APPENDIX 1. 1983 MIDDLE RIVER SEGMENT HABITAT SITES

Susitna-Watana Hydroelectric Project (FERC No. 14241)

Mapping of Aquatic Macrohabitat Types at Selected Sites in the Middle and Lower Susitna River Segments from 1980s and 2012 Aerials

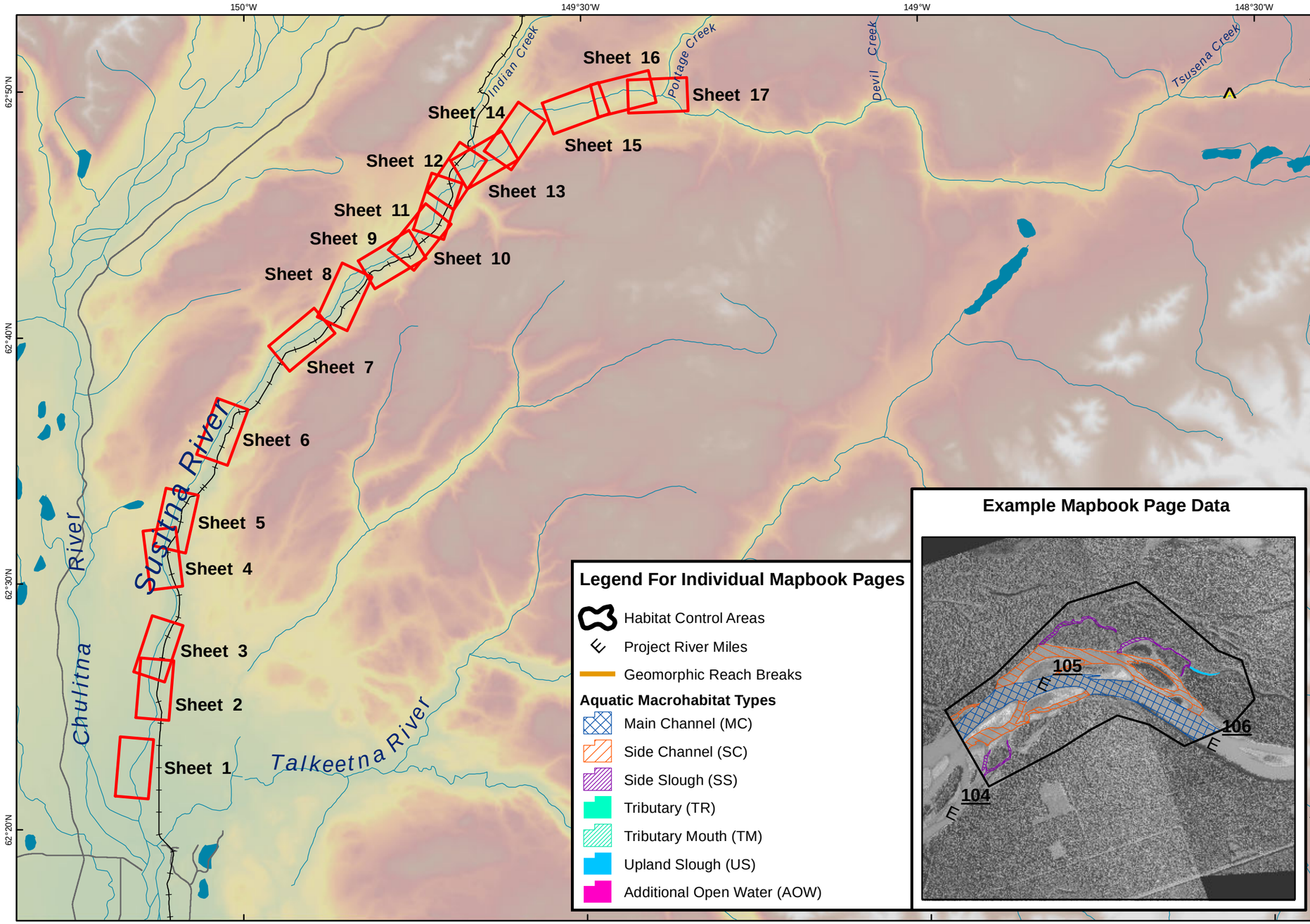
2012 Study Technical Memorandum DRAFT

Prepared for
Alaska Energy Authority

SUSITNA-WATANA HYDRO
Clean, reliable energy for the next 100 years.

Prepared by
Tetra Tech Inc.

February 2013



Legend For Individual Mapbook Pages

- Habitat Control Areas
- Project River Miles
- Geomorphic Reach Breaks

Aquatic Macrohabitat Types

- Main Channel (MC)
- Side Channel (SC)
- Side Slough (SS)
- Tributary (TR)
- Tributary Mouth (TM)
- Upland Slough (US)
- Additional Open Water (AOW)

Example Mapbook Page Data

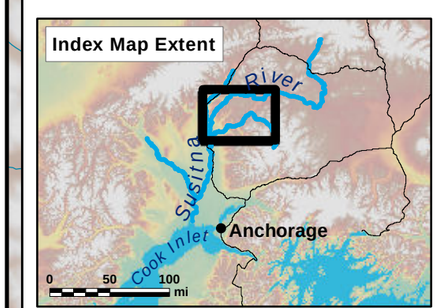
ALASKA ENERGY AUTHORITY

MIDDLE SUSITNA RIVER SEGMENT HABITAT SITES 1983

Legend

- Sheet Extents
- Proposed Watana Dam Site
- Roads
- Railroads
- Rivers and Streams
- Waterbodies

Data Sources: See Map References



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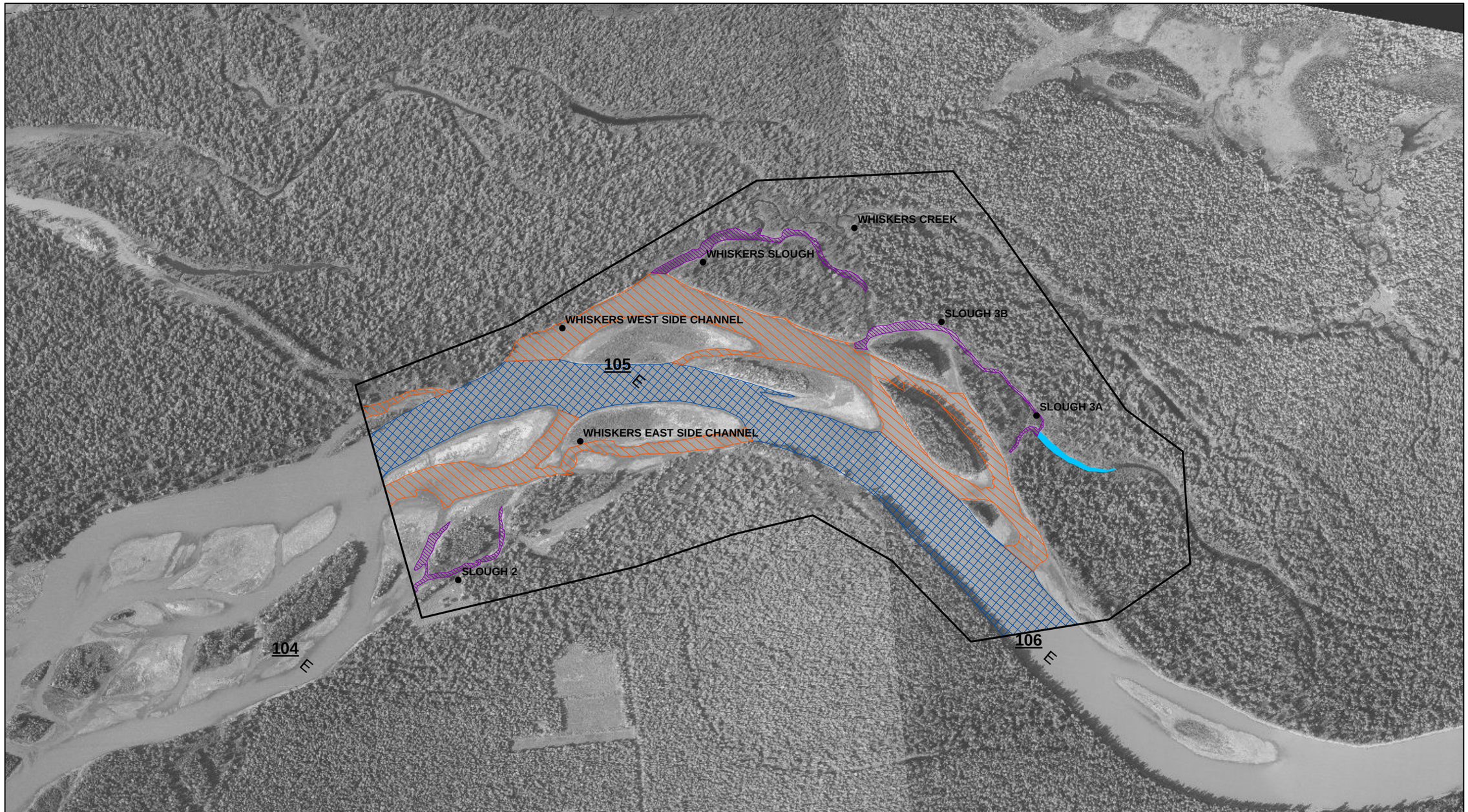
Projection: NAD83 State Plane Alaska 4 FIPS 5004 (ft)
Date Created: 2/21/2013
Map Author: Tetra Tech
File: 1980s_MapbookHabitat_Middle_v1.mxd



0 1,000 2,000 Feet

1 inch = 1,000 feet

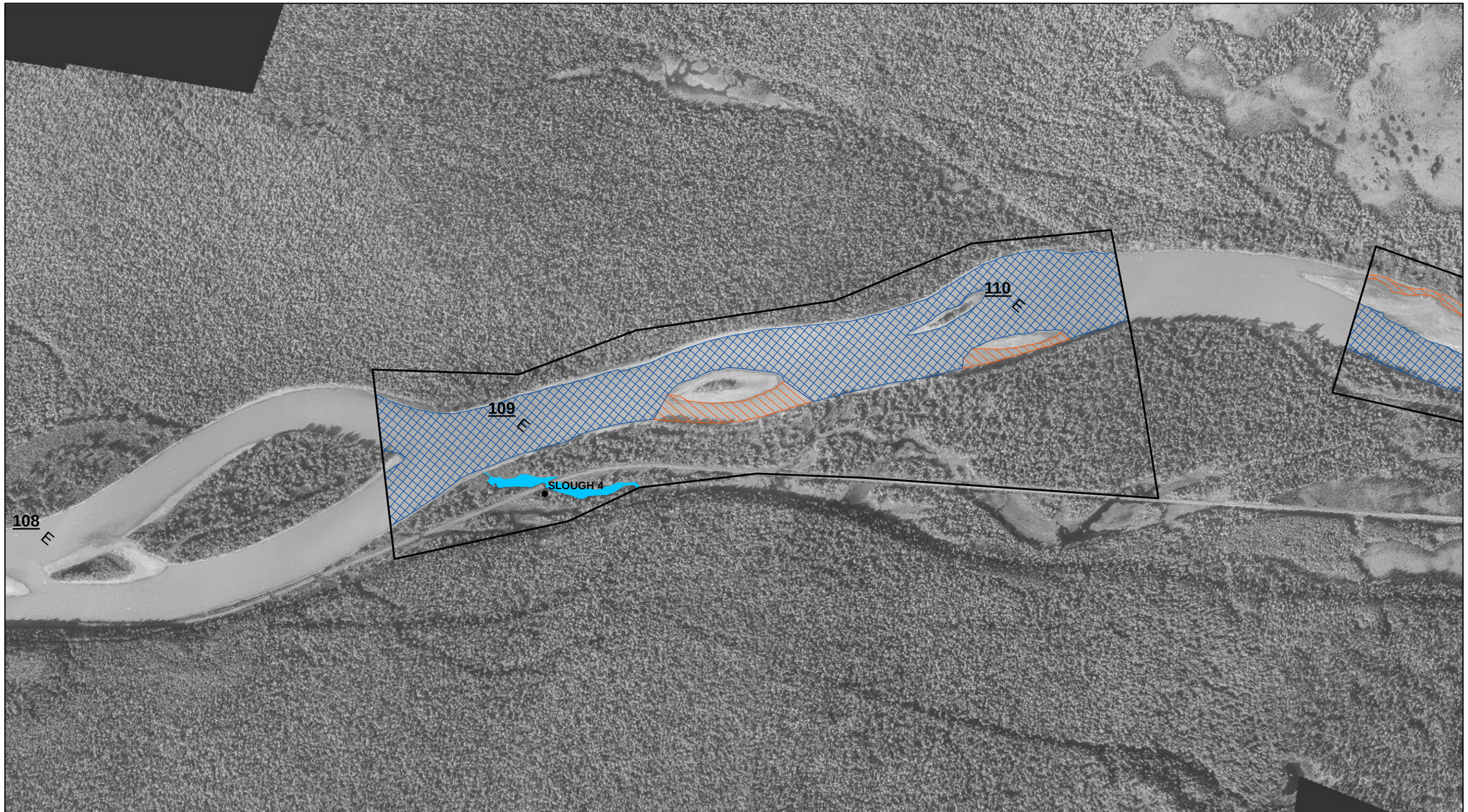
See index page for legend and additional data information.

Sheet 1 of 17
Site 1, Whiskers Slough

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

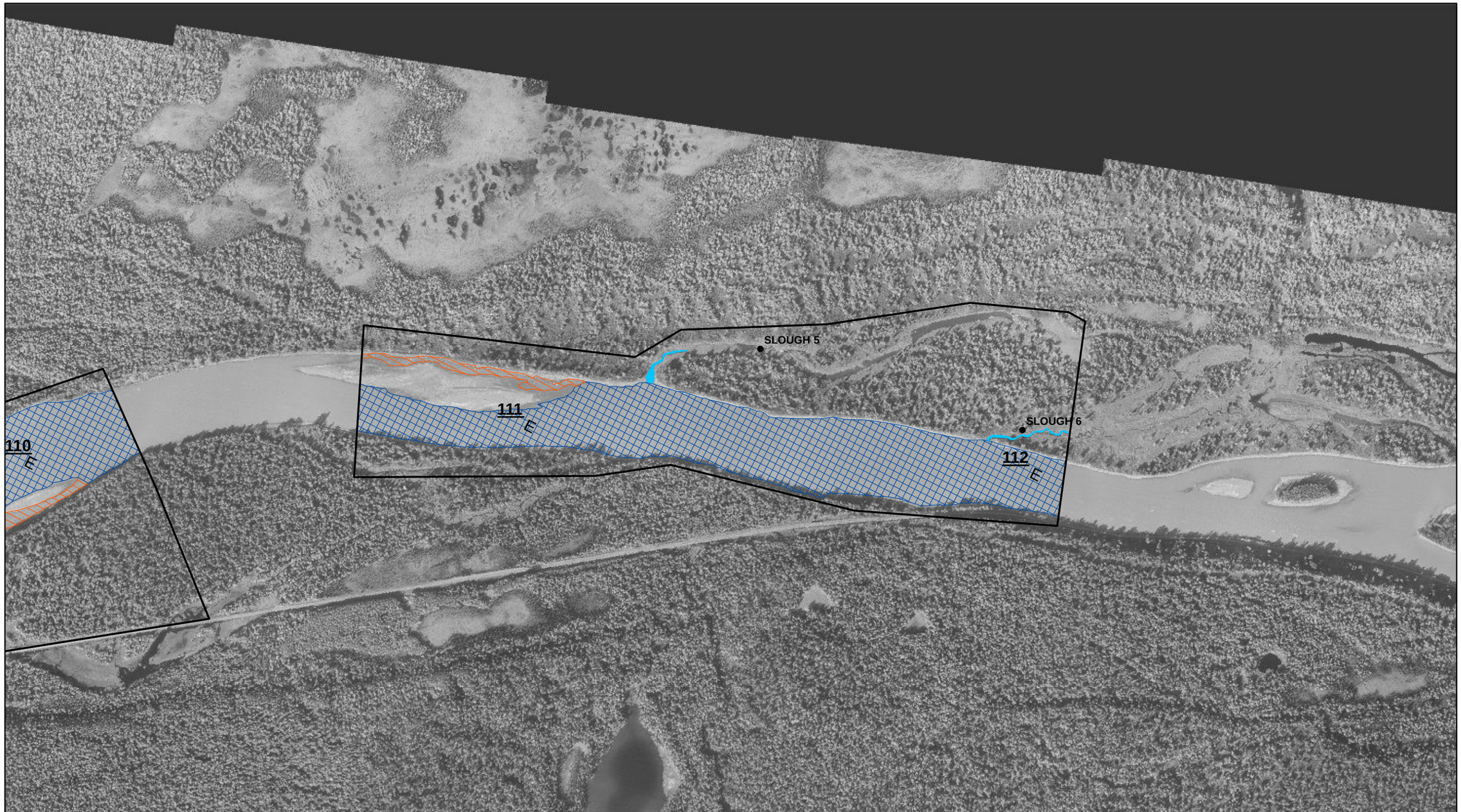
See index page for legend and additional data information.

Sheet 2 of 17
Site 2, Slough 4

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

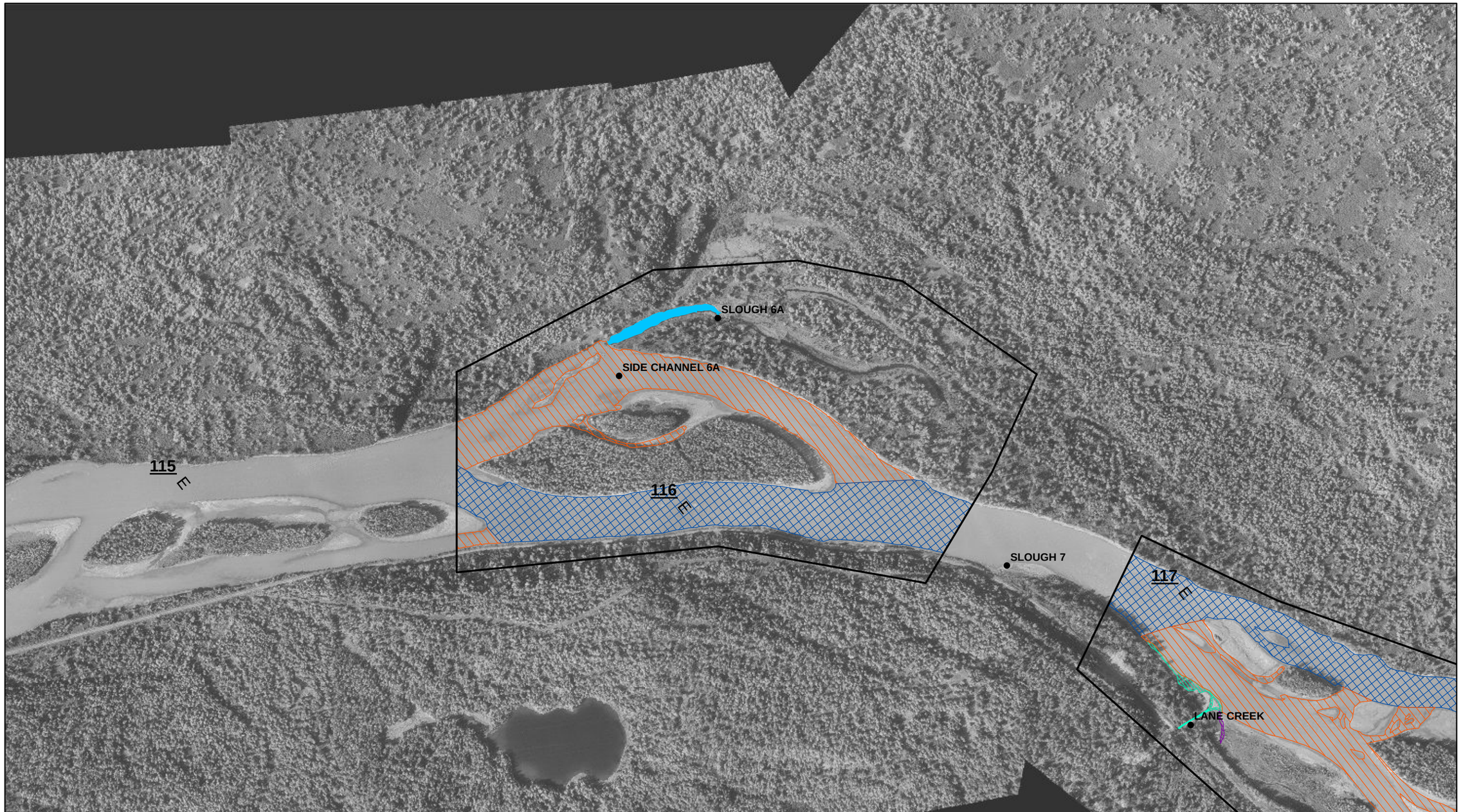
See index page for legend and additional data information.

Sheet 3 of 17
Site 3, Slough 5

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

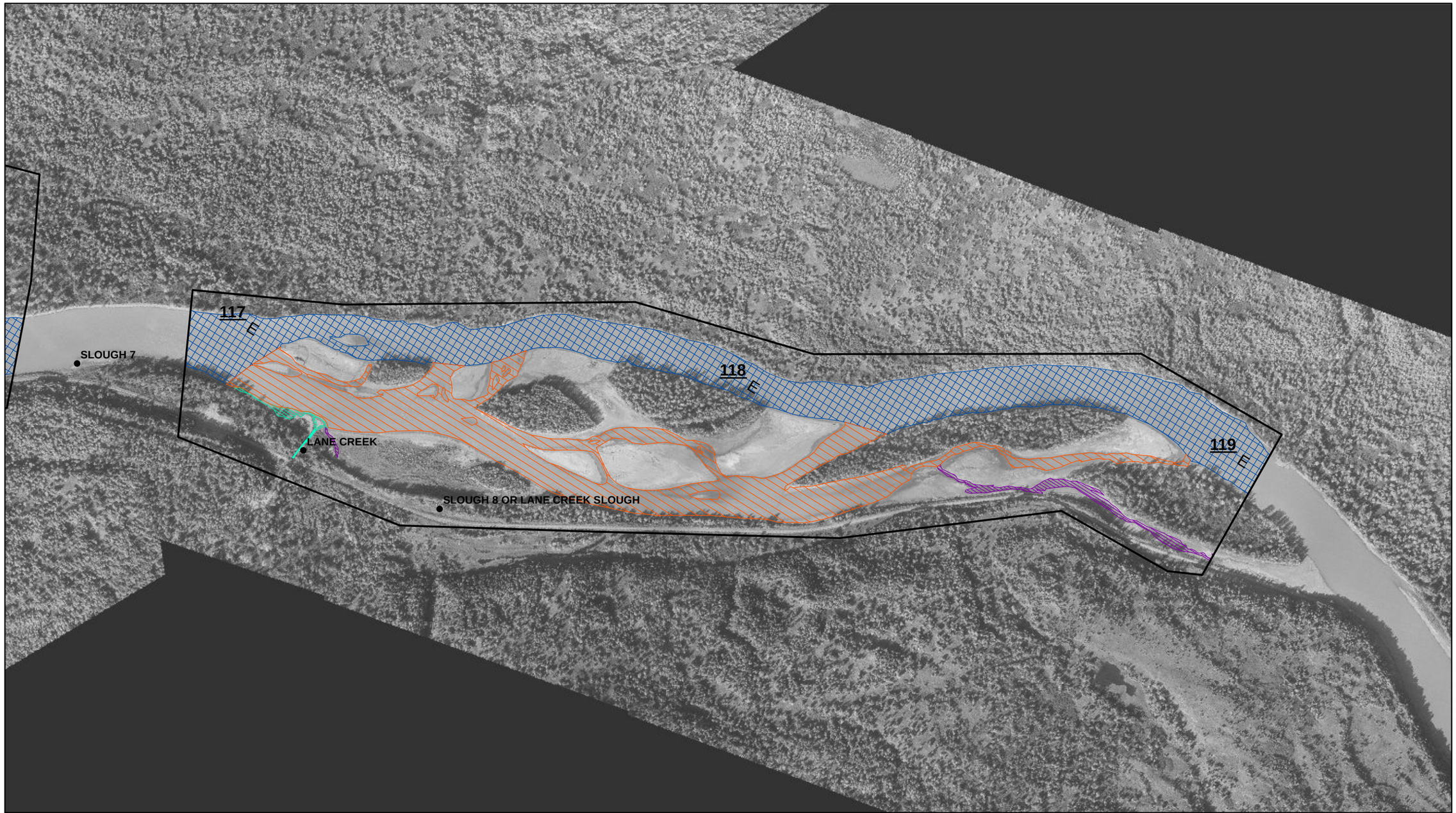
See index page for legend and additional data information.

