APPENDIX D: FISH SEASONAL DISTRIBUTION TABLES

APPENDIX E: RELATIVE ABUNDANCE TABLES

APPENDIX F: HABITAT ASSOCIATION TABLES

Susitna-Watana Hydroelectric Project
(FERC No. 14241)

Study of Fish Distribution and Abundance in the Middle and Lower Susitna River Study (9.6)

Appendix D
Fish Seasonal Distribution Tables

Initial Study Report

Prepared for

Alaska Energy Authority

SUSITNA-WATANA HYDRO

Clean, reliable energy for the next 100 years.

Prepared by

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February 2014 Draft

Chinook salmon

Location (PRM)	Life Stage	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]	Juvenile					
	Adult					
MR-2 (PRM 169.6-184.6)[b]	Juvenile			X		
	Adult			X	X	
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]	Juvenile					
	Adult					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]	Juvenile			X	X	X
	Adult			X		
MR-6 (PRM 122.7-148.4)[a]	Juvenile	X	X	X	X	X
	Adult			X		
MR-7 (PRM 107.8-122.7)[a]	Juvenile		X	X	X	X
	Adult					
MR-8 (PRM 102.4-107.8)[a]	Juvenile	X	X	X	X	X
	Adult		X	X		
LR-1 (PRM 87.9-102.4)[a]	Juvenile		X	X	X	X
	Adult			X		
LR-2 (PRM 65.6-87.9)[a]	Juvenile		X	X	X	X
	Adult				X	
LR-3 (PRM 44.6-65.6)[a]	Juvenile		X	X	X	X
	Adult			X		
LR-4 (PRM 32.3-44.6)[a]	Juvenile		X	X	X	X
	Adult					

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Chum salmon

Location (PRM)	Life Stage	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]	Juvenile					
	Adult					
MR-2 (PRM 169.6-184.6)[b]	Juvenile					
	Adult					
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]	Juvenile					
	Adult					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]	Juvenile					
	Adult			X		
MR-6 (PRM 122.7-148.4)[a]	Juvenile		X	X	X	
	Adult			X	X	X
MR-7 (PRM 107.8-122.7)[a]	Juvenile		X	X	X	
	Adult			X	X	
MR-8 (PRM 102.4-107.8)[a]	Juvenile	X	X	X	X	
	Adult			X	X	X
LR-1 (PRM 87.9-102.4)[a]	Juvenile		X	X	X	
	Adult			X	X	X
LR-2 (PRM 65.6-87.9)[a]	Juvenile		X	X	X	X
	Adult			X	X	X
LR-3 (PRM 44.6-65.6)[a]	Juvenile		X	X	X	
	Adult					
LR-4 (PRM 32.3-44.6)[a]	Juvenile				X	
	Adult			X	X	X

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Coho salmon

Location (PRM)	Life Stage	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]	Juvenile					
	Adult					
MR-2 (PRM 169.6-184.6)[b]	Juvenile					
	Adult					
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]	Juvenile					
	Adult					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]	Juvenile			X	X	X
	Adult				X	X
MR-6 (PRM 122.7-148.4)[a]	Juvenile	X	X	X	X	X
	Adult			X	X	X
MR-7 (PRM 107.8-122.7)[a]	Juvenile		X	X	X	X
	Adult			X	X	
MR-8 (PRM 102.4-107.8)[a]	Juvenile	X	X	X	X	X
	Adult			X	X	X
LR-1 (PRM 87.9-102.4)[a]	Juvenile		X	X	X	X
	Adult				X	X
LR-2 (PRM 65.6-87.9)[a]	Juvenile		X	X	X	X
	Adult				X	X
LR-3 (PRM 44.6-65.6)[a]	Juvenile		X	X	X	X
	Adult				X	
LR-4 (PRM 32.3-44.6)[a]	Juvenile		X	X	X	X
	Adult				X	

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Pink salmon

Location (PRM)	Life Stage	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]	Juvenile					
	Adult					
MR-2 (PRM 169.6-184.6)[b]	Juvenile					
	Adult					
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]	Juvenile					
	Adult					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]	Juvenile			X		
	Adult			X	X	
MR-6 (PRM 122.7-148.4)[a]	Juvenile		X	X		
	Adult			X	X	
MR-7 (PRM 107.8-122.7)[a]	Juvenile			X		
	Adult			X		
MR-8 (PRM 102.4-107.8)[a]	Juvenile	X	X	X		
	Adult			X	X	
LR-1 (PRM 87.9-102.4)[a]	Juvenile					
	Adult			X	X	
LR-2 (PRM 65.6-87.9)[a]	Juvenile		X	X		
	Adult			X	X	
LR-3 (PRM 44.6-65.6)[a]	Juvenile					
	Adult			X		X
LR-4 (PRM 32.3-44.6)[a]	Juvenile					
	Adult			X		

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Sockeye salmon

Location (PRM)	Life Stage	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]	Juvenile					
	Adult					
MR-2 (PRM 169.6-184.6)[b]	Juvenile					
	Adult					
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]	Juvenile					
	Adult					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]	Juvenile			X		X
	Adult			X		
MR-6 (PRM 122.7-148.4)[a]	Juvenile	X	X	X	X	X
	Adult			X	X	X
MR-7 (PRM 107.8-122.7)[a]	Juvenile		X	X	X	X
	Adult			X	X	
MR-8 (PRM 102.4-107.8)[a]	Juvenile	X	X	X	X	X
	Adult			X	X	X
LR-1 (PRM 87.9-102.4)[a]	Juvenile		X	X	X	X
	Adult			X	X	X
LR-2 (PRM 65.6-87.9)[a]	Juvenile		X	X	X	
	Adult					
LR-3 (PRM 44.6-65.6)[a]	Juvenile		X	X	X	X
	Adult					
LR-4 (PRM 32.3-44.6)[a]	Juvenile		X	X	X	
	Adult				X	

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Arctic grayling

Location (PRM)	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]			X	X	X
MR-2 (PRM 169.6-184.6)[b]			X	X	X
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]			X	X	X
MR-6 (PRM 122.7-148.4)[a]		X	X	X	X
MR-7 (PRM 107.8-122.7)[a]			X	X	X
MR-8 (PRM 102.4-107.8)[a]		X	X	X	X
LR-1 (PRM 87.9-102.4)[a]			X	X	X
LR-2 (PRM 65.6-87.9)[a]			X	X	X
LR-3 (PRM 44.6-65.6)[a]			X	X	X
LR-4 (PRM 32.3-44.6)[a]				X	X

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Burbot

Location (PRM)	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]			X	X	X
MR-2 (PRM 169.6-184.6)[b]			X	X	X
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]			X	X	X
MR-6 (PRM 122.7-148.4)[a]		X	X	X	X
MR-7 (PRM 107.8-122.7)[a]		X	X	X	X
MR-8 (PRM 102.4-107.8)[a]	X	X	X	X	X
LR-1 (PRM 87.9-102.4)[a]			X	X	X
LR-2 (PRM 65.6-87.9)[a]			X	X	X
LR-3 (PRM 44.6-65.6)[a]			X	X	X
LR-4 (PRM 32.3-44.6)[a]			X	X	X

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Dolly Varden

Location (PRM)	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]				X	
MR-2 (PRM 169.6-184.6)[b]		X	X	X	X
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]			X	X	X
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]			X		
MR-6 (PRM 122.7-148.4)[a]		X	X	X	X
MR-7 (PRM 107.8-122.7)[a]		X	X	X	X
MR-8 (PRM 102.4-107.8)[a]		X	X	X	X
LR-1 (PRM 87.9-102.4)[a]				X	
LR-2 (PRM 65.6-87.9)[a]		X	X	X	X
LR-3 (PRM 44.6-65.6)[a]			X		
LR-4 (PRM 32.3-44.6)[a]					

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Lamprey

Location (PRM)	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]					
MR-2 (PRM 169.6-184.6)[b]					
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]					
MR-6 (PRM 122.7-148.4)[a]					
MR-7 (PRM 107.8-122.7)[a]			X		
MR-8 (PRM 102.4-107.8)[a]	X	X	X	X	X
LR-1 (PRM 87.9-102.4)[a]		X		X	X
LR-2 (PRM 65.6-87.9)[a]		X	X	X	X
LR-3 (PRM 44.6-65.6)[a]		X	X	X	X
LR-4 (PRM 32.3-44.6)[a]		X		X	X

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Longnose sucker

Location (PRM)	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]			X	X	X
MR-2 (PRM 169.6-184.6)[b]			X	X	X
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]			X	X	X
MR-6 (PRM 122.7-148.4)[a]		X	X	X	X
MR-7 (PRM 107.8-122.7)[a]		X	X	X	X
MR-8 (PRM 102.4-107.8)[a]		X	X	X	X
LR-1 (PRM 87.9-102.4)[a]			X	X	X
LR-2 (PRM 65.6-87.9)[a]		X	X	X	X
LR-3 (PRM 44.6-65.6)[a]		X	X	X	X
LR-4 (PRM 32.3-44.6)[a]		X	X	X	X

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Northern pike

Location (PRM)	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]					
MR-2 (PRM 169.6-184.6)[b]					
Devils Canyon U/S End (PRM 169.6)					
MR-3 (PRM 166.1-169.6)[c]					
MR-4 (PRM 153.9-166.1)[d]					
Devils Canyon D/S End (PRM 153.9)					
MR-5 (PRM 148.4-153.9)[a]					
MR-6 (PRM 122.7-148.4)[a]					
MR-7 (PRM 107.8-122.7)[a]					
MR-8 (PRM 102.4-107.8)[a]					
LR-1 (PRM 87.9-102.4)[a]					
LR-2 (PRM 65.6-87.9)[a]					
LR-3 (PRM 44.6-65.6)[a]					
LR-4 (PRM 32.3-44.6)[a]		X	X	X	X

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Sculpin

Location (PRM)	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]			X	X	X
MR-2 (PRM 169.6-184.6)[b]		X	X	X	X
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]			X		X
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]			X	X	X
MR-6 (PRM 122.7-148.4)[a]	X	X	X	X	X
MR-7 (PRM 107.8-122.7)[a]		X	X	X	X
MR-8 (PRM 102.4-107.8)[a]	X	X	X	X	X
LR-1 (PRM 87.9-102.4)[a]		X	X	X	X
LR-2 (PRM 65.6-87.9)[a]		X	X	X	X
LR-3 (PRM 44.6-65.6)[a]		X	X	X	X
LR-4 (PRM 32.3-44.6)[a]		X	X	X	X

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Stickleback, ninespine

Location (PRM)	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]					
MR-2 (PRM 169.6-184.6)[b]					
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]					
MR-6 (PRM 122.7-148.4)[a]					
MR-7 (PRM 107.8-122.7)[a]					
MR-8 (PRM 102.4-107.8)[a]					
LR-1 (PRM 87.9-102.4)[a]			X	X	
LR-2 (PRM 65.6-87.9)[a]		X	X		
LR-3 (PRM 44.6-65.6)[a]		X	X	X	X
LR-4 (PRM 32.3-44.6)[a]			X	X	X

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Stickleback, threespine

Location (PRM)	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]					
MR-2 (PRM 169.6-184.6)[b]					
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]					
MR-6 (PRM 122.7-148.4)[a]			X	X	
MR-7 (PRM 107.8-122.7)[a]		X	X	X	X
MR-8 (PRM 102.4-107.8)[a]	X	X	X	X	X
LR-1 (PRM 87.9-102.4)[a]		X	X	X	X
LR-2 (PRM 65.6-87.9)[a]		X	X	X	X
LR-3 (PRM 44.6-65.6)[a]		X	X	X	X
LR-4 (PRM 32.3-44.6)[a]		X	X	X	X

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Trout, rainbow

Location (PRM)	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]					
MR-2 (PRM 169.6-184.6)[b]					
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]			X		X
MR-6 (PRM 122.7-148.4)[a]		X	X	X	X
MR-7 (PRM 107.8-122.7)[a]		X	X	X	X
MR-8 (PRM 102.4-107.8)[a]	X	X	X	X	X
LR-1 (PRM 87.9-102.4)[a]			X	X	
LR-2 (PRM 65.6-87.9)[a]		X	X	X	X
LR-3 (PRM 44.6-65.6)[a]		X	X		X
LR-4 (PRM 32.3-44.6)[a]			X		

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Whitefish, Bering cisco

Location (PRM)	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]					
MR-2 (PRM 169.6-184.6)[b]					
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]					
Devils Canyon D/S End (PRM 153.9)					
MR-5 (PRM 148.4-153.9)[a]					
MR-6 (PRM 122.7-148.4)[a]					
MR-7 (PRM 107.8-122.7)[a]					
MR-8 (PRM 102.4-107.8)[a]					
LR-1 (PRM 87.9-102.4)[a]					
LR-2 (PRM 65.6-87.9)[a]					X
LR-3 (PRM 44.6-65.6)[a]					
LR-4 (PRM 32.3-44.6)[a]					X

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Whitefish, humpback

Location (PRM)	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]					
MR-2 (PRM 169.6-184.6)[b]					
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]			X		
MR-6 (PRM 122.7-148.4)[a]		X	X	X	
MR-7 (PRM 107.8-122.7)[a]		X	X		
MR-8 (PRM 102.4-107.8)[a]		X	X	X	
LR-1 (PRM 87.9-102.4)[a]					
LR-2 (PRM 65.6-87.9)[a]					
LR-3 (PRM 44.6-65.6)[a]					
LR-4 (PRM 32.3-44.6)[a]					X

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Whitefish, round

Location (PRM)	Winter (Feb 1-Apr 14)	Early Life History (Apr 15-June 30)	Early Summer (Jul 1-Aug 10)	Late Summer (Aug 11-Sep 9)	Fall (Sep 10-Oct 12)
Proposed Watana Dam Location (PRM 187.1)	-	-	-	-	-
MR-1 (PRM 184.6-187.1)[a]				X	X
MR-2 (PRM 169.6-184.6)[b]			X	X	X
Devils Canyon U/S End (PRM 169.6)	-	-	-	-	-
MR-3 (PRM 166.1-169.6)[c]	-	-	-	-	-
MR-4 (PRM 153.9-166.1)[d]					
Devils Canyon D/S End (PRM 153.9)	-	-	-	-	-
MR-5 (PRM 148.4-153.9)[a]			X	X	X
MR-6 (PRM 122.7-148.4)[a]		X	X	X	X
MR-7 (PRM 107.8-122.7)[a]			X	X	X
MR-8 (PRM 102.4-107.8)[a]	X	X	X	X	X
LR-1 (PRM 87.9-102.4)[a]		X	X	X	X
LR-2 (PRM 65.6-87.9)[a]			X	X	X
LR-3 (PRM 44.6-65.6)[a]		X	X	X	X
LR-4 (PRM 32.3-44.6)[a]		X		X	X

[a] Geomorphic reaches MR-1, MR-5, MR-6, MR-7, MR-8, LR-1, LR-2, LR-3, and LR-4 include sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI). Directed sampling efforts outside of the ZHI did not occur in these reaches.

[b] Geomorphic reach MR-2 includes sites located in the mainstem Susitna River and its associated off-channel and tributary habitats within the Zone of Hydrologic Influence (ZHI), as well as directed sampling efforts outside of the ZHI in Fog and Tsusena creeks.

[c] Geomorphic reach MR-3 was not sampled during on-the-ground surveys in 2013.

[d] Geomorphic reach MR-4 only includes directed sampling efforts outside of the ZHI in Chinook Creek. The mainstem Susitna River and its associated off-channel and tributary habitats within the ZHI were not sampled during on-the-ground surveys in 2013.

[e] Shaded cells indicate sampling effort.

Susitna-Watana Hydroelectric Project
(FERC No. 14241)

Study of Fish Distribution and Abundance in the Middle and Lower Susitna River Study (9.6)

Appendix E
Relative Abundance Tables

Initial Study Report

Prepared for

Alaska Energy Authority

SUSITNA-WATANA HYDRO

Clean, reliable energy for the next 100 years.

Prepared by

R2 Resource Consultants Inc.

LGL Alaska Research Associates, Inc.

Golder Associates Inc. &

HDR, Inc.

February 2014 Draft

LIST OF TABLES

1. CATCH PER UNIT EFFORT CALCULATIONS

As discussed in ISR Study 9.6, Section 4.4.2.2, catch per unit effort (CPUE) estimates were used to describe the relative abundance of fish species among habitats within the Middle and Lower River study area. Additional details concerning the calculation of CPUE are provided below, along with a summary of sampling effort (Tables E2 through E8 and Tables E105 through E111), gear-specific CPUE by species (Tables E1 and E104), and gear-specific average CPUE by habitat type (Tables E9 through E103 and Tables E112 through E206).

Catch per unit effort estimates were derived for each of the three types of Fish Distribution and Abundance protocols used in the Middle and Lower River: Middle River GRTS sampling, Middle River direct-sampling tributaries, and Lower River mainstem transects. The approach used to estimate CPUE was largely similar among each of these components. In all cases, CPUE was evaluated specific to gear type, species, and sampling event (i.e., early summer, late summer, or fall), and the analysis also distinguished between juvenile and adult life stages for Pacific salmon. Furthermore, the analysis conducted for each sampling component was specific to mesohabitat type. However, as a direct result of differences in the study design and site selection process among the sampling components, different analytical approaches were used to derive average CPUE values at the macrohabitat scale. In the mainstem Susitna River, the mesohabitat-specific CPUE estimates were averaged among macrohabitat units within each geomorphic reach, and in the Middle River, separate averages were derived for habitats within and outside of Focus Areas. For direct-sampling tributaries, average CPUE was calculated as the average among sampling reaches within a given tributary. In the analysis that follows, these differences are discussed when relevant to the calculations being described.

At the mesohabitat unit level, CPUE was calculated as follows for each gear type, species, life stage, and sampling event combination:

$CPUE_{Meso} = C_{Meso}/E_{Meso}$,

where $CPUE_{Meso}$ = catch per unit effort for a given mesohabitat unit,

C_{Meso} = total fish captured within a given mesohabitat unit, and

E_{Meso} = total effort within a given mesohabitat unit.

For backpack and boat electrofishing, E_{Meso} was recorded as the electrofishing pulse duration in seconds, and for reporting purposes was expressed in hours. That is,

E_{Meso} = pulse duration in seconds × (1 minute/60 seconds) × (1 hour/60 minutes) = pulse duration in hours.

For snorkeling and seining, E_{Meso} was calculated by determining the total area sampled at a given mesohabitat unit. Specifically,

E_{Meso} = length of area sampled in meters × width of area sampled in meters = area sampled in square meters.

For snorkeling and seining, $CPUE_{Meso}$ estimates were then standardized to 1,000 m^2 using a factor of 1,000.

For passive sampling techniques (i.e., fyke nets, hoop traps, and minnow traps), E_{Meso} was calculated as the total number of traps set within a given mesohabitat unit. Specifically,

E_{Meso} = number of traps set.

When sampling within a mainstem macrohabitat site or a direct sampling reach included multiple mesohabitat units of the same type (e.g., two distinct pools), the associated $CPUE_{Meso}$ values were calculated using the total catch and the total effort across mesohabitat units. For example,

$$CPUE_{Meso} = (C_{Meso1} + C_{Meso2} + \ldots + C_{Meson}) / (E_{Meso1} + E_{Meso2} + \ldots + E_{Meson})$$

After determining $CPUE_{Meso}$ values for a given mesohabitat type, the average CPUE was calculated as:

$$CPUE_{Avg} = (\Sigma\ CPUE_{Meso})/N,$$

where N = sample size.

Specific definitions for N vary among locations. For mainstem sampling in the Middle River, average CPUE estimates for each mesohabitat type were calculated specific to mainstem macrohabitat types within and outside of Focus Areas for each geomorphic reach. Thus,

$N_{M,m,g,e(FA)}$ = number of macrohabitat units of type "M" containing mesohabitat type "m" that was sampled using gear type "g" during sampling event "e", within Focus Areas of a given geomorphic reach; and

$N_{M,m,g,e(non\text{-}FA)}$ = number of macrohabitat units of type "M" containing mesohabitat type "m" that was sampled using gear type "g" during sampling event "e", outside of Focus Areas within a given geomorphic reach.

For Lower River mainstem transect sampling, average CPUE estimates for each mesohabitat type were calculated specific to mainstem macrohabitat types within each geomorphic reach. In this case,

$N_{M,m,g,e}$ = number of macrohabitat units of type "M" within a given geomorphic reach containing mesohabitat type "m" that was sampled using gear type "g" during sampling event "e".

For direct sampling tributaries,

$N_{m,g,e}$ = number of sampling reaches within a given tributary containing mesohabitat type "m" that was sampled using gear type "g" during sampling event "e".

Actual sample sizes and the total effort supporting gear-specific average CPUE values are provided in Tables E2 through E8 and Tables E105 through E111 for the Middle and Lower River, respectively.

2. MIDDLE RIVER CATCH PER UNIT EFFORT DATA

Table E1. Summary of relative abundance by capture method for main channel, off-channel, and tributary habitats of the Middle River, 2013.

			Main Channel								Off-Channel							Tributary							All
Species	Life Stage		Backpack Electrofishing (N=195; CPUE in fish/hour)	Boat Electrofishing (N=113; CPUE in fish/hour)	Snorkel (N=32; CPUE in fish/1,000 m^2)	Seine (N=93; CPUE in fish/1,000 m^2)	Minnow Trap (N=45; CPUE in fish/trap)	Fyke Net (N=17; CPUE in fish/trap)	Hoop Trap (N=49; CPUE in fish/trap)		Backpack Electrofishing (N=115; CPUE in fish/hour)	Boat Electrofishing (N=3; CPUE in fish/hour)	Snorkel (N=98; CPUE in fish/1,000 m^2)	Seine (N=45; CPUE in fish/1,000 m^2)	Minnow Trap (N=82; CPUE in fish/trap)	Fyke Net (N=23; CPUE in fish/trap)	Hoop Trap (N=3; CPUE in fish/trap)	Backpack Electrofishing (N=78; CPUE in fish/hour)	Boat Electrofishing (N=3; CPUE in fish/hour)	Snorkel (N=71; CPUE in fish/1,000 m^2)	Seine (N=10; CPUE in fish/1,000 m^2)	Minnow Trap (N=36; CPUE in fish/trap)	Fyke Net (N=1; CPUE in fish/trap)	Hoop Trap (N=2; CPUE in fish/trap)	Percent of Sites with CPUE=0 (N=569; all methods)
Salmon, Chinook	adult	%CPUE=0			97%	100%	100%	100%	100%				100%	100%	100%	100%	100%			94%	100%	100%	100%	100%	99%
		Max CPUE			1.7															6.8					
	juvenile	%CPUE=0	97%	100%	94%	91%	84%	71%	98%		96%	100%	93%	78%	57%	39%	100%	95%	100%	93%	80%	67%	0%	50%	84%
		Max CPUE	14.7		2.7	35.5	1.9	31	0.2		18		1053.4	130.5	4.7	33		32.5		37.9	3.1	7.8	14	1	
Salmon, chum	adult	%CPUE=0			91%	91%	100%	88%	92%				94%	100%	100%	100%	100%			85%	100%	100%	100%	100%	94%
		Max CPUE			61.5	58		13	3				19.5							289					
	juvenile	%CPUE=0	98%	100%	100%	96%	100%	100%	100%		99%	100%	100%	100%	100%	100%	100%	100%	100%	99%	90%	100%	100%	100%	98%
		Max CPUE	8.7			13.3					15.8									104.3	189.8				
Salmon, coho	adult	%CPUE=0			97%	97%	100%	100%	98%				97%	96%	100%	96%	100%			93%	80%	100%	0%	50%	97%
		Max CPUE			5	29			1				1.9	0.9		1.5				52.7	8.4		5	1	
	juvenile	%CPUE=0	94%	100%	78%	89%	73%	82%	98%		77%	67%	80%	58%	37%	43%	67%	78%	100%	73%	70%	33%	0%	50%	73%
		Max CPUE	29.9		1125.5	266	3.3	41	0.3		269.7	13	1555.6	4553.8	9	422	21	112.5		1054.5	5502.8	7	10	1	
Salmon, pink	adult	%CPUE=0			94%	94%	100%	100%	86%				99%	100%	100%	100%	100%			87%	100%	100%	100%	50%	95%
		Max CPUE			6.7	26.7			6				0.5							4334.4				1	
	juvenile	%CPUE=0	100%	99%	100%	100%	100%	100%	100%		99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	>99%
		Max CPUE		12.5							1.6														
Salmon, sockeye	adult	%CPUE=0			97%	99%	100%	100%	100%				95%	100%	100%	96%	100%			97%	100%	100%	100%	100%	98%
		Max CPUE			1.7	2.5							22.6			8				4.2					
	juvenile	%CPUE=0	96%	99%	91%	86%	98%	82%	100%		88%	100%	92%	60%	89%	87%	100%	92%	100%	92%	70%	92%	100%	100%	86%
		Max CPUE	22.7	50.1	108.1	121.4	<0.1	25			76.6		1410.2	676.6	1	111		16.2		37.6	1897.5	0.1			
Arctic grayling	--	%CPUE=0	69%	81%	84%	81%	96%	82%	94%		83%	100%	89%	87%	95%	83%	100%	87%	67%	80%	100%	97%	0%	100%	75%
		Max CPUE	170	247.1	21.9	378.1	0.5	40	2		112.4		200	45.2	0.9	10		72.9	9.3	181.8		0.1	77		
Burbot	--	%CPUE=0	84%	95%	100%	94%	82%	41%	65%		76%	67%	100%	100%	79%	74%	100%	91%	67%	100%	100%	86%	0%	100%	78%
		Max CPUE	8.9	24		13.8	0.5	15	2		26.4	13			0.8	37		31.6	9.3			1	1		
Dolly Varden	--	%CPUE=0	99%	98%	97%	99%	93%	88%	98%		98%	100%	98%	93%	99%	96%	100%	74%	100%	76%	100%	89%	0%	100%	91%
		Max CPUE	5.5	9.4	0.9	1.3	0.5	4	1		3.5		44.4	12.5	0.3	1		91.4		243.5		0.7	5		
Lamprey	--	%CPUE=0	100%	100%	97%	100%	100%	94%	100%		97%	100%	100%	100%	98%	96%	100%	97%	100%	100%	100%	100%	100%	100%	98%
		Max CPUE			0.5			2			66.7				0.5	9		8.7							
Longnose sucker	--	%CPUE=0	79%	88%	94%	71%	80%	35%	80%		75%	100%	88%	80%	79%	70%	67%	91%	100%	99%	100%	97%	0%	50%	72%
		Max CPUE	171.4	34.3	5.5	73.3	0.6	22	1		979.2		41.4	505.9	2.4	19	3	8.4		36.4		0.2	5	2	
Sculpin, undifferentiated	--	%CPUE=0	15%	88%	75%	81%	56%	71%	96%		43%	67%	66%	64%	50%	74%	67%	29%	67%	75%	90%	47%	100%	100%	34%
		Max CPUE	291.2	28.3	12.1	121.4	2.4	5	1		583.3	13	66.7	276.9	3.4	5	2	398.5	9.3	111.1	1138.5	3			
Stickleback, threespine	--	%CPUE=0	100%	100%	100%	97%	96%	88%	100%		81%	100%	90%	64%	74%	65%	100%	99%	100%	99%	100%	92%	0%	100%	89%
		Max CPUE				33.3	0.1	1			470.2		8.9	67.1	78.2	1002		2.2		0.7		0.3	1		
Trout, rainbow	--	%CPUE=0	97%	92%	100%	96%	100%	94%	96%		98%	100%	98%	98%	99%	65%	67%	95%	100%	89%	90%	89%	0%	50%	91%
		Max CPUE	7.9	27.1		14.5		1	0.3		14.1		23.4	0.7	0.1	11	0.5	13.3		54.5	3.3	1.4	38	2	
Whitefish, humpback	--	%CPUE=0	100%	98%	100%	95%	100%	94%	100%		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99%
		Max CPUE		50.1		66.5		2																	
Whitefish, round	--	%CPUE=0	84%	78%	97%	69%	98%	65%	96%		97%	100%	98%	87%	96%	87%	100%	100%	67%	99%	90%	100%	0%	100%	83%
		Max CPUE	54.9	41.5	1.7	498.7	0.1	16	0.3		10.5		22.2	55.6	0.3	5			18.7	1	2.8		2		
Whitefish, undifferentiated	--	%CPUE=0	97%	98%	97%	87%	100%	76%	100%		99%	100%	98%	96%	99%	100%	100%	99%	100%	99%	100%	100%	100%	100%	95%
		Max CPUE	11.2	24.7	17	33.2		1			67.2		9	12.8	0.1			8.4		8.2					
Percent of Sites with No Fish			5%	45%	38%	39%	27%	12%	37%		20%	67%	22%	7%	6%	0%	0%	19%	67%	34%	50%	14%	0%	0%	

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E2. Sample sizes and total effort used for calculating average CPUE for backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macro-habitat Type	Meso-habitat Type	Sample Size (*N*)			Total Effort (pulse duration in seconds)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)										
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	3	3	3	2510	2996	2826
			Side Channel	Glide			1			444
				Riffle	1	1	1	891	756	1079
				Run	2	2	1	876	852	847
		Non-FA	Main Channel	Run	3	3	3	2336	1840	2180
			Side Channel	Riffle			1			476
				Run	1	1		723	596	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	3	3		2671	3146	
			Side Channel	Glide	1	1	1	1149	1189	1151
			Side Slough	Backwater Pool	2	1		1016	2214	
				Glide		2	3		913	2188
			Tributary Mouth	Cascade			1			385
				Riffle		1			1085	
		Non-FA	Backwater	Backwater Pool	1	1	1	545	825	466
			Clearwater Plume	Clearwater Plume	2	3	3	1294	2542	1671
			Main Channel	Run	1	1	1	700	500	462
			Side Channel	Glide			1			156
				Riffle	1	1		446	870	
				Run	2	2	1	1352	1920	570
			Side Slough	Pool	2		2	658		844
				Riffle		1			645	
				Run	1	2	1	656	1391	1025
			Split Main Channel	Run	1	1	1	1112	522	430
			Tributary Mouth	Riffle		2	2		780	765
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	1	1	1	472	694	906
	Fog Creek[1]	Non-FA	Tributary	Pool	2	2	2	500	263	341
				Riffle	2	2	2	470	346	701
				Run	1	1	1	257	240	135

Table E2. Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macro-habitat Type	Meso-habitat Type	Sample Size (*N*)			Total Effort (pulse duration in seconds)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	1		1	255		153
				Pool	1	1	1	89	101	126
				Rapid	1			210		
				Riffle	2	1	2	893	403	974
				Run			1			243
Devils Canyon Upper Extent (PRM 166.1)										
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	2	1	1	1039	580	315
				Riffle			1			410
Devils Canyon Lower Extent (PRM 153.9)										
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			1			837
			Main Channel	Glide	1			347		
				Riffle	1	1	1	323	755	974
				Run			1			267
		Non-FA	Main Channel	Run	2	2	2	1893	1470	1357
			Side Slough	Glide	3	3	1	5335	1944	1053
				Pool			1			248
			Split Main Channel	Run	1	1	1	1764	460	890
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			1			1924
			Main Channel	Run	1	1		7	771	
			Multiple Split Main Channel	Riffle	1	2	1	122	1219	724
				Run	2	2	2	1196	2021	2260
			Side Channel	Backwater Pool	1			332		
				Glide	2	1	2	1550	729	3064
				Riffle	1	1	1	1066	1266	305
				Run	1		1	299		1235
			Side Slough Beaver Complex	Beaver Pond			1			1199
				Glide	3		2	3128		2326
				Pool			1			399
				Riffle	1			94		
				Run	1			914		
			Split Main Channel	Run			1			966

Table E2. Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macro-habitat Type	Meso-habitat Type	Sample Size (*N*)			Total Effort (pulse duration in seconds)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River (cont.)	FA (cont.)	Tributary Mouth	Glide			1			445
				Riffle	2		2	1219		928
				Run			1			510
			Tributary	Glide	1		1	600		288
				Pool	2			1523		
				Riffle	1			1243		
				Run	1			1260		
			Upland Slough	Glide			1			404
			Upland Slough Beaver Complex	Beaver Pond	2		3	2184		5026
		Non-FA	Backwater	Backwater Pool	2	2		949	763	
			Clearwater Plume	Clearwater Plume	2	1	2	1546	607	1383
			Side Channel	Pool	1	1	3	1010	510	1165
				Riffle	2	2		2748	1210	
			Side Slough	Glide		1	1		200	590
				Pool	3	2	1	2386	1023	780
			Side Slough Beaver Complex	Beaver Pond	1	1	1	262	245	332
			Tributary Mouth	Run	2	2	3	2398	698	1688
			Tributary	Boulder Riffle	1	1	1	332	110	374
			Upland Slough	Pool	1	1	1	1982	846	720
			Upland Slough Beaver Complex	Beaver Pond	2	2	2	1621	816	1080
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		2			261	
			Main Channel	Run	1	1	1	524	530	1153
			Side Channel	Backwater Pool			3			2762
				Glide	1	2		321	1776	
				Pool	2	1		1040	641	
				Riffle		2			1894	

Table E2. Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macro-habitat Type	Meso-habitat Type	Sample Size (*N*)			Total Effort (pulse duration in seconds)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River (cont.)	FA (cont.)	Split Main Channel	Riffle	2	2		211	699	
				Run	2	1	2	725	405	910
			Tributary Mouth	Cascade	1			800		
				Riffle	1			247		
			Tributary	Glide		1			1000	
				Pool		1			590	
				Riffle	1			271		
				Run			1			95
			Upland Slough Beaver Complex	Pool			1			343
				Run			2			1077
		Non-FA	Clearwater Plume	Clearwater Plume			1			497
			Main Channel	Glide			1			1040
				Run	1			1070		
			Side Channel	Glide			1			570
				Riffle	1	1	1	1156	423	385
				Run	2	2	1	2306	3292	1140
			Side Slough	Pool	3	3	3	2611	1911	1149
			Side Slough Beaver Complex	Beaver Pond	1	1	1	583	675	424
			Split Main Channel	Run	1	1	1	513	1085	693
			Tributary Mouth	Riffle	1		2	30		159
			Tributary	Run	2	2	1	1727	1000	477
			Upland Slough	Pool	3	3	3	2429	2020	1266
			Upland Slough Beaver Complex	Beaver Pond	3	3	3	3255	2292	1307
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	1			421		
				Run	2	2	3	817	638	3488
			Side Channel	Glide			1			989
				Pool	1	1	1	279	30	137
				Riffle	1	2	2	580	1179	1835
				Run	1	1		855	1133	

Table E2. Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macro-habitat Type	Meso-habitat Type	Sample Size (*N*)			Total Effort (pulse duration in seconds)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-8 (cont.)	Susitna River (cont.)	FA (cont.)	Side Slough	Glide	2			6165		
				Riffle	2	1		1774	279	
			Tributary	Riffle	1			508		
		Non-FA	Main Channel	Run	1	1	1	1350	1235	569
			Side Channel	Glide	1		1	1364		450
				Pool	2	1	1	1053	315	240
				Run		1	1		1159	560
			Side Slough	Glide			1			496
				Pool	3	3	2	1640	817	344
			Split Main Channel	Run	1	1	1	1091	906	835
			Upland Slough	Glide	1	1	1	1904	156	821
				Pool	2	2	1	2795	1659	168

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E3. Sample sizes and total effort used for calculating average CPUE for boat electrofishing in the Middle River, 2013.

Geo-morphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (pulse duration in seconds)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)									
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	3	3	3	705	690	956
	Non-FA	Main Channel	Run	2	3	2	705	1924	1544
		Side Channel	Riffle			1			1252
MR-2 (PRM 169.6-184.6)	FA	Main Channel	Run	3	3	3	1020	1350	1187
	Non-FA	Clearwater Plume	Clearwater Plume	2	2	3	850	504	2610
		Main Channel	Run	1	1	1	230	303	1001
		Side Channel	Run	1		1	192		825
		Split Main Channel	Run	1	1	1	192	303	810
Devils Canyon (PRM 153.9-166.1)									
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume			1			61
		Main Channel	Run		2	1		193	91
	Non-FA	Main Channel	Run	2	2	2	464	672	2064
		Split Main Channel	Run	1	1	1	278	706	1261
MR-6 (PRM 122.7-148.4)	FA	Main Channel	Run		1			194	
		Multiple Split Main Channel	Run		2	2		373	412
		Split Main Channel	Run			1			375
	Non-FA	Backwater	Backwater Pool	2		1	592		275
		Main Channel	Run	3	3	3	852	1016	2903
		Tributary Mouth	Run	1	1	1	99	225	386
MR-7 (PRM 107.8-122.7)	FA	Main Channel	Run		1	1		300	670
		Split Main Channel	Run		2	2		327	1050
	Non-FA	Backwater	Backwater Pool	1			1154		
		Main Channel	Run	1		1	342		178
		Split Main Channel	Run	2	2	2	390	564	2066
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Glide	1			221		
			Run	2	3	3	110	561	1942
		Side Channel	Riffle			1			520
			Run	1	1		72	40	
	Non-FA	Main Channel	Run	2	2	1	428	1040	123
		Side Channel	Glide	1		1	184		386
			Pool	1	1	1	301	212	233

Table E3. Continued.

Geo-morphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (pulse duration in seconds)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-8 (cont.)	Non-FA (cont.)	Side Channel (cont.)	Run		1			231	
		Split Main Channel	Run	1	1	1	347	241	220
		Upland Slough	Pool	1	1	1	251	200	276

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E4. Sample sizes and total effort used for calculating average CPUE for seining in the Middle River, 2013.

Geo-morphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (area sampled in square meters)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)									
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	1			142.5		
		Side Channel	Riffle	1			320.0		
			Run	2	1	1	1120.0	600.0	400.0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		1			1552.0	
		Clearwater Plume	Clearwater Plume	1	1		182.5	320.0	
		Side Channel	Glide	1			25.0		
		Side Slough	Glide		1			1415.2	
			Run		1			5260.0	
Devils Canyon (PRM 153.9-166.1)									
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	1	1	1	46.3	1000.0	240.0
		Main Channel	Glide	1			292.5		
			Run		1			488.0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	2	3		1200.8	789.0	
		Clearwater Plume	Clearwater Plume	1	2		1200.0	1775.0	
		Main Channel	Run	1	1		1000.0	1064.0	
		Multiple Split Main Channel	Riffle		1			780.0	
			Run	1	1	2	200.0	240.0	925.0
		Side Channel	Backwater Pool	1	2		236.0	1415.5	
			Glide	3	2	1	5157.5	2763.6	487.5
			Riffle	1	1		250.0	240.0	
			Run		2	1		1408.8	665.0
		Side Slough Beaver Complex	Backwater Pool	2			1352.5		
			Beaver Pond		2	1		2542.0	1020.0
			Glide	1		1	513.0		585.9
			Pool		2			1800.0	
		Split Main Channel	Run			1			200.0
		Tributary	Glide		1	1		359.0	384.9
			Pool	2			198.5		
		Tributary Mouth	Pool	1			469.0		
			Riffle		1			121.9	

Table E4. Continued.

Geo-morphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (area sampled in square meters)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-6 (cont.)	FA (cont.)	Upland Slough Beaver Complex	Beaver Pond	2	4	1	5780.0	3702.4	1332.8
	Non-FA	Main Channel	Run	3	3	3	143.0	440.0	142.0
		Side Channel	Riffle		1			450.0	
		Tributary Mouth	Run	1			350.0		
MR-7(PRM 107.8-122.7)	FA	Backwater	Backwater Pool	2			6090.1		
		Clearwater Plume	Clearwater Plume	1	1	1	184.8	81.0	410.0
		Main Channel	Run		1			200.0	
		Side Channel	Backwater Pool			2			270.0
			Glide	1	1		496.0	420.0	
			Pool	2	1		800.0	696.0	
		Split Main Channel	Riffle	1	1		280.0	130.0	
			Run	1	2		400.0	662.5	
		Tributary	Backwater Pool			1			320.0
			Pool	1			305.5		
			Riffle			1			24.0
		Upland Slough Beaver Complex	Beaver Pond	1	1	3	3650.0	4000.0	14000.0
			Glide	1	2		18.0	165.0	
			Run	1			32.5		
	Non-FA	Split Main Channel	Run	1	1	1	37.5	57.2	96.0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			2			574.0
		Side Channel	Backwater Pool	1		1	1111.1		38.7
			Glide			2			443.0
			Pool	1	1		400.0	360.0	
			Riffle		1	1		150.0	300.0
			Run	1	1		230.0	280.0	
		Side Slough	Glide	2	2	1	842.0	2598.4	2426.4
			Pool			2			2075.1
			Run		1			2158.2	
		Upland Slough Beaver Complex	Glide	2	3	2	4200.0	8677.0	3400.0
			Run		1	1		122.7	80.0

Table E4. Continued.

Geo-morphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (area sampled in square meters)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-8 (cont.)	Non-FA	Main Channel	Run	1	1	1	72.5	225.0	450.0
		Split Main Channel	Run	1		1	45.0		260.0
		Upland Slough	Glide	1			2842.0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E5. Sample sizes and total effort used for calculating average CPUE for snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (area sampled in square meters)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)										
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	1	1	1	183	840	779
			Side Channel	Glide			1			590
				Pool			1			22
			Side Slough	Backwater Pool	2	1		1110	4096	
				Glide		2	2		1250	3480
				Pool	1			3760		
			Tributary Mouth	Cascade			1			72
				Riffle	1	1		36	111	
		Non-FA	Backwater	Backwater Pool	1			3000		
			Clearwater Plume	Clearwater Plume		1			2310	
			Side Channel	Run	1			500		
			Side Slough	Pool	1			1800		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	1	1	1	3000	3000	1100
	Fog Creek[1]	Non-FA	Tributary	Pool	1	1	1	534	396	420
				Riffle	2	1	2	1727	390	875
				Run	1	1	1	660	660	325
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	1		1	198		450
				Riffle	1		1	804		1300
Devils Canyon Upper Extent (PRM 166.1)										
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	2	2	1	1050	1900	500
Devils Canyon Lower Extent (PRM 153.9)										
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	1	1		46	400	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	1	1		750	390	
			Clearwater Plume	Clearwater Plume	1	2	1	600	675	600
			Side Channel	Backwater Pool	1			236		
				Run			1			1900

Table E5. Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (area sampled in square meters)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River (cont.)	FA (cont.)	Side Slough Beaver Complex	Backwater Pool	2		2	1353		5870
				Beaver Pond	1	2	1	1224	5662	340
				Glide	3	2	3	3121	3525	3228
				Pool	1	3	1	950	4200	535
				Riffle	1	1	1	25	360	1145
				Run	1		1	1580		410
			Tributary	Glide	1	1	2	449	359	449
				Pool	2		1	608		144
				Riffle	2		1	2226		237
				Run	1		1	888		28
			Tributary Mouth	Glide	1	1	1	58	101	162
				Pool	1			469		
				Riffle	2	2	2	1091	284	257
				Run		1	1		120	213
			Upland Slough Beaver Complex	Beaver Pond	2	4	1	1364	3589	2031
		Non-FA	Side Slough	Pool	1	1	1	494	700	1600
			Tributary	Boulder Riffle		1			750	
			Upland Slough	Pool	1	1	1	2340	1204	1160
			Upland Slough Beaver Complex	Beaver Pond	1	2		850	5397	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	1			30		
			Clearwater Plume	Clearwater Plume	1	2	2	12	100	566
			Tributary	Backwater Pool			1			160
				Glide		1			91	
				Pool	2	1		746	215	
				Riffle	1	1	2	28	21	68
				Run			1			120
			Tributary Mouth	Cascade	1			69		
				Riffle	1			60		
			Upland Slough Beaver Complex	Beaver Pond	4	4	1	16,651	14,185	1105
				Glide	1	2		20	165	
				Pool			1			38
				Run	1		2	45		89

Table E5. Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (area sampled in square meters)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River (cont.)	Non-FA	Upland Slough	Pool	1	1	1	3200	1050	1600
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	1		1	2206		39
				Glide		1	2		2228	2075
				Riffle	1	1	1	249	185	330
			Side Slough	Glide	3	3	1	4394	5498	2426
				Pool			2			2075
				Riffle	2	1	1	1540	41	1480
				Run		1			2158	
			Tributary	Glide	1	1		1079	1122	
				Pool	1	1	1	396	474	1345
				Riffle	1	1	1	138	315	216
			Upland Slough Beaver Complex	Backwater Pool	1			1179		
				Beaver Pond	1		1	2940		3780
				Glide	3	3	3	6663	8677	8801
				Run		1	1		123	80

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E6. Sample sizes and total effort used for calculating average CPUE for fyke netting in the Middle River, 2013.

Geo-morphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (# of nets set overnight)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)									
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	1	1		1	1	
		Clearwater Plume	Clearwater Plume			1			1
Devils Canyon (PRM 153.9-166.1)									
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		2			2	
		Side Channel	Glide	2	2	1	2	2	1
			Riffle	1	1		1	1	
		Side Slough Beaver Complex	Beaver Pond	1			1		
			Glide		1			1	
			Pool	1	1		1	1	
		Upland Slough Beaver Complex	Beaver Pond	3		2	3		2
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	1		1	1		1
		Split Main Channel	Riffle	1			1		
		Upland Slough Beaver Complex	Beaver Pond	3	2	3	3	2	3
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		1	1		1	1
		Side Slough	Glide		1	1		1	2
			Pool			1			1
		Tributary	Pool			1			1
	Non-FA	Upland Slough	Pool	1	1	1	1	1	1

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E7. Sample sizes and total effort used for calculating average CPUE for hoop trapping in the Middle River Focus Areas, 2013.

Geo-morphic Reach	Macro-habitat Type	Meso-habitat Type	Sample Size (*N*)			Total Effort (# of nets set overnight)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)								
MR-1 (PRM 184.6-187.1)	Main Channel	Run	2		3	3		10
	Side Channel	Glide			1			2
		Run			1			4
MR-2 (PRM 169.6-184.6)	Main Channel	Run	3	2	3	6	2	10
Devils Canyon (PRM 153.9-166.1)								
MR-5 (PRM 148.1-153.9)	Clearwater Plume	Clearwater Plume			1			4
	Main Channel	Run	2	2		4	6	
MR-6 (PRM 122.7-148.4)	Main Channel	Run	1	1		4	4	
	Multiple Split Main Channel	Run	2	2	2	5	6	9
	Side Slough Beaver Complex	Beaver Pond			1			1
	Split Main Channel	Run			1			5
MR-7 (PRM 107.8-122.7)	Main Channel	Run	1	1	1	2	4	5
	Split Main Channel	Run	2	2	2	3	7	8
	Upland Slough Beaver Complex	Beaver Pond		1			1	
MR-8 (PRM 102.4-107.8)	Main Channel	Glide	1			1		
		Run	2	3	3	4	10	12
	Side Channel	Pool	1	1		1	3	
	Tributary	Pool	1	1		1	1	
	Upland Slough Beaver Complex	Backwater Pool	1			2		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E8. Sample sizes and total effort used for calculating average CPUE for minnow trapping in the Middle River Focus Areas, 2013.

Geo-morphic Reach	Macro-habitat Type	Meso-habitat Type	Sample Size (*N*)			Total Effort (# of traps set overnight)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)								
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			1			12
		Riffle			1			3
		Run	1			8		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	1	1		12	20	
	Clearwater Plume	Clearwater Plume	1	1	1	5	4	6
	Side Channel	Glide			1			5
	Side Slough	Backwater Pool	2	1		24	16	
		Glide		2	3		19	34
		Pool	1			20		
	Tributary Mouth	Riffle	1	1		2	6	
Devils Canyon (PRM 153.9-166.1)								
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	1	3	1	12	18	8
	Side Channel	Backwater Pool		2			14	
		Glide	1	3	2	8	34	13
		Run		2			9	
	Side Slough Beaver Complex	Backwater Pool	2		2	19		30
		Beaver Pond	1	2	1	16	31	16
		Glide		2	3		25	18
		Pool		3	1		31	9
		Riffle		1	1		2	3
		Run			1			2
	Tributary	Glide	1	1	1	6	7	4
		Pool	1		1	7		4
		Riffle	1		1	3		4
		Run	1		1	8		7
	Tributary Mouth	Glide		1	1		3	4
		Rapid			1			5
		Riffle	1	2	1	10	12	3
		Run		1	1		10	8
	Upland Slough	Glide			1			4

Table E8. Continued.

Geo-morphic Reach	Macro-habitat Type	Meso-habitat Type	Sample Size (*N*)			Total Effort (# of traps set overnight)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-6 (cont.)	Upland Slough Beaver Complex	Beaver Pond	4	5	4	56	66	50
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	2	1	1	22	20	5
	Clearwater Plume	Clearwater Plume			1			4
	Side Channel	Backwater Pool			1			9
		Glide	1	2		8	36	
		Pool		1			17	
		Riffle		1			2	
	Tributary	Backwater Pool			1			8
		Glide	1	1		3	9	
		Pool	2	1		29	9	
		Riffle	1		1	6		1
		Run			1			12
	Tributary Mouth	Cascade	1			5		
		Riffle	1			3		
	Upland Slough Beaver Complex	Beaver Pond	4	4	4	41	44	62
		Glide	1	2		4	8	
		Pool			1			6
		Run	1		2	4		12
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			1			2
		Glide		1	3		17	32
		Pool		1	1		21	1
		Riffle		2	1		5	2
	Side Slough	Glide	1	3	1	10	38	16
		Pool			2			18
		Run		1			2	
	Tributary	Glide		1			13	
		Pool		1	1		4	17
		Riffle		1	1		3	3
	Upland Slough Beaver Complex	Backwater Pool		1			8	

Table E8. Continued.

