Appendix A

River Styles Field Assessment Habitat Maps

Figures A1 through A12 are scanned images of the eleven River Styles Field Assessment Habitat Maps at nine different sites and the only Landscape Unit Assessment Map at one site.

Symbol Legend:

Fish Sampling Location

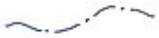
Invertebrate Sampling Location

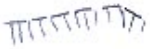

UTM Coordinate Location

Aqueous Chemistry Sampling Location


Geomorphic Unit Boundaries


Direction of Flow


Mixing Front (*between turbid and clearwater)*


Cut Bank


Valley Margin


Marsh


Forest/ Vegetation Delineation


Large Woody Debris (LWD)

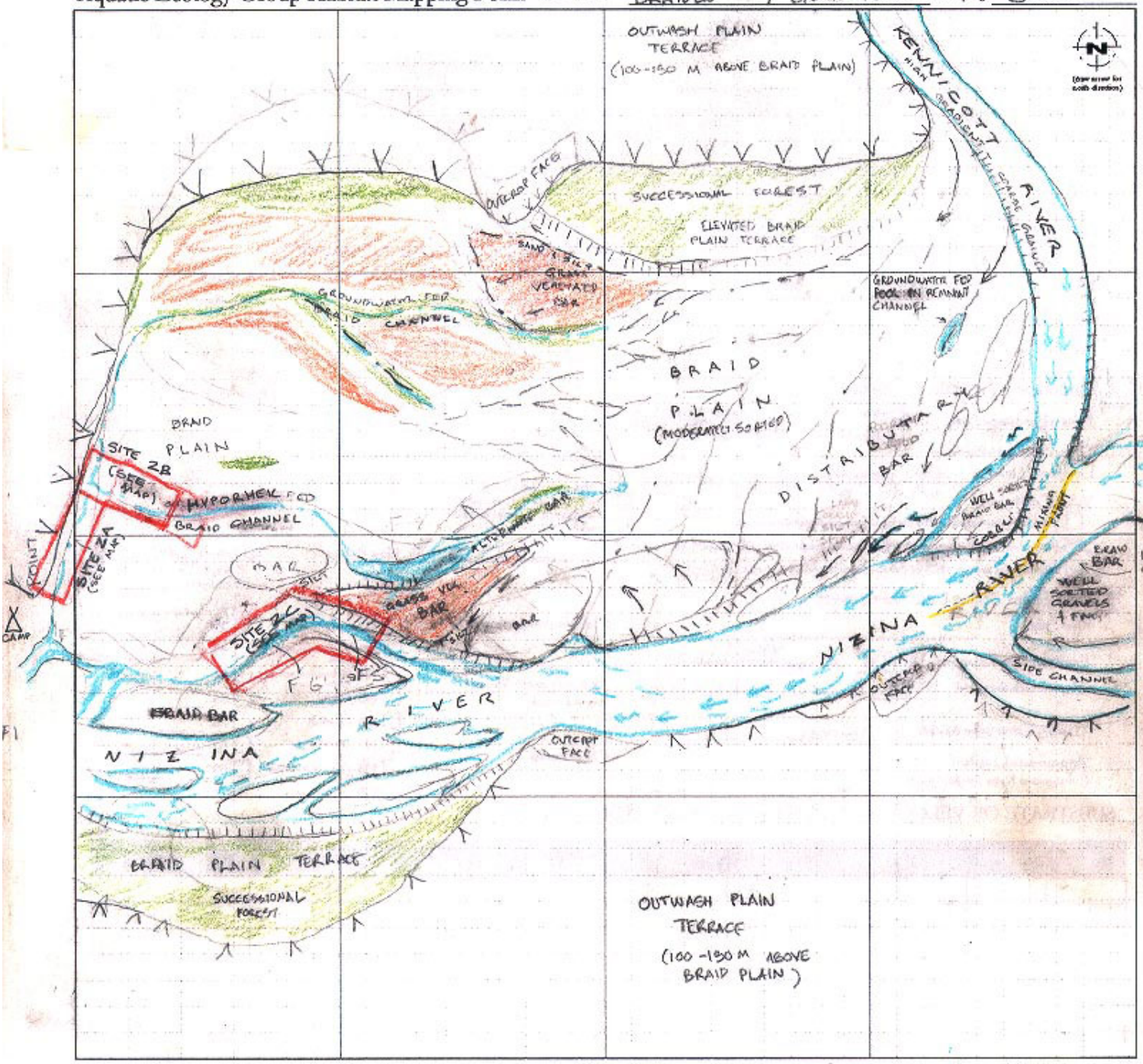
Figure A1 – Site 2: Gates of the Nizina – *Landscape Unit Assessment Field Map*
Figure A2 – Site 2A: Gates of the Nizina – *River Styles Assessment Field Map*
Figure A3 – Site 2B: Gates of the Nizina – *River Styles Assessment Field Map*
Figure A4 – Site 2C: Gates of the Nizina – *River Styles Assessment Field Map*
Figure A5 – Site 3: Whitefish Bar – *River Styles Assessment Field Map*
Figure A6 – Site 4: Nizina River Gorge – *River Styles Assessment Field Map*
Figure A7 – Site 13: Uranatina River - *River Styles Assessment Field Map*
Figure A8 – Site 14: Beaver Lagoon - *River Styles Assessment Field Map*
Figure A9 – Site 16: Friends Creek - *River Styles Assessment Field Map*
Figure A10 – Site 18: Peninsula Camp – *Landscape Unit Assessment River Style Map*
Figure A11 – Site 21: Childs Glacier Distributary - *Landscape Unit Assessment River Style Map*

Copper River Research Trip

Aquatic Ecology Group Habitat Mapping Form

River/Stream: GATES OF THE NIZINA Site ID: SITE 2

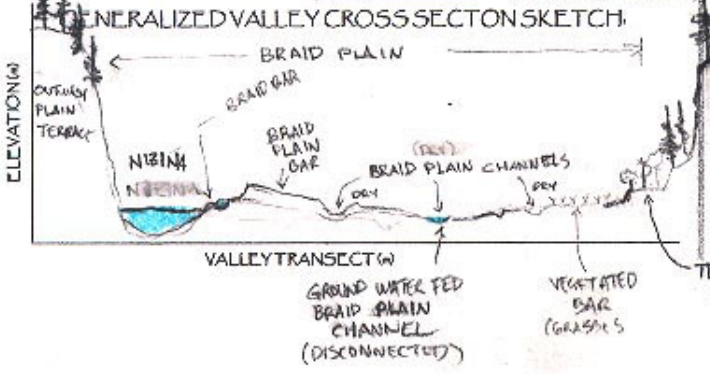
River Style: MAIN-CHANNEL BRAIDED / BRAID PLAIN Map by: JMW



RIVER STYLES HABITAT MAP

Map Scale (if applicable): 1 ≅ 40M +/- 10M (See back for data sheet) NOT TO SCALE (APPROX)

GENERALIZED VALLEY CROSS SECTON SKETCH



SYMBOL LEGEND:

