E

AWC DATABASE CATALOG/ATLAS
CORRECTION FORM

CORRECTION TO: Atlas X Catalog X

Region: SCN

Map: Tyonek A-4

Water Body Number: 247-20-10010-2040-3048-0010

Describe Change(s): Species, Stream, and lake addition incorrect

delete part of 247-20-10010-2040-3048 & 247-20-10010-2040-3048-0010

remove coho salmon present from 247-20-10010-2040-3048

add new stream 247-20-10010-2020-3035-4101 & 247-20-10010-2020-3035-4101-0010

with coho salmon present

Change Requested By: J. Brekken 2/6/2014 Date

Drafted/Digitized By: [illegible] 3/5/14 Date

Revision Code: B-4, D-2, A-2, D-1

Nomination Number: 13-028

ATTACH THIS FORM TO EXISTING NOMINATION FORM

(Rev 05/07)

COr
COr
COr
delete
COP
COP
COP
COP
Remember

Johnson, J D (DFG)

From: Brekken, Josh M (DFG)
Sent: Wednesday, February 05, 2014 12:56 PM
To: Johnson, J D (DFG)
Subject: RE: AWC Nomination Submission Outcome
Attachments: Lake 5 field notes with inlets and outlet identified.pdf; Fish Habitat Functions from Wetlands Functional Assessment.pdf

J,

I would like to submit a correction for AWC nomination 13-028.

The outlet of the unnamed lake ("Lake 5") located in the NE corner of Section 15 of Township 13 N, Range 12 W (Seward Meridian) actually flows to the north and then northeast into stream 247-20-10010-2020-3035. The USGS topo maps show the lake draining to the west into a tributary of "Bass Creek" (247-20-10010-2040-3048) and this is also what is mapped in the draft AWC maps. However, based on personal experience (see attached field notes) and mapping from the Chuitna Coal Project Wetland Functional Assessment (see attached map sheet), the lake outlet flows north and then northeast.

I believe the upstream point should be approximately:
61.220 N
151.395 W
And the downstream point (where it connects to existing cataloged waters) should be:
61.222 N
151.391 W

Thanks, and let me know if you have any questions concerning this correction.
Josh

Josh Brekken
Habitat Biologist
Alaska Department of Fish and Game
Division of Habitat
333 Rasperry Road
Anchorage, AK 99518
(907) 267-2113

From: j.johnson@alaska.gov [mailto:j.johnson@alaska.gov]
Sent: Tuesday, February 04, 2014 9:31 AM
To: Brekken, Josh M (DFG)
Cc: Johnson, J D (DFG)
Subject: AWC Nomination Submission Outcome

Public review of updated Atlas maps begins February 3rd and ends March 7th, 2014. Here are the results of your current nomination submission(s) to the AWC. You can click on the nomination number to see the current status of the nomination along with a scanned PDF of the nomination (when available). You can also click on the AWC number to see all past or current nomination forms for that AWC water body including tributary streams. Have any comments or suggested revisions to J Johnson at 267-2337 no later than March 7th, 2014. Draft AWC Atlas maps can be viewed through the ADF&G website below:

http://awc.adfg.alaska.gov

Nominations for Josh Brekken (josh.brekken@alaska.gov)

Nomination #: 13-017
** Region\Quadrant: Southwestern - ILIAMNA D-6
Results: Adding new streams or lakes
AWC #: 324-10-10150-2207-3018 Species Code: COr Stream Name: *Lover's Creek
** Region\Quadrant: Southwestern - ILIAMNA D-6
Results: Adding stream or lake name
AWC #: 324-10-10150-2207-3018 Stream Name: *Lover's Creek
Nomination #: 13-018
** Region\Quadrant: Southwestern - ILIAMNA D-5

Results: Adding new streams or lakes

AWC #: 324-10-10150-2207-3026 Species Code: COr Stream Name: *Bible Camp Creek

** Region\Quadrant: Southwestern - ILIAMNA D-5

Results: Adding stream or lake name

AWC #: 324-10-10150-2207-3026 Stream Name: *Bible Camp Creek

Nomination #: 13-027

** Region\Quadrant: Southcentral - TYONEK A-4

Results: Additional backup information on specified anadromous fish stream.