Geo-morphic Reach	Macro-habitat Type	Meso-habitat Type	Sample Size (*N*)			Total Effort (# of traps set overnight)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-8 (cont.)	Upland Slough Beaver Complex (cont.)	Beaver Pond			1			7
		Glide	2	3	3	34	40	38
		Run		1	1		3	3

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E9. Average CPUE (fish per hour of shocking time) for Chinook salmon using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Riffle			0
				Run	0	0	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	0	0	
			Side Channel	Glide	0	0	0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
			Tributary Mouth	Cascade			0
				Riffle		0	
		Non-FA	Backwater	Backwater Pool	0	0	0
			Clearwater Plume	Clearwater Plume	0	0	0
			Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	
				Run	0	0	0
			Side Slough	Pool	0		0
				Riffle		0	
				Run	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle		0	0
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	0		0
				Pool	0	0	0
				Rapid	0		
				Riffle	0	0	0

Table E9-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
				Riffle			0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			4.3
			Main Channel	Glide	0		
				Riffle	0	9.5	0
				Run			0
		Non-FA	Main Channel	Run	0	0	0
			Side Slough	Glide	0	0	0
				Pool			0
			Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			0
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	0	0
				Run	0	0	1.8
			Side Channel	Backwater Pool	0		
				Glide	0	0	1.9
				Riffle	0	0	0
				Run	0		0
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	0		3.2
				Pool			18
				Riffle	0		
				Run	0		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			0
				Riffle	2.1		0
				Run			7.1
			Tributary	Glide	0		12.5
				Pool	0		

Table E9-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	0		
			Upland Slough	Glide			0
			Upland Slough Beaver Complex	Beaver Pond	0		0
		Non-FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Pool	0	0	0
				Riffle	0	0	
			Side Slough	Glide		0	0
				Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	0	0	0
			Tributary	Boulder Riffle	32.5	0	0
			Upland Slough	Pool	5.4	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	0
			Side Channel	Backwater Pool			0
				Glide	0	0	
				Pool	0	0	
				Riffle		0	
			Split Main Channel	Riffle	0	0	
				Run	0	0	0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Tributary	Glide		0	
				Pool		0	
				Riffle	0		
				Run			0
			Upland Slough Beaver Complex	Pool			0
				Run			0
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			0

Table E9-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	0		
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
			Side Slough	Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle	0		0
			Tributary	Run	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0		
				Run	0	0	0
			Side Channel	Glide			0
				Pool	0	0	0
				Riffle	0	0	7.4
				Run	0	0	
			Side Slough	Glide	0.5		
				Riffle	0	0	
			Tributary	Riffle	0		
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Glide	0		0
				Pool	0	0	0
				Run		0	0
			Side Slough	Glide			0
				Pool	0	0	0
			Split Main Channel	Run	0	0	0
			Upland Slough	Glide	0	0	0
				Pool	0	3.1	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E10. Average CPUE (fish per 1,000 square meters) for Chinook salmon using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0		
		Side Channel	Riffle	0		
			Run	0	0	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		0	
		Clearwater Plume	Clearwater Plume	0	0	
		Side Channel	Glide	0		
		Side Slough	Glide		0	
			Run		0	
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Glide	0		
			Run		0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	21.7	4.0	
		Clearwater Plume	Clearwater Plume	0	0	
		Main Channel	Run	0	0	
		Multiple Split Main Channel	Riffle		0	
			Run	0	0	0.8
		Side Channel	Backwater Pool	0	0	
			Glide	0	0	0
			Riffle	0	0	
			Run		0	0
		Side Slough Beaver Complex	Backwater Pool	0		
			Beaver Pond		0	0
			Glide	0		0
			Pool		0.7	
		Split Main Channel	Run			0
		Tributary	Glide		2.8	0
			Pool	0		
		Tributary Mouth	Pool	0		
			Riffle		0	
		Upland Slough Beaver Complex	Beaver Pond	15.7	5.7	5.3
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle		0	
		Tributary Mouth	Run	0		
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		
		Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run		0	

Table E10-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
				Early Summer	Late Summer	Fall
MR-7 (cont.)	FA	Side Channel	Backwater Pool			0
			Glide	2.0	0	
			Pool	0	0	
		Split Main Channel	Riffle	0	0	
			Run	0	0	
		Tributary	Backwater Pool			3.1
			Pool	0		
			Riffle			0
		Upland Slough Beaver Complex	Beaver Pond	1.9	0	0
			Glide	55.6	0	
			Run	0		
	Non-FA	Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			0
		Side Channel	Backwater Pool	3.6		25.8
			Glide			3.9
			Pool	0	0	
			Riffle		0	0
			Run	0	0	
		Side Slough	Glide	0	0	0.4
			Pool			0
			Run		0	
		Upland Slough Beaver Complex	Glide	0	0	0
			Run		130.5	25.0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0		0
		Upland Slough	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E11. Average CPUE (fish per 1,000 square meters) for Chinook salmon using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (adult)			Salmon, Chinook (juvenile)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)										
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	0	0	0	0
			Side Channel	Glide			0			0
				Pool			0			0
			Side Slough	Backwater Pool	0	0		0	0	
				Glide		0	0		0	0
				Pool	0			0		
			Tributary Mouth	Cascade			0			0
				Riffle	0	0		0	0	
		Non-FA	Backwater	Backwater Pool	0			0		
			Clearwater Plume	Clearwater Plume		0			0	
			Side Channel	Run	0			0		
			Side Slough	Pool	0			0		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0.3	0	0	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0	0	0	0
				Riffle	0	0	0	0	0	0
				Run	0	0	0	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	0		0	0		0
				Riffle	0		0	0		0
Devils Canyon Upper Extent (PRM 166.1)										
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0	0	0	0
Devils Canyon Lower Extent (PRM 153.9)										
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0		0	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	0	0		0	0	
			Clearwater Plume	Clearwater Plume	1.7	0	0	0	0	0
			Side Channel	Backwater Pool	0			0		

Table E11-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (adult)			Salmon, Chinook (juvenile)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Channel	Run			0			0
			Side Slough Beaver Complex	Backwater Pool	0		0	0		0
				Beaver Pond	0	0	0	0	0	0
				Glide	0	0	0	0	0	0
				Pool	0	0	0	0	1.2	0
				Riffle	0	0	0	0	0	0
				Run	0		0	0		0
			Tributary	Glide	0	0	0	0	0	0
				Pool	0		0	0		0
				Riffle	0.3		0	0		0
				Run	6.8		0	0		0
			Tributary Mouth	Glide	0	0	0	0	0	0
				Pool	0			0		
				Riffle	1.5	0	0	0	0	0
				Run		0	0		0	4.7
			Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	0.3	0
		Non-FA	Side Slough	Pool	0	0	0	0	0	0
			Tributary	Boulder Riffle		0			0	
			Upland Slough	Pool	0	0	0	0.9	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0		0	0	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0			0		
			Clearwater Plume	Clearwater Plume	0	0	0	0	0	0
			Tributary	Backwater Pool			0			0
				Glide		0			0	
				Pool	0	0		0	0	
				Riffle	0	0	0	0	0	0
				Run			0			0
			Tributary Mouth	Cascade	0			0		
				Riffle	0			0		

Table E11-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (adult)			Salmon, Chinook (juvenile)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	FA	Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	0.3	5.4
				Glide	0	0		0	0	
				Pool			0			0
				Run	0		0	0		0
		Non-FA	Upland Slough	Pool	0	0	0	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0		0	2.7		0
				Glide		0	0		1.3	0
				Riffle	0	0	0	0	0	0
			Side Slough	Glide	0	0	0	0	0	0
				Pool			0			0
				Riffle	0	0	0	0	0	0
				Run		0			0	
			Tributary	Glide	0	0		0.9	3.6	
				Pool	0	0	0	37.9	10.5	0
				Riffle	0	0	0	0	0	0
			Upland Slough Beaver Complex	Backwater Pool	0			0		
				Beaver Pond	0		0	3.4		0
				Glide	0	0	0	351.1	0	0
				Run		0	0		0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E12. Average CPUE (fish per trap) for Chinook salmon using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	1.0	0	
		Clearwater Plume	Clearwater Plume			0
Devils Canyon (PRM 153.9-166.1)						
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		1.5	
		Side Channel	Glide	0	0	0
			Riffle	0	0	
		Side Slough Beaver Complex	Beaver Pond	3.0		
			Glide		0	
			Pool	9.0	0	
		Upland Slough Beaver Complex	Beaver Pond	16.3		3.5
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		0
		Split Main Channel	Riffle	0		
		Upland Slough Beaver Complex	Beaver Pond	2.0	1.0	0.7
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		31.0	20.0
		Side Slough	Glide		26.0	2.0
			Pool			2.0
		Tributary	Pool			14.0
	Non-FA	Upland Slough	Pool	2.0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E13. Average CPUE (fish per trap) for Chinook salmon using hoop trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Main Channel	Run	0		0
	Side Channel	Glide			0
		Run			0
MR-2 (PRM 169.6-184.6)	Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)					
MR-5 (PRM 148.1-153.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run	0	0	
MR-6 (PRM 122.7-148.4)	Main Channel	Run	0	0	
	Multiple Split Main Channel	Run	0	0	0
	Side Slough Beaver Complex	Beaver Pond			0
	Split Main Channel	Run			0.2
MR-7 (PRM 107.8-122.7)	Main Channel	Run	0	0	0
	Split Main Channel	Run	0	0	0
	Upland Slough Beaver Complex	Beaver Pond		0	
MR-8 (PRM 102.4-107.8)	Main Channel	Glide	0		
		Run	0	0	0
	Side Channel	Pool	0	0	
	Tributary	Pool	0	1.0	
	Upland Slough Beaver Complex	Backwater Pool	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E14. Average CPUE (fish per trap) for Chinook salmon using minnow trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			0
		Riffle			0
		Run	0		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	0	0	
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel	Glide			0
	Side Slough	Backwater Pool	0	0	
		Glide		0	0
		Pool	0		
	Tributary Mouth	Riffle	0	0	
Devils Canyon (PRM 153.9-166.1)					
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	0	0	0
	Side Channel	Backwater Pool		0	
		Glide	0	0	0
		Run		0	
	Side Slough Beaver Complex	Backwater Pool	0.06		0.38
		Beaver Pond	0	0.03	0.13
		Glide		0	0.17
		Pool		0.06	0.44
		Riffle		0	0
		Run			0
	Tributary	Glide	0	0	0
		Pool	0		0
		Riffle	0		0.50
		Run	0		0.14
	Tributary Mouth	Glide		0	0.25
		Rapid			0.60
		Riffle	0	0	0
		Run		0	0.63
	Upland Slough	Glide			0
	Upland Slough Beaver Complex	Beaver Pond	0.15	0.12	0.21
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	0	0	0.20
	Clearwater Plume	Clearwater Plume			0.50
	Side Channel	Backwater Pool			0
		Glide	0	0	
		Pool		0	
		Riffle		0	
	Tributary	Backwater Pool			2.50
		Glide	0	0.22	

Table E14. Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
			Early Summer	Late Summer	Fall
MR-7 (cont.)	Tributary (cont.)	Pool	0	0	
		Riffle	0		0
		Run			0.42
	Tributary Mouth	Cascade	0		
		Riffle	0		
	Upland Slough Beaver Complex	Beaver Pond	0.67	0.45	0
		Glide	0	0	
		Pool			0
		Run	0.25		0
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			0.50
		Glide		1.94	0.21
		Pool		0	0
		Riffle		0.25	0.50
	Side Slough	Glide	0	0.78	0.25
		Pool			0
		Run		0.50	
	Tributary	Glide		2.23	
		Pool		7.75	0.06
		Riffle		1.33	0
	Upland Slough Beaver Complex	Backwater Pool		2.00	
		Beaver Pond			2.43
		Glide	0	1.90	0.06
		Run		4.67	2.00

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E15. Average CPUE (fish per hour of shocking time) for chum salmon using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, chum (juvenile)		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Riffle			0
				Run	0	0	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	0	0	
			Side Channel	Glide	0	0	0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
			Tributary Mouth	Cascade			0
				Riffle		0	
		Non-FA	Backwater	Backwater Pool	0	0	0
			Clearwater Plume	Clearwater Plume	0	0	0
			Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	
				Run	0	0	0
			Side Slough	Pool	0		0
				Riffle		0	
				Run	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle		0	0
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	0		0
				Pool	0	0	0
				Rapid	0		
				Riffle	0	0	0

Table E15-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, chum (juvenile)		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
				Riffle			0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide	0		
				Riffle	0	0	0
				Run			0
		Non-FA	Main Channel	Run	0	0	0
			Side Slough	Glide	0	0	0
				Pool			0
			Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			0
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	0	0
				Run	0	0	0
			Side Channel	Backwater Pool	0		
				Glide	0	0	0
				Riffle	0	0	0
				Run	0		0
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	0		0
				Pool			0
				Riffle	0		
				Run	15.8		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			0
				Riffle	0		0
				Run			0
			Tributary	Glide	0		0
				Pool	0		

Table E15-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, chum (juvenile)		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	0		
			Upland Slough	Glide			0
			Upland Slough Beaver Complex	Beaver Pond	0		0
		Non-FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Pool	0	0	0
				Riffle	0	0	
			Side Slough	Glide		0	0
				Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	0	0	0
			Tributary	Boulder Riffle	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	0
			Side Channel	Backwater Pool			0
				Glide	0	0	
				Pool	0	0	
				Riffle		1.4	
			Split Main Channel	Riffle	0	0	
				Run	0	0	0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Tributary	Glide		0	
				Pool		0	
				Riffle	0		
				Run			0
			Upland Slough Beaver Complex	Pool			0
				Run			0
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			0

Table E15-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, chum (juvenile)		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	0		
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
			Side Slough	Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle	0		0
			Tributary	Run	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0		
				Run	0	0	0
			Side Channel	Glide			0
				Pool	0	0	0
				Riffle	6.2	0	0
				Run	0	0	
			Side Slough	Glide	0		
				Riffle	0	0	
			Tributary	Riffle	0		
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Glide	0		0
				Pool	4.3	0	0
				Run		0	0
			Side Slough	Glide			0
				Pool	0	0	0
			Split Main Channel	Run	0	0	0
			Upland Slough	Glide	0	0	0
				Pool	0	0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E16. Average CPUE (fish per 1,000 square meters) for chum salmon using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, chum (adult)			Salmon, chum (juvenile)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)									
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0			0		
		Side Channel	Riffle	0			0		
			Run	0	0	0	0	0	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		0			0	
		Clearwater Plume	Clearwater Plume	0	0		0	0	
		Side Channel	Glide	0			0		
		Side Slough	Glide		0			0	
			Run		0			0	
Devils Canyon (PRM 153.9-166.1)									
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0	0	0	0
		Main Channel	Glide	0			0		
			Run		0			0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	0	33.7		0	0	
		Clearwater Plume	Clearwater Plume	1.7	3.1		0	0	
		Main Channel	Run	0	0		0	0	
		Multiple Split Main Channel	Riffle		0			0	
			Run	0	0	0	0	0	0
		Side Channel	Backwater Pool	0	0		0	0	
			Glide	0	1.1	0	0.2	0	0
			Riffle	0	0		0	0	
			Run		0	0		0	0
		Side Slough Beaver Complex	Backwater Pool	0			0		
			Beaver Pond		0	0		0	0
			Glide	0		0	0		0
			Pool		0			0	
		Split Main Channel	Run			0			0
		Tributary	Glide		0	0		0	0
			Pool	0			94.9		
		Tributary Mouth	Pool	0			0		
			Riffle		0			0	
		Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	0	0
	Non-FA	Main Channel	Run	0	0	0	0	0	0
		Side Channel	Riffle		0			0	
		Tributary Mouth	Run	0			0		

Table E16-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, chum (adult)			Salmon, chum (juvenile)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0			0		
		Clearwater Plume	Clearwater Plume	0	0	0	0	0	0
		Main Channel	Run		0			0	
		Side Channel	Backwater Pool			0			0
			Glide	0	0		0	0	
			Pool	0	0		0	0	
		Split Main Channel	Riffle	0	0		0	0	
			Run	0	0		0	0	
		Tributary	Backwater Pool			0			0
			Pool	0			0		
			Riffle			0			0
		Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	0	0
			Glide	0	0		0	0	
			Run	0			0		
	Non-FA	Split Main Channel	Run	26.7	0	0	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			0			0
		Side Channel	Backwater Pool	0		0	9.0		0
			Glide			0			0
			Pool	0	2.8		0	2.8	
			Riffle		0	0		13.3	0
			Run	0	0		0	0	
		Side Slough	Glide	0	0	0	0	0	0
			Pool			0			0
			Run		0			0	
		Upland Slough Beaver Complex	Glide	0	0	0	0	0	0
			Run		0	0		0	0
	Non-FA	Main Channel	Run	0	0	0	0	0	0
		Split Main Channel	Run	0		0	0		0
		Upland Slough	Glide	0			0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E17. Average CPUE (fish per 1,000 square meters) for chum salmon using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, chum (adult)			Salmon, chum (juvenile)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)										
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	0	0	0	0
			Side Channel	Glide			0			0
				Pool			0			0
			Side Slough	Backwater Pool	0	0		0	0	
				Glide		0	0		0	0
				Pool	0			0		
			Tributary Mouth	Cascade			0			0
				Riffle	0	0		0	0	
		Non-FA	Backwater	Backwater Pool	0			0		
			Clearwater Plume	Clearwater Plume		0			0	
			Side Channel	Run	0			0		
			Side Slough	Pool	0			0		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0	0	0	0
				Riffle	0	0	0	0	0	0
				Run	0	0	0	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	0		0	0		0
				Riffle	0		0	0		0
Devils Canyon Upper Extent (PRM 166.1)										
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0	0	0	0
Devils Canyon Lower Extent (PRM 153.9)										
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0		0	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	0	61.5		0	0	
			Clearwater Plume	Clearwater Plume	0	7.0	1.7	0	0	0
			Side Channel	Backwater Pool	0			0		
				Run			0			0

Table E17-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, chum (adult)			Salmon, chum (juvenile)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Slough Beaver Complex	Backwater Pool	0		0	0		0
				Beaver Pond	0	0	0	0	0	0
				Glide	0	6.9	0	0	0	0
				Pool	0	0.3	0	0	0	0
				Riffle	0	0	0.9	0	0	0
				Run	0		19.5	0		0
			Tributary	Glide	17.8	0	1.3	0	0	0
				Pool	144.5		0	0		0
				Riffle	3.1		0	0		0
				Run	42.8		0	0		0
			Tributary Mouth	Glide	0	29.6	0	104.3	0	0
				Pool	0			0		
				Riffle	15.0	12.3	0	0	0	0
				Run		183.3	0		0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	0	0
		Non-FA	Side Slough	Pool	0	0	0	0	0	0
			Tributary	Boulder Riffle		0			0	
			Upland Slough	Pool	0	0.8	0	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0.8		0	0	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0			0		
			Clearwater Plume	Clearwater Plume	0	0	0	0	0	0
			Tributary	Backwater Pool			0			0
				Glide		0			0	
				Pool	0	0		0	0	
				Riffle	0	0	0	0	0	0
				Run			0			0
			Tributary Mouth	Cascade	0			0		
				Riffle	0			0		

Table E17-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, chum (adult)			Salmon, chum (juvenile)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	FA	Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	0	0
				Glide	0	0		0	0	
				Pool			0			0
				Run	0		0	0		0
		Non-FA	Upland Slough	Pool	0	0	0	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0		0	0		0
				Glide		0	0		0	0
				Riffle	0	0	0	0	0	0
			Side Slough	Glide	0	0	0	0	0	0
				Pool			0			0
				Riffle	0	0	0	0	0	0
				Run		0			0	
			Tributary	Glide	0	1.8		0	0	
				Pool	0	4.2	0	0	0	0
				Riffle	0	0	0	0	0	0
			Upland Slough Beaver Complex	Backwater Pool	0			0		
				Beaver Pond	0		0	0		0
				Glide	0	0	0	0	0	0
				Run		0	0		0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E18. Average CPUE (fish per trap) for chum salmon using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, chum (adult)		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	0	0	
		Clearwater Plume	Clearwater Plume			0
Devils Canyon (PRM 153.9-166.1)						
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		6.5	
		Side Channel	Glide	0	0	0
			Riffle	0	0	
		Side Slough Beaver Complex	Beaver Pond	0		
			Glide		0	
			Pool	0	0	
		Upland Slough Beaver Complex	Beaver Pond	0		0
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		0
		Split Main Channel	Riffle	1.0		
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		0	0
		Side Slough	Glide		0	0
			Pool			0
		Tributary	Pool			0
	Non-FA	Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E19. Average CPUE (fish per trap) for chum salmon using hoop trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, chum (adult)		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Main Channel	Run	0		0
	Side Channel	Glide			0
		Run			0
MR-2 (PRM 169.6-184.6)	Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)					
MR-5 (PRM 148.1-153.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run	1.5	0	
MR-6 (PRM 122.7-148.4)	Main Channel	Run	0.5	0	
	Multiple Split Main Channel	Run	0	0	0
	Side Slough Beaver Complex	Beaver Pond			0
	Split Main Channel	Run			0
MR-7 (PRM 107.8-122.7)	Main Channel	Run	0	0	0
	Split Main Channel	Run	0.3	0	0
	Upland Slough Beaver Complex	Beaver Pond		0	
MR-8 (PRM 102.4-107.8)	Main Channel	Glide	0		
		Run	0.5	0	0
	Side Channel	Pool	0	0	
	Tributary	Pool	0	0	
	Upland Slough Beaver Complex	Backwater Pool	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E20. Average CPUE (fish per hour of shocking time) for coho salmon using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, coho (juvenile)		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Riffle			0
				Run	0	0	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	0	0	
			Side Channel	Glide	0	0	0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
			Tributary Mouth	Cascade			0
				Riffle		0	
		Non-FA	Backwater	Backwater Pool	0	0	0
			Clearwater Plume	Clearwater Plume	0	0	0
			Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	
				Run	0	0	0
			Side Slough	Pool	0		0
				Riffle		0	
				Run	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle		0	0
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle			0
				Pool	0	0	0
				Rapid	0	0	0
				Riffle	0	0	0

Table E20-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, coho (juvenile)		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
				Riffle			0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide	0		
				Riffle	0	0	0
				Run			0
		Non-FA	Main Channel	Run	0	0	0
			Side Slough	Glide	0.5	3.7	27.4
				Pool			29
			Split Main Channel	Run	0	0	4
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			29.9
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	0	0
				Run	0	0	0
			Side Channel	Backwater Pool	0		
				Glide	0	0	0.9
				Riffle	0	0	0
				Run	0		0
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	0		9.4
				Pool			9
				Riffle	0		
				Run	3.9		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			64.7
				Riffle	37.5		4.1
				Run			84.7
			Tributary	Glide	0		87.5
				Pool	4		

Table E20-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, coho (juvenile)		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	0		
			Upland Slough	Glide			0
			Upland Slough Beaver Complex	Beaver Pond	3.6		8.4
		Non-FA	Backwater	Backwater Pool	0	4.3	
			Clearwater Plume	Clearwater Plume	0	0	2.2
			Side Channel	Pool	0	28.2	0
				Riffle	0	0	
			Side Slough	Glide		0	0
				Pool	0	6.6	110.8
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	0	7.3	0
			Tributary	Boulder Riffle	0	0	0
			Upland Slough	Pool	0	12.8	0
			Upland Slough Beaver Complex	Beaver Pond	134.8	0	46.9
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	0
			Side Channel	Backwater Pool			2.2
				Glide	0	0	
				Pool	2.5	0	
				Riffle		0	
			Split Main Channel	Riffle	0	0	
				Run	0	0	0
			Tributary Mouth	Cascade	18		
				Riffle	43.7		
			Tributary	Glide		7.2	
				Pool		6.1	
				Riffle	66.4		
				Run			0
			Upland Slough Beaver Complex	Pool			31.5
				Run			33
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			0

Table E20-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, coho (juvenile)		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	0		
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	10.6	0	0
			Side Slough	Pool	0	0	25.9
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle	0		0
			Tributary	Run	2.2	61.8	7.5
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	14.8
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0		
				Run	0	0	0
			Side Channel	Glide			0
				Pool	12.9	0	0
				Riffle	0	0	2.5
				Run	0	0	
			Side Slough	Glide	0.6		
				Riffle	0	0	
			Tributary	Riffle	7.1		
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Glide	0		0
				Pool	13	0	0
				Run		0	0
			Side Slough	Glide			7.3
				Pool	3.9	9.5	0
			Split Main Channel	Run	0	0	0
			Upland Slough	Glide	0	23.1	0
				Pool	0	0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E21. Average CPUE (fish per hour of shocking time) for coho salmon using boat electrofishing in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, coho (juvenile)		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0	0	0
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle			0
MR-2 (PRM 169.6-184.6)	FA	Main Channel	Run	0	0	0
	Non-FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run	0	0	0
		Side Channel	Run	0		0
		Split Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume			0
		Main Channel	Run		0	0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	FA	Main Channel	Run		0	
		Multiple Split Main Channel	Run		0	0
		Split Main Channel	Run			0
	Non-FA	Backwater	Backwater Pool	0		0
		Main Channel	Run	0	0	0
		Tributary Mouth	Run	0	0	0
MR-7 (PRM 107.8-122.7)	FA	Main Channel	Run		0	0
		Split Main Channel	Run		0	0
	Non-FA	Backwater	Backwater Pool	0		
		Main Channel	Run	0		0
		Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Glide	0		
			Run	0	0	0
		Side Channel	Riffle			0
			Run	0	0	
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Glide	0		0
			Pool	0	0	0
			Run		0	
		Split Main Channel	Run	0	0	0
		Upland Slough	Pool	0	0	13.0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E22. Average CPUE (fish per 1,000 square meters) for coho salmon using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, coho (adult)			Salmon, coho (juvenile)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)									
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0			0		
		Side Channel	Riffle	0			0		
			Run	0	0	0	0	0	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		0			0	
		Clearwater Plume	Clearwater Plume	0	0		0	0	
		Side Channel	Glide	0			0		
		Side Slough	Glide		0			0	
			Run		0			0	
Devils Canyon (PRM 153.9-166.1)									
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	6.0	0	129.7	0	0
		Main Channel	Glide	0			0		
			Run		0			0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	0	9.7		4.0	0	
		Clearwater Plume	Clearwater Plume	0	1.3		0	2.9	
		Main Channel	Run	0	0		0	0	
		Multiple Split Main Channel	Riffle		0			0	
			Run	0	0	0	0	0	0
		Side Channel	Backwater Pool	0	0		0	0	
			Glide	0	0	0	0	0	0
			Riffle	0	0		0	0	
			Run		0	0		0	0
		Side Slough Beaver Complex	Backwater Pool	0			0		
			Beaver Pond		0	0		0	0
			Glide	0		0	0		0
			Pool		0			10.0	
		Split Main Channel	Run			0			0
		Tributary	Glide		8.4	2.6		0	0
			Pool	0			2751.4		
		Tributary Mouth	Pool	0			0		
			Riffle		0			0	
		Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	10.9	8.3
	Non-FA	Main Channel	Run	0	0	0	10.4	0	0
		Side Channel	Riffle		0			0	
		Tributary Mouth	Run	0			0		
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0			133.1		
		Clearwater Plume	Clearwater Plume	0	0	0	5.4	0	0
		Main Channel	Run		0			0	
		Side Channel	Backwater Pool			0			0

Table E22-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, coho (adult)			Salmon, coho (juvenile)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-7 (cont.)	FA	Side Channel	Glide	0	0		0	0	
			Pool	0	0		0	0	
		Split Main Channel	Riffle	0	0		0	0	
			Run	0	0		0	0	
		Tributary	Backwater Pool			0			46.9
			Pool	0			52.4		
			Riffle			0			0
		Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	0.3	3.9
			Glide	0	0		500.0	23.6	
			Run	0			4553.8		
	Non-FA	Split Main Channel	Run	0	0	0	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			0			0
		Side Channel	Backwater Pool	0		0	9.9		0
			Glide			0			29.4
			Pool	0	0		10.0	0	
			Riffle		0	0		0	0
			Run	0	0		0	0	
		Side Slough	Glide	0	0.4	0.4	137.8	5.6	0
			Pool			0			0
			Run		0			0	
		Upland Slough Beaver Complex	Glide	0	0	0	0.7	0	0
			Run		0	0		244.6	125.0
	Non-FA	Main Channel	Run	0	0	0	0	0	0
		Split Main Channel	Run	0		0	0		0
		Upland Slough	Glide	0			0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E23. Average CPUE (fish per 1,000 square meters) for coho salmon using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, coho (adult)			Salmon, coho (juvenile)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)										
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	0	0	0	0
			Side Channel	Glide			0			0
				Pool			0			0
			Side Slough	Backwater Pool	0	0		0	0	
				Glide		0	0		0	0
				Pool	0			0		
			Tributary Mouth	Cascade			0			0
				Riffle	0	0		0	0	
		Non-FA	Backwater	Backwater Pool	0			0		
			Clearwater Plume	Clearwater Plume		0			0	
			Side Channel	Run	0			0		
			Side Slough	Pool	0			0		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0	0	0	0
				Riffle	0	0	0	0	0	0
				Run	0	0	0	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	0		0	0		0
				Riffle	0		0	0		0
Devils Canyon Upper Extent (PRM 166.1)										
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0	0	0	0
Devils Canyon Lower Extent (PRM 153.9)										
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0		302.7	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	0	0		6.7	0	
			Clearwater Plume	Clearwater Plume	0	0	5.0	0	0	0
			Side Channel	Backwater Pool	0			0		
				Run			0			0

Table E23-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, coho (adult)			Salmon, coho (juvenile)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Slough Beaver Complex	Backwater Pool	0		0	0		0
				Beaver Pond	0	0	0	14.7	0	0
				Glide	0	0	0	0	0	1.0
				Pool	0	0	0	0	0	22.4
				Riffle	0	0	0	0	0	0
				Run	0		0	6.3		0
			Tributary	Glide	0	0	2.6	11.1	0	0
				Pool	14.4		0	78.0		0
				Riffle	0		0	0		0
				Run	0		0	5.6		0
			Tributary Mouth	Glide	0	0	0	208.7	0	0
				Pool	0			0		
				Riffle	0	0	0	30.9	15.4	0
				Run		0	0		208.3	141.0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	0	0
		Non-FA	Side Slough	Pool	0	0	0	0	0	0
			Tributary	Boulder Riffle		0			0	
			Upland Slough	Pool	0	0	0	0	0	0.9
			Upland Slough Beaver Complex	Beaver Pond	0	0		0	0	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0			33.2		
			Clearwater Plume	Clearwater Plume	0	0	0	1125.5	0	0
			Tributary	Backwater Pool			0			312.5
				Glide		0			22.0	
				Pool	0	0		346.2	14.0	
				Riffle	0	0	0	1054.5	0	0
				Run			0			0
			Tributary Mouth	Cascade	0			174.7		
				Riffle	0			132.8		

Table E23-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, coho (adult)			Salmon, coho (juvenile)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	FA	Upland Slough Beaver Complex	Beaver Pond	0	0	0	31.0	0.2	0
				Glide	0	0		0	0	
				Pool			0			105.5
				Run	0		0	1555.6		33.6
		Non-FA	Upland Slough	Pool	0	0	0	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0		0	11.8		0
				Glide		0	0		9.0	97.9
				Riffle	0	0	0	0	0	0
			Side Slough	Glide	0	0.6	0.4	64.6	15.0	0
				Pool			0			0
				Riffle	0	0	0	0	0	0
				Run		1.9			1.9	
			Tributary	Glide	0	27.6		0	9.8	
				Pool	0	52.7	3.0	0	44.3	0
				Riffle	0	0	0	0	3.2	0
			Upland Slough Beaver Complex	Backwater Pool	0			0		
				Beaver Pond	0		0	1.4		0
				Glide	0	0	0	0	19.1	0
				Run		0	0		831.6	12.5

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E24. Average CPUE (fish per trap) for coho salmon using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, coho (adult)			Salmon, coho (juvenile)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)									
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	0	0		0	0	
		Clearwater Plume	Clearwater Plume			0			0
Devils Canyon (PRM 153.9-166.1)									
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		0			0	
		Side Channel	Glide	0	0	0	0	4.0	0
			Riffle	0	0		0	0	
		Side Slough Beaver Complex	Beaver Pond	0			0		
			Glide		0			0	
			Pool	0	0		10.0	5.0	
		Upland Slough Beaver Complex	Beaver Pond	0		0	0.3		12.0
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		0	0		0
		Split Main Channel	Riffle	0			0		
		Upland Slough Beaver Complex	Beaver Pond	0	0	0	0.3	261.5	48.0
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		0	0		41.0	32.0
		Side Slough	Glide		0	1.5		15.0	1.0
			Pool			0			0
		Tributary	Pool			5.0			10.0
	Non-FA	Upland Slough	Pool	0	0	0	6.0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E25. Average CPUE (fish per trap) for coho salmon using hoop trapping in the Middle River Focus Areas, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, coho (adult)			Salmon, coho (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)								
MR-1 (PRM 184.6-187.1)	Main Channel	Run	0		0	0		0
	Side Channel	Glide			0			0
		Run			0			0
MR-2 (PRM 169.6-184.6)	Main Channel	Run	0	0	0	0	0	0
Devils Canyon (PRM 153.9-166.1)								
MR-5 (PRM 148.1-153.9)	Clearwater Plume	Clearwater Plume			0			0
	Main Channel	Run	0	0		0	0	
MR-6 (PRM 122.7-148.4)	Main Channel	Run	0	0		0	0	
	Multiple Split Main Channel	Run	0	0	0	0	0	0
	Side Slough Beaver Complex	Beaver Pond			0			0
	Split Main Channel	Run			0			0
MR-7 (PRM 107.8-122.7)	Main Channel	Run	0	0	0	0	0	0
	Split Main Channel	Run	0.5	0	0	0	0	0
	Upland Slough Beaver Complex	Beaver Pond		0			21.0	
MR-8 (PRM 102.4-107.8)	Main Channel	Glide	0			0		
		Run	0	0	0	0	0	0
	Side Channel	Pool	0	0		0	0.3	
	Tributary	Pool	0	1.0		0	1.0	
	Upland Slough Beaver Complex	Backwater Pool	0			0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E26. Average CPUE (fish per trap) for coho salmon using minnow trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, coho (juvenile)		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			0
		Riffle			0
		Run	0		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	0	0	
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel	Glide			0
	Side Slough	Backwater Pool	0	0	
		Glide		0	0
		Pool	0		
	Tributary Mouth	Riffle	0	0	
Devils Canyon (PRM 153.9-166.1)					
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	0.08	0.25	3.13
	Side Channel	Backwater Pool		0	
		Glide	0	0	0
		Run		0	
	Side Slough Beaver Complex	Backwater Pool	0		0
		Beaver Pond	0	0.34	0.94
		Glide		0.25	1.01
		Pool		0.67	4.00
		Riffle		0	0.33
		Run			0.50
	Tributary	Glide	1.17	0	0
		Pool	0		0
		Riffle	1.00		0
		Run	0.63		0.57
	Tributary Mouth	Glide		0	4.75
		Rapid			0
		Riffle	0.90	0.69	0.67
		Run		0.50	6.13
	Upland Slough	Glide			0
	Upland Slough Beaver Complex	Beaver Pond	0.17	1.38	0.42
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	0	0.05	0.40
	Clearwater Plume	Clearwater Plume			3.25
	Side Channel	Backwater Pool			0
		Glide	0	0.02	
		Pool		0	
		Riffle		0	
	Tributary	Backwater Pool			2.75
		Glide	0	1.11	

Table E26. Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, coho (juvenile)		
			Early Summer	Late Summer	Fall
MR-7 (cont.)	Tributary (cont.)	Pool	0.47	3.44	
		Riffle	5.67		1.00
		Run			0.67
	Tributary Mouth	Cascade	1.00		
		Riffle	0		
	Upland Slough Beaver Complex	Beaver Pond	0.48	6.96	5.95
		Glide	1.50	4.13	
		Pool			3.67
		Run	0.75		1.31
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			0
		Glide		2.47	0.35
		Pool		0	0
		Riffle		0.75	1.50
	Side Slough	Glide	0.20	0.31	0.13
		Pool			0
		Run		0.50	
	Tributary	Glide		2.15	
		Pool		7.00	0.06
		Riffle		0.67	0.33
	Upland Slough Beaver Complex	Backwater Pool		0	
		Beaver Pond			0.14
		Glide	0.59	0.30	1.67
		Run		3.33	4.67

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E27. Average CPUE (fish per hour of shocking time) for pink salmon using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, pink (juvenile)		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Riffle			0
				Run	0	0	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	0	0	
			Side Channel	Glide	0	0	0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
			Tributary Mouth	Cascade			0
				Riffle		0	
		Non-FA	Backwater	Backwater Pool	0	0	0
			Clearwater Plume	Clearwater Plume	0	0	0
			Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	
				Run	0	0	0
			Side Slough	Pool	0		0
				Riffle		0	
				Run	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle		0	0
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	0		0
				Pool	0	0	0
				Rapid	0		
				Riffle	0	0	0

Table E27-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, pink (juvenile)		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
				Riffle			0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide	0		
				Riffle	0	0	0
				Run			0
		Non-FA	Main Channel	Run	0	0	0
			Side Slough	Glide	0.5	0	0
				Pool			0
			Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			0
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	0	0
				Run	0	0	0
			Side Channel	Backwater Pool	0		
				Glide	0	0	0
				Riffle	0	0	0
				Run	0		0
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	0		0
				Pool			0
				Riffle	0		
				Run	0		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			0
				Riffle	0		0
				Run			0
			Tributary	Glide	0		0
				Pool	0		

Table E27-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, pink (juvenile)		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	0		
			Upland Slough	Glide			0
			Upland Slough Beaver Complex	Beaver Pond	0		0
		Non-FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Pool	0	0	0
				Riffle	0	0	
			Side Slough	Glide		0	0
				Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	0	0	0
			Tributary	Boulder Riffle	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	0
			Side Channel	Backwater Pool			0
				Glide	0	0	
				Pool	0	0	
				Riffle		0	
			Split Main Channel	Riffle	0	0	
				Run	0	0	0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Tributary	Glide		0	
				Pool		0	
				Riffle	0		
				Run			0
			Upland Slough Beaver Complex	Pool			0
				Run			0
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			0

Table E27-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, pink (juvenile)		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	0		
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
			Side Slough	Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle	0		0
			Tributary	Run	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0		
				Run	0	0	0
			Side Channel	Glide			0
				Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	
			Side Slough	Glide	0		
				Riffle	0	0	
			Tributary	Riffle	0		
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Glide	0		0
				Pool	0	0	0
				Run		0	0
			Side Slough	Glide			0
				Pool	0	0	0
			Split Main Channel	Run	0	0	0
			Upland Slough	Glide	0	0	0
				Pool	0	0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E28. Average CPUE (fish per hour of shocking time) for pink salmon using boat electrofishing in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, pink (juvenile)		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0	0	0
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle			0
MR-2 (PRM 169.6-184.6)	FA	Main Channel	Run	0	0	0
	Non-FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run	0	0	0
		Side Channel	Run	0		0
		Split Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume			0
		Main Channel	Run		0	0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	FA	Main Channel	Run		0	
		Multiple Split Main Channel	Run		0	0
		Split Main Channel	Run			0
	Non-FA	Backwater	Backwater Pool	0		0
		Main Channel	Run	0	0	0
		Tributary Mouth	Run	0	0	0
MR-7 (PRM 107.8-122.7)	FA	Main Channel	Run		0	0
		Split Main Channel	Run		0	0
	Non-FA	Backwater	Backwater Pool	12.5		
		Main Channel	Run	0		0
		Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Glide	0		
			Run	0	0	0
		Side Channel	Riffle			0
			Run	0	0	
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Glide	0		0
			Pool	0	0	0
			Run		0	
		Split Main Channel	Run	0	0	0
		Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E29. Average CPUE (fish per 1,000 square meters) for pink salmon using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, pink (adult)		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0		
		Side Channel	Riffle	0		
			Run	0	0	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		0	
		Clearwater Plume	Clearwater Plume	0	0	
		Side Channel	Glide	0		
		Side Slough	Glide		0	
			Run		0	
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Glide	0		
			Run		0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	0	0	
		Clearwater Plume	Clearwater Plume	16.7	1.3	
		Main Channel	Run	4.0	0	
		Multiple Split Main Channel	Riffle		0	
			Run	0	0	0
		Side Channel	Backwater Pool	0	0	
			Glide	0	0	0
			Riffle	0	0	
			Run		0	0
		Side Slough Beaver Complex	Backwater Pool	0		
			Beaver Pond		0	0
			Glide	0		0
			Pool		0	
		Split Main Channel	Run			0
		Tributary	Glide		0	0
			Pool	0		
		Tributary Mouth	Pool	0		
			Riffle		0	
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
	Non-FA	Main Channel	Run	0	5.6	0
		Side Channel	Riffle		0	
		Tributary Mouth	Run	0		
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		
		Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run		0	

Table E29-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, pink (adult)		
				Early Summer	Late Summer	Fall
MR-7 (cont.)	FA	Side Channel	Backwater Pool			0
			Glide	0	0	
			Pool	0	0	
		Split Main Channel	Riffle	7.1	0	
			Run	0	0	
		Tributary	Backwater Pool			0
			Pool	0		
			Riffle			0
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
			Glide	0	0	
			Run	0		
	Non-FA	Split Main Channel	Run	26.7	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			0
		Side Channel	Backwater Pool	0		0
			Glide			0
			Pool	0	0	
			Riffle		0	0
			Run	0	0	
		Side Slough	Glide	0	0	0
			Pool			0
			Run		0	
		Upland Slough Beaver Complex	Glide	0	0	0
			Run		0	0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0		0
		Upland Slough	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E30. Average CPUE (fish per 1,000 square meters) for pink salmon using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, pink (adult)		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Glide			0
				Pool			0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
				Pool	0		
			Tributary Mouth	Cascade			0
				Riffle	0	0	
		Non-FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume		0	
			Side Channel	Run	0		
			Side Slough	Pool	0		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	0		0
				Riffle	0		0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	6.7	1.0	0
			Side Channel	Backwater Pool	0		
				Run			0
			Side Slough Beaver Complex	Backwater Pool	0		0
				Beaver Pond	0	0	0
				Glide	0	0	0

TableE30-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, pink (adult)		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Slough Beaver Complex	Pool	0	0	0
				Riffle	0	0	0
				Run	0		0
			Tributary	Glide	1113.3	0	0
				Pool	2167.2		0
				Riffle	8.7		0
				Run	732.0		0
			Tributary Mouth	Glide	0	227.3	0
				Pool	0		
				Riffle	32.4	0	0
				Run		8.3	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Non-FA	Side Slough	Pool	0	0	0
			Tributary	Boulder Riffle		30.7	
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0.3	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume	0	0	0
			Tributary	Backwater Pool			0
				Glide		0	
				Pool	0	0	
				Riffle	0	0	0
				Run			0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
				Glide	0	0	
				Pool			0
				Run	0		0
		Non-FA	Upland Slough	Pool	0	0	0

Table E30-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, pink (adult)		
					Early Summer	Late Summer	Fall
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0		0
				Glide		0	0
				Riffle	0	0	0
			Side Slough	Glide	0	0	0
				Pool			0
				Riffle	0	0	0
				Run		0	
			Tributary	Glide	0	0.9	
				Pool	0	0	0
				Riffle	0	0	0
			Upland Slough Beaver Complex	Backwater Pool	0		
				Beaver Pond	0		0
				Glide	0	0	0
				Run		0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E31. Average CPUE (fish per trap) for pink salmon using hoop trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, pink (adult)		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Main Channel	Run	0		0
	Side Channel	Glide			0
		Run			0
MR-2 (PRM 169.6-184.6)	Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)					
MR-5 (PRM 148.1-153.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run	1.0	0	
MR-6 (PRM 122.7-148.4)	Main Channel	Run	1.8	0	
	Multiple Split Main Channel	Run	0.3	0	0
	Side Slough Beaver Complex	Beaver Pond			0
	Split Main Channel	Run			0
MR-7 (PRM 107.8-122.7)	Main Channel	Run	3.0	0	0
	Split Main Channel	Run	3.8	0	0
	Upland Slough Beaver Complex	Beaver Pond		0	
MR-8 (PRM 102.4-107.8)	Main Channel	Glide	0		
		Run	0.8	0	0
	Side Channel	Pool	0	0	
	Tributary	Pool	0	1.0	
	Upland Slough Beaver Complex	Backwater Pool	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E32. Average CPUE (fish per hour of shocking time) for sockeye salmon using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (juvenile)		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Riffle			0
				Run	0	0	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	0	0	
			Side Channel	Glide	0	0	0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
			Tributary Mouth	Cascade			0
				Riffle		0	
		Non-FA	Backwater	Backwater Pool	0	0	0
			Clearwater Plume	Clearwater Plume	0	0	0
			Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	
				Run	0	0	0
			Side Slough	Pool	0		0
				Riffle		0	
				Run	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle		0	0
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	0		0
				Pool	0	0	0
				Rapid	0		
				Riffle	0	0	0

Table E32-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (juvenile)		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
				Riffle			0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			4.3
			Main Channel	Glide	0		
				Riffle	0	0	0
				Run			0
		Non-FA	Main Channel	Run	0	0	0
			Side Slough	Glide	2.8	0	0
				Pool			0
			Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			1.9
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	0	0
				Run	0	0	0
			Side Channel	Backwater Pool	0		
				Glide	0	0	0
				Riffle	0	0	0
				Run	0		0
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	7.7		34.5
				Pool			0
				Riffle	76.6		
				Run	0		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			16.2
				Riffle	0		7.3
				Run			0
			Tributary	Glide	0		0
				Pool	2.9		

Table E32-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (juvenile)		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	0		
			Upland Slough	Glide			8.9
			Upland Slough Beaver Complex	Beaver Pond	0		0
		Non-FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	2.6	5.9	0
			Side Channel	Pool	0	14.1	5.3
				Riffle	0	0	
			Side Slough	Glide		0	0
				Pool	1	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	3.9	15.3	0
			Tributary	Boulder Riffle	0	0	0
			Upland Slough	Pool	0	0	5
			Upland Slough Beaver Complex	Beaver Pond	1.5	0	0
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	0
			Side Channel	Backwater Pool			0
				Glide	0	0	
				Pool	0	0	
				Riffle		0	
			Split Main Channel	Riffle	0	0	
				Run	0	0	0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Tributary	Glide		0	
				Pool		0	
				Riffle	0		
				Run			0
			Upland Slough Beaver Complex	Pool			0
				Run			0
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			0

Table E32-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (juvenile)		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run			0
			Side Channel	Glide	0	0	0
				Riffle	11.4	0	0
				Run	0.9	11.2	0
			Side Slough	Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	0		0
			Tributary Mouth	Riffle	0	0	0
			Tributary	Run	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0		
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0	0	0
				Run			0
			Side Channel	Glide	0	0	0
				Pool	0	0	0
				Riffle	0	0	
				Run	0		
			Side Slough	Glide	0	0	
				Riffle	0		
			Tributary	Riffle	0	0	0
		Non-FA	Main Channel	Run	0		0
			Side Channel	Glide	0	0	0
				Pool		0	0
				Run			0
			Side Slough	Glide	19.6	0	0
				Pool	0	0	0
			Split Main Channel	Run	1.9	0	0
			Upland Slough	Glide	0	0	0
				Pool			0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E33. Average CPUE (fish per hour of shocking time) for sockeye salmon using boat electrofishing in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (juvenile)		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0	0	0
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle			0
MR-2 (PRM 169.6-184.6)	FA	Main Channel	Run	0	0	0
	Non-FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run	0	0	0
		Side Channel	Run	0		0
		Split Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume			0
		Main Channel	Run		0	0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	FA	Main Channel	Run		0	
		Multiple Split Main Channel	Run		0	0
		Split Main Channel	Run			0
	Non-FA	Backwater	Backwater Pool	25.1		0
		Main Channel	Run	0	0	0
		Tributary Mouth	Run	0	0	0
MR-7 (PRM 107.8-122.7)	FA	Main Channel	Run		0	0
		Split Main Channel	Run		0	0
	Non-FA	Backwater	Backwater Pool	0		
		Main Channel	Run	0		0
		Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Glide	0		
			Run	0	0	0
		Side Channel	Riffle			0
			Run	0	0	
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Glide	0		0
			Pool	0	0	0
			Run		0	
		Split Main Channel	Run	0	0	0
		Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E34. Average CPUE (fish per 1,000 square meters) for sockeye salmon using seining in the Middle River, 2013.

Geo-morphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (adult)			Salmon, sockeye (juvenile)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)									
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0			0		
		Side Channel	Riffle	0			0		
			Run	0	0	0	0	0	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		0			0	
		Clearwater Plume	Clearwater Plume	0	0		0	0	
		Side Channel	Glide	0			0		
		Side Slough	Glide		0			0	
			Run		0			0	
Devils Canyon (PRM 153.9-166.1)									
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0	0	0	0
		Main Channel	Glide	0			0		
			Run		0			0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	0	0		17.1	2.0	
		Clearwater Plume	Clearwater Plume	0	0		0	0	
		Main Channel	Run	0	0		0	0	
		Multiple Split Main Channel	Riffle		0			0	
			Run	0	0	0	0	0	0
		Side Channel	Backwater Pool	0	0		0	26.5	
			Glide	0	0	0	1.6	1.1	0
			Riffle	0	0		0	0	
			Run		0	0		0	0
		Side Slough Beaver Complex	Backwater Pool	0			338.8		
			Beaver Pond		0	0		0.7	0
			Glide	0		0	1.9		0
			Pool		0			6.3	
		Split Main Channel	Run			0			0
		Tributary	Glide		0	0		0	0
			Pool	0			948.8		
		Tributary Mouth	Pool	0			0		
			Riffle		0			0	
		Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	5.9	0.8
	Non-FA	Main Channel	Run	0	0	0	0	0	0
		Side Channel	Riffle		0			0	
		Tributary Mouth	Run	0			0		
		Side Channel	Backwater Pool			0			0

Table E34-Continued.