- Geomorphic Unit Boundary
- Flow Direction
- UTM Coordinate Location: RS-1
- Fish Sampling Location & ID: F1
- Invertebrate Sampling Location & ID: I1
- Transect Location: X - - - - - X

HYDRAULIC UNIT KEY:

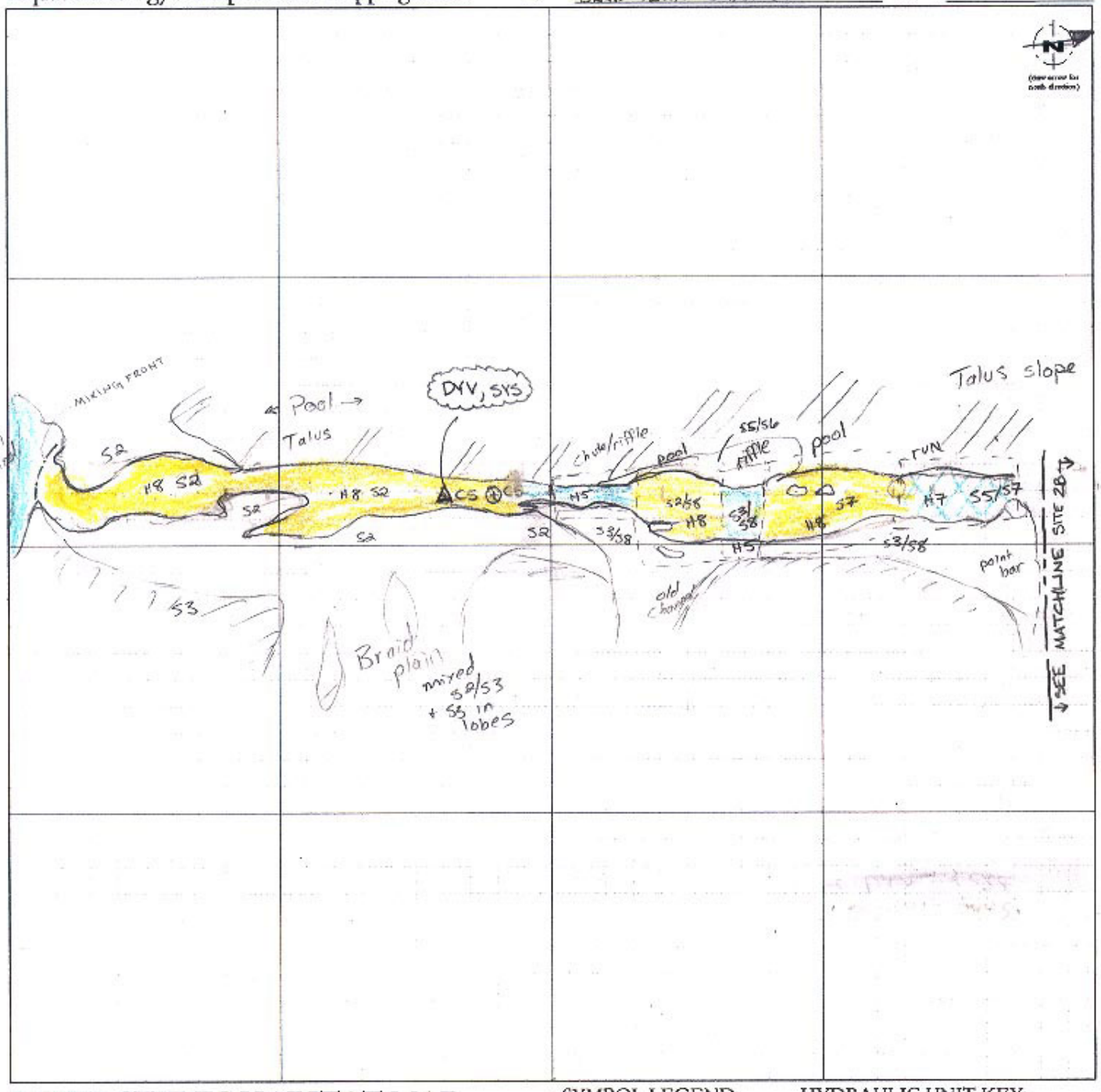
Flow Types:	Substrate Categories:
☐ H1 Free Fall	☐ S1
☐ H2 Chute	☐ S2
☐ H3 Broken standing waves	☐ S3
☐ H4 Unbroken standing waves	☐ S4
☐ H5 Rippled	☐ S5
☐ H6 Upwelling	☐ S6
☐ H7 Smooth surface flow	☐ S7
☐ H8 Scarcely perceptible flow	☐ S8
☐ H9 Standing water	

LANDSCAPE UNIT & RIVER STYLE UNIT ASSESSMENT ONLY

Figure A1 - Site 2: Gates of the Nizina - Landscape Unit Assessment Field Map

Copper River Research Trip
Aquatic Ecology Group Habitat Mapping Form

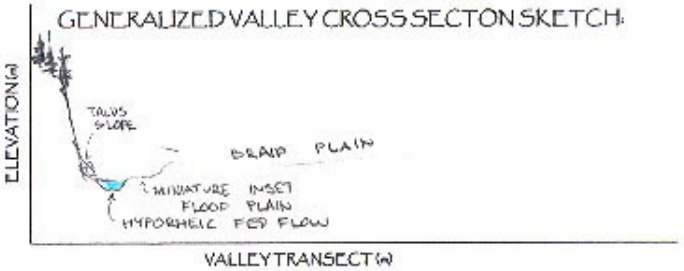
River/Stream: GATES OF THE NIZINA
River Style: HYPORHEIC FED REMNANT BRAID PLAIN CHANNEL
Site ID: SITE 2A
Map by: SMY



RIVER STYLES HABITAT MAP

Map Scale (if applicable): 1 = 4m (See back for data sheet)

GENERALIZED VALLEY CROSS SECTON SKETCH:



SYMBOL LEGEND:

- Geomorphic Unit Boundary
- Flow Direction
- UTM Coordinate Location: RS-1
- Fish Sampling Location & ID: F1
- Invertebrate Sampling Location & ID: I1
- Transect Location: x---------x

HYDRAULIC UNIT KEY:

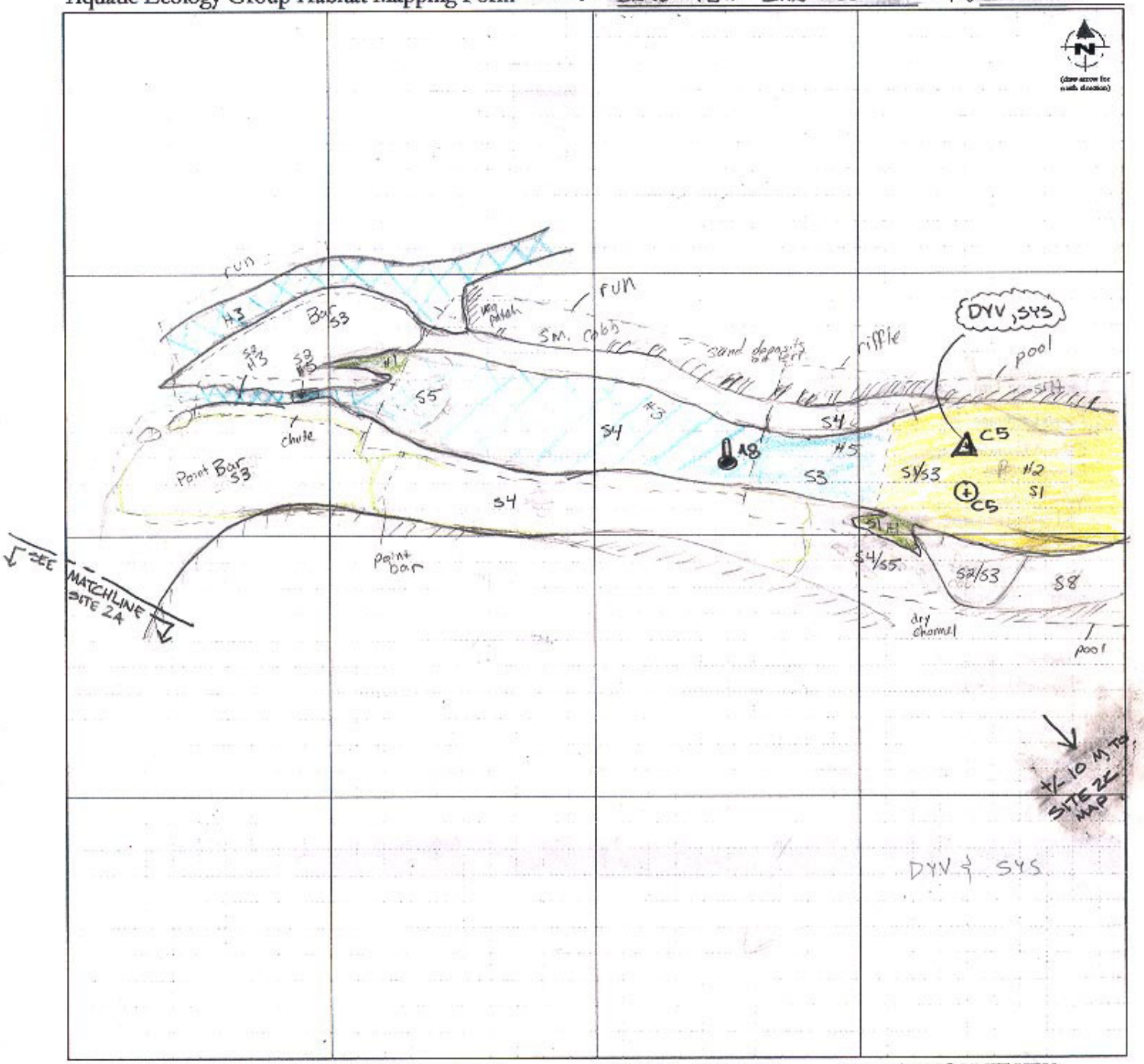
Flow Types:		Substrate Categories:	
☐ H1	Free Fall	☐ S1	silt
☐ H2	Chute	☐ S2	sand
☐ H3	Broken standing waves	☐ S3	sm cob
☐ H4	Unbroken standing waves	☐ S4	lg cob
☒ H5	Rippled	☐ S5	sm bld
☐ H6	Upwelling	☐ S6	lrg bld
☒ H7	Smooth surface flow	☐ S7	mixed
☒ H8	Scarcely perceptible flow	☐ S8	gravel
☐ H9	Standing water		

Figure A2 - Site 2A: Gates of the Nizina - River Styles Assessment Field Map

Copper River Research Trip
Aquatic Ecology Group Habitat Mapping Form

River/Stream: GATES OF THE NIZINA
River Style: HYPORHEIC FED REMNANT BRAID PLAIN CHANNEL

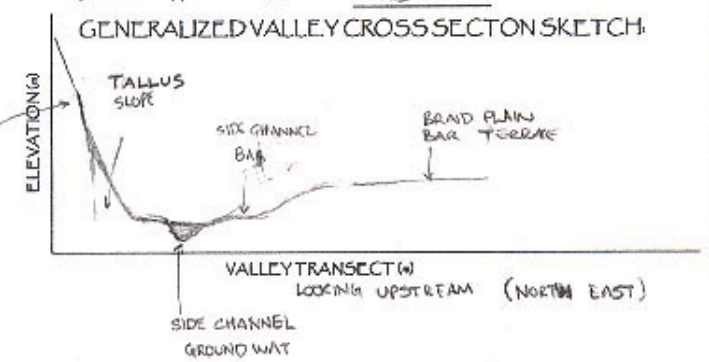
Site ID: SITE 2B
Map by: SMY



RIVER STYLES HABITAT MAP

Map Scale (if applicable): 1 = 25 M (See back for data sheet)

GENERALIZED VALLEY CROSS SECTON SKETCH:



SYMBOL LEGEND:

- Geomorphic Unit Boundary
- Flow Direction
- UTM Coordinate Location: RS-1
- Fish Sampling Location & ID: F1
- Invertebrate Sampling Location & ID: I1
- Transect Location

HYDRAULIC UNIT KEY:

Flow Types:

- ~~H1 Free Fall~~
- H2 Chute
- H3 Broken standing waves
- H4 Unbroken standing waves
- H5 Rippled
- H6 Upwelling
- H7 Smooth surface flow
- H8 Scarcely perceptible flow
- H9 Standing water

Substrate Categories:

- S1 Sand
- S2 Gravel
- S3 Cob (sm)
- S4 Cob (lrg)
- S5 bld (sm)
- S6 bld (lrg)
- S7 bi modal
- S8 silt