AWC #: 247-20-10010-2030

Nomination #: 13-028

** Region\Quadrant: Southcentral - TYONEK A-4

Results: Adding new streams or lakes

AWC #: 247-20-10010-2040-3048-0010 Species Code: COp

** Region\Quadrant: Southcentral - TYONEK A-4

Results: Adding life phases, i.e., spawning, rearing to existing streams or lakes

AWC #: 247-20-10010-2040 Species Code: COp

** Region\Quadrant: Southcentral - TYONEK A-4

Results: Adding life phases, i.e., spawning, rearing to existing streams or lakes

AWC #: 247-20-10010-2040-3048 Species Code: COp

** Region\Quadrant: Southcentral - TYONEK A-4

Results: Updated hydrography arcs for stream or lake. Changes mouth point, channels and / or upper point locations.

AWC #: 247-20-10010-2040-3048 Species Code: COp

Nomination #: 13-029

** Region\Quadrant: Southcentral - TYONEK A-3

Results: Adding new streams or lakes

AWC #: 247-20-10006 Species Code: COp

** Region\Quadrant: Southcentral - TYONEK A-3

Results: Adding new streams or lakes

AWC #: 247-20-10006-0010 Species Code: COp

** Region\Quadrant: Southcentral - TYONEK A-4

Results: Adding new streams or lakes

AWC #: 247-20-10006 Species Code: COp

** Region\Quadrant: Southcentral - TYONEK A-4

Results: Adding new streams or lakes

AWC #: 247-20-10006-0010 Species Code: COp

Nomination #: 13-030

** Region\Quadrant: Southcentral - TYONEK A-4

Results: Adding life phases, i.e., spawning, rearing to existing streams or lakes

AWC #: 247-20-10010-2030-3009 Species Code: COs

** Region\Quadrant: Southcentral - TYONEK A-4

Results: Updated hydrography arcs for stream or lake. Changes mouth point, channels and / or upper point locations.

AWC #: 247-20-10010-2030-3009 Species Code: COs

Nomination #: 13-031

** Region\Quadrant: Southcentral - TYONEK A-4

Results: Adding life phases, i.e., spawning, rearing to existing streams or lakes

AWC #: 247-20-10010-2030-3018 Species Code: COs

Nomination #: 13-093

** Region\Quadrant: Southwestern - ILIAMNA D-6

Results: Additional backup information on specified anadromous fish stream.

AWC #: 324-10-10150-2183

***Species Codes:**

AC - Arctic char	AL - Arctic lamprey	AW - Arctic cisco
BC - broad whitefish	BW - Bering cisco	CH - chum salmon
CO - coho salmon	CT - cutthroat trout	DV - Dolly Varden

HW - humpback whitefish
K - chinook salmon
LB - western brook lamprey
LC - least cisco
LP - lamprey, undifferentiated
LV - river lamprey
OL - longfin smelt
OM - rainbow smelt
OU - eulachon
P - pink salmon
PC - Pacific lamprey
S - sockeye salmon
SF - inconnu
SH - Steelhead trout
SM - smelt, undifferentiated
ST - sturgeon, undifferentiated
W - whitefish, undifferentiated

***Activity Codes:**

s - spawning r - rearing p - present m - migration

9/4/07

Lake 5

Net	~~Time~~	Range of Depth	Habitat	Temp.	picture
A		5-8'	sme cm. veg.	58.2°F	823 + 824
B		5-13'	open H_2O	58.1°F	822 and 821

