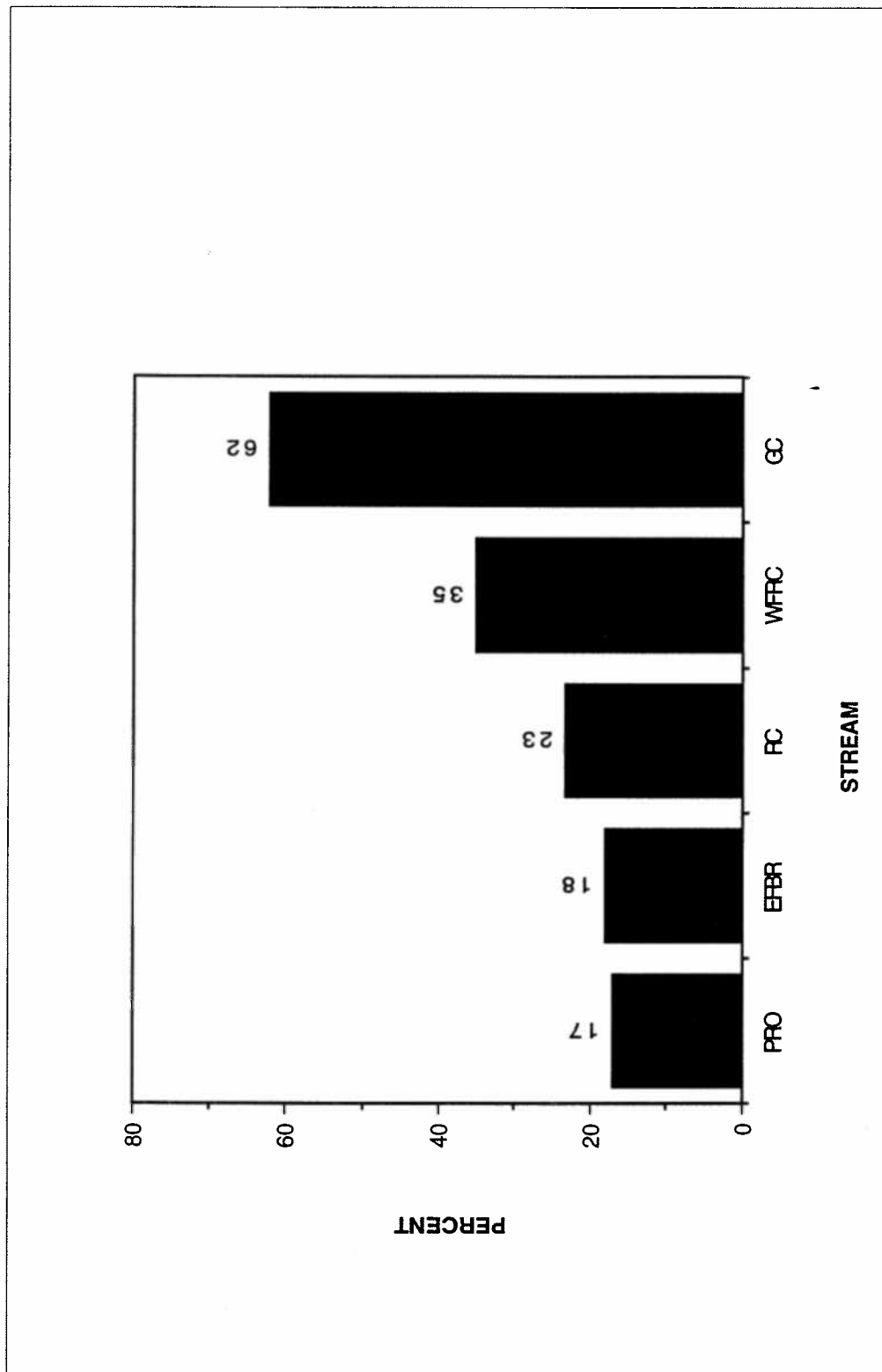


Figure B-37. Survival of bull trout by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

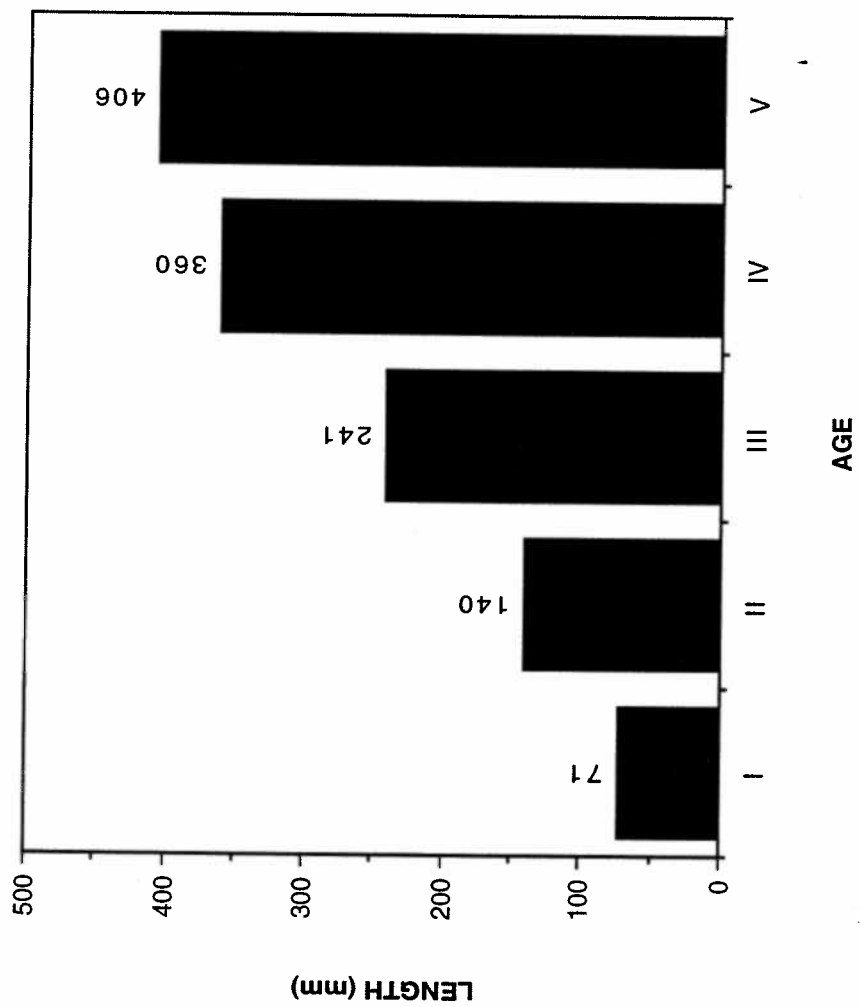


Figure B-38. Growth of brown trout by age class. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

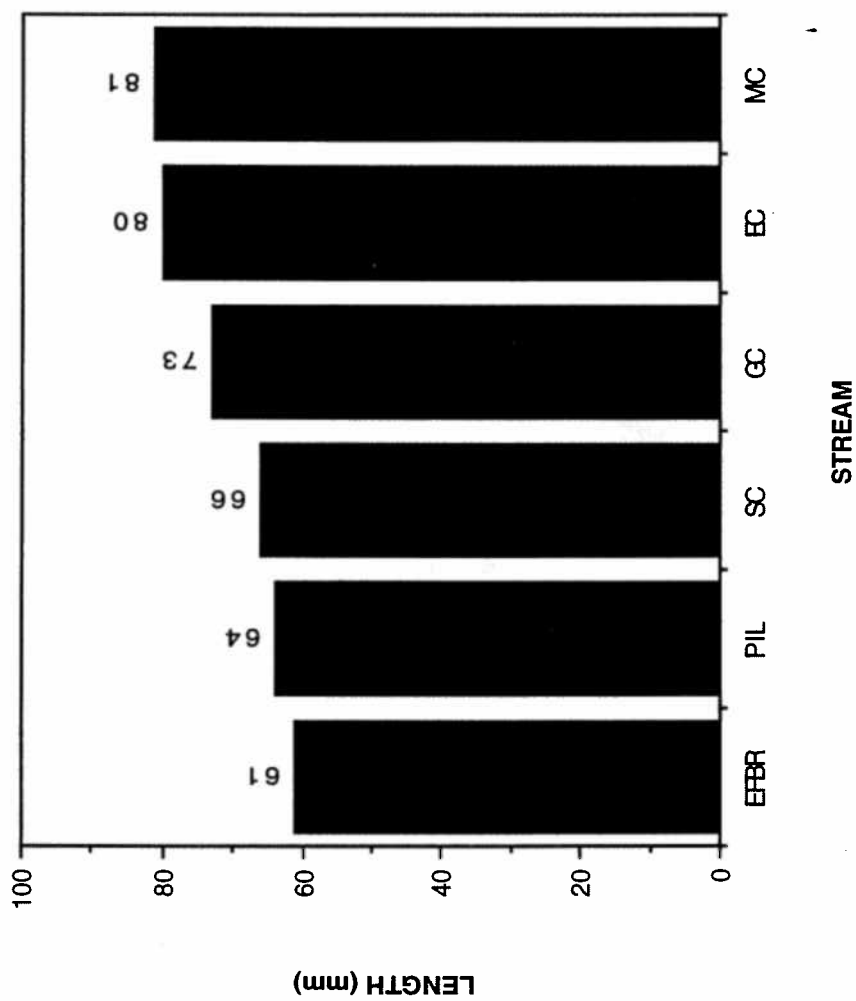


Figure B-39. Growth of age I+ brown trout. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

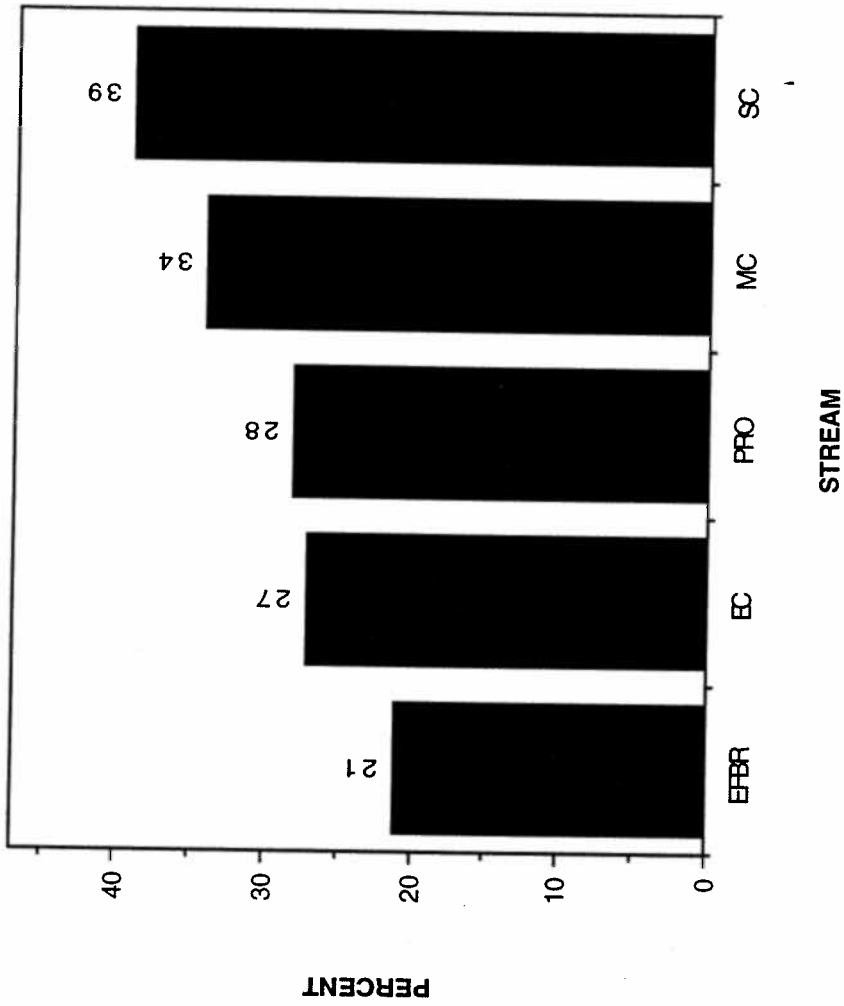


Figure B-40. Survival of brown trout by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

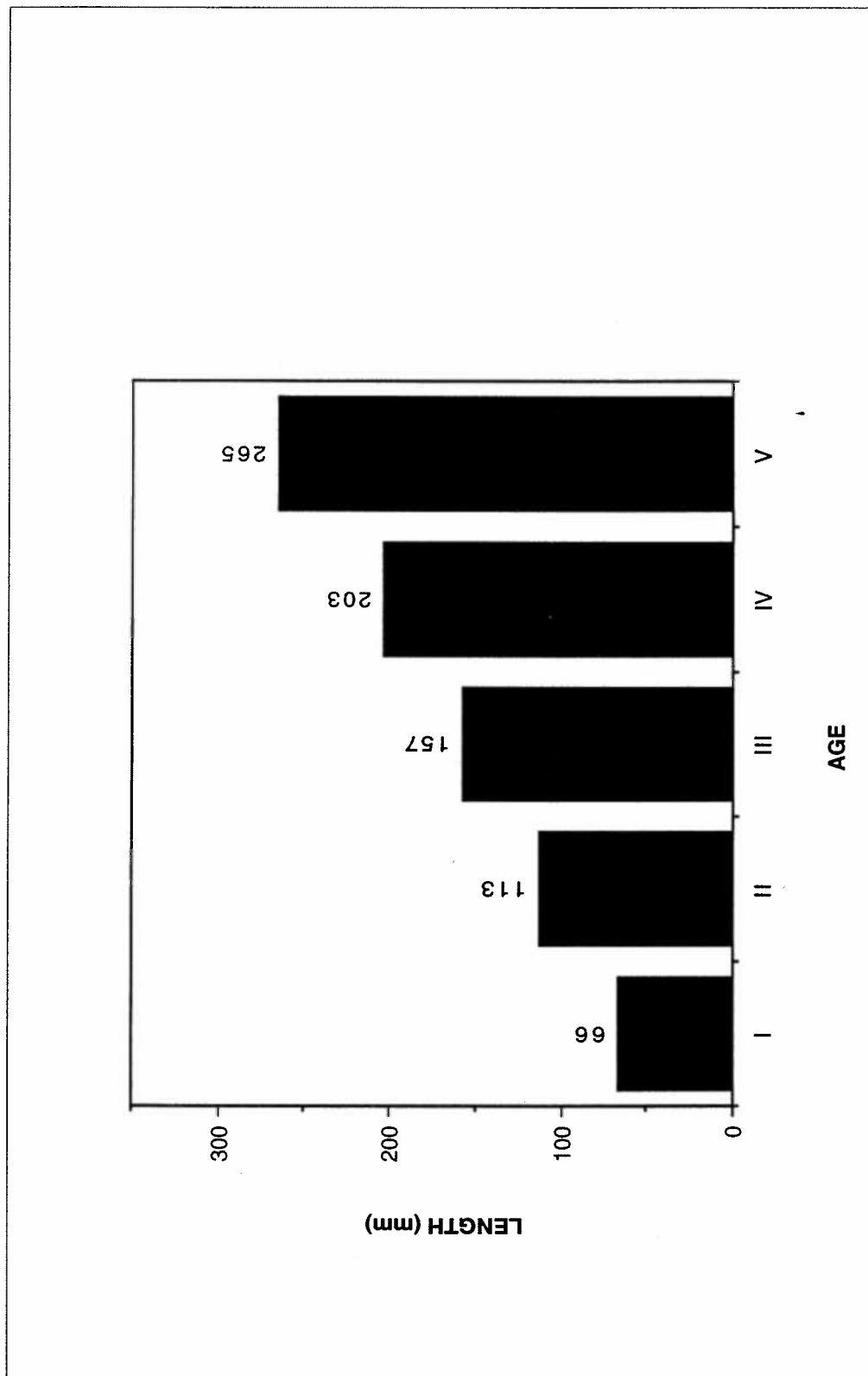


Figure B-41. Growth of brook trout by age class. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

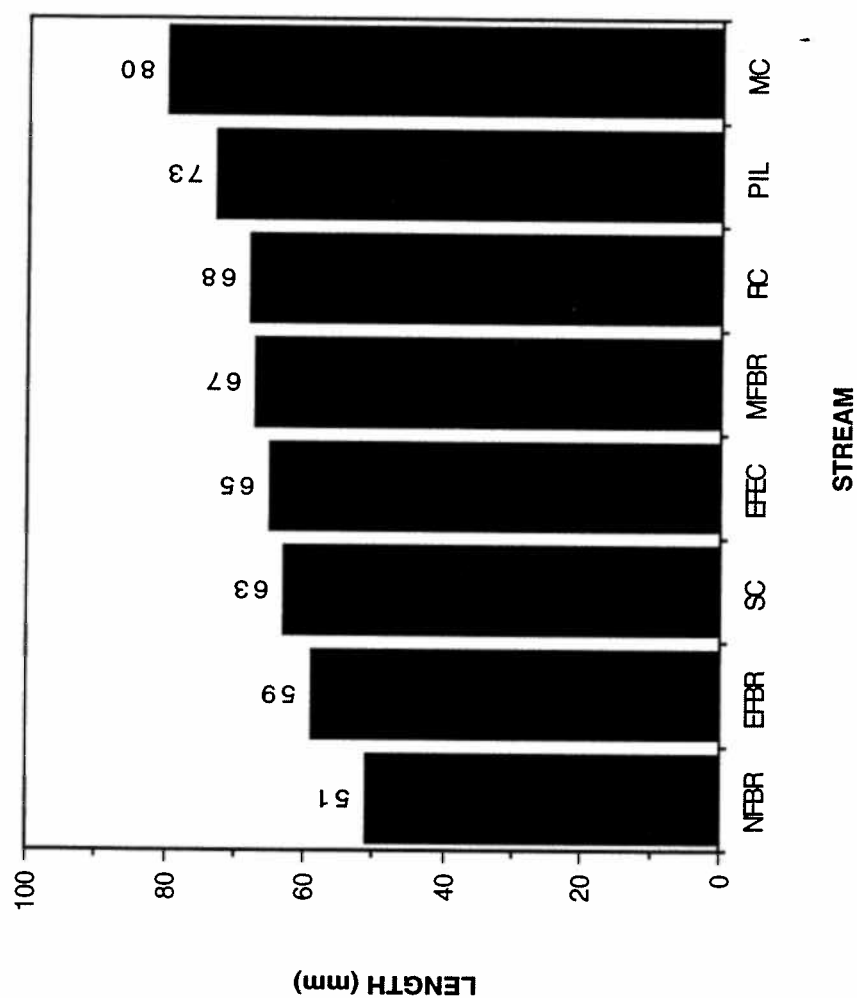


Figure B-42. Growth of age I+ brook trout. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

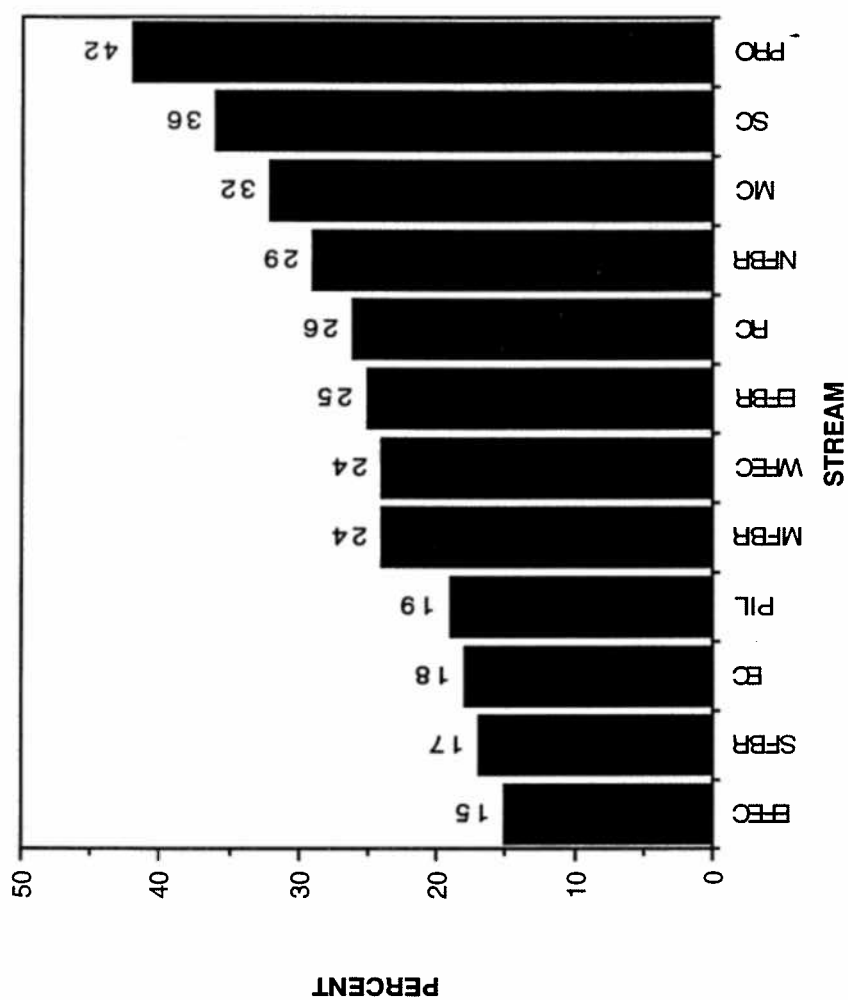


Figure B-43. Survival of brook trout by tributary. Lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

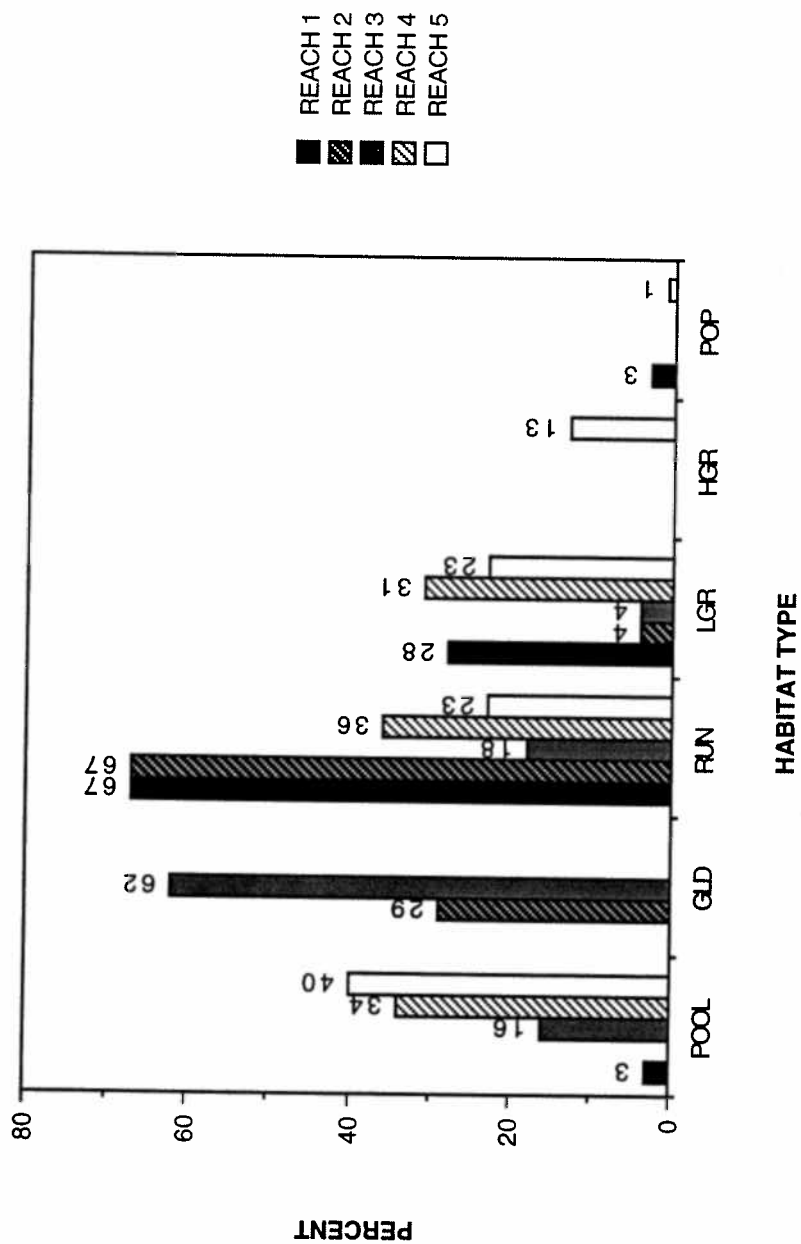


Figure B-44. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), and pocket pool (POP) habitat types by stream reach. Bull River, Montana. Tributary survey, 1992-1994.

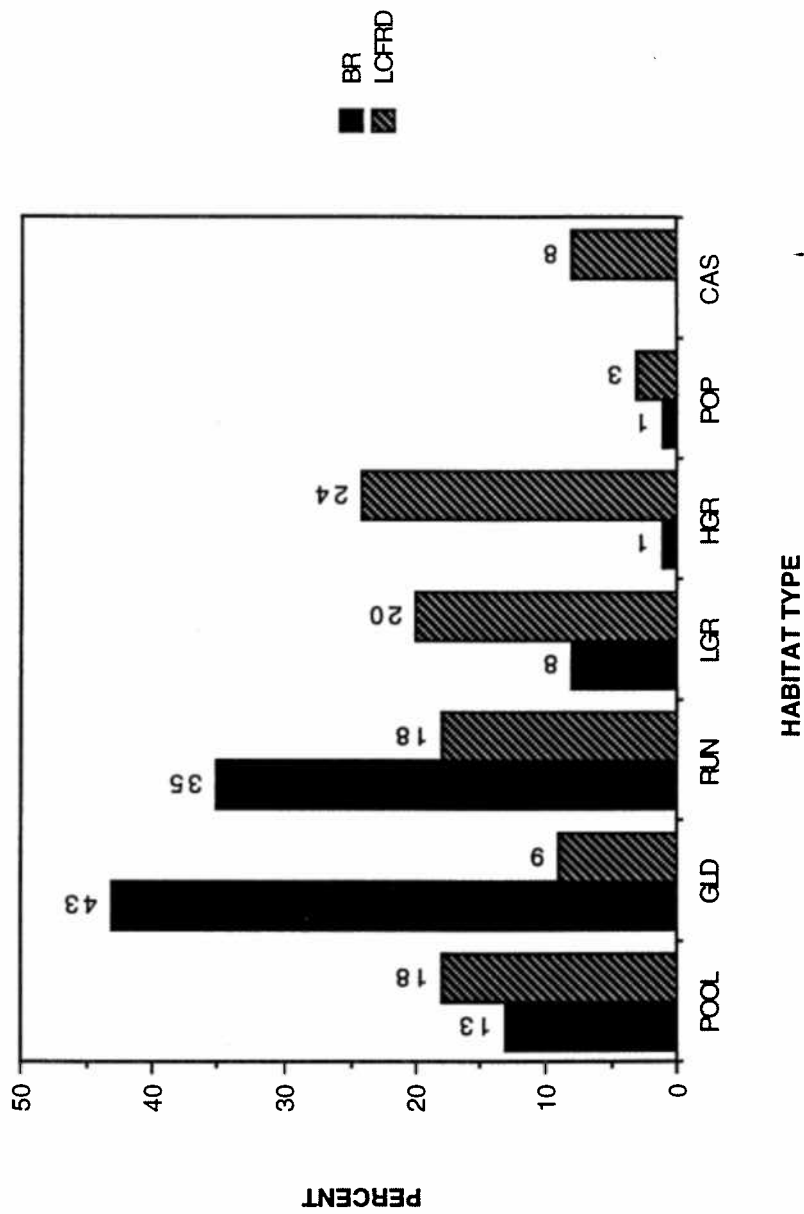


Figure B-45. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

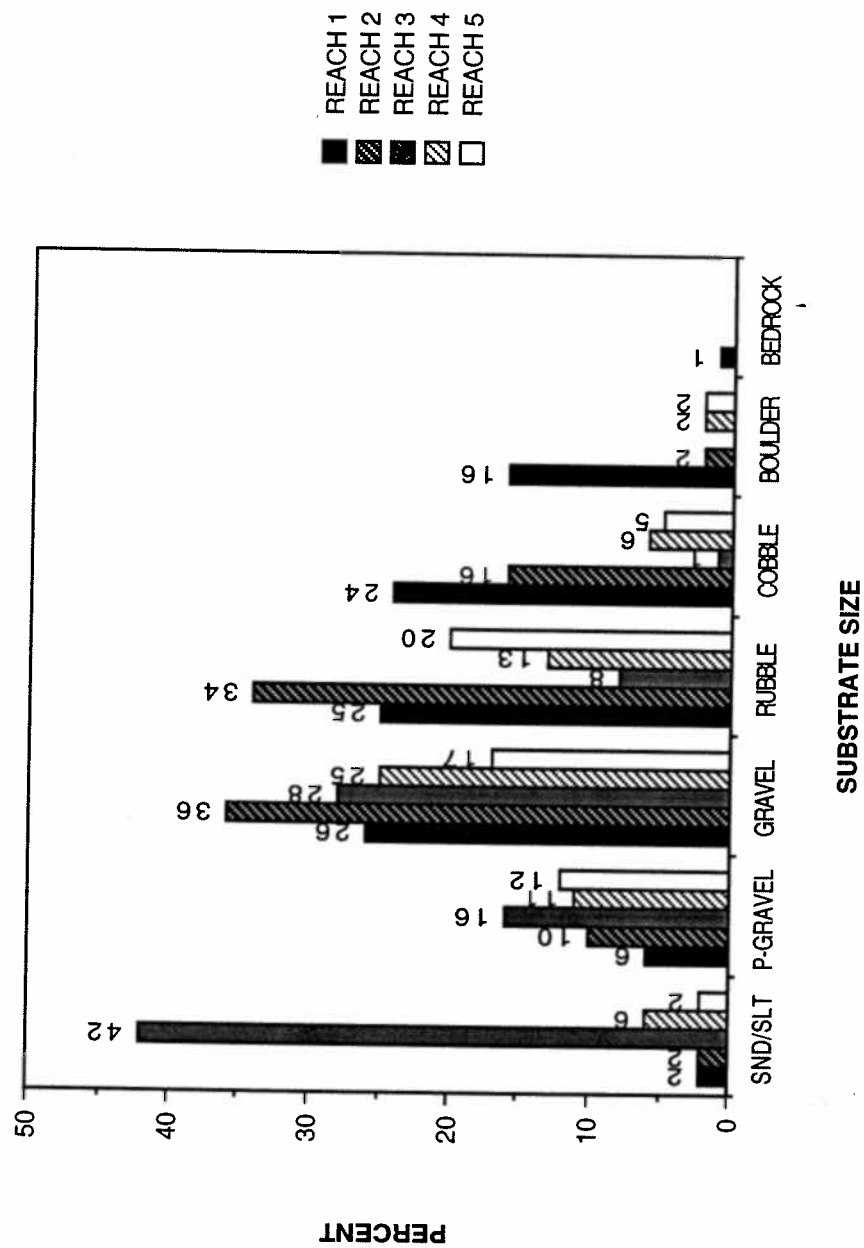


Figure B-46. Percent substrate composition by stream reach. Bull River, Montana. Tributary survey, 1992-1994.

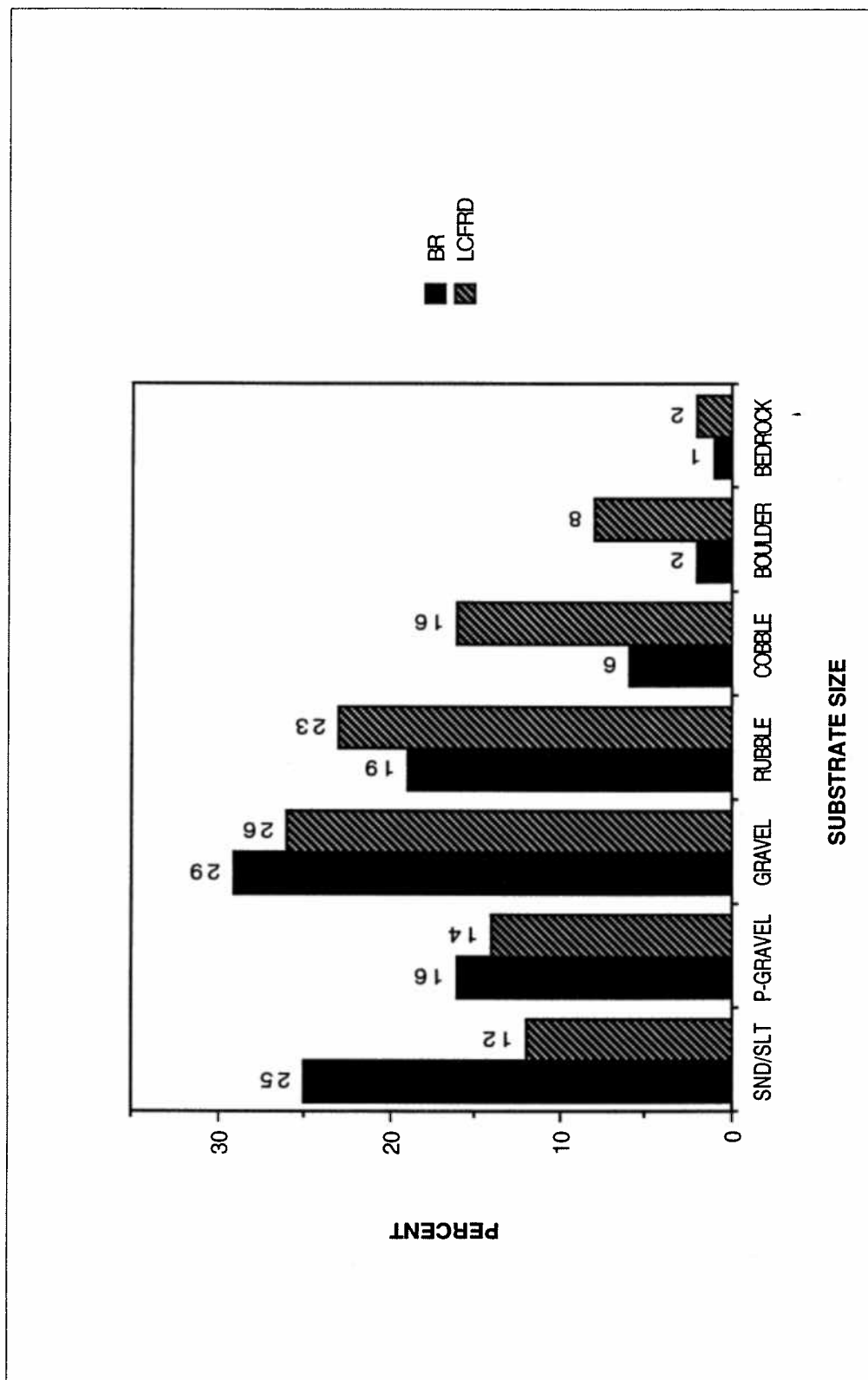


Figure B-47. Percent substrate composition. Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

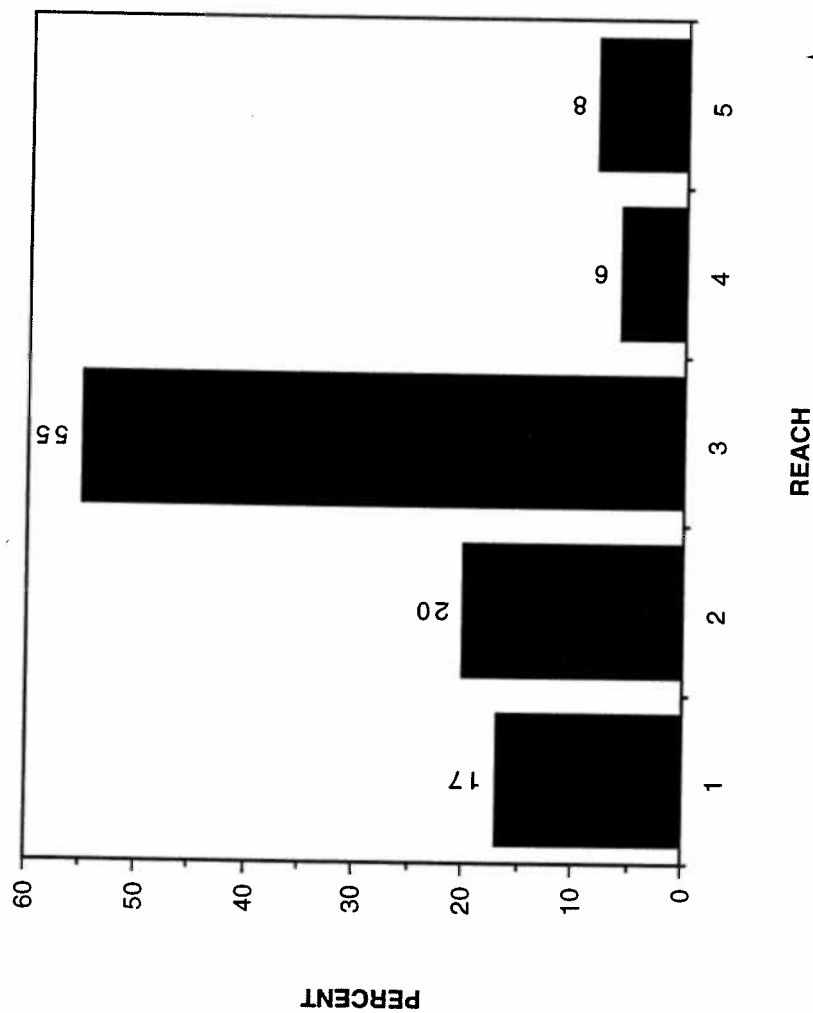


Figure B-48. Percent surface fines (<6.35 mm) by stream reach. Bull River, Montana. Tributary survey, 1992-1994.

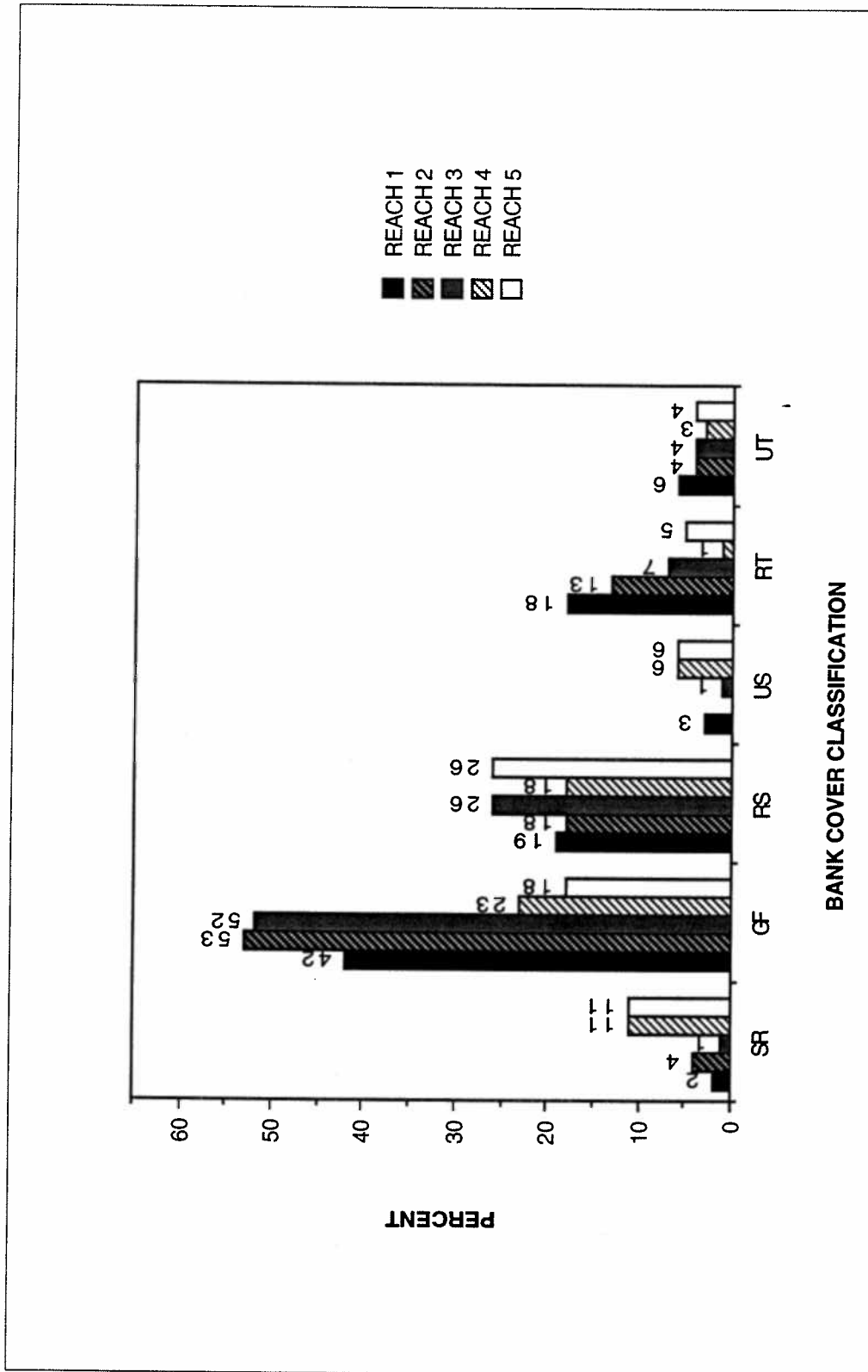


Figure B-49. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT), by stream reach. Bull River, Montana. Tributary survey, 1992-1994.

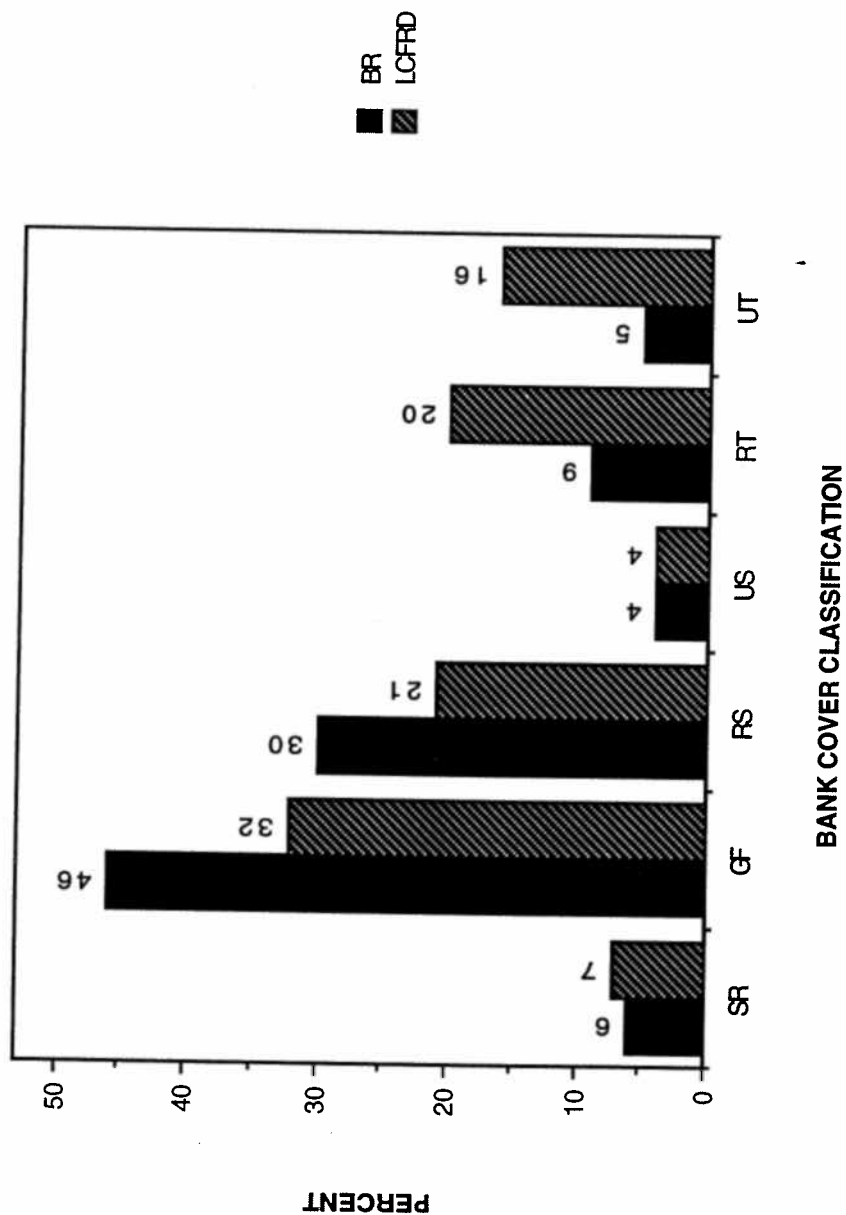


Figure B-50. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Bull River, Montana. Tributary survey, 1992-1994.

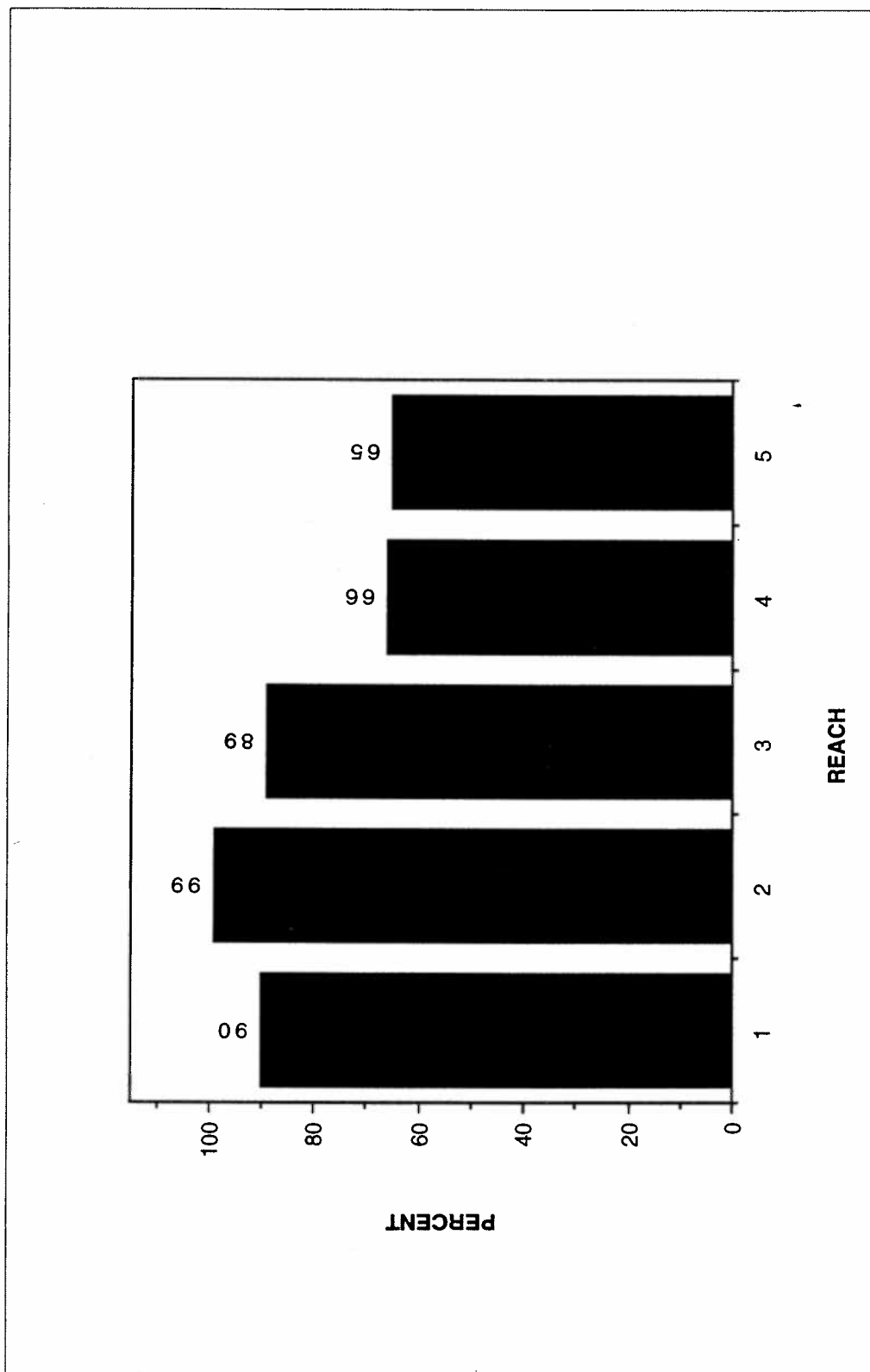


Figure B-51. Percent vegetated bank cover by stream reach. Bull River, Montana. Tributary survey, 1992-1994.

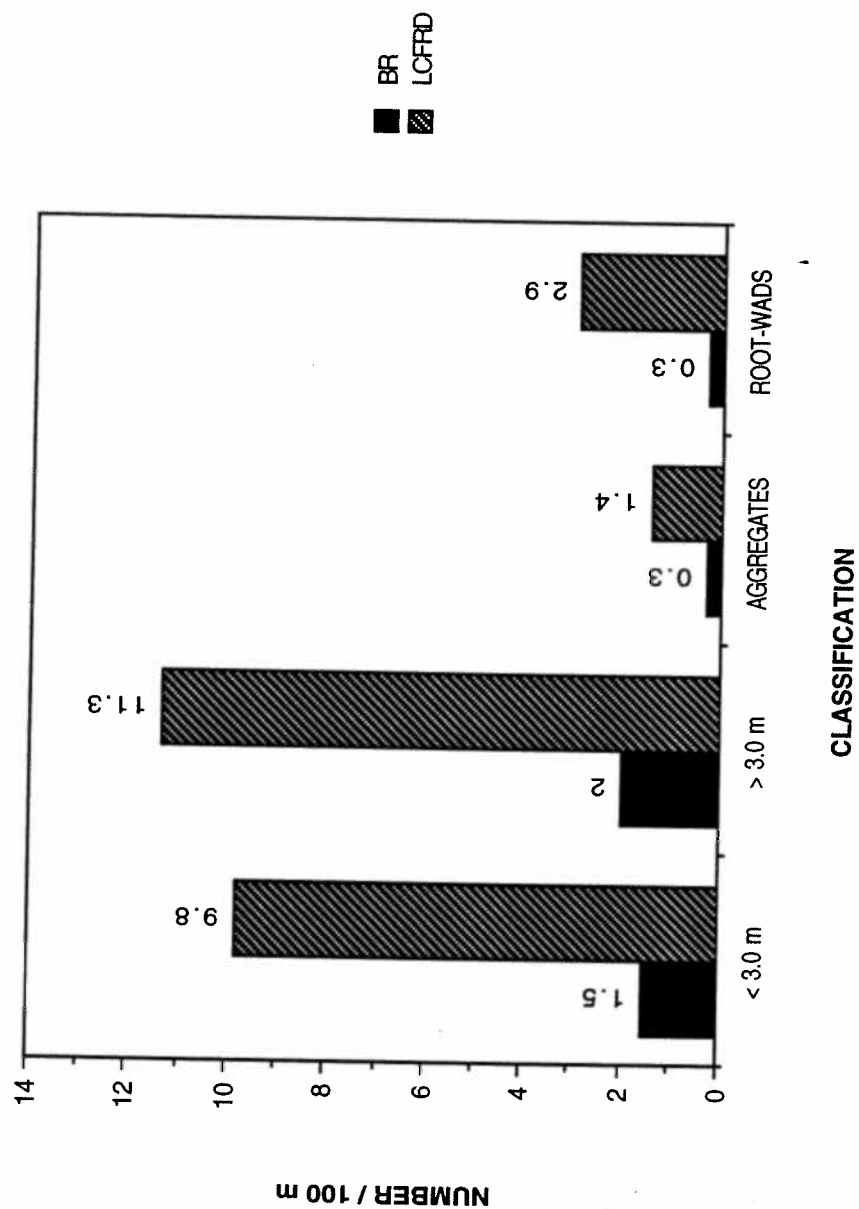


Figure B-52. Large woody debris by classification. Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

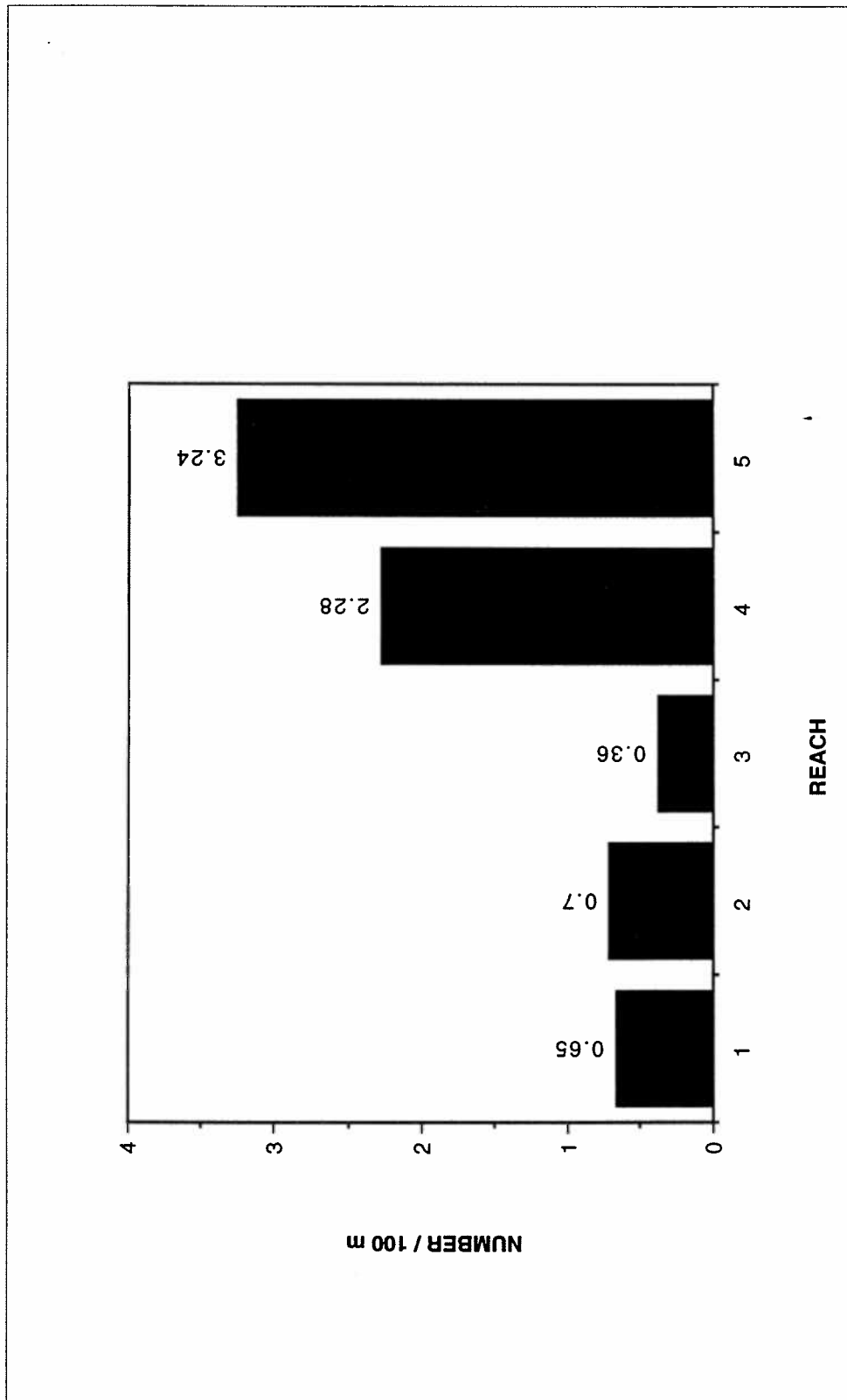


Figure B-53. Large woody debris <3.0 m in length. Bull River, Montana. Tributary survey, 1992-1994.

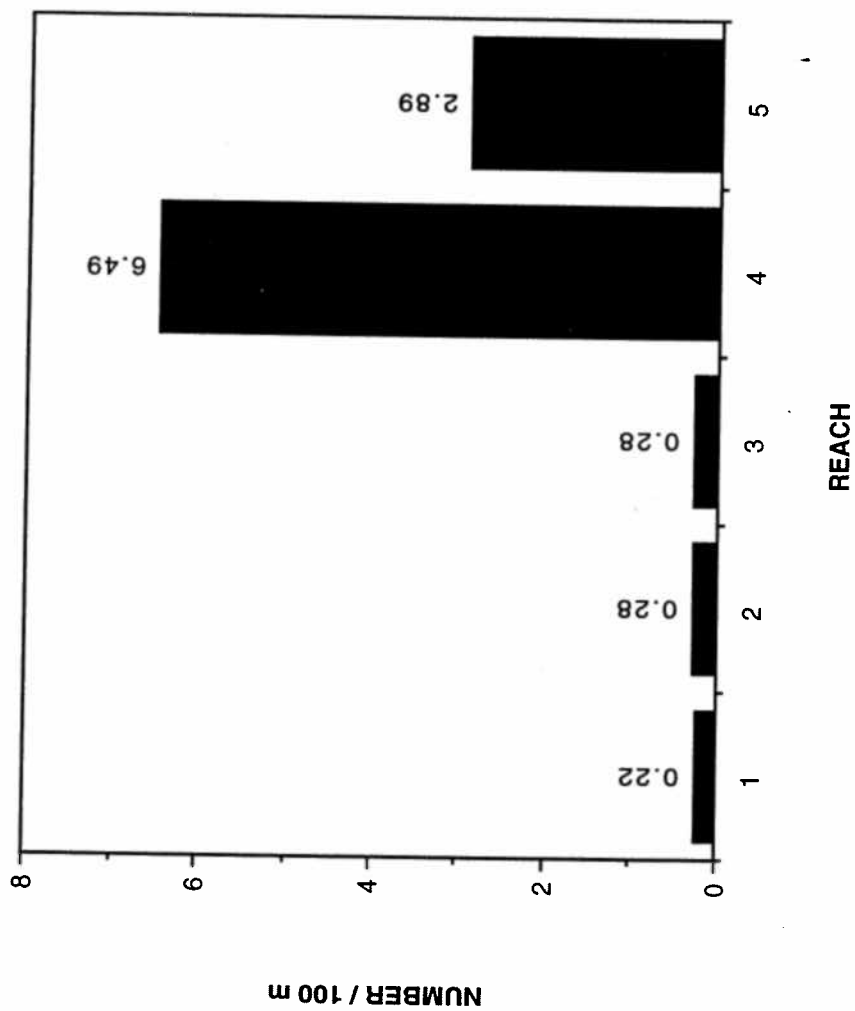


Figure B-54. Large woody debris >3.0 m in length. Bull River, Montana. Tributary survey, 1992-1994.

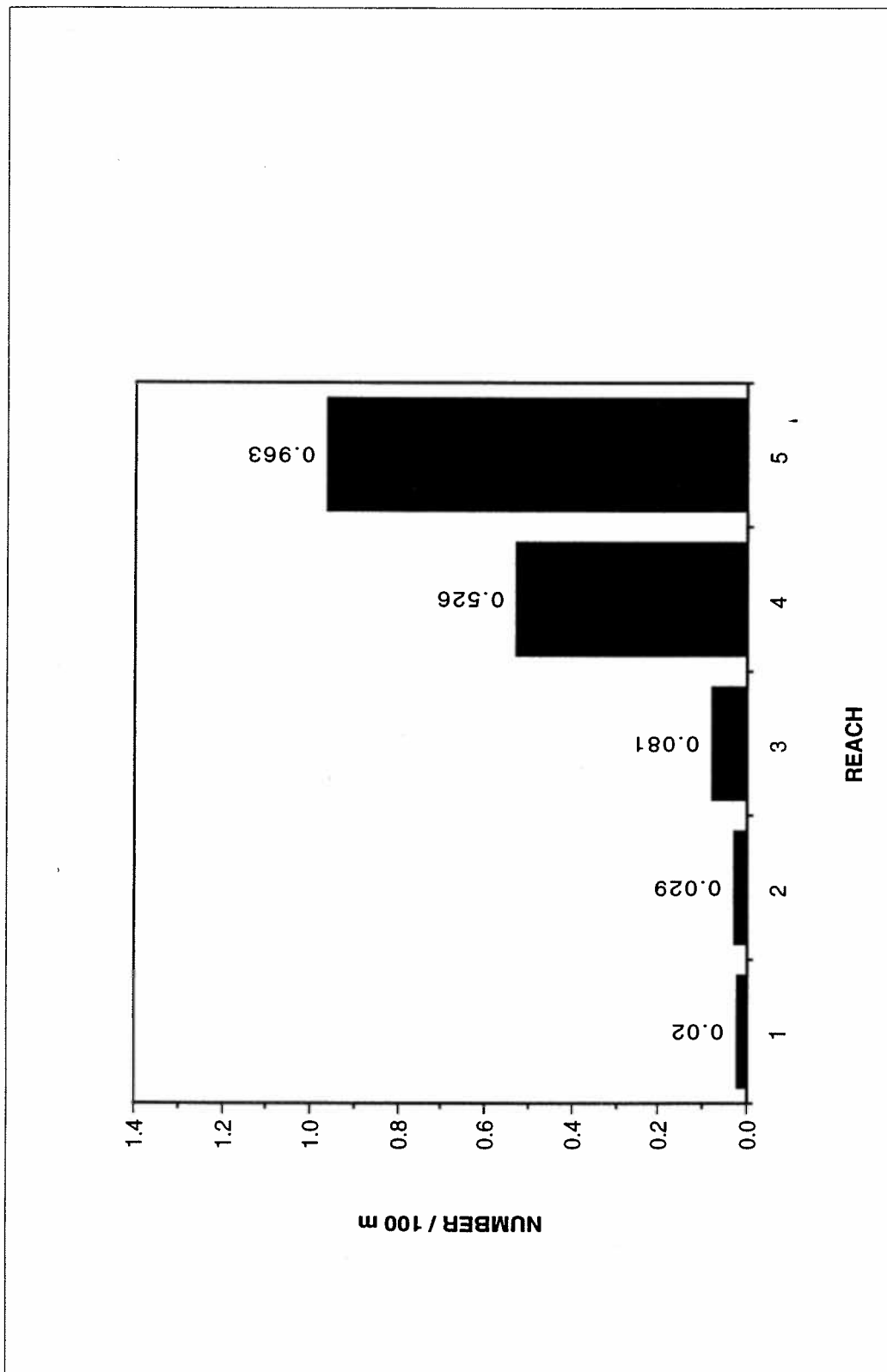


Figure B-55. Large woody debris aggregations. Bull River, Montana. Tributary survey, 1992-1994.

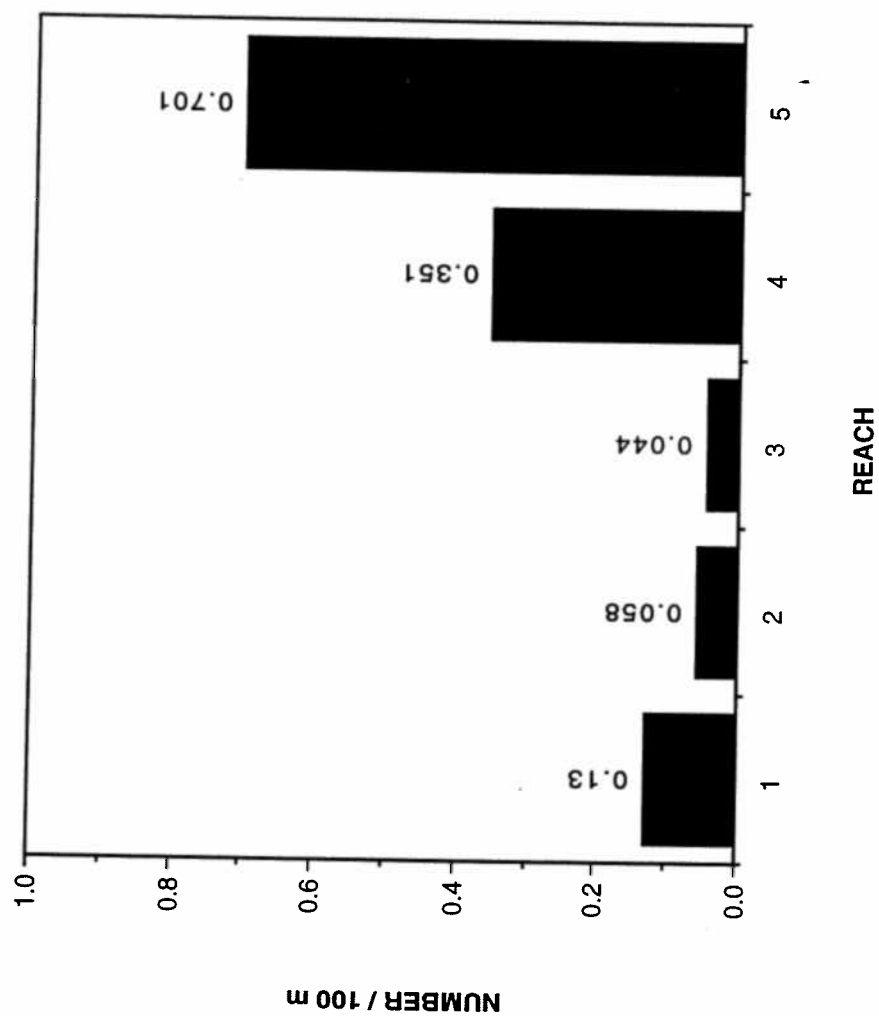


Figure B-56. Large woody debris root wads. Bull River, Montana. Tributary survey, 1992-1994.

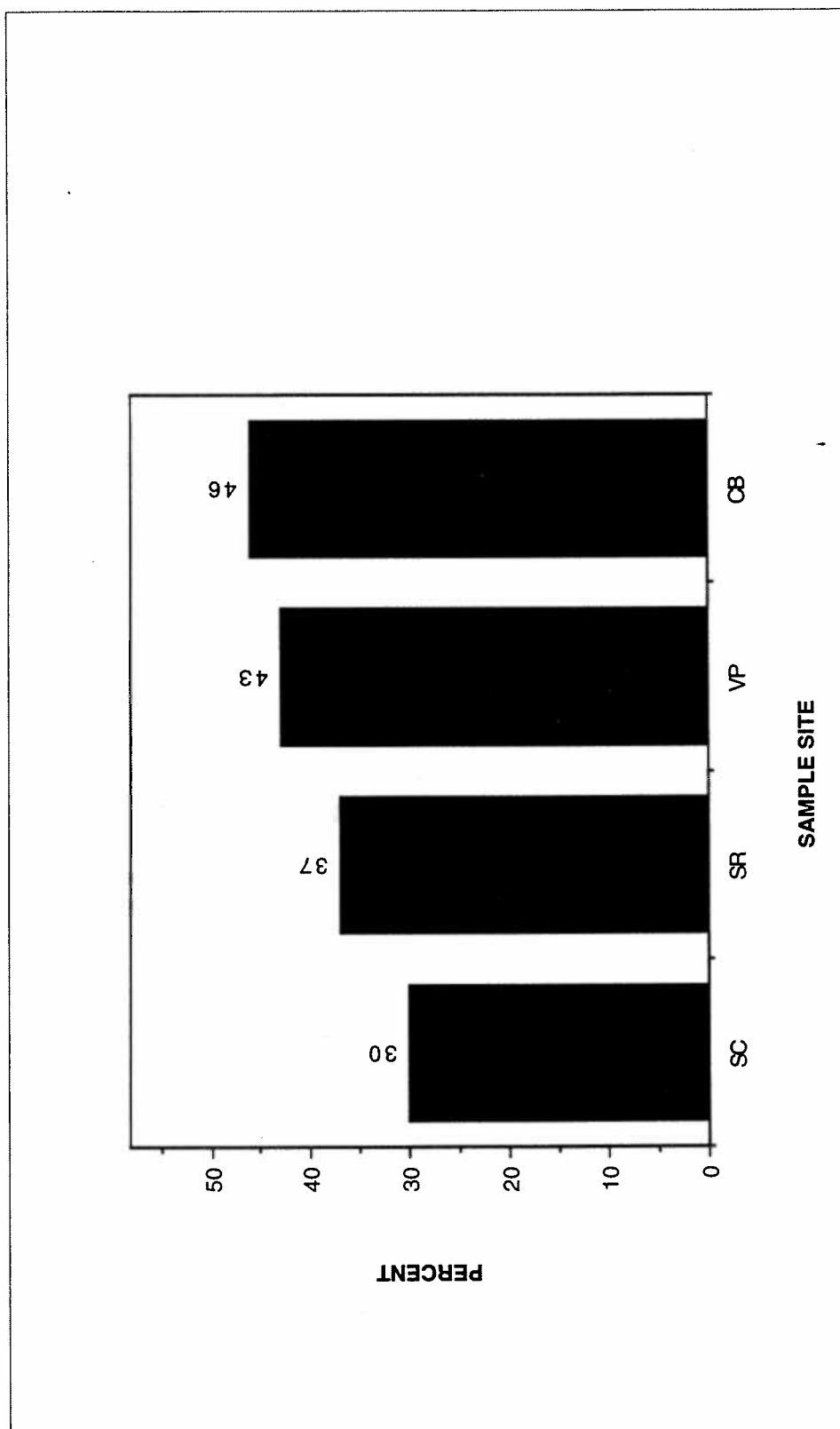


Figure B-57. Percent fine sediment (<6.35 mm). Scott's Crossing (SC), Solid Rock Church (SR), Vetter's Property (VP), and County Bridge (CB) sample sites, Bull River, Montana. Tributary survey, 1992-1994.

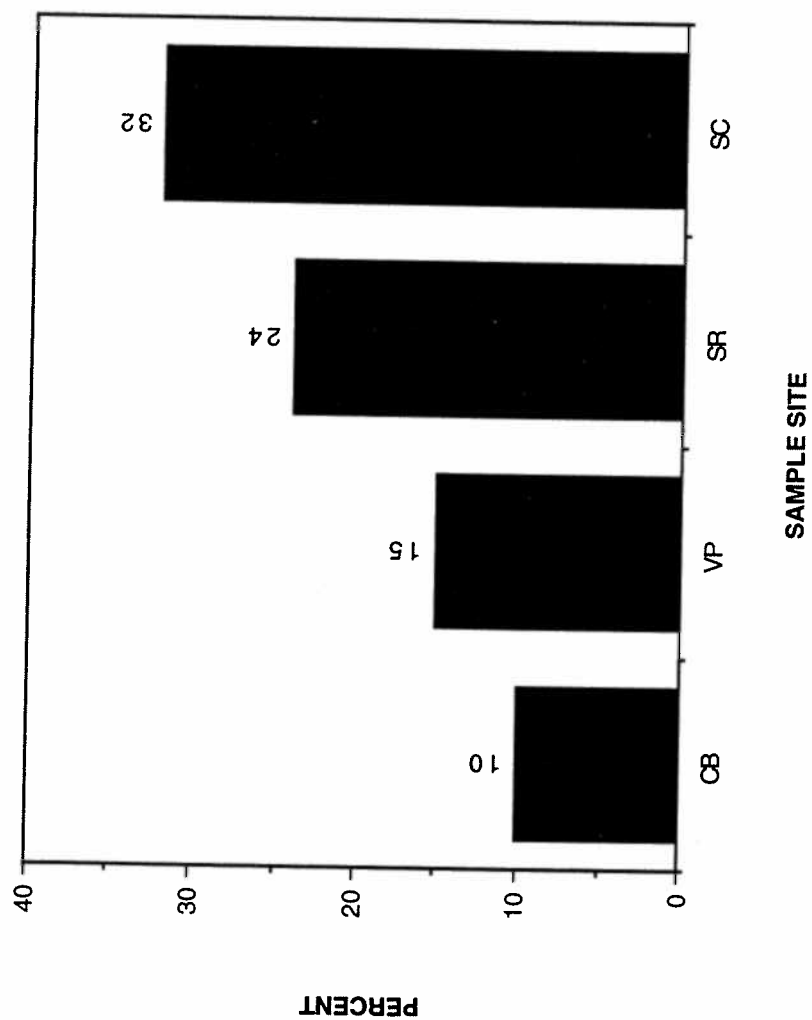


Figure B-58. Cutthroat trout embryo survival. Scott's Crossing (SC), Solid Rock Church (SR), Vetter's Property (VP), and County Bridge (CB) sample sites, Bull River, Montana. Tributary survey, 1992-1994.

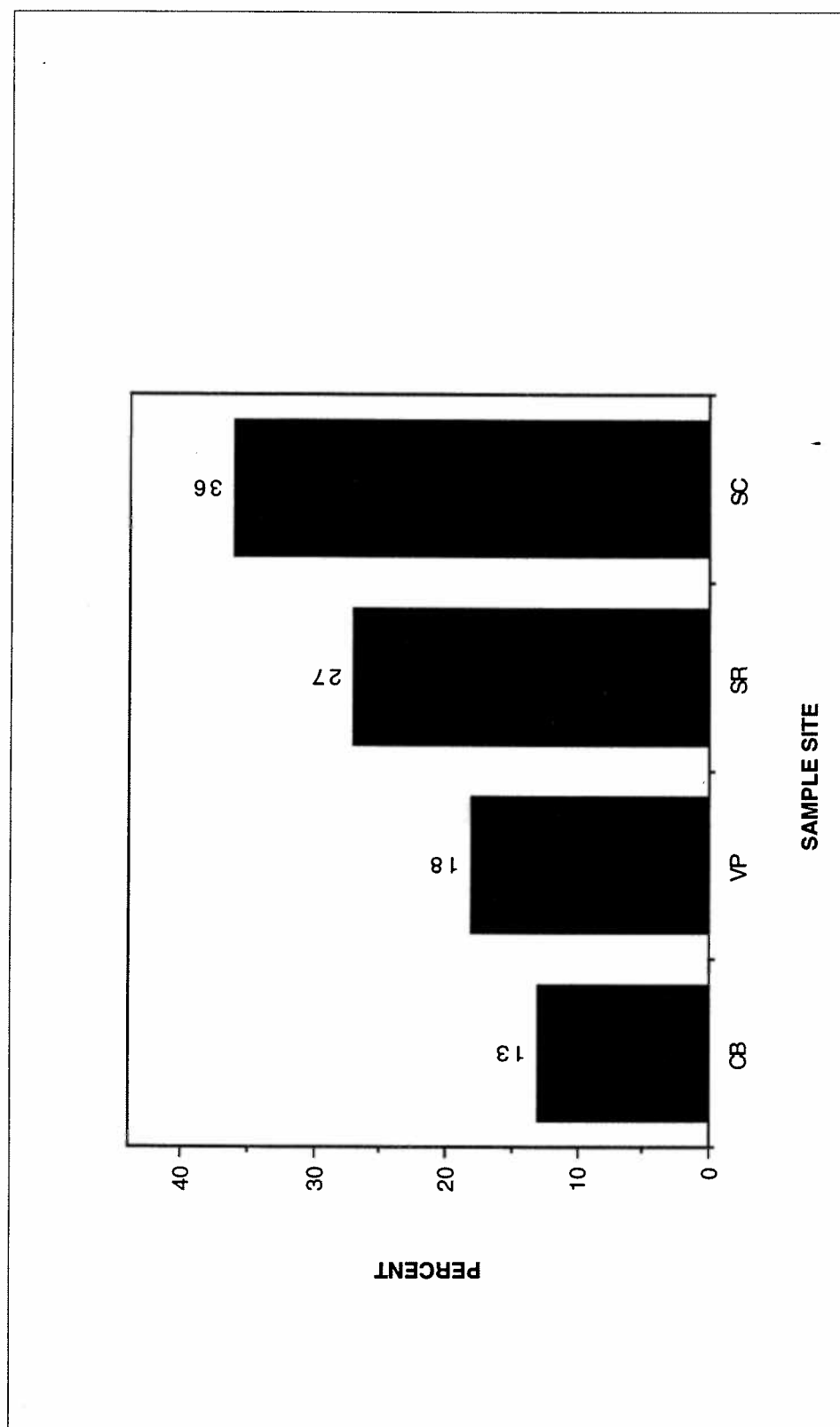


Figure B-59. Bull trout embryo survival. Scott's Crossing (SC), Solid Rock Church (SR), Vetter's Property (VP), and County Bridge (CB) sample sites, Bull River, Montana. Tributary survey, 1992-1994.

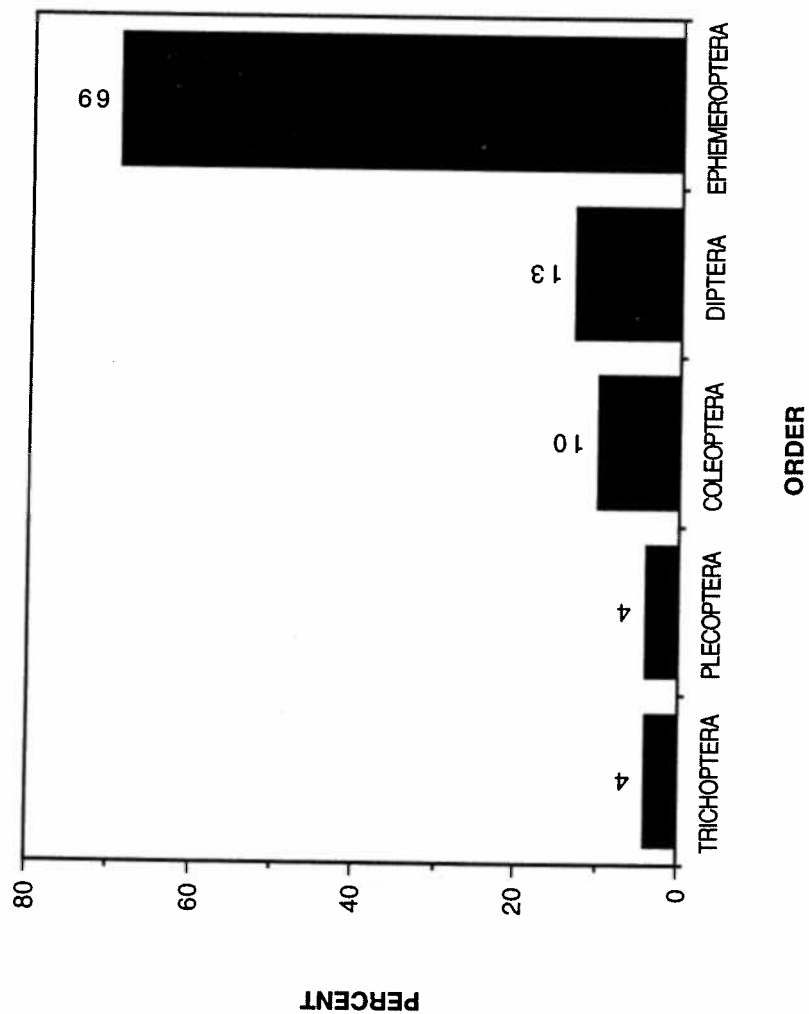


Figure B-60. Percent composition, benthic invertebrate population by taxonomic order. Bull River, Montana. Tributary survey, 1992-1994.

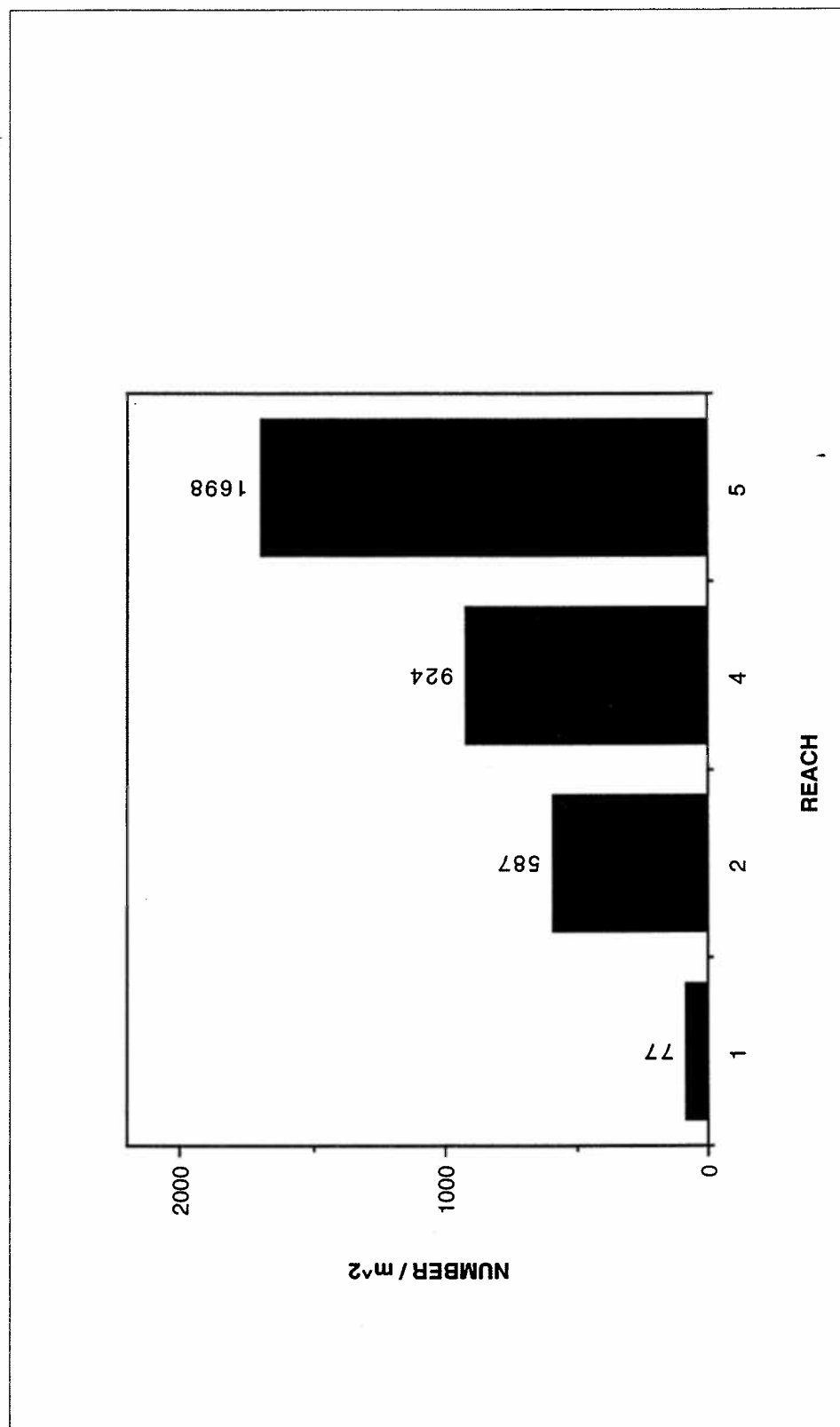


Figure B-61. Benthic invertebrate densities by stream reach. Bull River, Montana. Tributary survey, 1992-1994.

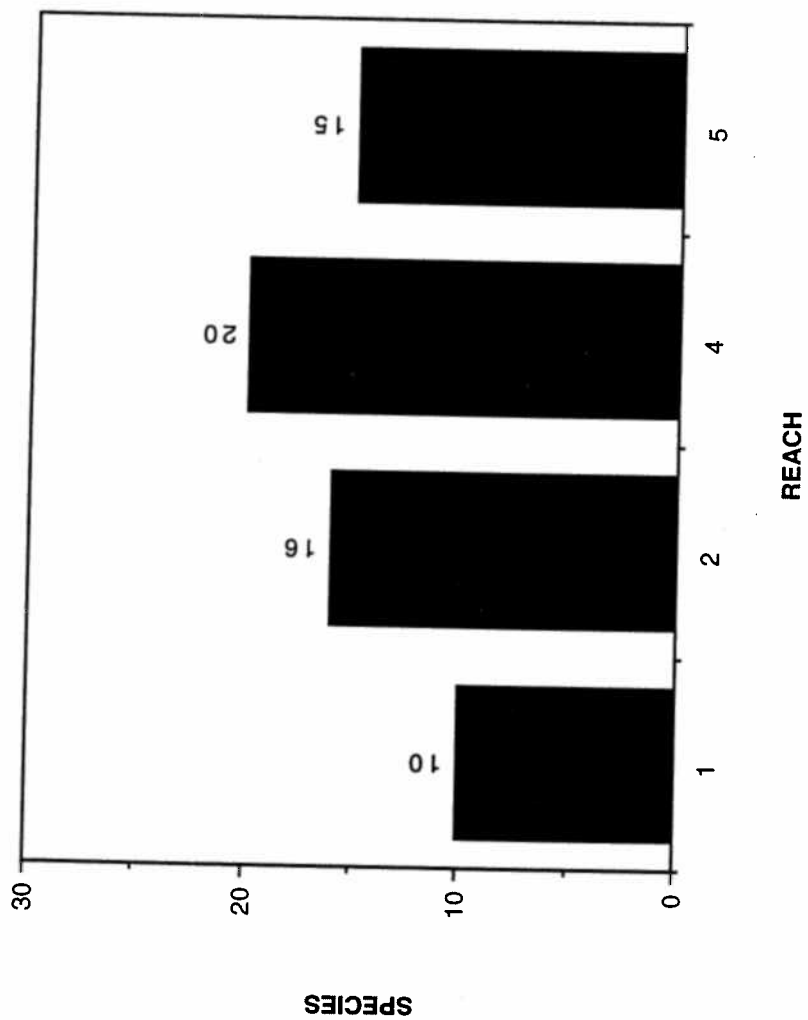


Figure B-62. Benthic invertebrate species richness by stream reach. Bull River, Montana. Tributary survey, 1992-1994.

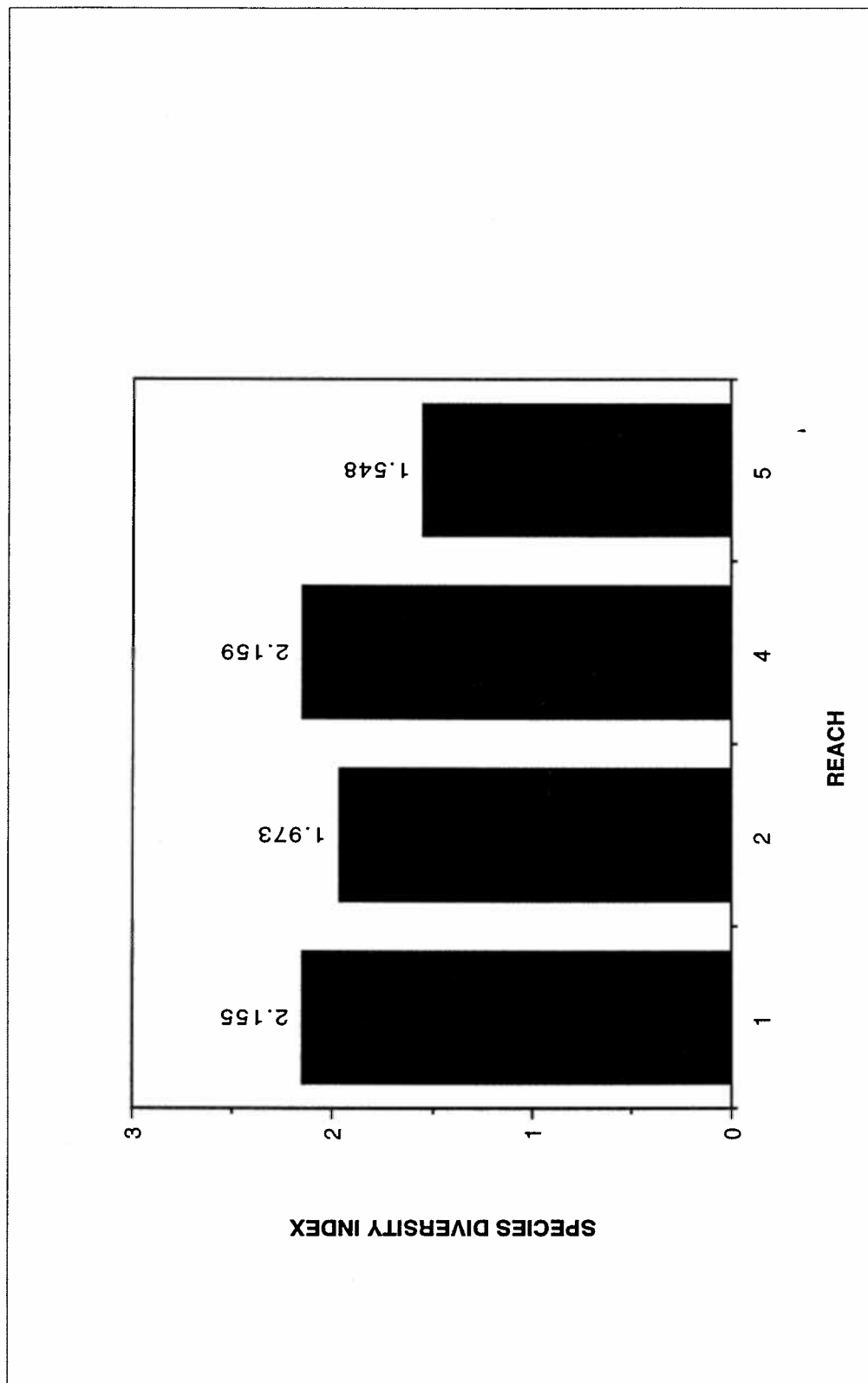


Figure B-63. Benthic invertebrate species diversity (SDI) by stream reach. Bull River, Montana. Tributary survey, 1992-1994.

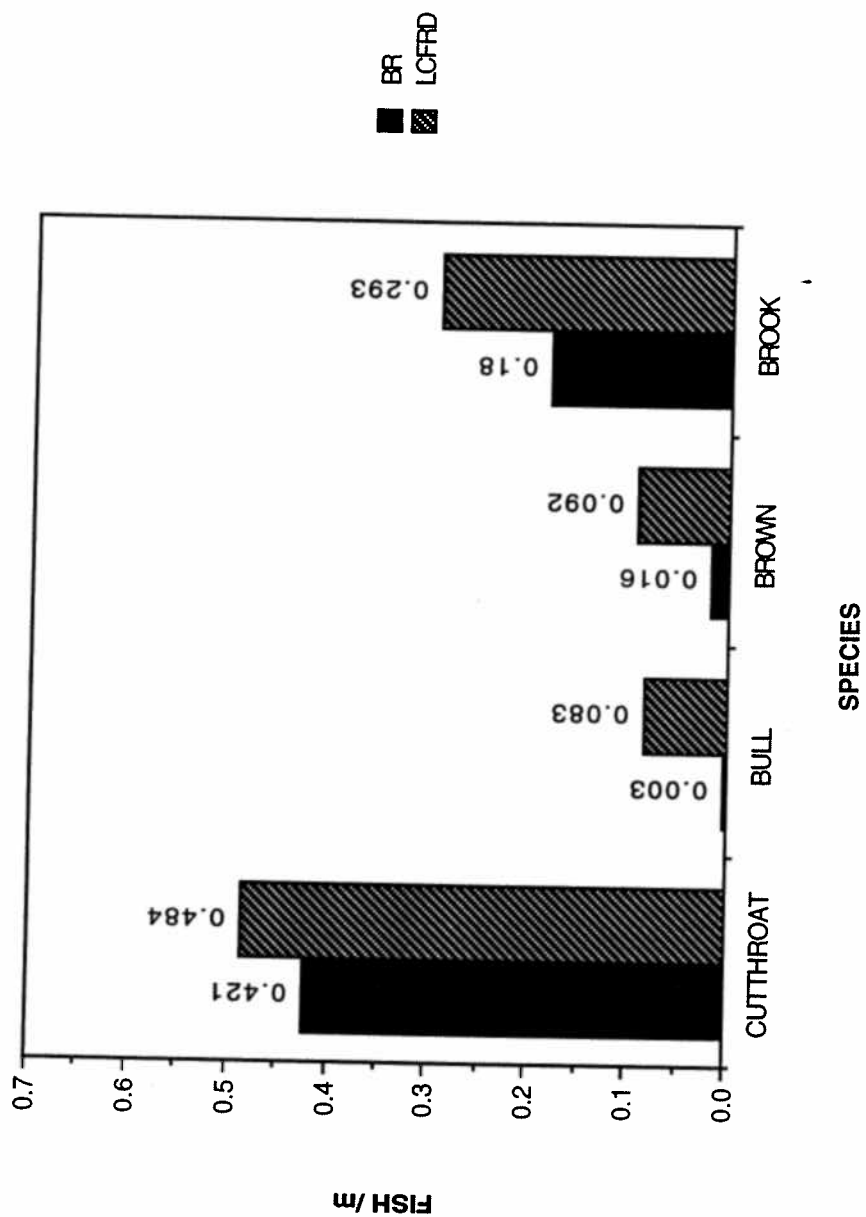


Figure B-64. Estimated densities of cutthroat, bull, brown, and brook trout. Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

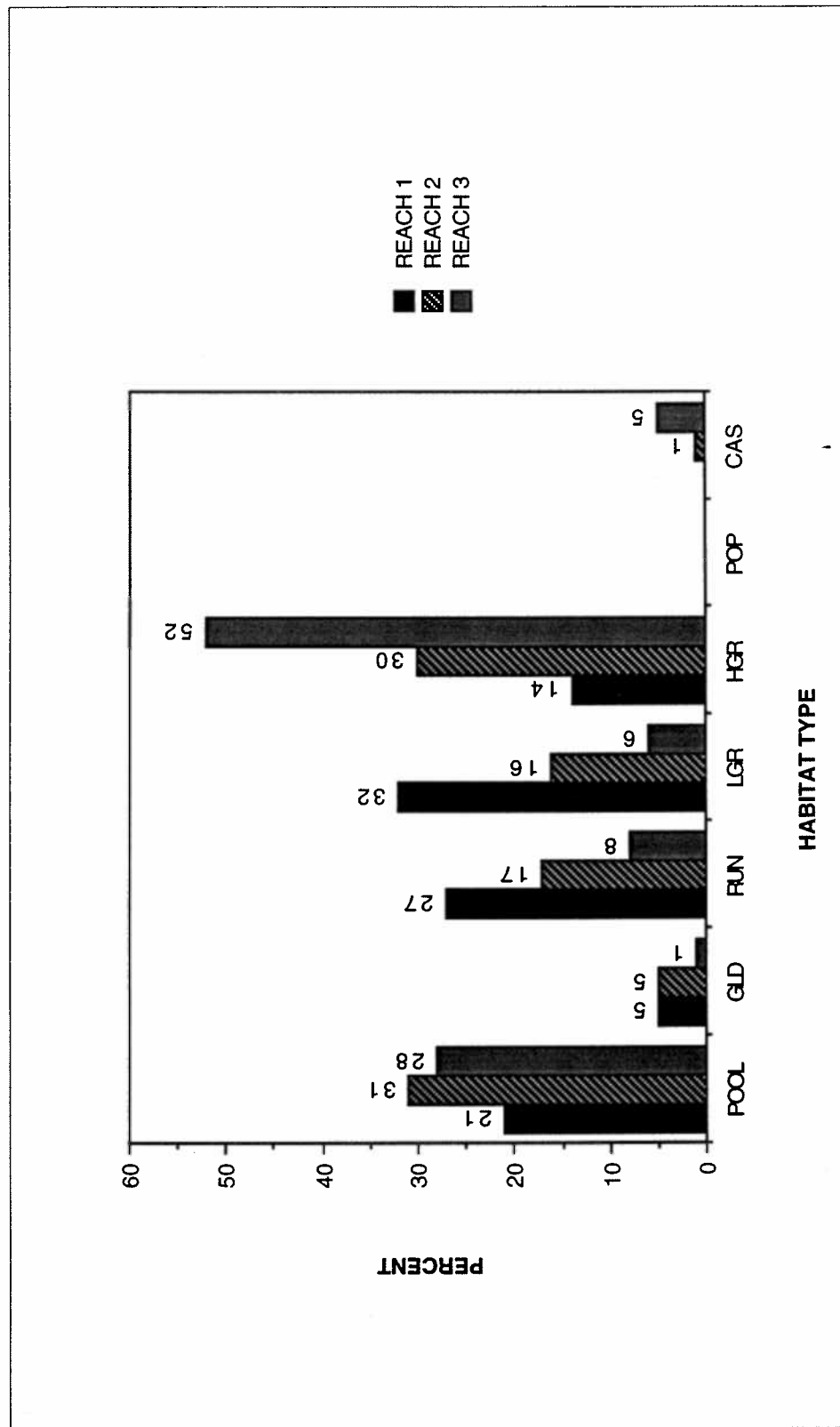


Figure B-65. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types by stream reach. East Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

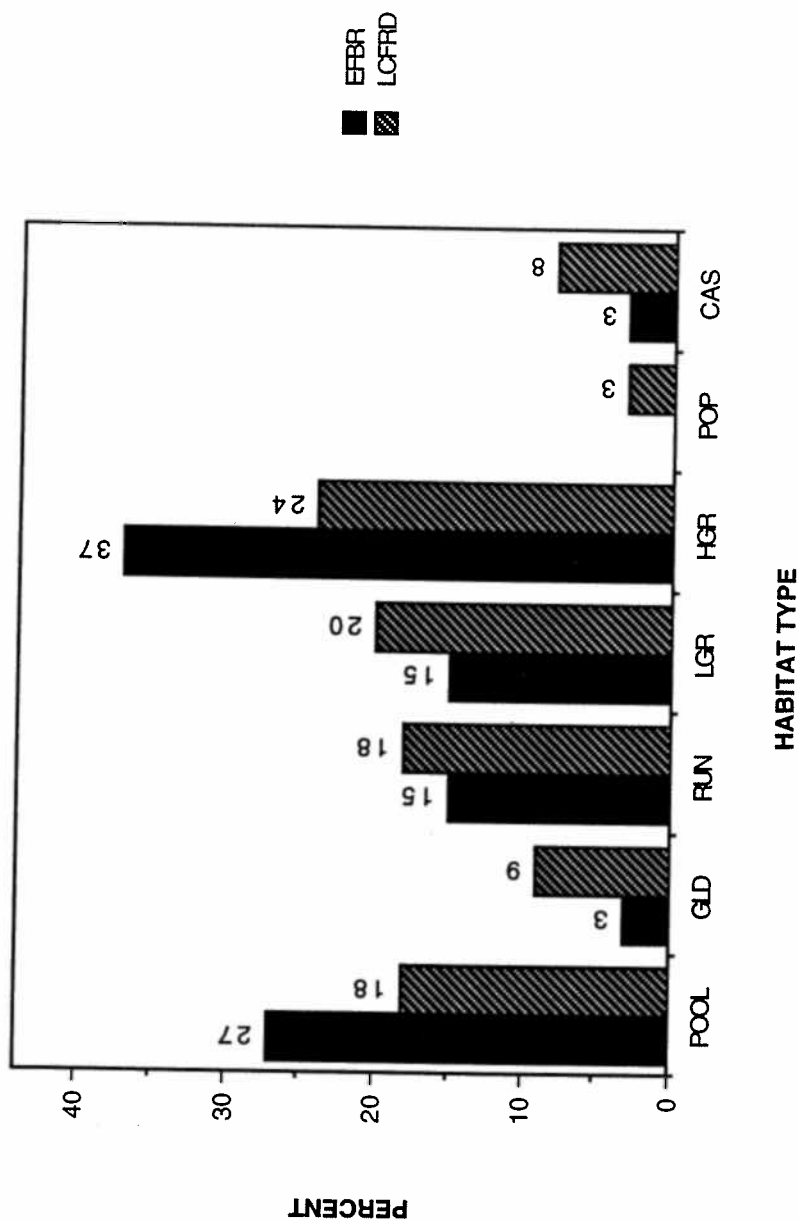


Figure B-66. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. East Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

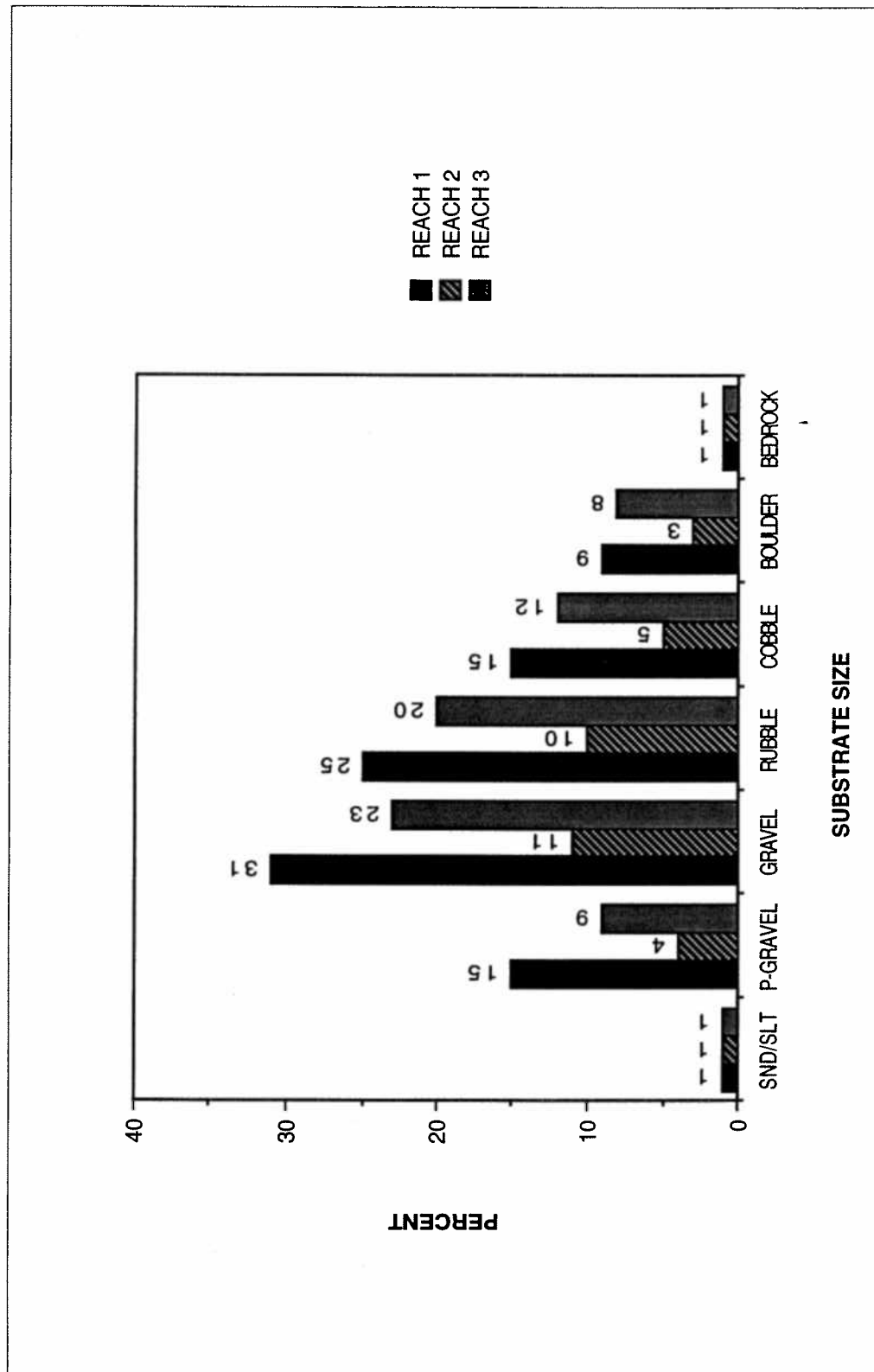


Figure B-67. Percent substrate composition by stream reach. East Fork Bull River, Montana. Tributary survey, 1992-1994.

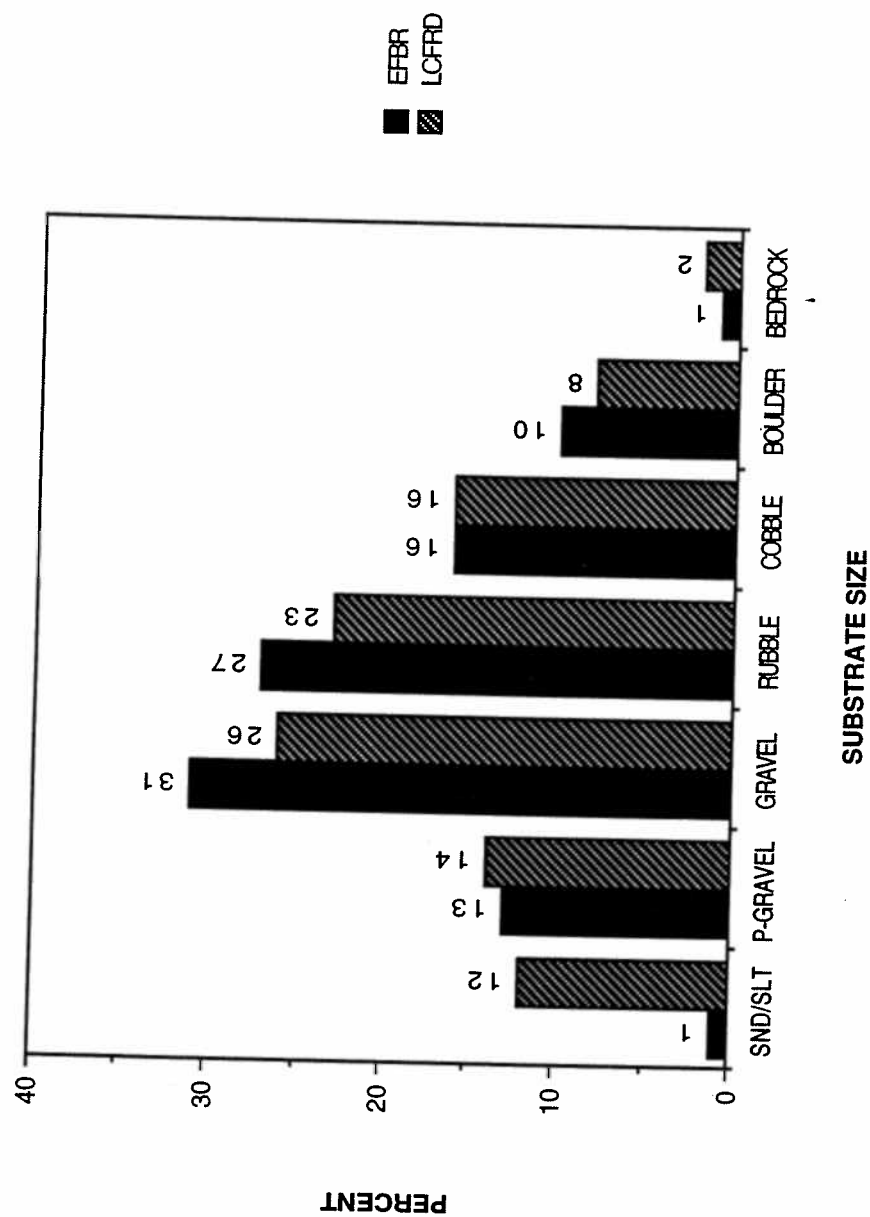


Figure B-68. Percent substrate composition. East Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

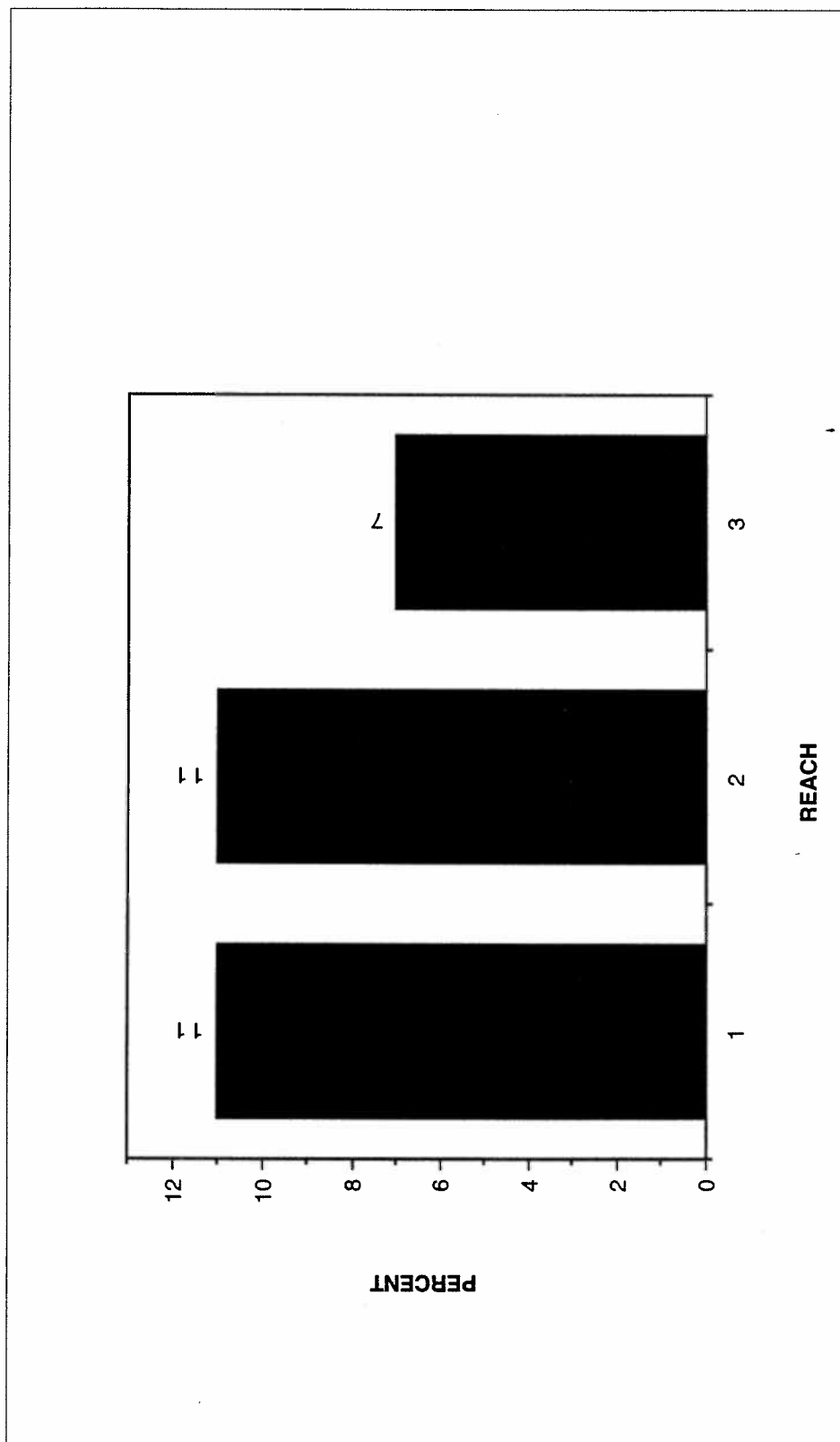


Figure B-69. Percent surface fines (<6.35 mm) by stream reach. East Fork Bull River, Montana. Tributary survey, 1992-1994.

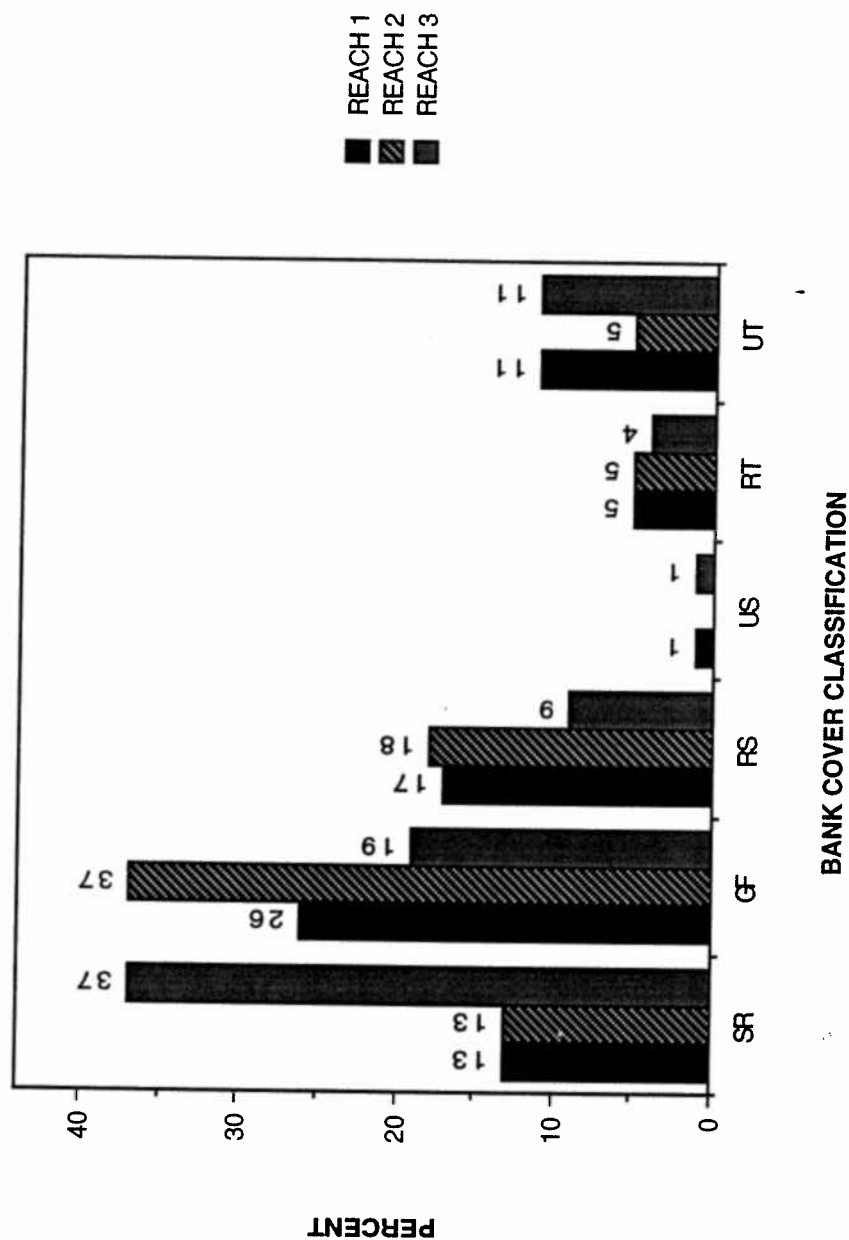


Figure B-70. Percent composition stream bank cover by stream reach. Sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). East Fork Bull River, Montana. Tributary survey, 1992-1994.

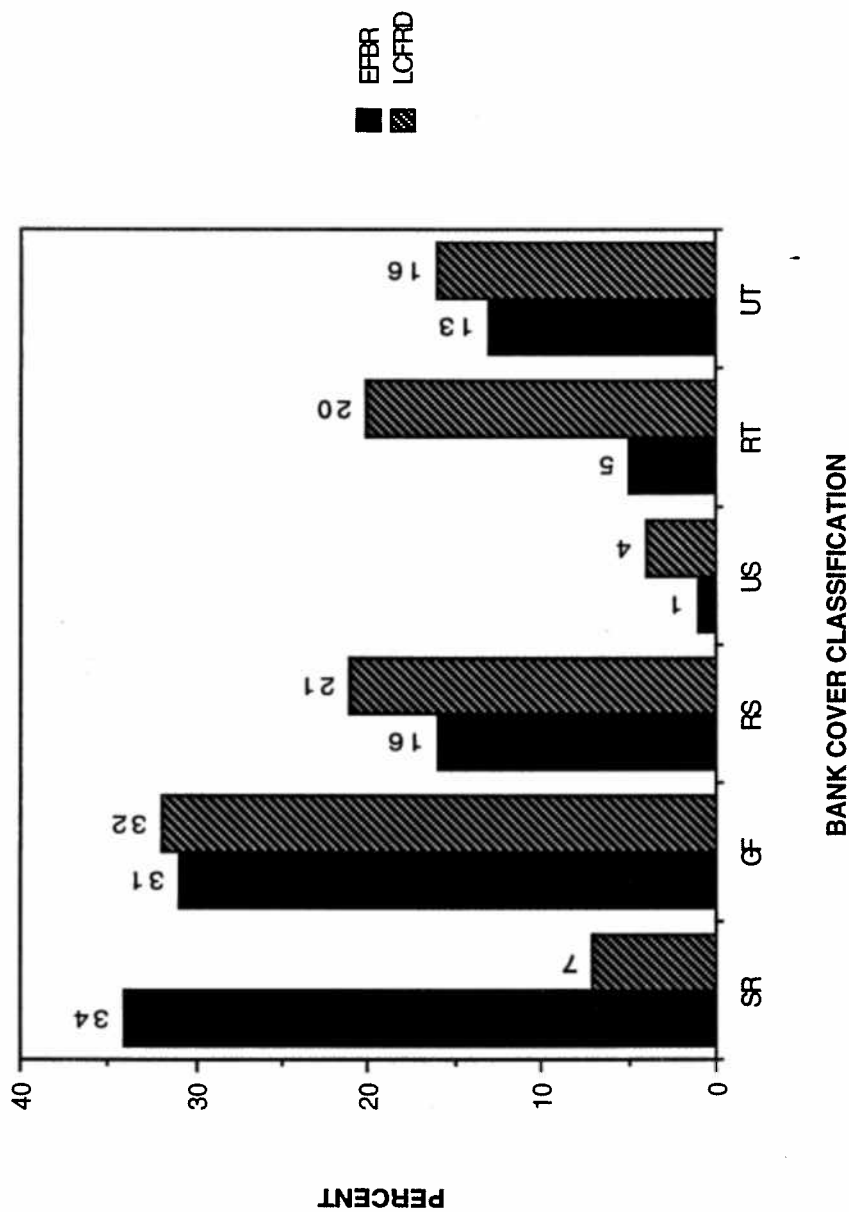


Figure B-71. Percent composition stream bank cover. Sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). East Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

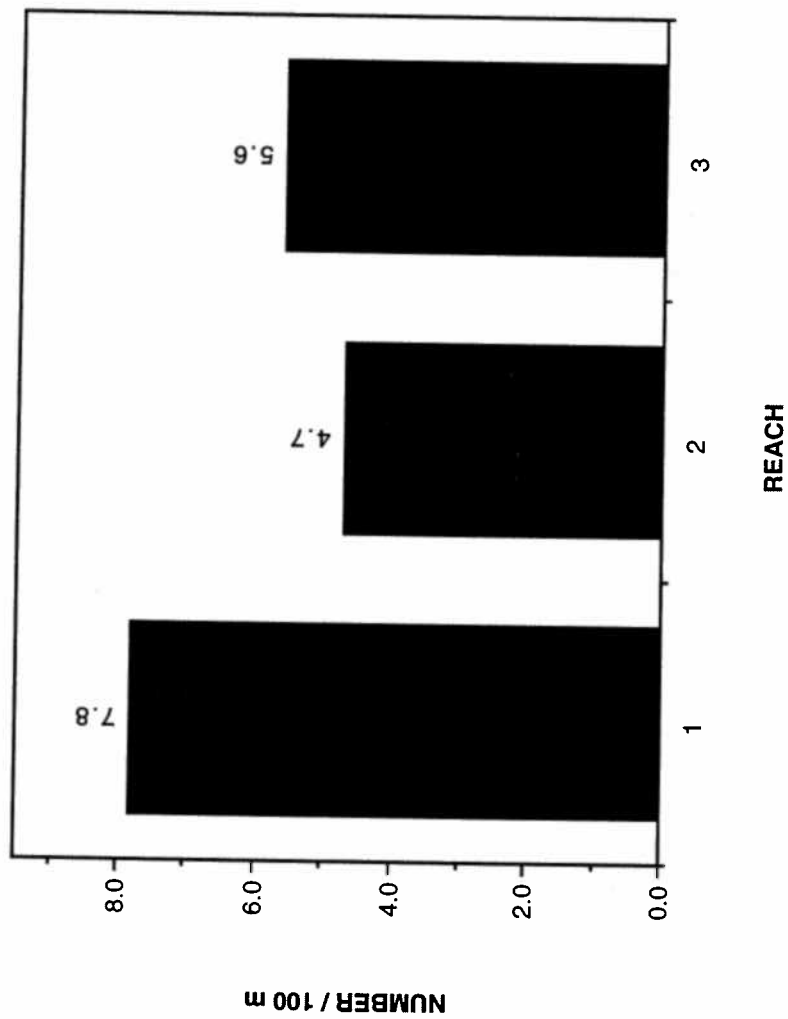


Figure B-72. Large woody debris <3.0 m in length. East Fork Bull River, Montana. Tributary survey, 1992-1994.

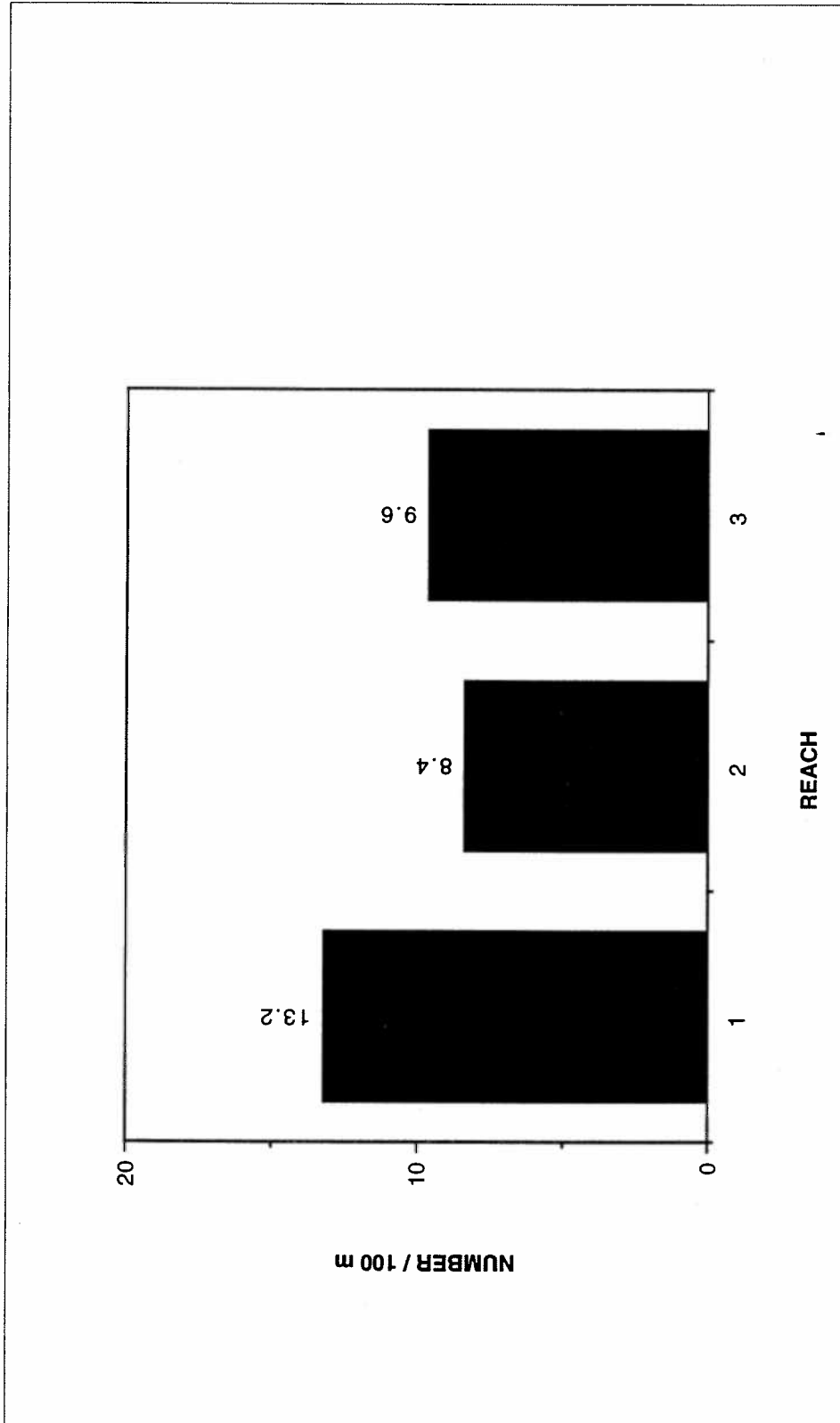


Figure B-73. Large woody debris >3.0 m in length. East Fork Bull River, Montana. Tributary survey, 1992-1994.

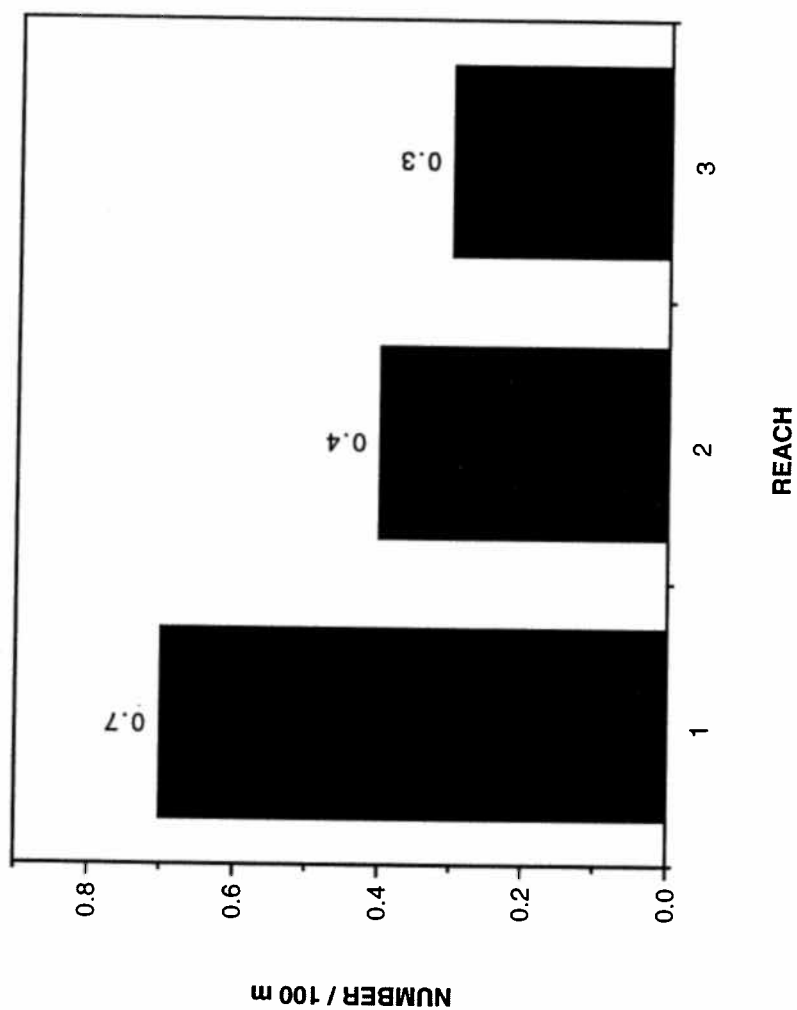


Figure B-74. Large woody debris aggregations. East Fork Bull River, Montana. Tributary survey, 1992-1994.

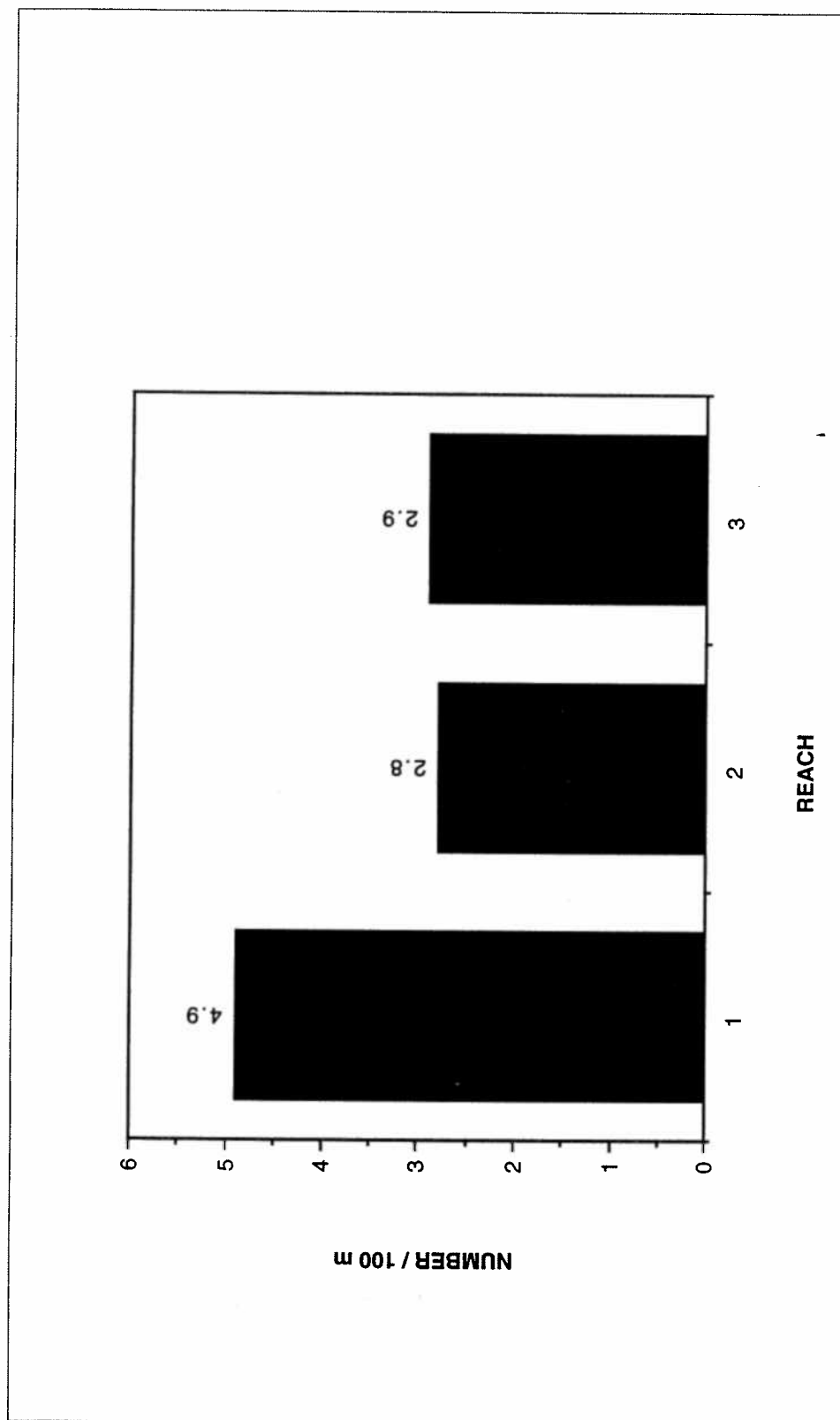


Figure B-75. Large woody debris, root wads. East Fork Bull River, Montana. Tributary survey, 1992-1994.

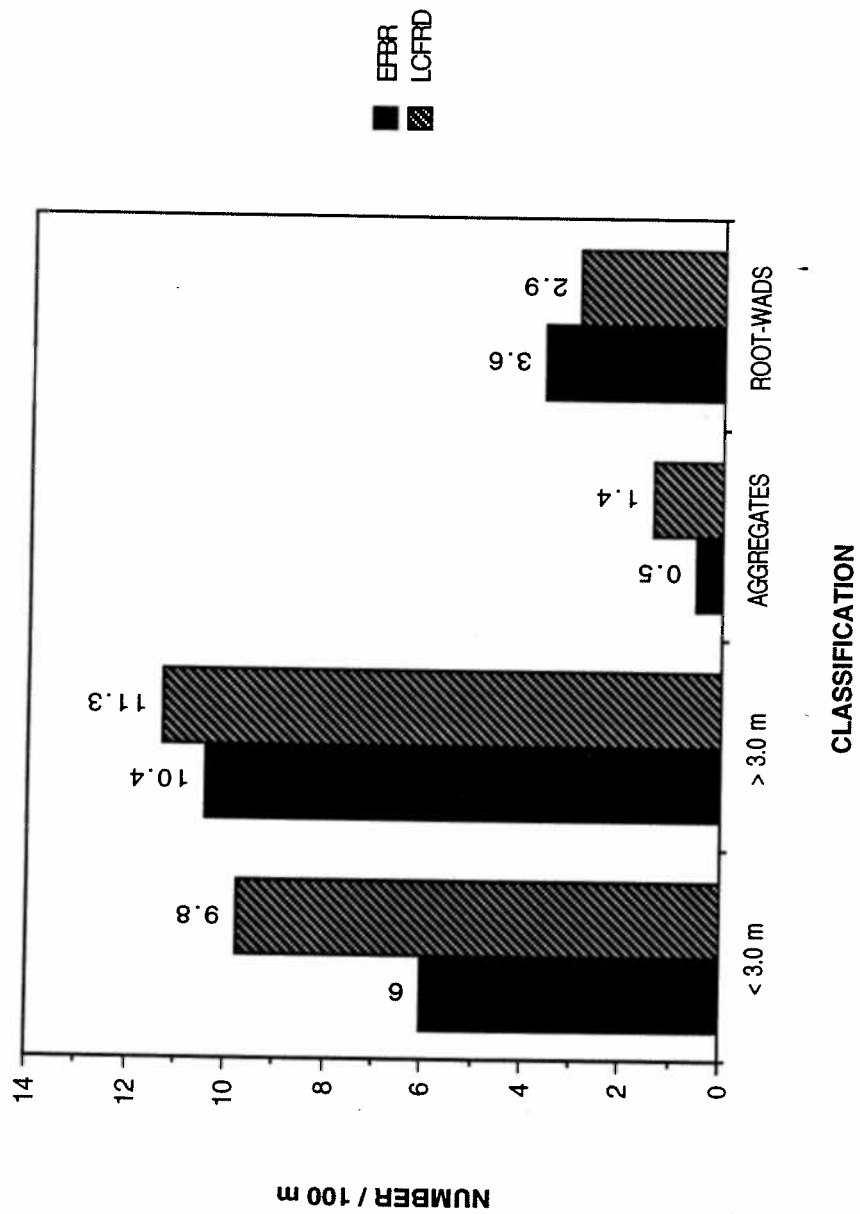


Figure B-76. Large woody debris by classification. East Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

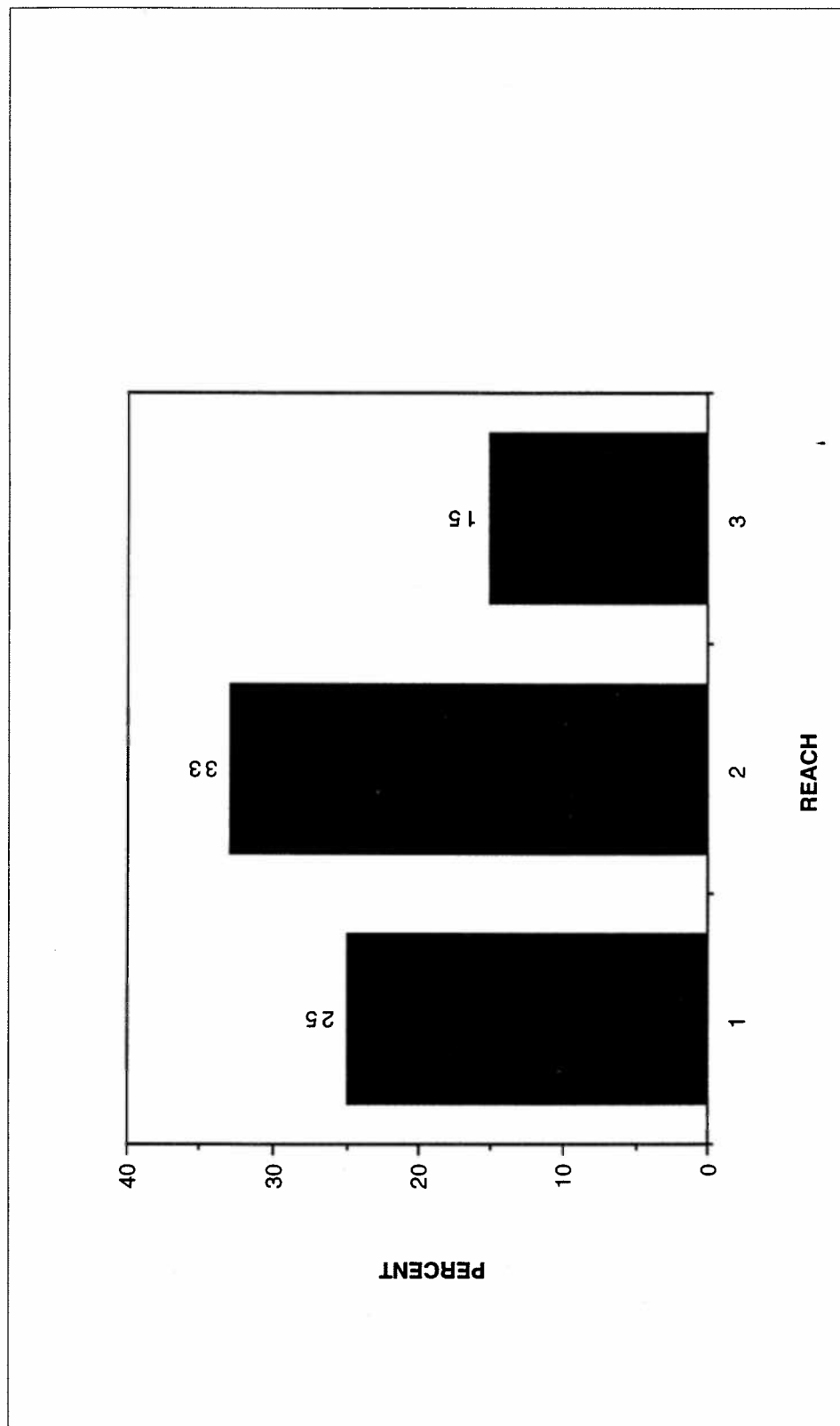


Figure B-77. McNeil core sample percent fines (<6.35 mm) by stream reach. East Fork Bull River, Montana. Tributary survey, 1992-1994.

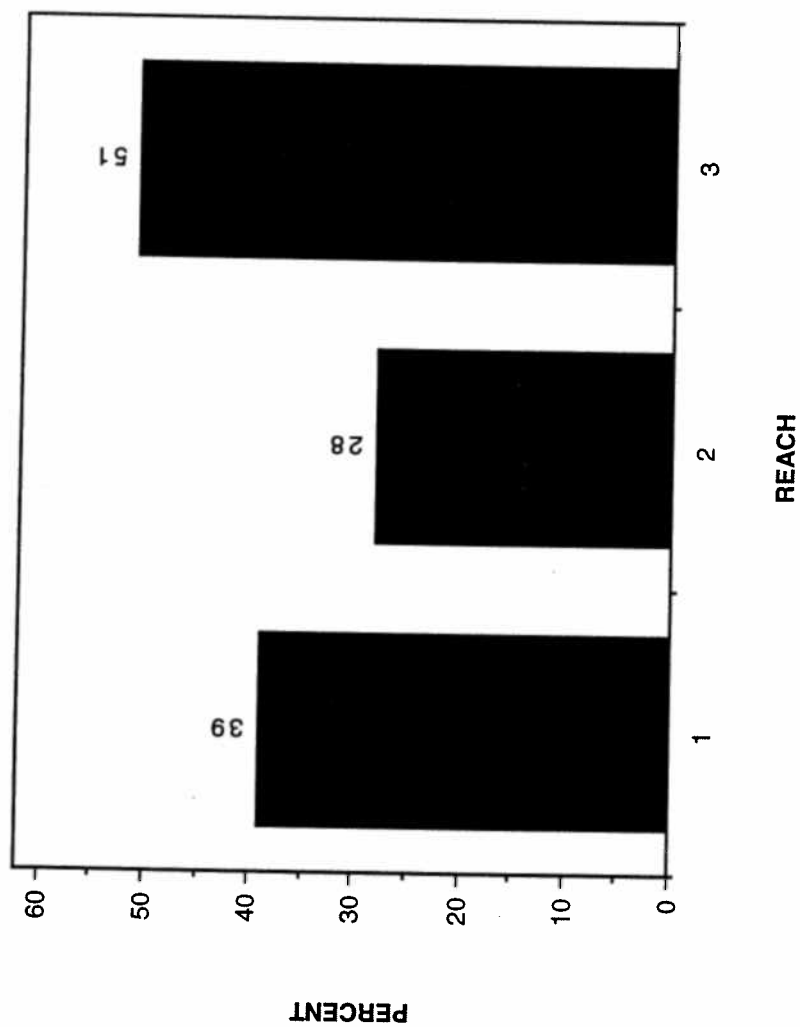


Figure B-78. Percent embryo survival to emergence for cutthroat trout by stream reach. East Fork Bull River. Tributary survey, 1992-1994.

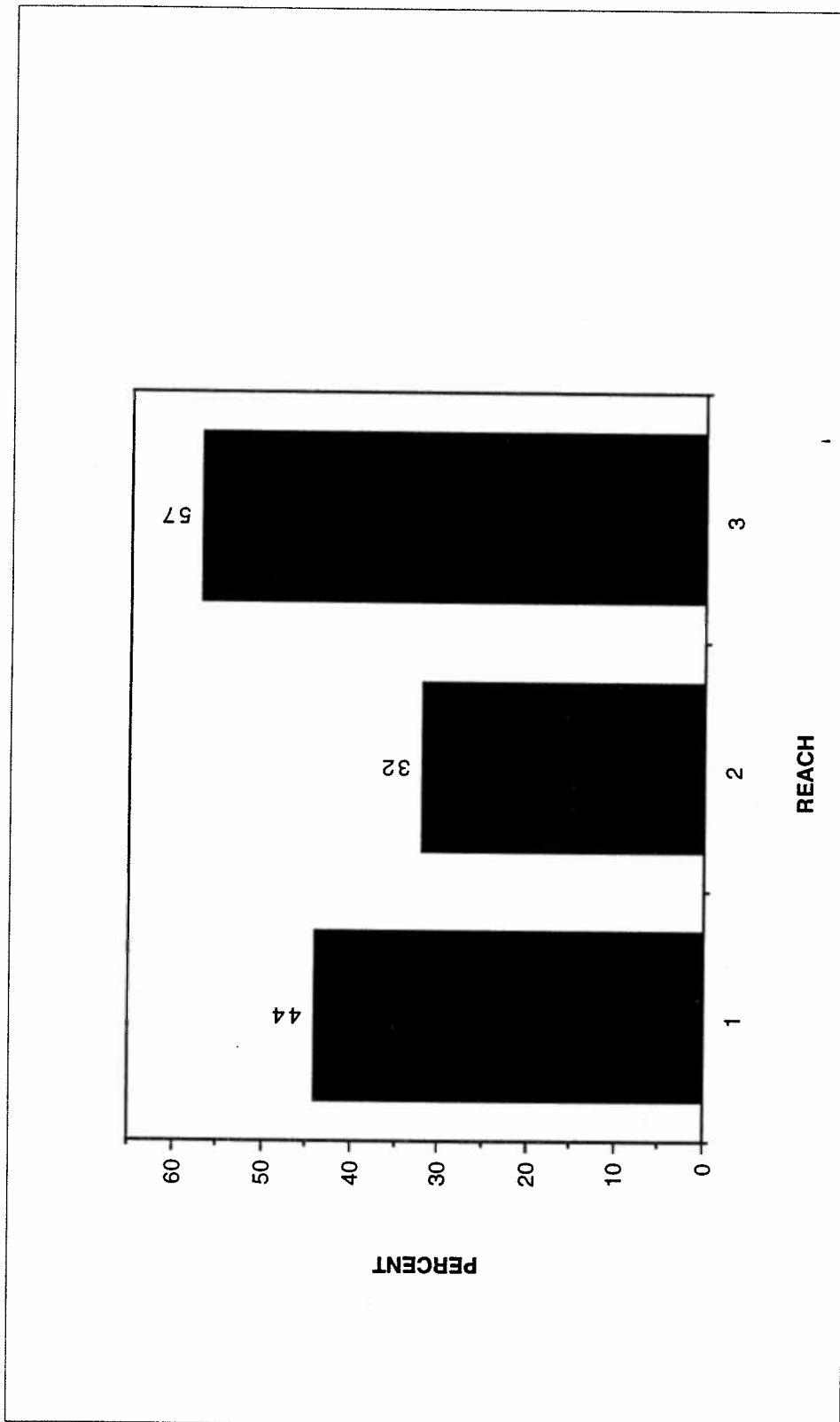


Figure B-79. Percent embryo survival to emergence for bull trout by stream reach. East Fork Bull River. Tributary survey, 1992-1994.

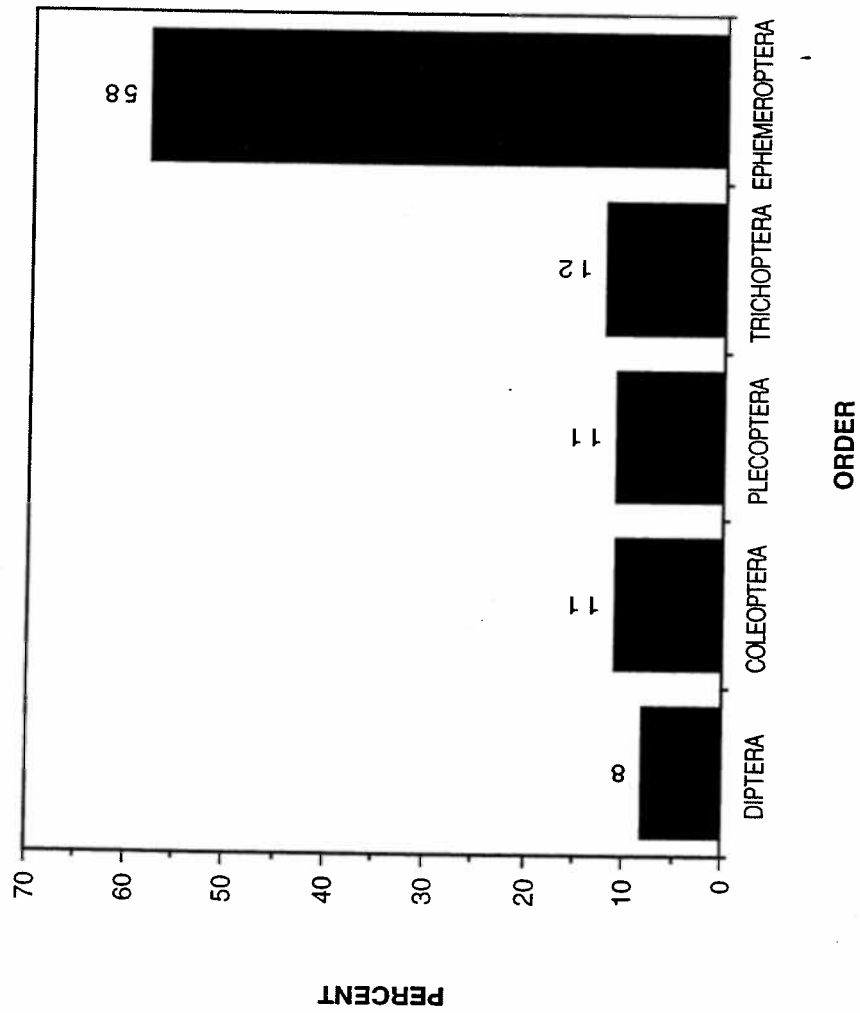


Figure B-80. Percent composition benthic invertebrate population by taxonomic order. East Fork Bull River, Montana. Tributary survey, 1992-1994.