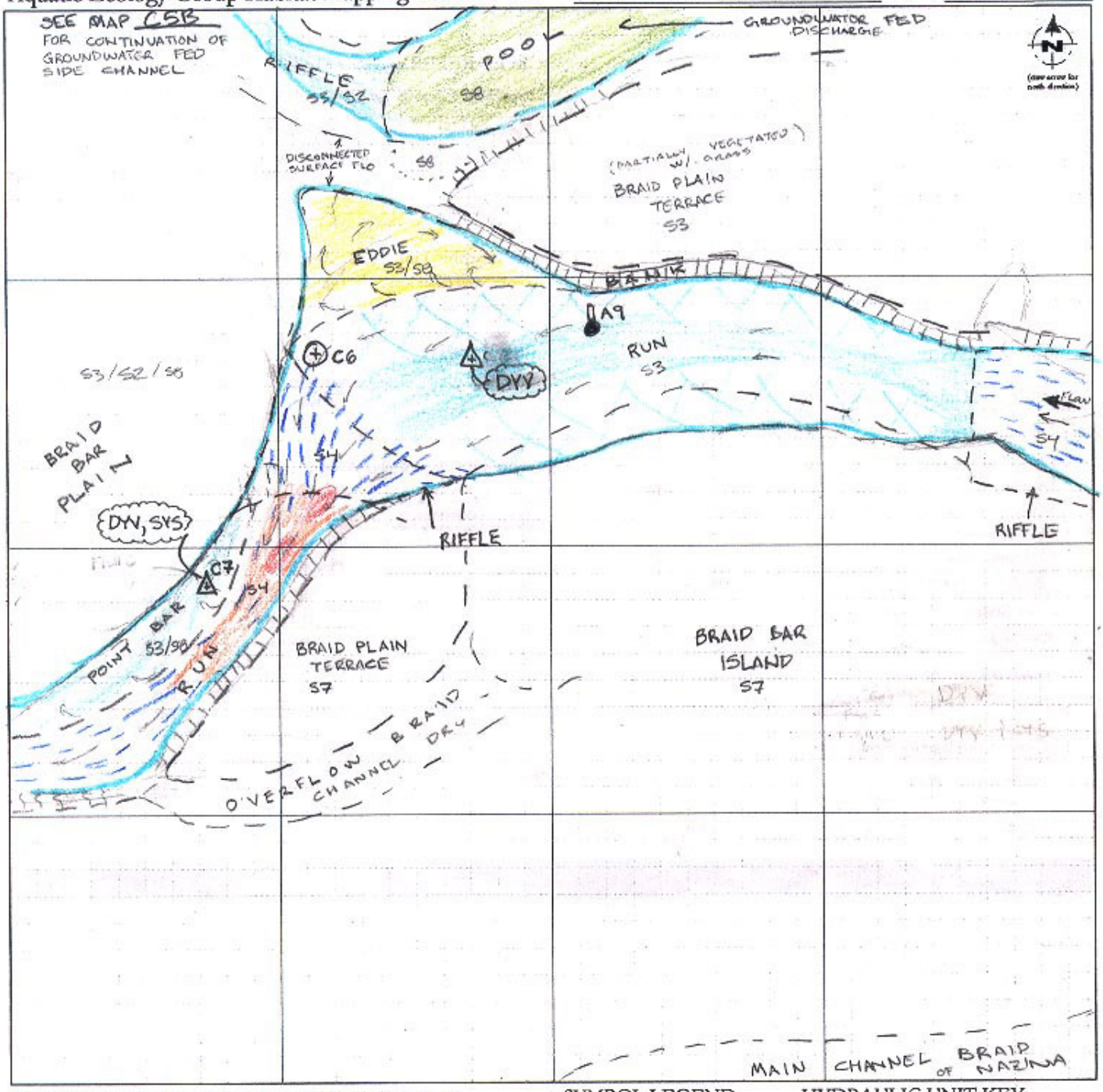
Figure A3 - Site 2B: Gates of the Nizina - River Styles Assessment Field Map

Copper River Research Trip

Aquatic Ecology Group Habitat Mapping Form

River/Stream: GATES OF THE NIZINA Site ID: SITE 2C

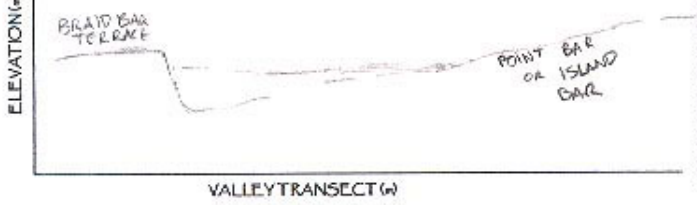
River Style: MAIN CHANNEL-BRAIDED Map by: JMW



RIVER STYLES HABITAT MAP

Map Scale (if applicable): 1 = _____ (See back for data sheet)

GENERALIZED VALLEY CROSS SECTON SKETCH:



SYMBOL LEGEND:

- Geomorphic Unit Boundary
- Flow Direction
- UTM Coordinate Location: RS-1
- Fish Sampling Location & ID: F1
- Invertebrate Sampling Location & ID: I1
- Transect Location
- WATER LINE (EDGE OF WATER)
- FACIES BNDY. (SUBSTRATE)
- A9

HYDRAULIC UNIT KEY:

Flow Types	Substrate Categories
~~H1 Free Fall~~	S1 SAND
H2 Chute	S2 GRAVEL
H3 Broken standing waves	S3 COBBLE SM.
H4 Unbroken standing waves	S4 COBBLE LG.
H5 Rippled	S5 BOULDER SM.
H6 Upwelling	S6 BOULDER LG.
H7 Smooth surface flow	S7 BIMODAL
H8 Scarcely perceptible flow	S8 SILT
H9 Standing water	

Figure A4 - Site 2C: Gates of the Nizina - River Styles Assessment Field Map

Copper River Research Trip

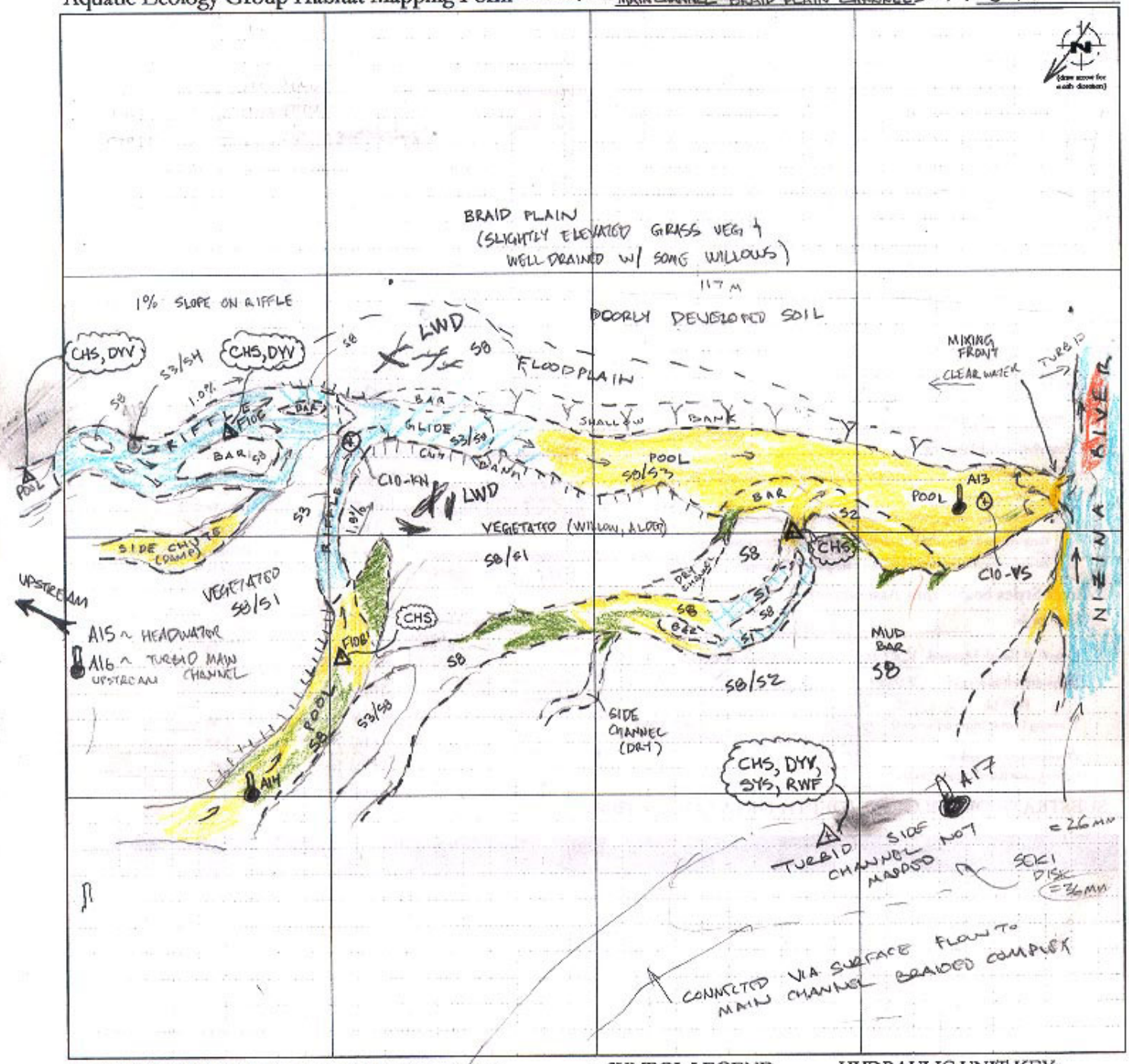
Aquatic Ecology Group Habitat Mapping Form