NET
Set: 1015 am, pick @ 1423
Sechi disc = 4' 7" taken at center of larger lobe of lake
Zooplankton tows

	time	total tow depth	temp (surface)
A	1240	11.5'	58.1°F
B	1255	11.5'	58.1°F

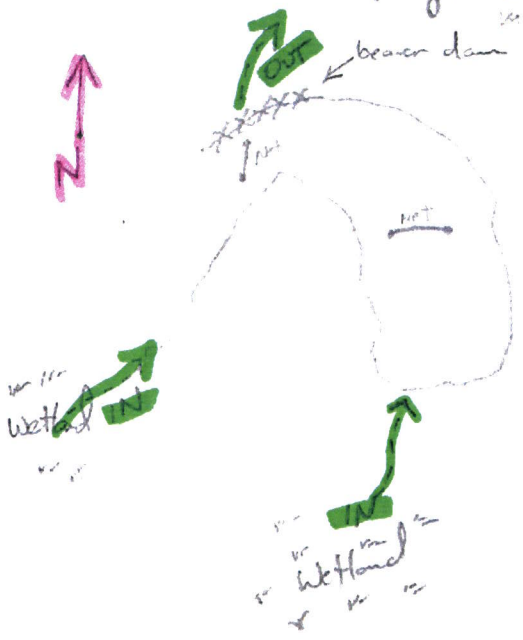
H_2O direction contrived
Outlet of lake is in NW corner
w/ inlet is SE corner and potential in/out in SW corner
Beaver dam at outlet - observed H_2O flowing out of lake through dam and continuing to wetland to the North

Lake 5
set: 1015
unset: 1425
Fish:

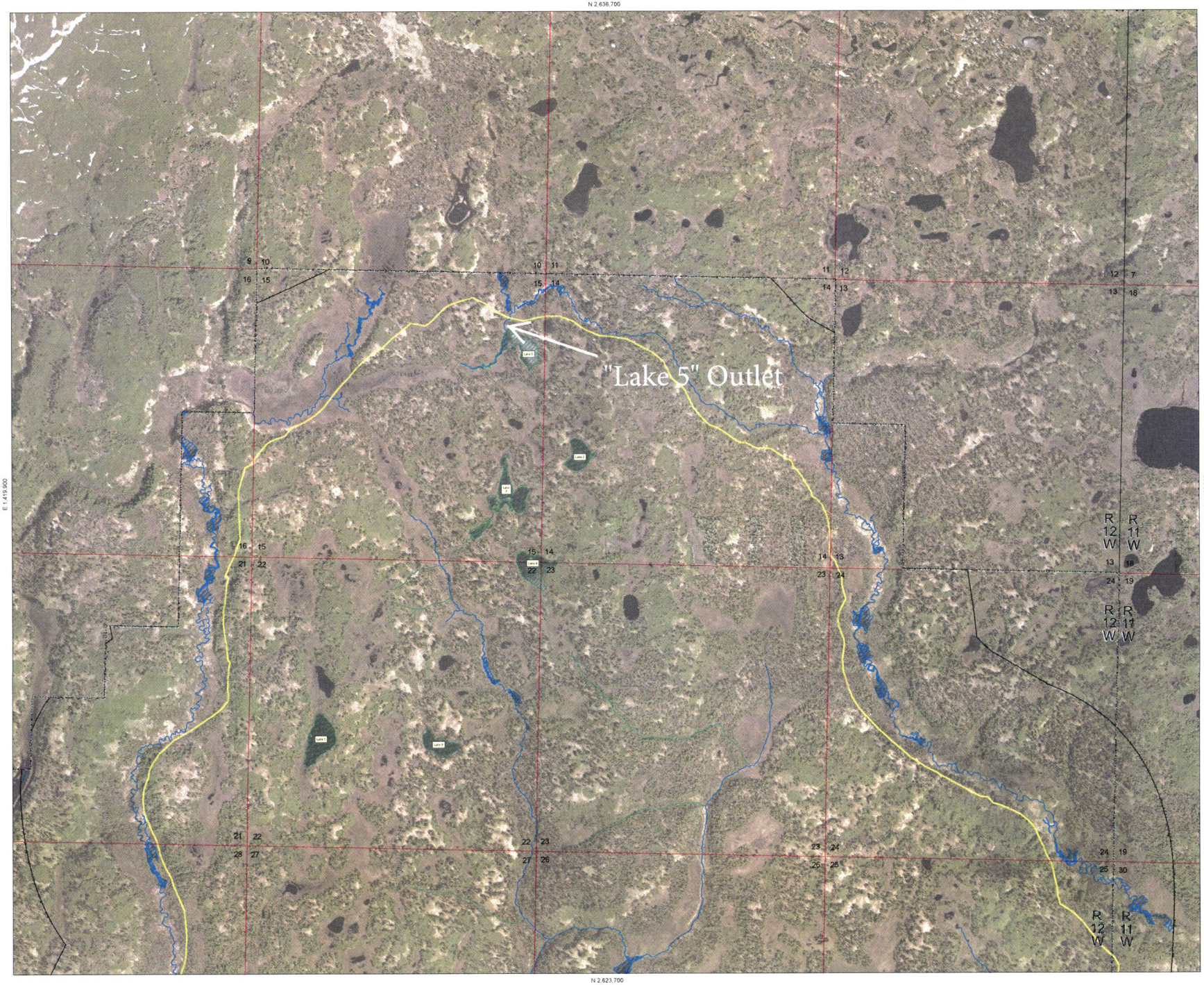
	Net A	Net B
CO	40cm	39.5
CO	41 cm	41
CO	36 cm	40
		36