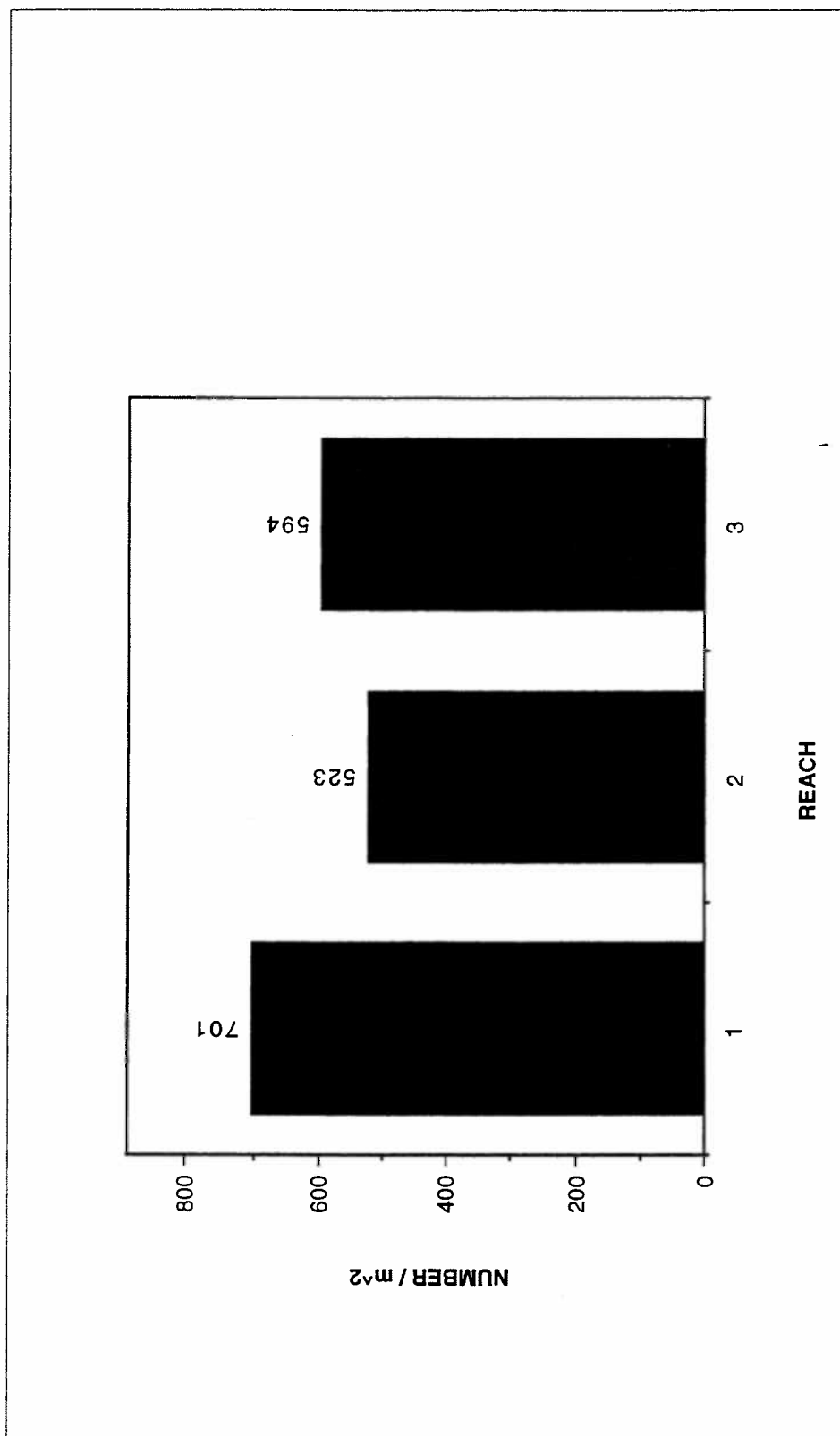


Figure B-81. Benthic invertebrate densities by stream reach. East Fork Bull River, Montana. Tributary survey, 1992-1994.

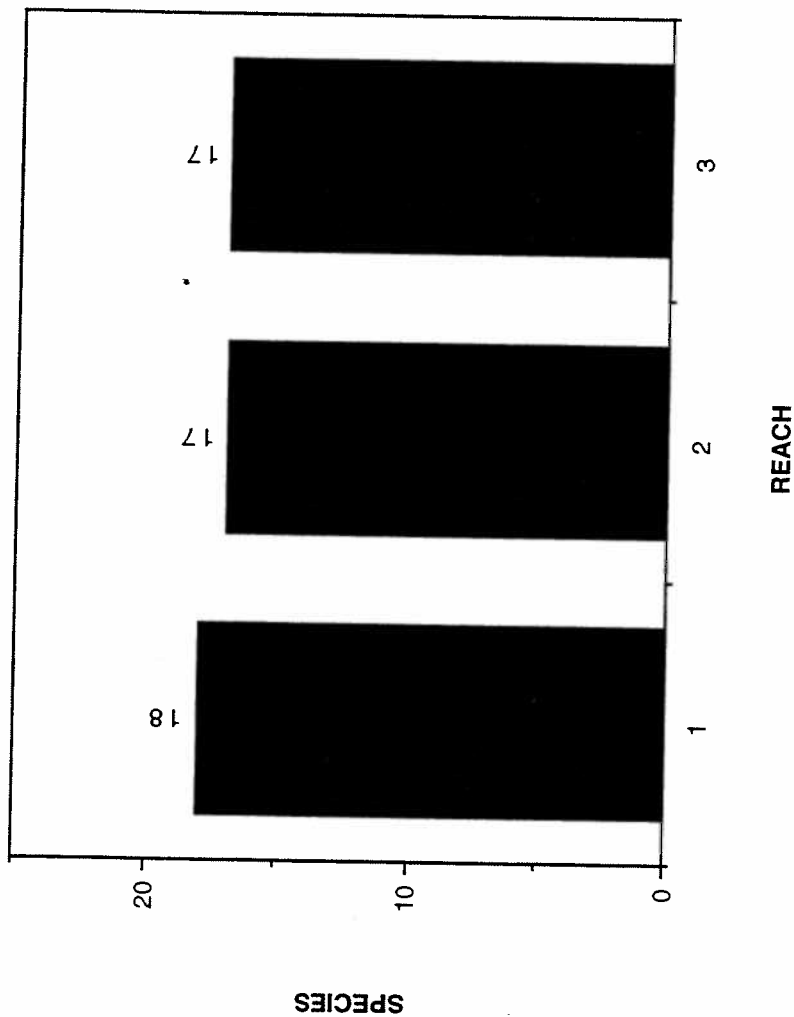


Figure B-82. Benthic invertebrate species richness by stream reach. East Fork Bull River, Montana. Tributary survey, 1992-1994.

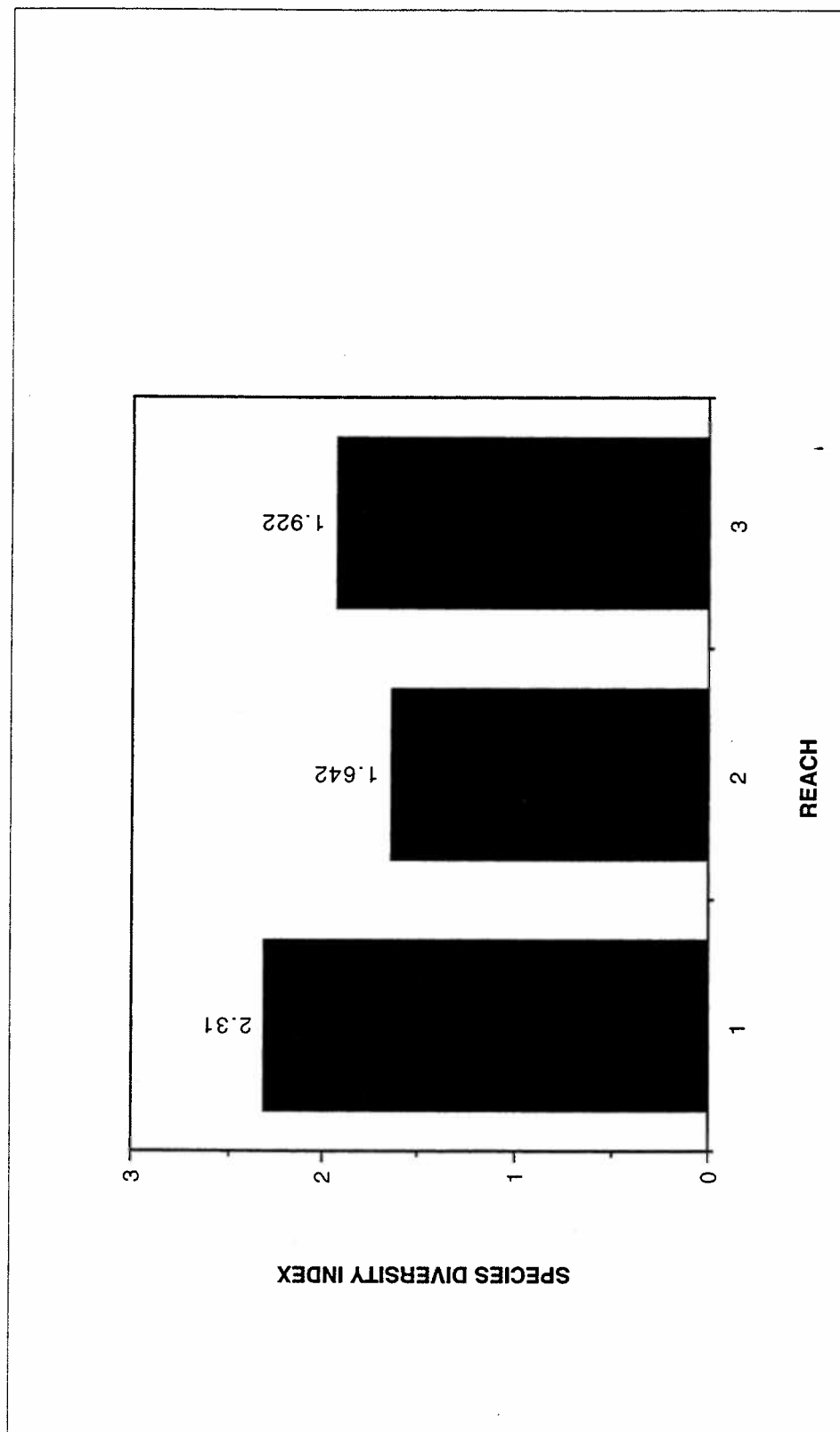


Figure B-83. Benthic invertebrate species diversity (SDI) by stream reach. East Fork Bull River, Montana. Tributary survey, 1992-1994.

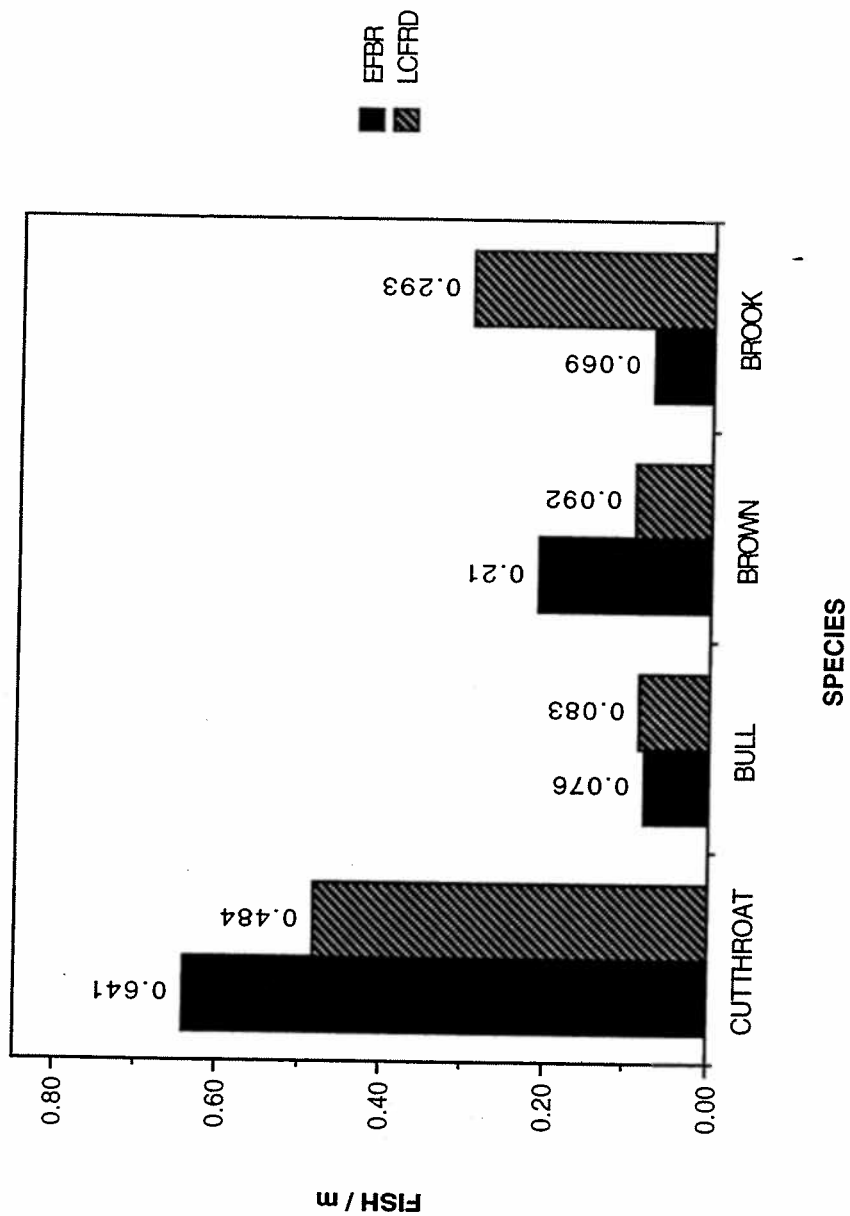


Figure B-84. Estimated densities of cutthroat, bull, brown, and brook trout. East Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

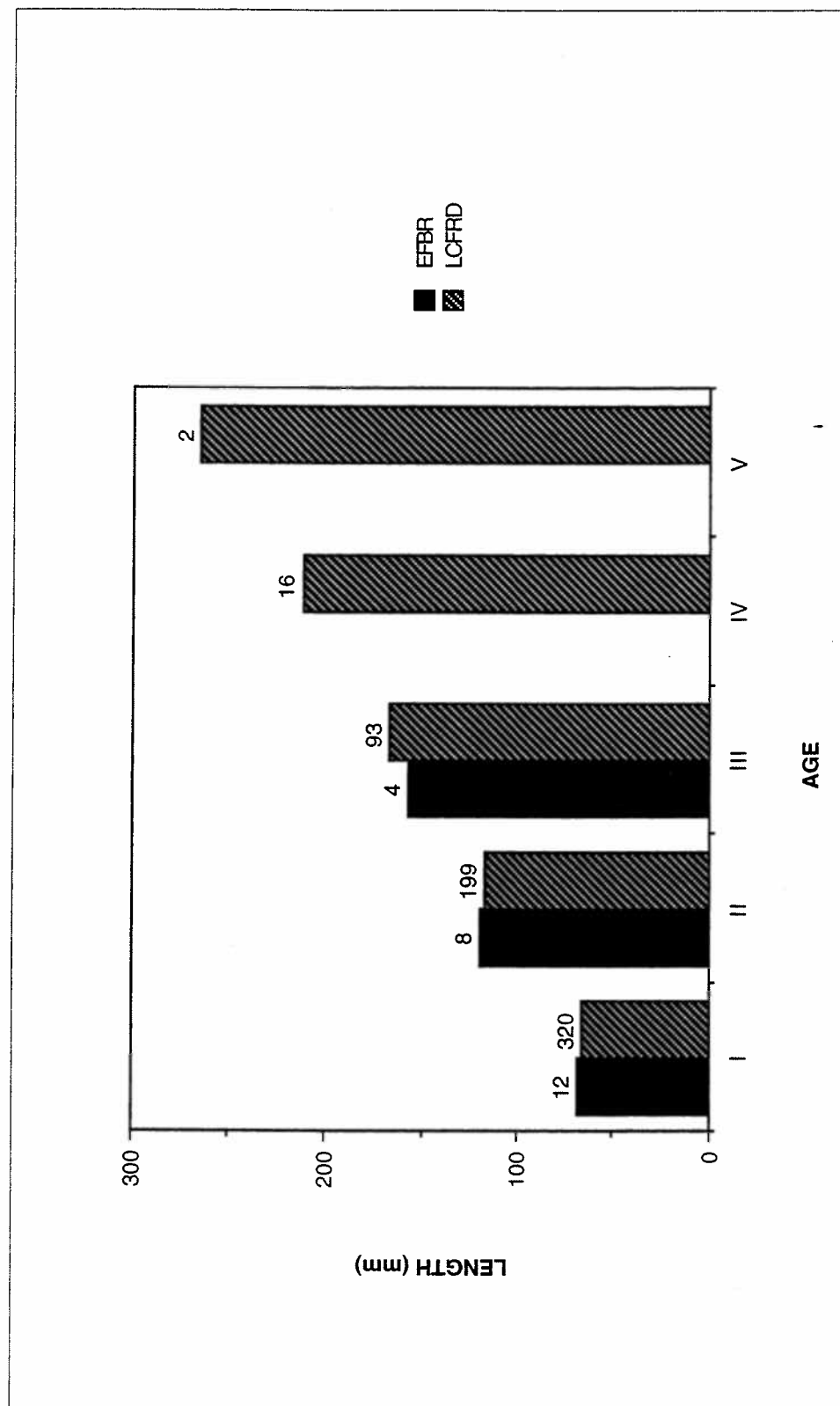


Figure B-85. Number of fish sampled and back calculated length at age for cutthroat trout. East Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

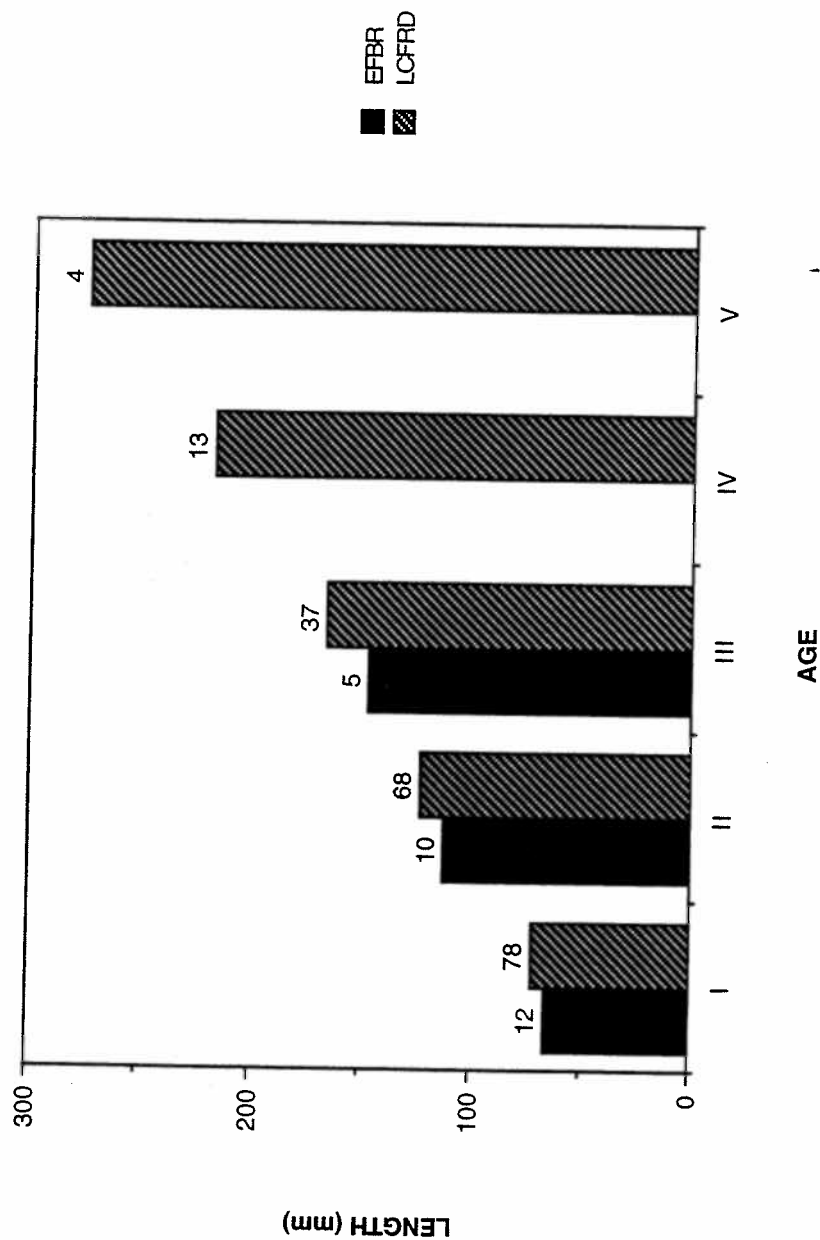


Figure B-86. Number of fish sampled and back calculated length at age for bull trout. East Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

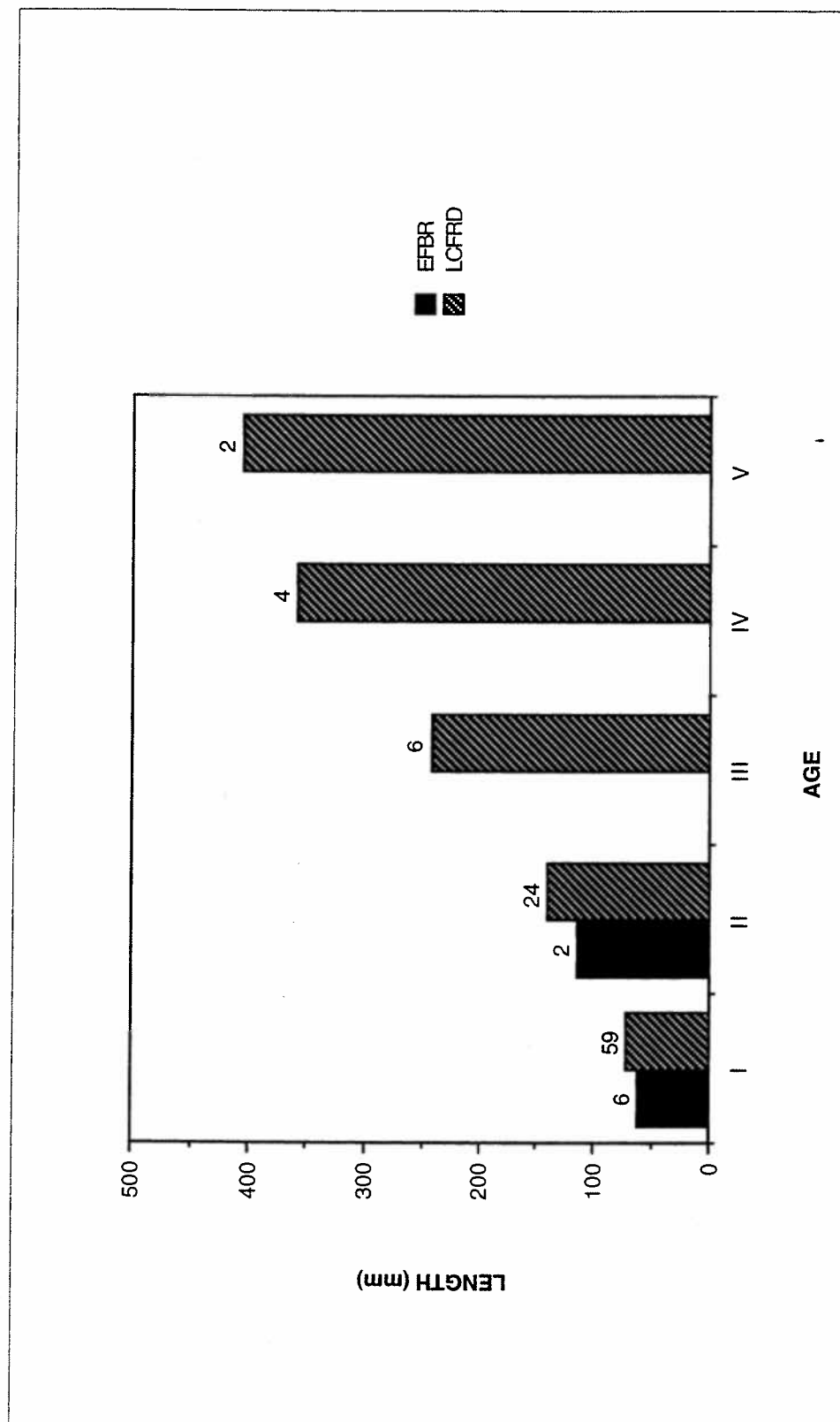


Figure B-87. Number of fish sampled and back calculated length at age for brown trout. East Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

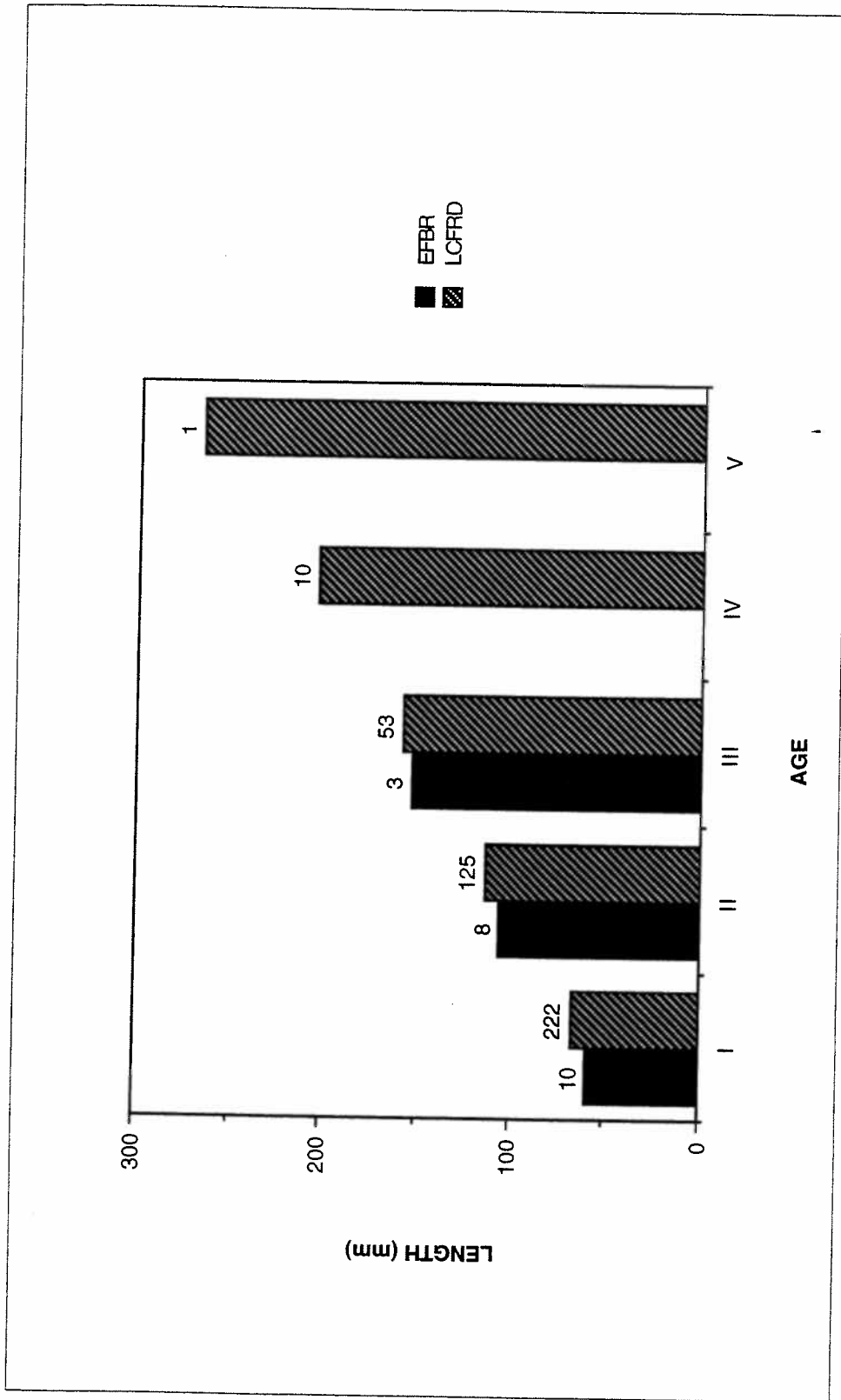


Figure B-88. Number of fish sampled and back calculated length at age for brook trout. East Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

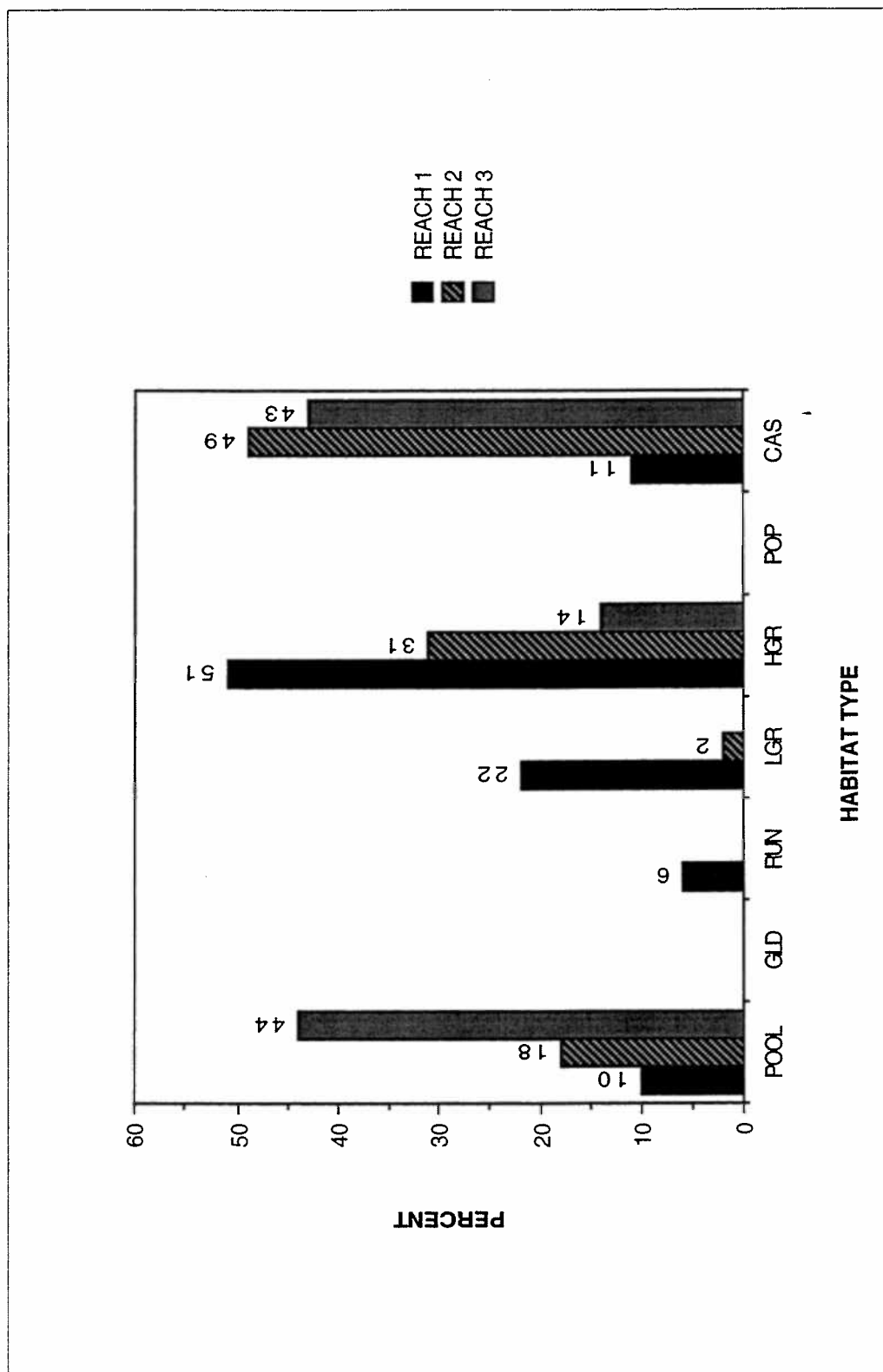


Figure B-89. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types by stream reach. North Fork Bull River, Montana. Tributary survey, 1992-1994.

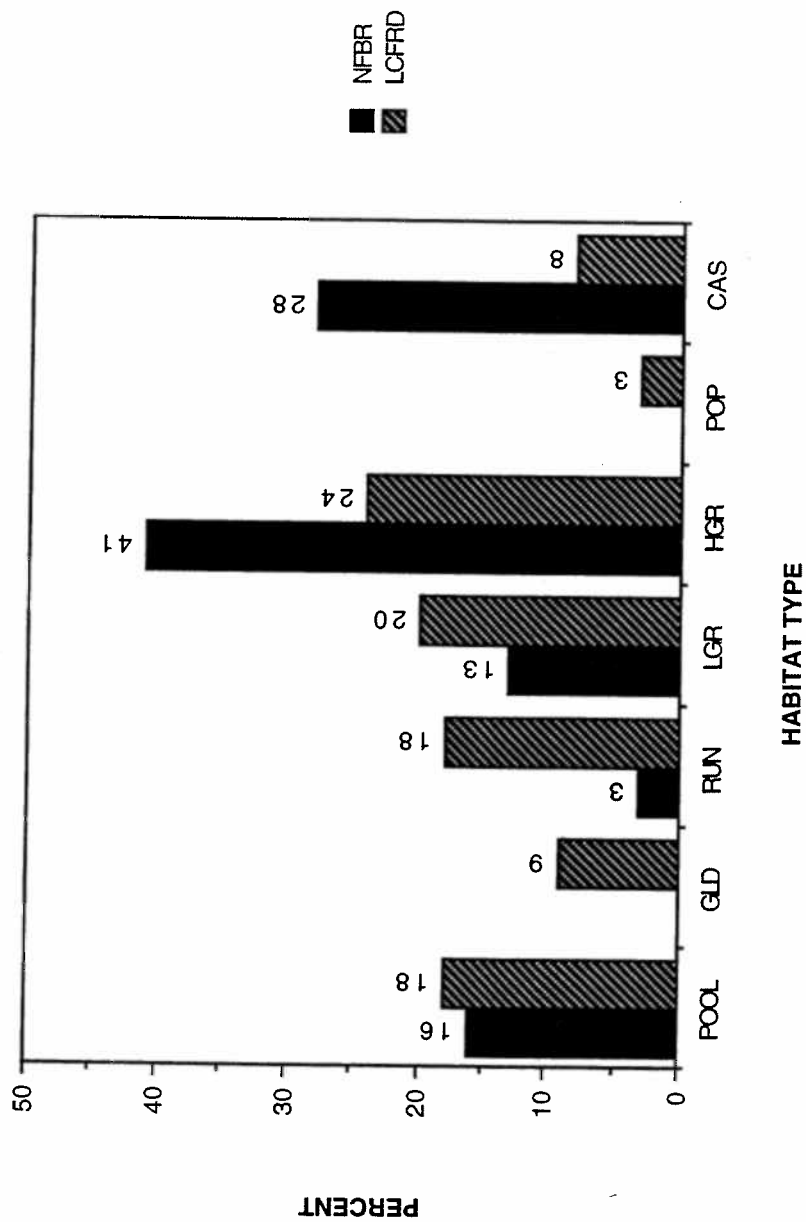


Figure B-90. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. North Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

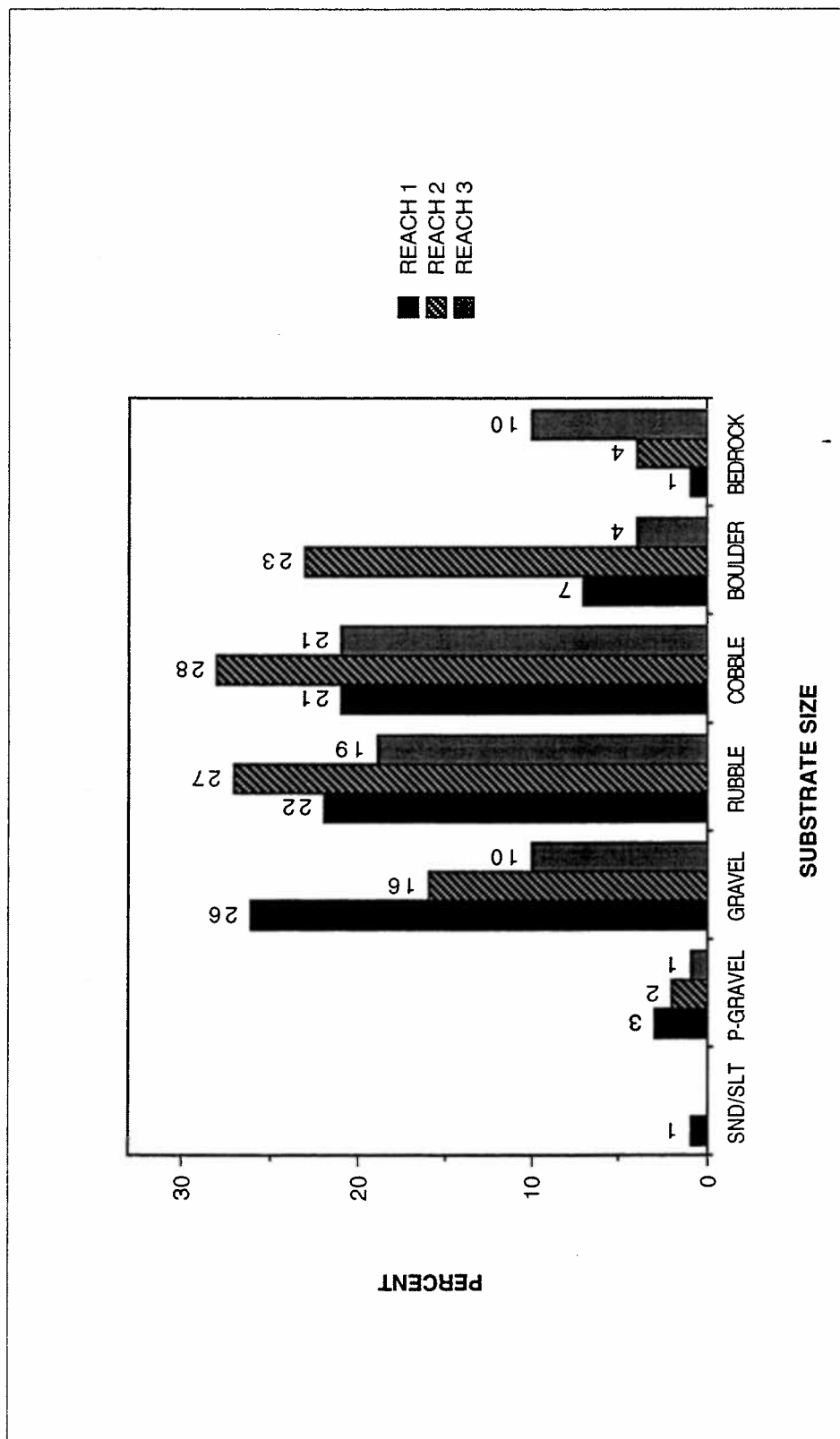


Figure B-91. Percent substrate composition by stream reach. North Fork Bull River, Montana. Tributary Survey, 1992-1994.

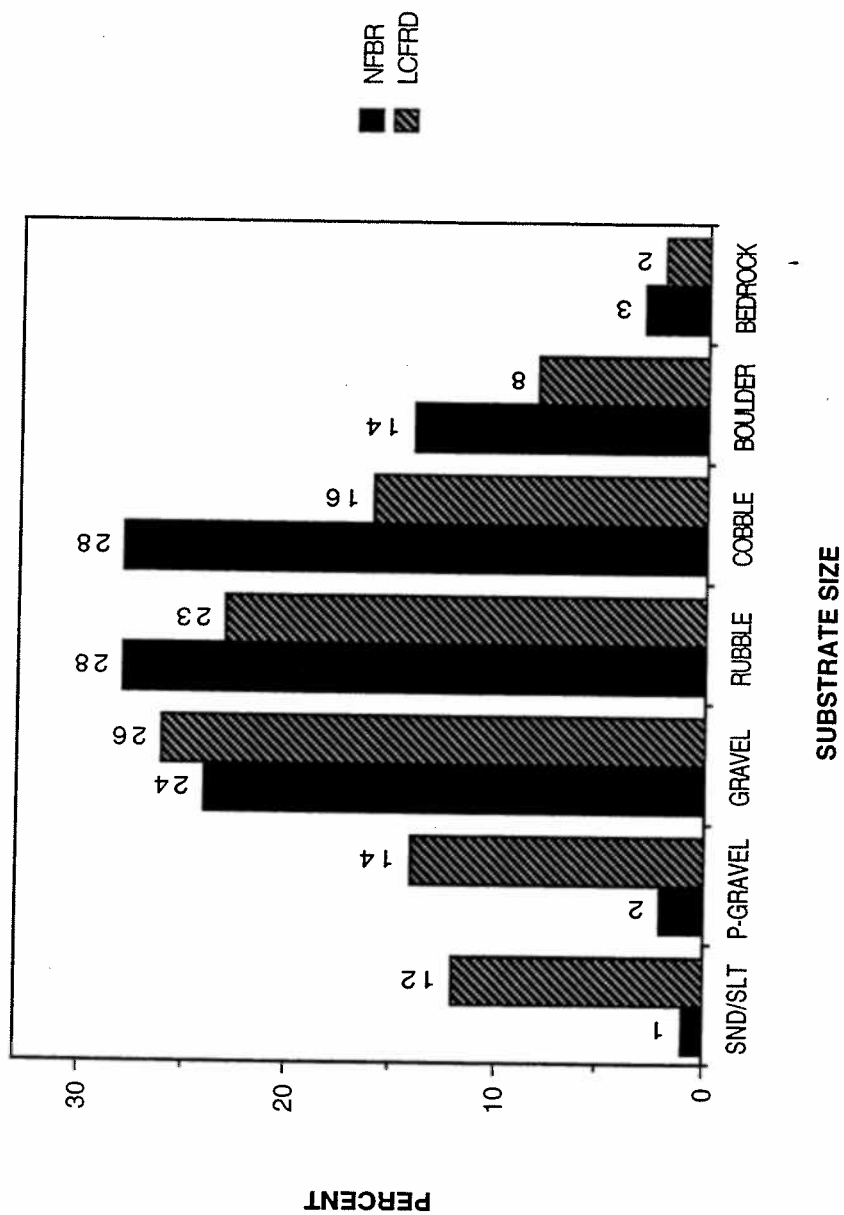


Figure B-92. Percent substrate composition. North Fork Bull River and lower Clark Fork River drainage, Montana. Tributary Survey, 1992-1994.

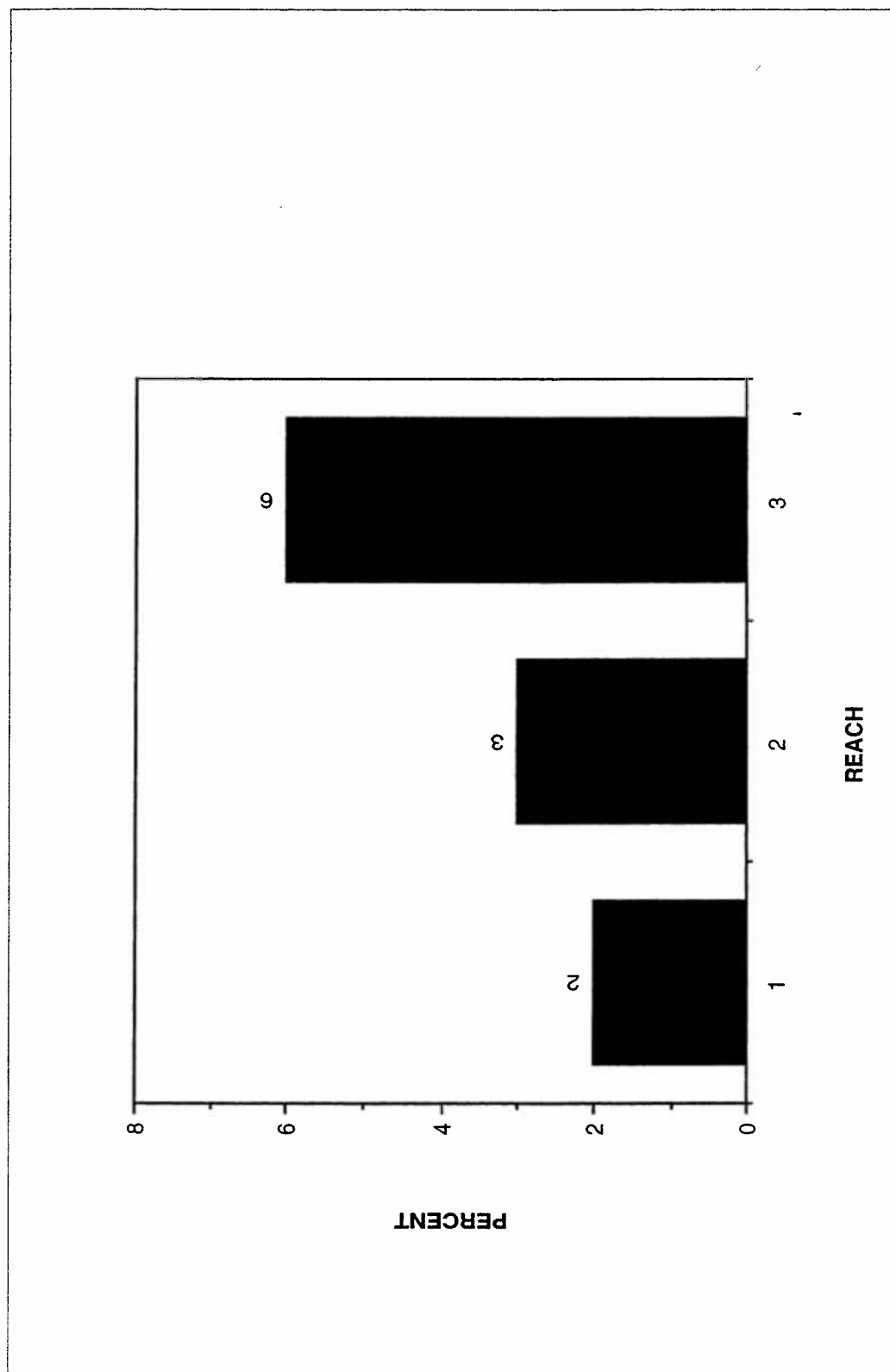


Figure B-93. Percent surface fines (<6.35 mm) by stream reach. North Fork Bull River. Tributary survey, 1992-1994.

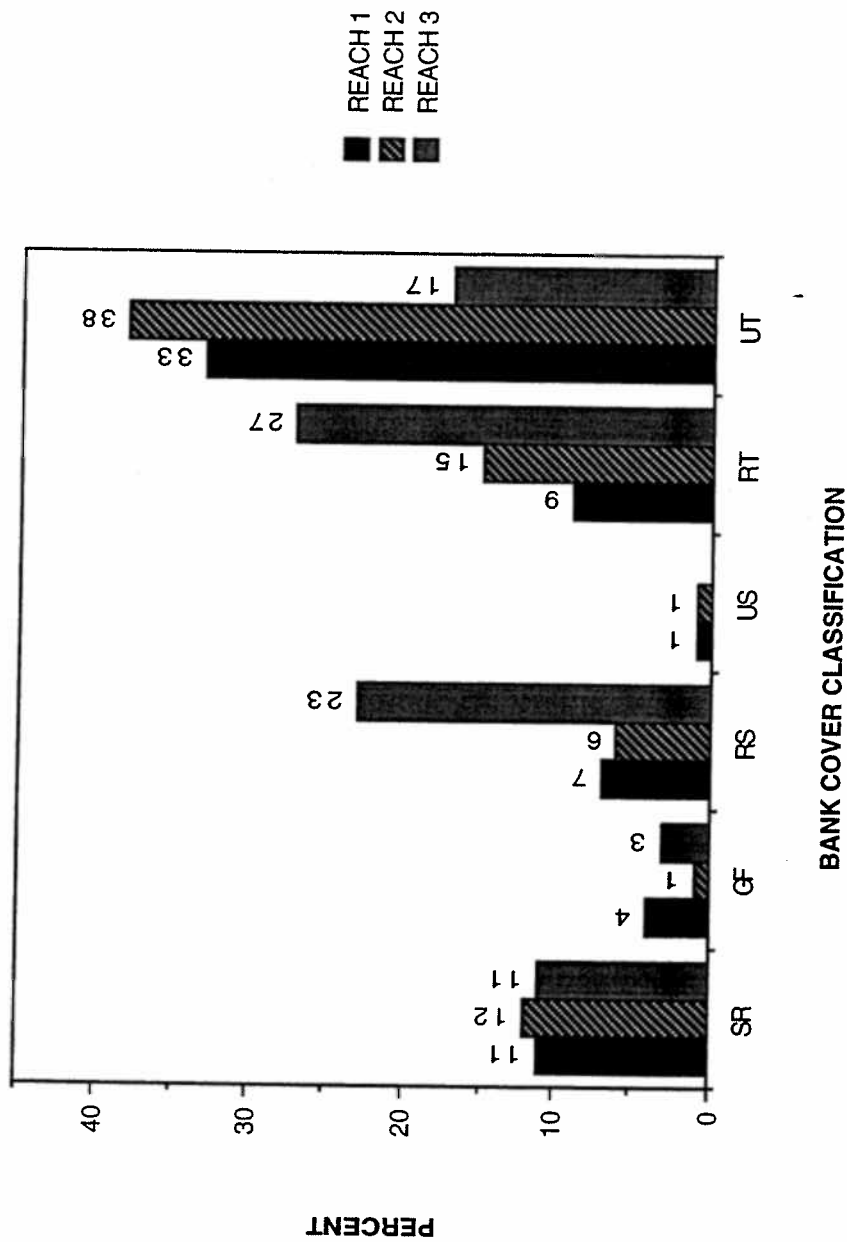


Figure B-94. Percent composition stream bank cover by stream reach. Sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Bull River and lower Clark Fork River drainage Montana. Tributary survey, 1992-1994.

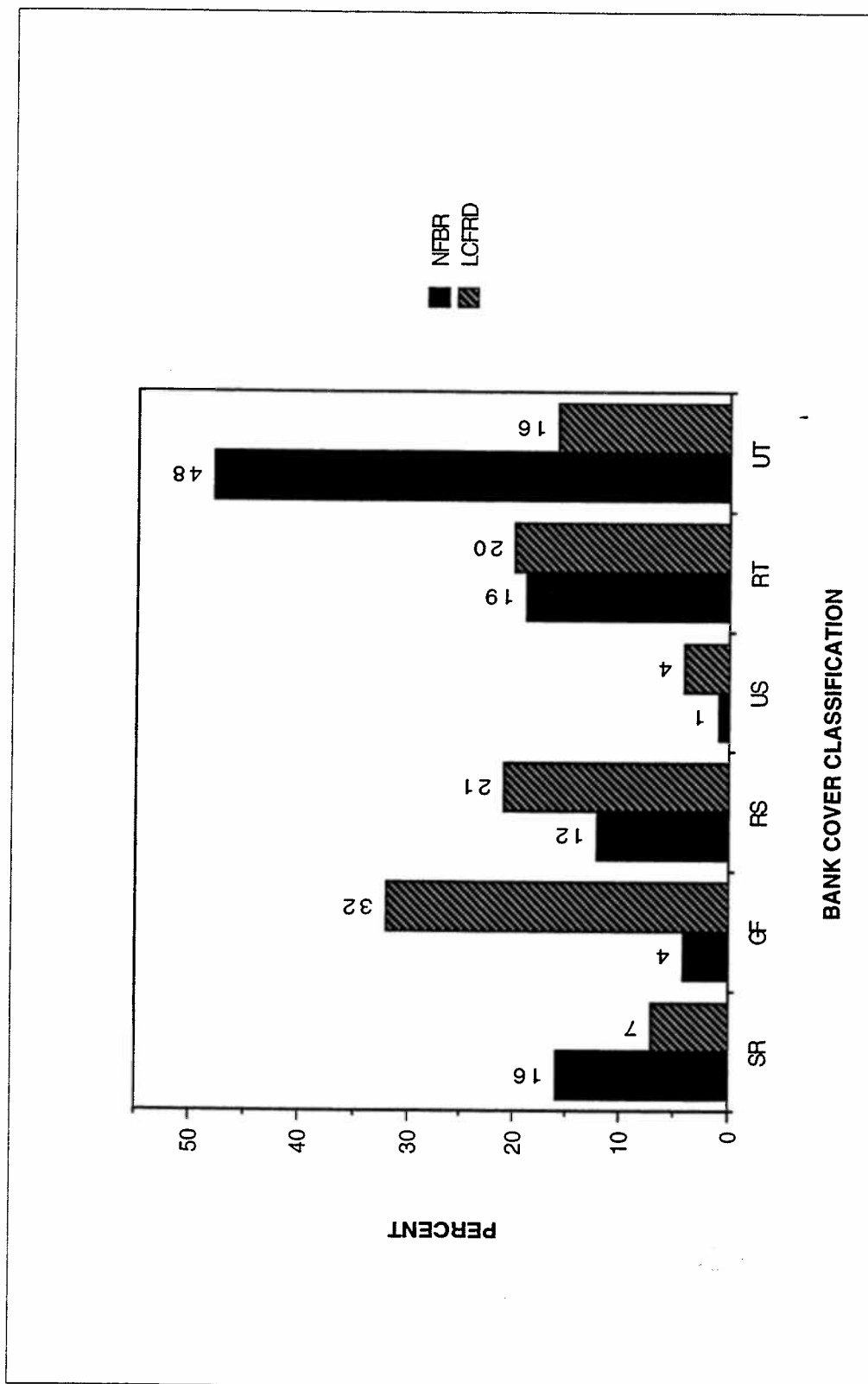


Figure B-95. Percent composition stream bank cover. Sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

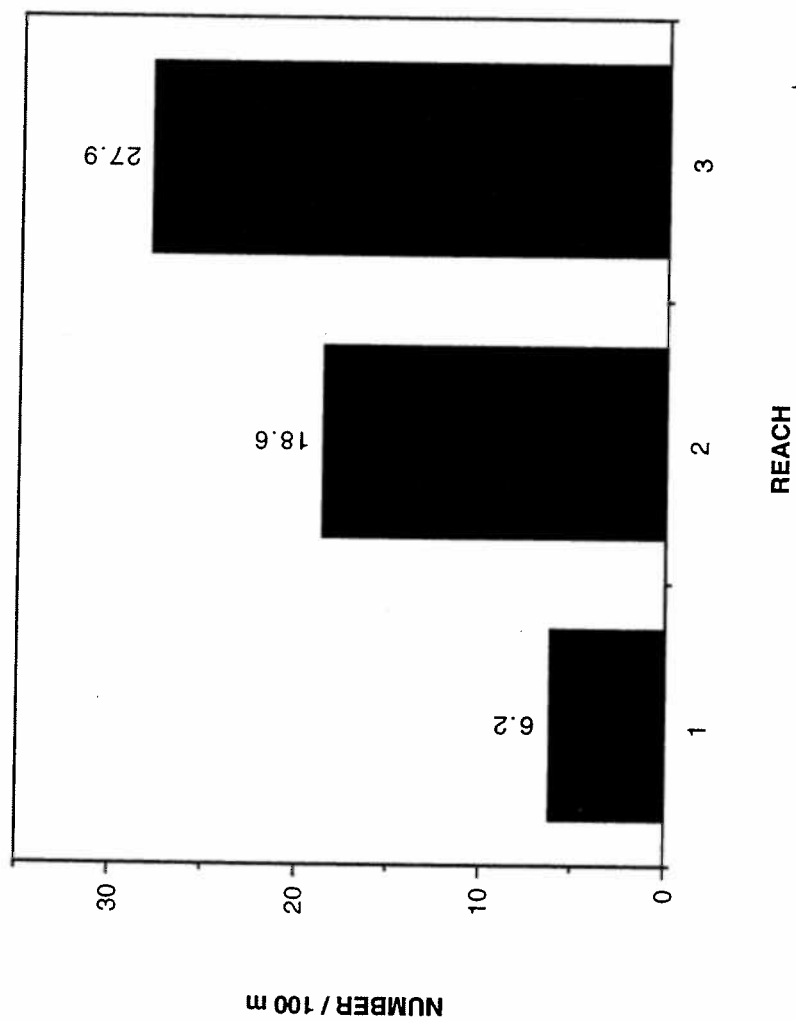


Figure B-96. Large woody debris <3.0 m in length. North Fork Bull River, Montana. Tributary survey, 1992-1994.

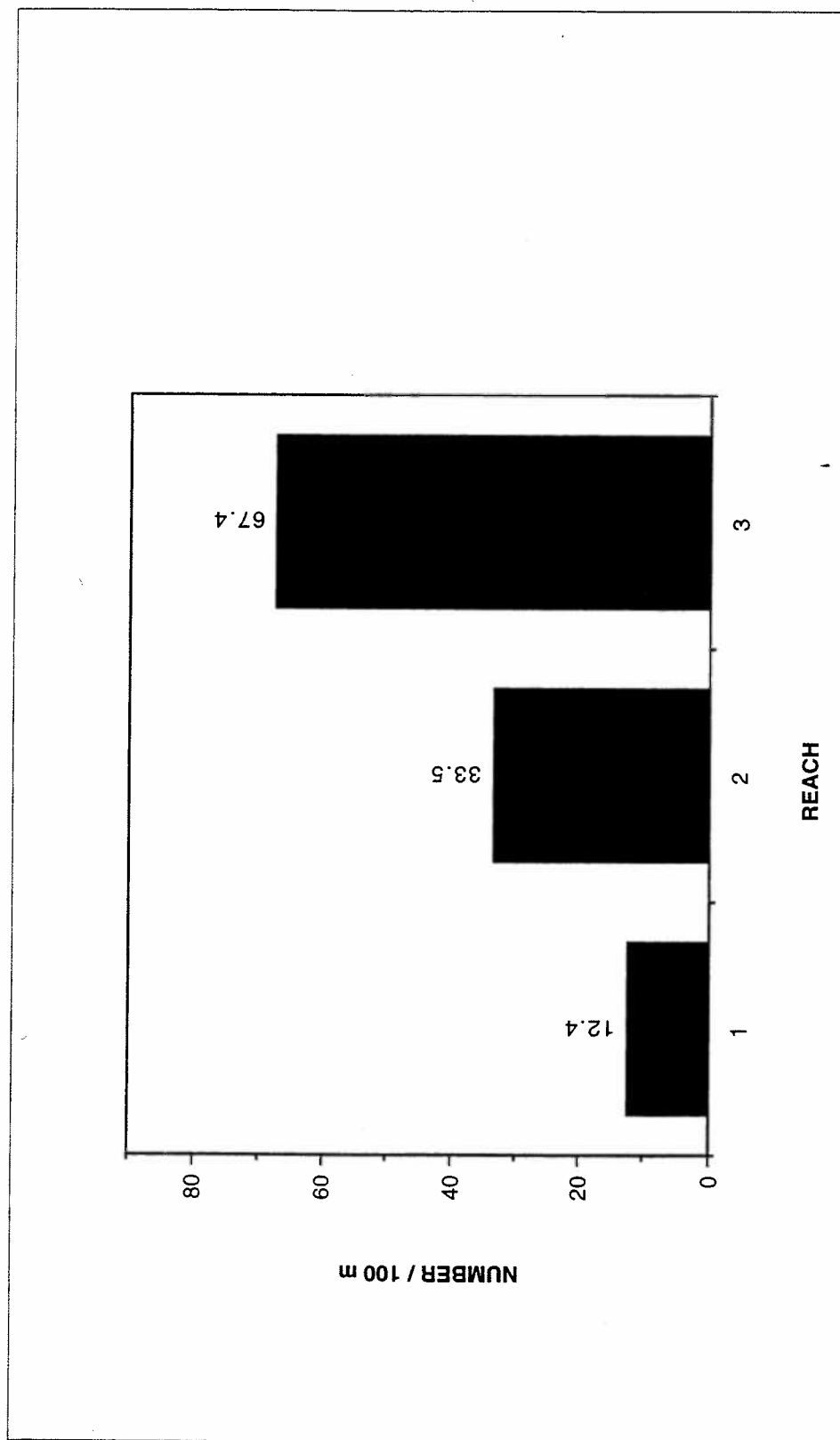


Figure B-97. Large woody debris >3.0 m in length. North Fork Bull River, Montana. Tributary survey, 1992-1994.

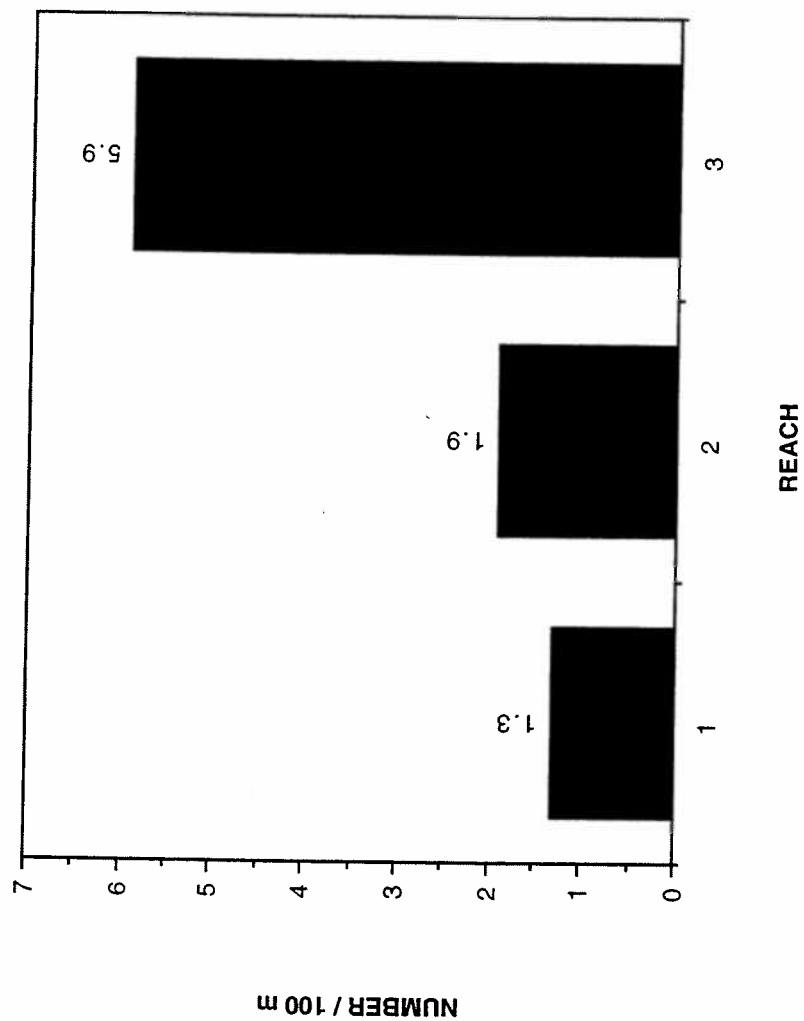


Figure B-98. Large woody debris aggregations. North Fork Bull River, Montana. Tributary survey, 1992-1994.

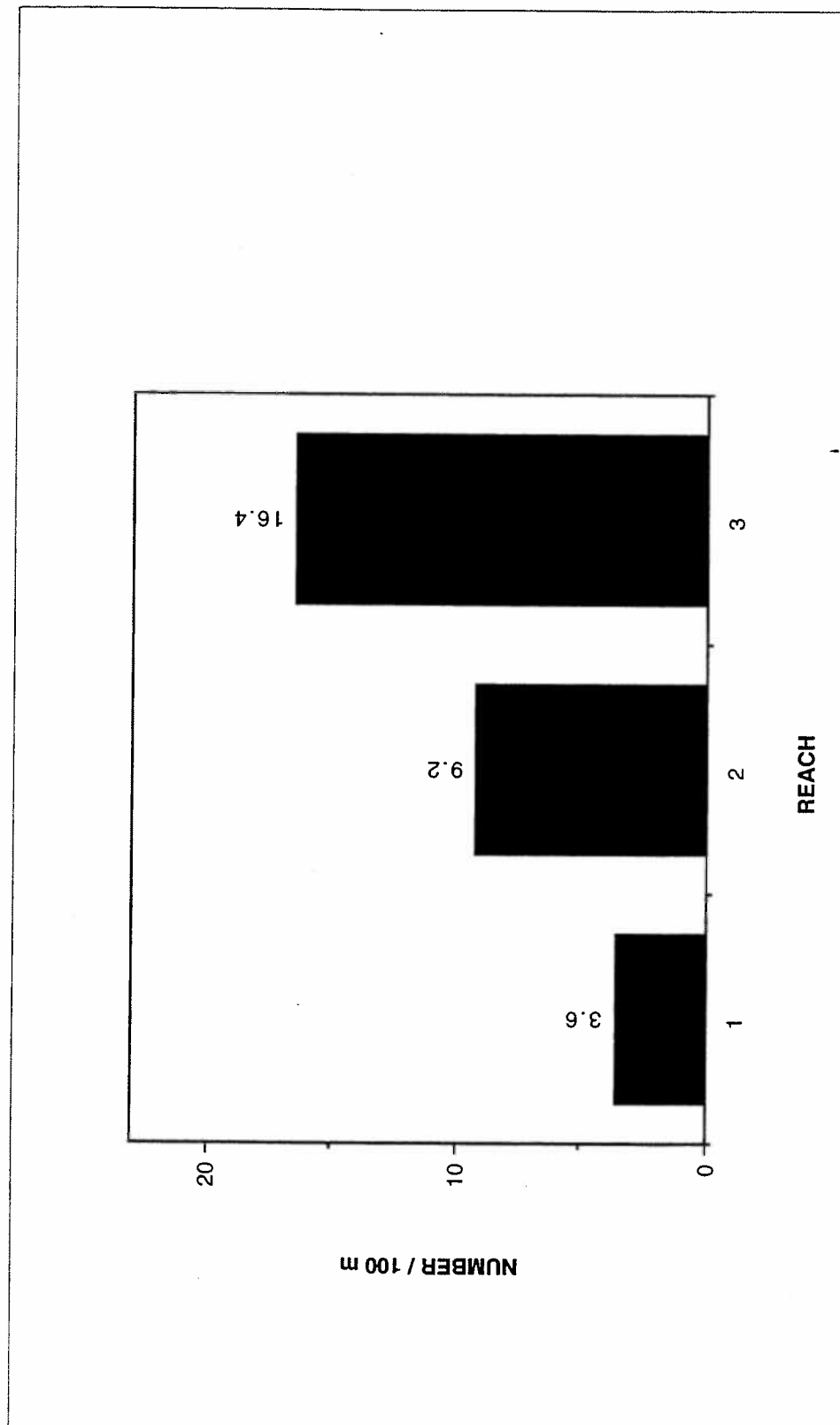


Figure B-99. Large woody debris, root wads. North Fork Bull River, Montana. Tributary survey, 1992-1994.

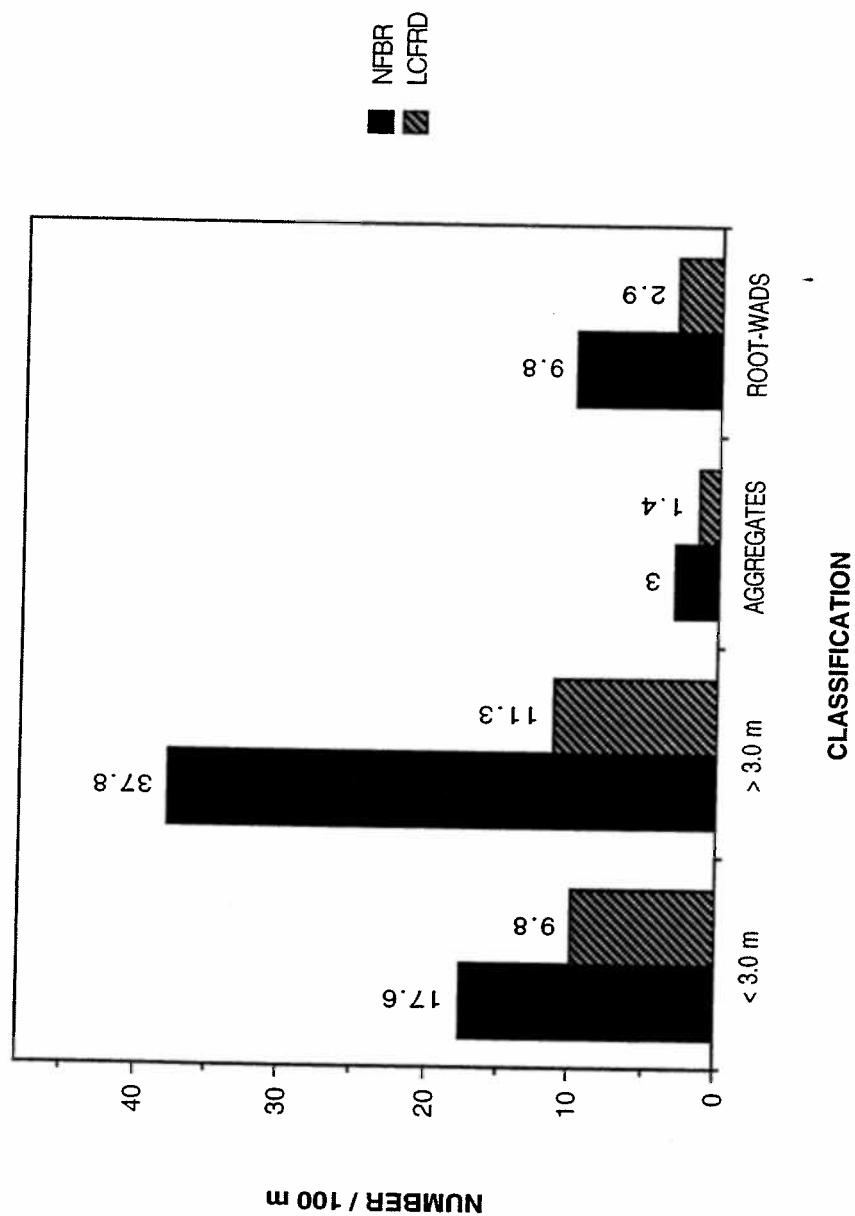


Figure B-100. Large woody debris by classification. North Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

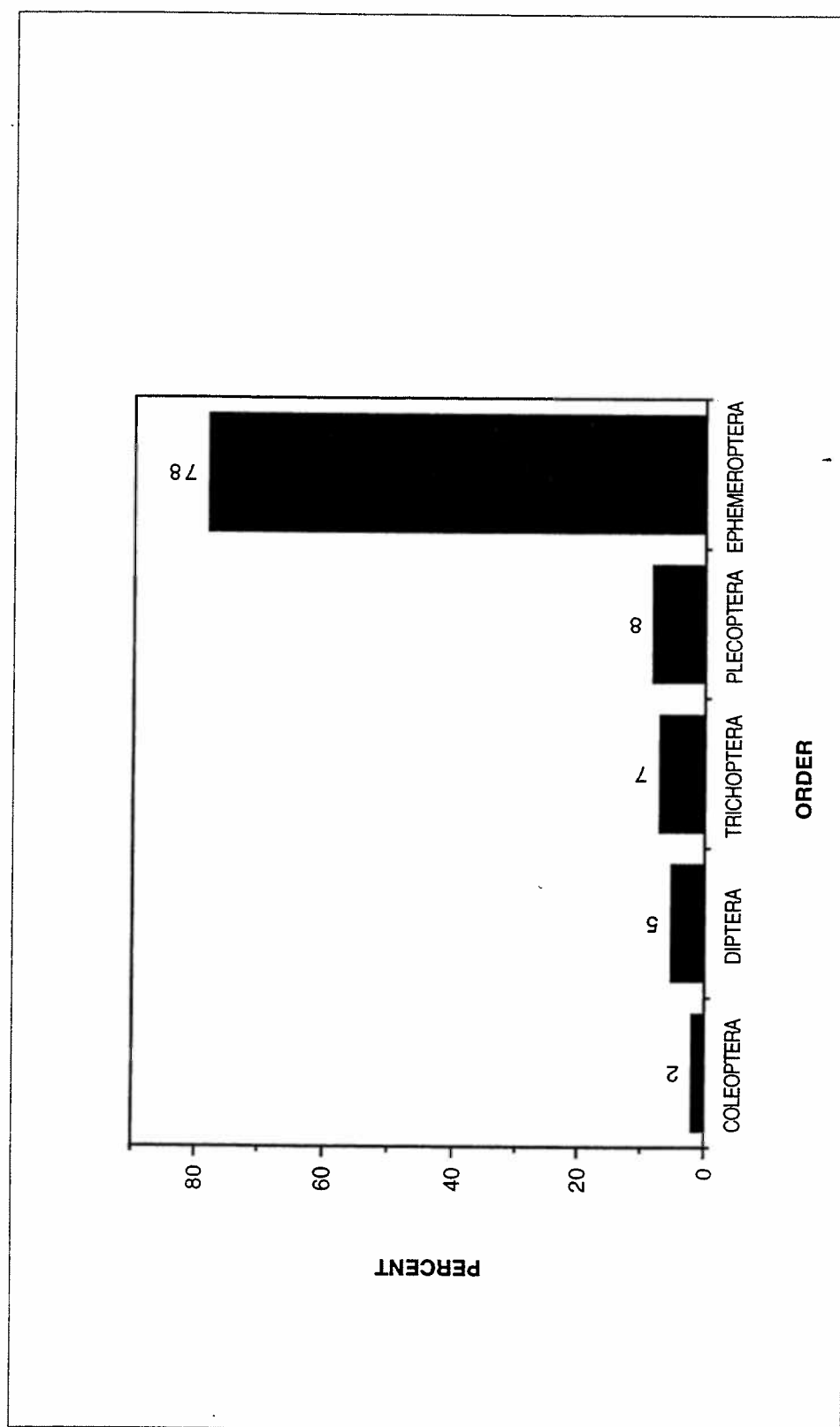


Figure B-101. Percent composition, benthic invertebrate population by taxonomic order. North Fork Bull River. Tributary survey, 1992-1994.

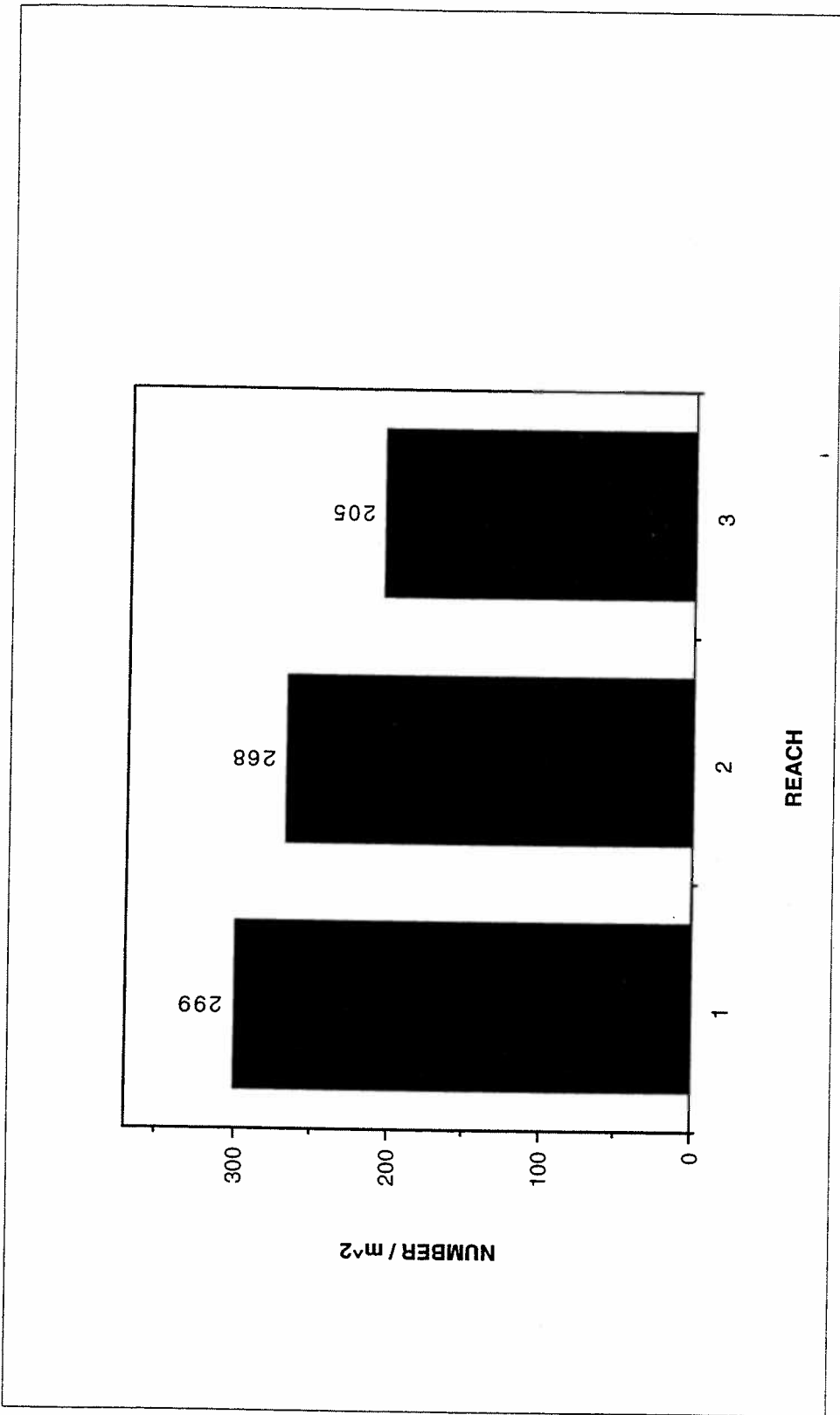


Figure B-102. Benthic invertebrate densities by stream reach. North Fork Bull River, Montana. Tributary survey, 1992-1994.

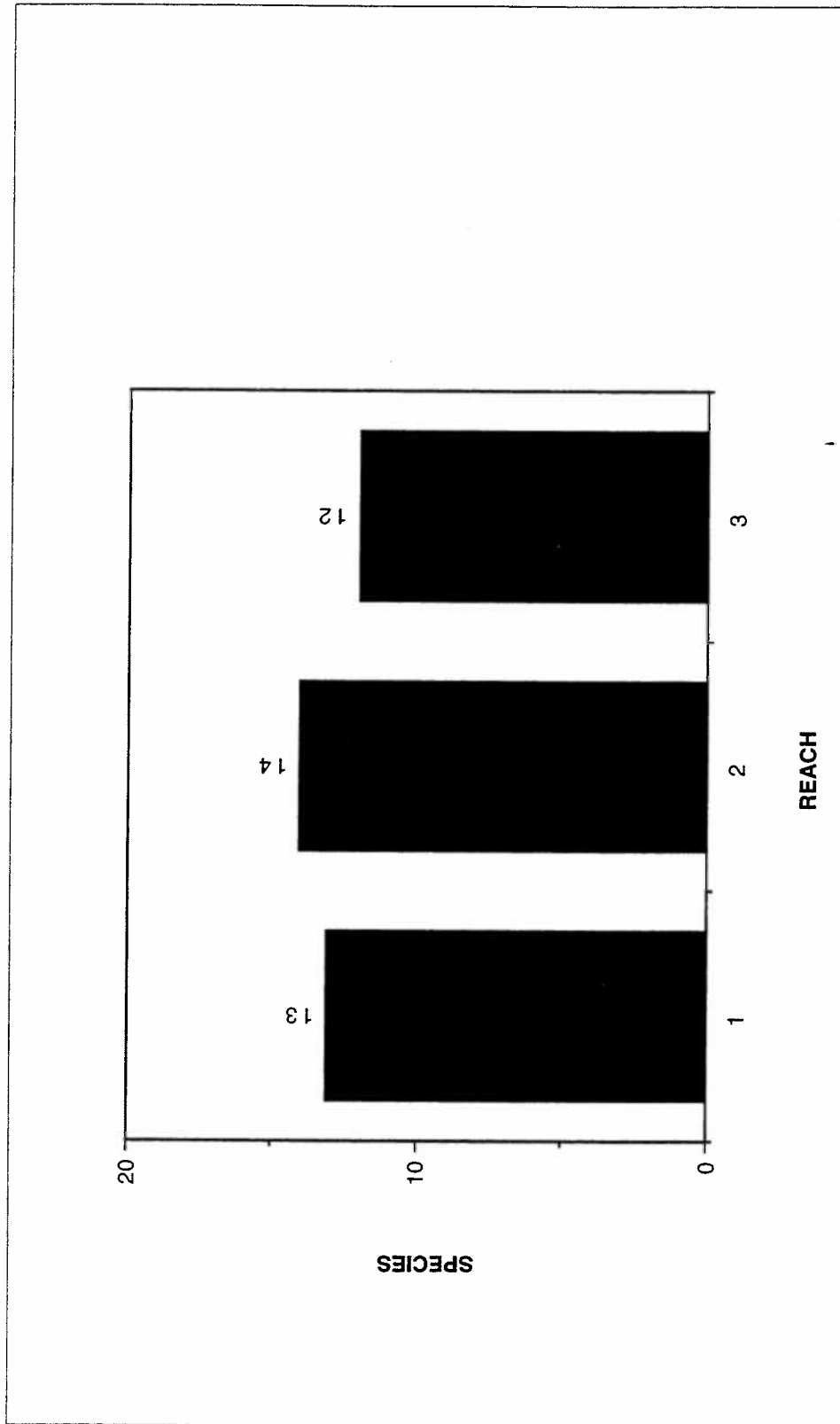


Figure B-103. Benthic invertebrate species richness by stream reach. North Fork Bull River, Montana. Tributary survey, 1992-1994.

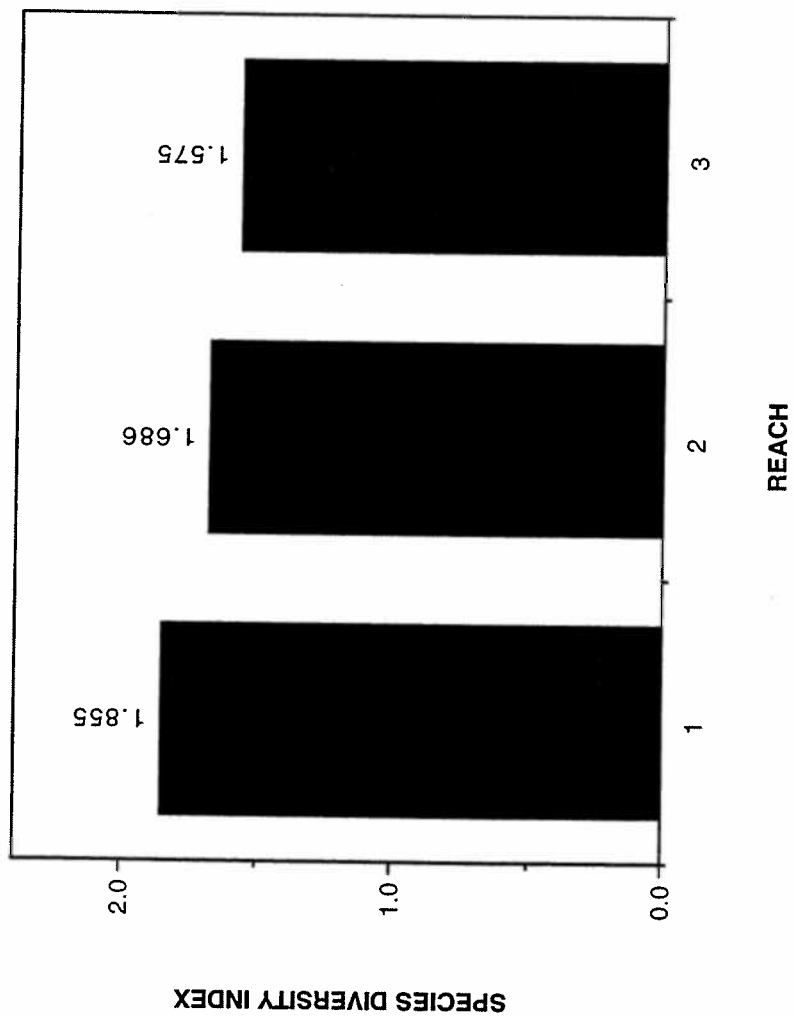


Figure B-104. Benthic invertebrate species diversity (SDI) by stream reach. North Fork Bull River, Montana. Tributary survey, 1992-1994.

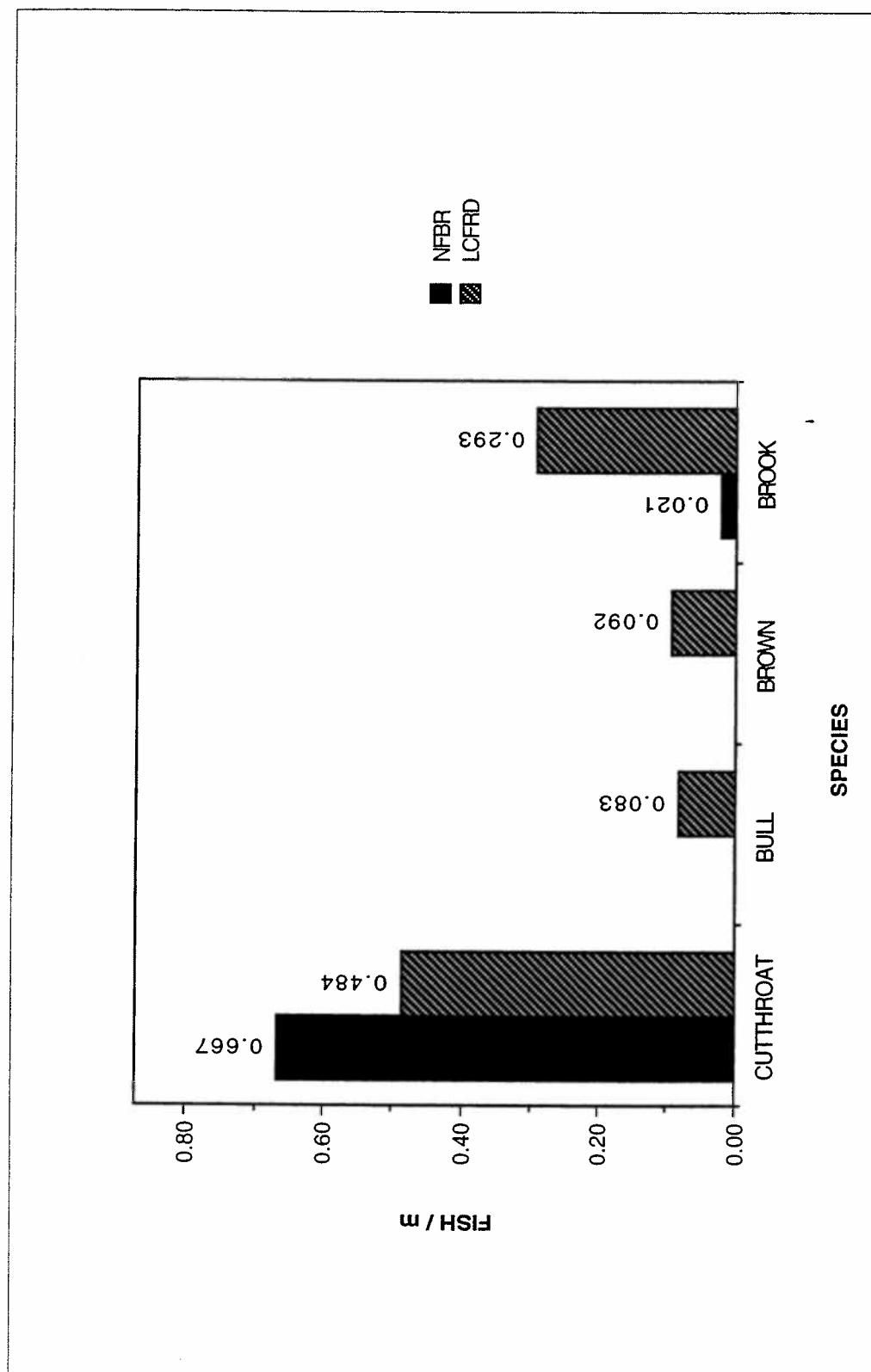


Figure B-105. Estimated densities of cutthroat, bull, brown, and brook trout. North Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

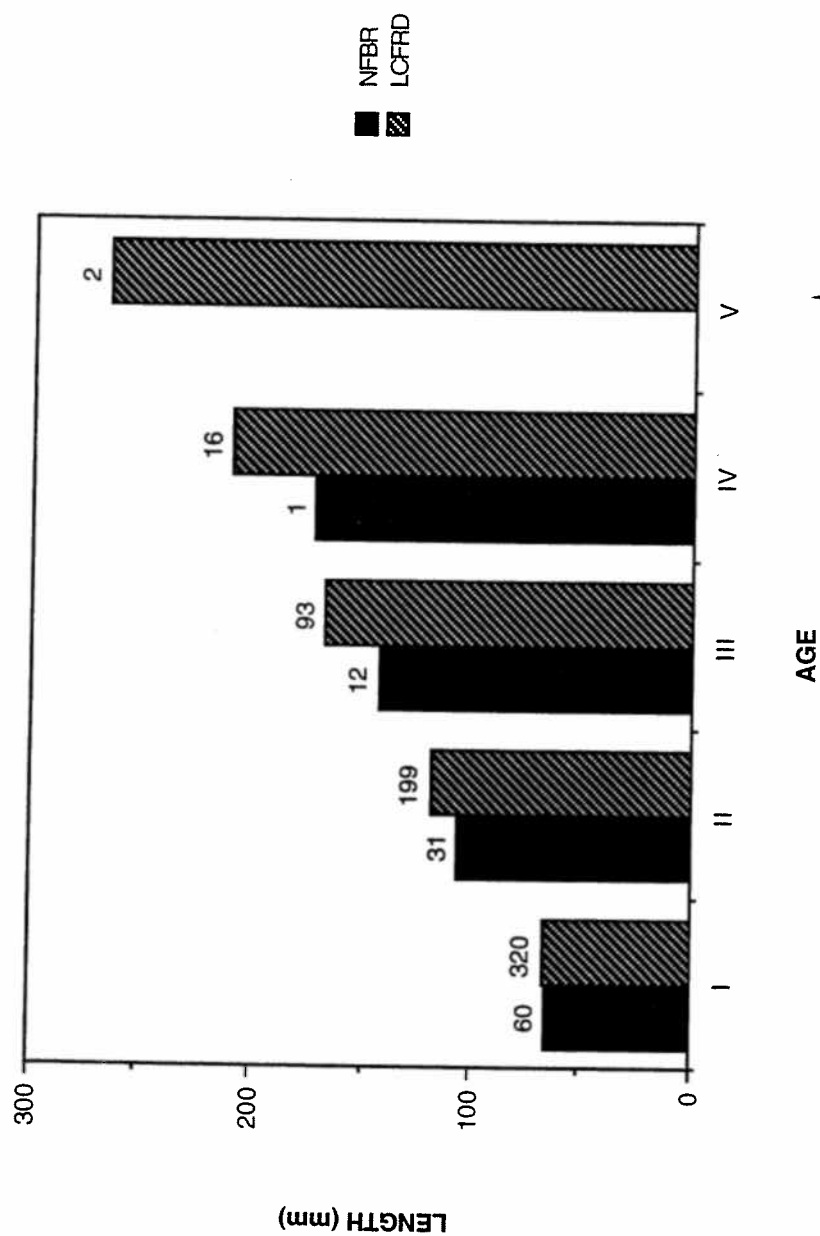


Figure B-106. Number of fish sampled and back calculated length at age for cutthroat trout. North Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

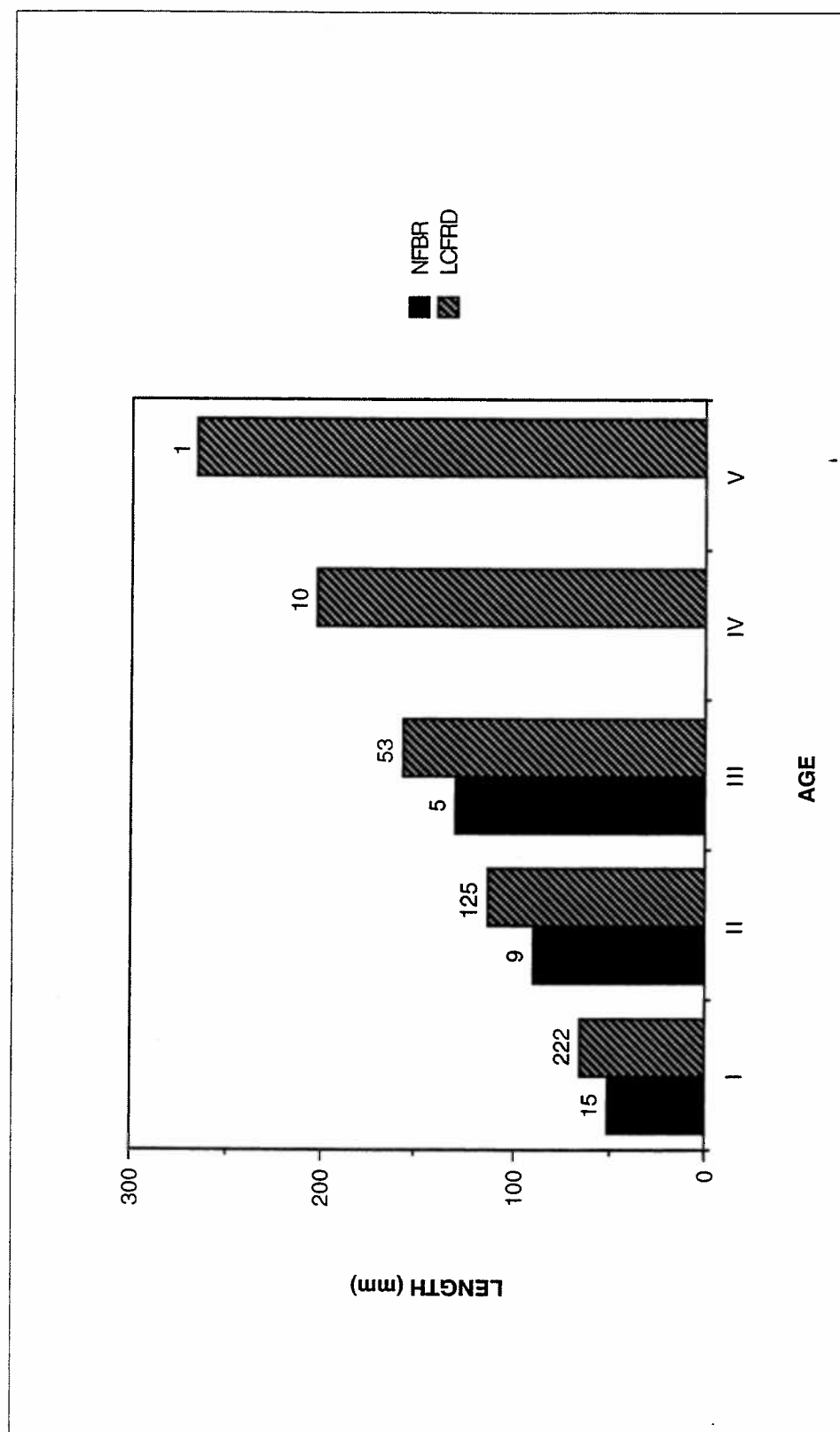


Figure B-107. Number of fish sampled and back calculated length at age for brook trout. North Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

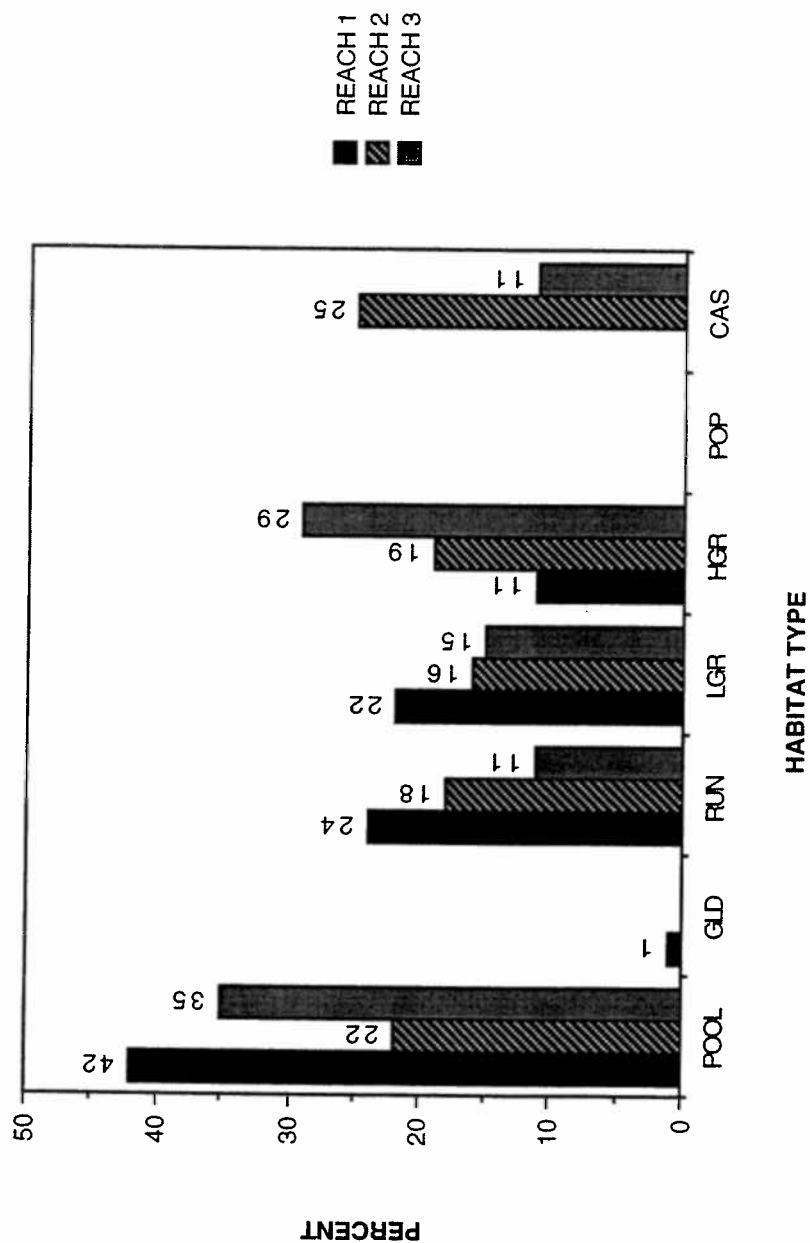


Figure B-108. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types by stream reach. South Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

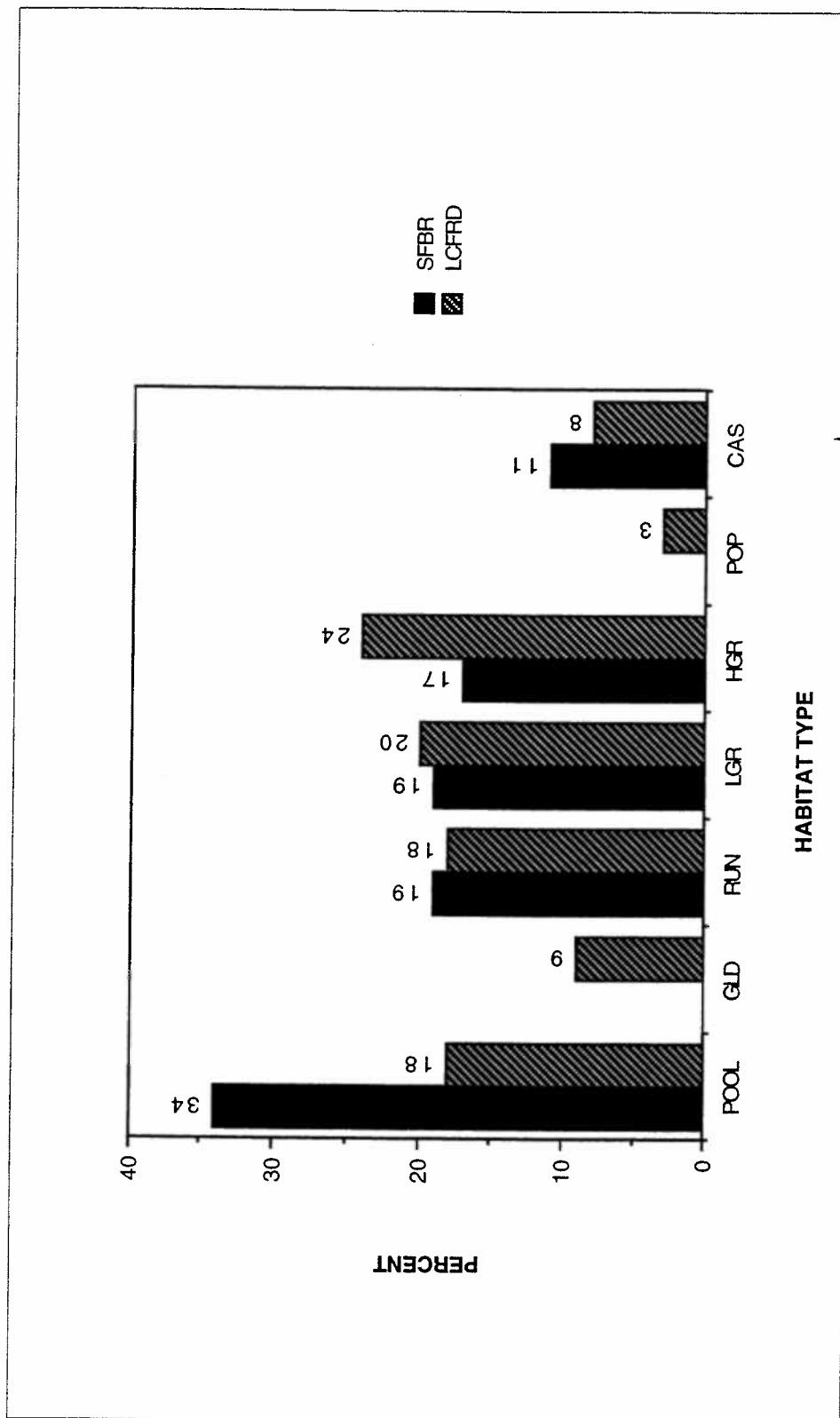


Figure B-109. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. South Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

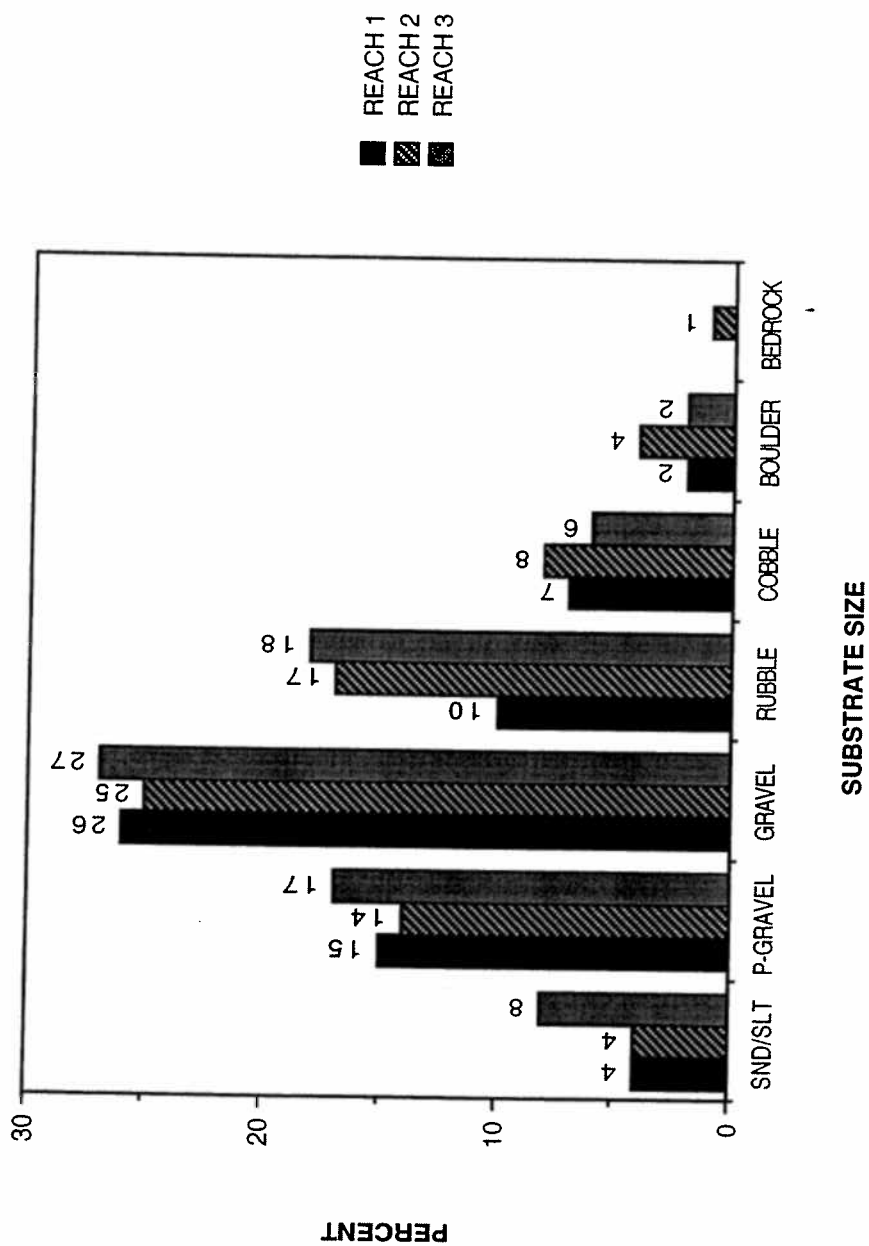


Figure B-110. Percent substrate composition by stream reach. South Fork Bull River, Montana. Tributary survey, 1992-1994.

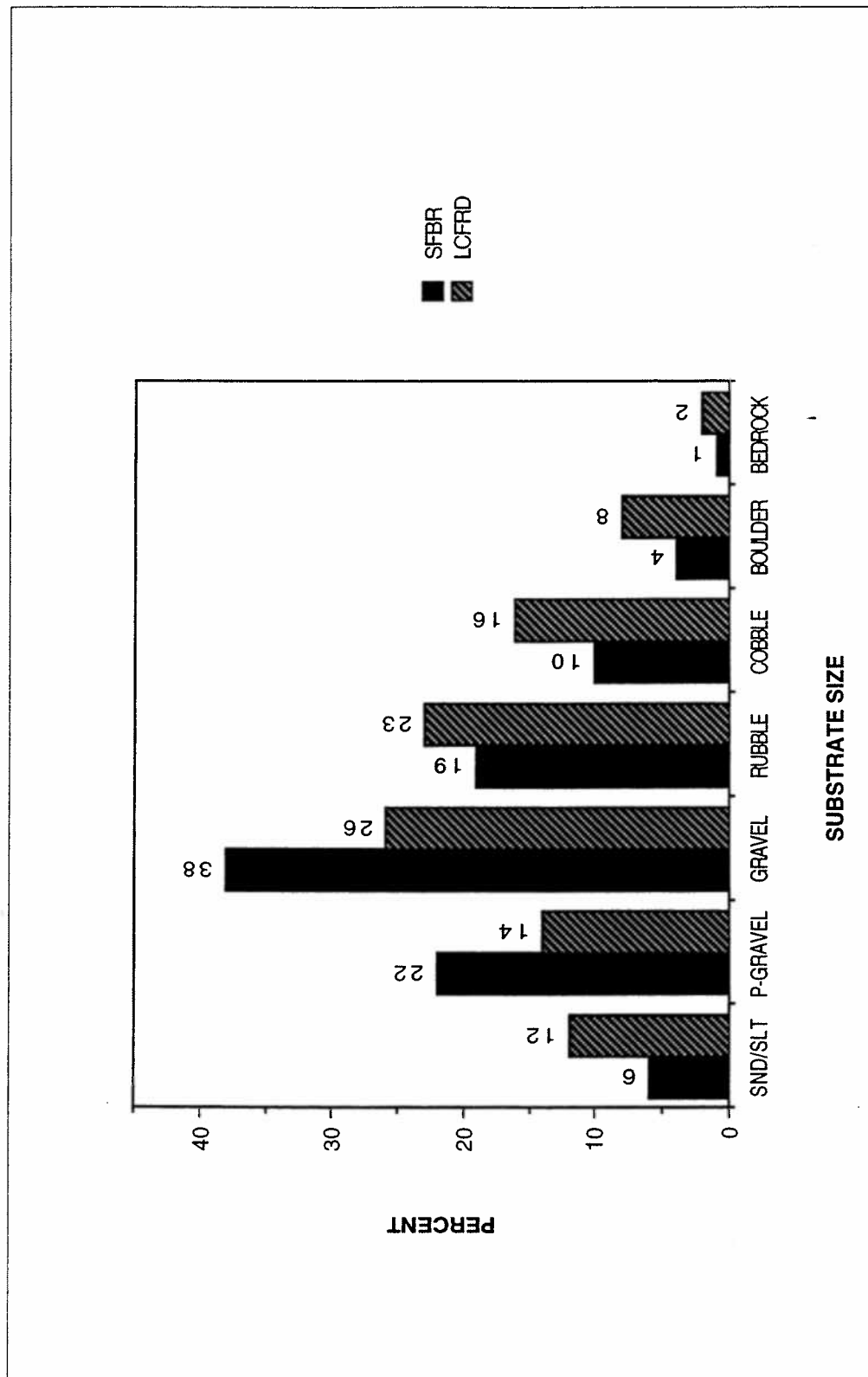


Figure B-111. Percent substrate composition. South Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

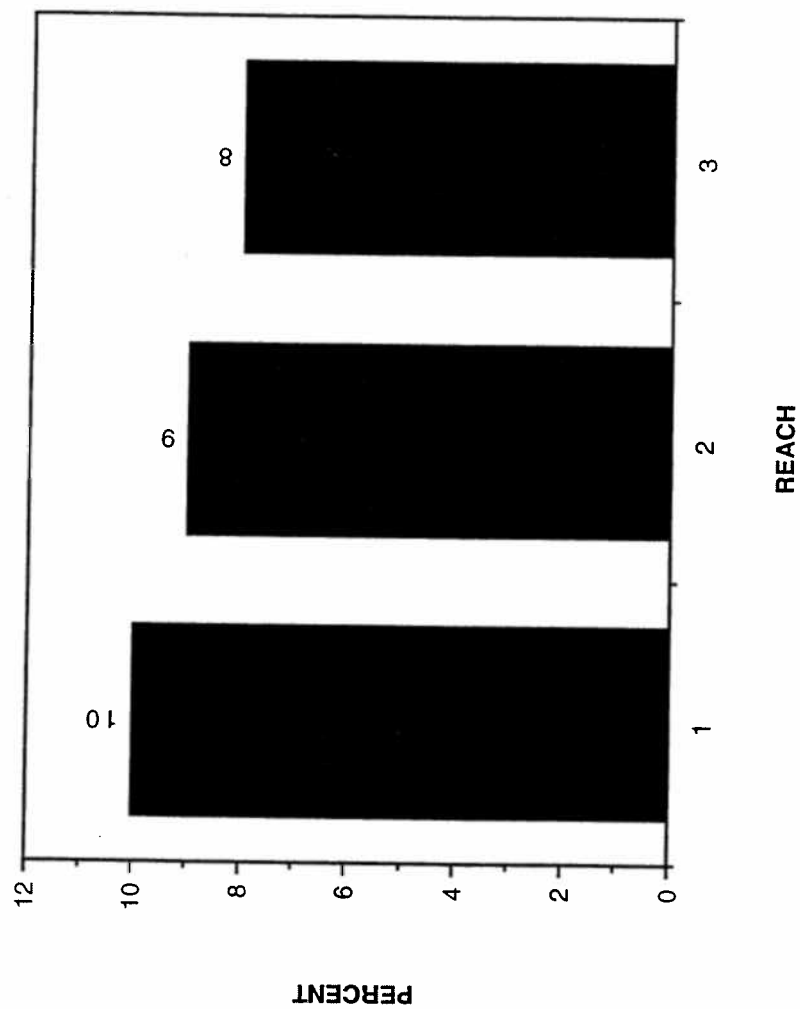


Figure B-112. Percent surface fines (<6.35 mm) by stream reach. South Fork Bull River, Montana. Tributary survey, 1992-1994.

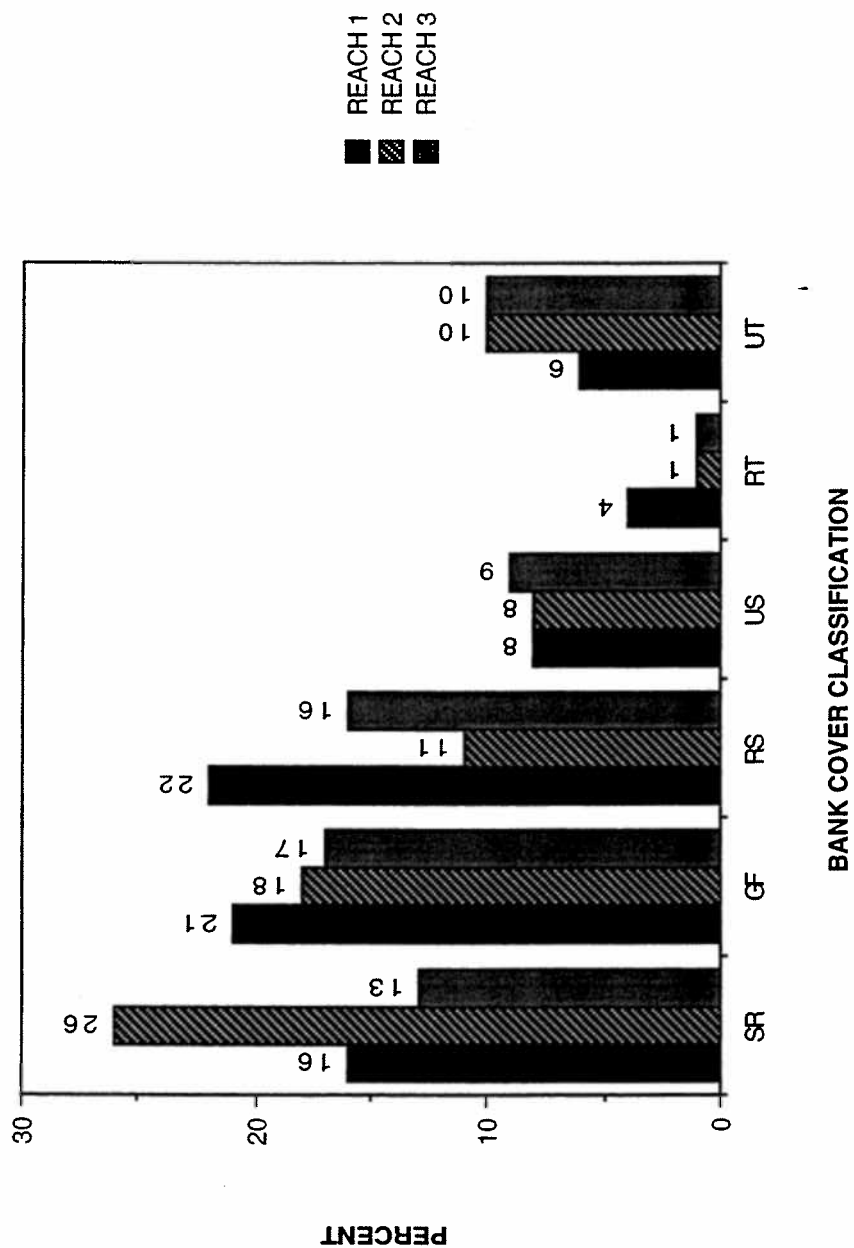


Figure B-113. Percent composition stream bank cover by stream reach. Sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). South Fork Bull River, Montana. Tributary survey, 1992-1994.

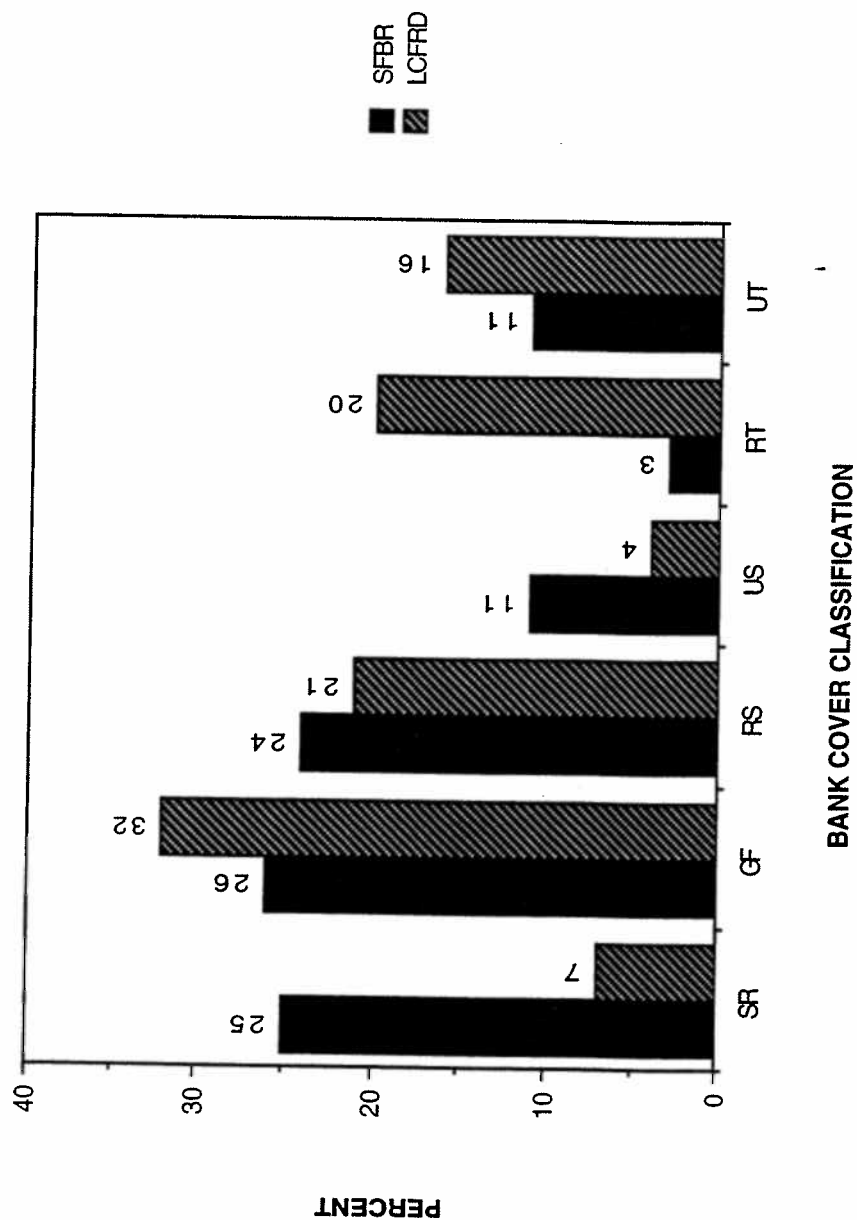


Figure B-114. Percent composition stream bank cover. Sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). South Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

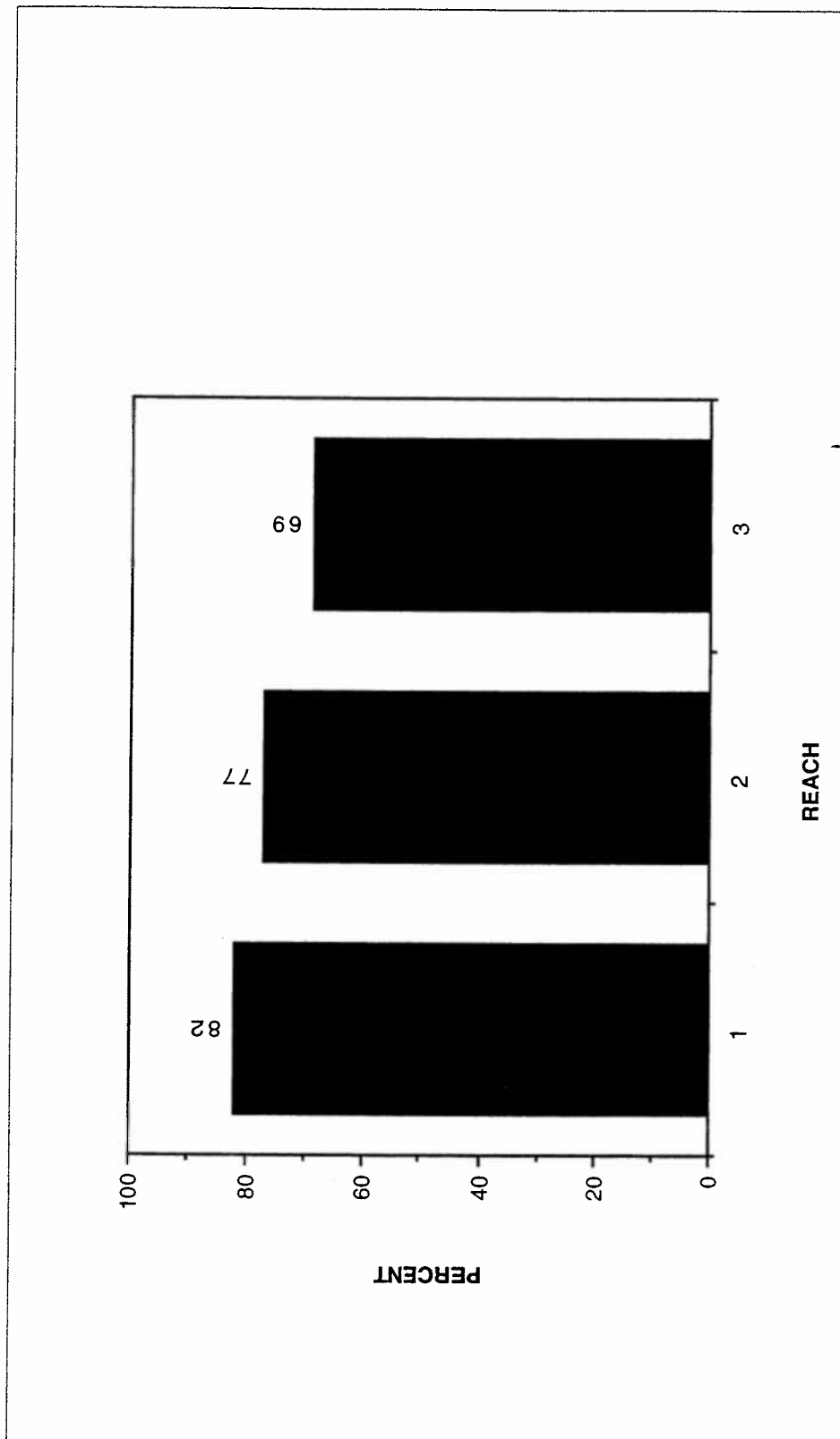


Figure B-115. Percent vegetated bank cover by stream reach. South Fork Bull River, Montana. Tributary survey, 1992-1994.

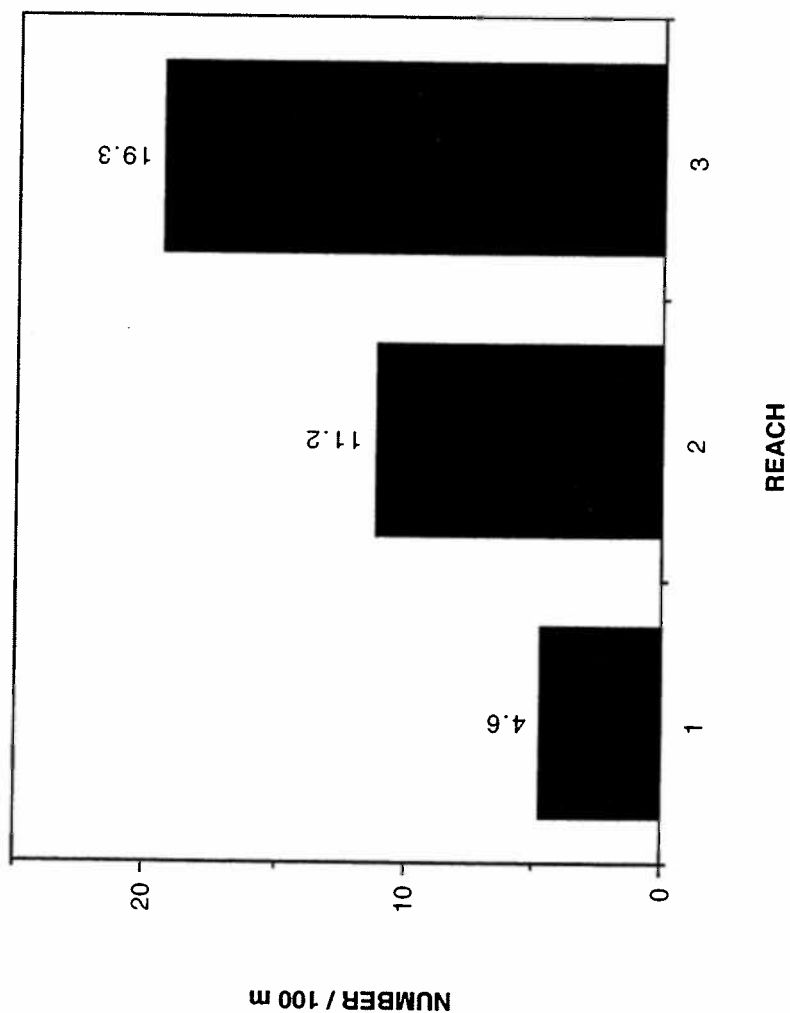


Figure B-116. Large woody debris <3.0 m in length. South Fork Bull River, Montana. Tributary survey, 1992-1994.

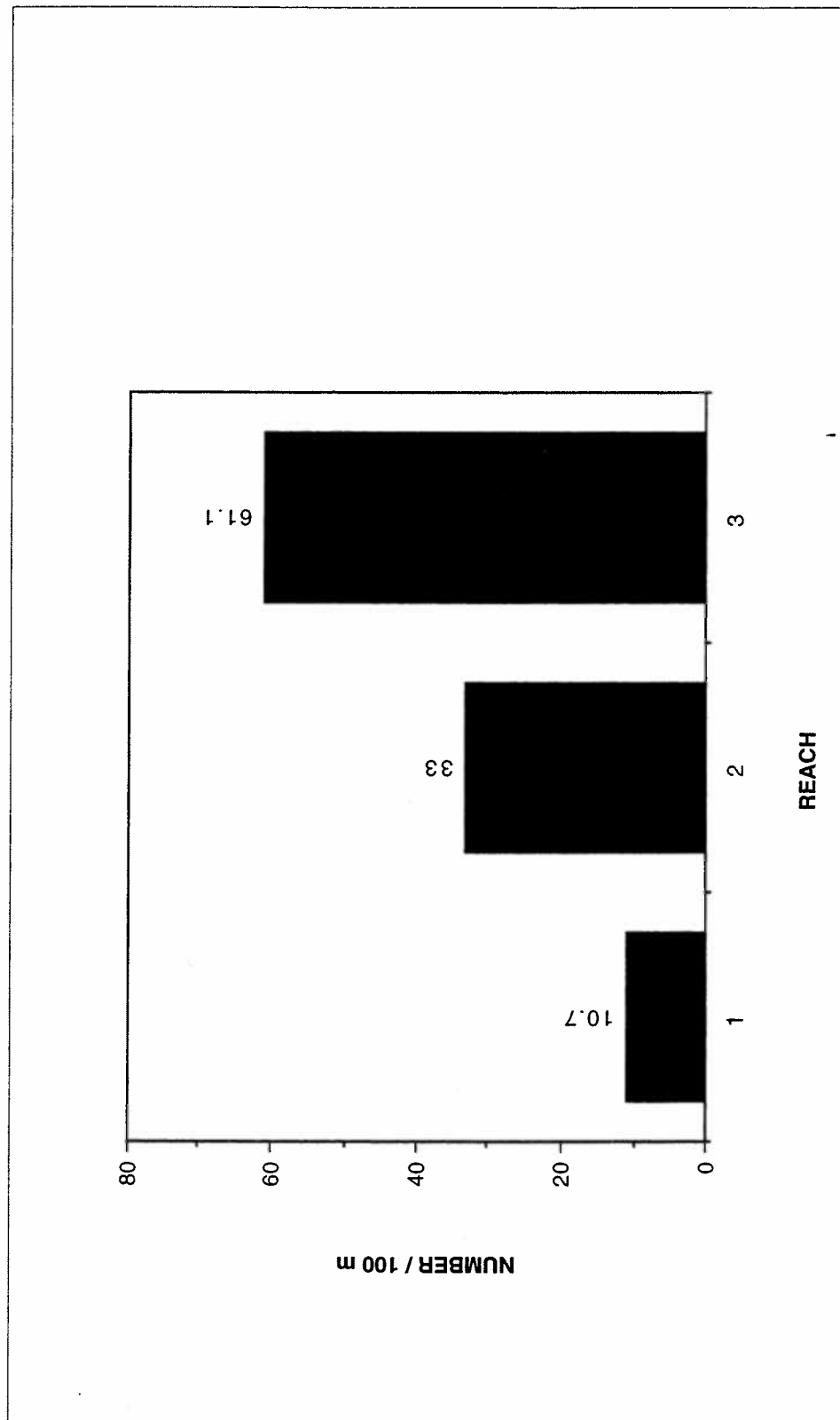


Figure B-117. Large woody debris >3.0 m in length. South Fork Bull River, Montana. Tributary survey, 1992-1994.

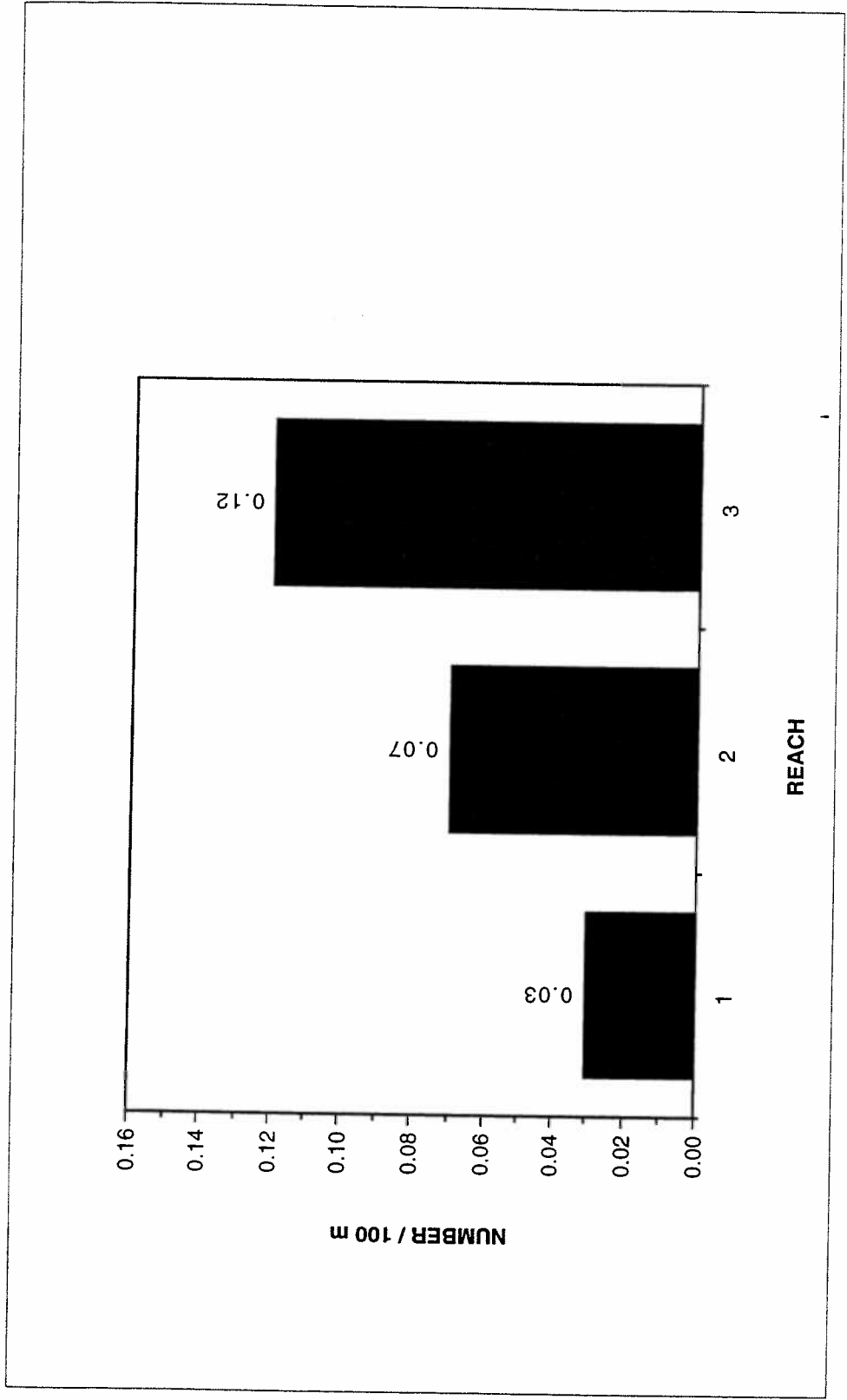


Figure B-118. Large woody debris aggregations. South Fork Bull River, Montana. Tributary survey, 1992-1994.

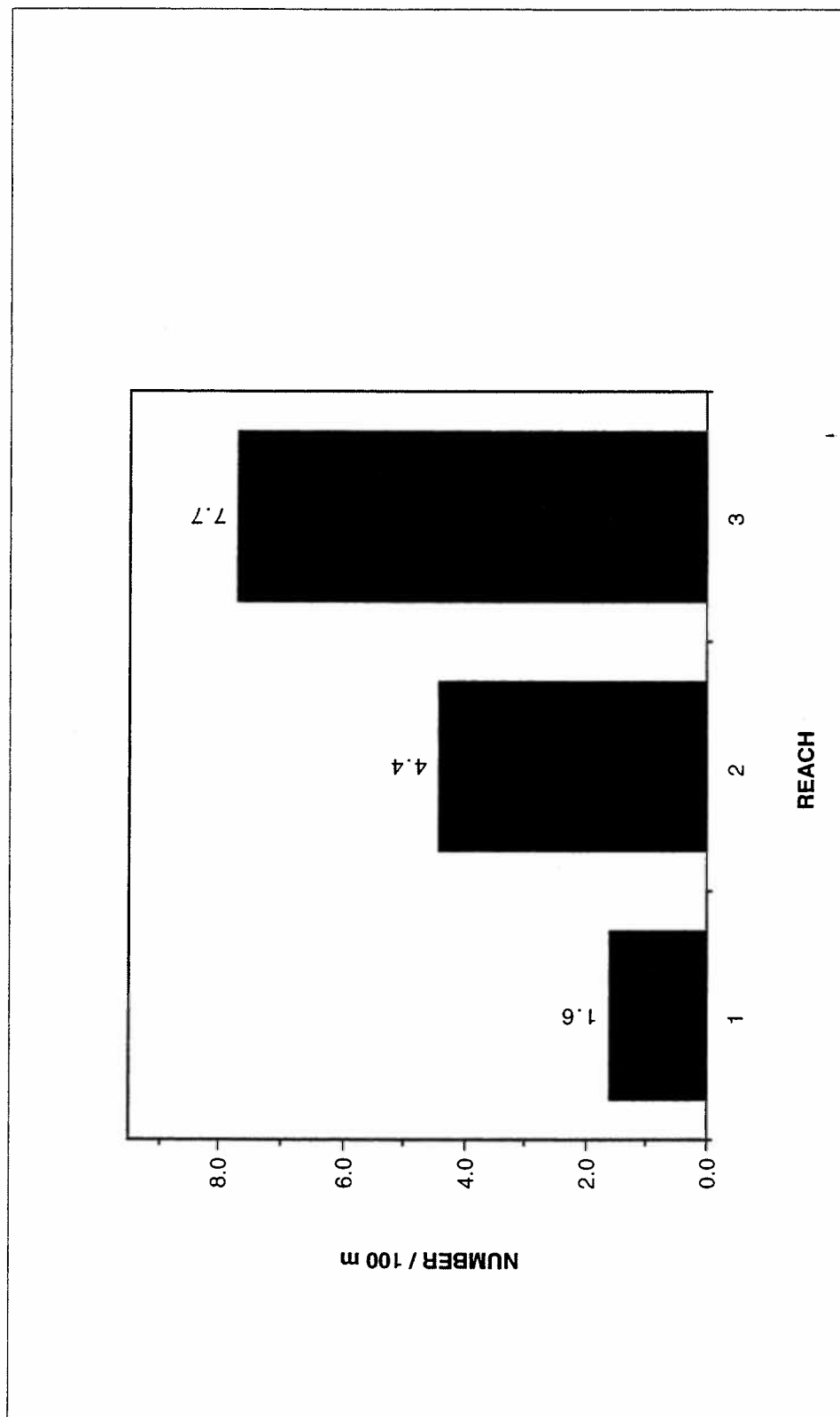


Figure B-119. Large woody debris, root wads. South Fork Bull River, Montana. Tributary survey, 1992-1994.

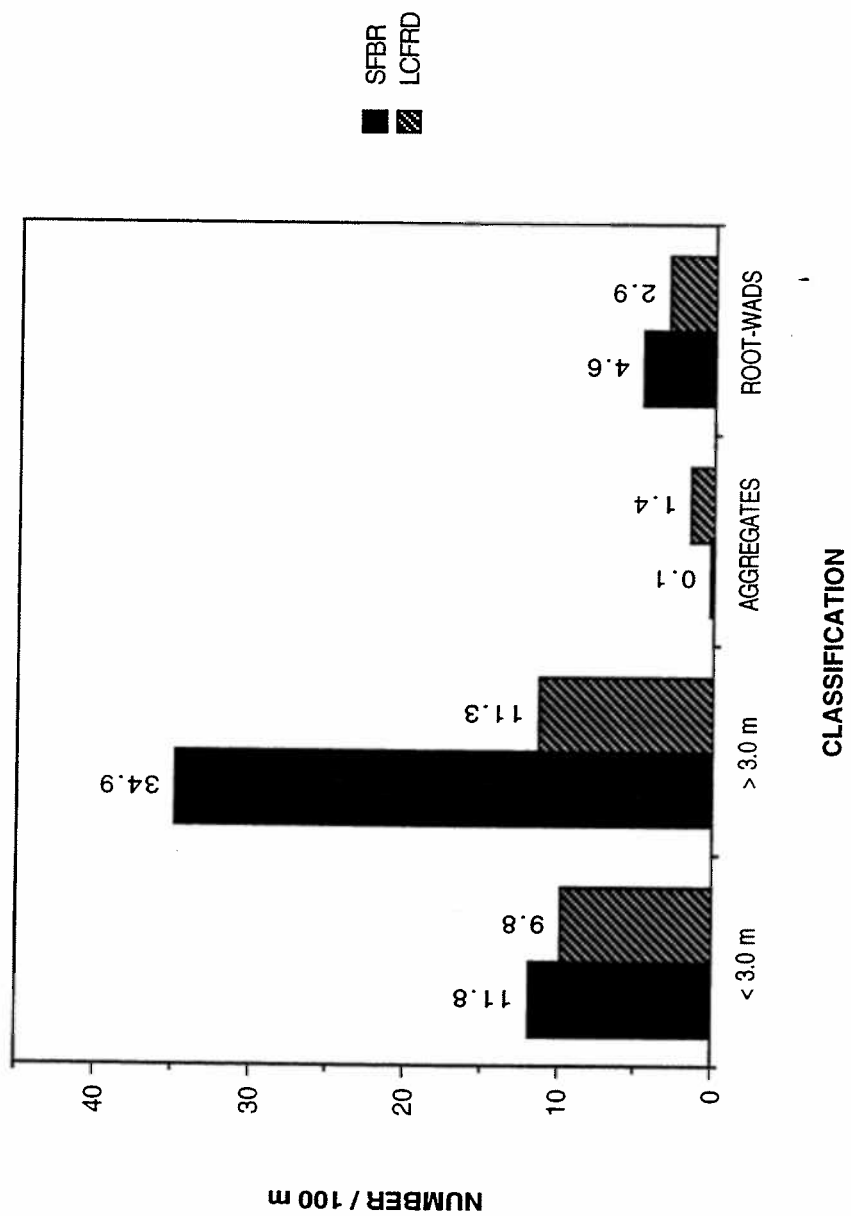


Figure B-120. Large woody debris by classification. South Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

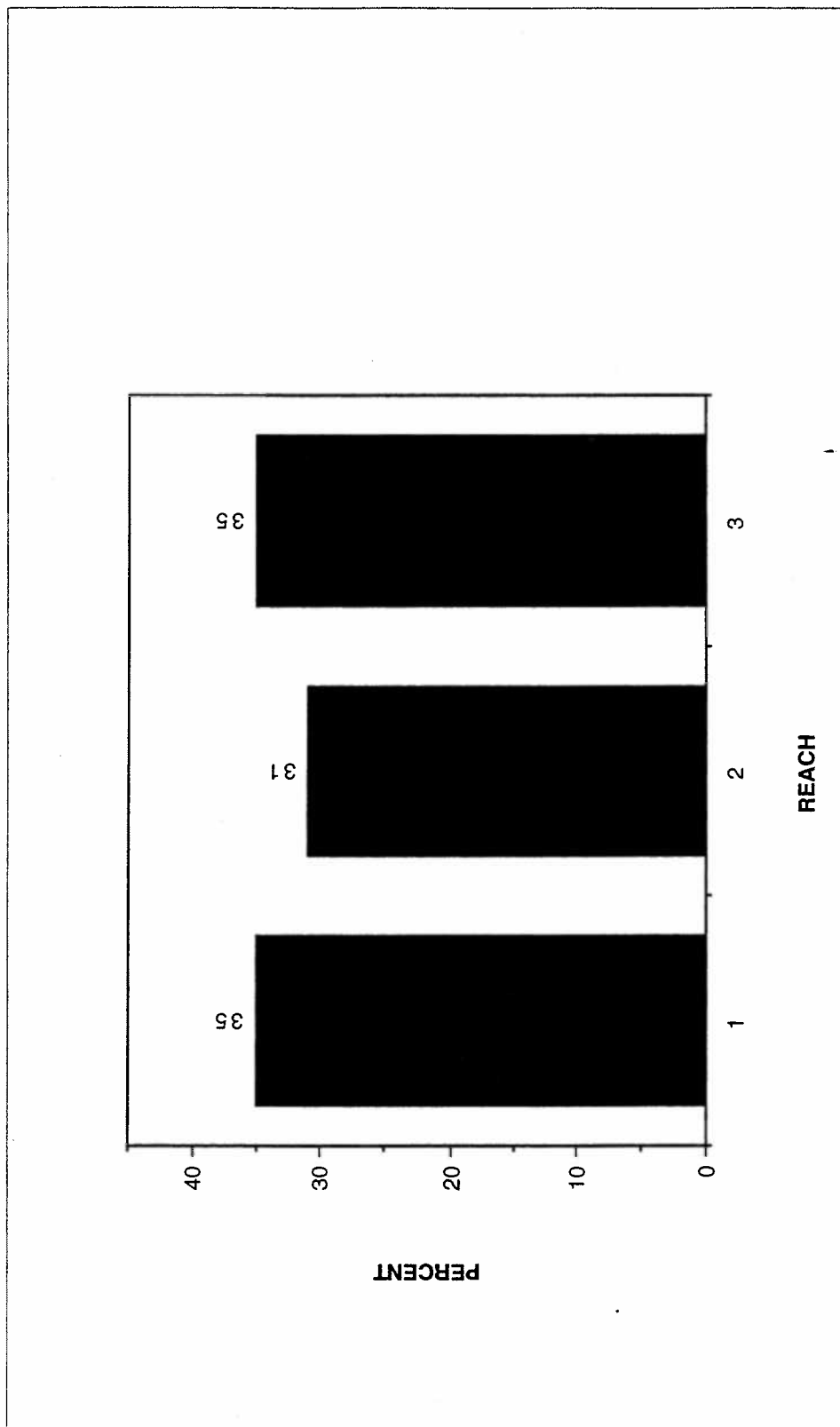


Figure B-121. McNeil core sample percent fines (<6.35 mm) by stream reach. South Fork Bull River, Montana. Tributary survey, 1992-1994.