River/Stream: NIZINA RIVER ~ UNNAMED BRAID PLAIN

Site ID: SITE 3

River Style: HYPORHEIC FED REMNANT MAIN CHANNEL - BRAID PLAIN CHANNELS

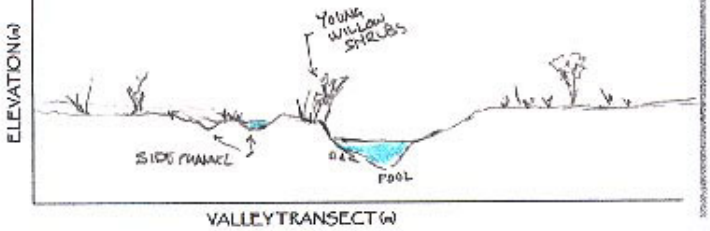
Map by: JMW



RIVER STYLES HABITAT MAP

Map Scale (if applicable): 1 [redacted] 3M (See back for data sheet) NTS

GENERALIZED VALLEY CROSS SECTION SKETCH:



SYMBOL LEGEND:

- Geomorphic Unit Boundary
- Flow Direction
- UTM Coordinate Location: RS-1
- Fish Sampling Location & ID: F1
- Invertebrate Sampling Location & ID: I1
- Transect Location
- WATER QUALITY STN

HYDRAULIC UNIT KEY:

Flow Types:

- ☐ H1 Free Fall
- ☐ H2 Chute
- ☐ H3 Broken standing waves
- ☐ H4 Unbroken standing waves
- ☐ H5 Rippled
- ☐ H6 Upwelling
- ☐ H7 Smooth surface flow
- ☐ H8 Scarcely perceptible flow
- ☐ H9 Standing water

Substrate Categories:

- ☐ S1 SAND
- ☐ S2 GRAVEL
- ☐ S3 COBBLE (SM
- ☐ S4 COBBLE (LA)
- ☐ S5 BOULDER (SA)
- ☐ S6 BOULDER (LG)
- ☐ S7 BIMODAL
- ☐ S8 SILT

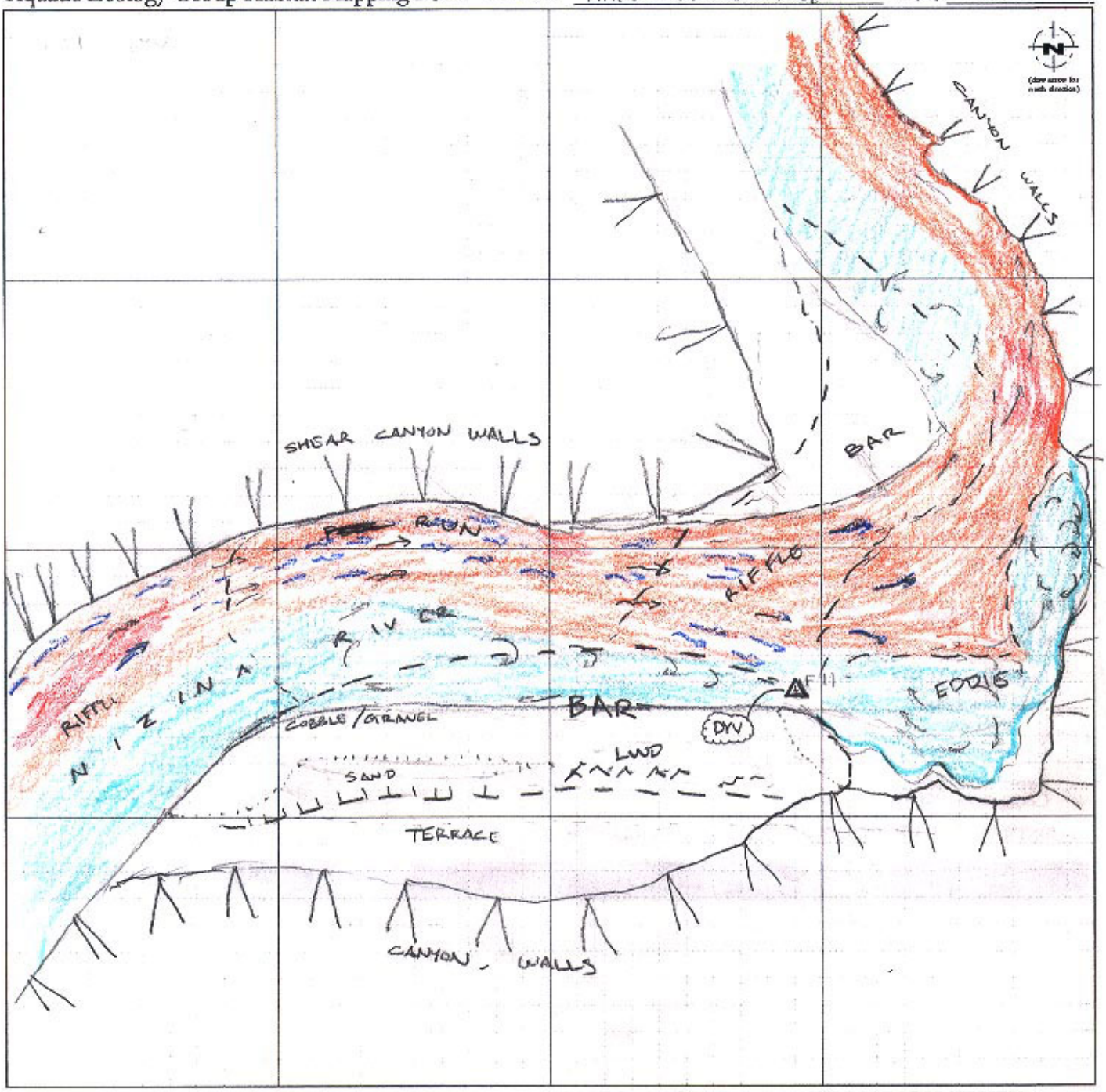
Figure A5 - Site 3: Whitefish Bar - River Styles Assessment Field Map