Sheet 4 of 17
Site 4, Slough 6A

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

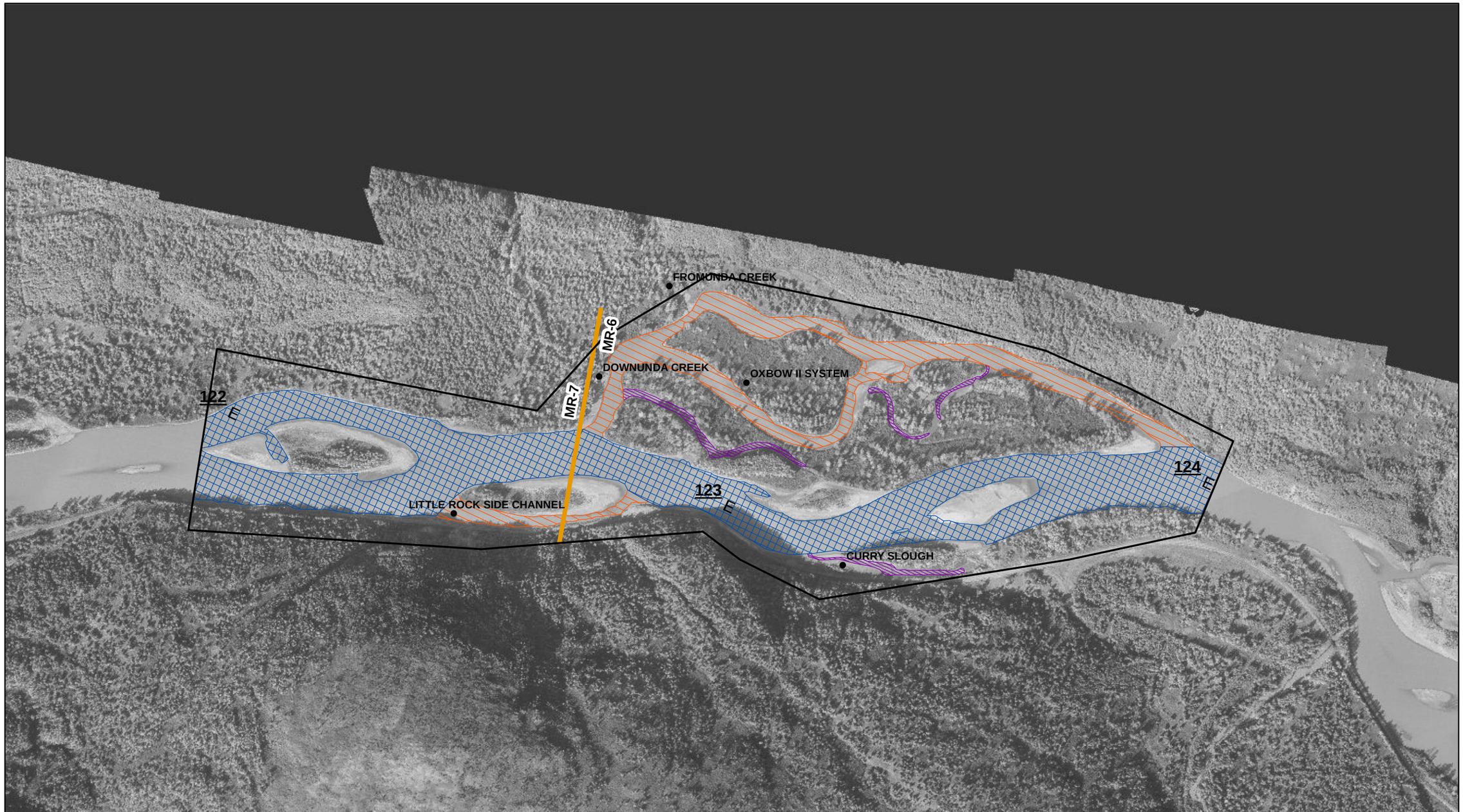
See index page for legend and additional data information.

Sheet 5 of 17
Site 5, Slough 8

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

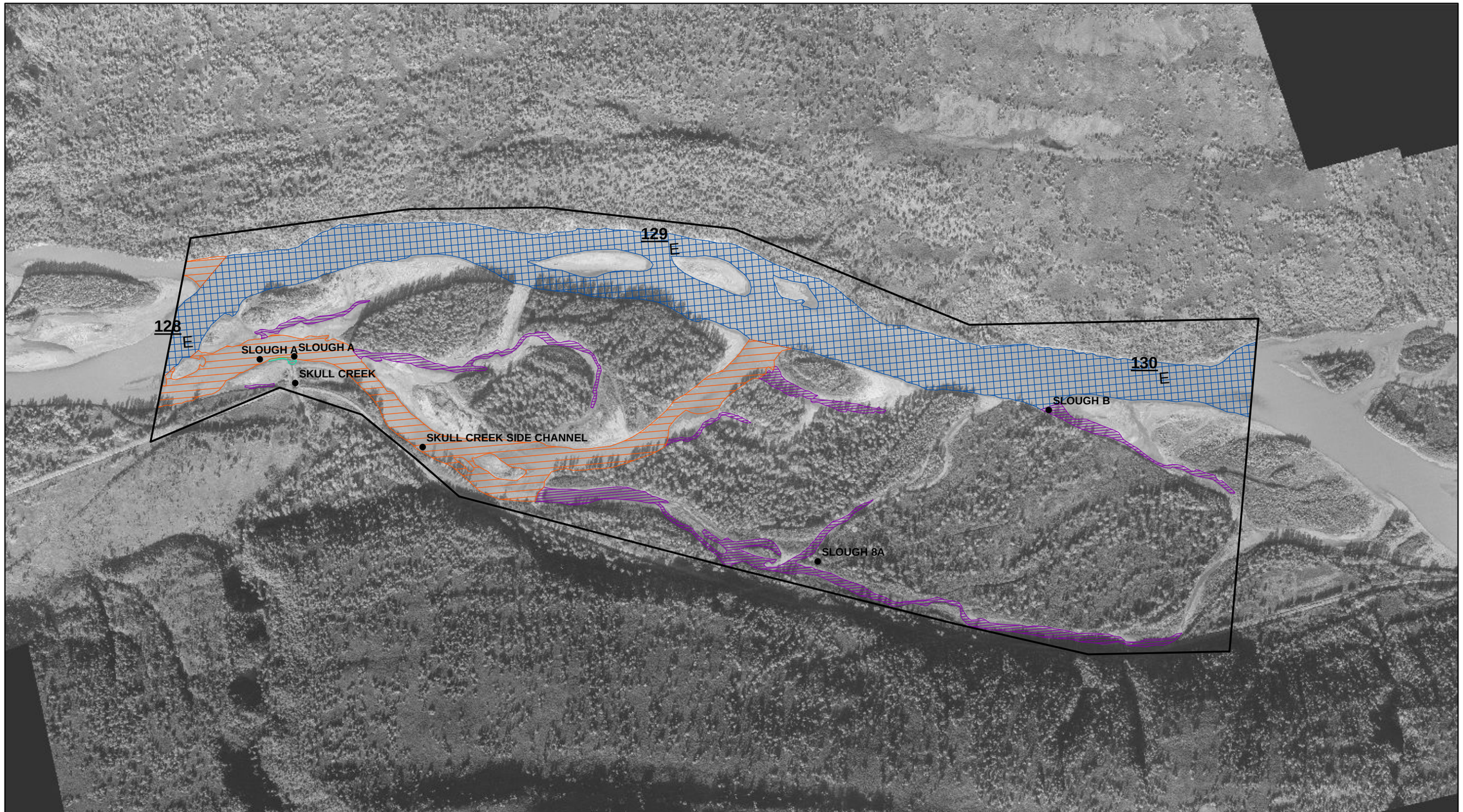
See index page for legend and additional data information.

Sheet 6 of 17
Site 6, Oxbow II

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

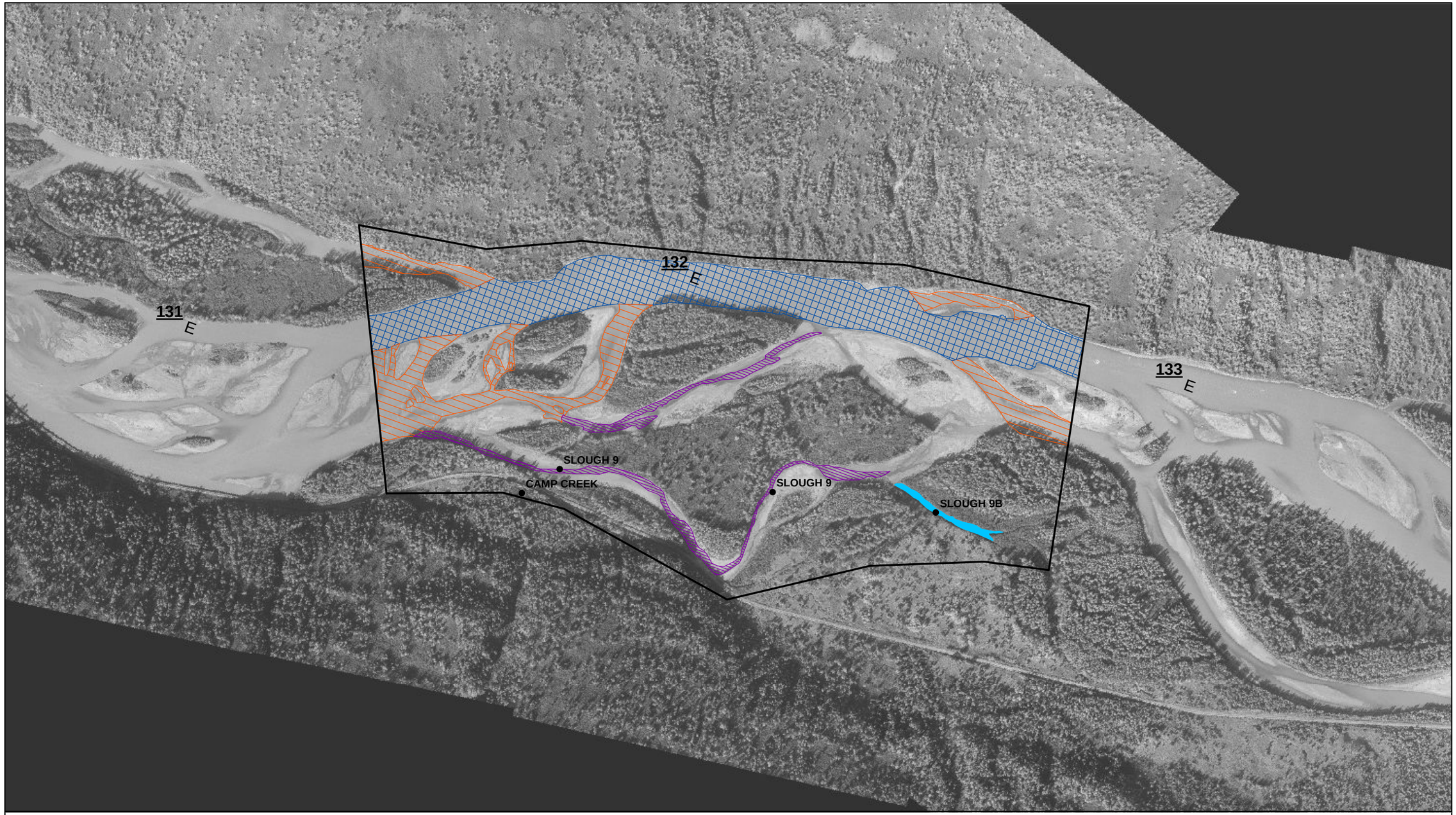
See index page for legend and additional data information.

Sheet 7 of 17
Site 7, Slough 8A

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

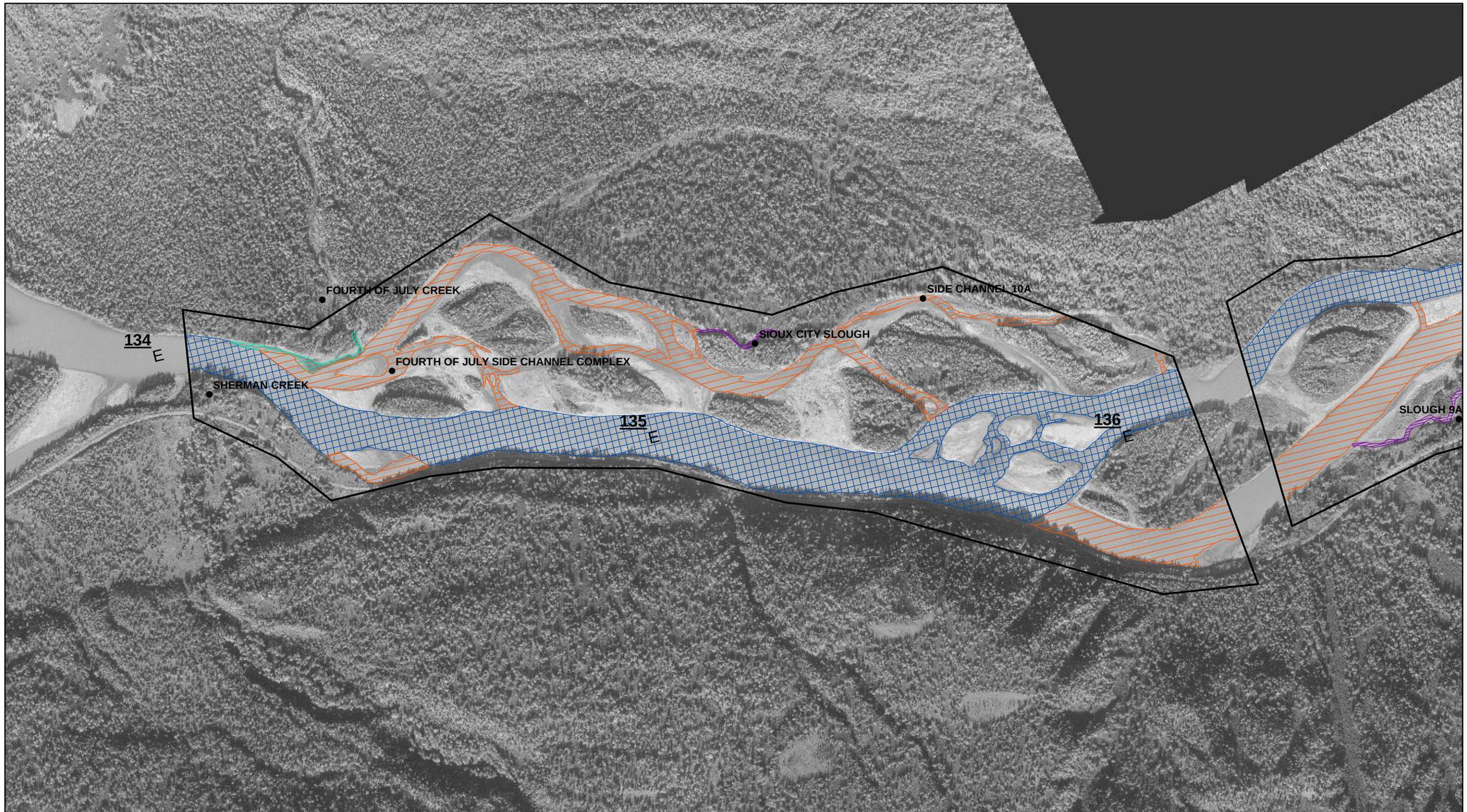
See index page for legend and additional data information.

Sheet 8 of 17
Site 8, Slough 9

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

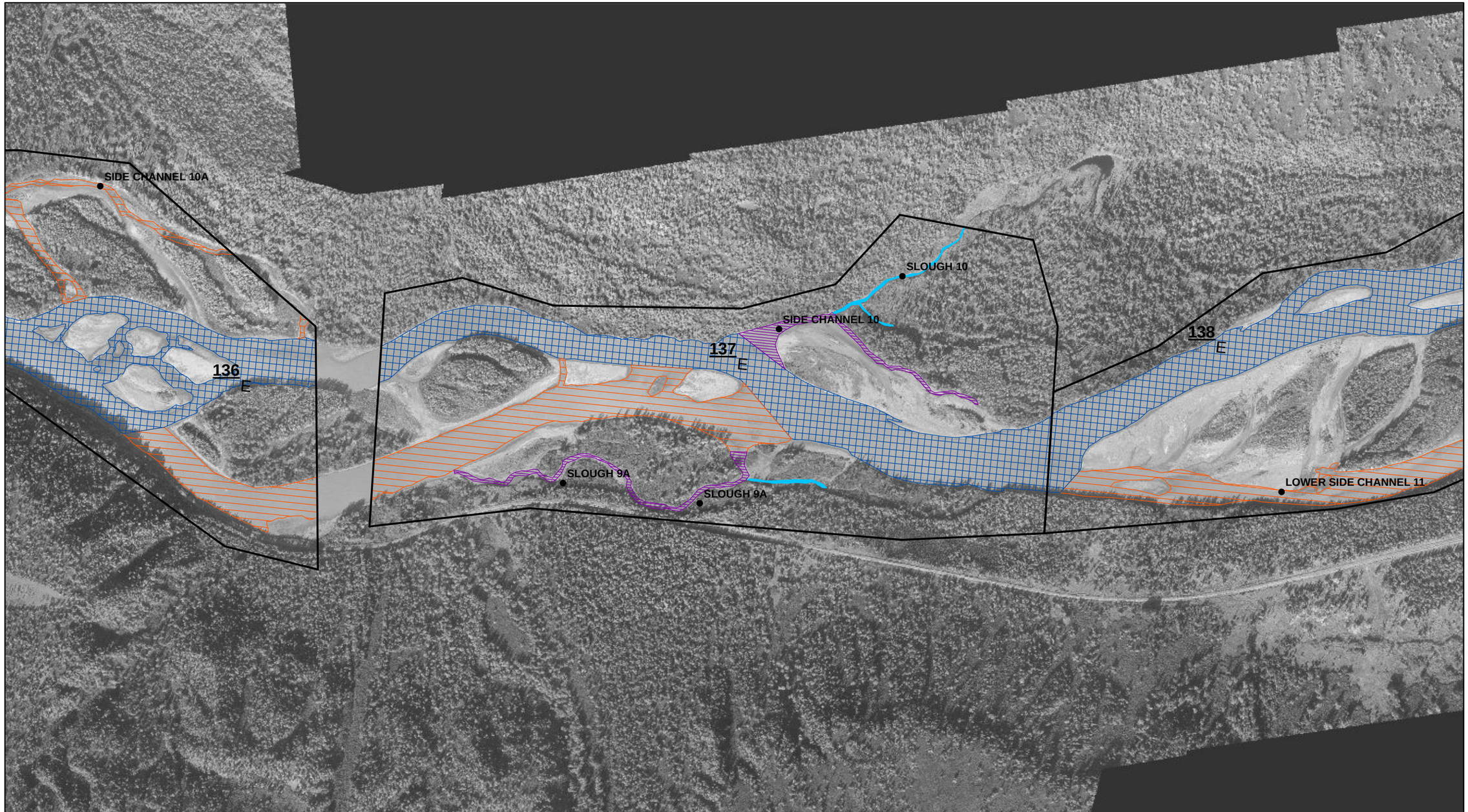
See index page for legend and additional data information.

Sheet 9 of 17
Site 9, Side Channel 10A

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

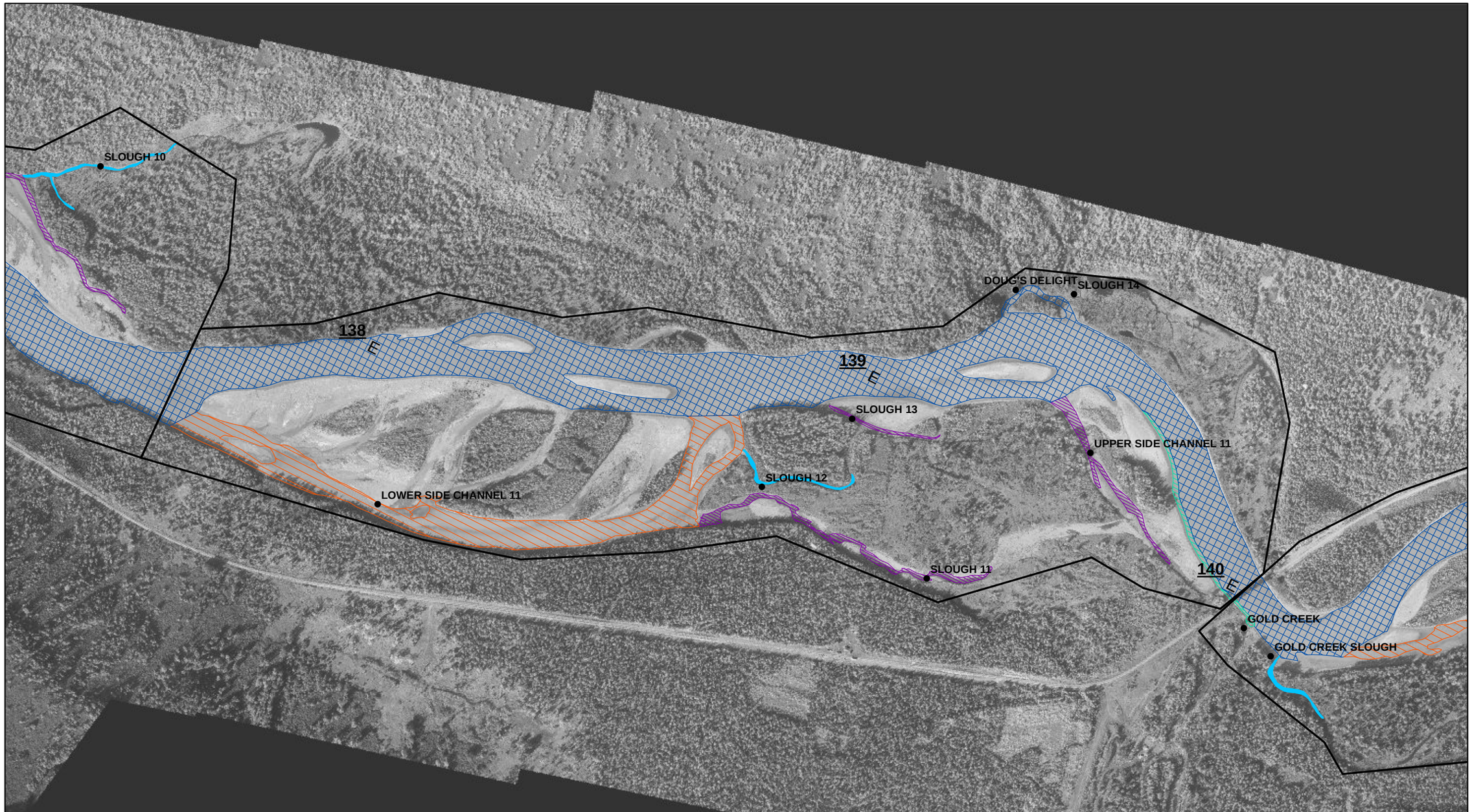
See index page for legend and additional data information.