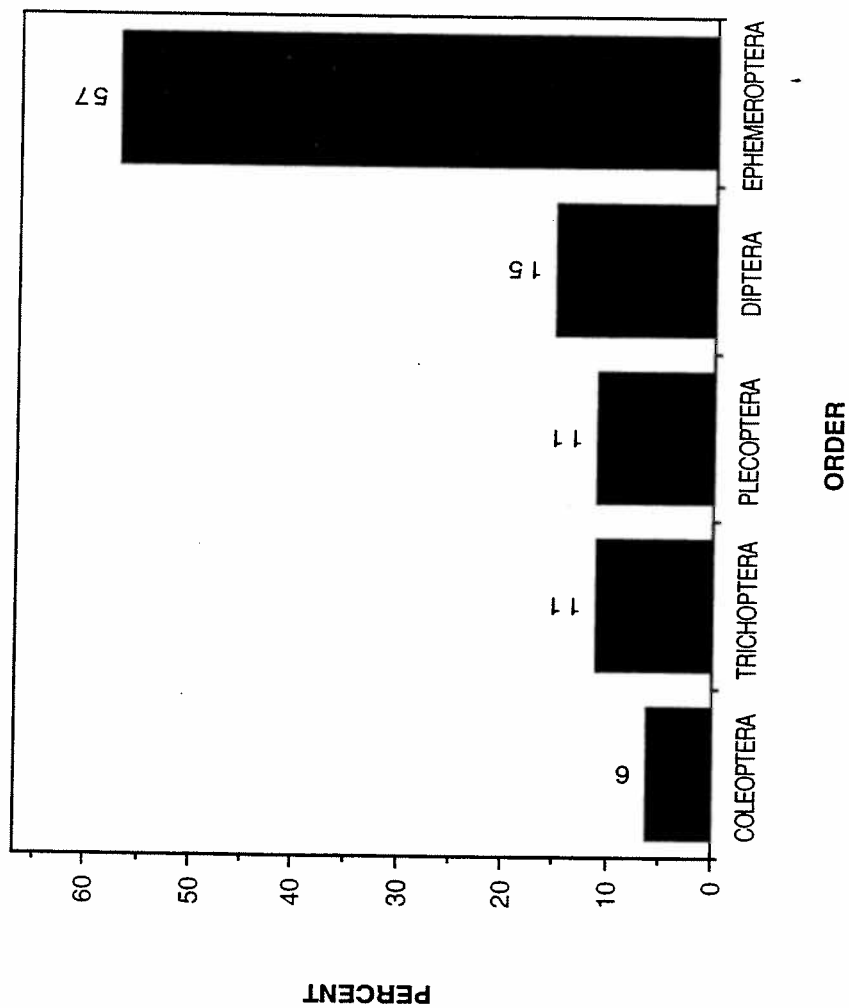


Figure B-122. Percent composition, benthic invertebrate population by taxonomic order. South Fork Bull River. Tributary survey, 1992-1994.

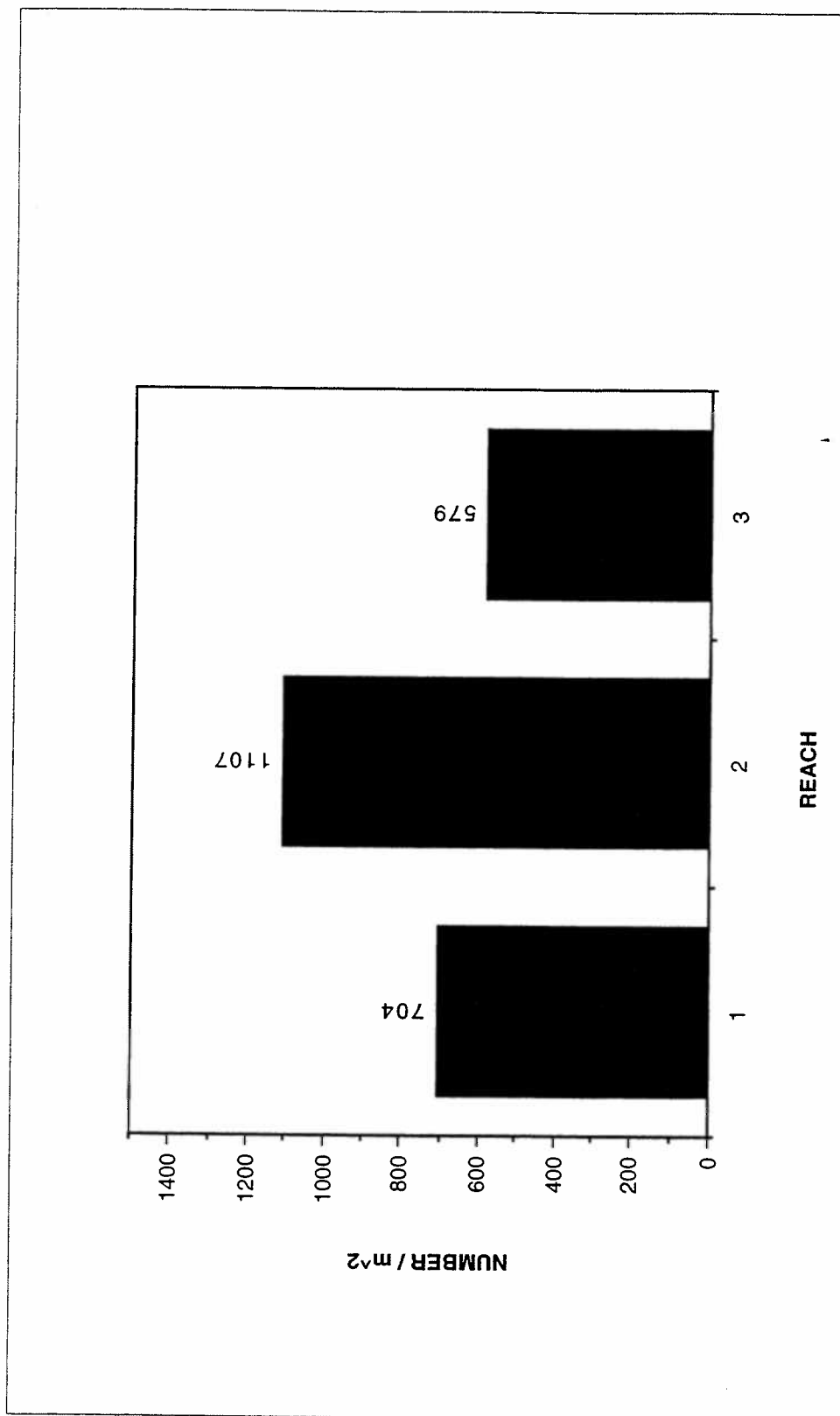


Figure B-123. Benthic invertebrate densities by stream reach. South Fork Bull River, Montana. Tributary survey, 1992-1994.

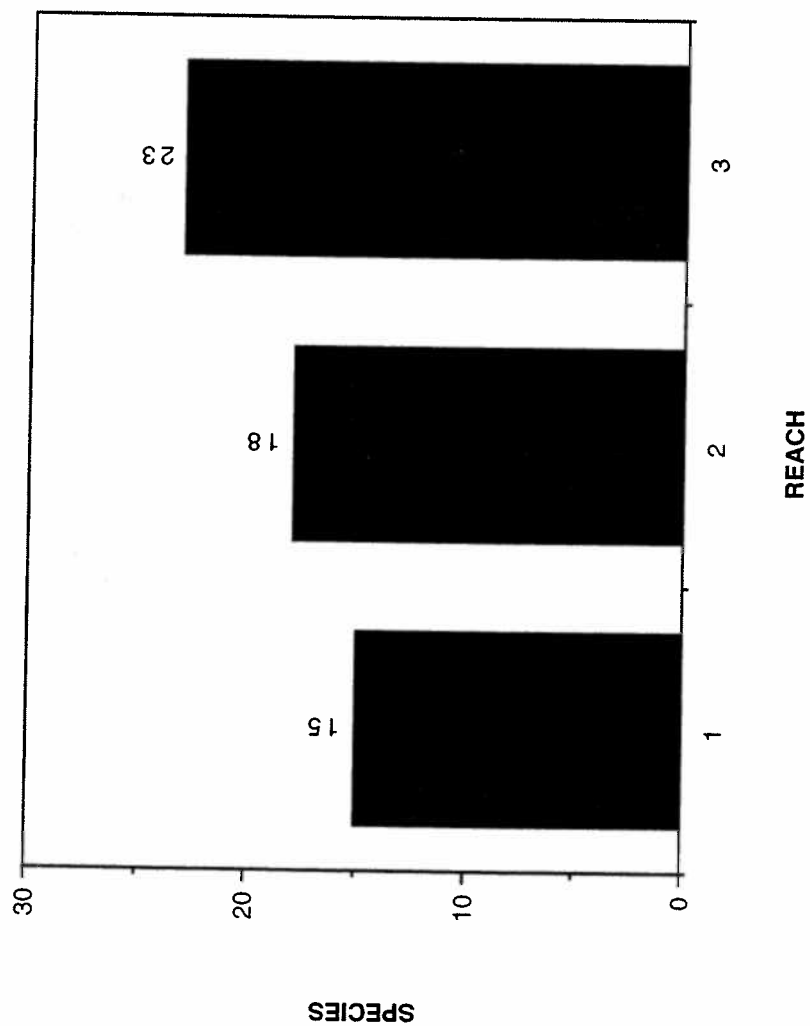


Figure B-124. Benthic invertebrate species richness by stream reach. South Fork Bull River, Montana. Tributary survey, 1992-1994.

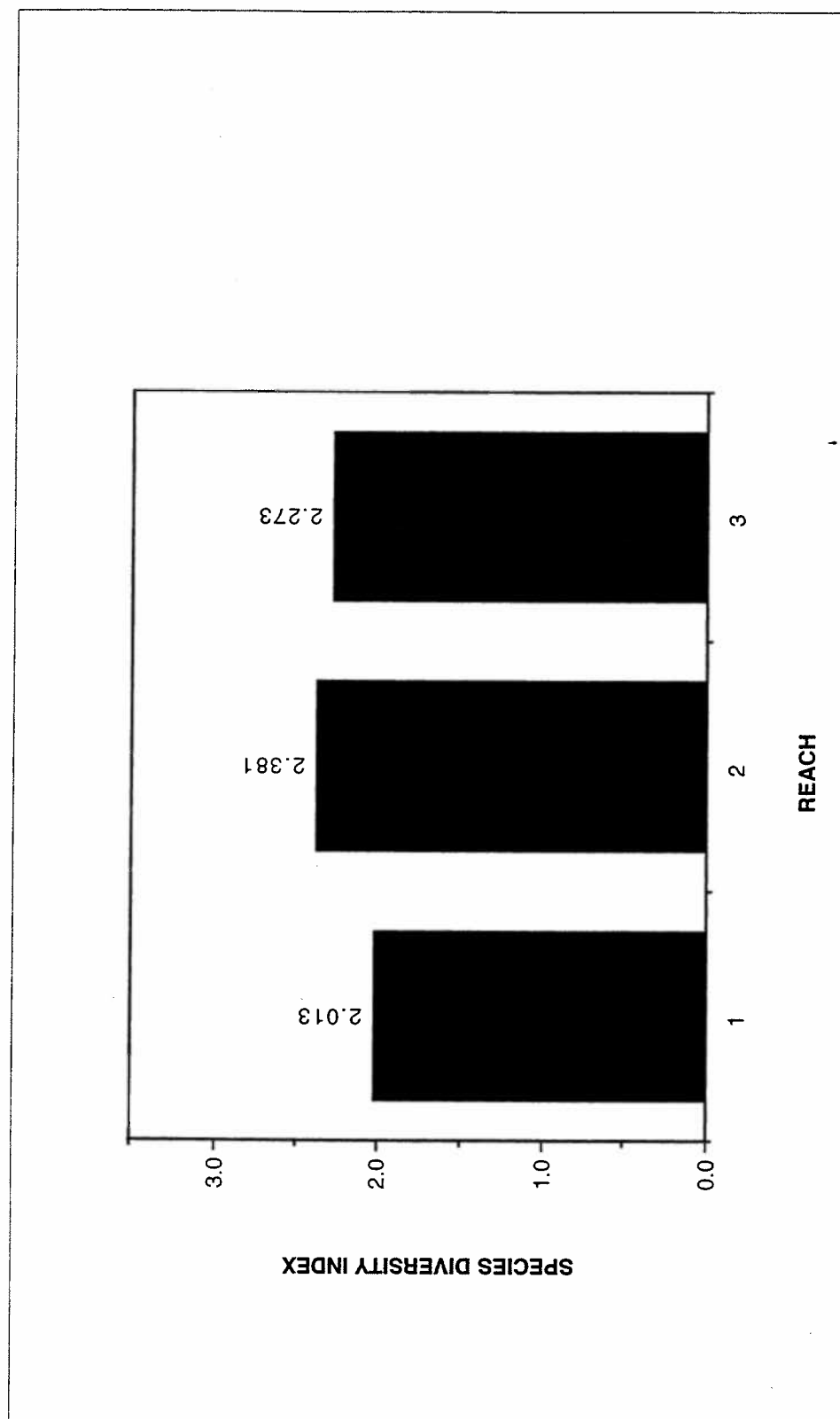


Figure B-125. Benthic invertebrate species diversity (SDI) by stream reach. South Fork Bull River, Montana. Tributary survey, 1992-1994.

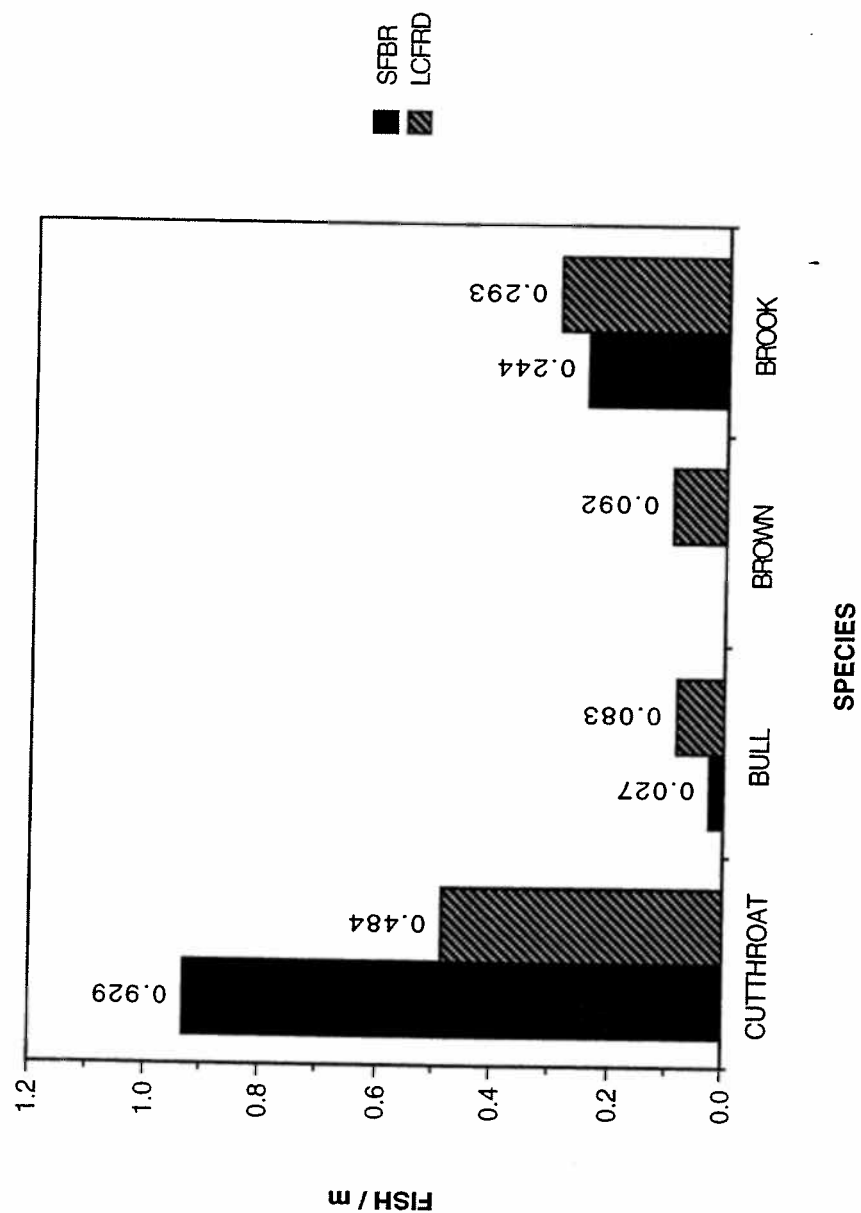


Figure B-126. Estimated densities of cutthroat, bull, brown, and brook trout. South Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

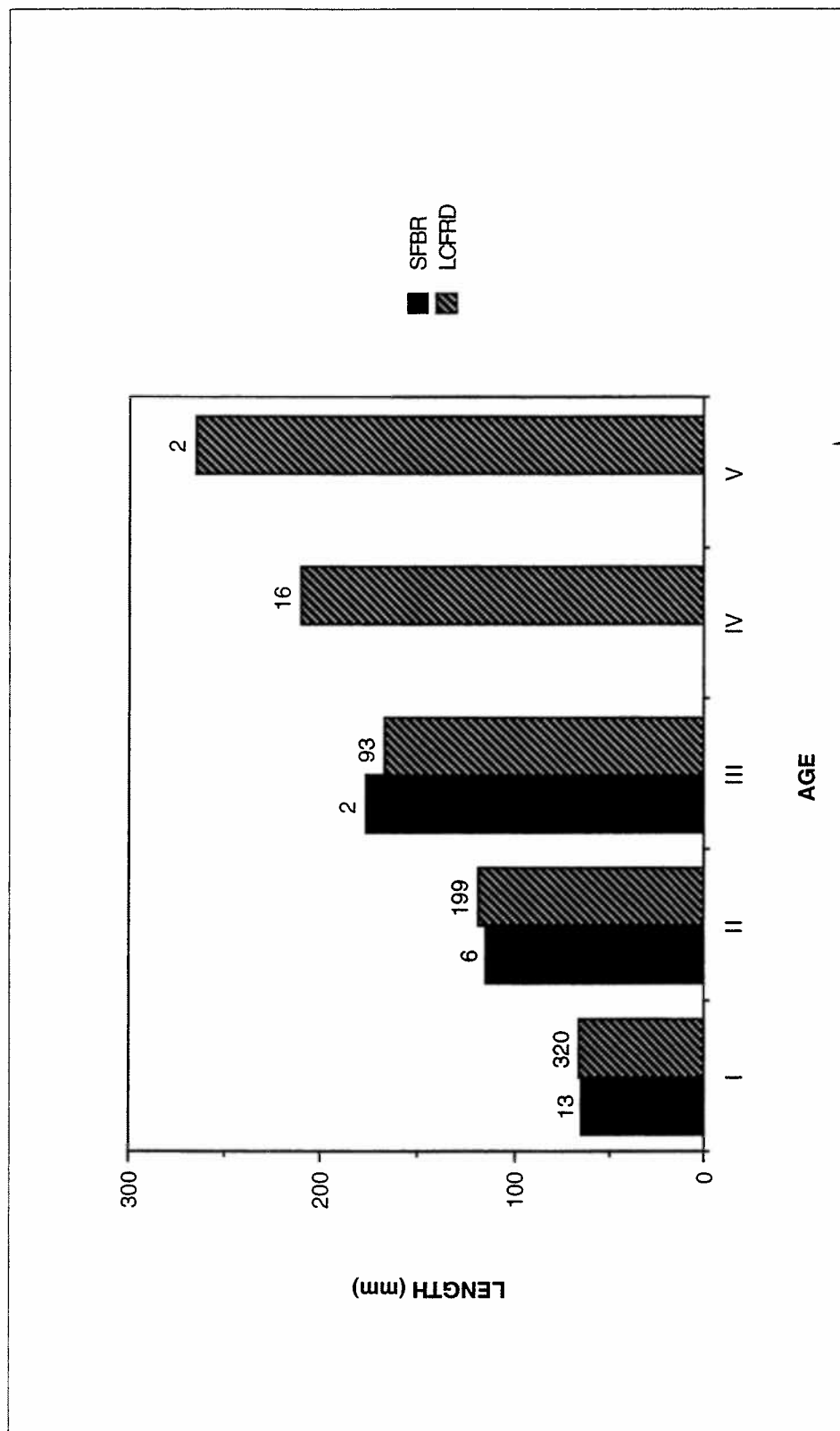


Figure B-127. Number of fish sampled and back calculated length at age for cutthroat trout. South Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

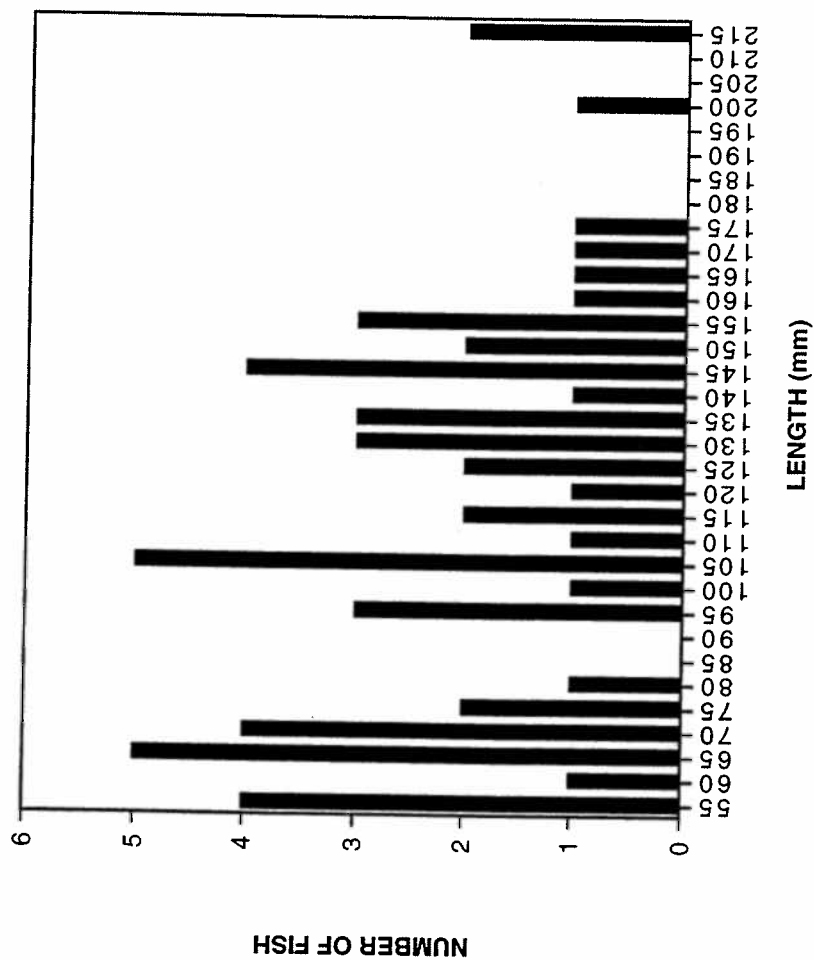


Figure B-128. Length frequency distribution for cutthroat trout. South Fork Bull River. Tributary survey, 1992-1994.

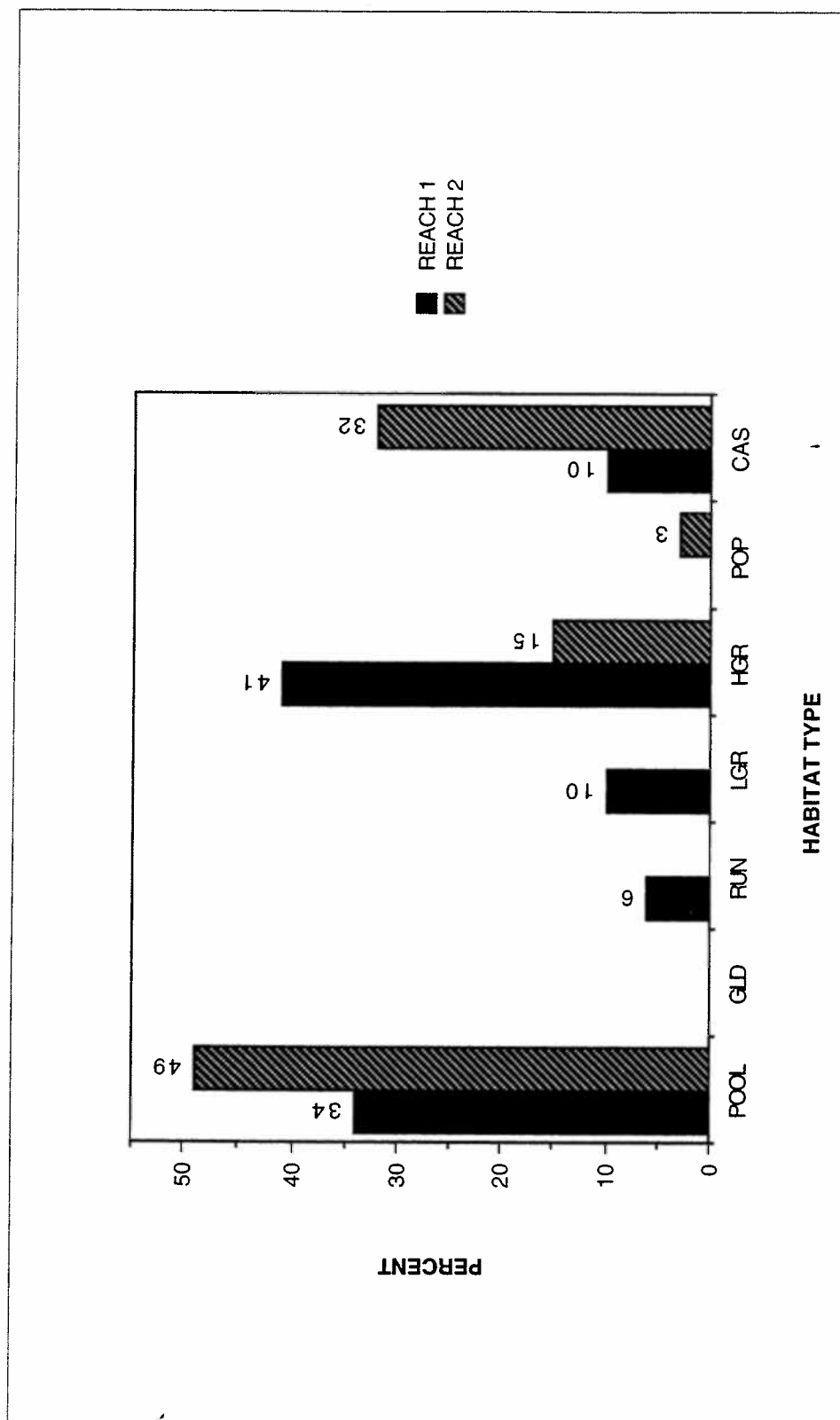


Figure B-129. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types by stream reach. Middle Fork Bull River, Montana. Tributary survey, 1992-1994.

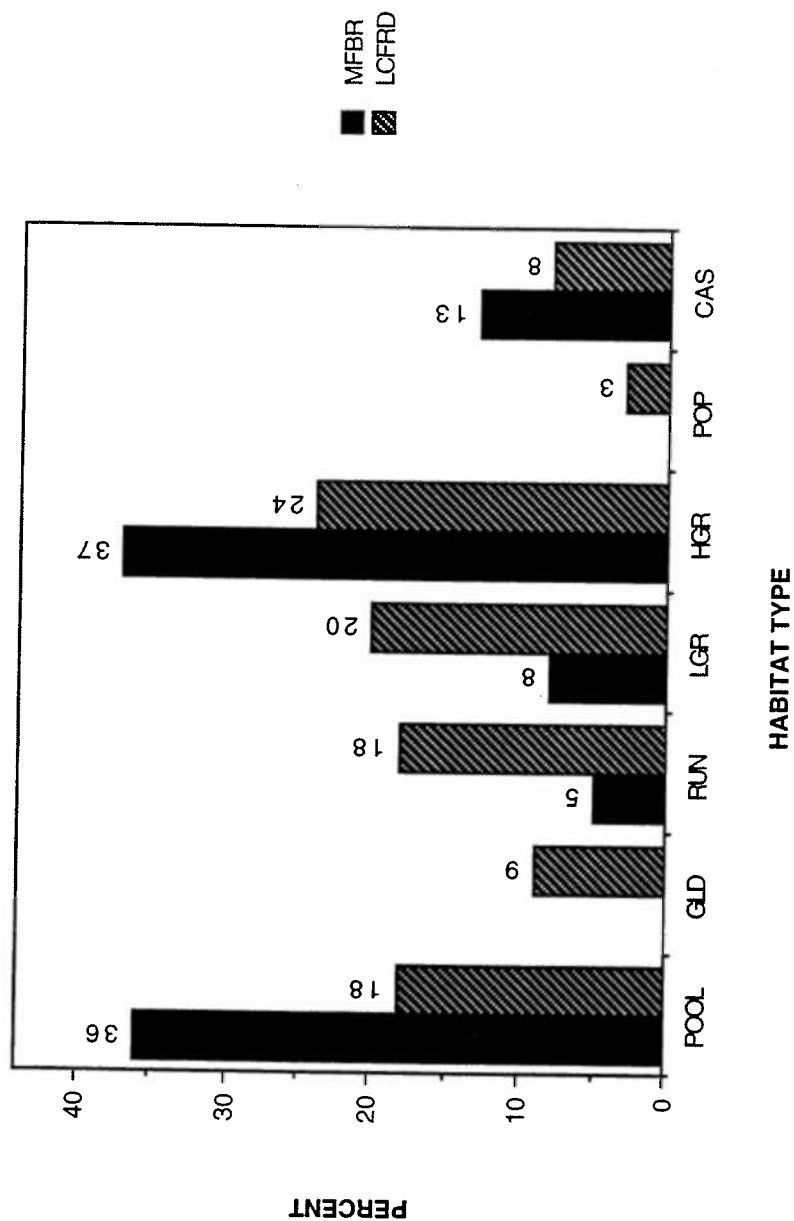


Figure B-130. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. Middle Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

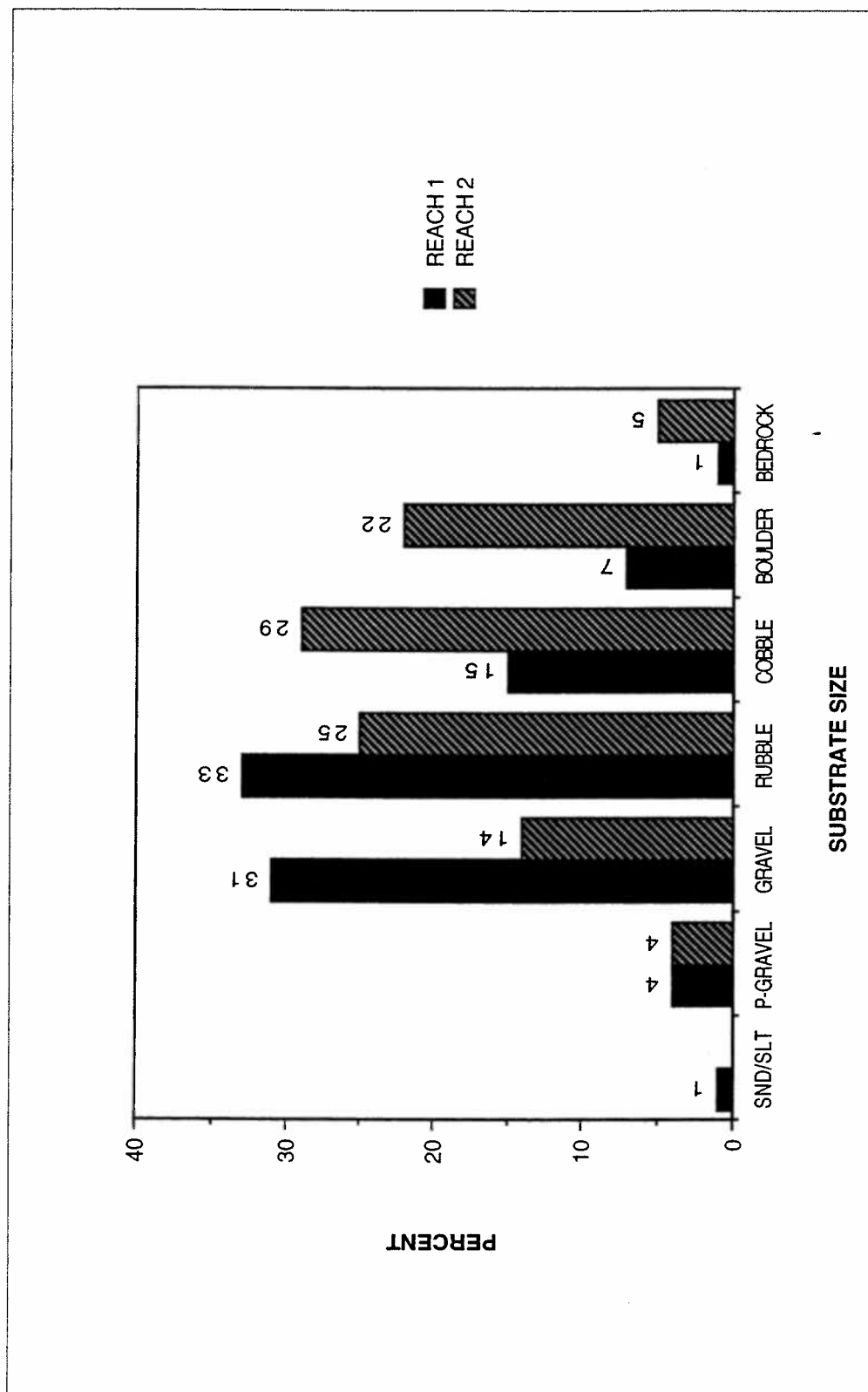


Figure B-131. Percent substrate composition by stream reach. Middle Fork Bull River, Montana. Tributary survey, 1992-1994.

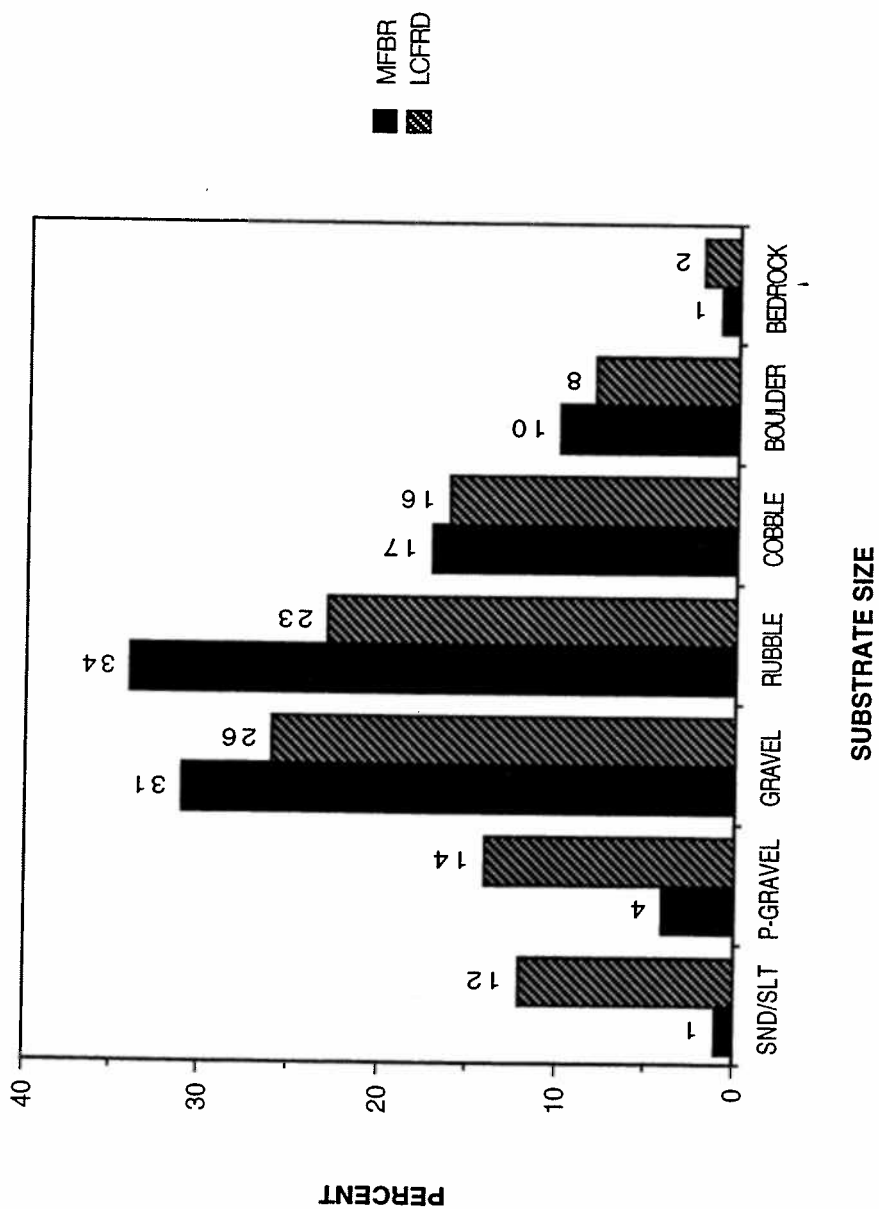


Figure B-132. Percent substrate composition. Middle Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

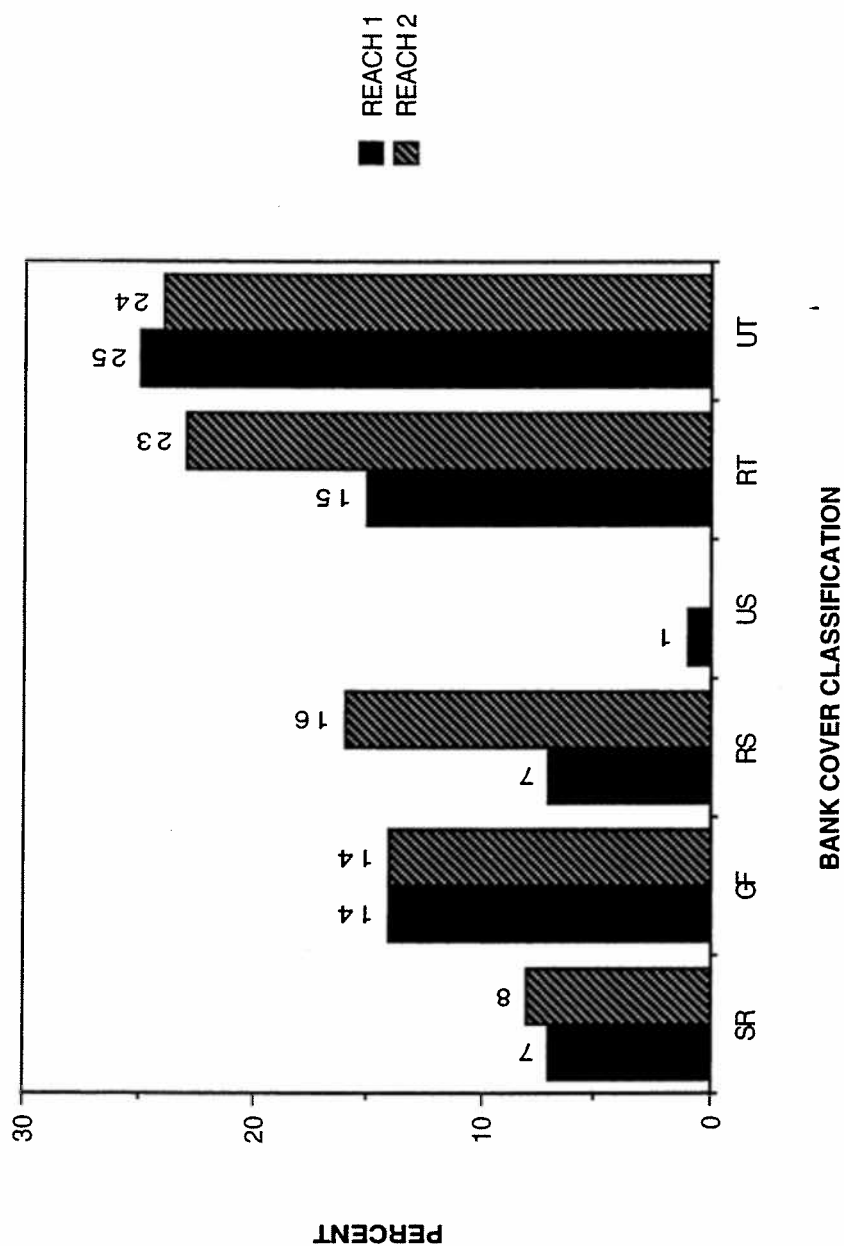


Figure B-133. Percent composition stream bank cover by stream reach. Sedge/rush (SR), grass forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), upland tree (UT). Middle Fork Bull River, Montana. Tributary survey, 1992-1994.

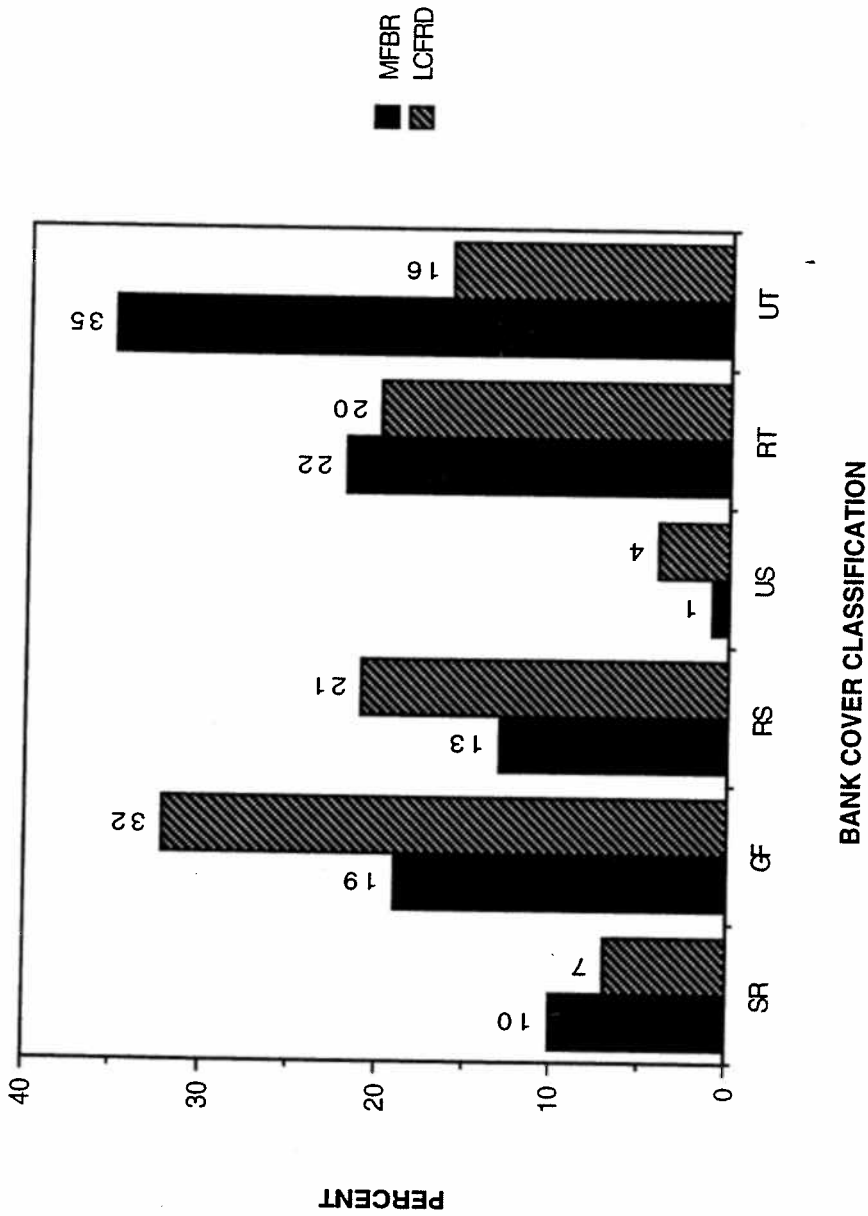


Figure B-134. Percent composition stream bank cover. Sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Middle Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

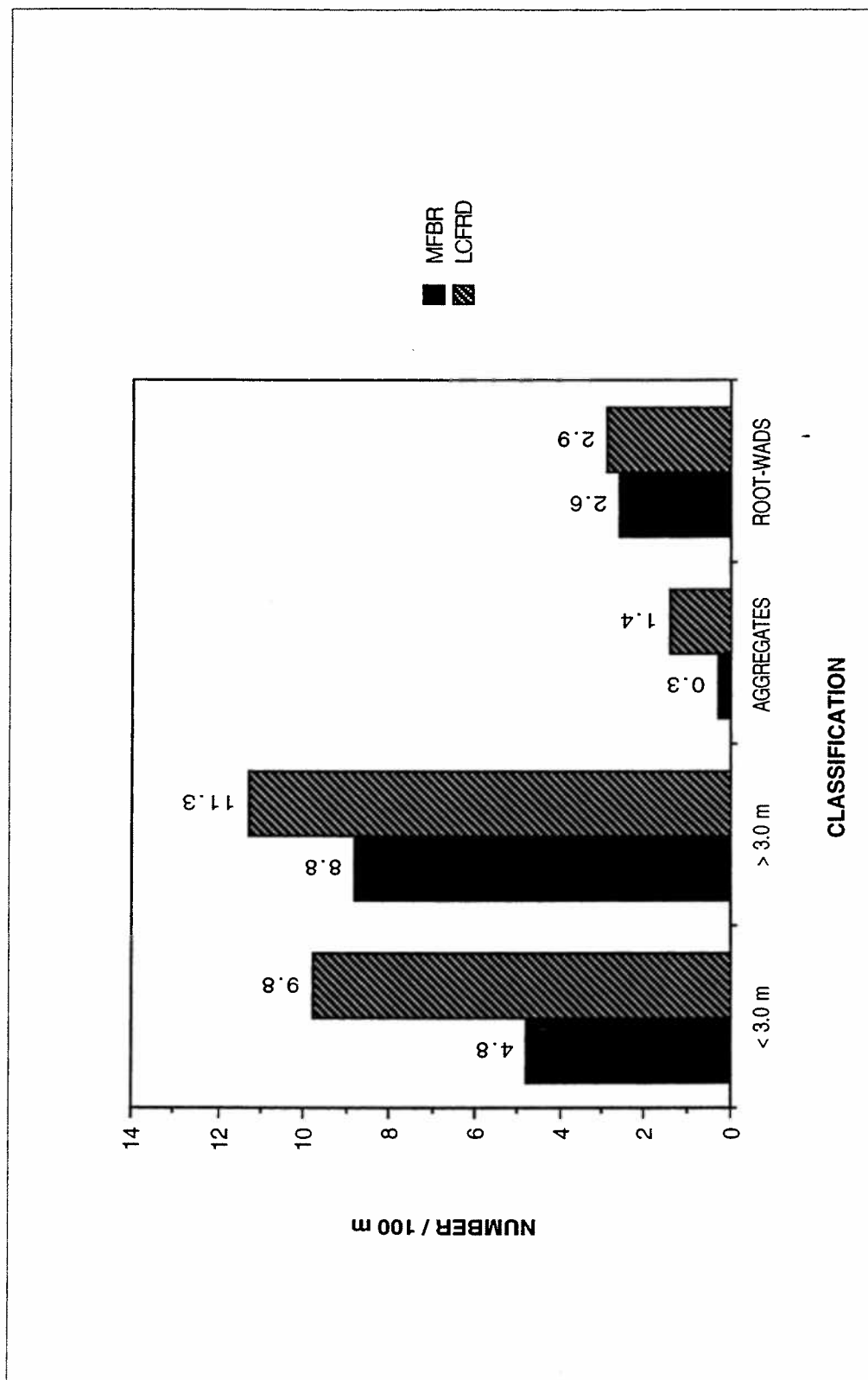


Figure B-135. Large woody debris by classification. Middle Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

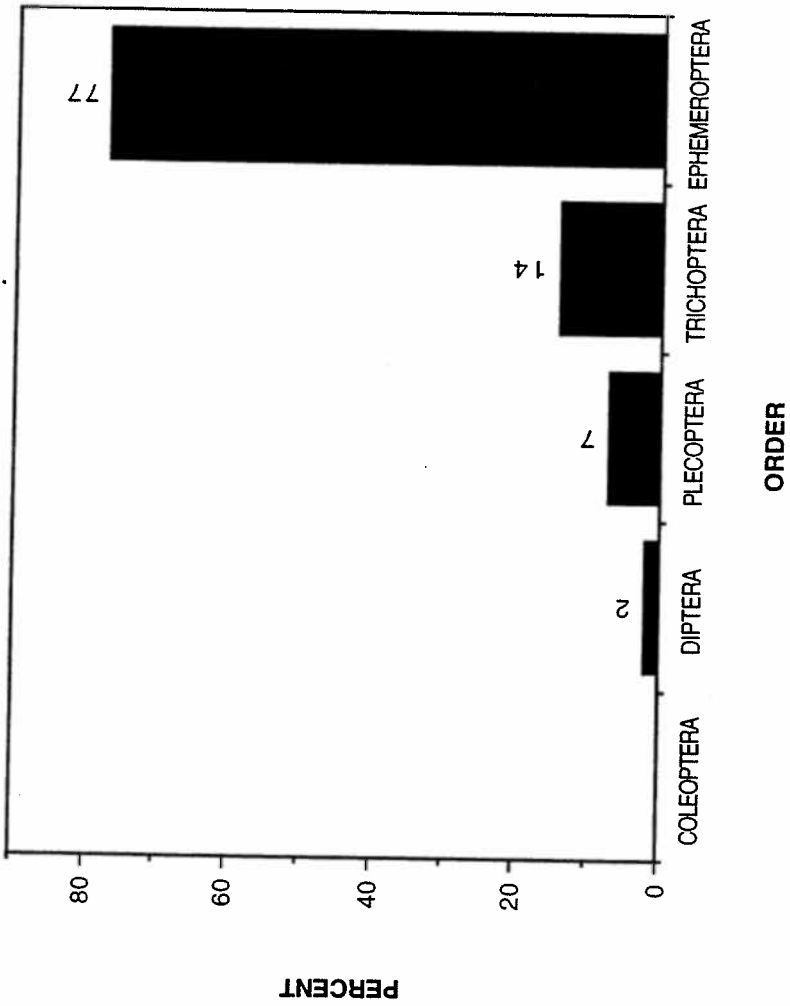


Figure B-136. Percent composition, benthic invertebrate population by taxonomic order. Middle Fork Bull River, Montana. Tributary survey, 1992-1994.

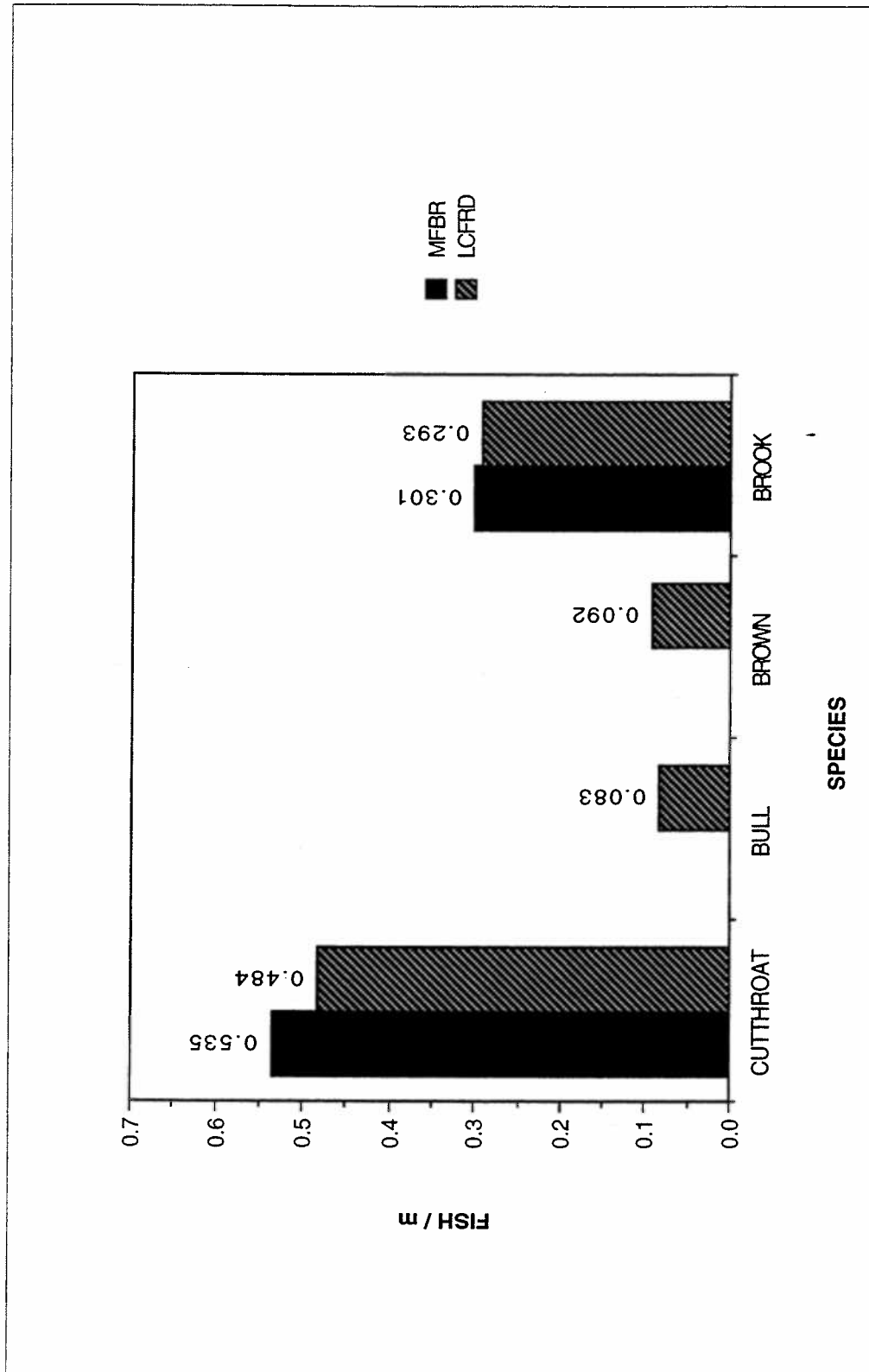


Figure B-137. Estimated densities of cutthroat, bull, brown, and brook trout. Middle Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

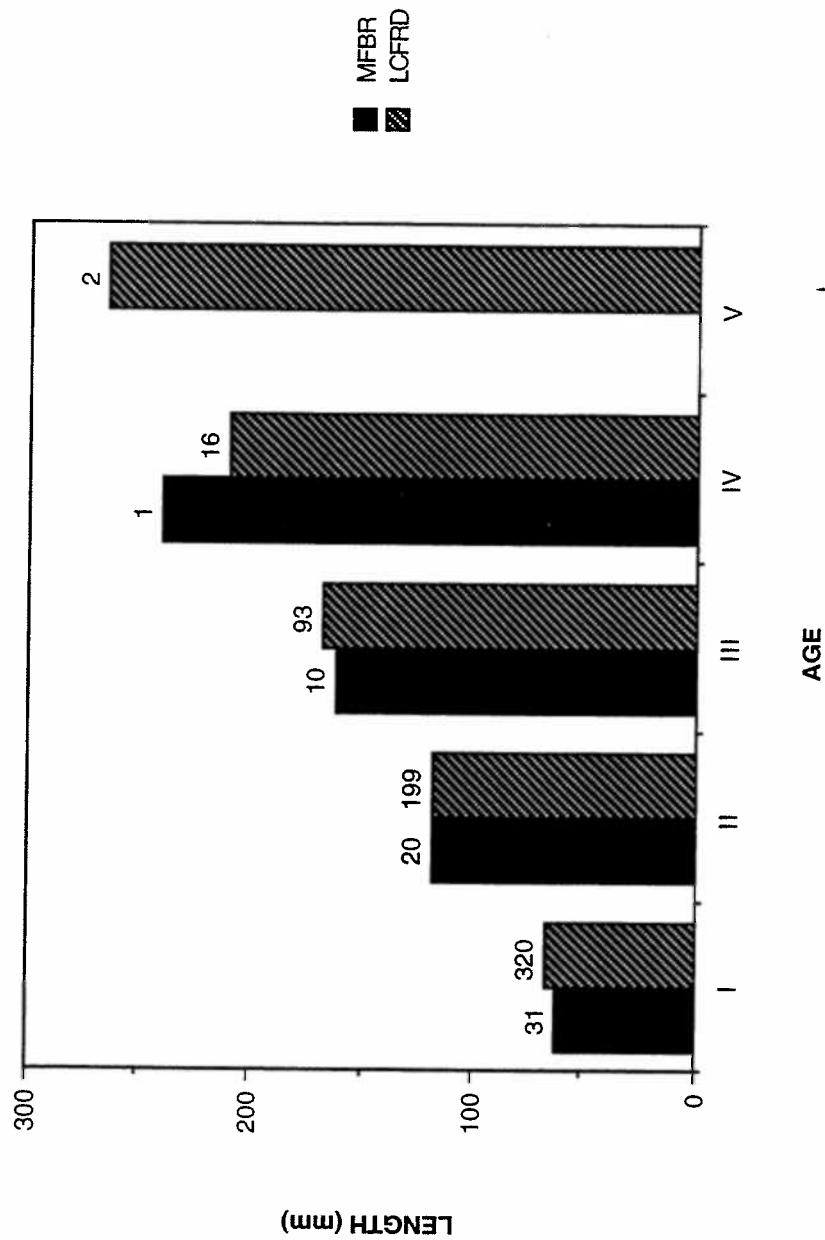


Figure B-138. Number of fish sampled and back calculated length at age for cutthroat trout. Middle Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

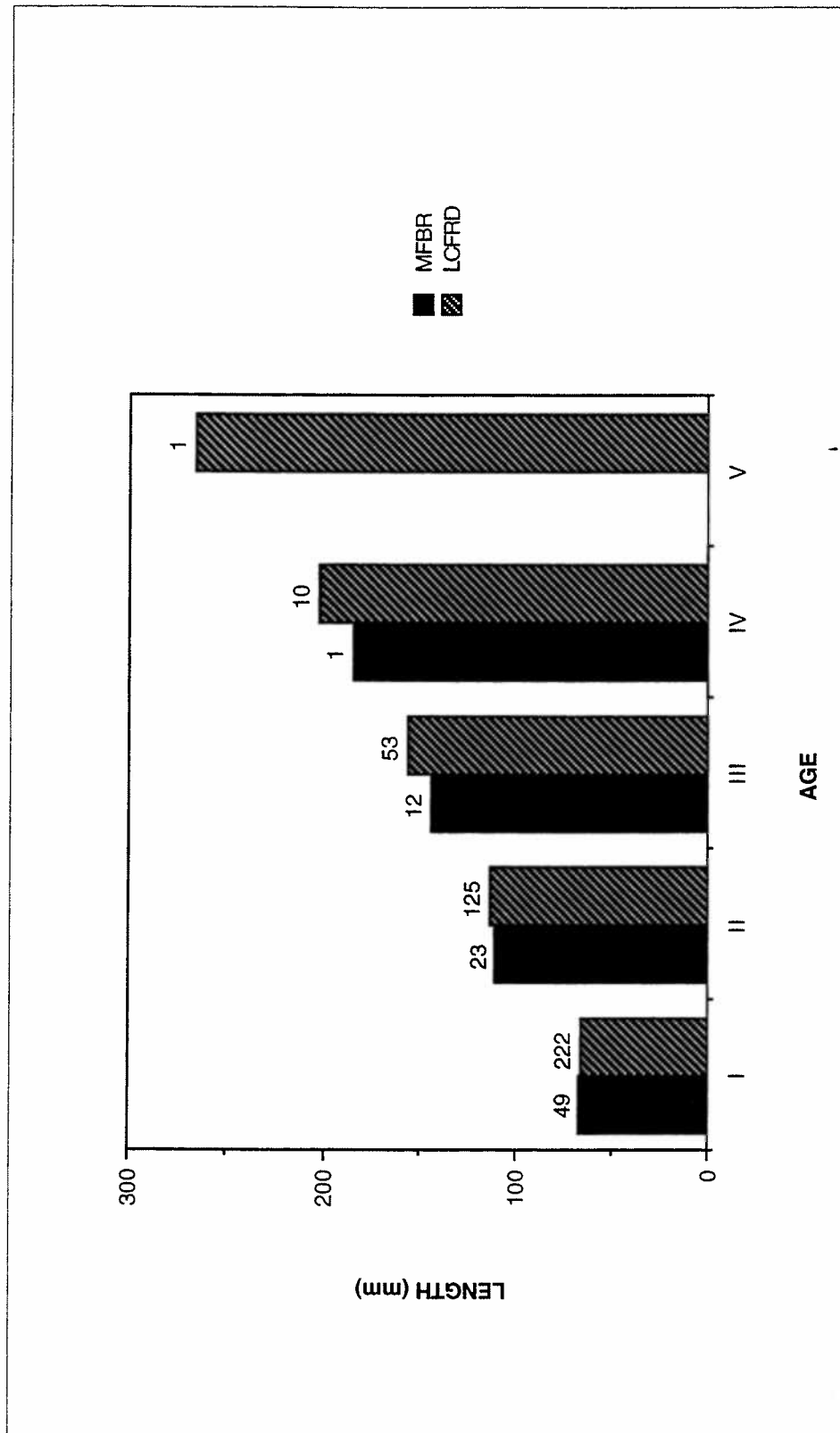


Figure B-139. Number of fish sampled and back calculated length at age for brook trout. Middle Fork Bull River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

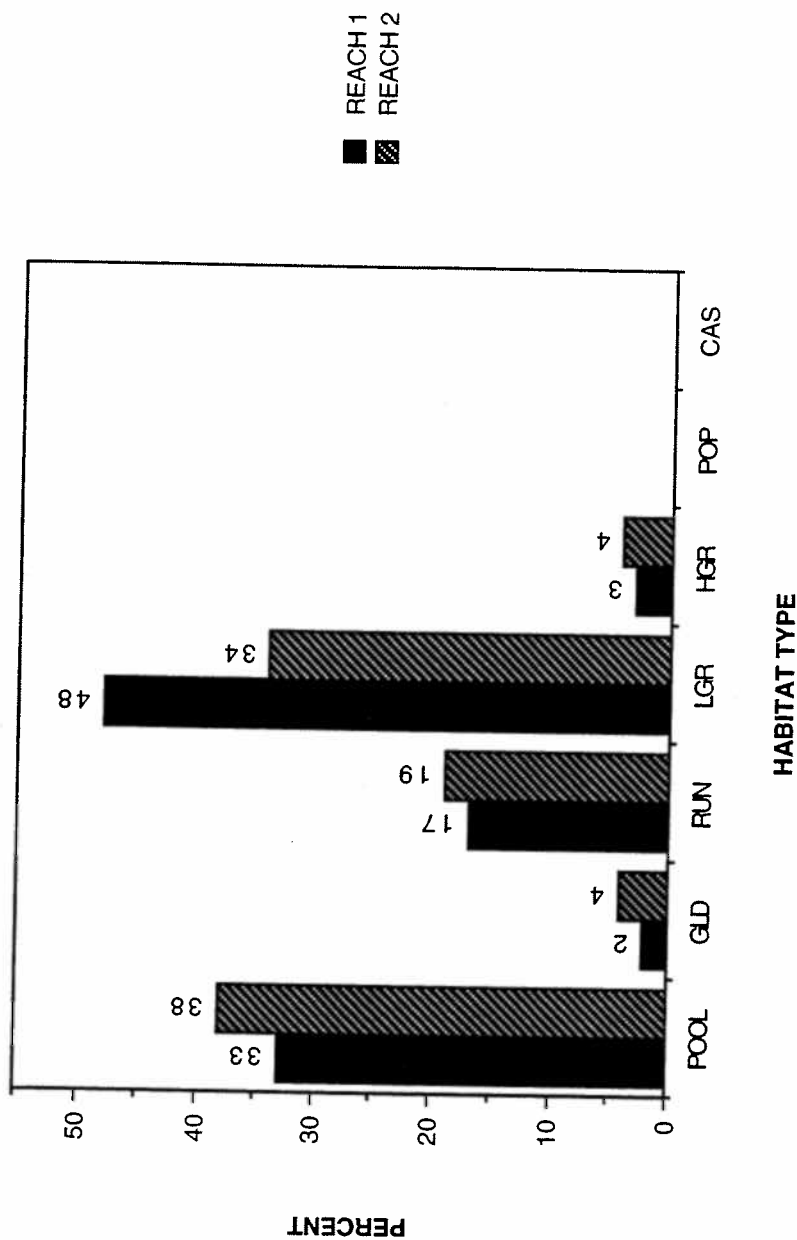


Figure B-140. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types by stream reach. East Fork Blue Creek, Montana. Tributary survey, 1992-1994.

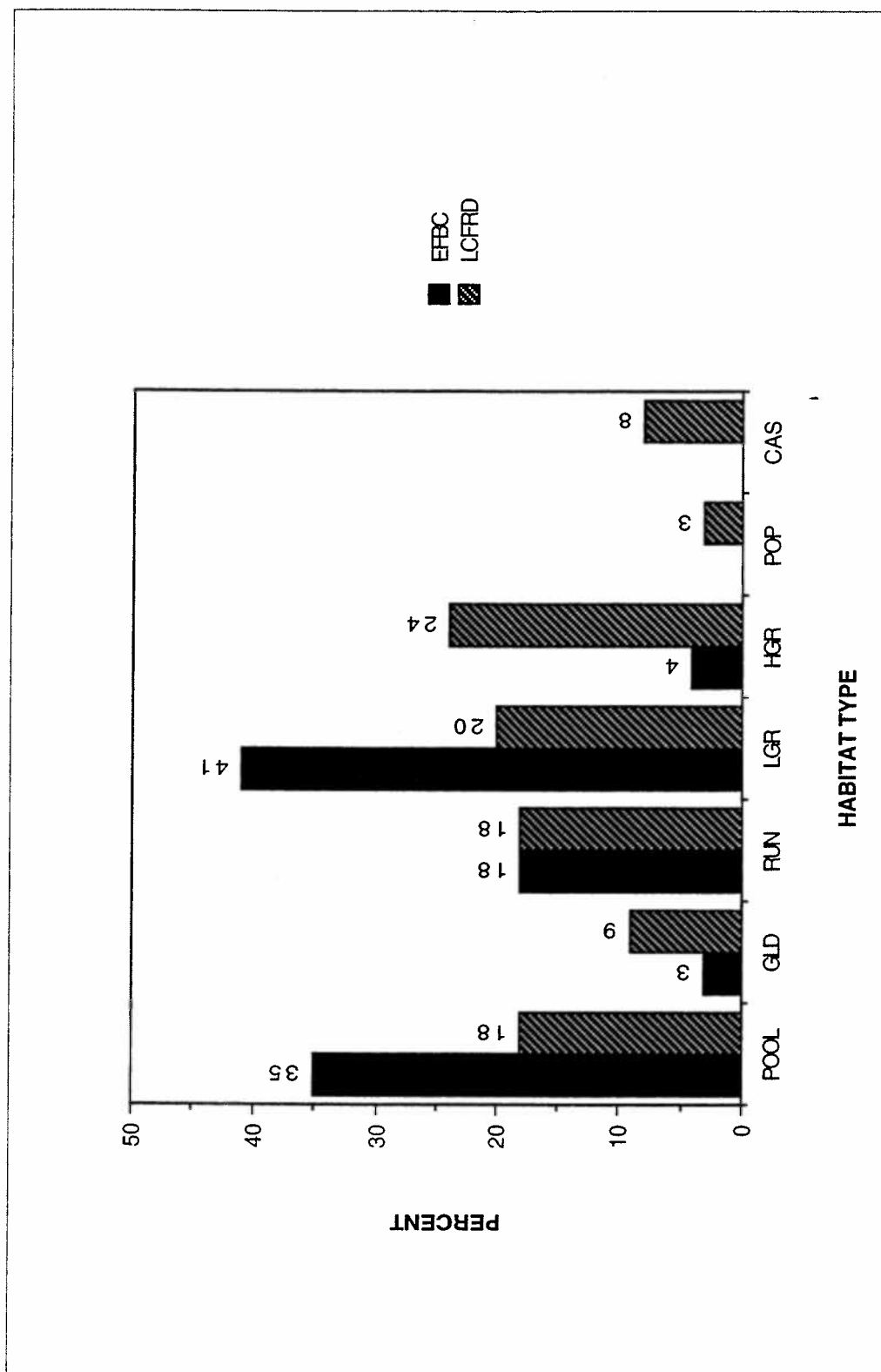


Figure B-141. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. East Fork Blue Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

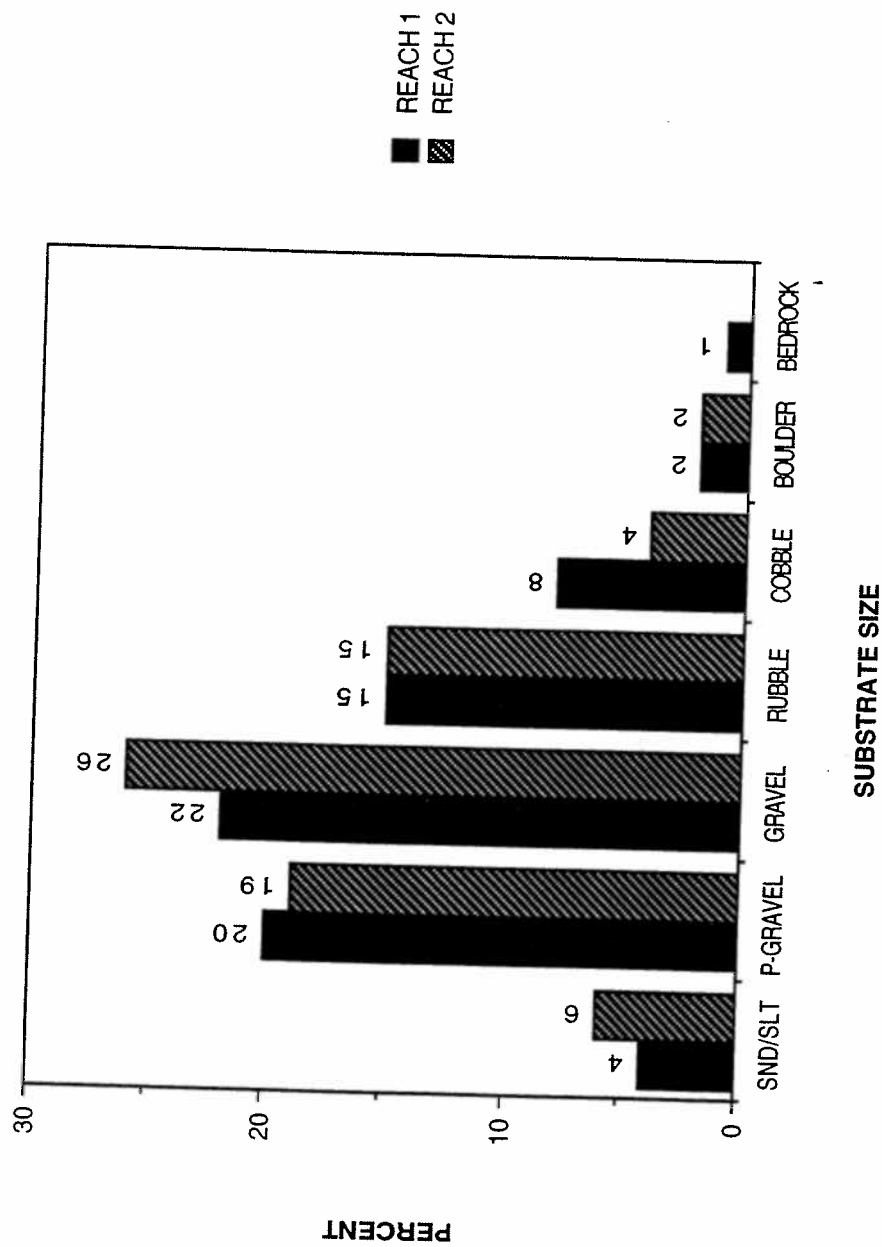


Figure B-142. Percent substrate composition by stream reach. East Fork Blue Creek, Montana. Tributary survey, 1992-1994.

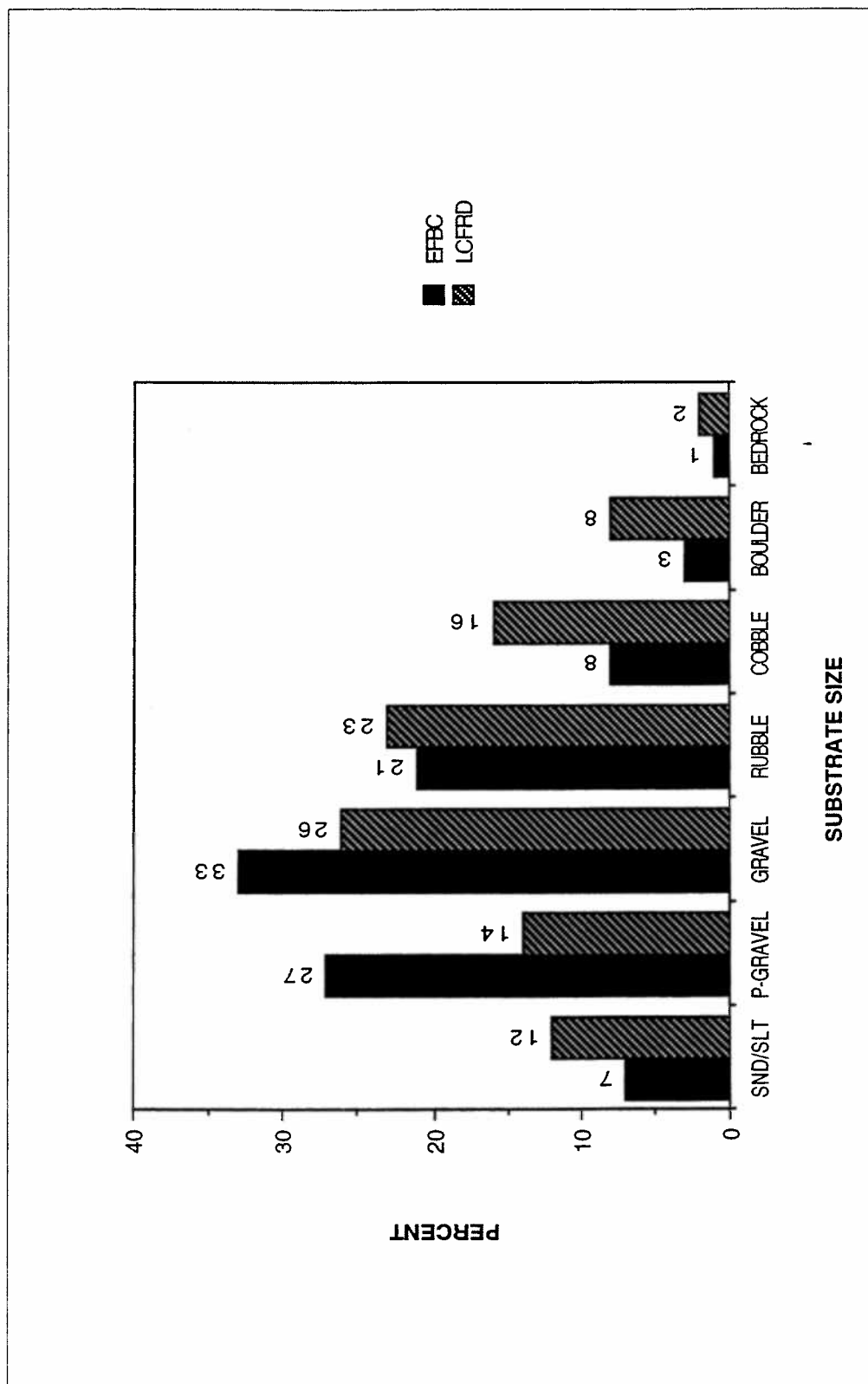


Figure B-143. Percent substrate composition. East Fork Blue Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

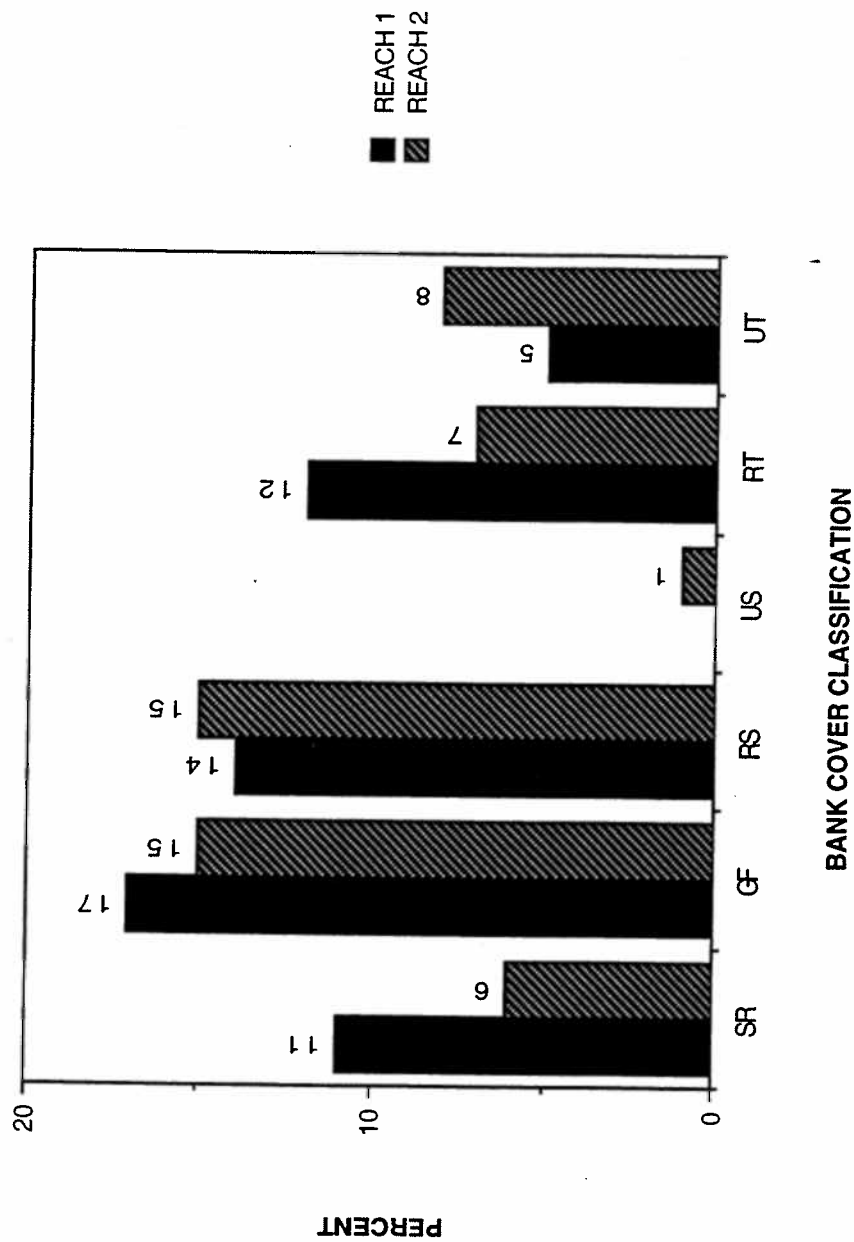


Figure B-144. Percent composition stream bank cover by stream reach. Sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). East Fork Blue Creek, Montana. Tributary survey, 1992-1994.

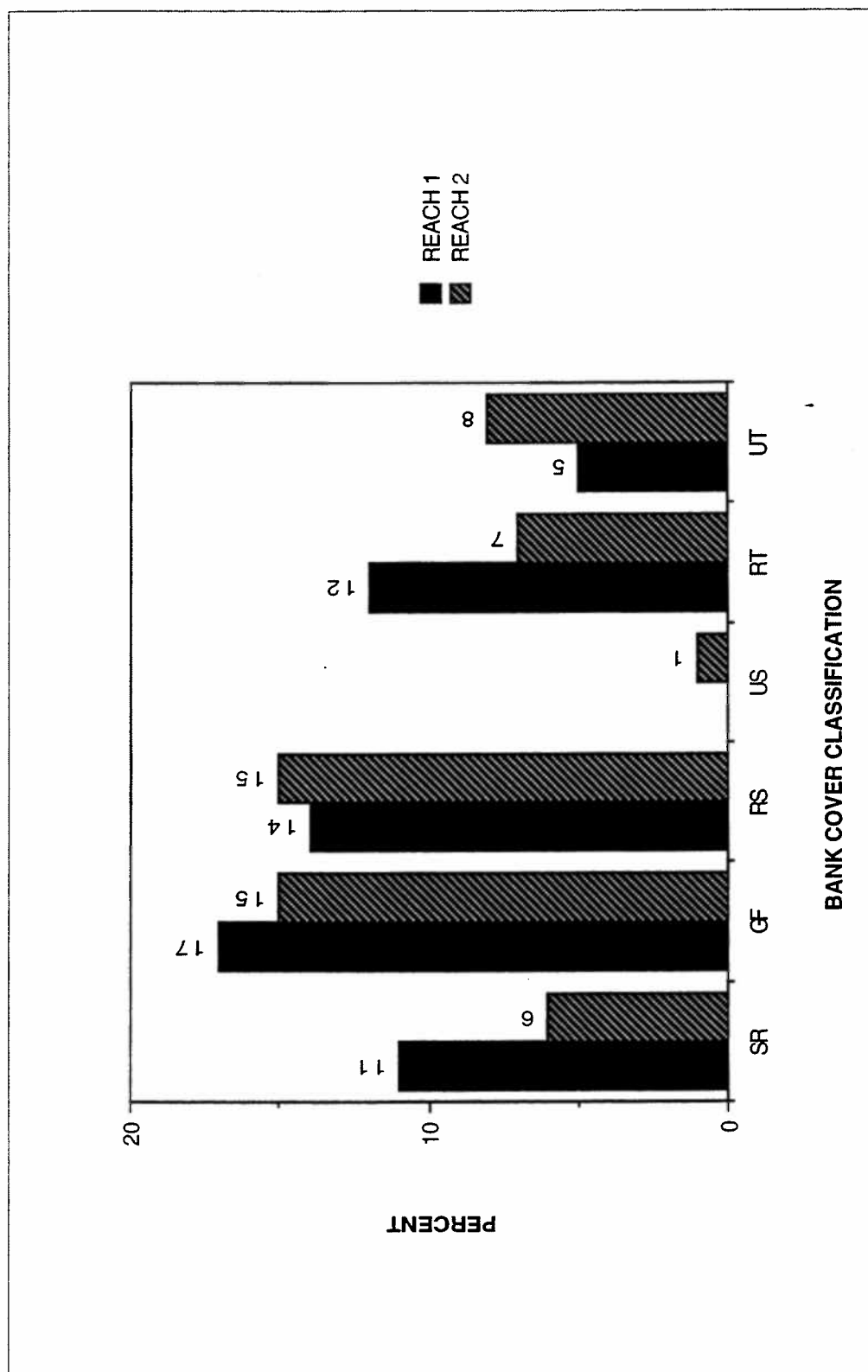


Figure B-144. Percent composition stream bank cover by stream reach. Sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). East Fork Blue Creek, Montana. Tributary survey, 1992-1994.

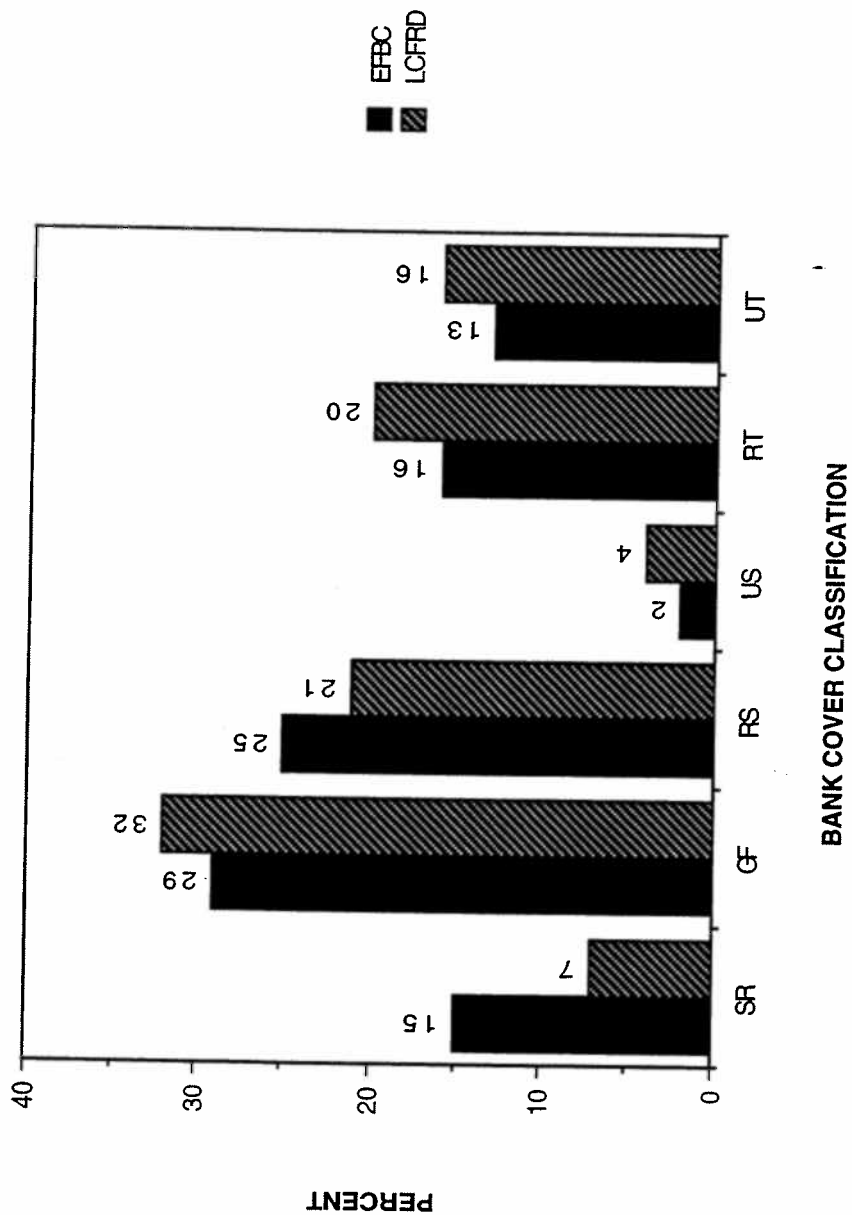


Figure B-145. Percent composition stream bank cover. Sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). East Fork Blue Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

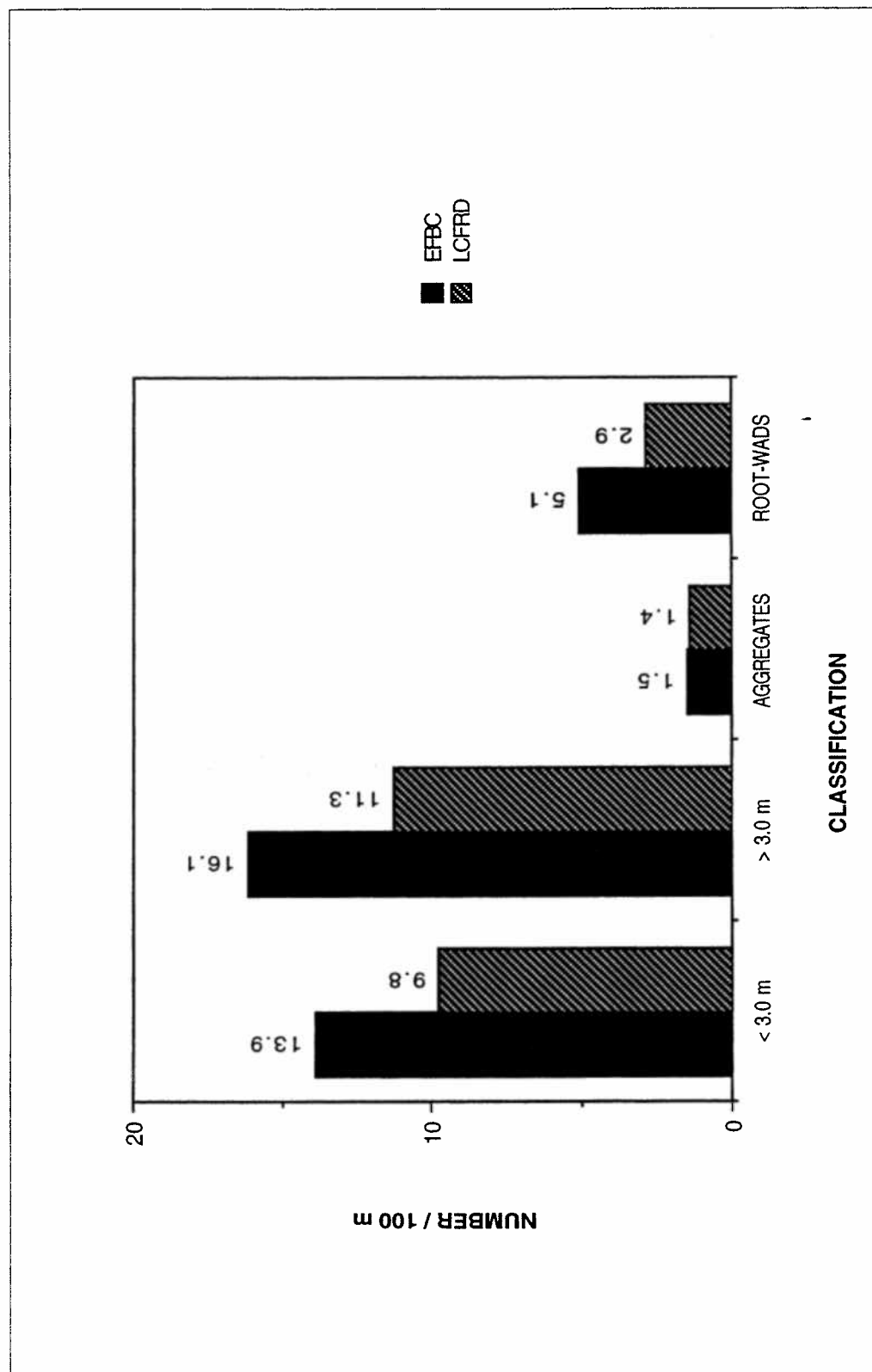


Figure B-146. Large woody debris by classification. East Fork Blue Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

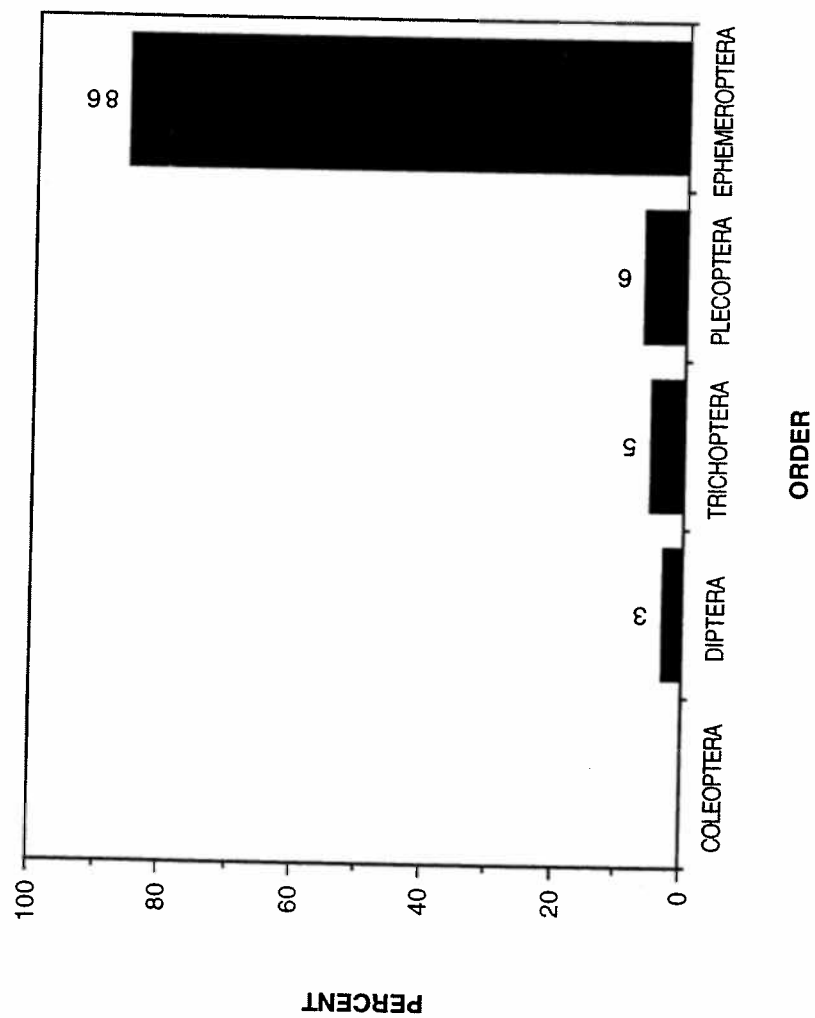


Figure B-147. Percent composition, benthic invertebrate population by taxonomic order. East Fork Blue Creek, Montana. Tributary survey, 1992-1994.

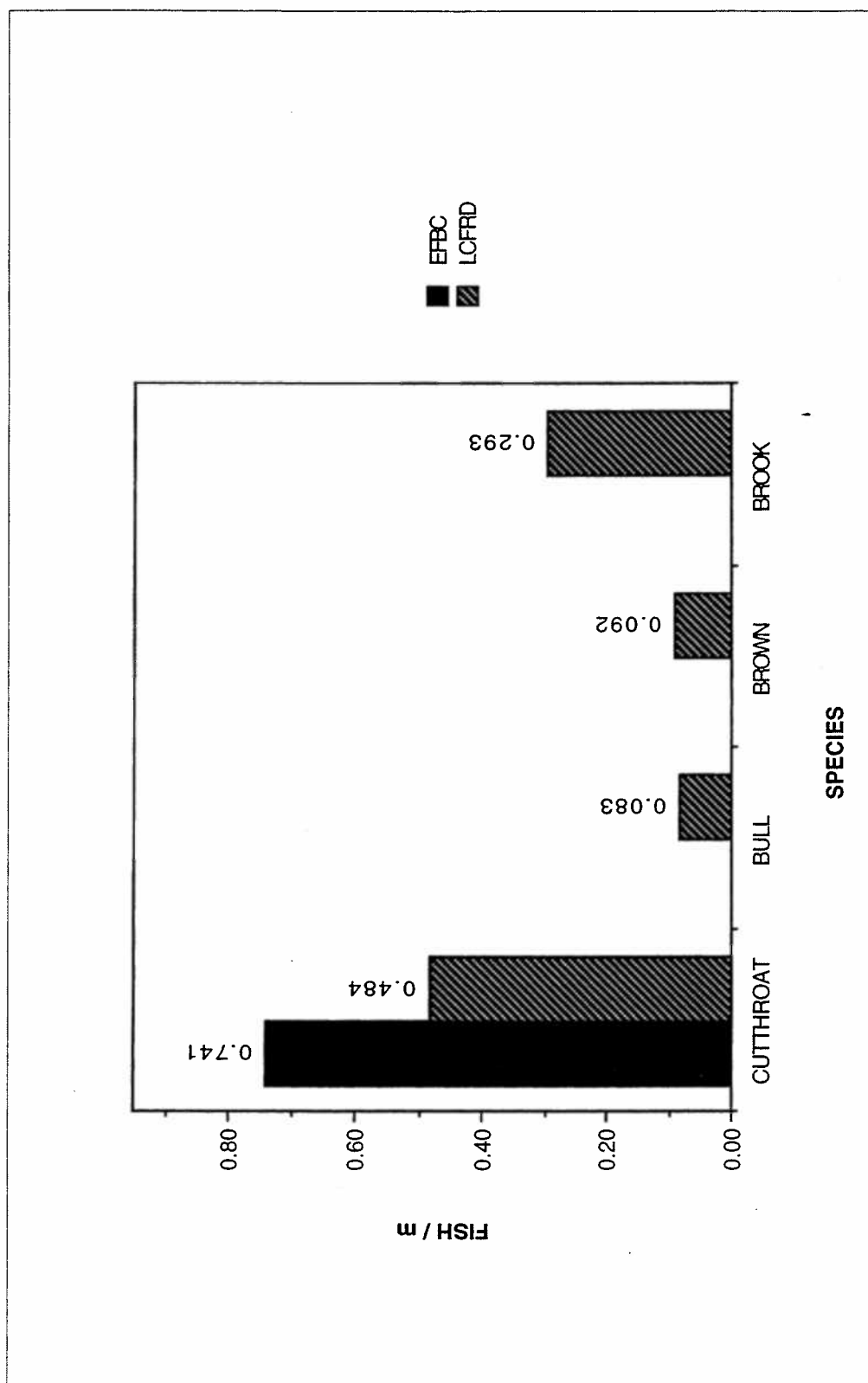


Figure B-148. Estimated densities of cutthroat, bull, brown, and brook trout. East Fork Blue Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

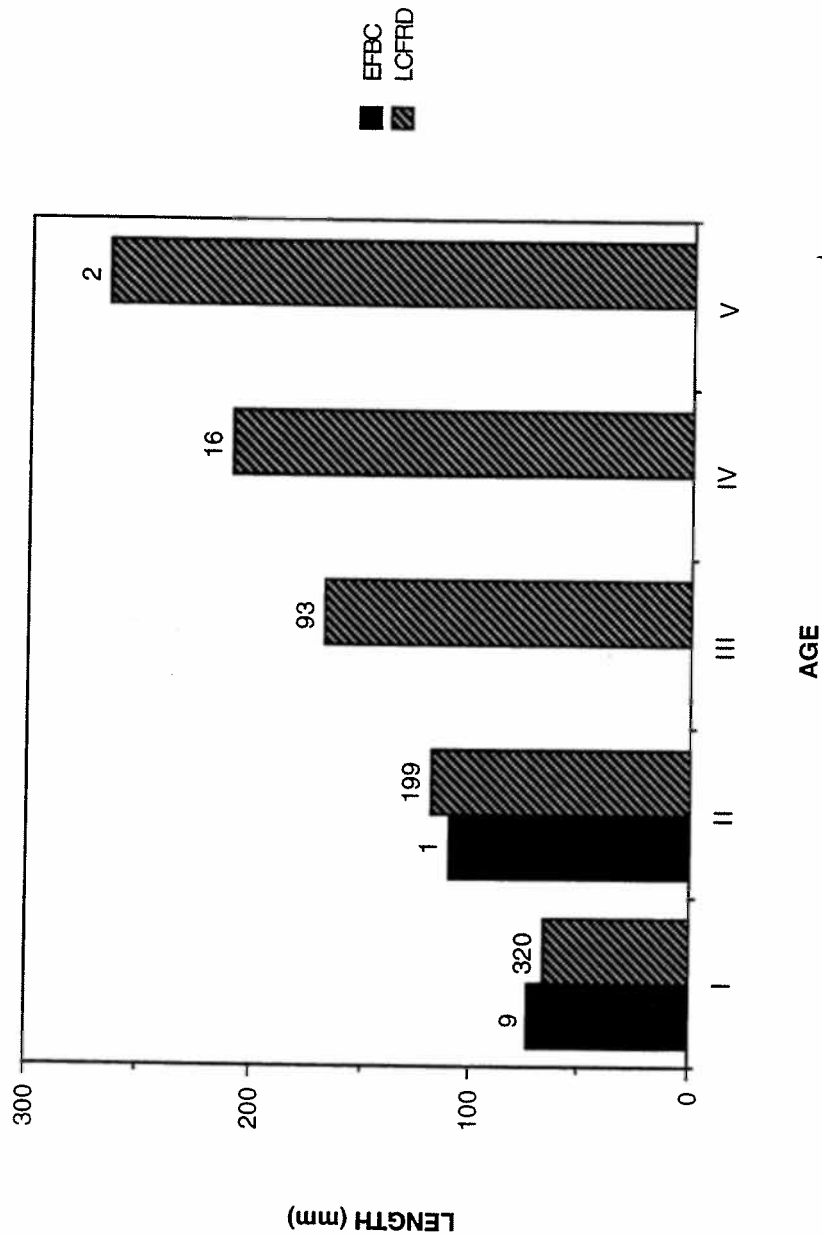


Figure B-149. Number of fish sampled and back calculated length at age for cutthroat trout. East Fork Blue Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

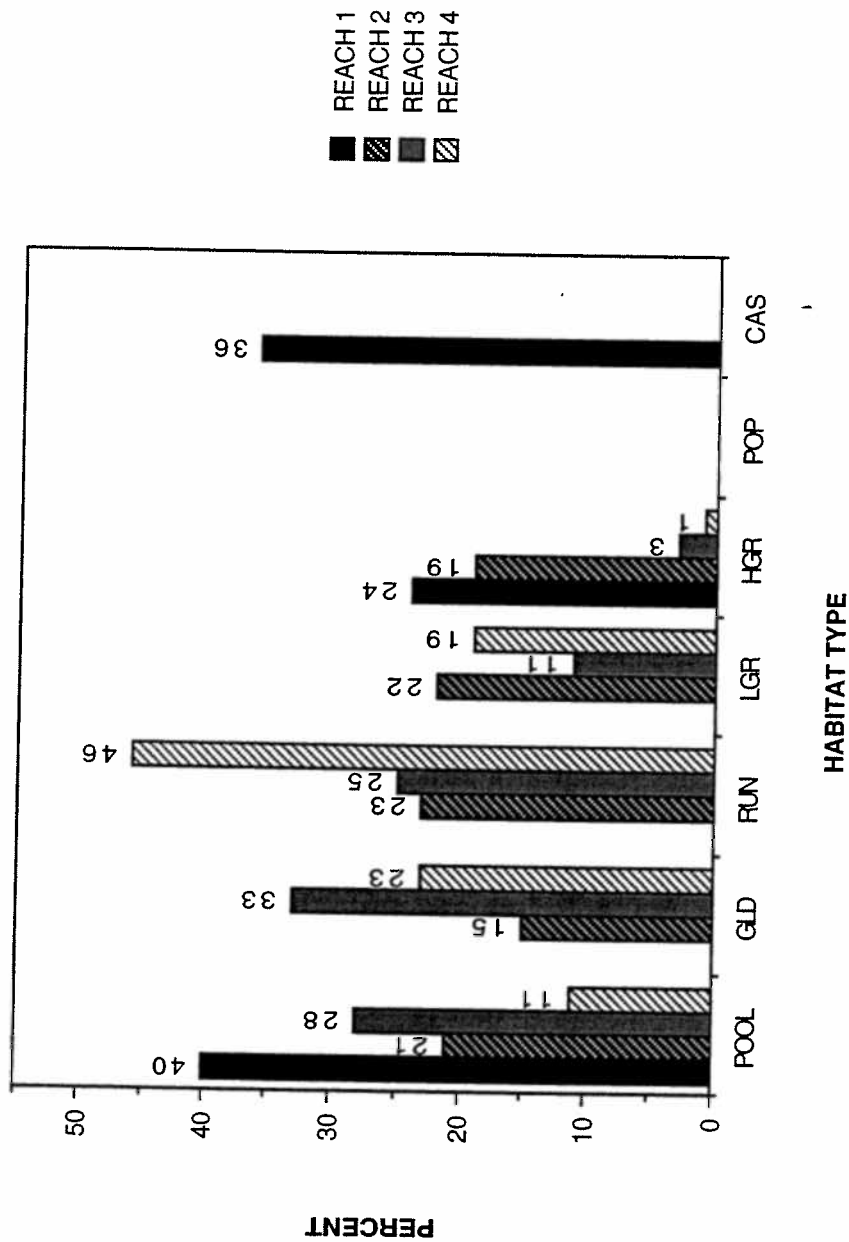


Figure B-150. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types by stream reach. Elk Creek, Montana. Tributary survey, 1992-1994.

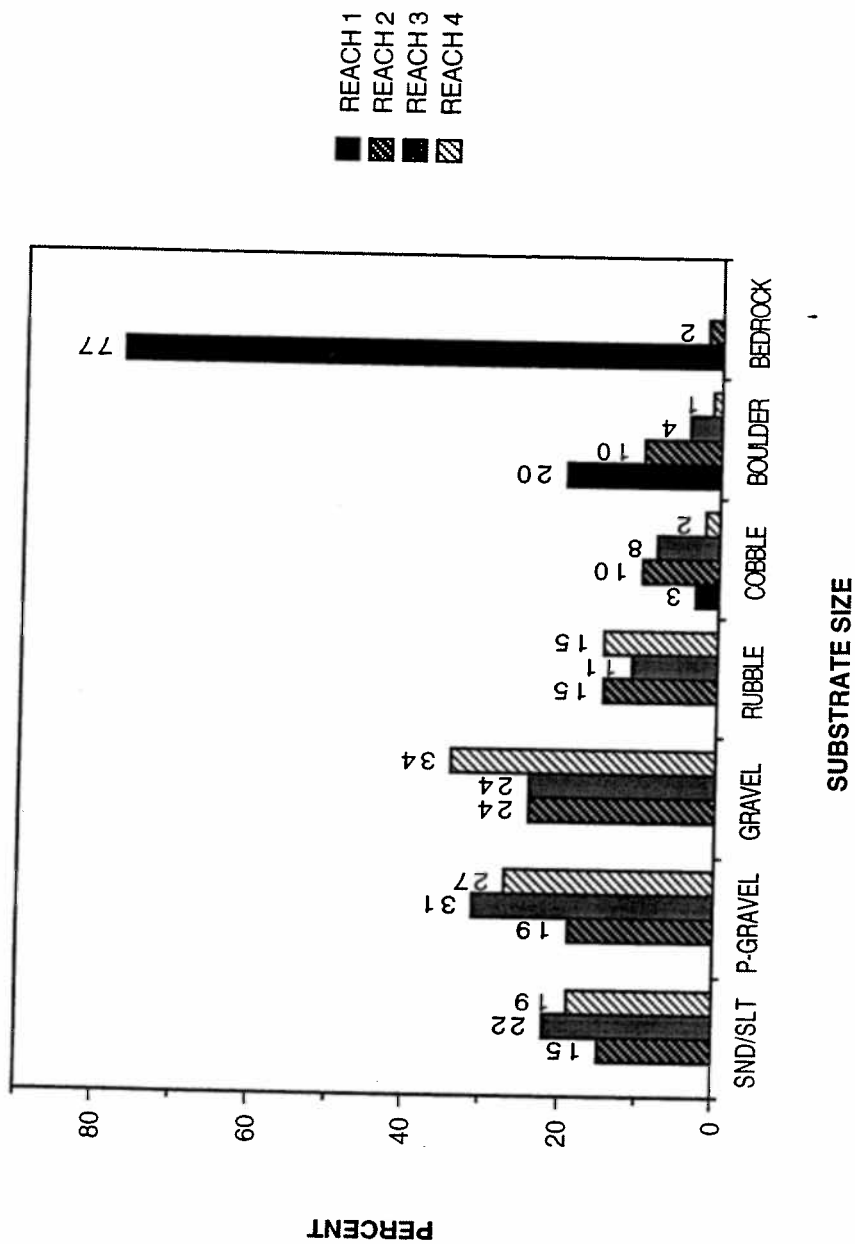


Figure B-152. Percent substrate composition by stream reach. Elk Creek, Montana. Tributary survey, 1992-1994.

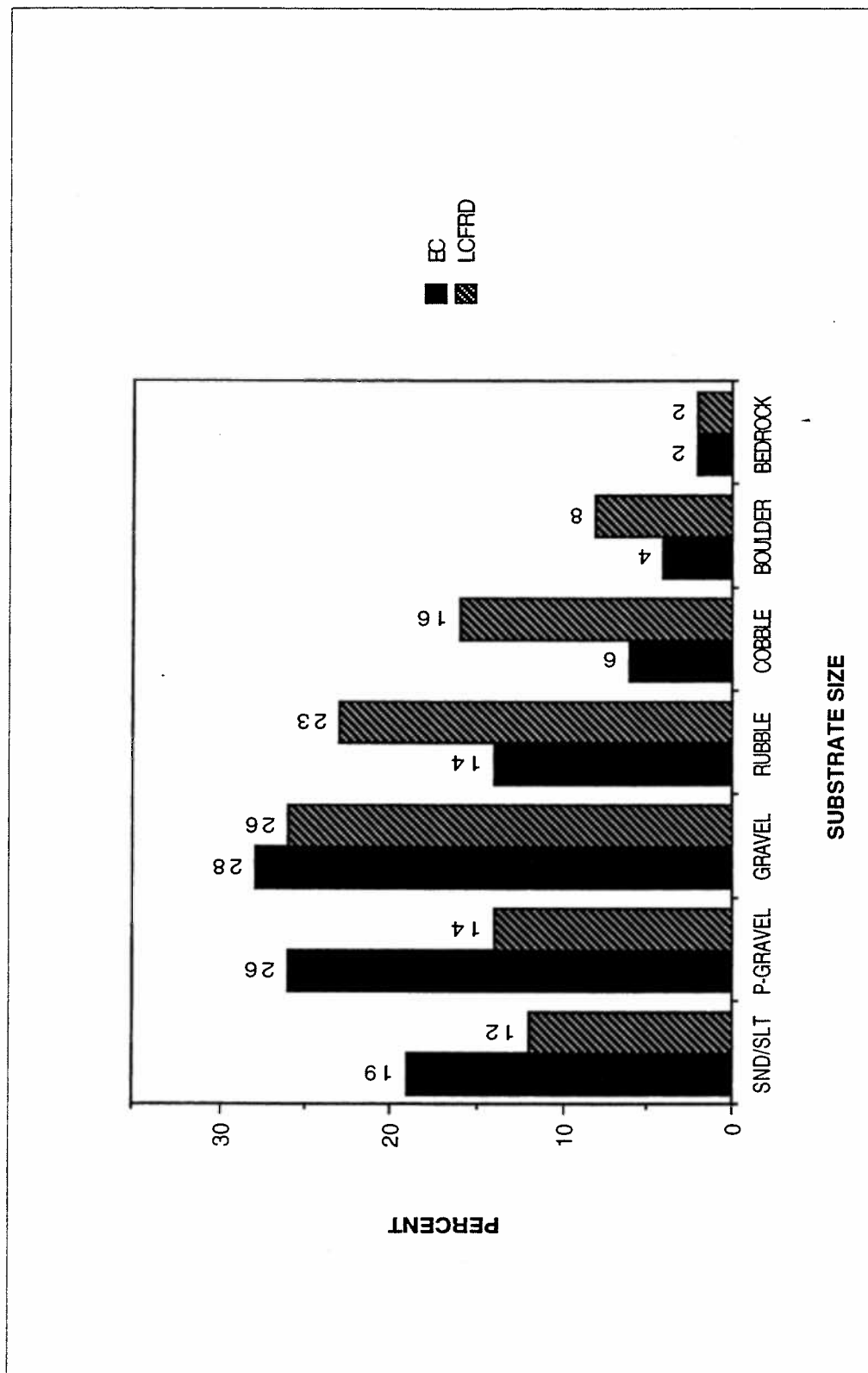


Figure B-153. Percent substrate composition. Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

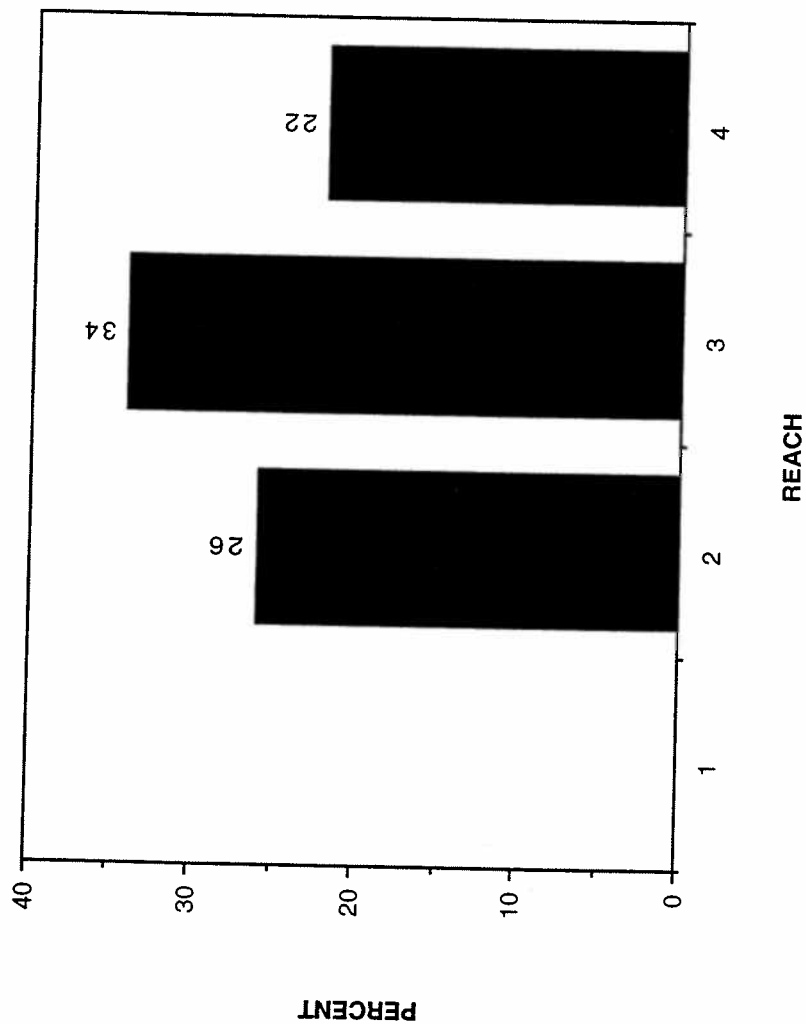


Figure B-154. Percent surface fines (<6.35 mm) by stream reach. Elk Creek, Montana. Tributary survey, 1992-1994.

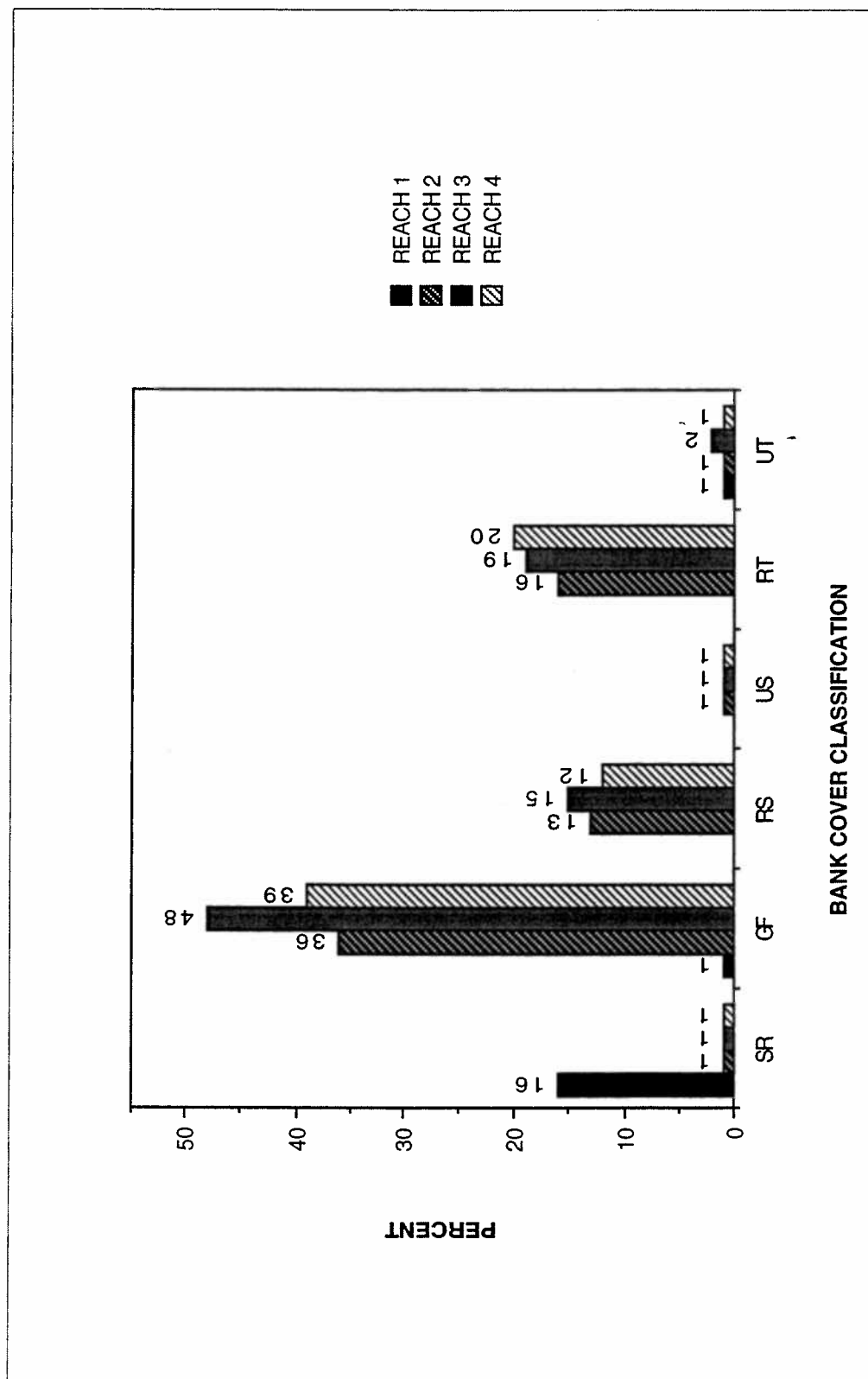


Figure B-155. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT), by stream reach. Elk Creek, Montana. Tributary survey, 1992-1994.

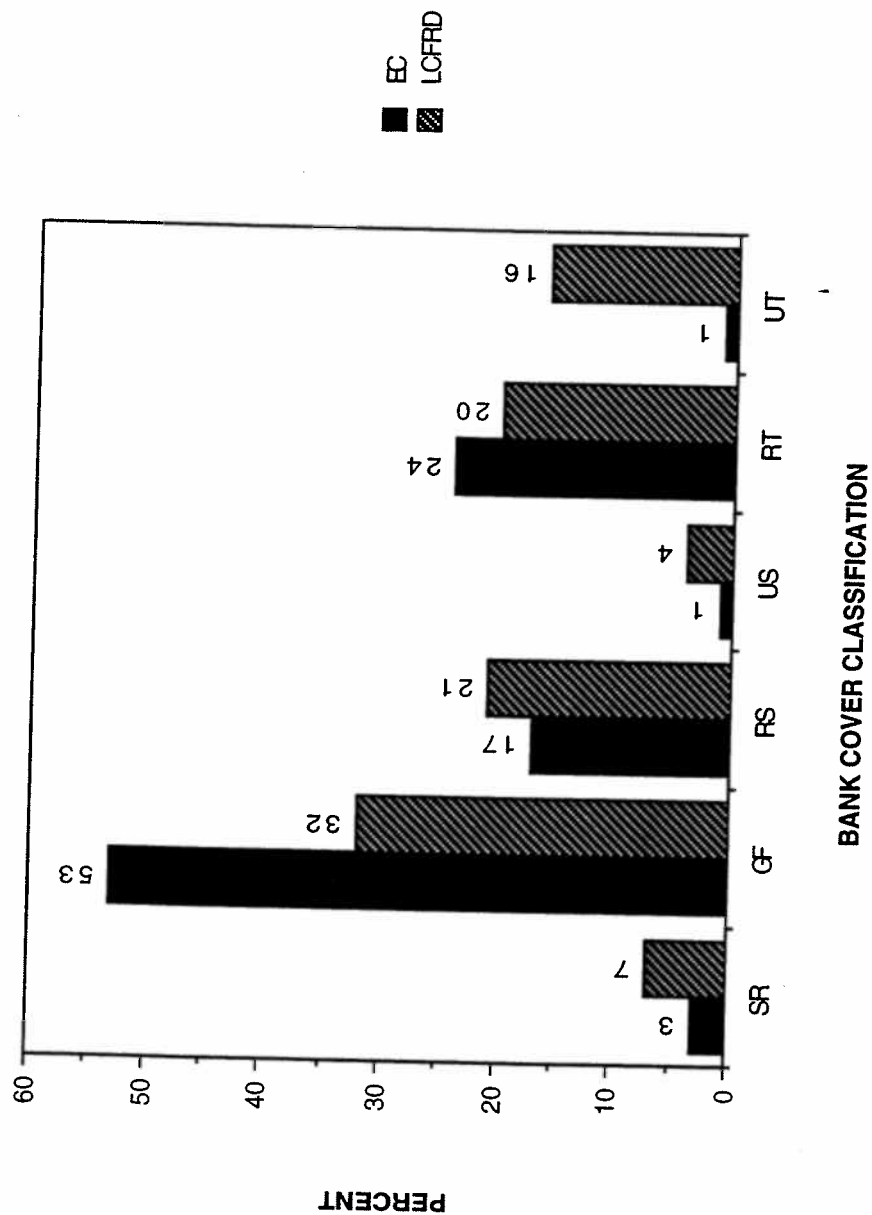


Figure B-156. Percent composition stream bank cover. Sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

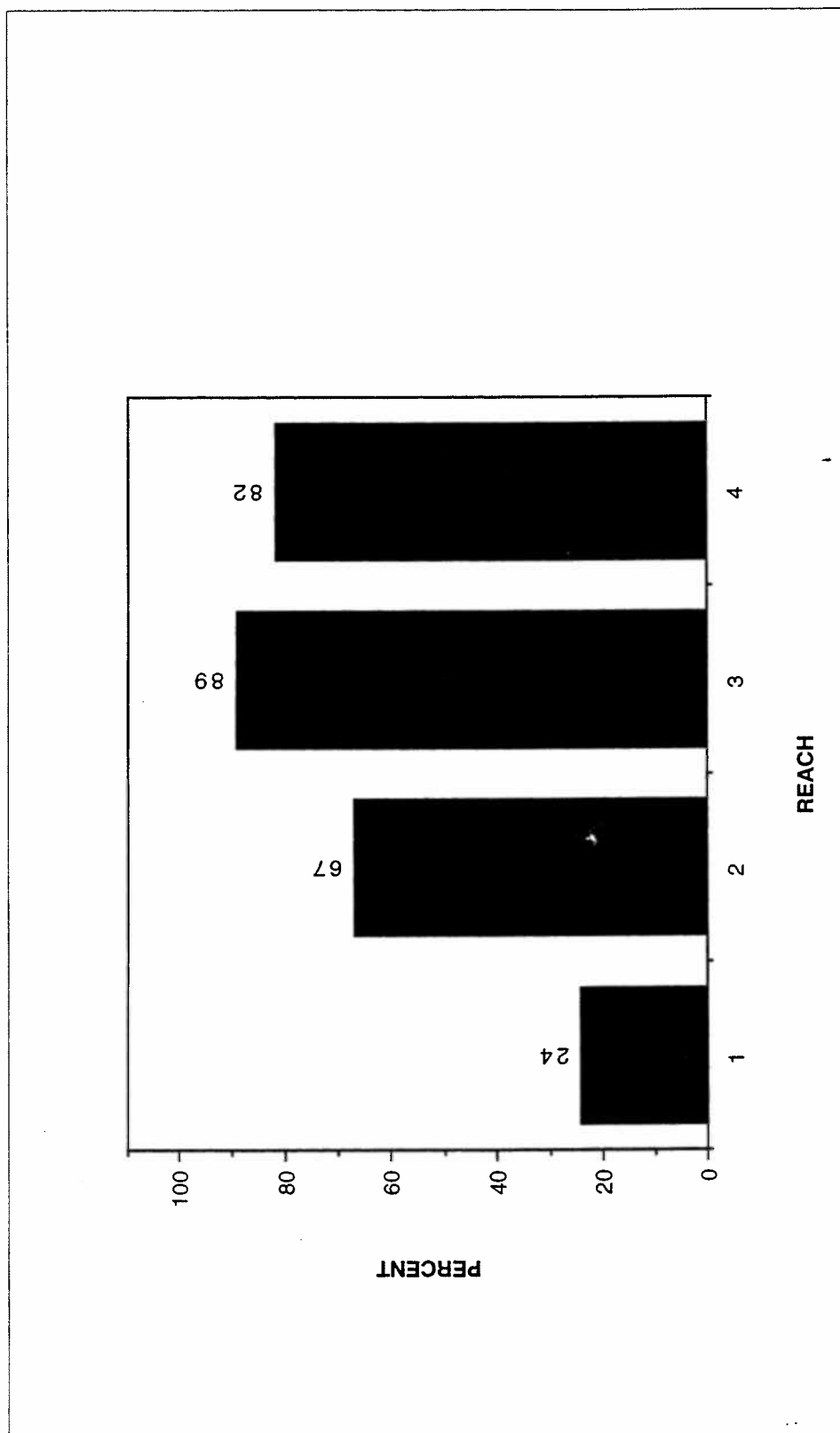


Figure B-157. Percent vegetated bank cover by stream reach. Elk Creek, Montana. Tributary survey, 1992-1994.

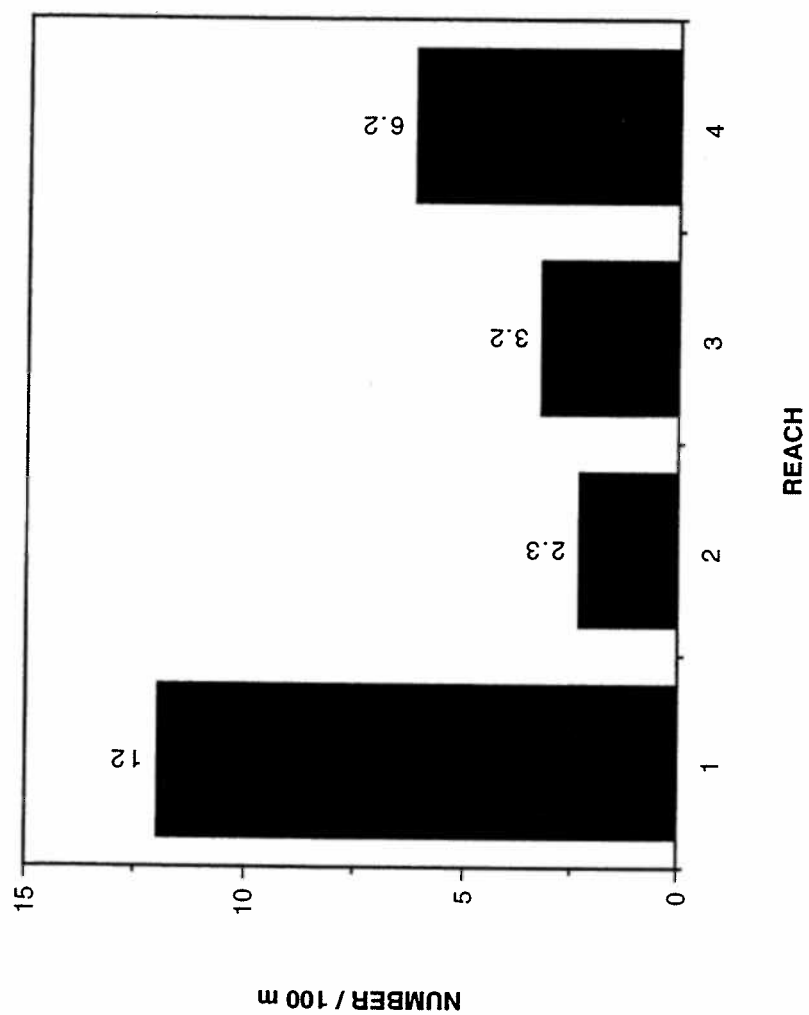


Figure B-158. Large woody debris <3.0 m in length by stream reach. Elk Creek, Montana. Tributary survey, 1992-1994.

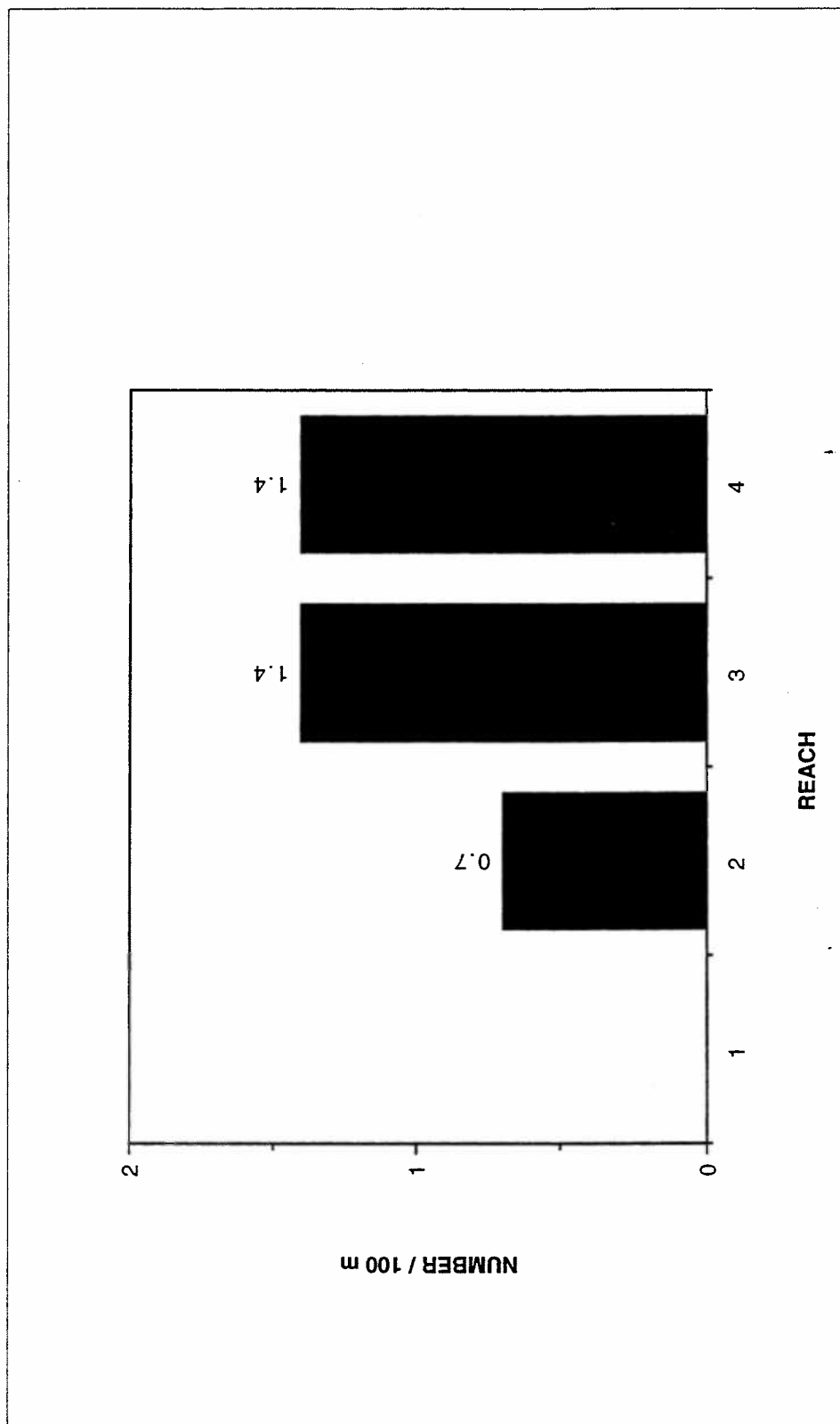


Figure B-159. Large woody debris >3.0 m in length by stream reach. Elk Creek, Montana. Tributary survey, 1992-1994.

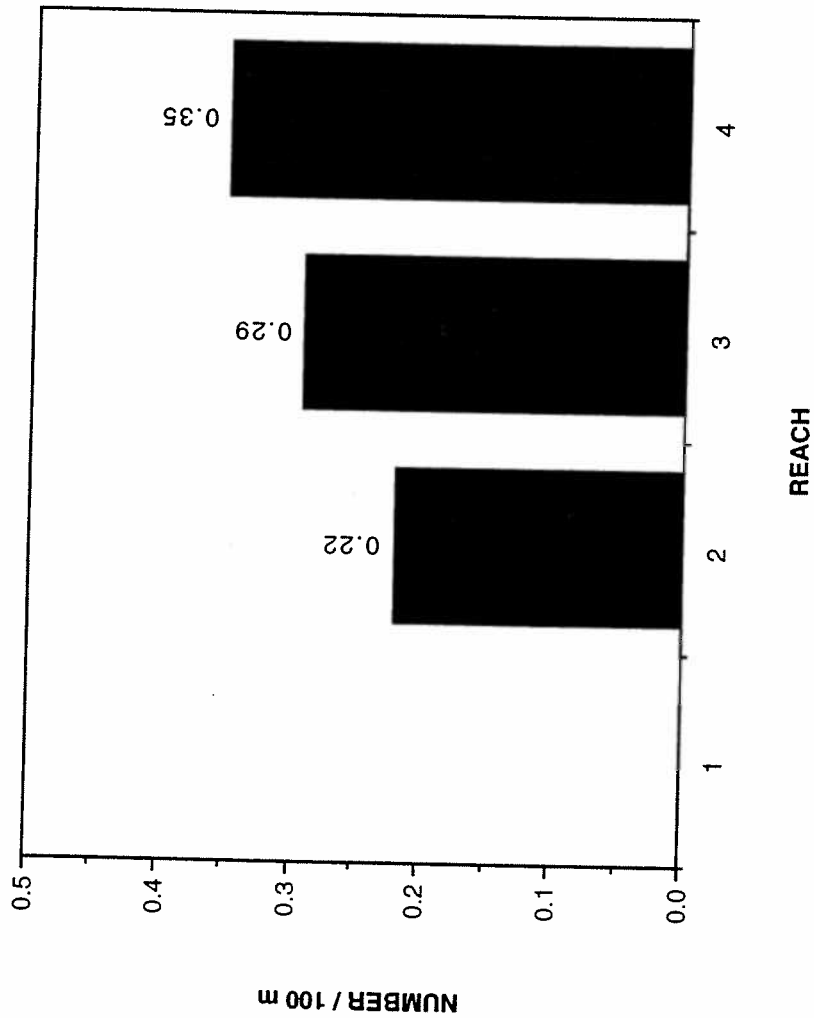


Figure B-160. Large woody debris aggregations by stream reach. Elk Creek, Montana. Tributary survey, 1992-1994.

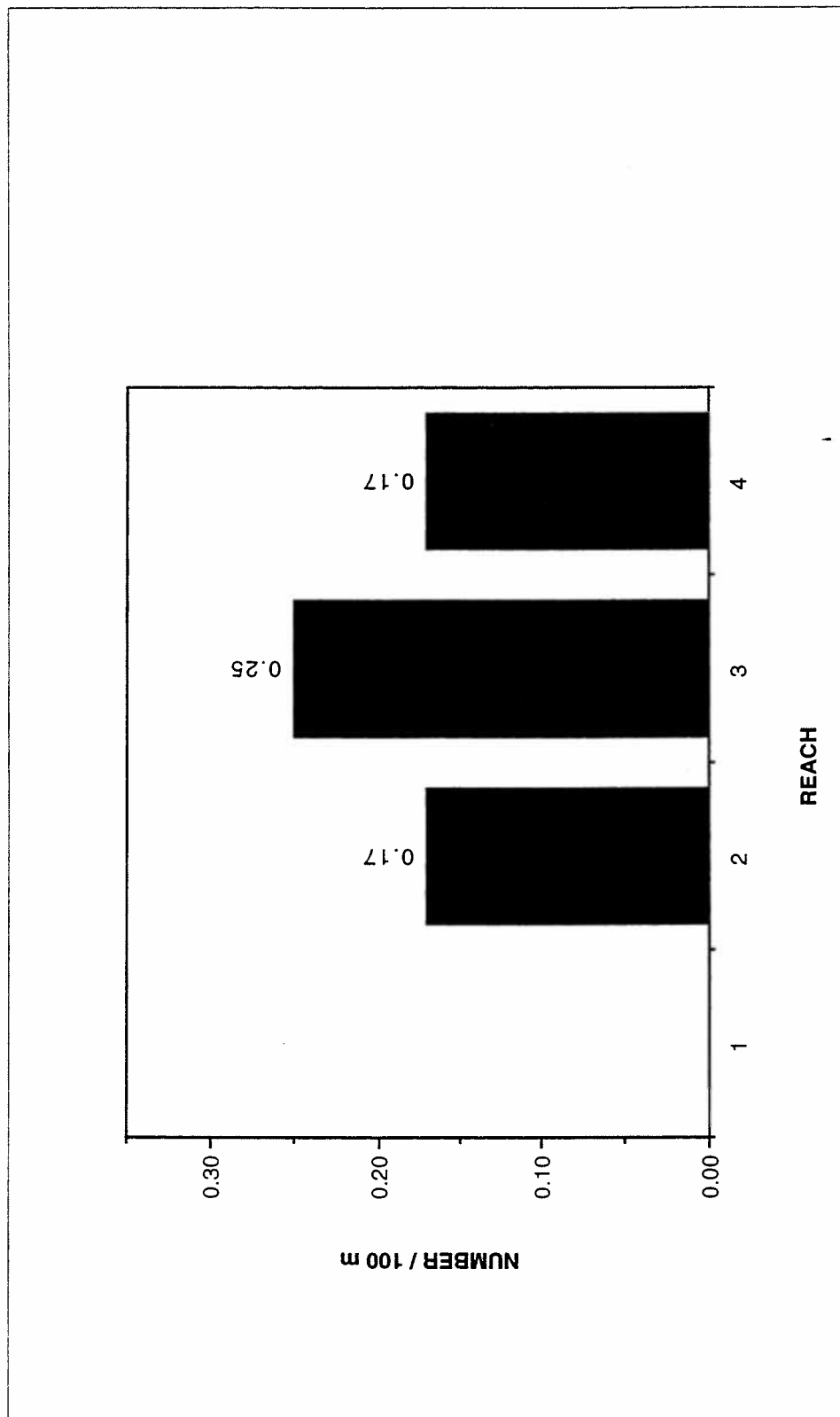


Figure B-161. Large woody debris, root-wads by stream reach. Elk Creek, Montana. Tributary survey, 1992-1994.

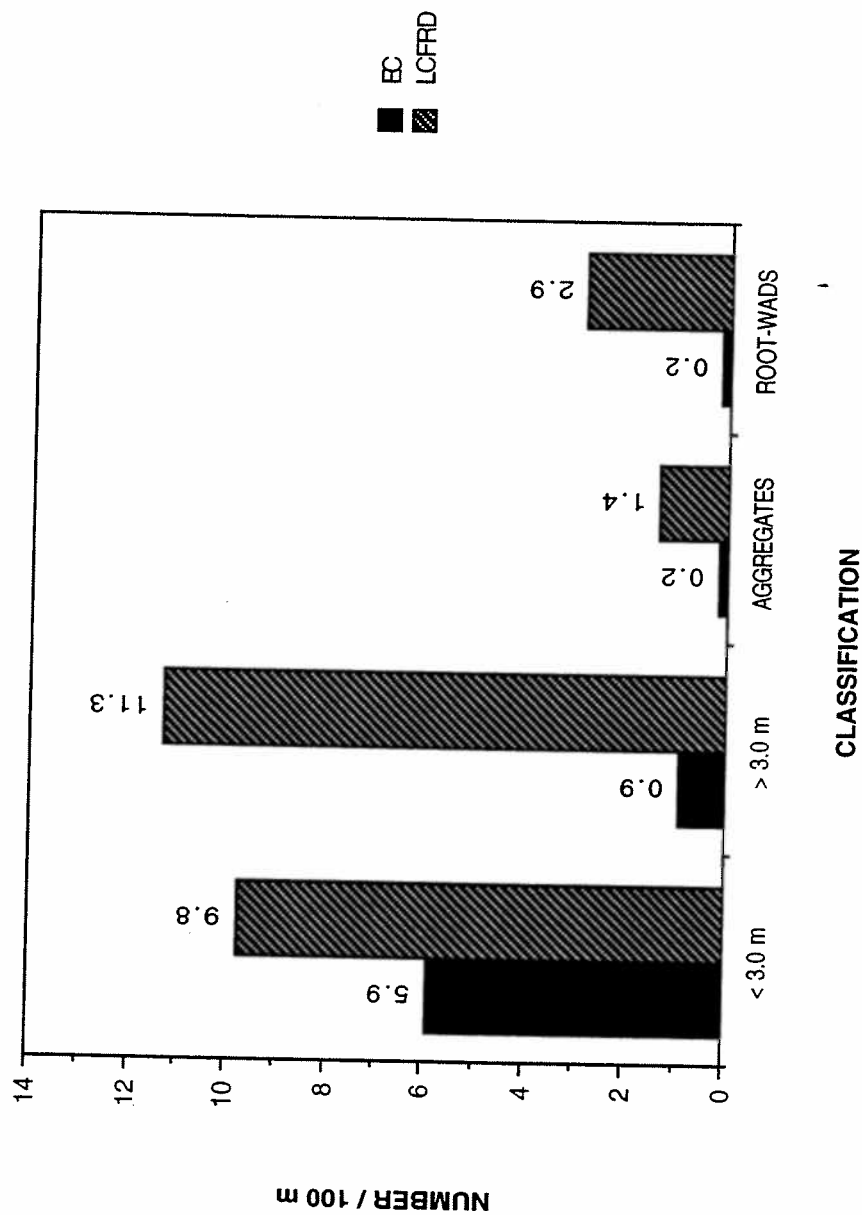


Figure B-162. Large woody debris by classification. Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

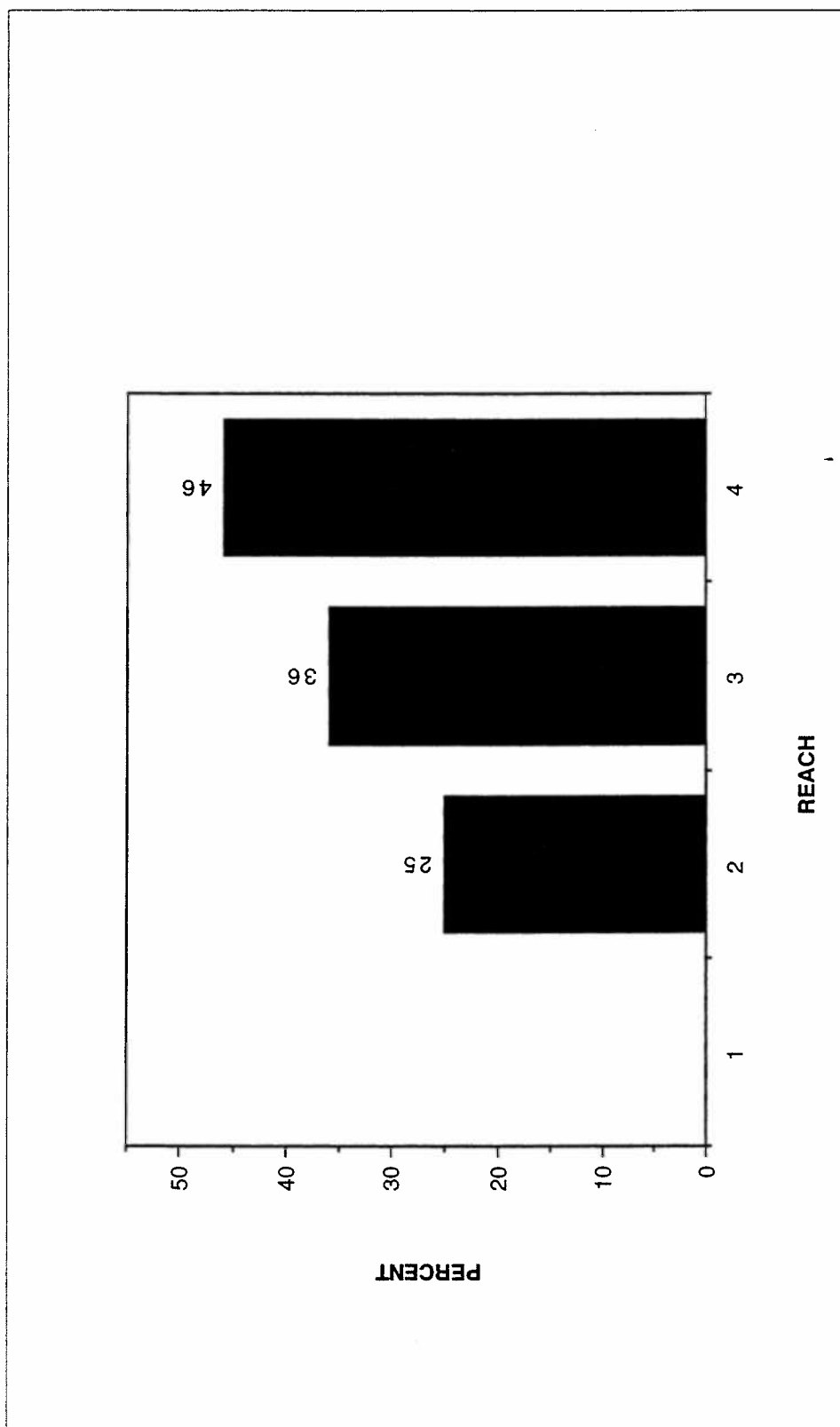


Figure B-163. McNeil core sample percent fines (<6.35 mm) by stream reach. Elk Creek, Montana. Tributary survey, 1992-1994.