Geo-morphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (adult)			Salmon, sockeye (juvenile)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0			38.0		
		Clearwater Plume	Clearwater Plume	0	0	0	0	0	0
		Main Channel	Run		0			0	
		Side Channel	Backwater Pool			0			0
			Glide	0	0		0	0	
			Pool	0	0		0	0	
		Split Main Channel	Riffle	0	0		0	0	
			Run	2.5	0		0	0	
		Tributary	Backwater Pool			0			9.4
			Pool	0			22.9		
			Riffle			0			0
		Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	0.5	0.1
			Glide	0	0		0	0	
			Run	0			30.8		
	Non-FA	Split Main Channel	Run	0	0	0	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			0			0
		Side Channel	Backwater Pool	0		0	43.2		0
			Glide			0			60.7
			Pool	0	0		0	22.2	
			Riffle		0	0		26.7	0
			Run	0	0		0	0	
		Side Slough	Glide	0	0	0	148.0	10.6	0
			Pool			0			0
			Run		0			0	
		Upland Slough Beaver Complex	Glide	0	0	0	0.4	0.7	0.3
			Run		0	0		40.8	0
	Non-FA	Main Channel	Run	0	0	0	0	4.4	0
		Split Main Channel	Run	0		0	0		0
		Upland Slough	Glide	0			0.7		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E35. Average CPUE (fish per 1,000 square meters) for sockeye salmon using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (adult)			Salmon, sockeye (juvenile)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)										
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	0	0	0	0
			Side Channel	Glide			0			0
				Pool			0			0
			Side Slough	Backwater Pool	0	0		0	0	
				Glide		0	0		0	0
				Pool	0			0		
			Tributary Mouth	Cascade			0			0
				Riffle	0	0		0	0	
		Non-FA	Backwater	Backwater Pool	0			0		
			Clearwater Plume	Clearwater Plume		0			0	
			Side Channel	Run	0			0		
			Side Slough	Pool	0			0		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0	0	0	0
				Riffle	0	0	0	0	0	0
				Run	0	0	0	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	0		0	0		0
				Riffle	0		0	0		0
Devils Canyon Upper Extent (PRM 166.1)										
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0	0	0	0
Devils Canyon Lower Extent (PRM 153.9)										
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0		108.1	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	0	0		4.0	0	
			Clearwater Plume	Clearwater Plume	1.7	0	0	0	0	0
			Side Channel	Backwater Pool	0			0		
				Run			0			0

Table E35-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (adult)			Salmon, sockeye (juvenile)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Slough Beaver Complex	Backwater Pool	0		0	705.1		0
				Beaver Pond	0	0	0	0	0	0
				Glide	0	6.6	0	11.9	0	10.4
				Pool	0	0.3	0	0	0.4	0
				Riffle	0	0	0.9	0	0	0
				Run	0		14.7	0		0
			Tributary	Glide	0	0	0	0	0	0
				Pool	0		0	0		0
				Riffle	0		0	0		0
				Run	0		0	0		0
			Tributary Mouth	Glide	0	0	0	0	0	0
				Pool	0			0		
				Riffle	0	0	0	0	0	0
				Run		0	0		0	37.6
			Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	0	0
		Non-FA	Side Slough	Pool	0	0	0	0	0	0
			Tributary	Boulder Riffle		0			0	
			Upland Slough	Pool	0	0	0	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	11.3		0	0	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0			0		
			Clearwater Plume	Clearwater Plume	0	0	0	0	0	0
			Tributary	Backwater Pool			0			31.3
				Glide		0			0	
				Pool	0	0		11.5	14.0	
				Riffle	0	0	0	0	0	0
				Run			0			0
			Tributary Mouth	Cascade	0			0		
				Riffle	0			0		

Table E35-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (adult)			Salmon, sockeye (juvenile)		
					Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	FA	Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	0	0
				Glide	0	0		0	0	
				Pool			0			0
				Run	0		0	0		0
		Non-FA	Upland Slough	Pool	0	0	0	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0		0	5.4		0
				Glide		0	0		0	0
				Riffle	0	0	0	0	0	0
			Side Slough	Glide	0	0	0	63.8	1.0	0
				Pool			0			0
				Riffle	0	0	0	0	0	0
				Run		0			0	
			Tributary	Glide	0	0.9		0.9	0.9	
				Pool	0	4.2	0	0	0	0
				Riffle	0	0	0	0	0	0
			Upland Slough Beaver Complex	Backwater Pool	0			0		
				Beaver Pond	0		0	0		0
				Glide	0	0	0	0	0	0
				Run		0	0		16.3	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E36. Average CPUE (fish per trap) for sockeye salmon using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (adult)			Salmon, sockeye (juvenile)		
				Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)									
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	0	0		0	0	
		Clearwater Plume	Clearwater Plume			0			0
Devils Canyon (PRM 153.9-166.1)									
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		0			0	
		Side Channel	Glide	0	0	0	0	0	0
			Riffle	0	0		0	0	
		Side Slough Beaver Complex	Beaver Pond	0			0		
			Glide		0			0	
			Pool	0	8.0		111.0	2.0	
		Upland Slough Beaver Complex	Beaver Pond	0		0	0		0
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		0	1.0		0
		Split Main Channel	Riffle	0			0		
		Upland Slough Beaver Complex	Beaver Pond	0	0	0	0	1.0	0
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		0	0		25.0	6.0
		Side Slough	Glide		0	0		0	0
			Pool			0			0
		Tributary	Pool			0			0
	Non-FA	Upland Slough	Pool	0	0	0	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E37. Average CPUE (fish per trap) for sockeye salmon using minnow trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (juvenile)		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			0
		Riffle			0
		Run	0		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	0	0	
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel	Glide			0
	Side Slough	Backwater Pool	0	0	
		Glide		0	0
		Pool	0		
	Tributary Mouth	Riffle	0	0	
Devils Canyon (PRM 153.9-166.1)					
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	0	0	0
	Side Channel	Backwater Pool		0	
		Glide	0	0	0
		Run		0	
	Side Slough Beaver Complex	Backwater Pool	0.05		0.08
		Beaver Pond	0	0.27	0
		Glide		0	0.33
		Pool		0.07	0.11
		Riffle		0	0
		Run			0
	Tributary	Glide	0	0	0
		Pool	0		0
		Riffle	0		0
		Run	0		0
	Tributary Mouth	Glide		0	0
		Rapid			0
		Riffle	0	0	0
		Run		0	0.13
	Upland Slough	Glide			0
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	0	0	0
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Backwater Pool			0
		Glide	0	0.02	
		Pool		0	
		Riffle		0	
	Tributary	Backwater Pool			0

Table E37. Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (juvenile)		
			Early Summer	Late Summer	Fall
MR-7 (cont.)	Tributary (cont.)	Glide	0	0	
		Pool	0.06	0.11	
		Riffle	0		0
		Run			0
	Tributary Mouth	Cascade	0		
		Riffle	0		
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Glide	0	0	
		Pool			0
		Run	0		0
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			0
		Glide		0	0
		Pool		0	0
		Riffle		0	0
	Side Slough	Glide	0	0	0
		Pool			0
		Run		0	
	Tributary	Glide		0	
		Pool		0	0
		Riffle		0	0
	Upland Slough Beaver Complex	Backwater Pool		0.13	
		Beaver Pond			0
		Glide	0	0	0.07
		Run		0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E38. Average CPUE (fish per hour of shocking time) for Arctic grayling using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	0	19.4	13.3
			Side Channel	Glide			64.9
				Riffle	0	9.5	33.4
				Run	0	23	8.5
		Non-FA	Main Channel	Run	1.8	7.8	18.6
			Side Channel	Riffle			15.1
				Run	0	18.1	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	2.5	8	
			Side Channel	Glide	21.9	51.5	65.7
			Side Slough	Backwater Pool	30.8	1.6	
				Glide		13.5	15.6
			Tributary Mouth	Cascade			0
				Riffle		13.3	
		Non-FA	Backwater	Backwater Pool	33	13.1	170
			Clearwater Plume	Clearwater Plume	2.3	3.9	1.9
			Main Channel	Run	5.1	28.8	15.6
			Side Channel	Glide			0
				Riffle	0	12.4	
				Run	12.1	11.3	12.6
			Side Slough	Pool	23.8		0
				Riffle		5.6	
				Run	27.4	13	112.4
			Split Main Channel	Run	16.2	55.2	8.4
			Tributary Mouth	Riffle		34.6	0
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	7.6	10.4	23.8
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	0		0
				Pool	0	0	0
				Rapid	0		
				Riffle	0	0	0

Table E38-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
				Riffle			0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide	0		
				Riffle	0	52.5	37
				Run			13.5
		Non-FA	Main Channel	Run	0	0	4.2
			Side Slough	Glide	0	2.5	0
				Pool			0
			Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			0
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	2.4	5
				Run	0	0	0
			Side Channel	Backwater Pool	0		
				Glide	0	4.9	0
				Riffle	0	0	0
				Run	0		0
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	0		0
				Pool			0
				Riffle	0		
				Run	3.9		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			0
				Riffle	14.6		0
				Run			0
			Tributary	Glide	0		0
				Pool	0		

Table E38-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	5.7		
			Upland Slough	Glide			0
			Upland Slough Beaver Complex	Beaver Pond	0		0
		Non-FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	2.6	0	0
			Side Channel	Pool	0	0	1.8
				Riffle	0	0	
			Side Slough	Glide		0	0
				Pool	1.3	0	32.3
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	0	4	0
			Tributary	Boulder Riffle	0	0	0
			Upland Slough	Pool	1.8	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	3.1
			Side Channel	Backwater Pool			0
				Glide	0	0	
				Pool	0	0	
				Riffle		0	
			Split Main Channel	Riffle	0	6.1	
				Run	4.4	0	0
			Tributary Mouth	Cascade	0		
				Riffle	72.9		
			Tributary	Glide		0	
				Pool		0	
				Riffle	0		
				Run			0
			Upland Slough Beaver Complex	Pool			0
				Run			0
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			0

Table E38-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	0		
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
			Side Slough	Pool	0	1.6	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle	0		0
			Tributary	Run	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0		
				Run	0	0	1.5
			Side Channel	Glide			0
				Pool	0	0	0
				Riffle	0	2.2	0
				Run	0	0	
			Side Slough	Glide	0		
				Riffle	0	0	
			Tributary	Riffle	0		
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Glide	0		0
				Pool	0	0	0
				Run		0	0
			Side Slough	Glide			0
				Pool	0	2.4	0
			Split Main Channel	Run	0	0	0
			Upland Slough	Glide	0	0	0
				Pool	0	0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E39. Average CPUE (fish per hour of shocking time) for Arctic grayling using boat electrofishing in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0	5.5	0
	Non-FA	Main Channel	Run	0	0	14.5
		Side Channel	Riffle			23.0
MR-2 (PRM 169.6-184.6)	FA	Main Channel	Run	0	4.7	0
	Non-FA	Clearwater Plume	Clearwater Plume	18.0	168.3	44.2
		Main Channel	Run	0	35.6	3.6
		Side Channel	Run	0		43.6
		Split Main Channel	Run	0	11.9	13.3
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume			0
		Main Channel	Run		0	0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0	0	5.7
MR-6 (PRM 122.7-148.4)	FA	Main Channel	Run		0	
		Multiple Split Main Channel	Run		0	0
		Split Main Channel	Run			0
	Non-FA	Backwater	Backwater Pool	0		0
		Main Channel	Run	0	0	1.9
		Tributary Mouth	Run	0	0	9.3
MR-7 (PRM 107.8-122.7)	FA	Main Channel	Run		0	5.4
		Split Main Channel	Run		0	0
	Non-FA	Backwater	Backwater Pool	0		
		Main Channel	Run	0		0
		Split Main Channel	Run	0	0	5.8
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Glide	0		
			Run	0	0	2.2
		Side Channel	Riffle			6.9
			Run	0	0	
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Glide	0		0
			Pool	0	0	0
			Run		0	
		Split Main Channel	Run	0	0	0
		Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E40. Average CPUE (fish per 1,000 square meters) for Arctic grayling using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0		
		Side Channel	Riffle	0		
			Run	3.8	3.3	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		6.4	
		Clearwater Plume	Clearwater Plume	378.1	237.5	
		Side Channel	Glide	200.0		
		Side Slough	Glide		45.2	
			Run		1.7	
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Glide	0		
			Run		0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	16.6	19.3	
		Clearwater Plume	Clearwater Plume	11.7	1.3	
		Main Channel	Run	0	0	
		Multiple Split Main Channel	Riffle		0	
			Run	0	0	1.5
		Side Channel	Backwater Pool	0	0.9	
			Glide	0.1	0	0
			Riffle	0	0	
			Run		0	0
		Side Slough Beaver Complex	Backwater Pool	0		
			Beaver Pond		0	0
			Glide	0		0
			Pool		0	
		Split Main Channel	Run			0
		Tributary	Glide		0	0
			Pool	0		
		Tributary Mouth	Pool	0		
			Riffle		0	
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle		0	
		Tributary Mouth	Run	0		
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		
		Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run		0	

Table E40-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
				Early Summer	Late Summer	Fall
MR-7 (cont.)	FA	Side Channel	Backwater Pool			0
			Glide	0	0	
			Pool	0	1.4	
		Split Main Channel	Riffle	0	0	
			Run	0	0	
		Tributary	Backwater Pool			0
			Pool	0		
			Riffle			0
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
			Glide	0	0	
			Run	0		
	Non-FA	Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			1.6
		Side Channel	Backwater Pool	1.8		0
			Glide			0
			Pool	0	0	
			Riffle		0	6.7
			Run	0	0	
		Side Slough	Glide	2.2	1.5	0.8
			Pool			0.5
			Run		0	
		Upland Slough Beaver Complex	Glide	0	0	0
			Run		0	0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0		0
		Upland Slough	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E41. Average CPUE (fish per 1,000 square meters) for Arctic grayling using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	21.9	0	1.3
			Side Channel	Glide			13.6
				Pool			0
			Side Slough	Backwater Pool	86.1	22.7	
				Glide		105.3	47.5
				Pool	14.6		
			Tributary Mouth	Cascade			0
				Riffle	138.9	63.1	
		Non-FA	Backwater	Backwater Pool	4.7		
			Clearwater Plume	Clearwater Plume		0	
			Side Channel	Run	0		
			Side Slough	Pool	1.7		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	18.3	0.3	6.4
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	0		0
				Riffle	0		0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	5.0	0	0
			Side Channel	Backwater Pool	0		
				Run			0
			Side Slough Beaver Complex	Backwater Pool	0		0
				Beaver Pond	0	0	0
				Glide	0	0	0

TableE41-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Slough Beaver Complex	Pool	0	0	0
				Riffle	0	0	0
				Run	0		0
			Tributary	Glide	2.2	0	0
				Pool	11.6		0
				Riffle	0		0
				Run	3.4		0
			Tributary Mouth	Glide	121.7	0	0
				Pool	0		
				Riffle	11.5	0	4.1
				Run		0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Non-FA	Side Slough	Pool	0	0	0
			Tributary	Boulder Riffle		0	
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume	0	0	0
			Tributary	Backwater Pool			0
				Glide		0	
				Pool	0	0	
				Riffle	181.8	0	0
				Run			0
			Tributary Mouth	Cascade	0		
				Riffle	16.6		
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
				Glide	0	0	
				Pool			0
				Run	22.2		0
		Non-FA	Upland Slough	Pool	0	0	0

Table E41-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
					Early Summer	Late Summer	Fall
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0		0
				Glide		0	0
				Riffle	0	0	0
			Side Slough	Glide	0	0	0
				Pool			0
				Riffle	0	0	0
				Run		0	
			Tributary	Glide	0	0.9	
				Pool	0	0	0
				Riffle	0	0	0
			Upland Slough Beaver Complex	Backwater Pool	0		
				Beaver Pond	0		0
				Glide	0	0	0.4
				Run		0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E42. Average CPUE (fish per trap) for Arctic grayling using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	40.0	4.0	
		Clearwater Plume	Clearwater Plume			1.0
Devils Canyon (PRM 153.9-166.1)						
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		0	
		Side Channel	Glide	0	0	0
			Riffle	0	0	
		Side Slough Beaver Complex	Beaver Pond	0		
			Glide		0	
			Pool	1.0	0	
		Upland Slough Beaver Complex	Beaver Pond	0		0
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		0
		Split Main Channel	Riffle	0		
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		0	0
		Side Slough	Glide		1.0	10.0
			Pool			1.0
		Tributary	Pool			77.0
	Non-FA	Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E43. Average CPUE (fish per trap) for Arctic grayling using hoop trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Main Channel	Run	0		0.1
	Side Channel	Glide			2.0
		Run			0
MR-2 (PRM 169.6-184.6)	Main Channel	Run	0	0	0.2
Devils Canyon (PRM 153.9-166.1)					
MR-5 (PRM 148.1-153.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run	0	0	
MR-6 (PRM 122.7-148.4)	Main Channel	Run	0	0	
	Multiple Split Main Channel	Run	0	0	0
	Side Slough Beaver Complex	Beaver Pond			0
	Split Main Channel	Run			0
MR-7 (PRM 107.8-122.7)	Main Channel	Run	0	0	0
	Split Main Channel	Run	0	0	0
	Upland Slough Beaver Complex	Beaver Pond		0	
MR-8 (PRM 102.4-107.8)	Main Channel	Glide	0		
		Run	0	0	0
	Side Channel	Pool	0	0	
	Tributary	Pool	0	0	
	Upland Slough Beaver Complex	Backwater Pool	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E44. Average CPUE (fish per trap) for Arctic grayling using minnow trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			0
		Riffle			0
		Run	0		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	0	0	
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel	Glide			0
	Side Slough	Backwater Pool	0	0.06	
		Glide		0.08	0.30
		Pool	0		
	Tributary Mouth	Riffle	0	0	
Devils Canyon (PRM 153.9-166.1)					
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	0	0	0
	Side Channel	Backwater Pool		0	
		Glide	0	0	0
		Run		0	
	Side Slough Beaver Complex	Backwater Pool	0		0
		Beaver Pond	0	0	0
		Glide		0	0
		Pool		0	0
		Riffle		0	0
		Run			0
	Tributary	Glide	0	0	0
		Pool	0		0
		Riffle	0		0
		Run	0		0
	Tributary Mouth	Glide		0	0
		Rapid			0
		Riffle	0.10	0	0
		Run		0	0
	Upland Slough	Glide			0
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	0	0	0
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Backwater Pool			0
		Glide	0	0	
		Pool		0	
		Riffle		0	
	Tributary	Backwater Pool			0

Table E44. Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
			Early Summer	Late Summer	Fall
MR-7 (cont.)	Tributary (cont.)	Glide	0	0	
		Pool	0	0	
		Riffle	0		0
		Run			0
	Tributary Mouth	Cascade	0		
		Riffle	0		
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Glide	0	0	
		Pool			0
		Run	0		0
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			0
		Glide		0	0.02
		Pool		0	0
		Riffle		0	0.50
	Side Slough	Glide	0	0	0.06
		Pool			0
		Run		0	
	Tributary	Glide		0	
		Pool		0	0
		Riffle		0	0
	Upland Slough Beaver Complex	Backwater Pool		0	
		Beaver Pond			0
		Glide	0	0	0
		Run		0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E45. Average CPUE (fish per hour of shocking time) for burbot using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Burbot		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	2.4	2	2.5
			Side Channel	Glide			0
				Riffle	4	0	0
				Run	0	0	0
		Non-FA	Main Channel	Run	1.8	0	0
			Side Channel	Riffle			0
				Run	0	0	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	0	0	
			Side Channel	Glide	0	0	3.1
			Side Slough	Backwater Pool	2.4	0	
				Glide		0	0.9
			Tributary Mouth	Cascade			0
				Riffle		0	
		Non-FA	Backwater	Backwater Pool	0	0	0
			Clearwater Plume	Clearwater Plume	0	0	2.2
			Main Channel	Run	5.1	0	0
			Side Channel	Glide			0
				Riffle	0	0	
				Run	2	0	6.3
			Side Slough	Pool	12.8		5.8
				Riffle		5.6	
				Run	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle		0	8.4
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	0		0
				Pool	0	0	0
				Rapid	0		
				Riffle	0	0	0

Table E45-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Burbot		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
				Riffle			0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide	0		
				Riffle	0	0	0
				Run			0
		Non-FA	Main Channel	Run	0	1.9	3.9
			Side Slough	Glide	0.5	0	0
				Pool			0
			Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			0
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	0	0
				Run	0	0	0
			Side Channel	Backwater Pool	0		
				Glide	3.6	4.9	0
				Riffle	0	2.8	0
				Run	0		0
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	0		0
				Pool			9
				Riffle	0		
				Run	0		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			0
				Riffle	0		0
				Run			0
			Tributary	Glide	0		0
				Pool	0		

Table E45-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Burbot		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	0		
			Upland Slough	Glide			0
			Upland Slough Beaver Complex	Beaver Pond	1.5		3.3
		Non-FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	2.2
			Side Channel	Pool	0	0	0
				Riffle	0	0	
			Side Slough	Glide		0	12.2
				Pool	3.3	13.2	9.2
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	0	0	1.1
			Tributary	Boulder Riffle	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	1.5	0	0
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	0
			Side Channel	Backwater Pool			0
				Glide	0	1.6	
				Pool	0	0	
				Riffle		0	
			Split Main Channel	Riffle	0	4.4	
				Run	0	0	0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Tributary	Glide		0	
				Pool		6.1	
				Riffle	0		
				Run			0
			Upland Slough Beaver Complex	Pool			0
				Run			3.2
		Non-FA	Clearwater Plume	Clearwater Plume			7.2
			Main Channel	Glide			0

Table E45-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Burbot		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	3.4		
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0.7	0
			Side Slough	Pool	0	1.6	0
			Side Slough Beaver Complex	Beaver Pond	6.2	0	0
			Split Main Channel	Run	0	0	5.2
			Tributary Mouth	Riffle	0		15.8
			Tributary	Run	8.7	9.3	7.5
			Upland Slough	Pool	4.9	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	8.6		
				Run	4.3	0	0.9
			Side Channel	Glide			3.6
				Pool	0	0	0
				Riffle	0	2.2	0
				Run	0	0	
			Side Slough	Glide	0.5		
				Riffle	8.3	0	
			Tributary	Riffle	0		
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Glide	2.6		0
				Pool	2.8	0	0
				Run		0	0
			Side Slough	Glide			0
				Pool	0	8.8	8
			Split Main Channel	Run	0	4	4.3
			Upland Slough	Glide	1.9	0	0
				Pool	2.9	3.1	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling

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Table E46. Average CPUE (fish per hour of shocking time) for burbot using boat electrofishing in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Burbot		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0	0	0
	Non-FA	Main Channel	Run	3.6	1.3	0
		Side Channel	Riffle			0
MR-2 (PRM 169.6-184.6)	FA	Main Channel	Run	0	0	0
	Non-FA	Clearwater Plume	Clearwater Plume	0	0	2.5
		Main Channel	Run	0	0	0
		Side Channel	Run	0		0
		Split Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume			0
		Main Channel	Run		0	0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	FA	Main Channel	Run		0	
		Multiple Split Main Channel	Run		0	0
		Split Main Channel	Run			0
	Non-FA	Backwater	Backwater Pool	0		0
		Main Channel	Run	0	0	0
		Tributary Mouth	Run	0	0	9.3
MR-7 (PRM 107.8-122.7)	FA	Main Channel	Run		0	0
		Split Main Channel	Run		12.0	0
	Non-FA	Backwater	Backwater Pool	6.2		
		Main Channel	Run	0		0
		Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Glide	0		
			Run	0	0	0
		Side Channel	Riffle			0
			Run	0	0	
	Non-FA	Main Channel	Run	0	2.3	0
		Side Channel	Glide	0		0
			Pool	0	0	0
			Run		0	
		Split Main Channel	Run	0	0	0
		Upland Slough	Pool	0	0	13.0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E47. Average CPUE (fish per 1,000 square meters) for burbot using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Burbot		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0		
		Side Channel	Riffle	0		
			Run	0	0	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		1.9	
		Clearwater Plume	Clearwater Plume	0	0	
		Side Channel	Glide	0		
		Side Slough	Glide		0	
			Run		0	
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Glide	0		
			Run		0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	0	0	
		Clearwater Plume	Clearwater Plume	0	0	
		Main Channel	Run	0	0	
		Multiple Split Main Channel	Riffle		0	
			Run	0	0	0
		Side Channel	Backwater Pool	0	0	
			Glide	0.2	0	0
			Riffle	0	0	
			Run		0	0
		Side Slough Beaver Complex	Backwater Pool	0		
			Beaver Pond		0	0
			Glide	0		0
			Pool		0	
		Split Main Channel	Run			0
		Tributary	Glide		0	0
			Pool	0		
		Tributary Mouth	Pool	0		
			Riffle		0	
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle		0	
		Tributary Mouth	Run	0		
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0.2		
		Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run		0	

Table E47-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Burbot		
				Early Summer	Late Summer	Fall
MR-7 (cont.)	FA	Side Channel	Backwater Pool			0
			Glide	0	0	
			Pool	0	0	
		Split Main Channel	Riffle	0	0	
			Run	2.5	0	
		Tributary	Backwater Pool			0
			Pool	0		
			Riffle			0
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
			Glide	0	0	
			Run	0		
	Non-FA	Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			0
		Side Channel	Backwater Pool	0		0
			Glide			0
			Pool	0	0	
			Riffle		0	0
			Run	0	0	
		Side Slough	Glide	0	0	0
			Pool			0
			Run		0	
		Upland Slough Beaver Complex	Glide	0	0	0
			Run		0	0
	Non-FA	Main Channel	Run	13.8	4.4	0
		Split Main Channel	Run	0		0
		Upland Slough	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E48. Average CPUE (fish per trap) for burbot using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Burbot		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	0	1.0	
		Clearwater Plume	Clearwater Plume			1.0
Devils Canyon (PRM 153.9-166.1)						
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		1.5	
		Side Channel	Glide	4.0	0.5	1.0
			Riffle	0	0	
		Side Slough Beaver Complex	Beaver Pond	0		
			Glide		3.0	
			Pool	0	0	
		Upland Slough Beaver Complex	Beaver Pond	1.3		18.5
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	15.0		4.0
		Split Main Channel	Riffle	0		
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		1.0	6.0
		Side Slough	Glide		6.0	0
			Pool			0
		Tributary	Pool			1.0
	Non-FA	Upland Slough	Pool	0	0	4.0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E49. Average CPUE (fish per trap) for burbot using hoop trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Burbot		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Main Channel	Run	0		0.1
	Side Channel	Glide			0
		Run			0
MR-2 (PRM 169.6-184.6)	Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)					
MR-5 (PRM 148.1-153.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run	0.5	1.0	
MR-6 (PRM 122.7-148.4)	Main Channel	Run	0	0.3	
	Multiple Split Main Channel	Run	0.3	0	0.1
	Side Slough Beaver Complex	Beaver Pond			0
	Split Main Channel	Run			0
MR-7 (PRM 107.8-122.7)	Main Channel	Run	0.5	0.3	0.2
	Split Main Channel	Run	0.5	0.2	0.3
	Upland Slough Beaver Complex	Beaver Pond		0	
MR-8 (PRM 102.4-107.8)	Main Channel	Glide	0		
		Run	0	0.6	0.1
	Side Channel	Pool	1.0	0	
	Tributary	Pool	0	0	
	Upland Slough Beaver Complex	Backwater Pool	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E50. Average CPUE (fish per trap) for burbot using minnow trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Burbot		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			0
		Riffle			0
		Run	0		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	0	0.05	
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel	Glide			0
	Side Slough	Backwater Pool	0.04	0	
		Glide		0.17	0.02
		Pool	0		
	Tributary Mouth	Riffle	0	0	
Devils Canyon (PRM 153.9-166.1)					
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	0	0	0
	Side Channel	Backwater Pool		0	
		Glide	0	0	0
		Run		0	
	Side Slough Beaver Complex	Backwater Pool	0		0
		Beaver Pond	0	0	0
		Glide		0	0.06
		Pool		0	0
		Riffle		0	0
		Run			0
	Tributary	Glide	0	0	0
		Pool	0		0.25
		Riffle	0		0
		Run	0		0
	Tributary Mouth	Glide		0	0
		Rapid			0
		Riffle	0	0	0
		Run		0	0
	Upland Slough	Glide			0
	Upland Slough Beaver Complex	Beaver Pond	0.05	0.07	0.23
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	0.33	0.05	0
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Backwater Pool			0
		Glide	0.13	0.02	
		Pool		0	
		Riffle		0	
	Tributary	Backwater Pool			0
		Glide	0	0	

Table E50. Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Burbot		
			Early Summer	Late Summer	Fall
MR-7 (cont.)	Tributary (cont.)	Pool	0	0.11	
		Riffle	1.00		0
		Run			0
	Tributary Mouth	Cascade	0		
		Riffle	0		
	Upland Slough Beaver Complex	Beaver Pond	0.04	0.08	0
		Glide	0	0.13	
		Pool			0
		Run	0		0
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			0
		Glide		0	0.06
		Pool		0.05	0
		Riffle		0	0
	Side Slough	Glide	0	0.04	0
		Pool			0
		Run		0	
	Tributary	Glide		0.15	
		Pool		0	0.06
		Riffle		0	0
	Upland Slough Beaver Complex	Backwater Pool		0	
		Beaver Pond			0
		Glide	0	0	0.07
		Run		0.33	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E51. Average CPUE (fish per hour of shocking time) for Dolly Varden using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
		Non-FA	Main Channel	Run	1.8	0	0
			Side Channel	Riffle			0
				Run	0	0	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	0	0	
			Side Channel	Glide	0	0	0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
			Tributary Mouth	Cascade			0
				Riffle		0	
		Non-FA	Backwater	Backwater Pool	0	0	0
			Clearwater Plume	Clearwater Plume	0	0	0
			Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	
				Run	0	0	0
			Side Slough	Pool	0		0
				Riffle		0	
				Run	0	0	3.5
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle		0	0
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	7.6	0	4
	Fog Creek[1]	Non-FA	Tributary	Pool	6	0	6.8
				Riffle	33.8	32.9	0
				Run	14	15	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	0		0
				Pool	0	0	28.6
				Rapid	0		
				Riffle	9.3	17.9	23.9

Table E51-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	53.6	0	91.4
				Riffle			87.8
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide	0		
				Riffle	0	0	0
				Run			0
		Non-FA	Main Channel	Run	0	0	0
			Side Slough	Glide	1	0	0
				Pool			0
			Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			0
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	0	0
				Run	0	0	0
			Side Channel	Backwater Pool	0		
				Glide	0	0	0
				Riffle	0	0	0
				Run	0		0
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	0		0
				Pool			0
				Riffle	0		
				Run	0		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			0
				Riffle	0		0
				Run			7.1
			Tributary	Glide	0		0
				Pool	6		

Table E51-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	0		
			Upland Slough	Glide			0
			Upland Slough Beaver Complex	Beaver Pond	0		0
		Non-FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Pool	0	0	0
				Riffle	0	0	
			Side Slough	Glide		0	0
				Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	0	0	0
			Tributary	Boulder Riffle	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	0
			Side Channel	Backwater Pool			0
				Glide	0	0	
				Pool	0	0	
				Riffle		0	
			Split Main Channel	Riffle	0	0	
				Run	0	0	0
			Tributary Mouth	Cascade	27		
				Riffle	0		
			Tributary	Glide		0	
				Pool		0	
				Riffle	0		
				Run			0
			Upland Slough Beaver Complex	Pool			0
				Run			0
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			0

Table E51-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	0		
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
			Side Slough	Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle	0		0
			Tributary	Run	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0		
				Run	0	0	0
			Side Channel	Glide			0
				Pool	0	0	0
				Riffle	0	0	2.5
				Run	0	0	
			Side Slough	Glide	0		
				Riffle	0	0	
			Tributary	Riffle	0		
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Glide	0		0
				Pool	0	0	0
				Run		0	0
			Side Slough	Glide			0
				Pool	0	0	0
			Split Main Channel	Run	0	0	0
			Upland Slough	Glide	0	0	0
				Pool	0	0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E52. Average CPUE (fish per hour of shocking time) for Dolly Varden using boat electrofishing in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0	0	0
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle			0
MR-2 (PRM 169.6-184.6)	FA	Main Channel	Run	0	0	3.1
	Non-FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run	0	0	0
		Side Channel	Run	0		0
		Split Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume			0
		Main Channel	Run		0	0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	FA	Main Channel	Run		0	
		Multiple Split Main Channel	Run		0	0
		Split Main Channel	Run			0
	Non-FA	Backwater	Backwater Pool	0		0
		Main Channel	Run	0	0	0
		Tributary Mouth	Run	0	0	0
MR-7 (PRM 107.8-122.7)	FA	Main Channel	Run		0	0
		Split Main Channel	Run		0	0
	Non-FA	Backwater	Backwater Pool	0		
		Main Channel	Run	0		0
		Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Glide	0		
			Run	0	0	1.6
		Side Channel	Riffle			0
			Run	0	0	
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Glide	0		0
			Pool	0	0	0
			Run		0	
		Split Main Channel	Run	0	0	0
		Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E53. Average CPUE (fish per 1,000 square meters) for Dolly Varden using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0		
		Side Channel	Riffle	0		
			Run	0	0	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		0	
		Clearwater Plume	Clearwater Plume	0	0	
		Side Channel	Glide	0		
		Side Slough	Glide		0	
			Run		0	
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Glide	0		
			Run		0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	0.7	0	
		Clearwater Plume	Clearwater Plume	0	0	
		Main Channel	Run	0	0	
		Multiple Split Main Channel	Riffle		0	
			Run	0	0	0
		Side Channel	Backwater Pool	0	0	
			Glide	0	0	0
			Riffle	0	0	
			Run		0	0
		Side Slough Beaver Complex	Backwater Pool	0		
			Beaver Pond		0	0
			Glide	0		0
			Pool		0	
		Split Main Channel	Run			0
		Tributary	Glide		0	0
			Pool	0		
		Tributary Mouth	Pool	0		
			Riffle		0	
		Upland Slough Beaver Complex	Beaver Pond	0	0.1	0.8
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle		0	
		Tributary Mouth	Run	0		
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		
		Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run		0	

Table E53-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
				Early Summer	Late Summer	Fall
MR-7 (cont.)	FA	Side Channel	Backwater Pool			0
			Glide	0	0	
			Pool	0	0	
		Split Main Channel	Riffle	0	0	
			Run	0	0	
		Tributary	Backwater Pool			0
			Pool	0		
			Riffle			0
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
			Glide	0	0	
			Run	0		
	Non-FA	Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			0
		Side Channel	Backwater Pool	0		0
			Glide			0
			Pool	0	0	
			Riffle		0	0
			Run	0	0	
		Side Slough	Glide	0	0	0
			Pool			0
			Run		0	
		Upland Slough Beaver Complex	Glide	0	0	0
			Run		0	12.5
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0		0
		Upland Slough	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E54. Average CPUE (fish per 1,000 square meters) for Dolly Varden using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Glide			0
				Pool			0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
				Pool	0		
			Tributary Mouth	Cascade			0
				Riffle	0	0	
		Non-FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume		0.9	
			Side Channel	Run	0		
			Side Slough	Pool	0		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0.7	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	224.6	0	2.4
				Riffle	4.4	59.0	0
				Run	3.0	27.3	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	35.4		0
				Riffle	7.5		0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	8.9	1.4	0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Backwater Pool	0		
				Run			0
			Side Slough Beaver Complex	Backwater Pool	0		0
				Beaver Pond	0	0	0
				Glide	0	0	0

TableE54-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Slough Beaver Complex	Pool	0	0	0
				Riffle	0	0	0
				Run	0		0
			Tributary	Glide	0	0	0
				Pool	0		0
				Riffle	0		0
				Run	0		0
			Tributary Mouth	Glide	243.5	0	0
				Pool	0		
				Riffle	2.0	0	0
				Run		0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Non-FA	Side Slough	Pool	0	0	0
			Tributary	Boulder Riffle		0	
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume	0	0	0
			Tributary	Backwater Pool			0
				Glide		0	
				Pool	0	0	
				Riffle	0	0	0
				Run			0
			Tributary Mouth	Cascade	0		
				Riffle	16.6		
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
				Glide	0	0	
				Pool			0
				Run	44.4		0
		Non-FA	Upland Slough	Pool	0	0	0

Table E54-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
					Early Summer	Late Summer	Fall
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0		0
				Glide		0	0
				Riffle	0	0	0
			Side Slough	Glide	0	0.1	0
				Pool			0
				Riffle	0	0	0
				Run		0	
			Tributary	Glide	0	0	
				Pool	0	2.1	0
				Riffle	0	0	0
			Upland Slough Beaver Complex	Backwater Pool	0		
				Beaver Pond	0		0
				Glide	0	0	0
				Run		0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E55. Average CPUE (fish per trap) for Dolly Varden using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	1.0	0	
		Clearwater Plume	Clearwater Plume			0
Devils Canyon (PRM 153.9-166.1)						
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		0	
		Side Channel	Glide	0	0	0
			Riffle	0	0	
		Side Slough Beaver Complex	Beaver Pond	0		
			Glide		0	
			Pool	0	0	
		Upland Slough Beaver Complex	Beaver Pond	0.3		0
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		0
		Split Main Channel	Riffle	0		
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		0	4.0
		Side Slough	Glide		0	0
			Pool			0
		Tributary	Pool			5.0
	Non-FA	Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E56. Average CPUE (fish per trap) for Dolly Varden using hoop trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Main Channel	Run	0		0
	Side Channel	Glide			0
		Run			0
MR-2 (PRM 169.6-184.6)	Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)					
MR-5 (PRM 148.1-153.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run	0	0	
MR-6 (PRM 122.7-148.4)	Main Channel	Run	0	0	
	Multiple Split Main Channel	Run	0	0	0
	Side Slough Beaver Complex	Beaver Pond			0
	Split Main Channel	Run			0
MR-7 (PRM 107.8-122.7)	Main Channel	Run	0	0	0
	Split Main Channel	Run	0.5	0	0
	Upland Slough Beaver Complex	Beaver Pond		0	
MR-8 (PRM 102.4-107.8)	Main Channel	Glide	0		
		Run	0	0	0
	Side Channel	Pool	0	0	
	Tributary	Pool	0	0	
	Upland Slough Beaver Complex	Backwater Pool	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E57. Average CPUE (fish per trap) for Dolly Varden using minnow trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			0
		Riffle			0
		Run	0		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	0	0	
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel	Glide			0
	Side Slough	Backwater Pool	0	0	
		Glide		0	0
		Pool	0		
	Tributary Mouth	Riffle	0	0	
Devils Canyon (PRM 153.9-166.1)					
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	0.08	0	0
	Side Channel	Backwater Pool		0	
		Glide	0	0	0
		Run		0	
	Side Slough Beaver Complex	Backwater Pool	0		0
		Beaver Pond	0	0	0
		Glide		0	0
		Pool		0	0
		Riffle		0	0
		Run			0
	Tributary	Glide	0	0	0
		Pool	0		0
		Riffle	0.67		0
		Run	0.13		0
	Tributary Mouth	Glide		0	0
		Rapid			0
		Riffle	0	0	0
		Run		0	0
	Upland Slough	Glide			0
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	0	0	0
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Backwater Pool	0		0
		Glide		0	
		Pool		0	
		Riffle		0	
	Tributary	Backwater Pool			0.13
		Glide	0	0	

Table E57. Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
			Early Summer	Late Summer	Fall
MR-7 (cont.)	Tributary (cont.)	Pool	0	0	
		Riffle	0		0
		Run			0
	Tributary Mouth	Cascade	0		
		Riffle	0		
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Glide	0	0.13	
		Pool			0
		Run	0		0
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			0
		Glide		0	0.02
		Pool		0	0
		Riffle		0	0.50
	Side Slough	Glide	0	0	0
		Pool			0
		Run		0	
	Tributary	Glide		0	
		Pool		0.25	0
		Riffle		0	0
	Upland Slough Beaver Complex	Backwater Pool		0	
		Beaver Pond			0
		Glide	0	0	0
		Run		0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E58. Average CPUE (fish per hour of shocking time) for lamprey using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Lamprey		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Riffle			0
				Run	0	0	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	0	0	
			Side Channel	Glide	0	0	0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
			Tributary Mouth	Cascade			0
				Riffle		0	
		Non-FA	Backwater	Backwater Pool	0	0	0
			Clearwater Plume	Clearwater Plume	0	0	0
			Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	
				Run	0	0	0
			Side Slough	Pool	0		0
				Riffle		0	
				Run	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle		0	0
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	0		0
				Pool	0	0	0
				Rapid	0		
				Riffle	0	0	0

Table E58-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Lamprey		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
				Riffle			0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide	0		
				Riffle	0	0	0
				Run			0
		Non-FA	Main Channel	Run	0	0	0
			Side Slough	Glide	0	0	0
				Pool			0
			Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			0
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	0	0
				Run	0	0	0
			Side Channel	Backwater Pool	0		
				Glide	0	0	0
				Riffle	0	0	0
				Run	0		0
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	0		0
				Pool			0
				Riffle	0		
				Run	0		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			0
				Riffle	0		0
				Run			0
			Tributary	Glide	0		0
				Pool	0		

Table E58-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Lamprey		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	0		
			Upland Slough	Glide			0
			Upland Slough Beaver Complex	Beaver Pond	0		0
		Non-FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Pool	0	0	0
				Riffle	0	0	
			Side Slough	Glide		0	0
				Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	0	0	0
			Tributary	Boulder Riffle	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	0
			Side Channel	Backwater Pool			0
				Glide	0	0	
				Pool	0	0	
				Riffle		0	
			Split Main Channel	Riffle	0	0	
				Run	0	0	0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Tributary	Glide		0	
				Pool		0	
				Riffle	0		
				Run			0
			Upland Slough Beaver Complex	Pool			0
				Run			0
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			0

Table E58-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Lamprey		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	0		
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
			Side Slough	Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle	0		0
			Tributary	Run	4.3	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0		
				Run	0	0	0
			Side Channel	Glide			0
				Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	
			Side Slough	Glide	10.2		
				Riffle	39.1	0	
			Tributary	Riffle	7.1		
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Glide	0		0
				Pool	0	0	0
				Run		0	0
			Side Slough	Glide			0
				Pool	0	0	0
			Split Main Channel	Run	0	0	0
			Upland Slough	Glide	0	0	0
				Pool	0	0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E59. Average CPUE (fish per 1,000 square meters) for lamprey using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Lamprey		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Glide			0
				Pool			0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
				Pool	0		
			Tributary Mouth	Cascade			0
				Riffle	0	0	
		Non-FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume		0	
			Side Channel	Run	0		
			Side Slough	Pool	0		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	0		0
				Riffle	0		0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Backwater Pool	0		
				Run			0
			Side Slough Beaver Complex	Backwater Pool	0		0
				Beaver Pond	0	0	0
				Glide	0	0	0

TableE59-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Lamprey		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Slough Beaver Complex	Pool	0	0	0
				Riffle	0	0	0
				Run	0		0
			Tributary	Glide	0	0	0
				Pool	0		0
				Riffle	0		0
				Run	0		0
			Tributary Mouth	Glide	0	0	0
				Pool	0		
				Riffle	0	0	0
				Run		0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Non-FA	Side Slough	Pool	0	0	0
			Tributary	Boulder Riffle		0	
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume	0	0	0
			Tributary	Backwater Pool			0
				Glide		0	
				Pool	0	0	
				Riffle	0	0	0
				Run			0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
				Glide	0	0	
				Pool			0
				Run	0		0
		Non-FA	Upland Slough	Pool	0	0	0

Table E59-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Lamprey		
					Early Summer	Late Summer	Fall
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0.5		0
				Glide		0	0
				Riffle	0	0	0
			Side Slough	Glide	0	0	0
				Pool			0
				Riffle	0	0	0
				Run		0	
			Tributary	Glide	0	0	
				Pool	0	0	0
				Riffle	0	0	0
			Upland Slough Beaver Complex	Backwater Pool	0		
				Beaver Pond	0		0
				Glide	0	0	0
				Run		0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E60. Average CPUE (fish per trap) for lamprey using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Lamprey		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	0	0	
		Clearwater Plume	Clearwater Plume			0
Devils Canyon (PRM 153.9-166.1)						
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		0	
		Side Channel	Glide	0	0	0
			Riffle	0	0	
		Side Slough Beaver Complex	Beaver Pond	0		
			Glide		0	
			Pool	0	0	
		Upland Slough Beaver Complex	Beaver Pond	0		0
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		0
		Split Main Channel	Riffle	0		
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		0	2.0
		Side Slough	Glide		0	9.0
			Pool			0
		Tributary	Pool			0
	Non-FA	Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E61. Average CPUE (fish per trap) for lamprey using minnow trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Lamprey		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			0
		Riffle			0
		Run	0		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	0	0	
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel	Glide			0
	Side Slough	Backwater Pool	0	0	
		Glide		0	0
		Pool	0		
	Tributary Mouth	Riffle	0	0	
Devils Canyon (PRM 153.9-166.1)					
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	0	0	0
	Side Channel	Backwater Pool		0	
		Glide	0	0	0
		Run		0	
	Side Slough Beaver Complex	Backwater Pool	0		0
		Beaver Pond	0	0	0
		Glide		0	0
		Pool		0	0
		Riffle		0	0
		Run			0
	Tributary	Glide	0	0	0
		Pool	0		0
		Riffle	0		0
		Run	0		0
	Tributary Mouth	Glide		0	0
		Rapid			0
		Riffle	0	0	0
		Run		0	0
	Upland Slough	Glide			0
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	0	0	0
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Backwater Pool	0		0
		Glide		0	
		Pool		0	
		Riffle		0	
	Tributary	Backwater Pool			0
		Glide	0	0	

Table E61. Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Lamprey		
			Early Summer	Late Summer	Fall
MR-7 (cont.)	Tributary (cont.)	Pool	0	0	
		Riffle	0		0
		Run			0
	Tributary Mouth	Cascade	0		
		Riffle	0		
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Glide	0	0	
		Pool			0
		Run	0		0
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			0
		Glide		0	0
		Pool		0	0
		Riffle		0	0
	Side Slough	Glide	0	0.02	0
		Pool			0
		Run		0.50	
	Tributary	Glide		0	
		Pool		0	0
		Riffle		0	0
	Upland Slough Beaver Complex	Backwater Pool		0	
		Beaver Pond			0
		Glide	0	0	0
		Run		0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E62. Average CPUE (fish per hour of shocking time) for longnose sucker using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Longnose		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	0	0	0.9
			Side Channel	Glide			0
				Riffle	0	0	6.7
				Run	0	0	0
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Riffle			0
				Run	0	0	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	6.2	0	
			Side Channel	Glide	0	15.1	34.4
			Side Slough	Backwater Pool	26.5	27.6	
				Glide		0	26.3
			Tributary Mouth	Cascade			0
				Riffle		0	
		Non-FA	Backwater	Backwater Pool	0	0	0
			Clearwater Plume	Clearwater Plume	2.3	0	0
			Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	
				Run	0	7	6.3
			Side Slough	Pool	54.5		5.8
				Riffle		0	
				Run	16.5	0	7
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle		4.2	0
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	0		0
				Pool	0	0	0
				Rapid	0		
				Riffle	0	0	0

Table E62-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Longnose		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
				Riffle			0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide	0		
				Riffle	0	0	0
				Run			0
		Non-FA	Main Channel	Run	4.6	0	0
			Side Slough	Glide	38.7	10.5	3.4
				Pool			0
			Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			0
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	0	0
				Run	0	0	0
			Side Channel	Backwater Pool	0		
				Glide	7.2	4.9	3.5
				Riffle	3.4	2.8	0
				Run	0		5.8
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	0		10.6
				Pool			0
				Riffle	0		
				Run	3.9		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			0
				Riffle	2.1		3.7
				Run			0
			Tributary	Glide	0		0
				Pool	0		

Table E62-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Longnose		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	2.9		
			Upland Slough	Glide			0
			Upland Slough Beaver Complex	Beaver Pond	0		0
		Non-FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	2.6	0	0
			Side Channel	Pool	0	112.9	0
				Riffle	0	11.1	
			Side Slough	Glide		0	0
				Pool	0	8.8	4.6
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	0	4	0
			Tributary	Boulder Riffle	0	0	0
			Upland Slough	Pool	0	4.3	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	0
			Side Channel	Backwater Pool			2.6
				Glide	0	3.2	
				Pool	0	16.8	
				Riffle		7.2	
			Split Main Channel	Riffle	0	0	
				Run	0	0	0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Tributary	Glide		0	
				Pool		0	
				Riffle	0		
				Run			0
			Upland Slough Beaver Complex	Pool			0
				Run			0
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			0