Sheet 10 of 17
Site 10, Side Channel 10

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

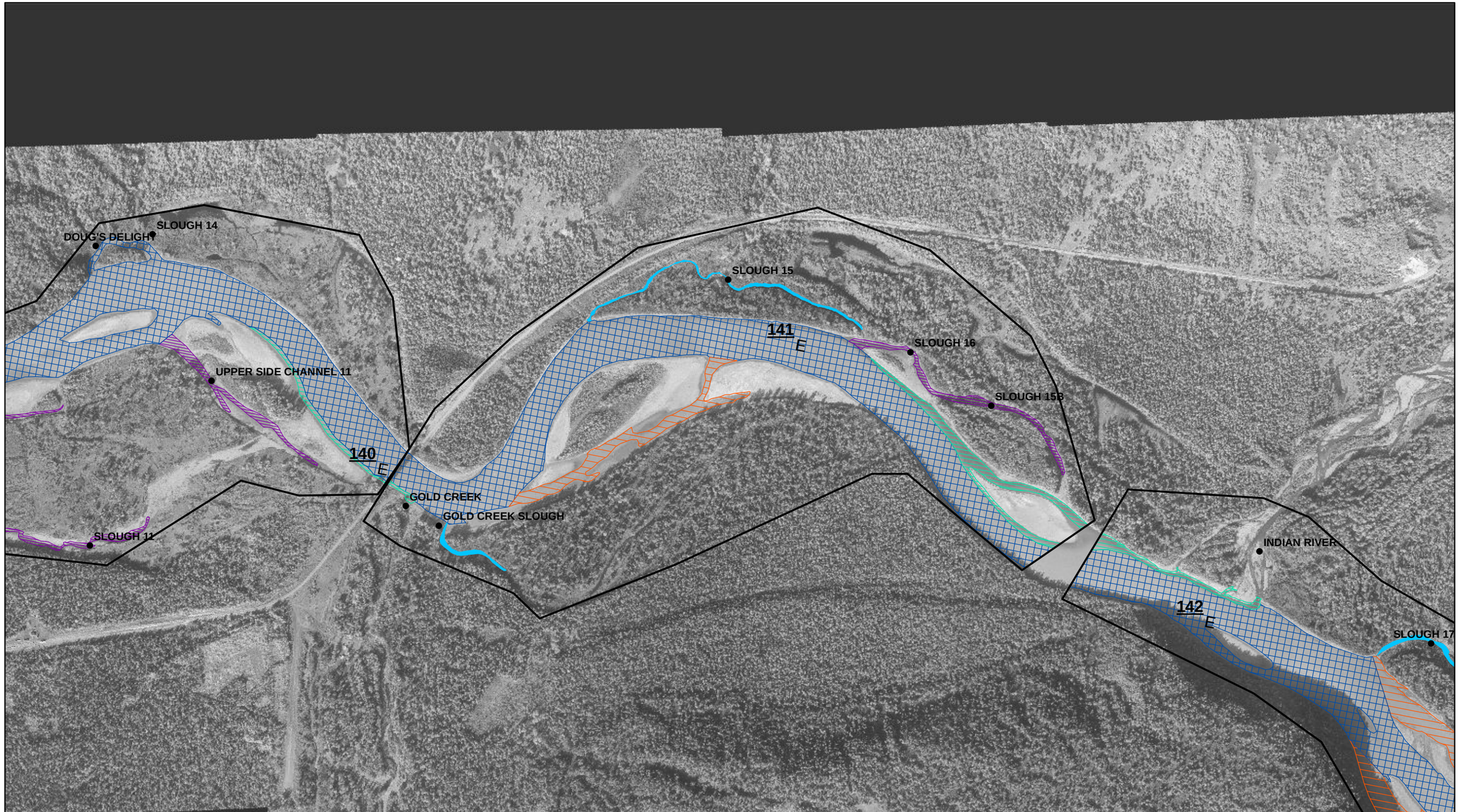
See index page for legend and additional data information.

Sheet 11 of 17
Site 11, Slough 11

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

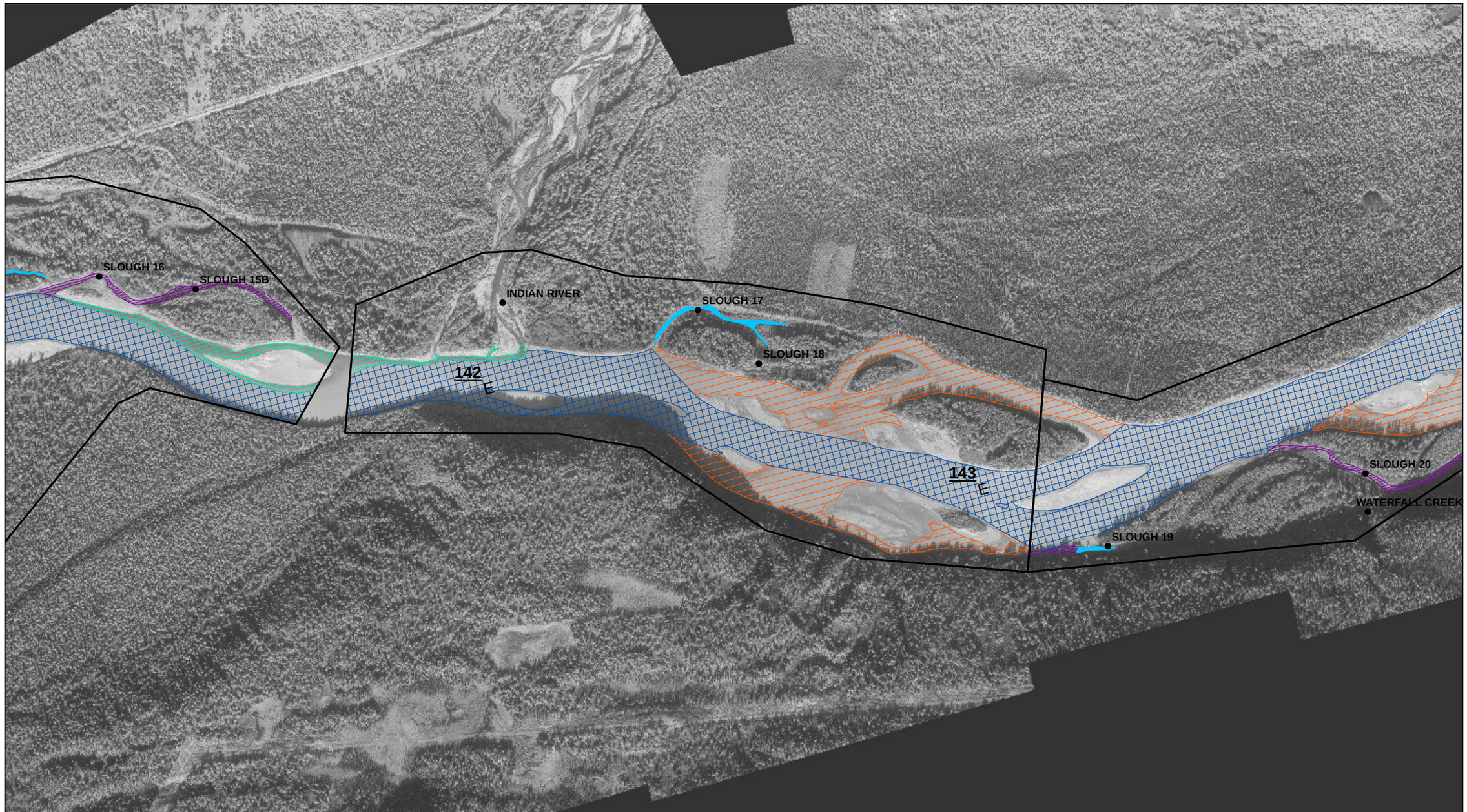
See index page for legend and additional data information.

Sheet 12 of 17
Site 12, Gold Creek

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

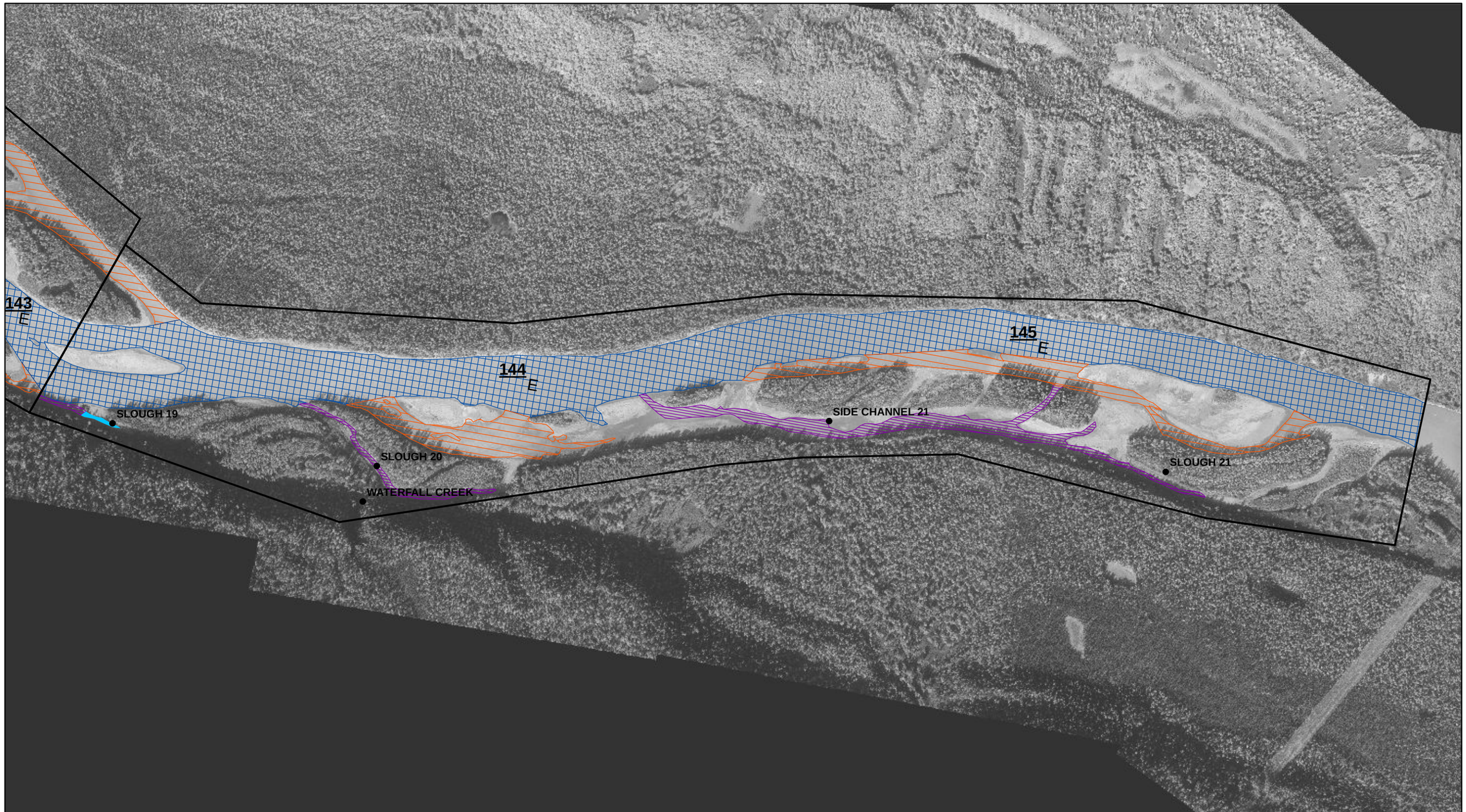
See index page for legend and additional data information.

Sheet 13 of 17
Site 13, Indian River

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

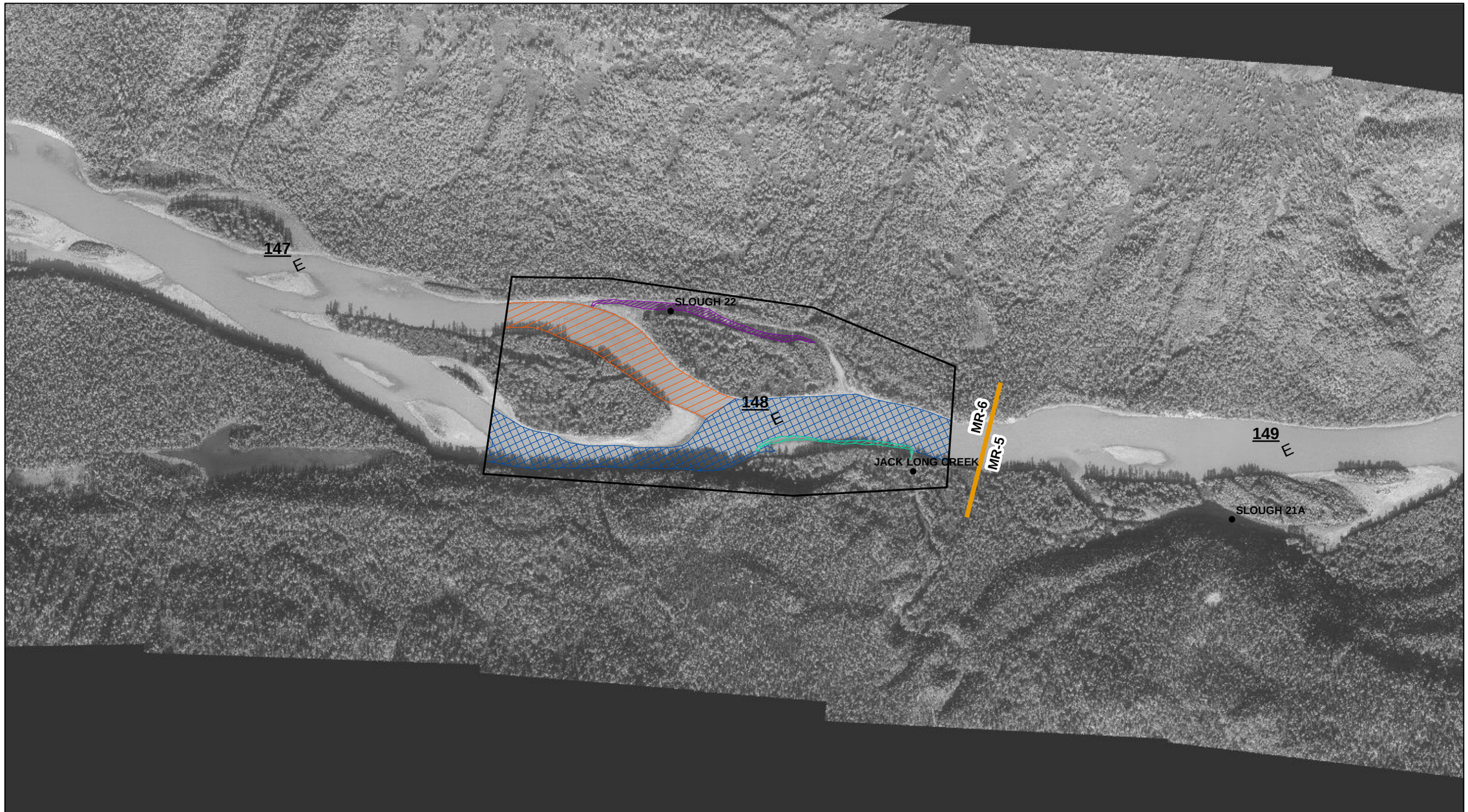
See index page for legend and additional data information.

Sheet 14 of 17
Site 14, Slough 21

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

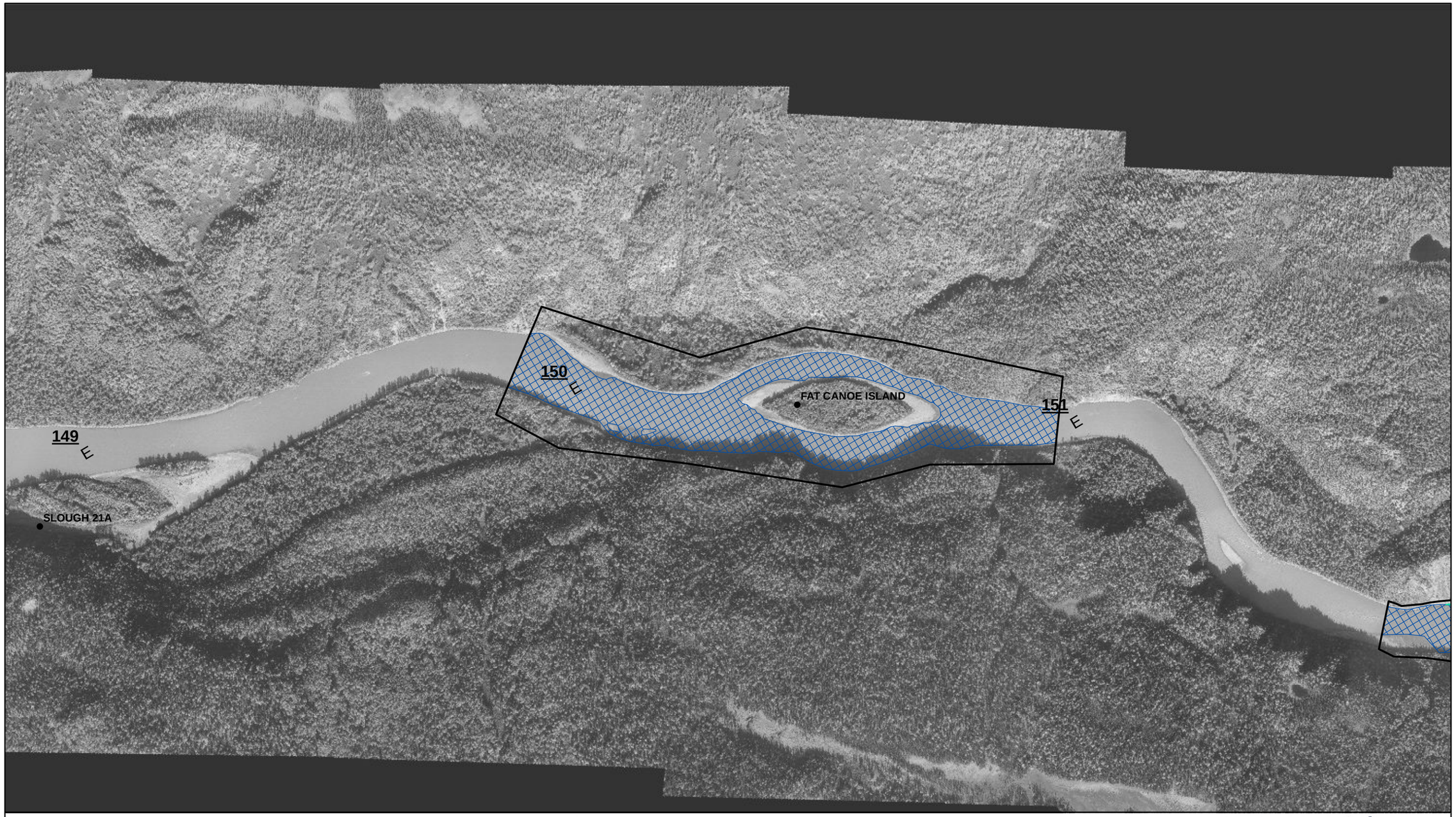
See index page for legend and additional data information.

Sheet 15 of 17
Site 15, Slough 22

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

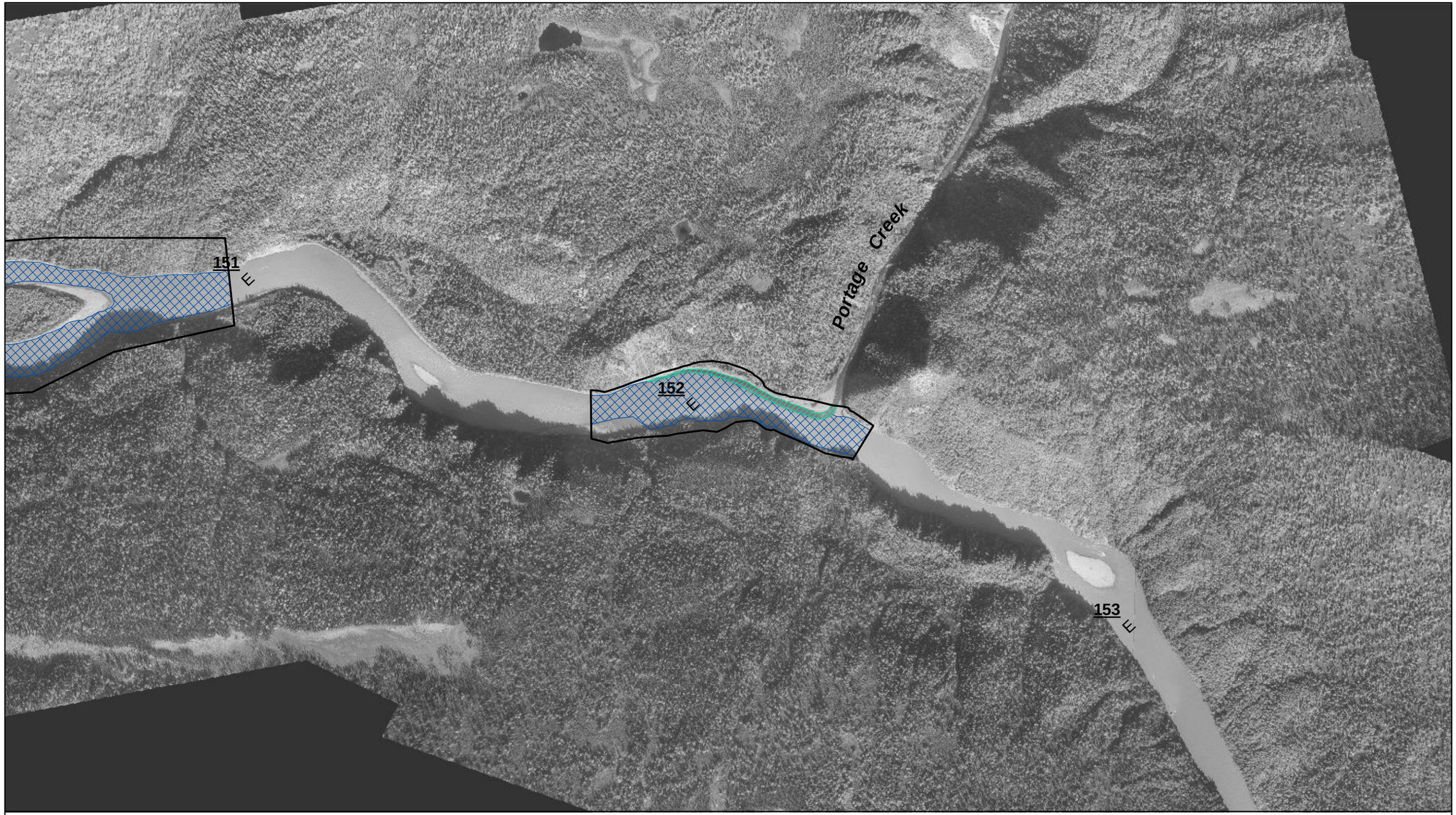
See index page for legend and additional data information.