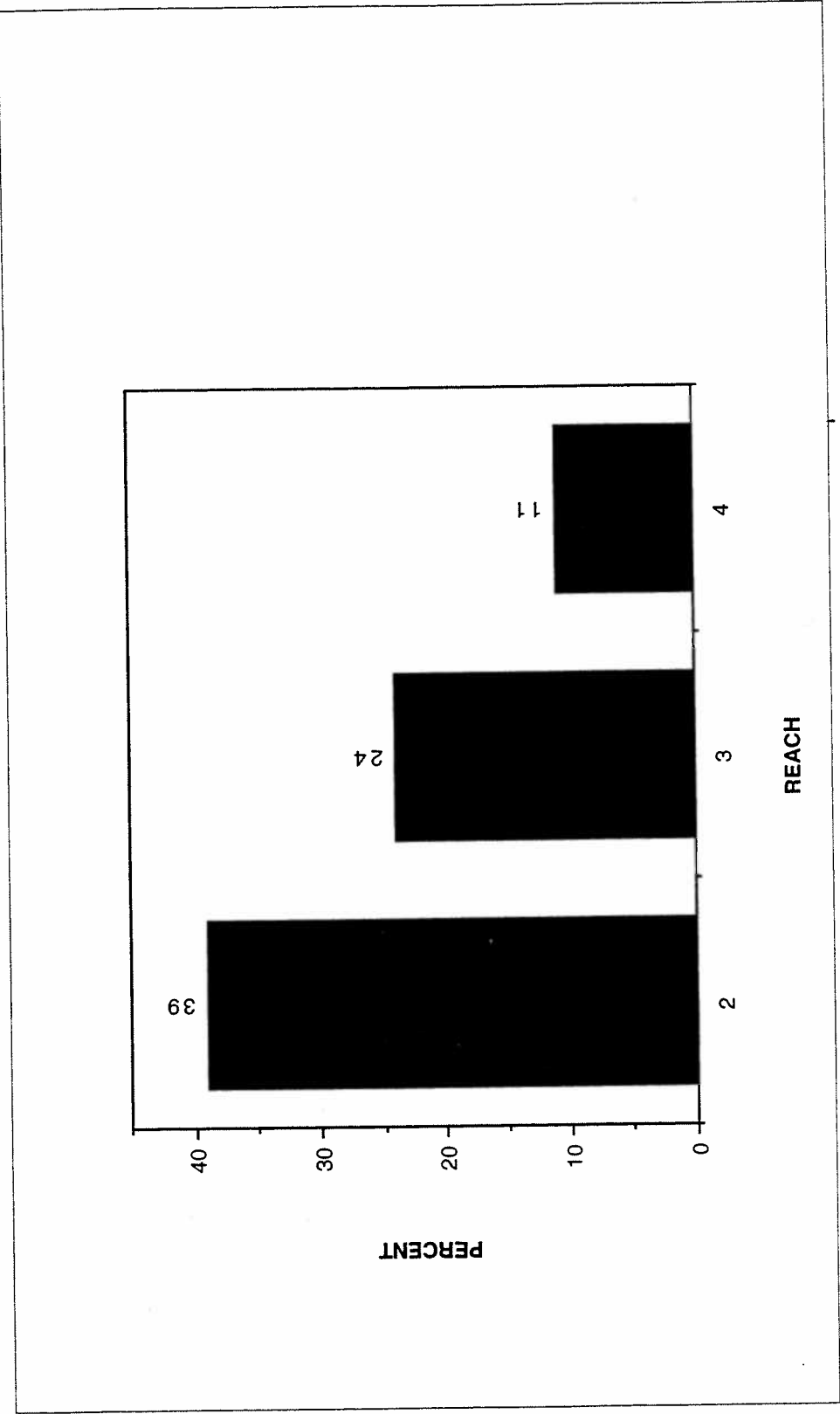


Figure B-164. Percent embryo survival to emergence for cutthroat trout by stream reach.
Elk Creek, Montana. Tributary survey, 1992-1994.

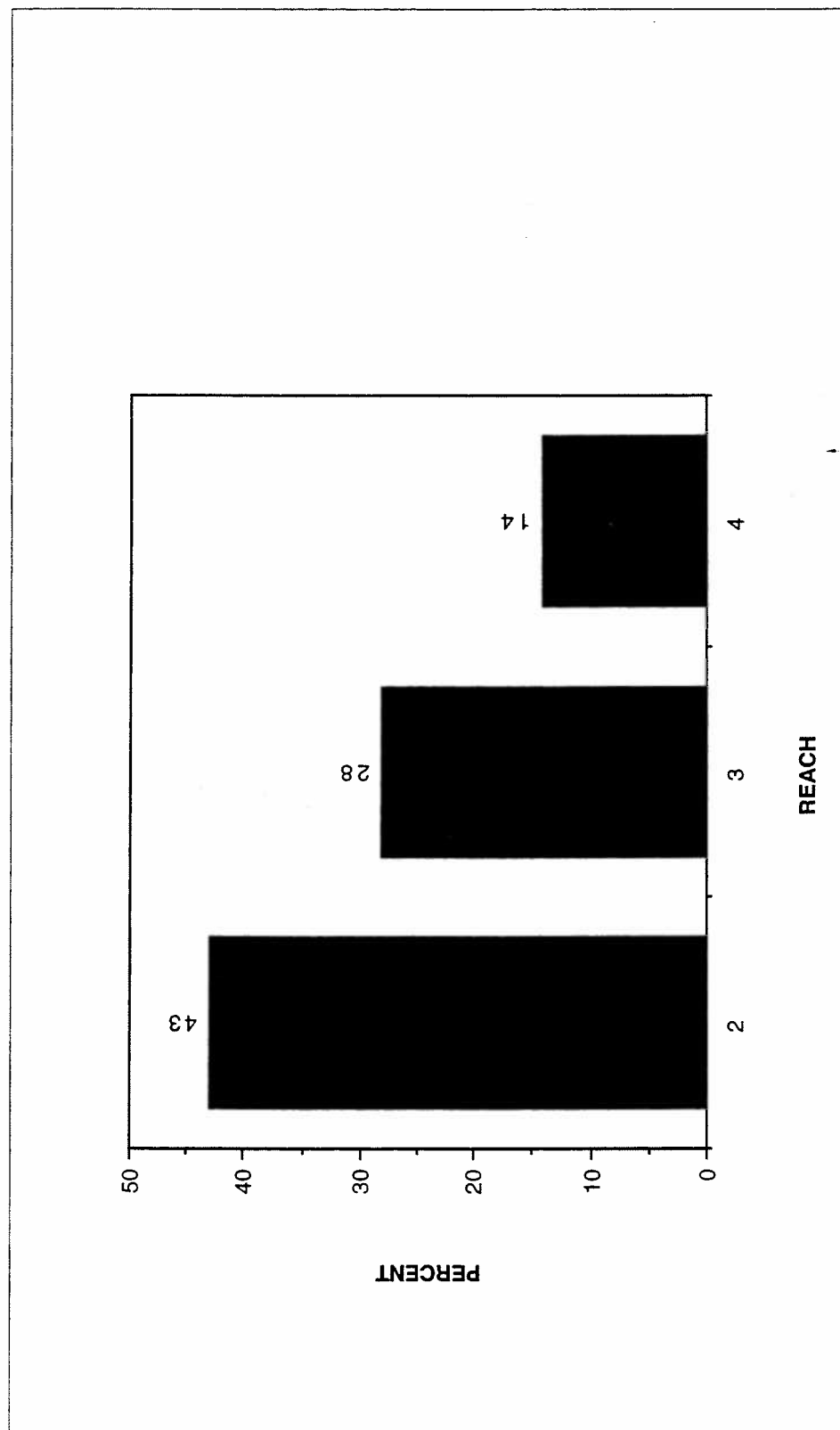


Figure B-165. Percent embryo survival to emergence for bull trout by stream reach.
Elk Creek, Montana. Tributary survey, 1992-1994.

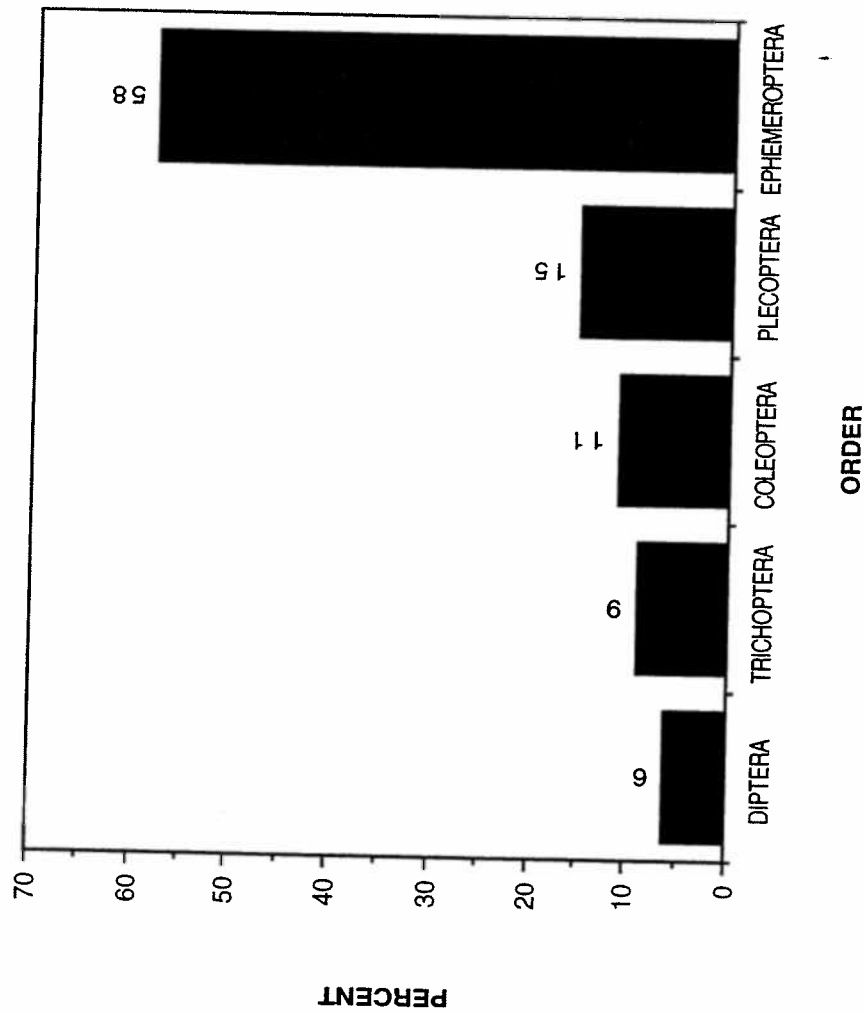


Figure B-166. Percent composition, benthic invertebrate population by taxonomic order. Elk Creek, Montana. Tributary survey, 1992-1994.

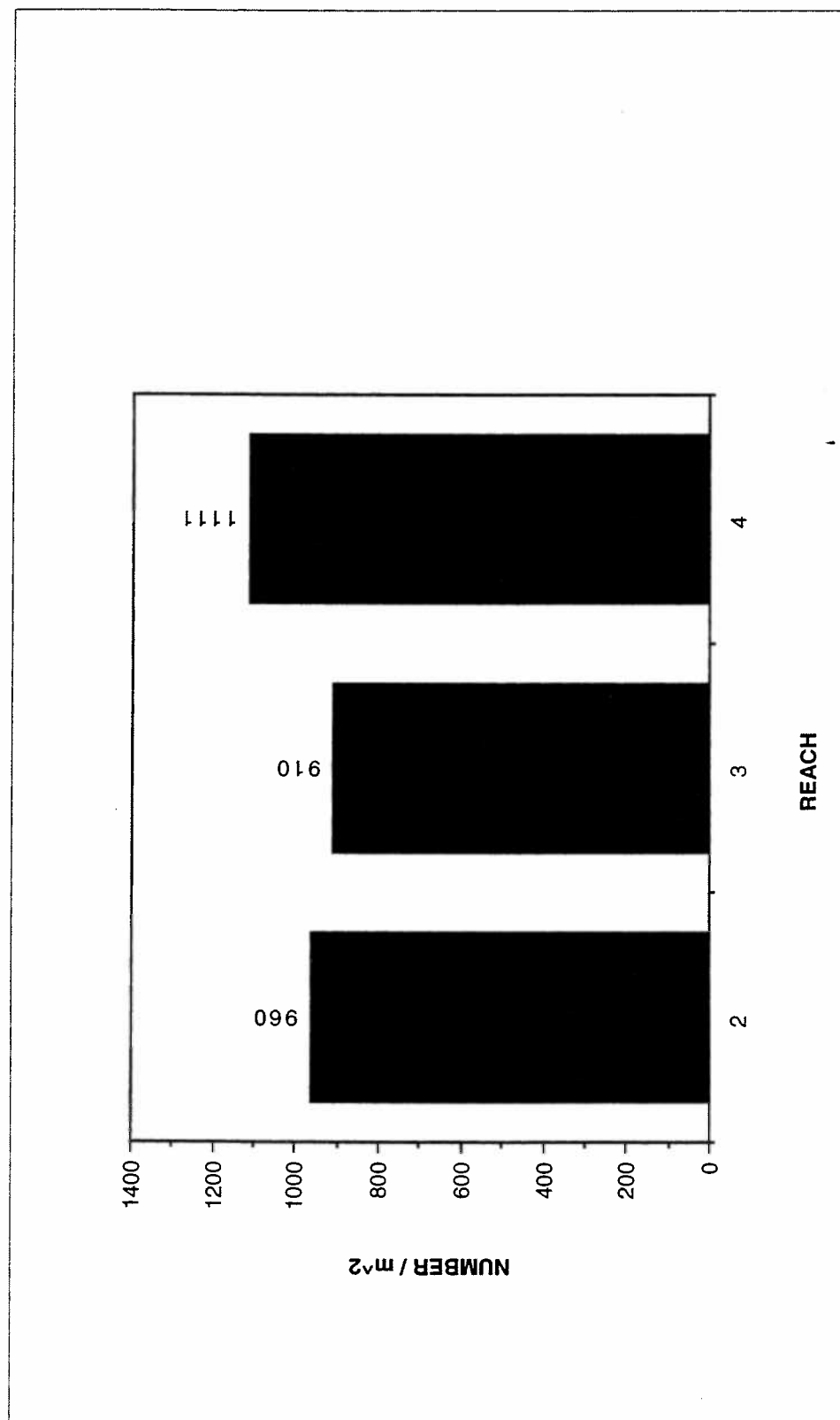


Figure B-167. Benthic invertebrate densities by stream reach. Elk Creek, Montana. Tributary survey, 1992-1994.

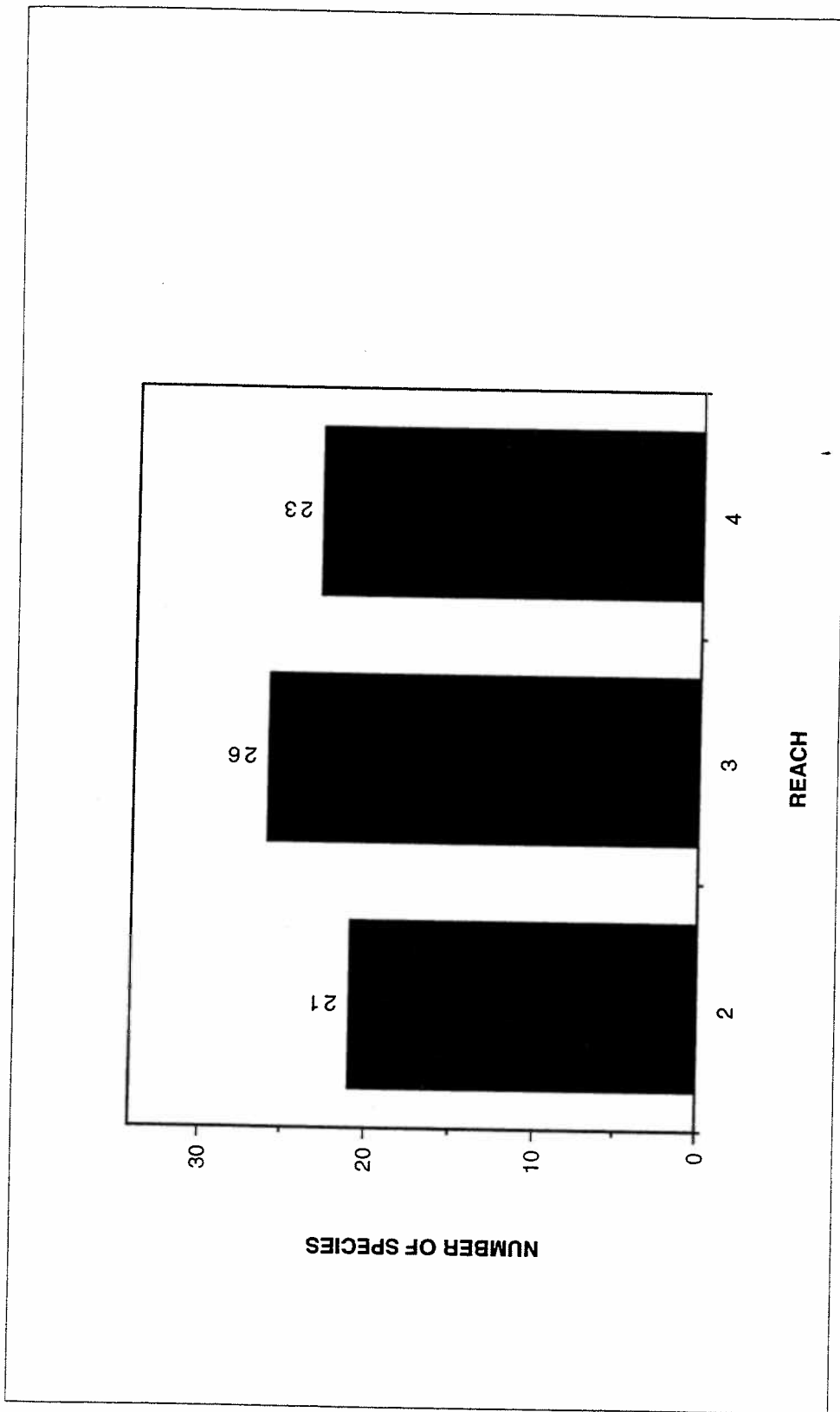


Figure B-168. Benthic invertebrate species richness by stream reach. Elk Creek, Montana. Tributary survey, 1992-1994.

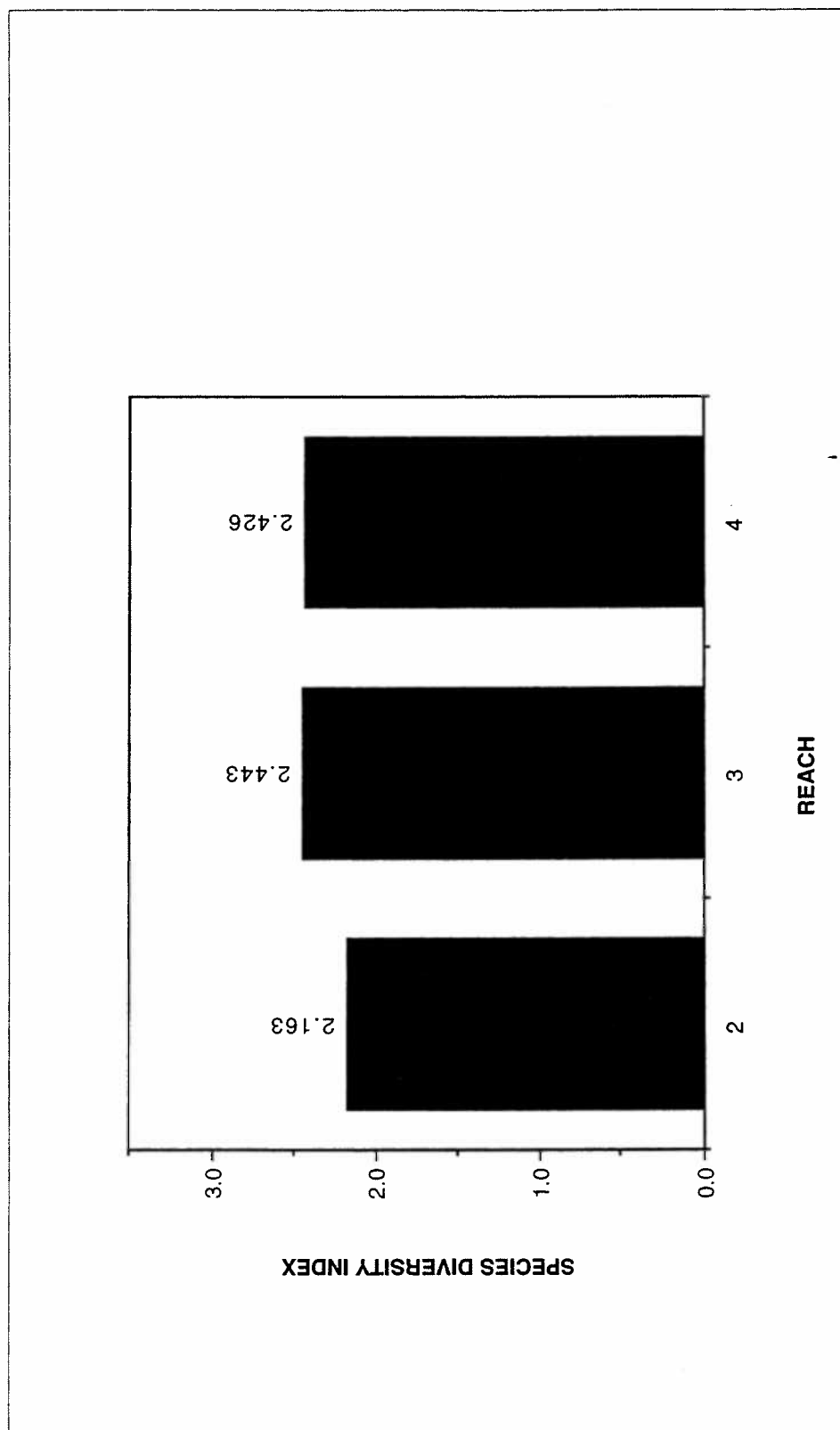


Figure B-169. Benthic invertebrate species diversity (SDI) by stream reach. Elk Creek, Montana. Tributary survey, 1992-1994.

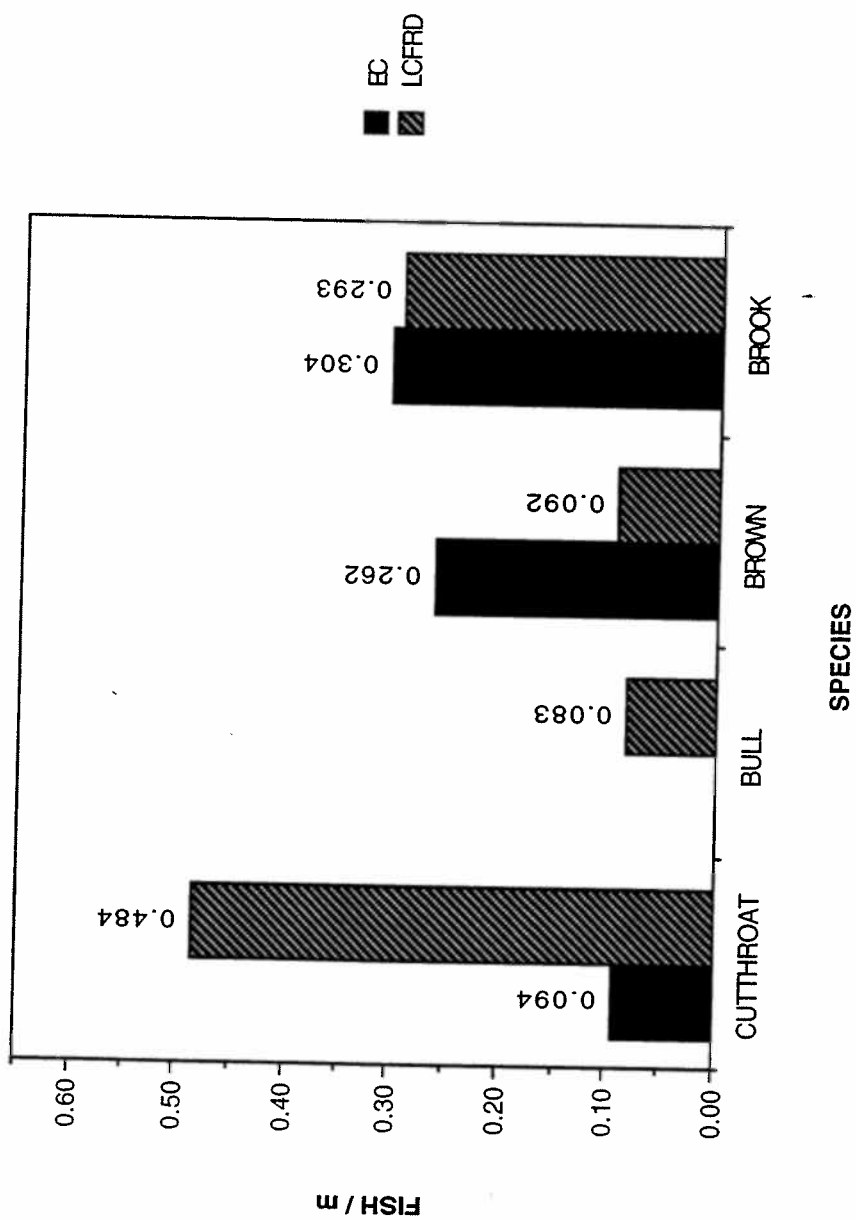


Figure B-170. Estimated densities of cutthroat, bull, brown, and brook trout. Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

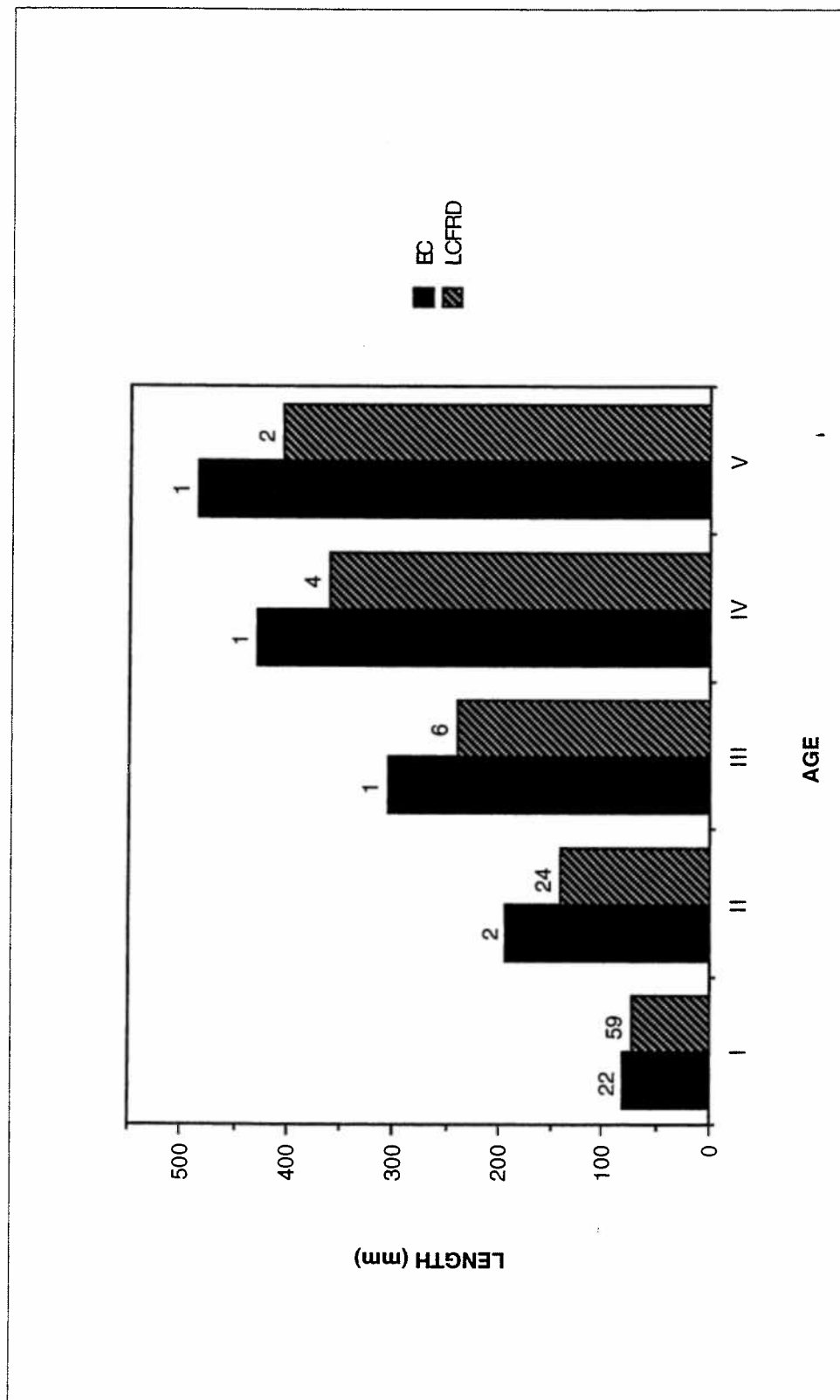


Figure B-171. Number of fish sampled and back calculated length at age for brown trout. Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

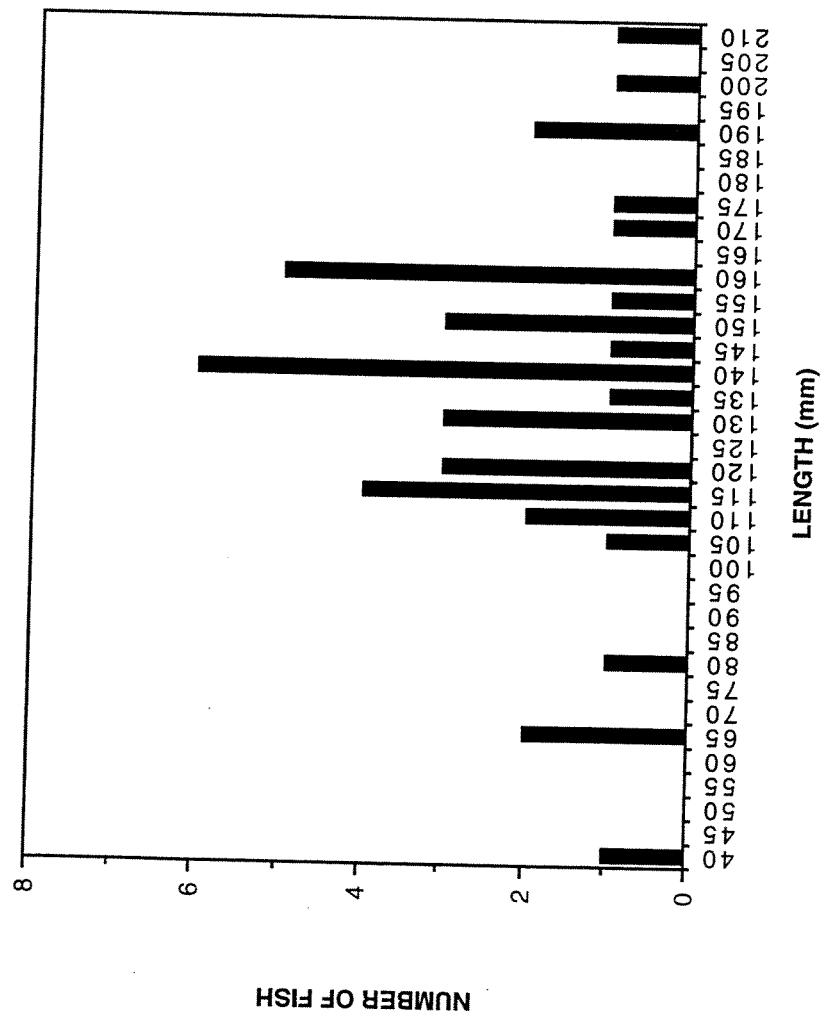


Figure B-172. Length frequency distribution for brook trout. Elk Creek, Montana. Tributary survey, 1992-1994.

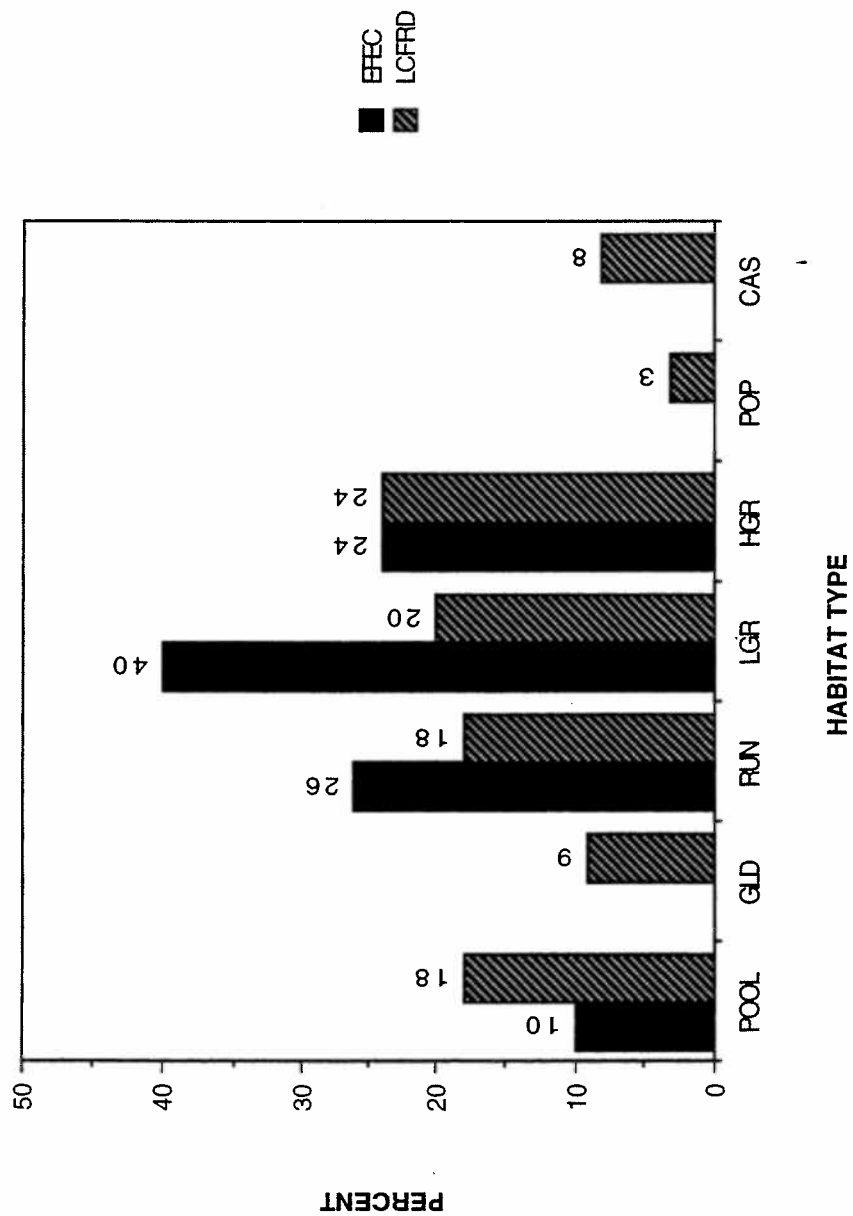


Figure B-173. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. East Fork Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

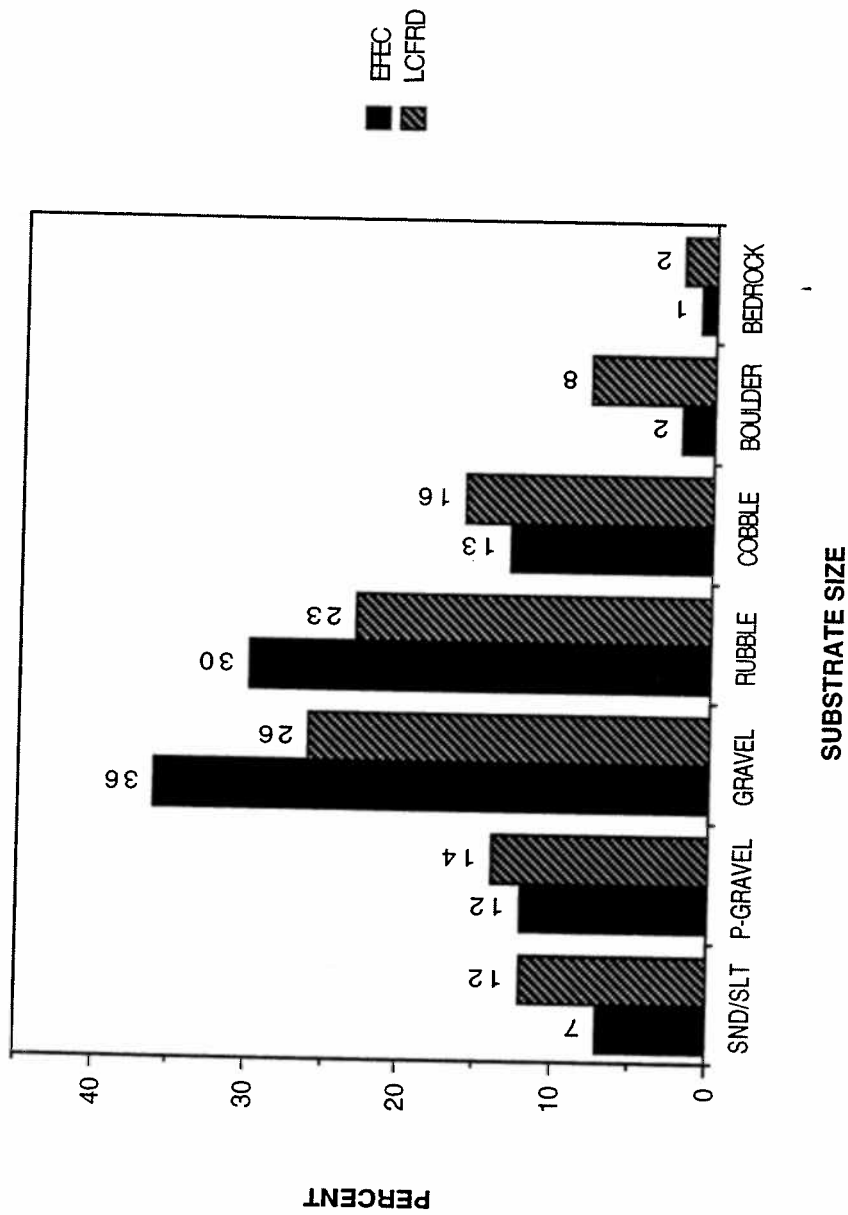


Figure B-174. Percent substrate composition. East Fork Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

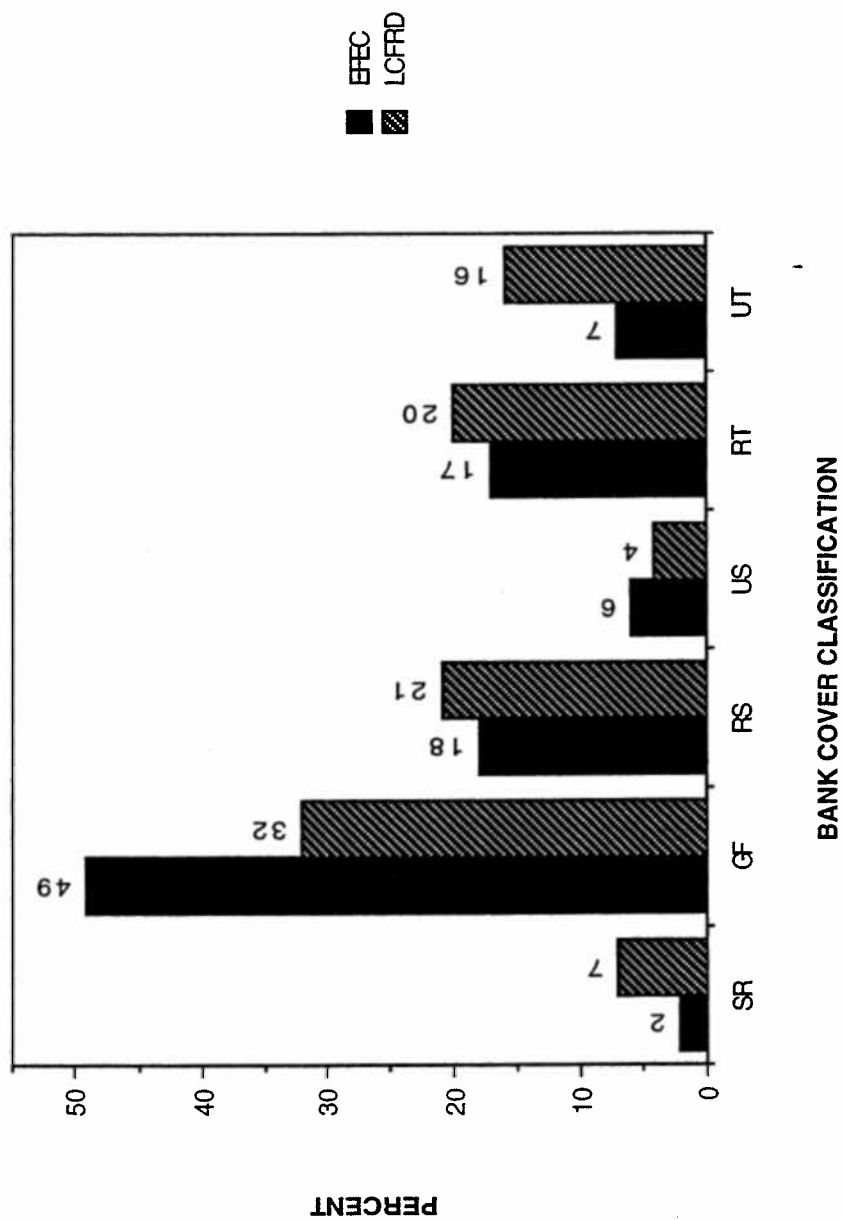


Figure B-175. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). East Fork Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

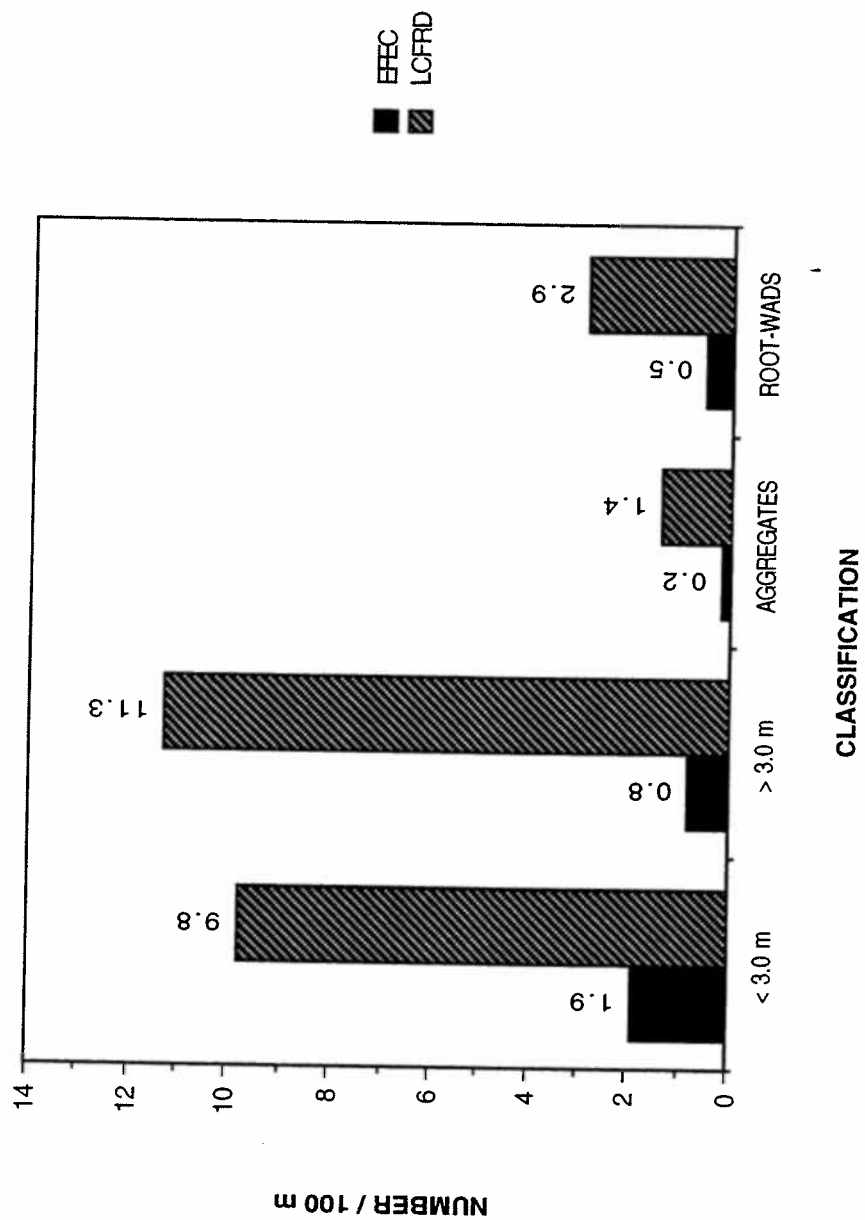


Figure B-176. Large woody debris by classification. East Fork Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

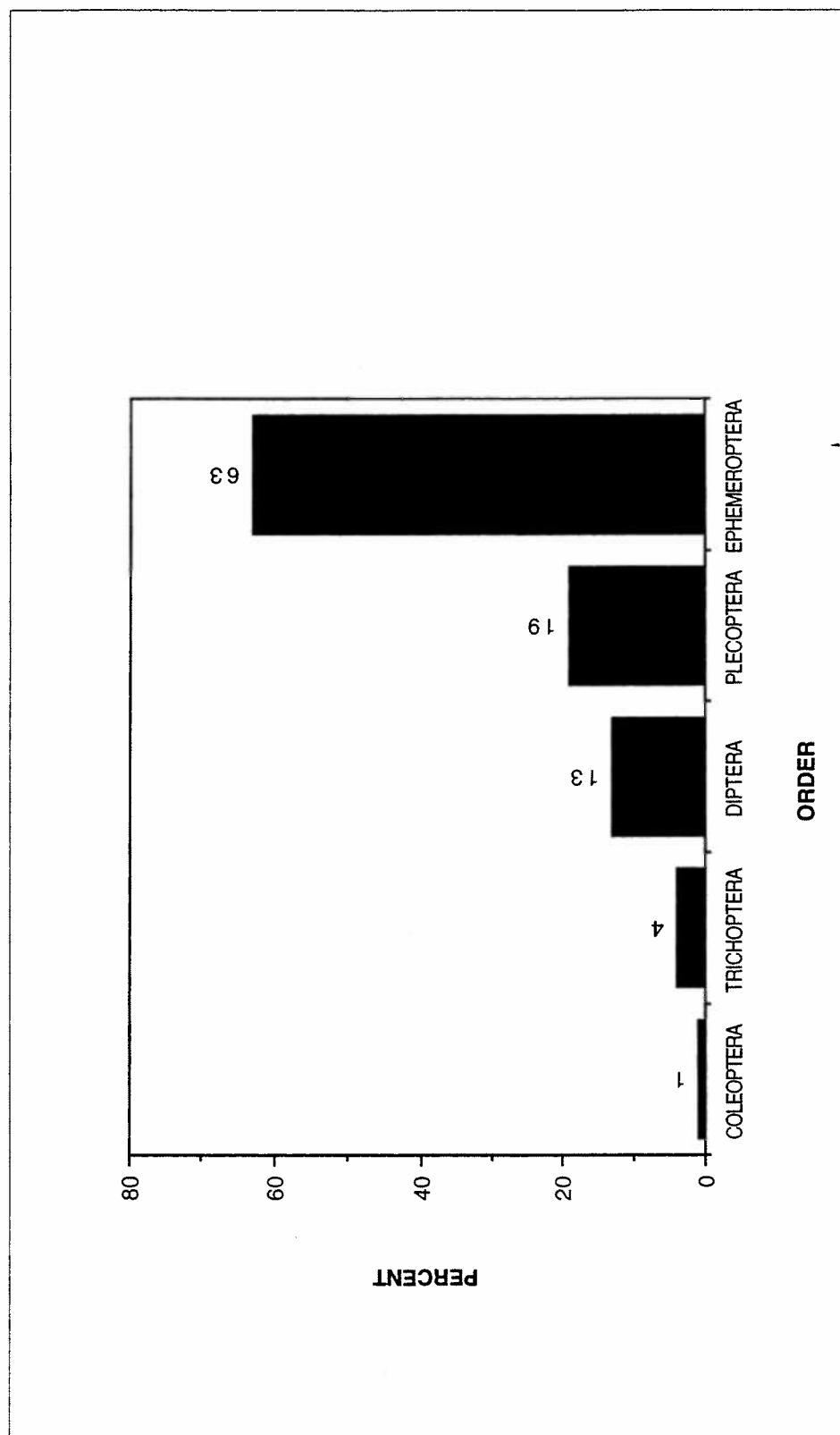


Figure B-177. Percent composition, benthic invertebrate population by taxonomic order. East Fork Elk Creek. Tributary survey, 1992-1994.

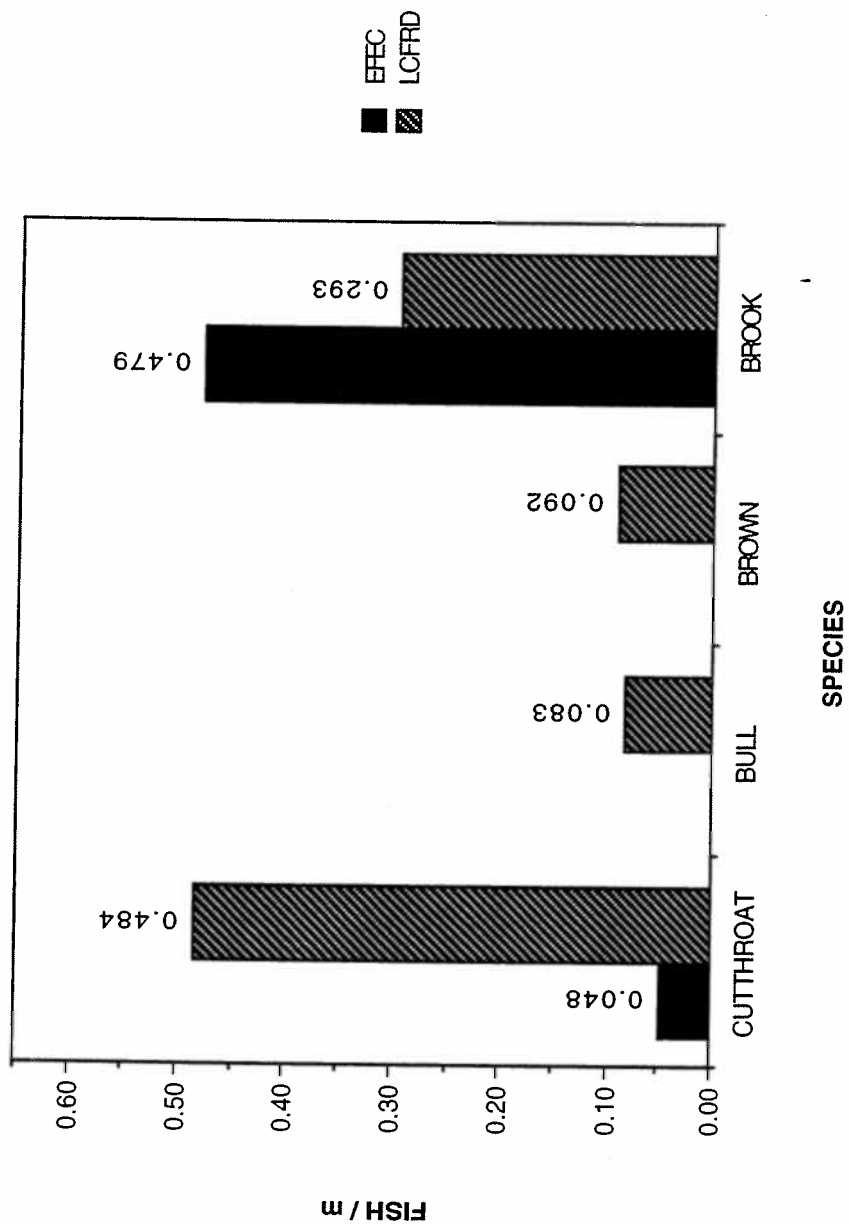


Figure B-178. Estimated densities of cutthroat, bull, brown, and brook trout. East Fork Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

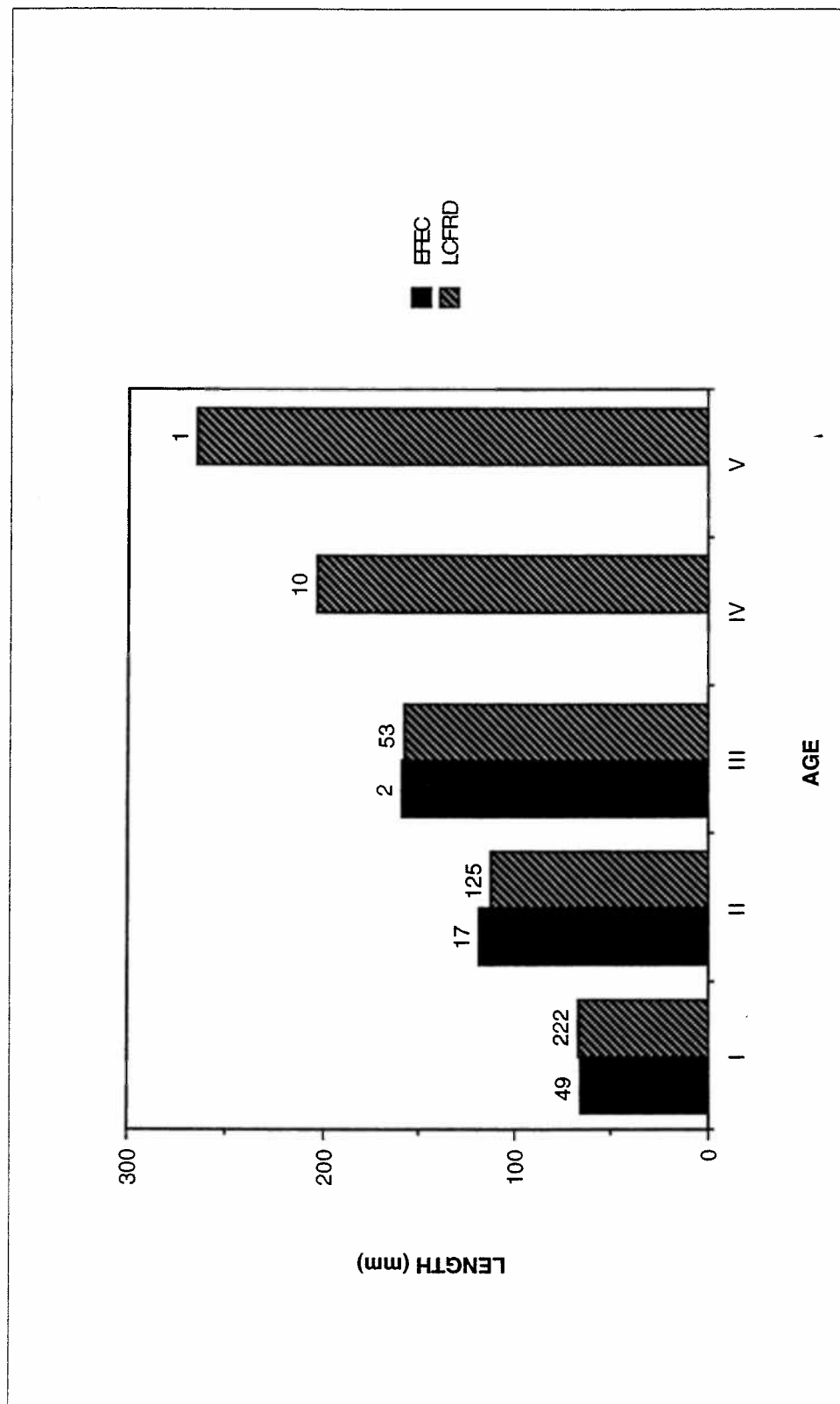


Figure B-179. Number of fish sampled and back calculated length at age for brook trout. East Fork Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

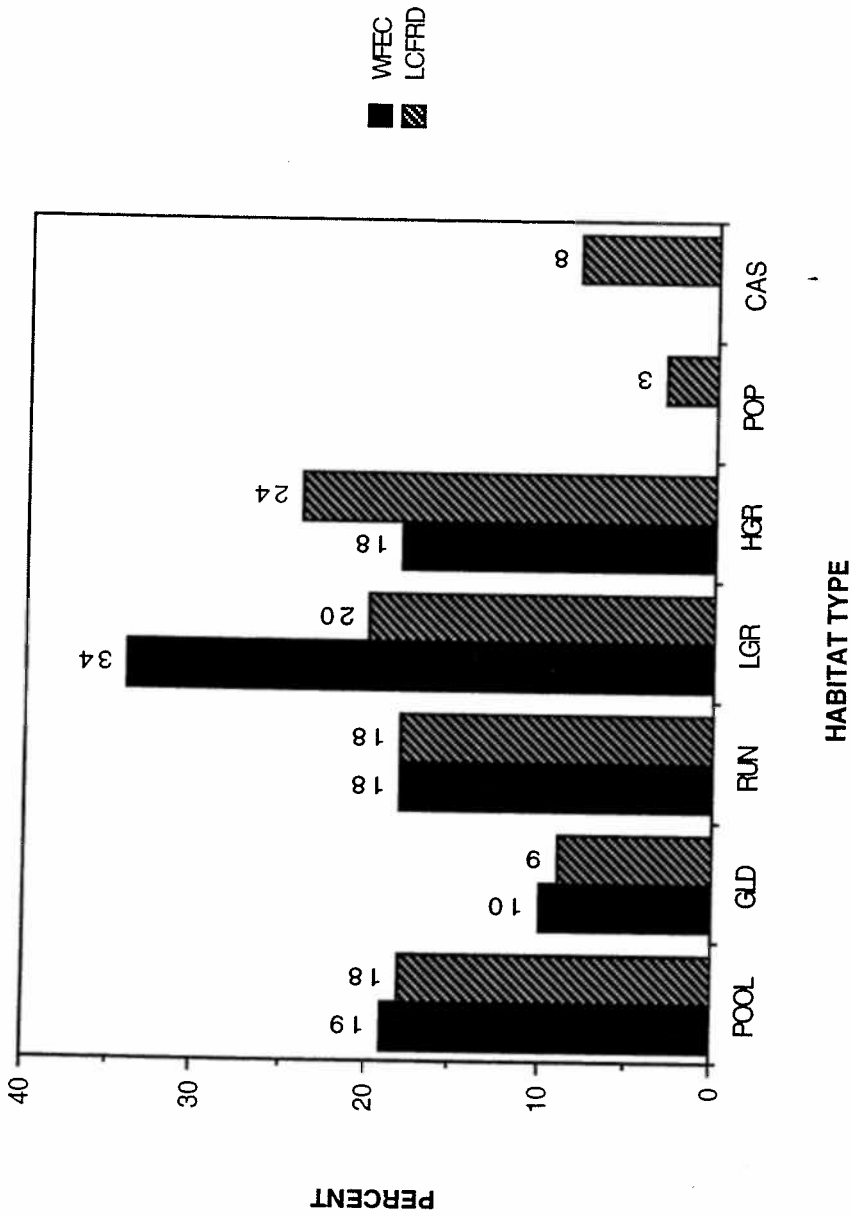


Figure B-180. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. West Fork Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

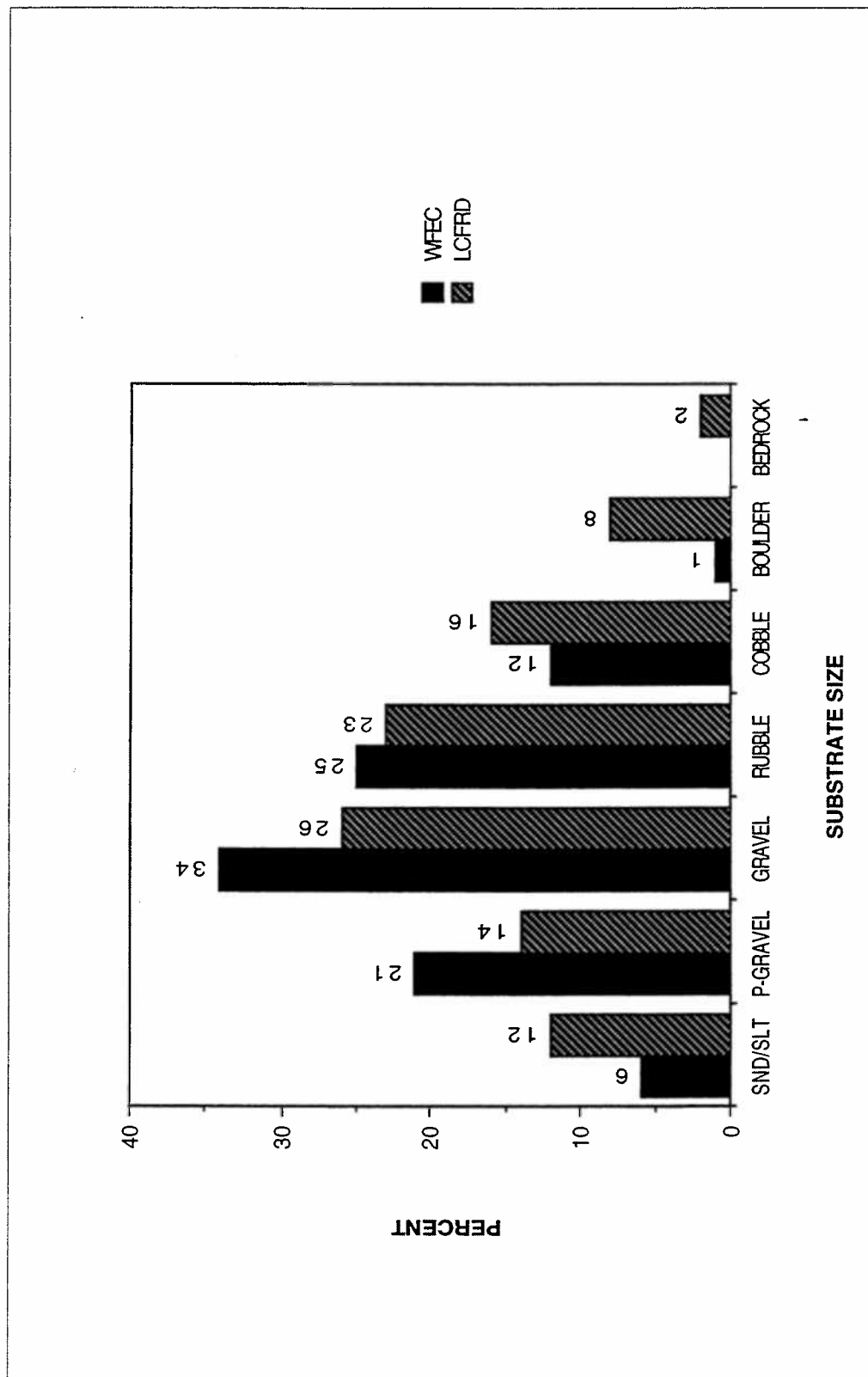


Figure B-181. Percent substrate composition. West Fork Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

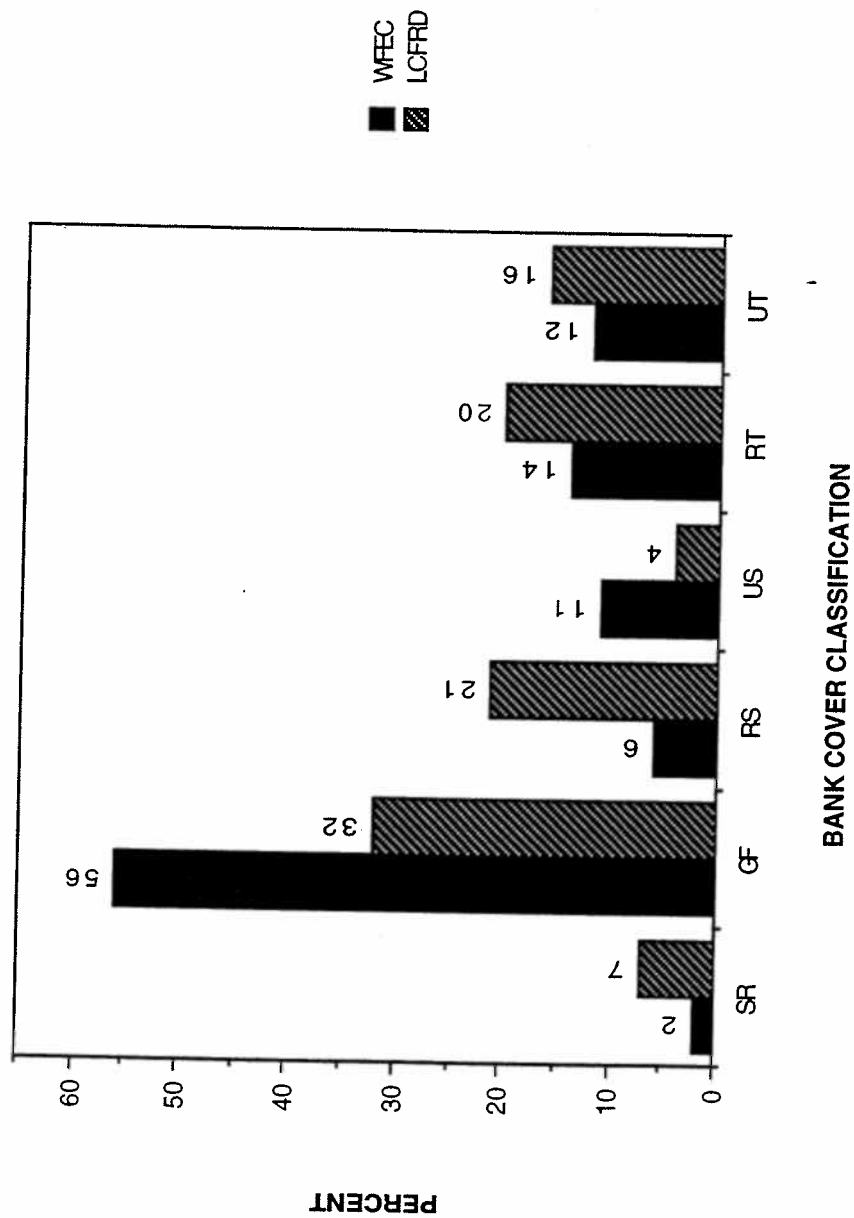


Figure B-182. Percent composition stream bank cover. Sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). West Fork Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

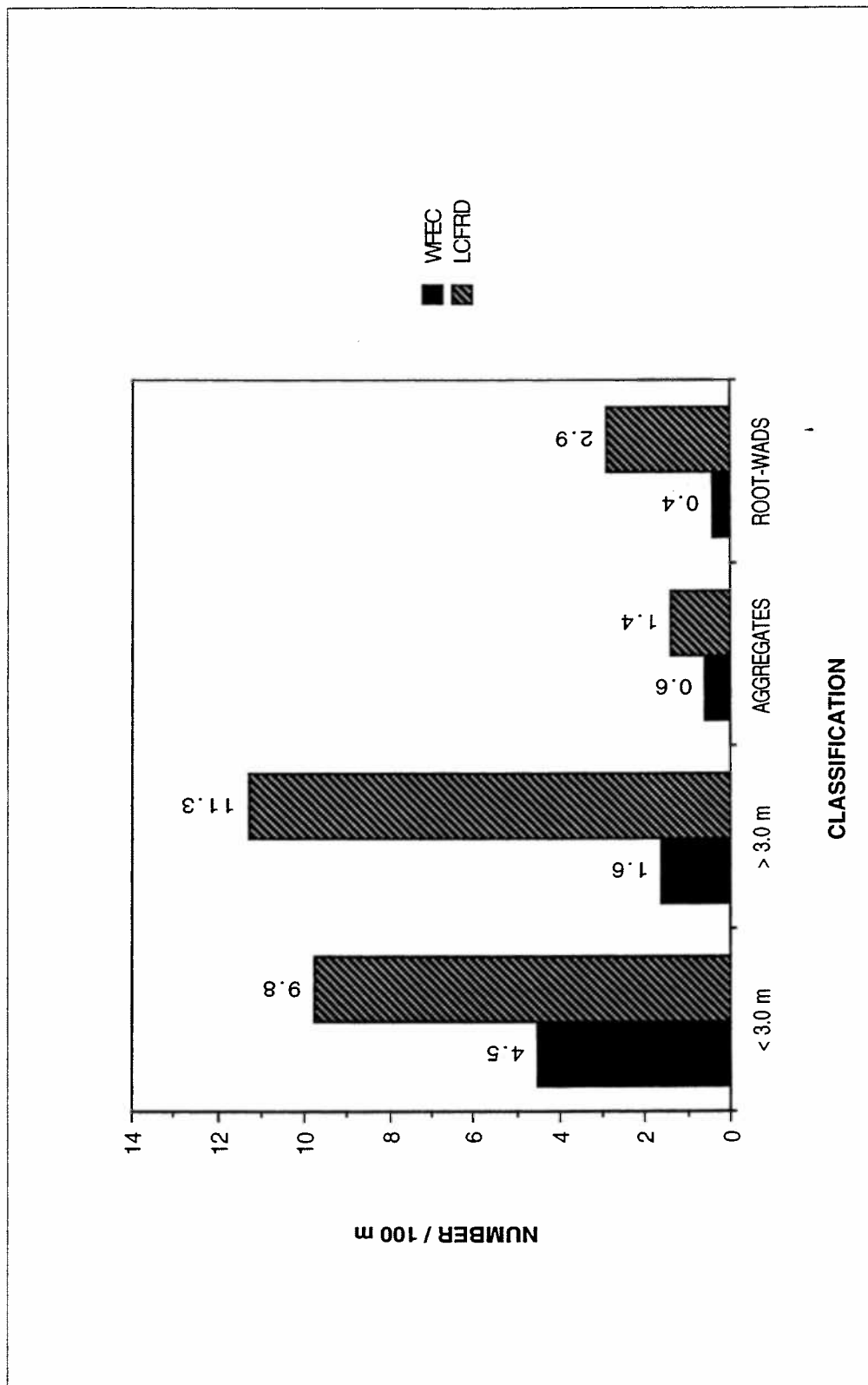


Figure B-183. Large woody debris by classification. West Fork Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

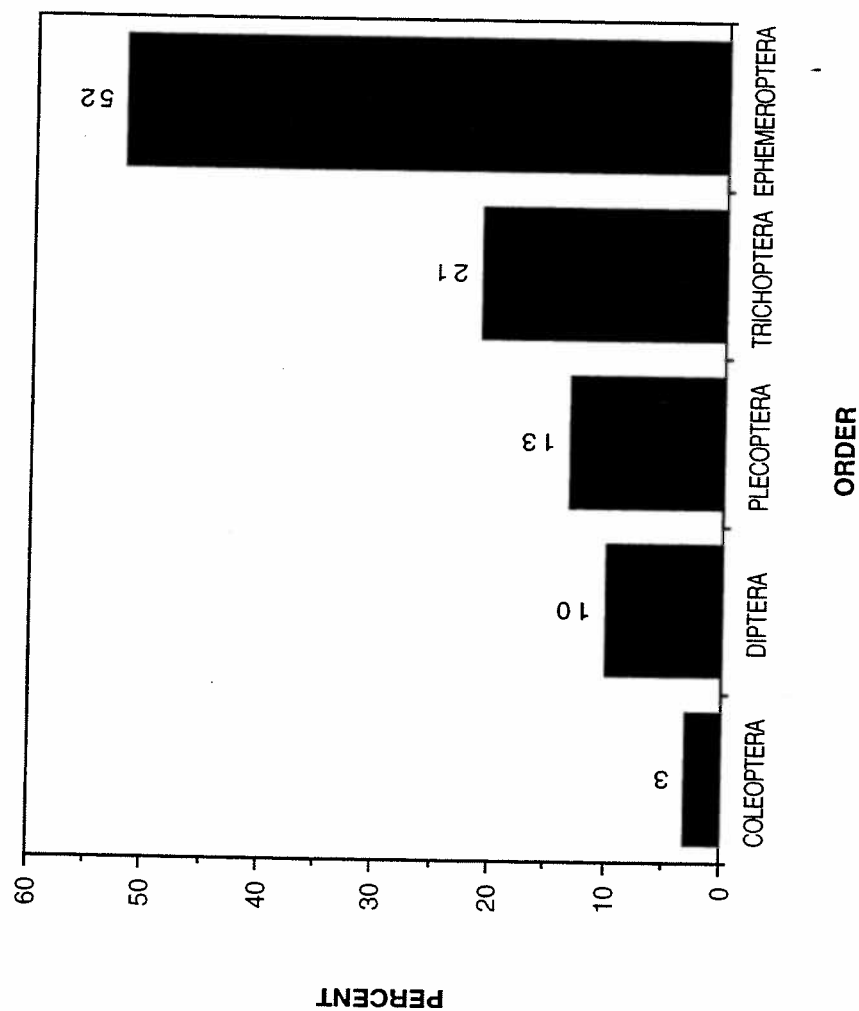


Figure B-184. Percent composition, benthic invertebrate population by taxonomic order. West Fork Elk Creek, Montana. Tributary survey, 1992-1994.

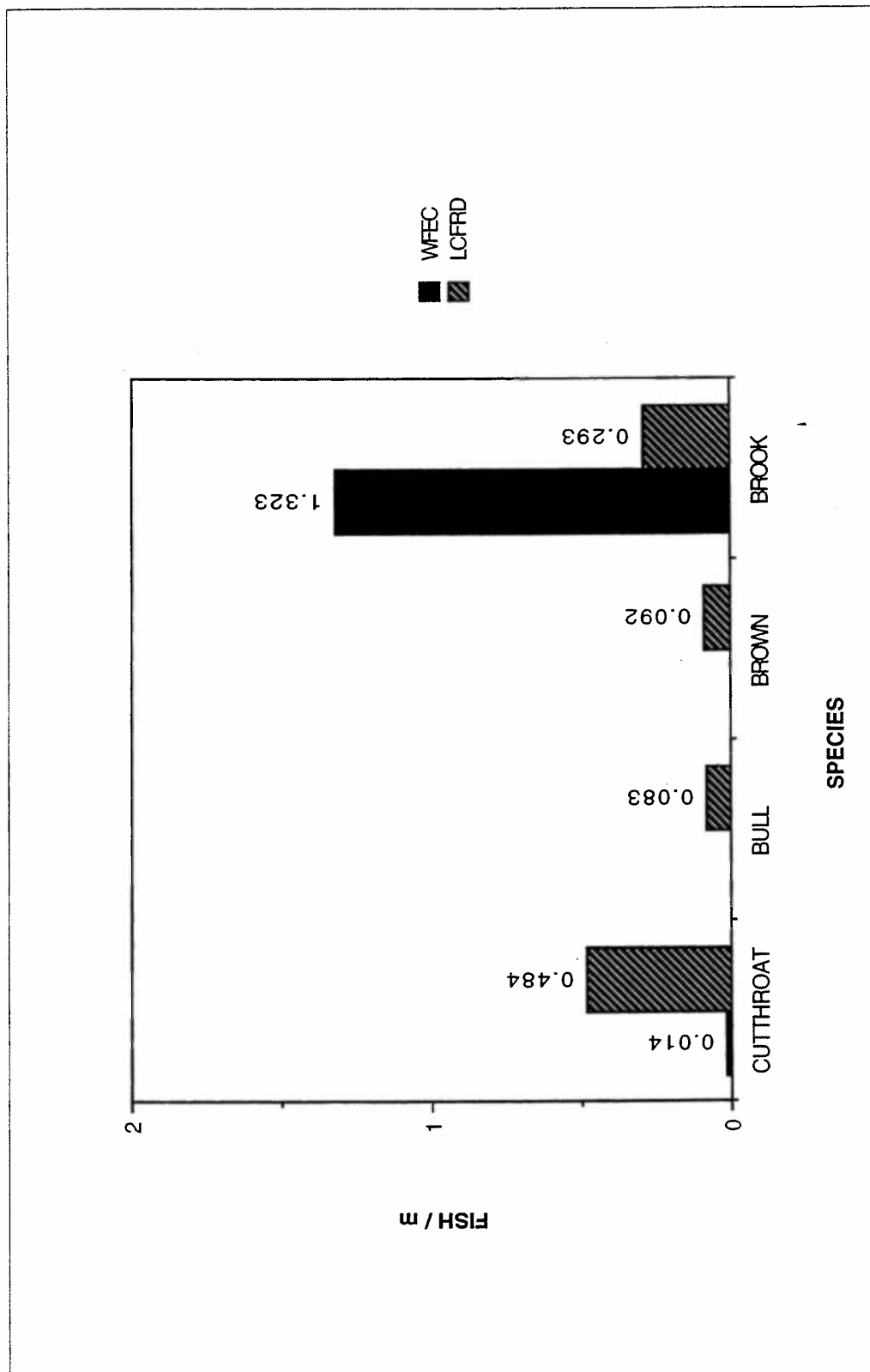


Figure B-185. Estimated densities of cutthroat, bull, brown, and brook trout. West Fork Elk Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

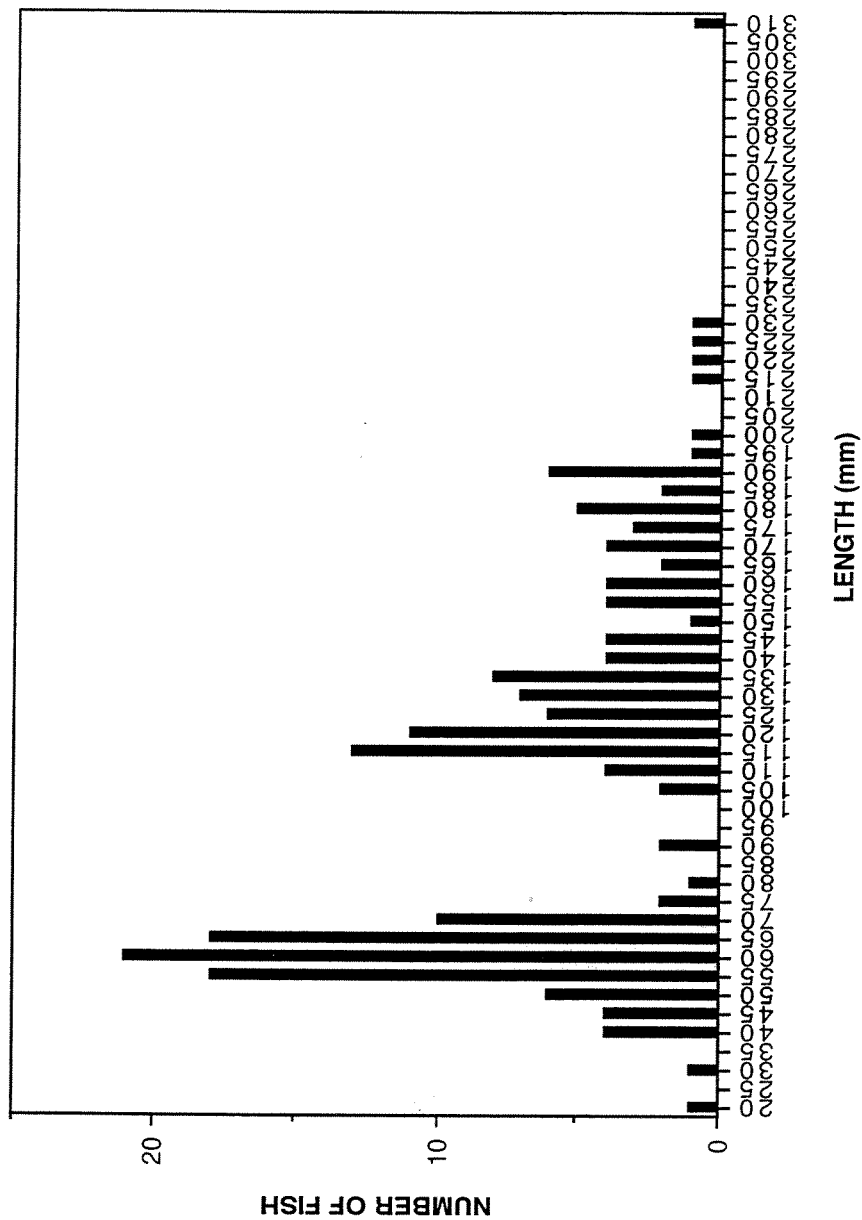


Figure B-186. Length frequency distribution for brook trout. West Fork Elk Creek, Montana. Tributary survey, 1992-1994.

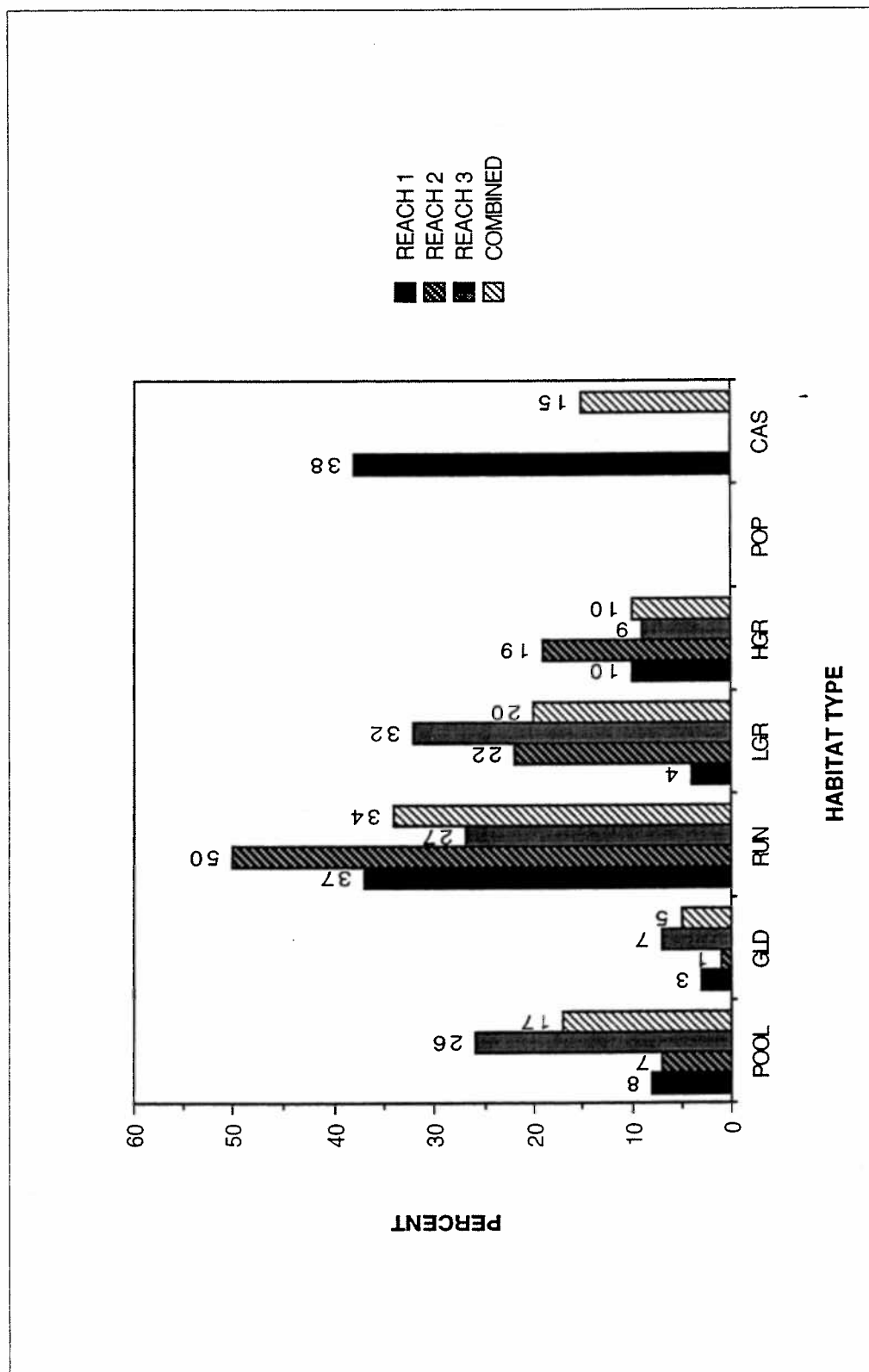


Figure B-187. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types by stream reach. Pilgrim Creek, Montana. Tributary survey, 1992-1994.

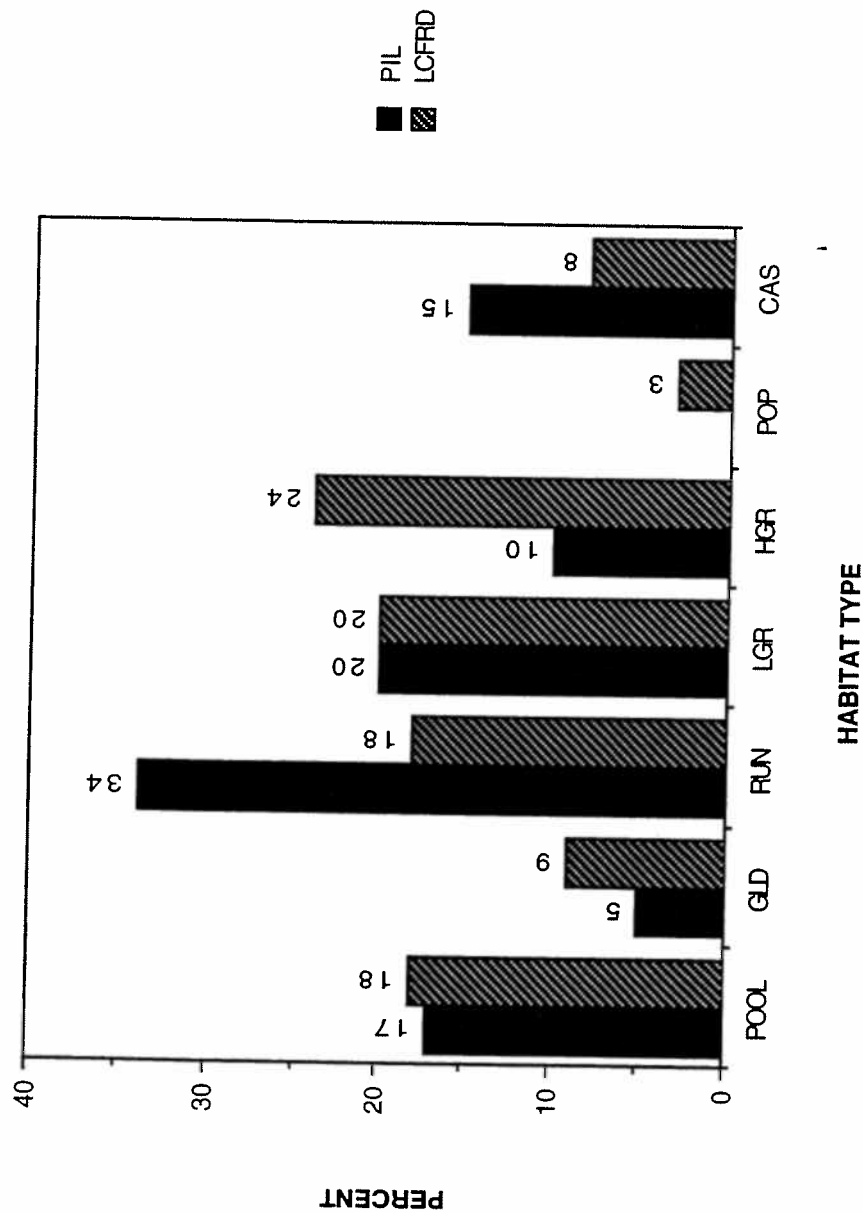


Figure B-188. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. Pilgrim Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

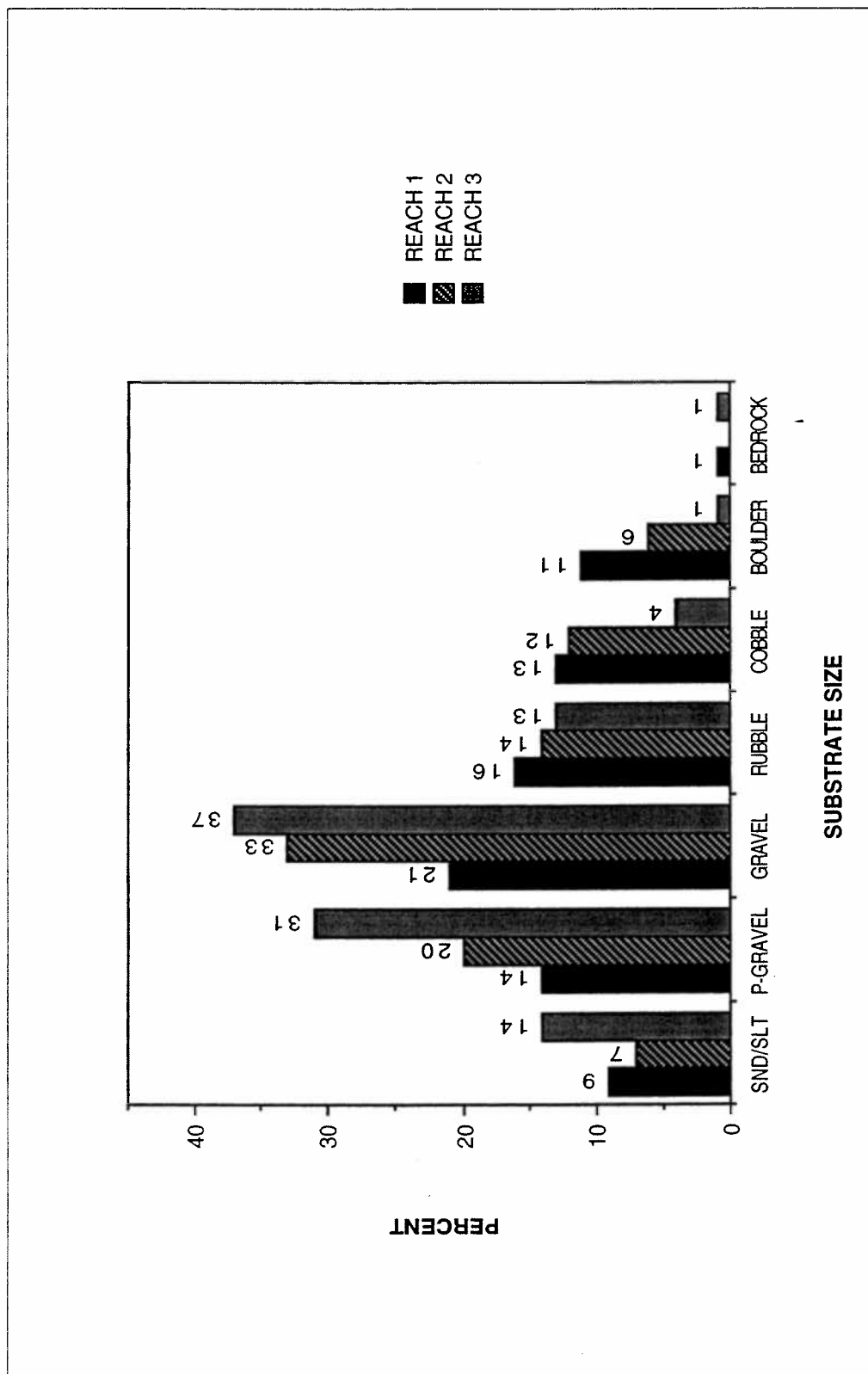


Figure B-189. Percent substrate composition by stream reach. Pilgrim Creek, Montana. Tributary survey, 1992-1994.

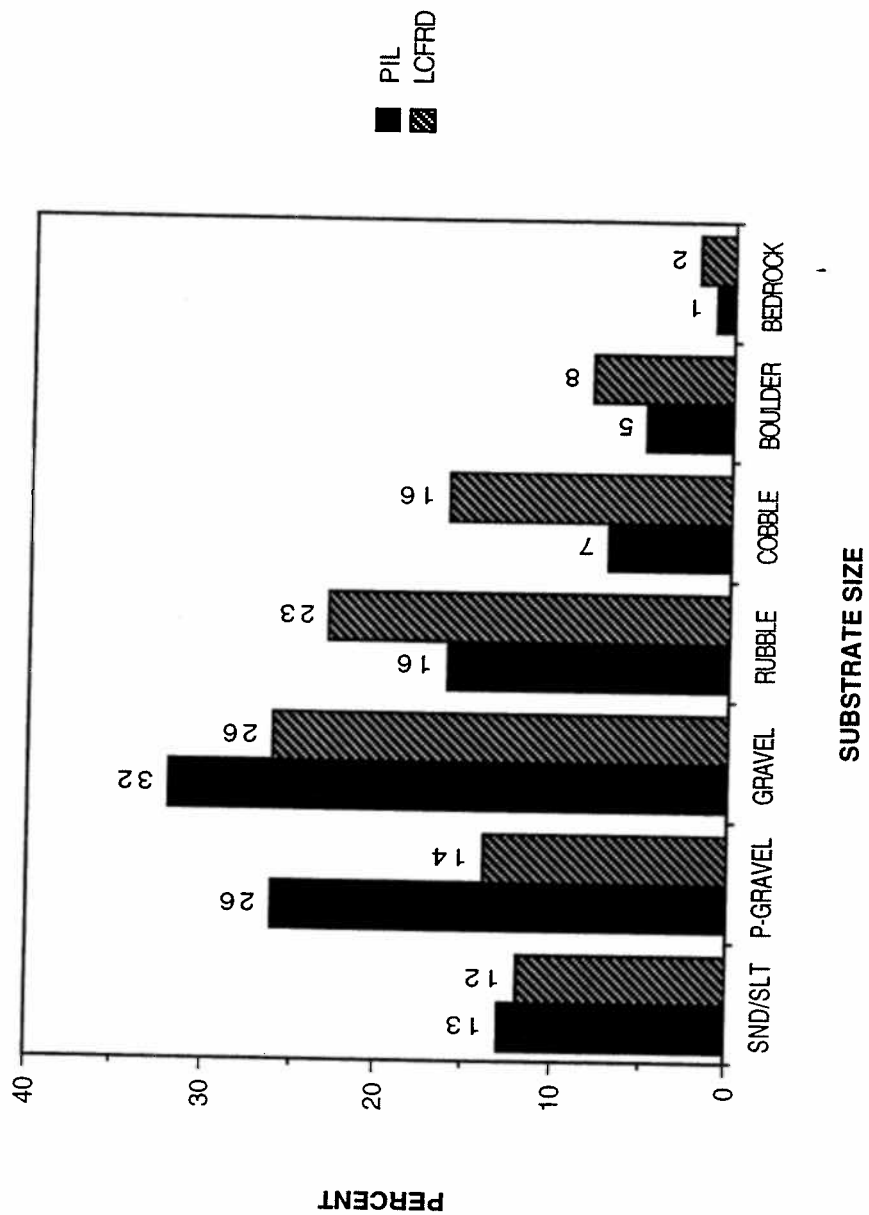


Figure B-190. Percent substrate composition. Pilgrim Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

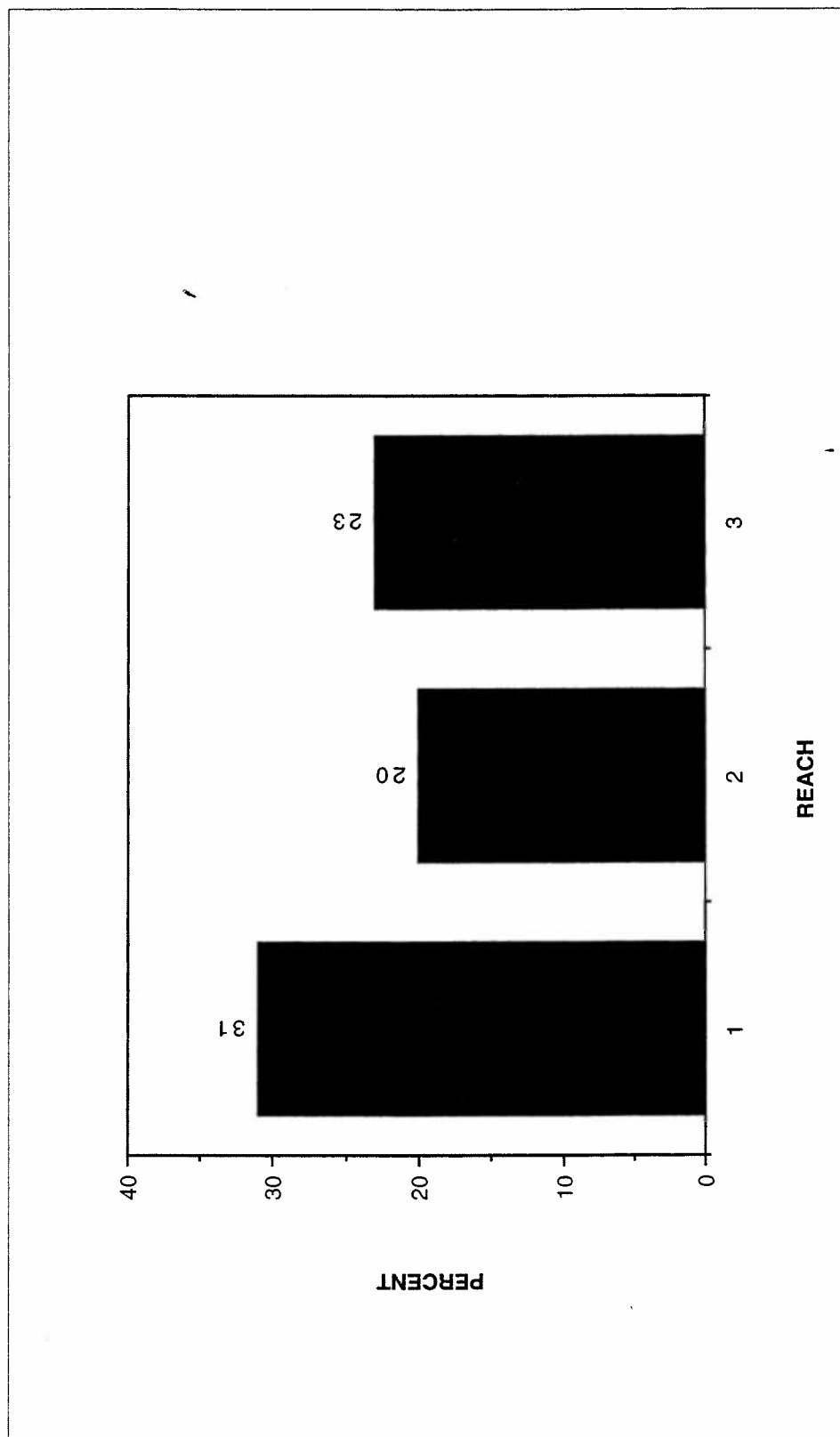


Figure B-191. Percent surface fines (<6.35 mm) by stream reach. Pilgrim Creek, Montana. Tributary survey, 1992-1994.

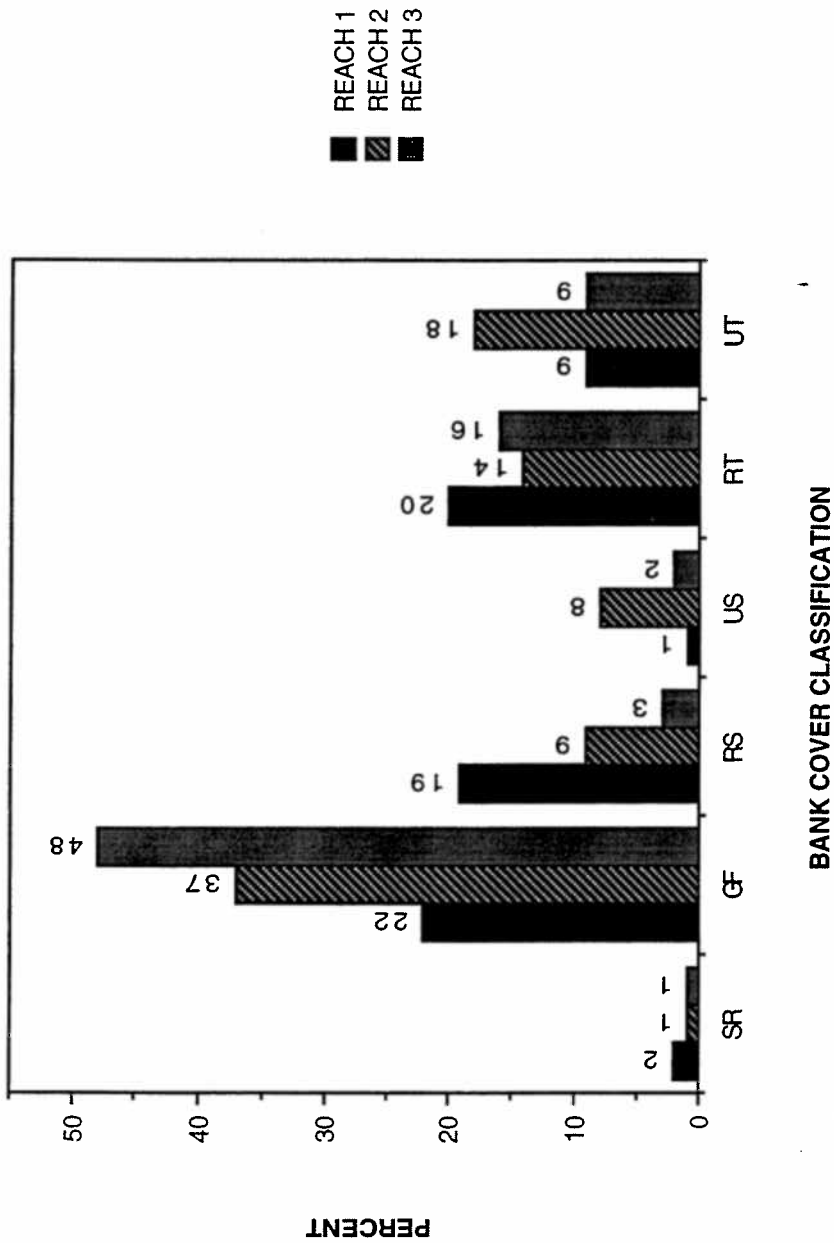


Figure B-192. Percent composition stream bank cover by stream reach, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Pilgrim Creek, Montana. Tributary survey, 1992-1994.

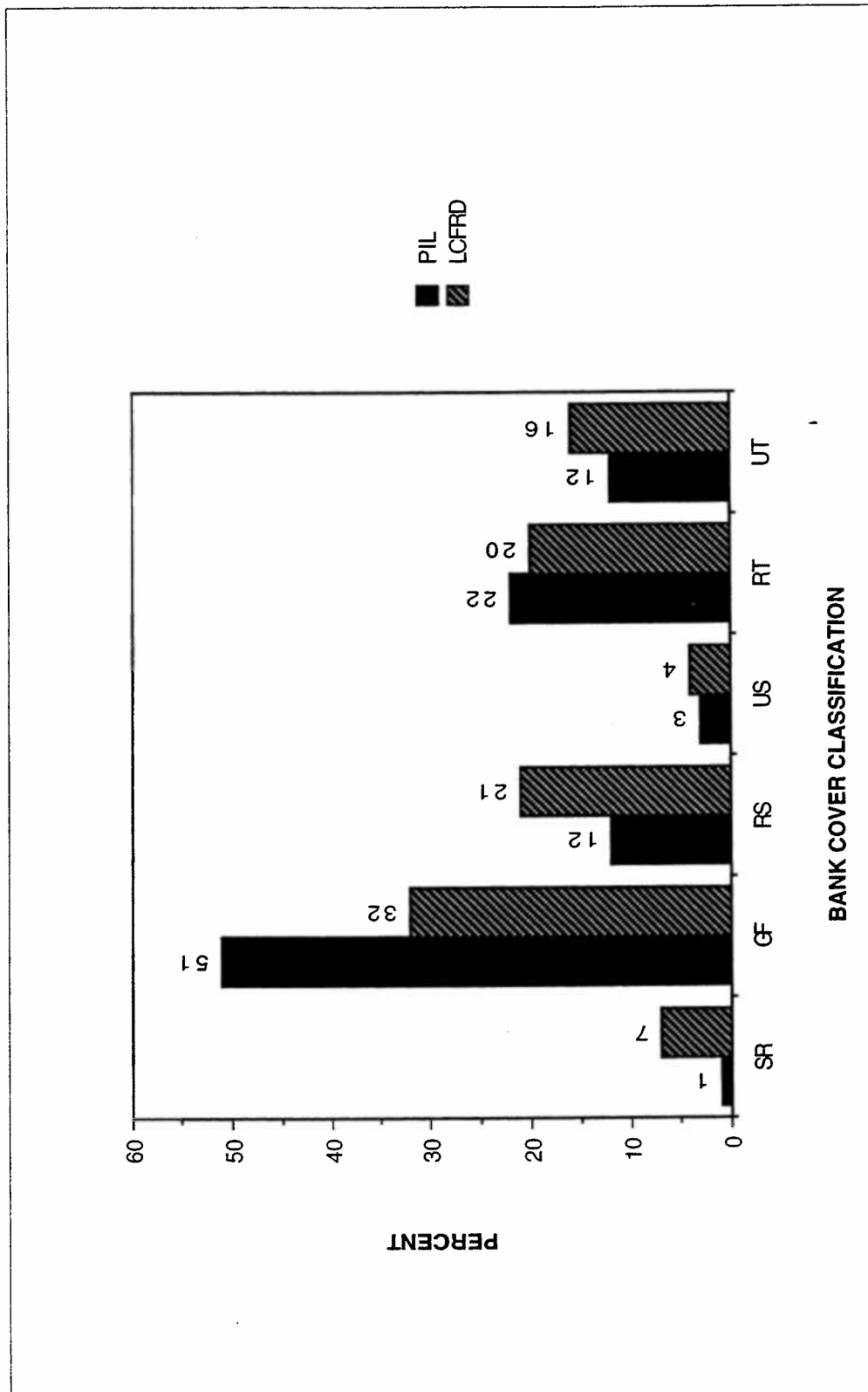


Figure B-193. Percent composition stream bank cover. Sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Pilgrim Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

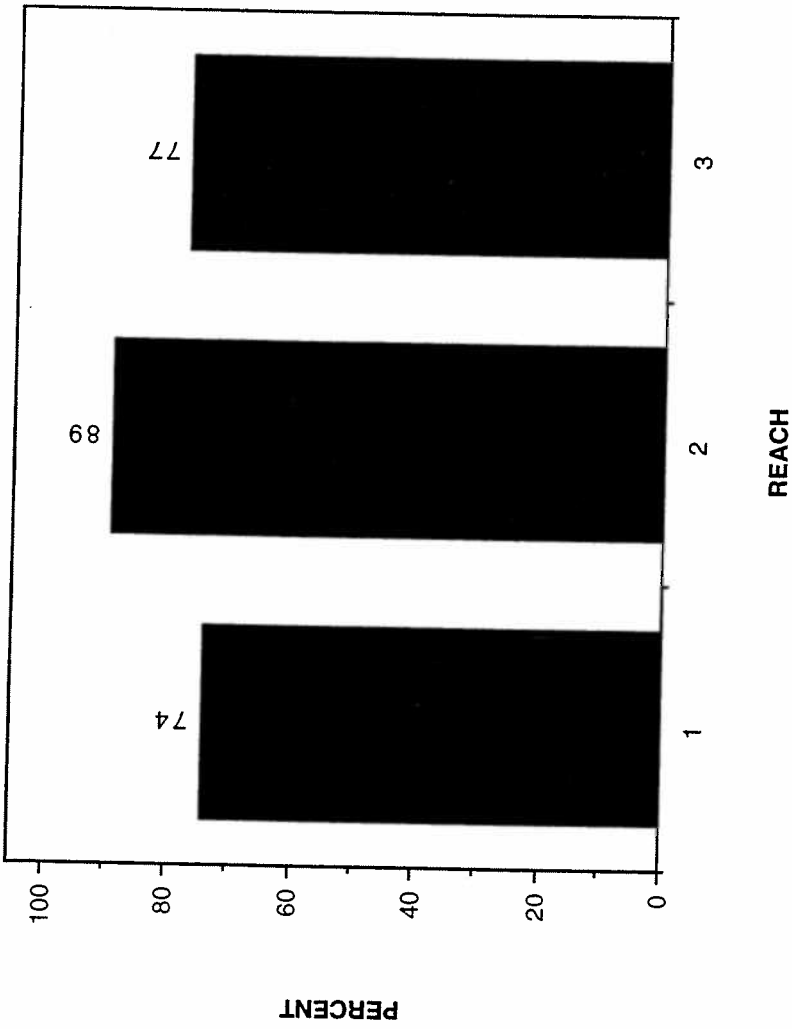


Figure B-194. Percent vegetated bank cover by stream reach. Pilgrim Creek, Montana. Tributary survey, 1992-1994.

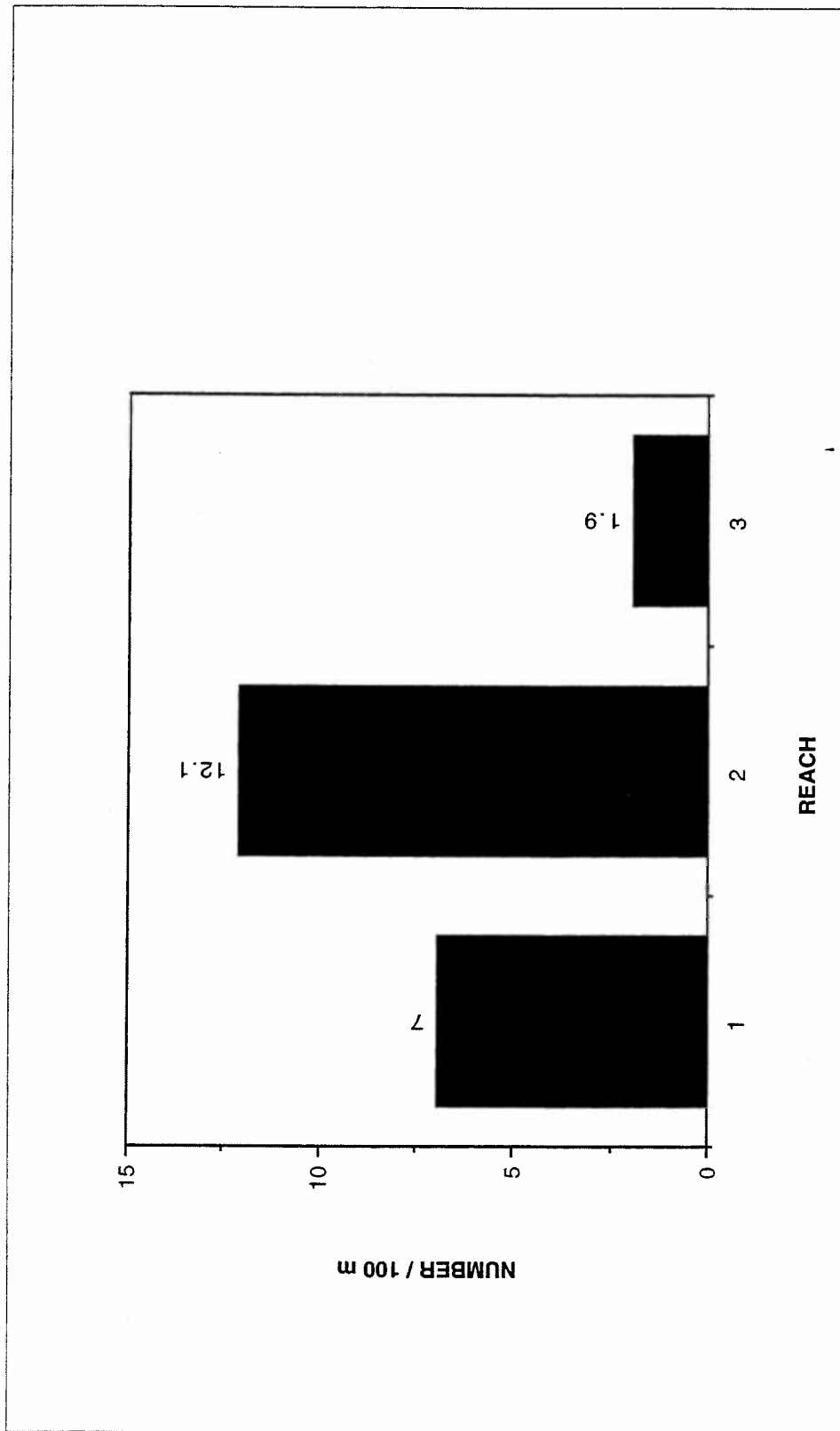


Figure B-195. Large woody debris < 3.0 m in length. Pilgrim Creek, Montana. Tributary survey, 1992-1994.

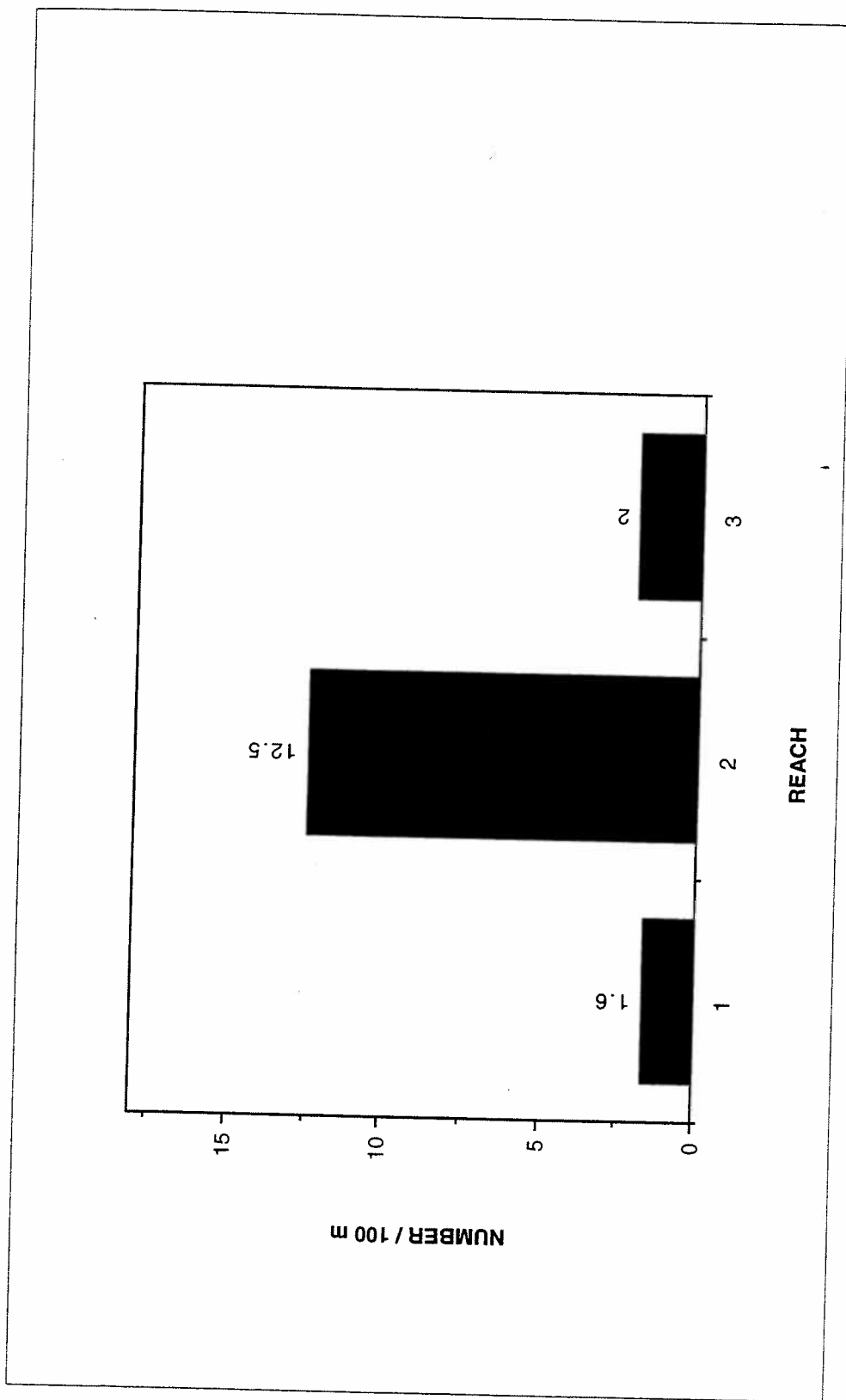


Figure B-196. Large woody debris > 3.0 m in length. Pilgrim Creek, Montana. Tributary survey, 1992-1994.

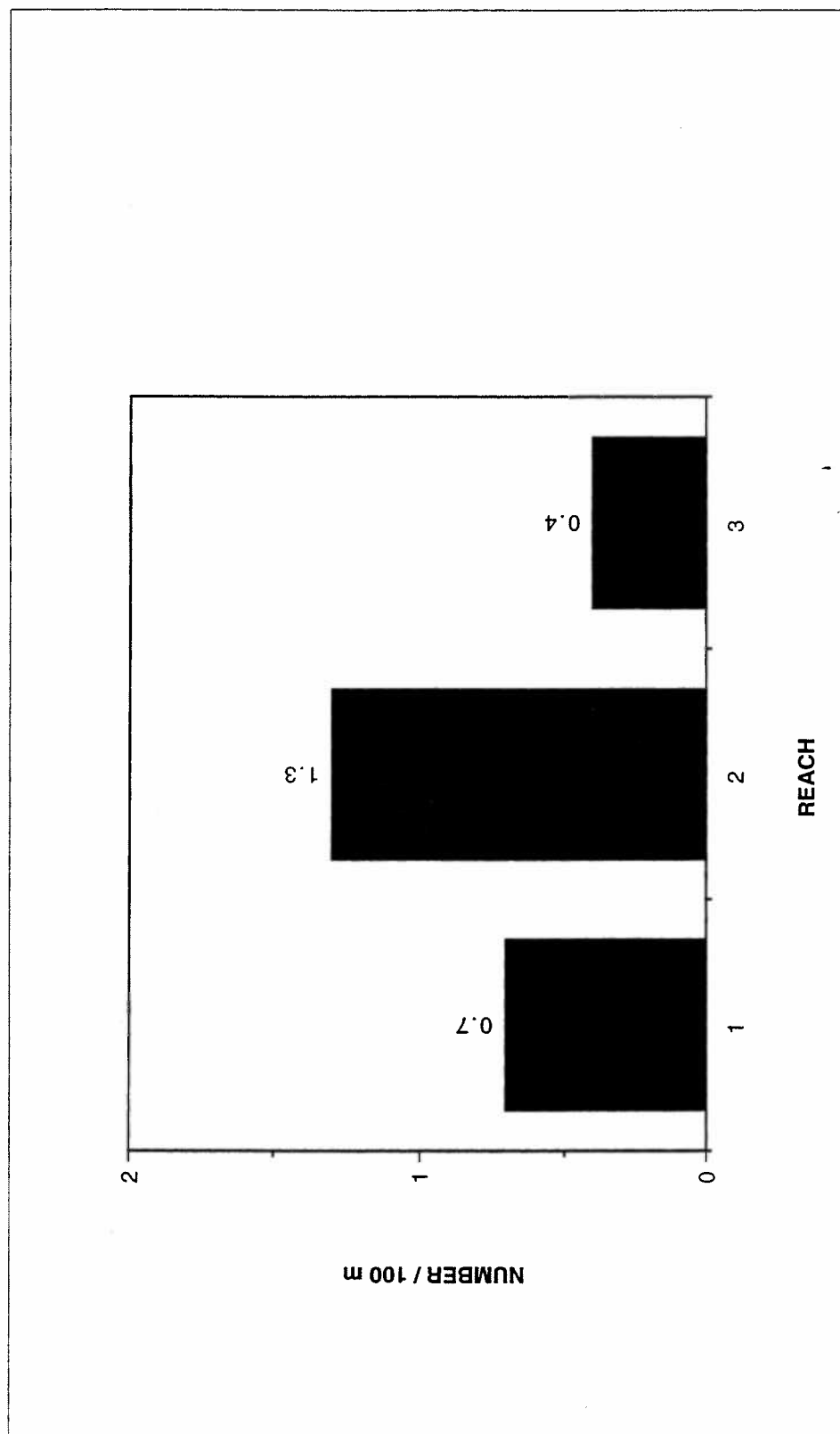


Figure B-197. Large woody debris aggregations. Pilgrim Creek, Montana. Tributary survey, 1992-1994.

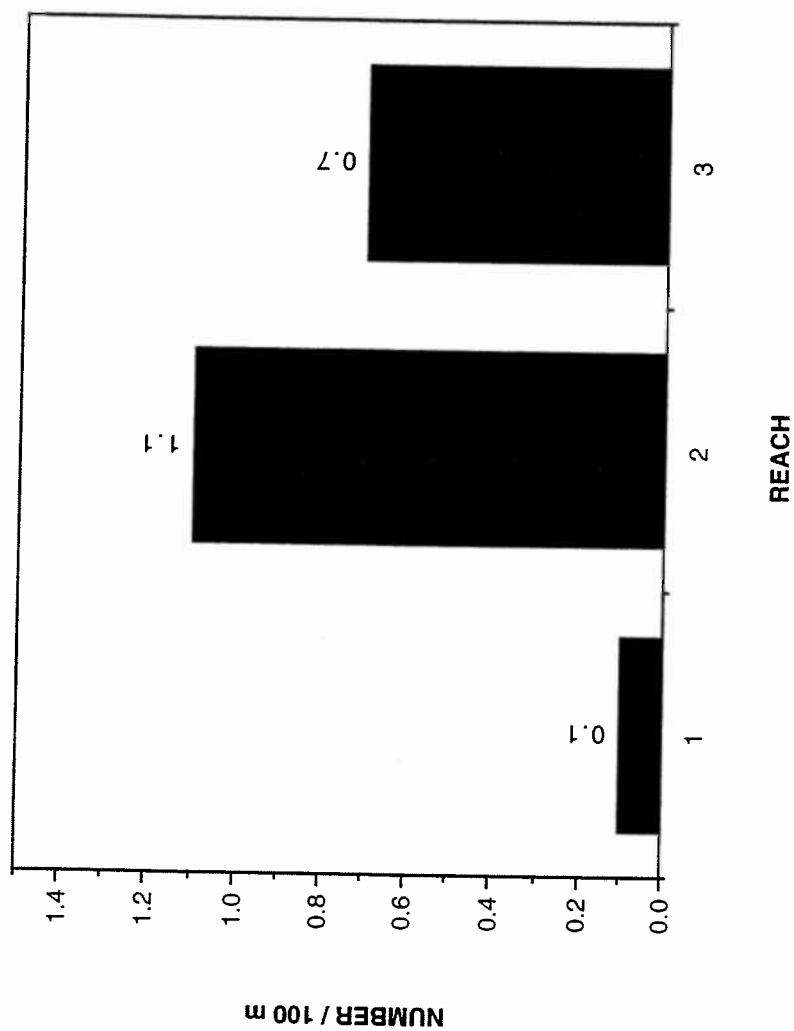


Figure B-198. Large woody debris, root wads, root wads. Pilgrim Creek, Montana. Tributary survey, 1992-1994.

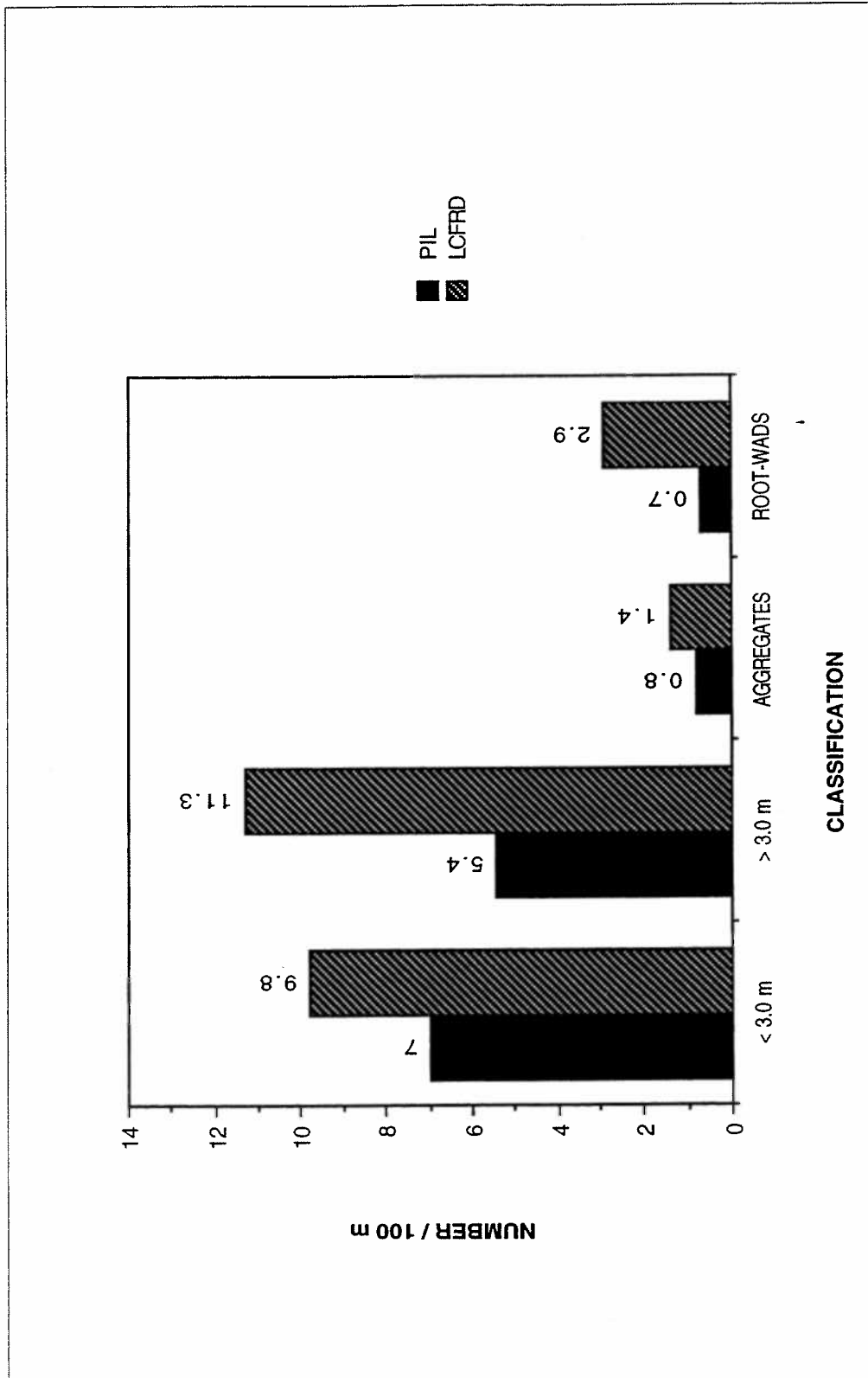


Figure B-199. Large woody debris by classification. Pilgrim Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

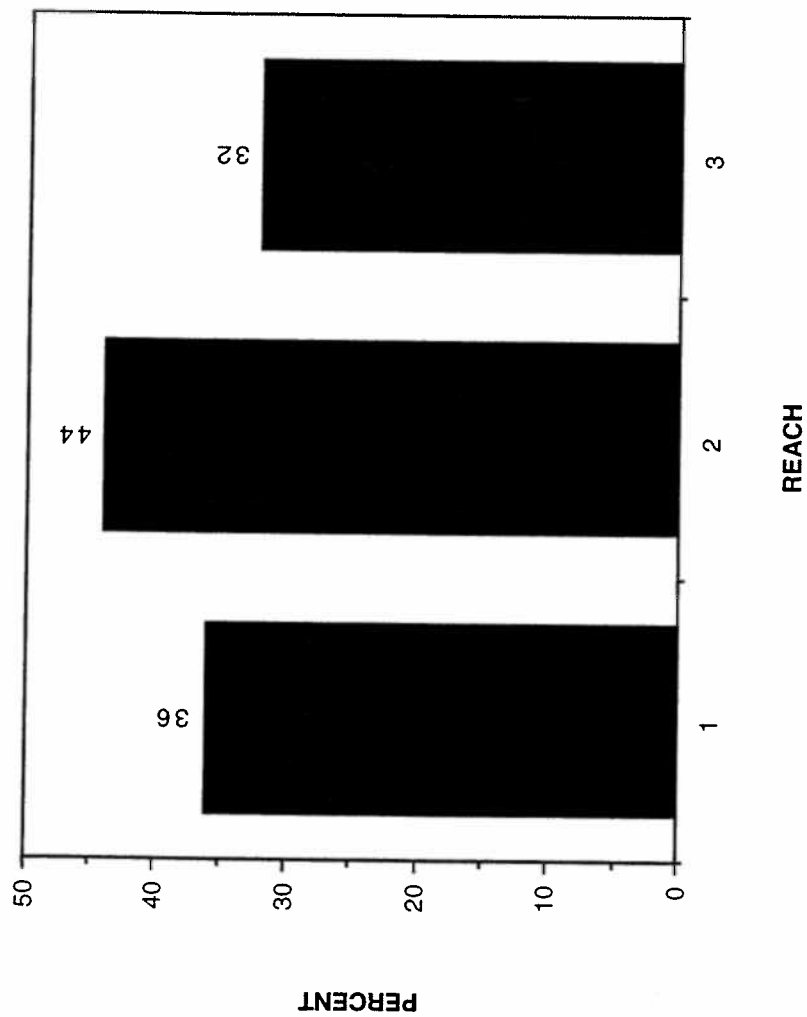


Figure B-200. McNeil core sample percent fines (<6.35 mm) by stream reach. Pilgrim Creek, Montana. Tributary survey, 1992-1994.

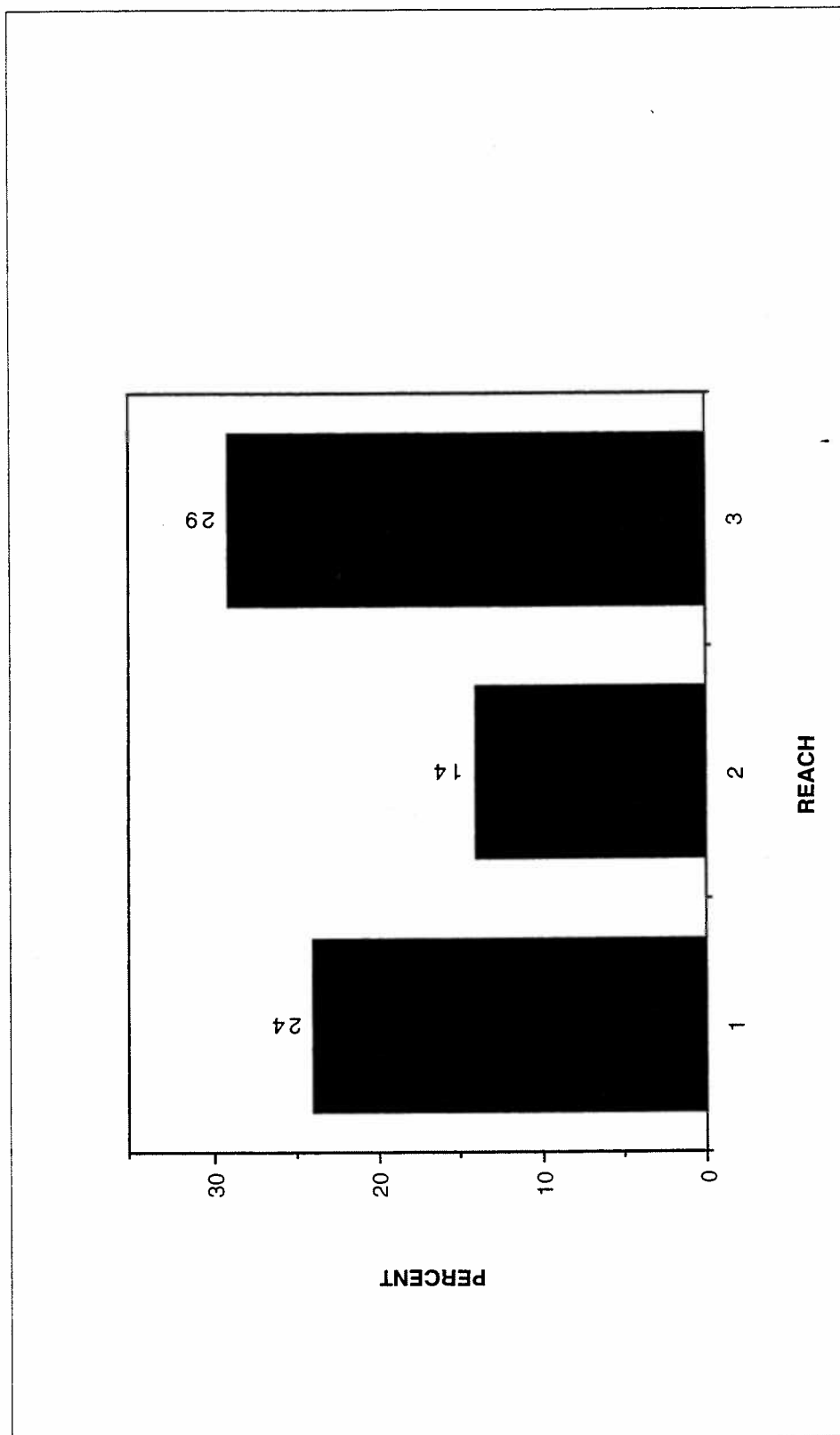


Figure B-201. Percent embryo survival to emergence for cutthroat trout by stream reach. Pilgrim Creek, Montana. Tributary survey, 1992-1994.

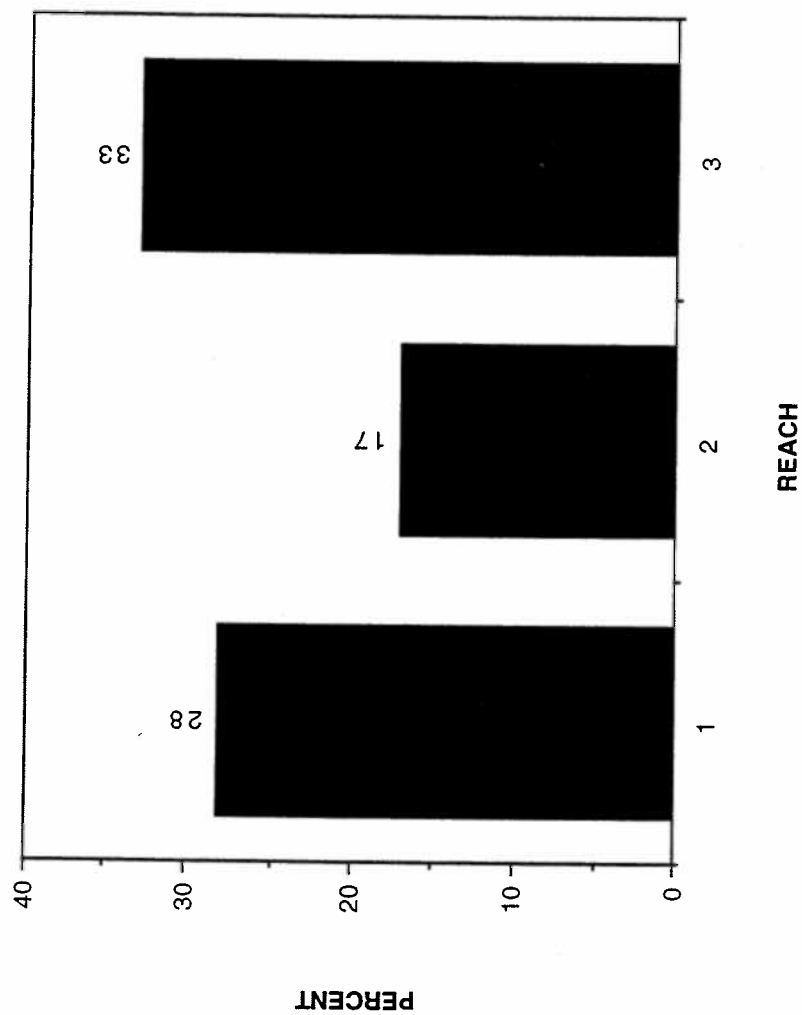


Figure B-202. Percent embryo survival to emergence for bull trout by stream reach.
Pilgrim Creek, Montana. Tributary survey, 1992-1994.

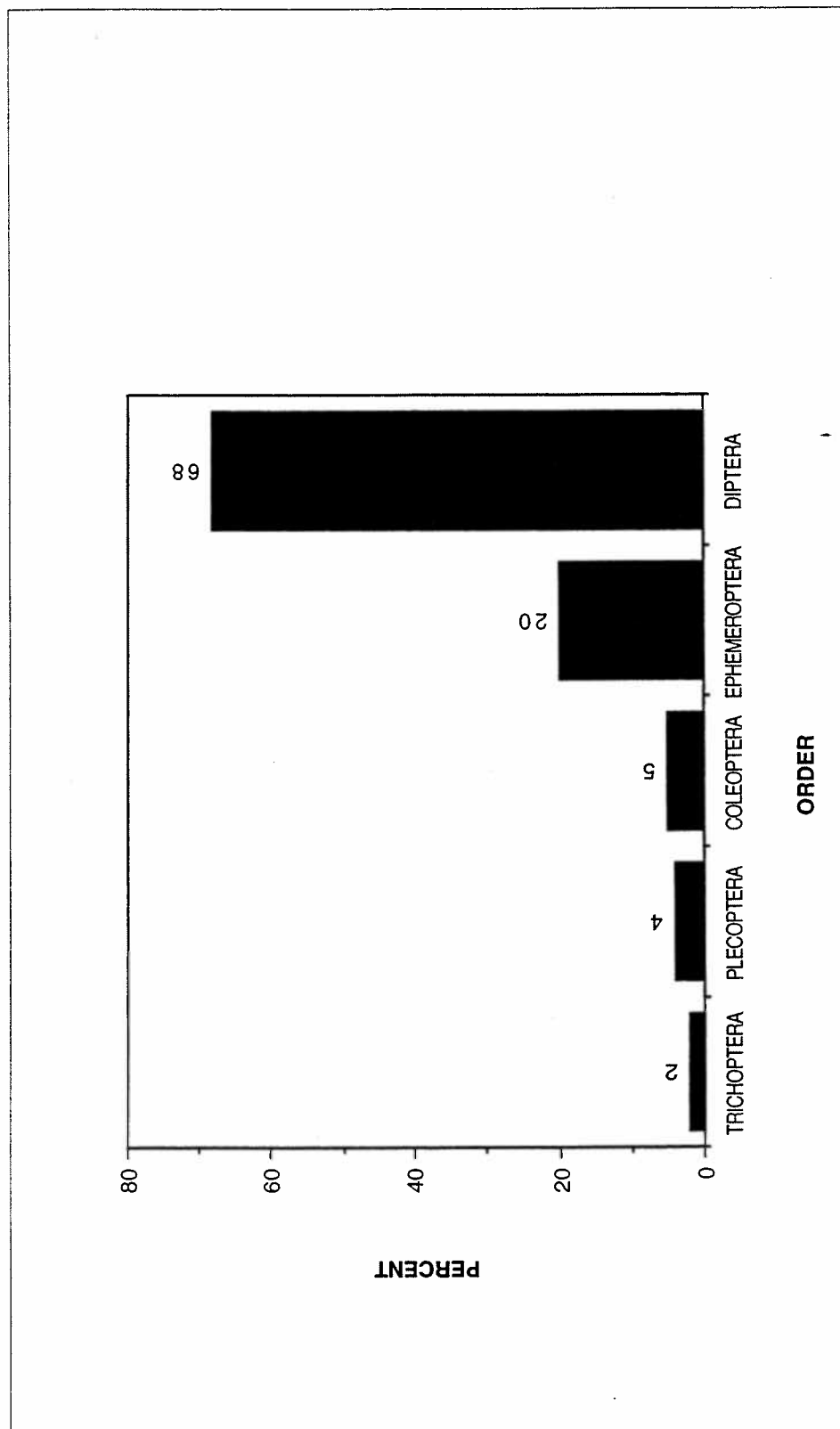


Figure B-203. Percent composition benthic invertebrate population by taxonomic order.
Pilgrim Creek, Montana. Tributary survey, 1992-1994.

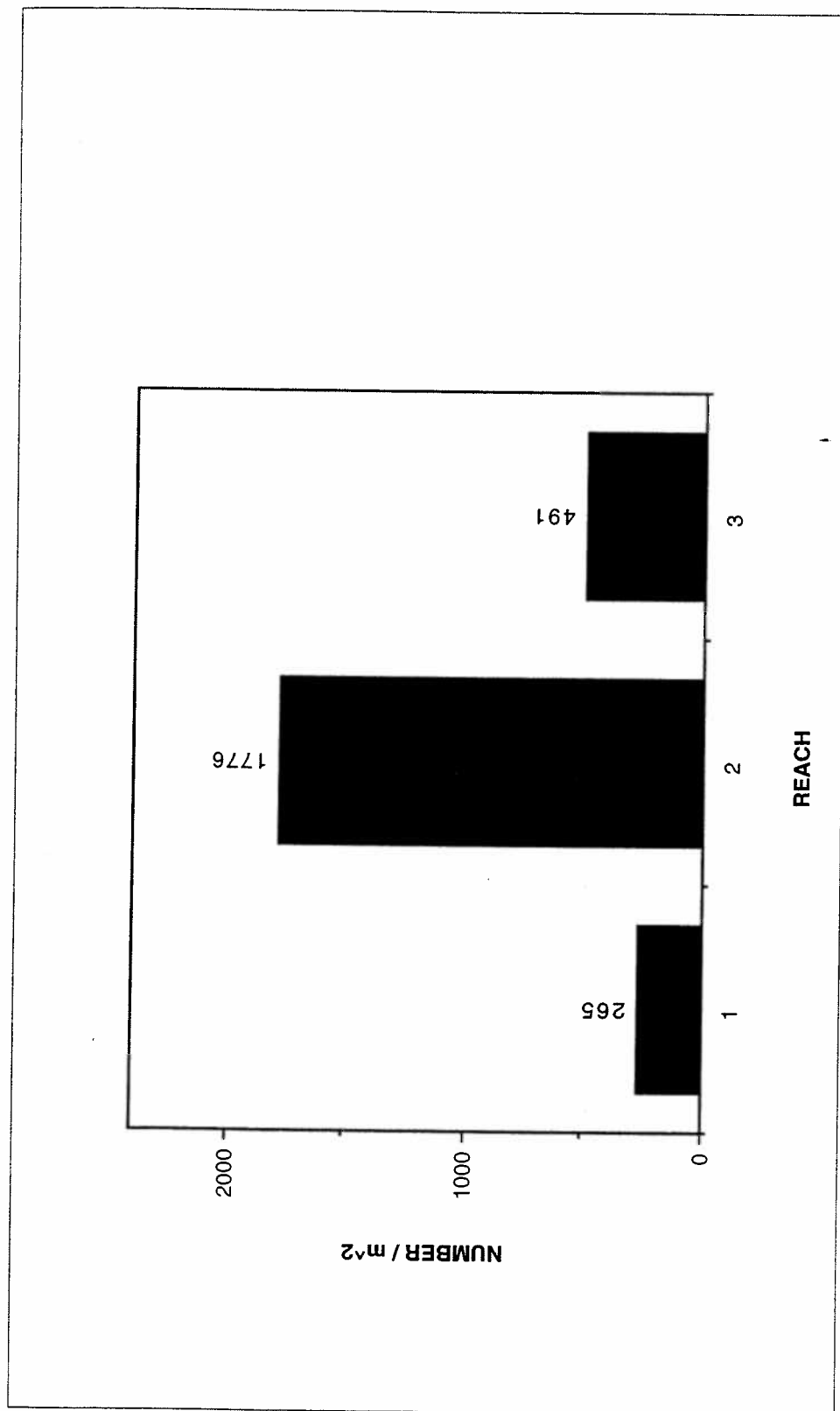


Figure B-204. Benthic invertebrate densities by stream reach. Pilgrim Creek, Montana. Tributary survey, 1992-1994.

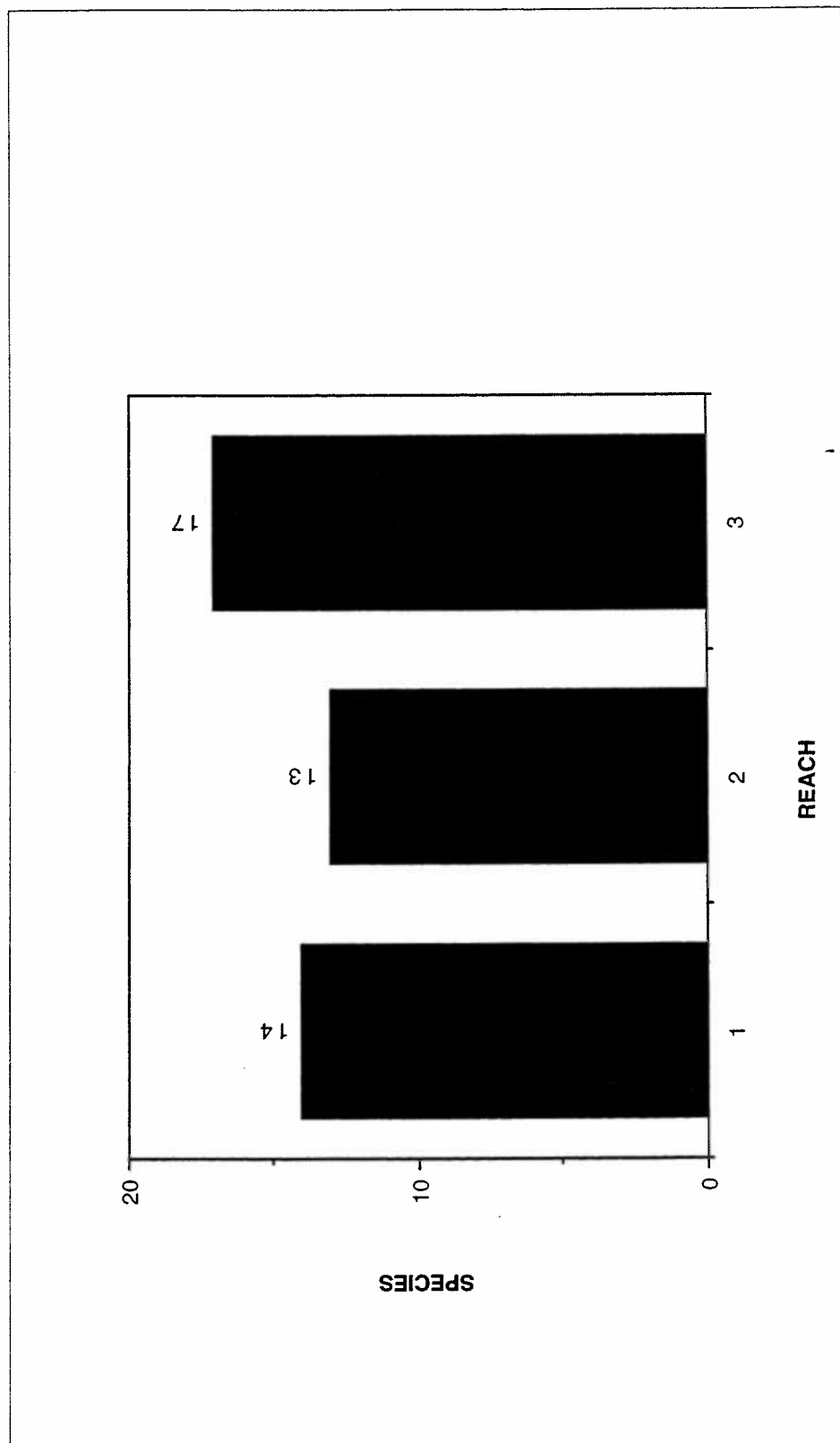


Figure B-205. Benthic invertebrate species richness by stream reach. Pilgrim Creek, Montana. Tributary survey, 1992-1994.