9/4/07

Lake 5 overview flight after sampling - drainage pattern mapped below



7 CO total captured in gill net and 0 fish in minnow traps
(5 dead CO)

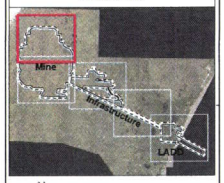


LEGEND

- ASCMCRA Permit Boundary
- Functional Assessment Area
- Disturbance Footprint
- Township Boundary
- Section Boundary
- Anad. & Res. Fish Habitat
- Resident Only Fish Habitat

Data Source: HDR, 2013
Imagery Source: Aerometric, 2005
NAD 1983 State Plane Alaska Zone 4, Feet
Projection: Transverse Mercator

Overview



N

SCALE

500 0 500 1,000 1,500 FT

150 0 150 300 450 M

No.	REVISION	DATE	BY	CHKD

Title

Chuitna Coal Project
Functional Assessment

Anadromous & Resident Fish Functions
Mine Area - North

Scale	Date	Drawn By:	Approved By:
As Shown	8/10/2013		

PacRim Coal, L.P.

State of Alaska
Department of Fish and Game
Division of Sport Fish

Nomination Form
Anadromous Waters Catalog

Region: South Central

USGS Quad(s): Tyonek A-4

Anadromous Waters Catalog Number of Waterway: 247-20-10010-2040-3048-0010

Name of Waterway: Unnamed Lake - (Lake 5)

☐ USGS Name ☐ Local Name

☒ Addition ☐ Deletion ☐ Correction ☐ Backup Information

For Office Use

Nomination #	130028	[signature] Fisheries Scientist	8/27/13 Date
Revision Year:	2014	[signature] Habitat Operations Manager	8/27/13 Date
Revision to:	Atlas ____ Catalog ____ Both X	[signature] AWC Project Biologist	1/31/13 Date
Revision Code:	B-2, C-9, A-2	[signature] Cartographer	9/16/13 Date

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
coho salmon	9/4/07			X	☒
					☐
					☐
					☐
					☐

IMPORTANT: Provide all supporting documentation that this water body is important for the spawning, rearing or migration of anadromous fish, including: number of fish and life stages observed; sampling methods, sampling duration and area sampled; copies of field notes; etc. Attach a copy of a map showing location of mouth and observed upper extent of each species, as well as other information such as: specific stream reaches observed as spawning or rearing habitat; locations, types, and heights of any barriers; etc.