Sheet 16 of 17
Site 16, Fat Canoe Island

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 17 of 17
Site 17, Portage Creek

MIDDLE SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Gold Creek)
PRM 102 - 158: 09/11/1983, 12,500 cfs

ALASKA ENERGY AUTHORITY

APPENDIX 2. 2012 MIDDLE RIVER SEGMENT HABITAT SITES

Susitna-Watana Hydroelectric Project
(FERC No. 14241)

Mapping of Aquatic Macrohabitat Types at Selected Sites in the Middle and Lower Susitna River Segments from 1980s and 2012 Aerials

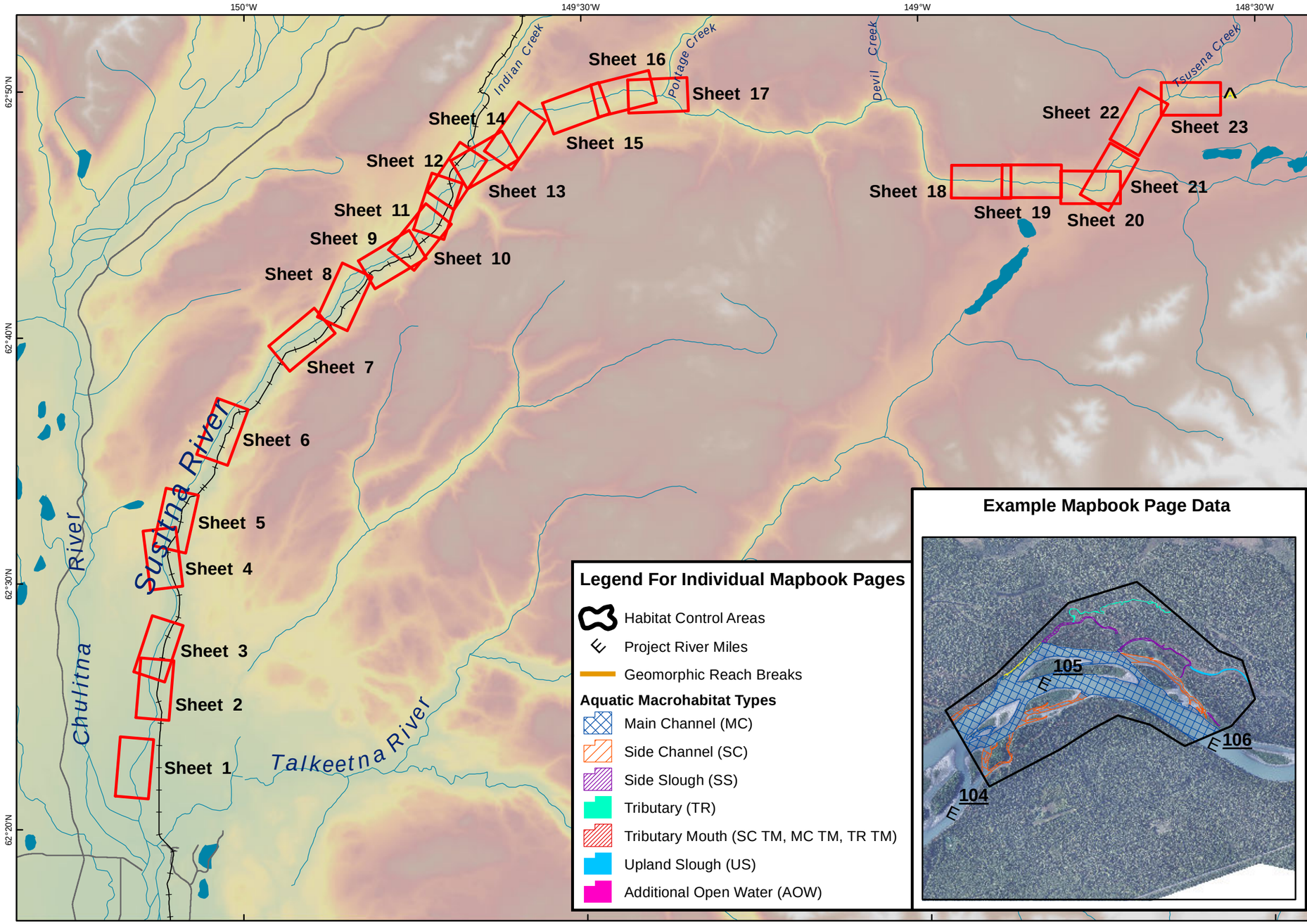
2012 Study Technical Memorandum
DRAFT

Prepared for
Alaska Energy Authority

SUSITNA-WATANA HYDRO
Clean, reliable energy for the next 100 years.

Prepared by
Tetra Tech Inc.

February 2013



Legend For Individual Mapbook Pages

- Habitat Control Areas
- Project River Miles
- Geomorphic Reach Breaks

Aquatic Macrohabitat Types

- Main Channel (MC)
- Side Channel (SC)
- Side Slough (SS)
- Tributary (TR)
- Tributary Mouth (SC TM, MC TM, TR TM)
- Upland Slough (US)
- Additional Open Water (AOW)

Example Mapbook Page Data

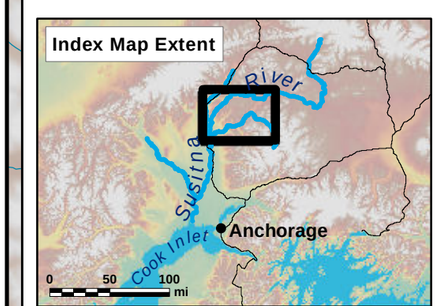
ALASKA ENERGY AUTHORITY

MIDDLE SUSITNA RIVER SEGMENT HABITAT SITES 2012

Legend

- Sheet Extents
- Proposed Watana Dam Site
- Roads
- Railroads
- Rivers and Streams
- Waterbodies

Data Sources: See Map References



0 5 10 mi

Projection: NAD83 State Plane Alaska 4 FIPS 5004 (ft)
Date Created: 2/21/2013
Map Author: Tetra Tech
File: 2012_MapbookHabitat_Middle_v1.mxd

0 1,000 2,000 Feet

1 inch = 1,000 feet

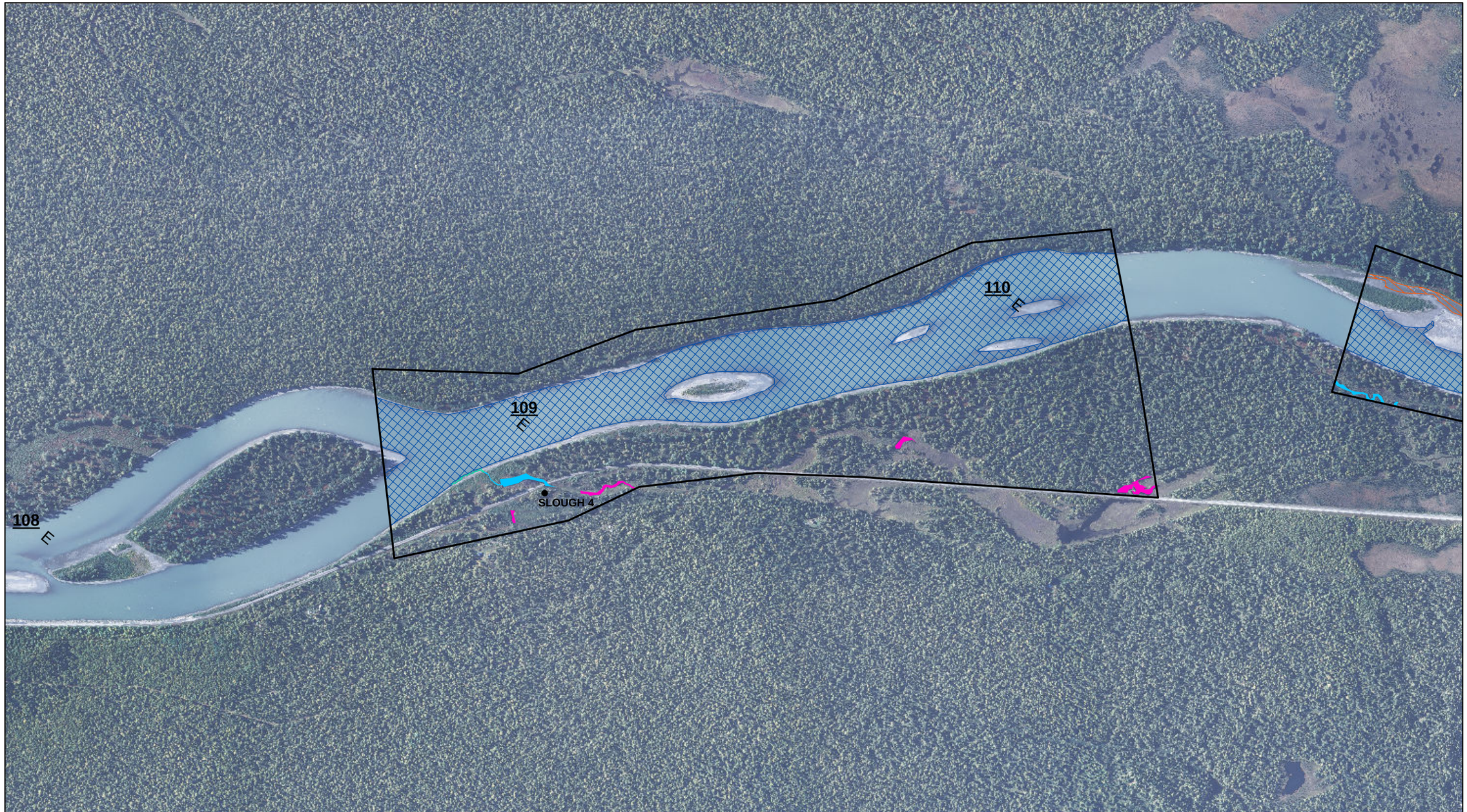
See index page for legend and additional data information.

Sheet 1 of 23
Site 1, Whiskers Slough

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

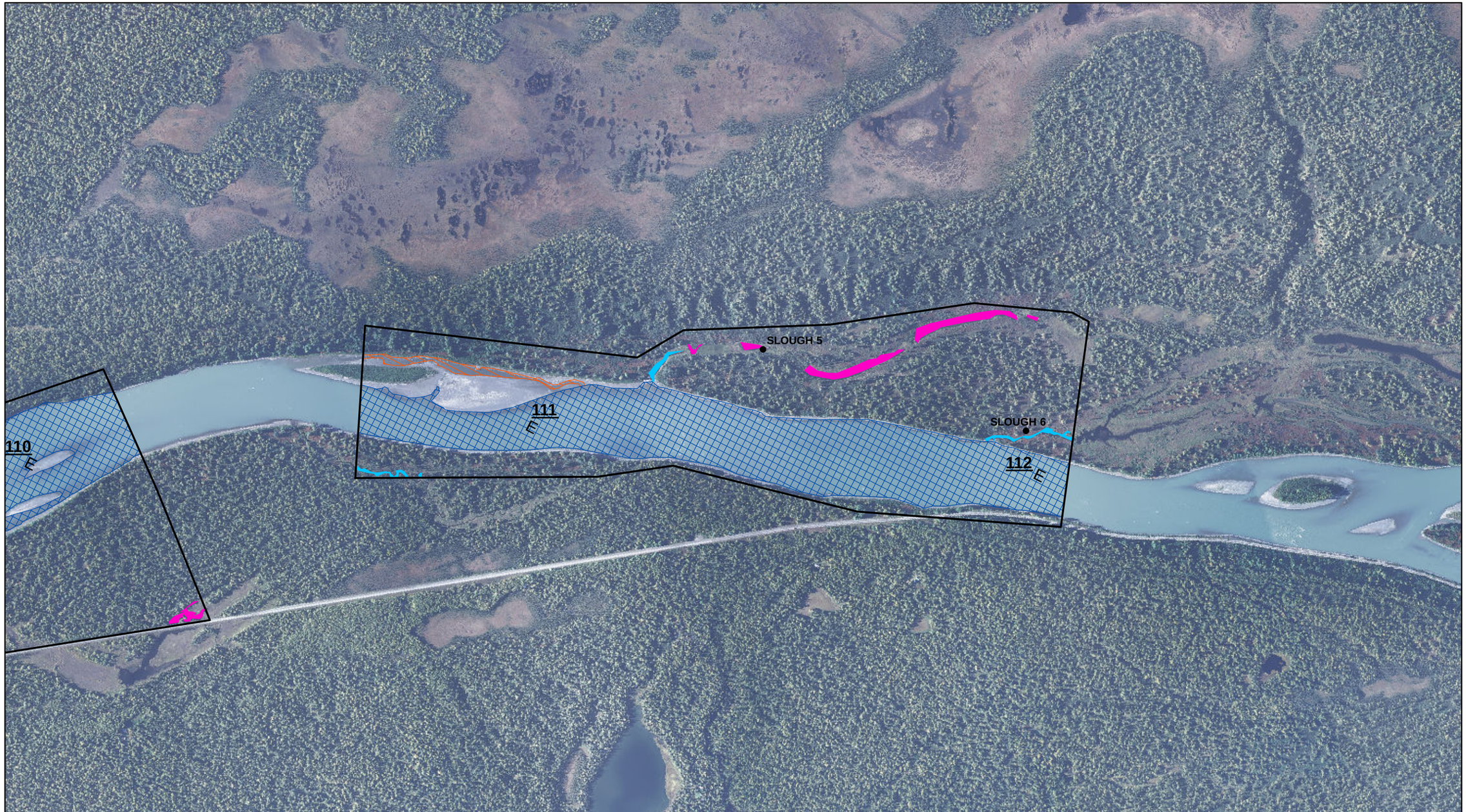
See index page for legend and additional data information.

Sheet 2 of 23
Site 2, Slough 4

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

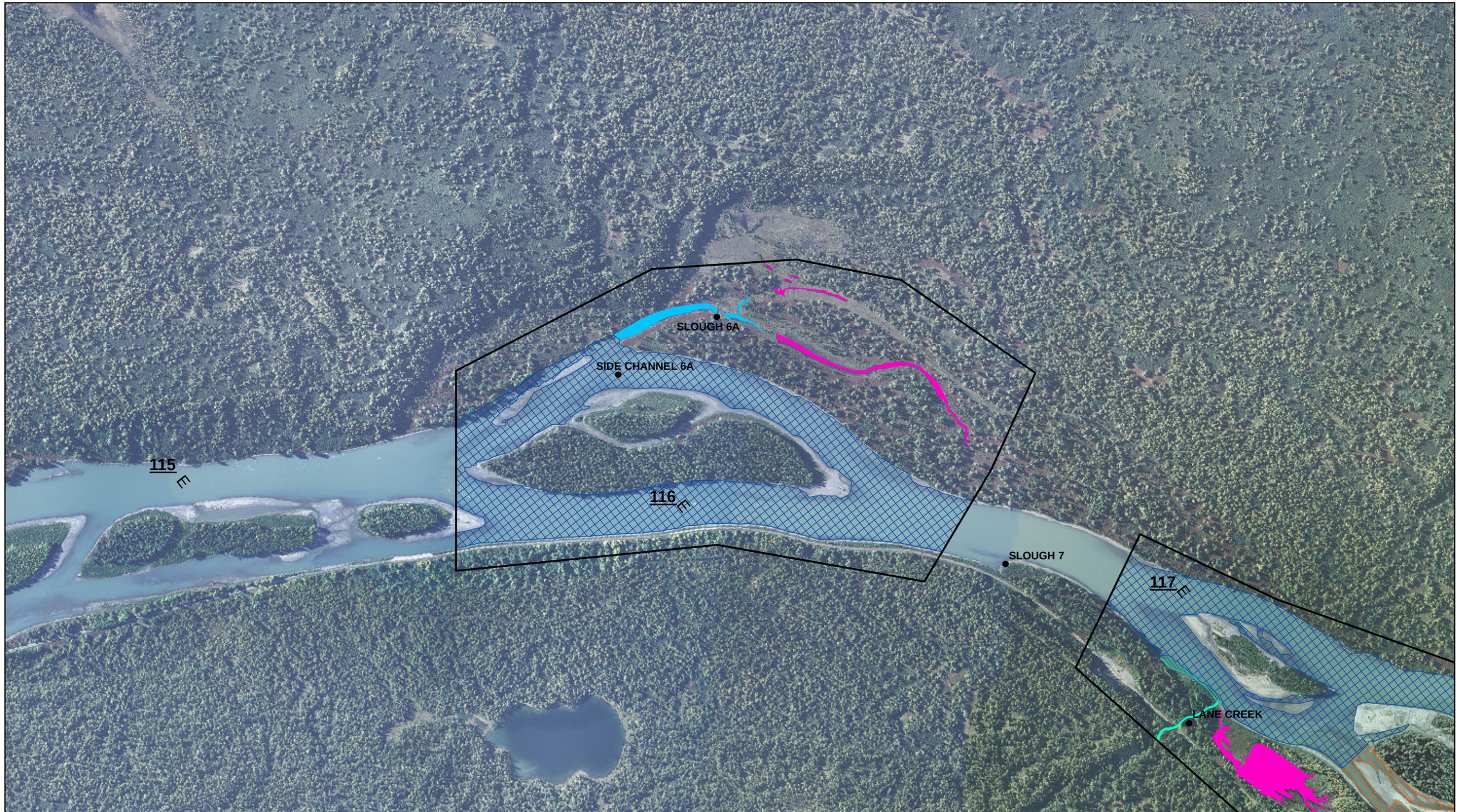
See index page for legend and additional data information.

Sheet 3 of 23
Site 3, Slough 5

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY



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1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 4 of 23
Site 4, Slough 6A

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY

0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 5 of 23
Site 5, Slough 8

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY

0 1,000 2,000 Feet

1 inch = 1,000 feet

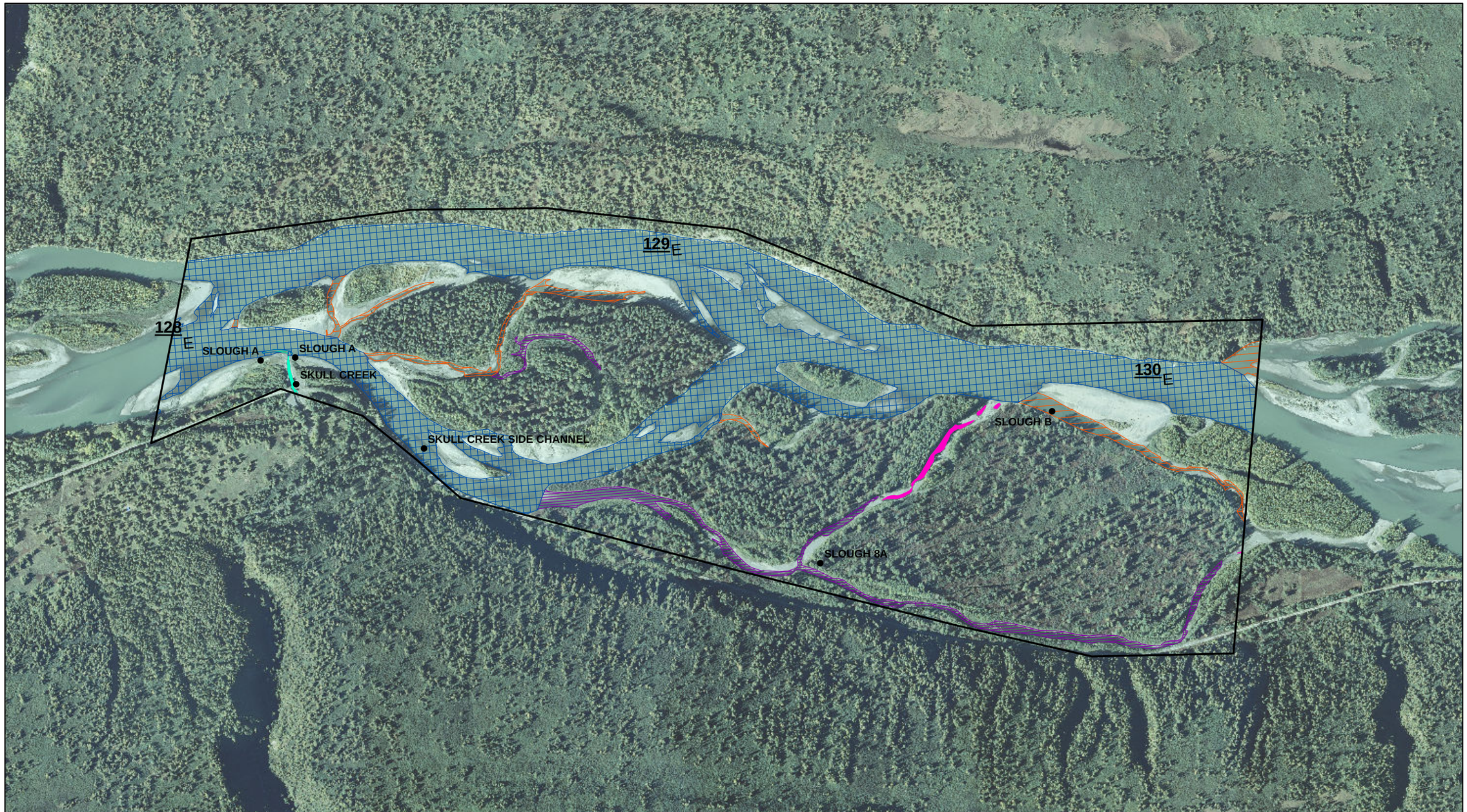
See index page for legend and additional data information.