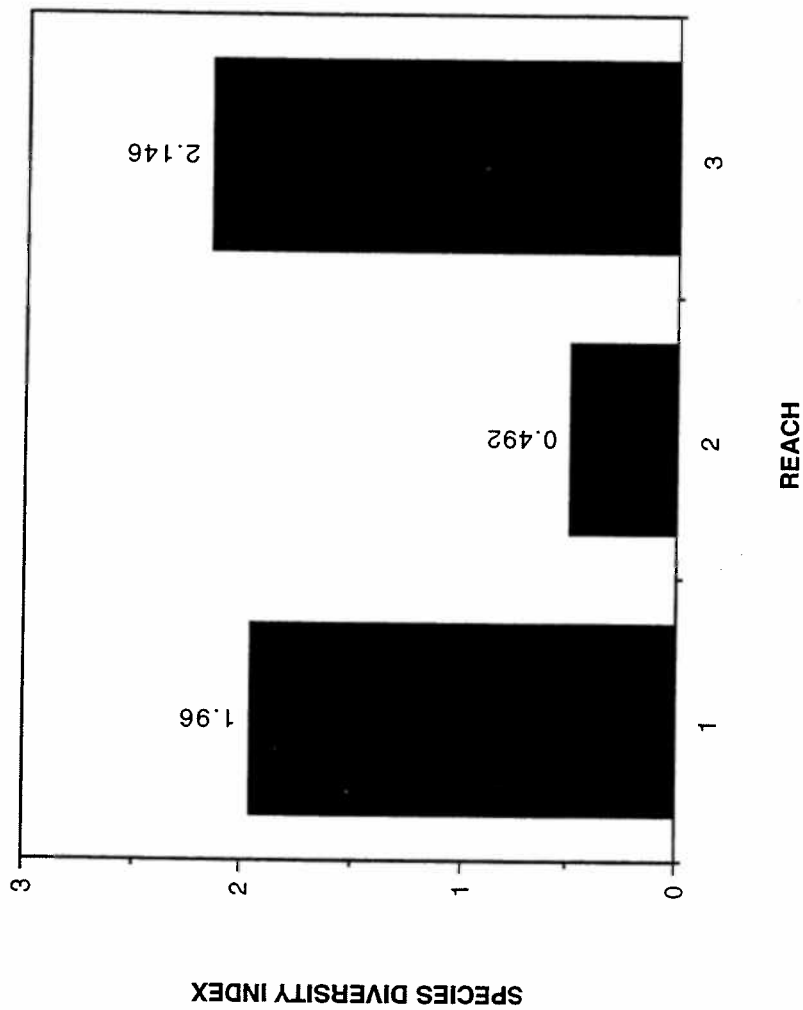


Figure B-206. Benthic invertebrate species diversity (SDI) by stream reach. Pilgrim Creek, Montana. Tributary survey, 1992-1994.

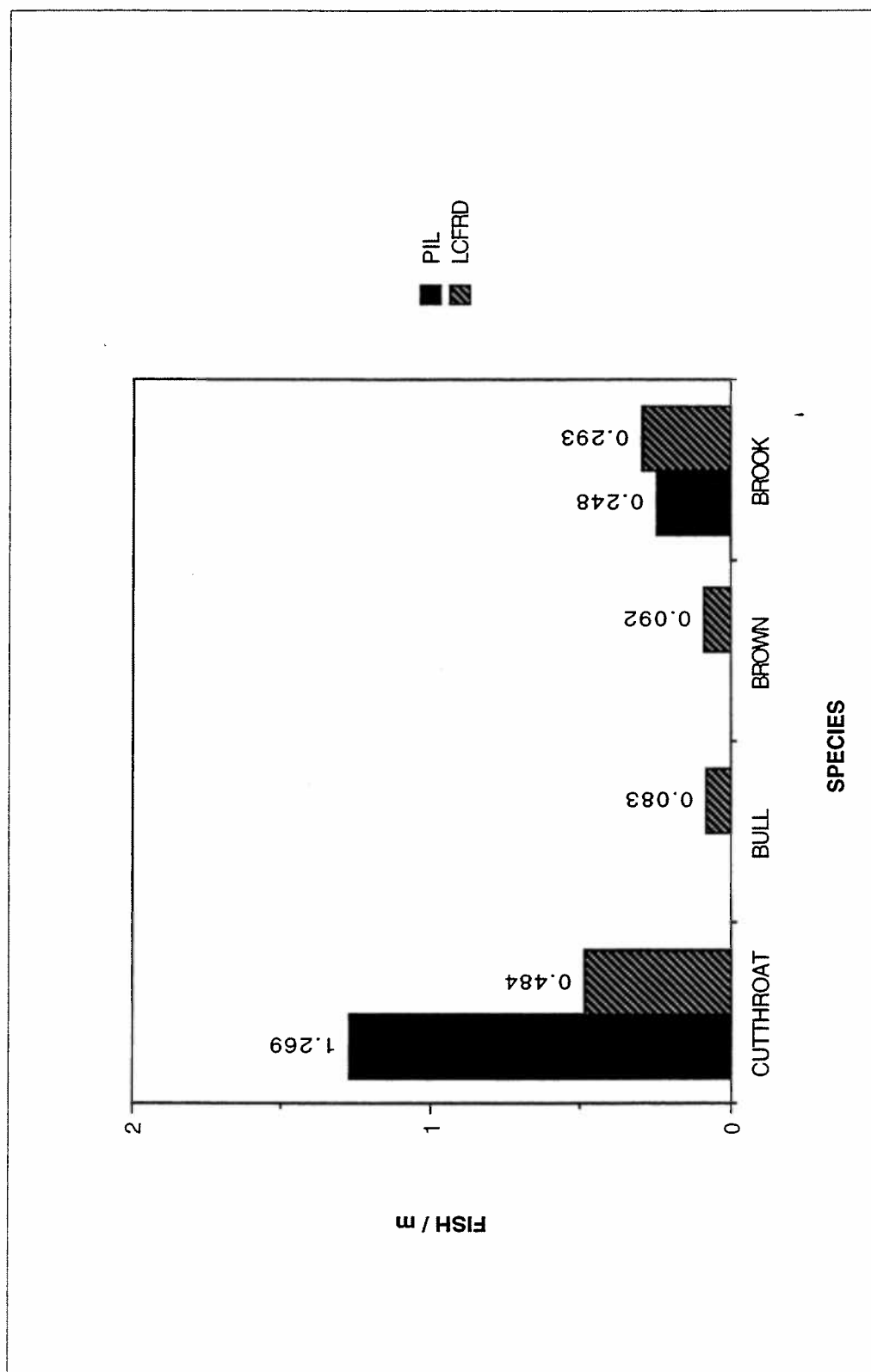


Figure B-207. Estimated densities of cutthroat, bull, brown, and brook trout. Pilgrim Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

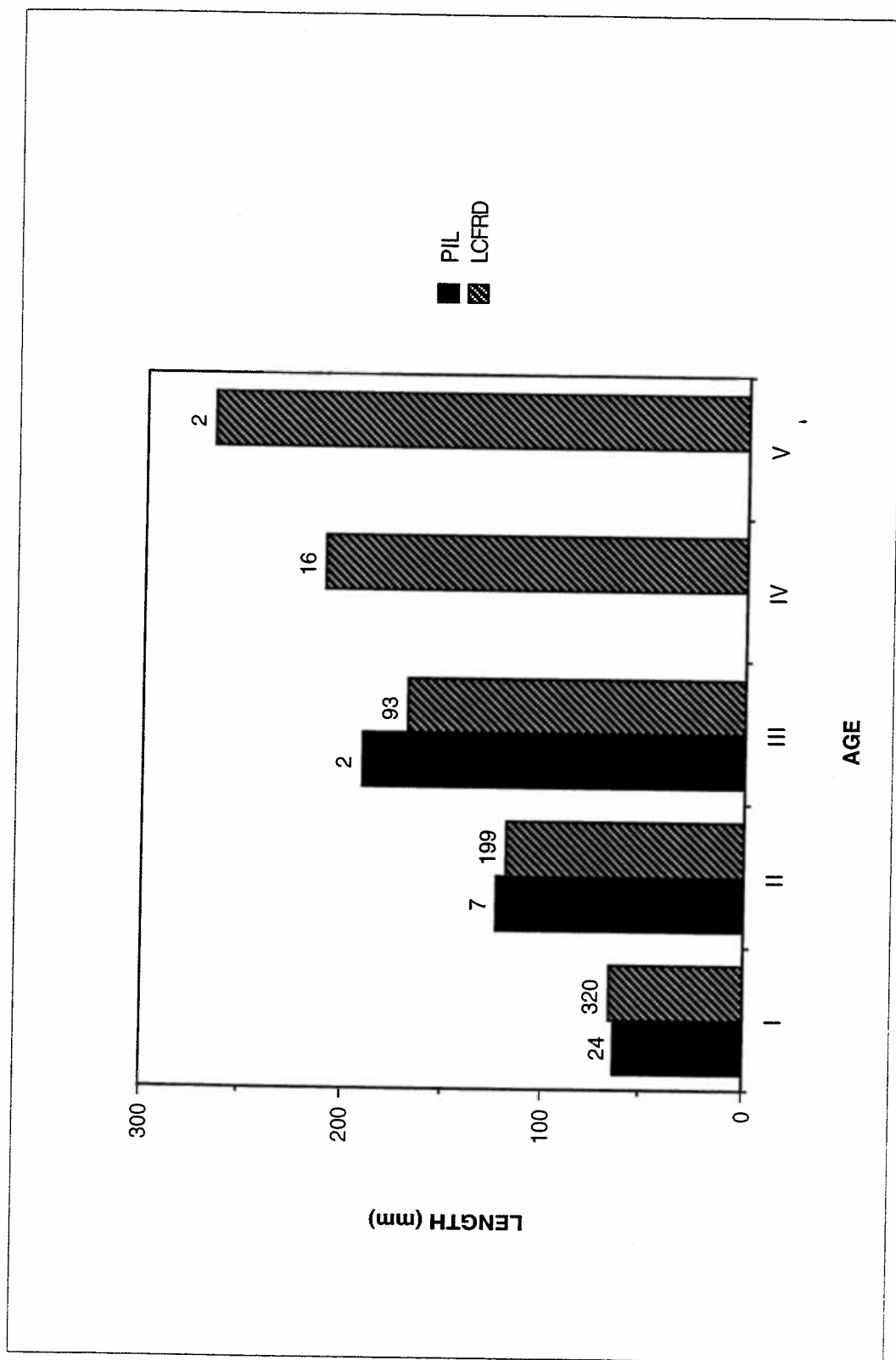


Figure B-208. Number of fish sampled and back calculated length at age for cutthroat trout. Pilgrim Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

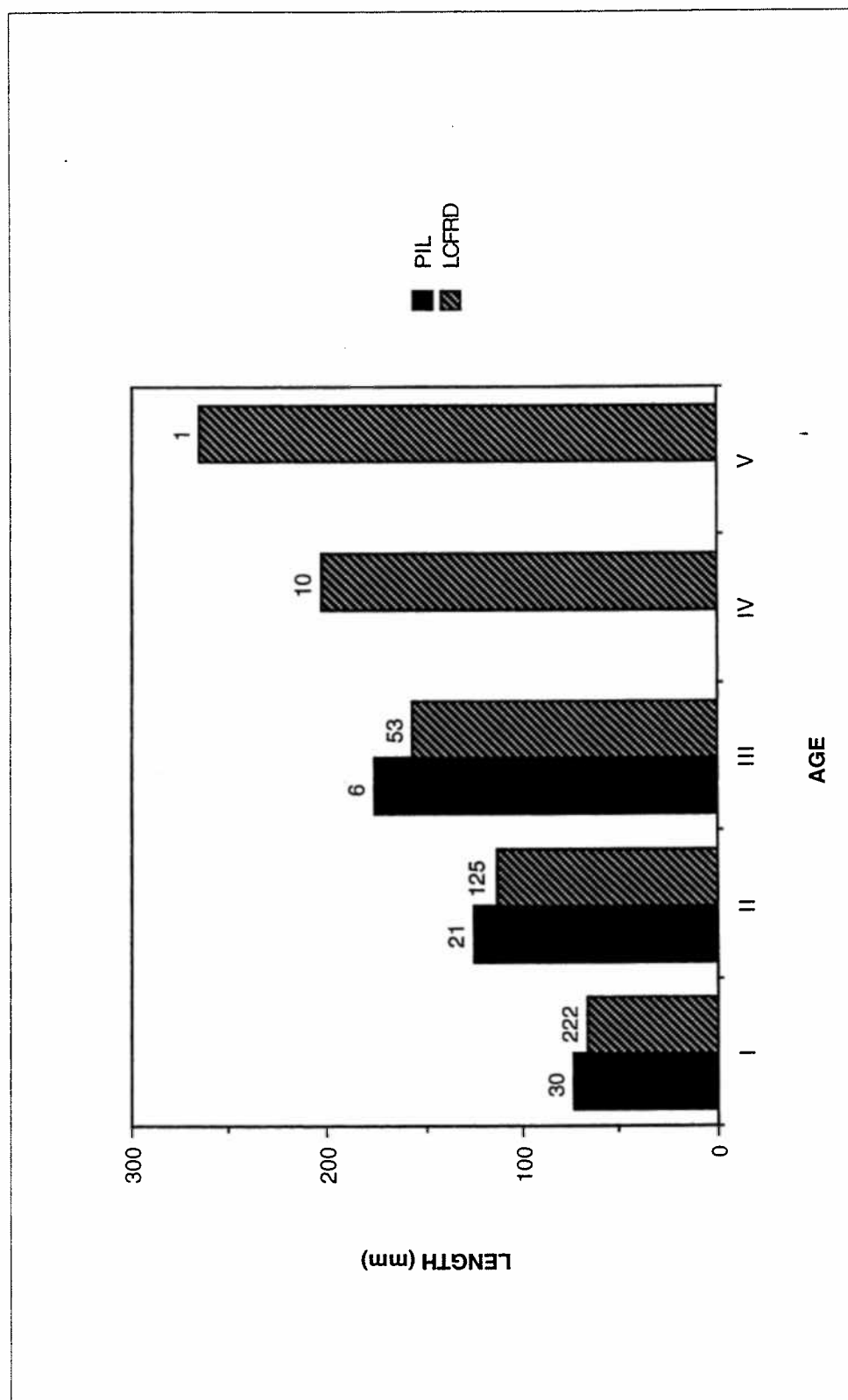


Figure B-209. Number of fish sampled and back calculated length at age for brook trout. Pilgrim Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

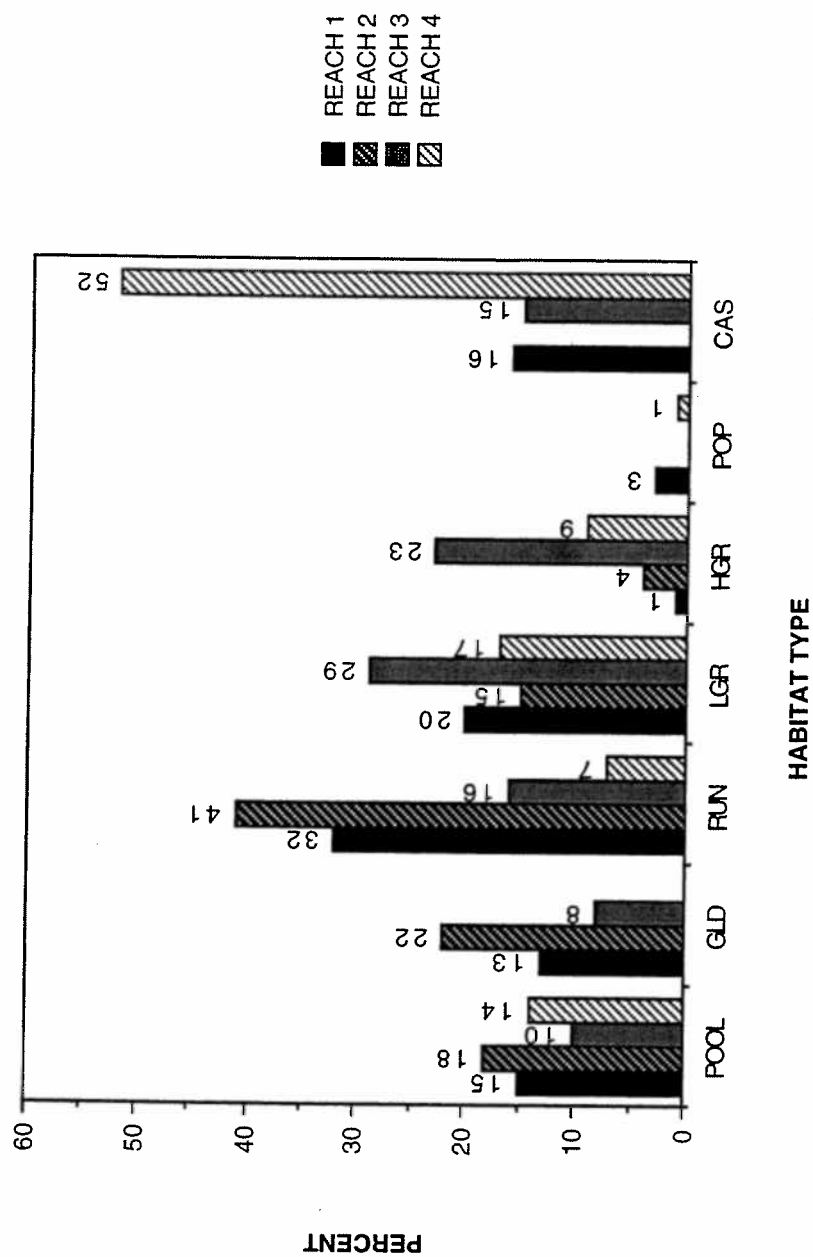


Figure B-210. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), and pocket pool (POP) habitat types by stream reach. Rock Creek, Montana. Tributary survey, 1992-1994.

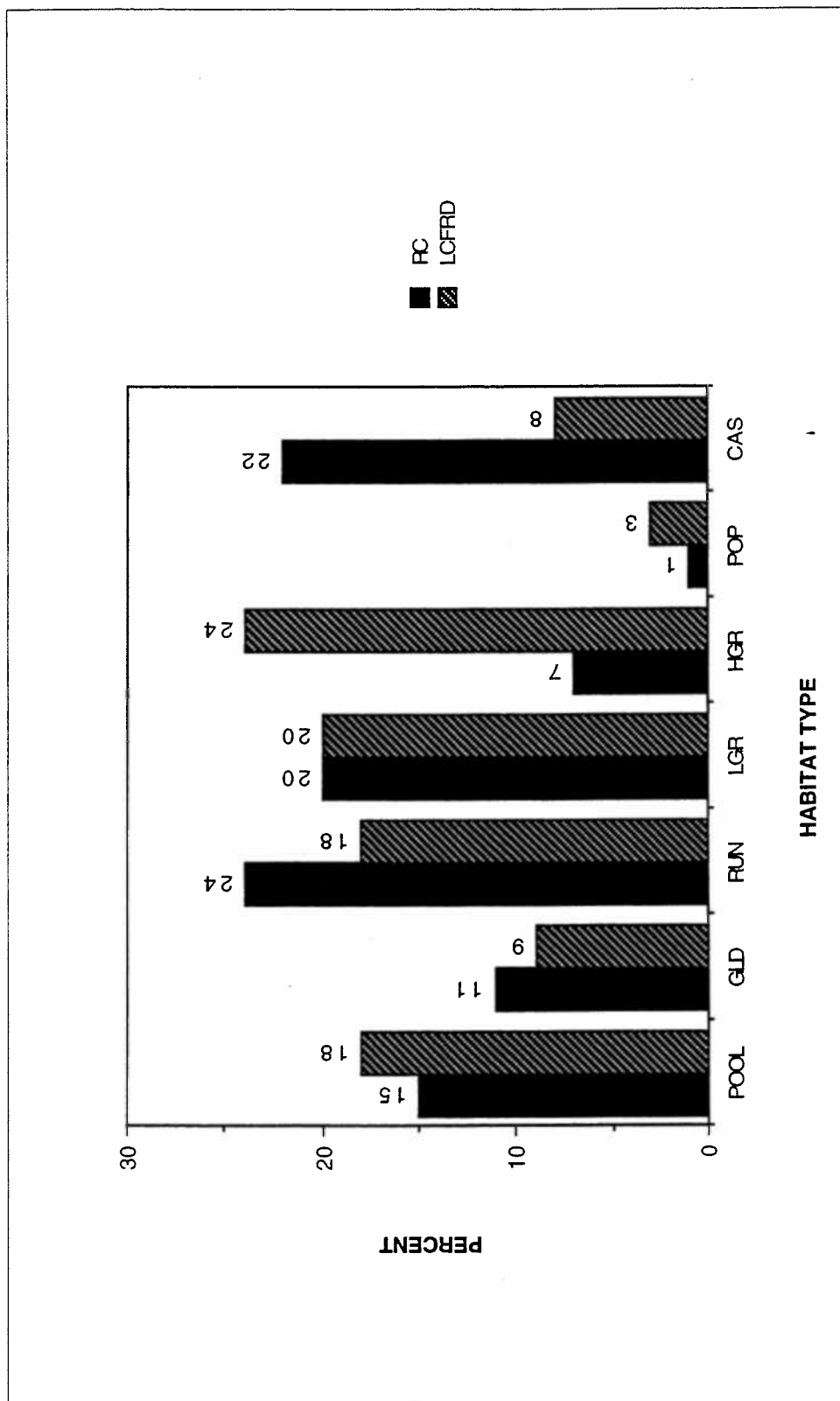


Figure B-211. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. Rock Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

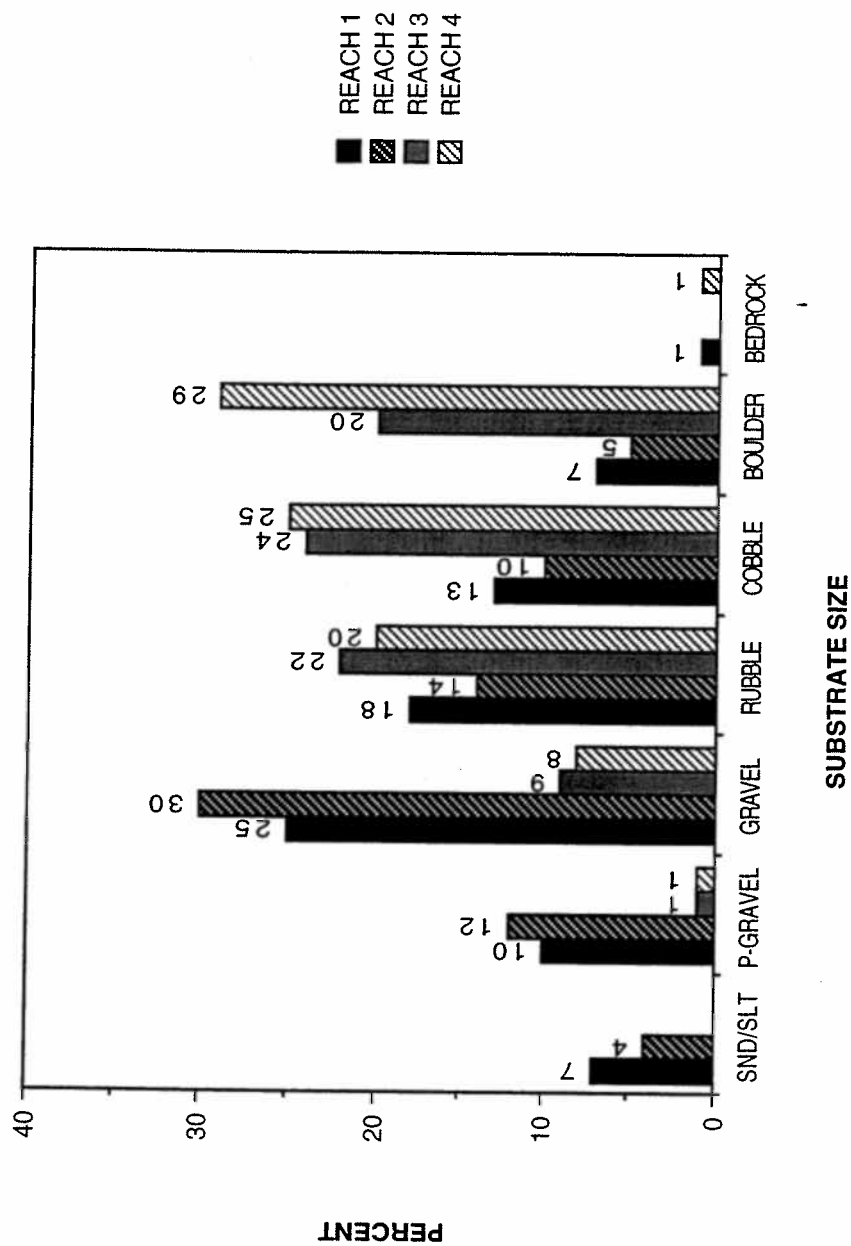


Figure B-212. Percent substrate composition by stream reach. Rock Creek, Montana. Tributary survey, 1992-1994.

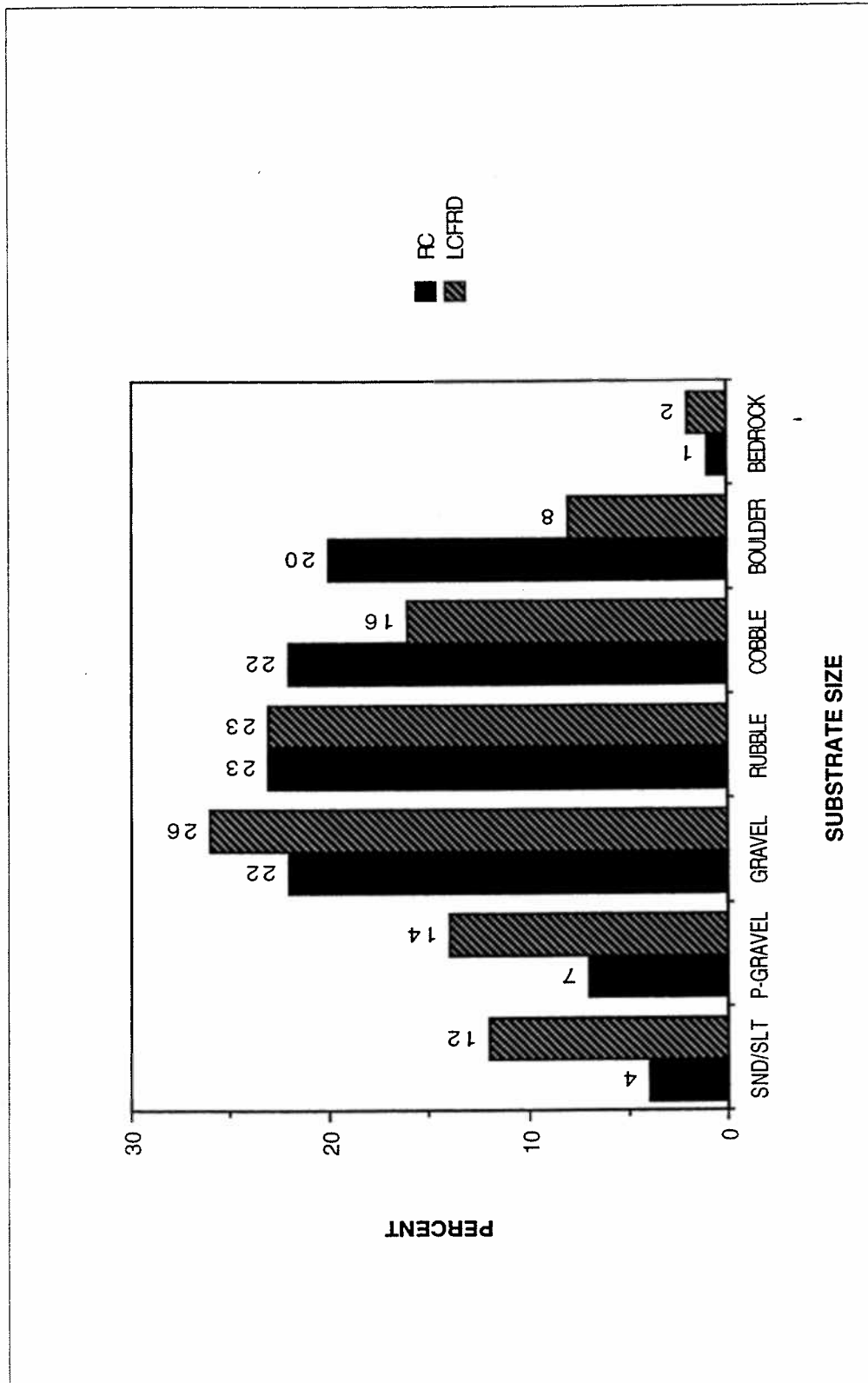


Figure B-213. Percent substrate composition. Rock Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

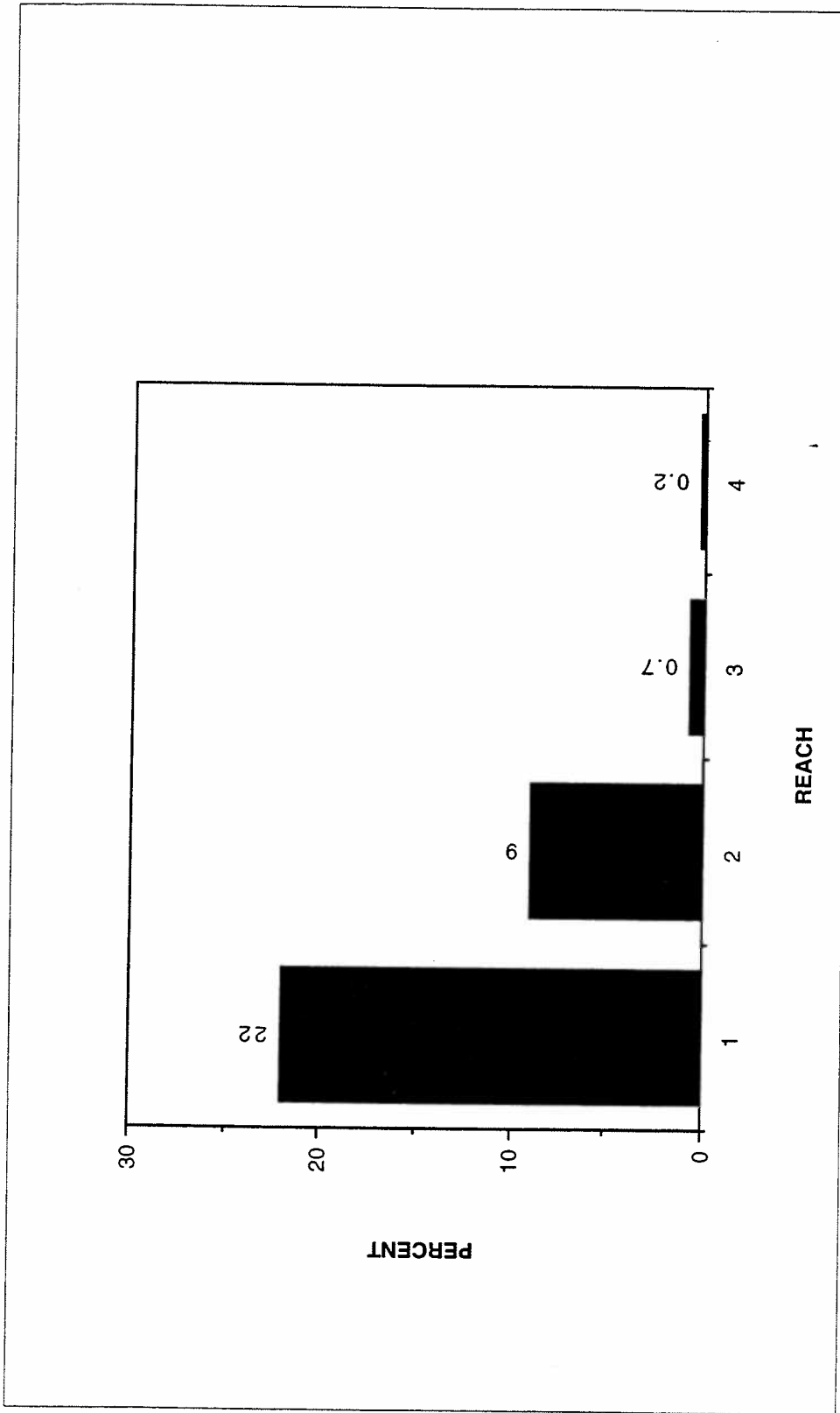


Figure B-214. Percent surface fines (<6.35 mm) by stream reach. Rock Creek, Montana. Tributary survey, 1992-1994.

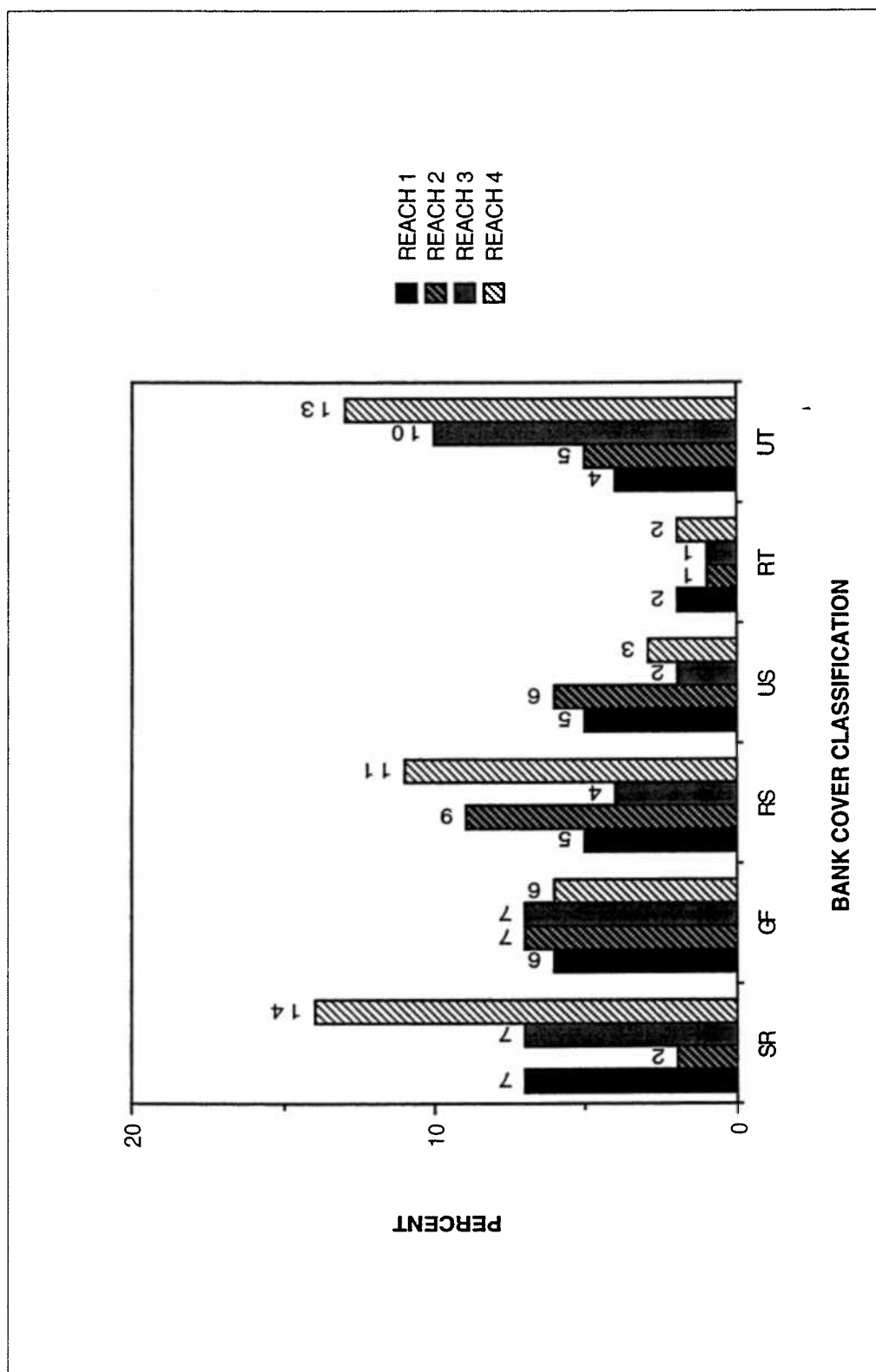


Figure B-215. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT), by stream reach. Rock Creek, Montana. Tributary survey, 1992-1994.

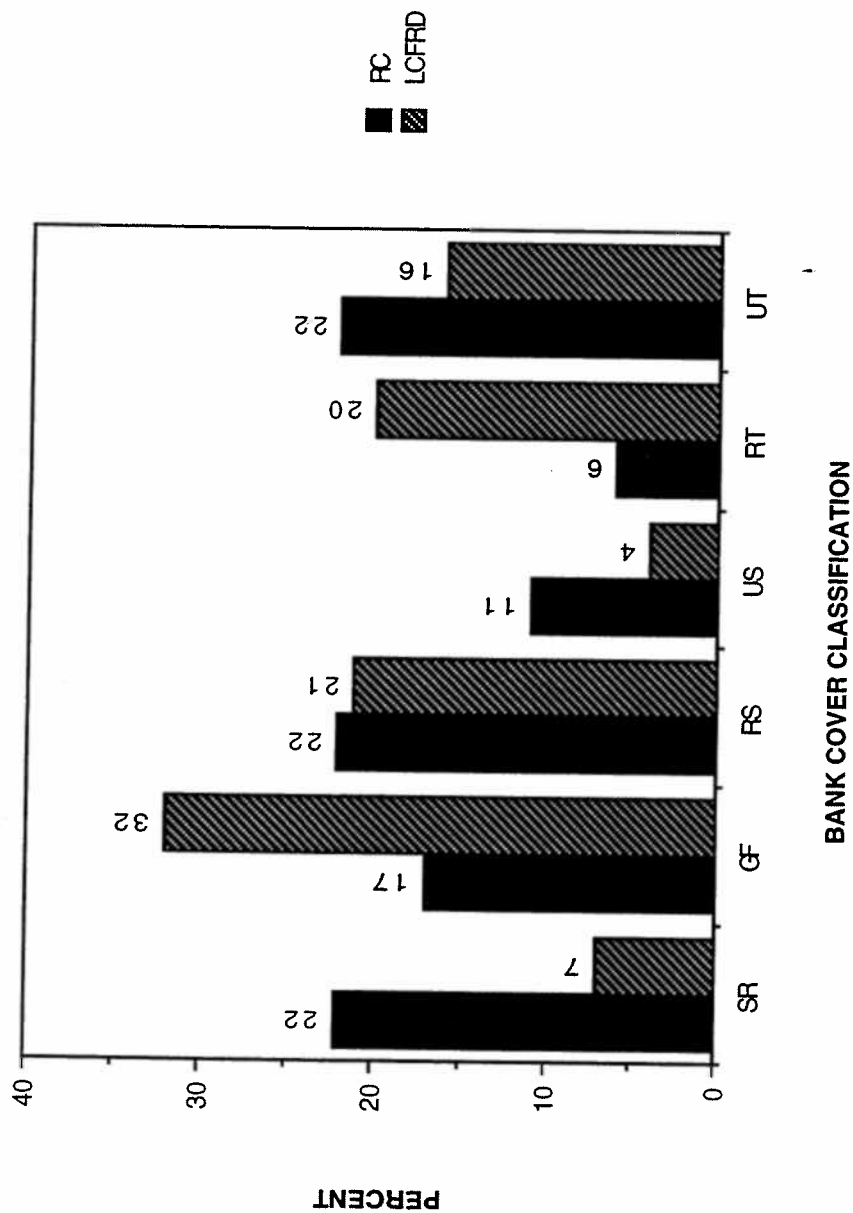


Figure B-216. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Rock Creek, Montana. Tributary survey, 1992-1994.

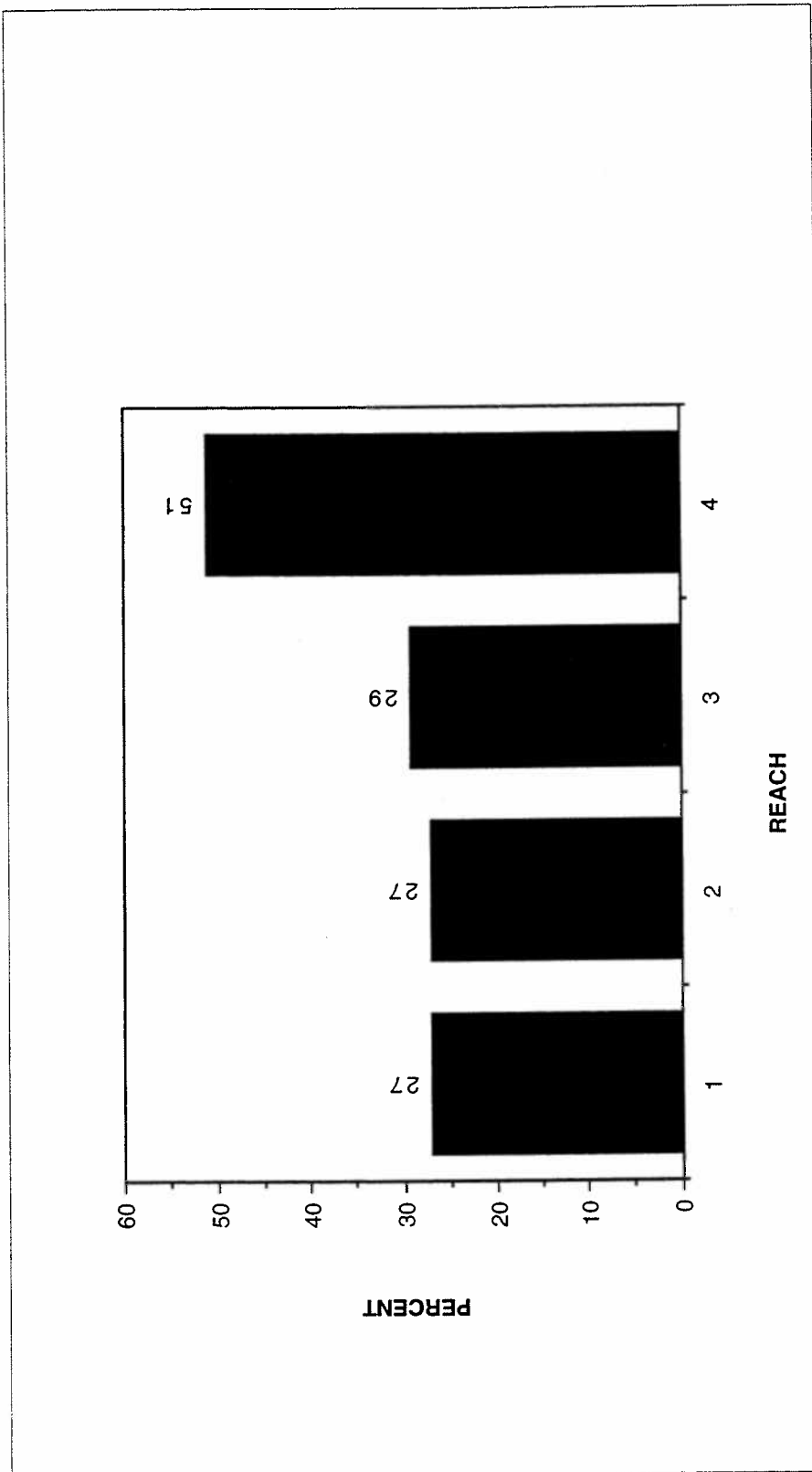


Figure B-217. Percent vegetated bank cover by stream reach. Rock Creek, Montana. Tributary survey, 1992-1994.

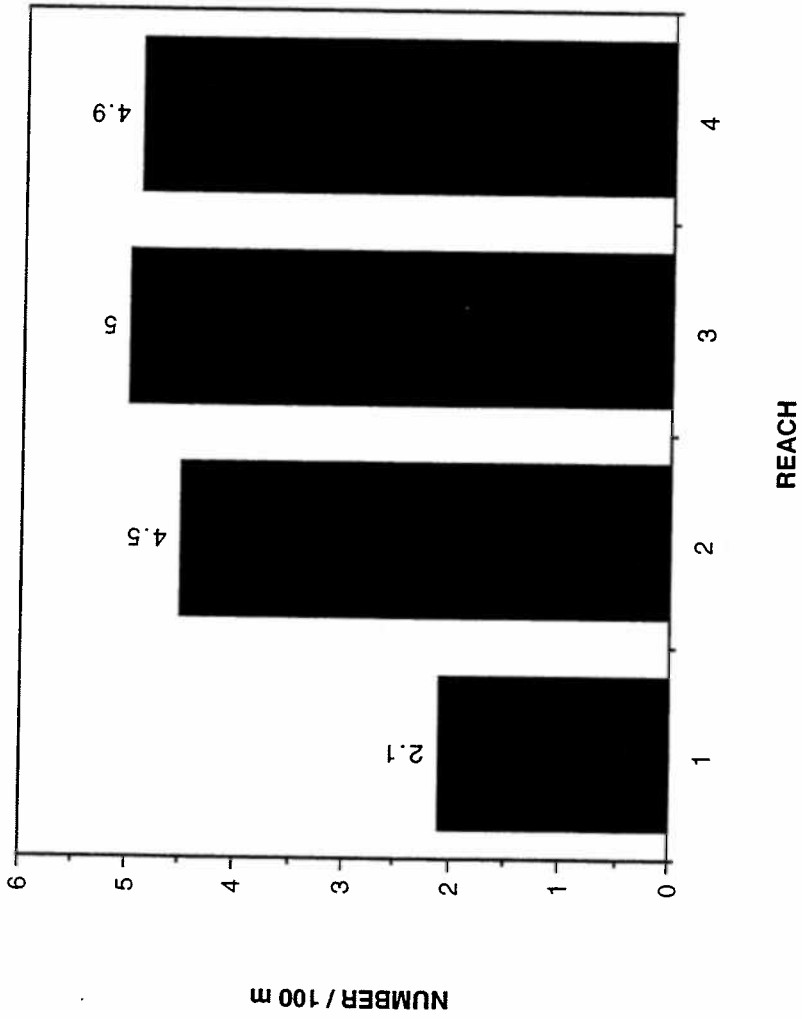


Figure B-218. Large woody debris <3.0 m in length. Rock Creek, Montana. Tributary survey, 1992-1994.

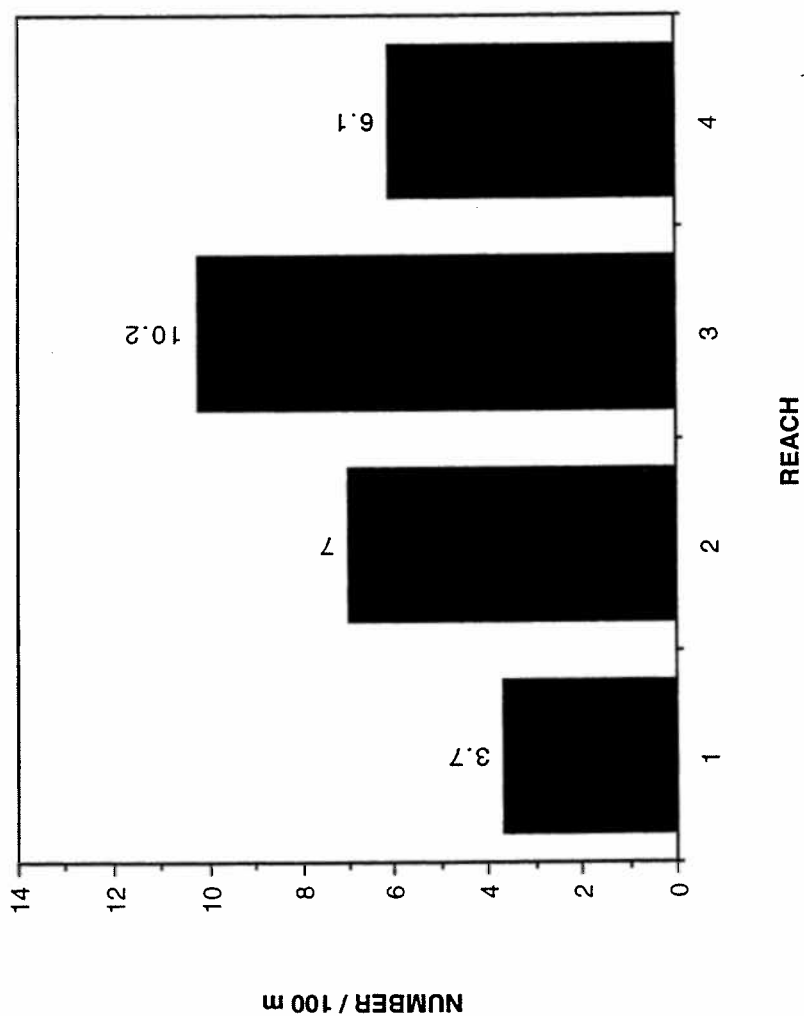


Figure B-219. Large woody debris >3.0 m in length. Rock Creek, Montana. Tributary survey, 1992-1994.

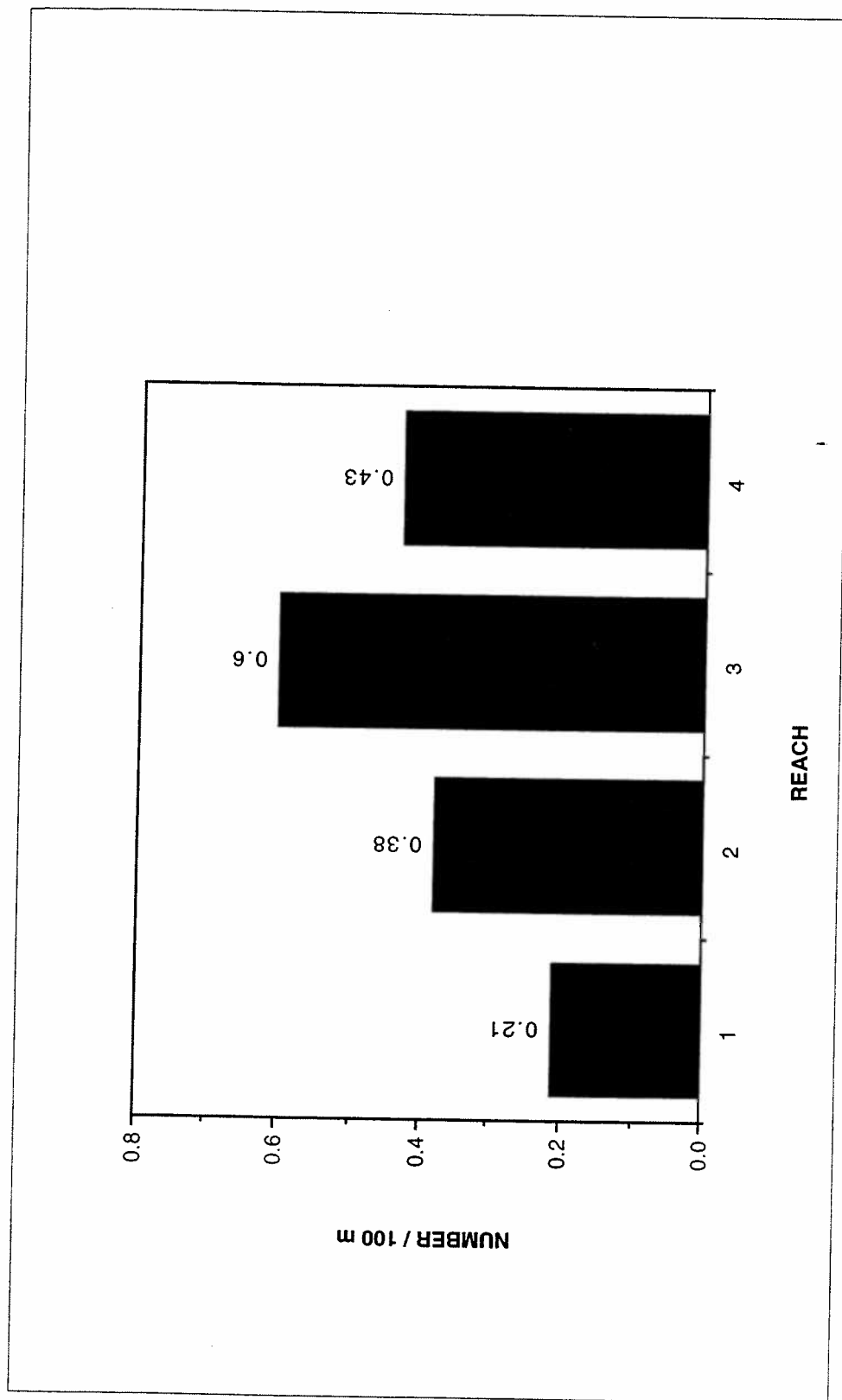


Figure B-220. Large woody debris aggregations. Rock Creek, Montana. Tributary survey, 1992-1994.

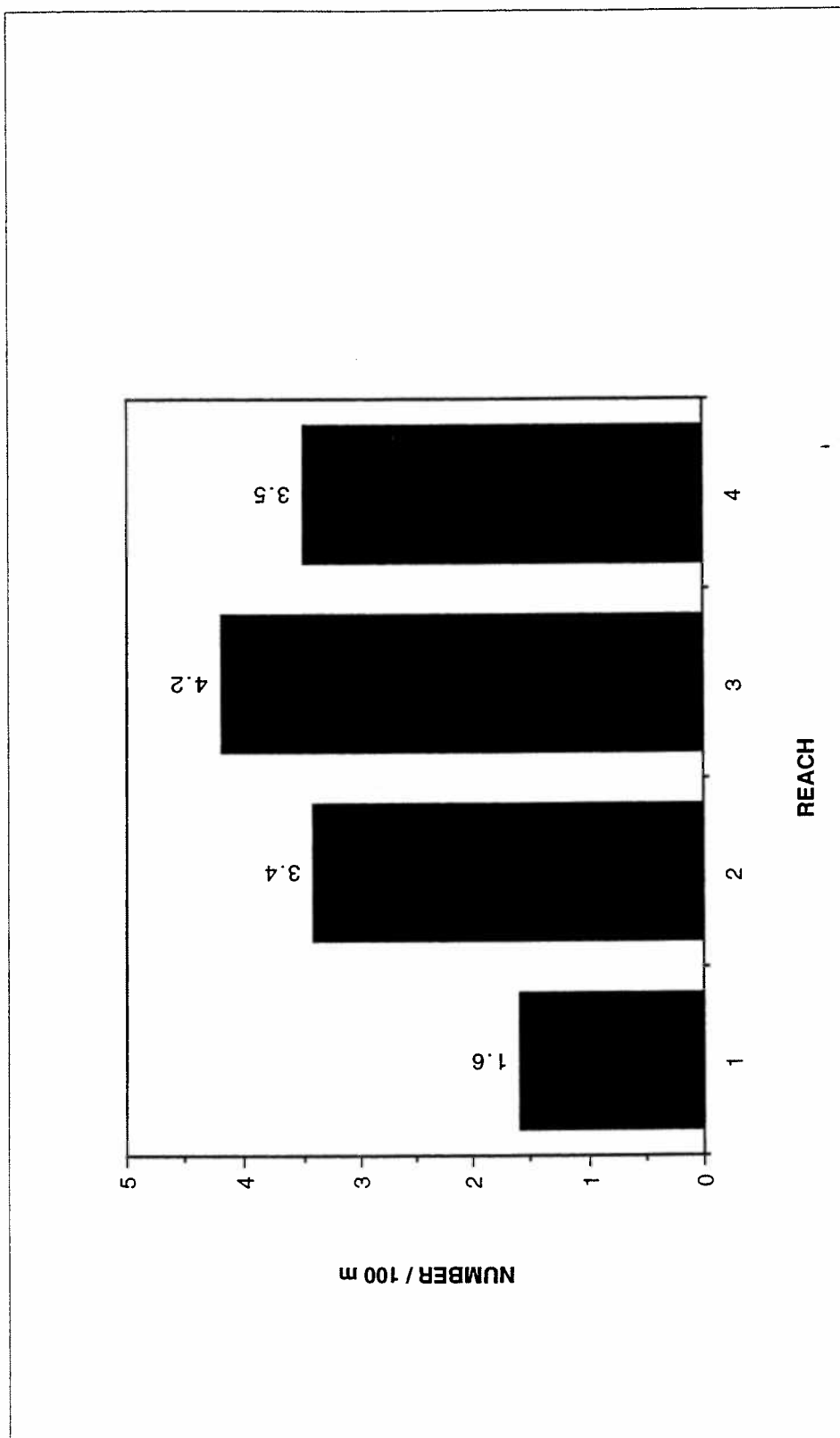


Figure B-221. Large woody debris, root wads. Rock Creek, Montana. Tributary survey, 1992-1994.

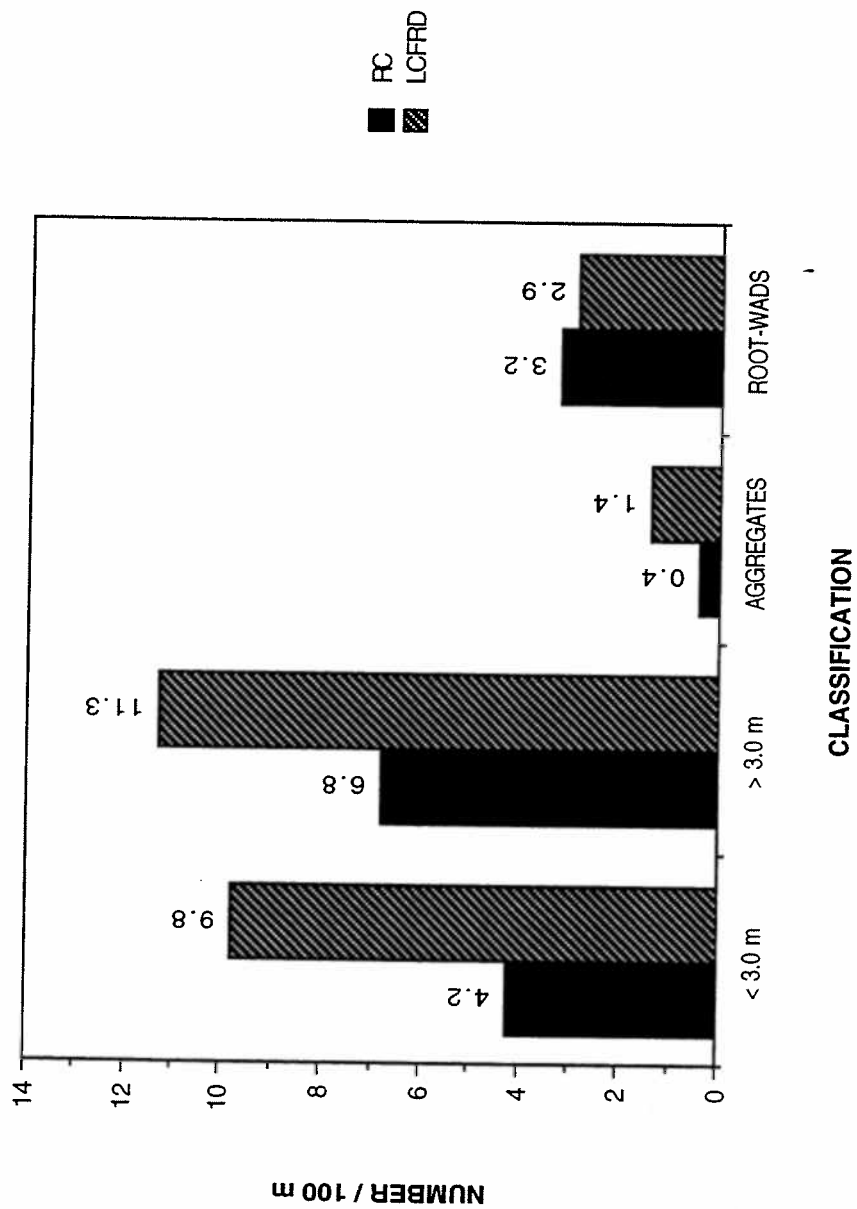


Figure B-222. Large woody debris by classification. Rock Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

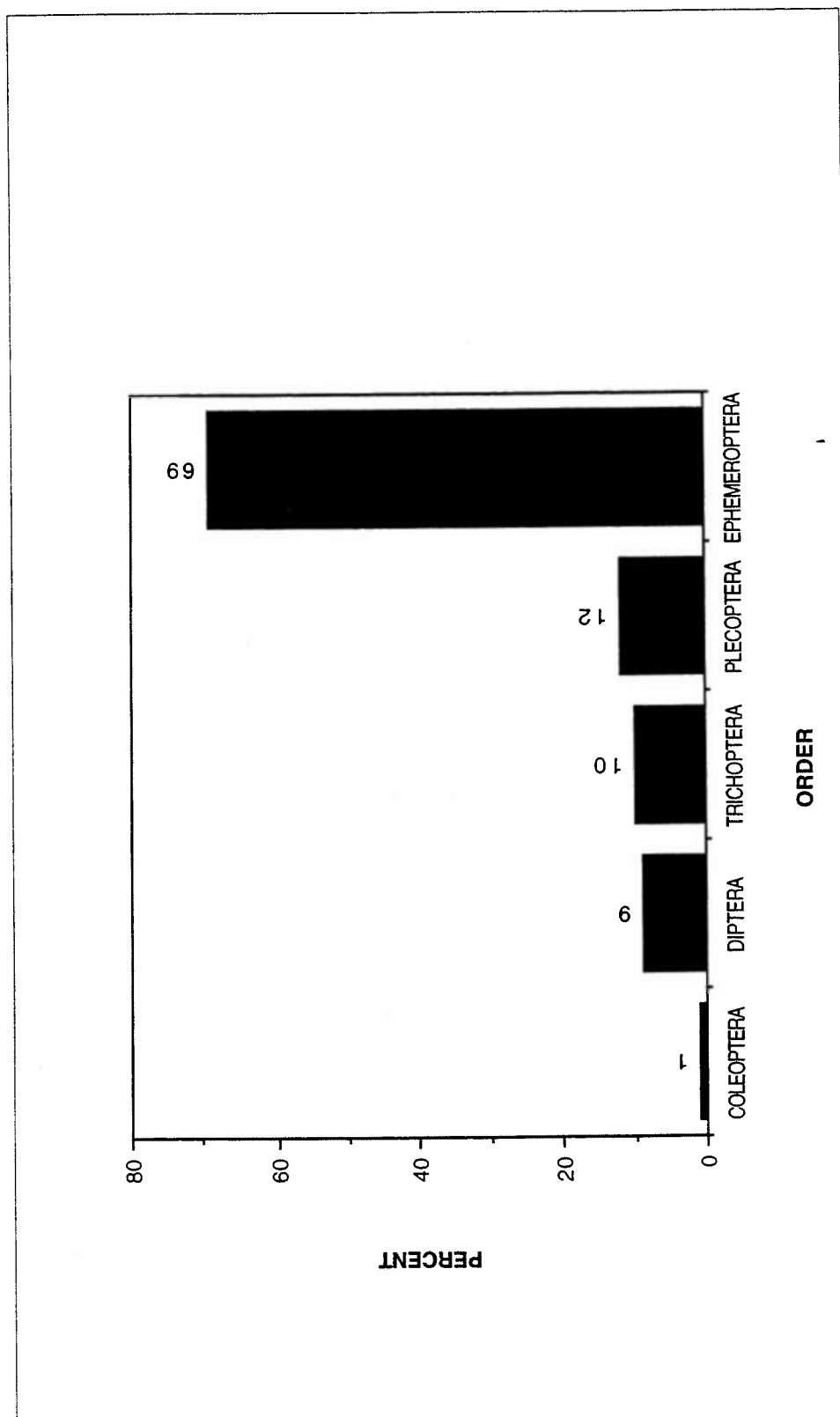


Figure B-223. Percent composition benthic invertebrate population by taxonomic order.
Rock Creek, Montana. Tributary survey, 1992-1994.

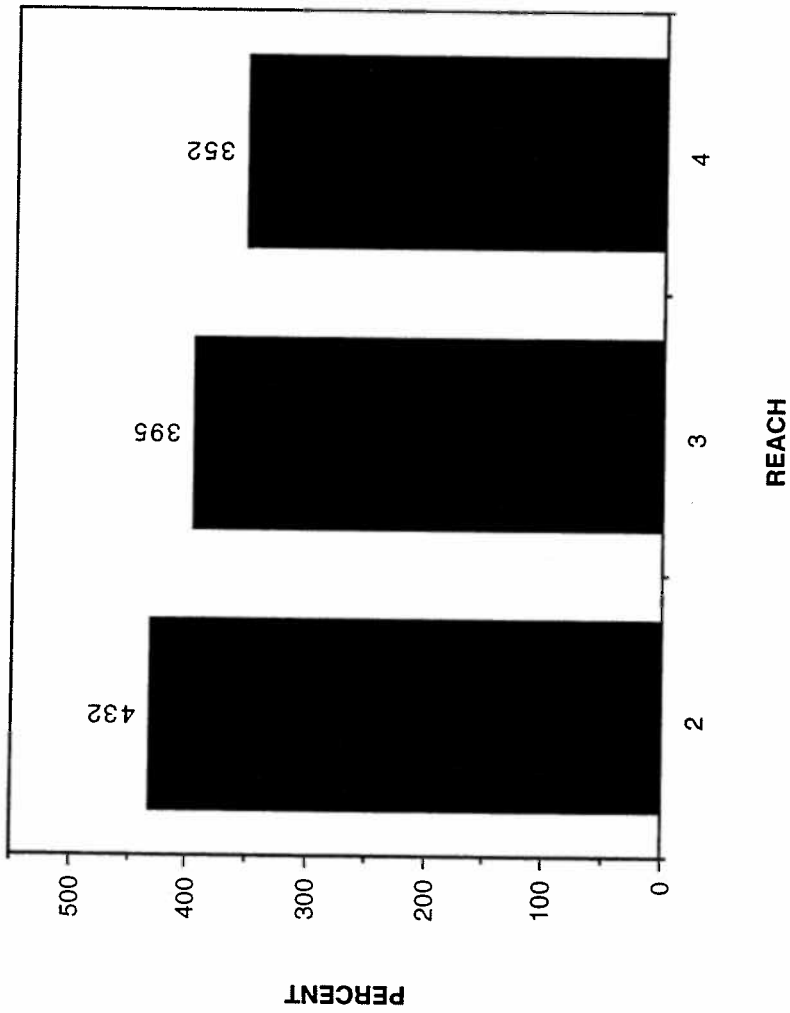


Figure B-224. Benthic invertebrate densities by stream reach. Rock Creek, Montana. Tributary survey, 1992-1994.

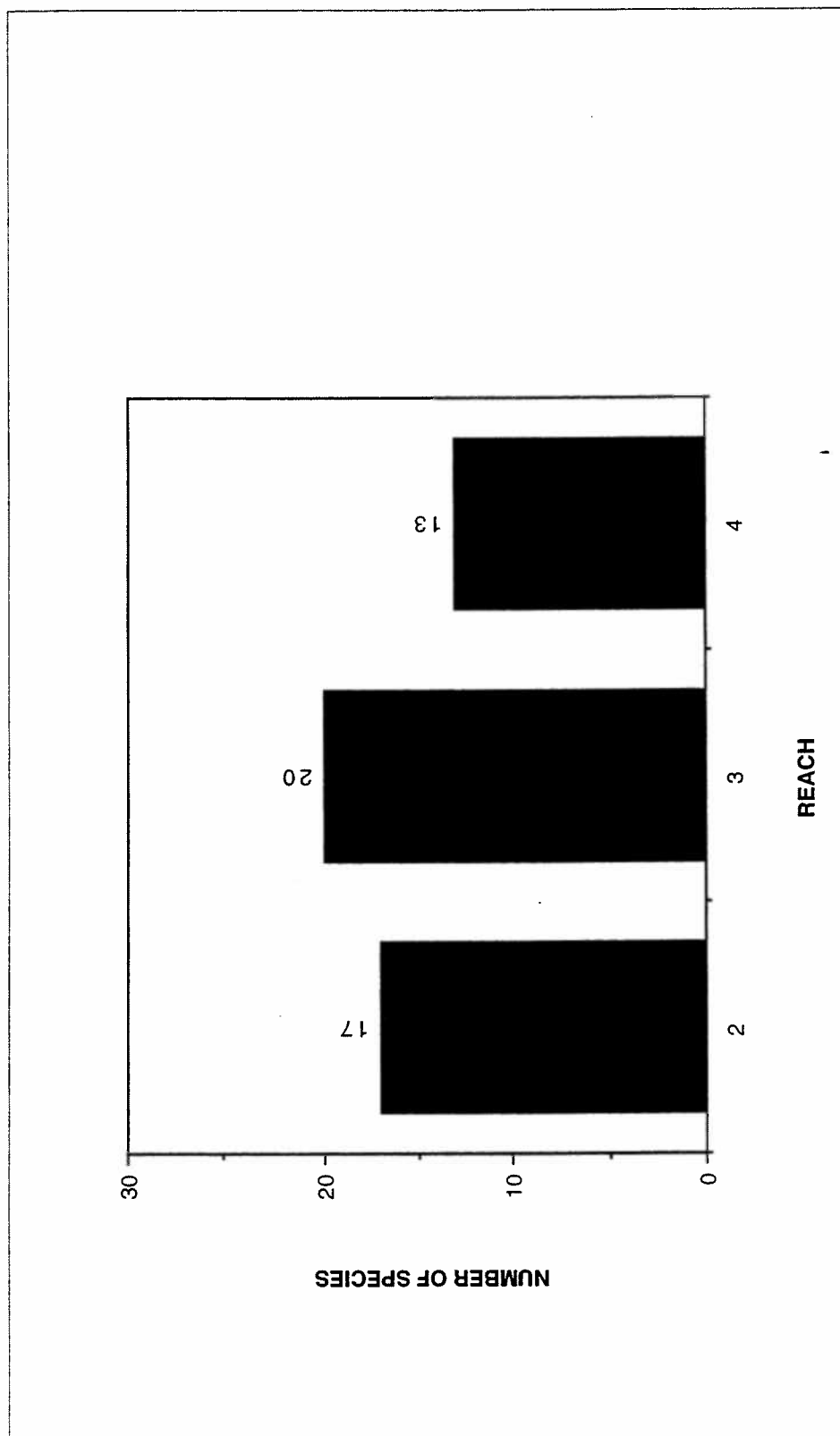


Figure B-225. Benthic invertebrate species richness by stream reach. Rock Creek, Montana. Tributary survey, 1992-1994.

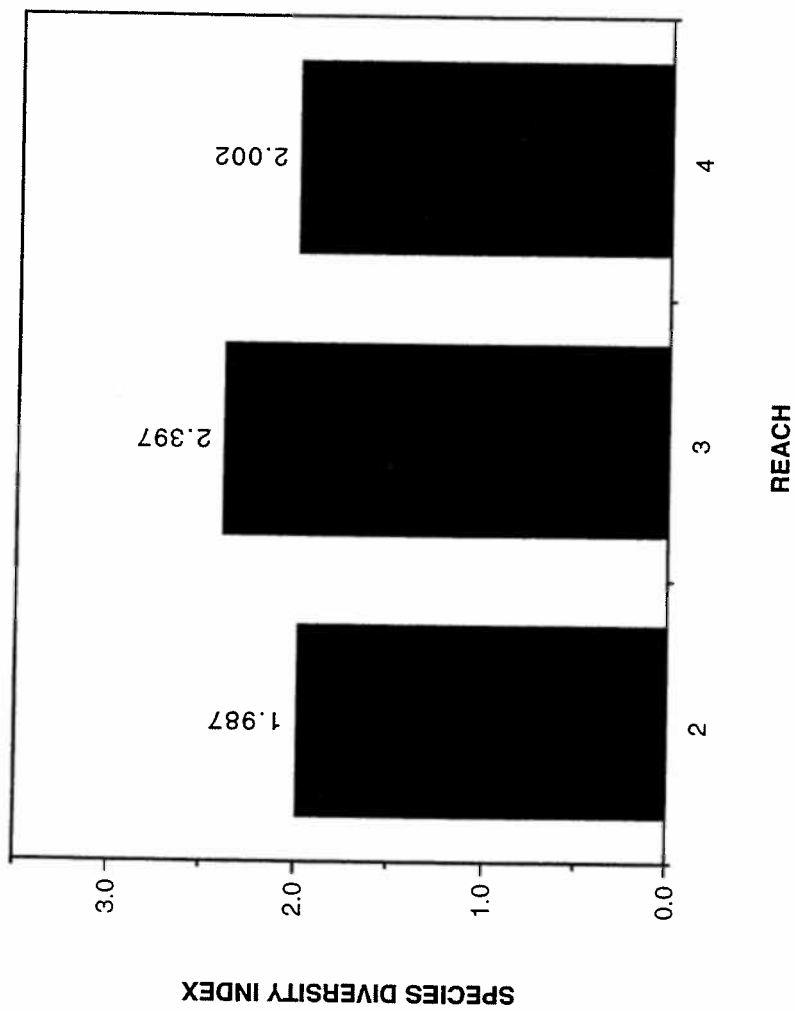


Figure B-226. Benthic invertebrate species diversity (SDI) by stream reach. Rock Creek, Montana. Tributary survey, 1992-1994.

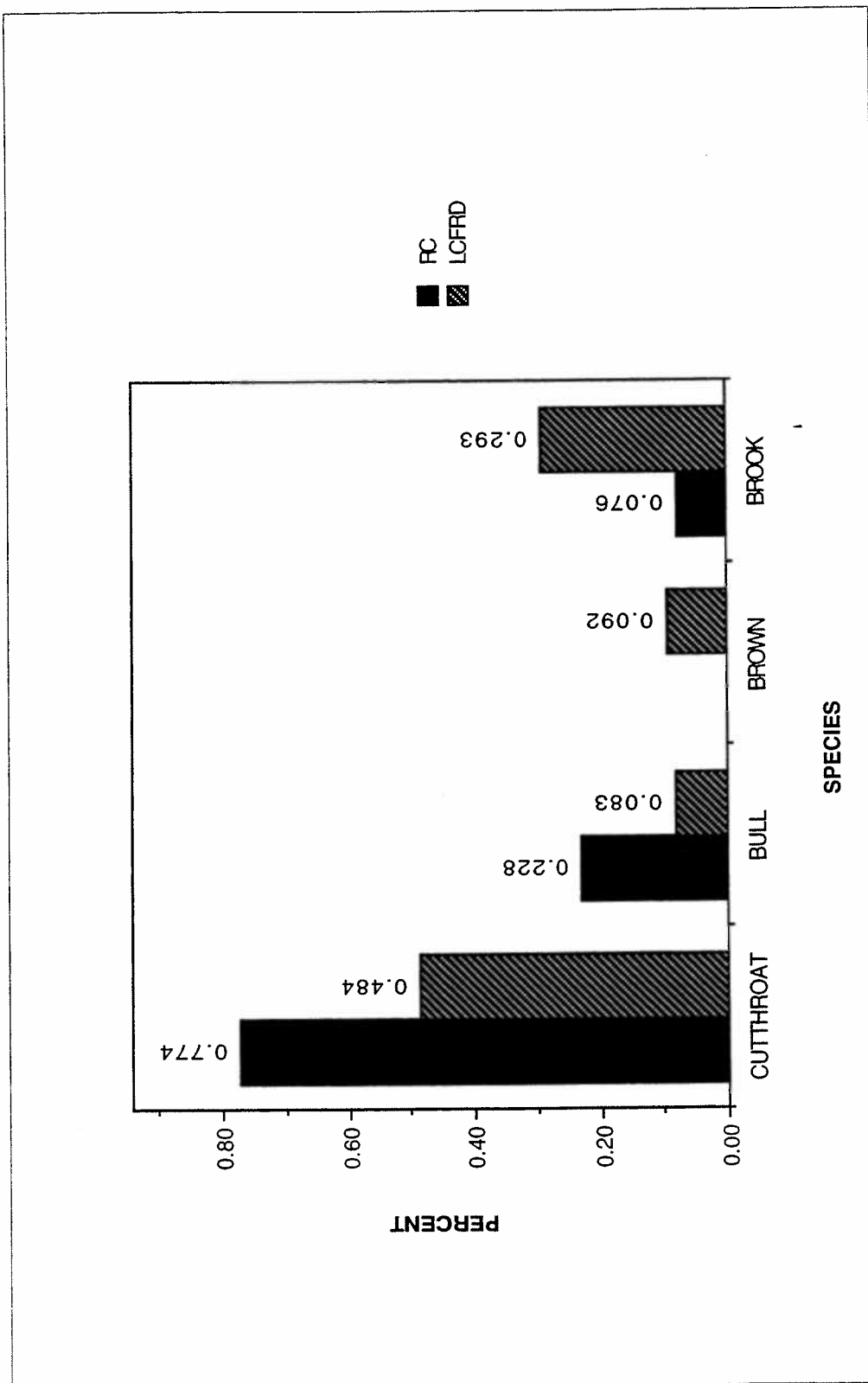


Figure B-227. Estimated densities of cutthroat, bull, brown, and brook trout. Rock Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

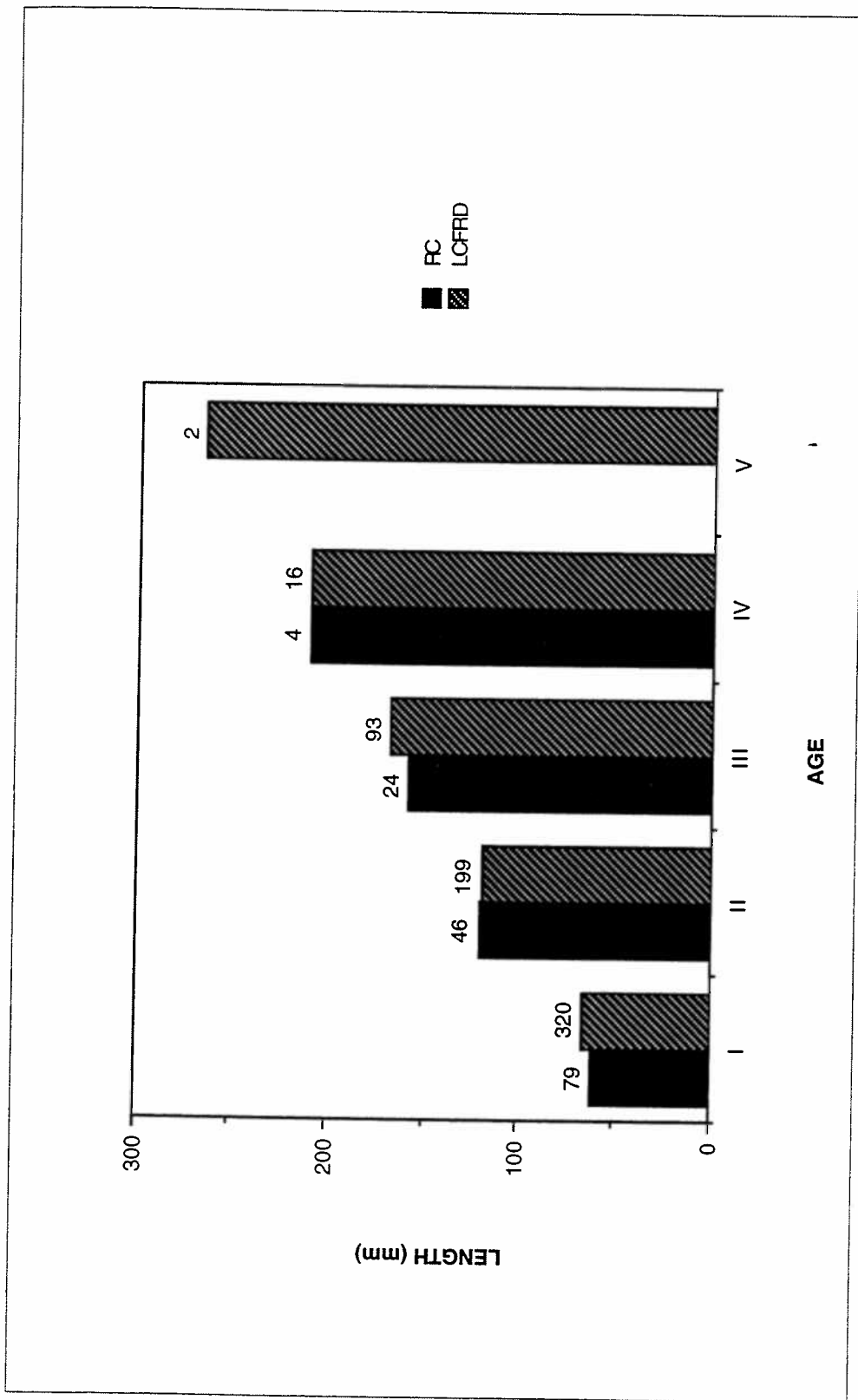


Figure B-228. Number of fish sampled and back calculated length at age for cutthroat trout. Rock Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

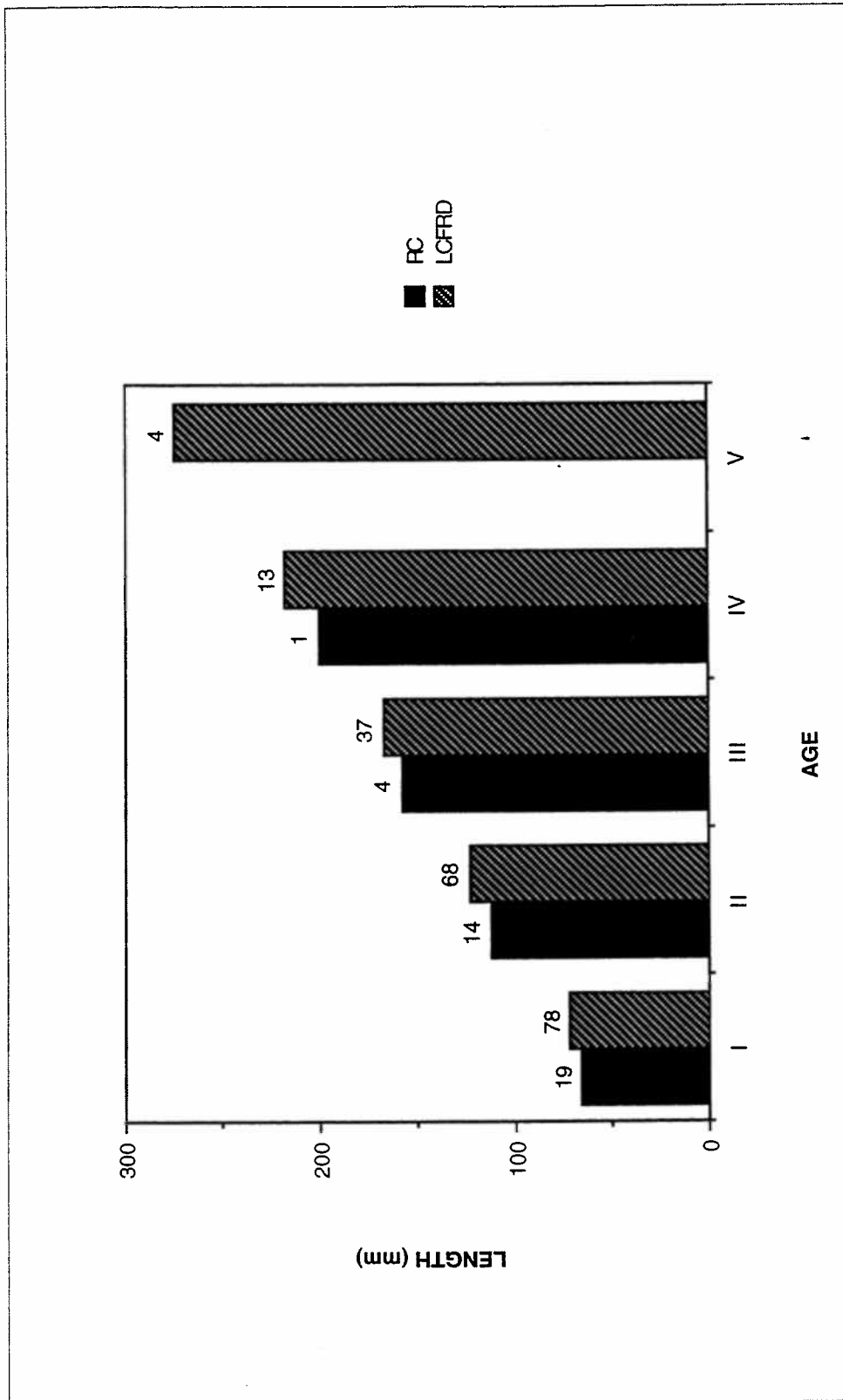


Figure B-229. Number of fish sampled and back calculated length at age for bull trout. Rock Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

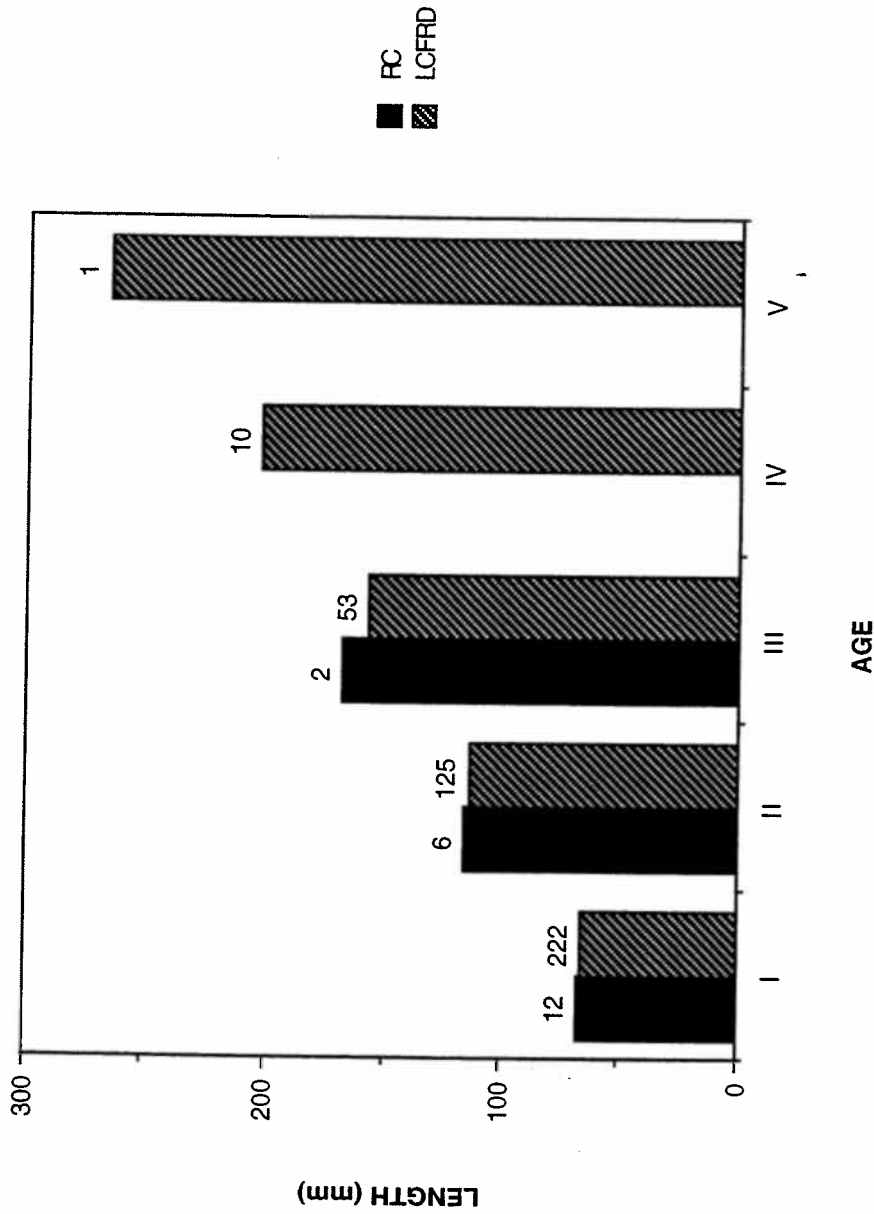


Figure B-230. Number of fish sampled and back calculated length at age for brook trout. Rock Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

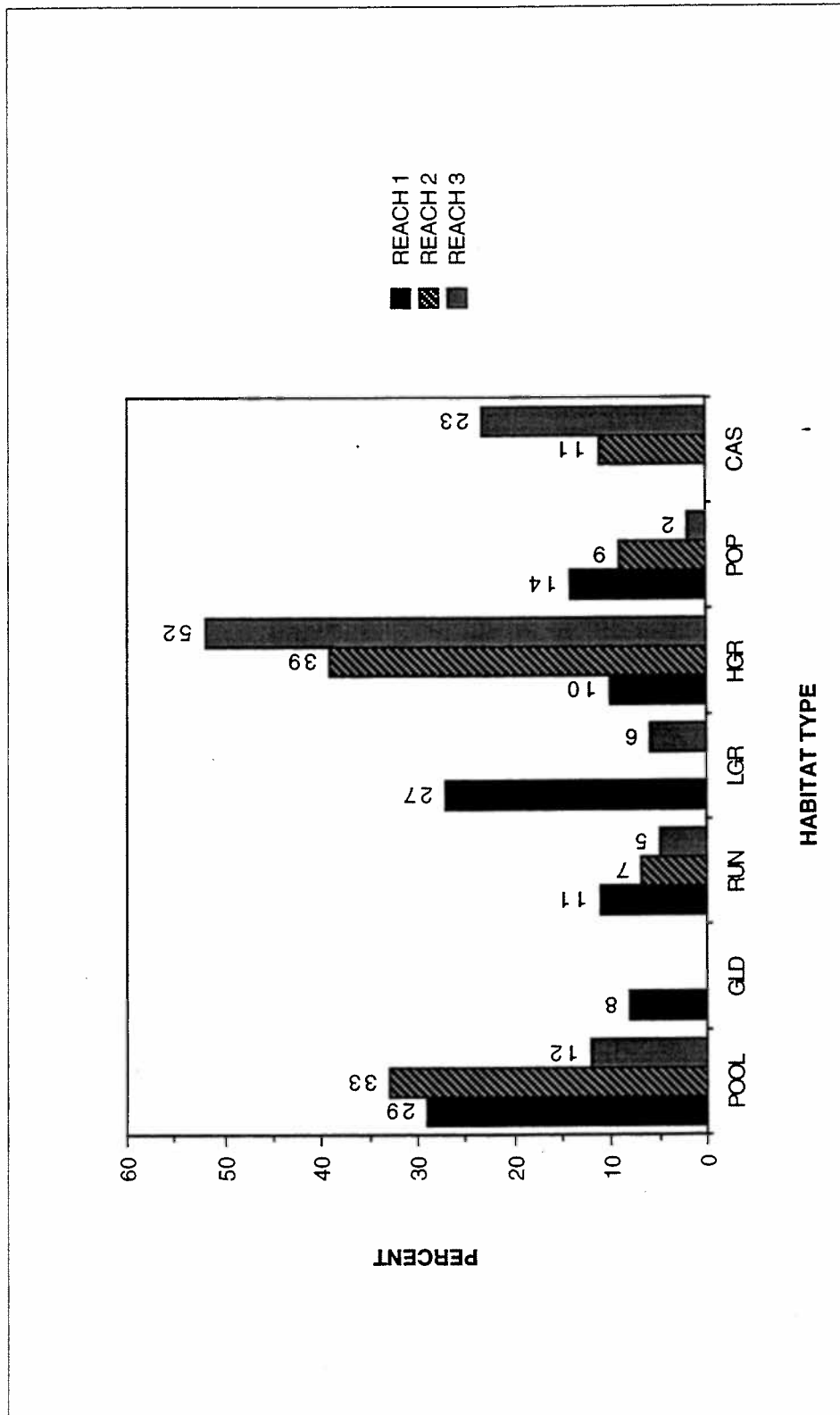


Figure B-231. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), and pocket pool (POP) habitat types by stream reach. West Fork Rock Creek, Montana. Tributary survey, 1992-1994.

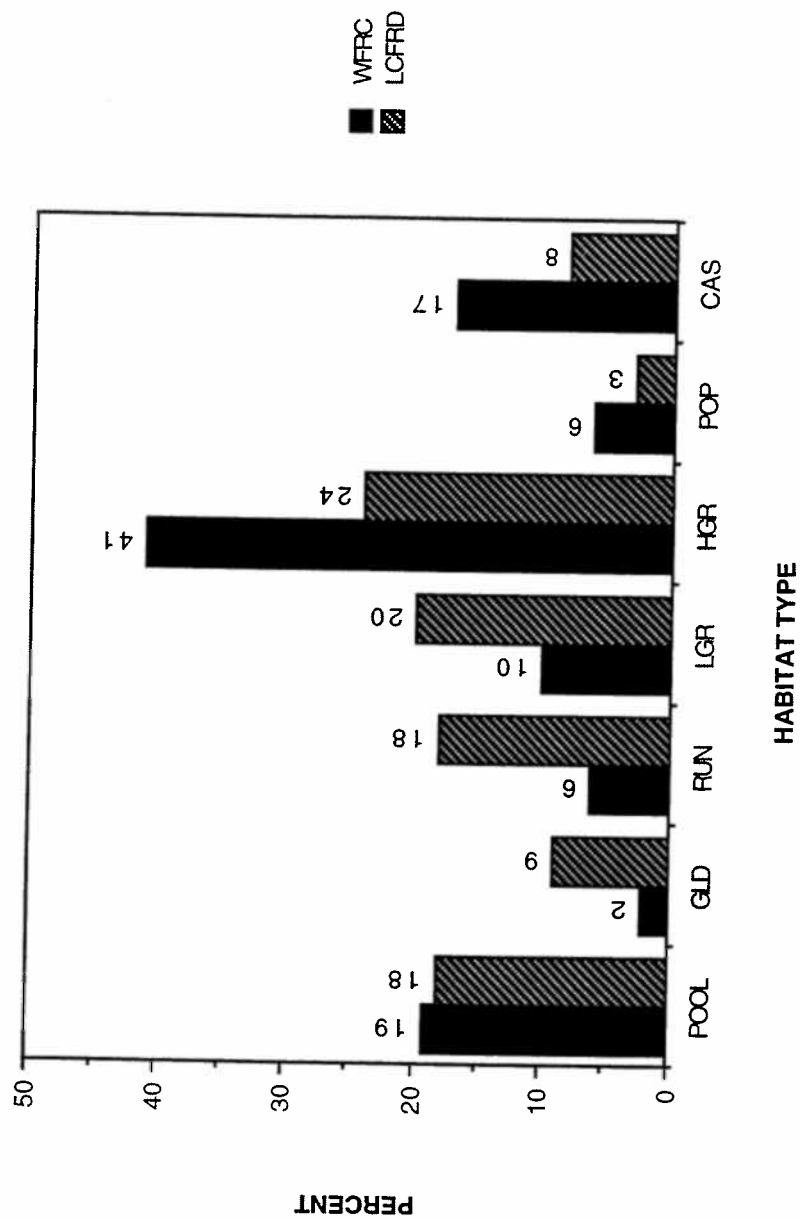


Figure B-232. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. West Fork Rock Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

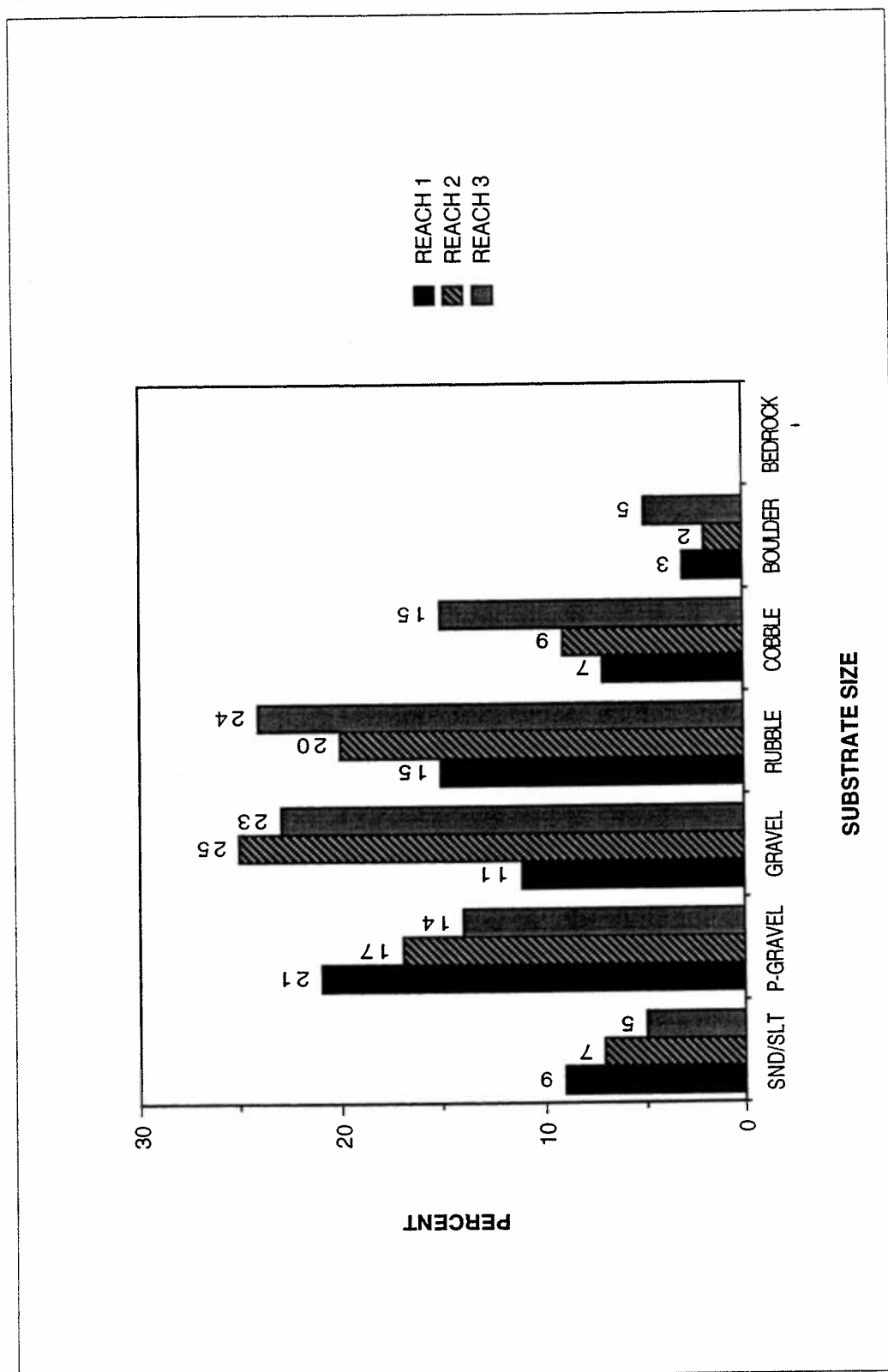


Figure B-233. Percent substrate composition by stream reach. West Fork Rock Creek, Montana. Tributary survey, 1992-1994.

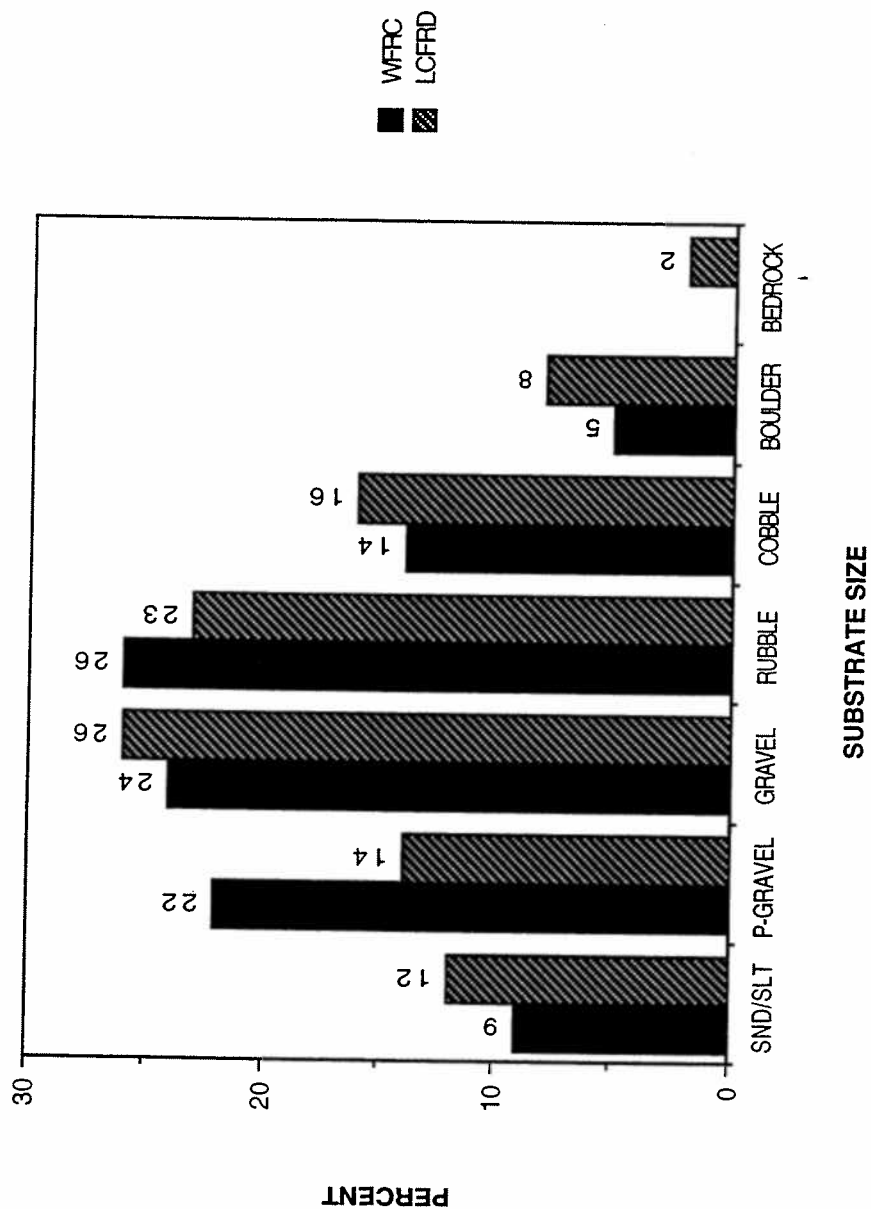


Figure B-234. Percent substrate composition. West Fork Rock Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

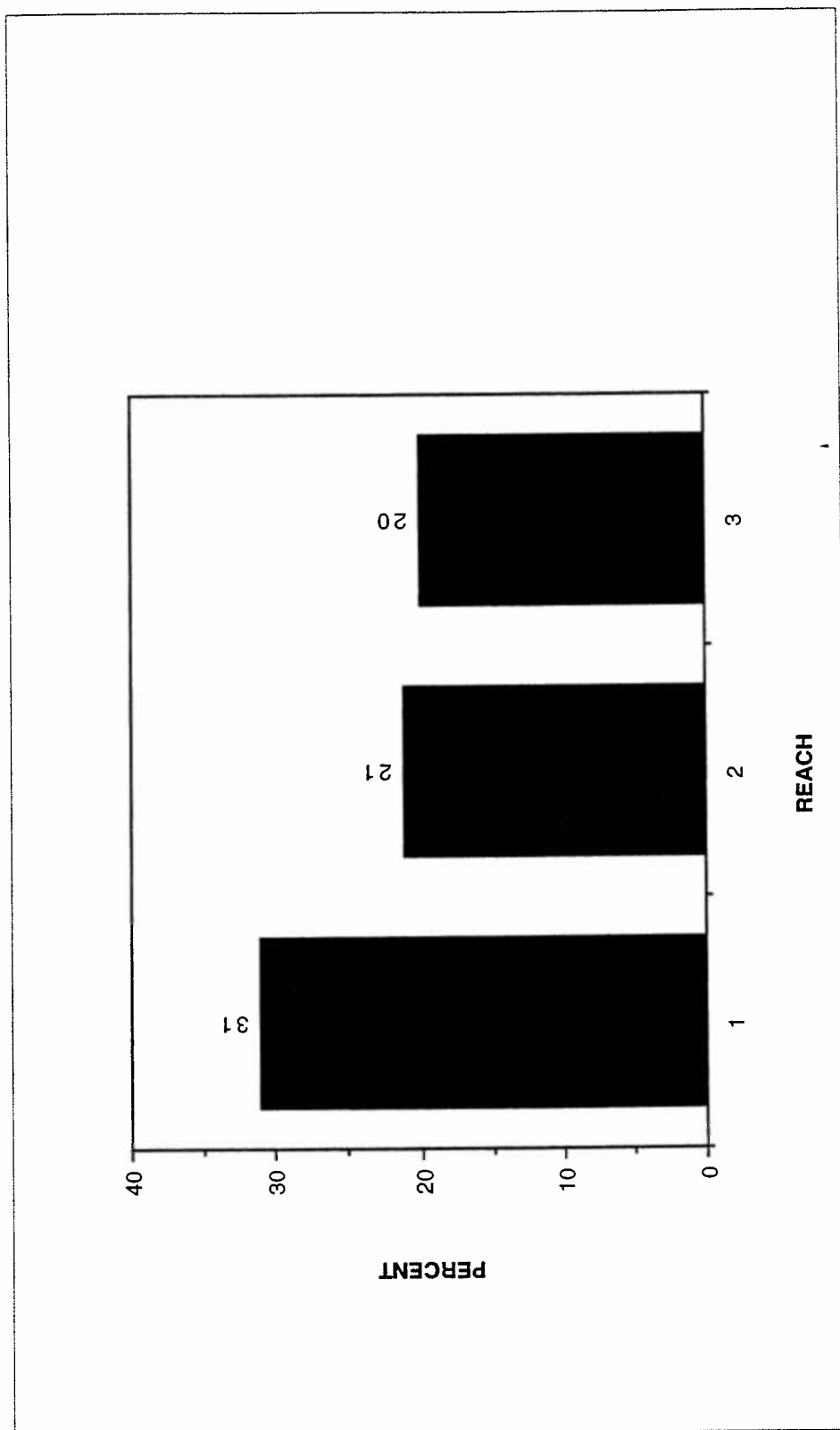


Figure B-235. Percent surface fines (<6.35 mm) by stream reach. West Fork Rock Creek, Montana. Tributary survey, 1992-1994.

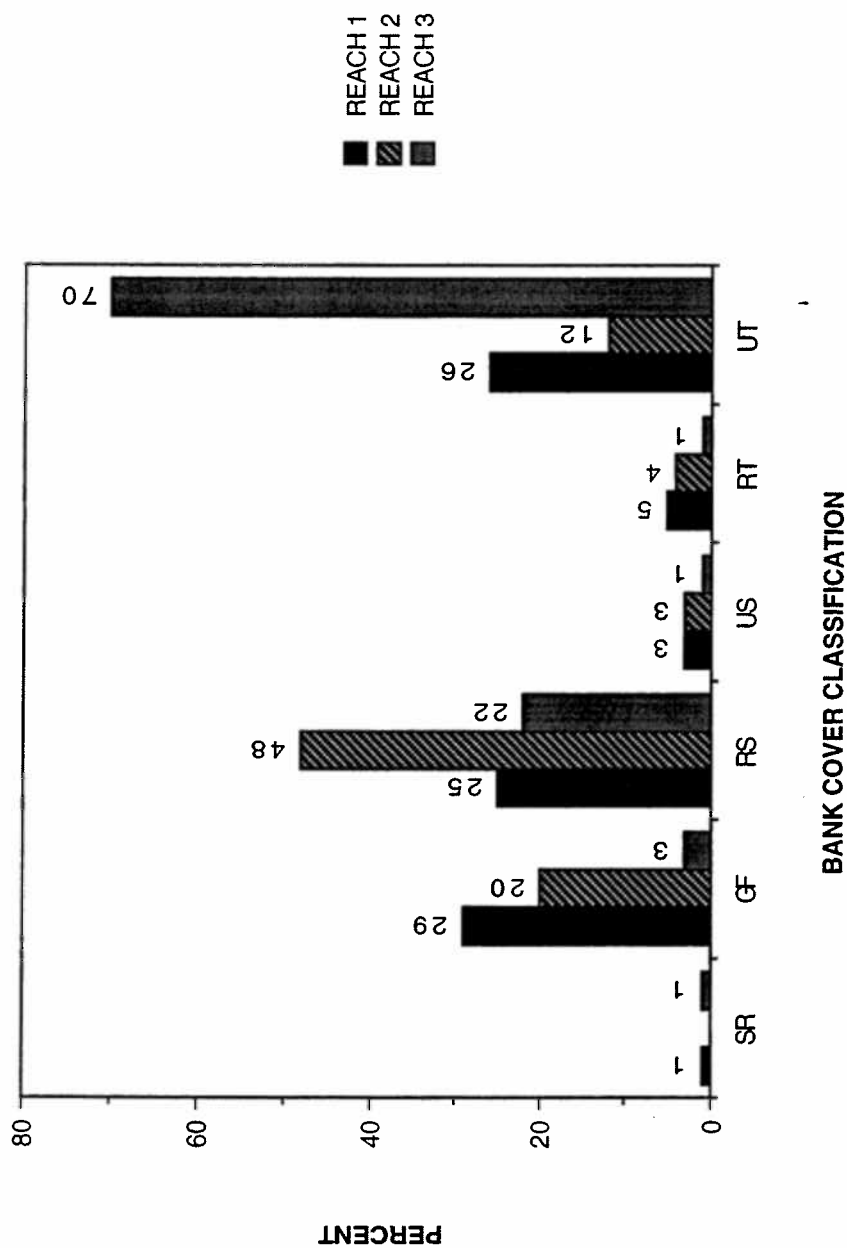


Figure B-236. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT), by stream reach. West Fork Rock Creek, Montana. Tributary survey, 1992-1994.

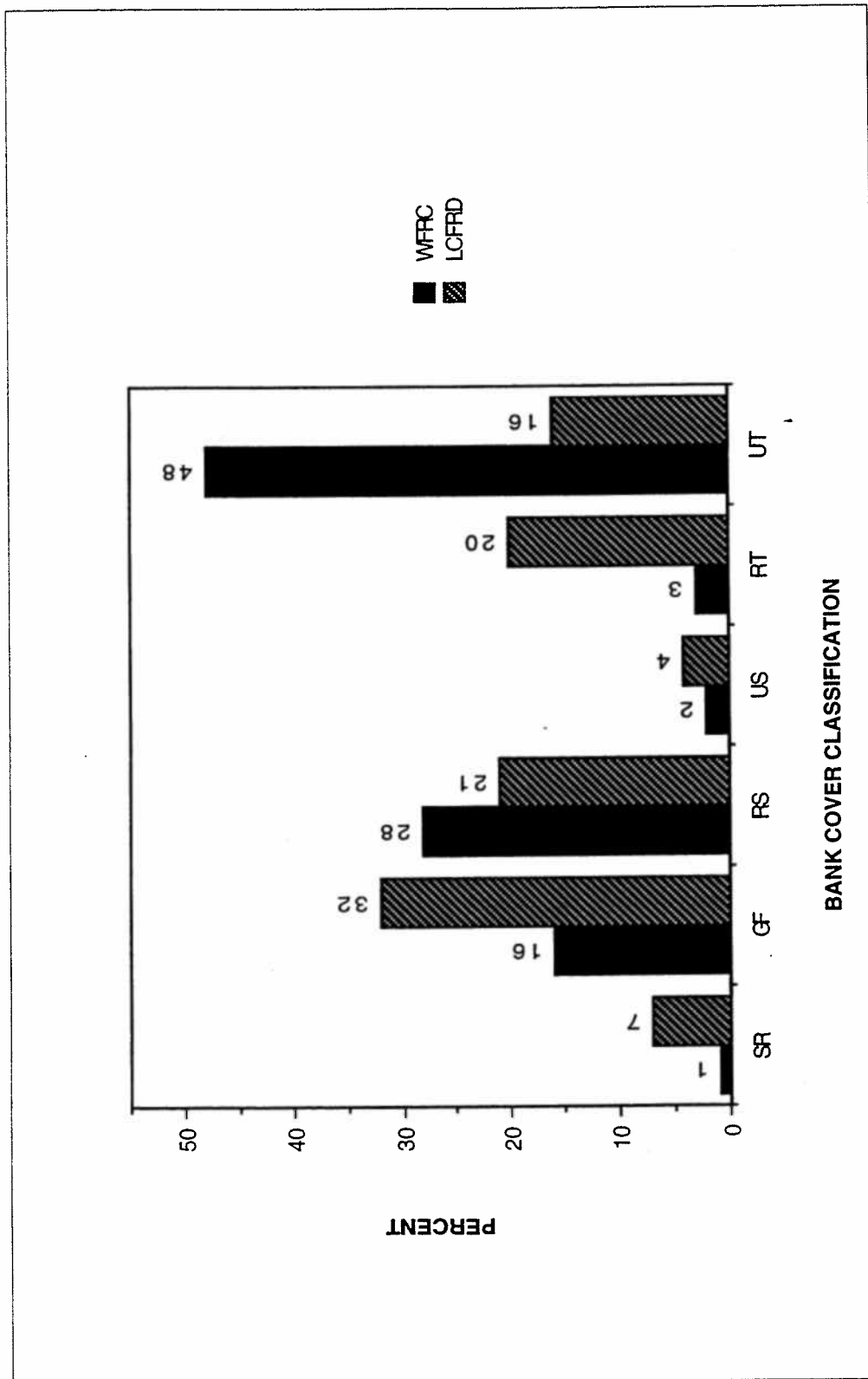


Figure B-237. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). West Fork Rock Creek, Montana. Tributary survey, 1992-1994.

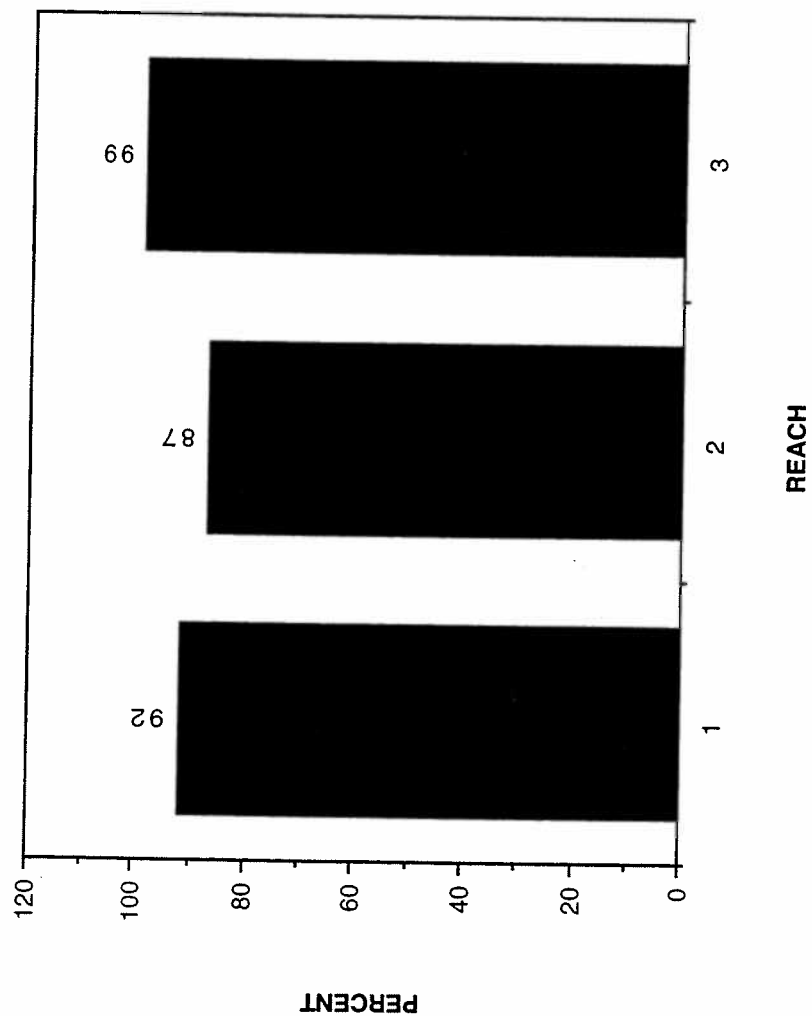


Figure B-238. Percent vegetated bank cover by stream reach. West Fork Rock Creek, Montana. Tributary survey, 1992-1994.

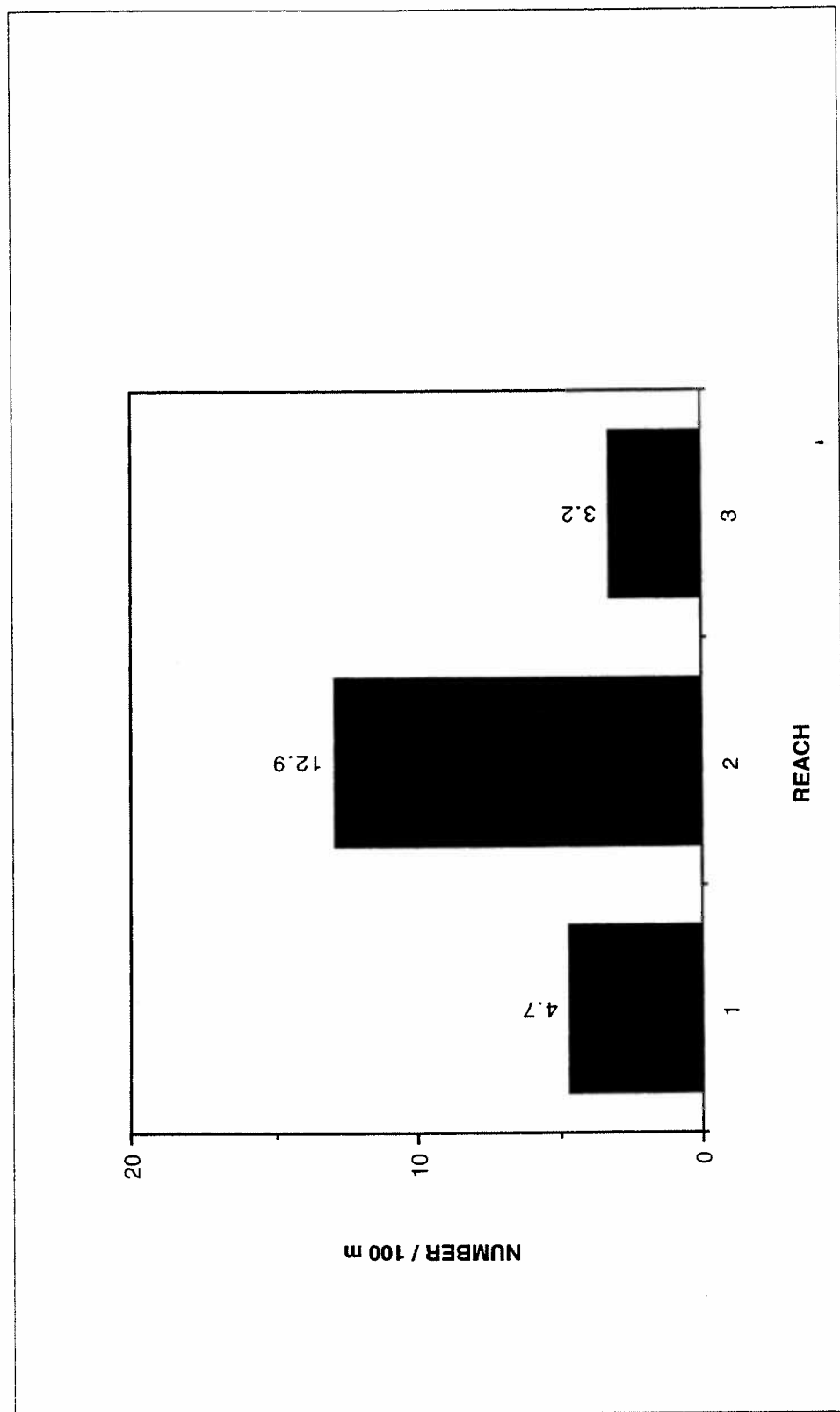


Figure B-239. Large woody debris <3.0 m in length. West Fork Rock Creek, Montana. Tributary survey, 1992-1994.

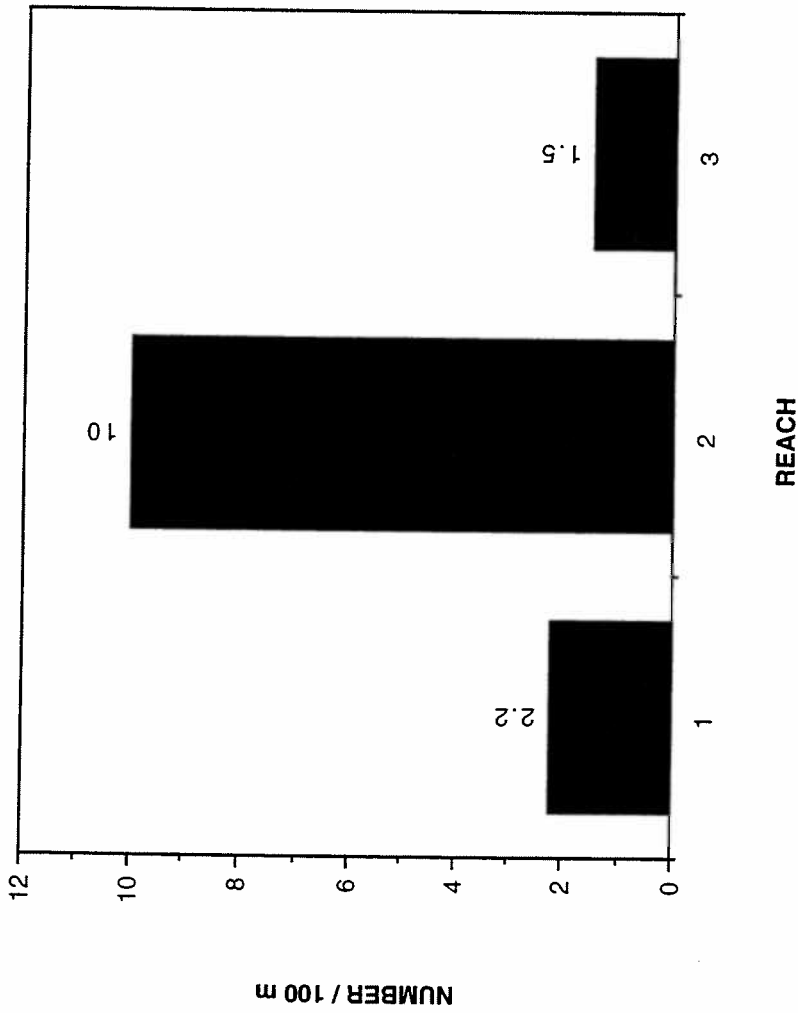


Figure B-240. Large woody debris >3.0 m in length. West Fork Rock Creek, Montana. Tributary survey, 1992-1994.

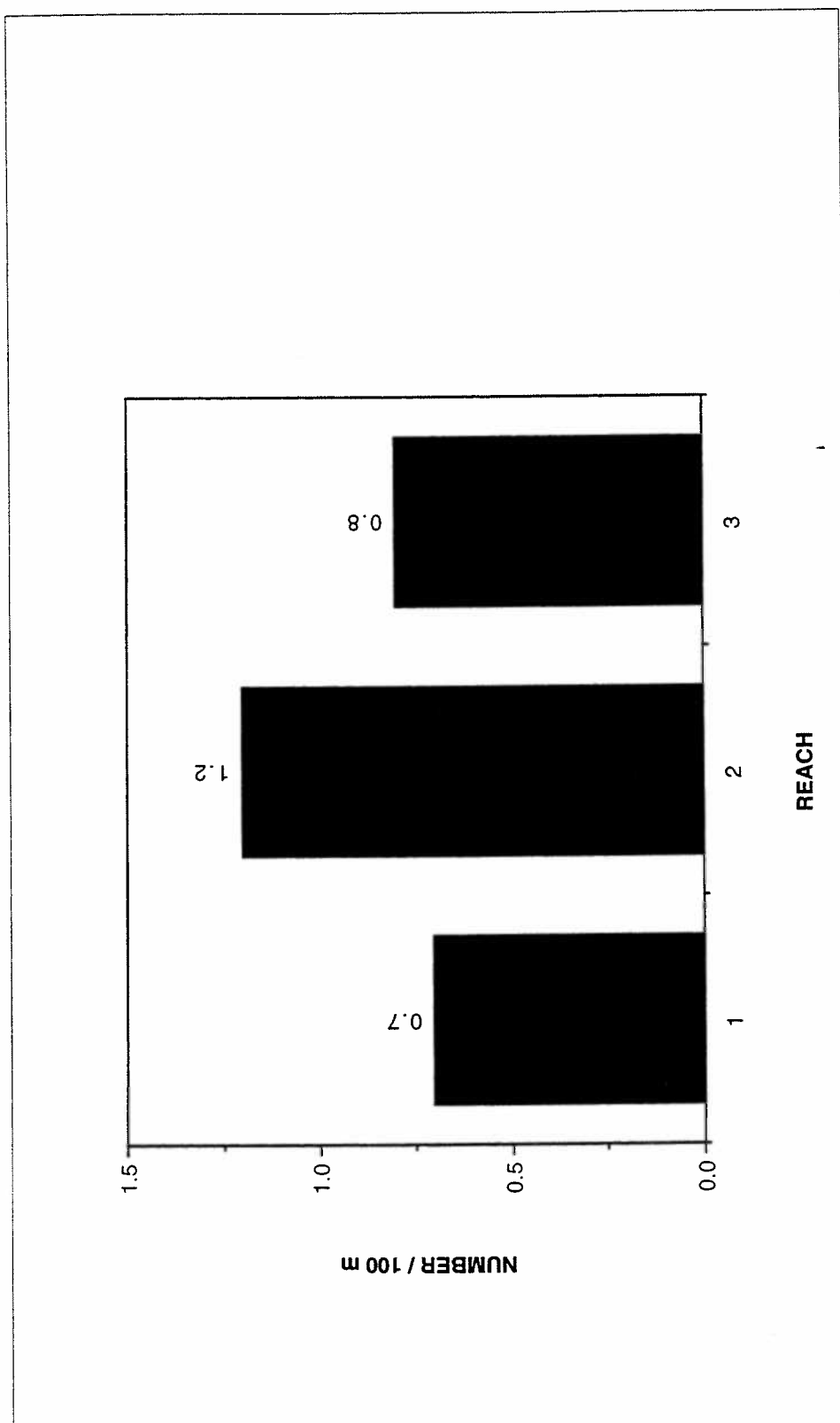


Figure B-241. Large woody debris aggregations. West Fork Rock Creek, Montana. Tributary survey, 1992-1994.

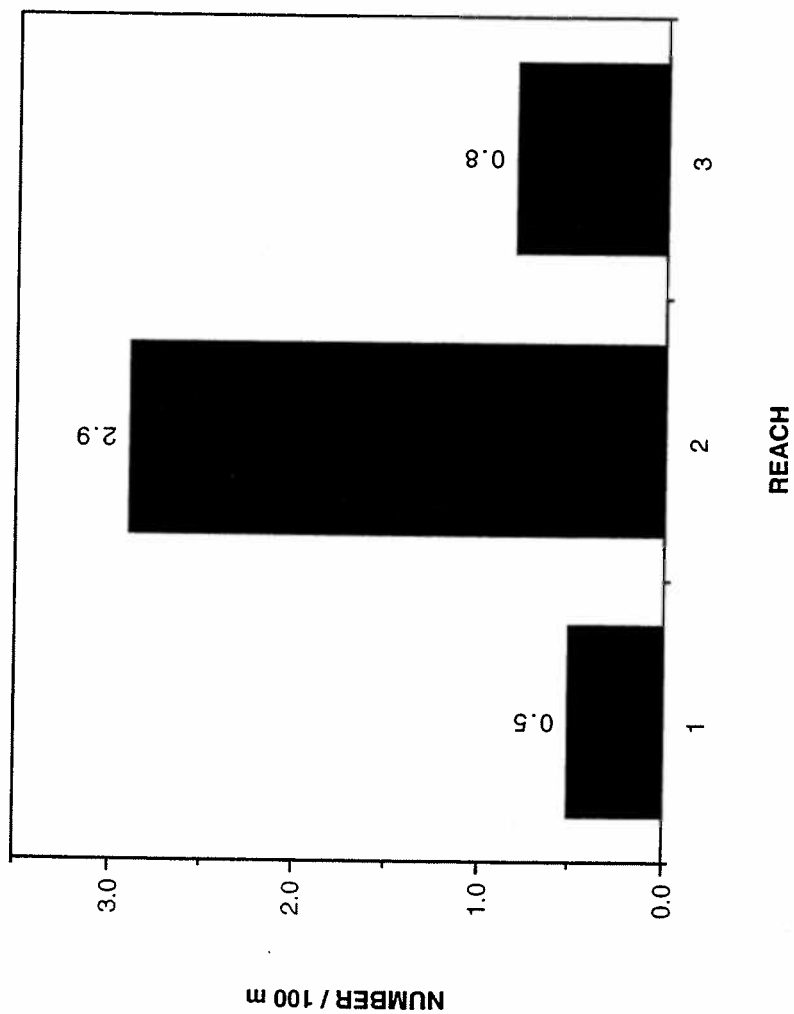


Figure B-242. Large woody debris, root wads. West Fork Rock Creek, Montana. Tributary survey, 1992-1994.

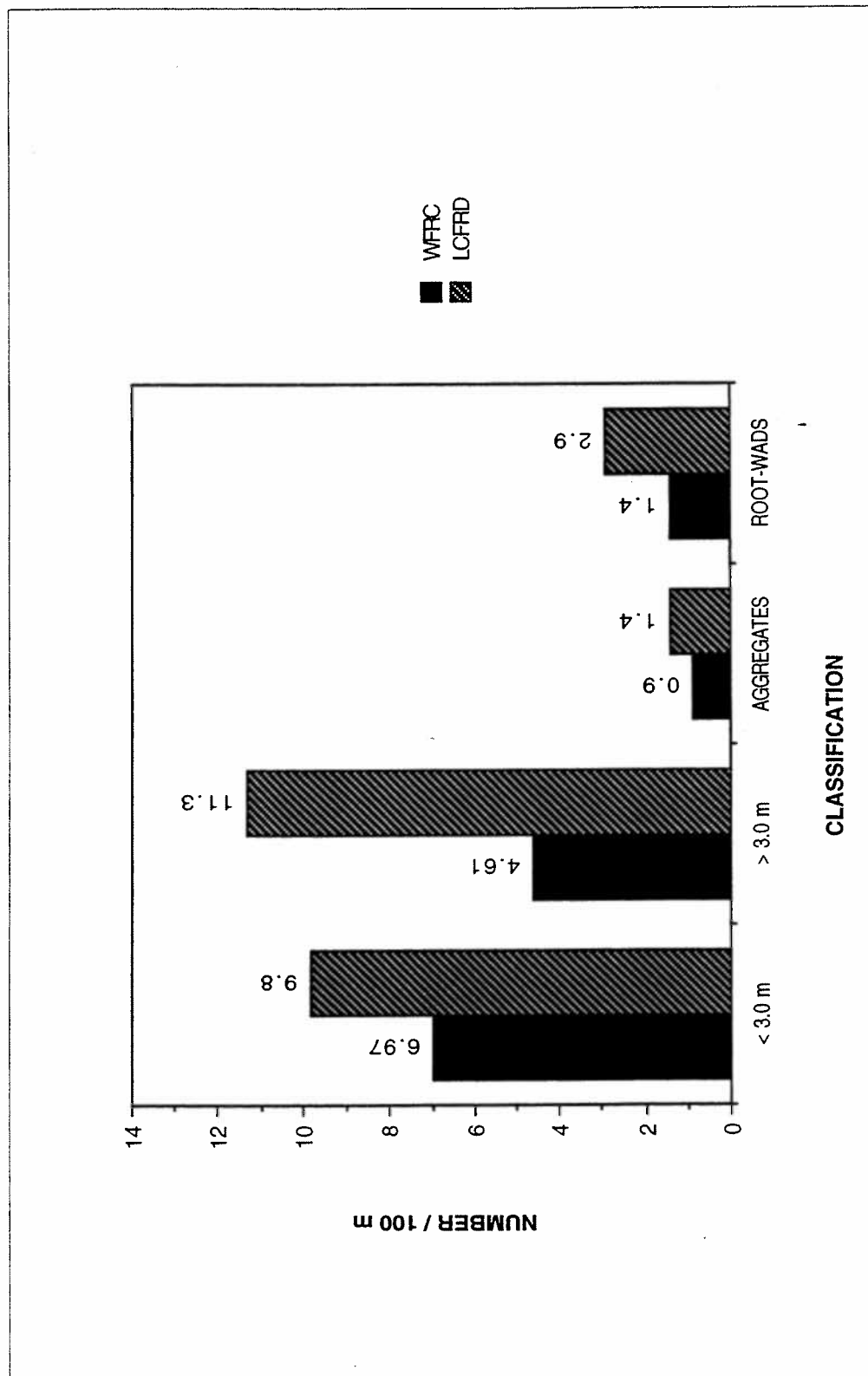


Figure B-243. Large woody debris by classification. West Fork Rock Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

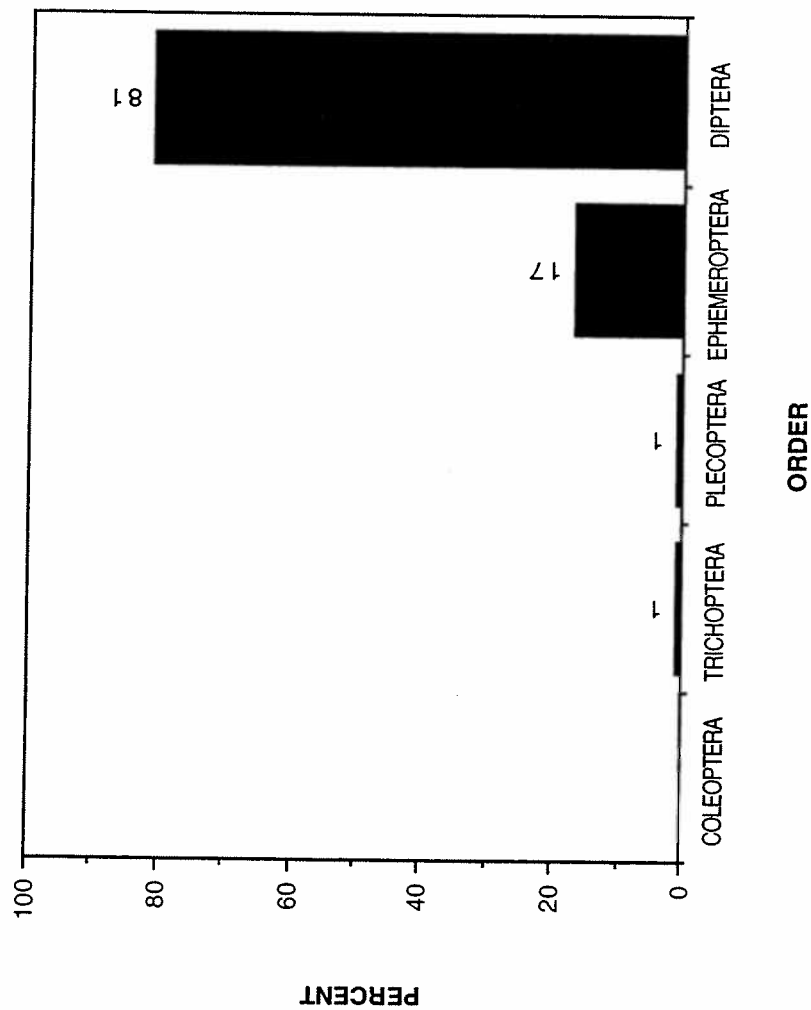


Figure B-244. Percent composition benthic invertebrate population by taxonomic order. West Fork Rock Creek, Montana. Tributary survey, 1992-1994.

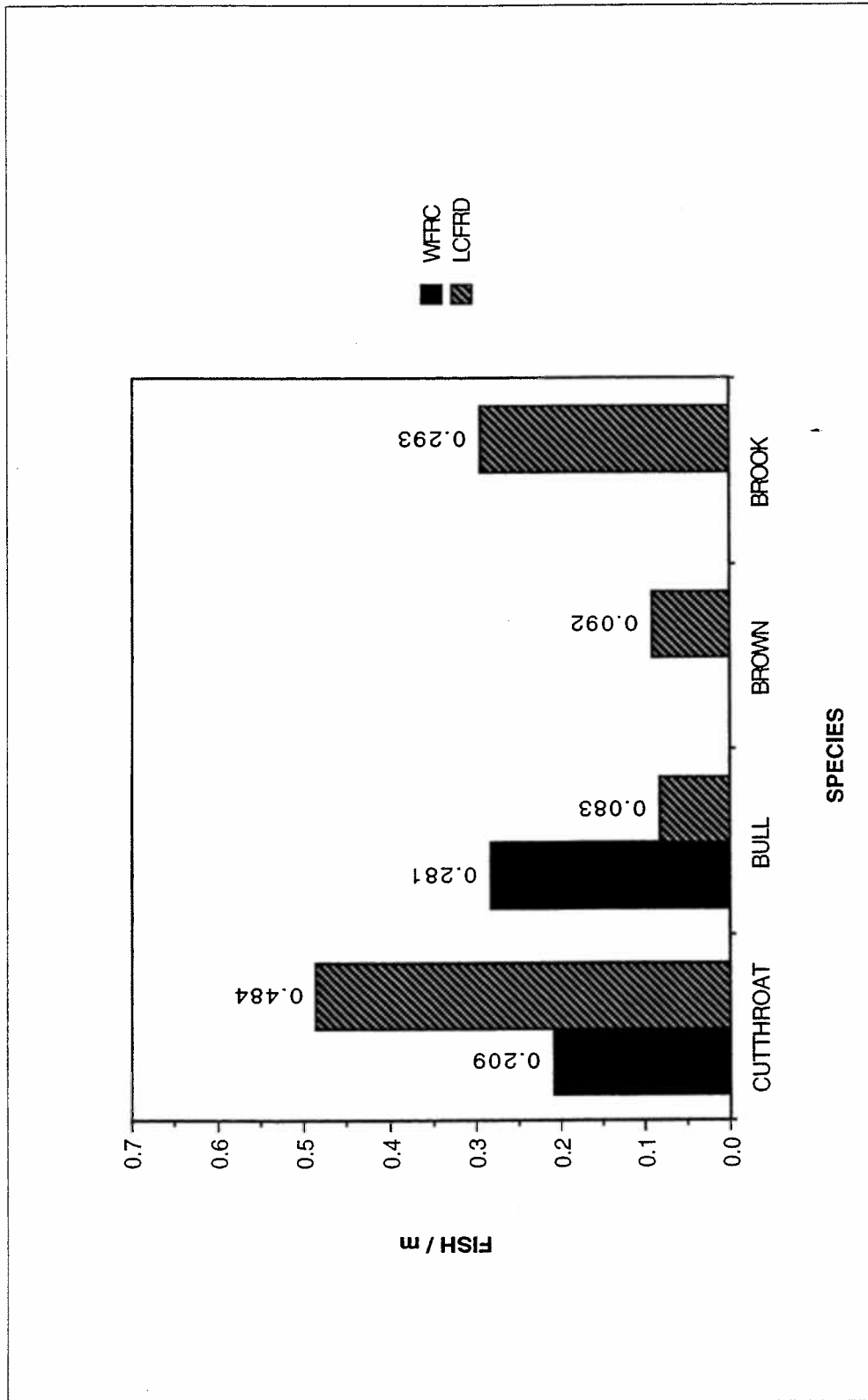


Figure B-245. Estimated densities of cutthroat, bull, brown, and brook trout. West Fork Rock Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

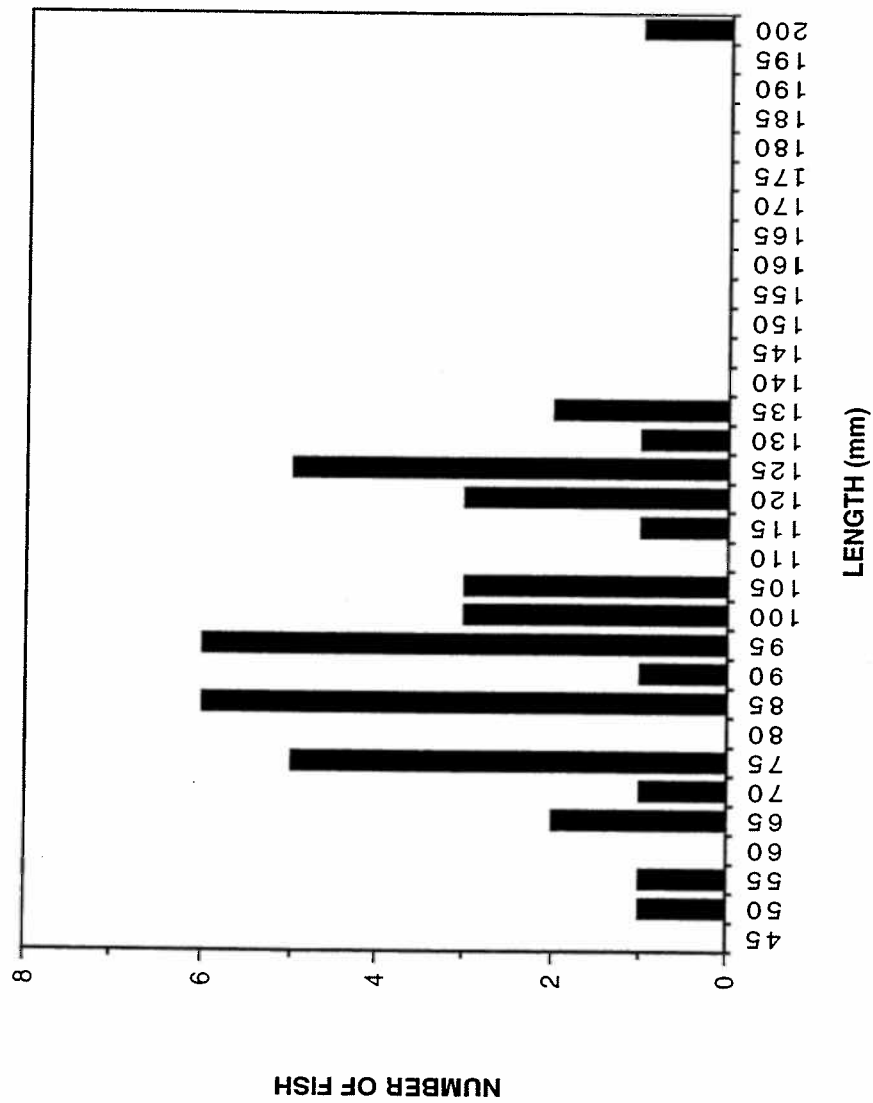


Figure B-246. Length frequency distribution for cutthroat trout. West Fork Rock Creek, Montana. Tributary survey, 1992 - 1994.

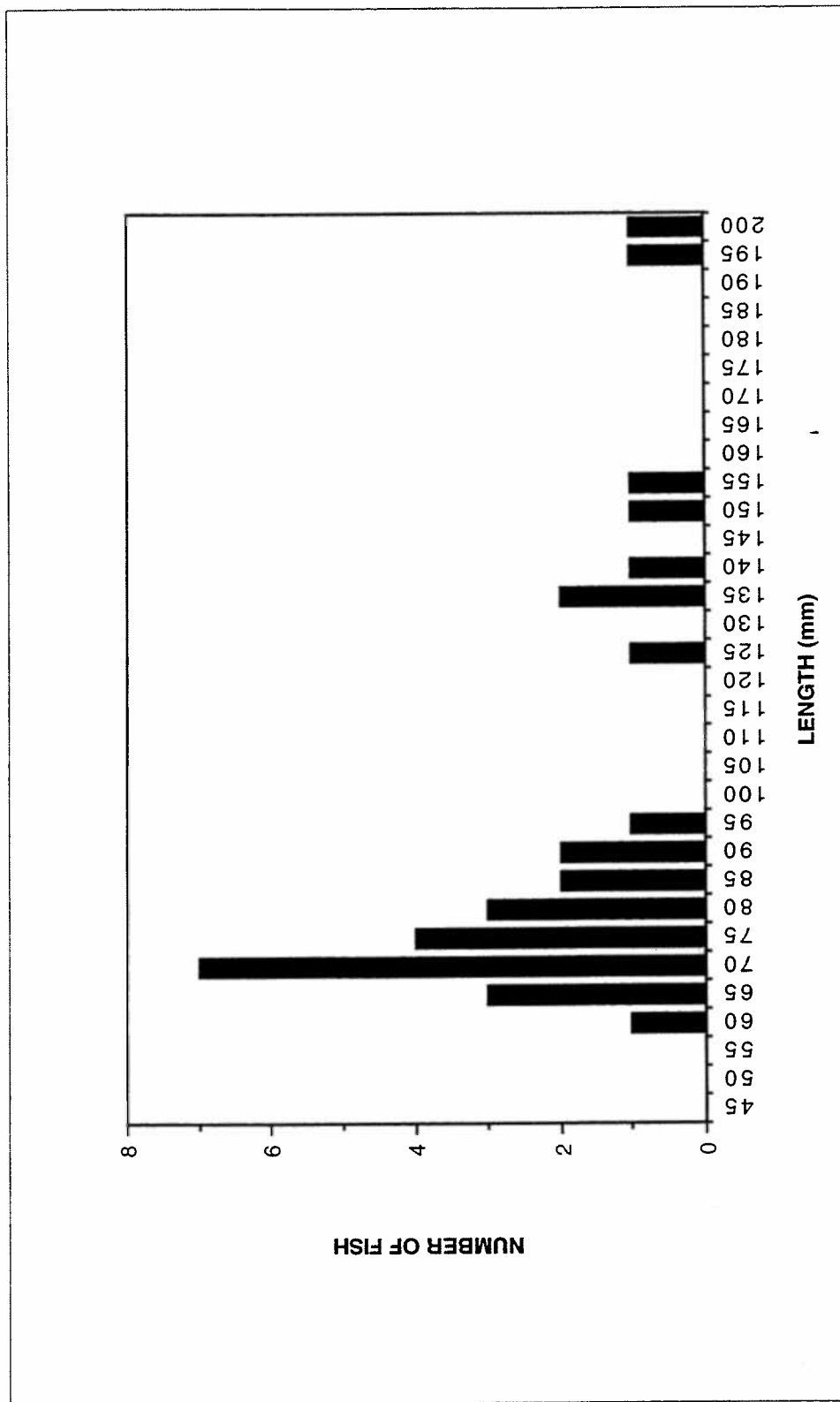


Figure B-247. Length frequency distribution for bull trout. West Fork Rock Creek, Montana. Tributary survey, 1992 - 1994.