Table E62-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Longnose		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	0		
			Side Channel	Glide			6.3
				Riffle	12.5	0	9.4
				Run	0	1.5	15.8
			Side Slough	Pool	0	44.2	10.3
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle	0		0
			Tributary	Run	2.2	1.9	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0		
				Run	0	0	2.9
			Side Channel	Glide			0
				Pool	12.9	0	0
				Riffle	0	0	0
				Run	0	0	
			Side Slough	Glide	0		
				Riffle	0	0	
			Tributary	Riffle	0		
		Non-FA	Main Channel	Run	0	0	6.3
			Side Channel	Glide	0		8
				Pool	0	171.4	0
				Run		0	6.4
			Side Slough	Glide			7.3
				Pool	0	328.8	40
			Split Main Channel	Run	0	0	4.3
			Upland Slough	Glide	0	0	0
				Pool	0	3.1	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E63. Average CPUE (fish per hour of shocking time) for longnose sucker using boat electrofishing in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0	0	0
	Non-FA	Main Channel	Run	3.6	0	0
		Side Channel	Riffle			0
MR-2 (PRM 169.6-184.6)	FA	Main Channel	Run	0	2.4	0
	Non-FA	Clearwater Plume	Clearwater Plume	12.3	0	0
		Main Channel	Run	0	0	0
		Side Channel	Run	0		0
		Split Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume			0
		Main Channel	Run		0	0
	Non-FA	Main Channel	Run	0	0	3.6
		Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	FA	Main Channel	Run		0	
		Multiple Split Main Channel	Run		0	0
		Split Main Channel	Run			0
	Non-FA	Backwater	Backwater Pool	0		0
		Main Channel	Run	0	0	0
		Tributary Mouth	Run	0	0	0
MR-7 (PRM 107.8-122.7)	FA	Main Channel	Run		0	0
		Split Main Channel	Run		0	4.0
	Non-FA	Backwater	Backwater Pool	34.3		
		Main Channel	Run	0		0
		Split Main Channel	Run	0	0	5.8
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Glide	0		
			Run	0	0	3.4
		Side Channel	Riffle			0
			Run	0	0	
	Non-FA	Main Channel	Run	6.0	0	0
		Side Channel	Glide	0		18.7
			Pool	0	0	0
			Run		0	
		Split Main Channel	Run	0	0	16.4
		Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E64. Average CPUE (fish per 1,000 square meters) for longnose sucker using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0		
		Side Channel	Riffle	0		
			Run	1.3	1.7	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		5.2	
		Clearwater Plume	Clearwater Plume	0	0	
		Side Channel	Glide	0		
		Side Slough	Glide		9.9	
			Run		0.4	
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Glide	0		
			Run		0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	6.7	0	
		Clearwater Plume	Clearwater Plume	0.8	14.6	
		Main Channel	Run	1.0	1.9	
		Multiple Split Main Channel	Riffle		0	
			Run	0	0	1.5
		Side Channel	Backwater Pool	0	16.9	
			Glide	0.2	1.3	0
			Riffle	0	0	
			Run		2.0	0
		Side Slough Beaver Complex	Backwater Pool	0		
			Beaver Pond		0.3	0
			Glide	0		0
			Pool		0	
		Split Main Channel	Run			0
		Tributary	Glide		0	0
			Pool	0		
		Tributary Mouth	Pool	0		
			Riffle		0	
		Upland Slough Beaver Complex	Beaver Pond	0.2	0.8	0
	Non-FA	Main Channel	Run	0	5.6	0
		Side Channel	Riffle		8.9	
		Tributary Mouth	Run	0		
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		
		Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run		0	

Table E64-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
				Early Summer	Late Summer	Fall
MR-7 (cont.)	FA	Side Channel	Backwater Pool			0
			Glide	26.2	0	
			Pool	0	10.1	
		Split Main Channel	Riffle	0	0	
			Run	0	6.0	
		Tributary	Backwater Pool			0
			Pool	0		
			Riffle			0
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
			Glide	0	0	
			Run	30.8		
	Non-FA	Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			0
		Side Channel	Backwater Pool	2.7		0
			Glide			13.7
			Pool	20.0	0	
			Riffle		73.3	0
			Run	0	0	
		Side Slough	Glide	0	40.2	0
			Pool			253.2
			Run		0	
		Upland Slough Beaver Complex	Glide	0	0	0
			Run		0	0
	Non-FA	Main Channel	Run	0	0	6.7
		Split Main Channel	Run	0		0
		Upland Slough	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E65. Average CPUE (fish per 1,000 square meters) for longnose sucker using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	5.5	0	0
			Side Channel	Glide			0
				Pool			0
			Side Slough	Backwater Pool	20.3	8.8	
				Glide		20.7	6.4
				Pool	1.1		
			Tributary Mouth	Cascade			0
				Riffle	0	0	
		Non-FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume		0	
			Side Channel	Run	0		
			Side Slough	Pool	2.8		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	0		0
				Riffle	0		0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Backwater Pool	0		
				Run			0
			Side Slough Beaver Complex	Backwater Pool	0		0
				Beaver Pond	0	0	0
				Glide	0	0	3.8

TableE65-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Slough Beaver Complex	Pool	0	0	0
				Riffle	0	0	0
				Run	0		0
			Tributary	Glide	0	0	0
				Pool	0		0
				Riffle	0		0
				Run	0		0
			Tributary Mouth	Glide	0	0	0
				Pool	0		
				Riffle	0	0	0
				Run		0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Non-FA	Side Slough	Pool	0	12.9	0
			Tributary	Boulder Riffle		0	
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume	0	0	0
			Tributary	Backwater Pool			0
				Glide		0	
				Pool	0	0	
				Riffle	36.4	0	0
				Run			0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
				Glide	0	0	
				Pool			0
				Run	22.2		0
		Non-FA	Upland Slough	Pool	0	0	0

Table E65-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
					Early Summer	Late Summer	Fall
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0		0
				Glide		1.3	0
				Riffle	0	0	0
			Side Slough	Glide	0	0	0
				Pool			0
				Riffle	0	0	0
				Run		0	
			Tributary	Glide	0	0	
				Pool	0	0	0
				Riffle	0	0	0
			Upland Slough Beaver Complex	Backwater Pool	0		
				Beaver Pond	0.3		0
				Glide	0	0	0
				Run		0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E66. Average CPUE (fish per trap) for longnose sucker using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	13.0	8.0	
		Clearwater Plume	Clearwater Plume			0
Devils Canyon (PRM 153.9-166.1)						
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		3.0	
		Side Channel	Glide	0	3.0	1.0
			Riffle	0	0	
		Side Slough Beaver Complex	Beaver Pond	0		
			Glide		0	
			Pool	0	0	
		Upland Slough Beaver Complex	Beaver Pond	0.3		17.5
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	3.0		2.0
		Split Main Channel	Riffle	0		
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		22.0	12.0
		Side Slough	Glide		6.0	2.0
			Pool			0
		Tributary	Pool			5.0
	Non-FA	Upland Slough	Pool	0	12.0	2.0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E67. Average CPUE (fish per trap) for longnose sucker using hoop trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Main Channel	Run	0		0
	Side Channel	Glide			0
		Run			0
MR-2 (PRM 169.6-184.6)	Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)					
MR-5 (PRM 148.1-153.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run	0	0.3	
MR-6 (PRM 122.7-148.4)	Main Channel	Run	0	0.5	
	Multiple Split Main Channel	Run	0.3	0	0
	Side Slough Beaver Complex	Beaver Pond			3.0
	Split Main Channel	Run			0
MR-7 (PRM 107.8-122.7)	Main Channel	Run	1.0	0	0
	Split Main Channel	Run	0.5	0.3	0
	Upland Slough Beaver Complex	Beaver Pond		0	
MR-8 (PRM 102.4-107.8)	Main Channel	Glide	0		
		Run	0	0.5	0
	Side Channel	Pool	0	1.0	
	Tributary	Pool	0	2.0	
	Upland Slough Beaver Complex	Backwater Pool	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E68. Average CPUE (fish per trap) for longnose sucker using minnow trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			0
		Riffle			0
		Run	0		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	0.25	0.05	
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel	Glide			0
	Side Slough	Backwater Pool	0.25	2.38	
		Glide		0	0.52
		Pool	1.00		
	Tributary Mouth	Riffle	0	0	
Devils Canyon (PRM 153.9-166.1)					
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	0	0.11	0
	Side Channel	Backwater Pool		0.08	
		Glide	0.13	0.04	0
		Run		0	
	Side Slough Beaver Complex	Backwater Pool	0.06		0
		Beaver Pond	0	0.03	0.56
		Glide		0	0
		Pool		0	0.22
		Riffle		0	0
		Run			0
	Tributary	Glide	0	0	0
		Pool	0		0
		Riffle	0		0
		Run	0		0
	Tributary Mouth	Glide		0	0
		Rapid			0
		Riffle	0	0	0
		Run		0	0
	Upland Slough	Glide			0
	Upland Slough Beaver Complex	Beaver Pond	0.07	0.02	0.34
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	0.25	0	0
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Backwater Pool	0		0
		Glide		0	
		Pool		0.65	
		Riffle		0	
	Tributary	Backwater Pool			0

Table E68. Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
			Early Summer	Late Summer	Fall
MR-7 (cont.)	Tributary (cont.)	Glide	0	0	
		Pool	0	0	
		Riffle	0.17		0
		Run			0
	Tributary Mouth	Cascade	0		
		Riffle	0		
	Upland Slough Beaver Complex	Beaver Pond	0	0	0.01
		Glide	0	0	
		Pool			0
		Run	0		0
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			0
		Glide		0.65	0
		Pool		0	0
		Riffle		0	0
	Side Slough	Glide	0	0.02	0
		Pool			0
		Run		0	
	Tributary	Glide		0	
		Pool		0	0
		Riffle		0	0
	Upland Slough Beaver Complex	Backwater Pool		0	
		Beaver Pond			0
		Glide	0	0	0
		Run		0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E69. Average CPUE (fish per hour of shocking time) for sculpin using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sculpin		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	36	59.5	56
			Side Channel	Glide			64.9
				Riffle	109.1	71.4	93.4
				Run	14.9	32.1	89.3
		Non-FA	Main Channel	Run	26.7	17.7	22.3
			Side Channel	Riffle			60.5
				Run	39.8	24.2	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	54.9	31.8	
			Side Channel	Glide	253.8	90.8	153.3
			Side Slough	Backwater Pool	102	11.4	
				Glide		46.1	12.6
			Tributary Mouth	Cascade			9.4
				Riffle		46.5	
		Non-FA	Backwater	Backwater Pool	52.8	4.4	15.5
			Clearwater Plume	Clearwater Plume	32.5	5.7	32.2
			Main Channel	Run	41.1	7.2	15.6
			Side Channel	Glide			0
				Riffle	64.6	0	
				Run	29.9	9.5	25.3
			Side Slough	Pool	82.6		0
				Riffle		0	
				Run	148.2	40.9	59.7
			Split Main Channel	Run	19.4	0	41.9
			Tributary Mouth	Riffle		46.3	21.5
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	15.3	20.7	7.9
	Fog Creek[1]	Non-FA	Tributary	Pool	18	0	0
				Riffle	17.1	9.9	10.4
				Run	14	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	28.2		23.5
				Pool	0	0	28.6
				Rapid	0		
				Riffle	65.7	0	47.8

Table E69-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sculpin		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			14.8
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	13.9	0	22.9
				Riffle			26.3
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide	20.7		
				Riffle	11.1	14.3	59.1
				Run			40.4
		Non-FA	Main Channel	Run	17.3	24.1	15.5
			Side Slough	Glide	77.5	43.2	27.4
				Pool			0
			Split Main Channel	Run	14.3	7.8	60.7
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			0
			Main Channel	Run	0	88.7	
			Multiple Split Main Channel	Riffle	29.5	16.6	89.5
				Run	52	42.3	63.4
			Side Channel	Backwater Pool	75.9		
				Glide	6.9	9.9	51.4
				Riffle	40.5	37	129.8
				Run	36.1		32.1
			Side Slough Beaver Complex	Beaver Pond			3
				Glide	39.2		85.3
				Pool			45.1
				Riffle	0		
				Run	165.4		
			Split Main Channel	Run			44.7
			Tributary Mouth	Glide			89
				Riffle	94.4		41.7
				Run			63.5
			Tributary	Glide	42		12.5
				Pool	115.1		

Table E69-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sculpin		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	81.1		
				Run	40		
			Upland Slough	Glide			89.1
			Upland Slough Beaver Complex	Beaver Pond	1.8		2.6
		Non-FA	Backwater	Backwater Pool	0	8.6	
			Clearwater Plume	Clearwater Plume	29.4	17.8	21.8
			Side Channel	Pool	14.3	63.5	17.7
				Riffle	10.6	140.6	
			Side Slough	Glide		36	85.4
				Pool	41.4	41.9	46.2
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	25.5	15.3	9.5
			Tributary	Boulder Riffle	357.8	98.2	38.5
			Upland Slough	Pool	50.9	123.4	0
			Upland Slough Beaver Complex	Beaver Pond	12.1	0	20.1
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		83.2	
			Main Channel	Run	137.4	13.6	40.6
			Side Channel	Backwater Pool			22.4
				Glide	0	17.5	
				Pool	54.4	16.8	
				Riffle		43	
			Split Main Channel	Riffle	44.4	6.1	
				Run	21.4	17.8	45.9
			Tributary Mouth	Cascade	36		
				Riffle	262.3		
			Tributary	Glide		18	
				Pool		0	
				Riffle	398.5		
				Run			0
			Upland Slough Beaver Complex	Pool			42
				Run			39.2
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			27.7

Table E69-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sculpin		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	13.5		
			Side Channel	Glide			63.2
				Riffle	0	0	18.7
				Run	72.8	47.2	22.1
			Side Slough	Pool	37.6	23.7	10
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	7	0	41.6
			Tributary Mouth	Riffle	0		31.6
			Tributary	Run	11.9	26	22.6
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0		
				Run	17.9	77.9	29.3
			Side Channel	Glide			291.2
				Pool	77.4	0	262.8
				Riffle	111.7	86.4	72.8
				Run	16.8	28.6	
			Side Slough	Glide	69.8		
				Riffle	341.3	271	
			Tributary	Riffle	205.5		
		Non-FA	Main Channel	Run	21.3	23.3	0
			Side Channel	Glide	29		24
				Pool	4.3	11.4	0
				Run		24.8	0
			Side Slough	Glide			0
				Pool	7.2	12	16
			Split Main Channel	Run	0	4	43.1
			Upland Slough	Glide	43.5	138.5	4.4
				Pool	13.5	3.3	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E70. Average CPUE (fish per hour of shocking time) for sculpin using boat electrofishing in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sculpin		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0	5.5	0
	Non-FA	Main Channel	Run	0	1.3	0
		Side Channel	Riffle			0
MR-2 (PRM 169.6-184.6)	FA	Main Channel	Run	0	11.9	24.2
	Non-FA	Clearwater Plume	Clearwater Plume	3.6	0	1.7
		Main Channel	Run	0	0	0
		Side Channel	Run	0		0
		Split Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume			0
		Main Channel	Run		0	0
	Non-FA	Main Channel	Run	0	12.0	0
		Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	FA	Main Channel	Run		0	
		Multiple Split Main Channel	Run		0	0
		Split Main Channel	Run			0
	Non-FA	Backwater	Backwater Pool	7.7		0
		Main Channel	Run	0	0	0
		Tributary Mouth	Run	0	0	9.3
MR-7 (PRM 107.8-122.7)	FA	Main Channel	Run		0	0
		Split Main Channel	Run		0	0
	Non-FA	Backwater	Backwater Pool	0		
		Main Channel	Run	0		0
		Split Main Channel	Run	7.9	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Glide	0		
			Run	0	0	0
		Side Channel	Riffle			0
			Run	0	0	
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Glide	0		9.3
			Pool	0	0	0
			Run		0	
		Split Main Channel	Run	0	14.9	0
		Upland Slough	Pool	0	0	13.0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E71. Average CPUE (fish per 1,000 square meters) for sculpin using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sculpin		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0		
		Side Channel	Riffle	0		
			Run	0.7	0	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		0	
		Clearwater Plume	Clearwater Plume	16.4	40.6	
		Side Channel	Glide	40.0		
		Side Slough	Glide		6.4	
			Run		0.4	
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Glide	0		
			Run		0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	14.9	0	
		Clearwater Plume	Clearwater Plume	0	0	
		Main Channel	Run	0	0.9	
		Multiple Split Main Channel	Riffle		0	
			Run	0	0	0
		Side Channel	Backwater Pool	0	5.1	
			Glide	2.6	0.9	0
			Riffle	0	0	
			Run		0	0
		Side Slough Beaver Complex	Backwater Pool	3.5		
			Beaver Pond		0	0
			Glide	0		0
			Pool		0	
		Split Main Channel	Run			0
		Tributary	Glide		0	0
			Pool	569.3		
		Tributary Mouth	Pool	0		
			Riffle		0	
		Upland Slough Beaver Complex	Beaver Pond	0	0	0.8
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle		0	
		Tributary Mouth	Run	0		
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0.1		
		Clearwater Plume	Clearwater Plume	16.2	0	0
		Main Channel	Run		0	

Table E71-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sculpin		
				Early Summer	Late Summer	Fall
MR-7 (cont.)	FA	Side Channel	Backwater Pool			0
			Glide	8.1	0	
			Pool	0	4.3	
		Split Main Channel	Riffle	0	0	
			Run	0	0	
		Tributary	Backwater Pool			0
			Pool	0		
			Riffle			0
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
			Glide	0	0	
			Run	276.9		
	Non-FA	Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			0
		Side Channel	Backwater Pool	5.4		0
			Glide			60.7
			Pool	5.0	0	
			Riffle		20.0	0
			Run	0	0	
		Side Slough	Glide	18.6	3.3	4.5
			Pool			14.3
			Run		5.1	
		Upland Slough Beaver Complex	Glide	0	0.1	0
			Run		0	25.0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0		0
		Upland Slough	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E72. Average CPUE (fish per 1,000 square meters) for sculpin using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sculpin		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Glide			6.8
				Pool			0
			Side Slough	Backwater Pool	4.1	0.2	
				Glide		6.5	2.1
				Pool	0.3		
			Tributary Mouth	Cascade			0
				Riffle	111.1	9.0	
		Non-FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume		0	
			Side Channel	Run	0		
			Side Slough	Pool	0.6		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	0		0
				Riffle	0		0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0.7	0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	9.3	2.6	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Backwater Pool	0		
				Run			7.9
			Side Slough Beaver Complex	Backwater Pool	4.4		1.1
				Beaver Pond	0	0	0
				Glide	1.8	0.4	0.4

TableE72-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sculpin		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Slough Beaver Complex	Pool	0	0	0
				Riffle	0	0	1.7
				Run	0.6		0
			Tributary	Glide	0	0	1.3
				Pool	0		0
				Riffle	0		0
				Run	7.9		0
			Tributary Mouth	Glide	0	0	12.3
				Pool	0		
				Riffle	0	18.5	0
				Run		0	4.7
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Non-FA	Side Slough	Pool	0	0	0
			Tributary	Boulder Riffle		0	
			Upland Slough	Pool	0	0.8	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume	0	0	0
			Tributary	Backwater Pool			0
				Glide		0	
				Pool	1.1	0	
				Riffle	36.4	0	0
				Run			0
			Tributary Mouth	Cascade	58.2		
				Riffle	16.6		
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
				Glide	0	0	
				Pool			0
				Run	66.7		25.4
		Non-FA	Upland Slough	Pool	0	0	0

Table E72-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sculpin		
					Early Summer	Late Summer	Fall
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0.9		0
				Glide		0	2.5
				Riffle	12.1	0	0
			Side Slough	Glide	0.7	0.2	6.2
				Pool			12.0
				Riffle	23.9	49.1	5.4
				Run		2.8	
			Tributary	Glide	0.9	0.9	
				Pool	2.5	16.9	1.5
				Riffle	0	9.5	0
			Upland Slough Beaver Complex	Backwater Pool	0		
				Beaver Pond	0		0
				Glide	0	0	0.4
				Run		8.2	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E73. Average CPUE (fish per trap) for sculpin using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Sculpin		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	5.0	0	
		Clearwater Plume	Clearwater Plume			0
Devils Canyon (PRM 153.9-166.1)						
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		0	
		Side Channel	Glide	0	0	0
			Riffle	1.0	0	
		Side Slough Beaver Complex	Beaver Pond	1.0		
			Glide		0	
			Pool	5.0	0	
		Upland Slough Beaver Complex	Beaver Pond	1.3		0
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	1.0		0
		Split Main Channel	Riffle	0		
		Upland Slough Beaver Complex	Beaver Pond	0	0.5	0
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		5.0	2.0
		Side Slough	Glide		0	3.0
			Pool			0
		Tributary	Pool			0
	Non-FA	Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E74. Average CPUE (fish per trap) for sculpin using hoop trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Sculpin, undifferentiated		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Main Channel	Run	0		0
	Side Channel	Glide			1.0
		Run			0
MR-2 (PRM 169.6-184.6)	Main Channel	Run	0.2	0	0
Devils Canyon (PRM 153.9-166.1)					
MR-5 (PRM 148.1-153.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run	0	0	
MR-6 (PRM 122.7-148.4)	Main Channel	Run	0	0	
	Multiple Split Main Channel	Run	0	0	0
	Side Slough Beaver Complex	Beaver Pond			2.0
	Split Main Channel	Run			0
MR-7 (PRM 107.8-122.7)	Main Channel	Run	0	0	0
	Split Main Channel	Run	0	0	0
	Upland Slough Beaver Complex	Beaver Pond		0	
MR-8 (PRM 102.4-107.8)	Main Channel	Glide	0		
		Run	0	0	0
	Side Channel	Pool	0	0	
	Tributary	Pool	0	0	
	Upland Slough Beaver Complex	Backwater Pool	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E75. Average CPUE (fish per trap) for sculpin using minnow trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Sculpin		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			0.08
		Riffle			0
		Run	0		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	0.17	0.20	
	Clearwater Plume	Clearwater Plume	0.20	0	0.50
	Side Channel	Glide			0.20
	Side Slough	Backwater Pool	1.54	0.19	
		Glide		1.47	0.43
		Pool	3.35		
	Tributary Mouth	Riffle	3.00	1.00	
Devils Canyon (PRM 153.9-166.1)					
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	2.42	0.17	0
	Side Channel	Backwater Pool		0.08	
		Glide	0	0.06	0
		Run		0	
	Side Slough Beaver Complex	Backwater Pool	0.30		0.15
		Beaver Pond	0.19	0.10	0.13
		Glide		0.03	0.22
		Pool		0.07	0.67
		Riffle		0	0
		Run			0
	Tributary	Glide	0.17	0	0
		Pool	0.43		0
		Riffle	0.33		0
		Run	0		0.14
	Tributary Mouth	Glide		0	0.25
		Rapid			0
		Riffle	0.40	0.06	0
		Run		0.20	0.13
	Upland Slough	Glide			0
	Upland Slough Beaver Complex	Beaver Pond	0.18	0	0
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	0	0	0
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Backwater Pool			0.11
		Glide	0	0.10	
		Pool		0.06	
		Riffle		0	
	Tributary	Backwater Pool			0
		Glide	0.33	0.56	

Table E75. Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Sculpin		
			Early Summer	Late Summer	Fall
MR-7 (cont.)	Tributary (cont.)	Pool	0	0.11	
		Riffle	0.67		0
		Run			0.08
	Tributary Mouth	Cascade	0.40		
		Riffle	0		
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Glide	0.25	0.25	
		Pool			0.17
		Run	0.25		0.19
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			0.50
		Glide		0	0.19
		Pool		0	2.00
		Riffle		0.25	0
	Side Slough	Glide	2.60	0.39	0
		Pool			0.13
		Run		0	
	Tributary	Glide		0.23	
		Pool		0	0.12
		Riffle		0	0
	Upland Slough Beaver Complex	Backwater Pool		0	
		Beaver Pond			0
		Glide	0.41	0.04	0.14
		Run		0	0.33

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E76. Average CPUE (fish per hour of shocking time) for threespine stickleback using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Riffle			0
				Run	0	0	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	0	0	
			Side Channel	Glide	0	0	0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
			Tributary Mouth	Cascade			0
				Riffle		0	
		Non-FA	Backwater	Backwater Pool	0	0	0
			Clearwater Plume	Clearwater Plume	0	0	0
			Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	
				Run	0	0	0
			Side Slough	Pool	0		0
				Riffle		0	
				Run	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle		0	0
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	0		0
				Pool	0	0	0
				Rapid	0		
				Riffle	0	0	0

Table E76-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
				Riffle			0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide	0		
				Riffle	0	0	0
				Run			0
		Non-FA	Main Channel	Run	0	0	0
			Side Slough	Glide	0	0	0
				Pool			0
			Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			0
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	0	0
				Run	0	0	0
			Side Channel	Backwater Pool	0		
				Glide	0	0	0
				Riffle	0	0	0
				Run	0		0
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	0		0
				Pool			0
				Riffle	0		
				Run	0		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			0
				Riffle	0		0
				Run			0
			Tributary	Glide	0		0
				Pool	0		

Table E76-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	0		
			Upland Slough	Glide			0
			Upland Slough Beaver Complex	Beaver Pond	0		0
		Non-FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Pool	0	0	0
				Riffle	0	0	
			Side Slough	Glide		0	0
				Pool	1.3	2.2	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	0	0	0
			Tributary	Boulder Riffle	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	0
			Side Channel	Backwater Pool			0
				Glide	0	0	
				Pool	0	0	
				Riffle		0	
			Split Main Channel	Riffle	0	0	
				Run	0	0	0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Tributary	Glide		0	
				Pool		0	
				Riffle	0		
				Run			0
			Upland Slough Beaver Complex	Pool			10.5
				Run			0
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			0

Table E76-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	0		
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
			Side Slough	Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle	0		0
			Tributary	Run	1.1	0	0
			Upland Slough	Pool	167.1	83.6	47.2
			Upland Slough Beaver Complex	Beaver Pond	32.7	8	2.2
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0		
				Run	0	0	0
			Side Channel	Glide			0
				Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	
			Side Slough	Glide	0.6		
				Riffle	0	12.9	
			Tributary	Riffle	0		
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Glide	0		0
				Pool	0	0	0
				Run		0	0
			Side Slough	Glide			29
				Pool	0	2.4	0
			Split Main Channel	Run	0	0	0
			Upland Slough	Glide	0	0	0
				Pool	2.9	43.2	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E77. Average CPUE (fish per 1,000 square meters) for threespine stickleback using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0		
		Side Channel	Riffle	0		
			Run	0	0	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		0	
		Clearwater Plume	Clearwater Plume	0	0	
		Side Channel	Glide	0		
		Side Slough	Glide		0	
			Run		0	
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Glide	0		
			Run		0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	0	0	
		Clearwater Plume	Clearwater Plume	0	0	
		Main Channel	Run	0	0	
		Multiple Split Main Channel	Riffle		0	
			Run	0	0	0
		Side Channel	Backwater Pool	0	0	
			Glide	0	0	0
			Riffle	0	0	
			Run		0	0
		Side Slough Beaver Complex	Backwater Pool	0		
			Beaver Pond		0	0
			Glide	0		0
			Pool		0	
		Split Main Channel	Run			0
		Tributary	Glide		0	0
			Pool	0		
		Tributary Mouth	Pool	0		
			Riffle		0	
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle		0	
		Tributary Mouth	Run	0		
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		
		Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run		0	

Table E77-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
				Early Summer	Late Summer	Fall
MR-7 (cont.)	FA	Side Channel	Backwater Pool			0
			Glide	0	0	
			Pool	0	0	
		Split Main Channel	Riffle	0	0	
			Run	0	0	
		Tributary	Backwater Pool			0
			Pool	0		
			Riffle			0
		Upland Slough Beaver Complex	Beaver Pond	67.1	5.5	10.8
			Glide	0	15.3	
			Run	0		
	Non-FA	Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			0
		Side Channel	Backwater Pool	2.7		0
			Glide			15.7
			Pool	0	0	
			Riffle		33.3	0
			Run	0	0	
		Side Slough	Glide	1.3	0	0
			Pool			13.3
			Run		0	
		Upland Slough Beaver Complex	Glide	1.3	2.3	3.5
			Run		0	12.5
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0		0
		Upland Slough	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E78. Average CPUE (fish per 1,000 square meters) for threespine stickleback using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Glide			0
				Pool			0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
				Pool	0		
			Tributary Mouth	Cascade			0
				Riffle	0	0	
		Non-FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume		0	
			Side Channel	Run	0		
			Side Slough	Pool	0		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	0		0
				Riffle	0		0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Backwater Pool	0		
				Run			0
			Side Slough Beaver Complex	Backwater Pool	0		0
				Beaver Pond	0	0	0

TableE78-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Slough Beaver Complex	Glide	0	0	0
				Pool	0	0	0
				Riffle	0	0	0
				Run	0		0
			Tributary	Glide	0	0	0
				Pool	0		0
				Riffle	0		0
				Run	0		0
			Tributary Mouth	Glide	0	0	0
				Pool	0		
				Riffle	0	0	0
				Run		0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Non-FA	Side Slough	Pool	0	0	0
			Tributary	Boulder Riffle		0	
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume	0	0	0
			Tributary	Backwater Pool			0
				Glide		0	
				Pool	0	0	
				Riffle	0	0	0
				Run			0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Upland Slough Beaver Complex	Beaver Pond	3.5	1.1	0
				Glide	0	0	
				Pool			0
				Run	0		0
		Non-FA	Upland Slough	Pool	6.9	4.8	0

Table E78-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
					Early Summer	Late Summer	Fall
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0		0
				Glide		0	0
				Riffle	0	0	0
			Side Slough	Glide	0	3.0	0
				Pool			0
				Riffle	0	0	0
				Run		0	
			Tributary	Glide	0	0	
				Pool	0	0	0.7
				Riffle	0	0	0
			Upland Slough Beaver Complex	Backwater Pool	0		
				Beaver Pond	1.0		0
				Glide	0	0.4	0
				Run		0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E79. Average CPUE (fish per trap) for threespine stickleback using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	0	0	
		Clearwater Plume	Clearwater Plume			0
Devils Canyon (PRM 153.9-166.1)						
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		0	
		Side Channel	Glide	0	0	0
			Riffle	0	0	
		Side Slough Beaver Complex	Beaver Pond	0		
			Glide		0	
			Pool	0	0	
		Upland Slough Beaver Complex	Beaver Pond	0		0
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		0
		Split Main Channel	Riffle	0		
		Upland Slough Beaver Complex	Beaver Pond	254.3	503.0	22.7
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		1.0	1.0
		Side Slough	Glide		0	0.5
			Pool			0
		Tributary	Pool			1.0
	Non-FA	Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E80. Average CPUE (fish per trap) for threespine stickleback using minnow trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			0
		Riffle			0
		Run	0		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	0	0	
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel	Glide			0
	Side Slough	Backwater Pool	0	0	
		Glide		0	0
		Pool	0		
	Tributary Mouth	Riffle	0	0	
Devils Canyon (PRM 153.9-166.1)					
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	0	0	0
	Side Channel	Backwater Pool		0	
		Glide	0	0	0
		Run		0	
	Side Slough Beaver Complex	Backwater Pool	0		0
		Beaver Pond	0	0	0
		Glide		0	0
		Pool		0	0
		Riffle		0	0
		Run			0
	Tributary	Glide	0	0	0
		Pool	0		0
		Riffle	0		0
		Run	0		0
	Tributary Mouth	Glide		0	0
		Rapid			0
		Riffle	0	0	0
		Run		0	0
	Upland Slough	Glide			0
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	0	0	0
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Backwater Pool			0
		Glide	0	0	
		Pool		0	
		Riffle		0	
	Tributary	Backwater Pool			0

Table E80. Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
			Early Summer	Late Summer	Fall
MR-7 (cont.)	Tributary (cont.)	Glide	0	0	
		Pool	0	0	
		Riffle	0		0
		Run			0
	Tributary Mouth	Cascade	0		
		Riffle	0		
	Upland Slough Beaver Complex	Beaver Pond	46.59	3.01	6.77
		Glide	0	0	
		Pool			0
		Run	0		0
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			0
		Glide		0.12	0
		Pool		0.10	0
		Riffle		0	0
	Side Slough	Glide	0	0.06	0.06
		Pool			0.03
		Run		0	
	Tributary	Glide		0.08	
		Pool		0.25	0.06
		Riffle		0	0
	Upland Slough Beaver Complex	Backwater Pool		0.25	
		Beaver Pond			0.29
		Glide	0.21	0.54	0.37
		Run		0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E81. Average CPUE (fish per hour of shocking time) for rainbow trout using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Riffle			0
				Run	0	0	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	0	0	
			Side Channel	Glide	0	0	0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
			Tributary Mouth	Cascade			0
				Riffle		0	
		Non-FA	Backwater	Backwater Pool	0	0	0
			Clearwater Plume	Clearwater Plume	0	0	0
			Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	
				Run	0	0	0
			Side Slough	Pool	0		0
				Riffle		0	
				Run	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle		0	0
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	0		0
				Pool	0	0	0
				Rapid	0		
				Riffle	0	0	0

Table E81-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
				Riffle			0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide	0		
				Riffle	0	0	3.7
				Run			0
		Non-FA	Main Channel	Run	0	0	0
			Side Slough	Glide	5.6	0	0
				Pool			0
			Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			0
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	3.9	0
				Run	0	0	0
			Side Channel	Backwater Pool	0		
				Glide	0	0	0
				Riffle	0	0	0
				Run	0		0
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	0		0
				Pool			0
				Riffle	0		
				Run	0		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			0
				Riffle	0		0
				Run			0
			Tributary	Glide	0		0
				Pool	0		

Table E81-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	5.7		
			Upland Slough	Glide			0
			Upland Slough Beaver Complex	Beaver Pond	0		0
		Non-FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	2.2
			Side Channel	Pool	0	0	0
				Riffle	0	0	
			Side Slough	Glide		0	0
				Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	0	0	0
			Tributary	Boulder Riffle	0	0	9.6
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	0
			Side Channel	Backwater Pool			0
				Glide	0	0	
				Pool	0	5.6	
				Riffle		0	
			Split Main Channel	Riffle	0	0	
				Run	0	0	0
			Tributary Mouth	Cascade	9		
				Riffle	0		
			Tributary	Glide		0	
				Pool		0	
				Riffle	13.3		
				Run			0
			Upland Slough Beaver Complex	Pool			0
				Run			0
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			0

Table E81-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	0		
			Side Channel	Glide			6.3
				Riffle	0	0	0
				Run	0	0	0
			Side Slough	Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle	0		0
			Tributary	Run	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0		
				Run	0	0	0
			Side Channel	Glide			0
				Pool	0	0	0
				Riffle	0	2.2	0
				Run	0	0	
			Side Slough	Glide	0		
				Riffle	0	0	
			Tributary	Riffle	0		
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Glide	0		0
				Pool	0	0	0
				Run		0	0
			Side Slough	Glide			0
				Pool	0	0	0
			Split Main Channel	Run	0	0	0
			Upland Slough	Glide	0	0	0
				Pool	0	0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E82. Average CPUE (fish per hour of shocking time) for rainbow trout using boat electrofishing in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0	0	0
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle			0
MR-2 (PRM 169.6-184.6)	FA	Main Channel	Run	0	0	0
	Non-FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run	0	0	0
		Side Channel	Run	0		0
		Split Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume			0
		Main Channel	Run		0	0
	Non-FA	Main Channel	Run	0	0	7.7
		Split Main Channel	Run	0	0	5.7
MR-6 (PRM 122.7-148.4)	FA	Main Channel	Run		0	
		Multiple Split Main Channel	Run		0	0
		Split Main Channel	Run			19.2
	Non-FA	Backwater	Backwater Pool	0		0
		Main Channel	Run	0	0	0
		Tributary Mouth	Run	0	0	0
MR-7 (PRM 107.8-122.7)	FA	Main Channel	Run		0	5.4
		Split Main Channel	Run		0	0
	Non-FA	Backwater	Backwater Pool	0		
		Main Channel	Run	0		0
		Split Main Channel	Run	0	0	1.0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Glide	0		
			Run	0	9.0	6.9
		Side Channel	Riffle			0
			Run	0	0	
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Glide	0		0
			Pool	0	0	0
			Run		0	
		Split Main Channel	Run	0	0	0
		Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E83. Average CPUE (fish per 1,000 square meters) for rainbow trout using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0		
		Side Channel	Riffle	0		
			Run	0	0	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		0	
		Clearwater Plume	Clearwater Plume	0	0	
		Side Channel	Glide	0		
		Side Slough	Glide		0	
			Run		0	
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Glide	0		
			Run		0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	0	4.8	
		Clearwater Plume	Clearwater Plume	0	0.6	
		Main Channel	Run	0	0	
		Multiple Split Main Channel	Riffle		0	
			Run	0	0	0
		Side Channel	Backwater Pool	0	0	
			Glide	0	0	0
			Riffle	0	0	
			Run		0	0
		Side Slough Beaver Complex	Backwater Pool	0		
			Beaver Pond		0	0
			Glide	0		0
			Pool		0	
		Split Main Channel	Run			0
		Tributary	Glide		0	0
			Pool	0		
		Tributary Mouth	Pool	0		
			Riffle		0	
		Upland Slough Beaver Complex	Beaver Pond	0	0.2	0
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle		0	
		Tributary Mouth	Run	0		
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		
		Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run		5.0	

Table E83-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
				Early Summer	Late Summer	Fall
MR-7 (cont.)	FA	Side Channel	Backwater Pool			0
			Glide	0	0	
			Pool	0	0	
		Split Main Channel	Riffle	0	0	
			Run	0	0	
		Tributary	Backwater Pool			0
			Pool	3.3		
			Riffle			0
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
			Glide	0	0	
			Run	0		
	Non-FA	Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			0
		Side Channel	Backwater Pool	1.8		0
			Glide			0
			Pool	0	0	
			Riffle		0	0
			Run	0	0	
		Side Slough	Glide	0	0	0
			Pool			0
			Run		0	
		Upland Slough Beaver Complex	Glide	0	0	0
			Run		0	0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0		0
		Upland Slough	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E84. Average CPUE (fish per 1,000 square meters) for rainbow trout using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Glide			0
				Pool			0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
				Pool	0		
			Tributary Mouth	Cascade			0
				Riffle	0	0	
		Non-FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume		0	
			Side Channel	Run	0		
			Side Slough	Pool	0		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	0		0
				Riffle	0		0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Backwater Pool	0		
				Run			0
			Side Slough Beaver Complex	Backwater Pool	0		0
				Beaver Pond	0	0	0
				Glide	0	0	0

TableE84-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Slough Beaver Complex	Pool	0	0	0
				Riffle	0	0	0
				Run	0		0
			Tributary	Glide	2.2	0	0
				Pool	0		0
				Riffle	0		0
				Run	6.8		0
			Tributary Mouth	Glide	0	0	0
				Pool	0		
				Riffle	1.5	0	0
				Run		0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Non-FA	Side Slough	Pool	0	0	0
			Tributary	Boulder Riffle		0	
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume	0	0	0
			Tributary	Backwater Pool			0
				Glide		0	
				Pool	27.3	0	
				Riffle	36.4	0	0
				Run			0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
				Glide	0	0	
				Pool			0
				Run	0		0
		Non-FA	Upland Slough	Pool	0	0	0

Table E84-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
					Early Summer	Late Summer	Fall
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0		0
				Glide		0	0
				Riffle	0	0	0
			Side Slough	Glide	0	0	0
				Pool			0
				Riffle	0	0	0
				Run		0	
			Tributary	Glide	1.9	0	
				Pool	2.5	2.1	0
				Riffle	0	0	0
			Upland Slough Beaver Complex	Backwater Pool	0		
				Beaver Pond	0.7		0
				Glide	7.8	0	0
				Run		0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E85. Average CPUE (fish per trap) for rainbow trout using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	0	0	
		Clearwater Plume	Clearwater Plume			0
Devils Canyon (PRM 153.9-166.1)						
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		0.5	
		Side Channel	Glide	0	0	0
			Riffle	0	0	
		Side Slough Beaver Complex	Beaver Pond	0		
			Glide		0	
			Pool	1.0	0	
		Upland Slough Beaver Complex	Beaver Pond	0.3		0.5
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	0		0
		Split Main Channel	Riffle	0		
		Upland Slough Beaver Complex	Beaver Pond	2.0	0	0
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		0	0
		Side Slough	Glide		11.0	0
			Pool			0
		Tributary	Pool			38.0
	Non-FA	Upland Slough	Pool	7.0	3.0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E86. Average CPUE (fish per trap) for rainbow trout using hoop trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Main Channel	Run	0		0
	Side Channel	Glide			0
		Run			0
MR-2 (PRM 169.6-184.6)	Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)					
MR-5 (PRM 148.1-153.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run	0	0	
MR-6 (PRM 122.7-148.4)	Main Channel	Run	0	0	
	Multiple Split Main Channel	Run	0	0	0.1
	Side Slough Beaver Complex	Beaver Pond			0
	Split Main Channel	Run			0
MR-7 (PRM 107.8-122.7)	Main Channel	Run	0	0	0
	Split Main Channel	Run	0	0	0
	Upland Slough Beaver Complex	Beaver Pond		0	
MR-8 (PRM 102.4-107.8)	Main Channel	Glide	0		
		Run	0	0	0.1
	Side Channel	Pool	0	0	
	Tributary	Pool	2.0	0	
	Upland Slough Beaver Complex	Backwater Pool	0.5		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E87. Average CPUE (fish per trap) for rainbow trout using minnow trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			0
		Riffle			0
		Run	0		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	0	0	
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel	Glide			0
	Side Slough	Backwater Pool	0	0	
		Glide		0	0
		Pool	0		
	Tributary Mouth	Riffle	0	0	
Devils Canyon (PRM 153.9-166.1)					
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	0	0	0
	Side Channel	Backwater Pool		0	
		Glide	0	0	0
		Run		0	
	Side Slough Beaver Complex	Backwater Pool	0		0
		Beaver Pond	0	0	0
		Glide		0	0
		Pool		0	0
		Riffle		0	0
		Run			0
	Tributary	Glide	0.17	0	0
		Pool	0		0
		Riffle	0		0
		Run	0		0
	Tributary Mouth	Glide		0	0
		Rapid			0
		Riffle	0	0	0
		Run		0	0
	Upland Slough	Glide			0
	Upland Slough Beaver Complex	Beaver Pond	0	0	0.02
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	0	0	0
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Backwater Pool			0
		Glide	0	0	
		Pool		0	
		Riffle		0	
	Tributary	Backwater Pool			0
		Glide	0	0	

Table E87. Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
			Early Summer	Late Summer	Fall
MR-7 (cont.)	Tributary (cont.)	Pool	0.71	0	
		Riffle	0.50		0
		Run			0
	Tributary Mouth	Cascade	0		
		Riffle	0		
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Glide	0	0	
		Pool			0
		Run	0		0
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			0
		Glide		0	0
		Pool		0	0
		Riffle		0	0
	Side Slough	Glide	0	0	0
		Pool			0
		Run		0	
	Tributary	Glide		0	
		Pool		0	0
		Riffle		0	0.33
	Upland Slough Beaver Complex	Backwater Pool		0	
		Beaver Pond			0
		Glide	0	0	0
		Run		0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E88. Average CPUE (fish per hour of shocking time) for humpback whitefish using boat electrofishing in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, humpback		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0	0	0
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle			0
MR-2 (PRM 169.6-184.6)	FA	Main Channel	Run	0	0	0
	Non-FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run	0	0	0
		Side Channel	Run	0		0
		Split Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume			0
		Main Channel	Run		0	0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	FA	Main Channel	Run		0	
		Multiple Split Main Channel	Run		0	0
		Split Main Channel	Run			0
	Non-FA	Backwater	Backwater Pool	25.1		0
		Main Channel	Run	0	0	0
		Tributary Mouth	Run	0	0	0
MR-7 (PRM 107.8-122.7)	FA	Main Channel	Run		0	0
		Split Main Channel	Run		0	0
	Non-FA	Backwater	Backwater Pool	12.5		
		Main Channel	Run	0		0
		Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Glide	0		
			Run	0	0	0
		Side Channel	Riffle			0
			Run	0	0	
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Glide	0		0
			Pool	0	0	0
			Run		0	
		Split Main Channel	Run	0	0	0
		Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E89. Average CPUE (fish per 1,000 square meters) for humpback whitefish using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, humpback		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0		
		Side Channel	Riffle	0		
			Run	0	0	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		0	
		Clearwater Plume	Clearwater Plume	0	0	
		Side Channel	Glide	0		
		Side Slough	Glide		0	
			Run		0	
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Glide	0		
			Run		0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	2.2	1.0	
		Clearwater Plume	Clearwater Plume	0	0.3	
		Main Channel	Run	0	0	
		Multiple Split Main Channel	Riffle		0	
			Run	0	0	0
		Side Channel	Backwater Pool	0	0	
			Glide	0	0	0
			Riffle	0	0	
			Run		0	0
		Side Slough Beaver Complex	Backwater Pool	0		
			Beaver Pond		0	0
			Glide	0		0
			Pool		0	
		Split Main Channel	Run			0
		Tributary	Glide		0	0
			Pool	0		
		Tributary Mouth	Pool	0		
			Riffle		0	
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle		0	
		Tributary Mouth	Run	0		
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	33.6		
		Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run		0	

Table E89-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, humpback		
				Early Summer	Late Summer	Fall
MR-7 (cont.)	FA	Side Channel	Backwater Pool			0
			Glide	0	0	
			Pool	0	0	
		Split Main Channel	Riffle	0	0	
			Run	0	0	
		Tributary	Backwater Pool			0
			Pool	0		
			Riffle			0
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
			Glide	0	0	
			Run	0		
	Non-FA	Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			0
		Side Channel	Backwater Pool	0		0
			Glide			0
			Pool	0	0	
			Riffle		0	0
			Run	0	0	
		Side Slough	Glide	0	0	0
			Pool			0
			Run		0	
		Upland Slough Beaver Complex	Glide	0	0	0
			Run		0	0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0		0
		Upland Slough	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E90. Average CPUE (fish per trap) for humpback whitefish using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, humpback		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	0	0	
		Clearwater Plume	Clearwater Plume			0
Devils Canyon (PRM 153.9-166.1)						
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		0	
		Side Channel	Glide	0	0	0
			Riffle	0	0	
		Side Slough Beaver Complex	Beaver Pond	0		
			Glide		0	
			Pool	0	0	
		Upland Slough Beaver Complex	Beaver Pond	0		0
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	2.0		0
		Split Main Channel	Riffle	0		
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		0	0
		Side Slough	Glide		0	0
			Pool			0
		Tributary	Pool			0
	Non-FA	Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E91. Average CPUE (fish per hour of shocking time) for round whitefish using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	3.1	0	0
			Side Channel	Glide			24.3
				Riffle	0	0	3.3
				Run	3	0	4.3
		Non-FA	Main Channel	Run	0	0	1.6
			Side Channel	Riffle			7.6
				Run	0	0	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	5	0	
			Side Channel	Glide	0	0	0
			Side Slough	Backwater Pool	0	0	
				Glide		0	0
			Tributary Mouth	Cascade			0
				Riffle		0	
		Non-FA	Backwater	Backwater Pool	0	0	0
			Clearwater Plume	Clearwater Plume	0	0	0
			Main Channel	Run	5.1	7.2	0
			Side Channel	Glide			0
				Riffle	0	0	
				Run	0	0	0
			Side Slough	Pool	0		0
				Riffle		0	
				Run	0	0	10.5
			Split Main Channel	Run	3.2	13.8	0
			Tributary Mouth	Riffle		0	0
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	0		0
				Pool	0	0	0
				Rapid	0		
				Riffle	0	0	0

Table E91-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
				Riffle			0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide	0		
				Riffle	0	0	0
				Run			0
		Non-FA	Main Channel	Run	0	0	16.4
			Side Slough	Glide	0.7	2.5	6.8
				Pool			0
			Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			0
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	7.1	0
				Run	0	0	0
			Side Channel	Backwater Pool	0		
				Glide	0	0	0
				Riffle	3.4	2.8	0
				Run	0		0
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	0		0
				Pool			0
				Riffle	0		
				Run	0		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			0
				Riffle	0		0
				Run			0
			Tributary	Glide	0		0
				Pool	0		

Table E91-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	0		
			Upland Slough	Glide			0
			Upland Slough Beaver Complex	Beaver Pond	0		0
		Non-FA	Backwater	Backwater Pool	0	4.3	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Pool	0	14.1	0
				Riffle	1.3	3.2	
			Side Slough	Glide		0	0
				Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	0	0	0
			Tributary	Boulder Riffle	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	3.1
			Side Channel	Backwater Pool			2.6
				Glide	0	0	
				Pool	0	0	
				Riffle		0	
			Split Main Channel	Riffle	0	0	
				Run	0	8.9	8
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Tributary	Glide		0	
				Pool		0	
				Riffle	0		
				Run			0
			Upland Slough Beaver Complex	Pool			0
				Run			0
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			0

Table E91-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	0		
			Side Channel	Glide			0
				Riffle	3.1	0	0
				Run	0	27.5	0
			Side Slough	Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	0	0	5.2
			Tributary Mouth	Riffle	0		0
			Tributary	Run	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0		
				Run	0	0	0.9
			Side Channel	Glide			0
				Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	
			Side Slough	Glide	0		
				Riffle	0	0	
			Tributary	Riffle	0		
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Glide	0		0
				Pool	0	0	0
				Run		3.1	0
			Side Slough	Glide			0
				Pool	0	0	0
			Split Main Channel	Run	0	0	0
			Upland Slough	Glide	0	0	0
				Pool	0	0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E92. Average CPUE (fish per hour of shocking time) for round whitefish using boat electrofishing in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0	0	10.7
	Non-FA	Main Channel	Run	0	0	22.7
		Side Channel	Riffle			5.8
MR-2 (PRM 169.6-184.6)	FA	Main Channel	Run	0	2.4	3.1
	Non-FA	Clearwater Plume	Clearwater Plume	7.2	13.4	1.7
		Main Channel	Run	0	23.8	0
		Side Channel	Run	0		34.9
		Split Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume			0
		Main Channel	Run		0	0
	Non-FA	Main Channel	Run	0	0	22.5
		Split Main Channel	Run	0	0	20.0
MR-6 (PRM 122.7-148.4)	FA	Main Channel	Run		0	
		Multiple Split Main Channel	Run		0	0
		Split Main Channel	Run			0
	Non-FA	Backwater	Backwater Pool	15.0		0
		Main Channel	Run	0	0	13.8
		Tributary Mouth	Run	0	0	18.7
MR-7 (PRM 107.8-122.7)	FA	Main Channel	Run		0	10.7
		Split Main Channel	Run		0	4.0
	Non-FA	Backwater	Backwater Pool	15.6		
		Main Channel	Run	0		0
		Split Main Channel	Run	7.9	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Glide	0		
			Run	0	0	2.2
		Side Channel	Riffle			41.5
			Run	0	0	
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Glide	0		9.3
			Pool	0	0	0
			Run		0	
		Split Main Channel	Run	0	0	0
		Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E93. Average CPUE (fish per 1,000 square meters) for round whitefish using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0		
		Side Channel	Riffle	0		
			Run	0	0	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		1.9	
		Clearwater Plume	Clearwater Plume	0	31.3	
		Side Channel	Glide	0		
		Side Slough	Glide		5.7	
			Run		0.8	
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Glide	0		
			Run		0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	5.1	2.0	
		Clearwater Plume	Clearwater Plume	1.7	6.3	
		Main Channel	Run	0	0.9	
		Multiple Split Main Channel	Riffle		0	
			Run	0	0	1.5
		Side Channel	Backwater Pool	0	9.2	
			Glide	1.3	1.7	0
			Riffle	0	0	
			Run		0	0
		Side Slough Beaver Complex	Backwater Pool	0		
			Beaver Pond		1.7	0
			Glide	0		0
			Pool		0	
		Split Main Channel	Run			5.0
		Tributary	Glide		2.8	0
			Pool	0		
		Tributary Mouth	Pool	0		
			Riffle		0	
		Upland Slough Beaver Complex	Beaver Pond	0	0.4	0
	Non-FA	Main Channel	Run	0	0	6.7
		Side Channel	Riffle		2.2	
		Tributary Mouth	Run	0		
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	249.5		
		Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run		0	