Copper River Research Trip

Aquatic Ecology Group Habitat Mapping Form

River/Stream: NIZINA RIVER GORGE Site ID: SITE 4

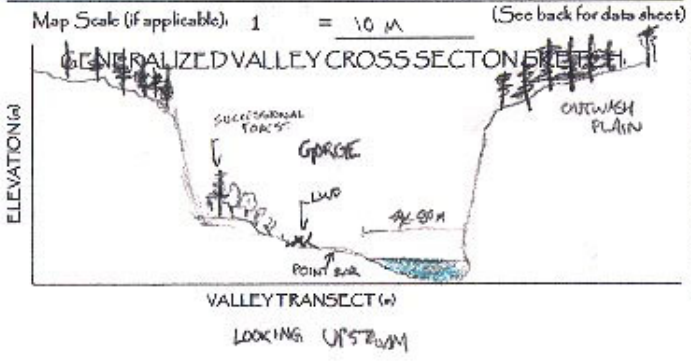
River Style: MAIN CHANNEL - GORGE Map by: JMW



RIVER STYLES HABITAT MAP

Map Scale (if applicable): 1 = 10 M (See back for data sheet)

GENERALIZED VALLEY CROSS SECTON SKETCH



SYMBOL LEGEND:

- Geomorphic Unit Boundary
- Flow Direction
- UTM Coordinate Location: RS-1
- Fish Sampling Location & ID: F1
- Invertebrate Sampling Location & ID: I1
- Transect Location: x---------x

HYDRAULIC UNIT KEY:

Flow Types:

- ☐ H1 Free Fall
- ☐ H2 Chute
- ☐ H3 Broken standing waves
- ☐ H4 Unbroken standing waves
- ☐ H5 Rippled
- ☐ H6 Upwelling
- ☐ H7 Smooth surface flow
- ☐ H8 Scarcely perceptible flow
- ☐ H9 Standing water

Substrate Categories:

- ☐ S1 _____
- ☐ S2 _____
- ☐ S3 _____
- ☐ S4 _____
- ☐ S5 _____
- ☐ S6 _____
- ☐ S7 _____
- ☐ S8 _____

Figure A6 - Site 4: Nizina River Gorge - River Styles Assessment Field Map

Copper River Research Trip

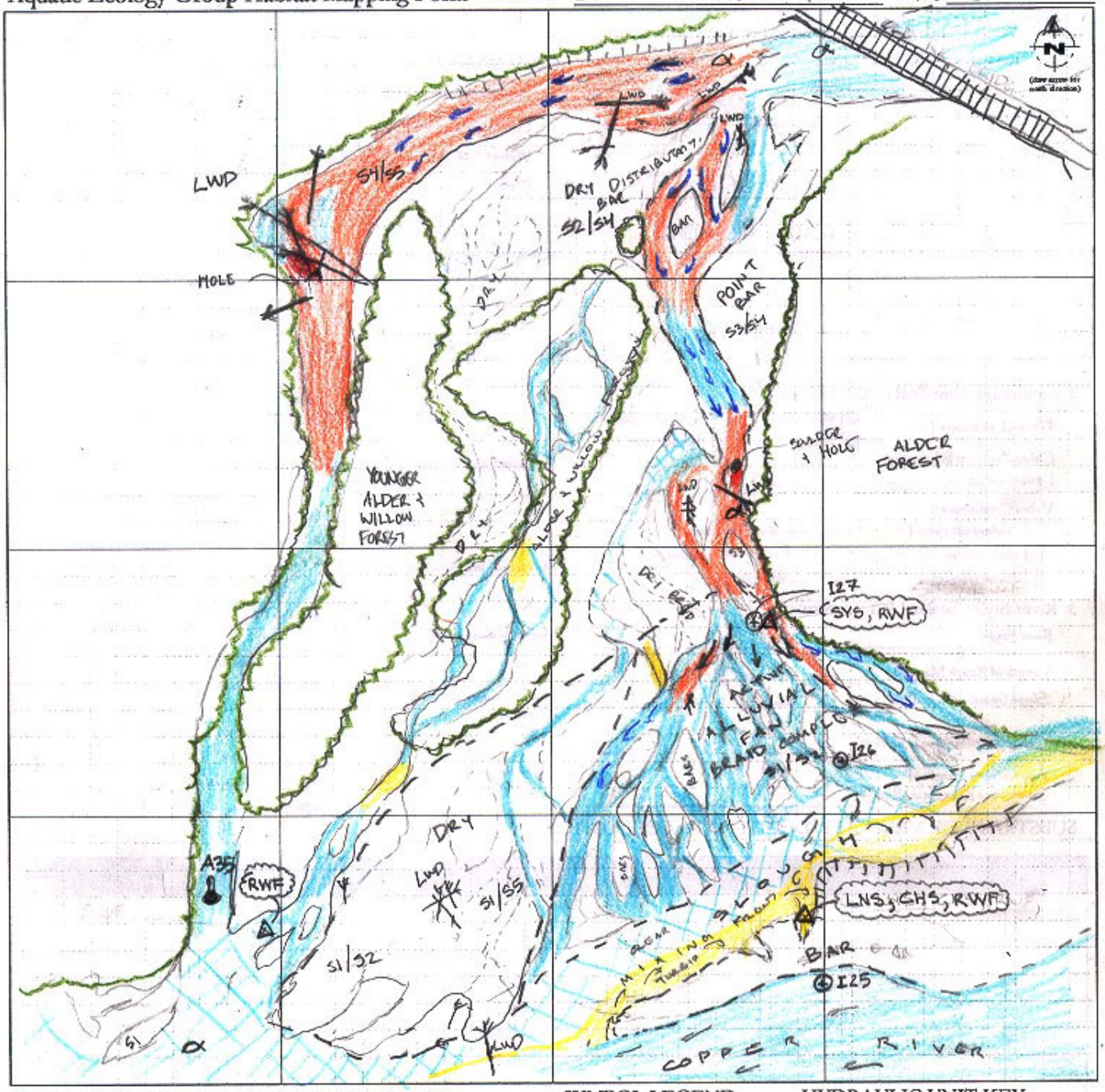
Aquatic Ecology Group Habitat Mapping Form

River/Stream: URANATINA RIVER

River Style: NONGLACIAL HILLSLOPE TRIBUTARY ALLUVIAL FAN CHANNEL COMPLEX

Site ID: SITE 13

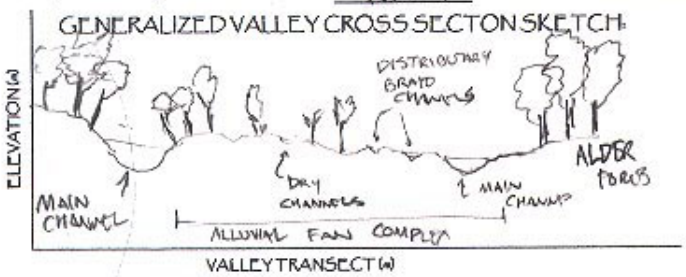
Map by: JMW



RIVER STYLES HABITAT MAP

Map Scale (if applicable): 1 = N.T.S. (See back for data sheet)