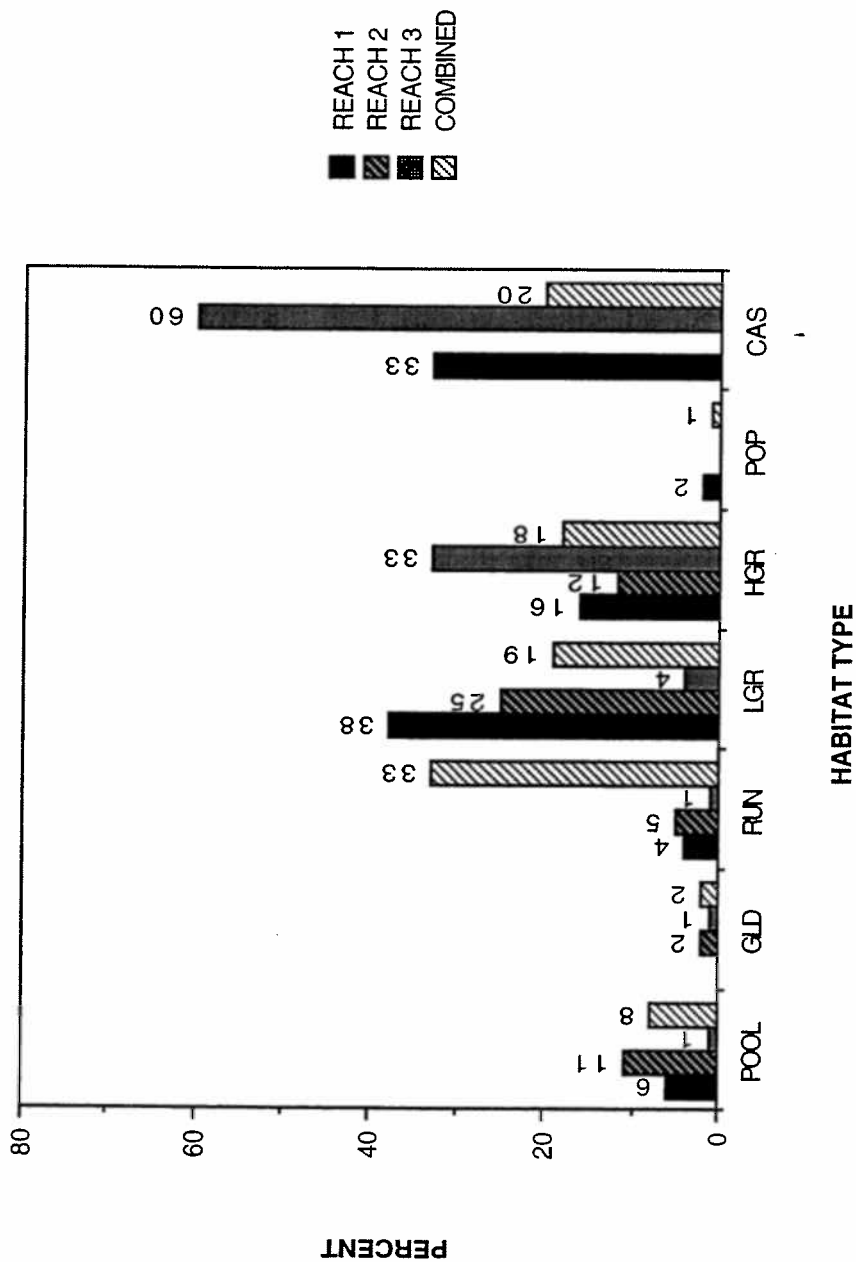


Figure B-248. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), and pocket pool (POP) habitat types by stream reach. Swamp Creek, Montana. Tributary survey, 1992-1994.

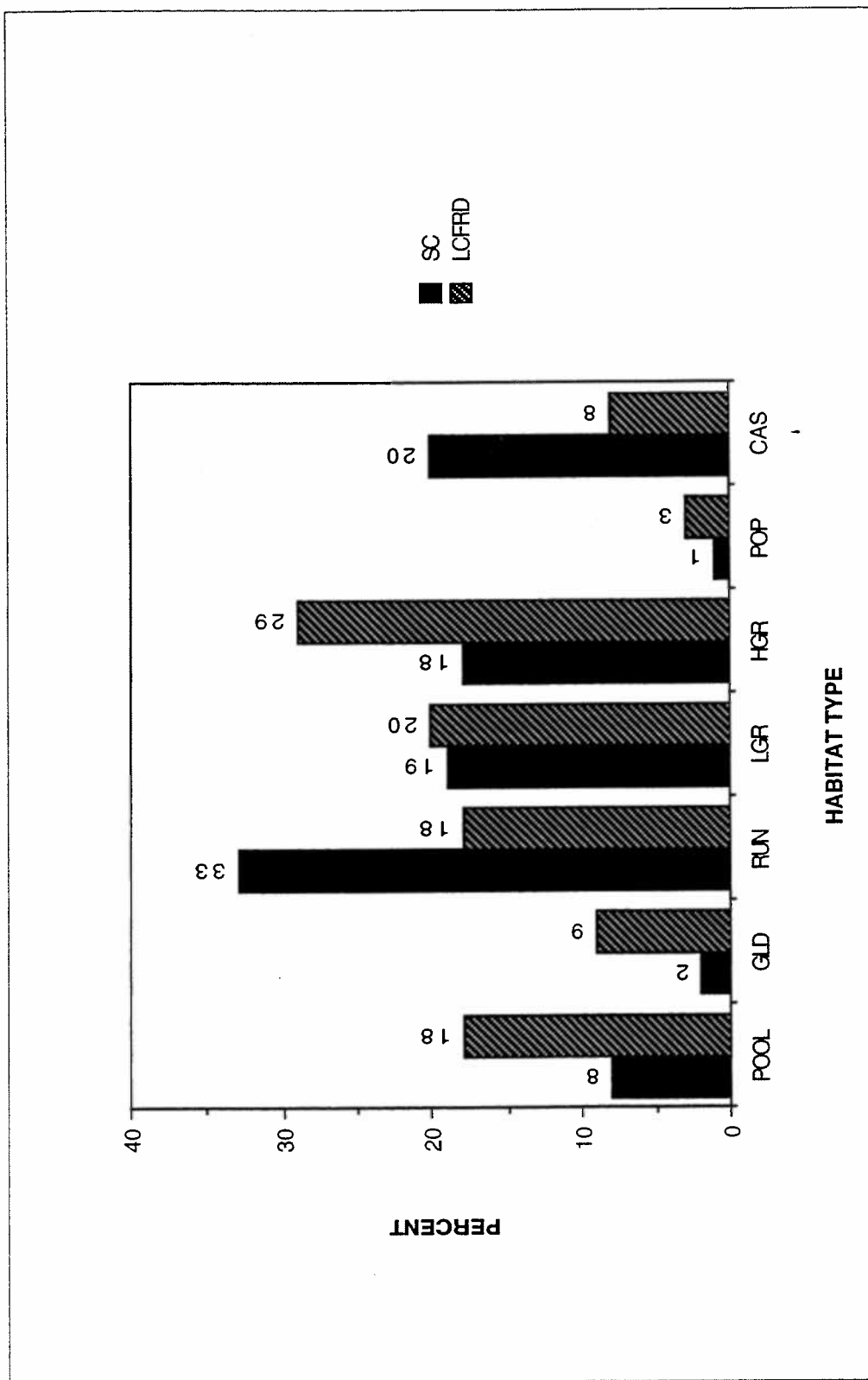


Figure B-249. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. Swamp Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

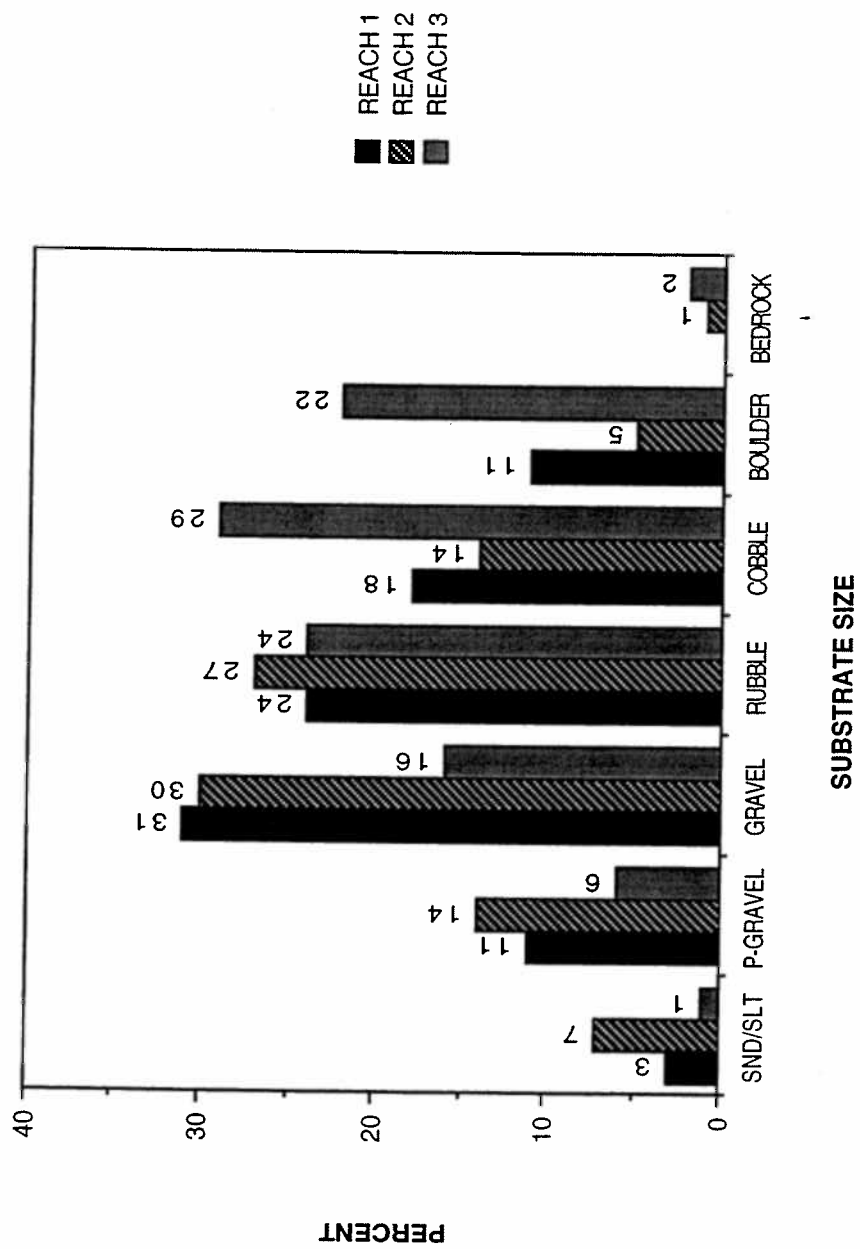


Figure B-250. Percent substrate composition by stream reach. Swamp Creek, Montana. Tributary survey, 1992-1994.

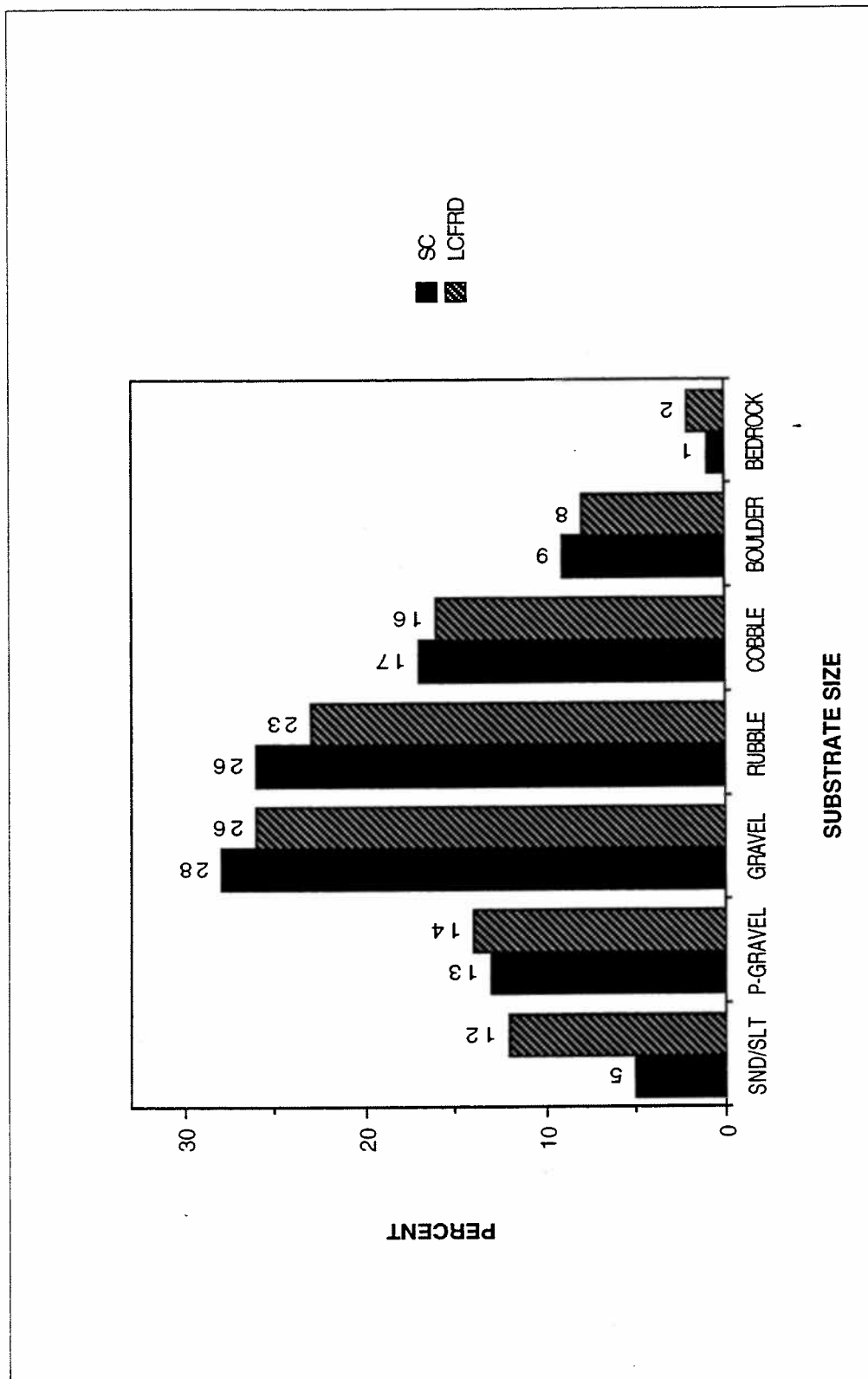


Figure B-251. Percent substrate composition. Swamp Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

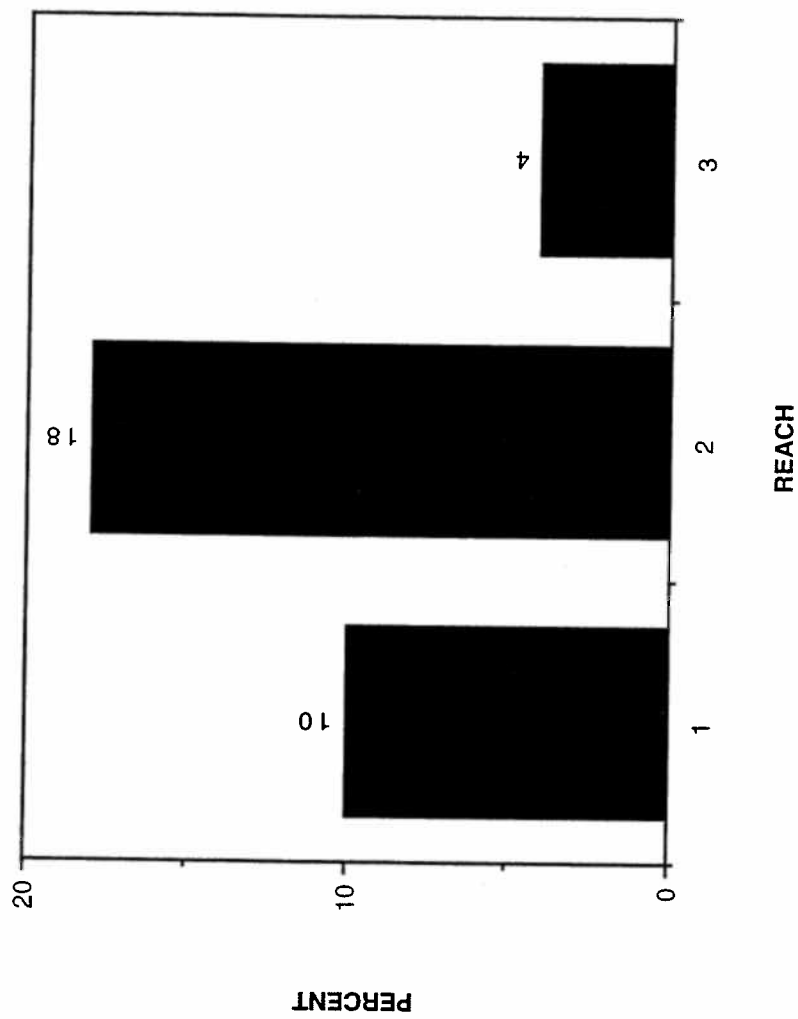


Figure B-252. Percent surface fines (<6.35 mm) by stream reach. Swamp Creek, Montana. Tributary survey, 1992-1994.

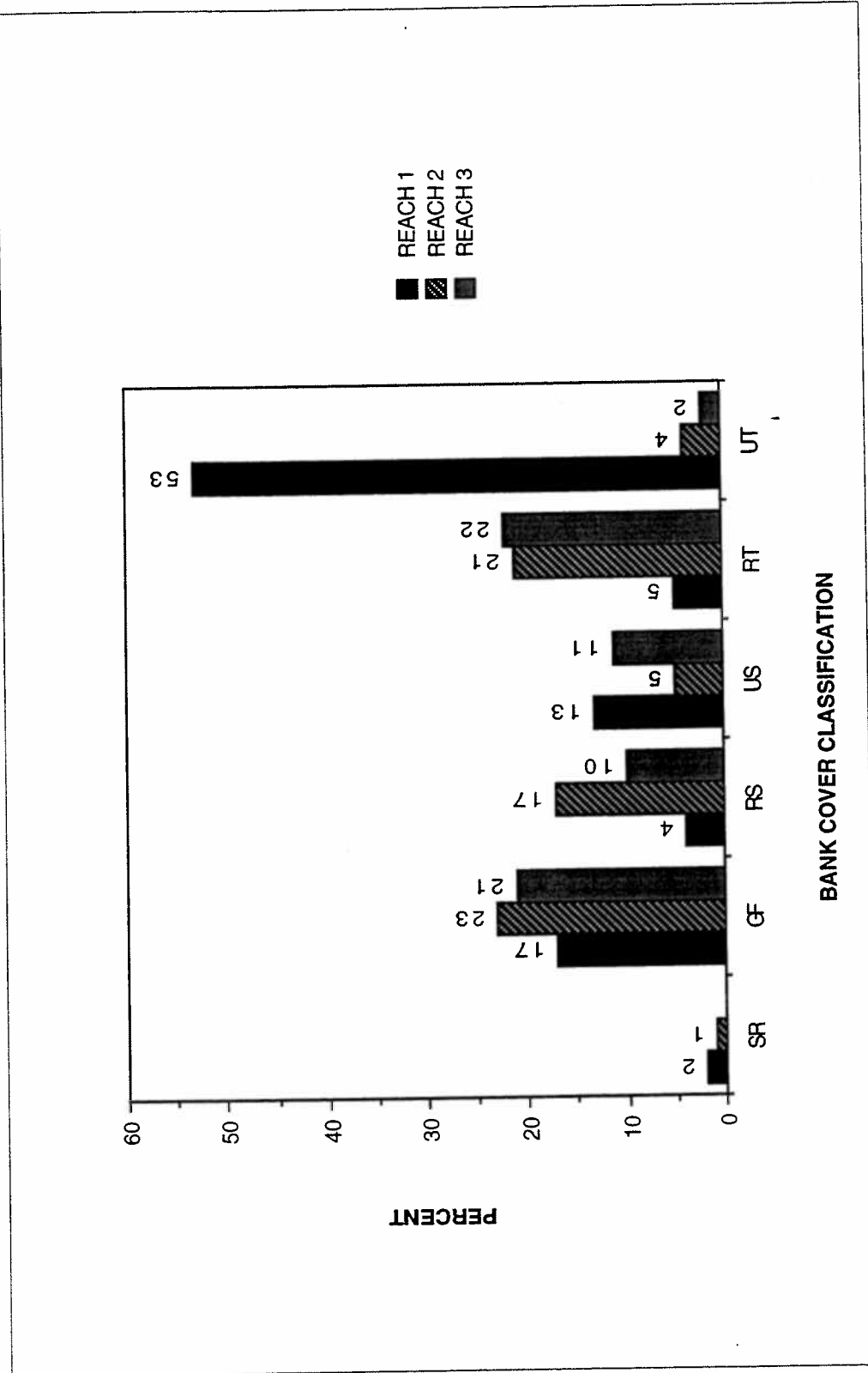


Figure B-253. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT), by stream reach. Swamp Creek, Montana. Tributary survey, 1992-1994.

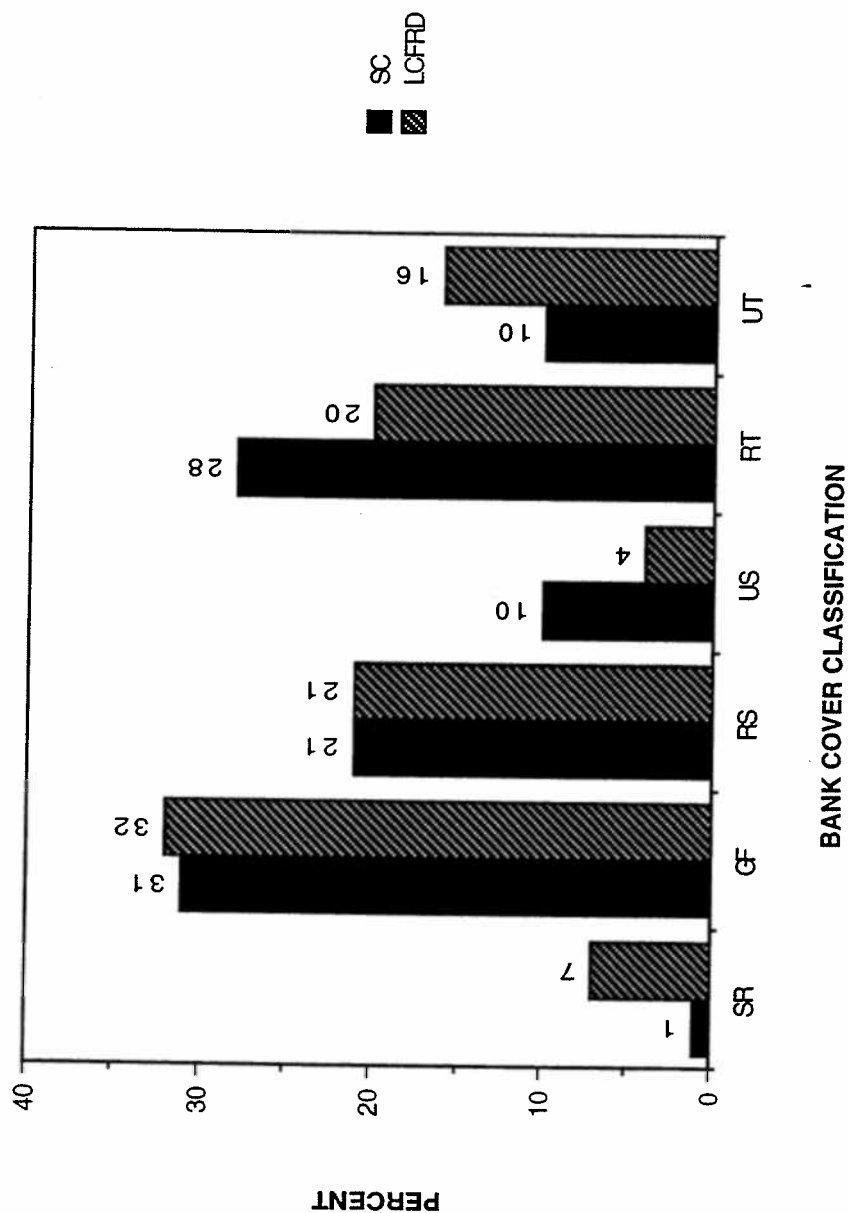


Figure B-254. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Swamp Creek, Montana. Tributary survey, 1992-1994.

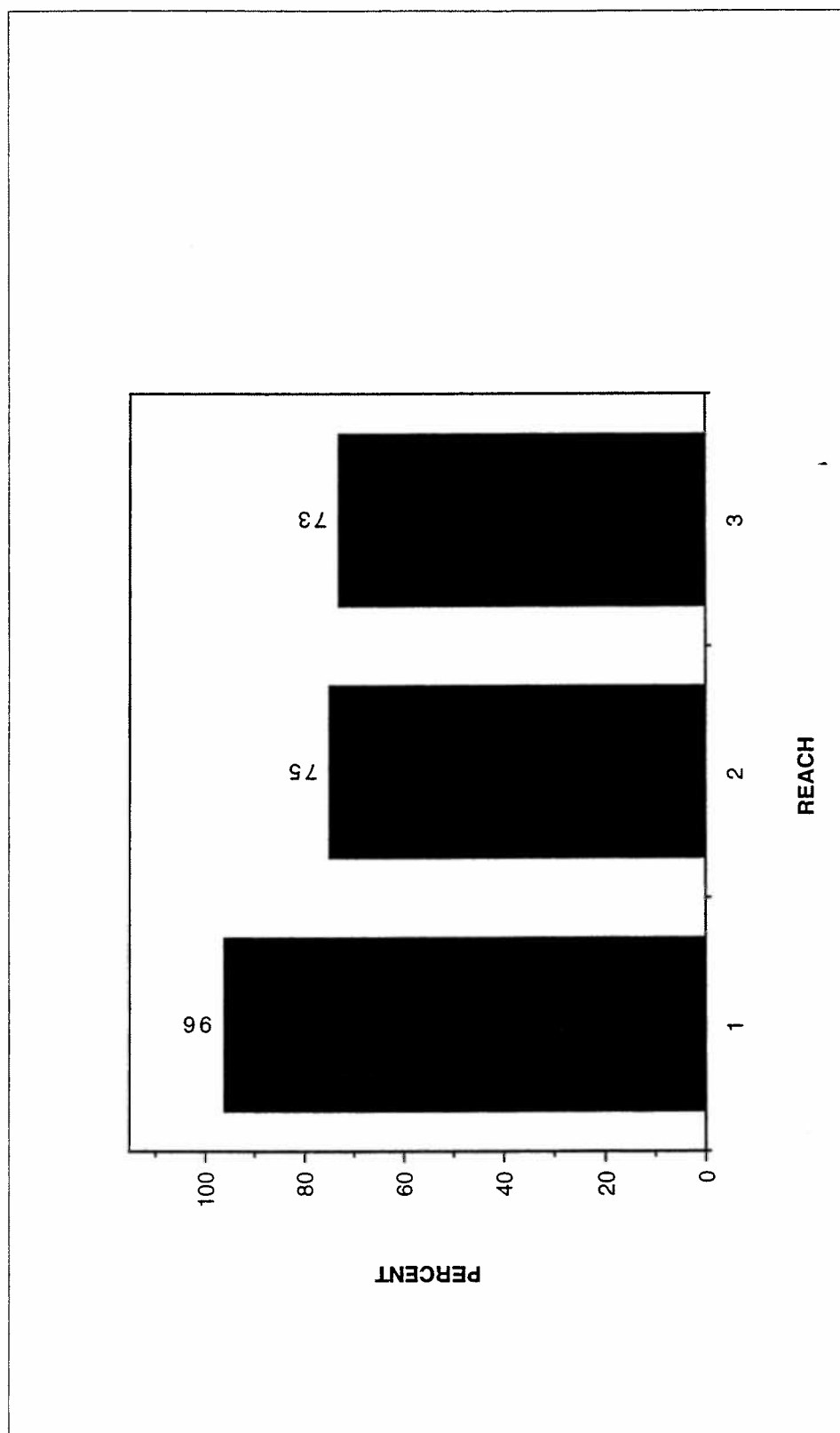


Figure B-255. Percent vegetated bank cover by stream reach. Swamp Creek, Montana. Tributary survey, 1992-1994.

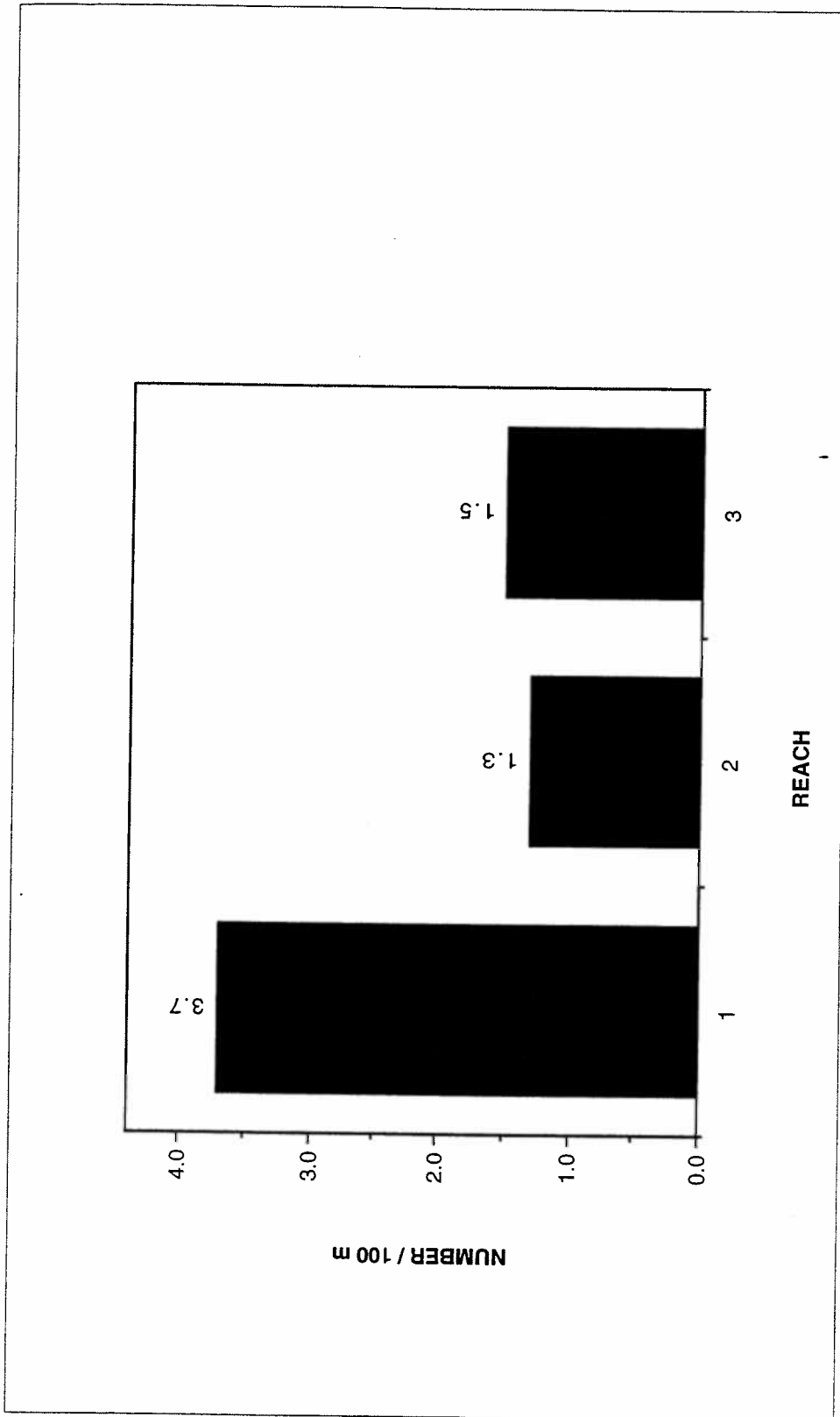


Figure B-256. Large woody debris <3.0 m in length. Swamp Creek, Montana. Tributary survey, 1992-1994.

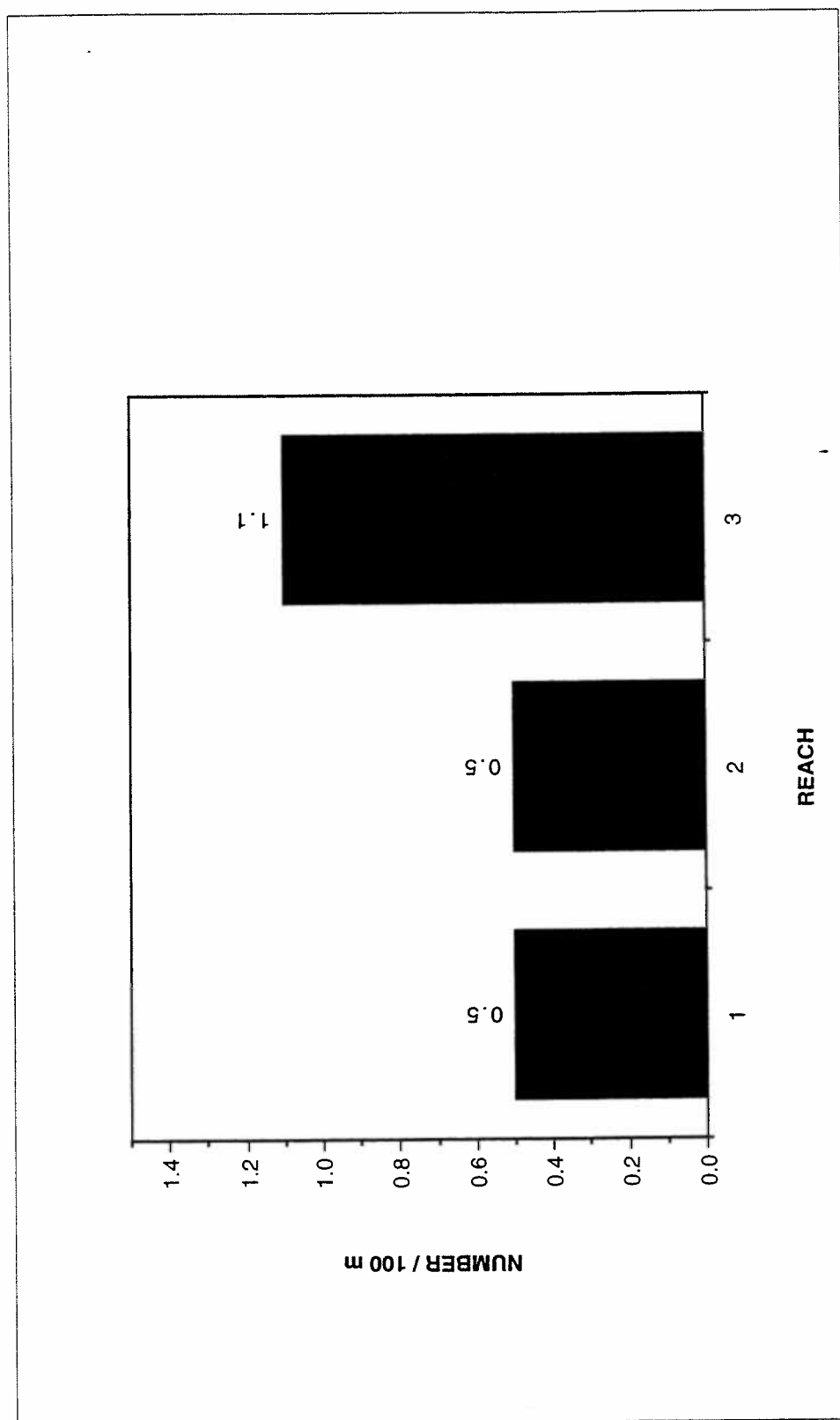


Figure B-257. Large woody debris >3.0 m in length. Swamp Creek, Montana. Tributary survey, 1992-1994.

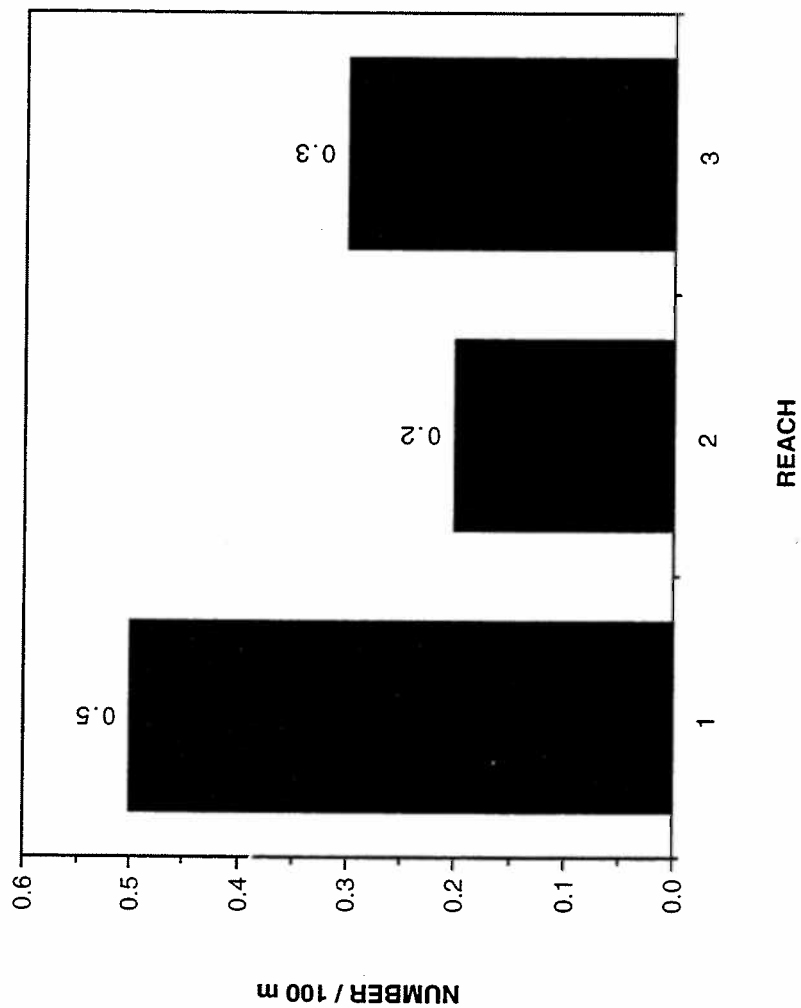


Figure B-258. Large woody debris aggregations. Swamp Creek, Montana. Tributary survey, 1992-1994.

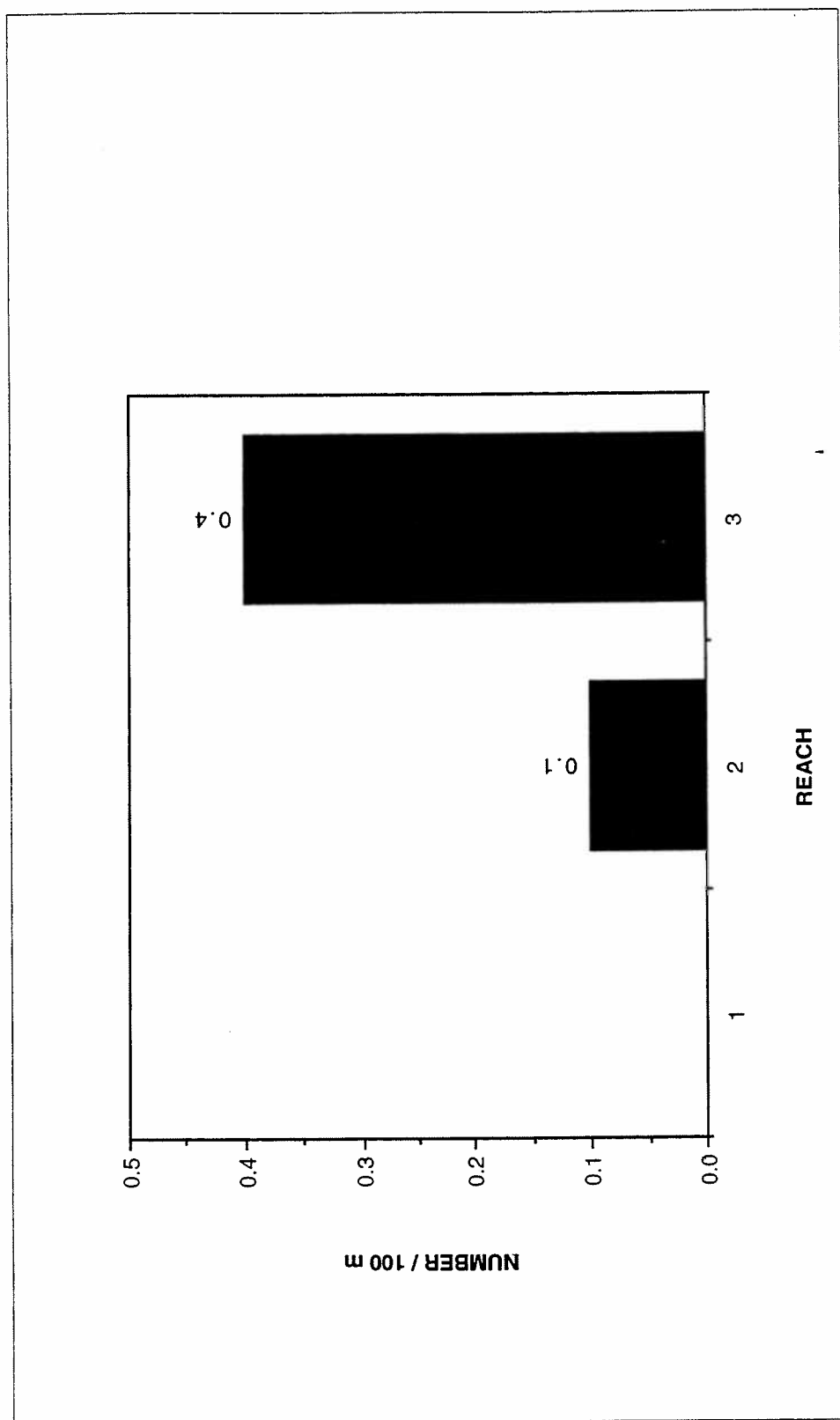


Figure B-259. Large woody debris, root wads. Swamp Creek, Montana. Tributary survey, 1992-1994.

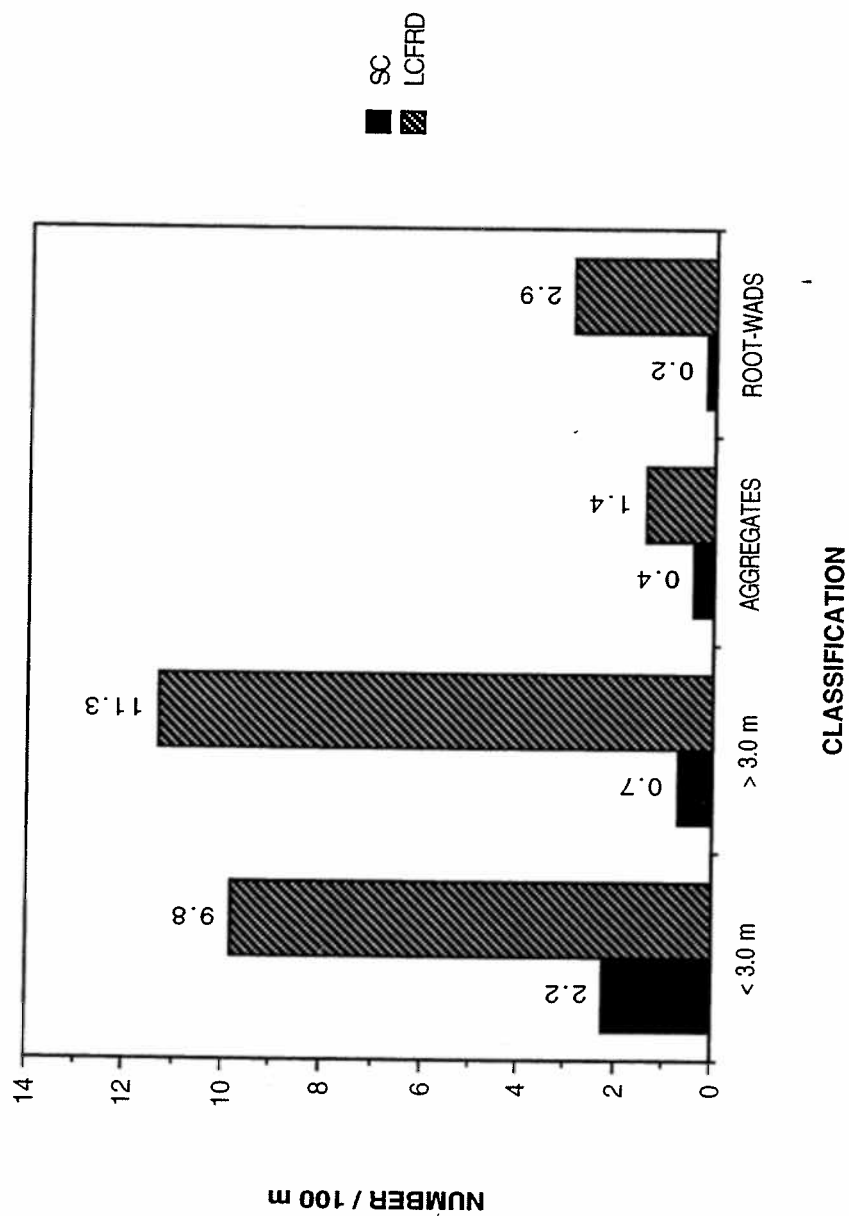


Figure B-260. Large woody debris by classification. Swamp Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

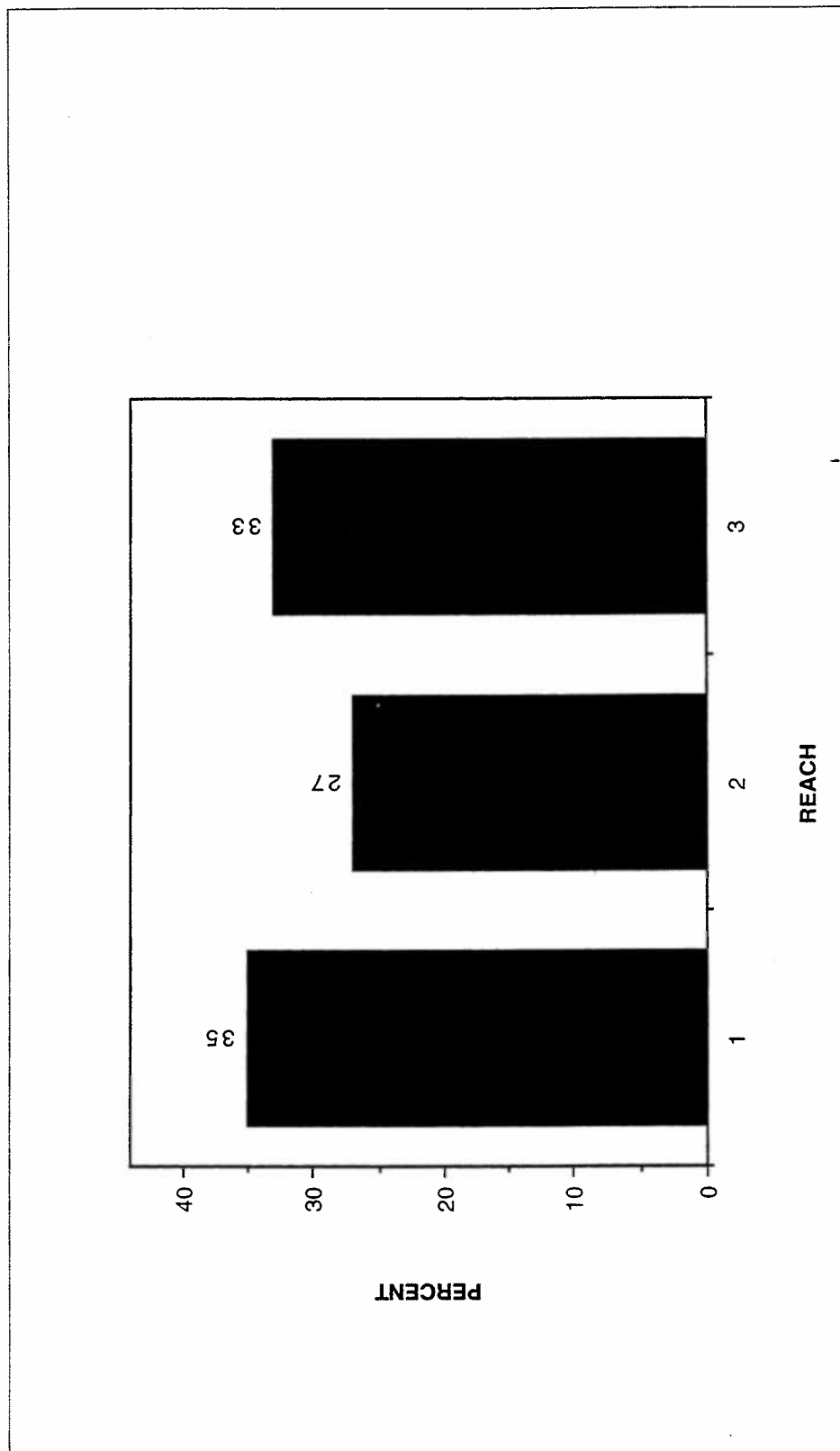


Figure B-261. McNeil core sample percent fines (<6.35 mm) by stream reach. Swamp Creek, Montana. Tributary survey, 1992-1994.

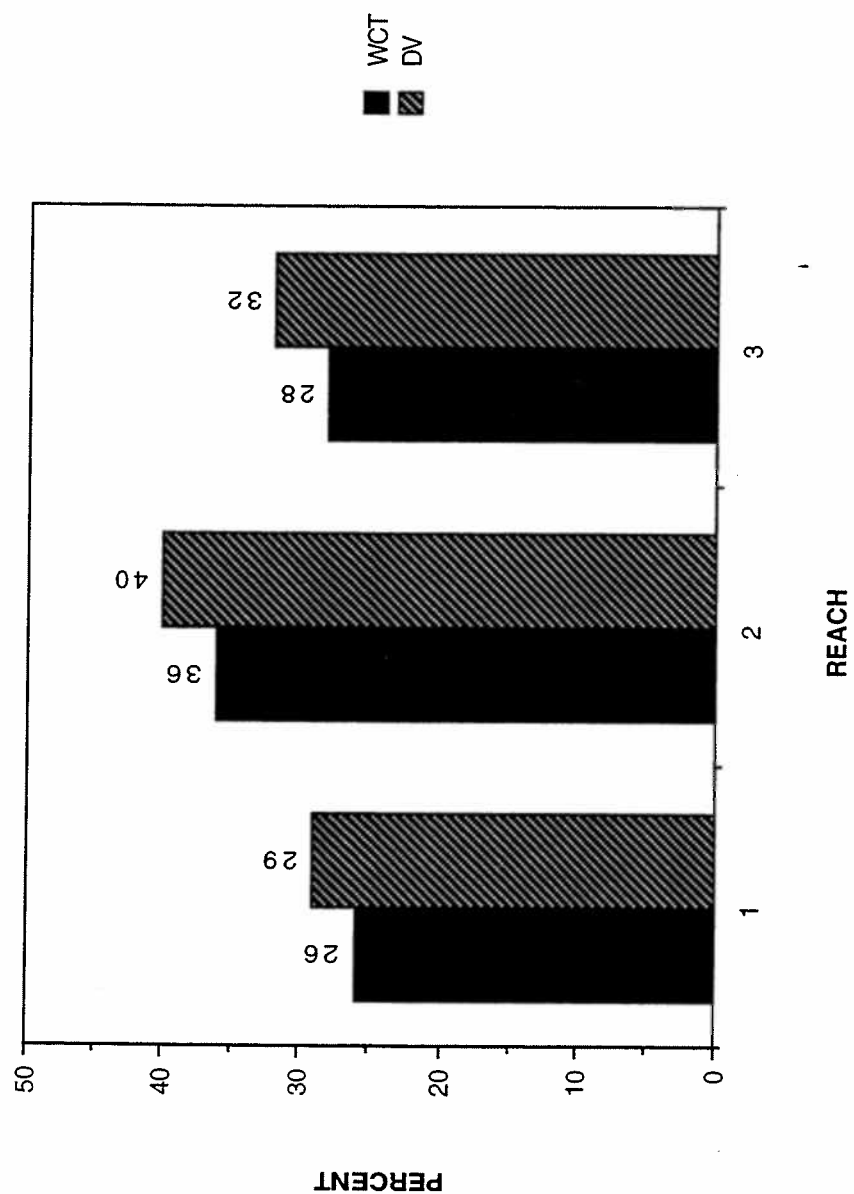


Figure B-262. Percent embryo survival to emergence for cutthroat and bull trout by stream reach. Swamp Creek, Montana. Tributary survey, 1992-1994.

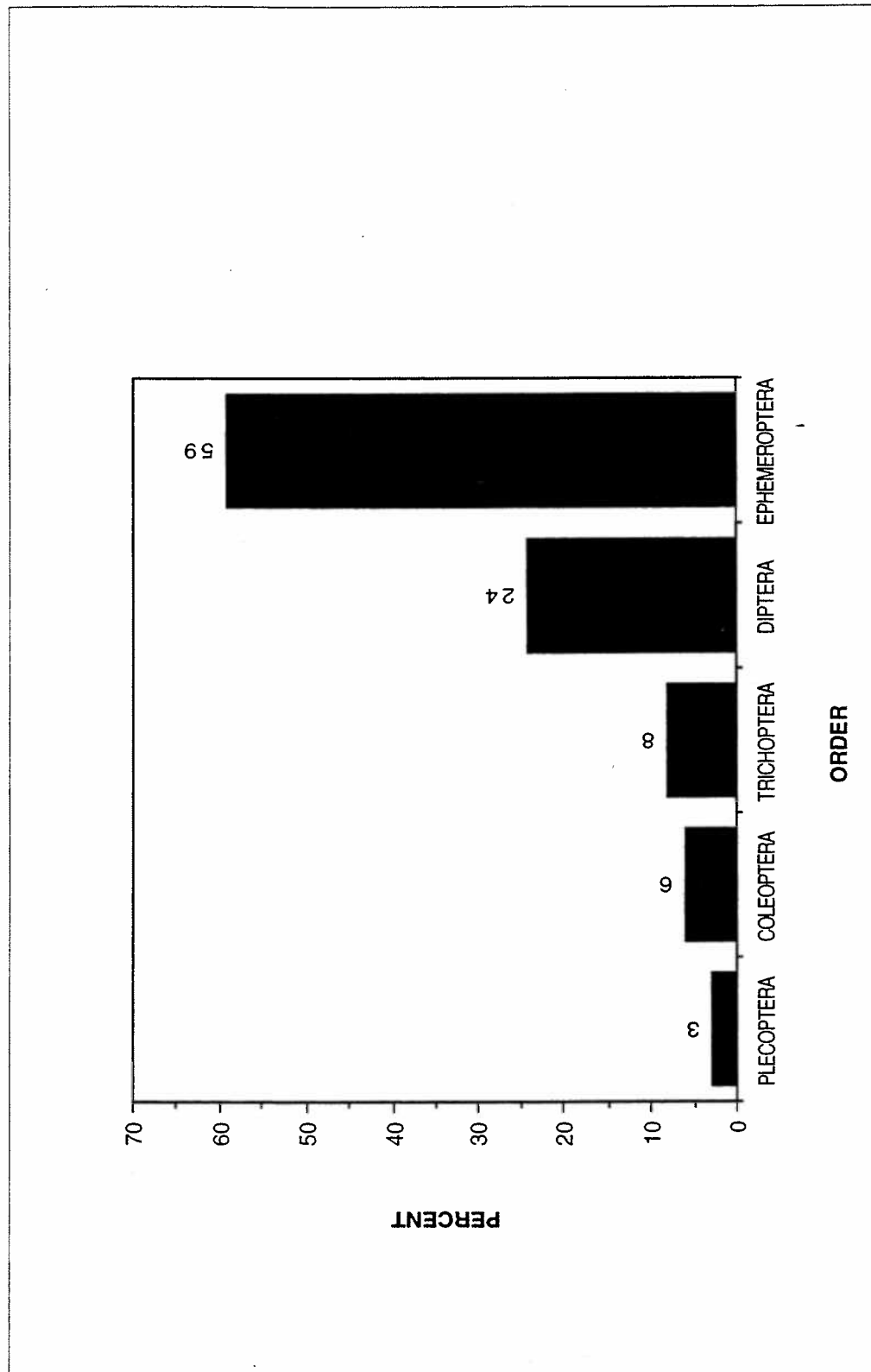


Figure B-263. Percent composition benthic invertebrate population by taxonomic order. Swamp Creek, Montana. Tributary survey, 1992-1994.

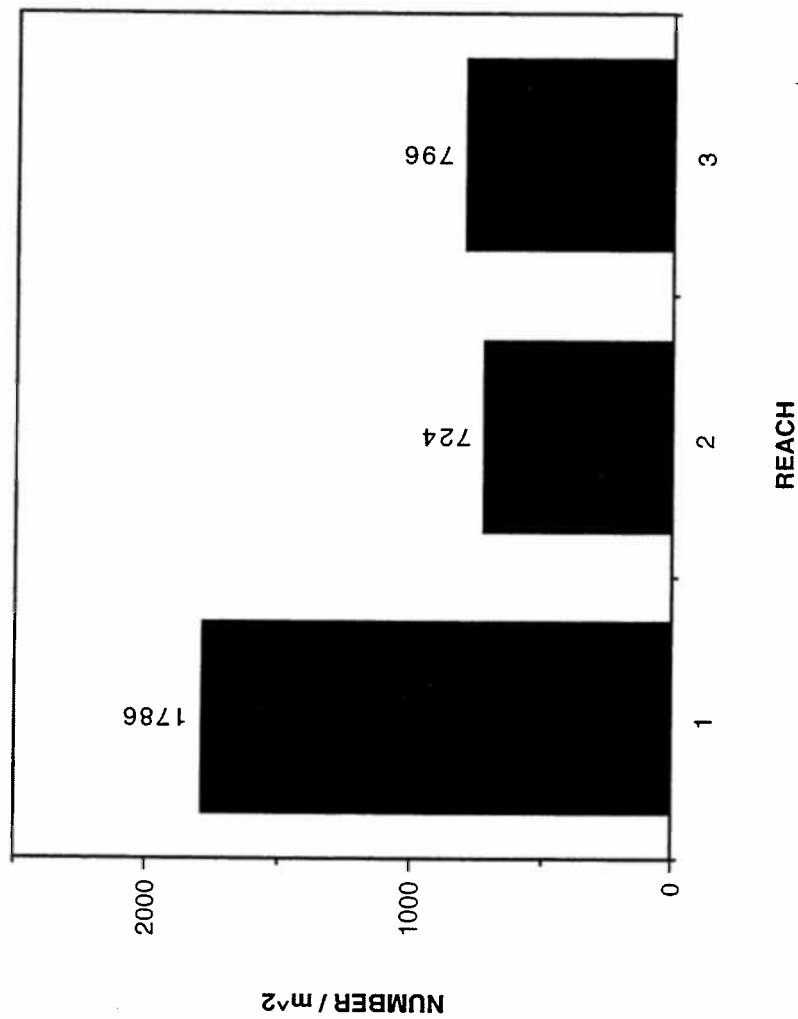


Figure B-264. Benthic invertebrate densities by stream reach. Swamp Creek, Montana. Tributary survey, 1992-1994.

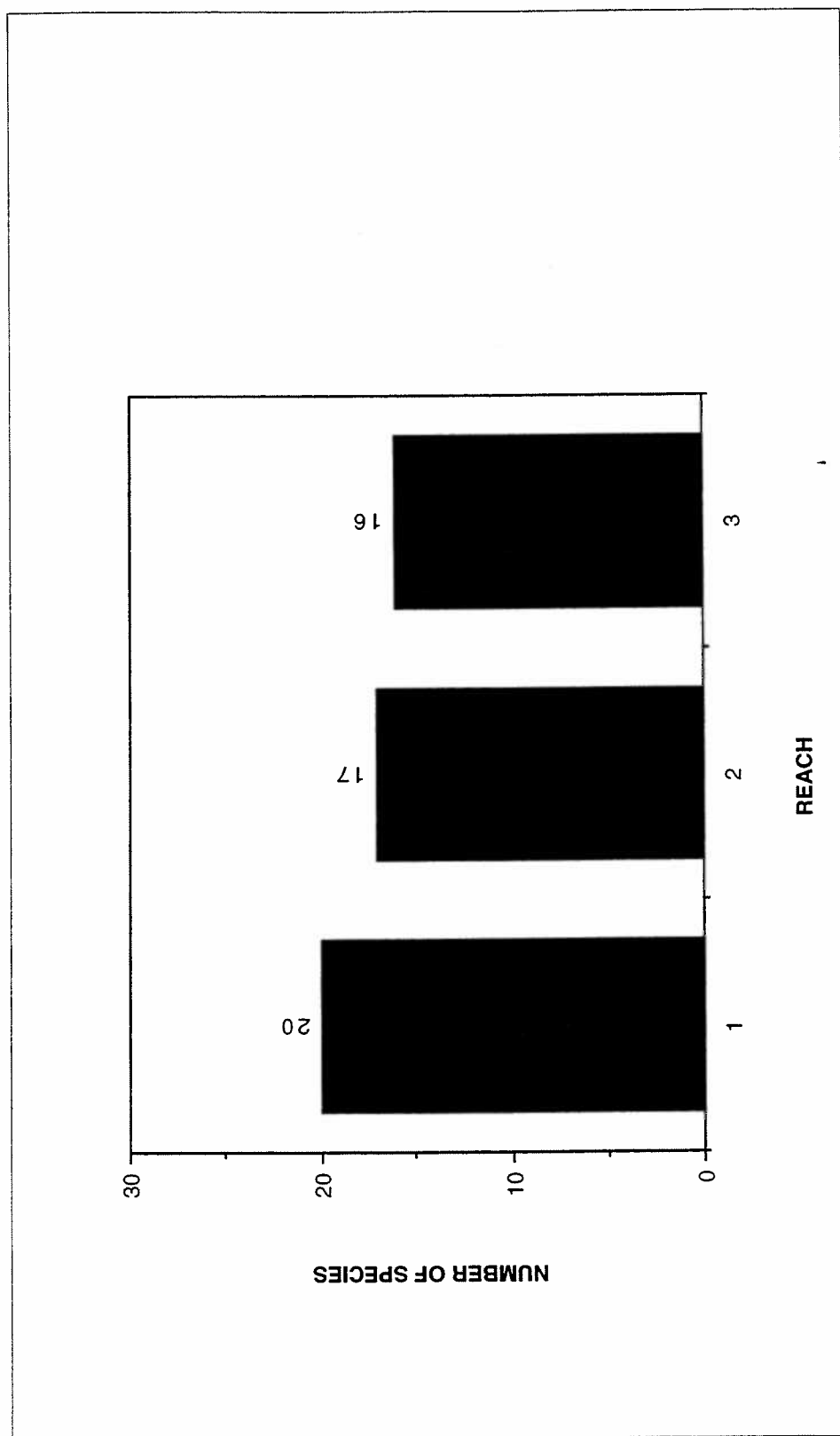


Figure B-265. Benthic invertebrate species richness by stream reach. Swamp Creek, Montana. Tributary survey, 1992-1994.

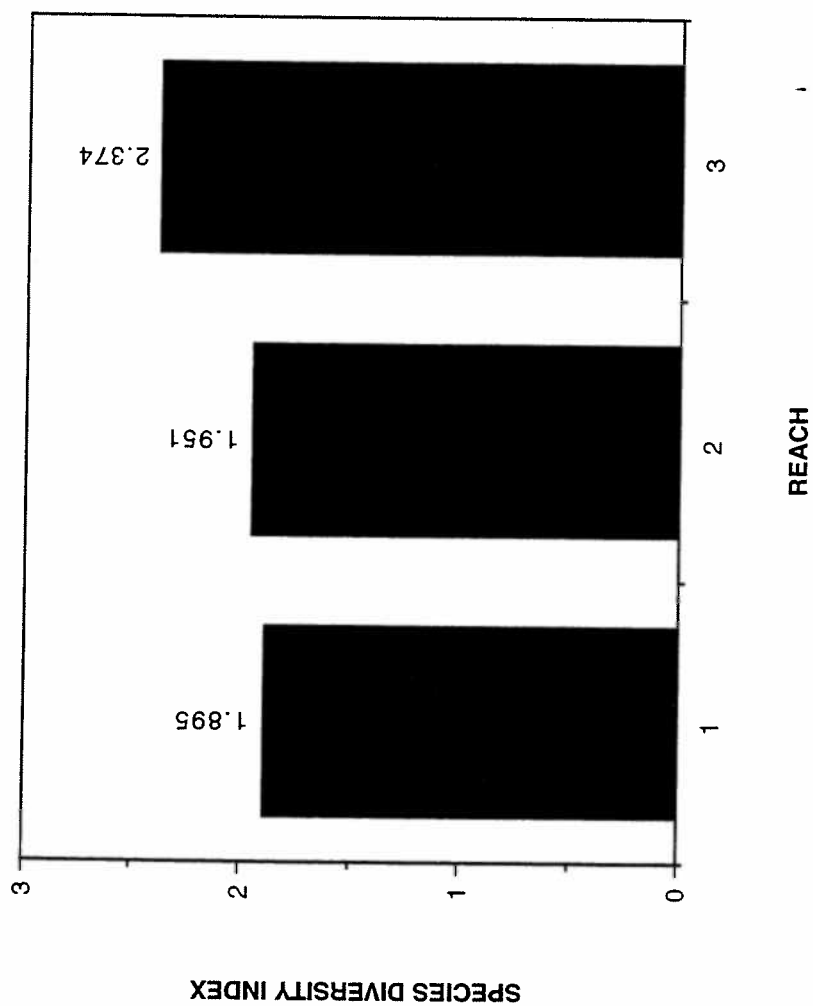


Figure B-266. Benthic invertebrate species diversity (SDI) by stream reach. Swamp Creek, Montana. Tributary survey, 1992-1994.

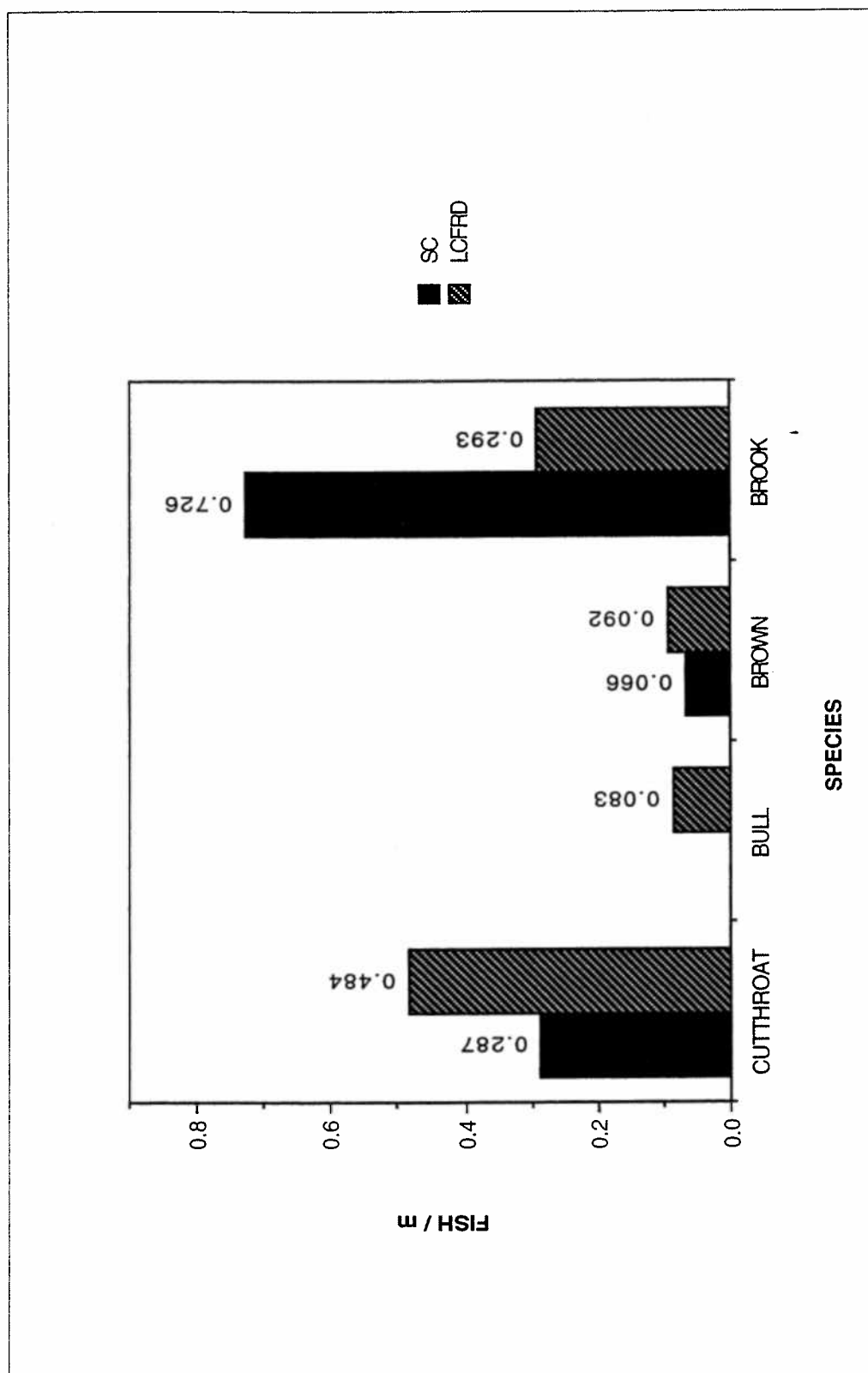


Figure B-267. Estimated densities of cutthroat, bull, brown, and brook trout. Swamp Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

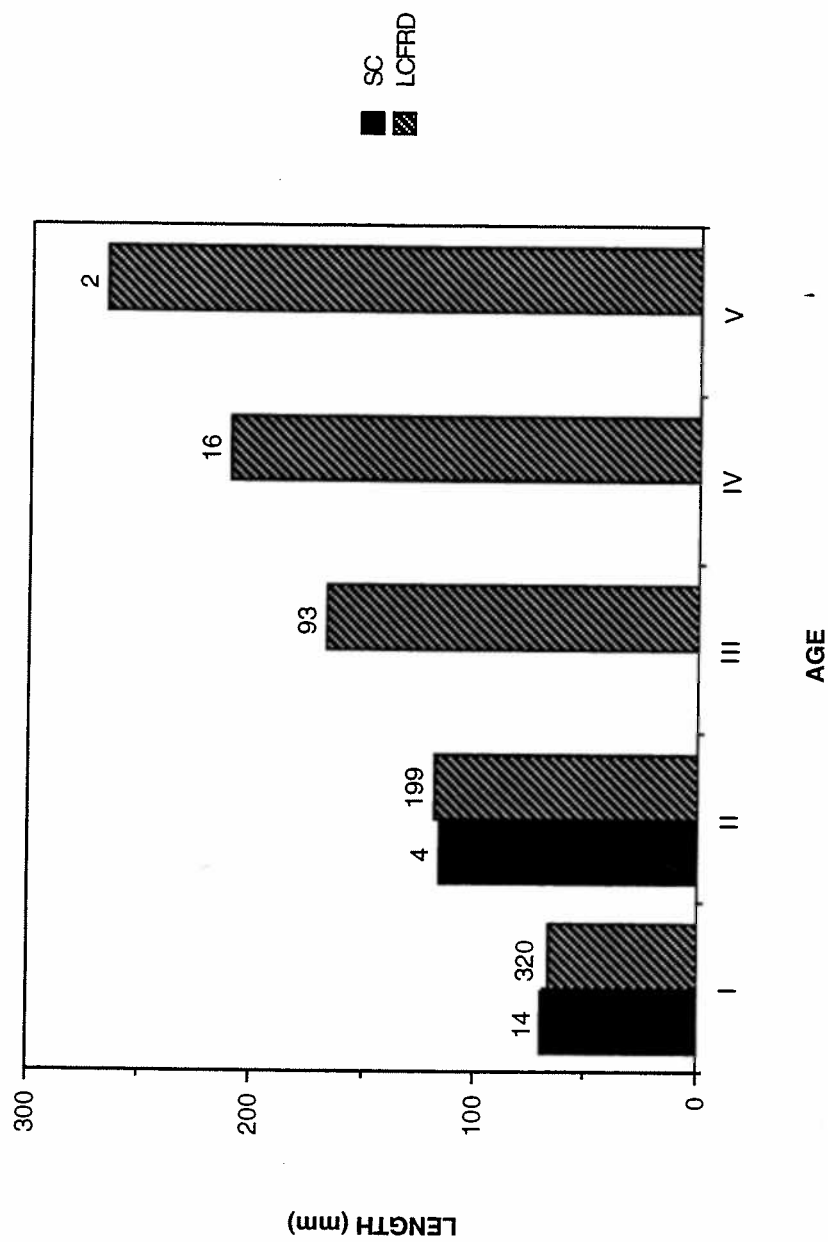


Figure B-268. Number of fish sampled and back calculated length at age for cutthroat trout. Swamp Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

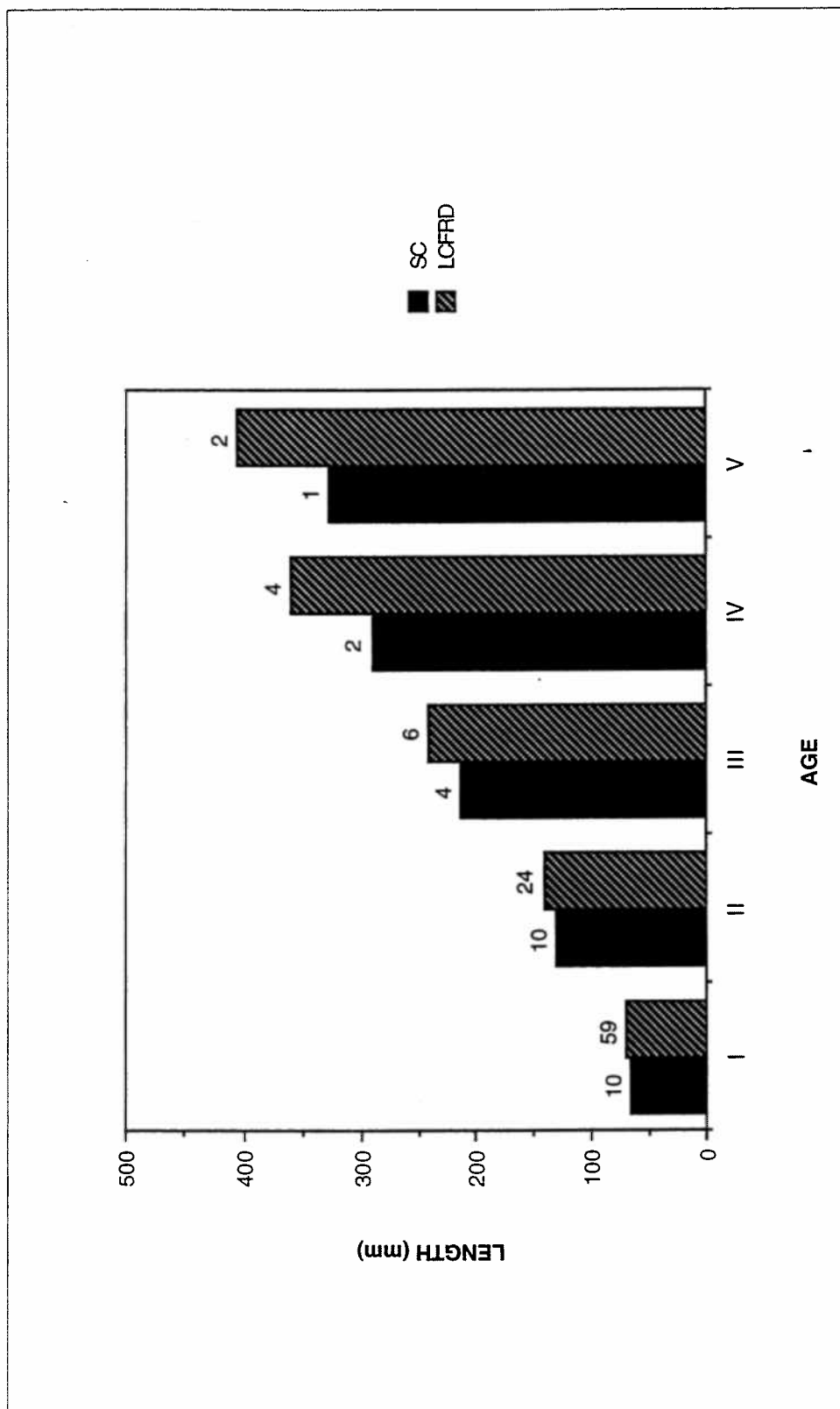


Figure B-269. Number of fish sampled and back calculated length at age for brown trout. Swamp Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

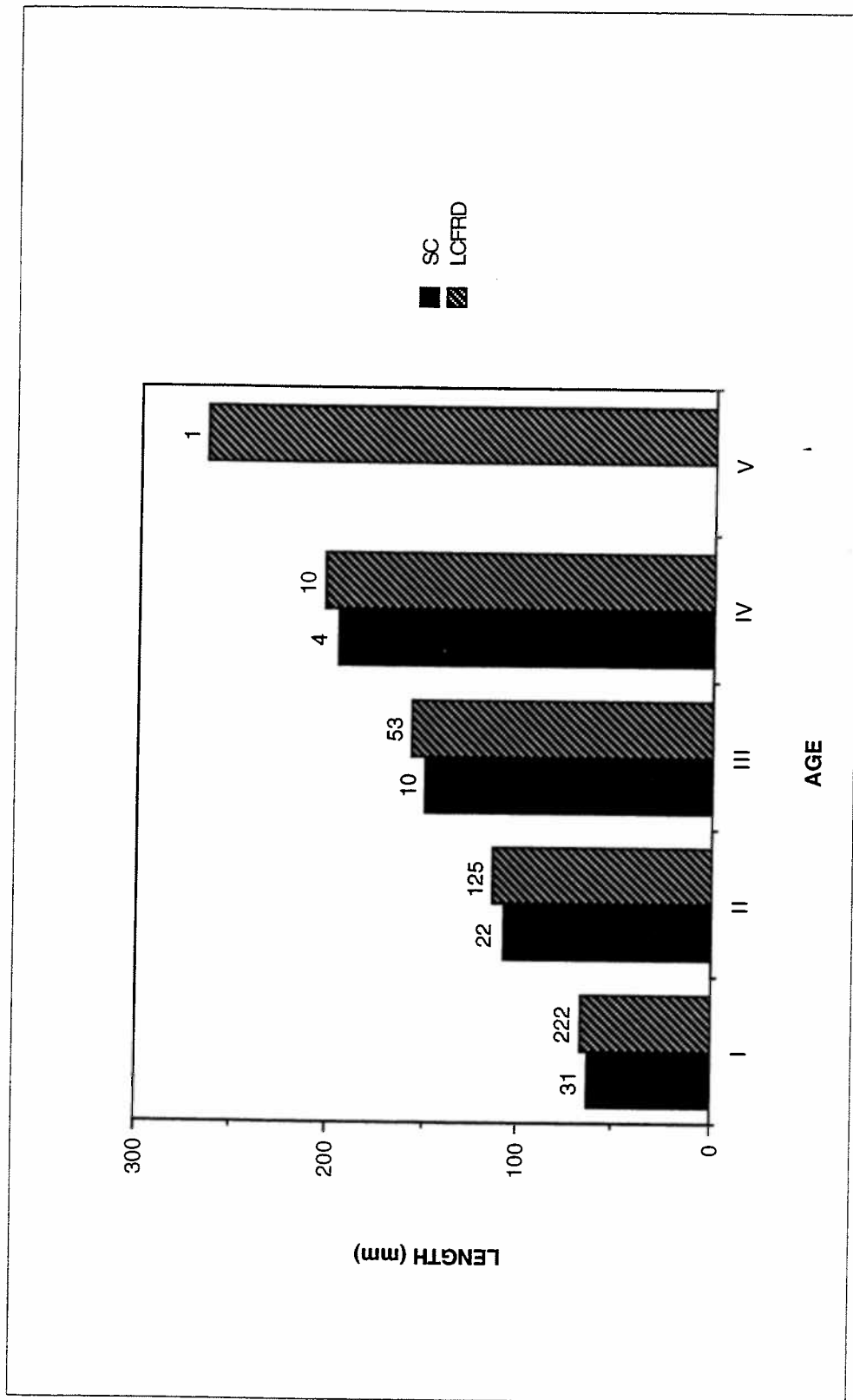


Figure B-270. Number of fish sampled and back calculated length at age for brook trout. Swamp Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

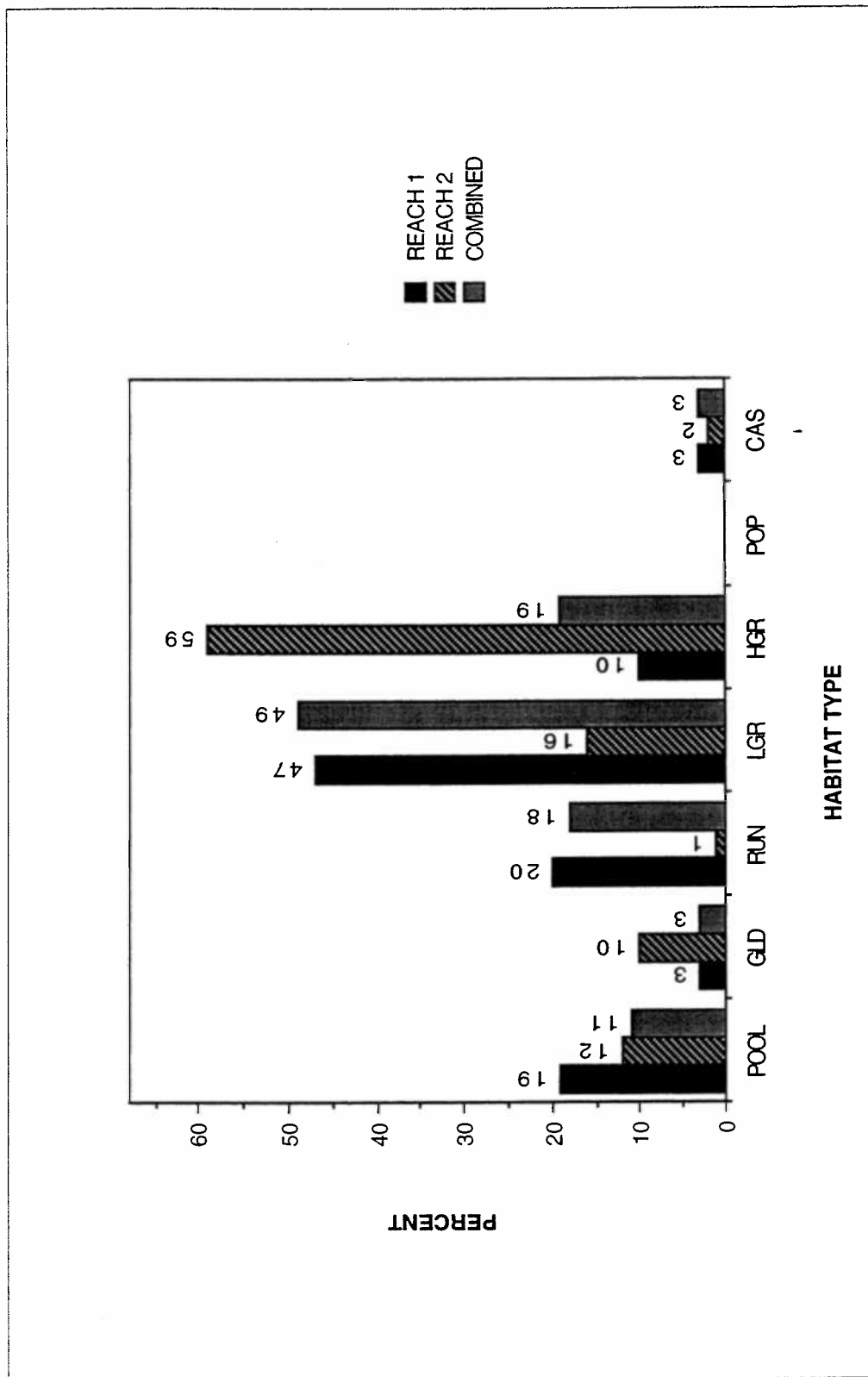


Figure B-271. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), and pocket pool (POP) habitat types by stream reach. Marten Creek, Montana. Tributary survey, 1992-1994.

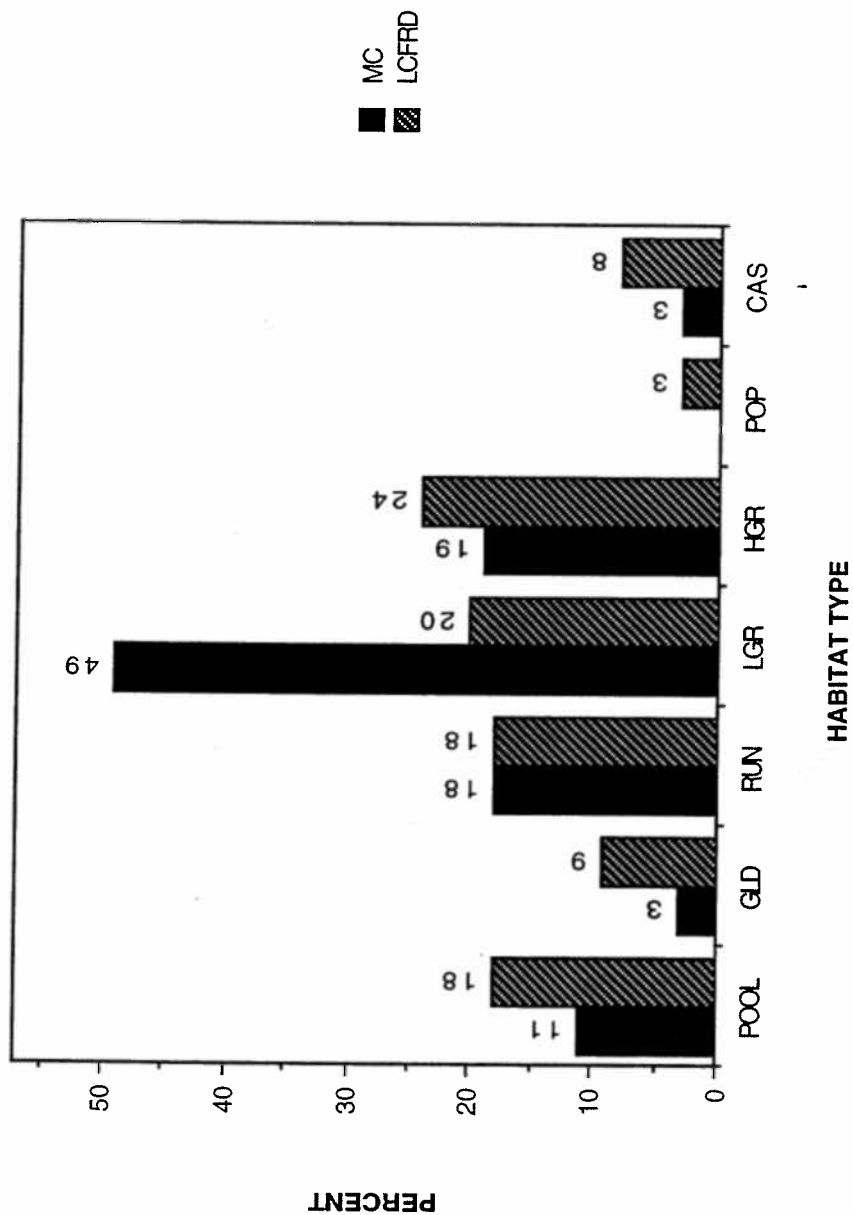


Figure B-272. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

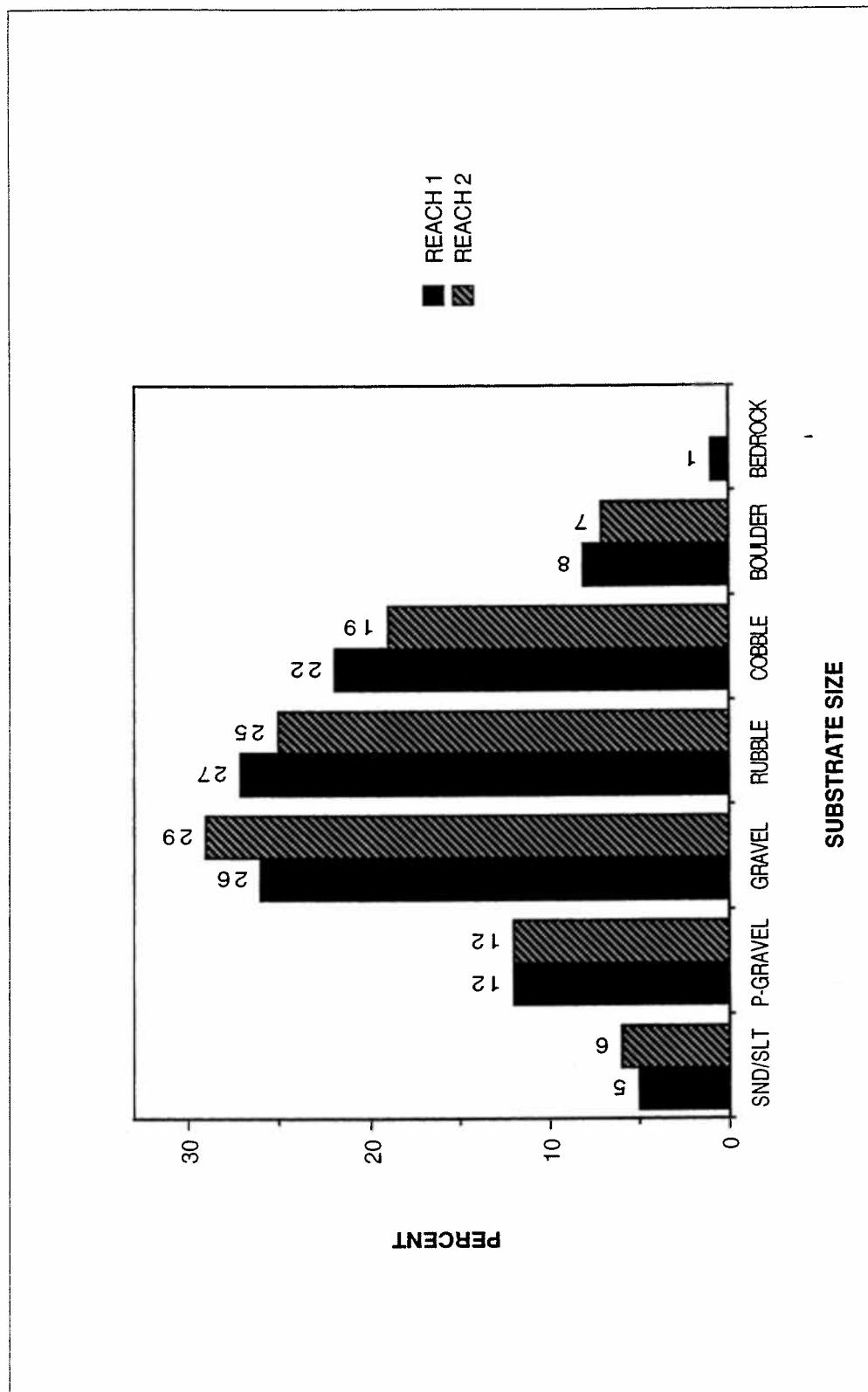


Figure B-273. Percent substrate composition by stream reach. Marten Creek, Montana. Tributary survey, 1992-1994.

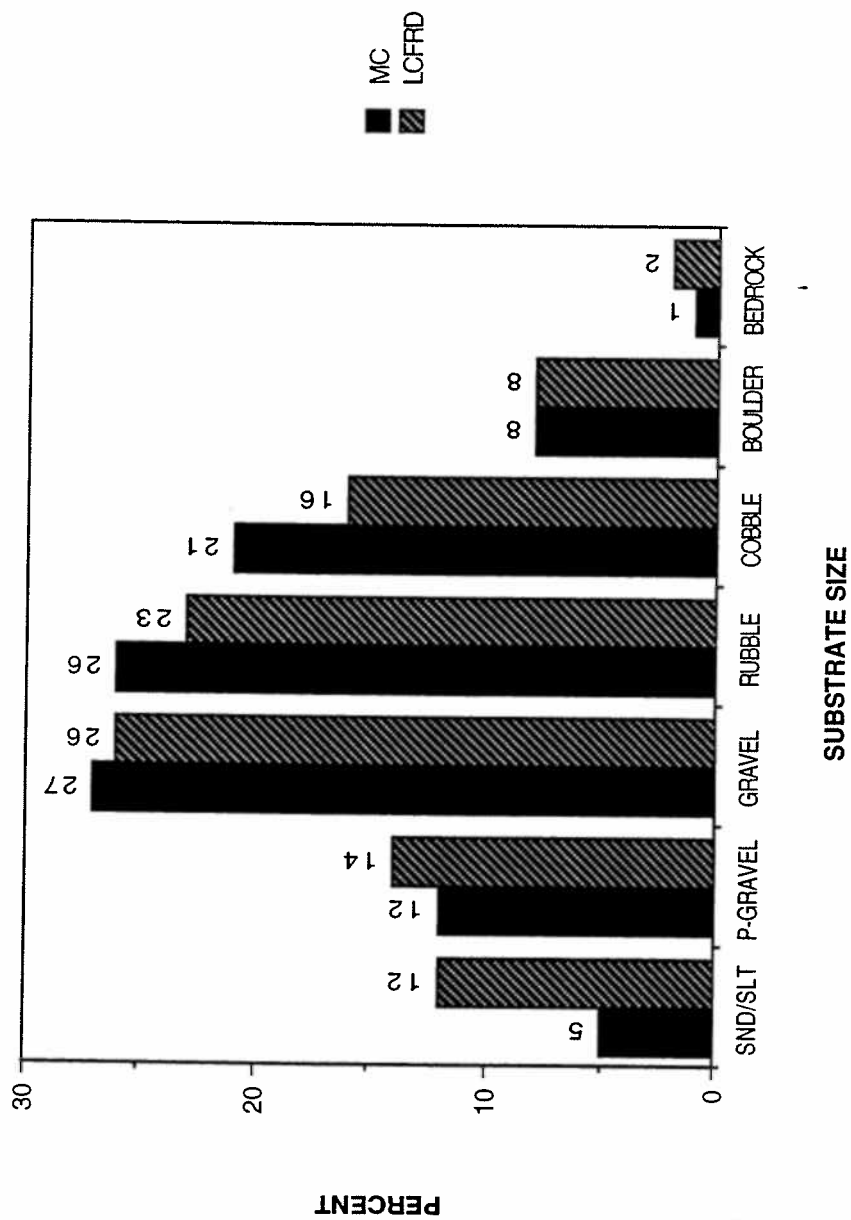


Figure B-274. Percent substrate composition. Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

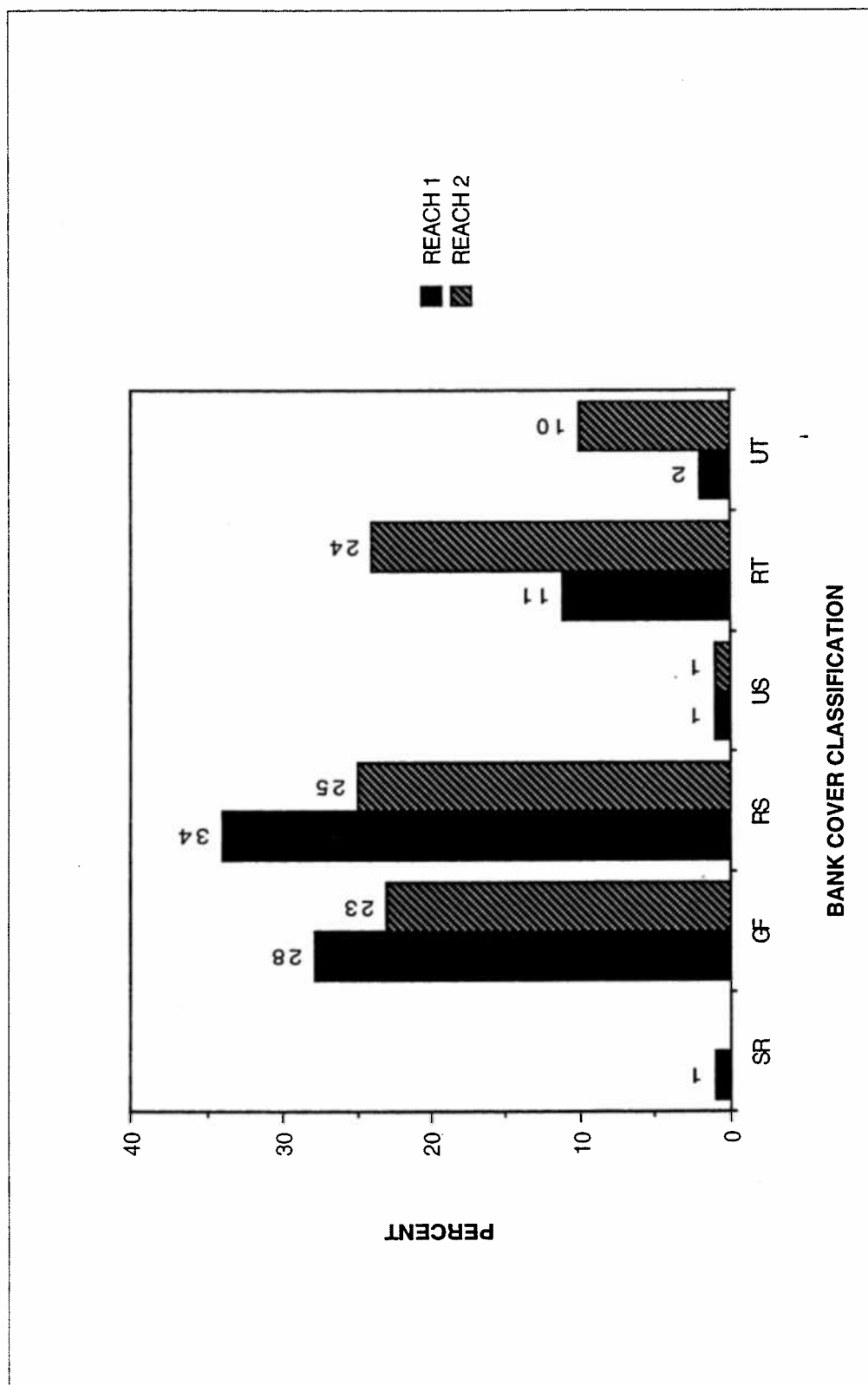


Figure B-275. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Marten Creek, Montana. Tributary survey, 1992-1994.

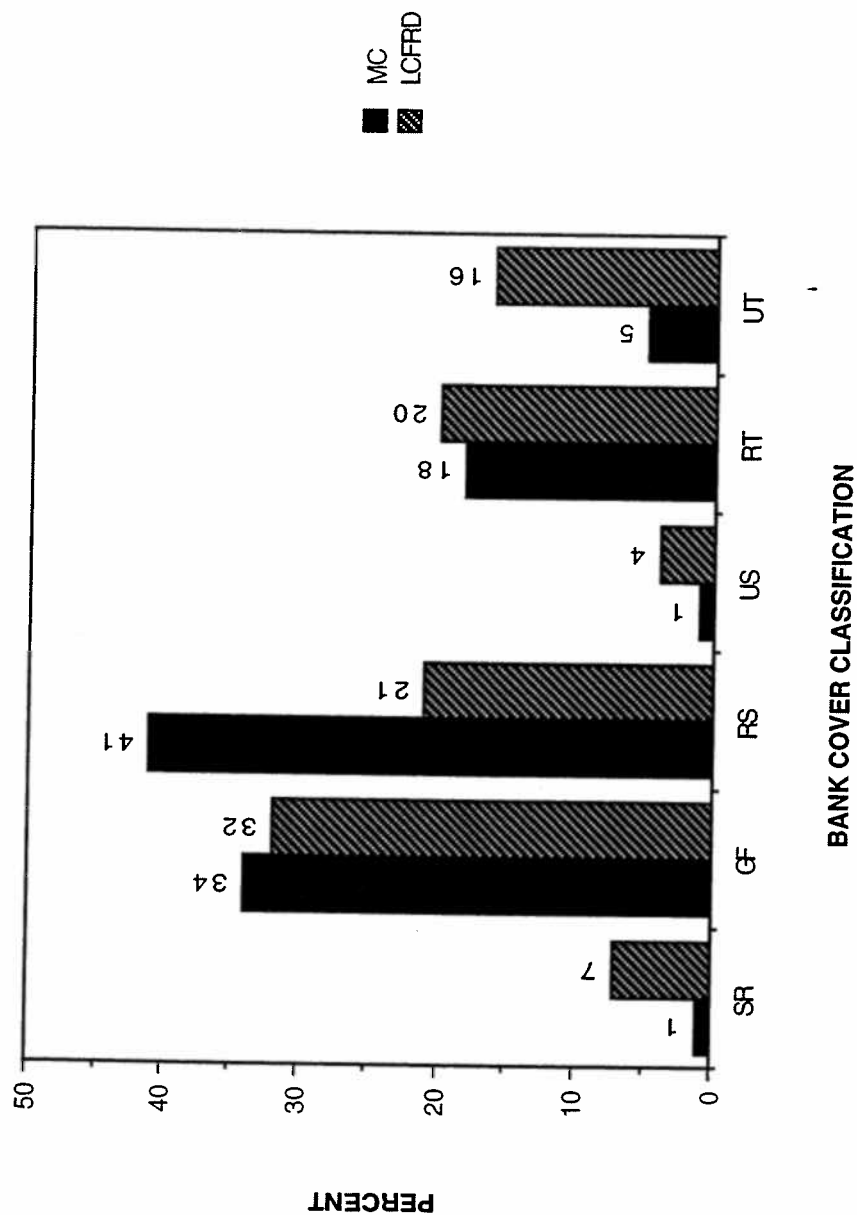


Figure B-276. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

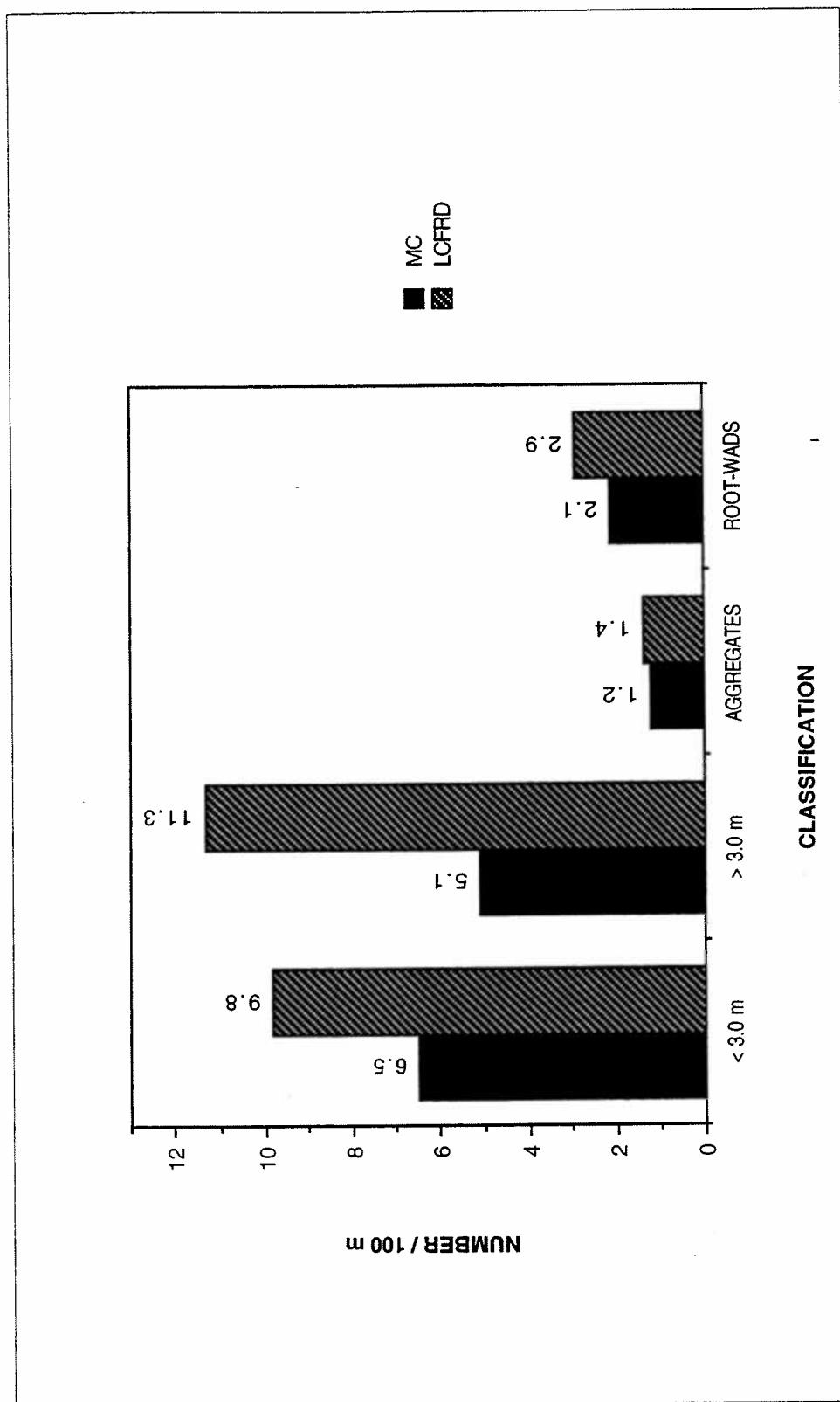


Figure B-277. Large woody debris by classification. Mainstem Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

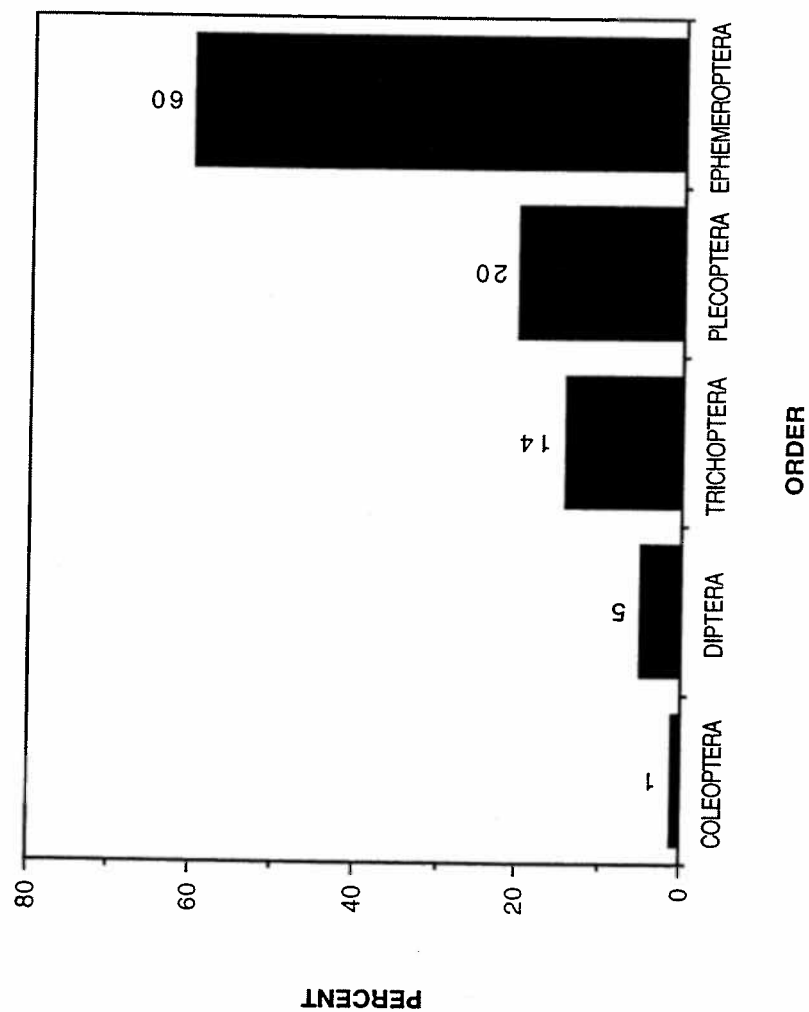


Figure B-278. Percent composition benthic invertebrate population by taxonomic order. Marten Creek, Montana. Tributary survey, 1992-1994.

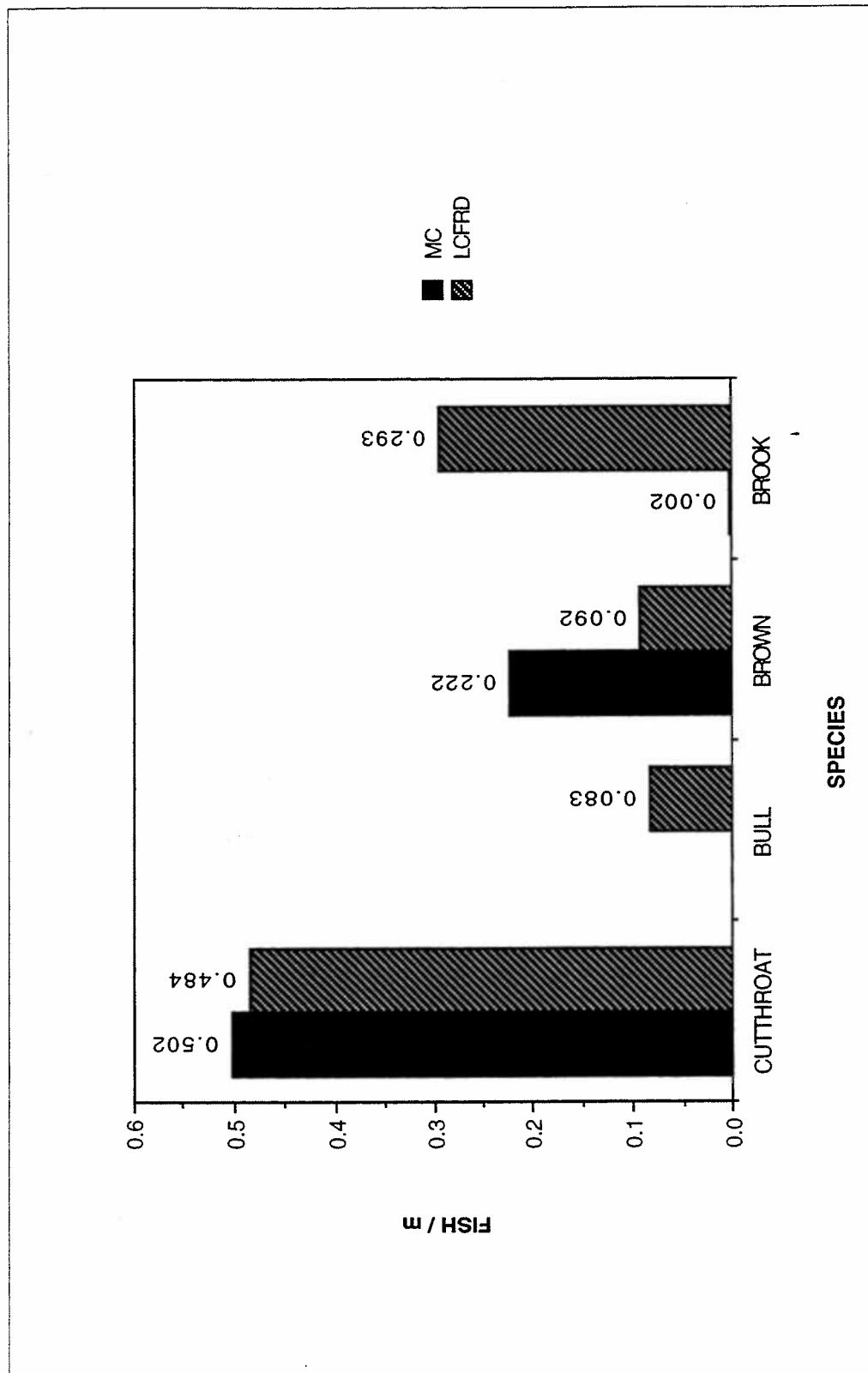


Figure B-279. Estimated densities of cutthroat, bull, brown, and brook trout. Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

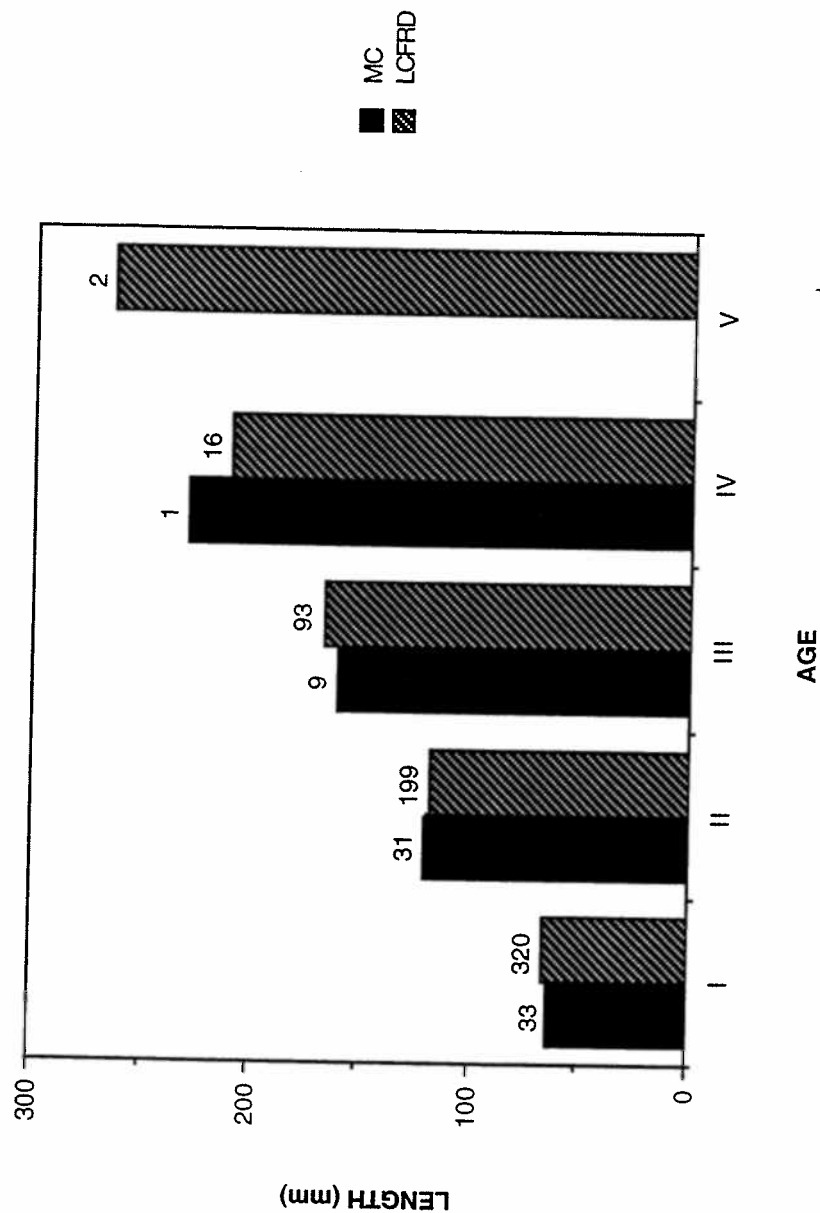


Figure B-280. Number of fish sampled and back calculated length at age for cutthroat trout. Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

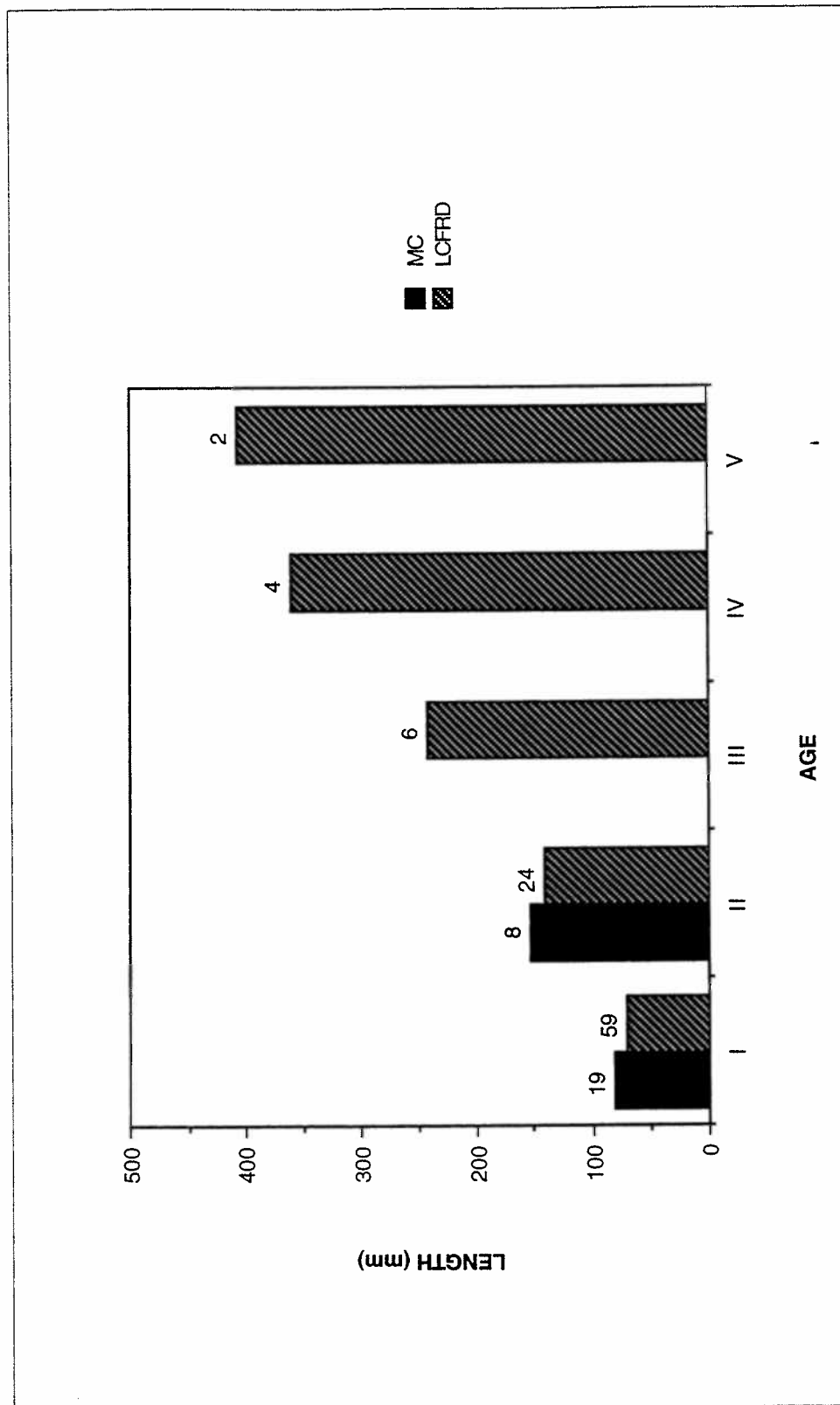


Figure B-281. Number of fish sampled and back calculated length at age for brown trout. Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

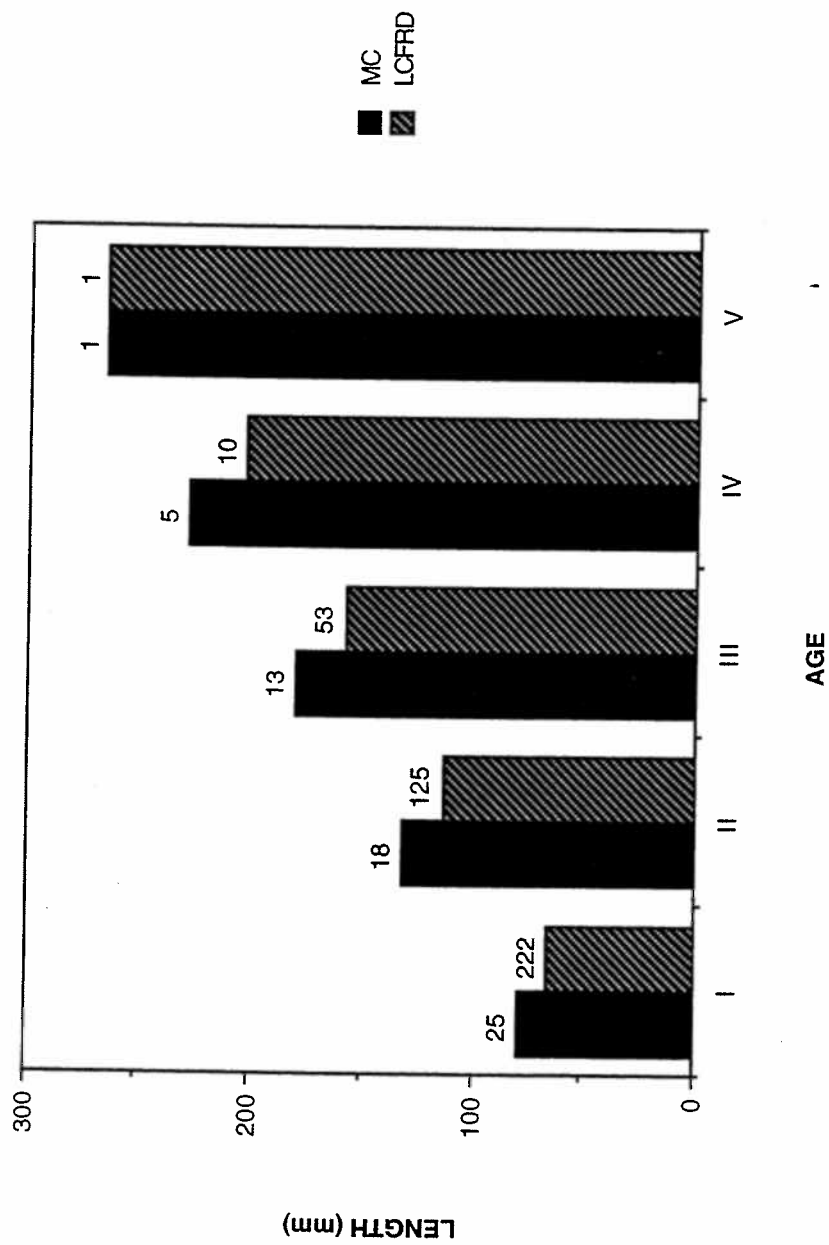


Figure B-282. Number of fish sampled and back calculated length at age for brook trout. Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

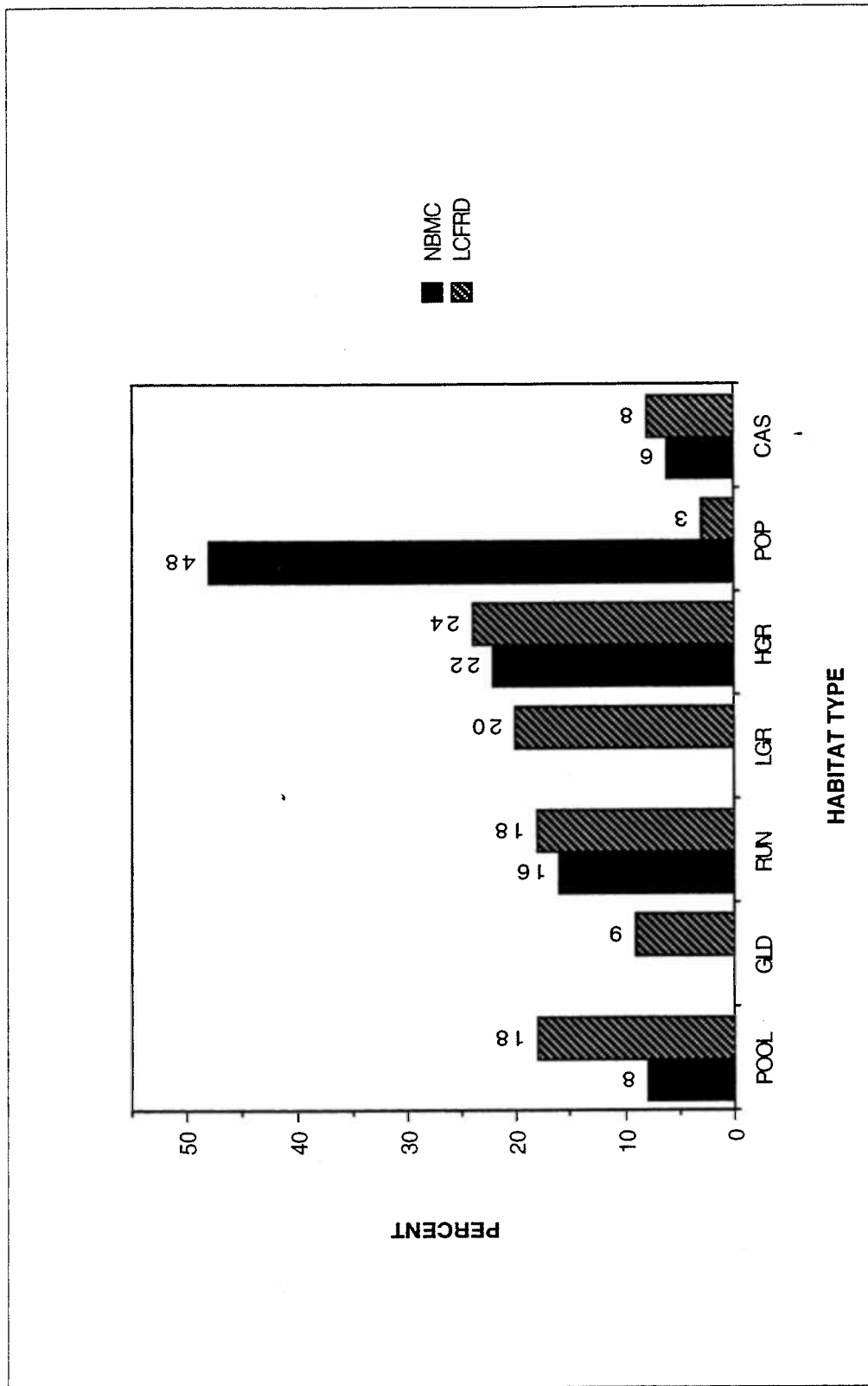


Figure B-283. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. North Branch Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

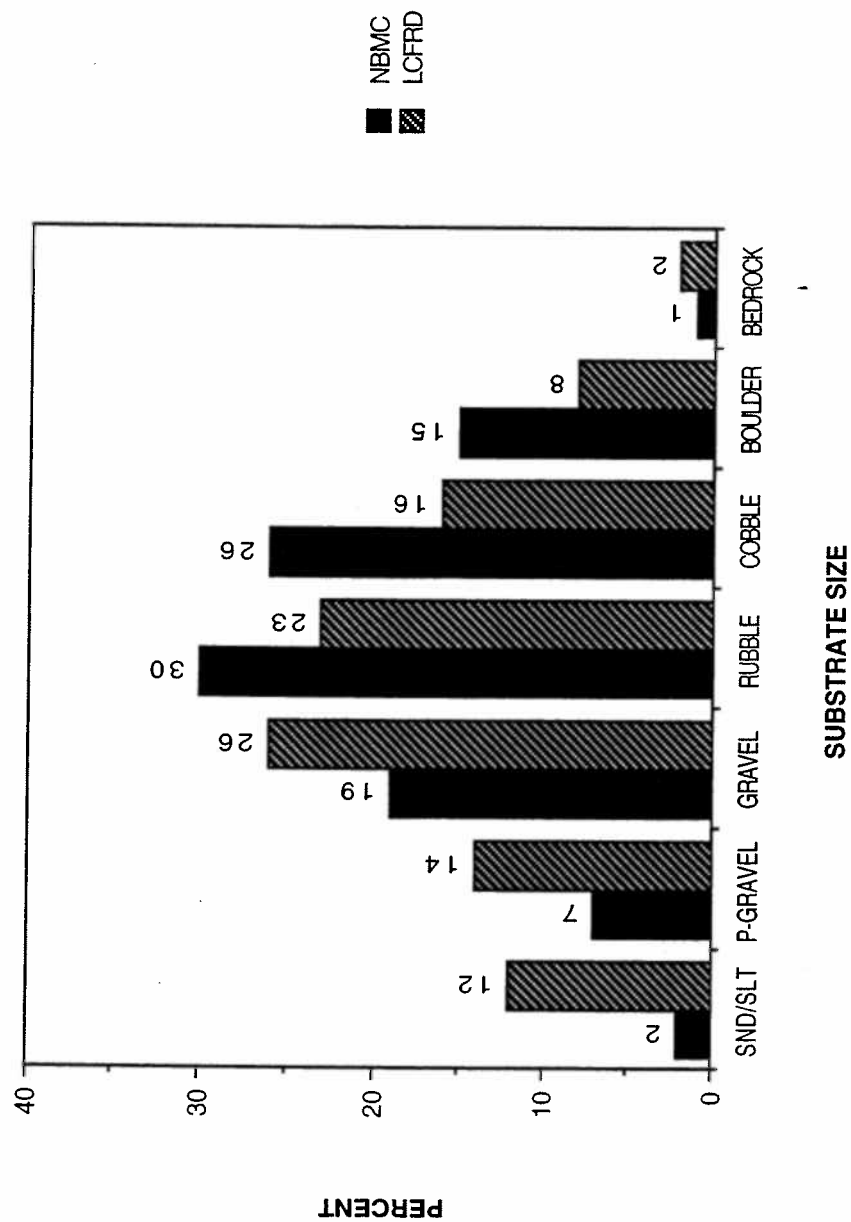


Figure B-284. Percent substrate composition. North Branch Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

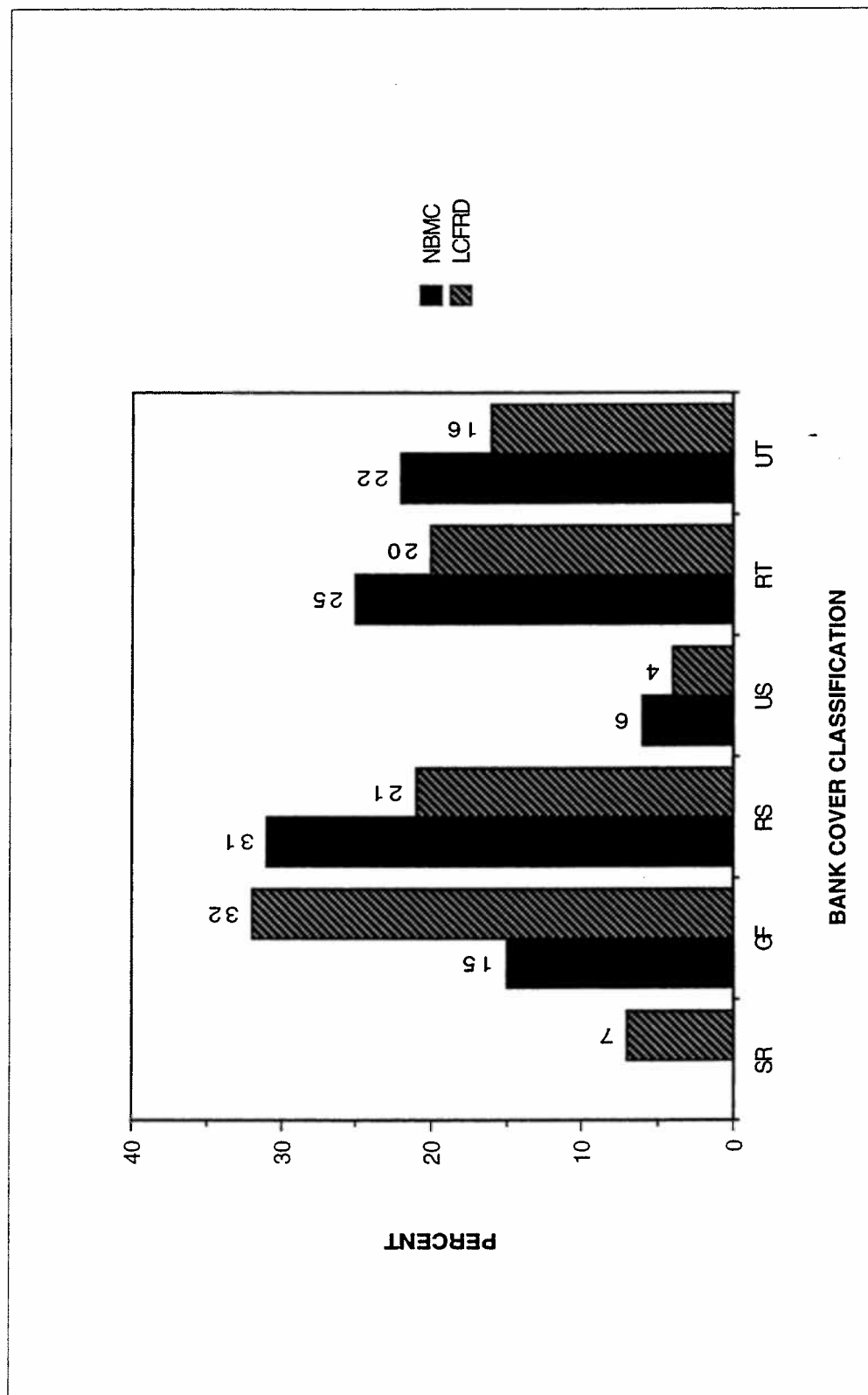


Figure B-285. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). North Branch Marten Creek, Montana. Tributary survey, 1992-1994.

Data from "LWD DATA"

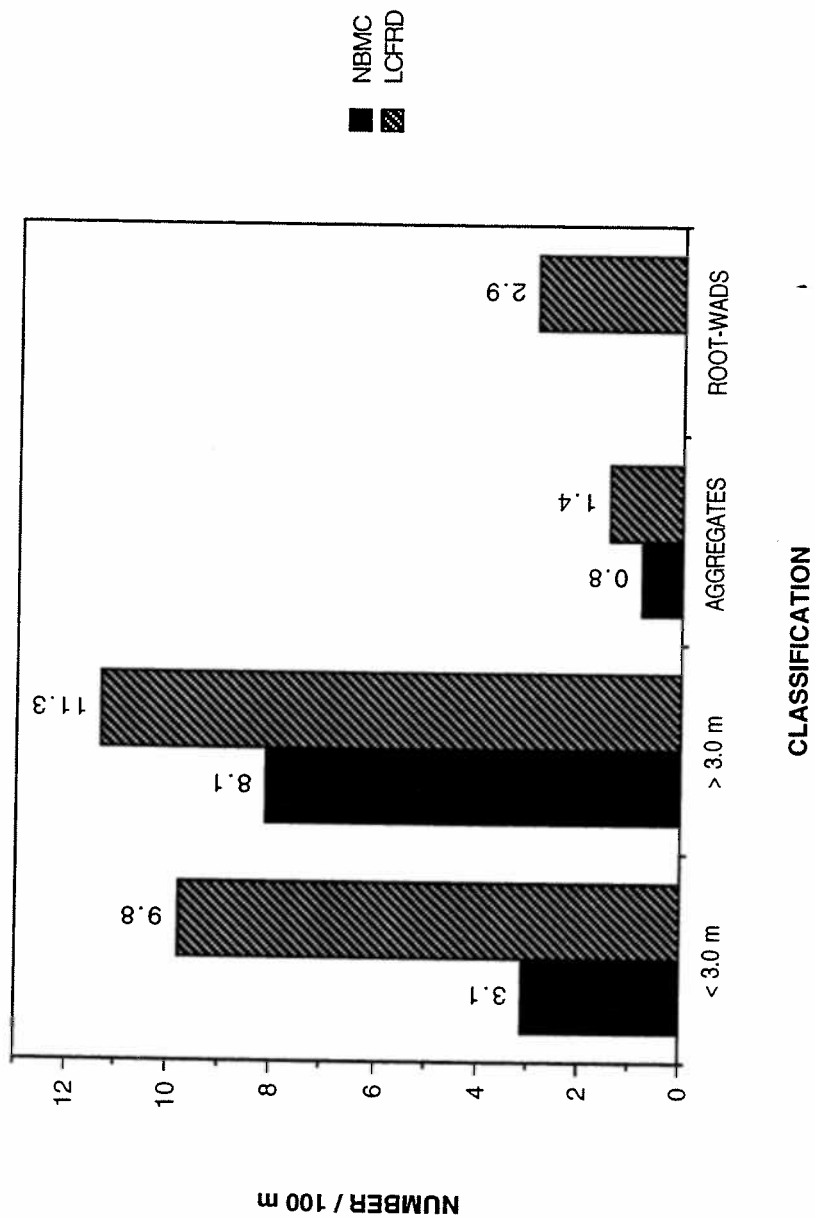


Figure B-286. Large woody debris by classification. North Branch Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

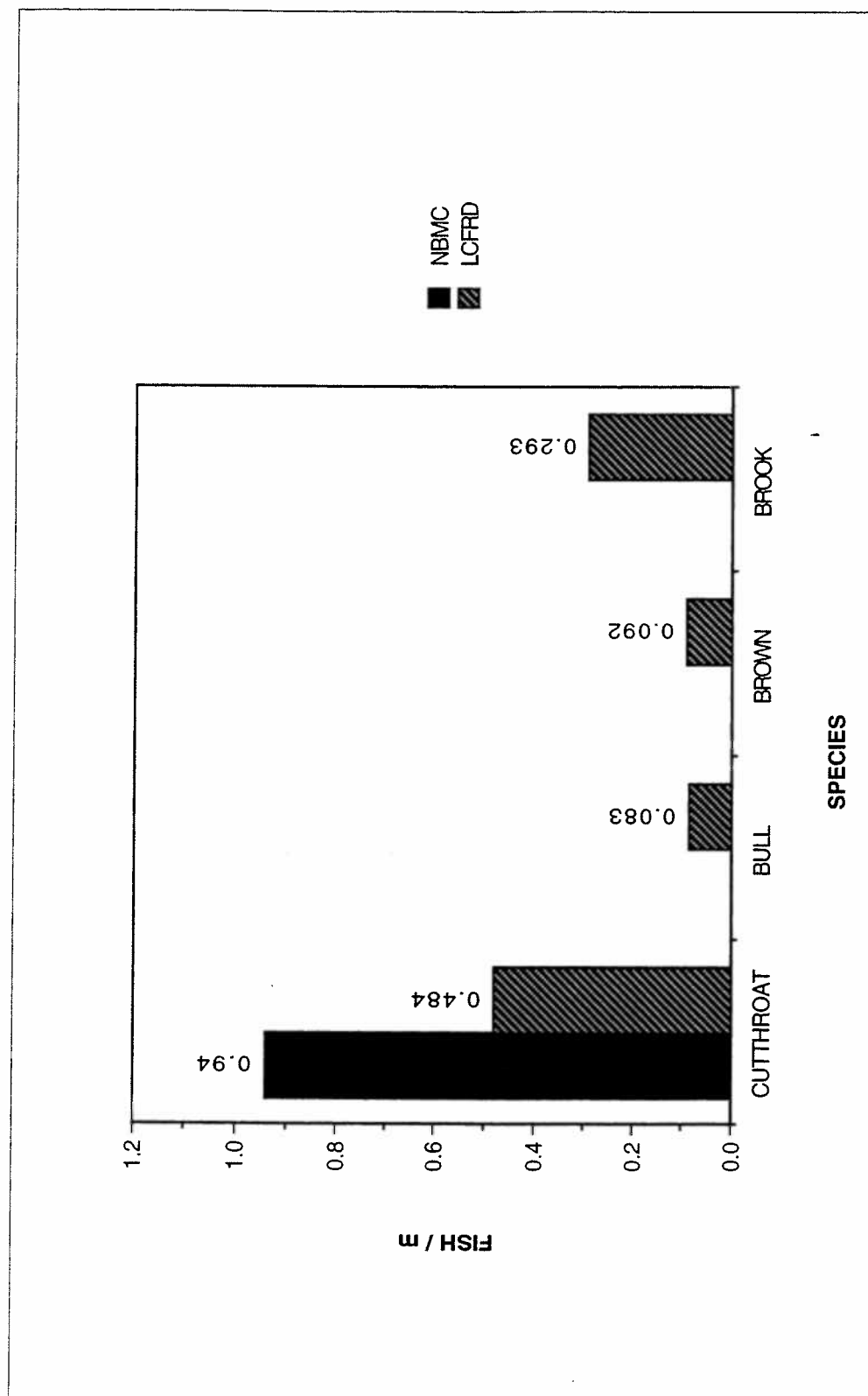


Figure B-287. Estimated densities of cutthroat, bull, brown, and brook trout. North Branch Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

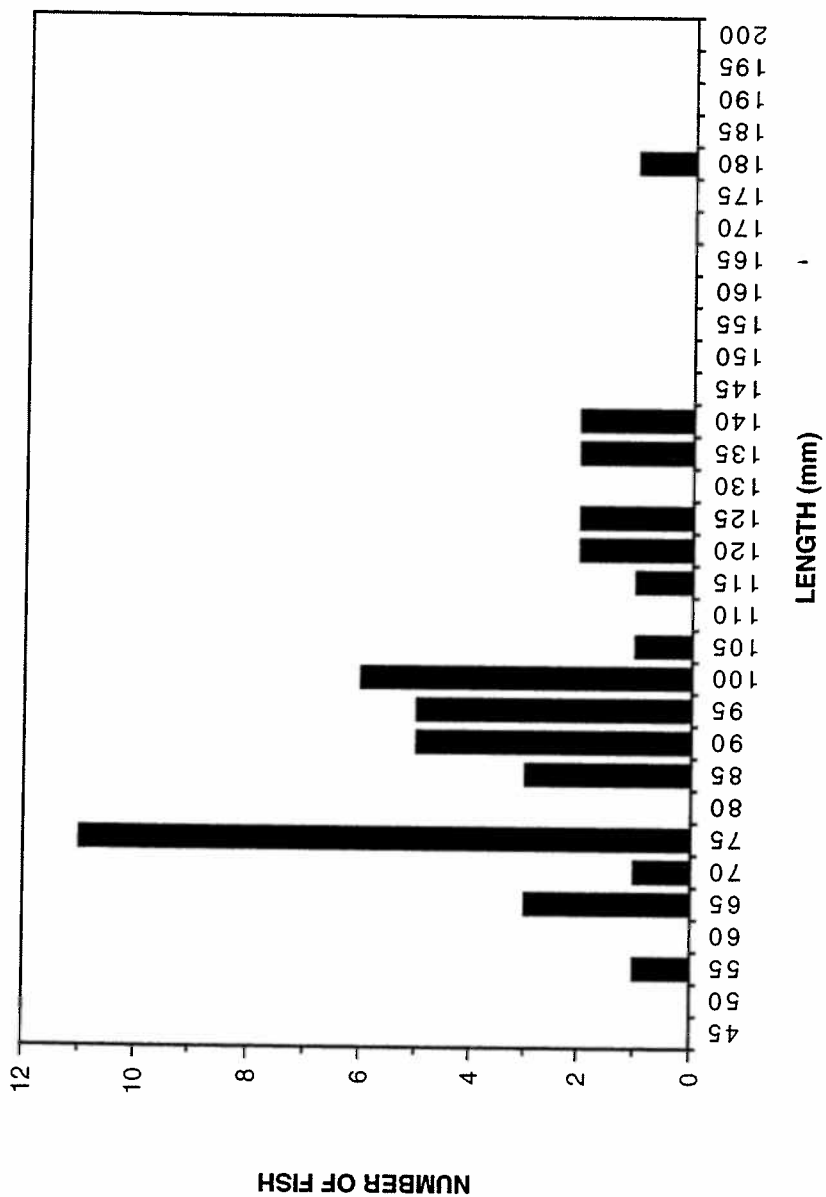


Figure B-288. Length frequency distribution for cutthroat trout. North Branch Marten Creek, Montana. Tributary survey, 1992-1994.