Table E93-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
				Early Summer	Late Summer	Fall
MR-7 (cont.)	FA	Side Channel	Backwater Pool			2.4
			Glide	0	0	
			Pool	0	0	
		Split Main Channel	Riffle	0	0	
			Run	0	1.0	
		Tributary	Backwater Pool			0
			Pool	0		
			Riffle			0
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
			Glide	55.6	0	
			Run	0		
	Non-FA	Split Main Channel	Run	0	0	10.4
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			1.6
		Side Channel	Backwater Pool	0		0
			Glide			5.9
			Pool	5.0	0	
			Riffle		0	3.3
			Run	0	0	
		Side Slough	Glide	0	0.2	0
			Pool			0
			Run		0	
		Upland Slough Beaver Complex	Glide	0	0	0
			Run		0	0
	Non-FA	Main Channel	Run	0	0	6.7
		Split Main Channel	Run	0		0
		Upland Slough	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E94. Average CPUE (fish per 1,000 square meters) for round whitefish using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Glide			0
				Pool			0
			Side Slough	Backwater Pool	0	0.2	
				Glide		0	0
				Pool	0		
			Tributary Mouth	Cascade			0
				Riffle	0	0	
		Non-FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume		0	
			Side Channel	Run	0		
			Side Slough	Pool	0		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	1.0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	0		0
				Riffle	0		0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	1.7	0	0
			Side Channel	Backwater Pool	0		
				Run			0
			Side Slough Beaver Complex	Backwater Pool	0		0
				Beaver Pond	0	0	0
				Glide	0	0	0

TableE94-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Slough Beaver Complex	Pool	0	0	0
				Riffle	0	0	0
				Run	0		0
			Tributary	Glide	0	0	0
				Pool	0		0
				Riffle	0		0
				Run	0		0
			Tributary Mouth	Glide	0	0	0
				Pool	0		
				Riffle	0	0	0
				Run		0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Non-FA	Side Slough	Pool	0	0	0
			Tributary	Boulder Riffle		0	
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume	0	0	0
			Tributary	Backwater Pool			0
				Glide		0	
				Pool	0	0	
				Riffle	0	0	0
				Run			0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
				Glide	0	0	
				Pool			0
				Run	22.2		0
		Non-FA	Upland Slough	Pool	0	0	0

Table E94-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
					Early Summer	Late Summer	Fall
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0		0
				Glide		0	0
				Riffle	0	0	0
			Side Slough	Glide	0	0	0
				Pool			0
				Riffle	0	0	0
				Run		0	
			Tributary	Glide	0	0	
				Pool	0	0	0
				Riffle	0	0	0
			Upland Slough Beaver Complex	Backwater Pool	0		
				Beaver Pond	0		0
				Glide	0	0	0
				Run		0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E95. Average CPUE (fish per trap) for round whitefish using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	16.0	0	
		Clearwater Plume	Clearwater Plume			1.0
Devils Canyon (PRM 153.9-166.1)						
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		0	
		Side Channel	Glide	0	0.5	0
			Riffle	0	0	
		Side Slough Beaver Complex	Beaver Pond	0		
			Glide		0	
			Pool	0	0	
		Upland Slough Beaver Complex	Beaver Pond	0		2.5
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	1.0		0
		Split Main Channel	Riffle	0		
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		5.0	4.0
		Side Slough	Glide		2.0	0
			Pool			0
		Tributary	Pool			2.0
	Non-FA	Upland Slough	Pool	4.0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E96. Average CPUE (fish per trap) for round whitefish using hoop trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Main Channel	Run	0		0
	Side Channel	Glide			0
		Run			0
MR-2 (PRM 169.6-184.6)	Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)					
MR-5 (PRM 148.1-153.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run	0	0	
MR-6 (PRM 122.7-148.4)	Main Channel	Run	0	0	
	Multiple Split Main Channel	Run	0	0	0
	Side Slough Beaver Complex	Beaver Pond			0
	Split Main Channel	Run			0
MR-7 (PRM 107.8-122.7)	Main Channel	Run	0	0	0
	Split Main Channel	Run	0	0	0.1
	Upland Slough Beaver Complex	Beaver Pond		0	
MR-8 (PRM 102.4-107.8)	Main Channel	Glide	0		
		Run	0	0	0.1
	Side Channel	Pool	0	0	
	Tributary	Pool	0	0	
	Upland Slough Beaver Complex	Backwater Pool	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E97. Average CPUE (fish per trap) for round whitefish using minnow trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			0
		Riffle			0
		Run	0		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	0	0	
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel	Glide			0
	Side Slough	Backwater Pool	0	0	
		Glide		0	0
		Pool	0.05		
	Tributary Mouth	Riffle	0	0	
Devils Canyon (PRM 153.9-166.1)					
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	0	0	0
	Side Channel	Backwater Pool		0	
		Glide	0	0	0
		Run		0	
	Side Slough Beaver Complex	Backwater Pool	0		0
		Beaver Pond	0	0	0
		Glide		0	0
		Pool		0	0
		Riffle		0	0
		Run			0
	Tributary	Glide	0	0	0
		Pool	0		0
		Riffle	0		0
		Run	0		0
	Tributary Mouth	Glide		0	0
		Rapid			0
		Riffle	0	0	0
		Run		0	0
	Upland Slough	Glide			0
	Upland Slough Beaver Complex	Beaver Pond	0	0	0.06
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	0	0.05	0
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Backwater Pool			0
		Glide	0	0	
		Pool		0	
		Riffle		0	
	Tributary	Backwater Pool			0

Table E97. Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
			Early Summer	Late Summer	Fall
MR-7 (cont.)	Tributary (cont.)	Glide	0	0	
		Pool	0	0	
		Riffle	0		0
		Run			0
	Tributary Mouth	Cascade	0		
		Riffle	0		
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Glide	0	0	
		Pool			0
		Run	0.25		0
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			0
		Glide		0	0
		Pool		0	0
		Riffle		0	0
	Side Slough	Glide	0	0	0
		Pool			0
		Run		0	
	Tributary	Glide		0	
		Pool		0	0
		Riffle		0	0
	Upland Slough Beaver Complex	Backwater Pool		0	
		Beaver Pond			0
		Glide	0	0	0
		Run		0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

Table E98. Average CPUE (fish per hour of shocking time) for undifferentiated whitefish species using backpack electrofishing in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-1 (PRM 184.6-187.1)	Susitna River	FA	Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Riffle			0
				Run	0	0	
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Main Channel	Run	0	0	
			Side Channel	Glide	0	0	0
			Side Slough	Backwater Pool	33.6	0	
				Glide		0	0
			Tributary Mouth	Cascade			0
				Riffle		0	
		Non-FA	Backwater	Backwater Pool	0	0	0
			Clearwater Plume	Clearwater Plume	2.3	0	0
			Main Channel	Run	0	0	0
			Side Channel	Glide			0
				Riffle	0	0	
				Run	0	0	0
			Side Slough	Pool	0		0
				Riffle		0	
				Run	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle		4.2	0
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Boulder Riffle	0		0
				Pool	0	0	0
				Rapid	0		
				Riffle	0	0	0

Table E98-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
					Early Summer	Late Summer	Fall
MR-2 (cont.)	Fog Creek Tributary[1]	Non-FA	Tributary	Run			0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
				Riffle			0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide	0		
				Riffle	0	0	0
				Run			0
		Non-FA	Main Channel	Run	0	0	0
			Side Slough	Glide	0	0	0
				Pool			0
			Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool			0
			Main Channel	Run	0	0	
			Multiple Split Main Channel	Riffle	0	0	0
				Run	0	0	0
			Side Channel	Backwater Pool	10.8		
				Glide	0	0	0
				Riffle	0	0	0
				Run	0		0
			Side Slough Beaver Complex	Beaver Pond			0
				Glide	0		0
				Pool			0
				Riffle	0		
				Run	0		
			Split Main Channel	Run			0
			Tributary Mouth	Glide			0
				Riffle	0		0
				Run			0
			Tributary	Glide	0		0
				Pool	0		

Table E98-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Tributary	Riffle	0		
				Run	0		
			Upland Slough	Glide			0
			Upland Slough Beaver Complex	Beaver Pond	0		0
		Non-FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Pool	0	0	0
				Riffle	0	0	
			Side Slough	Glide		0	0
				Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Tributary Mouth	Run	0	0	0
			Tributary	Boulder Riffle	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Clearwater Plume	Clearwater Plume		0	
			Main Channel	Run	0	0	0
			Side Channel	Backwater Pool			0
				Glide	11.2	0	
				Pool	5.5	0	
				Riffle		0	
			Split Main Channel	Riffle	0	0	
				Run	0	0	3.7
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Tributary	Glide		0	
				Pool		0	
				Riffle	0		
				Run			0
			Upland Slough Beaver Complex	Pool			0
				Run			0
		Non-FA	Clearwater Plume	Clearwater Plume			0
			Main Channel	Glide			0

Table E98-Continued.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
					Early Summer	Late Summer	Fall
MR-7 (cont.)	Susitna River	Non-FA	Main Channel	Run	0		
			Side Channel	Glide			0
				Riffle	0	0	0
				Run	0	0	0
			Side Slough	Pool	0	0	0
			Side Slough Beaver Complex	Beaver Pond	0	0	0
			Split Main Channel	Run	0	0	0
			Tributary Mouth	Riffle	0		0
			Tributary	Run	0	0	0
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Main Channel	Glide	0		
				Run	0	0	0
			Side Channel	Glide			0
				Pool	0	0	0
				Riffle	0	0	0
				Run	4.2	0	
			Side Slough	Glide	0		
				Riffle	0	0	
			Tributary	Riffle	0		
		Non-FA	Main Channel	Run	0	0	0
			Side Channel	Glide	0		0
				Pool	0	0	0
				Run		0	0
			Side Slough	Glide			0
				Pool	0	0	0
			Split Main Channel	Run	0	0	0
			Upland Slough	Glide	0	0	0
				Pool	0	0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E99. Average CPUE (fish per hour of shocking time) for undifferentiated whitefish species using boat electrofishing in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0	0	8.2
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle			0
MR-2 (PRM 169.6-184.6)	FA	Main Channel	Run	0	0	3.1
	Non-FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run	0	0	0
		Side Channel	Run	0		0
		Split Main Channel	Run	0	0	0
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume			0
		Main Channel	Run		0	0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0	0	0
MR-6 (PRM 122.7-148.4)	FA	Main Channel	Run		0	
		Multiple Split Main Channel	Run		0	0
		Split Main Channel	Run			0
	Non-FA	Backwater	Backwater Pool	0		0
		Main Channel	Run	0	0	0
		Tributary Mouth	Run	0	0	0
MR-7 (PRM 107.8-122.7)	FA	Main Channel	Run		0	0
		Split Main Channel	Run		0	0
	Non-FA	Backwater	Backwater Pool	0		
		Main Channel	Run	0		0
		Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Glide	0		
			Run	0	0	0
		Side Channel	Riffle			0
			Run	0	0	
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Glide	0		0
			Pool	0	0	0
			Run		0	
		Split Main Channel	Run	0	0	0
		Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E100. Average CPUE (fish per 1,000 square meters) for undifferentiated whitefish species using seining in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-1 (PRM 184.6-187.1)	FA	Main Channel	Run	0		
		Side Channel	Riffle	0		
			Run	0	0	0
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool		0	
		Clearwater Plume	Clearwater Plume	0	15.6	
		Side Channel	Glide	0		
		Side Slough	Glide		0	
			Run		0	
Devils Canyon (PRM 153.9-166.1)						
MR-5 (PRM 148.1-153.9)	FA	Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Glide	0		
			Run		0	
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool	2.9	4.8	
		Clearwater Plume	Clearwater Plume	0	1.6	
		Main Channel	Run	0	0	
		Multiple Split Main Channel	Riffle		0	
			Run	0	0	0
		Side Channel	Backwater Pool	0	0	
			Glide	6.5	0	0
			Riffle	0	0	
			Run		0	0
		Side Slough Beaver Complex	Backwater Pool	0		
			Beaver Pond		0	0
			Glide	0		0
			Pool		0	
		Split Main Channel	Run			0
		Tributary	Glide		0	0
			Pool	0		
		Tributary Mouth	Pool	0		
			Riffle		0	
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
	Non-FA	Main Channel	Run	0	0	0
		Side Channel	Riffle		0	
		Tributary Mouth	Run	0		
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	16.8		
		Clearwater Plume	Clearwater Plume	0	0	0
		Main Channel	Run		0	

Table E100-Continued.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
				Early Summer	Late Summer	Fall
MR-7 (cont.)	FA	Side Channel	Backwater Pool			0
			Glide	2.0	0	
			Pool	0	0	
		Split Main Channel	Riffle	0	0	
			Run	0	0	
		Tributary	Backwater Pool			0
			Pool	0		
			Riffle			0
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
			Glide	0	0	
			Run	0		
	Non-FA	Split Main Channel	Run	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Main Channel	Run			0
		Side Channel	Backwater Pool	4.5		0
			Glide			3.9
			Pool	22.5	0	
			Riffle		0	0
			Run	0	0	
		Side Slough	Glide	6.4	1.5	0
			Pool			0
			Run		0	
		Upland Slough Beaver Complex	Glide	0	0	0
			Run		0	0
	Non-FA	Main Channel	Run	0	0	0
		Split Main Channel	Run	0		0
		Upland Slough	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E101. Average CPUE (fish per 1,000 square meters) for undifferentiated whitefish species using snorkeling in the Middle River, 2013.

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
					Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)							
MR-2 (PRM 169.6-184.6)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Glide			0
				Pool			0
			Side Slough	Backwater Pool	4.5	0	
				Glide		0	0
				Pool	0		
			Tributary Mouth	Cascade			0
				Riffle	0	0	
		Non-FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume		0	
			Side Channel	Run	0		
			Side Slough	Pool	0		
	Tsusena Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
	Fog Creek[1]	Non-FA	Tributary	Pool	0	0	0
				Riffle	0	0	0
				Run	0	0	0
	Fog Creek Tributary[1]	Non-FA	Tributary	Pool	0		0
				Riffle	0		0
Devils Canyon Upper Extent (PRM 166.1)							
MR-4 (PRM 153.9-166.1)	Chinook Creek[1]	Non-FA	Tributary	Boulder Riffle	0	0	0
Devils Canyon Lower Extent (PRM 153.9)							
MR-5 (PRM 148.1-153.9)	Susitna River	FA	Clearwater Plume	Clearwater Plume	0	0	
MR-6 (PRM 122.7-148.4)	Susitna River	FA	Backwater	Backwater Pool	0	0	
			Clearwater Plume	Clearwater Plume	0	0	0
			Side Channel	Backwater Pool	17.0		
				Run			0
			Side Slough Beaver Complex	Backwater Pool	0		0
				Beaver Pond	0	0	0

TableE101-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
					Early Summer	Late Summer	Fall
MR-6 (cont.)	Susitna River	FA	Side Slough Beaver Complex	Glide	0	0	0
				Pool	0	0	0
				Riffle	0	0	0
				Run	0		0
			Tributary	Glide	0	0	0
				Pool	0		0
				Riffle	0		0
				Run	0		0
			Tributary Mouth	Glide	0	0	0
				Pool	0		
				Riffle	0	4.1	0
				Run		0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Non-FA	Side Slough	Pool	0	0	0
			Tributary	Boulder Riffle		0	
			Upland Slough	Pool	0	0	0
			Upland Slough Beaver Complex	Beaver Pond	0	0	
MR-7 (PRM 107.8-122.7)	Susitna River	FA	Backwater	Backwater Pool	0		
			Clearwater Plume	Clearwater Plume	0	0	0
			Tributary	Backwater Pool			0
				Glide		0	
				Pool	0	0	
				Riffle	0	0	0
				Run			0
			Tributary Mouth	Cascade	0		
				Riffle	0		
			Upland Slough Beaver Complex	Beaver Pond	0	0	0
				Glide	0	0	
				Pool			0
				Run	0		0
		Non-FA	Upland Slough	Pool	0	0	0

Table E101-Continued

Geo-morphic Reach	Stream	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
					Early Summer	Late Summer	Fall
MR-8 (PRM 102.4-107.8)	Susitna River	FA	Side Channel	Backwater Pool	0		0
				Glide		0	0
				Riffle	0	0	0
			Side Slough	Glide	0.3	0	0
				Pool			0
				Riffle	0	0	0
				Run		0	
			Tributary	Glide	0	0	
				Pool	0	0	0
				Riffle	0	0	0
			Upland Slough Beaver Complex	Backwater Pool	0		
				Beaver Pond	0		0
				Glide	0	0	0
				Run		0	0

1. Tsusena Creek, Fog Creek, Fog Creek Tributary, and Chinook Creek were direct-sampling tributaries in which non-random site selection was used. See ISR Study 9.6 Section 4.4.2.2 for details.

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within tributaries or mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas, mainstem GRTS sampling outside of Focus Areas, and direct tributary sampling.

Table E102. Average CPUE (fish per trap) for undifferentiated whitefish species using fyke netting in the Middle River, 2013.

Geomorphic Reach	FA or Non-FA	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
				Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)						
MR-2 (PRM 169.6-184.6)	FA	Backwater	Backwater Pool	1.0	0	
		Clearwater Plume	Clearwater Plume			0
Devils Canyon (PRM 153.9-166.1)						
MR-6 (PRM 122.7-148.4)	FA	Backwater	Backwater Pool		0	
		Side Channel	Glide	0.5	0	0
			Riffle	0	0	
		Side Slough Beaver Complex	Beaver Pond	0		
			Glide		0	
			Pool	0	0	
		Upland Slough Beaver Complex	Beaver Pond	0		0
MR-7 (PRM 107.8-122.7)	FA	Backwater	Backwater Pool	1.0		0
		Split Main Channel	Riffle	0		
		Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-8 (PRM 102.4-107.8)	FA	Side Channel	Glide		0	1.0
		Side Slough	Glide		0	0
			Pool			0
		Tributary	Pool			0
	Non-FA	Upland Slough	Pool	0	0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas and mainstem GRTS sampling outside of Focus Areas.

Table E103. Average CPUE (fish per trap) for undifferentiated whitefish species using minnow trapping in the Middle River Focus Areas, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
			Early Summer	Late Summer	Fall
Proposed Watana Dam Location (PRM 187.1)					
MR-1 (PRM 184.6-187.1)	Side Channel	Glide			0
		Riffle			0
		Run	0		
MR-2 (PRM 169.6-184.6)	Backwater	Backwater Pool	0	0	
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel	Glide			0
	Side Slough	Backwater Pool	0.04	0	
		Glide		0	0
		Pool	0		
	Tributary Mouth	Riffle	0	0	
Devils Canyon (PRM 153.9-166.1)					
MR-6 (PRM 122.7-148.4)	Backwater	Backwater Pool	0	0	0
	Side Channel	Backwater Pool		0	
		Glide	0	0	0
		Run		0	
	Side Slough Beaver Complex	Backwater Pool	0		0
		Beaver Pond	0	0	0
		Glide		0	0
		Pool		0	0
		Riffle		0	0
		Run			0
	Tributary	Glide	0	0	0
		Pool	0		0
		Riffle	0		0
		Run	0		0
	Tributary Mouth	Glide		0	0
		Rapid			0
		Riffle	0	0	0
		Run		0	0
	Upland Slough	Glide			0
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
MR-7 (PRM 107.8-122.7)	Backwater	Backwater Pool	0	0	0
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Backwater Pool			0
		Glide	0	0	
		Pool		0	
		Riffle		0	
	Tributary	Backwater Pool			0

Table E103. Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
			Early Summer	Late Summer	Fall
MR-7 (cont.)	Tributary (cont.)	Glide	0	0	
		Pool	0	0	
		Riffle	0		0
		Run			0
	Tributary Mouth	Cascade	0		
		Riffle	0		
	Upland Slough Beaver Complex	Beaver Pond	0	0	0
		Glide	0	0	
		Pool			0
		Run	0		0
MR-8 (PRM 102.4-107.8)	Side Channel	Backwater Pool			0
		Glide		0	0
		Pool		0	0
		Riffle		0	0
	Side Slough	Glide	0	0	0
		Pool			0
		Run		0	
	Tributary	Glide		0	
		Pool		0	0
		Riffle		0	0
	Upland Slough Beaver Complex	Backwater Pool		0	
		Beaver Pond			0
		Glide	0	0	0
		Run		0	0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem GRTS sampling within Focus Areas.

3. LOWER RIVER CATCH PER UNIT EFFORT DATA

Table E104. Summary of relative abundance by capture method for main channel, off-channel, and tributary habitats of the Lower River, 2013.

			Main Channel							Off-Channel							Tributary							All
Species	Life Stage		Backpack Electrofishing (N=45; CPUE in fish/hour)	Boat Electrofishing (N=28; CPUE in fish/hour)	Snorkel (N=6; CPUE in fish/1,000 m^2)	Seine (N=54; CPUE in fish/1,000 m^2)	Minnow Trap (N=27; CPUE in fish/trap)	Hoop Trap (N=28; CPUE in fish/trap)		Backpack Electrofishing (N=13; CPUE in fish/hour)	Boat Electrofishing (N=9; CPUE in fish/hour)	Snorkel (N=4; CPUE in fish/1,000 m^2)	Seine (N=8; CPUE in fish/1,000 m^2)	Minnow Trap (N=16; CPUE in fish/trap)	Fyke Net (N=3; CPUE in fish/trap)	Hoop Trap (N=11; CPUE in fish/trap)		Backpack Electrofishing (N=4; CPUE in fish/hour)	Boat Electrofishing (N=3; CPUE in fish/hour)	Snorkel (N=9; CPUE in fish/1,000 m^2)	Seine (N=4; CPUE in fish/1,000 m^2)	Minnow Trap (N=12; CPUE in fish/trap)	Fyke Net (N=2; CPUE in fish/trap)	Hoop Trap (N=8; CPUE in fish/trap)	Percent of Sites with CPUE=0 (N=132; all methods)
Salmon, Chinook	adult	%CPUE=0			100%	100%	100%	96%				100%	100%	100%	100%	100%				89%	100%	100%	100%	100%	98%
		Max CPUE						1												2.5					
	juvenile	%CPUE=0	89%	100%	100%	85%	85%	89%		92%	89%	100%	50%	63%	33%	91%	100%	100%	100%	100%	58%	0%	63%	74%
		Max CPUE	43.7			17	0.1	1.5		2.4	5.9		20	0.5	11	2.5					0.4	2	8	
Salmon, chum	adult	%CPUE=0			83%	96%	100%	93%				100%	88%	100%	100%	91%				89%	100%	100%	100%	100%	94%
		Max CPUE			25	2.2		0.5					4.7			0.3				0.3					
	juvenile	%CPUE=0	98%	100%	100%	98%	100%	100%		92%	100%	100%	75%	88%	67%	91%	100%	100%	100%	100%	83%	100%	100%	92%
		Max CPUE	2			2.1				4.8			16	0.1	1	0.3					0.1			
Salmon, coho	adult	%CPUE=0			83%	96%	100%	100%				100%	75%	100%	100%	100%				100%	100%	100%	50%	100%	95%
		Max CPUE			62.5	1.7							5									2			
	juvenile	%CPUE=0	98%	100%	100%	91%	89%	89%		62%	100%	100%	88%	50%	100%	82%	100%	100%	100%	75%	50%	0%	38%	76%
		Max CPUE	8			18.9	0.2	1.5		21.1			5.6	0.5	45	45				1	0.5	10	3	
Salmon, pink	adult	%CPUE=0			100%	98%	100%	93%				100%	100%	100%	67%	91%				89%	100%	100%	100%	100%	94%
		Max CPUE				1.4		0.8							1	0.3				15					
	juvenile	%CPUE=0	100%	100%	100%	100%	100%	100%		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
		Max CPUE																						
Salmon, sockeye	adult	%CPUE=0			83%	98%	100%	96%				100%	100%	100%	100%	100%				89%	100%	100%	100%	100%	97%
		Max CPUE			1.3	1.7		0.3												1.3					
	juvenile	%CPUE=0	96%	100%	100%	78%	96%	100%		54%	100%	100%	38%	81%	33%	82%	75%	100%	100%	50%	75%	100%	100%	77%
		Max CPUE	4.2			6.7	0.1			69.2			280	0.5	10	1.5	3.6			3.1	0.3			
Arctic grayling	--	%CPUE=0	96%	89%	100%	89%	96%	100%		100%	89%	100%	75%	100%	67%	100%	100%	100%	100%	75%	92%	0%	100%	87%
		Max CPUE	7.8	8.6		3.5	0.1				5.9		1.2		1					1	<0.1	3		
Burbot	--	%CPUE=0	91%	86%	100%	85%	81%	54%		85%	78%	100%	88%	56%	67%	18%	75%	100%	100%	100%	92%	100%	50%	64%
		Max CPUE	4.5	19.7		2.1	0.1	2		10.6	47.6		0.5	0.5	9	2	7.1				<0.1		1	
Dolly Varden	--	%CPUE=0	96%	100%	100%	96%	100%	100%		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	100%	96%
		Max CPUE	5.2			1.7																2		
Lamprey	--	%CPUE=0	91%	96%	100%	100%	96%	64%		100%	78%	100%	100%	94%	33%	82%	75%	100%	100%	100%	67%	100%	100%	81%
		Max CPUE	28.6	8.9			0.1	9			8.7			<0.1	1	0.5	2.8				0.2			
Longnose sucker	--	%CPUE=0	51%	75%	100%	30%	70%	82%		77%	56%	100%	75%	44%	33%	36%	100%	100%	100%	75%	67%	0%	63%	37%
		Max CPUE	34.2	59.2		100	0.9	6		23.6	52.9		50	2.9	188	23				1	0.1	5	0.3	
Northern pike	--	%CPUE=0	100%	93%	100%	100%	100%	100%		100%	100%	100%	88%	100%	100%	100%	75%	100%	89%	100%	92%	100%	100%	97%
		Max CPUE		29.6									0.5				15.7		40		0.5			
Sculpin, undifferentiated	--	%CPUE=0	11%	100%	100%	56%	78%	89%		46%	100%	100%	38%	31%	33%	82%	100%	100%	100%	25%	33%	100%	88%	37%
		Max CPUE	1009.8			16.7	0.3	1		77.8			5	0.5	1	0.5	125.1			8.7	0.7		8	
Stickleback, ninespine	--	%CPUE=0	100%	100%	100%	94%	85%	100%		92%	100%	100%	100%	81%	33%	91%	100%	100%	100%	100%	92%	50%	88%	89%
		Max CPUE				34	1.5			17.7				0.1	1	0.3					<0.1	2	0.3	
Stickleback, threespine	--	%CPUE=0	91%	100%	100%	91%	56%	96%		38%	100%	100%	50%	25%	33%	82%	50%	100%	78%	75%	67%	100%	63%	66%
		Max CPUE	34.1			38	43.3	2		158.6			152.8	22.4	175	495	8.3		1.3	4.8	14.5		17	
Trout, rainbow	--	%CPUE=0	98%	100%	100%	96%	100%	100%		85%	100%	100%	100%	94%	100%	100%	75%	100%	100%	100%	92%	0%	100%	93%
		Max CPUE	5.2			1				74				1.3			5.7				0.1	7		
Whitefish, Bering cisco	--	%CPUE=0	98%	100%	100%	100%	100%	100%		100%	89%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	98%
		Max CPUE	3.1								8.7													
Whitefish, humpback	--	%CPUE=0	100%	100%	100%	98%	96%	100%		100%	89%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	98%
		Max CPUE				2.1	<0.1				29.4													
Whitefish, round	--	%CPUE=0	87%	96%	100%	69%	96%	93%		100%	100%	100%	88%	100%	67%	82%	100%	100%	100%	50%	100%	0%	88%	77%
		Max CPUE	12.9	6		12.5	1.2	1					1		3	0.5				3.1		1	10	
Whitefish, undifferentiated	--	%CPUE=0	93%	100%	100%	83%	96%	100%		92%	89%	100%	75%	100%	100%	91%	100%	100%	100%	100%	100%	100%	100%	89%
		Max CPUE	13.7			37.5	0.1			6.5	8.7		10			1.5								
Percent of Sites with No Fish			4%	21%	83%	11%	19%	18%		15%	0%	100%	0%	6%	0%	0%	0%	67%	67%	25%	0%	0%	0%	

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E105. Sample sizes and total effort used for calculating average CPUE for backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (pulse duration in seconds)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	1			1847		
		Run		1	1		858	2011
	Clearwater Plume	Clearwater Plume	1			279		
	Side Channel Complex	Riffle	1	1	1	1028	841	2205
		Run	1	1	1	667	933	90
	Side Slough	Backwater Pool	1			1509		
		Riffle		1	1		1250	749
		Run	1			564		
	Split Main Channel	Run	1			526		
	Tributary Mouth	Run			1			1297
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			1			246
	Main Channel	Run		1	1		157	738
	Multiple Split Main Channel	Run			2			1374
	Side Channel	Pool			1			1801
		Riffle		1			727	
		Run	2			1472		
	Side Channel Complex	Glide			2			1930
		Riffle		1			1608	
		Run	1	1		968	613	
	Split Main Channel	Run		2			2389	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	1			864		
		Pool		1			1977	
		Run	1	1	2	793	883	1105
	Clearwater Plume	Clearwater Plume	1	1		989	949	
	Side Channel	Glide	1	1		1006	614	
		Run	1			347		
	Side Channel Complex	Glide			1			446
	Split Main Channel	Run			1			712
	Tributary	Glide		1			1007	
		Pool	1			630		
	Upland Slough	Glide	1		2	651		787
	Upland Slough Beaver Complex	Beaver Pond	1	1		350	2674	
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	1			330		
	Main Channel	Run		1			333	

Table E105. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (pulse duration in seconds)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-4 (cont.)	Side Channel	Glide	1	1		546	808	
		Run			1			461
	Tributary	Glide	1			690		
	Upland Slough	Backwater Pool	1			555		
		Glide		1			611	
		Run	1		1	681		1156

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E106. Sample sizes and total effort used for calculating average CPUE for boat electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macro-habitat Type	Meso-habitat Type	Sample Size (*N*)			Total Effort (pulse duration in seconds)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Side Slough	Glide	1			4		
		Riffle			1			78
		Run		1			81	
	Split Main Channel	Run	1	1	1	24	168	245
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	1			113		
		Run		1	1		75	600
	Multiple Split Main Channel	Run	1		2	173		688
	Split Main Channel	Run	1	2		19	212	
LR-3 (PRM 44.6-65.6)	Multiple Split Main Channel	Run		1			46	
	Side Channel Complex	Glide		1			620	
	Split Main Channel	Run	1			345		
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	1	1		642	365	
	Main Channel	Run		2	2		568	647
	Multiple Split Main Channel	Run	1			159		
	Side Channel	Glide		1			548	
		Run	1	1	1	119	487	417
	Side Channel Complex	Run			1			404
	Side Slough	Glide	1			23		
		Run	1	2	2	596	478	1028
	Split Main Channel	Run	1			134		
	Tributary	Glide		1	1		1200	606
	Tributary Mouth	Glide			1			385

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E107. Sample sizes and total effort used for calculating average CPUE for seining in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (area sampled in square meters)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	1			900		
		Run			1			400
	Clearwater Plume	Clearwater Plume	2	1	1	1120	960	1260
	Side Channel Complex	Riffle	1	1		270	150	
		Run	1		1	600		800
	Side Slough	Pool		1	1		810	640
		Riffle		1	1		720	960
		Run	1			600		
	Split Main Channel	Run	1	1	1	400	450	840
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	1			2000		
		Run		1	1		600	800
	Multiple Split Main Channel	Run	1		1	1200		600
	Side Channel	Riffle		1			600	
		Run	2			2090		
	Side Channel Complex	Glide			2			1640
		Run	1			300		
	Split Main Channel	Run	1	1		1600	600	
	Tributary	Run			1			1040
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	1	1		1000	900	
	Bar Island Complex	Backwater Pool	1			840		
		Pool		1			720	
		Run	1	1	2	420	1050	540
	Clearwater Plume	Clearwater Plume	2	1	1	1820	1280	1170
	Multiple Split Main Channel	Run		1			1000	
	Side Channel	Glide	1	1		1080	720	
	Side Channel Complex	Glide		1	1		1000	360
		Riffle			1			2000
	Split Main Channel	Run	1		1	2000		1200
	Tributary	Riffle	1			840		
		Run			1			240
	Tributary Mouth	Run			1			980
	Upland Slough	Glide		1	1		200	360
LR-4 (PRM 32.3-44.6)	Main Channel	Run		2	1		1600	640
	Multiple Split Main Channel	Run	1			1800		
	Side Channel	Glide		1			640	
		Run	1	1		400	600	

Table E107. Continued.

Geo-	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)	Total Effort (area sampled in

morphic Reach						square meters)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-4 (cont.)	Side Channel Complex	Run			1			480
	Side Slough	Run	1			2000		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E108. Sample sizes and total effort used for calculating average CPUE for snorkeling in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (area sampled in square meters)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		1			800	
	Side Slough	Backwater Pool	1			840		
		Pool		1			1600	
		Riffle		1			560	
		Run	1			480		
	Tributary	Glide	1	1		800	1600	
		Run			1			4000
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume	1		1	1200		1000
	Tributary	Glide	1			2000		
		Run			1			1000
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		1			120	
	Tributary	Glide		2			1000	
		Riffle	1			1200		
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	1	1		3000	3000	
	Tributary	Glide	1			100		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E109. Sample sizes and total effort used for calculating average CPUE for fyke netting in the Lower River, 2013.

Geo-morphic Reach	Macro-habitat Type	Meso-habitat Type	Sample Size (*N*)			Total Effort (# of nets set overnight)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	1			1		
		Glide		1			1	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			1			1
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		1			1	
		Run			1			1

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E110. Sample sizes and total effort used for calculating average CPUE for hoop trapping in the Lower River, 2013.

Geo-morphic Reach	Macro-habitat Type	Meso-habitat Type	Sample Size (*N*)			Total Effort (# of nets set overnight)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		2	1		4	1
	Side Channel Complex	Riffle			1			2
		Run		1			4	
	Side Slough	Glide	1			4		
		Pool			1			2
		Riffle			1			4
		Run		1			4	
	Split Main Channel	Run			1			2
	Tributary	Glide		1			3	
		Run			2			4
	Tributary Mouth	Run			1			5
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		1			1	
	Side Channel	Pool			1			2
	Side Channel Complex	Glide			1			3
		Riffle		1			1	
		Run		1			3	
	Split Main Channel	Run		1			1	
	Tributary	Glide		1			1	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		1	1		3	2
	Side Channel	Glide			1			4
		Run		1			2	
	Side Channel Complex	Glide		1			3	
		Riffle			1			2
	Tributary	Run			1			1
	Tributary Mouth	Run			1			4
	Upland Slough	Glide		1			4	
	Upland Slough Beaver Complex	Beaver Pond		1			1	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			1			1
	Clearwater Plume	Clearwater Plume		1			4	
	Main Channel	Run		2	2		4	6
	Side Channel	Glide		1			2	
		Run		1	1		3	2
	Side Channel Complex	Run			1			4

Table E110. Continued.

Geo-morphic Reach	Macro-habitat Type	Meso-habitat Type	Sample Size (*N*)			Total Effort (# of nets set overnight)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-4 (cont.)	Side Slough	Run	1	2	2	2	4	8
	Tributary Mouth	Glide			1			4

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E111. Sample sizes and total effort used for calculating average CPUE for minnow trapping in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (# of traps set overnight)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			1			8
	Side Channel Complex	Riffle			1			16
	Side Slough	Backwater Pool	1			16		
		Glide	1			8		
		Pool		1	2		16	39
	Tributary	Alcove	1			32		
		Glide		2			56	
		Run			2			40
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		1			20	
	Side Channel	Pool			1			24
	Side Channel Complex	Glide			1			8
		Riffle		1			20	
		Run	1	1		9	8	
	Tributary	Glide	1	1		39	20	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	1	1	1	20	18	40
	Bar Island Complex	Pool		1			20	
		Run	1	1		20	20	
	Clearwater Plume	Clearwater Plume			1			16
	Side Channel	Glide			1			20
		Run	1	1		18	20	
	Side Channel Complex	Riffle			1			8
	Tributary	Glide		1			24	
		Riffle	1			24		
		Run			1			30
	Upland Slough	Glide	1	1	1	40	20	39
	Upland Slough Beaver Complex	Beaver Pond	1	1		10	20	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	2	2	2	59	44	64
	Clearwater Plume	Clearwater Plume	1			20		
	Side Channel	Glide	1			8		
	Tributary	Glide	1	1		20	20	

Table E111. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Sample Size (*N*)			Total Effort (# of traps set overnight)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-4 (cont.)	Upland Slough	Backwater Pool	1			10		
		Glide		2			40	
		Run	1		2	10		39

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E112. Average CPUE (fish per hour of shocking time) for Chinook salmon using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	0
	Clearwater Plume	Clearwater Plume	12.9		
	Side Channel Complex	Riffle	3.5	0	4.9
		Run	0	0	0
	Side Slough	Backwater Pool	2.4		
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			0
	Side Channel	Pool			0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	43.7	0	
	Side Channel	Glide	7.2	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Pool	0		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E112. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			0
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E113. Average CPUE (fish per hour of shocking time) for Chinook salmon using boat electrofishing in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Side Slough	Glide	0		
		Riffle			0
		Run		0	
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Split Main Channel	Run	0	0	
LR-3 (PRM 44.6-65.6)	Multiple Split Main Channel	Run		0	
	Side Channel Complex	Glide		0	
	Split Main Channel	Run	0		
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0	0	
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	0
	Side Channel Complex	Run			0
	Side Slough	Glide	0		
		Run	0	0	2.9
	Split Main Channel	Run	0		
	Tributary	Glide		0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E114. Average CPUE (fish per 1,000 square meters) for Chinook salmon using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run			0
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel Complex	Riffle	0	0	
		Run	0		0
	Side Slough	Pool		1.2	0
		Riffle		1.4	0
		Run	6.7		
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	2.5
	Multiple Split Main Channel	Run	0		0
	Side Channel	Riffle		5.0	
		Run	0		
	Side Channel Complex	Glide			1.0
		Run	0		
	Split Main Channel	Run	0	0	
	Tributary	Run			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	
	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	11.3	0	0
	Multiple Split Main Channel	Run		0	
	Side Channel	Glide	15.7	1.4	
	Side Channel Complex	Glide		0	0
		Riffle			0.5
	Split Main Channel	Run	0		0
	Tributary	Riffle	0		
		Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		20.0	0
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	
	Side Channel Complex	Run			0
	Side Slough	Run	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E115. Average CPUE (fish per 1,000 square meters) for Chinook salmon using snorkeling in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (adult)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0	
	Side Slough	Backwater Pool	0		
		Pool		0	
		Riffle		0	
		Run	0		
	Tributary	Glide	2.5	0	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume	0		0
	Tributary	Glide	0		
		Run			0
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	
	Tributary	Glide		0	
		Riffle	0		
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	
	Tributary	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E116. Average CPUE (fish per trap) for Chinook salmon using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	2.0		
		Glide		2.0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		11.0	
		Run			2.0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E117. Average CPUE (fish per trap) for Chinook salmon using hoop trapping in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (adult)			Salmon, Chinook (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0	0		0.3	0
	Side Channel Complex	Riffle			0			0
		Run		0			0	
	Side Slough	Glide	0			0		
		Pool			0			0
		Riffle			0			0
		Run		0			0	
	Split Main Channel	Run			0			0
	Tributary	Glide		0			6.7	
		Run			0			0
	Tributary Mouth	Run			0			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		1.0			1.0	
	Side Channel	Pool			0			0
	Side Channel Complex	Glide			0			0
		Riffle		0			0	
		Run		0			0	
	Split Main Channel	Run		0			0	
	Tributary	Glide		0			8.0	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	0		0	0
	Side Channel	Glide			0			0
		Run		0			0	
	Side Channel Complex	Glide		0			0	
		Riffle			0			1.5
	Tributary	Run			0			2.0
	Tributary Mouth	Run			0			0
	Upland Slough	Glide		0			2.5	
	Upland Slough Beaver Complex	Beaver Pond		0			0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			0			0
	Clearwater Plume	Clearwater Plume		0			0	
	Main Channel	Run		0	0		0	0
	Side Channel	Glide		0			0	
		Run		0	0		0	0

Table E117. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (adult)			Salmon, Chinook (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-4 (cont.)	Side Channel Complex	Run			0			0
	Side Slough	Run	0	0	0	0	0	0
	Tributary Mouth	Glide			0			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E118. Average CPUE (fish per trap) for Chinook salmon using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0.06
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0	0
	Tributary	Alcove	0		
		Glide		0.12	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0.10	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Tributary	Glide	0.44	0.20	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0.05	0	0
	Bar Island Complex	Pool		0	
		Run	0	0	
	Clearwater Plume	Clearwater Plume			0.06
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0	
		Riffle	0.21		
		Run			0
	Upland Slough	Glide	0.08	0	0.03
	Upland Slough Beaver Complex	Beaver Pond	0	0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	0.10		
		Glide		0.26	
		Run	0		0.03

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E119. Average CPUE (fish per hour of shocking time) for chum salmon using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, chum (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	0	0	0
		Run	0	0	0
	Side Slough	Backwater Pool	4.8		
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			0
	Side Channel	Pool			2.0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	
	Side Channel	Glide	0	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Pool	0		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E119. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, chum (juvenile)		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			0
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E120. Average CPUE (fish per 1,000 square meters) for chum salmon using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, chum (adult)			Salmon, chum (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0			0		
		Run			0			0
	Clearwater Plume	Clearwater Plume	0	0	0.8	0	0	0
	Side Channel Complex	Riffle	0	0		0	0	
		Run	0		0	0		0
	Side Slough	Pool		0	4.7		16.0	0
		Riffle		0	0		0	0
		Run	0			3.3		
	Split Main Channel	Run	0	2.2	0	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0			0		
		Run		0	0		0	0
	Multiple Split Main Channel	Run	0		0	0		0
	Side Channel	Riffle		0			0	
		Run	0			0		
	Side Channel Complex	Glide			0			0
		Run	0			0		
	Split Main Channel	Run	0	0		0	0	
	Tributary	Run			0			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0		0	0	
	Bar Island Complex	Backwater Pool	0			0		
		Pool		0			0	
		Run	0	0	0	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	0	0	0	0
	Multiple Split Main Channel	Run		0			0	
	Side Channel	Glide	0	0		0	0	
	Side Channel Complex	Glide		0	0		0	0
		Riffle			0			0
	Split Main Channel	Run	0		0	0		0
	Tributary	Riffle	0			0		
		Run			0			0
	Tributary Mouth	Run			0			0
	Upland Slough	Glide		0	0		0	0

Table E120-Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, chum (adult)			Salmon, chum (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0	0		0	0
	Multiple Split Main Channel	Run	0			0		
	Side Channel	Glide		0			0	
		Run	0	0		0	0	
	Side Channel Complex	Run			0			2.1
	Side Slough	Run	0			0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E121. Average CPUE (fish per 1,000 square meters) for chum salmon using snorkeling in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, chum (adult)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		25.0	
	Side Slough	Backwater Pool	0		
		Pool		0	
		Riffle		0	
		Run	0		
	Tributary	Glide	0	0	
		Run			0.3
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume	0		0
	Tributary	Glide	0		
		Run			0
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	
	Tributary	Glide		0	
		Riffle	0		
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	
	Tributary	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E122. Average CPUE (fish per trap) for chum salmon using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, chum (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	0		
		Glide		0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		1.0	
		Run			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E123. Average CPUE (fish per trap) for chum salmon using hoop trapping in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, chum (adult)			Salmon, chum (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0.2	0		0	0
	Side Channel Complex	Riffle			0			0
		Run		0			0	
	Side Slough	Glide	0.3			0		
		Pool			0			0
		Riffle			0			0
		Run		0			0	
	Split Main Channel	Run			0			0
	Tributary	Glide		0			0	
		Run			0			0
	Tributary Mouth	Run			0			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0			0	
	Side Channel	Pool			0			0
	Side Channel Complex	Glide			0			0
		Riffle		0			0	
		Run		0			0	
	Split Main Channel	Run		0			0	
	Tributary	Glide		0			0	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	0		0	0
	Side Channel	Glide			0			0
		Run		0			0	
	Side Channel Complex	Glide		0			0	
		Riffle			0			0
	Tributary	Run			0			0
	Tributary Mouth	Run			0			0
	Upland Slough	Glide		0			0.3	
	Upland Slough Beaver Complex	Beaver Pond		0			0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			0			0
	Clearwater Plume	Clearwater Plume		0			0	
	Main Channel	Run		0.3	0		0	0
	Side Channel	Glide		0			0	
		Run		0	0		0	0

Table E123. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (adult)			Salmon, Chinook (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-4 (cont.)	Side Channel Complex	Run			0			0
	Side Slough	Run	0	0	0	0	0	0
	Tributary Mouth	Glide			0			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E124. Average CPUE (fish per trap) for chum salmon using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, chum (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0.06	0
	Tributary	Alcove	0		
		Glide		0.01	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Tributary	Glide	0	0.05	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	0
	Bar Island Complex	Pool		0	
		Run	0	0	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0	
		Riffle	0		
		Run			0
	Upland Slough	Glide	0	0	0
	Upland Slough Beaver Complex	Beaver Pond	0	0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	0.10		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E125. Average CPUE (fish per hour of shocking time) for coho salmon using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, coho (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	0	0	0
		Run	0	0	0
	Side Slough	Backwater Pool	0		
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			0
	Side Channel	Pool			8.0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	
	Side Channel	Glide	0	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Pool	0		
	Upland Slough	Glide	0		2.6
	Upland Slough Beaver Complex	Beaver Pond	0	6.7	

Table E125. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, coho (juvenile)		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			0
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	13.0		
		Glide		0	
		Run	21.1		3.1

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E126. Average CPUE (fish per 1,000 square meters) for coho salmon using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, coho (adult)			Salmon, coho (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0			0		
		Run			0			0
	Clearwater Plume	Clearwater Plume	0	0	0.8	4.7	0	0
	Side Channel Complex	Riffle	0	0		0	0	
		Run	0		0	0		0
	Side Slough	Pool		0	0		0	0
		Riffle		0	1.0		0	0
		Run	0			0		
	Split Main Channel	Run	0	0	0	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0			0		
		Run		1.7	0		0	1.3
	Multiple Split Main Channel	Run	0		0	0		0
	Side Channel	Riffle		0			0	
		Run	0			0		
	Side Channel Complex	Glide			0			0
		Run	0			0		
	Split Main Channel	Run	0	0		0	0	
	Tributary	Run			0			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0		11.0	18.9	
	Bar Island Complex	Backwater Pool	0			0		
		Pool		0			0	
		Run	0	0	0	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	0	0.4	0	0
	Multiple Split Main Channel	Run		0			0	
	Side Channel	Glide	0	0		0	0	
	Side Channel Complex	Glide		0	0		0	0
		Riffle			0			0
	Split Main Channel	Run	0		0	0		0
	Tributary	Riffle	0			0		
		Run			0			0
	Tributary Mouth	Run			0			1.0
	Upland Slough	Glide		5.0	0		0	5.6

Table E126-Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, coho (adult)			Salmon, coho (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0	0		0	0
	Multiple Split Main Channel	Run	0			0		
	Side Channel	Glide		0			0	
		Run	0	0		0	0	
	Side Channel Complex	Run			0			0
	Side Slough	Run	0			0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E127. Average CPUE (fish per 1,000 square meters) for coho salmon using snorkeling in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, coho (adult)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		62.5	
	Side Slough	Backwater Pool	0		
		Pool		0	
		Riffle		0	
		Run	0		
	Tributary	Glide	0	0	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume	0		0
	Tributary	Glide	0		
		Run			0
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	
	Tributary	Glide		0	
		Riffle	0		
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	
	Tributary	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E128. Average CPUE (fish per trap) for coho salmon using fyke netting in the Lower River, 2013.