GENERALIZED VALLEY CROSS SECTON SKETCH:



SYMBOL LEGEND:

- Geomorphic Unit Boundary
- Flow Direction
- UTM Coordinate Location: RS-1
- Fish Sampling Location & ID: P1
- Invertebrate Sampling Location & ID: I1
- Transect Location: x---------x
- HOLE & LINE

HYDRAULIC UNIT KEY:

Flow Types:

- H1 Free Fall
- H2 Chute
- H3 Broken standing waves
- H4 Unbroken standing waves
- H5 Rippled
- H6 Upwelling
- H7 Smooth surface flow
- H8 Scarcely perceptible flow
- H9 Standing water

Substrate Categories:

- S1 SAND
- S2 GRAVEL
- S3 COBBLE (SM)
- S4 COBBLE (LG)
- S5 BOULDER (SM)
- S6 BOULDER (LG)
- S7 BIMODAL
- S8 SILT

~ NO VALLEY CONFINEMENT

~ ALLUVIAL FAN DISTRIBUTARY COMPLEX

Figure A7 - Site 13: Uranatina River - River Styles Assessment Field Map

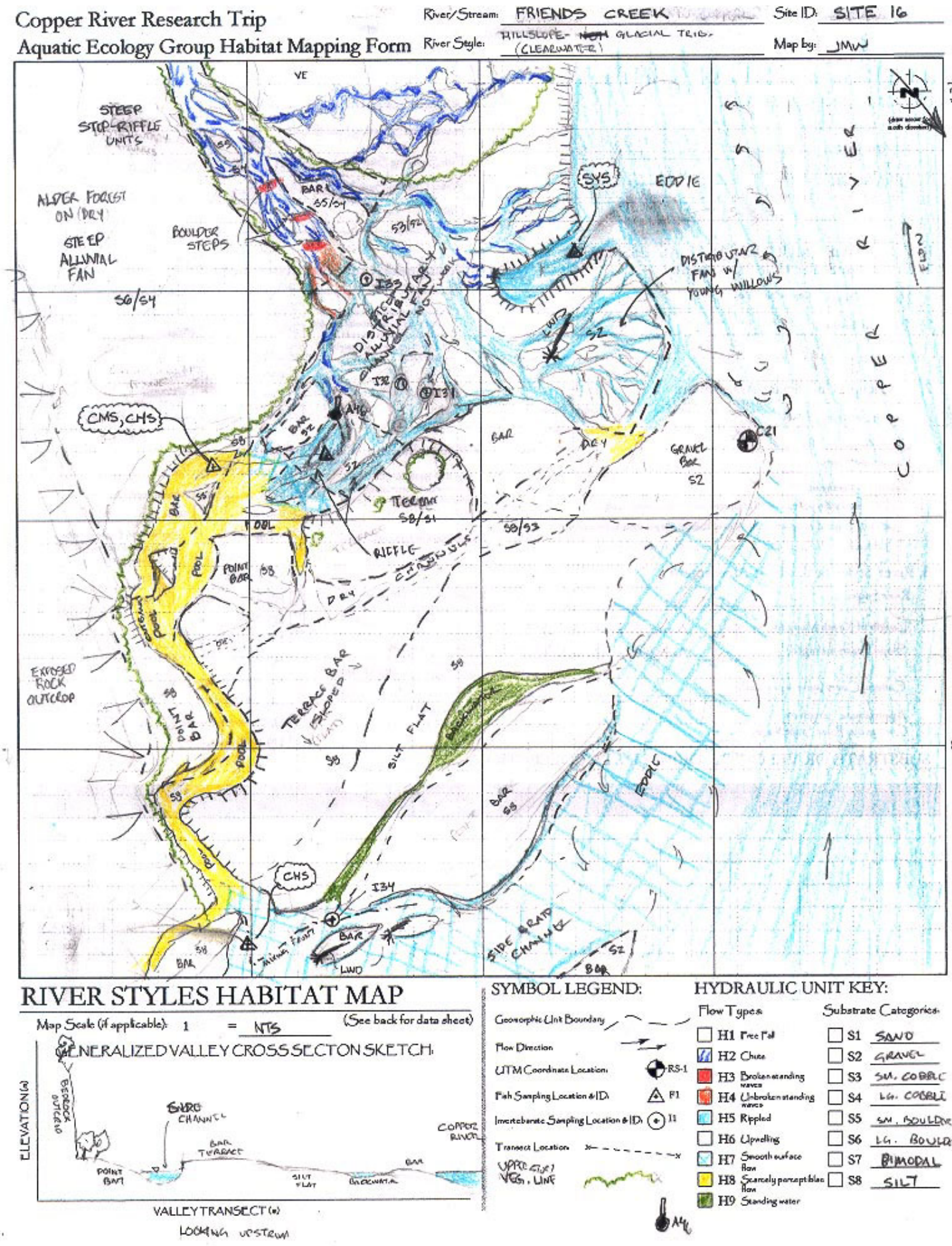


Figure A9 - Site 16: Friends Creek - River Styles Assessment Field Map