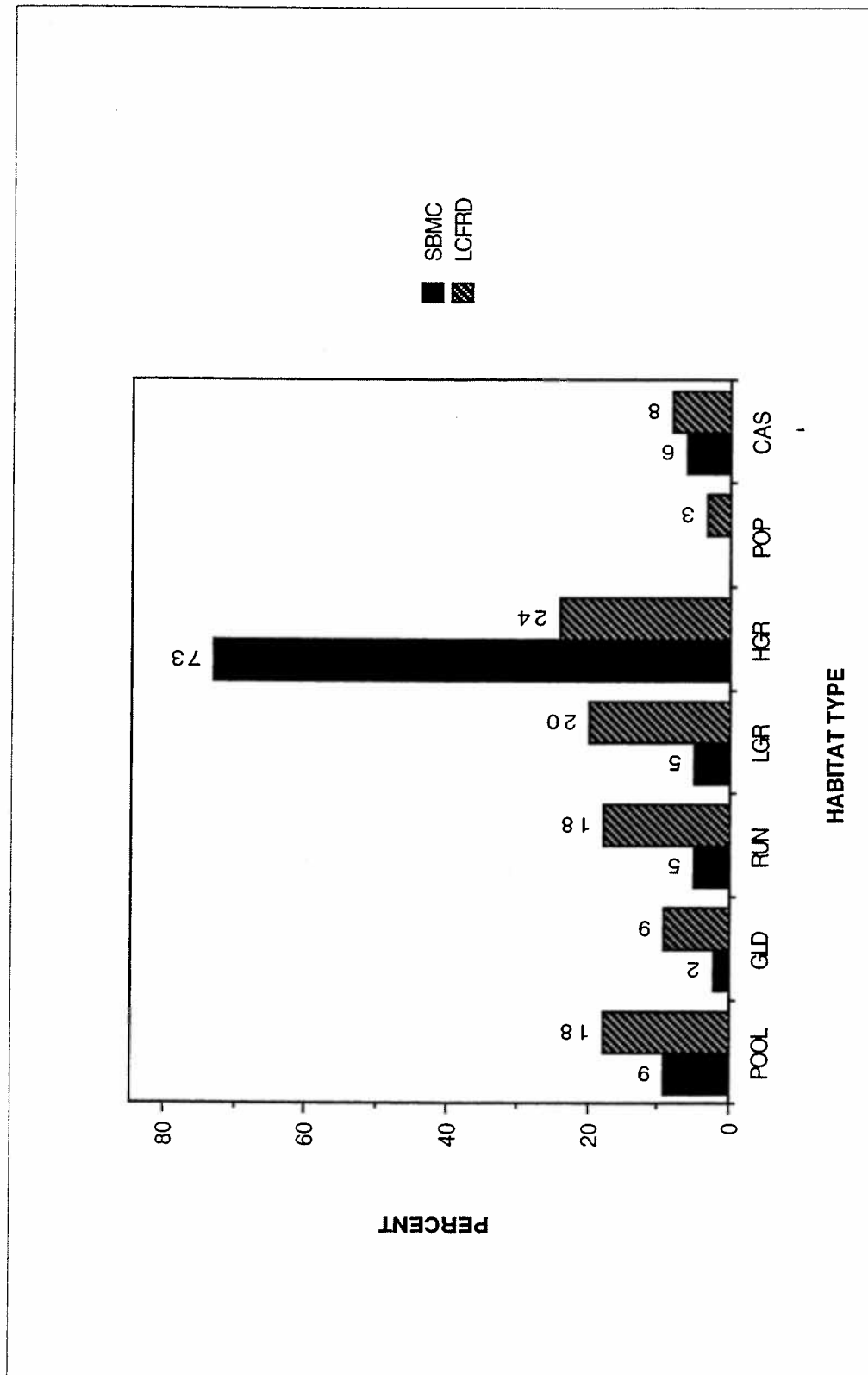


Figure B-289. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. South Branch Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

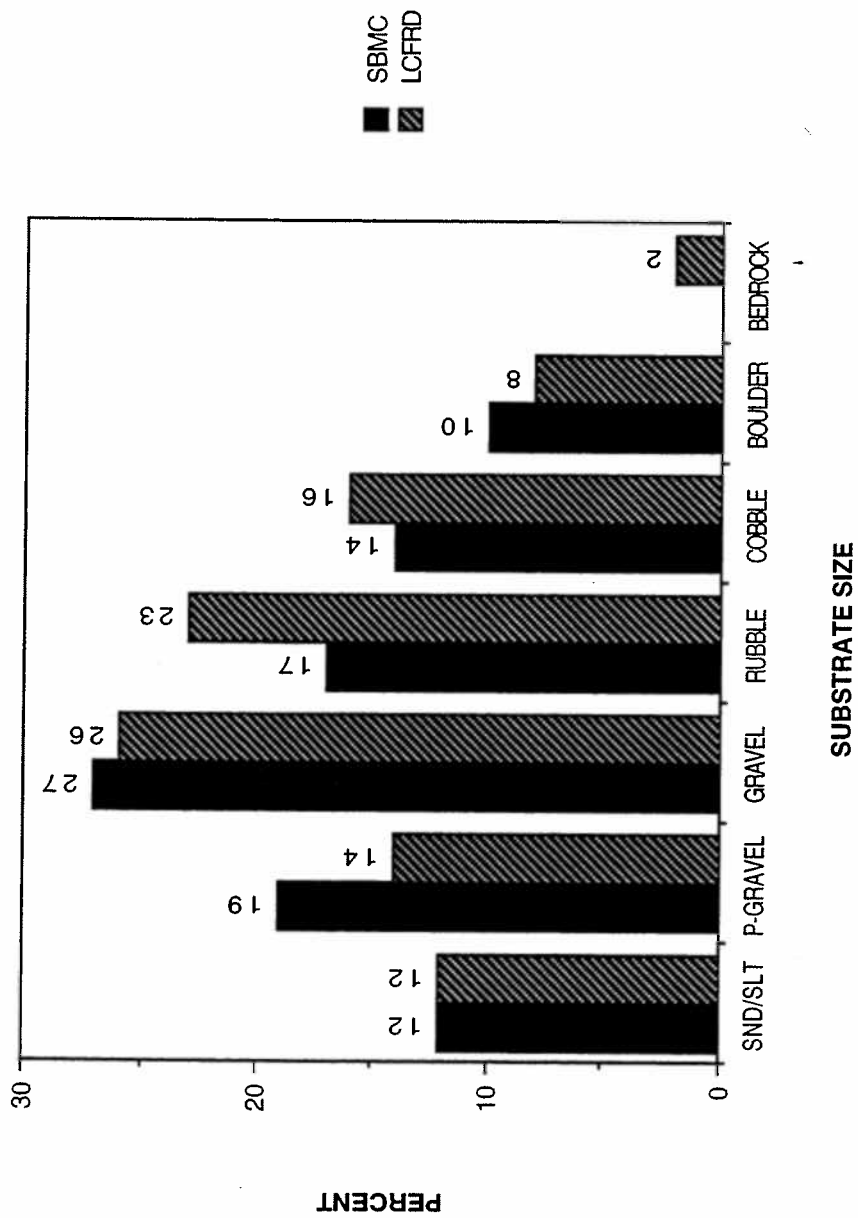


Figure B-290. Percent substrate composition. South Branch Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

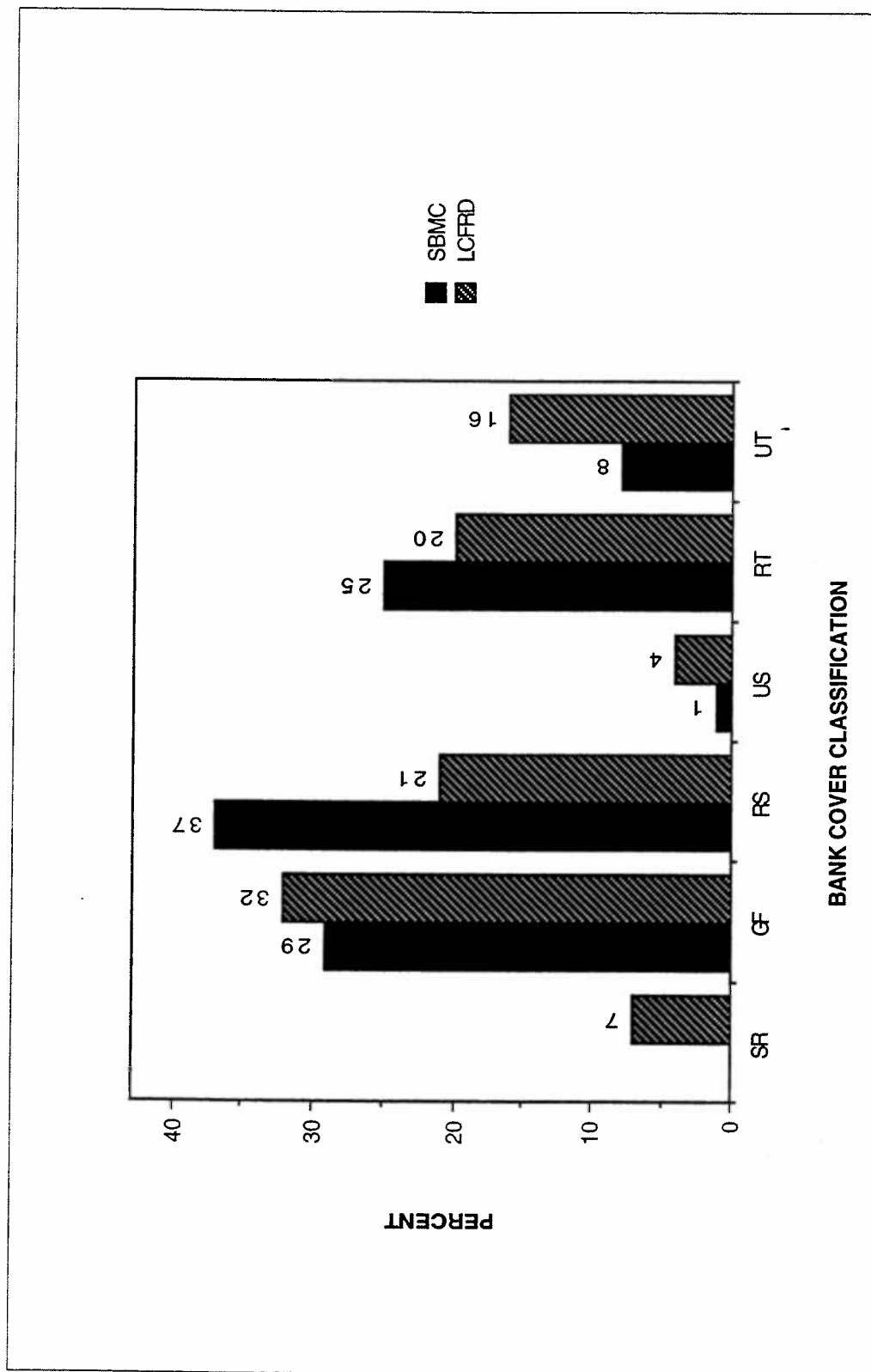


Figure B-291. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). South Branch Marten Creek, Montana. Tributary survey, 1992-1994.

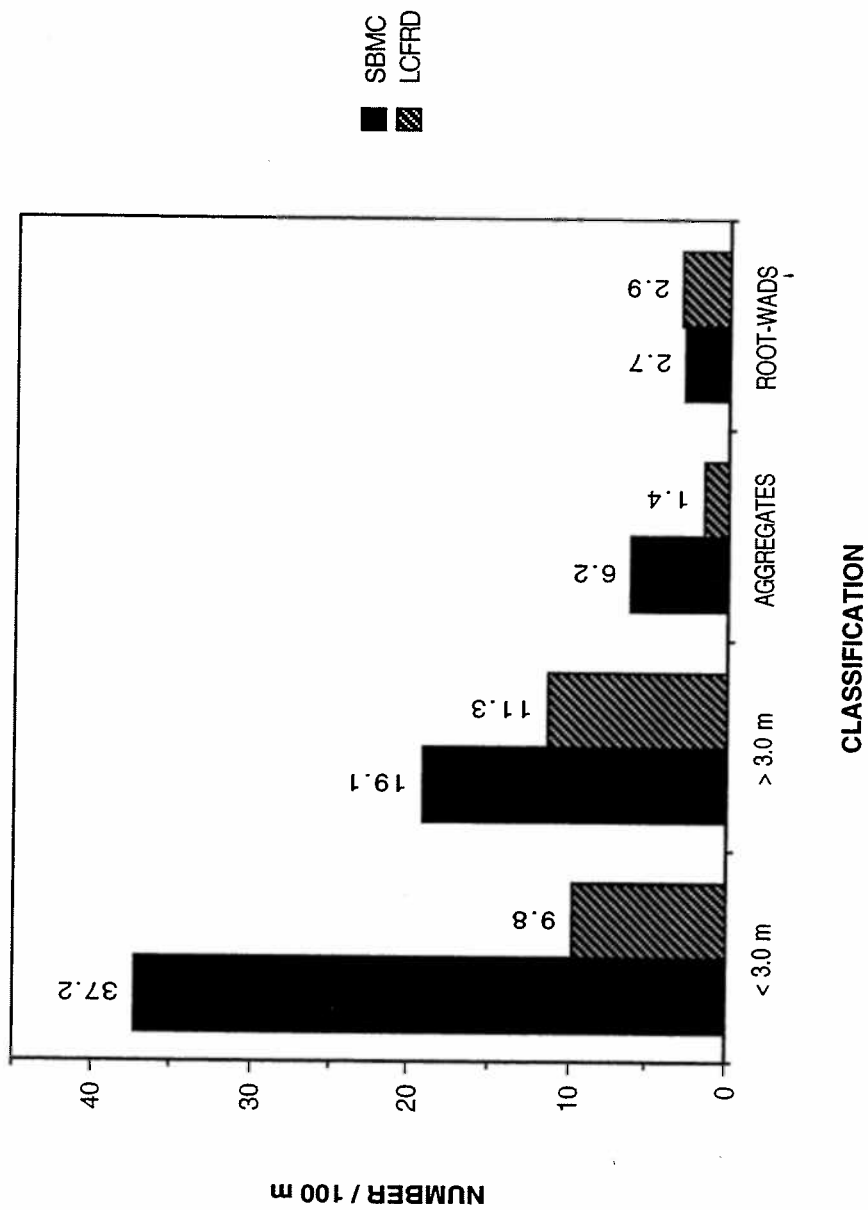


Figure B-292. Large woody debris by classification. South Branch Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

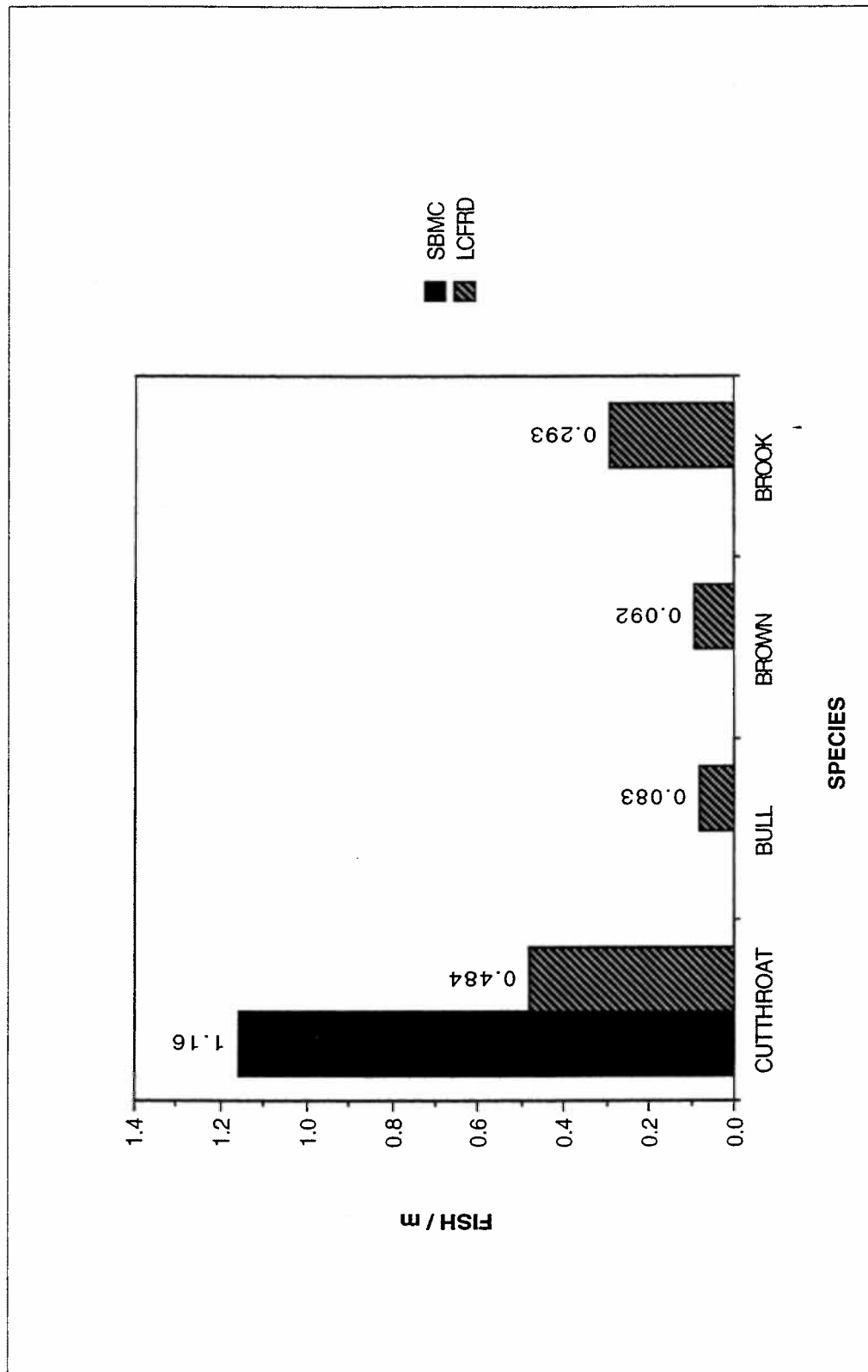


Figure B-293. Estimated densities of cutthroat, bull, brown, and brook trout. South Branch Marten Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

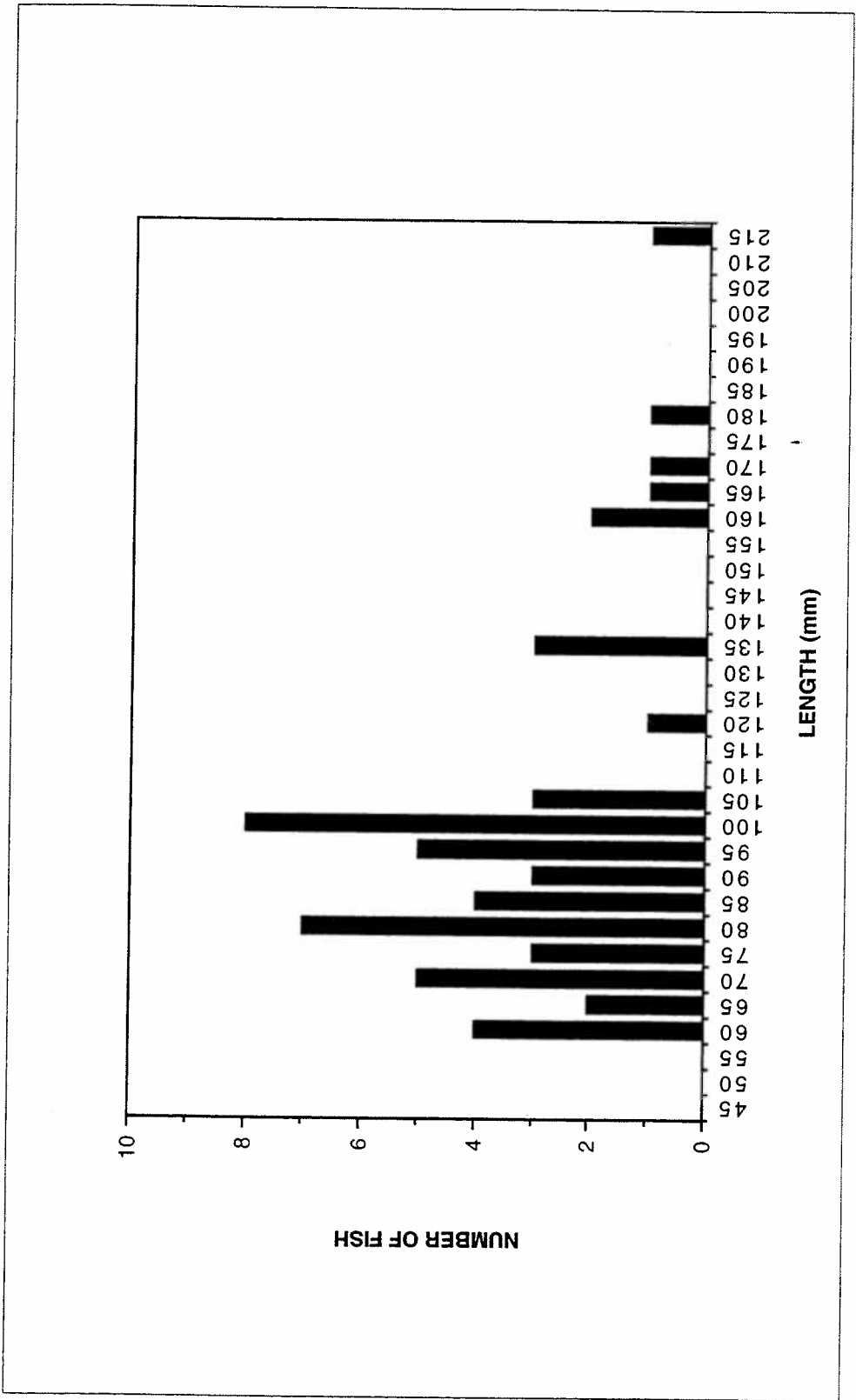


Figure B-294. Length frequency distribution for cutthroat trout. South Branch Marten Creek, Montana. Tributary survey, 1992-1994.

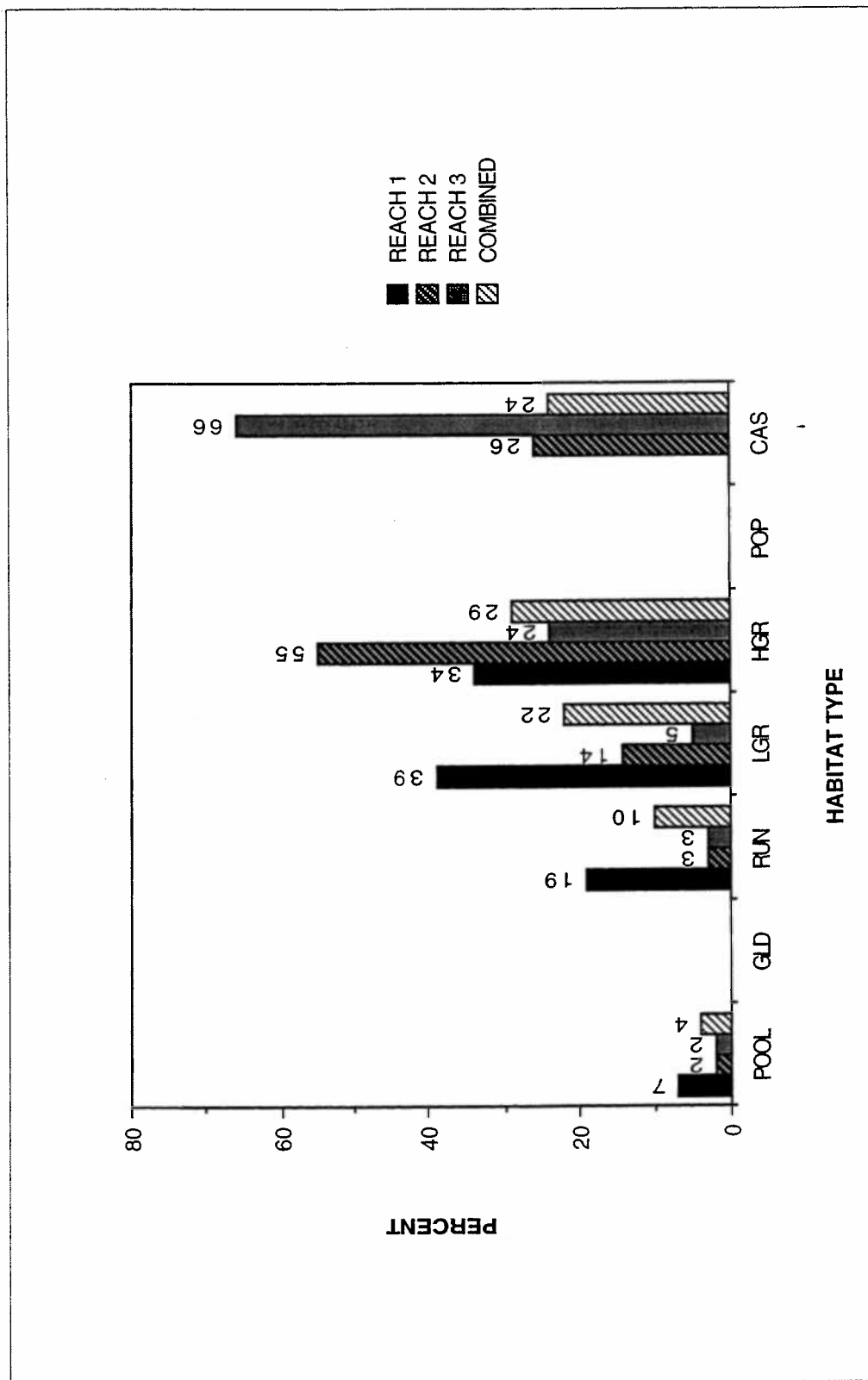


Figure B-295. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), and pocket pool (POP) habitat types by stream reach. Graves Creek, Montana. Tributary survey, 1992-1994.

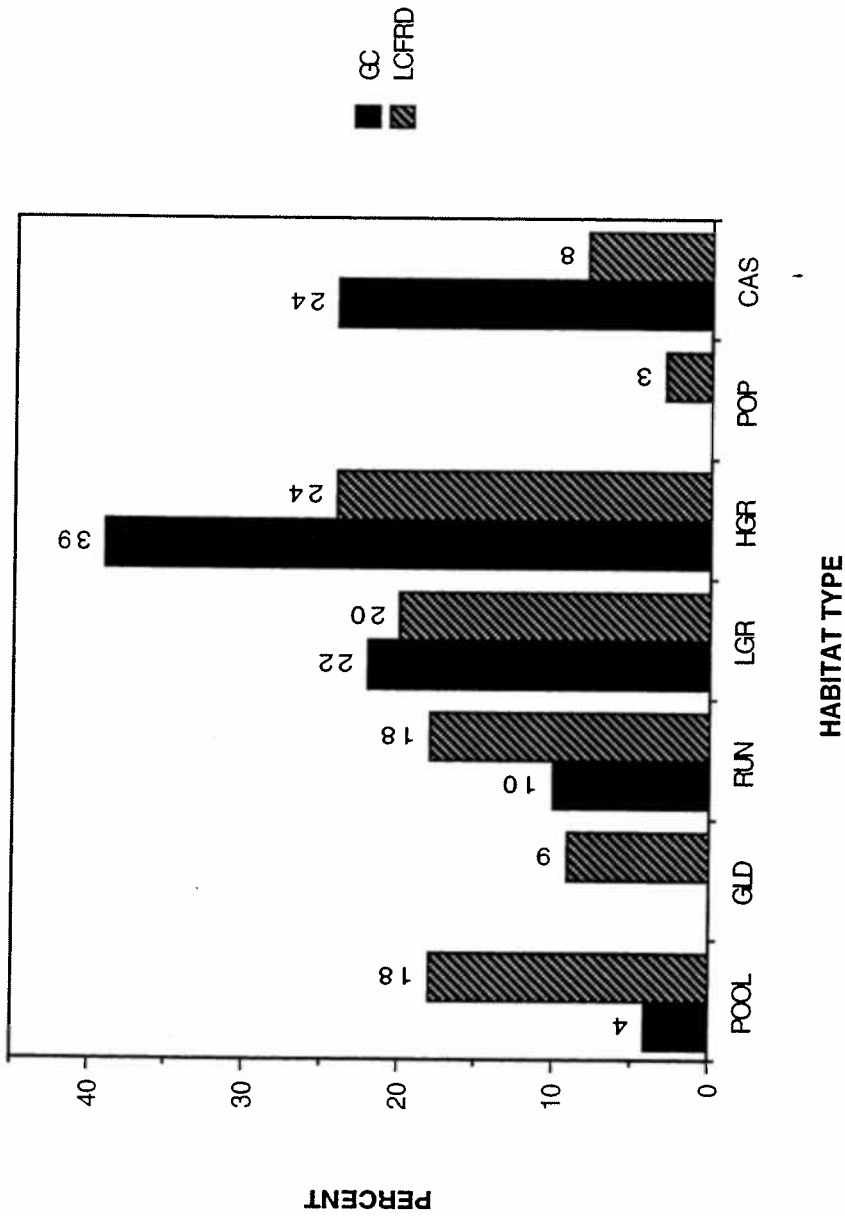


Figure B-296. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. Graves Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

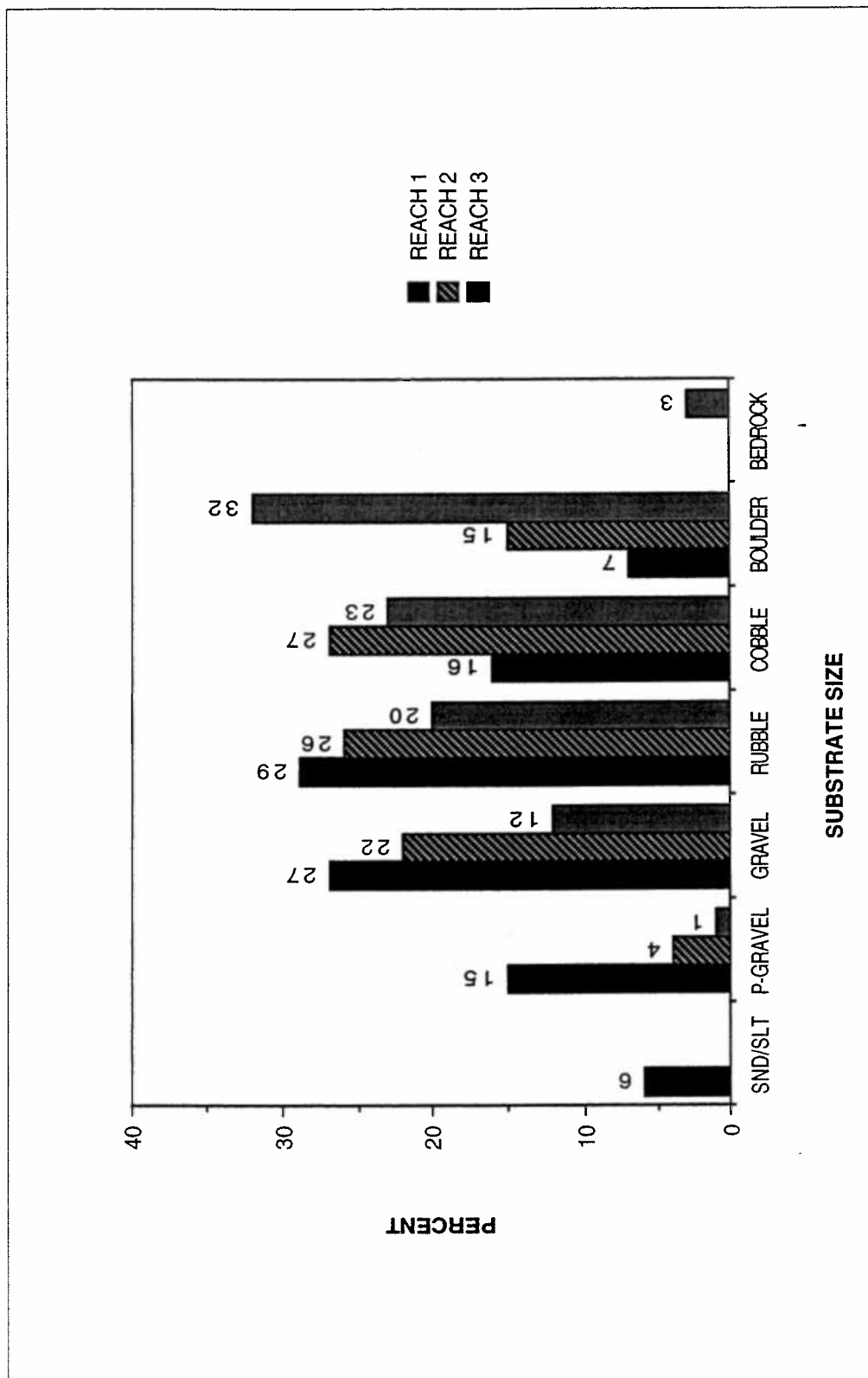


Figure B-297. Percent substrate composition by stream reach. Graves Creek, Montana. Tributary survey, 1992-1994.

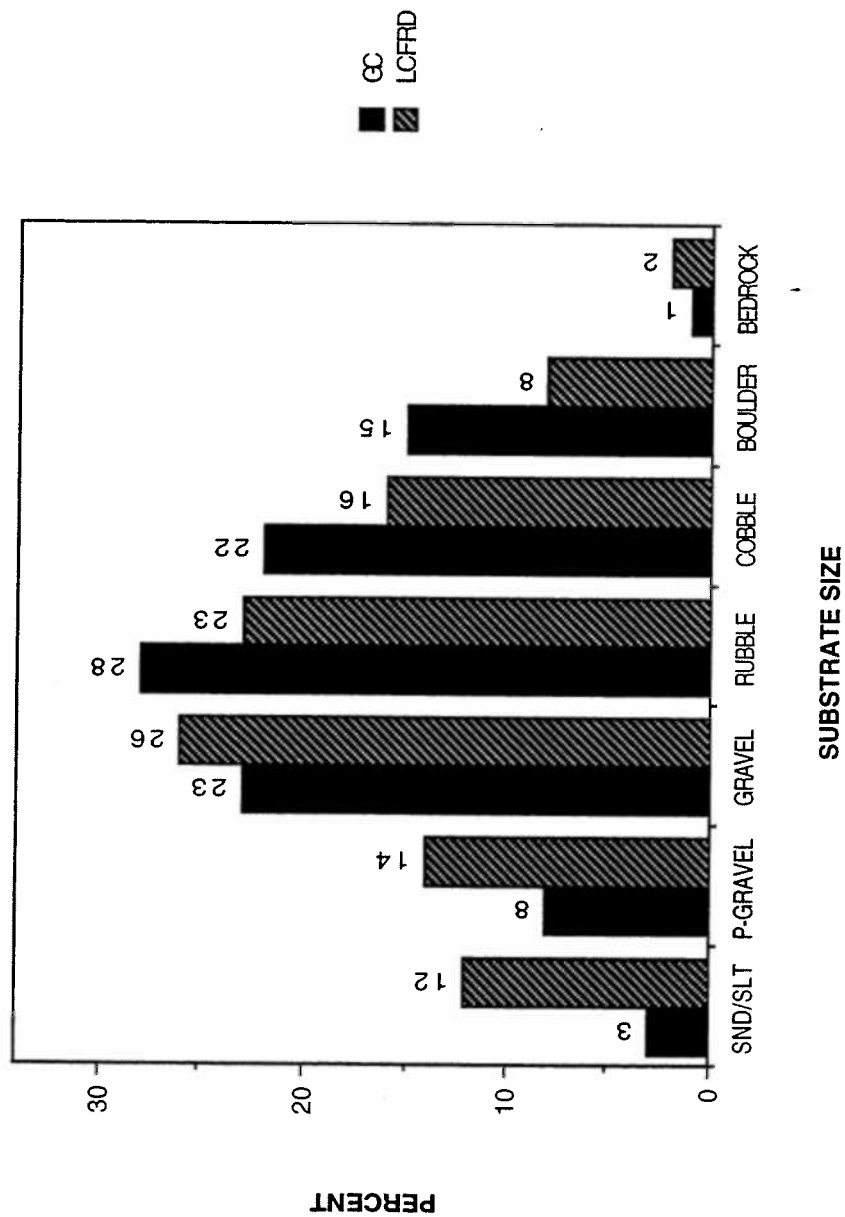


Figure B-298. Percent substrate composition. Graves Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

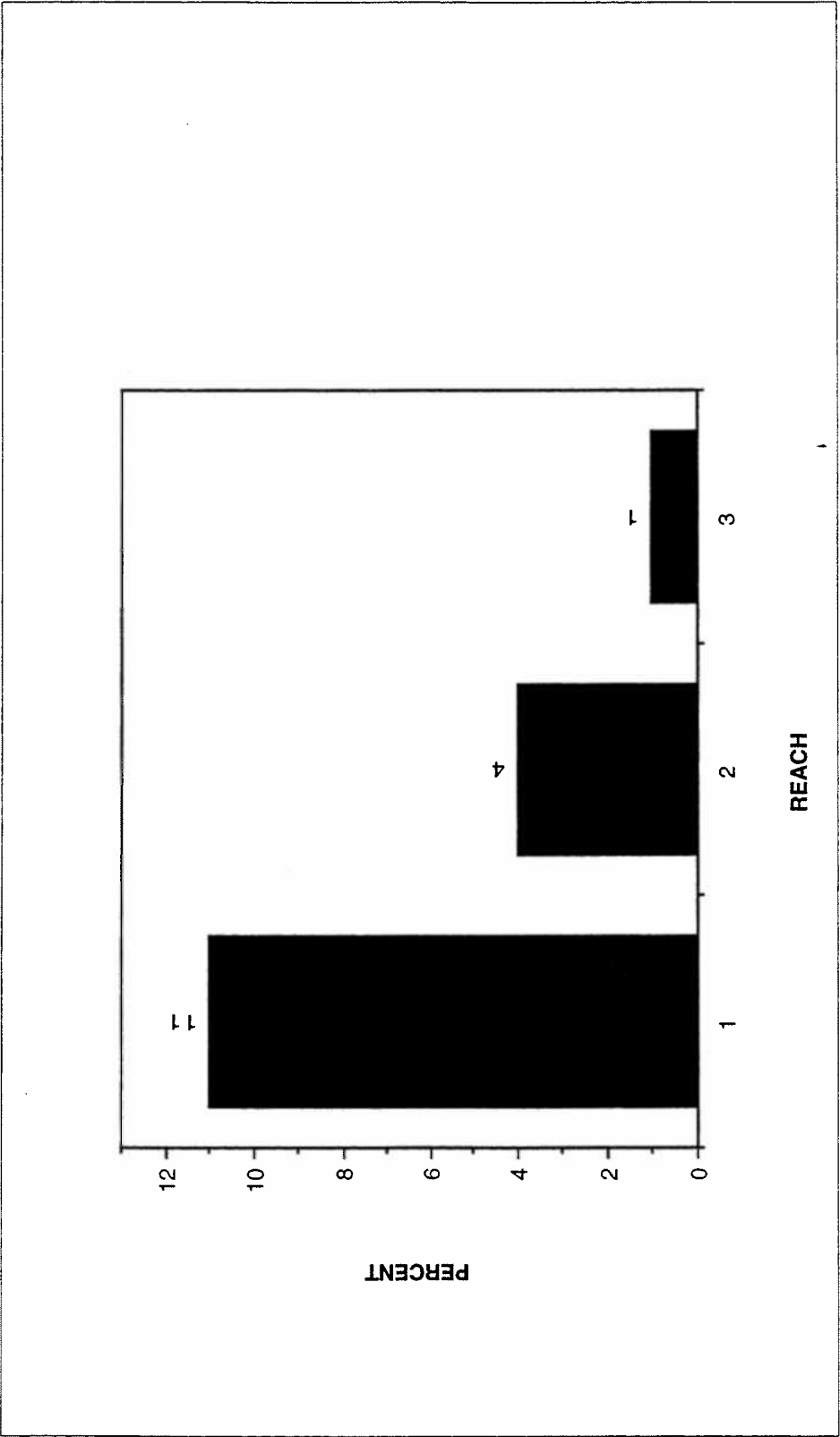


Figure B-299. Percent surface fines (<6.35 mm) by stream reach. Graves Creek Montana. Tributary survey, 1992-1994.

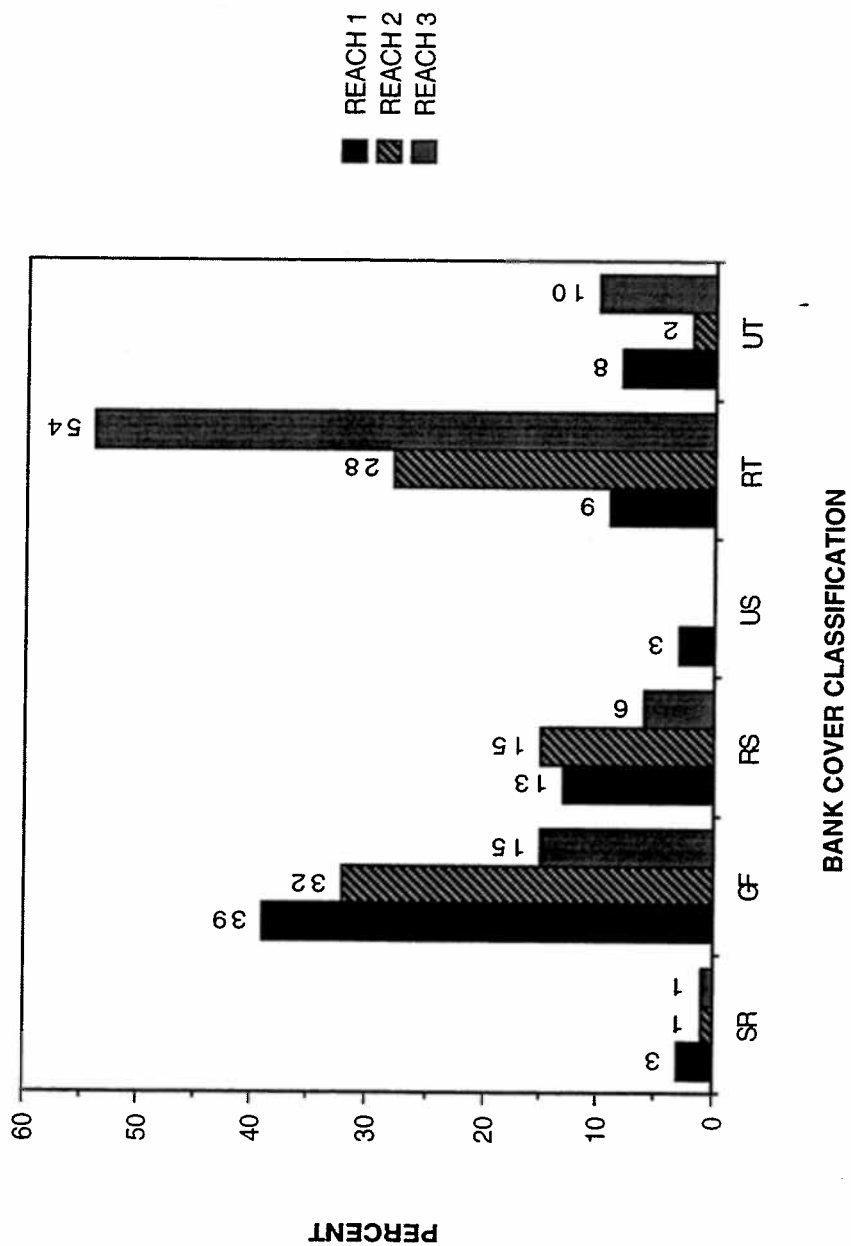


Figure B-300. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT), by stream reach. Graves Creek, Montana. Tributary survey 1992-1994.

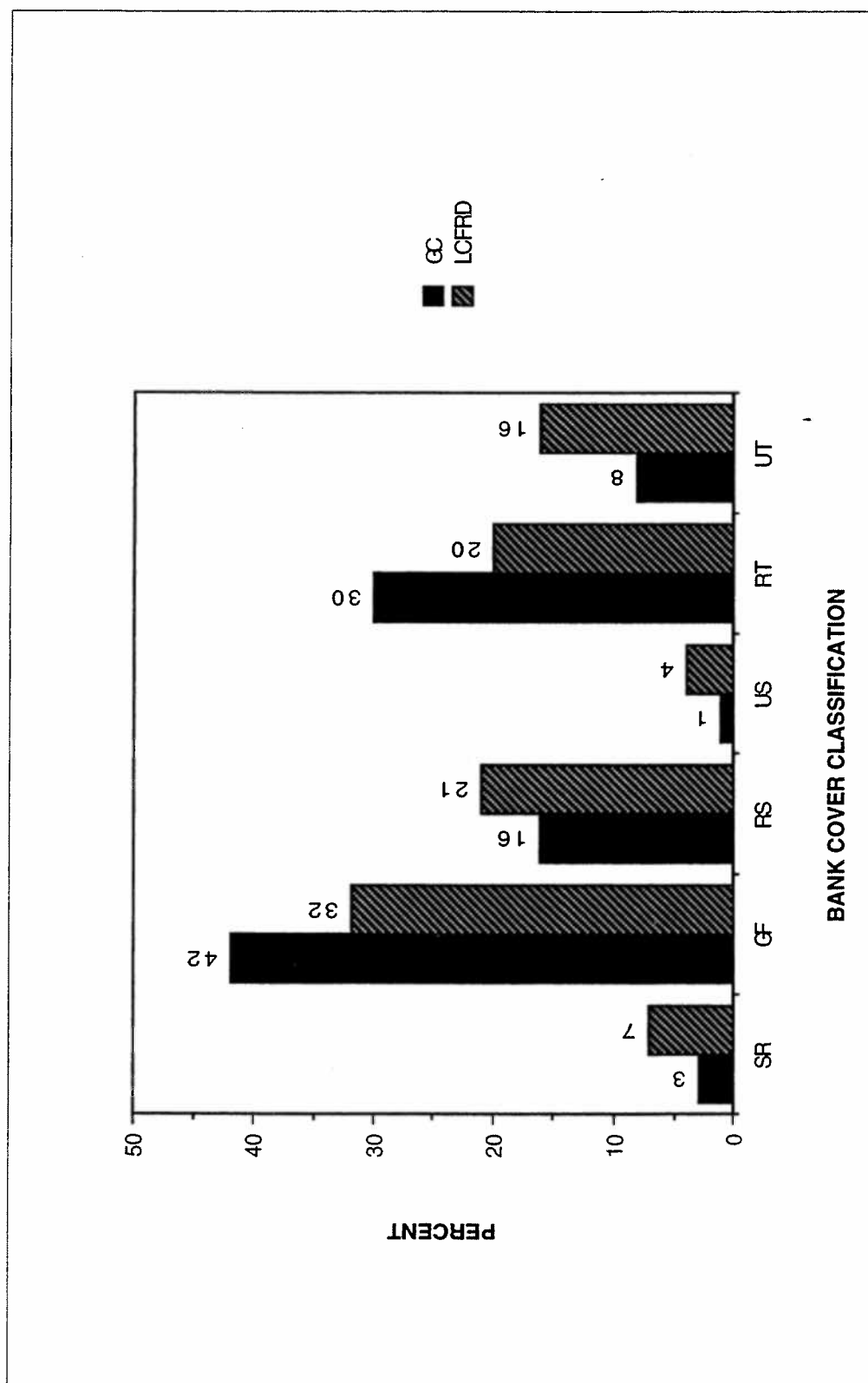


Figure B-301. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Graves Creek, Montana. Tributary survey, 1992-1994.

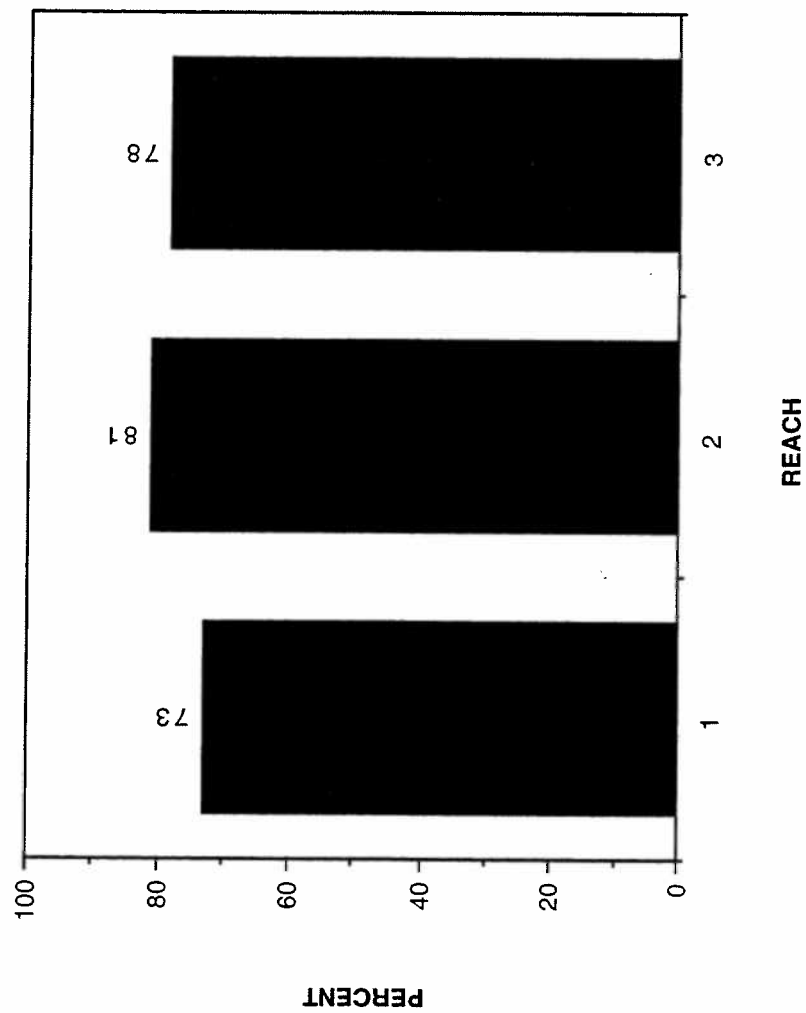


Figure B-302. Percent vegetated bank cover by stream reach. Graves Creek, Montana. Tributary survey, 1992-1994.

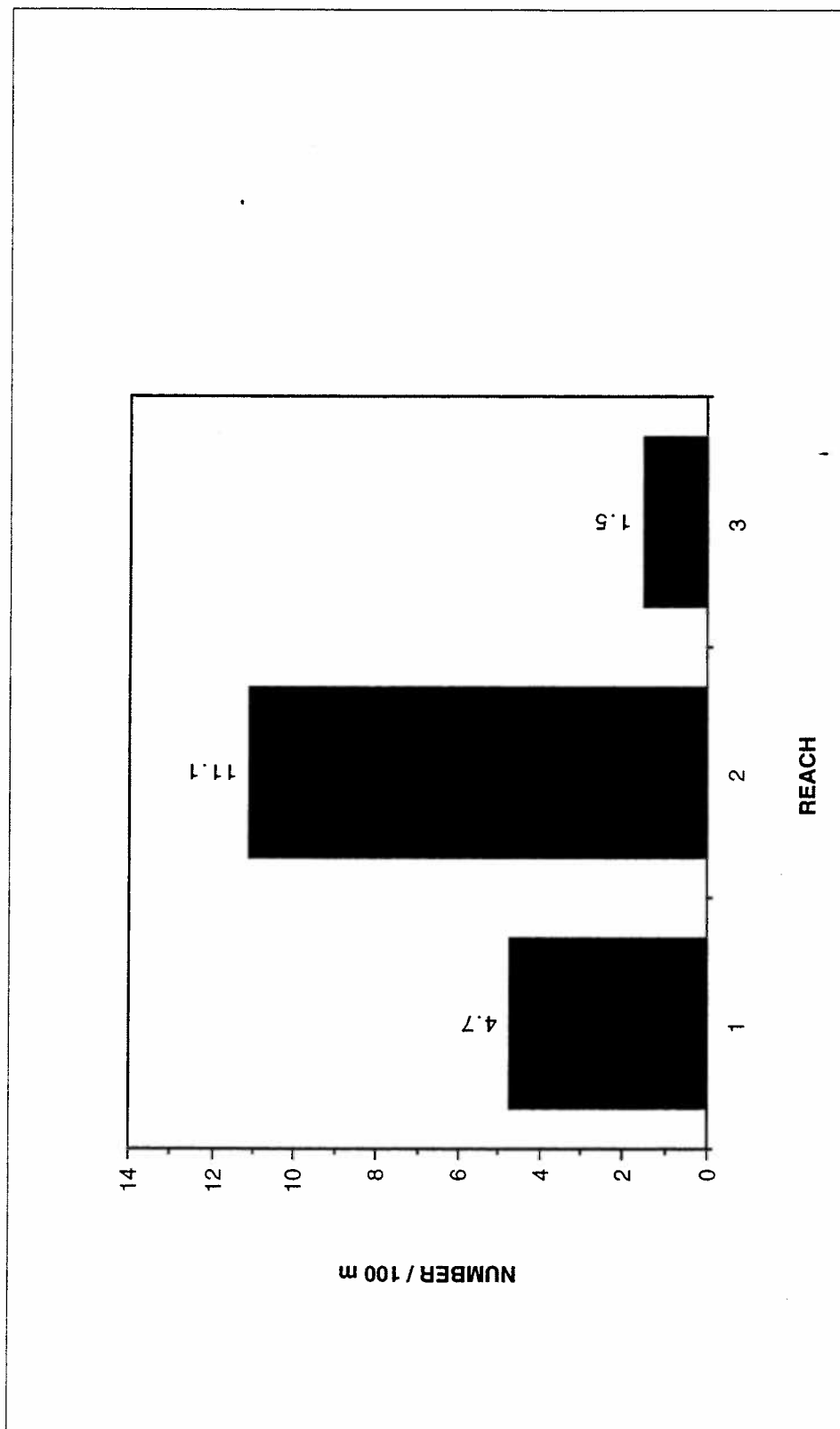


Figure B-303. Large woody debris <3.0 m in length. Graves Creek, Montana. Tributary survey, 1992-1994.

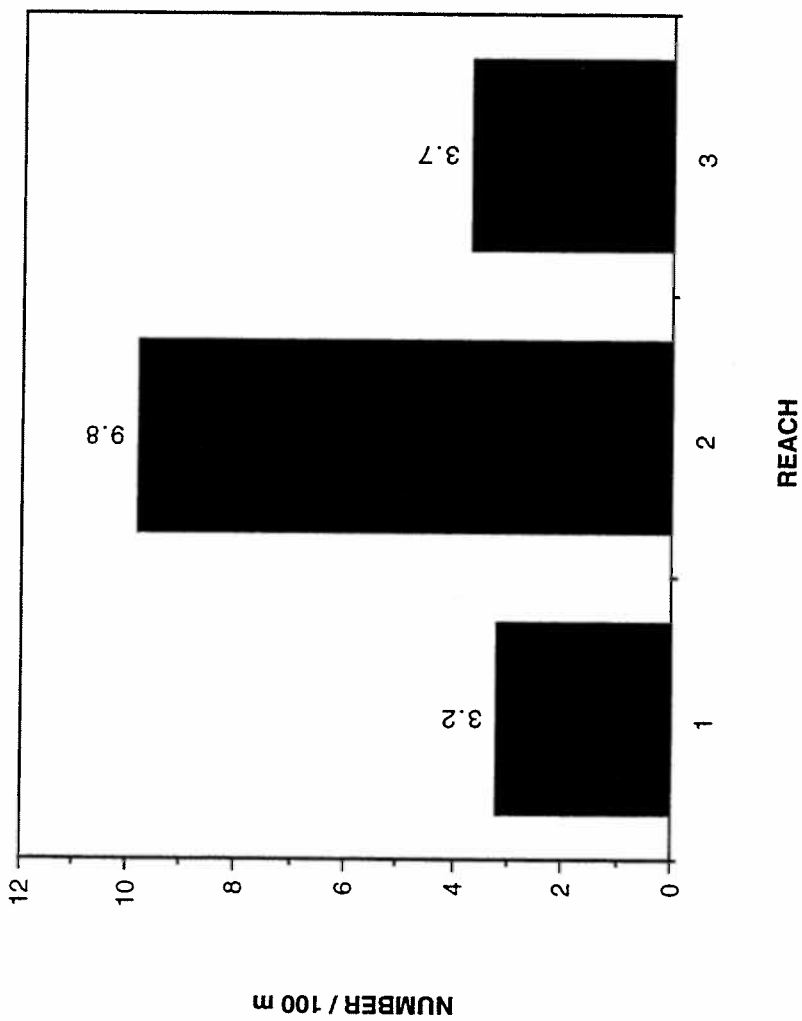


Figure B-304. Large woody debris >3.0 m in length. Graves Creek, Montana. Tributary survey, 1992-1994.

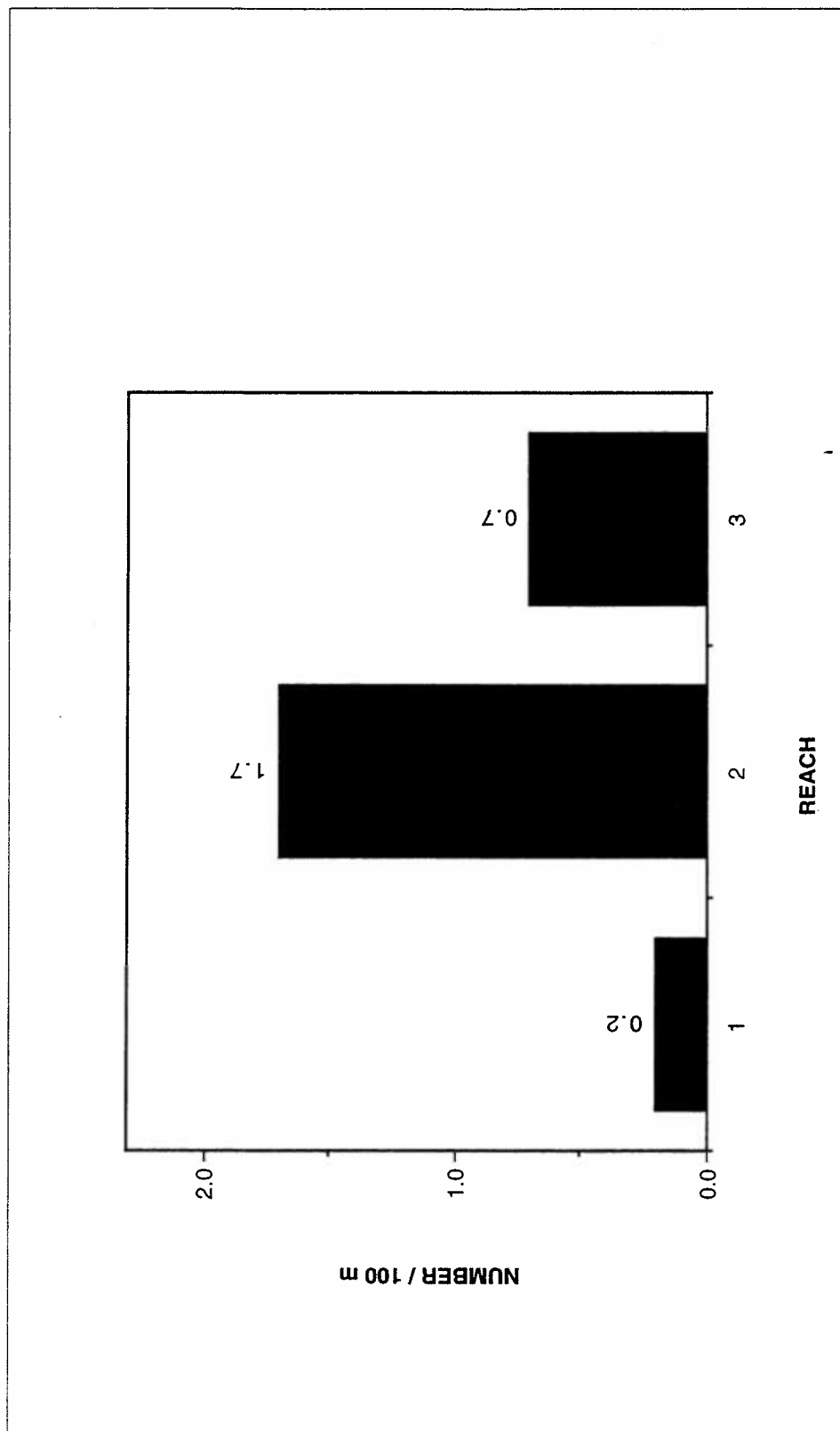


Figure B-305. Large woody debris aggregations. Graves Creek, Montana. Tributary survey, 1992-1994.

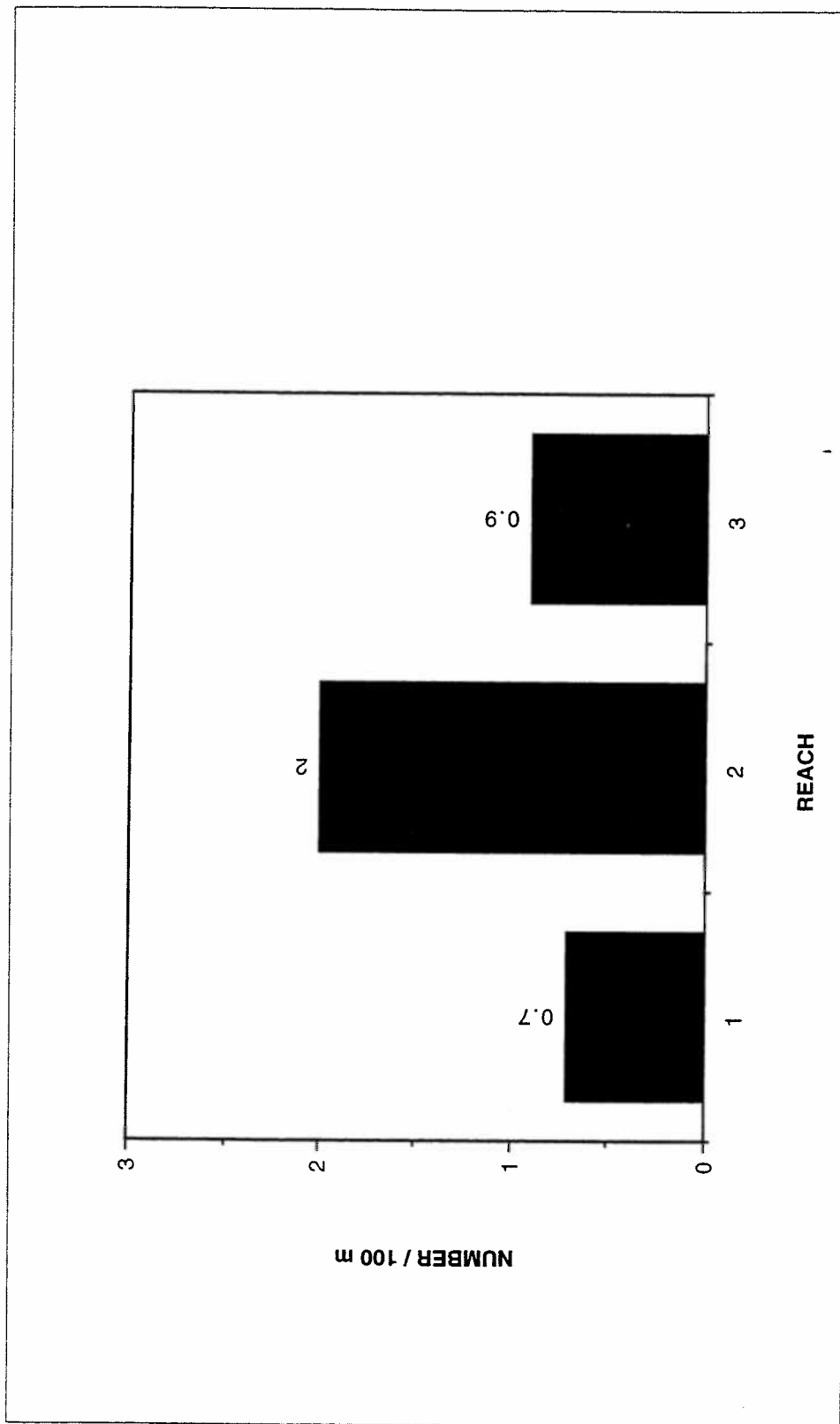


Figure B-306. Large woody debris, root wads. Graves Creek, Montana. Tributary survey, 1992-1994.

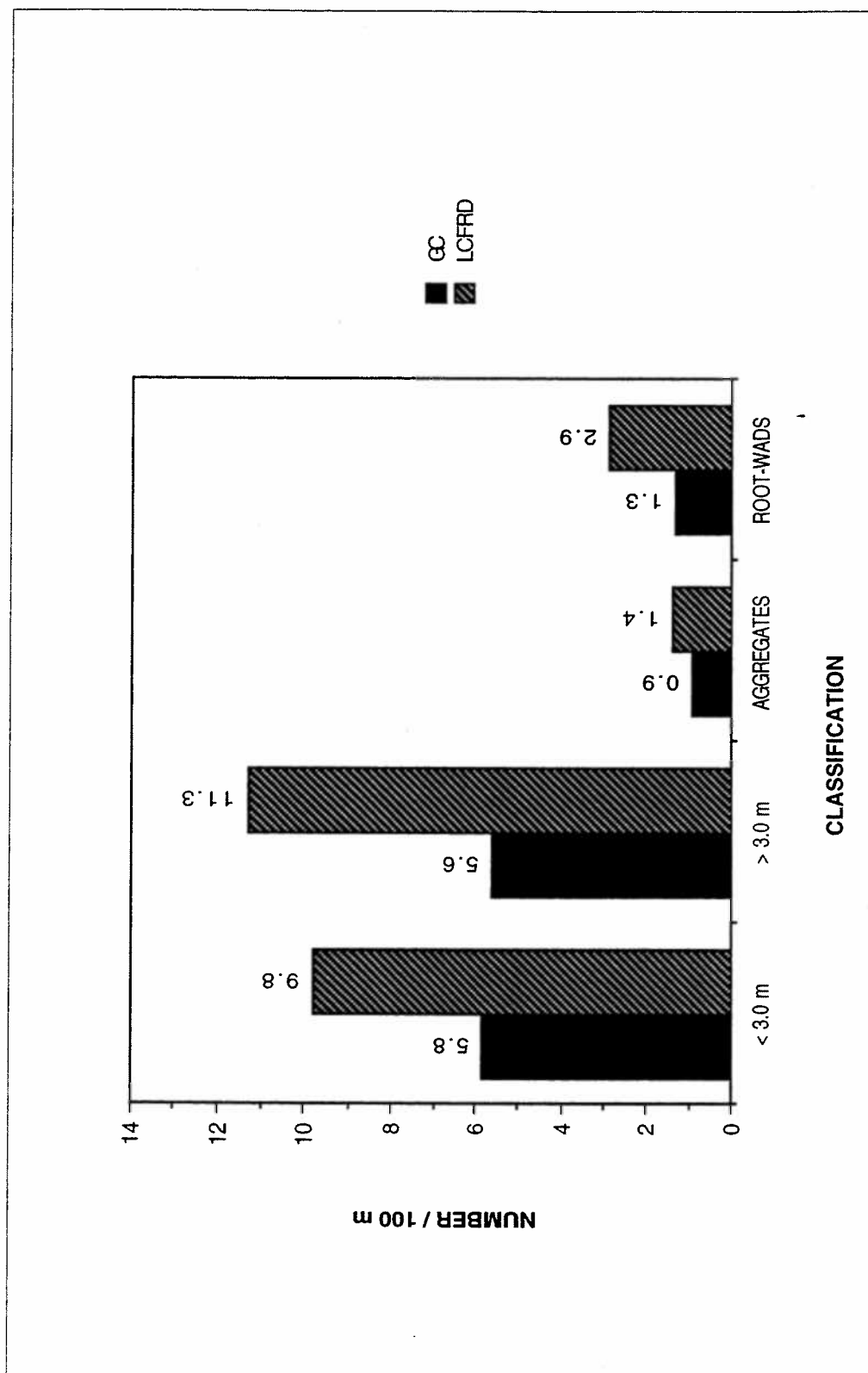


Figure B-307. Large woody debris by classification. Graves Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

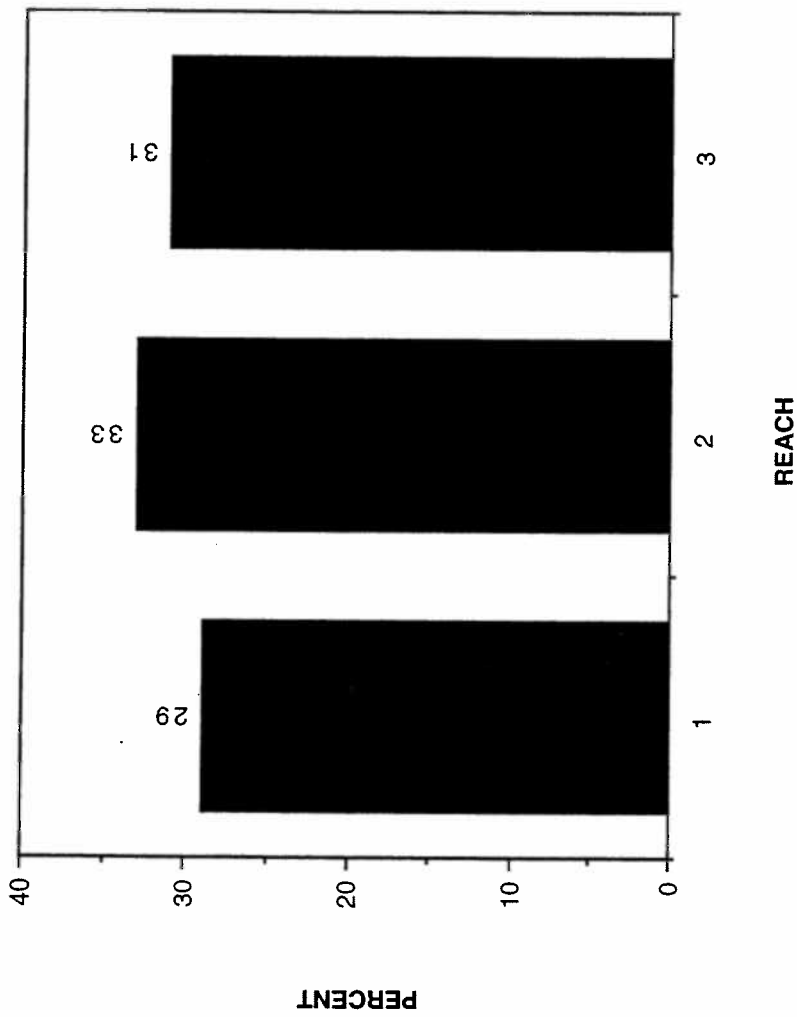


Figure B-308. McNeil core sample percent fines (<6.35 mm) by stream reach. Graves Creek, Montana. Tributary survey, 1992-1994.

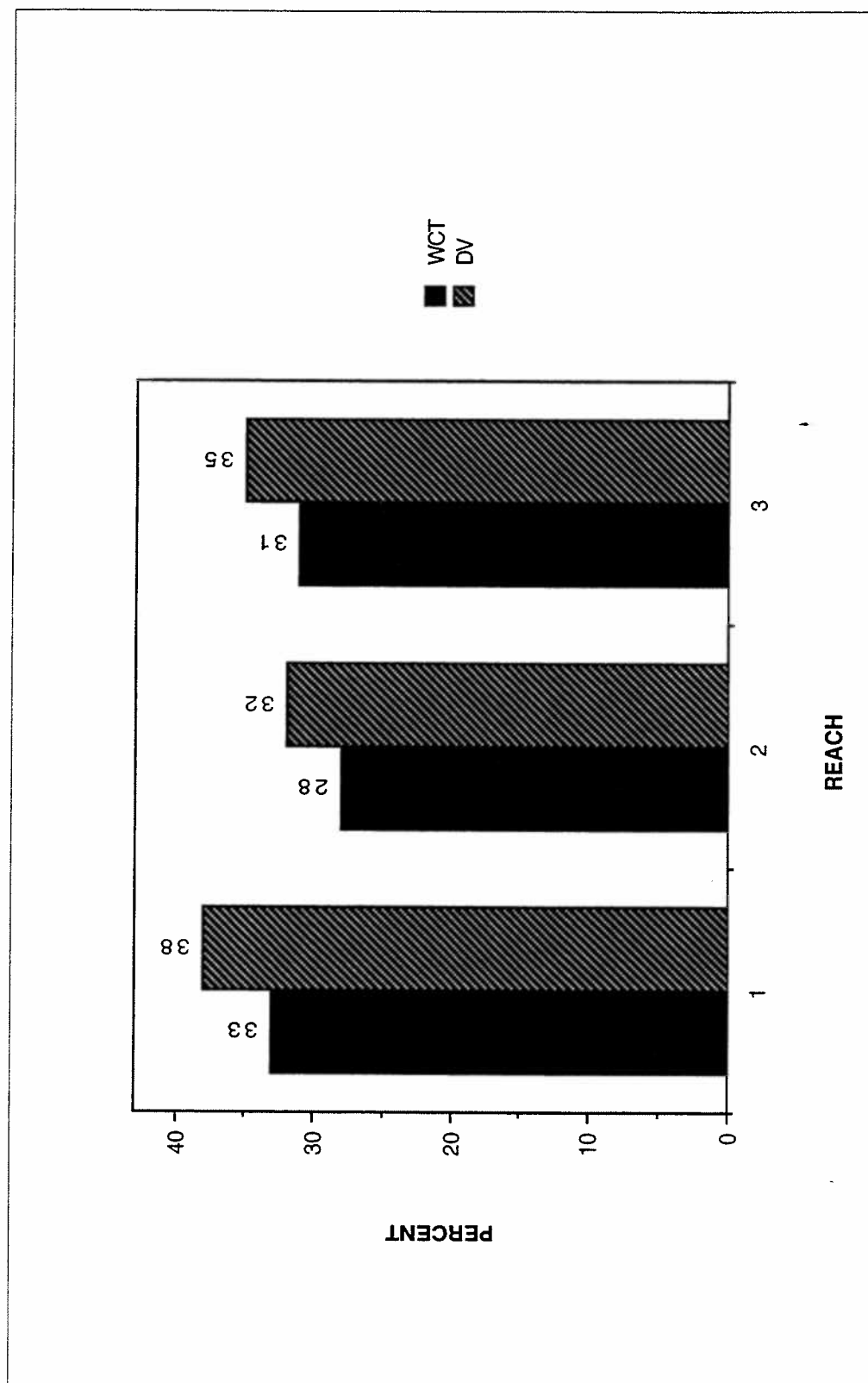


Figure B-309. Percent embryo survival to emergence for cutthroat and bull trout by stream reach. Graves Creek, Montana. Tributary survey, 1992-1994.

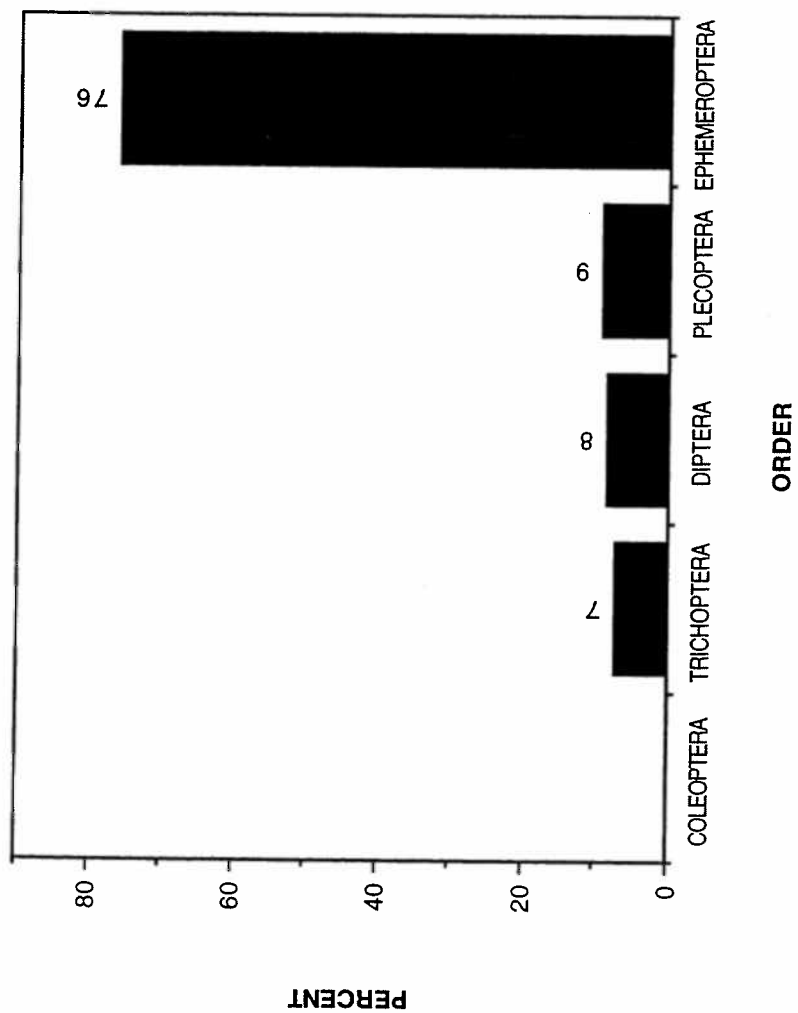


Figure B-310. Percent composition benthic invertebrate population by taxonomic order.
Graves Creek, Montana. Tributary survey, 1992-1994.

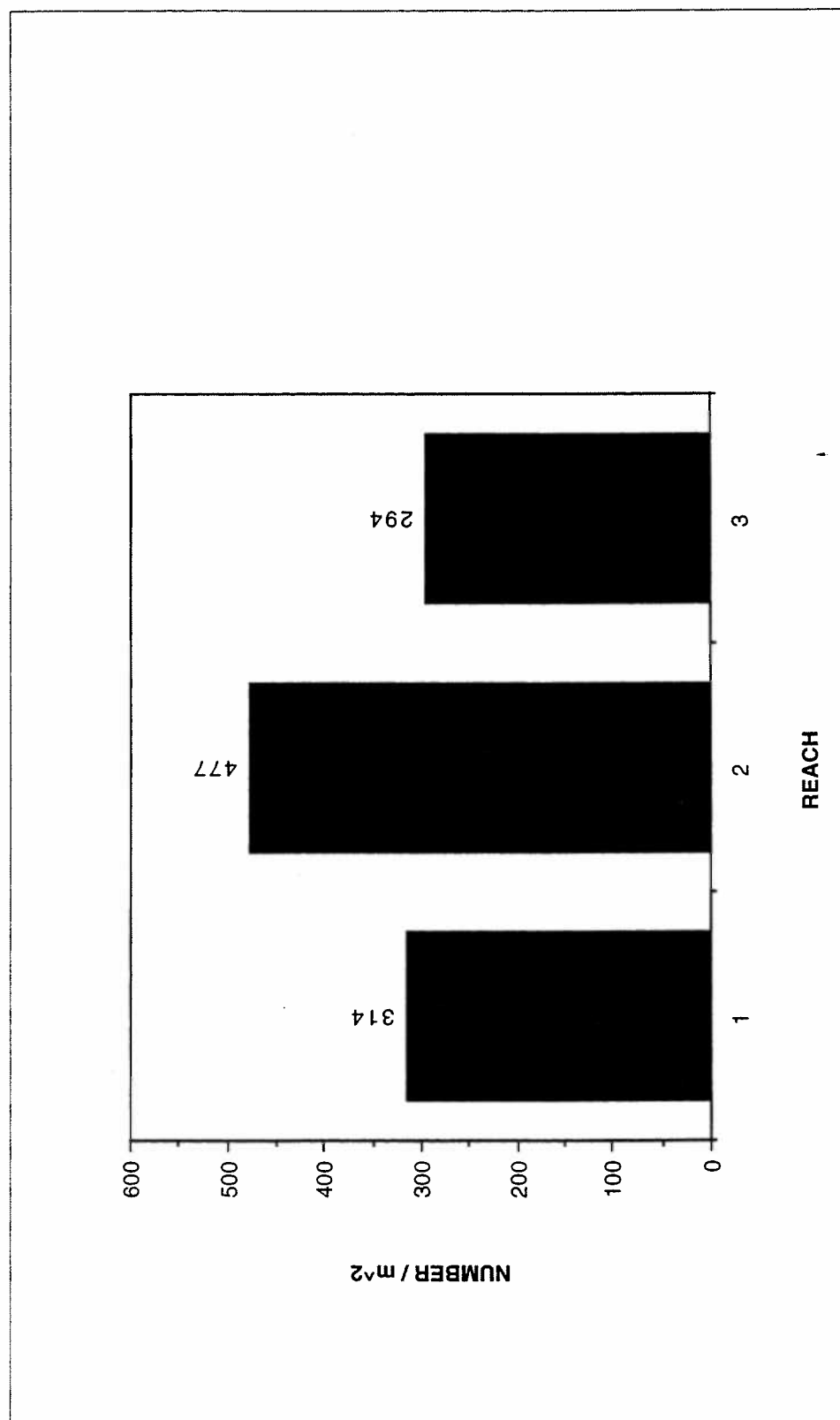


Figure B-311. Benthic invertebrate densities by stream reach. Graves Creek, Montana. Tributary survey, 1992-1994.

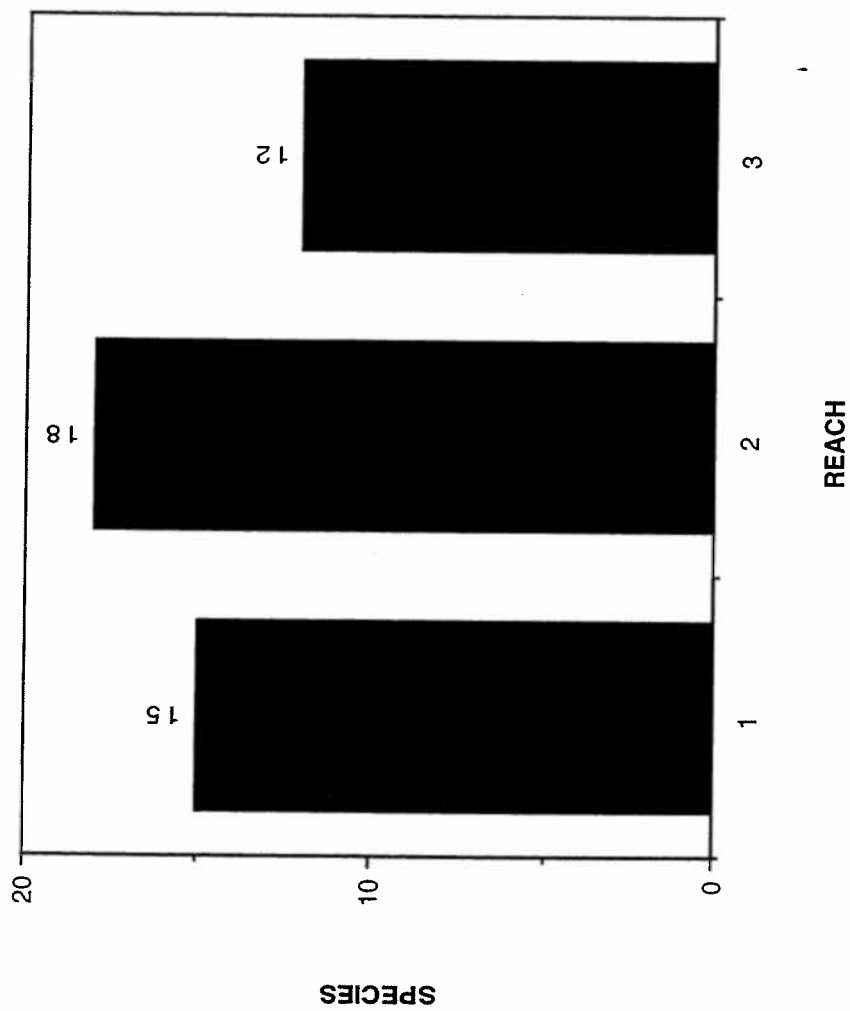


Figure B-312. Benthic invertebrate species richness by stream reach. Graves Creek, Montana. Tributary survey, 1992-1994.

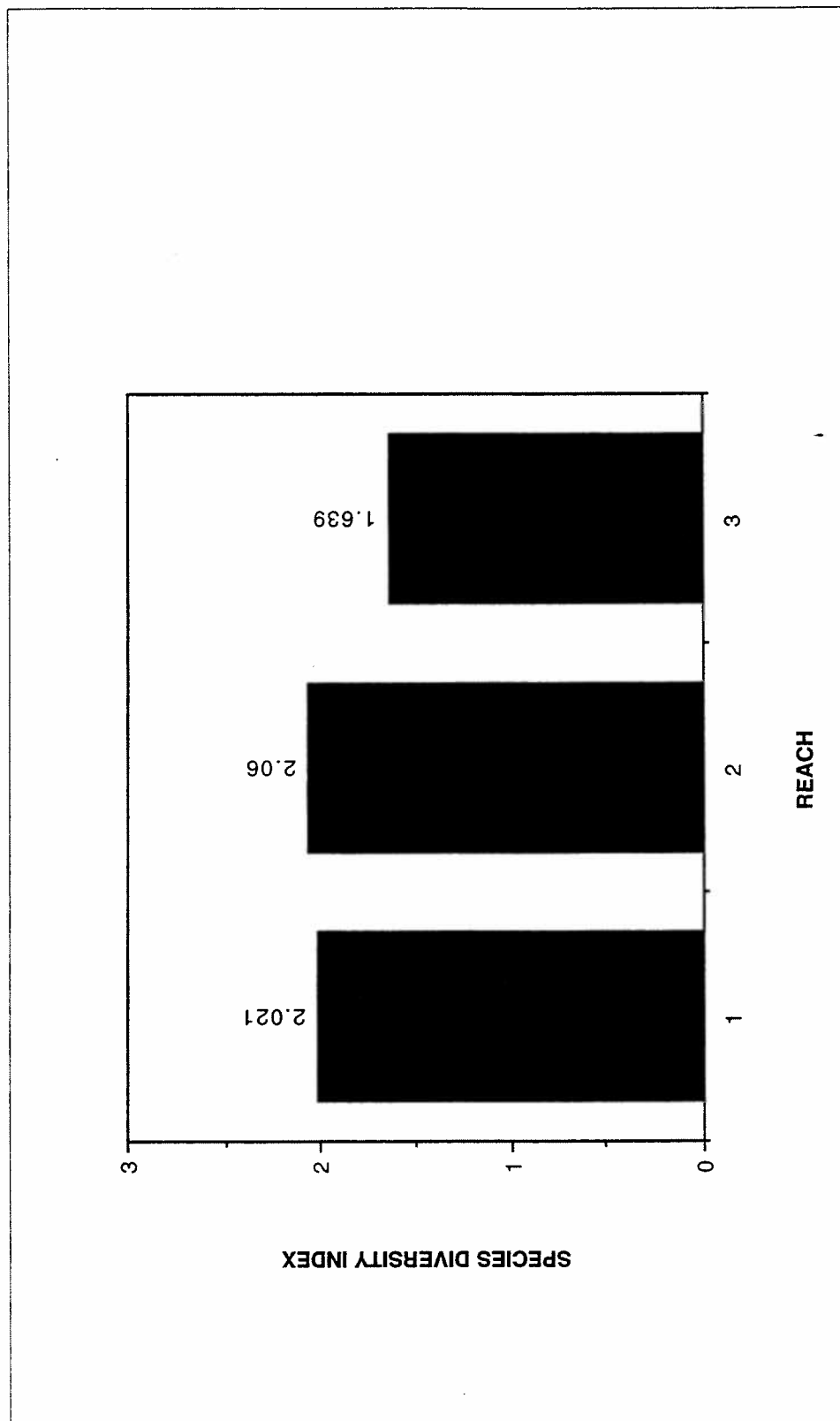


Figure B-313. Benthic invertebrate species diversity (SDI) by stream reach. Graves Creek, Montana. Tributary survey, 1992-1994.

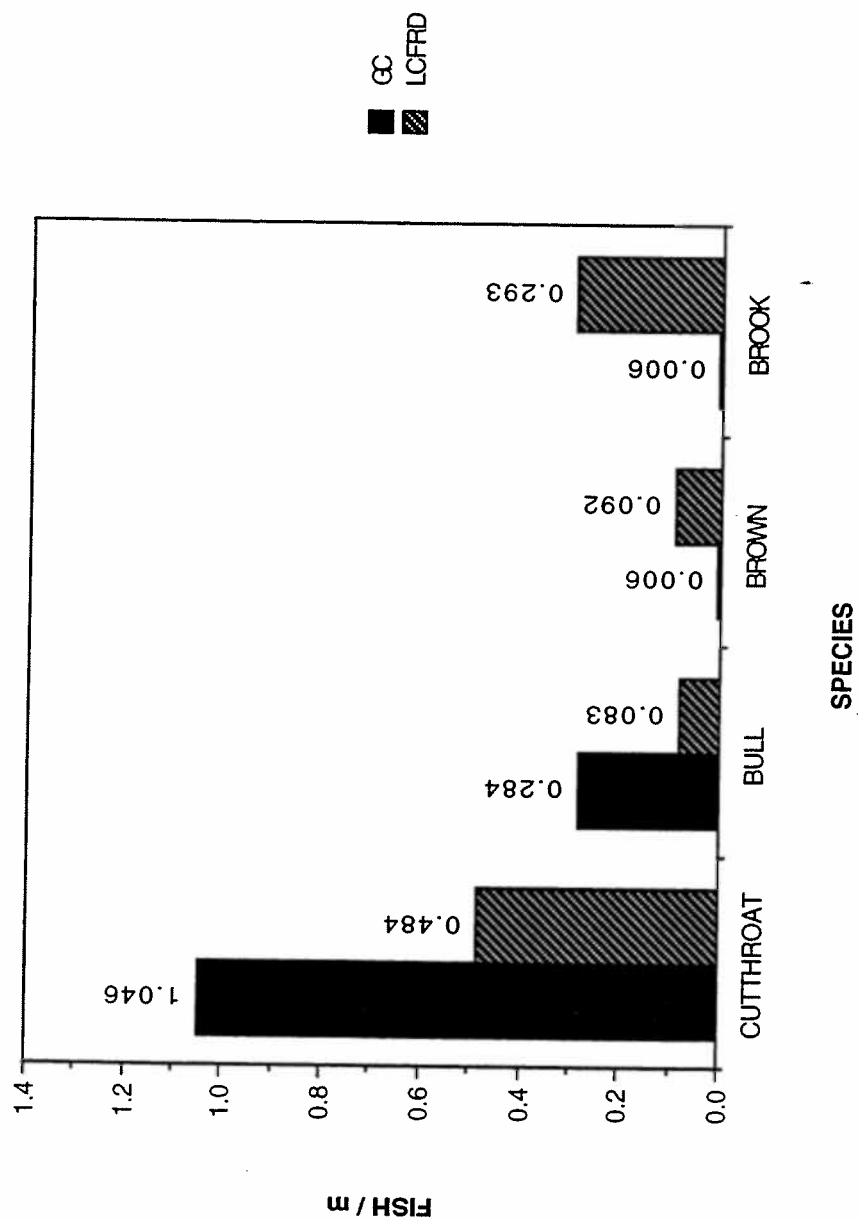


Figure B-314. Estimated densities of cutthroat, bull, brown, and brook trout. Graves Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

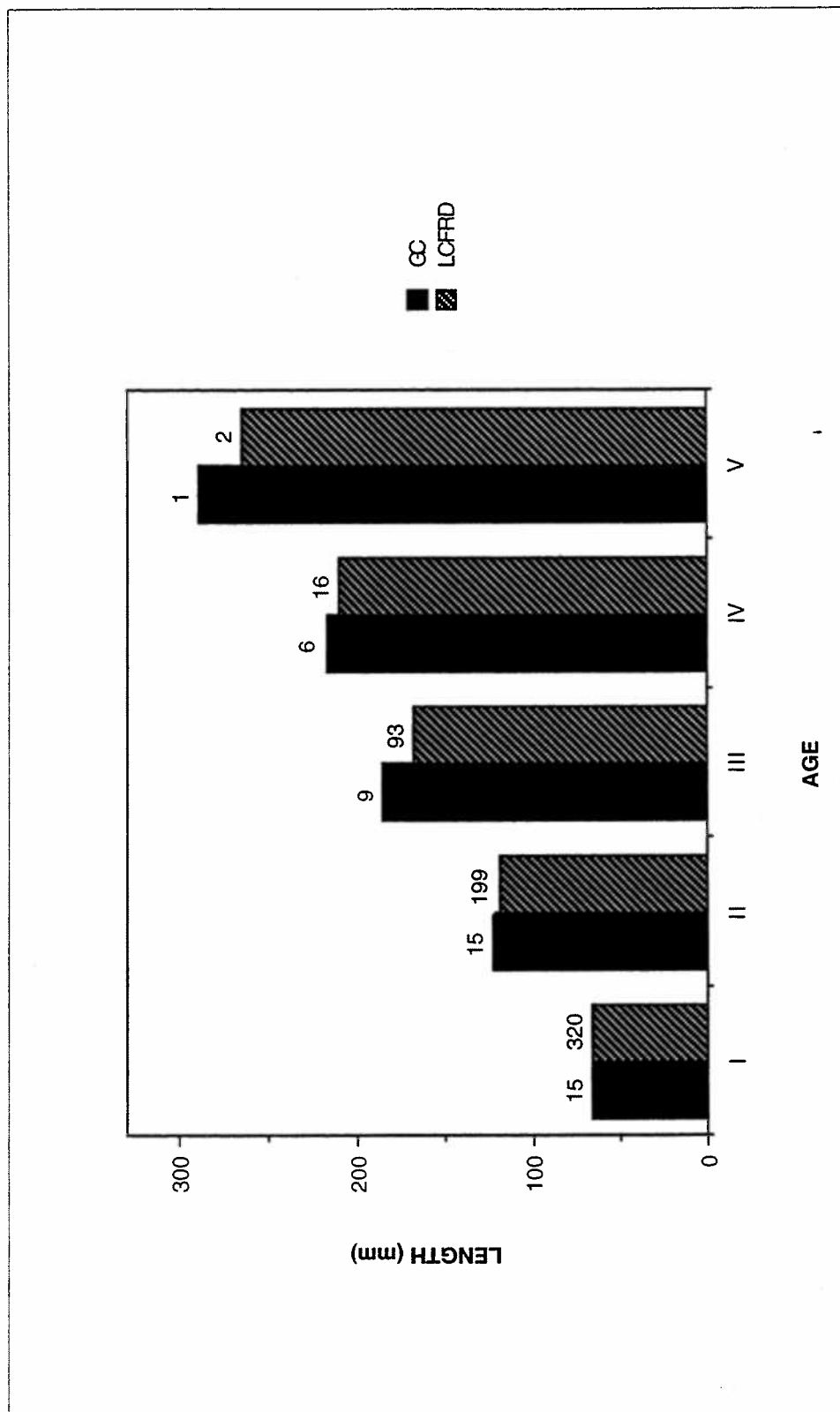


Figure B-315. Number of fish sampled and back calculated length at age for cutthroat trout. Graves Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

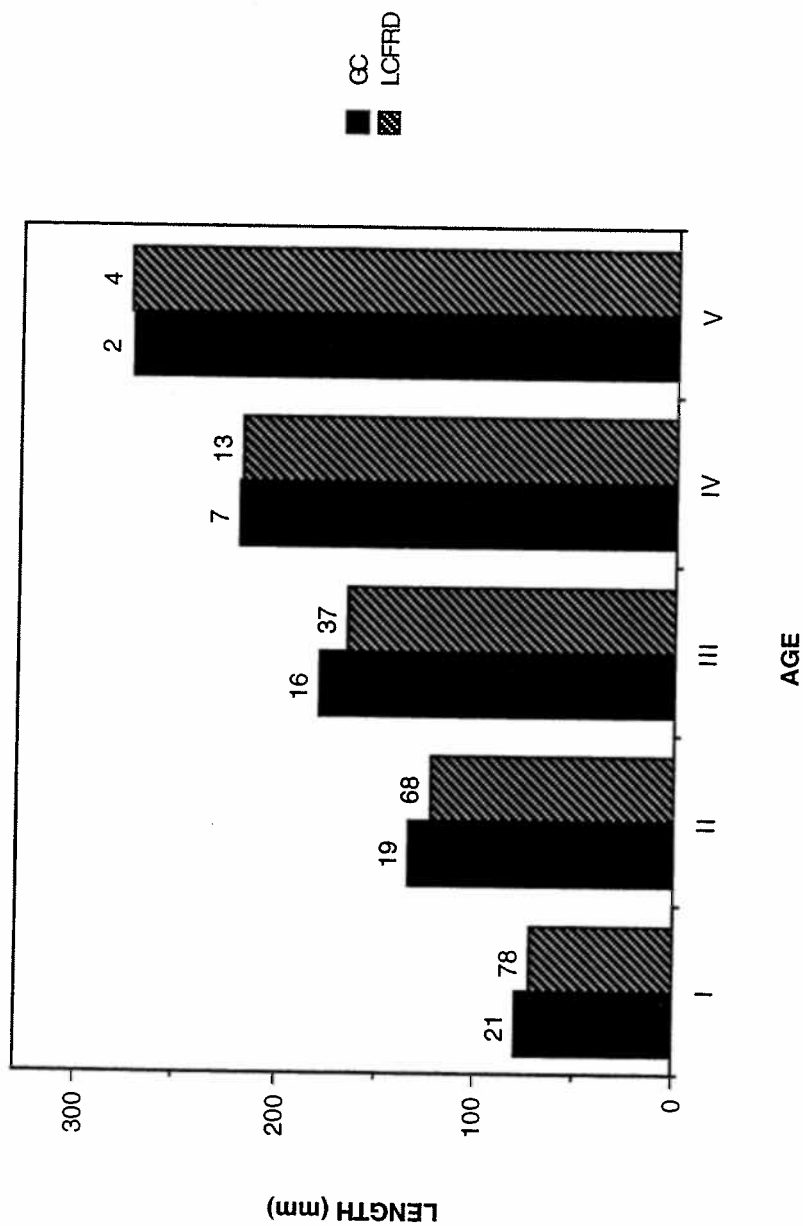


Figure B-316. Number of fish sampled and back calculated length at age for bull trout. Graves Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

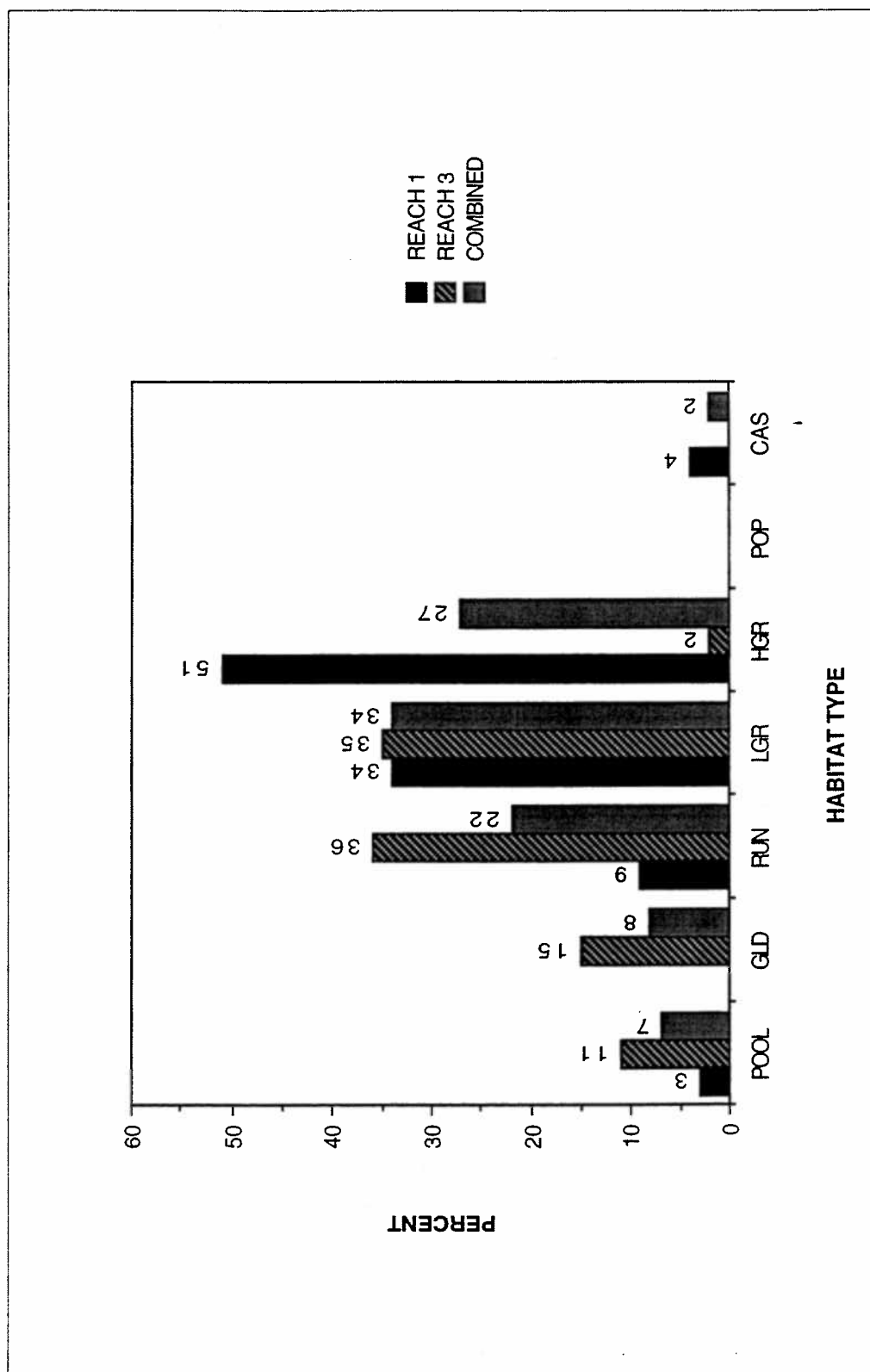


Figure B-317. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), and pocket pool (POP) habitat types by stream reach. Vermilion River, Montana. Tributary survey, 1992-1994.

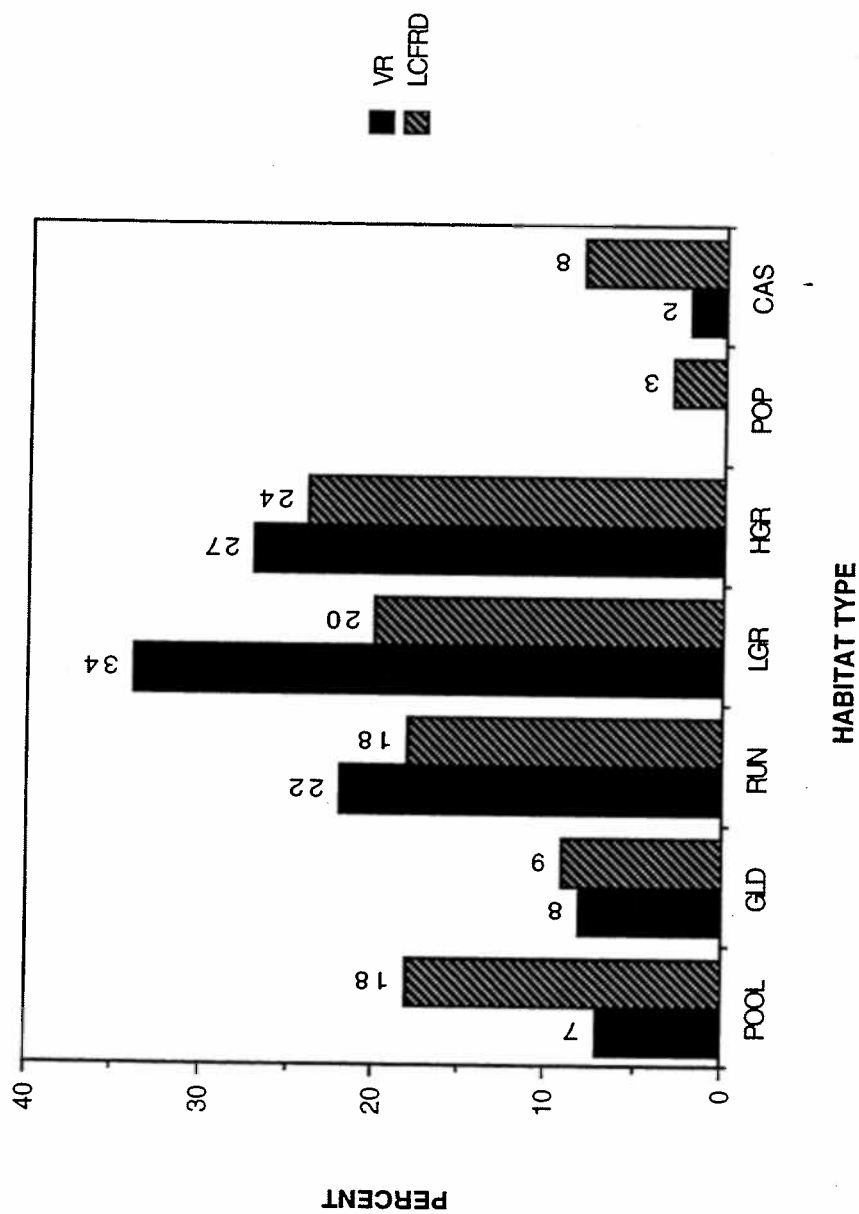


Figure B-318. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. Vermilion River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

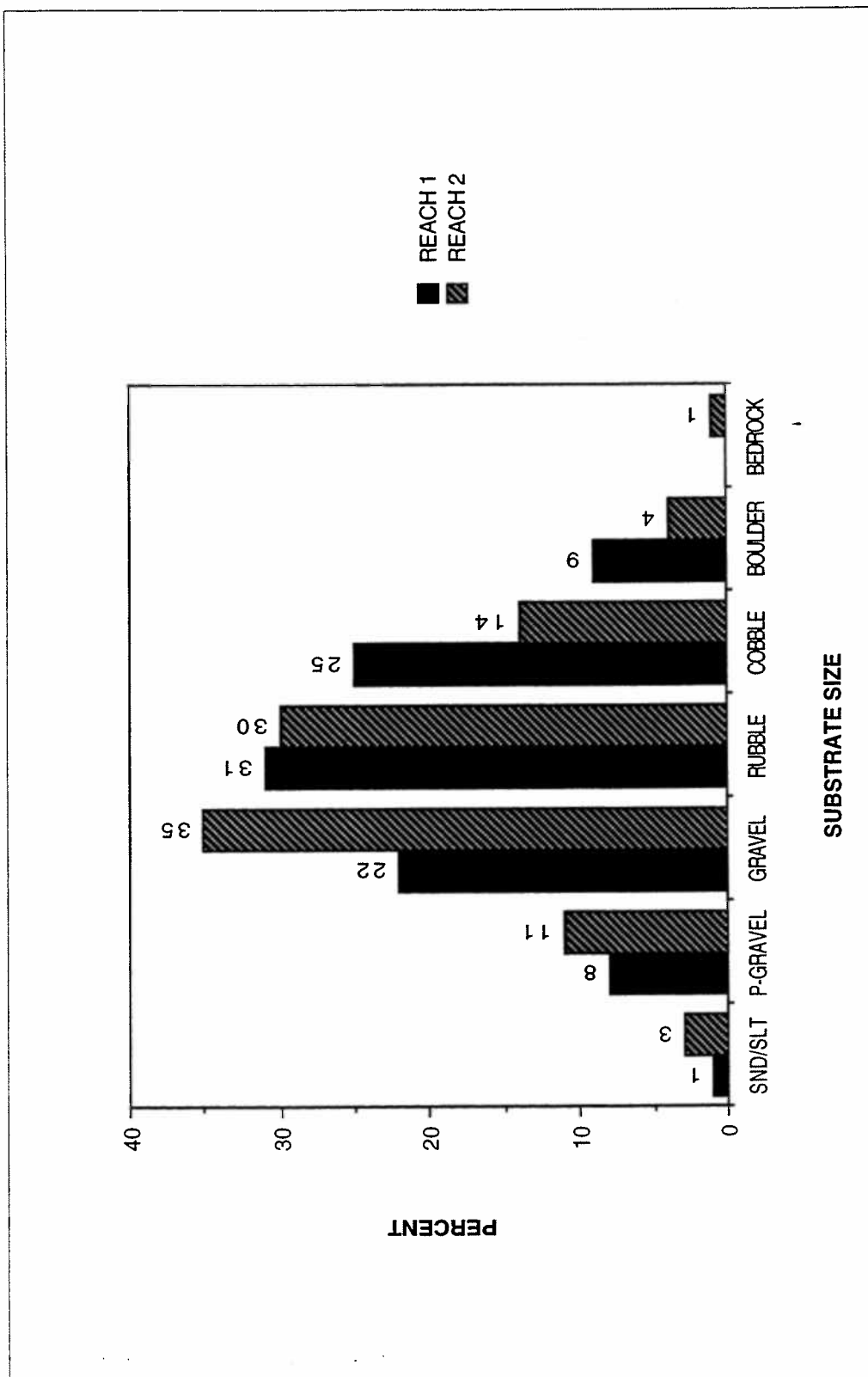


Figure B-319. Percent substrate composition by stream reach. Vermilion River, Montana. Tributary survey, 1992-1994.

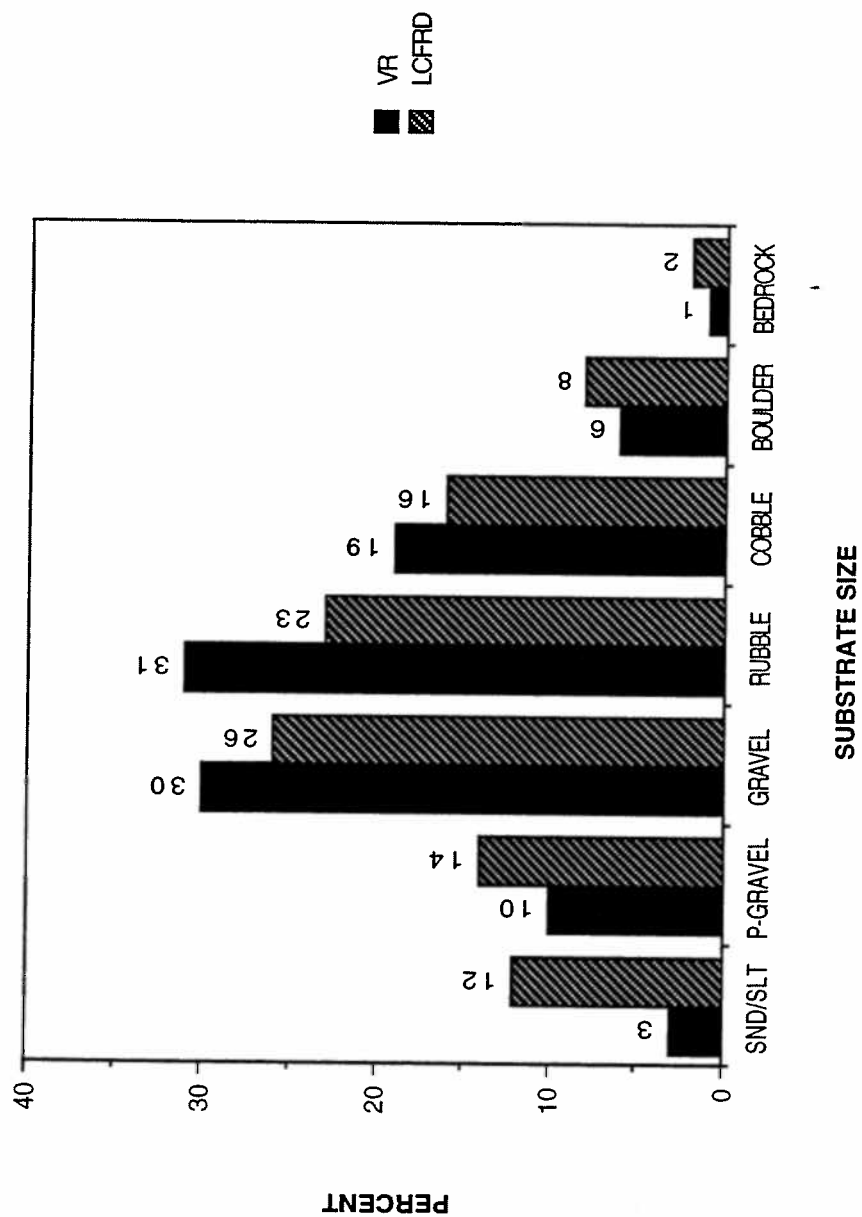


Figure B-320. Percent substrate composition. Vermilion River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

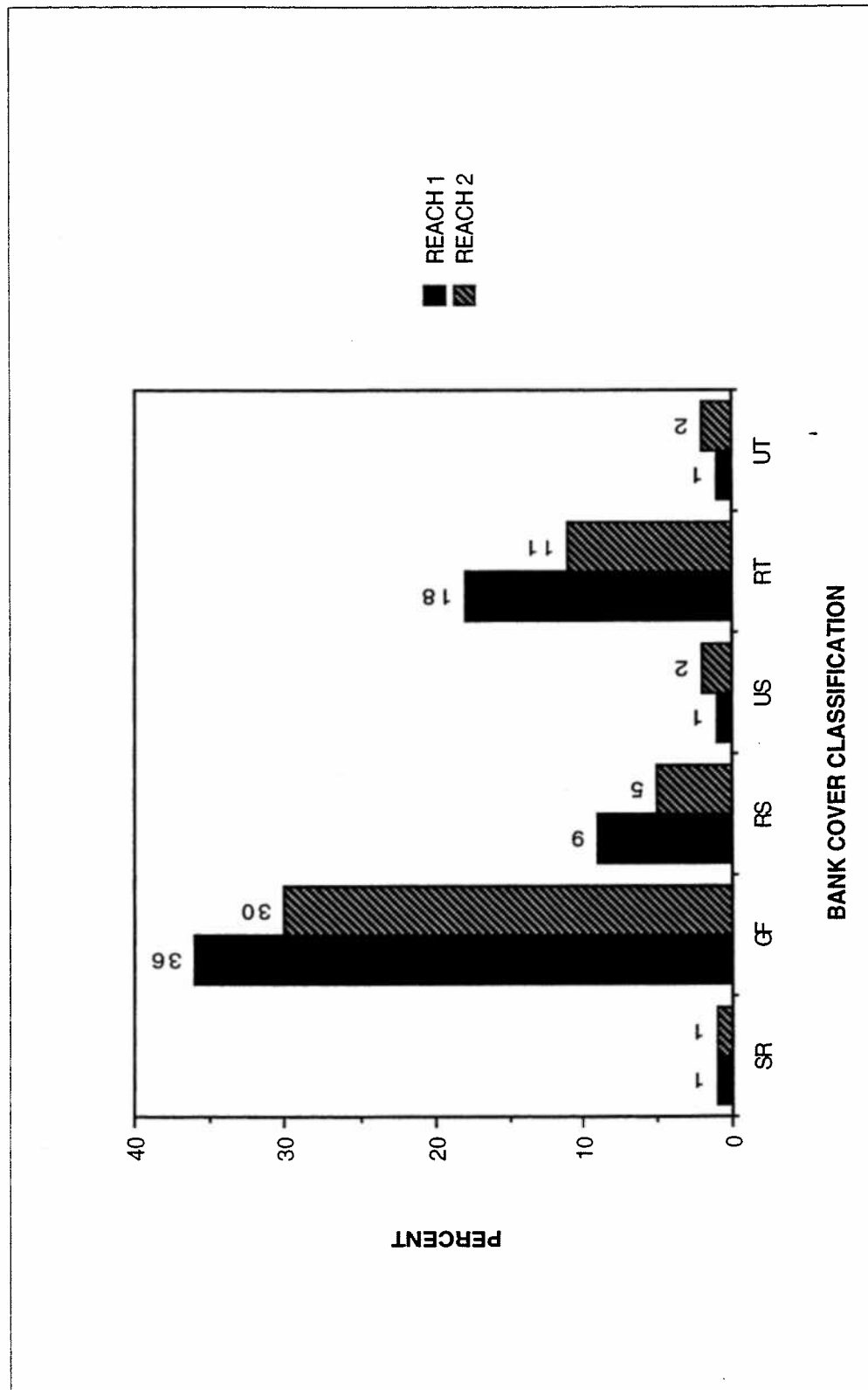


Figure B-321. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT), by stream reach. Vermilion River, Montana. Tributary survey, 1992-1994.

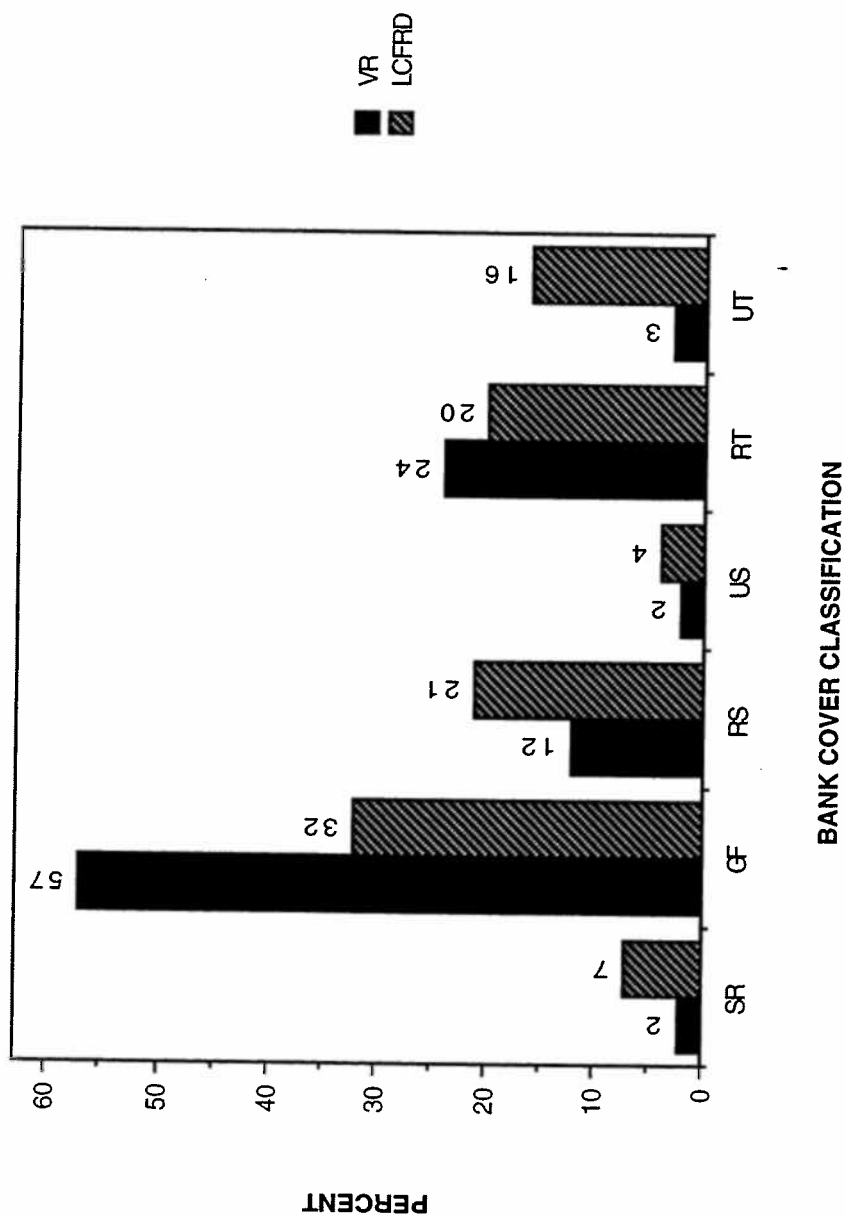


Figure B-322. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Vermilion River, Montana. Tributary survey, 1992-1994.

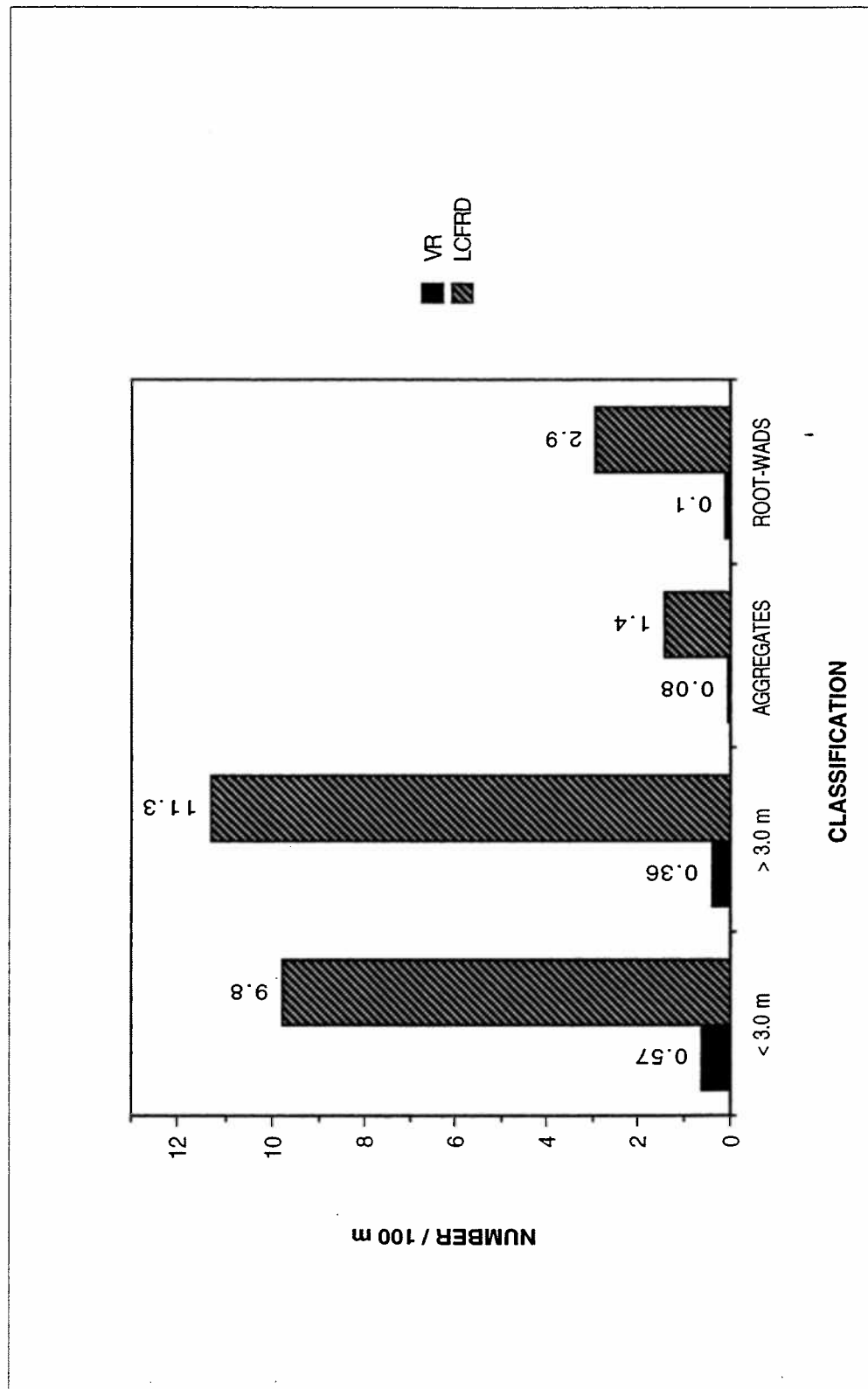


Figure B-323. Large woody debris by classification. Vermilion River and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

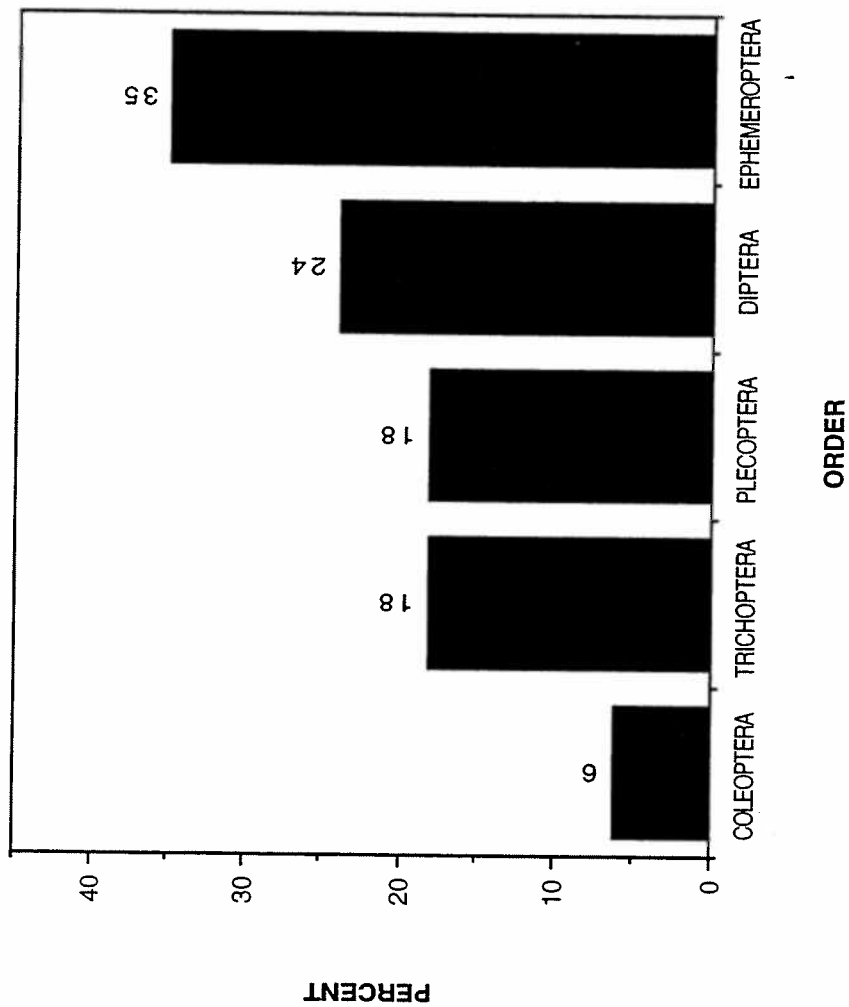


Figure B-324. Percent composition benthic invertebrate population by taxonomic order. Vermillion River, Montana. Tributary survey, 1992-1994.

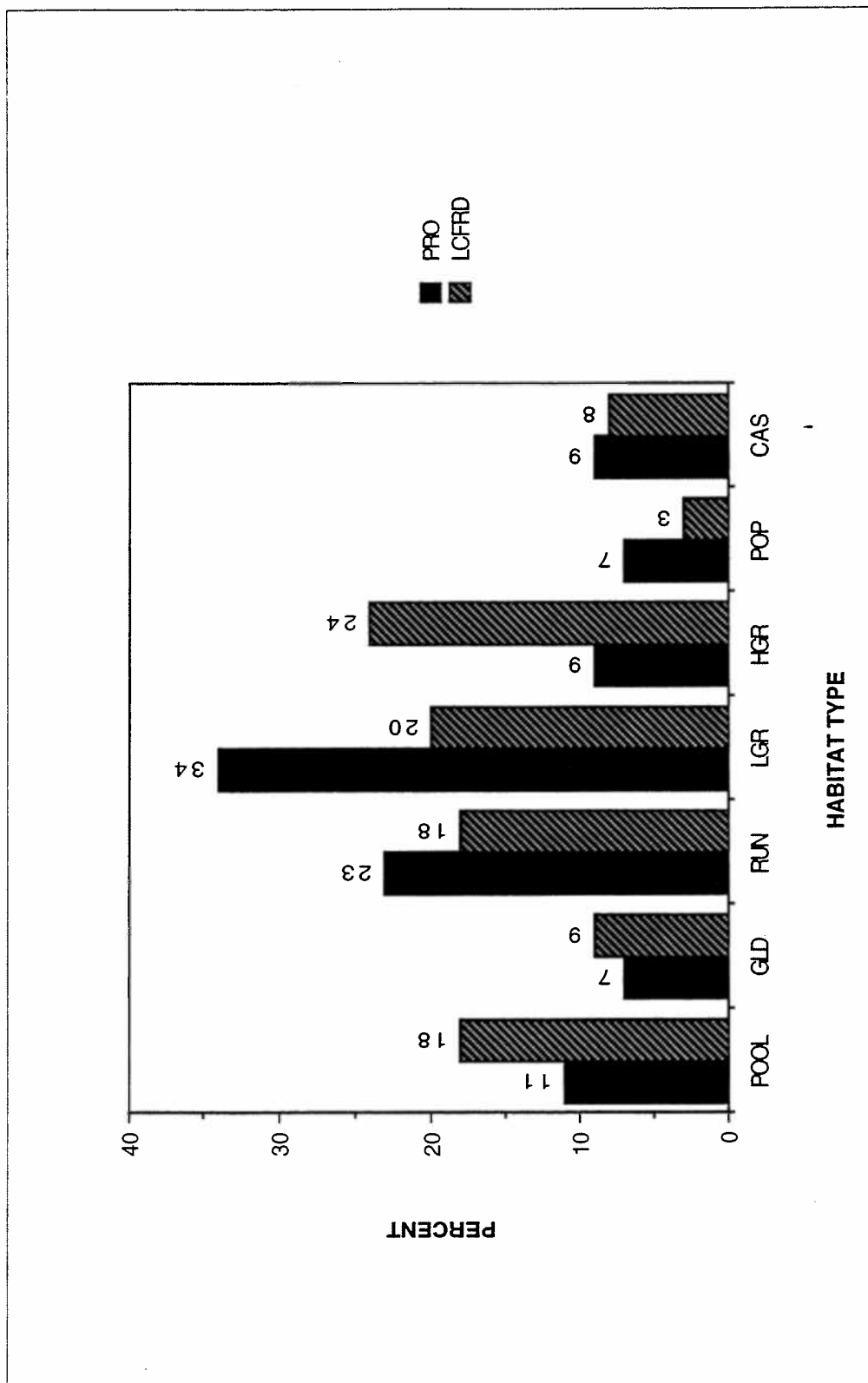


Figure B-325. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. Prospect Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

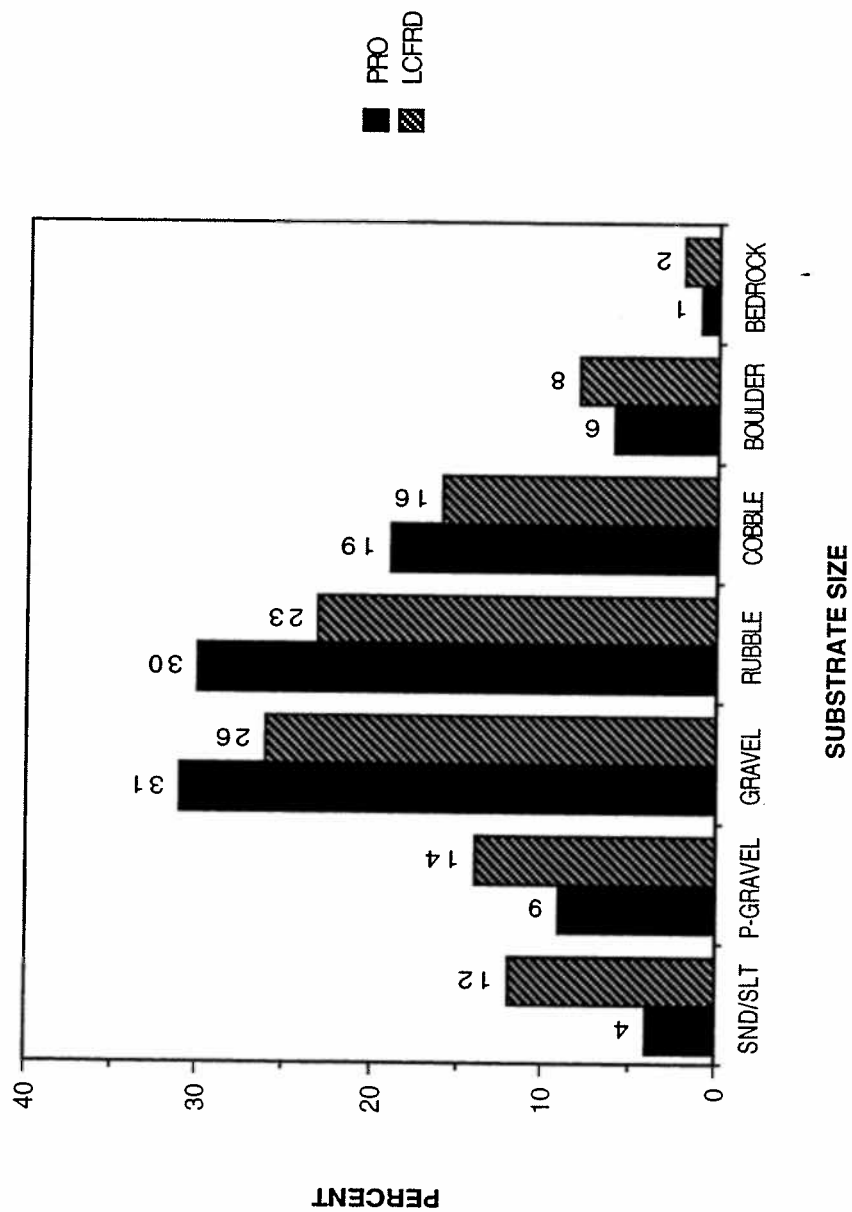


Figure B-326. Percent substrate composition. Prospect Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

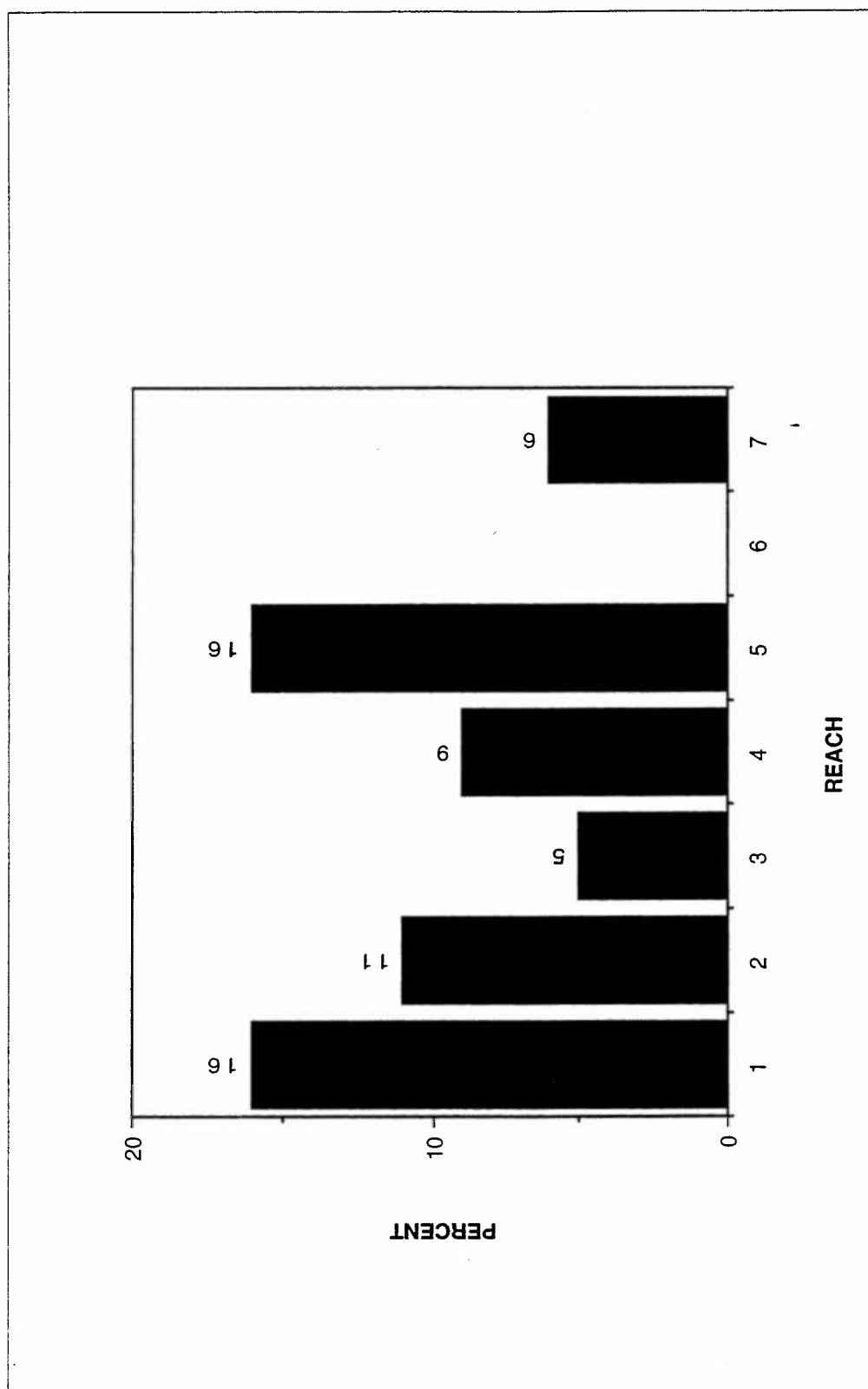


Figure B-327. Percent surface fines (<6.35 mm) by stream reach. Prospect Creek, Montana. Tributary survey, 1992-1994.

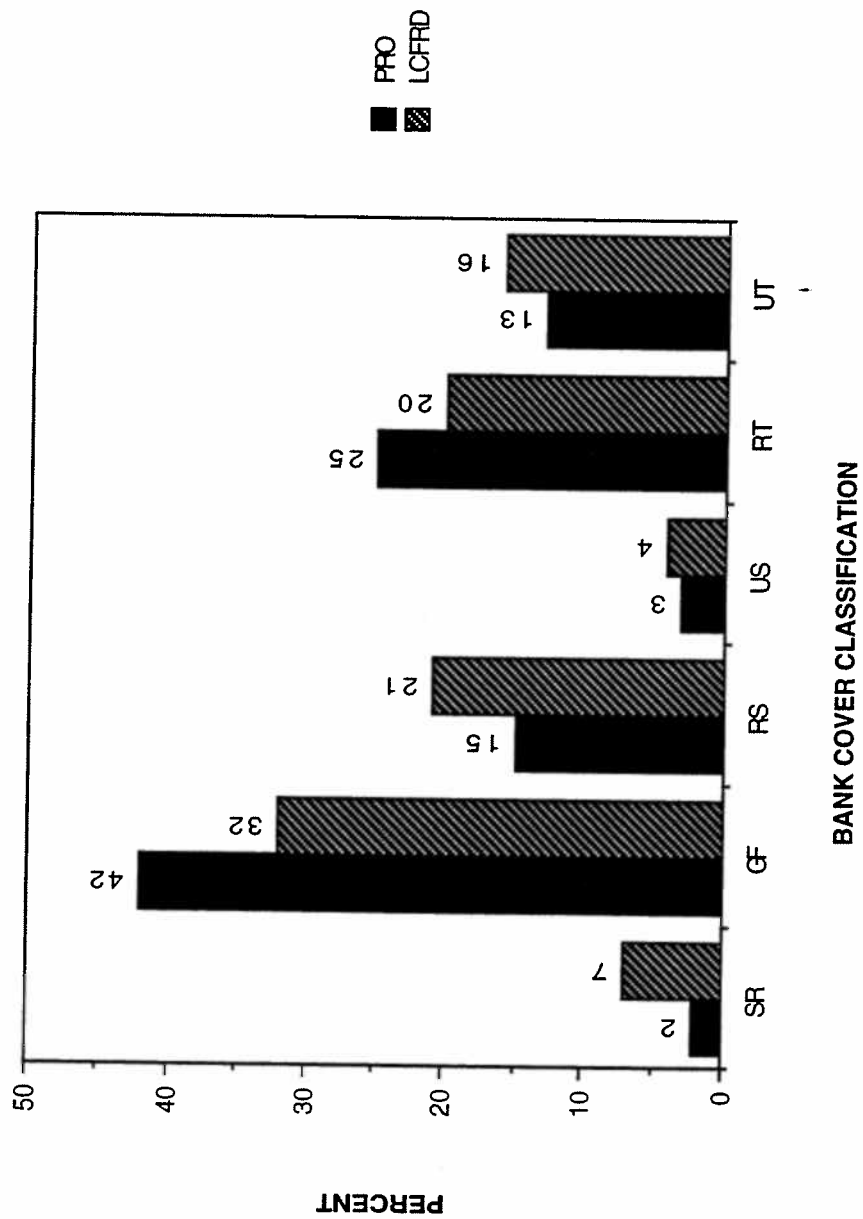


Figure B-328. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Prospect Creek, Montana. Tributary survey, 1992-1994.

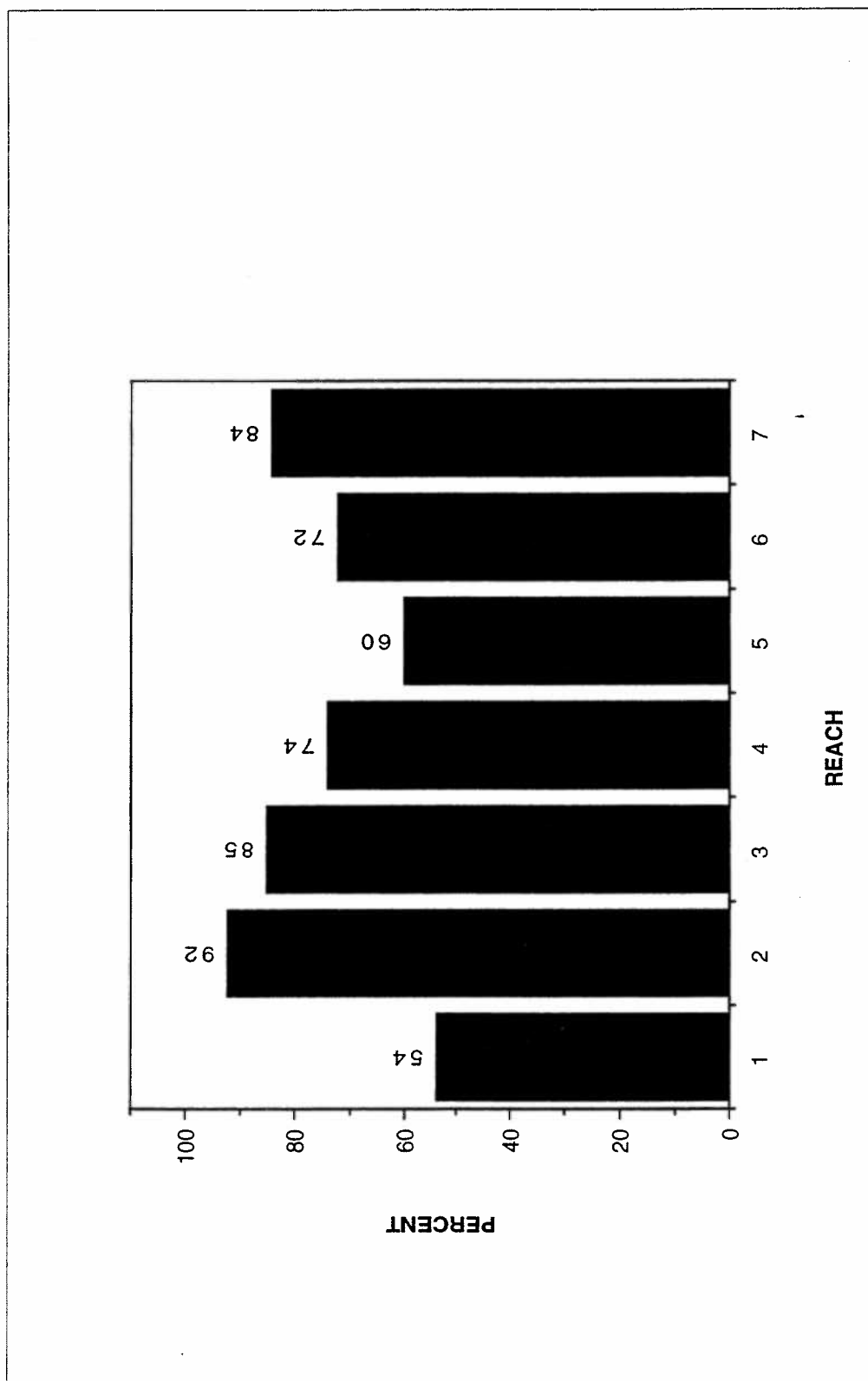


Figure B-329. Percent vegetated bank cover by stream reach. Prospect Creek, Montana. Tributary survey, 1992-1994.

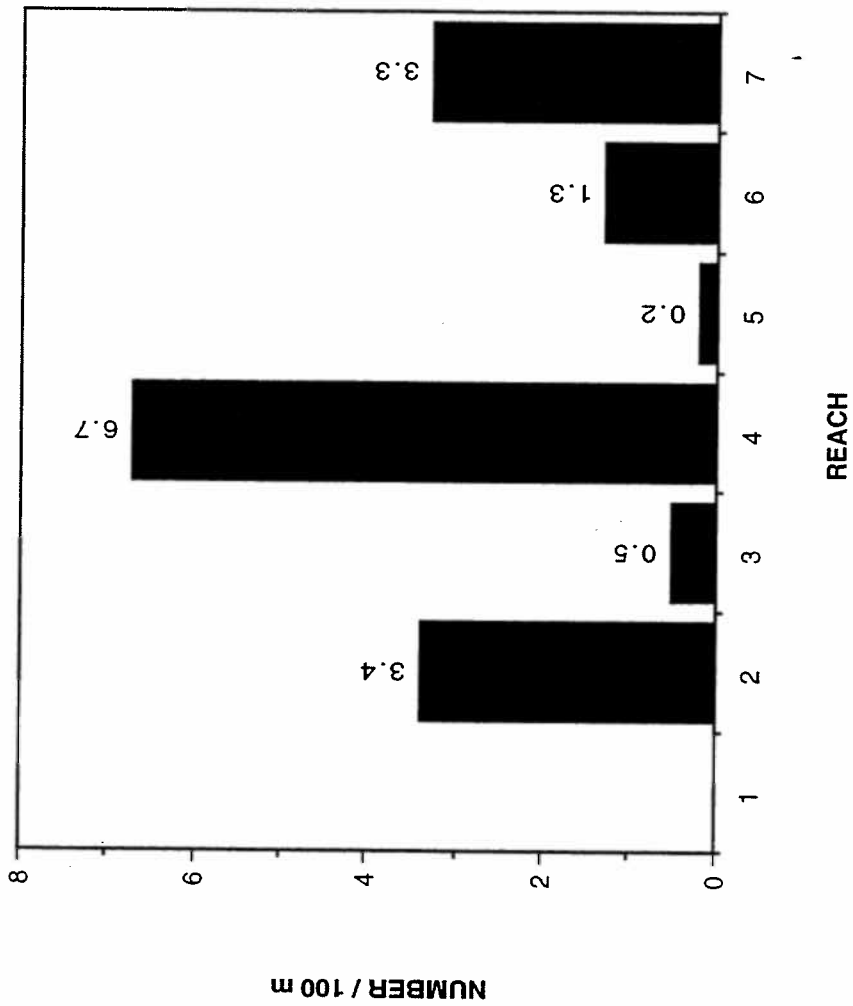


Figure B-330. Large woody debris <3.0 m in length. Prospect Creek, Montana. Tributary survey, 1992-1994.