Geo-morphic Reach	Macro-habitat Type	Meso-habitat Type	Salmon, coho (adult)			Salmon, coho (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	0			10.0		
		Glide		2.0			3.0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			0			45.0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		0			4.0	
		Run			0			5.0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E129. Average CPUE (fish per trap) for coho salmon using hoop trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, coho (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0.3	0
	Side Channel Complex	Riffle			0
		Run		0	
	Side Slough	Glide	0		
		Pool			0
		Riffle			0
		Run		0	
	Split Main Channel	Run			0
	Tributary	Glide		0.3	
		Run			1.8
	Tributary Mouth	Run			0.4
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		1.0	
	Side Channel	Pool			1.5
	Side Channel Complex	Glide			0
		Riffle		0	
		Run		0	
	Split Main Channel	Run		0	
	Tributary	Glide		3.0	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	0
	Side Channel	Glide			0
		Run		0	
	Side Channel Complex	Glide		0	
		Riffle			0
	Tributary	Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		2.5	
	Upland Slough Beaver Complex	Beaver Pond		45.0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			0
	Clearwater Plume	Clearwater Plume		0	
	Main Channel	Run		0	0
	Side Channel	Glide		0	
		Run		0	0
	Side Channel Complex	Run			0
	Side Slough	Run	0	0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E130. Average CPUE (fish per trap) for coho salmon using minnow trapping in the Lower River, 2013

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, coho (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0	0.22
	Tributary	Alcove	0		
		Glide		0.11	
		Run			0.10
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0.17
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Tributary	Glide	0.03	0.45	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	0.08
	Bar Island Complex	Pool		0	
		Run	0	0	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0.21	
		Riffle	0		
		Run			0
	Upland Slough	Glide	0.03	0	0.10
	Upland Slough Beaver Complex	Beaver Pond	0	0.45	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0.03	0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	0		
		Glide		0.03	
		Run	0.10		0.28

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E131. Average CPUE (fish per 1,000 square meters) for pink salmon using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, pink (adult)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run			0
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel Complex	Riffle	0	0	
		Run	0		0
	Side Slough	Pool		0	0
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Side Channel	Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Run	0		
	Split Main Channel	Run	0	0	
	Tributary	Run			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	
	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0.7	0	0
	Multiple Split Main Channel	Run		0	
	Side Channel	Glide	0	0	
	Side Channel Complex	Glide		0	0
		Riffle			0
	Split Main Channel	Run	0		0
	Tributary	Riffle	0		
		Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0	0
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	
	Side Channel Complex	Run			0
	Side Slough	Run	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E132. Average CPUE (fish per 1,000 square meters) for pink salmon using snorkeling in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, pink (adult)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0	
	Side Slough	Backwater Pool	0		
		Pool		0	
		Riffle		0	
		Run	0		
	Tributary	Glide	15.0	0	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume	0		0
	Tributary	Glide	0		
		Run			0
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	
	Tributary	Glide		0	
		Riffle	0		
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	
	Tributary	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E133. Average CPUE (fish per trap) for pink salmon using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, pink (adult)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	0		
		Glide		0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			1.0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		0	
		Run			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E134. Average CPUE (fish per trap) for pink salmon using hoop trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, pink (adult)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0.2	0
	Side Channel Complex	Riffle			0
		Run		0.8	
	Side Slough	Glide	0.3		
		Pool			0
		Riffle			0
		Run		0	
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Run			0
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run		0	
	Split Main Channel	Run		0	
	Tributary	Glide		0	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	0
	Side Channel	Glide			0
		Run		0	
	Side Channel Complex	Glide		0	
		Riffle			0
	Tributary	Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0	
	Upland Slough Beaver Complex	Beaver Pond		0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			0
	Clearwater Plume	Clearwater Plume		0	
	Main Channel	Run		0	0
	Side Channel	Glide		0	
		Run		0	0
	Side Channel Complex	Run			0
	Side Slough	Run	0	0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E135. Average CPUE (fish per hour of shocking time) for sockeye salmon using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	0	0	0
		Run	0	0	0
	Side Slough	Backwater Pool	69.2		
		Riffle		14.4	0
		Run	31.9		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			0
	Side Channel	Pool			0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	3.7	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	4.2		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	
	Side Channel	Glide	0	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		3.6	
		Pool	0		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E135. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (juvenile)		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			0
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	6.5		
		Glide		5.9	
		Run	10.6		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E136. Average CPUE (fish per 1,000 square meters) for sockeye salmon using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (adult)			Salmon, sockeye (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0			0		
		Run			0			0
	Clearwater Plume	Clearwater Plume	0	0	0	0.6	0	0
	Side Channel Complex	Riffle	0	0		0	6.7	
		Run	1.7		0	0		0
	Side Slough	Pool		0	0		50.6	7.8
		Riffle		0	0		18.1	0
		Run	0			280.0		
	Split Main Channel	Run	0	0	0	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0			0		
		Run		0	0		0	0
	Multiple Split Main Channel	Run	0		0	0		0
	Side Channel	Riffle		0			1.7	
		Run	0			0		
	Side Channel Complex	Glide			0			0
		Run	0			0		
	Split Main Channel	Run	0	0		0.6	0	
	Tributary	Run			0			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0		1.0	4.4	
	Bar Island Complex	Backwater Pool	0			1.2		
		Pool		0			0	
		Run	0	0	0	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	0	1.8	0.8	0
	Multiple Split Main Channel	Run		0			0	
	Side Channel	Glide	0	0		2.8	0	
	Side Channel Complex	Glide		0	0		0	0
		Riffle			0			1.0
	Split Main Channel	Run	0		0	0.5		0
	Tributary	Riffle	0			1.2		
		Run			0			0
	Tributary Mouth	Run			0			3.1
	Upland Slough	Glide		0	0		5.0	0

Table E136-Continued.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (adult)			Salmon, sockeye (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0	0		0	0
	Multiple Split Main Channel	Run	0			0		
	Side Channel	Glide		0			0	
		Run	0	0		0	0	
	Side Channel Complex	Run			0			0
	Side Slough	Run	0			0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E137. Average CPUE (fish per 1,000 square meters) for sockeye salmon using snorkeling in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (adult)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		1.3	
	Side Slough	Backwater Pool	0		
		Pool		0	
		Riffle		0	
		Run	0		
	Tributary	Glide	1.3	0	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume	0		0
	Tributary	Glide	0		
		Run			0
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	
	Tributary	Glide		0	
		Riffle	0		
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	
	Tributary	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E138. Average CPUE (fish per trap) for sockeye salmon using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	0		
		Glide		0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			1.0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		10.0	
		Run			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E139. Average CPUE (fish per trap) for sockeye salmon using hoop trapping in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (adult)			Salmon, sockeye (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0	0		0	0
	Side Channel Complex	Riffle			0			0
		Run		0			0	
	Side Slough	Glide	0			0		
		Pool			0			1.5
		Riffle			0			0
		Run		0			0	
	Split Main Channel	Run			0			0
	Tributary	Glide		0			0	
		Run			0			0
	Tributary Mouth	Run			0			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0			0	
	Side Channel	Pool			0			0
	Side Channel Complex	Glide			0			0
		Riffle		0			0	
		Run		0			0	
	Split Main Channel	Run		0			0	
	Tributary	Glide		0			0	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	0		0	0
	Side Channel	Glide			0			0
		Run		0			0	
	Side Channel Complex	Glide		0			0	
		Riffle			0			0
	Tributary	Run			0			0
	Tributary Mouth	Run			0			0
	Upland Slough	Glide		0			0.5	
	Upland Slough Beaver Complex	Beaver Pond		0			0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			0			0
	Clearwater Plume	Clearwater Plume		0.3			0	
	Main Channel	Run		0	0		0	0
	Side Channel	Glide		0			0	
		Run		0	0		0	0

Table E139. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, Chinook (adult)			Salmon, Chinook (juvenile)		
			Early Summer	Late Summer	Fall	Early Summer	Late Summer	Fall
LR-4 (cont.)	Side Channel Complex	Run			0			0
	Side Slough	Run	0	0	0	0	0	0
	Tributary Mouth	Glide			0			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E140. Average CPUE (fish per trap) for sockeye salmon using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Salmon, sockeye (juvenile)		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0.50		
		Glide	0		
		Pool		0.06	0.03
	Tributary	Alcove	0.31		
		Glide		0.13	
		Run			0.02
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Tributary	Glide	0	0	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	0
	Bar Island Complex	Pool		0	
		Run	0	0	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0	
		Riffle	0		
		Run			0
	Upland Slough	Glide	0	0	0
	Upland Slough Beaver Complex	Beaver Pond	0	0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0.05	0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E141. Average CPUE (fish per hour of shocking time) for Arctic grayling using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	0	0	0
		Run	0	0	0
	Side Slough	Backwater Pool	0		
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			0
	Side Channel	Pool			0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			3.1
		Riffle		0	
		Run	0	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	
	Side Channel	Glide	0	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Pool	0		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E141. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			7.8
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E142. Average CPUE (fish per hour of shocking time) for Arctic grayling using boat electrofishing in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Side Slough	Glide	0		
		Riffle			0
		Run		0	
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		3.8
	Split Main Channel	Run	0	0	
LR-3 (PRM 44.6-65.6)	Multiple Split Main Channel	Run		0	
	Side Channel Complex	Glide		0	
	Split Main Channel	Run	0		
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0	0	
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		6.6	
		Run	0	0	8.6
	Side Channel Complex	Run			0
	Side Slough	Glide	0		
		Run	0	0	2.9
	Split Main Channel	Run	0		
	Tributary	Glide		0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E143. Average CPUE (fish per 1,000 square meters) for Arctic grayling using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run			0
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel Complex	Riffle	0	0	
		Run	0		0
	Side Slough	Pool		1.2	0
		Riffle		0	1.0
		Run	0		
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Side Channel	Riffle		0	
		Run	0.8		
	Side Channel Complex	Glide			0
		Run	0		
	Split Main Channel	Run	0	0	
	Tributary	Run			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	
	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	2.6
	Multiple Split Main Channel	Run		0	
	Side Channel	Glide	1.9	1.4	
	Side Channel Complex	Glide		0	0
		Riffle			3.5
	Split Main Channel	Run	0		0
	Tributary	Riffle	0		
		Run			0
	Tributary Mouth	Run			1.0
	Upland Slough	Glide		0	0
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0	1.6
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	
	Side Channel Complex	Run			0
	Side Slough	Run	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E144. Average CPUE (fish per trap) for Arctic grayling using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	3.0		
		Glide		2.0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			1.0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		0	
		Run			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E145. Average CPUE (fish per trap) for Arctic grayling using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Arctic grayling		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0	0
	Tributary	Alcove	0.03		
		Glide		0	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Tributary	Glide	0	0	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	0
	Bar Island Complex	Pool		0	
		Run	0	0	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0.13
	Tributary	Glide		0	
		Riffle	0		
		Run			0
	Upland Slough	Glide	0	0	0
	Upland Slough Beaver Complex	Beaver Pond	0	0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E146. Average CPUE (fish per hour of shocking time) for burbot using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Burbot		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	1.8
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	3.5	0	0
		Run	0	0	0
	Side Slough	Backwater Pool	0		
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			0
	Side Channel	Pool			0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			1.6
		Riffle		0	
		Run	0	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	
	Side Channel	Glide	0	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		7.1	
		Pool	0		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E146. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Burbot		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	4.5	
		Run			0
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	0		
		Glide		5.9	
		Run	10.6		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E147. Average CPUE (fish per hour of shocking time) for burbot using boat electrofishing in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Burbot		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Side Slough	Glide	0		
		Riffle			0
		Run		0	
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	6.0
	Multiple Split Main Channel	Run	0		0
	Split Main Channel	Run	0	0	
LR-3 (PRM 44.6-65.6)	Multiple Split Main Channel	Run		0	
	Side Channel Complex	Glide		17.4	
	Split Main Channel	Run	0		
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0	19.7	
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	7.4	0
	Side Channel Complex	Run			0
	Side Slough	Glide	0		
		Run	12.1	23.8	0
	Split Main Channel	Run	0		
	Tributary	Glide		0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E148. Average CPUE (fish per 1,000 square meters) for burbot using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Burbot		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run			0
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel Complex	Riffle	0	0	
		Run	0		0
	Side Slough	Pool		0	0
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		1.7	0
	Multiple Split Main Channel	Run	0		0
	Side Channel	Riffle		1.7	
		Run	0.8		
	Side Channel Complex	Glide			0
		Run	0		
	Split Main Channel	Run	0	0	
	Tributary	Run			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	
	Bar Island Complex	Backwater Pool	1.2		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	0
	Multiple Split Main Channel	Run		0	
	Side Channel	Glide	0	0	
	Side Channel Complex	Glide		0	0
		Riffle			0
	Split Main Channel	Run	0.5		0
	Tributary	Riffle	0		
		Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0	0
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0.5	1.6
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	
	Side Channel Complex	Run			2.1
	Side Slough	Run	0.5		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E149. Average CPUE (fish per trap) for burbot using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Burbot		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	0		
		Glide		0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		0	
		Run			9.0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E150. Average CPUE (fish per trap) for burbot using hoop trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Burbot		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0.2	0
	Side Channel Complex	Riffle			0
		Run		0.8	
	Side Slough	Glide	0.8		
		Pool			0
		Riffle			1.8
		Run		0.3	
	Split Main Channel	Run			0
	Tributary	Glide		0.3	
		Run			0.3
	Tributary Mouth	Run			1.0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0.3
		Riffle		0	
		Run		0	
	Split Main Channel	Run		0	
	Tributary	Glide		0	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0.3	0
	Side Channel	Glide			0
		Run		0.5	
	Side Channel Complex	Glide		1.3	
		Riffle			0
	Tributary	Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0.8	
	Upland Slough Beaver Complex	Beaver Pond		0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			0
	Clearwater Plume	Clearwater Plume		1.8	
	Main Channel	Run		1.0	1.3
	Side Channel	Glide		1.5	
		Run		0.7	0
	Side Channel Complex	Run			0.5
	Side Slough	Run	1.0	1.8	1.6
	Tributary Mouth	Glide			1.0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E151. Average CPUE (fish per trap) for burbot using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Burbot		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0	0.02
	Tributary	Alcove	0		
		Glide		0	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0.13	
	Tributary	Glide	0	0	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	0
	Bar Island Complex	Pool		0	
		Run	0	0.05	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0
		Run	0.06	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0	
		Riffle	0		
		Run			0.03
	Upland Slough	Glide	0	0.05	0
	Upland Slough Beaver Complex	Beaver Pond	0	0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	0.01
	Clearwater Plume	Clearwater Plume	0.05		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	0		
		Glide		0.05	
		Run	0.50		0.18

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E152. Average CPUE (fish per hour of shocking time) for Dolly Varden using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	0	4.3	0
		Run	0	0	0
	Side Slough	Backwater Pool	0		
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			2.6
	Side Channel	Pool			0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	
	Side Channel	Glide	0	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Pool	0		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E152. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			0
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E153. Average CPUE (fish per 1,000 square meters) for Dolly Varden using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run			0
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel Complex	Riffle	0	0	
		Run	0		0
	Side Slough	Pool		0	0
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Side Channel	Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Run	0		
	Split Main Channel	Run	0	1.7	
	Tributary	Run			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	
	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	0
	Multiple Split Main Channel	Run		0	
	Side Channel	Glide	0.9	0	
	Side Channel Complex	Glide		0	0
		Riffle			0
	Split Main Channel	Run	0		0
	Tributary	Riffle	0		
		Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0	0
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	
	Side Channel Complex	Run			0
	Side Slough	Run	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E154. Average CPUE (fish per trap) for Dolly Varden using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Dolly Varden		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	0		
		Glide		2.0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		0	
		Run			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E155. Average CPUE (fish per hour of shocking time) for lamprey using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Lamprey		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	0	0	0
		Run	0	0	0
	Side Slough	Backwater Pool	0		
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			2.8
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			14.6
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			0
	Side Channel	Pool			0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	21.8	11.4	
	Side Channel	Glide	28.6	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Pool	0		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E155. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Lamprey		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			0
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E156. Average CPUE (fish per hour of shocking time) for lamprey using boat electrofishing in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Lamprey		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Side Slough	Glide	0		
		Riffle			0
		Run		0	
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Split Main Channel	Run	0	0	
LR-3 (PRM 44.6-65.6)	Multiple Split Main Channel	Run		0	
	Side Channel Complex	Glide		0	
	Split Main Channel	Run	0		
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0	0	
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	0
	Side Channel Complex	Run			8.9
	Side Slough	Glide	0		
		Run	0	0	7.3
	Split Main Channel	Run	0		
	Tributary	Glide		0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E157. Average CPUE (fish per trap) for lamprey using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Lamprey		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	0		
		Glide		0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			1.0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		1.0	
		Run			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E158. Average CPUE (fish per trap) for lamprey using hoop trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Lamprey		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0.5	0
	Side Channel Complex	Riffle			0
		Run		0	
	Side Slough	Glide	0		
		Pool			0
		Riffle			0
		Run		0.3	
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Run			0
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run		0	
	Split Main Channel	Run		0	
	Tributary	Glide		0	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	0.5
	Side Channel	Glide			0.5
		Run		0	
	Side Channel Complex	Glide		0	
		Riffle			0.5
	Tributary	Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0	
	Upland Slough Beaver Complex	Beaver Pond		0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			0
	Clearwater Plume	Clearwater Plume		0	
	Main Channel	Run		5.0	1.8
	Side Channel	Glide		1.0	
		Run		0	0
	Side Channel Complex	Run			1.5
	Side Slough	Run	0	0.3	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E159. Average CPUE (fish per trap) for lamprey using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Lamprey		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0	0
	Tributary	Alcove	0		
		Glide		0	
		Run			0.03
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Tributary	Glide	0.08	0	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	0
	Bar Island Complex	Pool		0	
		Run	0	0	
	Clearwater Plume	Clearwater Plume			0.13
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0.04	
		Riffle	0.21		
		Run			0
	Upland Slough	Glide	0	0	0
	Upland Slough Beaver Complex	Beaver Pond	0	0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	0		
		Glide		0.02	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E160. Average CPUE (fish per hour of shocking time) for longnose sucker using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	9.7		
		Run		16.8	3.6
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	24.5	30.0	0
		Run	0	0	0
	Side Slough	Backwater Pool	0		
		Riffle		0	9.6
		Run	0		
	Split Main Channel	Run	34.2		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			2.6
	Side Channel	Pool			0
		Riffle		0	
		Run	2.4		
	Side Channel Complex	Glide			3.9
		Riffle		11.2	
		Run	26.0	5.9	
	Split Main Channel	Run		2.2	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		1.8	
		Run	4.5	0	3.1
	Clearwater Plume	Clearwater Plume	14.6	0	
	Side Channel	Glide	0	17.6	
		Run	0		
	Side Channel Complex	Glide			16.1
	Split Main Channel	Run			5.1
	Tributary	Glide		0	
		Pool	0		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E160. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			7.8
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	0		
		Glide		23.6	
		Run	0		12.5

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E161. Average CPUE (fish per hour of shocking time) for longnose sucker using boat electrofishing in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Side Slough	Glide	0		
		Riffle			0
		Run		0	
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	24.0
	Multiple Split Main Channel	Run	0		3.8
	Split Main Channel	Run	0	0	
LR-3 (PRM 44.6-65.6)	Multiple Split Main Channel	Run		0	
	Side Channel Complex	Glide		0	
	Split Main Channel	Run	0		
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	44.9	59.2	
	Main Channel	Run		0	13.2
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	22.2	25.9
	Side Channel Complex	Run			0
	Side Slough	Glide	0		
		Run	6.0	21.5	30.8
	Split Main Channel	Run	0		
	Tributary	Glide		0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E162. Average CPUE (fish per 1,000 square meters) for longnose sucker using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	1.1		
		Run			100.0
	Clearwater Plume	Clearwater Plume	2.5	7.3	0
	Side Channel Complex	Riffle	3.7	6.7	
		Run	1.7		3.8
	Side Slough	Pool		0	0
		Riffle		0	1.0
		Run	0		
	Split Main Channel	Run	7.5	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	2.5		
		Run		1.7	0
	Multiple Split Main Channel	Run	0		0
	Side Channel	Riffle		25.0	
		Run	3.7		
	Side Channel Complex	Glide			15.5
		Run	13.3		
	Split Main Channel	Run	1.3	26.7	
	Tributary	Run			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	
	Bar Island Complex	Backwater Pool	7.1		
		Pool		8.3	
		Run	0	0	4.2
	Clearwater Plume	Clearwater Plume	6.5	0	0
	Multiple Split Main Channel	Run		31.0	
	Side Channel	Glide	13.0	26.4	
	Side Channel Complex	Glide		3.0	13.9
		Riffle			0.5
	Split Main Channel	Run	5.0		0
	Tributary	Riffle	0		
		Run			0
	Tributary Mouth	Run			1.0
	Upland Slough	Glide		0	0
LR-4 (PRM 32.3-44.6)	Main Channel	Run		31.3	34.4
	Multiple Split Main Channel	Run	14.4		
	Side Channel	Glide		1.6	
		Run	2.5	5.0	
	Side Channel Complex	Run			25.0
	Side Slough	Run	50.0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E163. Average CPUE (fish per trap) for longnose sucker using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	1.0		
		Glide		5.0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		39.0	
		Run			188.0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E164. Average CPUE (fish per trap) for longnose sucker using hoop trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Longnose Sucker		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0.5	0
	Side Channel Complex	Riffle			0
		Run		0	
	Side Slough	Glide	0.5		
		Pool			0
		Riffle			0
		Run		0.5	
	Split Main Channel	Run			0
	Tributary	Glide		0.3	
		Run			0
	Tributary Mouth	Run			0.2
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		4.0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		6.0	
		Run		1.3	
	Split Main Channel	Run		0	
	Tributary	Glide		0	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0.7	0
	Side Channel	Glide			0
		Run		0	
	Side Channel Complex	Glide		0	
		Riffle			0
	Tributary	Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		3.8	
	Upland Slough Beaver Complex	Beaver Pond		3.0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			0
	Clearwater Plume	Clearwater Plume		0	
	Main Channel	Run		0	0
	Side Channel	Glide		0	
		Run		0	0
	Side Channel Complex	Run			0
	Side Slough	Run	23.0	0	0.5
	Tributary Mouth	Glide			0.3

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E165. Average CPUE (fish per trap) for longnose sucker using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Longnose sucker		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0	0
	Tributary	Alcove	0.03		
		Glide		0	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0.05	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0.55	
		Run	0	0	
	Tributary	Glide	0	0	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	0
	Bar Island Complex	Pool		0.25	
		Run	0	0.05	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0.04	
		Riffle	0		
		Run			0.07
	Upland Slough	Glide	0.05	0	0.03
	Upland Slough Beaver Complex	Beaver Pond	0	0.30	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0.47	0.08	0
	Clearwater Plume	Clearwater Plume	0.30		
	Side Channel	Glide	0		
	Tributary	Glide	0	0.05	
	Upland Slough	Backwater Pool	0.30		
		Glide		1.52	
		Run	0.20		0.82

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E166. Average CPUE (fish per hour of shocking time) for northern pike using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Northern pike		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	0	0	0
		Run	0	0	0
	Side Slough	Backwater Pool	0		
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			0
	Side Channel	Pool			0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	
	Side Channel	Glide	0	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Pool	0		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E166. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Northern pike		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			0
	Tributary	Glide	15.7		
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E167. Average CPUE (fish per hour of shocking time) for northern pike using boat electrofishing in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Northern pike		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Side Slough	Glide	0		
		Riffle			0
		Run		0	
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Split Main Channel	Run	0	0	
LR-3 (PRM 44.6-65.6)	Multiple Split Main Channel	Run		0	
	Side Channel Complex	Glide		0	
	Split Main Channel	Run	0		
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	5.6	29.6	
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	0
	Side Channel Complex	Run			0
	Side Slough	Glide	0		
		Run	0	0	0
	Split Main Channel	Run	0		
	Tributary	Glide		0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E168. Average CPUE (fish per 1,000 square meters) for northern pike using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Northern pike		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run			0
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel Complex	Riffle	0	0	
		Run	0		0
	Side Slough	Pool		0	0
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Side Channel	Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Run	0		
	Split Main Channel	Run	0	0	
	Tributary	Run			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	
	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	0
	Multiple Split Main Channel	Run		0	
	Side Channel	Glide	0	0	
	Side Channel Complex	Glide		0	0
		Riffle			0
	Split Main Channel	Run	0		0
	Tributary	Riffle	0		
		Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0	0
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	
	Side Channel Complex	Run			0
	Side Slough	Run	0.5		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E169. Average CPUE (fish per 1,000 square meters) for northern pike using snorkeling in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Northern pike		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0	
	Side Slough	Backwater Pool	0		
		Pool		0	
		Riffle		0	
		Run	0		
	Tributary	Glide	0	0	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume	0		0
	Tributary	Glide	0		
		Run			0
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	
	Tributary	Glide		0	
		Riffle	0		
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	
	Tributary	Glide	40.0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E170. Average CPUE (fish per trap) for northern pike using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Northern pike		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0	0
	Tributary	Alcove	0		
		Glide		0	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Tributary	Glide	0	0	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	0
	Bar Island Complex	Pool		0	
		Run	0	0	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0	
		Riffle	0		
		Run			0
	Upland Slough	Glide	0	0	0
	Upland Slough Beaver Complex	Beaver Pond	0	0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel	Glide	0		
	Tributary	Glide	0.50	0	
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E171. Average CPUE (fish per hour of shocking time) for sculpin using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Sculpin, undifferentiated		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		29.4	84.1
	Clearwater Plume	Clearwater Plume	25.8		
	Side Channel Complex	Riffle	35.0	47.1	18.0
		Run	16.2	11.6	0
	Side Slough	Backwater Pool	2.4		
		Riffle		20.2	4.8
		Run	25.5		
	Split Main Channel	Run	27.4		
	Tributary Mouth	Run			16.7
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			1009.8
	Main Channel	Run		0	4.9
	Multiple Split Main Channel	Run			15.7
	Side Channel	Pool			56.0
		Riffle		89.1	
		Run	14.5		
	Side Channel Complex	Glide			30.1
		Riffle		40.3	
		Run	11.2	11.7	
	Split Main Channel	Run		57.8	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	8.3		
		Pool		20.0	
		Run	18.2	65.2	23.2
	Clearwater Plume	Clearwater Plume	43.7	11.4	
	Side Channel	Glide	46.5	58.6	
		Run	10.4		
	Side Channel Complex	Glide			72.6
	Split Main Channel	Run			10.1
	Tributary	Glide		125.1	
		Pool	5.7		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E171. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Sculpin, undifferentiated		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		10.8	
	Side Channel	Glide	6.6	0	
		Run			7.8
	Tributary	Glide	5.2		
	Upland Slough	Backwater Pool	77.8		
		Glide		11.8	
		Run	42.3		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E172. Average CPUE (fish per 1,000 square meters) for sculpin using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Sculpin		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	1.1		
		Run			0
	Clearwater Plume	Clearwater Plume	0.6	0	0
	Side Channel Complex	Riffle	7.4	13.3	
		Run	0		0
	Side Slough	Pool		0	0
		Riffle		1.4	1.0
		Run	1.7		
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	1.3
	Multiple Split Main Channel	Run	0.8		0
	Side Channel	Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0.5
		Run	16.7		
	Split Main Channel	Run	0.6	1.7	
	Tributary	Run			8.7
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	
	Bar Island Complex	Backwater Pool	3.6		
		Pool		4.2	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	5.5	1.6	0.9
	Multiple Split Main Channel	Run		5.0	
	Side Channel	Glide	1.9	4.2	
	Side Channel Complex	Glide		3.0	13.9
		Riffle			0
	Split Main Channel	Run	0		0.8
	Tributary	Riffle	4.8		
		Run			0
	Tributary Mouth	Run			2.0
	Upland Slough	Glide		5.0	0
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0.8	1.6
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	
	Side Channel Complex	Run			0
	Side Slough	Run	2.5		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E173. Average CPUE (fish per trap) for sculpin using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Sculpin		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	0		
		Glide		0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		1.0	
		Run			1.0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E174. Average CPUE (fish per trap) for sculpin using hoop trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Sculpin		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0.2	0
	Side Channel Complex	Riffle			0
		Run		0	
	Side Slough	Glide	0		
		Pool			0
		Riffle			0
		Run		0.3	
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Run			0
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		1.0	
		Run		0	
	Split Main Channel	Run		0	
	Tributary	Glide		8.0	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	0
	Side Channel	Glide			0
		Run		0	
	Side Channel Complex	Glide		0	
		Riffle			0
	Tributary	Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0.5	
	Upland Slough Beaver Complex	Beaver Pond		0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			0
	Clearwater Plume	Clearwater Plume		0	
	Main Channel	Run		0	0
	Side Channel	Glide		0.5	
		Run		0	0
	Side Channel Complex	Run			0
	Side Slough	Run	0	0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E175. Average CPUE (fish per trap) for sculpin using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Sculpin		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0.31		
		Glide	0		
		Pool		0.06	0.21
	Tributary	Alcove	0.13		
		Glide		0.03	
		Run			0.08
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0.10	
	Side Channel	Pool			0.08
	Side Channel Complex	Glide			0
		Riffle		0.15	
		Run	0	0	
	Tributary	Glide	0.33	0.65	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	0
	Bar Island Complex	Pool		0.20	
		Run	0.15	0.25	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0.25	
		Riffle	0.33		
		Run			0.07
	Upland Slough	Glide	0.08	0.10	0.03
	Upland Slough Beaver Complex	Beaver Pond	0	0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	0.50		
		Glide		0.15	
		Run	0.20		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E176. Average CPUE (fish per hour of shocking time) for ninespine stickleback using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, ninespine		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	0	0	0
		Run	0	0	0
	Side Slough	Backwater Pool	0		
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			0
	Side Channel	Pool			0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	
	Side Channel	Glide	0	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Pool	0		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E176. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, ninespine		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			0
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	0		
		Glide		17.7	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E177. Average CPUE (fish per 1,000 square meters) for ninespine stickleback using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, ninespine		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run			0
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel Complex	Riffle	0	0	
		Run	0		0
	Side Slough	Pool		0	0
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Side Channel	Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Run	0		
	Split Main Channel	Run	0	0	
	Tributary	Run			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	34.0	28.9	
	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	0
	Multiple Split Main Channel	Run		0	
	Side Channel	Glide	0	1.4	
	Side Channel Complex	Glide		0	0
		Riffle			0
	Split Main Channel	Run	0		0
	Tributary	Riffle	0		
		Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0	0
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	
	Side Channel Complex	Run			0
	Side Slough	Run	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E178. Average CPUE (fish per trap) for ninespine stickleback using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, ninespine		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	2.0		
		Glide		0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		1.0	
		Run			1.0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E179. Average CPUE (fish per trap) for ninespine stickleback using hoop trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, Ninespine		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0	0
	Side Channel Complex	Riffle			0
		Run		0	
	Side Slough	Glide	0		
		Pool			0
		Riffle			0
		Run		0	
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Run			0
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run		0	
	Split Main Channel	Run		0	
	Tributary	Glide		0	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	0
	Side Channel	Glide			0
		Run		0	
	Side Channel Complex	Glide		0	
		Riffle			0
	Tributary	Run			0
	Tributary Mouth	Run			0.3
	Upland Slough	Glide		0.3	
	Upland Slough Beaver Complex	Beaver Pond		0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			0
	Clearwater Plume	Clearwater Plume		0	
	Main Channel	Run		0	0
	Side Channel	Glide		0	
		Run		0	0
	Side Channel Complex	Run			0
	Side Slough	Run	0	0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E180. Average CPUE (fish per trap) for ninespine stickleback using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, ninespine		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0	0
	Tributary	Alcove	0		
		Glide		0.01	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Tributary	Glide	0	0	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	1.50	0.68
	Bar Island Complex	Pool		0	
		Run	0	0	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0	
		Riffle	0		
		Run			0
	Upland Slough	Glide	0	0	0
	Upland Slough Beaver Complex	Beaver Pond	0	0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0.06	0.19
	Clearwater Plume	Clearwater Plume	0		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	0		
		Glide		0.06	
		Run	0.10		0.03

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E181. Average CPUE (fish per hour of shocking time) for threespine stickleback using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	0	0	0
		Run	0	0	0
	Side Slough	Backwater Pool	0		
		Riffle		0	19.2
		Run	0		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			8.3
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			14.6
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			0
	Side Channel	Pool			0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			2.3
		Riffle		4.5	
		Run	0	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	34.1	
	Side Channel	Glide	0	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		3.6	
		Pool	0		
	Upland Slough	Glide	0		7.7
	Upland Slough Beaver Complex	Beaver Pond	30.9	82.1	

Table E181. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			0
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	84.3		
		Glide		53.0	
		Run	158.6		12.5

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E182. Average CPUE (fish per 1,000 square meters) for threespine stickleback using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run			0
	Clearwater Plume	Clearwater Plume	1.6	0	0
	Side Channel Complex	Riffle	0	0	
		Run	0		0
	Side Slough	Pool		0	0
		Riffle		0	1.0
		Run	1.7		
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Side Channel	Riffle		1.7	
		Run	0		
	Side Channel Complex	Glide			0
		Run	0		
	Split Main Channel	Run	0	0	
	Tributary	Run			4.8
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	38.0	27.8	
	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	0
	Multiple Split Main Channel	Run		0	
	Side Channel	Glide	0	0	
	Side Channel Complex	Glide		0	0
		Riffle			0
	Split Main Channel	Run	0		0
	Tributary	Riffle	0		
		Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0	152.8
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	
	Side Channel Complex	Run			2.1
	Side Slough	Run	1.5		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E183. Average CPUE (fish per 1,000 square meters) for threespine stickleback using snorkeling in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0	
	Side Slough	Backwater Pool	0		
		Pool		0	
		Riffle		0	
		Run	0		
	Tributary	Glide	1.3	0	
		Run			0.3
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume	0		0
	Tributary	Glide	0		
		Run			0
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	
	Tributary	Glide		0	
		Riffle	0		
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	
	Tributary	Glide	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E184. Average CPUE (fish per trap) for threespine stickleback using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	0		
		Glide		0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		175.0	
		Run			14.0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E185. Average CPUE (fish per trap) for threespine stickleback using hoop trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, Threespine		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0	0
	Side Channel Complex	Riffle			0
		Run		0	
	Side Slough	Glide	0		
		Pool			0
		Riffle			0
		Run		0	
	Split Main Channel	Run			0
	Tributary	Glide		17.0	
		Run			3.5
	Tributary Mouth	Run			12.0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		2.0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run		0	
	Split Main Channel	Run		0	
	Tributary	Glide		0	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	0
	Side Channel	Glide			0
		Run		0	
	Side Channel Complex	Glide		0	
		Riffle			0
	Tributary	Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		4.0	
	Upland Slough Beaver Complex	Beaver Pond		495.0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			0
	Clearwater Plume	Clearwater Plume		0	
	Main Channel	Run		0	0
	Side Channel	Glide		0	
		Run		0	0
	Side Channel Complex	Run			0
	Side Slough	Run	0	0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E186. Average CPUE (fish per trap) for threespine stickleback using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Stickleback, threespine		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0	0.04
	Tributary	Alcove	0		
		Glide		1.36	
		Run			7.25
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0.15	
	Side Channel	Pool			0.08
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Tributary	Glide	0	0.55	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	5.33	6.03
	Bar Island Complex	Pool		0	
		Run	0	0	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0.05
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0	
		Riffle	0		
		Run			0
	Upland Slough	Glide	0.28	0.20	0.10
	Upland Slough Beaver Complex	Beaver Pond	13.30	22.35	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	3.49	21.92	0.07
	Clearwater Plume	Clearwater Plume	0.25		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	1.90		
		Glide		8.17	
		Run	11.10		1.02

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E187. Average CPUE (fish per hour of shocking time) for rainbow trout using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	0	0	0
		Run	0	0	0
	Side Slough	Backwater Pool	0		
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			2.6
	Side Channel	Pool			0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	
	Side Channel	Glide	0	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Pool	5.7		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E187. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			0
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	25.9		
		Glide		0	
		Run	74.0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E188. Average CPUE (fish per 1,000 square meters) for rainbow trout using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run			0
	Clearwater Plume	Clearwater Plume	0	1.0	0
	Side Channel Complex	Riffle	0	0	
		Run	0		0
	Side Slough	Pool		0	0
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Side Channel	Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Run	0		
	Split Main Channel	Run	0	0	
	Tributary	Run			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	1.0	0	
	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	0
	Multiple Split Main Channel	Run		0	
	Side Channel	Glide	0	0	
	Side Channel Complex	Glide		0	0
		Riffle			0
	Split Main Channel	Run	0		0
	Tributary	Riffle	0		
		Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0	0
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	
	Side Channel Complex	Run			0
	Side Slough	Run	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E189. Average CPUE (fish per trap) for rainbow trout using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	5.0		
		Glide		7.0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		0	
		Run			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E190. Average CPUE (fish per trap) for rainbow trout using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Trout, rainbow		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0	0
	Tributary	Alcove	0.06		
		Glide		0	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Tributary	Glide	0	0	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	0
	Bar Island Complex	Pool		0	
		Run	0	0	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0	
		Riffle	0		
		Run			0
	Upland Slough	Glide	0	0	0
	Upland Slough Beaver Complex	Beaver Pond	1.30	0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E191. Average CPUE (fish per hour of shocking time) for Bering cisco using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, Bering cisco		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	0	0	0
		Run	0	0	0
	Side Slough	Backwater Pool	0		
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			0
	Side Channel	Pool			0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			1.6
		Riffle		0	
		Run	0	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	
	Side Channel	Glide	0	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Pool	0		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E191. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, Bering cisco		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			0
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E192. Average CPUE (fish per hour of shocking time) for Bering cisco using boat electrofishing in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, Bering cisco		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Side Slough	Glide	0		
		Riffle			0
		Run		0	
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Split Main Channel	Run	0	0	
LR-3 (PRM 44.6-65.6)	Multiple Split Main Channel	Run		0	
	Side Channel Complex	Glide		0	
	Split Main Channel	Run	0		
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0	0	
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	0
	Side Channel Complex	Run			0
	Side Slough	Glide	0		
		Run	0	0	4.3
	Split Main Channel	Run	0		
	Tributary	Glide		0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E193. Average CPUE (fish per hour of shocking time) for humpback whitefish using boat electrofishing in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, humpback		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Side Slough	Glide	0		
		Riffle			0
		Run		0	
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Split Main Channel	Run	0	0	
LR-3 (PRM 44.6-65.6)	Multiple Split Main Channel	Run		0	
	Side Channel Complex	Glide		0	
	Split Main Channel	Run	0		
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0	0	
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	0
	Side Channel Complex	Run			0
	Side Slough	Glide	0		
		Run	0	0	14.7
	Split Main Channel	Run	0		
	Tributary	Glide		0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E194. Average CPUE (fish per 1,000 square meters) for humpback whitefish using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, humpback		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run			0
	Clearwater Plume	Clearwater Plume	0	0	0
	Side Channel Complex	Riffle	0	0	
		Run	0		0
	Side Slough	Pool		0	0
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Side Channel	Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Run	0		
	Split Main Channel	Run	0	0	
	Tributary	Run			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	
	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	0
	Multiple Split Main Channel	Run		0	
	Side Channel	Glide	0	0	
	Side Channel Complex	Glide		0	0
		Riffle			0
	Split Main Channel	Run	0		0
	Tributary	Riffle	0		
		Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0	0
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	
	Side Channel Complex	Run			2.1
	Side Slough	Run	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E195. Average CPUE (fish per trap) for humpback whitefish using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, humpback		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0	0
	Tributary	Alcove	0		
		Glide		0	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Tributary	Glide	0	0	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	0
	Bar Island Complex	Pool		0	
		Run	0	0	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0	
		Riffle	0		
		Run			0
	Upland Slough	Glide	0	0	0
	Upland Slough Beaver Complex	Beaver Pond	0	0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0	0.01
	Clearwater Plume	Clearwater Plume	0		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E196. Average CPUE (fish per hour of shocking time) for round whitefish using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	1.8
	Clearwater Plume	Clearwater Plume	12.9		
	Side Channel Complex	Riffle	0	0	0
		Run	0	3.9	0
	Side Slough	Backwater Pool	0		
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	0		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			0
	Side Channel	Pool			0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			1.6
		Riffle		0	
		Run	0	0	
	Split Main Channel	Run		3.4	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	
	Side Channel	Glide	0	0	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Pool	0		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E196. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			0
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E197. Average CPUE (fish per hour of shocking time) for round whitefish using boat electrofishing in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Side Slough	Glide	0		
		Riffle			0
		Run		0	
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	6.0
	Multiple Split Main Channel	Run	0		0
	Split Main Channel	Run	0	0	
LR-3 (PRM 44.6-65.6)	Multiple Split Main Channel	Run		0	
	Side Channel Complex	Glide		0	
	Split Main Channel	Run	0		
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0	0	
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	0
	Side Channel Complex	Run			0
	Side Slough	Glide	0		
		Run	0	0	0
	Split Main Channel	Run	0		
	Tributary	Glide		0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E198. Average CPUE (fish per 1,000 square meters) for round whitefish using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run			12.5
	Clearwater Plume	Clearwater Plume	1.6	3.1	0
	Side Channel Complex	Riffle	0	0	
		Run	0		1.3
	Side Slough	Pool		0	0
		Riffle		0	1.0
		Run	0		
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		1.7	5.0
	Multiple Split Main Channel	Run	0		0
	Side Channel	Riffle		1.7	
		Run	0.8		
	Side Channel Complex	Glide			3.0
		Run	0		
	Split Main Channel	Run	0	3.3	
	Tributary	Run			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	
	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	2.9	0	0.9
	Multiple Split Main Channel	Run		0	
	Side Channel	Glide	0	0	
	Side Channel Complex	Glide		0	0
		Riffle			0.5
	Split Main Channel	Run			0
	Tributary	Riffle	2.4		
		Run	0		0
	Tributary Mouth	Run			3.1
	Upland Slough	Glide		0	0
LR-4 (PRM 32.3-44.6)	Main Channel	Run		1.0	3.1
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	3.3	
	Side Channel Complex	Run			4.2
	Side Slough	Run	0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E199. Average CPUE (fish per trap) for round whitefish using fyke netting in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Tributary	Alcove	1.0		
		Glide		1.0	
LR-3 (PRM 44.6-65.6)	Upland Slough	Glide			3.0
LR-4 (PRM 32.3-44.6)	Upland Slough	Glide		0	
		Run			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E200. Average CPUE (fish per trap) for round whitefish using hoop trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0	0
	Side Channel Complex	Riffle			0
		Run		0	
	Side Slough	Glide	0		
		Pool			0
		Riffle			0.5
		Run		0	
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Run			0
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0.3
		Riffle		0	
		Run		0	
	Split Main Channel	Run		0	
	Tributary	Glide		10.0	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	0
	Side Channel	Glide			0
		Run		0	
	Side Channel Complex	Glide		0	
		Riffle			0
	Tributary	Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0.3	
	Upland Slough Beaver Complex	Beaver Pond		0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			1.0
	Clearwater Plume	Clearwater Plume		0	
	Main Channel	Run		0	0
	Side Channel	Glide		0	
		Run		0	0
	Side Channel Complex	Run			0
	Side Slough	Run	0	0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E201. Average CPUE (fish per trap) for round whitefish using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, round		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0	0
	Tributary	Alcove	0		
		Glide		0	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Tributary	Glide	0	0	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	0
	Bar Island Complex	Pool		0	
		Run	0	0	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0	
		Riffle	0		
		Run			0
	Upland Slough	Glide	0	0	0
	Upland Slough Beaver Complex	Beaver Pond	0	0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0	0.60	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E202. Average CPUE (fish per hour of shocking time) for undifferentiated whitefish species using backpack electrofishing in the Lower River, 2013.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run		0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel Complex	Riffle	0	0	0
		Run	0	0	0
	Side Slough	Backwater Pool	0		
		Riffle		0	0
		Run	0		
	Split Main Channel	Run	13.7		
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume			0
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run			0
	Side Channel	Pool			0
		Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Split Main Channel	Run		0	
LR-3 (PRM 44.6-65.6)	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	3.6	0	
	Side Channel	Glide	0	11.7	
		Run	0		
	Side Channel Complex	Glide			0
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Pool	0		
	Upland Slough	Glide	0		0
	Upland Slough Beaver Complex	Beaver Pond	0	0	

Table E202. Continued.

Geo-morphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
			Early Summer	Late Summer	Fall
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0		
	Main Channel	Run		0	
	Side Channel	Glide	0	0	
		Run			0
	Tributary	Glide	0		
	Upland Slough	Backwater Pool	6.5		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E203. Average CPUE (fish per hour of shocking time) for undifferentiated whitefish species using boat electrofishing in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Side Slough	Glide	0		
		Riffle			0
		Run		0	
	Split Main Channel	Run	0	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0		
		Run		0	0
	Multiple Split Main Channel	Run	0		0
	Split Main Channel	Run	0	0	
LR-3 (PRM 44.6-65.6)	Multiple Split Main Channel	Run		0	
	Side Channel Complex	Glide		0	
	Split Main Channel	Run	0		
LR-4 (PRM 32.3-44.6)	Clearwater Plume	Clearwater Plume	0	0	
	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	0		
	Side Channel	Glide		0	
		Run	0	0	0
	Side Channel Complex	Run			0
	Side Slough	Glide	0		
		Run	0	0	4.3
	Split Main Channel	Run	0		
	Tributary	Glide		0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E204. Average CPUE (fish per 1,000 square meters) for undifferentiated whitefish species using seining in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Bar Island Complex	Riffle	0		
		Run			0
	Clearwater Plume	Clearwater Plume	3.1	0	0
	Side Channel Complex	Riffle	0	0	
		Run	0		0
	Side Slough	Pool		0	0
		Riffle		0	0
		Run	1.7		
	Split Main Channel	Run	37.5	0	0
LR-2 (PRM 65.6-87.9)	Main Channel	Riffle	0.5		
		Run		0	0
	Multiple Split Main Channel	Run	1.7		0
	Side Channel	Riffle		0	
		Run	0		
	Side Channel Complex	Glide			0
		Run	0		
	Split Main Channel	Run	0	0	
	Tributary	Run			0
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	1.0	0	
	Bar Island Complex	Backwater Pool	0		
		Pool		0	
		Run	0	0	0
	Clearwater Plume	Clearwater Plume	0	0	0
	Multiple Split Main Channel	Run		0	
	Side Channel	Glide	0.9	1.4	
	Side Channel Complex	Glide		0	0
		Riffle			1.0
	Split Main Channel	Run			0
	Tributary	Riffle	0		
		Run	0		0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0	0
LR-4 (PRM 32.3-44.6)	Main Channel	Run		0	0
	Multiple Split Main Channel	Run	1.1		
	Side Channel	Glide		0	
		Run	0	0	
	Side Channel Complex	Run			0
	Side Slough	Run	10.0		

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E205. Average CPUE (fish per trap) for undifferentiated whitefish species using hoop trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume		0	0
	Side Channel Complex	Riffle			0
		Run		0	
	Side Slough	Glide	0		
		Pool			0
		Riffle			0
		Run		0	
	Split Main Channel	Run			0
	Tributary	Glide		0	
		Run			0
	Tributary Mouth	Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run		0	
	Split Main Channel	Run		0	
	Tributary	Glide		0	
LR-3 (PRM 44.6-65.6)	Clearwater Plume	Clearwater Plume		0	0
	Side Channel	Glide			0
		Run			
	Side Channel Complex	Glide		0	
		Riffle		0	0
	Tributary	Run			0
	Tributary Mouth	Run			0
	Upland Slough	Glide		0	
	Upland Slough Beaver Complex	Beaver Pond		0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool			0
	Clearwater Plume	Clearwater Plume		0	
	Main Channel	Run		0	0
	Side Channel	Glide		0	
		Run		0	0
	Side Channel Complex	Run			0
	Side Slough	Run	1.5	0	0
	Tributary Mouth	Glide			0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Table E206. Average CPUE (fish per trap) for undifferentiated whitefish species using minnow trapping in the Lower River, 2013.

Geomorphic Reach	Macrohabitat Type	Mesohabitat Type	Whitefish, undifferentiated		
			Early Summer	Late Summer	Fall
LR-1 (PRM 87.9-102.4)	Clearwater Plume	Clearwater Plume			0
	Side Channel Complex	Riffle			0
	Side Slough	Backwater Pool	0		
		Glide	0		
		Pool		0	0
	Tributary	Alcove	0		
		Glide		0	
		Run			0
LR-2 (PRM 65.6-87.9)	Clearwater Plume	Clearwater Plume		0	
	Side Channel	Pool			0
	Side Channel Complex	Glide			0
		Riffle		0	
		Run	0	0	
	Tributary	Glide	0	0	
LR-3 (PRM 44.6-65.6)	Additional Open Water	Pool	0	0	0
	Bar Island Complex	Pool		0	
		Run	0	0	
	Clearwater Plume	Clearwater Plume			0
	Side Channel	Glide			0
		Run	0	0	
	Side Channel Complex	Riffle			0
	Tributary	Glide		0	
		Riffle	0		
		Run			0
	Upland Slough	Glide	0	0	0
	Upland Slough Beaver Complex	Beaver Pond	0	0	
LR-4 (PRM 32.3-44.6)	Additional Open Water	Pool	0.03	0	0
	Clearwater Plume	Clearwater Plume	0		
	Side Channel	Glide	0		
	Tributary	Glide	0	0	
	Upland Slough	Backwater Pool	0		
		Glide		0	
		Run	0		0

Notes: All data are provisional and subject to ongoing QA/QC. CPUE was calculated within mainstem geomorphic reach as an average among sites by habitat type by season: Early Summer (July 13-August 11), Late Summer (August 12-September 9), and Fall (September 10-October 4). Data sources include: mainstem transect sampling.

Susitna-Watana Hydroelectric Project
(FERC No. 14241)

Study of Fish Distribution and Abundance in the Middle and Lower Susitna River Study (9.6)

Appendix F
Habitat Association Tables

Initial Study Report

Prepared for

Alaska Energy Authority

SUSITNA-WATANA HYDRO

Clean, reliable energy for the next 100 years.

Prepared by

R2 Resource Consultants Inc.

Golder Associates Inc. &

HDR, Inc.]

February 2014 Draft

LIST OF TABLES

MIDDLE RIVER

Table F1. Middle River fish observations within Focus Areas, 2013.