Comments: 7 coho salmon were captured in a multi-mesh gill net during baseline environmental studies by OASIS Environmental. Lake is located in Section 15/T. 13 N/R. 12 W (S.M.). at 61.220° N 151.395° W

Add coho salmon present to 247-20-10010-2040 extend -2040-3048 w/coho salmon present 3048-0010 w/coho salmon present

Name of Observer (please print): JOSH BREKKEN Add lake

Signature: [signature] Date: 4/15/12

Agency: ADF+G

Address: 333 Raspberry Rd
Anchorage, AK 99518

This certifies that in my best professional judgment and belief the above information is evidence that this waterbody should be included in or deleted from the Anadromous Waters Catalog.

Signature of Area Biologist: _____ Date: _____

ALASKA DEPT. OF FISH & GAME
JAN 18 2013

Revision

02/08

7 coho salmon captured in multimesh gillnet on 9/4/07

Base map created with TOPOI, ©2006 National Geographic Maps, All Rights Reserved.

The geographical base map data are based on USGS topographic maps, USGS elevation data, and the USGS Geographic Names Information System. Please consider carefully the fact that the geographic data may not be adequate for purposes requiring precision in depiction of geographic features, exact measurement of direction or distance, or for similar purposes including but not limited to navigation, tracking, or emergency response.

Access this map on the web at
http://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?ADFG=maps.maps

SCALE 1:63,360

0 0.5 1 2 3 4 Miles

0 5,000 10,000 20,000 30,000 Feet

0 1 2 4 6 8 Kilometers

Universal Transverse Mercator projection, Zone 5, 1983 North American datum.

TYO B-5	TYO B-4	TYO B-3
TYO A-5	TYO A-4	TYO A-3
KEN D-5	KEN D-4	KEN D-3

- Lower/Upper Point of Stream
- Midstream Species Begin/End Point
- Short Stream (Under 660 feet)
- Lake
- Barrier
- Anadromous Streams
- Anadromous Areas
- AWC Stat Area
- Regional Boundary

Waters Important to Anadromous Fish are listed pursuant to AS 16.05.871. Specified species distribution and life functions reflect known data. Actual distribution and use may extend beyond specified limits. Migration upstream and/or downstream is assumed for specified stream reaches.

SPECIES CODES

CO	coho salmon	AC	Arctic char	LV	river lamprey
CH	chum salmon	AL	Arctic lamprey	OL	longfin smelt
K	chinook salmon (king)	AW	Arctic cisco	OM	rainbow smelt
P	pink salmon	BC	broad whitefish	OU	eulachon
S	sockeye salmon	BW	Bering cisco	PC	Pacific lamprey
		CT	cutthroat trout	SF	inconnu (sheefish)
		DV	Dolly Varden	SH	steelhead trout
		GS	green sturgeon	SM	smelt, undifferentiated
		HW	humpback whitefish	ST	sturgeon, undifferentiated
		LC	least cisco	W	whitefish, undifferentiated
		LP	lamprey, undifferentiated	WS	white sturgeon

LIFESTAGE CODES

p	Present
m	Migration
r	Rearing
s	Spawning

Produced By State of Alaska Department of Fish and Game

Anadromous Waters Atlas

Quad No. 059 (TYO)

Tyonek
A- 4

Revision Date 12/1/2011

Base map created with TOPO!, ©2006 National Geographic Maps, All Rights Reserved.

The geographical base map data are based on USGS topographic maps, USGS elevation data, and the USGS Geographic Names Information System. Please consider carefully the fact that the geographic data may not be adequate for purposes requiring precision in depiction of geographic features, exact measurement of direction or distance, or for similar purposes including but not limited to navigation, tracking, or emergency response.

Access this map on the web at
http://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?ADFG=maps.maps

SCALE 1:63,360

0 0.5 1 2 3 4 Miles

0 5,000 10,000 20,000 30,000 Feet

0 1 2 4 6 8 Kilometers

Universal Transverse Mercator projection, Zone 5, 1983 North American datum.