Sheet 6 of 23
Site 6, Oxbow II

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

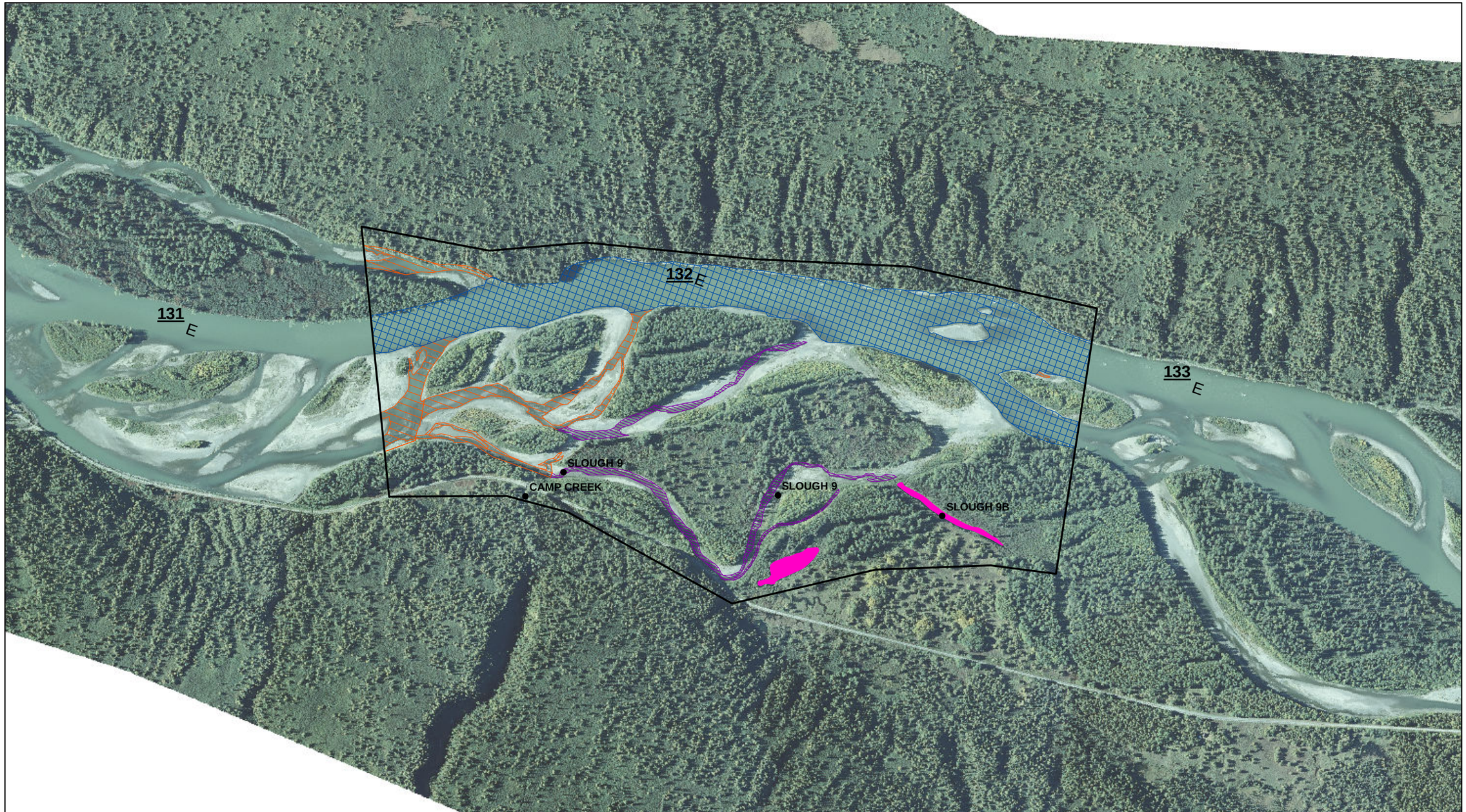
See index page for legend and additional data information.

Sheet 7 of 23
Site 7, Slough 8A

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 8 of 23
Site 8, Slough 9

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY

0 1,000 2,000 Feet

1 inch = 1,000 feet

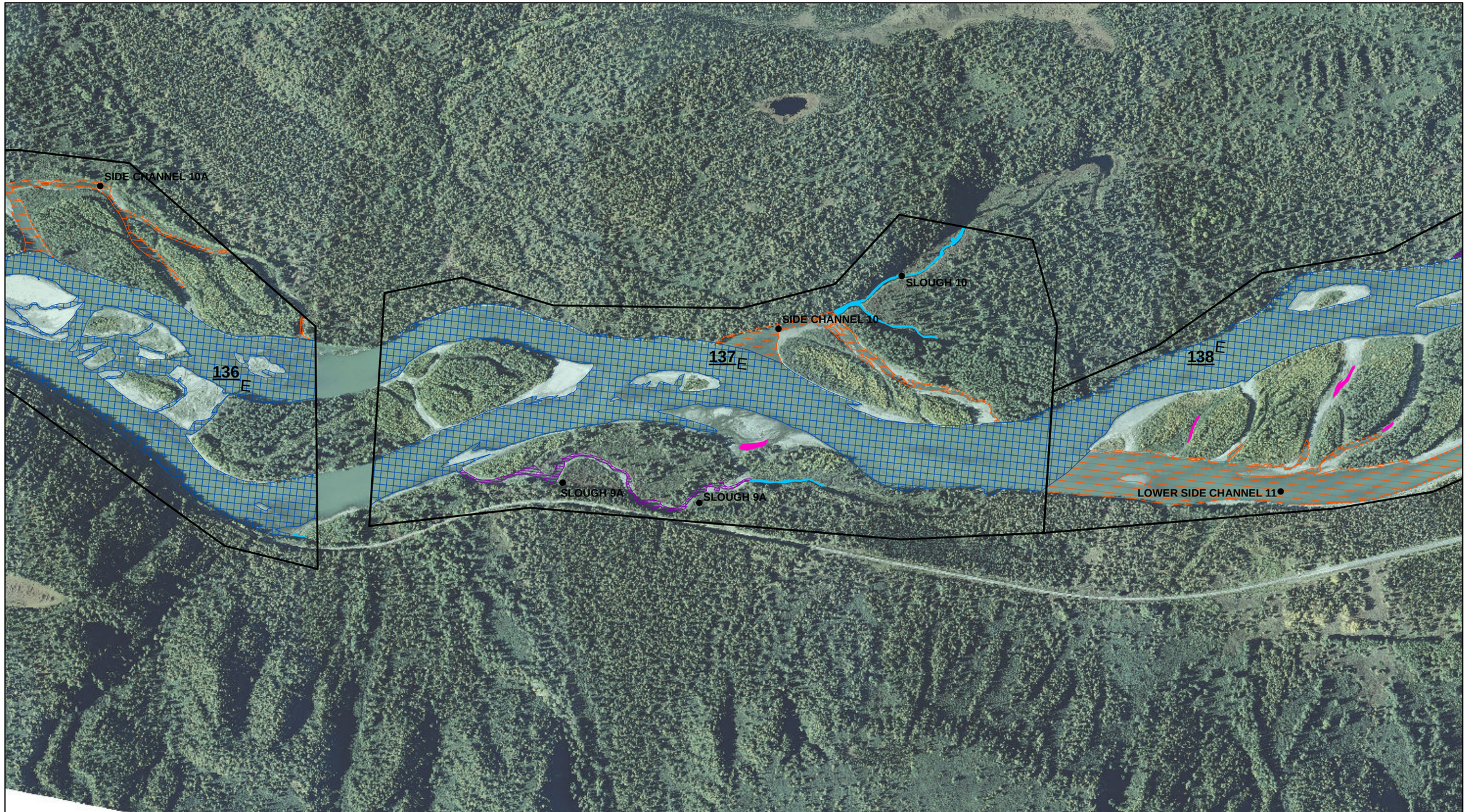
See index page for legend and additional data information.

Sheet 9 of 23
Site 9, Side Channel 10A

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 10 of 23
Site 10, Side Channel 10

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY

0 1,000 2,000 Feet

1 inch = 1,000 feet

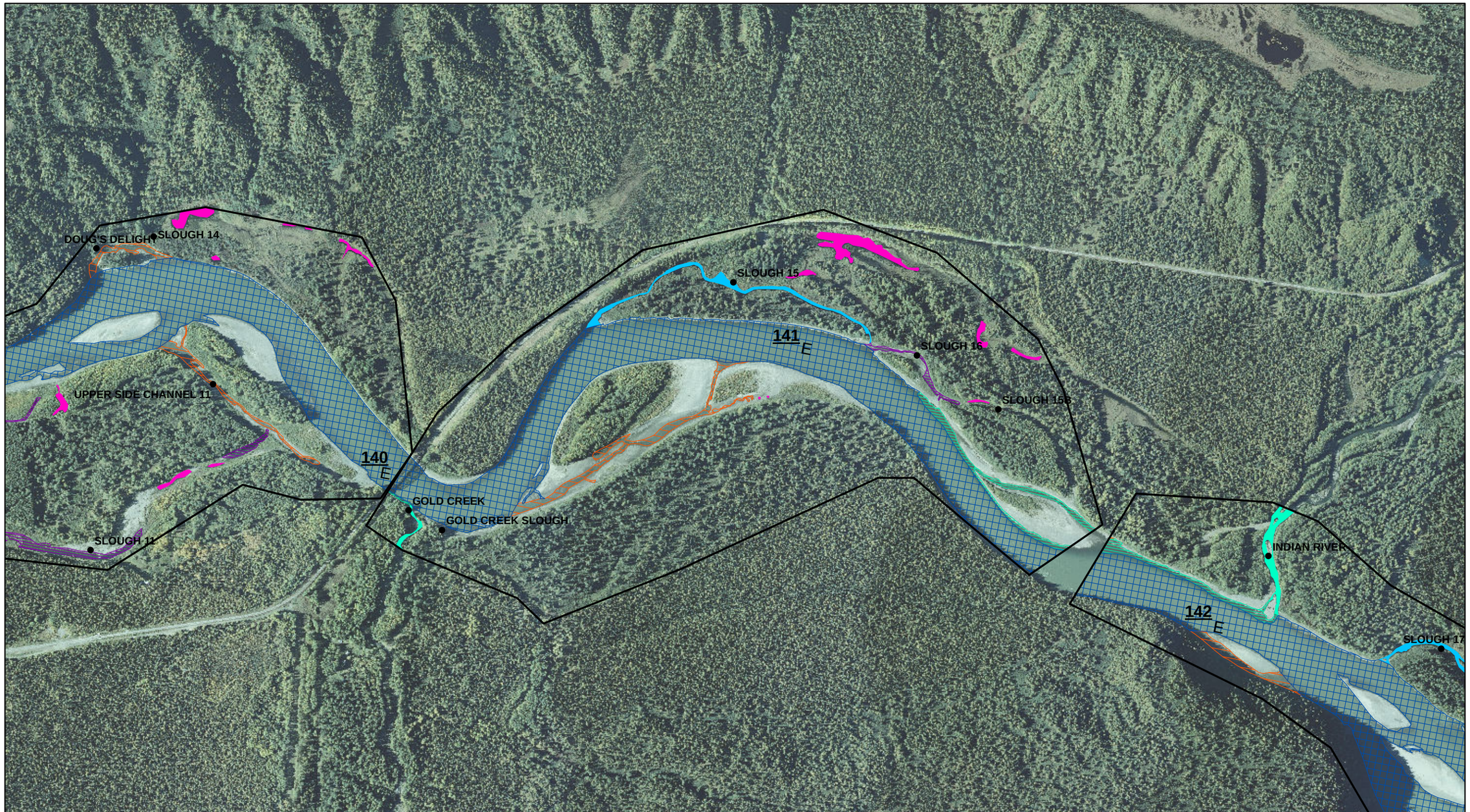
See index page for legend and additional data information.

Sheet 11 of 23
Site 11, Slough 11

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

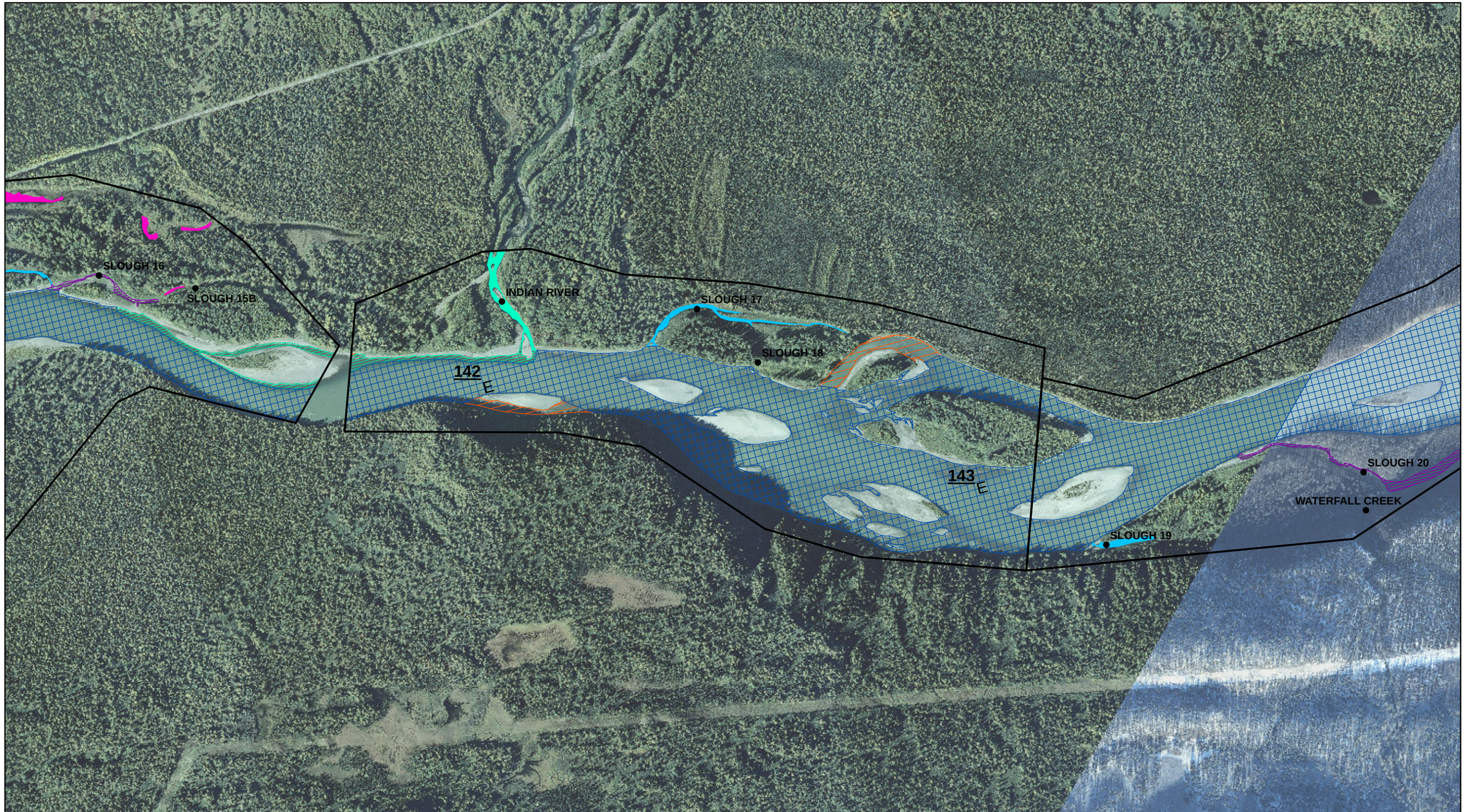
See index page for legend and additional data information.

Sheet 12 of 23
Site 12, Gold Creek

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

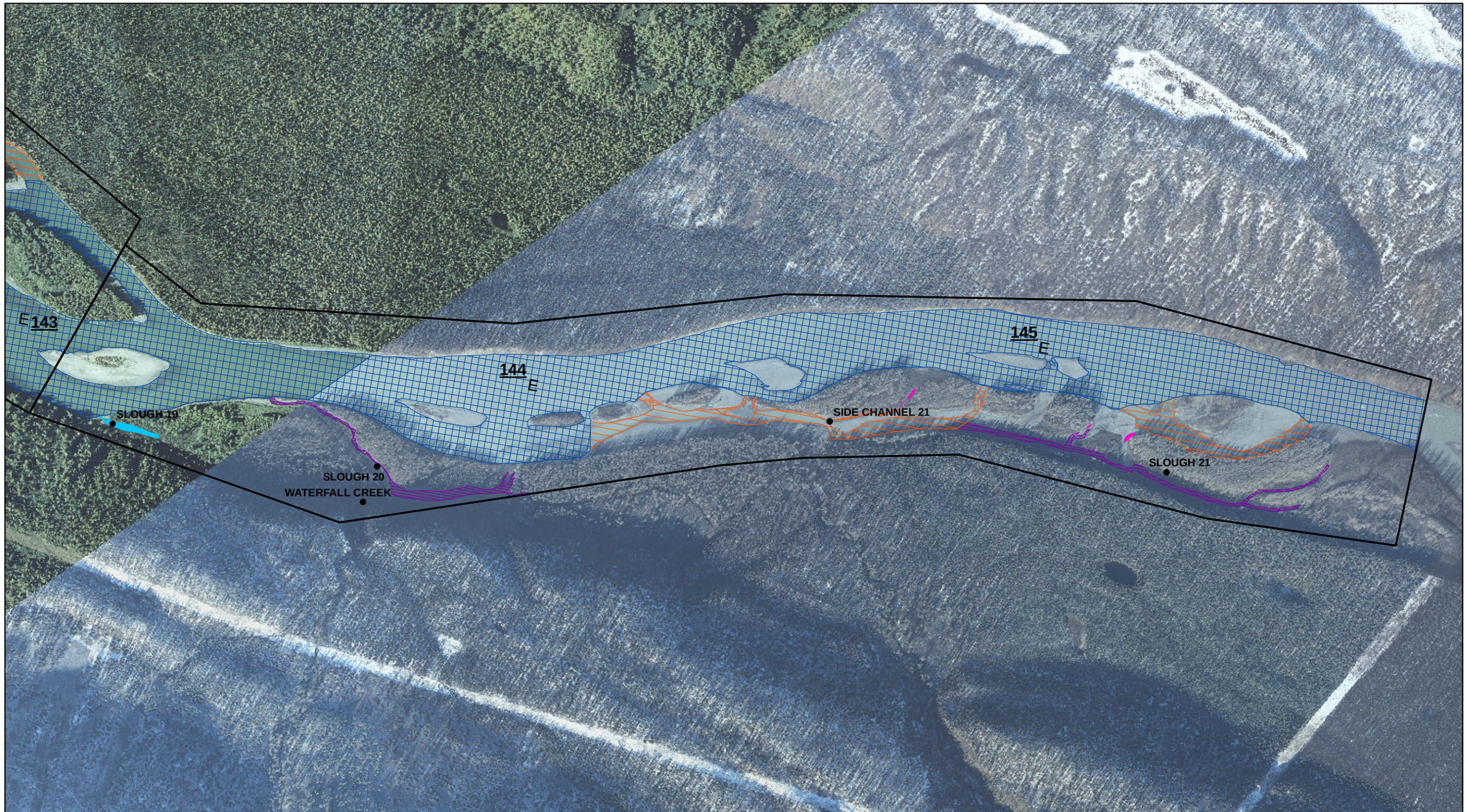
See index page for legend and additional data information.

Sheet 13 of 23
Site 13, Indian River

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 14 of 23
Site 14, Slough 21

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY

0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 15 of 23
Site 15, Slough 22

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY

0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 16 of 23
Site 16, Fat Canoe Island

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY

0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 17 of 23
Site 17, Portage Creek

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY

0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 18 of 23
Site 18, MR-2 Narrow

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY

0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 19 of 23
Site 19, MR-2 Wide

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY

0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 20 of 23
Site 20, MR-2 Straight

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY

0 1,000 2,000 Feet

1 inch = 1,000 feet

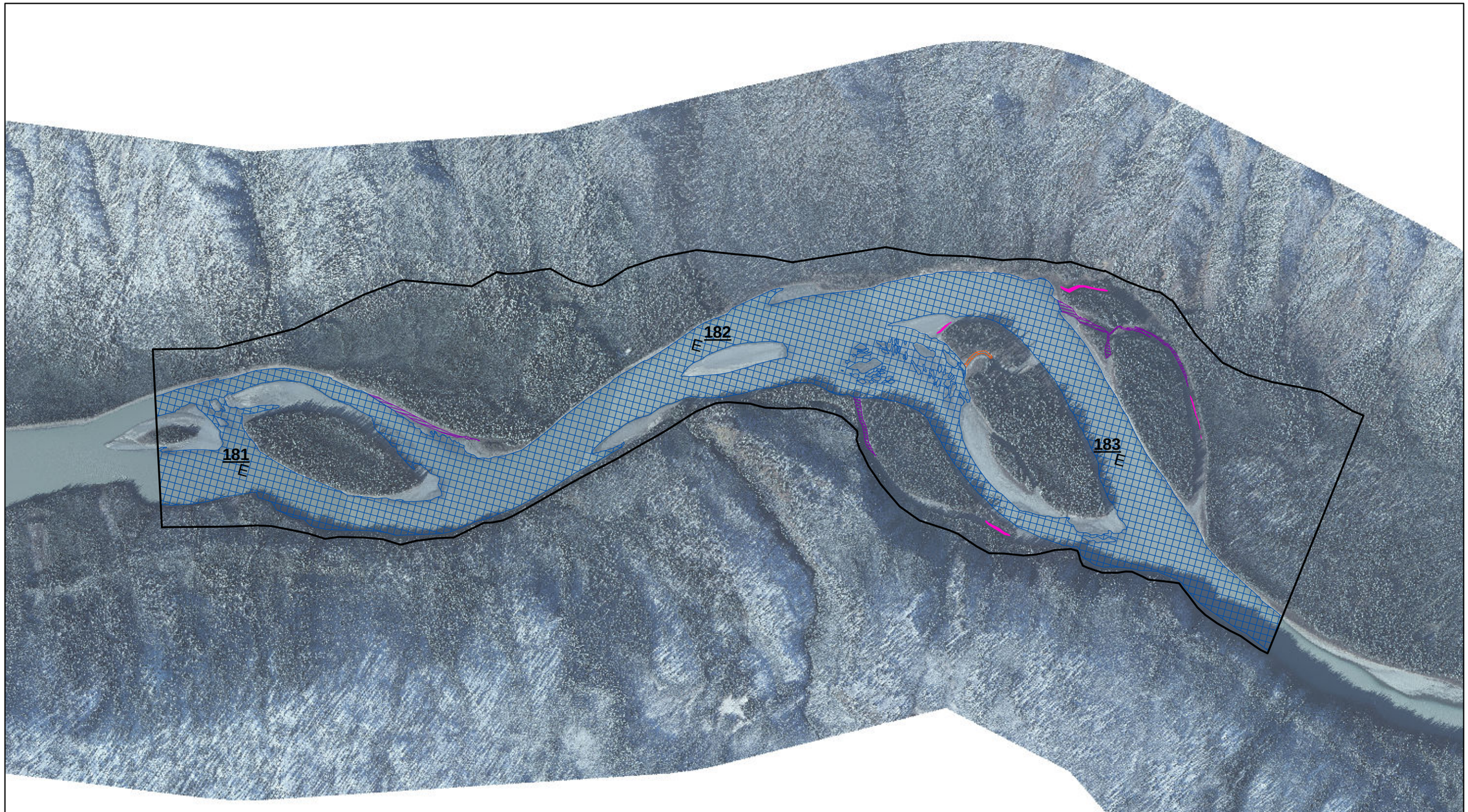
See index page for legend and additional data information.