Middle River Focus Areas

Geomorphic Reach /PRM	Habitat	Sample Type	Salmon, Chinook (juvenile)	Salmon, Chinook (adult)	Salmon, chum (juvenile)	Salmon, chum (adult)	Salmon, coho (juvenile)	Salmon, coho (adult)	Salmon, pink (juvenile)	Salmon, pink (adult)	Salmon, sockeye (adult)	Salmon, sockeye (juvenile)	Salmon, undifferentiated (juvenile)	Arctic grayling	Burbot	Dolly Varden	Lamprey	Longnose sucker	Salmonid, undifferentiated	Sculpin, undifferentiated	Stickleback, threespine	Trout, rainbow	Whitefish, humpback	Whitefish, round	Whitefish, undifferentiated	Grand Total
Proposed Watana Dam Location PRM 187.1																										
MR-1 / 184.6-187.1	Susitna River	GRTS												63	8			9		246				11	2	339
MR-2 169.6-184.6	Susitna River	GRTS	1											298	7	2		56	0	281				36	7	688
	Susitna River: Off-Channel	GRTS												660	7	1		299		276				15	10	1,268
	Tributary	GRTS												24	1	2				67						94
Upper Extent Devils Canyon PRM 166.1																										
Lower Extent Devils Canyon PRM 153.9																										
MR-5 / 148.1-153.9	Susitna River	GRTS	5	3		7	20	22		7	7	6	6	27	8			6	1	26		6	3	2	2	164
MR-6 122.7-148.4	Susitna River	ELH, GRTS	14	1	18	34	18	9		55	1	57	15	32	46			165	5	344		14	4	48	67	947
	Susitna River: Off-Channel	ELH, GRTS	420		1,017	130	421	2	1		52	1,221	47	24	83	8		237	14	542		20	4	34	41	4,318
	Tributary	ELH, GRTS	53	12	16	250	404	23	2	3,083		24	20	53	1	27		5	10	319		23		2	1	4,328
MR-7 107.8-122.7	Susitna River	ELH, GRTS	30		20	4	31	3		17	1	2	9	5	22	1		97		161	1	5	1	11	8	429
	Susitna River: Off-Channel	ELH, GRTS	94				1,884					67	447	1	38	8		57	2	41	5,309	7	8	22	19	8,004
	Tributary	GRTS	28				565					27	3	12	8	8		2	33	86		65				837
MR-8 102.4-107.8	Susitna River	GRTS	117		14	3	284			6		134	34	12	22	8	3	93		333	22	9		25	18	1,137
	Susitna River: Off-Channel	ELH, GRTS	394		3		654	46				215	163	31	19	2	61	149	33	556	131	19	7	11	24	2,518
	Tributary	ELH, GRTS	161		9	4	156	66	1	2	3	2	3	78	5	7	6	8	5	86	12	45		2		661
Grand Total			1,317	16	1,097	432	4,437	171	4	3,170	64	1,755	747	1,320	275	74	70	1,183	103	3,364	5,475	213	27	219	199	25,732

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F2. Middle River fish observations outside of Focus Areas, 2013.

Middle River Non-Focus Areas

Geomorphic Reach /PRM	Habitat	Sample Type	Salmon, Chinook (adult)	Salmon, Chinook (juvenile)	Salmon, chum (adult)	Salmon, chum (juvenile)	Salmon, coho (adult)	Salmon, coho (juvenile)	Salmon, pink (adult)	Salmon, pink (juvenile)	Salmon, sockeye (adult)	Salmon, sockeye (juvenile)	Salmon, undifferentiated (juvenile)	Arctic grayling	Burbot	Dolly Varden	Lamprey	Longnose sucker	Salmonid, undifferentiated	Sculpin, undifferentiated	Stickleback, threespine	Stickleback, undifferentiated	Trout, rainbow	Whitefish, humpback	Whitefish, round	Whitefish, undifferentiated	Grand Total
Proposed Watana Dam Location PRM 187.1																											
MR-1 / 184.6-187.1	Susitna River	GRTS												47	4	2		1		110					21		185
MR-2 169.6-184.6	Susitna River	GRTS	1											236	8	2		13		176					31	1	468
	Susitna River: Off-Channel	GRTS												123	6	7		29		197					3		365
	Tributary	GRTS												18	3			3		36						1	61
	Fog Creek	ELH, Direct														315				95							410
	Fog Creek Tributary	ELH, Direct														5				25							30
	Fog Creek: Off-Channel	Direct														3				4							7
	Tsusena Creek	Direct	1											74		4				25					3		107
Upper Extent Devils Canyon PRM 166.1																											
MR-4 / 153.9-166.1	Chinook Creek	Direct														63				13							76
Lower Extent Devils Canyon PRM 153.9																											
MR-5 148.1-153.9	Susitna River	GRTS			24		12	1	19					5	4			6		75			9		32	2	189
	Susitna River: Off-Channel	GRTS			106			17	1	1	5	4		3	2	2		81		162			10		6		400
MR-6 122.7-148.4	Susitna River	GRTS		2	18		6	9	68			5		7	2			74		197			3		25	1	417
	Susitna River: Off-Channel	GRTS		6	92	1	2	644	3		139	13		15	20			31	45	274	3		4	5	4		1,301
	Tributary	GRTS		13	26		1	25	229			4		7	3	1		4	15	102			18		2	1	451
MR-7 107.8-122.7	Susitna River	GRTS	2		14			9	75		1	6		2	14	2		27		207			3		20		382
	Susitna River: Off-Channel	GRTS		26	6			255	17	4		22	3	1	43			43		94	1,760	177	13	4	5		2,473
	Tributary	GRTS					48	69	90						25		5	4		69	3		7				320
MR-8 102.4-107.8	Susitna River	GRTS	2		23	1		11	9			1			9			48	9	105					5	1	224
	Susitna River: Off-Channel	GRTS		15	1			113				15	21	1	22			124		81	359	71	12		4		839
Grand Total			6	62	310	2	69	1,153	511	5	145	70	24	539	165	406	5	488	69	2,047	2,125	248	79	9	161	7	8,705

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F3. Adult Chinook salmon observations in Middle River Focus Areas by habitat, 2013.

Salmon, Chinook (adult)					
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Grand Total
Proposed Watana Dam Location PRM 187.1					
Upper Extent Devils Canyon PRM 166.1					
Lower Extent Devils Canyon PRM 153.9					
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume	3	3
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume	1	1
	Tributary	Tributary	Riffle	1	1
			Run	8	8
		Tributary Mouth	Riffle	3	3
Grand Total				16	16

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F4. Adult Chinook salmon observations outside of Focus Areas in the Middle River by habitat, 2013

Salmon, Chinook (adult)						
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1						
MR-2 169.6-184.6	Susitna River	Clearwater Plume	Clearwater Plume	1		1
	Tsusena Creek		Boulder Riffle	1		1
Upper Extent Devils Canyon PRM 166.1						
Lower Extent Devils Canyon PRM 153.9						
MR-7 107.8-122.7	Susitna River	Main Channel	Run		2	2
MR-8 102.4-107.8	Susitna River	Main Channel	Run	2		2
Grand Total				4	2	6

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F5. Juvenile Chinook salmon observations in Middle River Focus Areas by habitat, 2013.

Salmon, Chinook, (juvenile)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
MR-2 169.6-184.6	Susitna River	Backwater	Backwater		1			1
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume		2		1	3
		Main Channel	Riffle			2		2
MR-6 122.7-148.1	Susitna River	Multi Split Main Channel	Run				2	2
		Side Channel	Glide	7			2	9
			Run	2				2
		Split Main Channel	Run				1	1
	Susitna River: Off-Channel	Backwater	Backwater		22	7		29
		Side Slough	Glide	1				1
		Side Slough Beaver Complex	Backwater Pool		1		9	10
			Beaver Pond	2	3	1	2	8
			Glide				5	5
			Pool	14	9	11	6	40
			Run	3				3
		Upland Slough	Backwater Pool	2				2
		Upland Slough Beaver Complex	Beaver Pond	28	161	107	26	322
	Tributary	Tributary	Backwater Pool	22				22
			Glide	4		1	1	6
			Pool	7				7
			Riffle	1			2	3
			Run	2			1	3
		Tributary Mouth	Glide				1	1
			Rapid				3	3
			Riffle		1			1
			Run				7	7
MR-7 107.8-122.7	Susitna River	Backwater	Backwater				1	1
		Clearwater Plume	Clearwater Plume				2	2
		Side Channel	Glide	26	1			27
	Susitna River: Off-Channel	Upland Slough	Backwater Pool	7				7
			Pool	6				6
		Upland Slough Beaver Complex	Beaver Pond	1	29	41	8	79
			Glide		1			1
			Run		1			1
	Tributary	Tributary	Backwater Pool				21	21
			Glide			2		2
			Run				5	5
MR-8 102.4-107.8	Susitna River	Side Channel	Backwater Pool		11		2	13
			Glide			67	32	99
			Riffle			1	4	5
	Susitna River: Off-Channel	Side Slough	Glide	78	2	61	9	150
			Pool	2			2	4
			Run	2		1		3
		Upland Slough Beaver Complex	Backwater Pool	1		16		17
			Beaver Pond		10		17	27
			Glide	5	0	77	3	85
			Pool	70				70
			Run			30	8	38
	Tributary	Tributary	Glide	14	15	33		62
			Pool	10	20	37	15	82
			Riffle			4		4
			Run	13				13
Grand Total				330	290	499	198	1,317

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F6. Juvenile Chinook salmon observations outside of Focus Areas in the Middle River by habitat, 2013.

				Salmon, Chinook (juvenile)			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-6 122.7-148.1	Susitna River	Main Channel	Run	1			1
		Side Channel	Riffle		1		1
	Susitna River: Off-Channel	Upland Slough	Pool	5			5
		Upland Slough Beaver Complex	Beaver Pond	1			1
	Tributary	Tributary	Boulder Riffle	13			13
MR-7 107.8-122.7	Susitna River: Off-Channel	Side Slough	Run			2	2
		Side Slough Beaver Complex	Beaver Pond	5		10	15
		Upland Slough	Pool	2			2
		Upland Slough Beaver Complex	Beaver Pond	7			7
MR-8 102.4-107.8	Susitna River: Off-Channel	Upland Slough	Pool	14	1		15
Grand Total				48	2	12	62

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F7. Adult chum salmon observations in Middle River Focus Areas by habitat, 2013.

				Salmon, chum (adult)			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Main Channel	Run	7			7
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume	2	22	1	25
		Main Channel	Run	2			2
		Side Channel	Glide		7		7
	Susitna River: Off-Channel	Backwater	Backwater		67		67
		Side Slough Beaver Complex	Beaver Pond		1		1
			Glide		49		49
			Pool		3		3
			Riffle		1	1	2
			Run			8	8
	Tributary	Tributary	Glide	9		1	10
			Pool	125			125
			Riffle	10			10
			Run	40			40
		Tributary Mouth	Glide		3		3
			Riffle	30	5		35
			Run		27		27
MR-7 107.8-122.7	Susitna River	Split Main Channel	Riffle	2			2
			Run	1	1		2
MR-8 102.4-107.8	Susitna River	Main Channel	Run	1			1
		Side Channel	Pool		2		2
	Tributary	Tributary	Glide		2		2
			Pool		2		2
Grand Total				229	192	11	432

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F8. Adult chum salmon observations outside of Focus Areas in the Middle River by habitat, 2013.

				Salmon, chum (adult)			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Main Channel	Run		5		5
		Split Main Channel	Run		19		19
	Susitna River: Off-Channel	Side Slough	Glide		106		106
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume		14		14
		Main Channel	Run	3			3
		Side Channel	Riffle		1		1
	Susitna River: Off-Channel	Backwater	Backwater		8		8
		Side Slough	Glide		72		72
		Upland Slough	Pool		1		1
		Upland Slough Beaver Complex	Beaver Pond	3	3	5	11
	Tributary	Tributary	Boulder Riffle	12			12
		Tributary Mouth	Run	1	13		14
MR-7 107.8-122.7	Susitna River	Clearwater Plume	Clearwater Plume	3			3
		Side Channel	Run		2		2
		Split Main Channel	Run	9			9
	Susitna River: Off-Channel	Side Slough	Pool		6		6
MR-8 102.4-107.8	Susitna River	Main Channel	Run	2	15		17
		Side Channel	Run		4		4
		Split Main Channel	Run		2		2
	Susitna River: Off-Channel	Side Slough	Glide			1	1
Grand Total				33	271	6	310

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F9. Juvenile chum salmon observations in Middle River Focus Areas by habitat, 2013.

				Salmon, chum (juvenile)			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Grand Total
Proposed Watana Dam Location PRM 187.1							
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-6 122.7-148.1	Susitna River	Side Channel	Backwater Pool	2			2
			Glide	15	1		16
	Susitna River: Off-Channel	Side Slough Beaver Complex	Backwater Pool	9			9
			Beaver Pond	301			301
			Glide	11			11
			Pool	17			17
			Riffle	18			18
			Run	657	4		661
	Tributary	Tributary	Glide	1			1
			Pool	1	1		2
			Riffle	5			5
			Run	2			2
		Tributary Mouth	Glide		6		6
MR-7 107.8-122.7	Susitna River	Side Channel	Glide	19			19
			Riffle			1	1
MR-8 102.4-107.8	Susitna River	Side Channel	Backwater Pool		10		10
			Pool			1	1
			Riffle		1	2	3
	Susitna River: Off-Channel	Side Slough	Glide	2			2
		Upland Slough Beaver Complex	Glide	1			1
	Tributary	Tributary	Pool	9			9
Grand Total				1,070	23	4	1,097

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F10. Juvenile chum salmon observations outside of Focus Areas in the Middle River by habitat, 2013.

			Salmon, chum (juvenile)		
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Grand Total
Proposed Watana Dam Location PRM 187.1					
Upper Extent Devils Canyon PRM 166.1					
Lower Extent Devils Canyon PRM 153.9					
MR-6 122.7-148.1	Susitna River: Off-Channel	Upland Slough Beaver Complex	Beaver Pond	1	1
MR-8 102.4-107.8	Susitna River	Side Channel	Pool	1	1
Grand Total				2	2

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F11. Adult coho salmon observations in Middle River Focus Areas by habitat, 2013.

			Salmon, coho (adult)				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume		6	16	22
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume		6	3	9
	Susitna River: Off-Channel	Backwater	Backwater		2		2
	Tributary	Tributary	Glide		3	9	12
			Pool	10			10
			Run			1	1
MR-7 107.8-122.7	Susitna River	Main Channel	Run		2		2
		Split Main Channel	Run	1			1
MR-8 102.4-107.8	Susitna River: Off-Channel	Side Slough	Glide		37	5	42
			Run		4		4
	Tributary	Tributary	Glide		31		31
			Pool		26	9	35
Grand Total				11	117	43	171

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F12. Adult coho salmon observations outside of Focus Areas in the Middle River by habitat, 2013.

			Salmon, coho (adult)			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1						
Upper Extent Devils Canyon PRM 166.1						
Lower Extent Devils Canyon PRM 153.9						
MR-5 148.1-153.9	Susitna River	Main Channel	Run	12		12
MR-6 122.7-148.1	Susitna River	Main Channel	Run	4	2	6
	Susitna River: Off-Channel	Side Slough	Glide	2		2
	Tributary	Tributary Mouth	Run	1		1
MR-7 107.8-122.7	Tributary	Tributary	Run	48		48
Grand Total				67	2	69

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F13. Juvenile coho salmon observations in Middle River Focus Areas by habitat, 2013.

				Salmon, coho (juvenile)				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume		20			20
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume			1		1
		Side Channel	Backwater Pool	1				1
			Glide	7		8	1	16
	Susitna River: Off-Channel	Backwater	Backwater		12	5	41	58
		Side Slough Beaver Complex	Beaver Pond		18	11	15	44
			Glide	1		7	30	38
			Pool	2	10	33	49	94
			Riffle				1	1
			Run	1	11		1	13
		Upland Slough	Backwater Pool	1				1
		Upland Slough Beaver Complex	Beaver Pond	1	10	85	76	172
	Tributary	Tributary	Backwater Pool	4				4
			Glide	2	12		7	21
			Pool	2	85			87
			Riffle	3	3			6
			Run	4	10		4	18
		Tributary Mouth	Glide		12		27	39
			Riffle		89	16	3	108
			Run			30	91	121
MR-7 107.8-122.7	Susitna River	Clearwater Plume	Clearwater Plume		14		13	27
		Side Channel	Backwater Pool				2	2
			Glide			1		1
			Pool		1			1
	Susitna River: Off-Channel	Backwater	Backwater		10	1	2	13
		Upland Slough	Backwater Pool	44				44
			Pool	12				12
		Upland Slough Beaver Complex	Beaver Pond	33	55	826	574	1,488
			Glide		15	37		52
			Pool				29	29
			Run		221		25	246
	Tributary	Tributary	Backwater Pool				87	87
			Glide		1	14		15
			Pool		311	35		346
			Riffle		68		1	69
			Run				8	8
		Tributary Mouth	Cascade		29			29
			Riffle		11			11
MR-8 102.4-107.8	Susitna River	Side Channel	Backwater Pool		54			54
			Glide			103	114	217
			Pool		5	1		6
			Riffle			3	4	7
	Susitna River: Off-Channel	Side Slough	Glide		189	52	4	245
			Run			5		5
		Upland Slough Beaver Complex	Backwater Pool	2	42			44
			Beaver Pond		18		1	19
			Glide	6	22	64	82	174
			Run			142	25	167
	Tributary	Tributary	Glide	3	19	39		61
			Pool	2	17	50	11	80
			Riffle		1	3	1	5
			Run	10				10
Grand Total				141	1,395	1,572	1,329	4,437

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F14. Juvenile coho salmon observations outside of Focus Areas in the Middle River by habitat, 2013.

				Salmon, coho (juvenile)			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Split Main Channel	Run			1	1
	Susitna River: Off-Channel	Side Slough	Glide	1	4	10	15
			Pool			2	2
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume			1	1
		Main Channel	Run	1		3	4
		Side Channel	Pool		4		4
	Susitna River: Off-Channel	Backwater	Backwater	1	3	24	28
		Side Slough	Glide		9	1	10
			Pool	6	3	68	77
		Side Slough Beaver Complex	Beaver Pond	15		9	24
		Upland Slough	Pool		3	26	29
		Upland Slough Beaver Complex	Beaver Pond	90	1	385	476
	Tributary	Tributary	Boulder Riffle	21	3		24
		Tributary Mouth	Run		1		1
MR-7 107.8-122.7	Susitna River	Side Channel	Run	9			9
	Susitna River: Off-Channel	Backwater	Backwater		3	2	5
		Side Slough	Pool			29	29
			Run		1	15	16
		Side Slough Beaver Complex	Beaver Pond		7		7
		Upland Slough	Pool	1	4	71	76
		Upland Slough Beaver Complex	Beaver Pond	4	26	92	122
	Tributary	Tributary	Run	48	15	6	69
MR-8 102.4-107.8	Susitna River	Side Channel	Pool	3	6	2	11
	Susitna River: Off-Channel	Side Slough	Glide			1	1
			Pool	8	4		12
		Upland Slough	Glide		15	2	17
			Pool	20	55	8	83
Grand Total				228	167	758	1,153

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F15. Adult pink salmon observations in Middle River Focus Areas by habitat, 2013.

			Salmon, pink (adult)			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Grand Total
Proposed Watana Dam Location PRM 187.1						
Upper Extent Devils Canyon PRM 166.1						
Lower Extent Devils Canyon PRM 153.9						
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume	2	1	3
		Main Channel	Run	4		4
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume	38	5	43
		Main Channel	Run	11		11
		Multi Split Main Channel	Run	1		1
	Tributary	Tributary	Glide	502		502
			Pool	1,800		1,800
			Riffle	28		28
			Run	652		652
		Tributary Mouth	Glide		25	25
			Riffle	65		65
			Run		11	11
MR-7 107.8-122.7	Susitna River	Main Channel	Run	6		6
		Split Main Channel	Riffle	2		2
			Run	9		9
MR-8 102.4-107.8	Susitna River	Main Channel	Run	5		5
		Side Channel	Run		1	1
	Tributary	Tributary	Glide		1	1
			Pool		1	1
Grand Total				3,125	45	3,170

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F16. Adult pink salmon observations outside of Focus Areas in the Middle River by habitat, 2013.

Salmon, pink (adult)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Grand Total
Proposed Watana Dam Location PRM 187.1						
Upper Extent Devils Canyon PRM 166.1						
Lower Extent Devils Canyon PRM 153.9						
MR-5 148.1-153.9	Susitna River	Main Channel	Run	2	4	6
		Split Main Channel	Run	5	8	13
	Susitna River: Off-Channel	Side Slough	Glide		1	1
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume	12	40	52
		Main Channel	Run	8	7	15
		Side Channel	Riffle		1	1
	Susitna River: Off-Channel	Backwater	Backwater		2	2
		Upland Slough Beaver Complex	Beaver Pond		1	1
	Tributary	Tributary	Boulder Riffle	127	33	160
		Tributary Mouth	Run	5	64	69
MR-7 107.8-122.7	Susitna River	Clearwater Plume	Clearwater Plume	52		52
		Split Main Channel	Run	22	1	23
	Susitna River: Off-Channel	Side Slough	Pool		17	17
	Tributary	Tributary	Riffle	80		80
			Run	10		10
MR-8 102.4-107.8	Susitna River	Main Channel	Run	6	2	8
		Side Channel	Pool		1	1
Grand Total				329	182	511

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F17. Juvenile pink salmon observations in Middle River Focus Areas by habitat, 2013.

Salmon, pink (juvenile)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Grand Total
Proposed Watana Dam Location PRM 187.1					
Upper Extent Devils Canyon PRM 166.1					
Lower Extent Devils Canyon PRM 153.9					
MR-6 122.7-148.1	Susitna River: Off-Channel	Upland Slough Beaver Complex	Beaver Pond	1	1
	Tributary	Tributary	Backwater Pool	1	1
			Riffle	1	1
MR-8 102.4-107.8	Tributary	Tributary	Glide	1	1
Grand Total				4	4

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F18. Juvenile pink salmon observations outside of Focus Areas in the Middle River by habitat, 2013.

Salmon, pink (juvenile)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Grand Total
Proposed Watana Dam Location PRM 187.1					
Upper Extent Devils Canyon PRM 166.1					
Lower Extent Devils Canyon PRM 153.9					
MR-5 148.1-153.9	Susitna River: Off-Channel	Side Slough	Glide	1	1
MR-7 107.8-122.7	Susitna River: Off-Channel	Backwater	Backwater	4	4
Grand Total				5	5

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F19. Adult sockeye salmon observations in Middle River Focus Areas by habitat, 2013.

Salmon, sockeye (adult)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume	7			7
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume	1			1
	Susitna River: Off-Channel	Side Slough Beaver Complex	Glide		36		36
			Pool		9		9
			Riffle			1	1
			Run			6	6
MR-7 107.8-122.7	Susitna River	Split Main Channel	Run	1			1
MR-8 102.4-107.8	Tributary	Tributary	Glide		1		1
			Pool		2		2
Grand Total				9	48	7	64

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F20. Adult sockeye salmon observations outside of Focus Areas in the Middle River by habitat, 2013.

				Salmon, sockeye (adult)		
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1						
Upper Extent Devils Canyon PRM 166.1						
Lower Extent Devils Canyon PRM 153.9						
MR-5 148.1-153.9	Susitna River: Off-Channel	Side Slough	Glide	5		5
MR-6 122.7-148.1	Susitna River: Off-Channel	Backwater	Backwater	1	3	4
		Side Slough	Glide	30		30
		Upland Slough Beaver Complex	Beaver Pond	55	50	105
MR-7 107.8-122.7	Susitna River	Side Channel	Riffle	1		1
Grand Total				92	53	145

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F21. Juvenile sockeye salmon observations in Middle River Focus Areas by habitat, 2013.

				Salmon, sockeye (juvenile)				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume		5		1	6
MR-6 122.7-148.1	Susitna River	Side Channel	Backwater Pool			13		13
			Glide	27	12	5		44
	Susitna River: Off-Channel	Backwater	Backwater		28	2	1	31
		Side Slough Beaver Complex	Backwater Pool	175	699		2	876
			Beaver Pond	2		9		11
			Glide		93		63	156
			Pool	14	111	10	1	136
			Riffle		2			2
		Upland Slough	Glide				1	1
		Upland Slough Beaver Complex	Beaver Pond			7	1	8
	Tributary	Tributary	Pool		11			11
		Tributary Mouth	Glide				2	2
			Riffle				2	2
			Run				9	9
MR-7 107.8-122.7	Susitna River	Side Channel	Glide	1		1		2
	Susitna River: Off-Channel	Backwater	Backwater		61			61
		Upland Slough Beaver Complex	Beaver Pond			4	1	5
			Run		1			1
	Tributary	Tributary	Backwater Pool				8	8
			Pool		15	4		19
MR-8 102.4-107.8	Susitna River	Side Channel	Backwater Pool		60			60
			Glide			25	37	62
			Pool			8		8
			Riffle			4		4
	Susitna River: Off-Channel	Side Slough	Glide		191	9		200
		Upland Slough Beaver Complex	Backwater Pool			1		1
			Glide	2	1	2	2	7
			Run			7		7
	Tributary	Tributary	Glide		1	1		2
Grand Total				221	1,291	112	131	1,755

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F22. Juvenile sockeye salmon observations outside of Focus Areas in the Middle River by habitat, 2013.

				Salmon, sockeye (juvenile)			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River: Off-Channel	Side Slough	Glide	4			4
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume	1	1		2
		Side Channel	Pool		2	1	3
	Susitna River: Off-Channel	Backwater	Backwater	6			6
		Side Slough	Pool	1			1
		Upland Slough	Pool			4	4
		Upland Slough Beaver Complex	Beaver Pond	1	1		2
	Tributary	Tributary Mouth	Run	1	3		4
MR-7 107.8-122.7	Susitna River	Side Channel	Run	6			6
	Susitna River: Off-Channel	Side Slough	Pool	2	16	2	20
		Side Slough Beaver Complex	Beaver Pond			2	2
MR-8 102.4-107.8	Susitna River	Main Channel	Run		1		1
	Susitna River: Off-Channel	Side Slough	Pool	10			10
		Upland Slough	Glide	3			3
			Pool		1	1	2
Grand Total				35	25	10	70

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F23. Undifferentiated juvenile salmon observations in Middle River Focus Areas by habitat, 2013.

				Salmon, undifferentiated (juvenile)				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume		5	0		5
		Main Channel	Run			1		1
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume		3			3
		Main Channel	Run		1			1
		Multi Split Main Channel	Run			1		1
		Side Channel	Backwater Pool		8			8
			Glide			1		1
			Run	1				1
	Susitna River: Off-Channel	Backwater	Backwater		1			1
		Side Slough Beaver Complex	Backwater Pool		2			2
			Beaver Pond		1	3		4
			Glide		6		1	7
			Pool		4	6		10
			Run		3			3
		Upland Slough Beaver Complex	Beaver Pond		14	5	1	20
	Tributary	Tributary	Glide	4				4
			Pool		1			1
			Riffle	3				3
			Run		2			2
		Tributary Mouth	Riffle		3			3
			Run				7	7
MR-7 107.8-122.7	Susitna River	Main Channel	Run			1		1
		Split Main Channel	Riffle		3			3
			Run		4	1		5
	Susitna River: Off-Channel	Backwater	Backwater		4			4
		Upland Slough	Backwater Pool	7				7
		Upland Slough Beaver Complex	Beaver Pond	8	375	1	46	430[a]
			Glide		2	4		6
	Tributary	Tributary	Pool		2			2
		Tributary Mouth	Cascade		1			1
MR-8 102.4-107.8	Susitna River	Main Channel	Run		1	1		2
		Side Channel	Backwater Pool		24		2	26
			Glide			4	1	5
			Pool			1		1
	Susitna River: Off-Channel	Side Slough	Glide		2	32	2	36
			Pool				80	80
			Riffle		2			2
		Upland Slough Beaver Complex	Backwater Pool		20	2		22
			Glide		2	17	2	21
			Run			1	1	2
	Tributary	Tributary	Glide			1		1
			Pool		1	1		2
Grand Total				23	497	84	143	747

[a]: *differentiating between juvenile Chinook and coho salmon in an upland slough beaver complex located in FA-115 (Slough 6A) was particularly difficult in the field. Further work is planned to identify individuals collected in 2013 to species from photographs and to collect voucher specimens and genetics samples during the 2014 field season.*

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F24. Juvenile salmon (species undifferentiated) observations outside of Focus Areas in the Middle River by habitat, 2013.

				Salmon, undifferentiated (juvenile)		
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Grand Total
Proposed Watana Dam Location PRM 187.1						
Upper Extent Devils Canyon PRM 166.1						
Lower Extent Devils Canyon PRM 153.9						
MR-7 107.8-122.7	Susitna River: Off-Channel	Side Slough	Pool		1	1
		Upland Slough Beaver Complex	Beaver Pond	2		2
MR-8 102.4-107.8	Susitna River: Off-Channel	Side Slough	Pool		20	20
		Upland Slough	Pool	1		1
Grand Total				3	21	24

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F25. Arctic grayling (all life stages) observations in Middle River Focus Areas by habitat, 2013.

				Arctic grayling				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
MR-1 184.6-187.1	Susitna River	Main Channel	Run			19	10	29
		Side Channel	Glide				12	12
			Riffle			2	10	12
			Run		3	5	2	10
MR-2 169.6-184.6	Susitna River	Backwater	Backwater		40	14		54
		Clearwater Plume	Clearwater Plume		85	84	4	173
		Main Channel	Run		2	9	2	13
		Side Channel	Glide		12	17	29	58
	Susitna River: Off-Channel	Side Slough	Backwater Pool		119	95		214
			Glide			252	115	367
			Pool		70			70
			Run			9		9
	Tributary	Tributary Mouth	Riffle		12	12		24
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume		5			5
		Main Channel	Riffle			11	10	21
			Run				1	1
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume		17	4	4	25
		Multi Split Main Channel	Riffle			1	1	2
			Run				1	1
		Side Channel	Backwater Pool			2		2
			Glide		1	1		2
	Susitna River: Off-Channel	Backwater	Backwater		17	4		21
		Side Slough Beaver Complex	Pool		1			1
			Run	1	1			2
	Tributary	Tributary	Glide		1			1
			Pool		8			8
			Run		5			5
		Tributary Mouth	Glide		7			7
			Riffle		31		1	32
MR-7 107.8-122.7	Susitna River	Main Channel	Run				2	2
		Side Channel	Pool			1		1
		Split Main Channel	Riffle			1		1
			Run		1			1
	Susitna River: Off-Channel	Upland Slough Beaver Complex	Run		1			1
	Tributary	Tributary	Riffle		5			5
		Tributary Mouth	Cascade		1			1
			Riffle		6			6
MR-8 102.4-107.8	Susitna River	Main Channel	Run				4	4
		Side Channel	Backwater Pool		2			2
			Glide				1	1
			Riffle			1	4	5
	Susitna River: Off-Channel	Side Slough	Glide		2	2	23	27
			Pool				3	3
		Upland Slough Beaver Complex	Glide				1	1
	Tributary	Tributary	Glide			1		1
			Pool				77	77
Grand Total				1	455	547	317	1,320

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F26. Arctic grayling (all life stages) observations outside of Focus Areas in the Middle River by habitat, 2013.

			Arctic grayling				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
MR-1 184.6-187.1	Susitna River	Main Channel	Run	2	5	24	31
		Side Channel	Riffle			12	12
			Run		4		4
MR-2 169.6-184.6	Susitna River	Clearwater Plume	Clearwater Plume	24	57	45	126
		Main Channel	Run	2	18	6	26
		Side Channel	Riffle		7		7
			Run	3	17	15	35
		Split Main Channel	Run	5	31	6	42
	Susitna River: Off-Channel	Backwater	Backwater	26	8	22	56
		Side Slough	Pool	11			11
			Riffle		2		2
			Run	7	5	42	54
	Tributary	Tributary Mouth	Riffle		18		18
	Tsusena Creek		Boulder Riffle	58	3	13	74
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Main Channel	Run			1	1
		Split Main Channel	Run			4	4
	Susitna River: Off-Channel	Side Slough	Glide		3		3
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume	3			3
		Main Channel	Run			1	1
		Side Channel	Pool			3	3
	Susitna River: Off-Channel	Side Slough	Pool	1		13	14
		Upland Slough	Pool	1			1
	Tributary	Tributary	Boulder Riffle	2	1	1	4
		Tributary Mouth	Run		1	2	3
MR-7 107.8-122.7	Susitna River	Split Main Channel	Run			2	2
	Susitna River: Off-Channel	Side Slough	Pool		1		1
MR-8 102.4-107.8	Susitna River: Off-Channel	Side Slough	Pool		1		1
Grand Total				145	182	212	539

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F27. Juvenile Arctic grayling observations in Middle River Focus Areas by habitat, 2013.

				Arctic grayling, juvenile (<190mm)				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
MR-1 184.6-187.1	Susitna River	Main Channel	Run			17	9	26
		Side Channel	Glide				9	9
			Riffle			2	10	12
			Run		3	5	2	10
MR-2 169.6-184.6	Susitna River	Backwater	Backwater Pool		37	13		50
		Clearwater Plume	Clearwater Plume		73	77	1	151
		Main Channel	Run		2	7	2	11
		Side Channel	Glide		12	17	28	57
	Susitna River: Off-Channel	Side Slough	Backwater Pool		119	95		214
			Glide			248	85	333
			Pool		70			70
			Run			8		8
	Tributary	Tributary Mouth	Riffle		12	11		23
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume		3			3
		Main Channel	Riffle			11	7	18
			Run				1	1
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume		13			13
			Run			2		2
		Multi Split Main Channel	Riffle			1	1	2
			Run				1	1
		Side Channel	Backwater Pool			2		2
			Glide		1	1		2
	Susitna River: Off-Channel	Backwater	Backwater		16	4		20
		Side Slough Beaver Complex	Pool		1			1
			Run	1	1			2
	Tributary	Tributary	Glide		1			1
			Pool		8			8
			Run		4			4
		Tributary Mouth	Glide		7			7
			Riffle		28		1	29
MR-7 107.8-122.7	Susitna River	Main Channel	Run				1	1
		Side Channel	Pool			1		1
		Split Main Channel	Riffle			1		1
	Susitna River: Off-Channel	Upland Slough Beaver Complex	Run		0			0
	Tributary	Tributary	Riffle		5			5
		Tributary Mouth	Cascade		1			1
			Riffle		6			6
MR-8 102.4-107.8	Susitna River	Main Channel	Run				3	3
		Side Channel	Backwater Pool		2			2
			Glide				1	1
			Riffle			1	3	4
	Susitna River: Off-Channel	Side Slough	Glide		2	2	23	27
			Pool				3	3
		Upland Slough Beaver Complex	Glide				1	1
	Tributary	Tributary	Glide			1		1
			Pool				76	76
Grand Total				1	427	527	268	1,223

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F28. Juvenile Arctic grayling observations outside of Focus Areas in the Middle River by habitat, 2013.

Arctic grayling, juvenile (<190mm)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
MR-1 184.6-187.1	Susitna River	Main Channel	Run	1	5	16	22
		Side Channel	Riffle			5	5
			Run		4		4
MR-2 169.6-184.6	Susitna River	Clearwater Plume	Clearwater Plume	1	8	5	14
		Main Channel	Run	2	3	3	8
		Side Channel	Riffle		3		3
			Run	3	5	11	19
		Split Main Channel	Run	5	7	2	14
	Susitna River: Off-Channel	Backwater	Backwater	23	6	22	51
		Side Slough	Pool	9			9
			Riffle		2		2
			Run	7	5	37	49
	Tributary	Tributary Mouth	Riffle		7		7
	Tsusena Creek		Boulder Riffle	24	2	6	32
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River: Off-Channel	Side Slough	Glide		3		3
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume	1			1
		Side Channel	Pool			3	3
	Susitna River: Off-Channel	Side Slough	Pool	1		13	14
		Upland Slough	Pool	1			1
	Tributary	Tributary	Boulder Riffle	2		1	3
		Tributary Mouth	Run		1		1
MR-7 107.8-122.7	Susitna River: Off-Channel	Side Slough	Pool		1		1
MR-8 102.4-107.8	Susitna River: Off-Channel	Side Slough	Pool		1		1
Grand Total				80	63	124	267

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F29. Juvenile or adult Arctic grayling observations in Middle River Focus Areas by habitat, 2013.

Arctic grayling, juvenile or adult (190-328mm)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
MR-1 184.6-187.1	Susitna River	Main Channel	Run		1	1	2
		Side Channel	Glide			3	3
MR-2 169.6-184.6	Susitna River	Clearwater Plume	Clearwater Plume	4	4	1	9
		Main Channel	Run		2		2
		Side Channel	Glide			1	1
	Susitna River: Off-Channel	Side Slough	Glide		4	30	34
	Tributary	Tributary Mouth	Riffle		1		1
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume	2			2
		Main Channel	Riffle			3	3
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume	4	1		5
	Susitna River: Off-Channel	Backwater	Backwater	1			1
MR-7 107.8-122.7	Susitna River	Split Main Channel	Run	1			1
	Susitna River: Off-Channel	Upland Slough Beaver Complex	Run	1			1
MR-8 102.4-107.8	Susitna River	Main Channel	Run			1	1
	Tributary	Tributary	Pool			1	1
Grand Total				13	13	41	67

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F30. Juvenile or adult Arctic grayling observations outside of Focus Areas in the Middle River by habitat, 2013.

Arctic grayling, juvenile or adult (190-328mm)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
MR-1 184.6-187.1	Susitna River	Main Channel	Run	1		5	6
		Side Channel	Riffle			4	4
MR-2 169.6-184.6	Susitna River	Clearwater Plume	Clearwater Plume	11	47	24	82
		Main Channel	Run		4	1	5
		Side Channel	Riffle		4		4
			Run		7	1	8
		Split Main Channel	Run		14	2	16
	Susitna River: Off-Channel	Backwater	Backwater	3	1		4
		Side Slough	Pool	2			2
			Run			5	5
	Tributary	Tributary Mouth	Riffle		11		11
	Tsusena Creek		Boulder Riffle	34	1	7	42
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Main Channel	Run			1	1
		Split Main Channel	Run			2	2
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume	2			2
		Main Channel	Run			1	1
	Tributary	Tributary Mouth	Run			1	1
MR-7 107.8-122.7	Susitna River	Split Main Channel	Run			1	1
Grand Total				53	89	55	197

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F31. Adult Arctic grayling observations in Middle River Focus Areas by habitat, 2013.

Arctic grayling, adult (>328mm)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
MR-1 184.6-187.1	Susitna River	Main Channel	Run		1		1
MR-2 169.6-184.6	Susitna River	Backwater	Backwater Pool	3	1		4
		Clearwater Plume	Clearwater Plume	8	3	2	3
	Susitna River: Off-Channel	Side Slough	Run		1		1
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume		1	4	5
	Tributary	Tributary	Run	1			1
		Tributary Mouth	Riffle	3			3
MR-7 107.8-122.7	Susitna River	Main Channel	Run			1	1
MR-8 102.4-107.8	Susitna River	Side Channel	Riffle			1	1
Grand Total				15	7	8	30

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F32. Adult Arctic grayling observations outside of Focus Areas in the Middle River by habitat, 2013.

Arctic grayling, adult (>328m)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
MR-1 184.6-187.1	Susitna River	Main Channel	Run			3	3
		Side Channel	Riffle			3	3
MR-2 169.6-184.6	Susitna River	Clearwater Plume	Clearwater Plume	12	2	16	30
		Main Channel	Run		11	2	13
		Side Channel	Run		5	3	8
		Split Main Channel	Run		10	2	12
	Susitna River: Off-Channel	Backwater	Backwater		1		1
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Split Main Channel	Run			2	2
MR-6 122.7-148.1	Tributary	Tributary	Boulder Riffle		1		1
		Tributary Mouth	Run			1	1
Grand Total				12	30	32	74

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F33. Burbot observations in Middle River Focus Areas by habitat, 2013.

				Burbot				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
MR-1 184.6-187.1	Susitna River	Main Channel	Run		2	2	3	7
		Side Channel	Riffle		1			1
MR-2 169.6-184.6	Susitna River	Backwater	Backwater			5		5
		Clearwater Plume	Clearwater Plume				1	1
		Side Channel	Glide				1	1
	Susitna River: Off-Channel	Side Slough	Backwater Pool		2			2
			Glide			2	2	4
			Pool		1			1
	Tributary	Tributary Mouth	Riffle		1			1
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River	Main Channel	Run		2	6		8
MR-6 122.7-148.1	Susitna River	Main Channel	Run			1		1
		Multi Split Main Channel	Run		1		1	2
		Side Channel	Backwater Pool	8				8
			Glide	6	11	2	1	20
			Pool	12				12
			Riffle			1		1
			Run	2				2
	Susitna River: Off-Channel	Backwater	Backwater			3		3
		Side Slough Beaver Complex	Beaver Pond	1				1
			Glide			3	1	4
			Pool				1	1
		Upland Slough Beaver Complex	Beaver Pond	2	10	5	57	74
	Tributary	Tributary	Pool				1	1
MR-7 107.8-122.7	Susitna River	Main Channel	Run		1	1	1	3
		Side Channel	Glide	6	1	2		9
			Pool	2				2
		Split Main Channel	Riffle			1		1
			Run		3	2	2	7
	Susitna River: Off-Channel	Backwater	Backwater		21	8	4	33
		Upland Slough Beaver Complex	Beaver Pond		2	1		3
			Glide			1		1
			Run				1	1
	Tributary	Tributary	Pool			2		2
			Riffle		6			6
MR-8 102.4-107.8	Susitna River	Main Channel	Glide		1			1
			Run		1	6	2	9
		Side Channel	Glide			1	8	9
			Pool		1	1		2
			Riffle			1		1
	Susitna River: Off-Channel	Side Slough	Glide	7	1	8		16
			Riffle		1			1
		Upland Slough Beaver Complex	Glide				1	1
			Run			1		1
	Tributary	Tributary	Glide			2		2
			Pool	1			2	3
Grand Total				47	70	68	90	275

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F34. Burbot observations outside of Focus Areas in the Middle River by habitat, 2013.

				Burbot			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
MR-1 184.6-187.1	Susitna River	Main Channel	Run	3	1		4
MR-2 169.6-184.6	Susitna River	Clearwater Plume	Clearwater Plume			2	2
		Main Channel	Run	1	1		2
		Side Channel	Run	1	2	1	4
	Susitna River: Off-Channel	Side Slough	Pool	3		2	5
			Riffle		1		1
	Tributary	Tributary Mouth	Riffle		2	1	3
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Main Channel	Run		1	3	4
	Susitna River: Off-Channel	Side Slough	Glide	1	1		2
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume			1	1
		Main Channel	Run		1		1
	Susitna River: Off-Channel	Side Slough	Glide		1	3	4
			Pool	3	6	6	15
		Upland Slough Beaver Complex	Beaver Pond	1			1
	Tributary	Tributary Mouth	Run	1		2	3
MR-7 107.8-122.7	Susitna River	Clearwater Plume	Clearwater Plume			3	3
		Main Channel	Run	1		3	4
		Side Channel	Run		2		2
		Split Main Channel	Run			5	5
	Susitna River: Off-Channel	Backwater	Backwater	2			2
		Side Slough	Pool		1		1
			Run			2	2
		Side Slough Beaver Complex	Beaver Pond	6	6	2	14
		Upland Slough	Pool	19	1	2	22
		Upland Slough Beaver Complex	Beaver Pond		2		2
	Tributary	Tributary	Run	8	12	4	24
		Tributary Mouth	Riffle			1	1
MR-8 102.4-107.8	Susitna River	Main Channel	Run	1	2		3
		Side Channel	Glide	1			1
			Pool	1	1		2
		Split Main Channel	Run		1	2	3
	Susitna River: Off-Channel	Side Slough	Pool	1	3	1	5
		Upland Slough	Glide	1	1		2
			Pool	4	3	8	15
Grand Total				59	52	54	165

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F35. Dolly Varden observations in Middle River Focus Areas by habitat, 2013.

				Dolly Varden				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
MR-2 169.6-184.6	Susitna River	Backwater	Backwater		1			1
		Main Channel	Run				1	1
	Susitna River: Off-Channel	Side Slough	Pool		1			1
	Tributary	Tributary Mouth	Riffle		2			2
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-6 122.7-148.1	Susitna River: Off-Channel	Backwater	Backwater		2			2
		Upland Slough	Glide	1				1
		Upland Slough Beaver Complex	Beaver Pond	1	2	1	1	5
	Tributary	Tributary	Pool		4			4
			Riffle		3			3
			Run		1			1
		Tributary Mouth	Glide		14			14
			Riffle		4			4
			Run				1	1
MR-7 107.8-122.7	Susitna River	Split Main Channel	Run		1			1
	Susitna River: Off-Channel	Backwater	Backwater		2			2
		Upland Slough	Backwater Pool	3				3
		Upland Slough Beaver Complex	Glide			1		1
			Run		2			2
	Tributary	Tributary	Backwater Pool				1	1
		Tributary Mouth	Cascade		6			6
			Riffle		1			1
MR-8 102.4-107.8	Susitna River	Main Channel	Run				1	1
		Side Channel	Glide				5	5
			Riffle				2	2
	Susitna River: Off-Channel	Side Slough	Glide			1		1
		Upland Slough Beaver Complex	Run				1	1
	Tributary	Tributary	Pool			2	5	7
Grand Total				5	46	5	18	74

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F36. Dolly Varden observations outside of Focus Areas in the Middle River by habitat, 2013.

				Dolly Varden				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
MR-1 184.6-187.1	Susitna River	Main Channel	Run		2			2
MR-2 169.6-184.6	Fog Creek		Boulder Riffle		1			1
			Pool	14	140	2	4	160
			Rapid		2			2
			Riffle	48	39	32	9	128
			Run		3	21		24
	Fog Creek Tributary		Rapid	5				5
	Fog Creek: Off-Channel	Side Slough	Pool		2	1		3
	Susitna River	Clearwater Plume	Clearwater Plume			2		2
	Susitna River: Off-Channel	Side Slough	Riffle			1		1
			Run		1		5	6
	Tsusena Creek		Boulder Riffle		3		1	4
Upper Extent Devils Canyon PRM 166.1								
MR-4 153.9-166.1	Chinook Creek		Boulder Riffle		30	10	9	49
			Riffle				14	14
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River: Off-Channel	Side Slough	Glide		2			2
MR-6 122.7-148.1	Tributary	Tributary Mouth	Run		1			1
MR-7 107.8-122.7	Susitna River	Main Channel	Glide				2	2
Grand Total				67	226	69	44	406

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F37. Lamprey observations in Middle River Focus Areas by habitat, 2013.

				Lamprey				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-8 102.4-107.8	Susitna River	Side Channel	Backwater Pool		1			1
			Glide				2	2
	Susitna River: Off-Channel	Side Slough	Glide	5	17	1	18	41
			Pool	10				10
			Riffle		9			9
			Run			1		1
	Tributary	Tributary	Glide	2				2
			Pool	2				2
			Riffle		1			1
			Run	1				1
Grand Total				20	28	2	20	70

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F38. Lamprey observations outside of Focus Areas in the Middle River by habitat, 2013.

				Lamprey		
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Grand Total
Proposed Watana Dam Location PRM 187.1						
Upper Extent Devils Canyon PRM 166.1						
Lower Extent Devils Canyon PRM 153.9						
MR-7 107.8-122.7	Tributary	Tributary	Run	4	1	5
Grand Total				4	1	5

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F39. Longnose sucker observations in Middle River Focus Areas by habitat, 2013.

				Longnose sucker				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
MR-1 184.6-187.1	Susitna River	Main Channel	Run				1	1
		Side Channel	Riffle			2	2	4
			Run		1	3		4
MR-2 169.6-184.6	Susitna River	Backwater	Backwater		16	17		33
		Clearwater Plume	Clearwater Plume		1			1
		Main Channel	Run		5	1		6
		Side Channel	Glide			5	11	16
	Susitna River: Off-Channel	Side Slough	Backwater Pool		44	91		135
			Glide			50	48	98
			Pool		64			64
			Run			2		2
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume		4			4
		Main Channel	Run			2		2
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume		1	6		7
		Main Channel	Run		1	4		5
		Multi Split Main Channel	Run		1		1	2
		Side Channel	Backwater Pool	6		18		24
			Glide	60	5	12	4	81
			Pool	39				39
			Riffle		1	1		2
			Run	1		2	2	5
	Susitna River: Off-Channel	Backwater	Backwater		8	8		16
		Side Slough Beaver Complex	Backwater Pool	2	1			3
			Beaver Pond	1		2	12	15
			Glide				14	14
			Pool				2	2
			Run	1	1			2
		Upland Slough	Backwater Pool	2				2
		Upland Slough Beaver Complex	Beaver Pond	119	5	3	56	183
	Tributary	Tributary	Riffle	2				2
			Run		1			1
		Tributary Mouth	Riffle		1		1	2
MR-7 107.8-122.7	Susitna River	Main Channel	Run		2			2
		Side Channel	Backwater Pool				1	1
			Glide	44	13	2		59
			Pool			21		21
			Riffle			3		3
		Split Main Channel	Run		2	8	1	11
	Susitna River: Off-Channel	Backwater	Backwater		19	2	2	23
		Upland Slough	Backwater Pool	3				3
		Upland Slough Beaver Complex	Beaver Pond	28			1	29
			Run		2			2
	Tributary	Tributary	Riffle		2			2
MR-8 102.4-107.8	Susitna River	Main Channel	Run			5	4	9
		Side Channel	Backwater Pool		6			6
			Glide			36	19	55
			Pool		9	3		12
			Riffle			11		11
	Susitna River: Off-Channel	Side Slough	Glide	67		34	4	105
			Pool	1			39	40
		Upland Slough Beaver Complex	Backwater Pool		2			2
			Beaver Pond		1			1
			Glide	1				1
	Tributary	Tributary	Pool			2	5	7
			Run	1				1
Grand Total				378	219	356	230	1,183

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F40. Longnose sucker observations outside of Focus Areas in the Middle River by habitat, 2013.