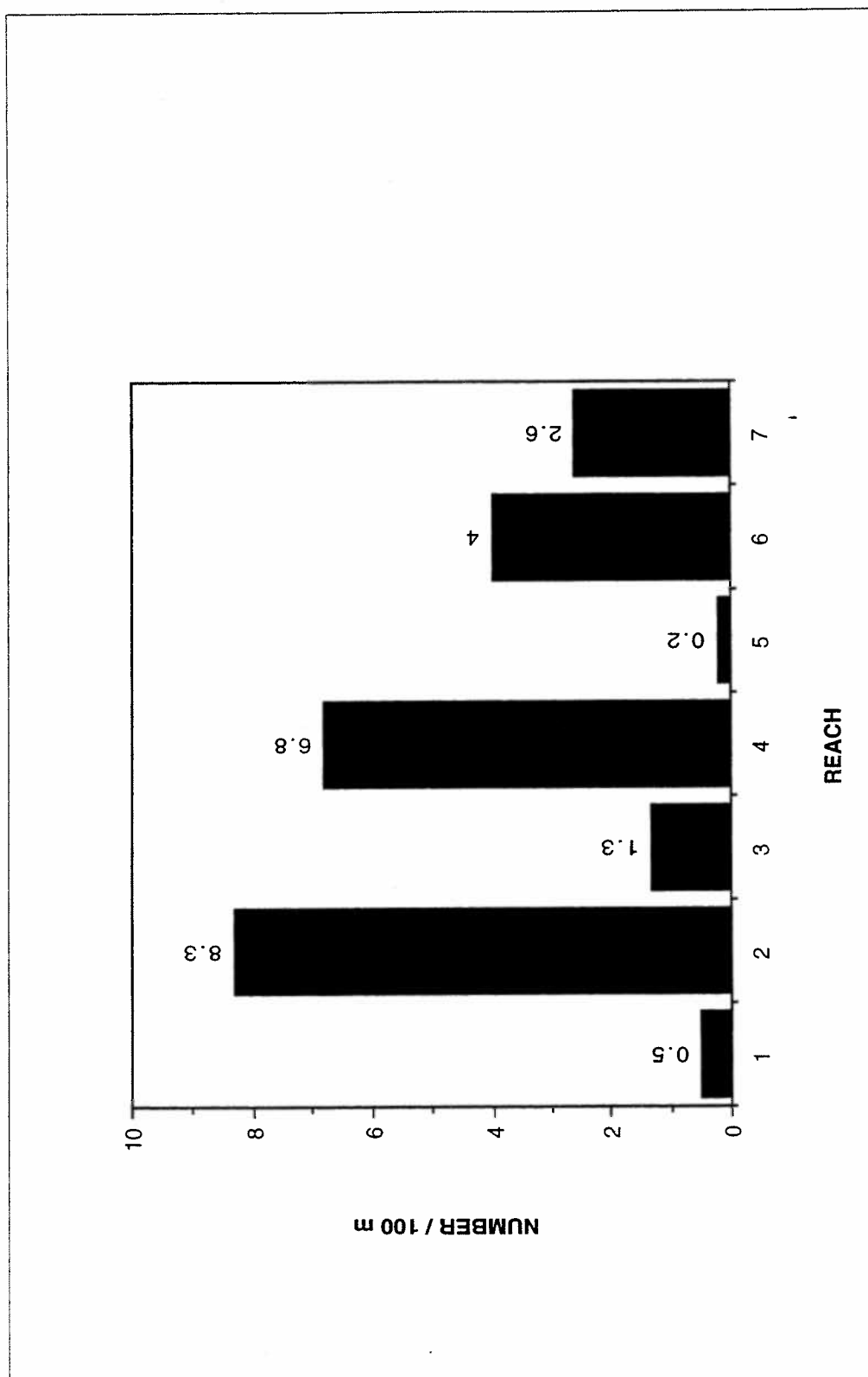


Figure B-331. Large woody debris >3.0 m in length. Prospect Creek, Montana. Tributary survey, 1992-1994.

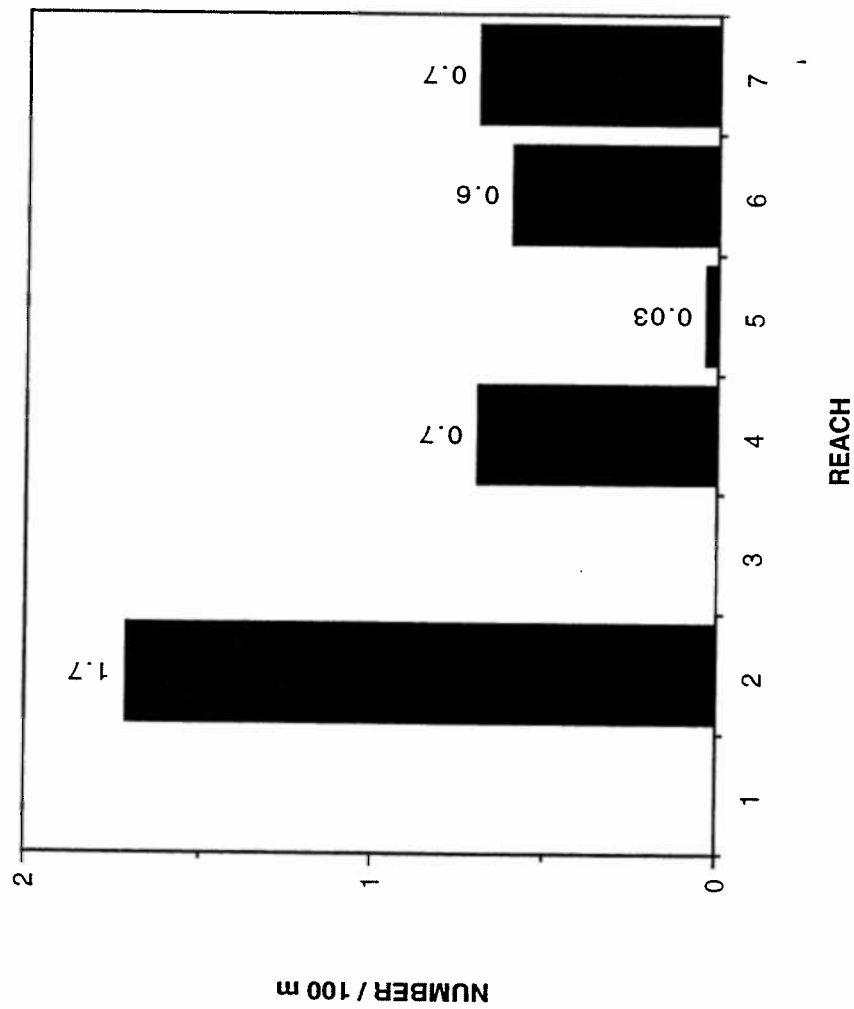


Figure B-332. Large woody debris aggregations. Prospect Creek, Montana. Tributary survey, 1992-1994.

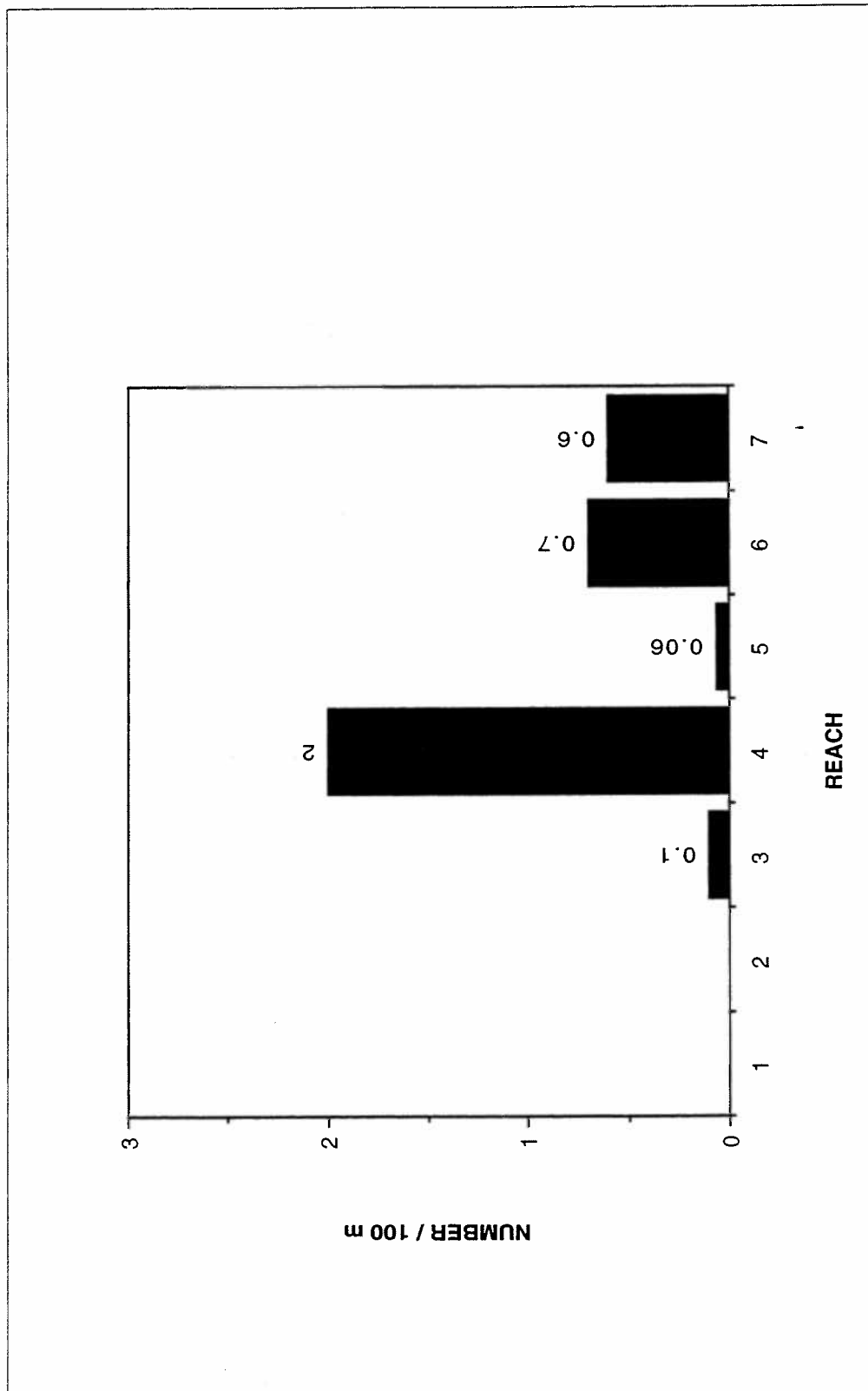


Figure B-333. Large woody debris, root wads, root wads. Prospect Creek, Montana. Tributary survey, 1992-1994.

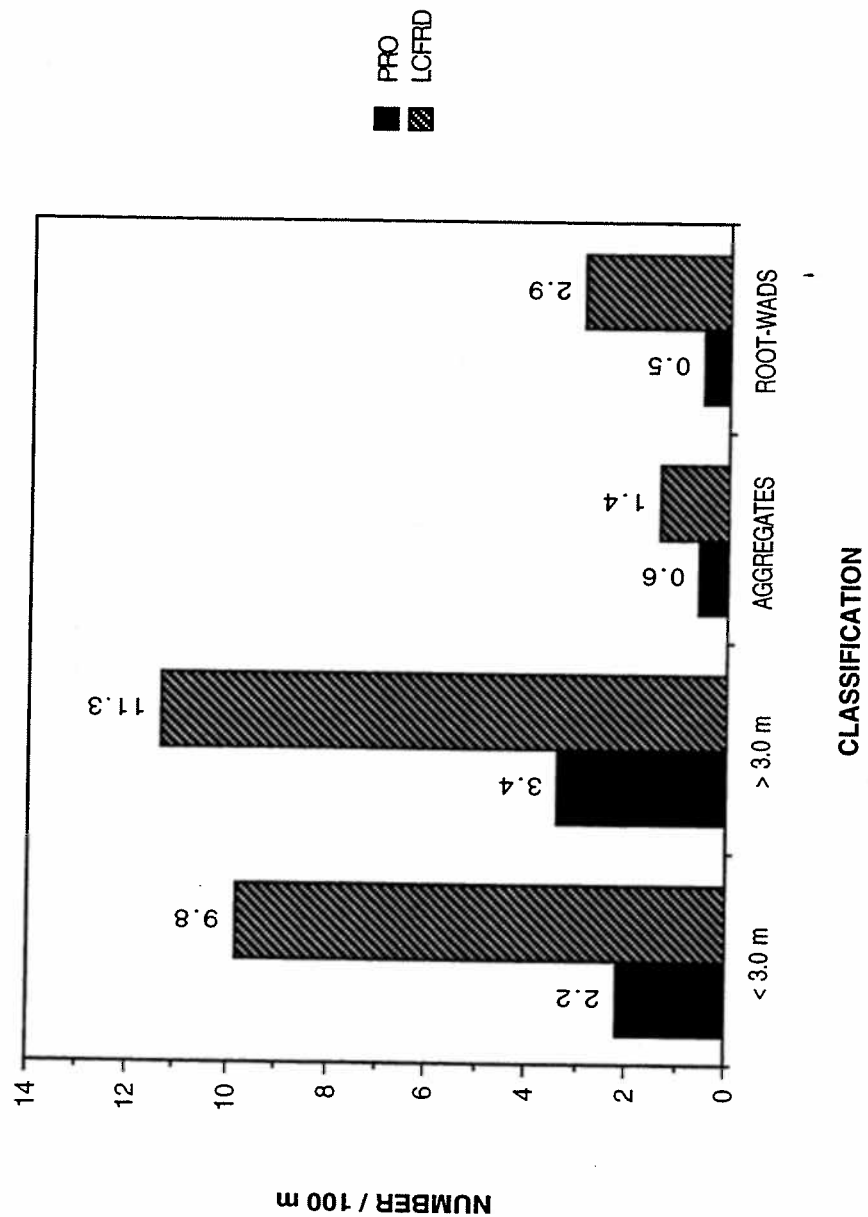


Figure B-334. Large woody debris by classification. Prospect Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

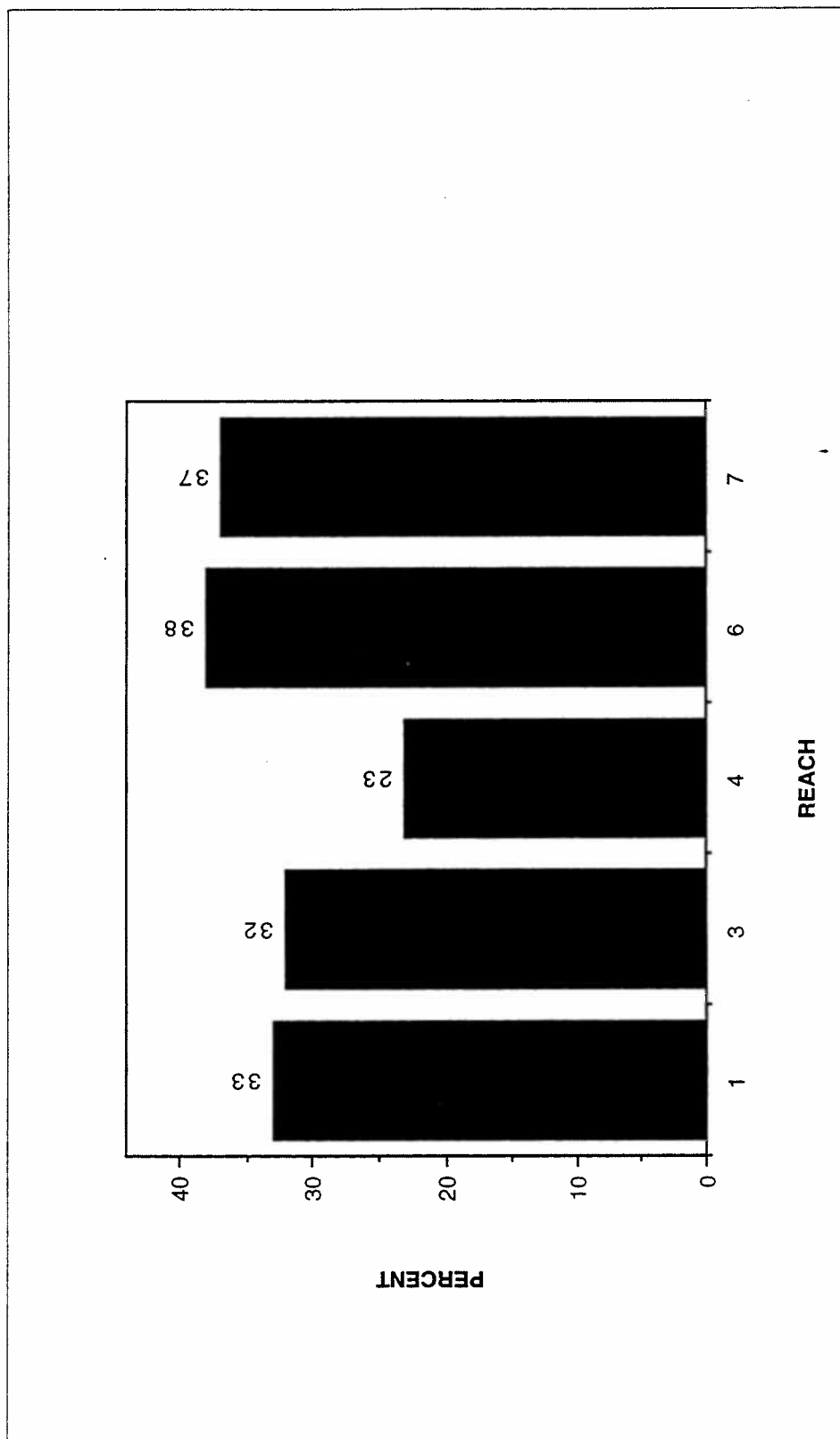


Figure B-335. McNeil core sample percent fines (<6.35 mm) by stream reach. Prospect Creek, Montana. Tributary survey, 1992-1994.

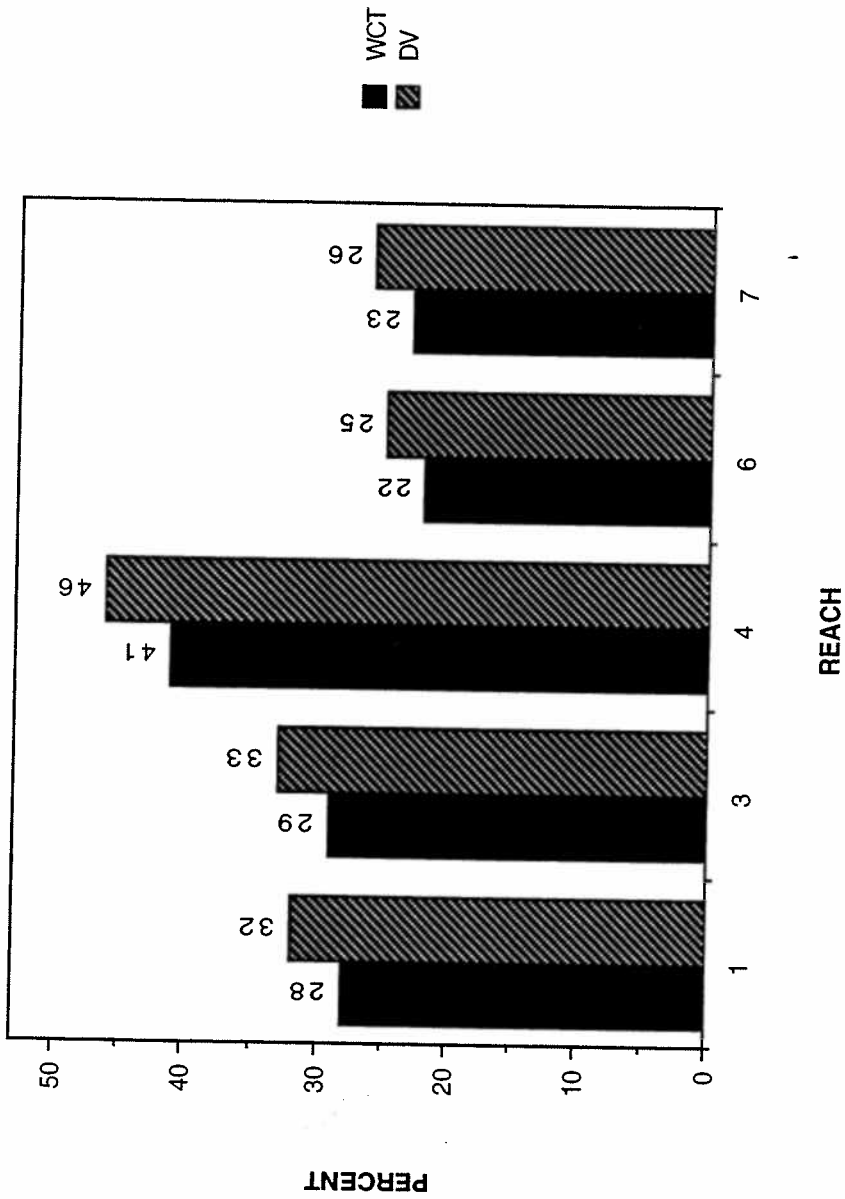


Figure B-336. Percent embryo survival to emergence for cutthroat and bull trout by stream reach. Prospect Creek, Montana. Tributary survey, 1992-1994.

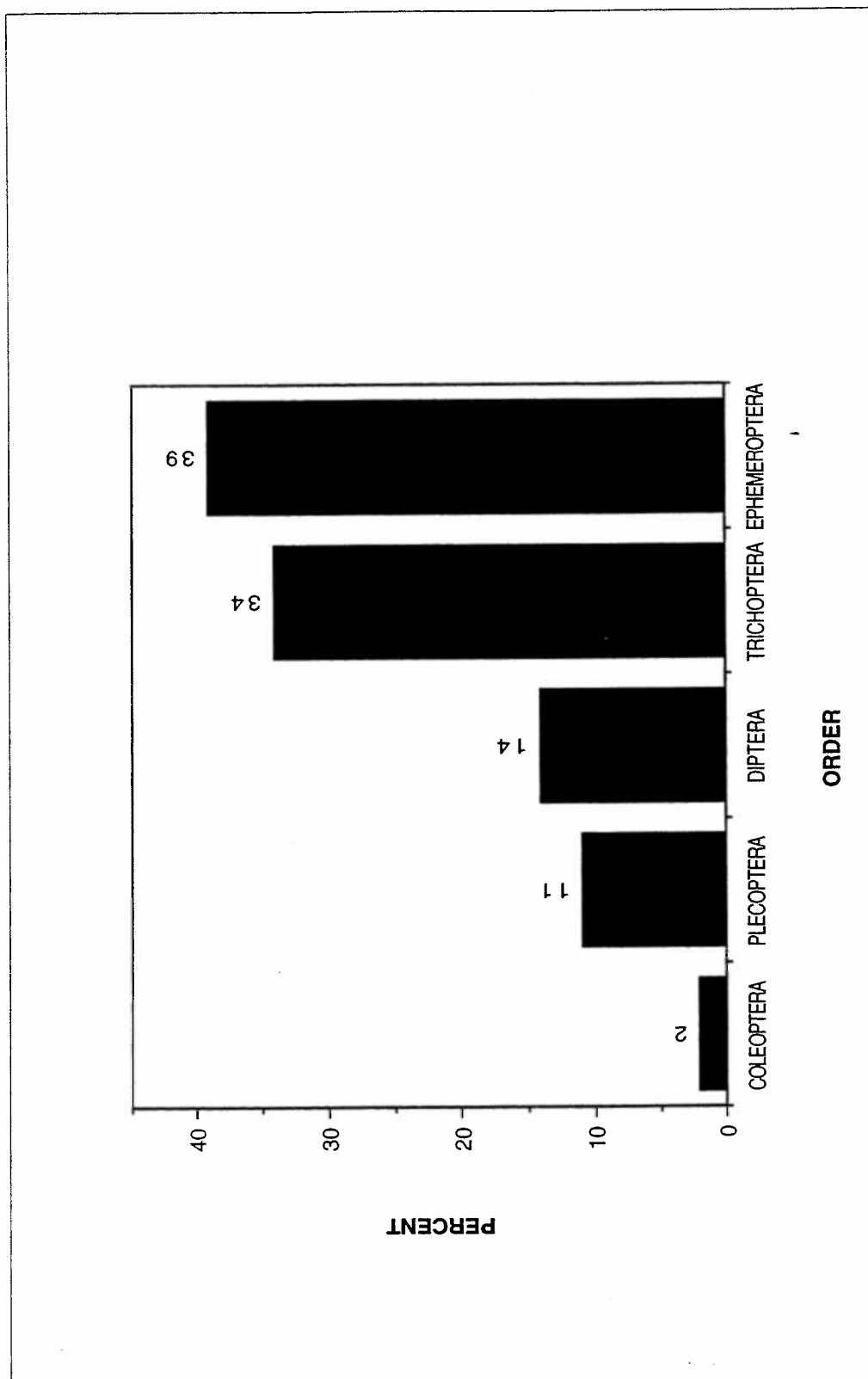


Figure B-337. Percent composition benthic invertebrate population by taxonomic order. Prospect Creek, Montana. Tributary survey, 1992-1994.

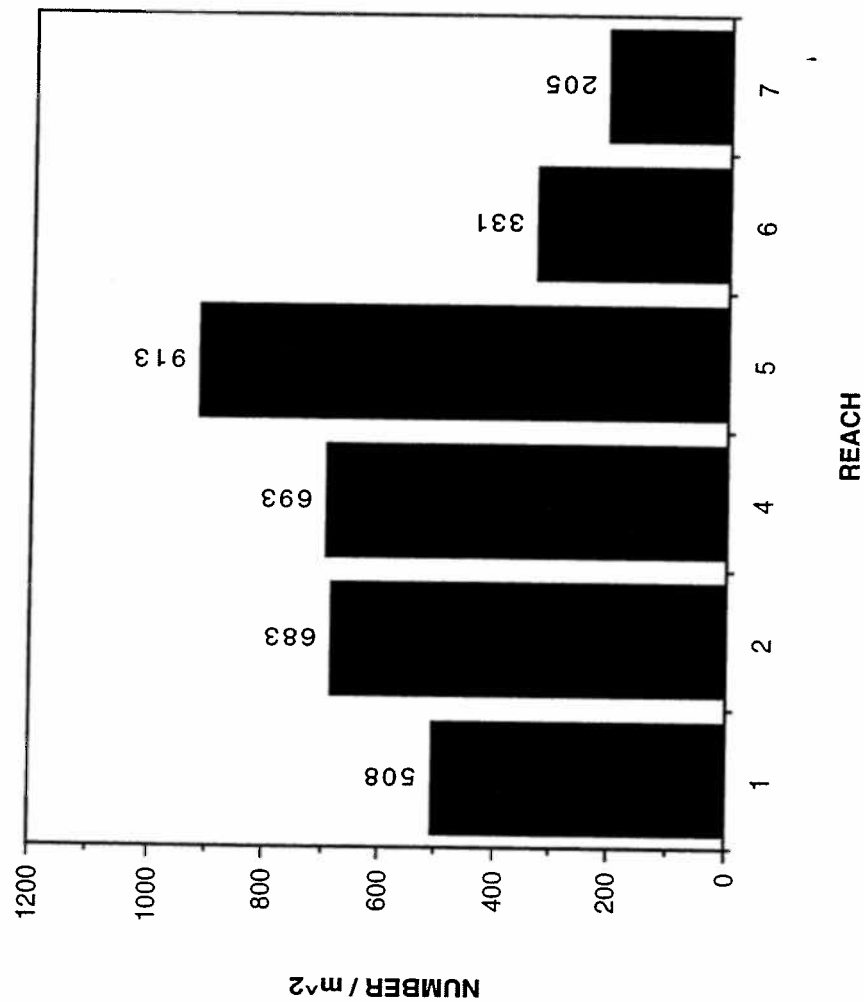


Figure B-338. Benthic invertebrate densities by stream reach. Prospect Creek, Montana. Tributary survey, 1992-1994.

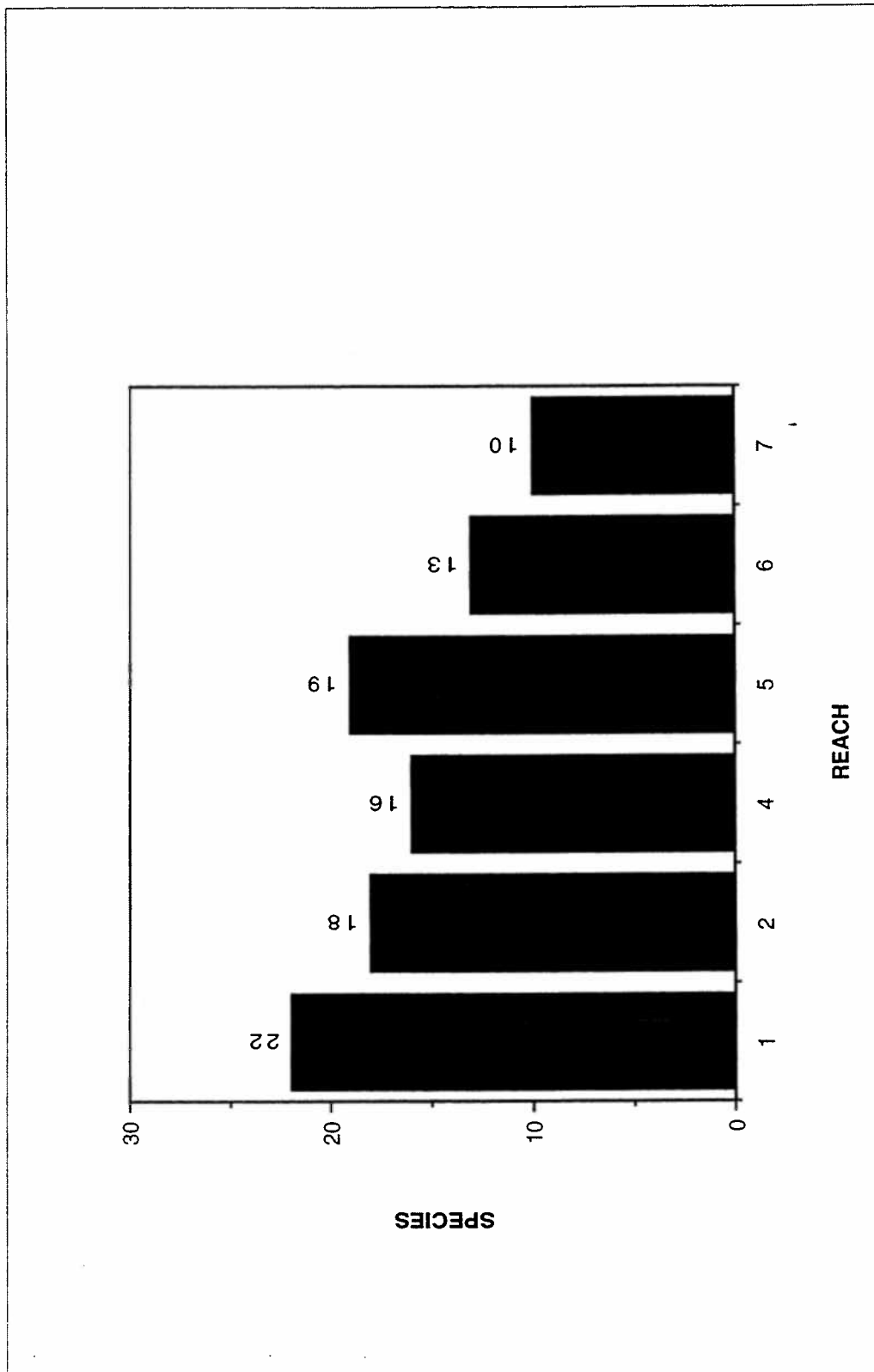


Figure B-339. Benthic invertebrate species richness by stream reach. Prospect Creek, Montana. Tributary survey, 1992-1994.

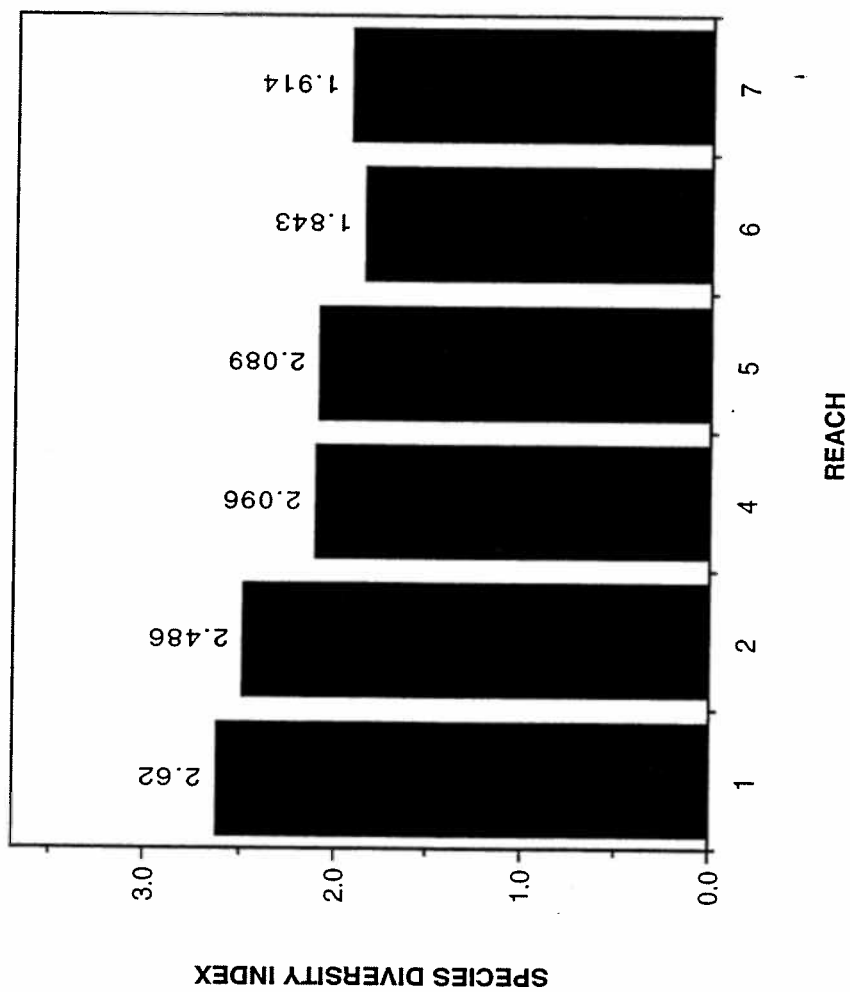


Figure B-340. Benthic invertebrate species diversity (SDI) by stream reach. Prospect Creek, Montana. Tributary survey, 1992-1994.

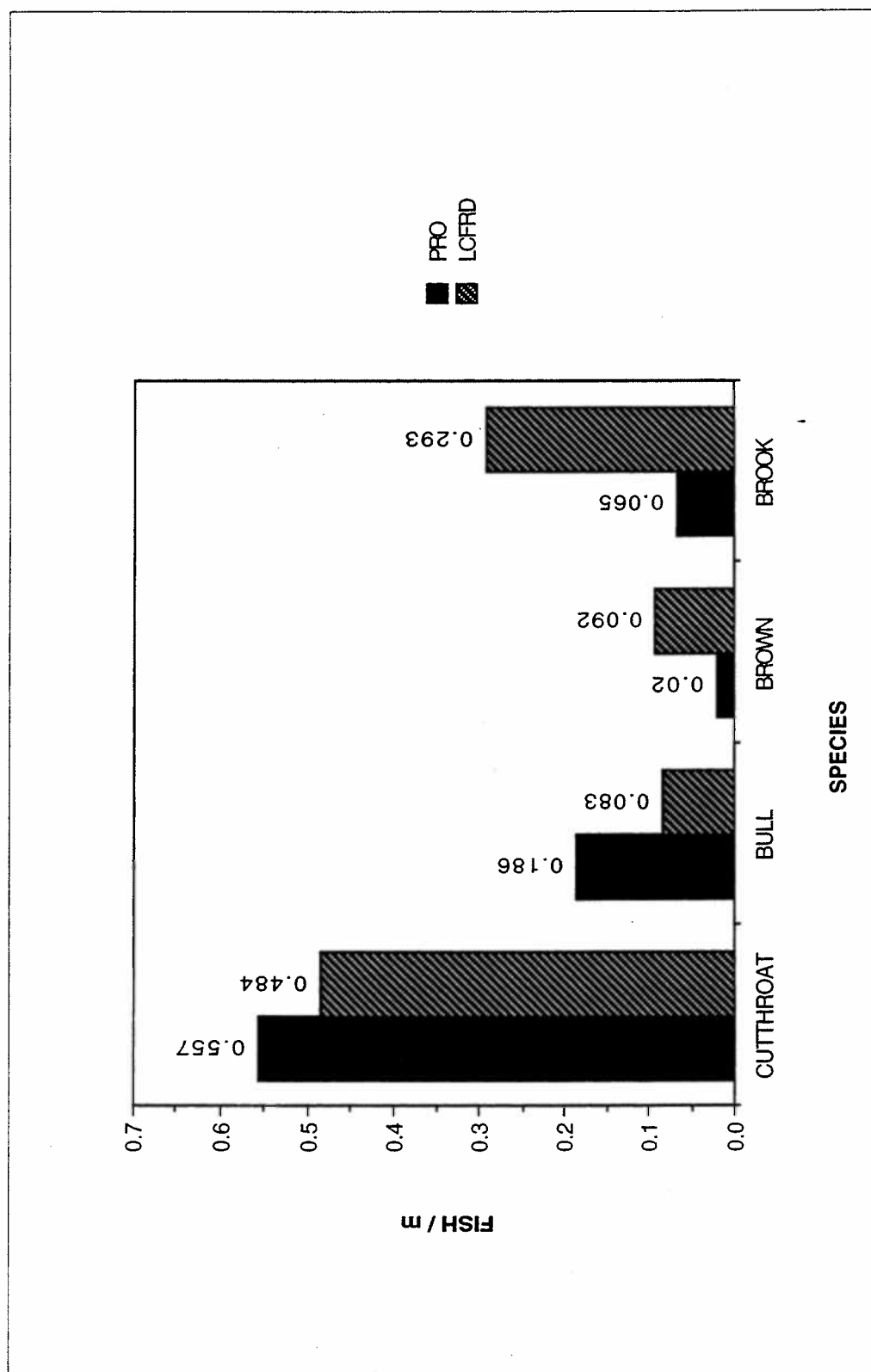


Figure B-341. Estimated densities of cutthroat, bull, brown, and brook trout. Prospect Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

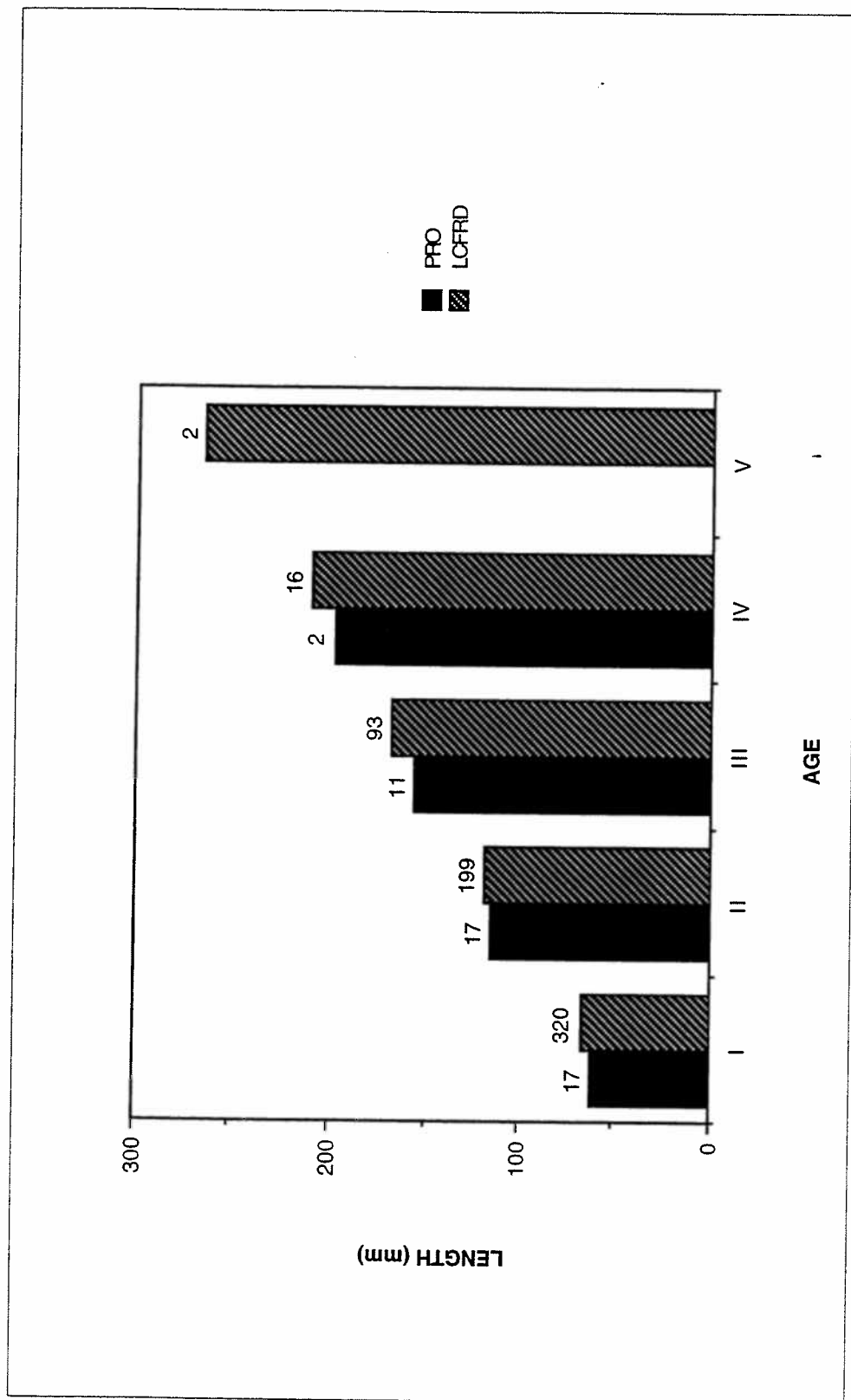


Figure B-342. Number of fish sampled and back calculated length at age for cutthroat trout. Prospect Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

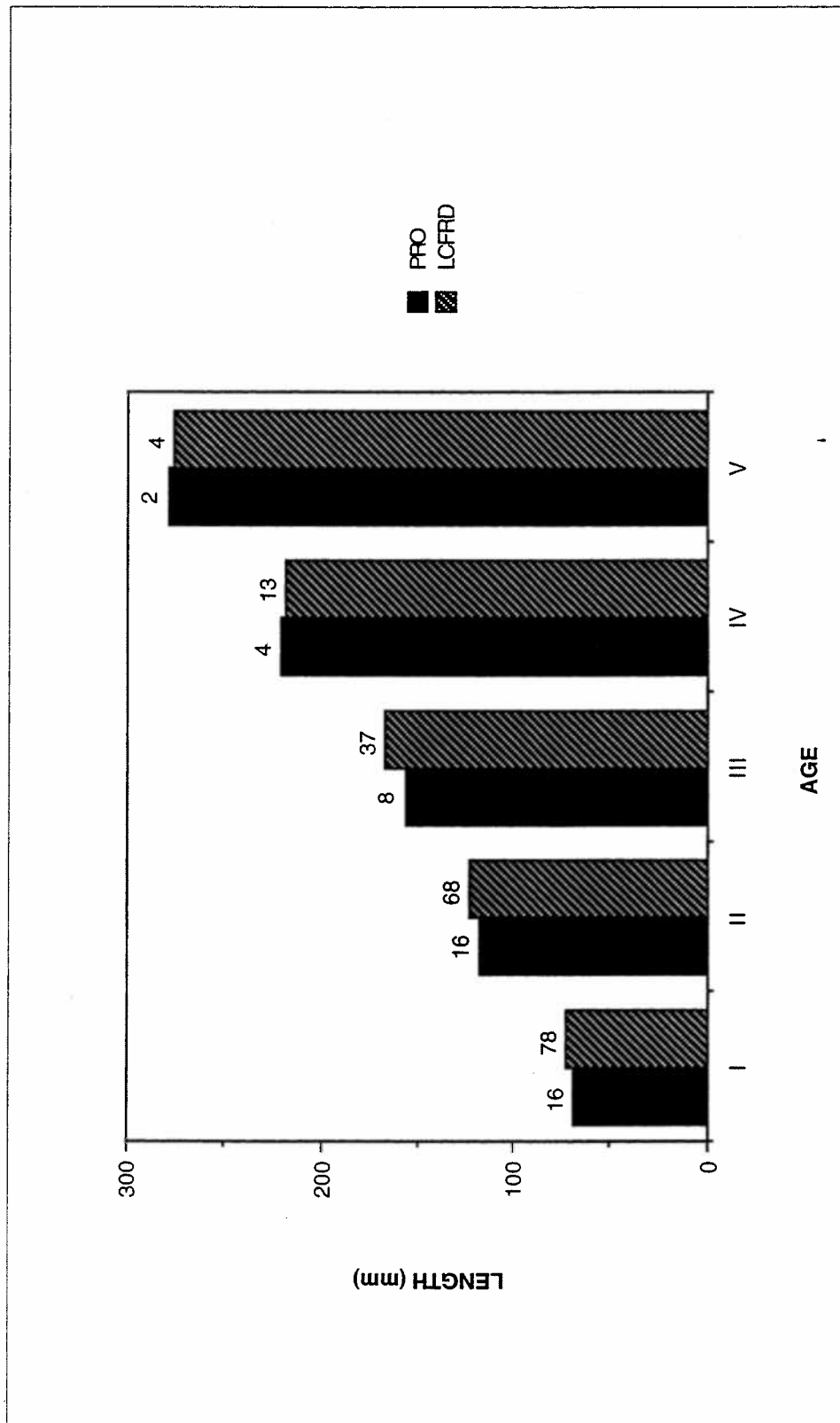


Figure B-343. Number of fish sampled and back calculated length at age for bull trout. Prospect Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

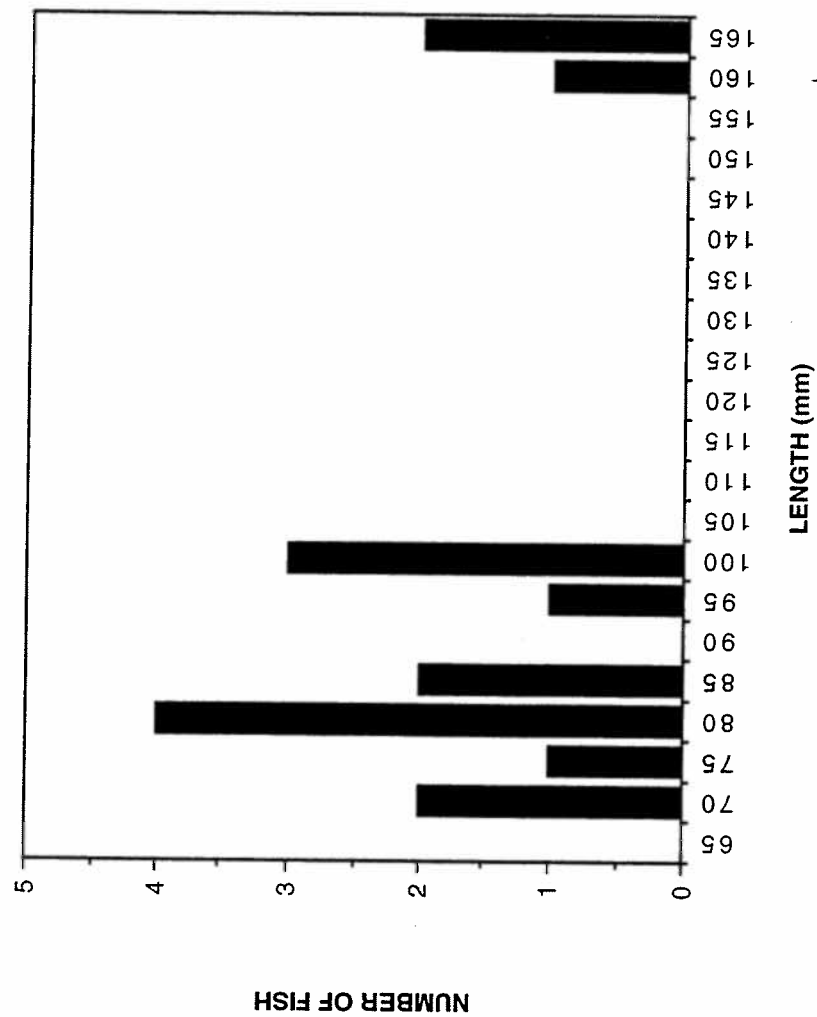


Figure B-344. Length frequency distribution for brown trout. Propect Creek, Montana. Tributary survey, 1992-1994.

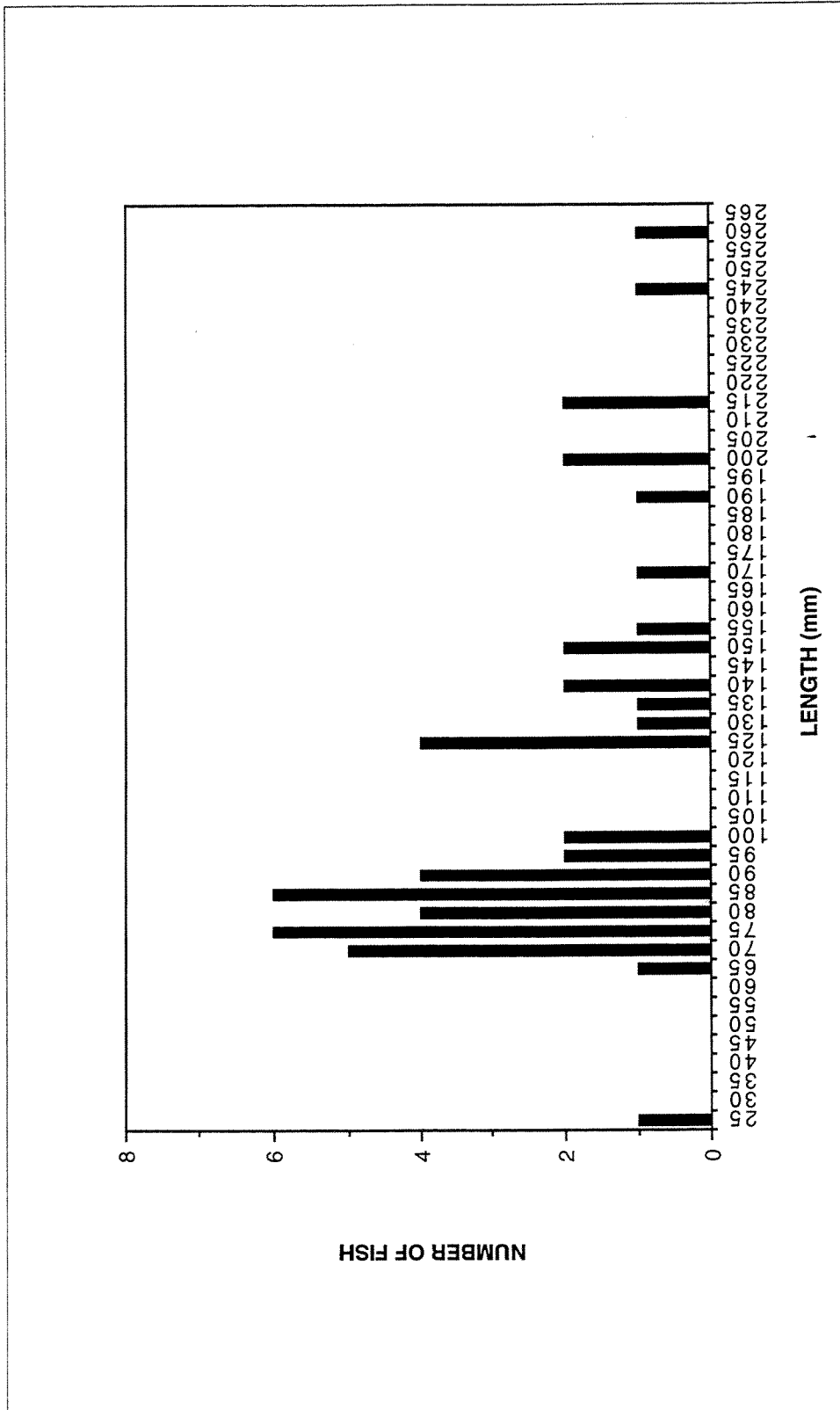


Figure B-345. Length frequency distribution for brook trout. Propect Creek, Montana. Tributary survey, 1992-1994.

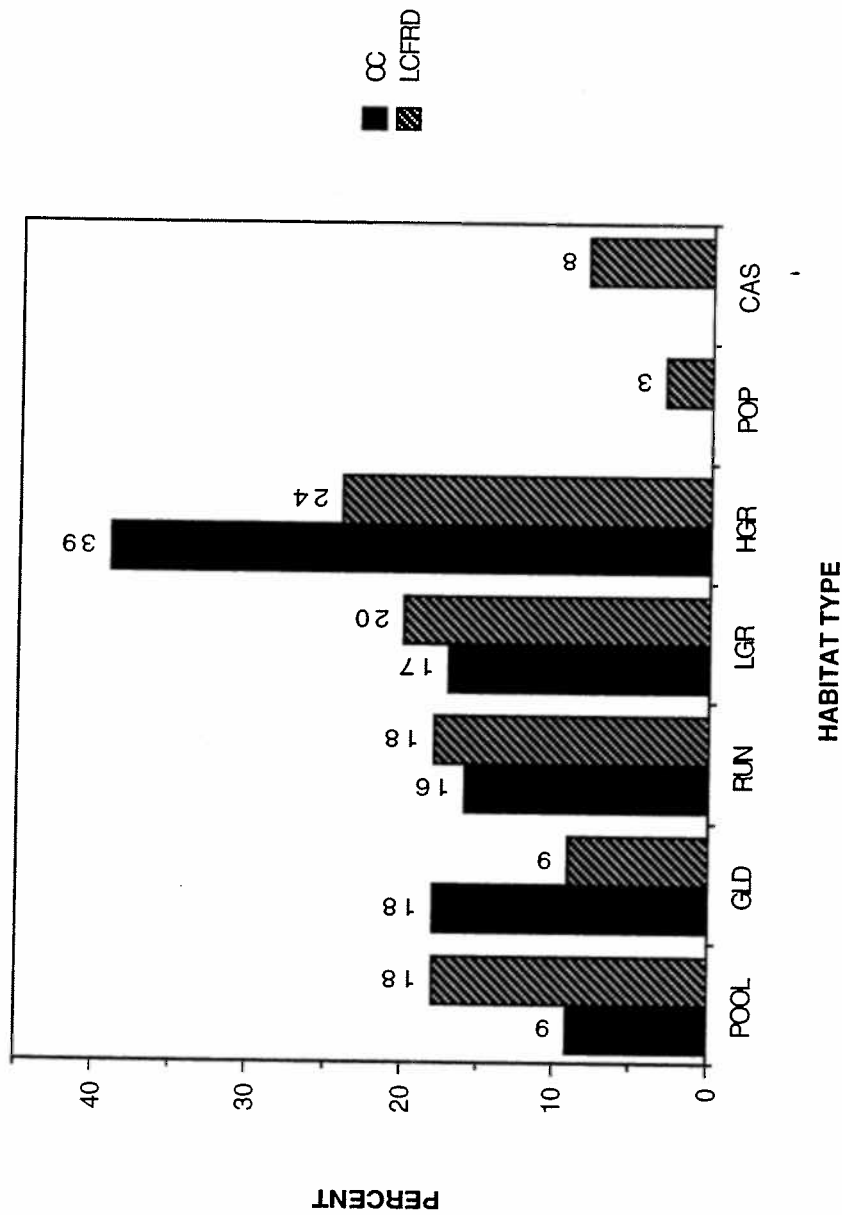


Figure B-346. Percent composition of pool, glide (GLD), run, low gradient riffle (LGR), high gradient riffle (HGR), pocket pool (POP), and cascade (CAS) habitat types. Crow Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

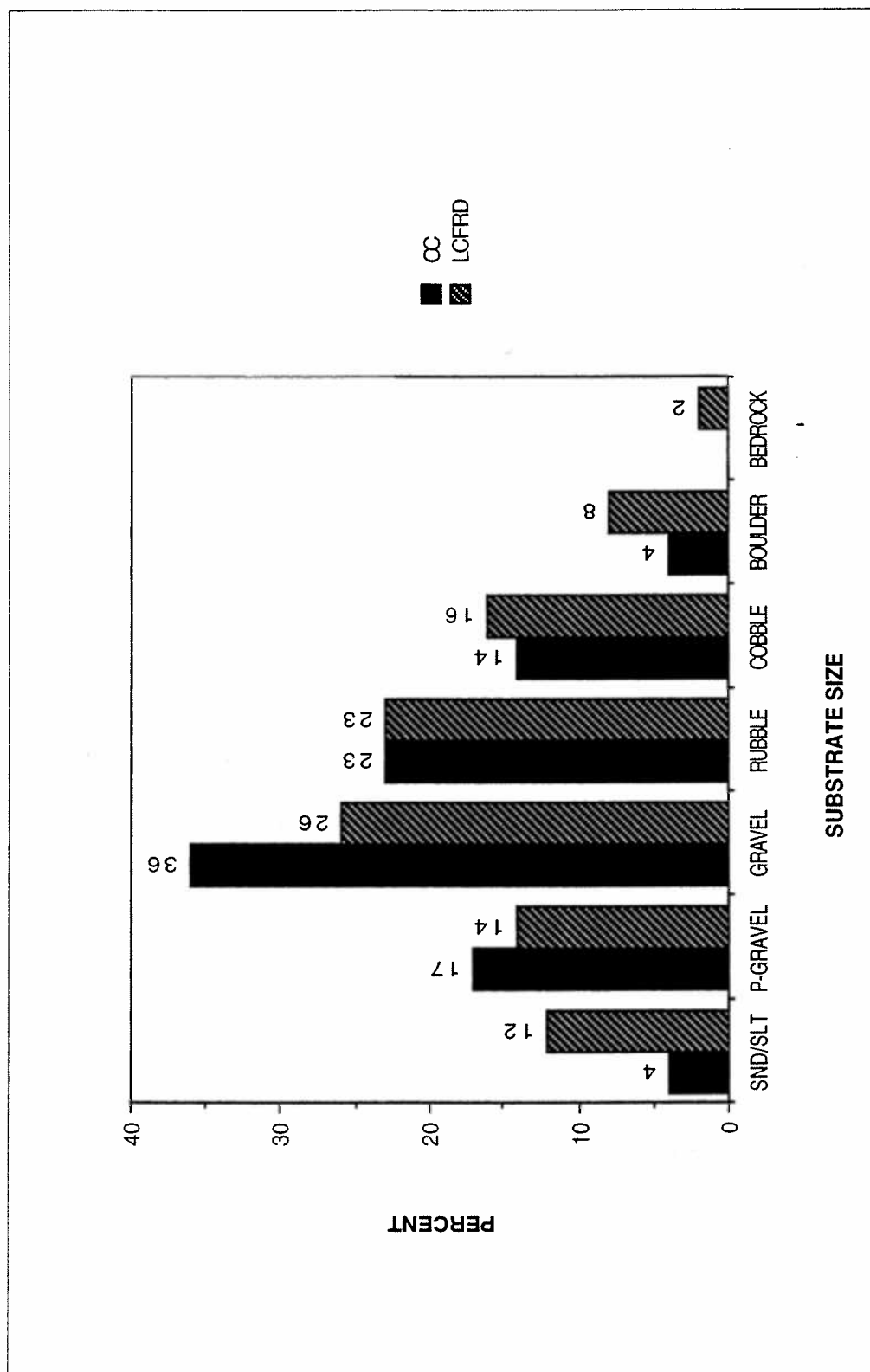


Figure B-347. Percent substrate composition. Crow Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

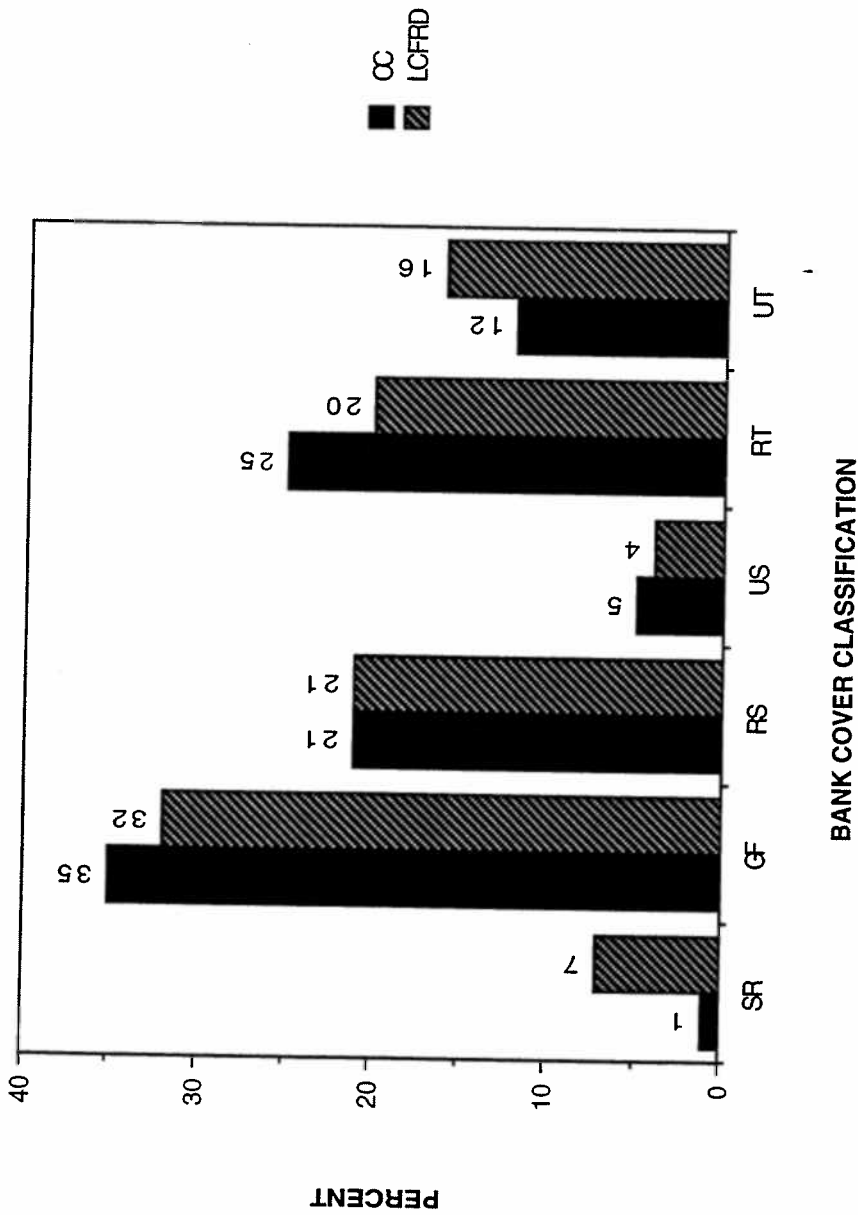


Figure B-348. Percent composition stream bank cover, sedge/rush (SR), grass/forbs (GF), riparian shrub (RS), upland shrub (US), riparian tree (RT), and upland tree (UT). Crow Creek, Montana. Tributary survey, 1992-1994.

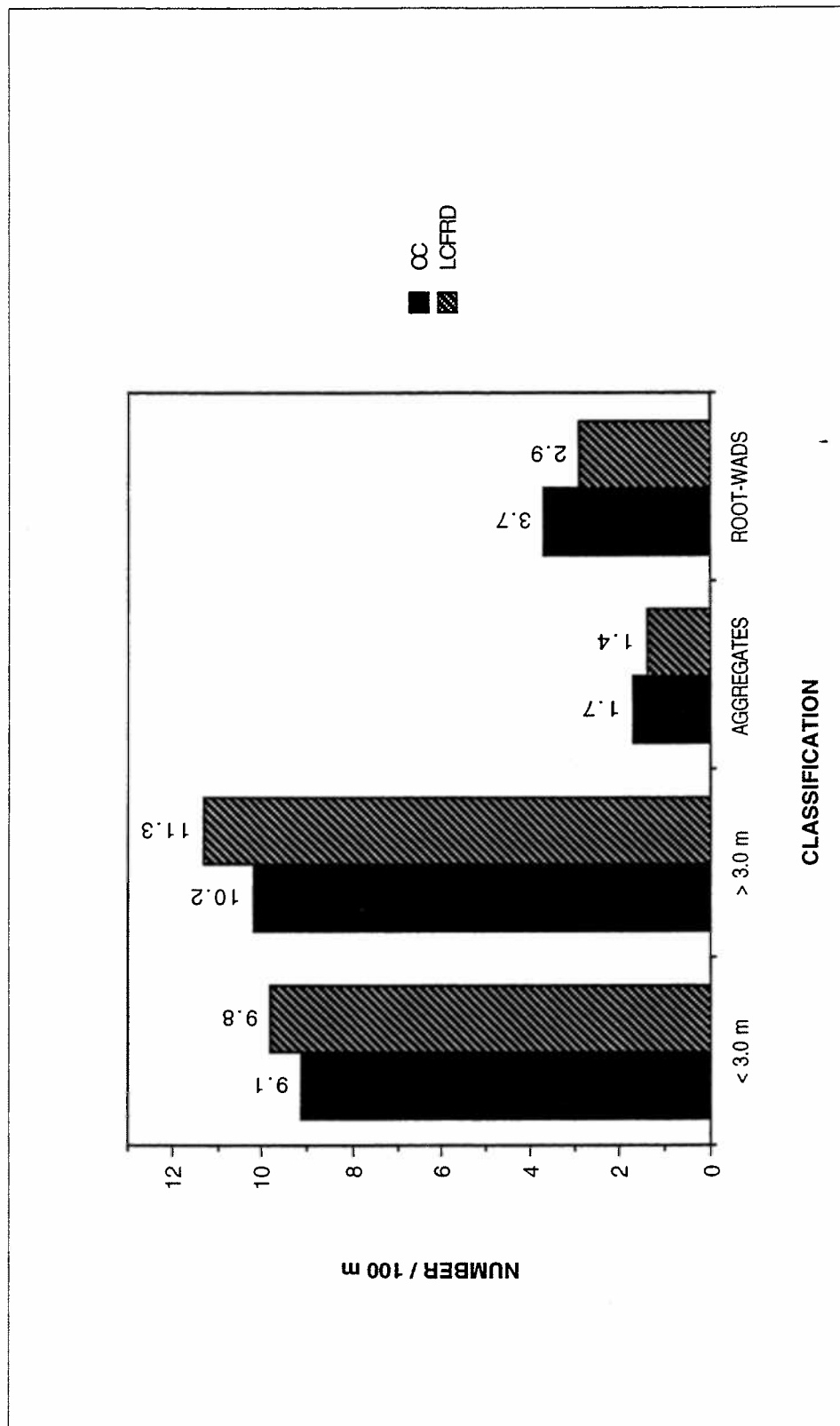


Figure B-349. Large woody debris by classification. Prospect Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

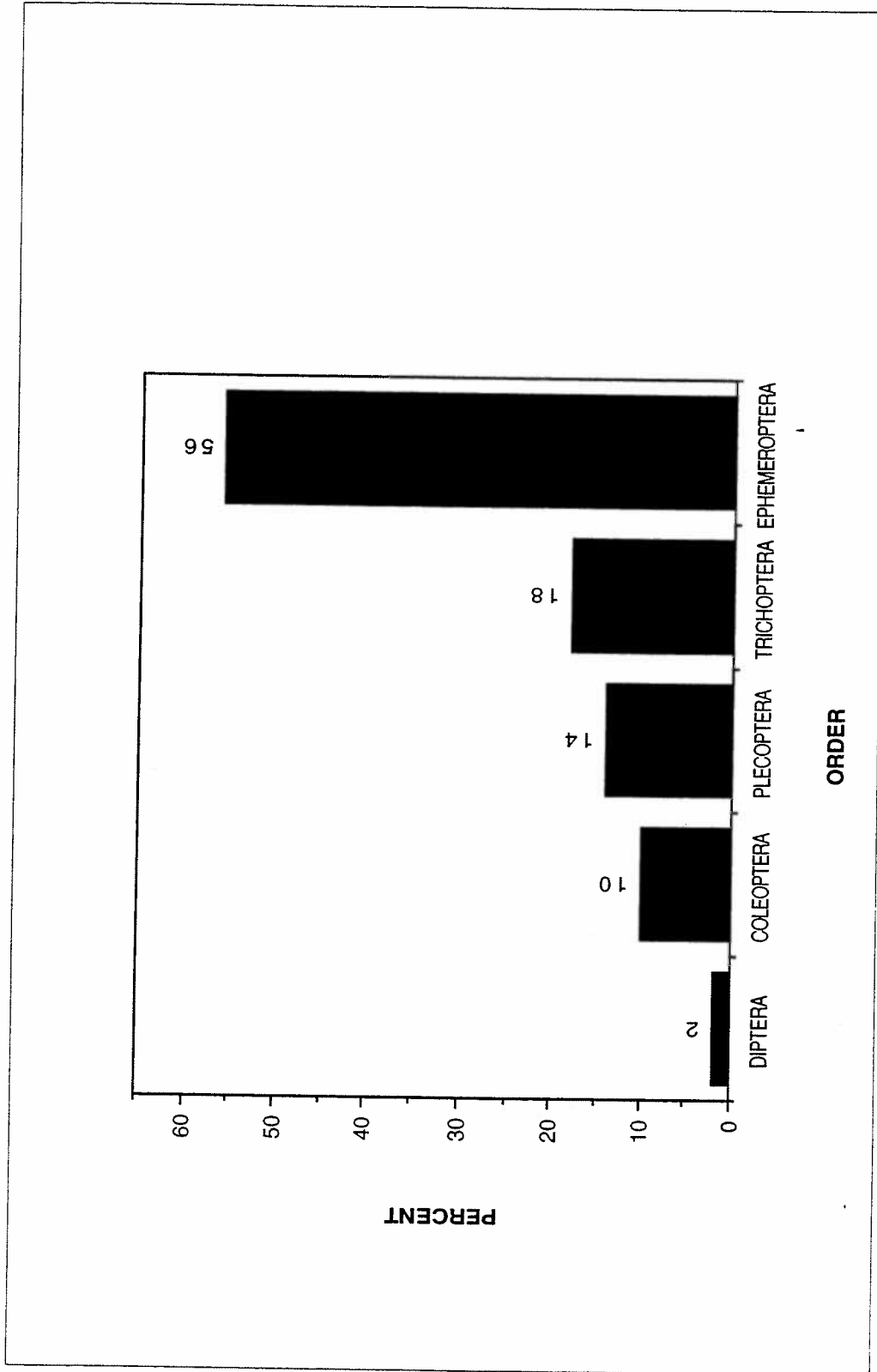


Figure B-350. Percent composition benthic invertebrate population by taxonomic order. Crow Creek, Montana. Tributary survey, 1992-1994.

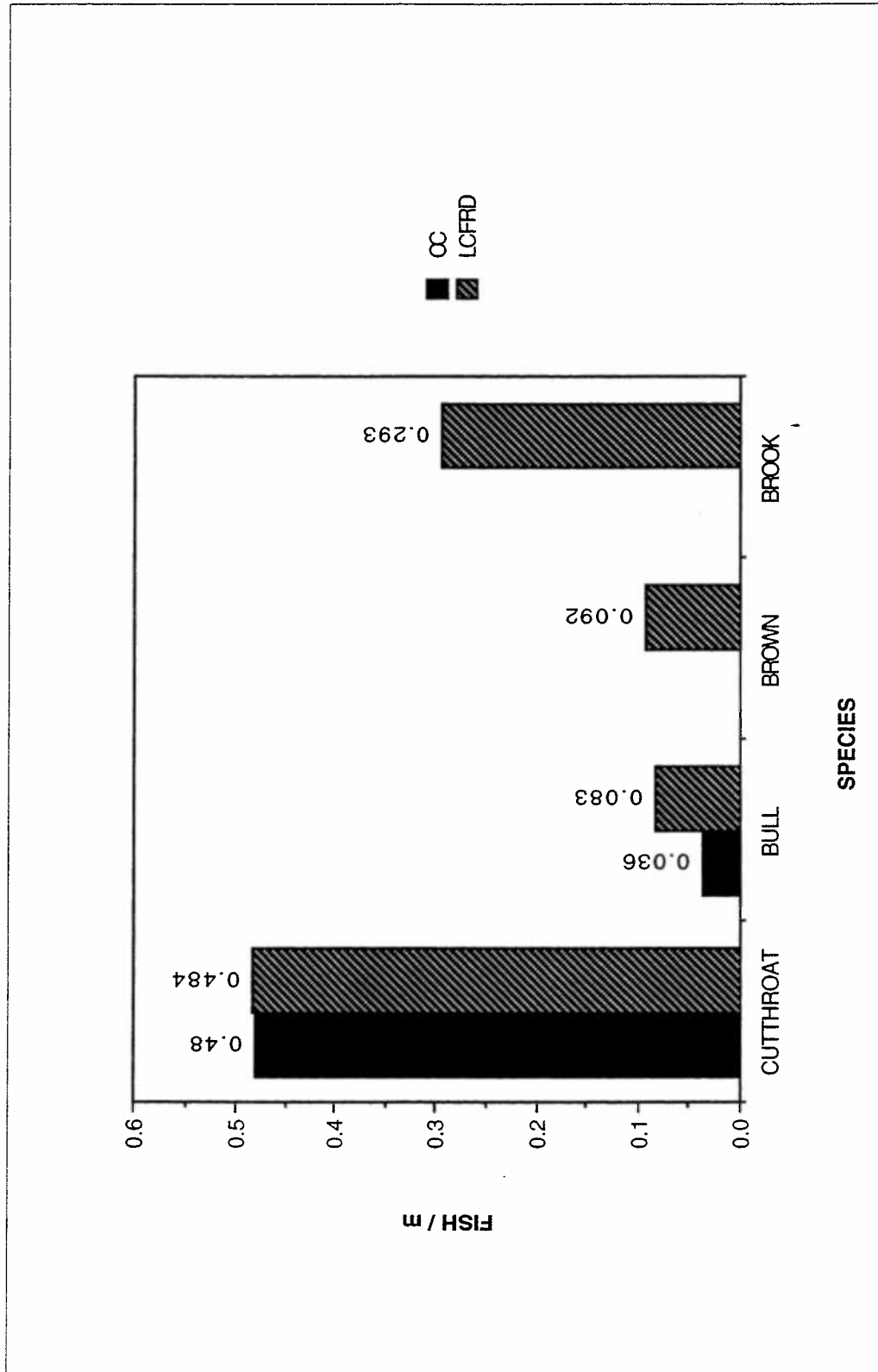


Figure B-351. Estimated densities of cutthroat, bull, brown, and brook trout. Crow Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

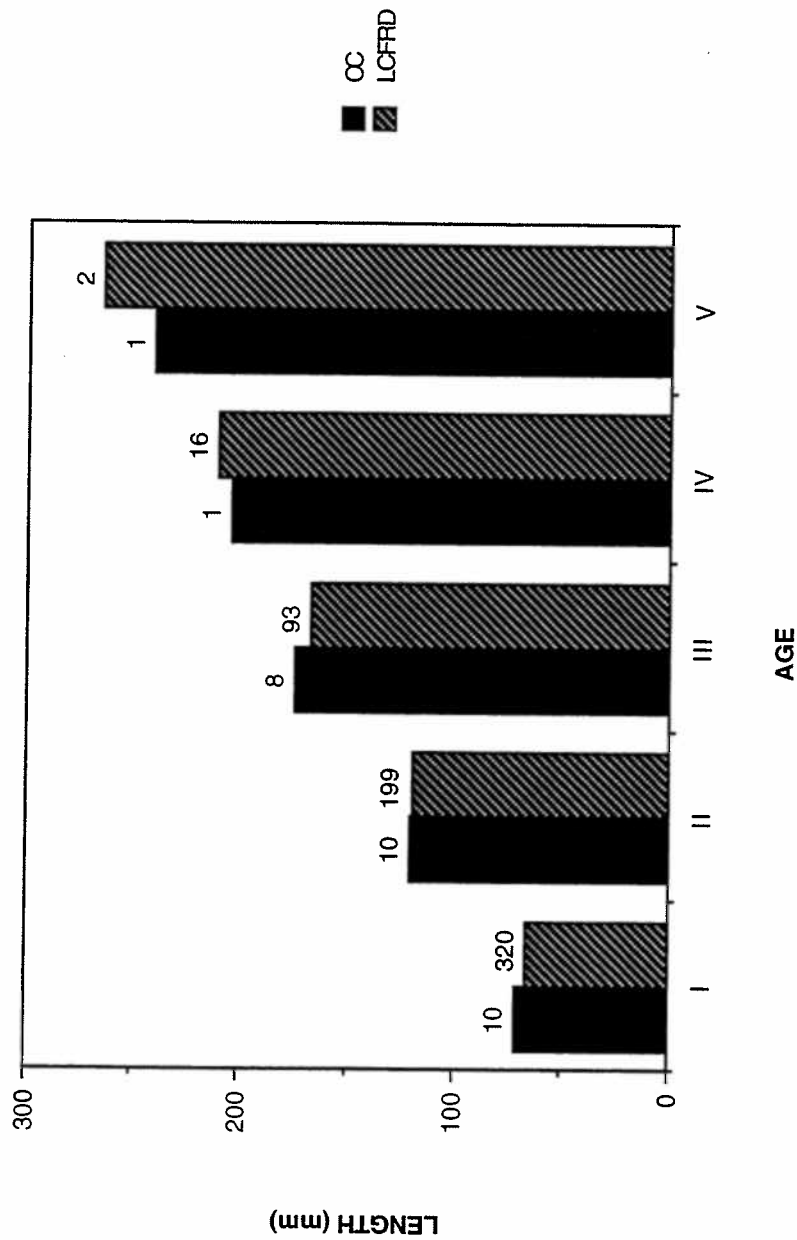


Figure B-352. Number of fish sampled and back calculated length at age for cutthroat trout. Crow Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

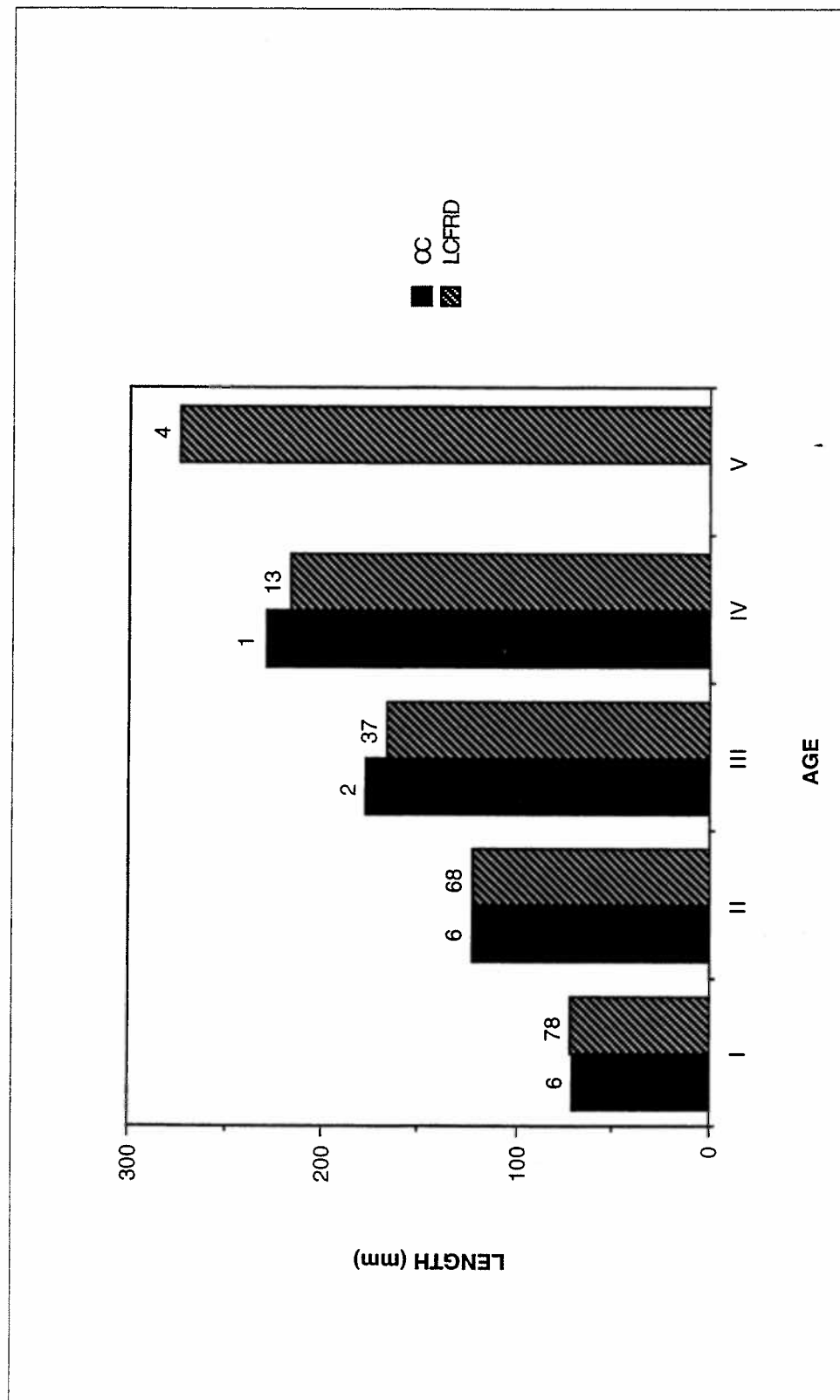


Figure B-353. Number of fish sampled and back calculated length at age for bull trout. Crow Creek and lower Clark Fork River drainage, Montana. Tributary survey, 1992-1994.

APPENDIX C

TABLES

Table C-1. Stream discharge (m³/sec). Lower Clark Fork River Drainage, Montana. February 1994 through January 1995.

Stream	Month											
	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
Bull River	2.8	3.4	4.7	4.1	3.3	2.1	1.4	0.6	2.2	3.7	3.4	2.1
E. Fork Bull River	0.7	0.9	2	3.4	2.9	1.9	0.9	0.4	0.3	1.5	1.3	0.4
N. Fork Bull River	0.1	0.3	2.9	1.4	1.2	0.7	0.4	0.04	0.2	0.3	0.3	0.2
S. Fork Bull River	0.2	0.4	3.1	1.3	0.9	0.6	0.2	0.1	0.4	0.6	0.4	0.2
M. Fork Bull River	0.3	0.3	1	1.2	1.1	0.7	0.3	0.04	0.05	0.5	0.5	0.4
E. Fork Blue Creek	0.3	1	1.2	1	0.8	0.4	0.2	0.1	0.02	0.1	0.2	0.3
Elk Creek	0.5	1.9	3.3	2.5	2.1	1.4	0.7	0.3	0.2	2.5	2	0.5
E. Fork Elk Creek	0.4	1	1.4	1.9	1.7	1.2	0.6	0.3	0.2	0.7	0.6	0.5
W. Fork Elk Creek	0.2	1.2	1.8	0.7	0.5	0.3	0.2	0.01	0.01	0.5	0.4	0.3
Pilgrim Creek	0.2	0.3	0.9	1.4	1.2	0.8	0.3	0.1	0.1	0.2	0.1	0.1
Rock Creek	0.1	0.3	2.3	2.1	1.6	0.9	0.4	0.1	0.1	0.2	0.2	0.1
W. Fork Rock Creek	0.04	0.2	0.7	0.5	0.2	0.03	D	D	D	0.03	0.04	D
Swamp Creek	0.2	1.4	2.3	2.2	1.7	0.9	0.2	0.1	0.5	0.8	0.6	0.1
Marten Creek	0.1	1.1	2.1	4	3.4	2	0.7	0.2	0.2	2.6	2	0.2
Graves Creek	0.2	0.5	0.8	0.8	0.8	0.7	0.6	0.4	0.4	0.4	0.3	0.2
Vermilion River	1.6	2.7	6.8	6.5	5.5	3.7	2.2	1.8	2.1	3	2.7	1.7
Prospect Creek	0.9	1.5	5.2	7.6	4.6	1.9	1.4	0.9	0.8	0.8	0.9	0.9
Crow Creek	0.1	0.3	1.3	1.8	1	0.2	0.1	0.06	0.07	0.2	0.2	0.1

Values obtained from flow curves.

D = Dry channel.

Table C-2. Average and observed water temperatures (C). Lower Clark Fork River Drainage, Montana. February 1994 through January 1995.

Stream	Month											
	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
Bull River	3.5	5.7	9	15.9	14.8	11.1	7.3	6.5	5.5	1.9	1.8	3.2
E. Fork Bull River	4.2	4.9	5.9	7.1	8.8	11.6	10.1	4	2.1	2.3	2.3	3.9
N. Fork Bull River	3.7	4.8	3.9	5.4	8.2	9.4	9.1	8.2	6.5	5.5	4.1	2.3
S. Fork Bull River	3.9	4.2	4.5	6.3	8.2	10.8	11.1	9.7	7.6	5.1	4.3	2.7
M. Fork Bull River	3.1	4.7	3.9	5.8	8.4	D	D	D	6.8	5.2	2.8	1.5
E. Fork Blue Creek	4	5.1	4.9	7	7.6	8	8.6	9.6	7.5	4.7	3.5	2.1
Elk Creek	5.7	6.5	7.9	10	12.4	16.8	17.2	12.6	5.5	2.6	2.6	4.5
Pilgrim Creek	5.4	6.3	7	7.1	7.5	9.2	9.3	8	5.1	4.8	4.9	5.7
Rock Creek	4.4	5.2	6.1	8.3	9.7	12.1	10.7	9.1	6	3	2.7	3.1
W. Fork Rock Creek	3.7	4	4.7	6.3	8.7	11.2	10.9	9.8	7.5	5	4.1	3.3
Swamp Creek	4.3	5	5.9	7.3	8.9	11.9	10.3	8.6	9	7.2	4.7	3.6
Marten Creek		5.9	7.2	8	9.9	12.7	11.1	10.6	8	4.5	4.1	6.1
Graves Creek	3.9	4.3	5.7	6.5	7.9	7.5	8.6	7.9	5.6	2	2.7	3.5
Vermilion River	4.6	5.7	7.3	8.6	10.9	12.5	11.7	10.7	7.8	4.6	4.1	5.2
Prospect Creek	4.1	6.1	5.9	8	9.9	12.2	12.2	10	7.1	4.7	3.5	3.9
Crow Creek	5.9	6.5	6	7.1	7.5	9.6	10.7	10.5	9.1	5.7	5.4	6.3

Values obtained from field observations.

D = Dry channel.

Table C-3. Minimum water temperature (C). Lower Clark Fork River Drainage, Montana. February 1994 through January 1995.

Stream	Month											
	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
Bull River				13.8	11.1	6.5	2.9		3.6	-0.37	-0.71	1.7
E. Fork Bull River					6.1	7.9			0.43	0.6	0.91	3.1
N. Fork Bull River		2.3		3.6	5.3	8.4						
S. Fork Bull River		3.3		4.5	6	7.5	8.7	7.3	5.5	2.9		
M. Fork Bull River									5.4	4.1	1.3	0.77
E. Fork Blue Creek				5.8	6	6.9		7.5	5.6			
Elk Creek				6	7.4	10.3	11.7	3.6	0.75	-0.04	-0.04	0.91
Pilgrim Creek				6.1	6.4	6.6	6	4.2	3.4	3.6	3.6	3.9
Rock Creek										0.31		
W. Fork Rock Creek												
Swamp Creek									7.5	2.8		
Marten Creek					7.8			7.9	6	3	1.3	4.6
Graves Creek				4.6	4.9	6		5.8	3	-0.04	0.27	1.1
Vermilion River					6.1	8.1	7.6	8.9		1.9	1.4	3.1
Prospect Creek				6.1	6.6	7.8	8.6	7.6	4.2			
Crow Creek					5.2	6.7	9.2	8.9	5.6	3.6	4.2	4.9

Table C-4. Maximum water temperature (C). Lower Clark Fork River Drainage, Montana. February 1994 through January 1995.

Stream	Month											
	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
Bull River				17.4	17	15.8	13.1		7.8	4	3.3	3.4
E. Fork Bull River					13.1	16.9			4.5	4	4.4	4.9
N. Fork Bull River			5.2	9	11.7	10.6						
S. Fork Bull River			5.6	8.4	11.5	13.8	13.7	11.4	10.5	6.2		
M. Fork Bull River									7.4	6.3	4.9	5.4
E. Fork Blue Creek				8.9	10.5	10		11.5	10.3			
Elk Creek				15.8	17.9	21.6	22.2	26.8	18.7	4.4	5.3	
Pilgrim Creek				8.9	12.1	13.7	15	11.7	7.6	5.2	5.5	
Rock Creek										4.9		
W. Fork Rock Creek												
Swamp Creek									10.9	9.8		
Marten Creek					14			14	11.5	5.7	6.8	
Graves Creek				10.2	11.9	9.2		9.8	8.7	3.7	4.4	
Vermilion River					16.4	18.4	17.8	14.8		7	6.6	7
Prospect Creek				12.6	15.6	17.2	16.7	13.8	10.6			
Crow Creek					10.1	12	12.3	11.8	11.4	6.6	6.4	8.3

Table C-5. Stream, reach number, channel type, and Riffle Stability Index (RSI).
Tributary streams originating in the Bitterroot Mountains, Lower
Clark Fork River Drainage, Montana. Tributary survey, 1992-1994.

Stream	Reach	Channel Type	RSI
Elk Creek	1	A-1	-
	2	C-4	35.1
	3	B-2	16.7
	4	C-4	72.6
W. Fork Elk Creek	1	C-4	71.8
E. Fork Elk Creek	1	C-4	76.3
Pilgrim Creek	1	C-4	51.5
	2	B-3	36.4
	3	C-4	86.9
Marten Creek	1	C-3	76.4
	2	B-3	41.7
N. Branch Marten Creek	1	B-3	25.3
S. Branch Marten Creek	1	C-3	37.1
Prospect Creek	1	A-2	-
	2	B-3	66.6
	3	A-2	-
	4	B-3	31.6
	5	C-4	91.2
	6	B-3	59.7
	7	B-2a	38.9
Crow Creek	1	C-3	50.1

Table C-6. Stream, reach number, channel type, and Riffle Stability Index (RSI).
Tributary streams originating in the Cabinet Mountains, Lower
Clark Fork River Drainage, Montana. Tributary survey, 1992-1994.

Stream	Reach	Channel Type	RSI
Bull River	1	B-3c	-
	2	C-3	23.4
	3	E-6	-
	4	C-3	59.1
	5	E-6	-
E. Fork Bull River	1	C-3	57.3
	2	B-3	33.1
	3	A-2	-
N. Fork Bull River	1	C-3	69.7
	2	B-3	49
	3	C-4	-
S. Fork Bull River	1	C-4	69.2
	2	B-3	54.6
	3	C-4	58.8
M. Fork Bull River	1	D-3	84.7
	2	A-2	-
E. Fork Blue Creek	1	B-4c	57.3
	2	C-4	73.3
Rock Creek	1	C-1	37
	2	C-3	50.1
	3	B-1	-
	4	A-2	-
W. Fork Rock Creek	1	C-1	-
	2	B-1	-
	3	A-2	-
Swamp Creek	1	B-2c	19.8
	2	C-3	75.5
	3	B-3	42.7
Graves Creek	1	C-3	69.6
	2	B-3	38.7
	3	A-2	-
Vermilion River	1	C-3	68.2
	2	A-2	-
	3	C-3	-

Table C-7. Estimated fish abundance by tributary. Lower Clark Fork River Drainage, Montana.
Tributary survey, 1992-1994.

Stream	Species			
	Cutthroat	Bull	Brown	Brook
Bull River	11,901	79	446	5,092
E. Fork Bull River	5,108	609	1,677	547
N. Fork Bull River	3,404	0	0	105
S. Fork Bull River	4,160	121	0	1,092
M. Fork Bull River	2,310	0	0	1,302
E. Fork Blue Creek	2,601	0	0	0
Elk Creek	685	0	1,903	2,205
E. Fork Elk Creek	230	0	0	2,296
W. Fork Elk Creek	47	0	0	4,274
Pilgrim Creek	9,315	0	0	1,821
Rock Creek	6,445	1,900	0	634
W. Fork Rock Creek	553	743	0	0
Swamp Creek	6,199	0	1,418	15,661
Marten Creek	6,521	0	2,889	22
N. Branch Marten Creek	335	0	0	0
S. Branch Marten Creek	1,263	0	0	0
Graves Creek	2,717	738	15	17
Prospect Creek	4,761	1,592	172	557
Crow Creek	988	74	0	0
LCFR Drainage	69,543	5,856	8,520	35,625

Table C-8. Starch gel electrophoretic analysis of suspected westslope cutthroat trout collected from tributaries of Cabinet Gorge Reservoir. Lower Clark Fork River drainage, 1983-1994. Genetic analysis includes westslope cutthroat (WCT), Yellowstone cutthroat (YCT), and rainbow trout (RBT). (MDFWP 1995)

Water body	Year sampled	Genetic analysis	Status\1
West Fork Blue Creek	1993	WCT	Pure A
East Fork Blue Creek	1993	WCT	Pure A
Dead Horse Creek			
Below Hwy. 200	1993	WCTxRBT -	Hybridized
Above Hwy. 200	1987	WCT	Pure A
Bull River drainage			
Copper Creek	1992	WCTxRBT	Pure M
E.F. Bull River	1985	WCT	Pure A-P
Napoleon Gulch	1992	WCT	Pure A
Star Gulch	1992	WCT	Pure A
Hamilton Gulch	1992	WCT	Pure A
Dry Creek	1992	WCT	Pure A
Berray Creek	1992	WCT	Pure A
N.F. Bull River	1992	WCTxRBT	Pure M
M.F. Bull River	1992	WCT	Pure A
S.F. Bull River	1992	WCT	Pure A
Pilgrim Creek			
Mouth	1993	WCTxRBT	Hybridized
W.F. Pilgrim Creek	1993	WCT	Pure A
Government Creek	1993	WCTxRBT	Hybridized
Rock Creek drainage			
Rock Lake	1987 & 1993	WCTxYCT	Hybridized
E.F. Rock, Meadows	1987	WCT	Hybridized
		WCTxYCT	
		WCTxRBT	
E.F. Rock Creek	1986	WCT	Pure A
Rock Creek	1986	WCT	Pure A

1/ Status Pure A - Considered pure aboriginal westslope.
 Pure P - Pure westslope but may be influenced by hatchery reared fish.
 Pure M - Populations containing 2% or less foreign genes but considered pure for management purposes.
 Hybridized - Populations with >2% foreign genes.

Table C-9. Starch gel electrophoretic analysis of suspected westslope cutthroat trout collected from tributaries of Noxon Reservoir. Lower Clark Fork River drainage, 1983-1994. Genetic analysis includes westslope cutthroat (WCT), Yellowstone cutthroat (YCT), and rainbow trout (RBT).

Water body	Year sampled	Genetic analysis	Status\1
McKay Creek	1986	WCT	Pure A
Marten Creek drainage			
Above Fire Creek	1983-84	WCT	Pure B
S.F. Marten Creek	1993	WCT	Pure A
Tuscor Creek	1993	WCT	Pure A
Swamp Creek drainage			
Cirque Lake #1	1987	WCT	Pure P
Cirque Lake #2	1987	WCT	Pure P
Cirque Lake #3	1987	WCT	Hybridized
		WCTxYCT	
Wanless Lake	1987	WCTxYCT	Hybridized
Wilderness boundary	1994	WCTxYCT	Hybridized
Fox Lane Road	1986	WCT	Pure A-P
Trout Creek			
E.F. Trout Creek	1994	WCT	Pure A
W.F. Trout Creek	1984	WCT	Pure M
		WCTxRBT	
Vermilion River drainage			
Above falls	1983	WCT	Pure A-B
Cataract Creek	1985-87	WCTxYCT	Hybridized
Canyon Creek	1991	WCT	Pure M
		WCTxRBT	
Deep Creek	1985-86	WCT	Pure A-B
Beaver Creek drainage			
White Pine Creek			
Forest boundary	1992	WCT	Pure A
Mouth	1993	WCTxRBT	Hybridized
Beaver Creek	1993	WCT	Pure A
L. Beaver Creek	1994	WCT	Pure A
Prospect Creek drainage			
W.F. Dry Creek	1987	WCT	Pure A
Crow Creek	1987	WCT	Pure A
Cooper Creek	1987	WCT	Pure A
Evans Gulch	1994	WCT	Pure A
Blossom Creek	1994	WCT	Pure A
Prospect Creek	1994	WCT	Pure A

- 1/ Status Pure A - Considered pure aboriginal westslope.
 Pure A-B - Pure aboriginal westslope that have been or may be part of Montana's hatchery brood stock.
 Pure P - Pure westslope but may be influenced by hatchery reared fish.
 Pure M - Populations containing 2% or less foreign genes but considered pure for management purposes.
 Hybridized - Populations with >2% foreign genes.

Table C-10. Brown trout redd counts. Lower Clark Fork River Drainage. Montana Department of Fish, Wildlife, and Parks data, 1980-1994.

Stream	Year													
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1991	1992	1993	1994	
Bull River	10	31	49	26	53	46	64	94	95	90	70	94	83	
E.Fork Bull River	24	41	35	20	15							3		
Prospect Creek							12	15	14	4		6	3	
Vermilion River							12	26	40	5		63	17	
Marten Creek							25	36	20		14	12	4	
S. Fork Marten Creek												16		
Rock Creek												none		
W. Fork Rock Creek												none		
Pilgrim Creek												0		
Elk Creek												22		
Graves Creek												none		
Swamp Creek												0		

(none) indicates that brown trout could not enter stream due to no water.

(0) indicates that fish may have access into stream but no redds were observed.

Table C-11. Bull trout redd counts. Lower Clark Fork River Drainage. Montana Department of Fish, Wildlife, and Parks data, 1992-1994.

Stream	Year		
	1992	1993	1994
Bull River		16	23
E.Fork Bull River	12	?	
Prospect Creek		9	10
Vermilion River		27	
Marten Creek		3	
S. Fork Marten Creek		0	
Rock Creek		1	
W. Fork Rock Creek		?	
E. Fork Rock Creek		3	
Pilgrim Creek		0	
Elk Creek		0	
Graves Creek		1	0
Swamp Creek		7	

(?) indicates bull trout have stream access, are known to be present, but redds were not found.

(0) indicates that fish may have access into stream but no redds were observed.

Table C-12. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, 3, 4, and 5. Bull River, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	601	23	31	238	483	18	25	190
95% CI	206	27	28	141	157	20	22	107
2	2150	133	70	615	1008	105	57	490
95% CI	1889	101	66	376	423	78	52	283
3	1819	0	764	2318	4554	0	462	1366
95% CI	3077	0	577	1189	1395	0	327	697
4	480	0	24	228	471	0	26	244
95% CI	151	0	19	83	119	0	22	91
5	1249	0	0	511	1127	0	0	460
95% CI	259	0	0	154	234	0	0	147
Combined	29998	73	895	12307	11901	79	449	5092
95% CI	5835	52	506	3076	1859	55	223	1161

Table C-13. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, 3, 4, and 5. Bull River, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	0.009	<0.001	<0.001	0.004	0.209	0.008	0.011	0.082
95% CI	0.003	<0.001	<0.001	0.002	0.068	0.009	0.010	0.046
2	0.011	0.001	<0.001	0.003	0.147	0.015	0.008	0.072
95% CI	0.010	0.001	<0.001	0.002	0.062	0.011	0.008	0.041
3	0.029	0	0.025	0.008	0.277	0	0.028	0.083
95% CI	0.010	0	0.002	0.004	0.085	0	0.020	0.042
4	0.080	0	0.004	0.038	0.589	0	0.033	0.306
95% CI	0.025	0	0.003	0.014	0.150	0	0.027	0.114
5	0.079	0	0	0.032	0.597	0	0	0.244
95% CI	0.016	0	0	0.010	0.124	0	0	0.078
Combined	0.051	<0.001	0.002	0.021	0.421	0.003	0.016	0.180
95% CI	0.010	<0.001	0.001	0.005	0.066	0.002	0.008	0.041

Table C-14. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, pocket water, and cascade habitat types. Bull River, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	4319	0	263	1799	2095	0	146	896
95% CI	968	0	150	669	385	0	80	320
Glide	639	47	280	545	490	54	214	501
95% CI	656	92	203	608	575	106	152	537
Run	9195	8	51	3542	3192	8	54	1380
95% CI	4688	15	43	1848	1013	15	46	592
L.G. Riffle	1951	16	0	769	1007	18	0	399
95% CI	737	13	0	378	367	14	0	181
H.G. Riffle	172	0	0	76	93	0	0	43
95% CI	103	0	0	59	54	0	0	38
Pocket Water	129	1	0	76	70	1	0	32
95% CI	208	1	0	76	85	2	0	26
Cascade	0	0	0	0	0	0	0	0
95% CI	0	0	0	0	0	0	0	0

Table C-15. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, pocket water, and cascade habitat types. Bull River, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.067	0	0.004	0.028	0.553	0	0.039	0.236
95% CI	0.015	0	0.002	0.010	0.102	0	0.021	0.085
Glide	0.003	<0.001	0.001	0.002	0.040	0.004	0.018	0.041
95% CI	0.003	0	0.001	0.002	0.047	0.009	0.012	0.044
Run	0.040	<0.001	<0.001	0.016	0.327	0.001	0.006	0.141
95% CI	0.021	0	<0.001	0.008	0.104	0.002	0.005	0.061
L.G. Riffle	0.047	<0.001	0	0.018	0.462	0.008	0	0.183
95% CI	0.018	<0.001	0	0.009	0.141	0.007	0	0.083
H.G. Riffle	0.089	0	0	0.040	0.343	0	0	0.159
95% CI	0.053	0	0	0.031	0.200	0	0	0.141
Pocket Water	0.074	0.001	0	0.032	0.836	0.010	0	0.380
95% CI	0.119	0	0	0.044	1.011	0.020	0	0.314
Cascade	0	0	0	0	0	0	0	0
95% CI	0	0	0	0	0	0	0	0

Table C-16. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, and 3. East Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	37	25	1165	295	40	30	989	228
95% CI	38	27	465	306	40	29	392	217
2	2519	107	395	252	2452	81	360	206
95% CI	1060	121	272	207	915	82	226	146
3	3045	754	0	0	2549	636	0	0
95% CI	1054	346	0	0	720	251	0	0
Combined	5554	720	1961	696	5108	609	1677	547
95% CI	1883	336	839	475	1635	253	698	339

Table C-17. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, and 3. East Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	0.003	0.002	0.093	0.024	0.020	0.015	0.491	0.113
95% CI	0.003	0.002	0.037	0.025	0.020	0.014	0.195	0.108
2	0.201	0.009	0.032	0.020	1.223	0.040	0.179	0.103
95% CI	0.085	0.010	0.022	0.016	0.465	0.041	0.113	0.073
3	0.121	0.030	0	0	0.646	0.161	0	0
95% CI	0.042	0.014	0	0	0.182	0.064	0	0
Combined	0.111	0.014	0.039	0.014	0.641	0.076	0.211	0.069
95% CI	0.638	0.007	0.017	0.009	0.205	0.032	0.088	0.043

Table C-18. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, and cascade habitat types. East Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.131	0.023	0.022	0.008	0.870	0.126	0.135	0.056
95% CI	0.060	0.017	0.026	0.009	0.410	0.084	0.154	0.053
Glide	0.013	0	0.025	0.088	0.069	0	0.170	0.370
95% CI	0.013	0	0.021	0.072	0.062	0	0.019	0.303
Run	0.204	0.014	0.077	0.005	0.997	0.065	0.385	0.023
95% CI	0.130	0.014	0.045	0.007	0.642	0.060	0.024	0.037
L.G. Riffle	0.081	0.009	0.055	0	0.557	0.048	0.200	0
95% CI	0.066	0.012	0.072	0	0.472	0.061	0.185	0
H.G. Riffle	0.055	0.010	0.032	0.010	0.324	0.055	0.207	0.058
95% CI	0.039	0.011	0.029	0.011	0.203	0.045	0.185	0.064
Cascade	0.124	0.030	0	0	0.681	0.161	0	0
95% CI	0.070	0.030	0	0	0.285	0.159	0	0

Table C-19. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, and cascade habitat types. East Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	1773	306	296	114	1894	274	294	121
95% CI	809	236	354	120	892	183	335	116
Glide	22	0	41	145	16	0	40	87
95% CI	21	0	34	118	15	0	45	71
Run	1386	93	526	31	1197	78	462	28
95% CI	880	96	303	50	771	72	288	44
L.G. Riffle	660	71	450	0	668	58	240	0
95% CI	542	98	588	0	566	73	222	0
H.G. Riffle	1019	193	590	189	950	160	606	171
95% CI	717	202	533	201	595	133	542	187
Cascade	149	35	0	0	163	40	0	0
95% CI	62	35	0	0	92	39	0	0

Table C-20. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, and 3. North Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	952	0	0	57	771	0	0	52
95% CI	325	0	0	46	255	0	0	42
2	3969	0	0	54	2332	0	0	32
95% CI	1131	0	0	106	601	0	0	63
3	387	0	0	17	299	0	0	14
95% CI	192	0	0	34	147	0	0	27
Combined	4899	0	0	138	3404	0	0	105
95% CI	1371	0	0	121	885	0	0	89

Table C-21. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, and 3. North Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	0.056	0	0	0.003	0.277	0	0	0.019
95% CI	0.019	0	0	0.003	0.092	0	0	0.015
2	0.279	0	0	0.004	1.239	0	0	0.017
95% CI	0.079	0	0	0.007	0.320	0	0	0.033
3	0.140	0	0	0.063	0.687	0	0	0.031
95% CI	0.069	0	0	0.012	0.338	0	0	0.061
Combined	0.144	0	0	0.004	0.667	0	0	0.021
95% CI	0.040	0	0	0.004	0.173	0	0	0.017

Table C-22. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, low gradient riffle, high gradient riffle, pocket water, and cascade habitat types. North Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.197	0	0	0.008	0.934	0	0	0.037
95% CI	0.072	0	0	0.008	0.318	0	0	0.040
Run	0.037	0	0	0	0.155	0	0	0
95% CI	0.023	0	0	0	0.104	0	0	0
L.G. Riffle	0.149	0	0	0	0.720	0	0	0
95% CI	0.124	0	0	0	0.498	0	0	0
H.G. Riffle	0.148	0	0	0.002	0.612	0	0	0.009
95% CI	0.072	0	0	0.003	0.224	0	0	0.017
Cascade	0.058	0	0	0.005	0.285	0	0	0.030
95% CI	0.036	0	0	0.007	0.166	0	0	0.039

Table C-23. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, low gradient riffle, high gradient riffle, and cascade habitat types. North Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	705	0	0	1004	663	0	0	25
95% CI	226	0	0	26	211	0	0	26
Run	14	0	0	0	27	0	0	0
95% CI	9	0	0	0	18	0	0	0
L.G. Riffle	151	0	0	0	185	0	0	0
95% CI	246	0	0	0	237	0	0	0
H.G. Riffle	1316	0	0	23	860	0	0	32
95% CI	596	0	0	28	430	0	0	30
Cascade	972	0	0	6	522	0	0	9
95% CI	305	0	0	55	205	0	0	48

Table C-24. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, and 3. South Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	1793	180	0	749	1578	157	0	672
95% CI	926	99	0	714	774	88	0	625
2	2208	93	0	909	1510	33	0	627
95% CI	900	92	0	553	530	31	0	378
3	1524	0	0	38	901	0	0	24
95% CI	430	0	0	43	289	0	0	27
Combined	6389	191	0	1389	4160	121	0	1092
95% CI	1416	112	0	706	881	67	0	560

Table C-25. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, and 3. South Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	0.184	0.019	0	0.077	0.789	0.079	0	0.336
95% CI	0.095	0.010	0	0.073	0.387	0.044	0	0.313
2	0.255	0.017	0	0.105	0.970	0.021	0	0.403
95% CI	0.104	0.011	0	0.064	0.341	0.020	0	0.243
3	0.380	0.000	0	0.009	0.947	0.000	0	0.026
95% CI	0.107	0.000	0	0.011	0.313	0.000	0	0.029
Combined	0.285	0.009	0	0.062	0.929 [*]	0.027	0	0.244
95% CI	0.063	0.005	0	0.032	0.197	0.015	0	0.125

Table C-26. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, and cascade habitat types. South Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.502	0.016	0	0.137	1.742	0.016	0	0.536
95% CI	0.125	0.012	0	0.085	0.366	0.021	0	0.336
Glide	0.157	0.040	0	0	0.640	0.165	0	0
95% CI	0.132	0.010	0	0	0.500	0.054	0	0
Run	0.217	0.011	0	0.041	0.611	0.047	0	0.166
95% CI	0.082	0.009	0	0.025	0.160	0.039	0	0.130
L.G. Riffle	0.175	0	0	0.025	0.555	0	0	0.097
95% CI	0.093	0	0	0.021	0.253	0	0	0.088
H.G. Riffle	0.178	0.010	0	0.022	0.446	0.041	0	0.050
95% CI	0.105	0.010	0	0.016	0.188	0.045	0	0.065
Cascade	0.087	0	0	0.021	0.345	0	0	0.070
95% CI	0.047	0	0	0.034	0.211	0	0	0.104

Table C-27. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, and cascade habitat types. South Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	3683	74	0	1003	2622	24	0	807
95% CI	919	88	0	622	552	32	0	506
Glide	9	2	0	0	14	4	0	0
95% CI	8	1	0	0	11	1	0	0
Run	914	47	0	172	914	47	0	172
95% CI	347	38	0	107	347	38	0	107
L.G. Riffle	851	0	0	121	465	0	0	82
95% CI	451	0	0	104	212	0	0	74
H.G. Riffle	618	35	0	45	345	32	0	39
95% CI	366	37	0	55	145	35	0	50
Cascade	210	0	0	51	167	0	0	34
95% CI	115	0	0	82	102	0	0	50

Table C-28. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1 and 2. Middle Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	1664	0	0	4711	852	0	0	2012
95% CI	701	0	0	1880	434	0	0	771
2	778	0	0	0	550	0	0	0
95% CI	287	0	0	0	185	0	0	0
Combined	3295	0	0	3116	2310	0	0	1302
95% CI	1008	0	0	1450	765	0	0	589

Table C-29. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1 and 2 Middle Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	0.080	0	0	0.226	0.229	0	0	0.540
95% CI	0.034	0	0	0.090	0.116	0	0	0.207
2	0.201	0	0	0	0.920	0	0	0
95% CI	0.074	0	0	0	0.310	0	0	0
Combined	0.134	0	0	0.126	0.535	0	0	0.301
95% CI	0.041	0	0	0.059	0.177,	0	0	0.136

Table C-30. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, low gradient riffle, high gradient riffle, and cascade habitat types. Middle Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Fish/m^2 Estimate					Fish/m Estimate				
Habitat	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook	
Pool	0.180	0	0	0.168	0.794	0	0	0.435	
95% CI	0.070	0	0	0.111	0.300	0	0	0.261	
Run	0.009	0	0	0.163	0.016	0	0	0.385	
95% CI	0.018	0	0	0.048	0.031	0	0	0.133	
L.G. Riffle	0.048	0	0	0.125	0.083	0	0	0.244	
95% CI	0.068	0	0	0.095	0.104	0	0	0.187	
H.G. Riffle	0.022	0	0	0.121	0.033	0	0	0.189	
95% CI	0.043	0	0	0.156	0.065 ¹	0	0	0.233	
Cascade	0.206	0	0	0	0.731	0	0	0	
95% CI	0.061	0	0	0	0.351	0	0	0	

Table C-31. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, low gradient riffle, high gradient riffle, and cascade habitat types. Middle Fork Bull River, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	1673	0	0	1564	1240	0	0	679
95% CI	651	0	0	1034	468	0	0	407
Run	9	0	0	161	3	0	0	79
95% CI	18	0	0	47	6	0	0	27
L.G. Riffle	125	0	0	324	30	0	0	89
95% CI	177	0	0	248	38	0	0	68
H.G. Riffle	175	0	0	955	54	0	0	304
95% CI	343	0	0	1232	105	0	0	375
Cascade	775	0	0	0	412	0	0	0
95% CI	229	0	0	0	198	0	0	0

Table C-32. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1 and 2. East Fork Blue Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	975	0	0	0	757	0	0	0
95% CI	388	0	0	0	303	0	0	0
2	2860	0	0	0	1810	0	0	0
95% CI	1578	0	0	0	942	0	0	0
Combined	3932	0	0	0	2601	0	0	0
95% CI	1773	0	0	0	1048	0	0	0

Table C-33. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1 and 2. East Fork Blue Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	0.108	0	0	0	0.448	0	0	0
95% CI	0.043	0	0	0	0.179	0	0	0
2	0.304	0	0	0	0.994	0	0	0
95% CI	0.168	0	0	0	0.517	0	0	0
Combined	0.213	0	0	0	0.741	0	0	0
95% CI	0.096	0	0	0	0.299	0	0	0

Table C-34. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, and high gradient riffle habitat types. East Fork Blue Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.437	0	0	0	1.523	0	0	0
95% CI	0.235	0	0	0	0.693	0	0	0
Glide	0.178	0	0	0	0.576	0	0	0
95% CI	0.205	0	0	0	0.559	0	0	0
Run	0.174	0	0	0	0.586	0	0	0
95% CI	0.187	0	0	0	0.589	0	0	0
L.G. Riffle	0.060	0	0	0	0.233	0	0	0
95% CI	0.031	0	0	0	0.109	0	0	0
H.G. Riffle	0.071	0	0	0	0.258	0	0	0
95% CI	0.083	0	0	0	0.263	0	0	0

Table C-35. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, and high gradient riffle habitat types. East Fork Blue Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	3007	0	0	0	1873	0	0	0
95% CI	1619	0	0	0	852	0	0	0
Glide	95	0	0	0	60	0	0	0
95% CI	110	0	0	0	58	0	0	0
Run	449	0	0	0	367	0	0	0
95% CI	481	0	0	0	369	0	0	0
L.G. Riffle	469	0	0	0	331	0	0	0
95% CI	240	0	0	0	156	0	0	0
H.G. Riffle	49	0	0	0	32	0	0	0
95% CI	56	0	0	0	32	0	0	0

Table C-36. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 3 and 4. Elk Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
3	36	0	1614	497	18	0	1051	238
95% CI	70	0	863	450	36	0	549	228
4	793	0	949	2453	661	0	860	1951
95% CI	744	0	648	1777	595	0	560	1394
Combined	909	0	2435	3141	685	0	1903	2205
95% CI	844	0	1065	2047	618	0	801	1465

Table C-37. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 3 and 4 Elk Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
3	0.001	0	0.055	0.017	0.007	0	0.387	0.088
95% CI	0.002	0	0.030	0.015	0.013	0	0.202	0.084
4	0.021	0	0.025	0.064	0.146	0	0.189	0.430
95% CI	0.019	0	0.017	0.046	0.131	0	0.123	0.307
Combined	0.013	0	0.036	0.046	0.094	0	0.262	0.304
95% CI	0.012	0	0.016	0.030	0.085	0	0.110	0.202

Table C-38. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, and high gradient riffle habitat types. Elk Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.017	0	0.040	0.050	0.128	0	0.328	0.323
95% CI	0.018	0	0.030	0.046	0.127	0	0.215	0.271
Glide	0.003	0	0.040	0.003	0.024	0	0.293	0.021
95% CI	0.005	0	0.039	0.003	0.038	0	0.286	0.021
Run	0.032	0	0.042	0.095	0.218	0	0.268	0.640
95% CI	0.049	0	0.041	0.113	0.332	0	0.244	0.770
L.G. Riffle	0.004	0	0.016	0.042	0.028	0	0.127	0.259
95% CI	0.003	0	0.020	0.030	0.022	0	0.169	0.178
H.G. Riffle	0	0	0.058	0.028	0	0	0.414	0.176
95% CI	0	0	0.066	0.041	0	0	0.525	0.234

Table C-39. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, and high gradient riffle habitat types. Elk Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	292	0	676	841	158	0	404	400
95% CI	304	0	495	772	157	0	265	334
Glide	61	0	720	52	48	0	572	40
95% CI	92	0	687	52	74	0	560	42
Run	696	0	4913	2054	605	0	744	1778
95% CI	1058	0	886	2441	921	0	678	2137
L.G. Riffle	38	0	162	421	32	0	147	299
95% CI	30	0	202	304	26	0	196	206
H.G. Riffle	0	0	80	39	0	0	56	24
95% CI	0	0	91	56	0	0	71	32

Table C-40. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, low gradient riffle, and high gradient riffle habitat types. East Fork Elk Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.024	0	0	0.178	0.103	0	0	1.165
95% CI	0.048	0	0	0.218	0.201	0	0	1.580
Run	0	0	0	0.061	0	0	0	0.347
95% CI	0	0	0	0.042	0	0	0	0.236
L.G. Riffle	0.005	0	0	0.034	0.028	0	0	0.264
95% CI	0.005	0	0	0.046	0.028	0	0	0.391
H.G. Riffle	0.030	0	0	0.026	0.117	0	0	0.104
95% CI	0.012	0	0	0.051	0.042	0	0	0.203
Combined	0.011	0	0	0.076	0.048	0	0	0.479
95% CI	0.012	0	0	0.057	0.049	0	0	0.396

Table C-41. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, low gradient riffle, and high gradient riffle habitat types. East Fork Elk Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	44	0	0	537	48	0	0	544
95% CI	145	0	0	658	94	0	0	738
Run	0	0	0	487	0	0	0	429
95% CI	0	0	0	331	0	0	0	292
L.G. Riffle	65	0	0	470	54	0	0	512
95% CI	66	0	0	630	55	0	0	758
H.G. Riffle	226	0	0	195	134	0	0	119
95% CI	92	0	0	382	48	0	0	234
Combined	366	0	0	2464	230	0	0	2296
95% CI	381	0	0	1824	233	0	0	1897

Table C-42. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, and high gradient riffle habitat types. West Fork Elk Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.012	0	0	0.806	0.055	0	0	2.398
95% CI	0.024	0	0	0.601	0.107	0	0	3.463
Glide	0.005	0	0	0.080	0.033	0	0	0.344
95% CI	0.010	0	0	0.157	0.065	0	0	0.674
Run	0	0	0	0.435	0	0	0	1.897
95% CI	0	0	0	0.381	0	0	0	1.606
L.G. Riffle	0	0	0	0.135	0	0	0	0.683
95% CI	-	-	-	0.162	-	-	-	0.750
H.G. Riffle	0	0	0	0.072	0	0	0	0.180
95% CI	0	0	0	0.106	0	0	0	0.249
Combined	0.003	0	0	0.355	0.014	0	0	1.323
95% CI	0.005	0	0	0.215	0.021	0	0	0.909

Table C-43. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, and high gradient riffle habitat types. West Fork Elk Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	37	0	0	2412	34	0	0	1504
95% CI	73	0	0	1801	67	0	0	2171
Glide	8	0	0	121	11	0	0	110
95% CI	15	0	0	238	21	0	0	216
Run	0	0	0	1021	0	0	0	1111
95% CI	0	0	0	895	0	0	0	941
L.G. Riffle	0	0	0	668	0	0	0	754
95% CI	0	0	0	799	0	0	0	829
H.G. Riffle	0	0	0	180	0	0	0	106
95% CI	0	0	0	265	0	0	0	147
Combined	42	0	0	5076	47	0	0	4274
95% CI	67	0	0	3074	68	0	0	2936

Table C-44. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, and 3. Pilgrim Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Wct/Rbt	Bull	Brown	Brook	Wct/Rbt	Bull	Brown	Brook
1	6560	0	0	200	4883	0	0	159
95% CI	1671	0	0	146	1211	0	0	116
2	1090	0	0	418	1188	0	0	505
95% CI	351	0	0	298	406	0	0	389
3	3037	0	0	813	1587	0	0	551
95% CI	2134	0	0	442	582	0	0	279
Combined	11190	0	0	1853	9315	0	0	1821
95% CI	2386	0	0	957	1955	0	0	1131

Table C-45. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, and 3. Pilgrim Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Wct/Rbt	Bull	Brown	Brook	Wct/Rbt	Bull	Brown	Brook
1	0.349	0	0	0.106	1.700	0	0	0.055
95% CI	0.089	0	0	0.008	0.422	0	0	0.040
2	0.227	0	0	0.087	1.354	0	0	0.576
95% CI	0.073	0	0	0.062	0.462	0	0	0.443
3	0.157	0	0	0.042	0.442	0	0	0.154
95% CI	0.111	0	0	0.023	0.162	0	0	0.078
Combined	0.261	0	0	0.043	1.269	0	0	0.248
95% CI	0.056	0	0	0.022	0.266	0	0	0.154

Table C-46. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, and cascade habitat types. Pilgrim Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Wct/Rbt	Bull	Brown	Brook	Wct/Rbt	Bull	Brown	Brook
Pool	0.387	0	0	0.081	1.931	0	0	0.530
95% CI	0.115	0	0	0.071	0.582	0	0	0.505
Glide	0.097	0	0	0.024	0.538	0	0	0.145
95% CI	0.060	0	0	0.025	0.356	0	0	0.188
Run	0.309	0	0	0.024	1.394	0	0	0.110
95% CI	0.164	0	0	0.030	0.703	0	0	0.125
L.G. Riffle	0.233	0	0	0.044	1.141	0	0	0.211
95% CI	0.090	0	0	0.020	0.428	0	0	0.088
H.G. Riffle	0.184	0	0	0.025	0.884	0	0	0.112
95% CI	0.092	0	0	0.020	0.435	0	0	0.087
Cascade	0.043	0	0	0	0.237	0	0	0
95% CI	0.046	0	0	0	0.245	0	0	0

Table C-47. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, and cascade habitat types. Pilgrim Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Wct/Rbt	Bull	Brown	Brook	Wct/Rbt	Bull	Brown	Brook
Pool	3000	0	0	629	2362	0	0	648
95% CI	894	0	0	549	712	0	0	618
Glide	180	0	0	44	185	0	0	50
95% CI	112	0	0	47	122	0	0	65
Run	4208	0	0	331	3445	0	0	273
95% CI	2227	0	0	409	1739	0	0	310
L.G. Riffle	1999	0	0	377	1667	0	0	308
95% CI	771	0	0	168	626	0	0	129
H.G. Riffle	737	0	0	102	663	0	0	84
95% CI	368	0	0	82	326	0	0	65
Cascade	302	0	0	0	258	0	0	0
95% CI	329	0	0	0	267	0	0	0

Table C-48. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, 3, and 4. Rock Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
2	1102	258	0	351	1190	272	0	425
95% CI	532	181	0	274	514	167	0	284
3	1576	471	0	0	1134	363	0	0
95% CI	362	102	0	0	226	81	0	0
4	2719	813	0	0	1785	571	0	0
95% CI	625	175	0	0	355	127	0	0
Combined	8380	2382	0	605	6445	1900	0	634
95% CI	1801	550	0	522	1211	425	0	486

Table C-49. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, 3, and 4. Rock Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
2	0.135	0.032	0	0.043	0.675	0.154	0	0.241
95% CI	0.065	0.022	0	0.034	0.291	0.094	0	0.161
3	0.213	0.064	0	0	0.820	0.262	0	0
95% CI	0.049	0.014	0	0	0.163	0.058	0	0
4	0.213	0.064	0	0	0.820	0.262	0	0
95% CI	0.049	0.014	0	0	0.163	0.058	0	0
Combined	0.188	0.053	0	0.014	0.774	0.228	0	0.076
95% CI	0.040	0.012	0	0.012	0.145	0.052	0	0.058

Table C-50. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, pocket water, and cascade habitat types. Rock Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.244	0.050	0	0.001	0.968	0.202	0	0.014
95% CI	0.072	0.020	0	0.002	0.287	0.085	0	0.020
Glide	0.052	0.018	0	0.037	0.303	0.092	0	0.303
95% CI	0.017	0.024	0	0.013	0.025	0.103	0	0.025
Run	0.139	0.021	0	0.014	0.730	0.097	0	0.067
95% CI	0.076	0.017	0	0.019	0.376	0.075	0	0.088
L.G. Riffle	0.127	0.077	0	0.081	0.623	0.388	0	0.405
95% CI	0.098	0.052	0	0.093	0.378	0.212	0	0.447
H.G. Riffle	0.181	0.069	0	0.005	0.728	0.316	0	0.038
95% CI	0.090	0.026	0	0.010	0.218	0.125	0	0.075
Pocket Water	0.240	0.081	0	0	0.795	0.302	0	0
95% CI	0.226	0.062	0	0	0.604	0.177	0	0
Cascade	0.153	0.065	0	0	0.514	0.224	0	0
95% CI	0.073	0.018	0	0	0.195	0.090	0	0

Table C-51. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, pocket water, and cascade habitat types. Rock Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	1460	298	0	8	1172	245	0	17
95% CI	431	120	0	12	347	102	0	24
Glide	255	88	0	181	267	81	0	267
95% CI	84	120	0	62	22	91	0	22
Run	1461	219	0	148	1488	197	0	137
95% CI	798	173	0	195	766	152	0	179
L.G. Riffle	1027	623	0	656	1020	635	0	662
95% CI	793	416	0	752	618	347	0	731
H.G. Riffle	645	245	0	18	449	195	0	24
95% CI	320	94	0	35	134	77	0	46
Pocket Water	188	63	0	0	97	37	0	0
95% CI	178	48	0	0	74	22	0	0
Cascade	1632	694	0	0	937	408	0	0
95% CI	778	190	0	0	356	164	0	0

Table C-52. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, and 3. West Fork Rock Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	130	180	0	0	142	185	0	0
95% CI	70	90	0	0	80	89	0	0
2	49	70	0	0	65	87	0	0
95% CI	27	34	0	0	37	41	0	0
3	224	215	0	0	363	488	0	0
95% CI	123	156	0	0	209	230	0	0
Combined	388	547	0	0	553	743	0	0
95% CI	181	229	0	0	269	298	0	0

Table C-53. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1, 2, and 3. West Fork Rock Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1	0.109	0.150	0	0	0.237	0.309	0	0
95% CI	0.059	0.075	0	0	0.134	0.149	0	0
2	0.096	0.135	0	0	0.209	0.281	0	0
95% CI	0.053	0.067	0	0	0.120	0.133	0	0
3	0.096	0.135	0	0	0.209	0.281	0	0
95% CI	0.053	0.067	0	0	0.120	0.133	0	0
Combined	0.096	0.135	0	0	0.209	0.281	0	0
95% CI	0.045	0.057	0	0	0.102	0.113	0	0

Table C-54. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, low gradient riffle, high gradient riffle, pocket water, and cascade habitat types. West Fork Rock Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.175	0.221	0	0	0.381	0.440	0	0
95% CI	0.089	0.119	0	0	0.208	0.239	0	0
Run	0.035	0.035	0	0	0.055	0.055	0	0
95% CI	0.069	0.069	0	0	0.108	0.108	0	0
L.G. Riffle	0.080	0.110	0	0	0.150	0.200	0	0
95% CI	-	-	-	-	-	-	-	-
H.G. Riffle	0.010	0.048	0	0	0.030	0.134	0	0
95% CI	0.012	0.040	0	0	0.037	0.115	0	0
Pocket Water	0.050	0.140	0	0	0.130	0.350	0	0
95% CI	-	-	-	-	-	-	-	-
Cascade	0.010	0.037	0	0	0.027	0.100	0	0
95% CI	0.020	0.036	0	0	0.052	0.108	0	0

Table C-55. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, low gradient riffle, high gradient riffle, pocket water, and cascade habitat types. West Fork Rock Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	194	245	0	0	188	217	0	0
95% CI	98	132	0	0	103	118	0	0
Run	8	8	0	0	9	9	0	0
95% CI	15	15	0	0	18	18	0	0
L.G. Riffle	34	47	0	0	39	52	0	0
95% CI	-	-	-	-	-	-	-	-
H.G. Riffle	13	62	0	0	32	144	0	0
95% CI	16	52	0	0	40	124	0	0
Pocket Water	13	37	0	0	20	55	0	0
95% CI	-	-	-	-	-	-	-	-
Cascade	6	23	0	0	12	44	0	0
95% CI	13	23	0	0	23	47	0	0

Table C-56. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 2 and 3. Swamp Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
2	2713	0	2904	14286	1470	0	1860	8527
95% CI	2663	0	1495	7127	1452	0	971	4044
3	3213	0	0	6603	2989	0	0	5390
95% CI	1185	0	0	3052	1208	0	0	2640
Combined	8356	0	1923	22951	6199	0	1418	15661
95% CI	3366	0	1175	7819	2664	0	876	5435

Table C-57. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 2 and 3. Swamp Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
2	0.021	0	0.022	0.109	0.104	0	0.132	0.603
95% CI	0.020	0	0.011	0.054	0.103	0	0.069	0.286
3	0.076	0	0	0.156	0.471	0	0	0.849
95% CI	0.028	0	0	0.072	0.190	0	0	0.416
Combined	0.048	0	0.011	0.132	0.287	0	0.066	0.726
95% CI	0.019	0	0.007	0.045	0.123	0	0.041	0.252

Table C-58. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, and high gradient riffle habitat types. Swamp Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.075	0	0.004	0.232	0.479	0	0.038	1.290
95% CI	0.046	0	0.007	0.109	0.310	0	0.061	0.654
Glide	0.037	0	0.013	0.081	0.228	0	0.091	0.505
95% CI	0.035	0	0.017	0.043	0.231	0	0.118	0.195
Run	0.025	0	0.031	0.060	0.088	0	0.148	0.253
95% CI	0.038	0	0.021	0.028	0.128	0	0.106	0.101
L.G. Riffle	0.032	0	0.014	0.131	0.207	0	0.072	0.688
95% CI	0.036	0	0.017	0.106	0.244	0	0.088	0.558
H.G. Riffle	0.063	0	0	0.095	0.326	0	0	0.503
95% CI	0.055	0	0	0.088	0.270	0	0	0.438

Table C-59. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, and high gradient riffle habitat types. Swamp Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	855	0	49	2653	787	0	62	2120
95% CI	531	0	77	1246	510	0	100	1074
Glide	301	0	103	667	82	0	33	182
95% CI	284	0	137	349	83	0	42	70
Run	1731	0	2168	1944	636	0	1068	1820
95% CI	2608	0	1436	1944	919	0	765	727
L.G. Riffle	852	0	373	3447	855	0	298	2848
95% CI	961	0	459	2802	1009	0	363	2311
H.G. Riffle	2184	0	0	3305	1296	0	0	2002
95% CI	1911	0	0	3045	1073	0	0	1743

Table C-60. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1-BBD, 1-ABD, and 2. Marten Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1-BBD	149	0	1036	9	49	0	497	4
95% CI	148	0	573	18	46	0	237	8
1-ABD	15078	0	0	0	9493	0	0	0
95% CI	5071	0	0	0	3294	0	0	0
2	1266	0	0	0	1256	0	0	0
95% CI	426	0	0	0	426	0	0	0
Combined	10754	0	3140	28	6521	0	2889	22
95% CI	4789	0	2096	56	2941	0	1758	44

Table C-61. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 1-BBD, 1-ABD, and 2. Marten Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
1-BBD	0.015	0	0.080	0.001	0.048	0	0.477	0.004
95% CI	0.011	0	0.044	0.001	0.045	0	0.228	0.007
1-ABD	0.230	0	0	0	0.900	0	0	0
95% CI	0.077	0	0	0	0.312	0	0	0
2	0.230	0	0	0	0.900	0	0	0
95% CI	0.077	0	0	0	0.312	0	0	0
Combined	0.128	0	0.037	<0.001	0.502	0	0.222	0.002
95% CI	0.057	0	0.025	0.001	0.226	0	0.135	0.003

Table C-62. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, and cascade habitat types. Marten Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.220	0	0.044	0.001	0.894	0	0.231	0.006
95% CI	0.155	0	0.064	0.002	0.613	0	0.327	0.011
Glide	0.072	0	0.042	0	0.225	0	0.342	0
95% CI	0.083	0	0.037	0	0.255	0	0.346	0
Run	0.078	0	0.025	0	0.282	0	0.156	0
95% CI	0.068	0	0.025	0	0.249	0	0.142	0
L.G. Riffle	0.058	0	0.073	0	0.267	0	0.388	0
95% CI	0.065	0	0.085	0	0.316	0	0.411	0
H.G. Riffle	0.208	0	0	0	0.809	0	0	0
95% CI	0.128	0	0	0	0.542	0	0	0
Cascade	0.059	0	0	0	0.222	0	0	0
95% CI	0.027	0	0	0	0.134	0	0	0

Table C-63. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, and cascade habitat types. Marten Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	2822	0	562	3	1287	0	333	8
95% CI	1997	0	822	28	882	0	471	16
Glide	75	0	44	0	73	0	112	0
95% CI	87	0	39	0	83	0	113	0
Run	1005	0	326	0	647	0	359	0
95% CI	883	0	319	0	572	0	326	0
L.G. Riffle	2431	0	3081	0	1711	0	2485	0
95% CI	2764	0	3572	0	2024	0	2630	0
H.G. Riffle	3111	0	0	0	1997	0	0	0
95% CI	1915	0	0	0	1339	0	0	0
Cascade	11	0	0	0	12	0	0	0
95% CI	5	0	0	0	7	0	0	0

Table C-64. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, high gradient riffle, pocket water, and cascade habitat types. North Branch Marten Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	15	0	0	0	17	0	0	0
95% CI	8	0	0	0	8	0	0	0
Run	57	0	0	0	57	0	0	0
95% CI	26	0	0	0	23	0	0	0
H.G. Riffle	60	0	0	0	82	0	0	0
95% CI	13	0	0	0	21	0	0	0
Pocket Water	209	0	0	0	176	0	0	0
95% CI	117	0	0	0	95	0	0	0
Cascade	0	0	0	0	0	0	0	0
95% CI	0	0	0	0	0	0	0	0
Combined	330	0	0	0	335	0	0	0
95% CI	74	0	0	0	72	0	0	0

Table C-65. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, high gradient riffle, pocket water, and cascade habitat types. North Branch Marten Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.156	0	0	0	0.604	0	0	0
95% CI	0.086	0	0	0	0.272	0	0	0
Run	0.220	0	0	0	0.997	0	0	0
95% CI	0.101	0	0	0	0.408	0	0	0
H.G. Riffle	0.218	0	0	0	1.046	0	0	0
95% CI	0.047	0	0	0	0.264	0	0	0
Pocket Water	0.247	0	0	0	1.028	0	0	0
95% CI	0.138	0	0	0	0.554	0	0	0
Cascade	0	0	0	0	0	0	0	0
95% CI	0	0	0	0	0	0	0	0
Combined	0.214	0	0	0	0.940	0	0	0
95% CI	0.048	0	0	0	0.202	0	0	0

Table C-66. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, low gradient riffle, and high gradient riffle habitat types. South Branch Marten Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	284	0	0	0	201	0	0	0
95% CI	174	0	0	0	129	0	0	0
Run	57	0	0	0	39	0	0	0
95% CI	54	0	0	0	32	0	0	0
L.G. Riffle	63	0	0	0	66	0	0	0
95% CI	41	0	0	0	33	0	0	0
H.G. Riffle	172	0	0	0	198	0	0	0
95% CI	78	0	0	0	93	0	0	0
Combined	1384	0	0	0	1263	0	0	0
95% CI	634	0	0	0	555	0	0	0

Table C-67. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, low gradient riffle, and high gradient riffle habitat types. South Branch Marten Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.583	0	0	0	1.955	0	0	0
95% CI	0.356	0	0	0	1.254	0	0	0
Run	0.210	0	0	0	0.775	0	0	0
95% CI	0.197	0	0	0	0.644	0	0	0
L.G. Riffle	0.326	0	0	0	1.138	0	0	0
95% CI	0.210	0	0	0	0.568	0	0	0
H.G. Riffle	0.061	0	0	0	0.250	0	0	0
95% CI	0.028	0	0	0	0.117	0	0	0
Combined	0.335	0	0	0	1.160	0	0	0
95% CI	0.153	0	0	0	0.510	0	0	0

Table C-68. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 2 and 3. Graves Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
2	2795	318	24	15	2236	271	18	10
95% CI	892	146	86	22	713	130	26	14
3	1081	712	0	14	651	406	0	7
95% CI	268	413	0	27	209	186	0	13
Combined	3729	1203	20	31	2717	738	15	17
95% CI	834	610	30	40	728	276	22	20

Table C-69. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 2 and 3. Graves Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
2	0.223	0.025	0.002	0.001	1.381	0.168	0.011	0.006
95% CI	0.071	0.012	0.003	0.002	0.440	0.080	0.016	0.009
3	0.157	0.103	0	0.002	0.667	0.416	0	0.007
95% CI	0.039	0.060	0	0.004	0.214	0.190	0	0.013
Combined	0.192	0.062	0.001	0.002	1.046	0.284	0.006	0.006
95% CI	0.043	0.031	0.002	0.002	0.280	0.106	0.009	0.008

Table C-70. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, low gradient riffle, high gradient riffle, and cascade habitat types. Graves Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.248	0.071	0	0	1.552	0.411	0	0
95% CI	0.072	0.023	0	0	0.712	0.113	0	0
Run	0.180	0.041	0.003	0.003	1.015	0.189	0.019	0.010
95% CI	0.072	0.020	0.005	0.010	0.551	0.085	0.026	0.020
L.G. Riffle	0.231	0.121	0	0.003	1.141	0.443	0	0.017
95% CI	0.169	0.158	0	0.005	0.802	0.494	0	0.023
H.G. Riffle	0.156	0.038	0	0	0.840	0.199	0	0
95% CI	0.047	0.028	0	0	0.237	0.149	0	0
Cascade	0.104	0.056	0	0	0.222	0.243	0	0
95% CI	0.040	0.087	0	0	0.371	0.233	0	0

Table C-71. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, low gradient riffle, high gradient riffle, and cascade habitat types. Graves Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	64	18	0	0	79	21	0	0
95% CI	19	6	0	0	36	6	0	0
Run	95	22	2	2	74	14	2	1
95% CI	38	10	3	3	40	6	2	1
L.G. Riffle	505	264	0	7	316	123	0	5
95% CI	370	346	0	11	222	137	0	6
H.G. Riffle	1550	377	0	0	947	224	0	0
95% CI	470	280	0	0	267	168	0	0
Cascade	686	368	0	0	237	260	0	0
95% CI	261	575	0	0	396	249	0	0

Table C-72. Percent composition of habitat types by stream reach. Prospect Creek, Montana. Tributary survey, 1992-1994.

REACH	HABITAT TYPE					
	POOL	GLD	RUN	LGR	HGR	POP
1	11	0	17	24	0	0
2	22	0	10	28	0	8
3	15	0	12	0	2	31
4	9	0	37	0	13	32
5	8	10	30	50	2	0
6	30	3	8	6	49 ^a	4
7	2	0	3	0	24	34
Combined	11	7	23	34	9	7

Table C-73. Percent substrate composition by stream reach. Prospect Creek, Montana. Tributary survey, 1992-1994.

REACH	SUBSTRATE SIZE						
	<0.2	0.2-0.6	0.6-7.5	7.5-15.0	15.0-30.0	> 30.0	BEDROCK
1	9	9	23	23	18	13	4
2	5	16	30	24	12	10	1
3	3	6	13	29	28	19	7
4	6	8	28	31	18	12	2
5	4	11	33	30	16	3	0
6	10	8	33	26	16	7	1
7	1	2	21	32	30	15	1

Table C-74. Percent composition stream bank cover by stream reach. Prospect Creek, Montana. Tributary survey, 1992-1994.

BANK COVER CLASSIFICATION						
REACH	SR	GF	RS	US	RT	UT
1	2	19	3	2	15	14
2	1	21	16	5	24	16
3	4	38	2	9	7	24
4	0	58	0	3	5	6
5	1	29	6	2	10	2
6	1	12	19	1	21	15
7	1	16	10	1	34	24

Table C-75. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 2, 3, 4, 6, and 7. Prospect Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Wct/Rbt	Bull	Brown	Brook	Wct/Rbt	Bull	Brown	Brook
2	776	0	139	12	599	0	40	12
95% CI	569	0	192	24	494	0	32	24
3	1840	0	291	307	1127	0	134	189
95% CI	1052	0	416	347	638	0	177	211
4	470	0	57	497	226	0	24	225
95% CI	240	0	68	441	106	0	26	158
6	1839	966	0	0	1592	857	0	0
95% CI	449	308	0	0	385	283	0	0
7	1794	1039	0	0	1390	814	0	0
95% CI	883	480	0	0	593	346	0	0
Combined	7349	2986	296	804	4761	1592	172	557
95% CI	1734	1083	251	709	1162	557	116	394

Table C-76. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data. Reach 2, 3, 4, 6, and 7. Prospect Creek, Montana. Tributary survey, 1992 - 1994.

Reach	Fish/m ² Estimate				Fish/m Estimate			
	Wct/Rbt	Bull	Brown	Brook	Wct/Rbt	Bull	Brown	Brook
2	0.010	0	0.018	0.002	1.039	0	0.069	0.021
95% CI	0.073	0	0.025	0.003	0.856	0	0.055	0.042
3	0.076	0	0.020	0.013	0.597	0	0.071	0.100
95% CI	0.043	0	0.017	0.014	0.338	0	0.094	0.112
4	0.043	0	0.005	0.046	0.242	0	0.026	0.241
95% CI	0.022	0	0.006	0.041	0.114	0	0.028	0.169
6	0.127	0.067	0	0	0.565	0.304	0	0
95% CI	0.031	0.021	0	0	0.137	0.100	0	0
7	0.146	0.084	0	0	0.597	0.349	0	0
95% CI	0.072	0.039	0	0	0.254	0.148	0	0
Combined	0.106	0.043	0.004	0.012	0.557	0.186	0.020	0.065
95% CI	0.025	0.016	0.004	0.010	0.137	0.065	0.014	0.046

Table C-77. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, pocket water, and cascade habitat types. Prospect Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Wct/Rbt	Bull	Brown	Brook	Wct/Rbt	Bull	Brown	Brook
Pool	0.101	0.060	0.005	0.039	0.440	0.280	0.018	0.162
95% CI	0.054	0.009	0.009	0.063	0.219	0.180	0.035	0.244
Glide	0.123	0.041	0	0	0.537	0.192	0	0
95% CI	0.067	0.022	0	0	0.179	0.139	0	0
Run	0.123	0.040	0.006	0.011	0.748	0.153	0.042	0.084
95% CI	0.076	0.041	0.006	0.013	0.433	0.158	0.036	0.090
L.G. Riffle	0.128	0.021	0.016	0	0.711	0.079	0.042	0
95% CI	0.056	0.032	0.026	0	0.231	0.103	0.059	0
H.G. Riffle	0.065	0.031	0	0.006	0.368	0.132	0	0.047
95% CI	0.027	0.025	0	0.008	0.129	0.104	0	0.052
Pocket Water	0.100	0.060	0.001	0.008	0.469	0.292	0.008	0.046
95% CI	0.028	0.039	0.003	0.011	0.174	0.190	0.016	0.066
Cascade	0.129	0.052	0	0.004	0.550	0.217	0	0.021
95% CI	0.066	0.045	0	0.007	0.244	0.192	0	0.042

Table C-78. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, glide, run, low gradient riffle, high gradient riffle, pocket water, and cascade habitat types. Prospect Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Wct/Rbt	Bull	Brown	Brook	Wct/Rbt	Bull	Brown	Brook
Pool	1129	678	52	435	606	386	25	223
95% CI	607	429	102	702	302	248	49	336
Glide	55	18	0	0	41	15	0	0
95% CI	29	10	0	0	14	11	0	0
Run	1017	330	48	90	691	141	38	77
95% CI	630	342	50	104	400	146	33	83
L.G. Riffle	394	65	49	0	230	25	14	0
95% CI	172	97	79	0	75	34	19	0
H.G. Riffle	738	348	0	70	765	275	0	97
95% CI	307	288	0	85	268	217	0	108
Pocket Water	1877	1122	26	155	858	535	15	84
95% CI	522	736	51	215	319	348	30	120
Cascade	2132	861	0	63	1061	419	0	41
95% CI	1084	750	0	124	471	370	0	81

Table C-79. Fish density estimates and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, and low gradient riffle habitat types. Crow Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	0.159	0.010	0	0	0.752	0.014	0	0
95% CI	0.105	0.020	0	0	0.479	0.027	0	0
Run	0.066	0.020	0	0	0.267	0.075	0	0
95% CI	0.067	0.040	0	0	0.264	0.147	0	0
L.G. Riffle	0.008	0.015	0	0	0.028	0.056	0	0
95% CI	0.015	0.030	0	0	0.055	0.110	0	0
Combined	0.104	0.013	0	0	0.480	0.036	0	0
95% CI	0.014	0.014	0	0	0.311	0.039	0	0

Table C-80. Number of fish and 95% confidence interval from fish/m² and fish/m electrofishing data in pool, run, and low gradient riffle habitat types. Crow Creek, Montana. Tributary survey, 1992 - 1994.

Habitat	Fish/m ² Estimate				Fish/m Estimate			
	Cutthroat	Bull	Brown	Brook	Cutthroat	Bull	Brown	Brook
Pool	190	12	0	0	149	3	0	0
95% CI	125	23	0	0	95	5	0	0
Run	89	27	0	0	87	24	0	0
95% CI	90	53	0	0	86	48	0	0
L.G. Riffle	12	25	0	0	10	20	0	0
95% CI	24	48	0	0	20	39	0	0
Combined	891	114	0	0	988	74	0	0
95% CI	578	122	0	0	640	81	0	0