Sheet 21 of 23
Site 21, MR-2 Tributary

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

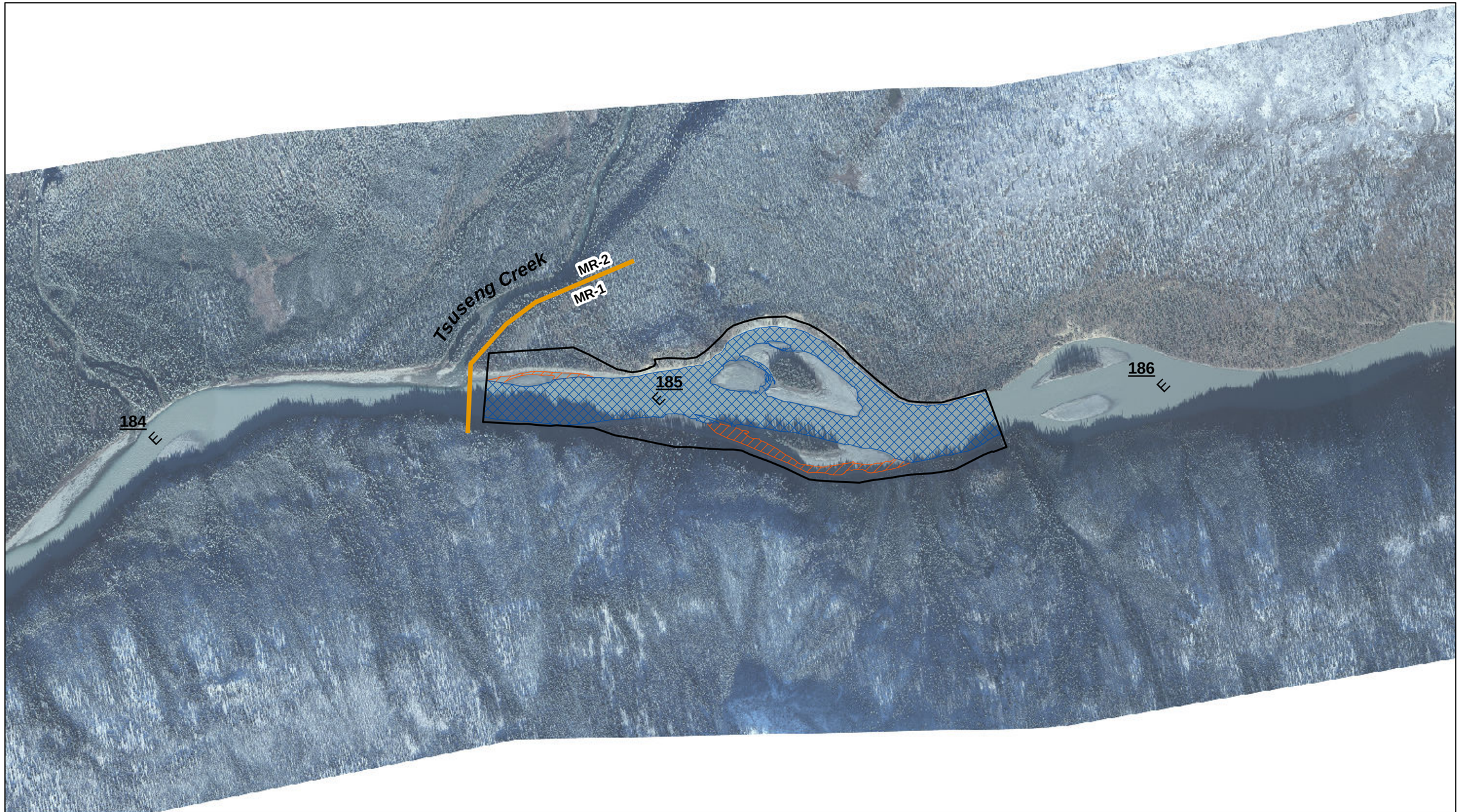
See index page for legend and additional data information.

Sheet 22 of 23
Site 22, MR-2 Island Bend

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 23 of 23
Site 23, Below Dam

MIDDLE SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Project River Miles:	Imagery Date,	Discharge (Gold Creek)
PRM 102.4 - 143.6:	09/10/2012,	12,900 cfs
PRM 143.6 - 186.7:	09/30/2012,	17,000 cfs

ALASKA ENERGY AUTHORITY

APPENDIX 3. 1983 LOWER RIVER SEGMENT HABITAT SITES

Susitna-Watana Hydroelectric Project
(FERC No. 14241)

Mapping of Aquatic Macrohabitat Types at Selected Sites in the Middle and Lower Susitna River Segments from 1980s and 2012 Aerials

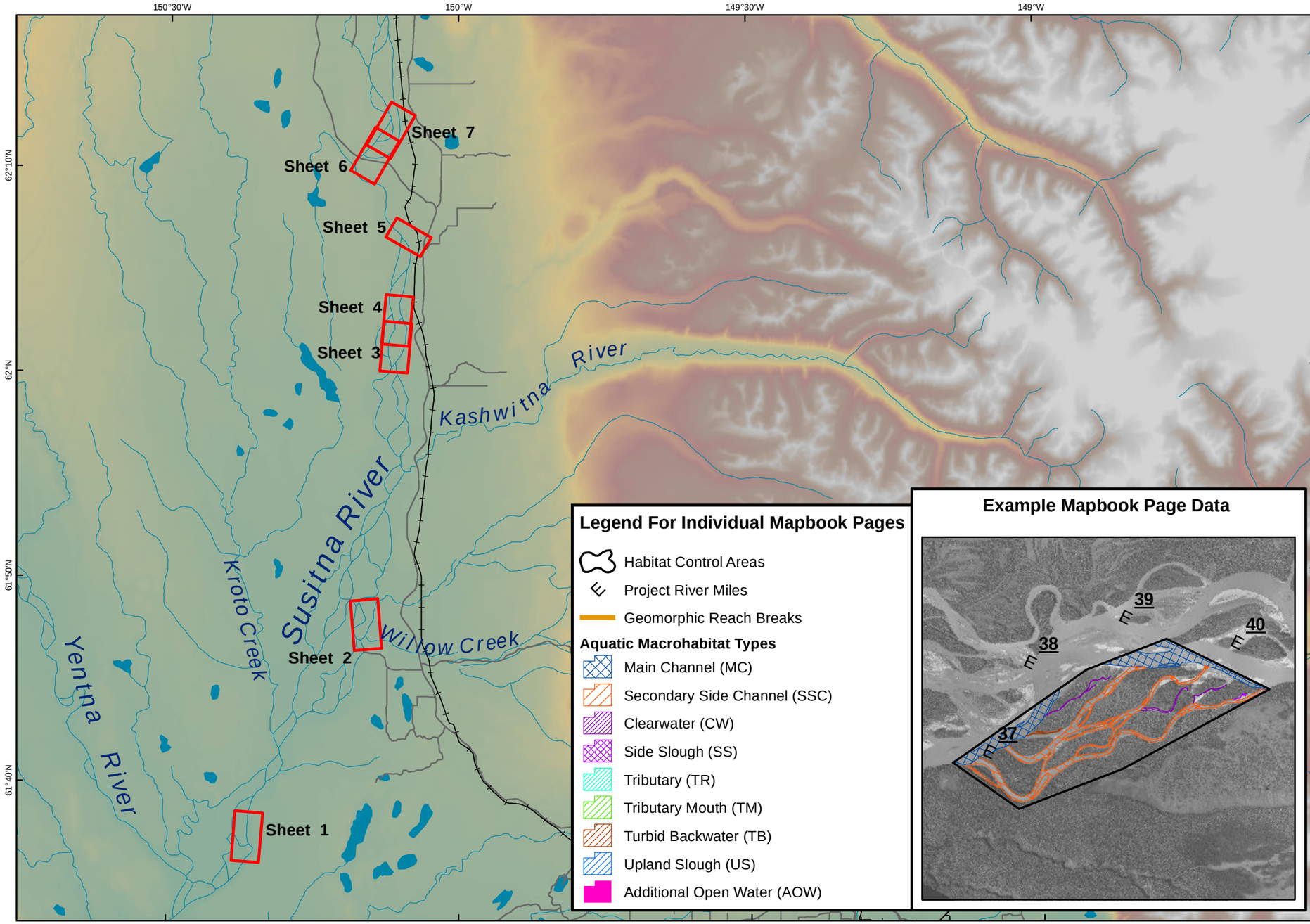
2012 Study Technical Memorandum
DRAFT

Prepared for
Alaska Energy Authority

SUSITNA-WATANA HYDRO
Clean, reliable energy for the next 100 years.

Prepared by
Tetra Tech Inc.

February 2013



Legend For Individual Mapbook Pages

- Habitat Control Areas
- Project River Miles
- Geomorphic Reach Breaks

Aquatic Macrohabitat Types

- Main Channel (MC)
- Secondary Side Channel (SSC)
- Clearwater (CW)
- Side Slough (SS)
- Tributary (TR)
- Tributary Mouth (TM)
- Turbid Backwater (TB)
- Upland Slough (US)
- Additional Open Water (AOW)

Example Mapbook Page Data

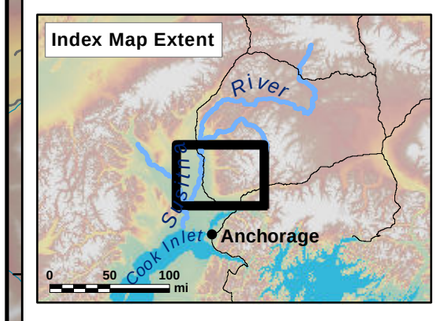
ALASKA ENERGY AUTHORITY

LOWER SUSITNA RIVER SEGMENT HABITAT SITES 1983

Legend

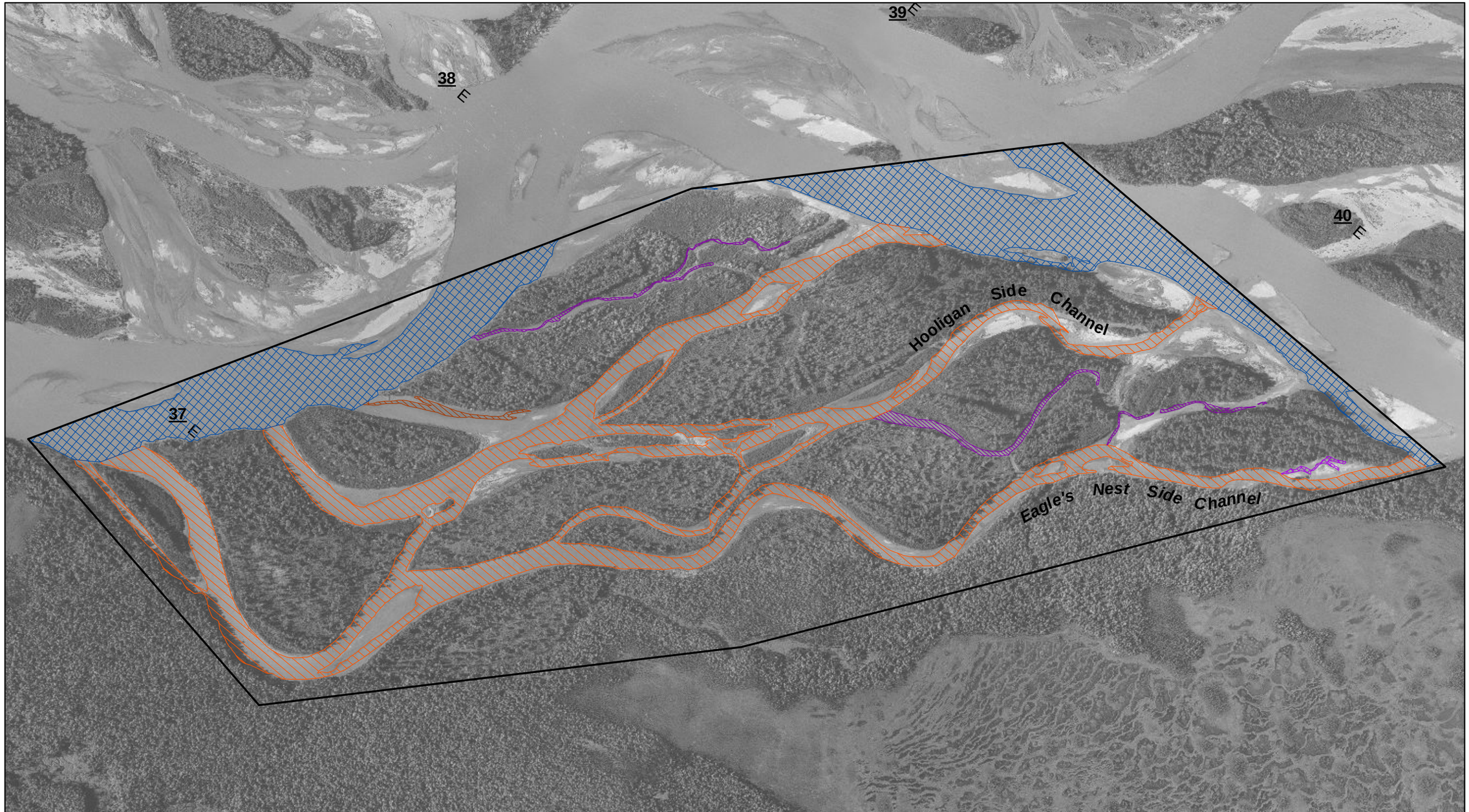
- Sheet Extents
- Proposed Watana Dam Site
- Roads
- Railroads
- Rivers and Streams
- Waterbodies

Data Sources: See Map References



0 6 12 mi

Projection: NAD83 State Plane Alaska 4 FIPS 5004 (ft)
Date Created: 2/21/2013
Map Author: Tetra Tech
File: 1980s_MapbookLowerHabitat_v1.mxd



0 1,000 2,000 Feet

1 inch = 1,000 feet

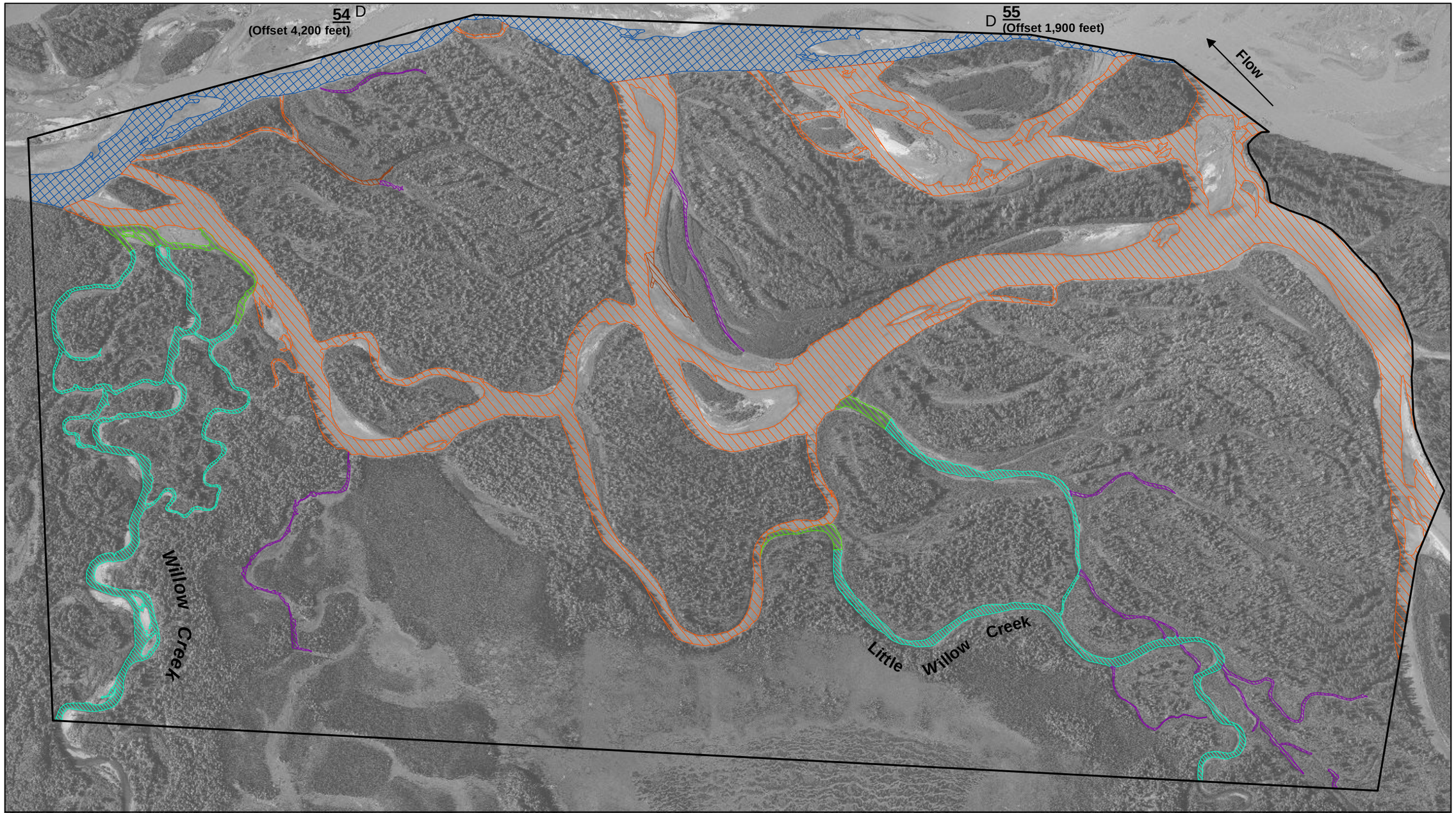
See index page for legend and additional data information.

Sheet 1 of 7
Site 1, SC IV-4

LOWER SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Sunshine)
PRM 0 - 102: 09/06/1983, 36,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

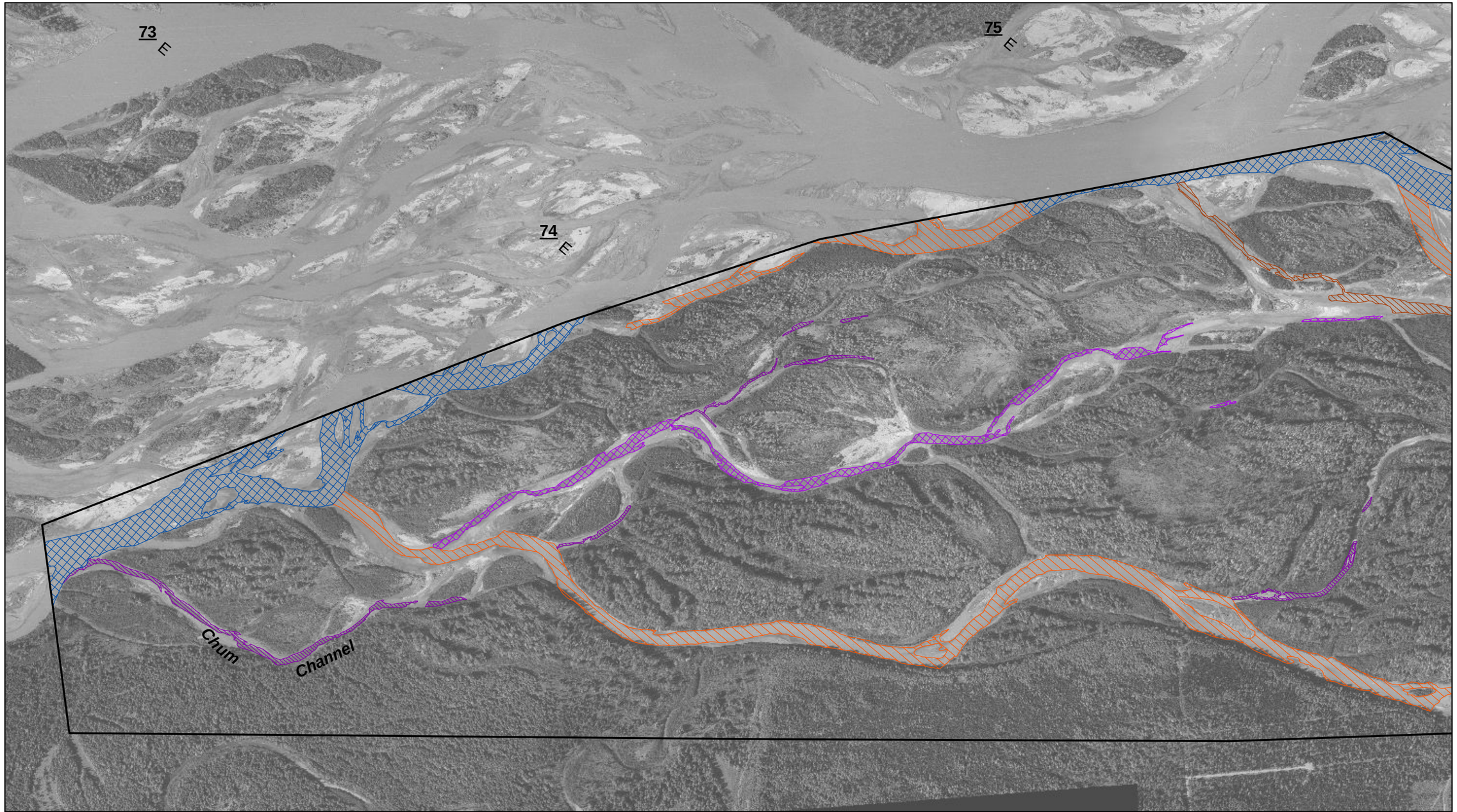
See index page for legend and additional data information.