				Longnose sucker			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
MR-1 184.6-187.1	Susitna River	Main Channel	Run	1			1
MR-2 169.6-184.6	Susitna River	Clearwater Plume	Clearwater Plume	4			4
		Side Channel	Run	3	5	1	9
	Susitna River: Off-Channel	Side Slough	Pool	22		2	24
			Run	3		2	5
	Tributary	Tributary Mouth	Riffle		3		3
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Main Channel	Run	2		3	5
		Split Main Channel	Run		1		1
	Susitna River: Off-Channel	Side Slough	Glide	73	7	1	81
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume	1			1
		Main Channel	Run		2		2
		Side Channel	Pool	1	56		57
			Riffle		14		14
	Susitna River: Off-Channel	Backwater	Backwater	12	3		15
		Side Slough	Pool		13	2	15
		Upland Slough	Pool		1		1
	Tributary	Tributary Mouth	Run		4		4
MR-7 107.8-122.7	Susitna River	Side Channel	Glide			1	1
			Riffle	4		1	5
			Run		4	7	11
		Split Main Channel	Run		4	6	10
	Susitna River: Off-Channel	Backwater	Backwater	11			11
		Side Slough	Pool		24	8	32
	Tributary	Tributary	Run	2	2		4
MR-8 102.4-107.8	Susitna River	Main Channel	Run	4	1	4	9
		Side Channel	Glide	3		5	8
			Pool		21		21
			Run			4	4
		Split Main Channel	Run			6	6
	Susitna River: Off-Channel	Backwater	Backwater			2	2
		Side Slough	Glide			1	1
			Pool		84	18	102
		Upland Slough	Pool		17	2	19
Grand Total				146	266	76	488

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F41. Sculpin observations in Middle River Focus Areas by habitat, 2013.

				Sculpin				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
MR-1 184.6-187.1	Susitna River	Main Channel	Run		25	56	46	127
		Side Channel	Glide				11	11
			Riffle		27	15	28	70
			Run		6	11	21	38
MR-2 169.6-184.6	Susitna River	Backwater	Backwater		7	4		11
		Clearwater Plume	Clearwater Plume		4	13	3	20
		Main Channel	Run		43	33	8	84
		Side Channel	Glide		82	30	54	166
	Susitna River: Off-Channel	Side Slough	Backwater Pool		79	11		90
			Glide			67	24	91
			Pool		93			93
			Run			2		2
	Tributary	Tributary Mouth	Cascade				1	1
			Riffle		40	26		66
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume		1			1
		Main Channel	Glide		2			2
			Riffle		1	3	16	20
			Run				3	3
MR-6 122.7-148.1	Susitna River	Main Channel	Run			20		20
		Multi Split Main Channel	Riffle		1	5	18	24
			Run		10	16	39	65
		Side Channel	Backwater Pool	4	11	13		28
			Glide	27	28	8	54	117
			Pool	1				1
			Riffle	3	13	13	11	40
			Run	3	8		26	37
		Split Main Channel	Run				12	12
	Susitna River: Off-Channel	Backwater	Backwater		51	4		55
		Side Slough	Backwater Pool	1				1
			Glide	1				1
		Side Slough Beaver Complex	Backwater Pool	33	17		10	60
			Beaver Pond	32	4	3	5	44
			Glide	34	81	3	60	178
			Pool	55	5	2	11	73
			Riffle	5	3		2	10
			Run	19	43			62
		Upland Slough	Backwater Pool	7				7
			Glide	16			10	26
		Upland Slough Beaver Complex	Beaver Pond	9	13		3	25
	Tributary	Tributary	Backwater Pool	2				2
			Glide	24	8		17	49
			Pool	2	71			73
			Riffle	1	79			80
			Run	2	21		1	24
		Tributary Mouth	Glide				14	14
			Pool		1			1
			Riffle		45	7	11	63
			Run			2	11	13
MR-7 107.8-122.7	Susitna River	Clearwater Plume	Clearwater Plume		3	5		4
		Main Channel	Run		20	2	13	35
		Side Channel	Backwater Pool				17	17
			Glide	25	4	9		38
			Pool	1	12	7		20
			Riffle			23		23
		Split Main Channel	Riffle		2	1		3
			Run		4	2	11	17
	Susitna River: Off-Channel	Backwater	Backwater		2			2
		Upland Slough Beaver Complex	Beaver Pond			1		1
			Glide		1	2		3
			Pool				5	5
			Run		13		17	30
	Tributary	Tributary	Glide		5	10		15
			Pool		1	1		2
			Riffle		35			35
			Run				1	1
		Tributary Mouth	Cascade		14			14
			Riffle		19			19
MR-8 102.4-107.8	Susitna River	Main Channel	Run		4	13	28	45
		Side Channel	Backwater Pool		48		1	49
			Glide			5	121	126
			Pool		8		12	20
			Riffle		21	29	30	80
			Run		4	9		13
	Susitna River: Off-Channel	Side Slough	Glide	61	164	26	32	283
			Pool	31			58	89
			Riffle		84	23	8	115
			Run	3		17		20
		Upland Slough Beaver Complex	Backwater Pool	11				11
			Glide	7	14	5	8	34
			Run			1	3	4
	Tributary	Tributary	Glide	1	2	4		7
			Pool	20	3	8	4	35
			Riffle		29	3		32
			Run	12				12
Grand Total				453	1,439	573	899	3,364

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F42. Sculpin observations outside of Focus Areas in the Middle River by habitat, 2013.

				Sculpin				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
MR-1 184.6-187.1	Susitna River	Main Channel	Run		30	27	24	81
		Side Channel	Riffle				8	8
			Run		12	9		21
MR-2 169.6-184.6	Fog Creek		Boulder Riffle		4		1	5
			Pool	2		1	2	5
			Riffle	6	40	7	24	77
			Run		5	1	2	8
	Fog Creek Tributary		Rapid	25				25
	Fog Creek: Off-Channel	Side Slough	Pool		2		2	4
	Susitna River	Clearwater Plume	Clearwater Plume		29	13	31	73
		Main Channel	Run		18	1	8	27
		Side Channel	Glide				1	1
			Riffle		12	3		15
			Run		15	14	6	35
		Split Main Channel	Run		13	3	9	25
	Susitna River: Off-Channel	Backwater	Backwater		23	4	2	29
		Side Slough	Pool		52			52
			Run		66	22	28	116
	Tributary	Tributary Mouth	Riffle			21	15	36
	Tsusena Creek		Boulder Riffle		8	6	11	25
Upper Extent Devils Canyon PRM 166.1								
MR-4 153.9-166.1	Chinook Creek		Boulder Riffle		4	1	3	8
			Riffle				5	5
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River	Main Channel	Run		14	25	12	51
		Split Main Channel	Run		7	2	15	24
	Susitna River: Off-Channel	Side Slough	Glide		125	26	10	161
			Pool				1	1
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume		19	3	11	33
		Main Channel	Run			6	1	7
		Side Channel	Pool		9	11	17	37
			Riffle		31	89		120
	Susitna River: Off-Channel	Backwater	Backwater		9	5		14
		Side Slough	Glide			13	44	57
			Pool		55	22	40	117
		Upland Slough	Pool		34	30		64
		Upland Slough Beaver Complex	Beaver Pond		9		13	22
	Tributary	Tributary	Boulder Riffle		57	10	7	74
		Tributary Mouth	Run		9	7	12	28
MR-7 107.8-122.7	Susitna River	Main Channel	Glide				11	11
			Run		4			4
		Side Channel	Glide				14	14
			Riffle			2	3	5
			Run		102	40	11	153
		Split Main Channel	Run		2		18	20
	Susitna River: Off-Channel	Backwater	Backwater				3	3
		Side Slough	Pool		61	16	14	91
	Tributary	Tributary	Run		12	46	9	67
		Tributary Mouth	Riffle				2	2
MR-8 102.4-107.8	Susitna River	Main Channel	Run		10	16		26
		Side Channel	Glide		25		11	36
			Pool		2	2		4
			Run			14	1	15
		Split Main Channel	Run			2	22	24
	Susitna River: Off-Channel	Side Slough	Pool		7	4	2	13
		Upland Slough	Glide		24	10	2	36
			Pool		18	7	7	32
Grand Total				33	978	541	495	2,047

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F43. Threespine stickleback observations in Middle River Focus Areas by habitat, 2013.

				Stickleback, threespine				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-7 107.8-122.7	Susitna River	Side Channel	Glide	1				1
	Susitna River: Off-Channel	Upland Slough	Backwater Pool	25				25
			Pool	7				7
		Upland Slough Beaver Complex	Beaver Pond	29	3,237	1,326	682	5,274
			Glide			2		2
			Pool				1	1
MR-8 102.4-107.8	Susitna River	Side Channel	Backwater Pool		3			3
			Glide			3	9	12
			Pool			2		2
			Riffle			5		5
	Susitna River: Off-Channel	Side Slough	Glide		3	5	2	10
			Pool				3	3
			Riffle			1		1
		Upland Slough Beaver Complex	Backwater Pool	5		2		7
			Beaver Pond		3		2	5
			Glide	6	11	56	31	104
			Run				1	1
	Tributary	Tributary	Glide	2	3	1		6
			Pool			1	3	4
			Run	2				2
Grand Total				77	3,260	1,404	734	5,475

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F44. Threespine stickleback observations outside of Focus Areas in the Middle River by habitat, 2013.

			Stickleback, threespine				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-6 122.7-148.1	Susitna River: Off-Channel	Side Slough	Pool	1	2		3
MR-7 107.8-122.7	Susitna River: Off-Channel	Backwater	Backwater			1	1
		Upland Slough	Pool	900	150	319	1,369
		Upland Slough Beaver Complex	Beaver Pond	303	10	77	390
	Tributary	Tributary	Run	3			3
MR-8 102.4-107.8	Susitna River: Off-Channel	Side Slough	Glide			4	4
			Pool		1		1
		Upland Slough	Pool	314	39	1	354
Grand Total				1,521	202	402	2,125

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F45. Rainbow trout observations in Middle River Focus Areas by habitat, 2013.

				Trout, rainbow				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume		5			5
		Main Channel	Riffle				1	1
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume			2	3	5
		Multi Split Main Channel	Riffle			1		1
			Run				1	1
		Side Channel	Glide	1	1			2
			Riffle	1				1
			Run	2				2
		Split Main Channel	Run				2	2
	Susitna River: Off-Channel	Backwater	Backwater			2		2
		Side Slough Beaver Complex	Beaver Pond	2				2
			Glide		1			1
			Pool		1			1
			Riffle	1				1
			Run	5				5
		Upland Slough	Glide	1				1
		Upland Slough Beaver Complex	Beaver Pond	2	1	2	2	7
	Tributary	Tributary	Glide		4			4
			Riffle		4			4
			Run		10		1	11
		Tributary Mouth	Rapid				1	1
			Riffle		3			3
MR-7 107.8-122.7	Susitna River	Main Channel	Run			1	1	2
		Side Channel	Pool			1		1
			Run	2				2
	Susitna River: Off-Channel	Upland Slough Beaver Complex	Beaver Pond		6	1		7
	Tributary	Tributary	Pool		55			55
			Riffle		5			5
		Tributary Mouth	Cascade		5			5
MR-8 102.4-107.8	Susitna River	Main Channel	Run			1	5	6
		Side Channel	Backwater Pool		2			2
			Riffle			1		1
	Susitna River: Off-Channel	Side Slough	Glide	4		11		15
		Upland Slough Beaver Complex	Backwater Pool		1			1
			Beaver Pond		2			2
			Glide		1			1
	Tributary	Tributary	Glide		2			2
			Pool		3	1	38	42
			Riffle				1	1
Grand Total				21	112	24	56	213

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F46. Rainbow trout observations outside of Focus Areas in the Middle River by habitat, 2013.

				Trout, rainbow			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Main Channel	Run			4	4
		Split Main Channel	Run			5	5
	Susitna River: Off-Channel	Side Slough	Glide	10			10
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume	1		1	2
		Main Channel	Run			1	1
	Susitna River: Off-Channel	Backwater	Backwater			2	2
		Side Slough	Pool	1			1
		Upland Slough Beaver Complex	Beaver Pond	1			1
	Tributary	Tributary	Boulder Riffle	11	2	3	16
		Tributary Mouth	Run			2	2
MR-7 107.8-122.7	Susitna River	Clearwater Plume	Clearwater Plume			1	1
		Side Channel	Glide			1	1
		Split Main Channel	Run			1	1
	Susitna River: Off-Channel	Side Slough Beaver Complex	Beaver Pond	4			4
		Upland Slough Beaver Complex	Beaver Pond	8		1	9
	Tributary	Tributary	Run	1			1
		Tributary Mouth	Riffle			6	6
MR-8 102.4-107.8	Susitna River: Off-Channel	Upland Slough	Pool	7	5		12
Grand Total				44	7	28	79

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F47. Humpback whitefish observations in Middle River Focus Areas by habitat, 2013.

				Whitefish, humpback			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Grand Total
Proposed Watana Dam Location PRM 187.1							
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume		3		3
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume			1	1
		Side Channel	Glide			2	2
			Pool	1			1
	Susitna River: Off-Channel	Backwater	Backwater		2	1	3
		Upland Slough Beaver Complex	Beaver Pond	1			1
MR-7 107.8-122.7	Susitna River	Side Channel	Run	1			1
	Susitna River: Off-Channel	Backwater	Backwater		8		8
MR-8 102.4-107.8	Susitna River: Off-Channel	Side Slough	Glide	7			7
Grand Total				10	13	4	27

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F48. Humpback whitefish observations outside of Focus Areas in the Middle River by habitat, 2013.

Whitefish, humpback

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Grand Total
Proposed Watana Dam Location PRM 187.1					
Upper Extent Devils Canyon PRM 166.1					
Lower Extent Devils Canyon PRM 153.9					
MR-6 122.7-148.1	Susitna River: Off-Channel	Backwater	Backwater	5	5
MR-7 107.8-122.7	Susitna River: Off-Channel	Backwater	Backwater	4	4
Grand Total				9	9

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F49. Round whitefish observations in Middle River Focus Areas by habitat, 2013.

				Whitefish, round				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
MR-1 184.6-187.1	Susitna River	Main Channel	Run		2		3	5
		Side Channel	Glide				3	3
			Riffle				1	1
			Run		1		1	2
MR-2 169.6-184.6	Susitna River	Backwater	Backwater		16	3		19
		Clearwater Plume	Clearwater Plume			10	1	11
		Main Channel	Run		4	1	1	6
	Susitna River: Off-Channel	Side Slough	Backwater Pool			1		1
			Glide			8		8
			Pool		2			2
			Run			4		4
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume		2			2
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume		3	4		7
		Main Channel	Run			1		1
		Multi Split Main Channel	Riffle			3		3
			Run				1	1
		Side Channel	Backwater Pool			14		14
			Glide	3	11	5		19
			Riffle		1	1		2
		Split Main Channel	Run				1	1
	Susitna River: Off-Channel	Backwater	Backwater		7	2		9
		Side Slough Beaver Complex	Beaver Pond			6		6
			Run	5				5
		Upland Slough Beaver Complex	Beaver Pond			5	9	14
	Tributary	Tributary	Glide			1		1
			Pool		1			1
MR-7 107.8-122.7	Susitna River	Main Channel	Run				3	3
		Side Channel	Backwater Pool				2	2
		Split Main Channel	Run			2	4	6
	Susitna River: Off-Channel	Backwater	Backwater		18	1		19
		Upland Slough Beaver Complex	Glide		1			1
			Run		2			2
MR-8 102.4-107.8	Susitna River	Main Channel	Run				4	4
		Side Channel	Glide			5	7	12
			Pool		2			2
			Riffle				7	7
	Susitna River: Off-Channel	Side Slough	Glide	8		3		11
	Tributary	Tributary	Pool				2	2
Grand Total				16	73	80	50	219

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F50. Round whitefish observations outside of Focus Areas in the Middle River by habitat, 2013.

				Whitefish, round			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1							
MR-1 184.6-187.1	Susitna River	Main Channel	Run			17	17
		Side Channel	Riffle			4	4
MR-2 169.6-184.6	Susitna River	Clearwater Plume	Clearwater Plume	4	3	3	10
		Main Channel	Run	1	4		5
		Side Channel	Run			11	11
		Split Main Channel	Run	1	4		5
	Susitna River: Off-Channel	Side Slough	Run			3	3
	Tsusena Creek		Boulder Riffle	3			3
Upper Extent Devils Canyon PRM 166.1							
Lower Extent Devils Canyon PRM 153.9							
MR-5 148.1-153.9	Susitna River	Main Channel	Run			23	23
		Split Main Channel	Run			9	9
	Susitna River: Off-Channel	Side Slough	Glide	1	3	2	6
MR-6 122.7-148.1	Susitna River	Main Channel	Run			18	18
		Side Channel	Pool		2		2
			Riffle	1	4		5
	Susitna River: Off-Channel	Backwater	Backwater	3	1		4
	Tributary	Tributary Mouth	Run			2	2
MR-7 107.8-122.7	Susitna River	Side Channel	Riffle	1			1
			Run		16		16
		Split Main Channel	Run	1		2	3
	Susitna River: Off-Channel	Backwater	Backwater	5			5
MR-8 102.4-107.8	Susitna River	Main Channel	Run			3	3
		Side Channel	Glide			1	1
			Run		1		1
	Susitna River: Off-Channel	Upland Slough	Pool	4			4
Grand Total				25	38	98	161

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

Table F51. Whitefish (species undifferentiated) observations in Middle River Focus Areas by habitat, 2013.

				Whitefish, undifferentiated				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
Proposed Watana Dam Location PRM 187.1								
MR-1 184.6-187.1	Susitna River	Main Channel	Run				2	2
MR-2 169.6-184.6	Susitna River	Backwater	Backwater		1			1
		Clearwater Plume	Clearwater Plume			5		5
		Main Channel	Run				1	1
	Susitna River: Off-Channel	Side Slough	Backwater Pool		10			10
Upper Extent Devils Canyon PRM 166.1								
Lower Extent Devils Canyon PRM 153.9								
MR-5 148.1-153.9	Susitna River	Clearwater Plume	Clearwater Plume		2			2
MR-6 122.7-148.1	Susitna River	Clearwater Plume	Clearwater Plume			5		5
		Side Channel	Backwater Pool	3	5			8
			Glide	3	51			54
	Susitna River: Off-Channel	Backwater	Backwater		3	1		4
		Side Slough Beaver Complex	Glide		30			30
			Run	2				2
		Upland Slough Beaver Complex	Beaver Pond	5				5
	Tributary	Tributary Mouth	Riffle			1		1
MR-7 107.8-122.7	Susitna River	Side Channel	Glide	4	2			6
			Pool		1			1
		Split Main Channel	Run				1	1
	Susitna River: Off-Channel	Backwater	Backwater		19			19
MR-8 102.4-107.8	Susitna River	Side Channel	Backwater Pool		5			5
			Glide				3	3
			Pool		9			9
			Run		1			1
	Susitna River: Off-Channel	Side Slough	Glide	10	7	7		24
Grand Total				27	146	19	7	199

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (April 29-June 29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and habitat stratified random sampling (GRTS).

Table F52. Whitefish (species undifferentiated) observations outside of Focus Areas in the Middle River by habitat, 2013.

				Whitefish, undifferentiated		
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Grand Total
Proposed Watana Dam Location PRM 187.1						
MR-2 169.6-184.6	Susitna River	Clearwater Plume	Clearwater Plume	1		1
	Tributary	Tributary Mouth	Riffle		1	1
Upper Extent Devils Canyon PRM 166.1						
Lower Extent Devils Canyon PRM 153.9						
MR-5 148.1-153.9	Susitna River	Main Channel	Run		1	1
		Split Main Channel	Run		1	1
MR-6 122.7-148.1	Susitna River	Main Channel	Run		1	1
	Tributary	Tributary Mouth	Run	1		1
MR-8 102.4-107.8	Susitna River	Split Main Channel	Run		1	1
Grand Total				2	5	7

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH), habitat stratified random sampling (GRTS), and direct tributary sampling (Direct).

LOWER RIVER

Table F53. Lower River fish observations, 2013.

Lower River																														
Geomorphic Reach/PRM	Habitat	Sample Type	Salmon, Chinook (adult)	Salmon, Chinook (juvenile)	Salmon, chum (adult)	Salmon, chum (Juvenile)	Salmon, coho (adult)	Salmon, coho (juvenile)	Salmon, pink (adult)	Salmon, sockeye (adult)	Salmon, sockeye (juvenile)	Salmon, undifferentiated (juvenile)	Arctic grayling	Burbot	Dolly Varden	Lamprey	Longnose sucker	Northern pike	Sculpin, undifferentiated	Stickleback, ninespine	Stickleback, threespine	Stickleback, undifferentiated	Trout, rainbow	Whitefish, Bering cisco	Whitefish, humpback	Whitefish, round	Whitefish, undifferentiated	Grand Total
LR-1 87.9-102.4	Susitna River	Transect		14	55	1	55	6	4	2	2	2		6	1	8	92		112		8		1			13	22	404
	Susitna River: Off-Channel	Transect		7	160	18	1	7	1	1	279	3	2	12		1	7		31		8					3	1	542
	Tributary	ELH, Transect	2	59	56	2	2	116	12	3	103	24	6	8	2	11	9		44	3	634	1	14			10		1,121
LR-2 65.6-87.9	Susitna River	Transect	1	10		1	1	13	1		3	8	7	7	2	1	131		223		12		1	1		20	3	446
	Tributary	ELH, Transect		57		18		22			1	1				8	2		115		18	1				10		253
LR-3 44.6-65.6	Susitna River	Transect	1	60				1	2		13	2	14	13	1	23	133		141	1	10					6	7	428
	Susitna River: Off-Channel	ELH, Transect		68		2	1	168	1		18		1	4		6	41		13	115	1,794		14			7	1	2,254
	Tributary	ELH, Transect		35		7	1	14			5		1	3		14	7		94	2	8		4			5		200
LR-4 32.3-44.6	Susitna River	Transect, RT		9	1	1		1	1	1	2	5	4	36		46	144	6	8		11				1	9	2	288
	Susitna River: Off-Channel	ELH, Transect		25		2	2	30			18	3	1	55		5	544	1	42	21	1,810	1	18	1	6	25	27	2,637
	Tributary	ELH, Transect, RT										10		4			5	50	3		6				1			79
Grand Total			4	344	272	52	63	378	22	7	444	58	36	148	6	123	1,115	57	826	142	4,319	3	52	2	8	108	63	8,652

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F54. Adult Chinook salmon observations in the Lower River by habitat, 2013.

Salmon, Chinook (adult)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Grand Total
LR-1 87.9-102.4	Tributary	Tributary	Glide	2		2
LR-2 65.6-87.9	Susitna River	Clear Water Plume	Clear Water Plume		1	1
LR-3 44.6-65.6	Susitna River	Clear Water Plume	Run	1		1
Grand Total				3	1	4

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F55. Juvenile Chinook salmon observations in the Lower River by habitat, 2013.

Salmon, Chinook (juvenile)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Clearwater Plume	Clearwater Plume	2	5	2		9
		Side Channel Complex	Riffle		1		4	5
	Susitna River: Off-Channel	Side Slough	Backwater Pool		1			1
			Pool			1		1
			Riffle			1		1
			Run		4			4
	Tributary	Tributary	Alcove		2			2
			Glide	4		27		31
			Run	26				26
LR-2 65.6-87.9	Susitna River	Clearwater Plume	Clearwater Plume			3		3
		Main Channel	Run				2	2
		Side Channel	Riffle			3		3
		Side Channel Complex	Glide				2	2
	Tributary	Tributary	Glide		17	12		29
			Run	20				20
		Tributary Mouth	Riffle	8				8
LR-3 44.6-65.6	Susitna River	Clearwater Plume	Clearwater Plume		35		1	36
		Side Channel	Glide		19	1		20
		Side Channel Complex	Riffle				4	4
	Susitna River: Off-Channel	Additional Open Water	Pool		1			1
		Upland Slough	Backwater Pool	3				3
			Glide		18	14	1	33
		Upland Slough Beaver Complex	Beaver Pond	31				31
	Tributary	Tributary	Riffle		5			5
			Run	27			2	29
		Tributary Mouth	Run	1				1
LR-4 32.3-44.6	Susitna River	Clearwater Plume	Clearwater Plume	9				9
	Susitna River: Off-Channel	Side Slough	Run				1	1
		Upland Slough	Backwater Pool		1			1
			Glide			20		20
			Run				3	3
Grand Total				131	109	84	20	344

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F56. Adult chum salmon observations in the Lower River by habitat, 2013.

			Salmon, chum (adult)				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Clearwater Plume	Clearwater Plume		21	33	54
		Split Main Channel	Run		1		1
	Susitna River: Off-Channel	Side Slough	Glide	1			1
			Pool			156	156
			Riffle			3	3
	Tributary	Tributary	Run			56	56
LR-4 32.3-44.6	Susitna River	Main Channel	Run		1		1
Grand Total				1	23	248	272

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F57. Juvenile chum salmon observations in the Lower River by habitat, 2013.

			Salmon, chum (juvenile)					
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Clearwater Plume	Clearwater Plume	1				1
	Susitna River: Off-Channel	Side Slough	Backwater Pool		2			2
			Pool			14		14
			Run		2			2
	Tributary	Tributary	Glide	1		1		2
LR-2 65.6-87.9	Susitna River	Side Channel	Pool				1	1
	Tributary	Tributary	Glide			1		1
			Run	4				4
		Tributary Mouth	Riffle	13				13
LR-3 44.6-65.6	Susitna River: Off-Channel	Upland Slough	Glide		1	1		2
	Tributary	Tributary Mouth	Run	7				7
LR-4 32.3-44.6	Susitna River	Side Channel Complex	Run				1	1
	Susitna River: Off-Channel	Upland Slough	Backwater Pool		1			1
			Glide			1		1
Grand Total				26	6	18	2	52

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F58. Adult coho salmon observations in the Lower River by habitat, 2013.

Salmon, coho (adult)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Clearwater Plume	Clearwater Plume	51	3	54
		Split Main Channel	Run		1	1
	Susitna River: Off-Channel	Side Slough	Riffle		1	1
	Tributary	Tributary	Glide	2		2
LR-2 65.6-87.9	Susitna River	Main Channel	Run	1		1
LR-3 44.6-65.6	Susitna River: Off-Channel	Upland Slough	Glide	1		1
	Tributary	Tributary	Glide	1		1
LR-4 32.3-44.6	Susitna River: Off-Channel	Side Slough	Run	2		2
Grand Total				58	5	63

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F59. Juvenile coho salmon observations in the Lower River by habitat, 2013.

Salmon, coho (juvenile)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Clearwater Plume	Clearwater Plume		4	2		6
	Susitna River: Off-Channel	Side Slough	Pool				7	7
	Tributary	Tributary	Alcove		10			10
			Glide	9		13		22
			Run	66			16	82
		Tributary Mouth	Run				2	2
LR-2 65.6-87.9	Susitna River	Clearwater Plume	Clearwater Plume			1		1
		Main Channel	Run				1	1
		Side Channel	Pool				11	11
	Tributary	Tributary	Glide		1	12		13
			Run	5				5
		Tributary Mouth	Riffle	4				4
LR-3 44.6-65.6	Susitna River	Clearwater Plume	Clearwater Plume		1			1
	Susitna River: Off-Channel	Additional Open Water	Pool		11	17	3	31
		Upland Slough	Backwater Pool	1				1
			Glide		4	10	52	66
		Upland Slough Beaver Complex	Beaver Pond	11		59		70
	Tributary	Tributary	Glide			7		7
			Run	4				4
		Tributary Mouth	Run	2			1	3
LR-4 32.3-44.6	Susitna River	Clearwater Plume	Clearwater Plume	1				1
	Susitna River: Off-Channel	Additional Open Water	Pool		1			1
		Upland Slough	Backwater Pool		2			2
			Glide			5		5
			Run		5		17	22
Grand Total				103	39	126	110	378

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F60. Adult pink salmon observations in the Lower River by habitat, 2013.

			Salmon, pink (adult)				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Clearwater Plume	Clearwater Plume		1		1
		Side Channel Complex	Run		3		3
	Susitna River: Off-Channel	Side Slough	Glide	1			1
	Tributary	Tributary	Glide	12			12
LR-2 65.6-87.9	Susitna River	Main Channel	Run		1		1
LR-3 44.6-65.6	Susitna River	Clearwater Plume	Clearwater Plume	2			2
	Susitna River: Off-Channel	Upland Slough	Glide			1	1
LR-4 32.3-44.6	Susitna River	Side Channel	Run	1			1
Grand Total				16	5	1	22

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F61. Adult sockeye salmon observations in the Lower River by habitat, 2013.

			Salmon, sockeye (adult)				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Clearwater Plume	Clearwater Plume		1		1
		Side Channel Complex	Run	1			1
	Susitna River: Off-Channel	Side Slough	Glide	1			1
	Tributary	Tributary	Glide	1			1
			Run			2	2
LR-4 32.3-44.6	Susitna River	Clearwater Plume	Clearwater Plume		1		1
Grand Total				3	2	2	7

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F62. Juvenile sockeye salmon observations in the Lower River by habitat, 2013.

			Salmon, sockeye (juvenile)					
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Clearwater Plume	Clearwater Plume		1			1
		Side Channel Complex	Riffle			1		1
	Susitna River: Off-Channel	Side Slough	Backwater Pool		37			37
			Pool			42	9	51
			Riffle			18		18
			Run		173			173
	Tributary	Tributary	Alcove		10			10
			Glide	30		10		40
			Run	52			1	53
LR-2 65.6-87.9	Susitna River	Side Channel	Riffle			1		1
		Side Channel Complex	Run		1			1
		Split Main Channel	Run		1			1
	Tributary	Tributary Mouth	Riffle	1				1
LR-3 44.6-65.6	Susitna River	Bar Island Complex	Backwater Pool		2			2
		Clearwater Plume	Clearwater Plume		4	1		5
		Side Channel	Glide		3			3
		Side Channel Complex	Riffle				2	2
		Split Main Channel	Run		1			1
	Susitna River: Off-Channel	Additional Open Water	Pool		1	4		5
		Upland Slough	Backwater Pool	3				3
			Glide		3	3	1	7
		Upland Slough Beaver Complex	Beaver Pond	3				3
	Tributary	Tributary	Glide			1		1
			Riffle		1			1
		Tributary Mouth	Run				3	3
LR-4 32.3-44.6	Susitna River	Clearwater Plume	Clearwater Plume	2				2
	Susitna River: Off-Channel	Additional Open Water	Pool		4			4
		Upland Slough	Backwater Pool		1			1
			Glide			11		11
			Run		2			2
Grand Total				91	245	92	16	444

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F63. Juvenile salmon (species undifferentiated) observations in the Lower River by habitat, 2013.

			Salmon, undifferentiated (juvenile)				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Clearwater Plume	Clearwater Plume			1	1
		Split Main Channel	Run		1		1
	Susitna River: Off-Channel	Side Slough	Glide	2			2
			Run		1		1
	Tributary	Tributary	Run			24	24
LR-2 65.6-87.9	Susitna River	Main Channel	Riffle	1			1
			Run		1		1
		Side Channel	Run	1			1
		Side Channel Complex	Run	2			2
		Split Main Channel	Run	1	2		3
	Tributary	Tributary	Glide	1			1
LR-3 44.6-65.6	Susitna River	Multi Split Main Channel	Run		1		1
		Side Channel Complex	Glide		1		1
LR-4 32.3-44.6	Susitna River	Main Channel	Run		2		2
		Multi Split Main Channel	Run	1			1
		Side Channel	Run		1		1
		Split Main Channel	Run	1			1
	Susitna River: Off-Channel	Side Slough	Glide	1			1
			Run		2		2
	Tributary	Tributary	Glide		10		10
Grand Total				11	22	25	58

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F64. Arctic grayling (all life stages) observations in the Lower River by habitat, 2013.

				Arctic grayling			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River: Off-Channel	Side Slough	Pool		1		1
			Riffle			1	1
	Tributary	Tributary	Alcove	4			4
			Glide		2		2
LR-2 65.6-87.9	Susitna River	Clearwater Plume	Clearwater Plume			3	3
		Multi Split Main Channel	Run			1	1
		Side Channel	Run	1			1
		Side Channel Complex	Glide			2	2
LR-3 44.6-65.6	Susitna River	Clearwater Plume	Clearwater Plume			3	3
		Side Channel	Glide	2	1		3
		Side Channel Complex	Riffle			8	8
	Susitna River: Off-Channel	Upland Slough	Glide			1	1
	Tributary	Tributary Mouth	Run			1	1
LR-4 32.3-44.6	Susitna River	Main Channel	Run			1	1
		Side Channel	Glide		1		1
			Run			2	2
	Susitna River: Off-Channel	Side Slough	Run			1	1
Grand Total				7	5	24	36

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F65. Juvenile Arctic grayling observations in the Lower River by habitat, 2013.

				Arctic grayling, juvenile (<190mm)			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River: Off-Channel	Side Slough	Pool		1		1
	Tributary	Tributary	Alcove	3			3
			Glide		2		2
LR-2 65.6-87.9	Susitna River	Side Channel	Run	1			1
		Side Channel Complex	Glide			1	1
LR-3 44.6-65.6	Susitna River	Clearwater Plume	Clearwater Plume			3	3
		Side Channel	Glide	2	1		3
		Side Channel Complex	Riffle			7	7
	Tributary	Tributary Mouth	Run			1	1
LR-4 32.3-44.6	Susitna River	Main Channel	Run			1	1
		Side Channel	Run			2	2
	Susitna River: Off-Channel	Side Slough	Run			1	1
Grand Total				6	4	16	26

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F66. Juvenile or adult Arctic grayling observations in the Lower River by habitat, 2013.

Arctic grayling, juvenile or adult (190-328mm)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Tributary	Tributary	Alcove	1			1
LR-2 65.6-87.9	Susitna River	Clearwater Plume	Clearwater Plume			2	2
		Multi Split Main Channel	Run			1	1
		Side Channel Complex	Glide			1	1
LR-3 44.6-65.6	Susitna River	Side Channel Complex	Riffle			1	1
	Susitna River: Off-Channel	Upland Slough	Glide			1	1
LR-4 32.3-44.6	Susitna River	Side Channel	Glide		1		1
Grand Total				1	1	6	8

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F67. Adult Arctic grayling observations in the Lower River by habitat, 2013.

Arctic grayling, adult (>328mm)

Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Fall	Grand Total
LR-1 87.9-102.4	Susitna River: Off-Channel	Side Slough	Riffle	1	1
LR-2 65.6-87.9	Susitna River	Clearwater Plume	Clearwater Plume	1	1
Grand Total				2	2

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F68. Burbot observations in the Lower River by habitat, 2013.

				Burbot			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Bar Island Complex	Run			1	1
		Clearwater Plume	Clearwater Plume		1		1
		Side Channel Complex	Riffle	1			1
			Run		3		3
	Susitna River: Off-Channel	Side Slough	Glide	3			3
			Pool			1	1
			Riffle			7	7
			Run		1		1
	Tributary	Tributary Mouth	Run			5	5
		Tributary	Glide		1		1
			Run			2	2
LR-2 65.6-87.9	Susitna River	Main Channel	Run		1	1	2
		Side Channel	Riffle		1		1
			Run	1			1
		Side Channel Complex	Glide			2	2
			Run		1		1
LR-3 44.6-65.6	Susitna River	Bar Island Complex	Backwater Pool	1			1
			Run		1		1
		Clearwater Plume	Clearwater Plume		1		1
		Side Channel	Run	1	1		2
		Side Channel Complex	Glide		7		7
		Split Main Channel	Run	1			1
	Susitna River: Off-Channel	Upland Slough	Glide		4		4
	Tributary	Tributary	Glide		2		2
			Run			1	1
LR-4 32.3-44.6	Susitna River	Clearwater Plume	Clearwater Plume	1	9		10
		Main Channel	Run		5	10	15
		Multi Split Main Channel	Run	1			1
		Side Channel	Glide		4		4
			Run		3		3
		Side Channel Complex	Run			3	3
	Susitna River: Off-Channel	Additional Open Water	Pool			1	1
		Side Slough	Run	5	10	13	28
		Upland Slough	Glide		3		3
			Run	7		16	23
	Tributary	Tributary Mouth	Glide			4	4
Grand Total				22	59	67	148

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F69. Dolly Varden observations in the Lower River by habitat, 2013.

			Dolly Varden				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Side Channel Complex	Riffle		1		1
	Tributary	Tributary	Glide		2		2
LR-2 65.6-87.9	Susitna River	Multi Split Main Channel	Run			1	1
		Split Main Channel	Run		1		1
LR-3 44.6-65.6	Susitna River	Side Channel	Glide	1			1
Grand Total				1	4	1	6

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F70. Lamprey observations in the Lower River by habitat, 2013.

			Lamprey					
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Clearwater Plume	Clearwater Plume	5		3		8
	Susitna River: Off-Channel	Side Slough	Run			1		1
	Tributary	Tributary	Run	9			1	10
		Tributary Mouth	Run				1	1
LR-2 65.6-87.9	Susitna River	Clearwater Plume	Clearwater Plume				1	1
	Tributary	Tributary	Glide		3			3
		Tributary Mouth	Riffle	5				5
LR-3 44.6-65.6	Susitna River	Clearwater Plume	Clearwater Plume		6	3	3	12
		Side Channel	Glide		8		2	10
		Side Channel Complex	Riffle				1	1
	Susitna River: Off-Channel	Upland Slough	Backwater Pool	5				5
			Glide				1	1
	Tributary	Tributary	Glide			1		1
			Riffle		5			5
			Run	8				8
LR-4 32.3-44.6	Susitna River	Clearwater Plume	Clearwater Plume	4				4
		Main Channel	Run			20	13	33
		Side Channel	Glide			2		2
		Side Channel Complex	Run				7	7
	Susitna River: Off-Channel	Side Slough	Run			1	2	3
		Upland Slough	Glide			2		2
Grand Total				36	22	33	32	123

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F71. Longnose sucker observations in the Lower River by habitat, 2013.

				Longnose sucker				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Bar Island Complex	Riffle		6			6
			Run			4	42	46
		Clearwater Plume	Clearwater Plume		4	8		12
		Side Channel Complex	Riffle		8	8		16
			Run		1		3	4
		Split Main Channel	Run		8			8
	Susitna River: Off-Channel	Side Slough	Glide		2			2
			Riffle				3	3
			Run			2		2
	Tributary	Tributary	Alcove		2			2
			Glide			6		6
		Tributary Mouth	Run				1	1
LR-2 65.6-87.9	Susitna River	Clearwater Plume	Clearwater Plume			5		5
		Main Channel	Riffle		5			5
			Run			1	4	5
		Multi Split Main Channel	Run				2	2
		Side Channel	Riffle			15		15
			Run		8			8
		Side Channel Complex	Glide				33	33
			Riffle			22		22
			Run		11	5		16
		Split Main Channel	Run		2	18		20
	Tributary	Tributary Mouth	Riffle	2				2
LR-3 44.6-65.6	Susitna River	Bar Island Complex	Backwater Pool		6			6
			Pool			12		12
			Run		1	1	4	6
		Clearwater Plume	Clearwater Plume		18	2		20
		Multi Split Main Channel	Run			31		31
		Side Channel	Glide		14	22		36
		Side Channel Complex	Glide			3	7	10
			Riffle				1	1
		Split Main Channel	Run		10		1	11
	Susitna River: Off-Channel	Upland Slough	Glide		3	15	1	19
		Upland Slough Beaver Complex	Beaver Pond	13		9		22
	Tributary	Tributary	Glide			2		2
			Run				2	2
		Tributary Mouth	Run	2			1	3
LR-4 32.3-44.6	Susitna River	Clearwater Plume	Clearwater Plume	10	14	6		30
		Main Channel	Run			40	24	64
		Multi Split Main Channel	Run		26			26
		Side Channel	Glide			1		1
			Run		1	6	4	11
		Side Channel Complex	Run				12	12
	Susitna River: Off-Channel	Additional Open Water	Pool		36	3		39
		Side Slough	Run		147	3	14	164
		Upland Slough	Backwater Pool		3			3
			Glide			112		112
			Run		2		224	226
	Tributary	Tributary	Glide	3		1		4
		Tributary Mouth	Glide				1	1
Grand Total				30	338	363	384	1,115

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F72. Northern pike observations in the Lower River by habitat, 2013.

				Northern pike				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
LR-4 32.3-44.6	Susitna River	Clearwater Plume	Clearwater Plume	2	1	3		6
	Susitna River: Off-Channel	Side Slough	Run		1			1
	Tributary	Tributary	Glide		18	22	2	42
			Pool	8				8
Grand Total				10	20	25	2	57

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F73. Sculpin observations in the Lower River by habitat, 2013.

				Sculpin				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Bar Island Complex	Riffle		1			1
			Run			7	47	54
		Clearwater Plume	Clearwater Plume	5	3	1		9
		Side Channel Complex	Riffle		12	13	11	36
			Run		5	3		8
		Split Main Channel	Run		4			4
	Susitna River: Off-Channel	Side Slough	Backwater Pool		6			6
			Pool			1	8	9
			Riffle			8	2	10
			Run		5	1		6
	Tributary	Tributary	Alcove		4			4
			Glide	7		2		9
			Run	21			4	25
		Tributary Mouth	Run				6	6
LR-2 65.6-87.9	Susitna River	Clearwater Plume	Clearwater Plume			2	69	71
		Main Channel	Run				2	2
		Multi Split Main Channel	Run		1		6	7
		Side Channel	Pool				30	30
			Riffle			18		18
			Run		6			6
		Side Channel Complex	Glide				16	16
			Riffle			22		22
			Run		8	2		10
		Split Main Channel	Run		1	40		41
	Tributary	Tributary	Glide		13	21		34
			Run	53			9	62
		Tributary Mouth	Riffle	19				19
LR-3 44.6-65.6	Susitna River	Bar Island Complex	Backwater Pool		6			6
			Pool			18		18
			Run		7	21	7	35
		Clearwater Plume	Clearwater Plume		22	5	1	28
		Multi Split Main Channel	Run			5		5
		Side Channel	Glide		15	13		28
			Run		1			1
		Side Channel Complex	Glide			3	14	17
		Split Main Channel	Run				3	3
	Susitna River: Off-Channel	Upland Slough	Backwater Pool	3				3
			Glide		3	5	0	8
		Upland Slough Beaver Complex	Beaver Pond	1				1
	Tributary	Tributary	Glide			41		41
			Pool		1			1
			Riffle		12			12
			Run	32			2	34
		Tributary Mouth	Run	4			2	6
LR-4 32.3-44.6	Susitna River	Clearwater Plume	Clearwater Plume	2				2
		Main Channel	Run			2	1	3
		Side Channel	Glide		1	1		2
			Run				1	1
	Susitna River: Off-Channel	Side Slough	Run		5			5
		Upland Slough	Backwater Pool		17			17
			Glide			9		9
			Run		10		1	11
	Tributary	Tributary	Glide	2	1			3
Grand Total				149	170	264	242	825

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F74. Ninespine stickleback observations in the Lower River by habitat, 2013.

			Stickleback, ninespine					
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Tributary	Tributary	Alcove		2			2
			Glide			1		1
LR-3 44.6-65.6	Susitna River	Side Channel	Glide			1		1
	Susitna River: Off-Channel	Additional Open Water	Pool		34	53	27	114
		Upland Slough	Glide			1		1
	Tributary	Tributary	Run	1				1
		Tributary Mouth	Run				1	1
LR-4 32.3-44.6	Susitna River: Off-Channel	Additional Open Water	Pool			3	9	12
		Upland Slough	Glide			6		6
			Run		1		2	3
Grand Total				1	37	65	39	142

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F75. Threespine stickleback observations in the Lower River by habitat, 2013.

				Stickleback, threespine				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Clearwater Plume	Clearwater Plume	3	5			8
	Susitna River: Off-Channel	Side Slough	Pool				2	2
			Riffle				5	5
			Run		1			1
	Tributary	Tributary	Glide	2	1	95		98
			Run	219			254	473
		Tributary Mouth	Run				63	63
LR-2 65.6-87.9	Susitna River	Clearwater Plume	Clearwater Plume			5	1	6
		Side Channel	Pool				2	2
			Riffle			1		1
		Side Channel Complex	Glide				1	1
			Riffle			2		2
	Tributary	Tributary	Glide			11		11
			Run				5	5
		Tributary Mouth	Riffle	2				2
LR-3 44.6-65.6	Susitna River	Clearwater Plume	Clearwater Plume			9		9
		Side Channel	Glide				1	1
	Susitna River: Off-Channel	Additional Open Water	Pool		38	121	241	400
		Upland Slough	Backwater Pool	2				2
			Glide		16	20	58	94
		Upland Slough Beaver Complex	Beaver Pond	159	136	1,003		1,298
	Tributary	Tributary	Glide			1		1
			Run	6				6
		Tributary Mouth	Run	1				1
LR-4 32.3-44.6	Susitna River	Clearwater Plume	Clearwater Plume	5	5			10
		Side Channel Complex	Run				1	1
	Susitna River: Off-Channel	Additional Open Water	Pool		223	879	4	1,106
		Side Slough	Run		3			3
		Upland Slough	Backwater Pool		32			32
			Glide			470		470
			Run		141		58	199
	Tributary	Tributary	Glide	6				6
Grand Total				405	601	2,617	696	4,319

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F76. Rainbow trout observations in the Lower River by habitat, 2013.

				Trout, rainbow				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Clearwater Plume	Clearwater Plume			1		1
	Tributary	Tributary	Alcove		7			7
			Glide			7		7
LR-2 65.6-87.9	Susitna River	Multi Split Main Channel	Run				1	1
LR-3 44.6-65.6	Susitna River: Off-Channel	Additional Open Water	Pool		1			1
		Upland Slough Beaver Complex	Beaver Pond		13			13
	Tributary	Tributary	Pool		1			1
			Run	2			1	3
LR-4 32.3-44.6	Susitna River: Off-Channel	Upland Slough	Backwater Pool		4			4
			Run		14			14
Grand Total				2	40	8	2	52

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F77. Bering cisco whitefish observations in the Lower River by habitat, 2013.

		Whitefish, Bering cisco			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Fall	Grand Total
LR-2 65.6-87.9	Susitna River	Side Channel Complex	Glide	1	1
LR-4 32.3-44.6	Susitna River: Off-Channel	Side Slough	Run	1	1
Grand Total				2	2

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F78. Humpback whitefish observations in the Lower River by habitat, 2013.

		Whitefish, humpback			
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Fall	Grand Total
LR-4 32.3-44.6	Susitna River	Side Channel Complex	Run	1	1
	Susitna River: Off-Channel	Additional Open Water	Pool	1	1
		Side Slough	Run	5	5
	Tributary	Tributary	Glide	1	1
Grand Total				8	8

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F79. Round whitefish observations in the Lower River by habitat, 2013.

				Whitefish, round				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Spring	Early Summer	Late Summer	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Bar Island Complex	Run				6	6
		Clearwater Plume	Clearwater Plume		2	3		5
		Side Channel Complex	Run			1	1	2
	Susitna River: Off-Channel	Side Slough	Riffle				3	3
	Tributary	Tributary	Alcove		1			1
			Glide			1		1
			Run	8				8
LR-2 65.6-87.9	Susitna River	Main Channel	Run			1	5	6
		Side Channel	Riffle			1		1
			Run		1			1
		Side Channel Complex	Glide				8	8
		Split Main Channel	Run			4		4
	Tributary	Tributary	Glide			10		10
LR-3 44.6-65.6	Susitna River	Clearwater Plume	Clearwater Plume		4		1	5
		Side Channel Complex	Riffle				1	1
	Susitna River: Off-Channel	Upland Slough	Backwater Pool	1				1
			Glide			1	3	4
		Upland Slough Beaver Complex	Beaver Pond	2				2
	Tributary	Tributary	Riffle		2			2
		Tributary Mouth	Run				3	3
LR-4 32.3-44.6	Susitna River	Clearwater Plume	Clearwater Plume	1				1
		Main Channel	Run			2	2	4
		Side Channel	Run			2		2
		Side Channel Complex	Run				2	2
	Susitna River: Off-Channel	Additional Open Water	Pool			24	1	25
Grand Total				12	10	50	36	108

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).

Table F80. Whitefish (species undifferentiated) observations in the Lower River by habitat, 2013.

			Whitefish, undifferentiated				
Geomorphic Reach	Habitat	Macrohabitat	Mesohabitat	Early Summer	Late Summ	Fall	Grand Total
LR-1 87.9-102.4	Susitna River	Clearwater Plume	Clearwater Plume	3			3
		Side Channel Complex	Run	2			2
		Split Main Channel	Run	17			17
	Susitna River: Off-Channel	Side Slough	Run	1			1
LR-2 65.6-87.9	Susitna River	Main Channel	Riffle	1			1
		Multi Split Main Channel	Run	2			2
LR-3 44.6-65.6	Susitna River	Clearwater Plume	Clearwater Plume	1			1
		Side Channel	Glide	1	3		4
		Side Channel Complex	Riffle			2	2
	Susitna River: Off-Channel	Additional Open Water	Pool	1			1
LR-4 32.3-44.6	Susitna River	Multi Split Main Channel	Run	2			2
	Susitna River: Off-Channel	Additional Open Water	Pool	2			2
		Side Slough	Run	23		1	24
		Upland Slough	Backwater Pool	1			1
Grand Total				57	3	3	63

Notes: All data are provisional and subject to ongoing QA/QC. Sampling seasons include: Spring (June 1-29), Early Summer (July 9-August 10), Late Summer (August 11-September 10), and Fall (September 11-October 4). Data sources include: Early-Life History sampling (ELH) and mainstem transect sampling (Transect).