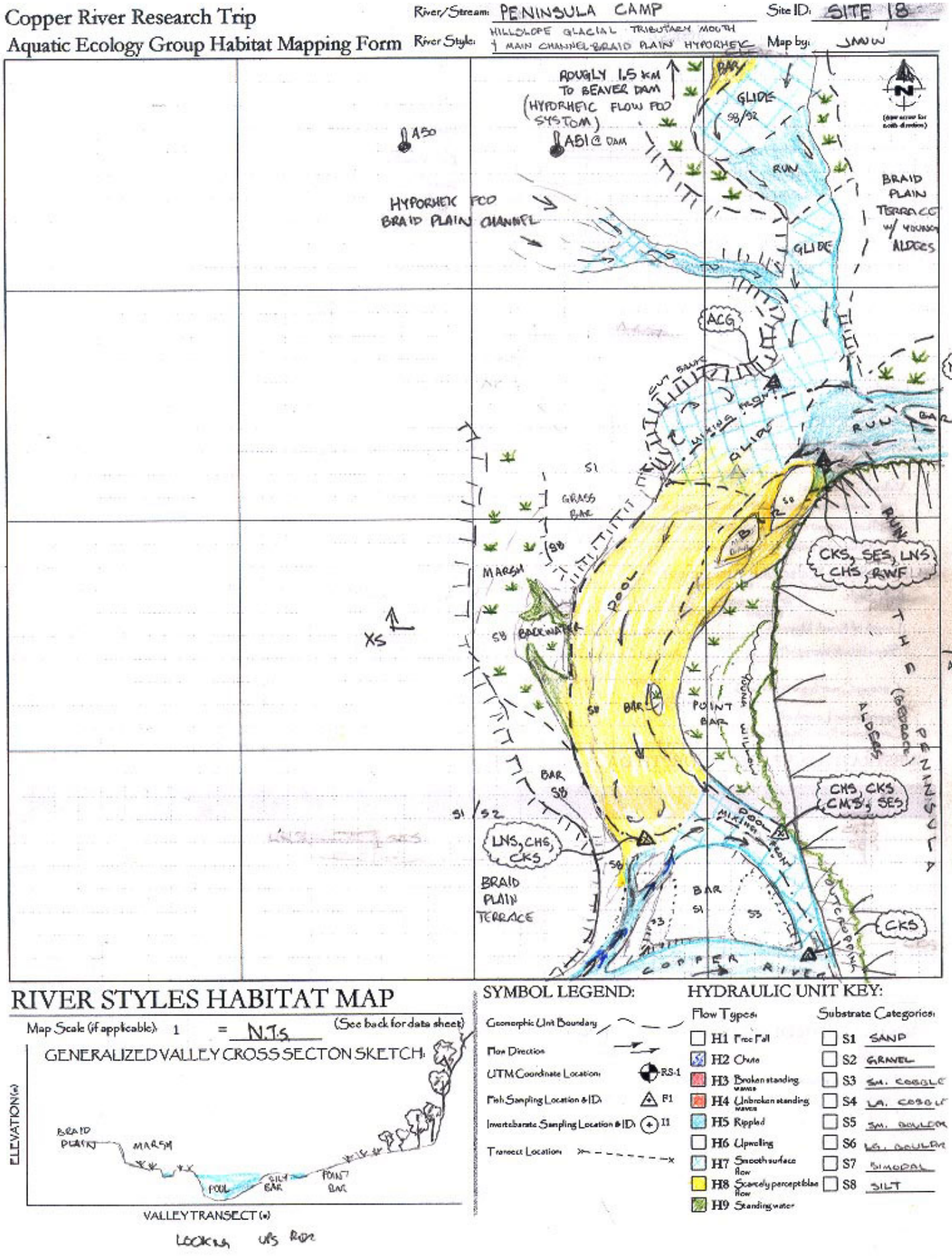
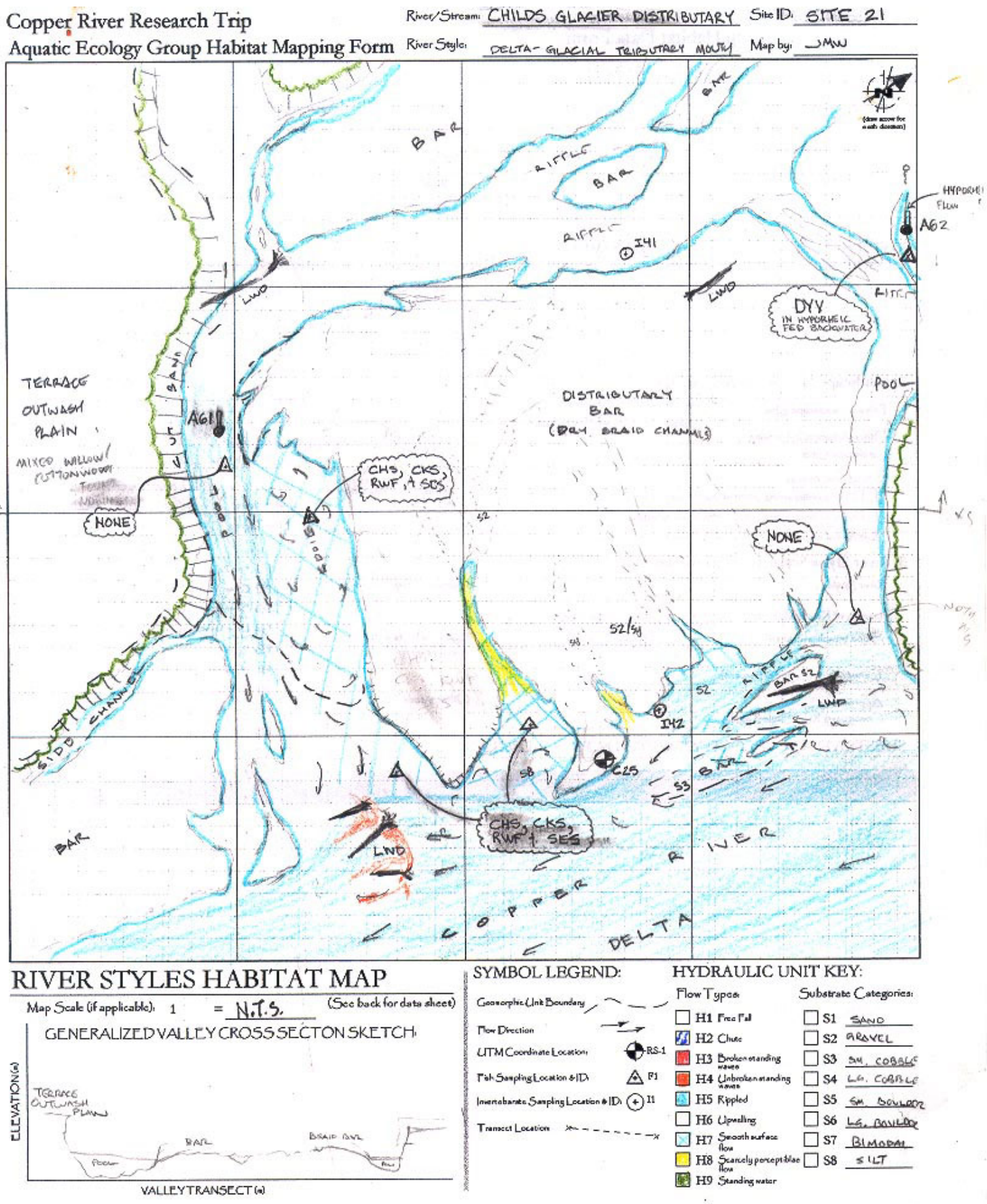


Figure A10 - Site 18: Peninsula Camp - Landscape Unit Assessment River Style Map



RIVER STYLES HABITAT MAP

Map Scale (if applicable): 1 = N.T.S. (See back for data sheet)

GENERALIZED VALLEY CROSS SECTION SKETCH

SYMBOL LEGEND:

- Geomorphic Unit Boundary
- Flow Direction
- UTM Coordinate Location: RS-1
- Fish Sampling Location & ID: F1
- Invertebrate Sampling Location & ID: I1
- Transect Location

HYDRAULIC UNIT KEY:

Flow Types:		Substrate Categories:	
H1	Free Fall	S1	SAND
H2	Chute	S2	GRAVEL
H3	Broken standing waves	S3	SM. COBBLE
H4	Unbroken standing waves	S4	LG. COBBLE
H5	Rippled	S5	SM. BOULDER
H6	Upwelling	S6	LG. BOULDER
H7	Smooth surface flow	S7	BEDROCK
H8	Scarcely perceptible flow	S8	SILT
H9	Standing water		

Figure A11 - Site 21: Childs Glacier Distributary - Landscape Unit Assessment River Style Map