Sheet 2 of 7
Site 2, Willow Creek

LOWER SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Sunshine)
PRM 0 - 102: 09/06/1983, 36,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

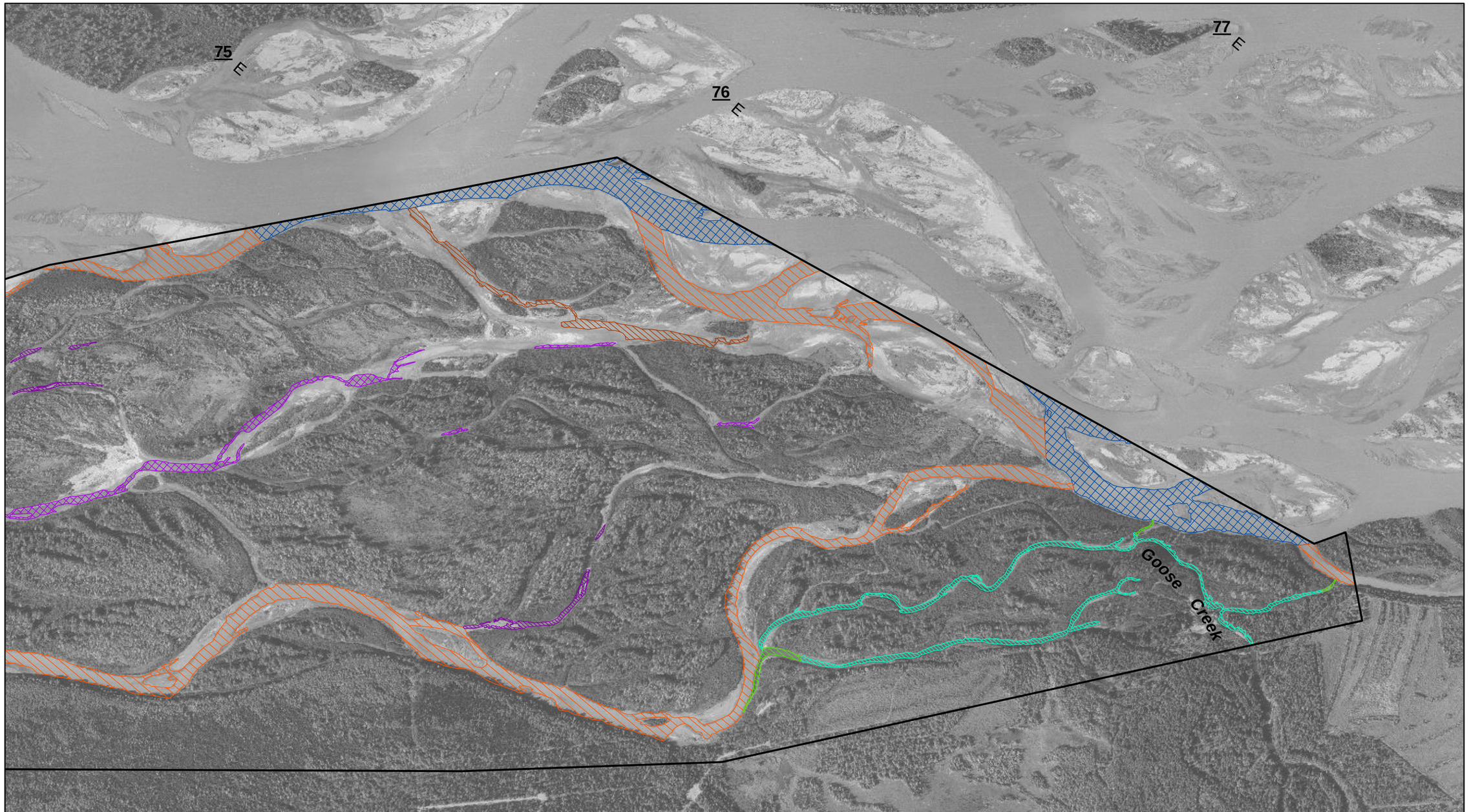
See index page for legend and additional data information.

Sheet 3 of 7
Site 3, Goose Creek

LOWER SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Sunshine)
PRM 0 - 102: 09/06/1983, 36,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

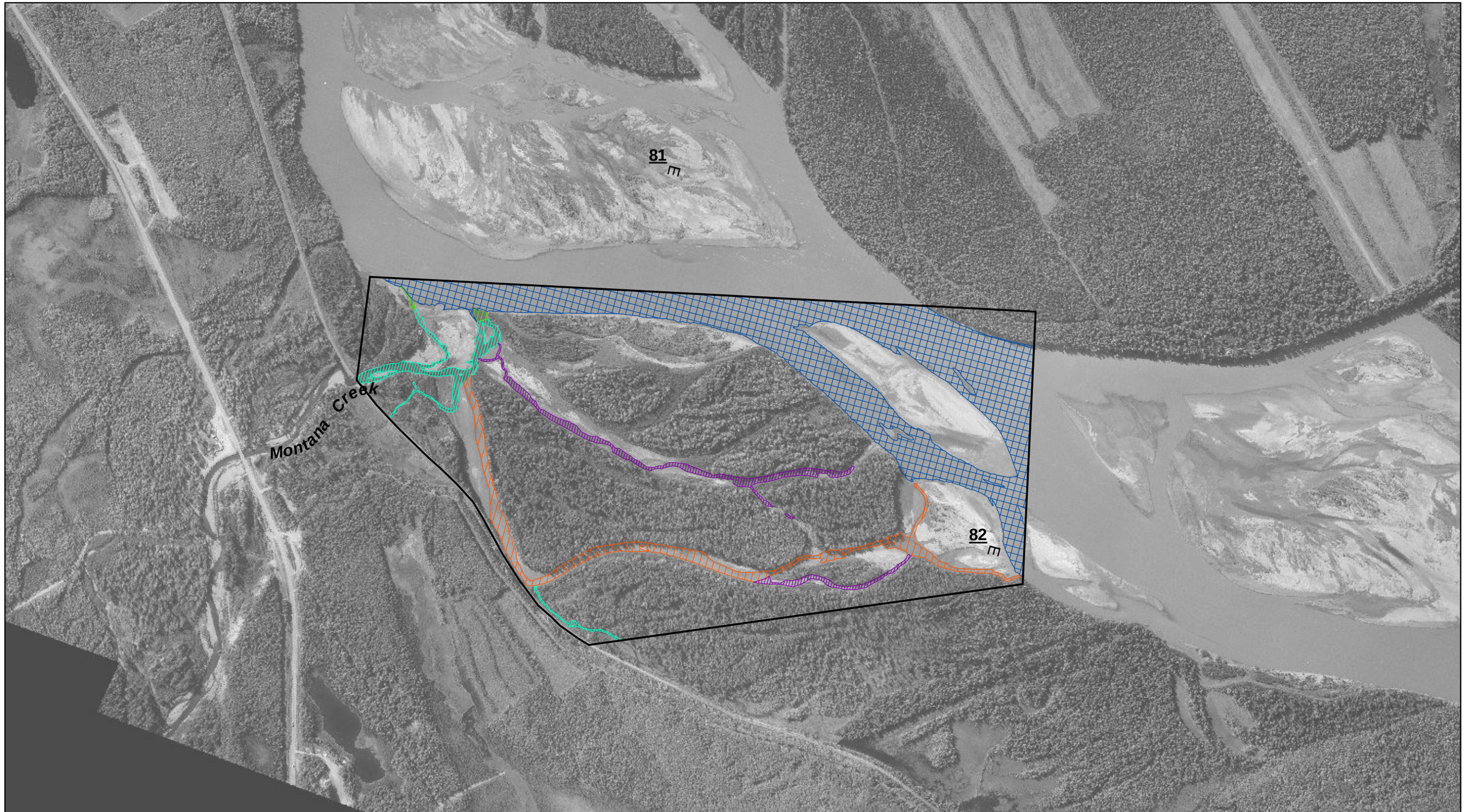
See index page for legend and additional data information.

Sheet 4 of 7
Site 3, Goose Creek

LOWER SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Sunshine)
PRM 0 - 102: 09/06/1983, 36,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

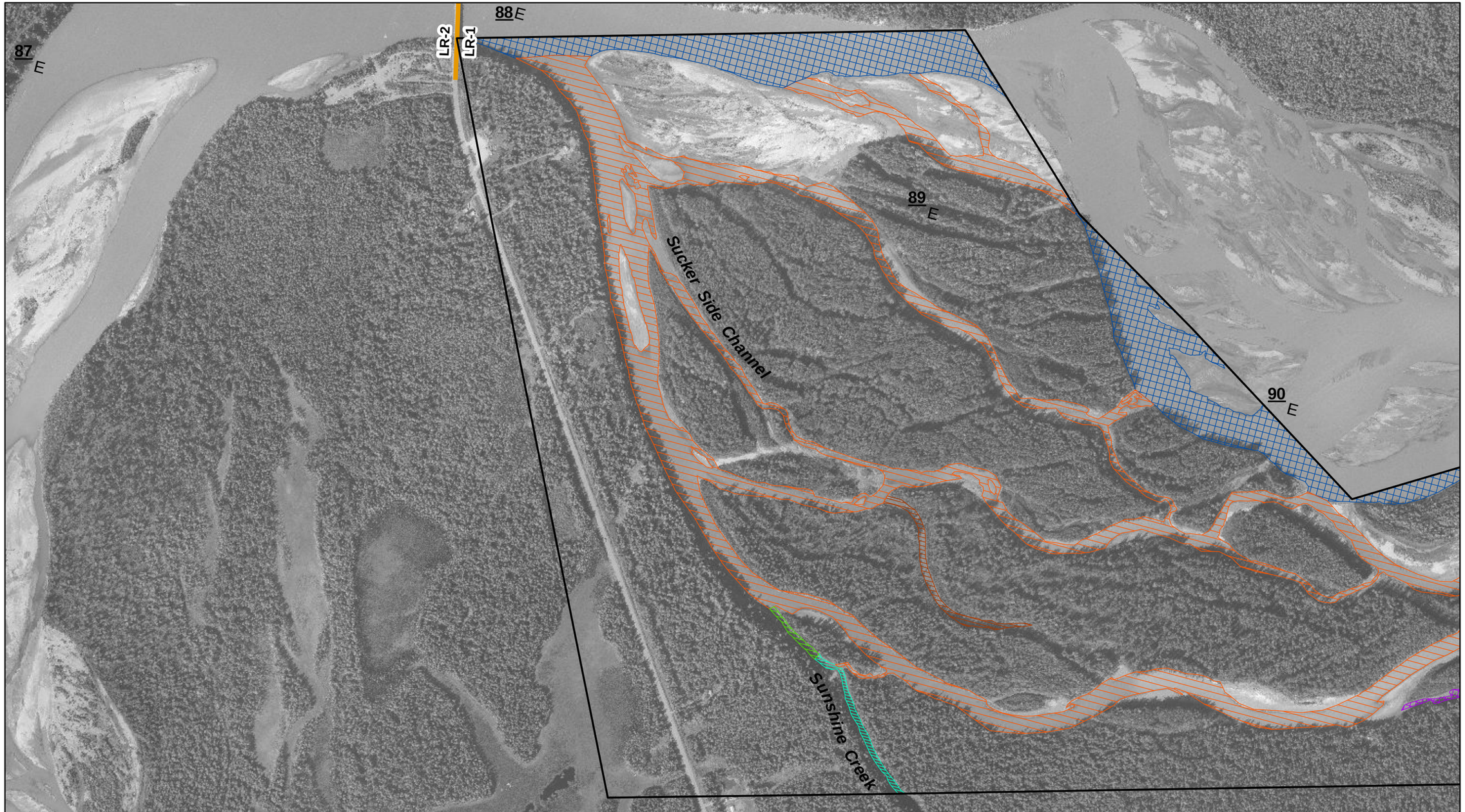
See index page for legend and additional data information.

Sheet 5 of 7
Site 4, Montana Creek

LOWER SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Sunshine)
PRM 0 - 102: 09/06/1983, 36,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

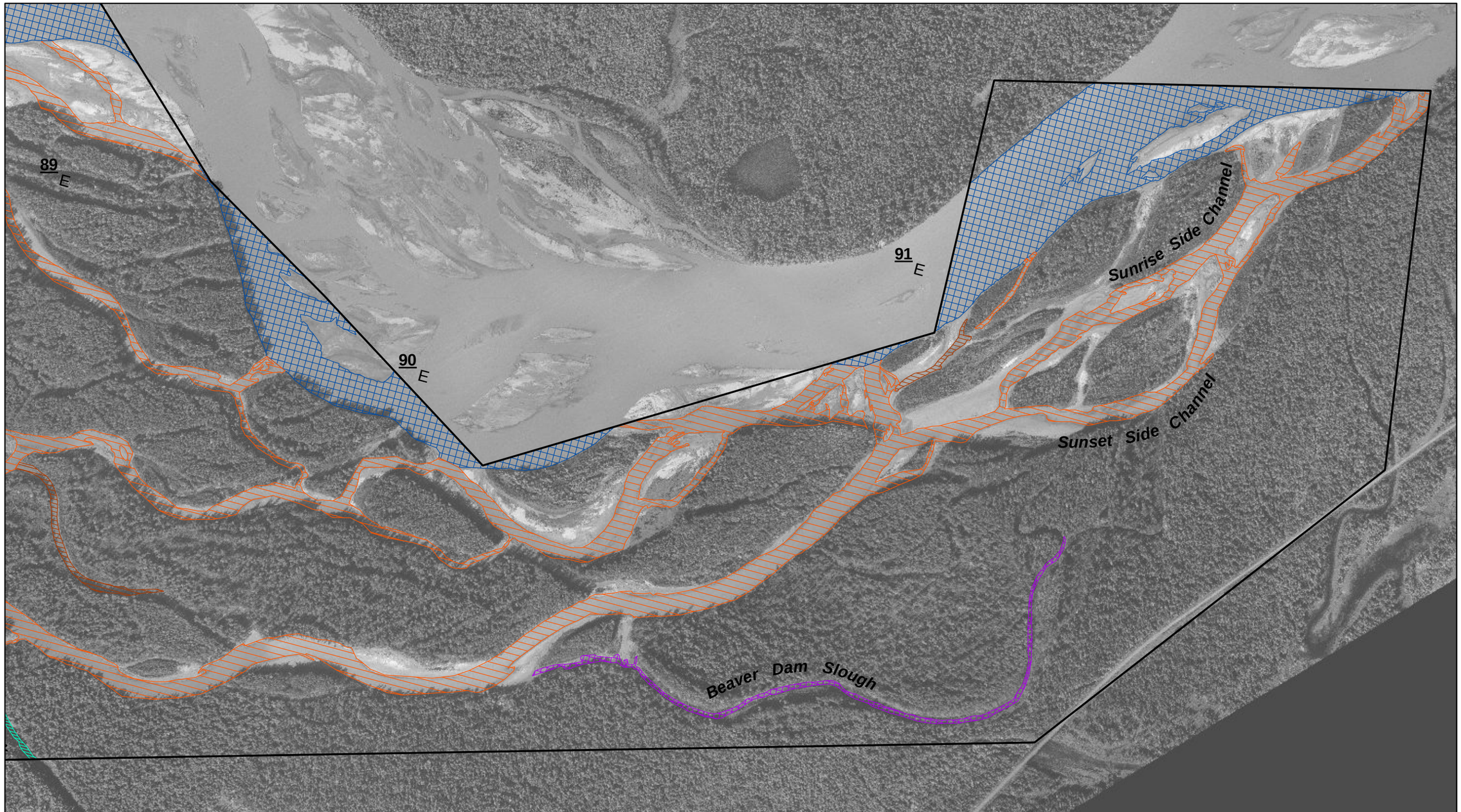
See index page for legend and additional data information.

Sheet 6 of 7
Site 5, Sunshine Slough

LOWER SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Sunshine)
PRM 0 - 102: 09/06/1983, 36,000 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 7 of 7
Site 5, Sunshine Slough

LOWER SUSITNA RIVER SEGMENT
1983 HABITAT SITES

Location: Imagery Date, Discharge (Sunshine)
PRM 0 - 102: 09/06/1983, 36,000 cfs

ALASKA ENERGY AUTHORITY

APPENDIX 4. 2012 LOWER RIVER SEGMENT HABITAT SITES

Susitna-Watana Hydroelectric Project
(FERC No. 14241)

Mapping of Aquatic Macrohabitat Types at Selected Sites in the Middle and Lower Susitna River Segments from 1980s and 2012 Aerials

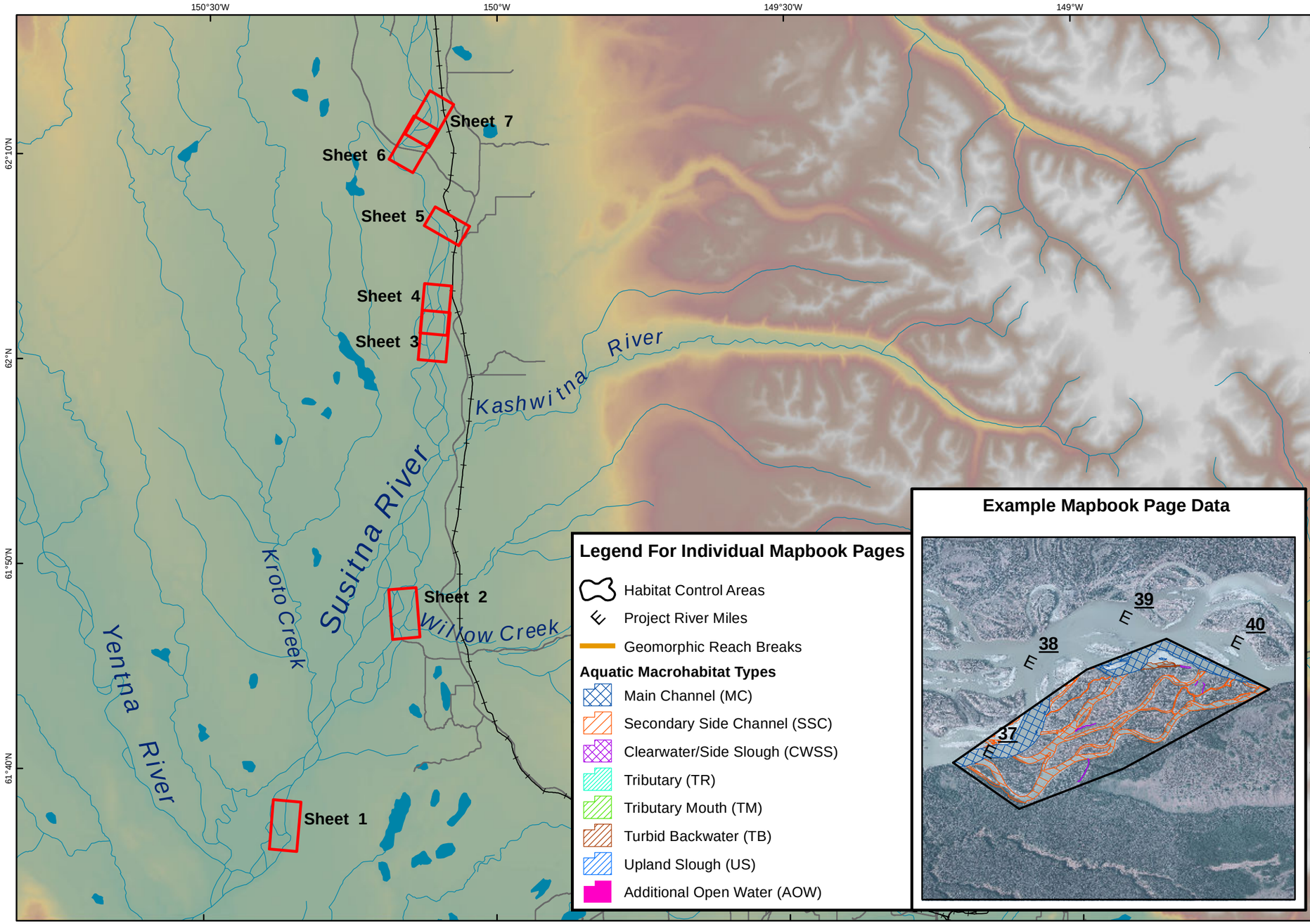
2012 Study Technical Memorandum
DRAFT

Prepared for
Alaska Energy Authority

SUSITNA-WATANA HYDRO
Clean, reliable energy for the next 100 years.

Prepared by
Tetra Tech Inc.

February 2013



Legend For Individual Mapbook Pages

- Habitat Control Areas
- Project River Miles
- Geomorphic Reach Breaks

Aquatic Macrohabitat Types

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- Secondary Side Channel (SSC)
- Clearwater/Side Slough (CWSS)
- Tributary (TR)
- Tributary Mouth (TM)
- Turbid Backwater (TB)
- Upland Slough (US)
- Additional Open Water (AOW)

Example Mapbook Page Data

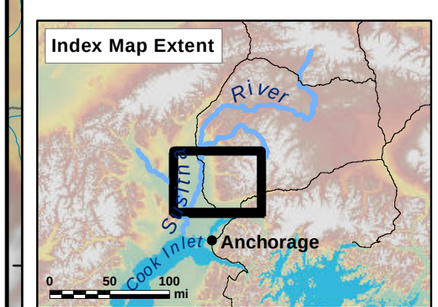
ALASKA ENERGY AUTHORITY

LOWER SUSITNA RIVER SEGMENT HABITAT SITES 2012

Legend

- Sheet Extents
- Proposed Watana Dam Site
- Roads
- Railroads
- Rivers and Streams
- Waterbodies

Data Sources: See Map References



0 6 12 mi

Projection: NAD83 State Plane Alaska 4 FIPS 5004 (ft)
Date Created: 2/21/2013
Map Author: Tetra Tech
File: 2012_MapbookLowerHabitat_v1.mxd

0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

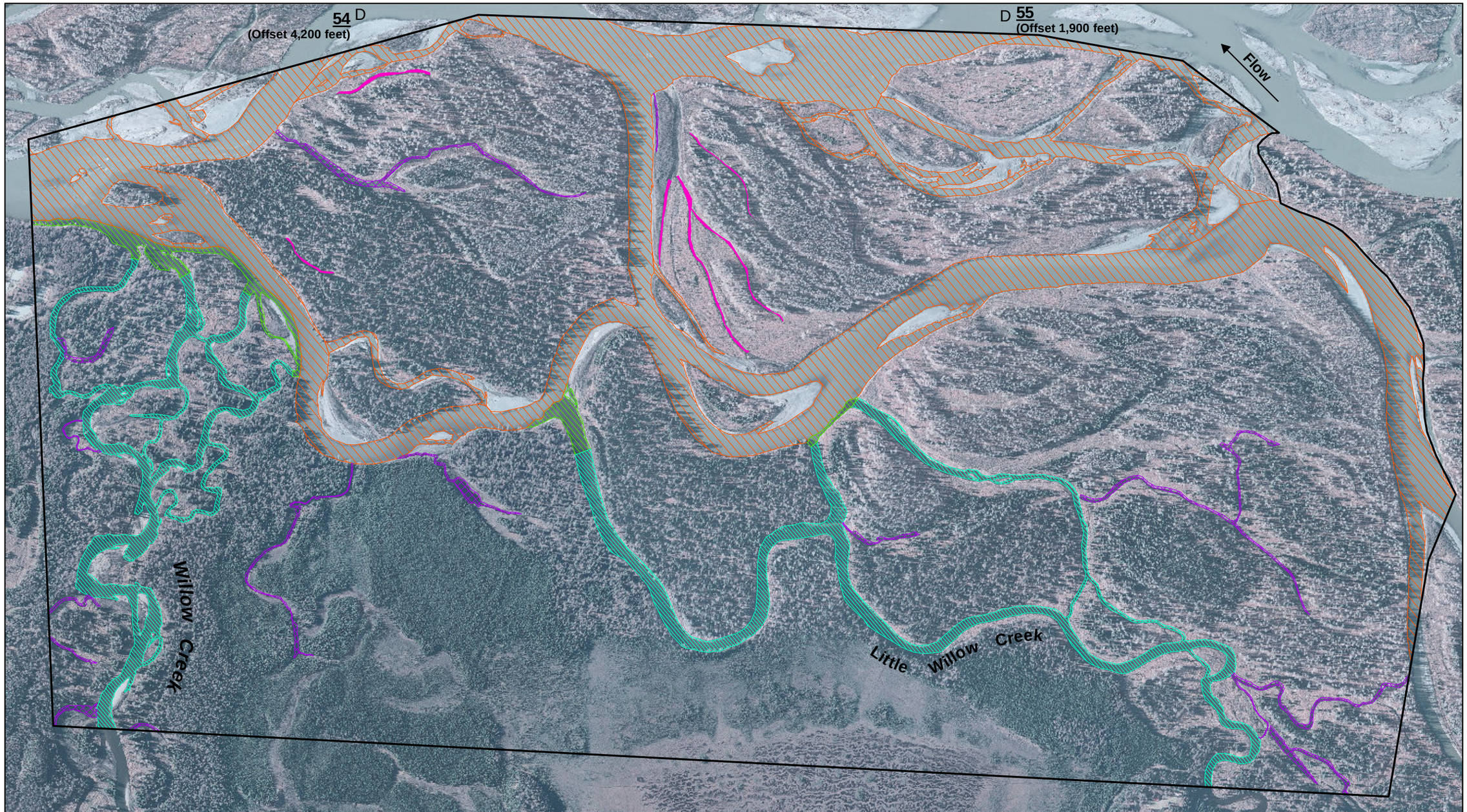
Sheet 1 of 7
Site 1, SC IV-4

LOWER SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Location:	Imagery Date, Discharge (Sunshine)	
PRM 33.5 - 69:	10/10/2012,	55,000 cfs
PRM 69 - 78:	09/30/2012,	48,000 cfs

Location:	Imagery Date, Discharge (Sunshine)	
PRM 78 - 102:	09/10/2012,	38,200 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet
1 inch = 1,000 feet

See index page for legend and additional data information.

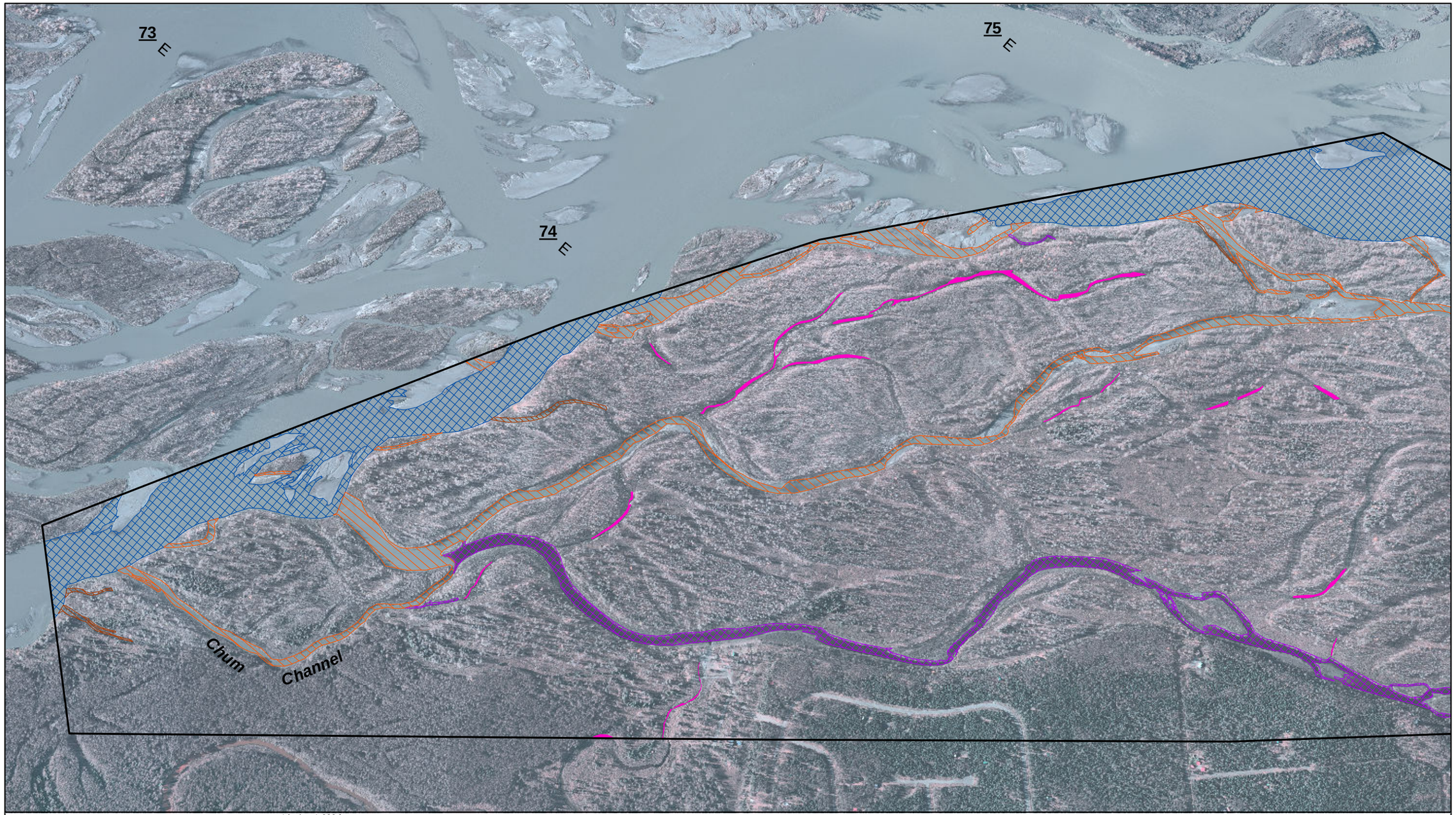
Sheet 2 of 7
Site 2, Willow Creek

LOWER SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Location:	Imagery Date, Discharge (Sunshine)
PRM 33.5 - 69:	10/10/2012, 55,000 cfs
PRM 69 - 78:	09/30/2012, 48,000 cfs

Location:	Imagery Date, Discharge (Sunshine)
PRM 78 - 102:	09/10/2012, 38,200 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

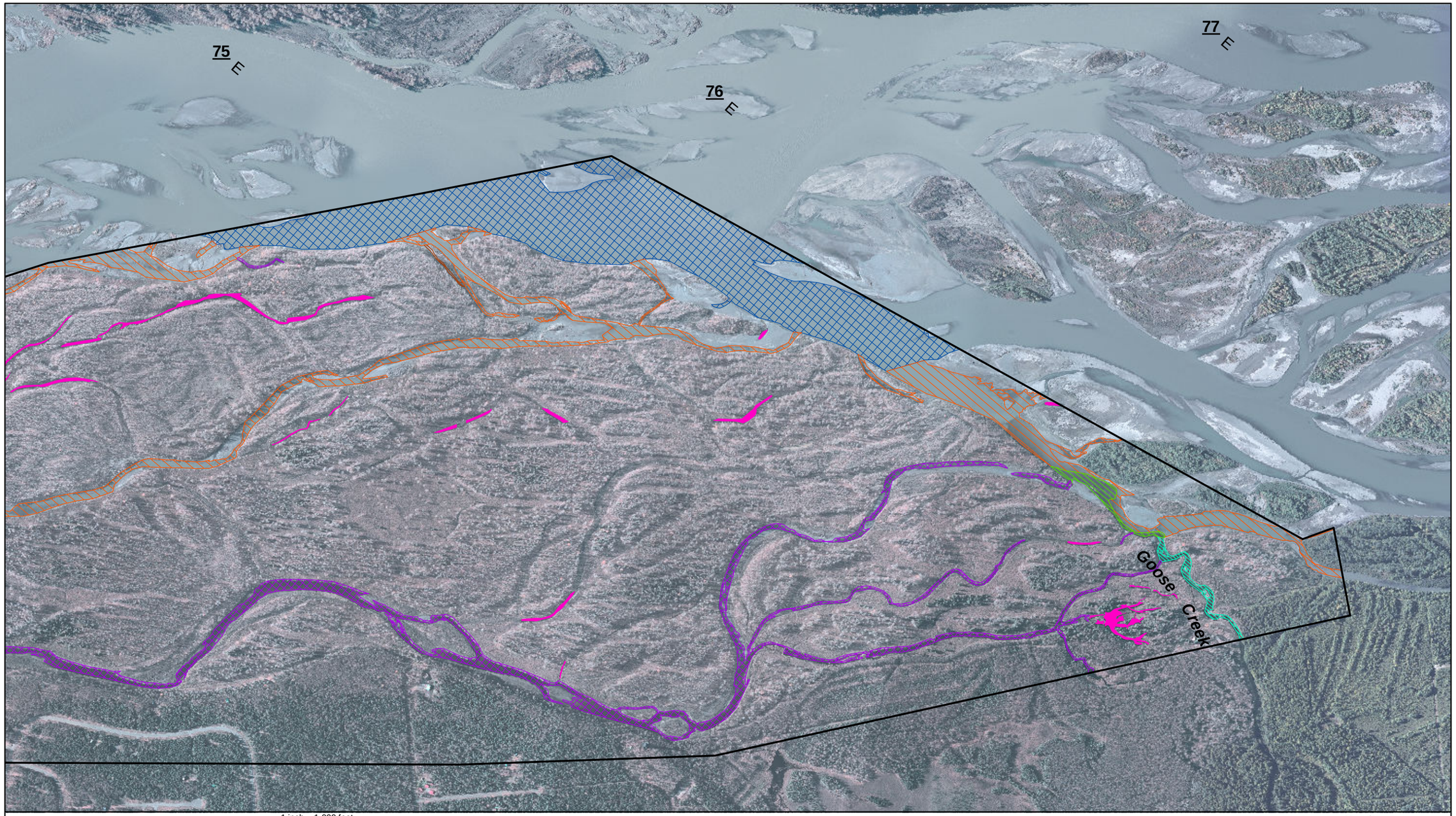
Sheet 3 of 7
Site 3, Goose Creek

LOWER SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Location:	Imagery Date, Discharge (Sunshine)
PRM 33.5 - 69:	10/10/2012, 55,000 cfs
PRM 69 - 78:	09/30/2012, 48,000 cfs

Location:	Imagery Date, Discharge (Sunshine)
PRM 78 - 102:	09/10/2012, 38,200 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

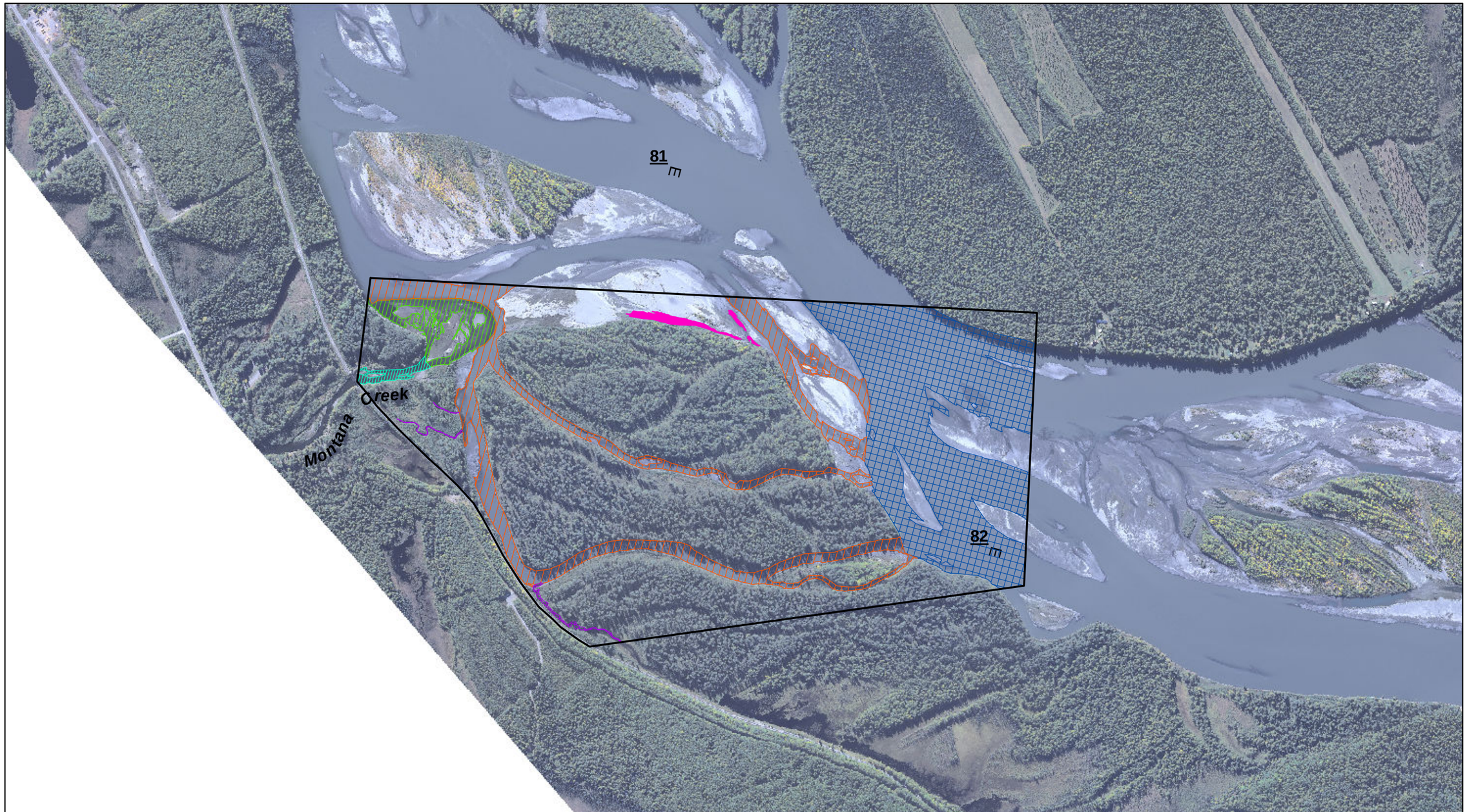
Sheet 4 of 7
Site 3, Goose Creek

LOWER SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Location:	Imagery Date, Discharge (Sunshine)
PRM 33.5 - 69:	10/10/2012, 55,000 cfs
PRM 69 - 78:	09/30/2012, 48,000 cfs

Location:	Imagery Date, Discharge (Sunshine)
PRM 78 - 102:	09/10/2012, 38,200 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet

1 inch = 1,000 feet

See index page for legend and additional data information.

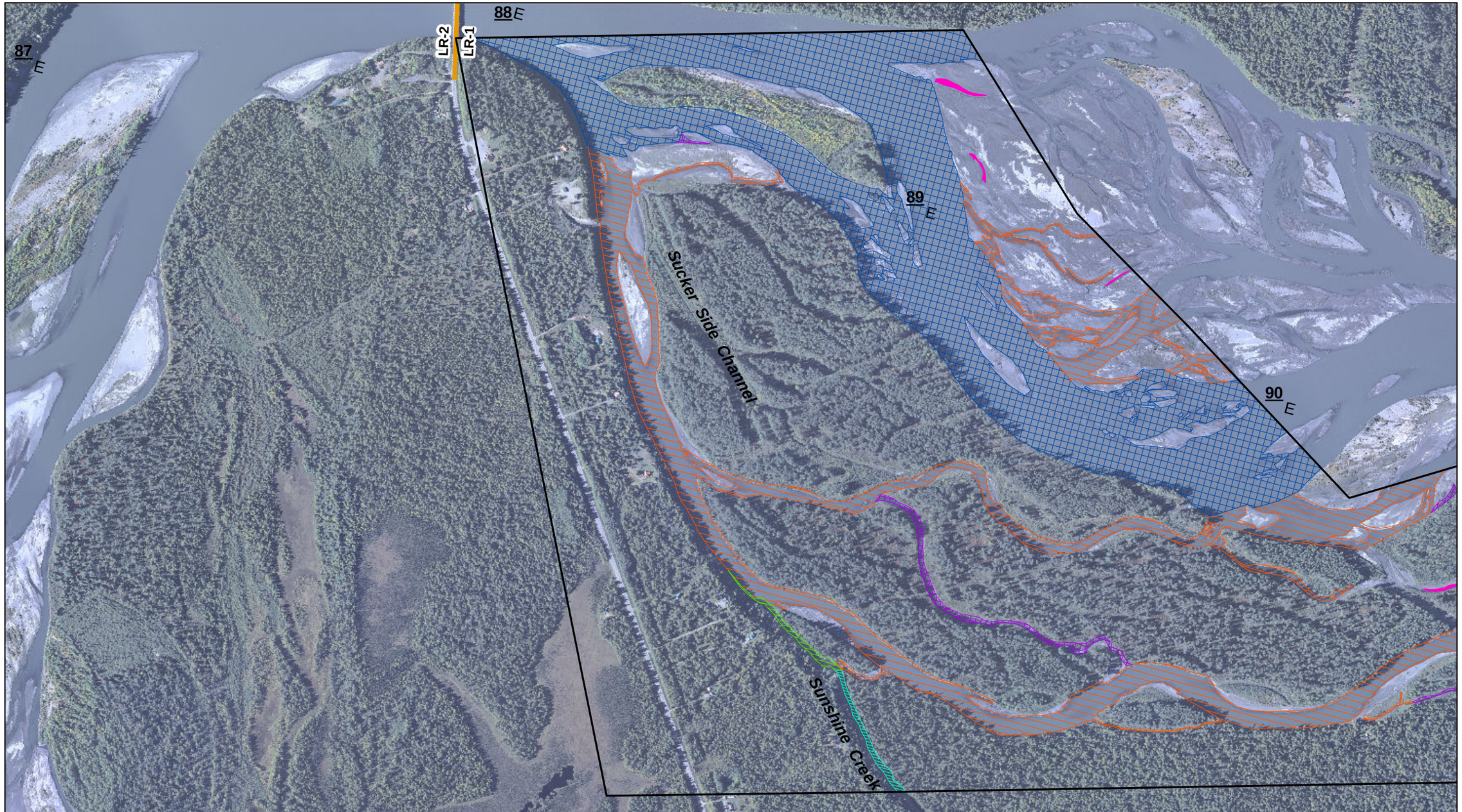
Sheet 5 of 7
Site 4, Montana Creek

LOWER SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Location:	Imagery Date,	Discharge (Sunshine)
PRM 33.5 - 69:	10/10/2012,	55,000 cfs
PRM 69 - 78:	09/30/2012,	48,000 cfs

Location:	Imagery Date,	Discharge (Sunshine)
PRM 78 - 102:	09/10/2012,	38,200 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet
1 inch = 1,000 feet

See index page for legend and additional data information.

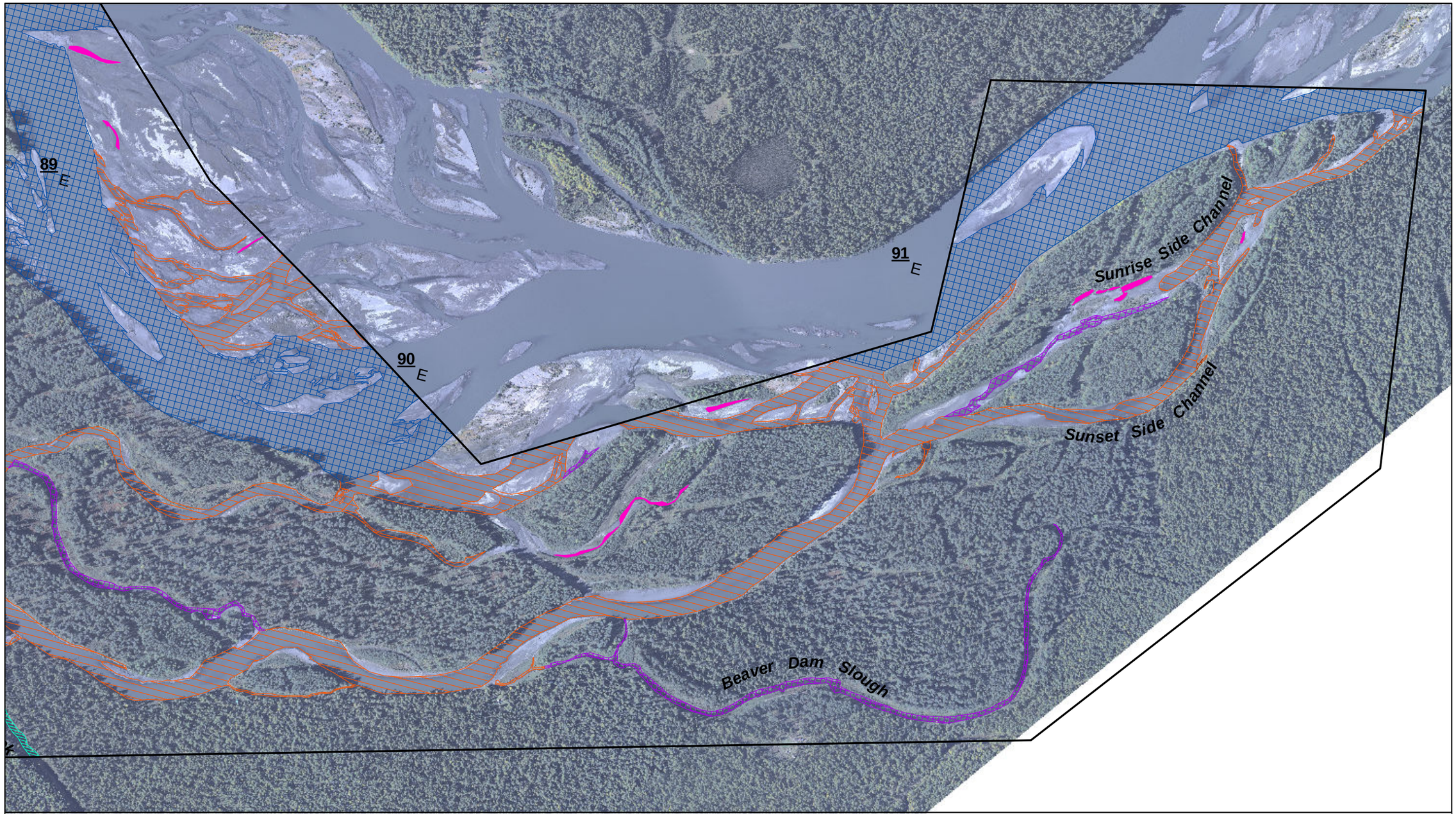
Sheet 6 of 7
Site 5, Sunshine Slough

LOWER SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Location:	Imagery Date, Discharge (Sunshine)	
PRM 33.5 - 69:	10/10/2012,	55,000 cfs
PRM 69 - 78:	09/30/2012,	48,000 cfs

Location:	Imagery Date, Discharge (Sunshine)	
PRM 78 - 102:	09/10/2012,	38,200 cfs

ALASKA ENERGY AUTHORITY



0 1,000 2,000 Feet
1 inch = 1,000 feet

See index page for legend and additional data information.

Sheet 7 of 7
Site 5, Sunshine Slough

LOWER SUSITNA RIVER SEGMENT
2012 HABITAT SITES

Location:	Imagery Date,	Discharge (Sunshine)
PRM 33.5 - 69:	10/10/2012,	55,000 cfs
PRM 69 - 78:	09/30/2012,	48,000 cfs

Location:	Imagery Date,	Discharge (Sunshine)
PRM 78 - 102:	09/10/2012,	38,200 cfs

ALASKA ENERGY AUTHORITY