TYO B-5	TYO B-4	TYO B-3
TYO A-5	TYO A-4	TYO A-3
KEN D-5	KEN D-4	KEN D-3

- Lower/Upper Point of Stream
- Midstream Species Begin/End Point
- Short Stream (Under 660 feet)
- Lake
- Barrier
- Anadromous Streams
- Anadromous Areas
- AWC Stat Area
- Regional Boundary

Waters Important to Anadromous Fish are listed pursuant to AS 16.05.871. Specified species distribution and life functions reflect known data. Actual distribution and use may extend beyond specified limits. Migration upstream and/or downstream is assumed for specified stream reaches.

SPECIES CODES

CO	coho salmon	AC	Arctic char	LV	river lamprey
CH	chum salmon	AL	Arctic lamprey	OL	longfin smelt
K	chinook salmon (king)	AW	Arctic cisco	OM	rainbow smelt
P	pink salmon	BC	broad whitefish	OU	eulachon
S	sockeye salmon	BW	Bering cisco	PC	Pacific lamprey
		CT	cutthroat trout	SF	inconnu (sheefish)
		DV	Dolly Varden	SH	steelhead trout
		GS	green sturgeon	SM	smelt, undifferentiated
		HW	humpback whitefish	ST	sturgeon, undifferentiated
		LC	least cisco	W	whitefish, undifferentiated
		LP	lamprey, undifferentiated	WS	white sturgeon

LIFESTAGE CODES

p	Present
m	Migration
r	Rearing
s	Spawning

Produced By State of Alaska Department of Fish and Game

Anadromous Waters Atlas

Quad No. 059 (TYO)

Tyonek
A- 4

Revision Date 12/1/2011

9/4/07

Lake 5

Net	~~Time~~	Range of Depth	Habitat	Temp.	picture
A		5-8'	some em. veg.	58.2°F	823 + 824
B		5-13'	open H_2O	58.1°F	822 and 821

NET

Set: 1015 am, pick @ 1423

Sechi disc = 4' 7" taken at center of larger size of lake

Zooplankton tows

	time	total tow depth	temp (surface)
A	1240	11.5'	58.1°F
B	1255	11.5'	58.1°F

H_2O direction contrived

Outlet of lake is in NW corner
w/ inlet is SE corner and
potential in/out in SW corner

Beaver dam at outlet - observed H_2O flowing out of lake through dam and continuing to wetland to the North

Lake 5

set: 1015

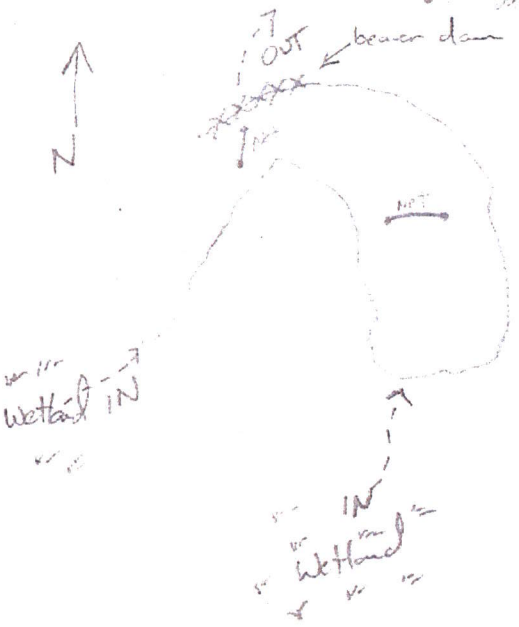
unset: 1425

Fish:

	Net A	Net B
CO	40cm	39.5cm
CO	41 cm	41 cm
CO	36 cm	40 cm
		36cm

9/4/07

Lake 5 overview flight after sampling - drainage pattern mapped below



7 CO total captured in gill net and 0 fish in minnow traps

(5 dead CO)

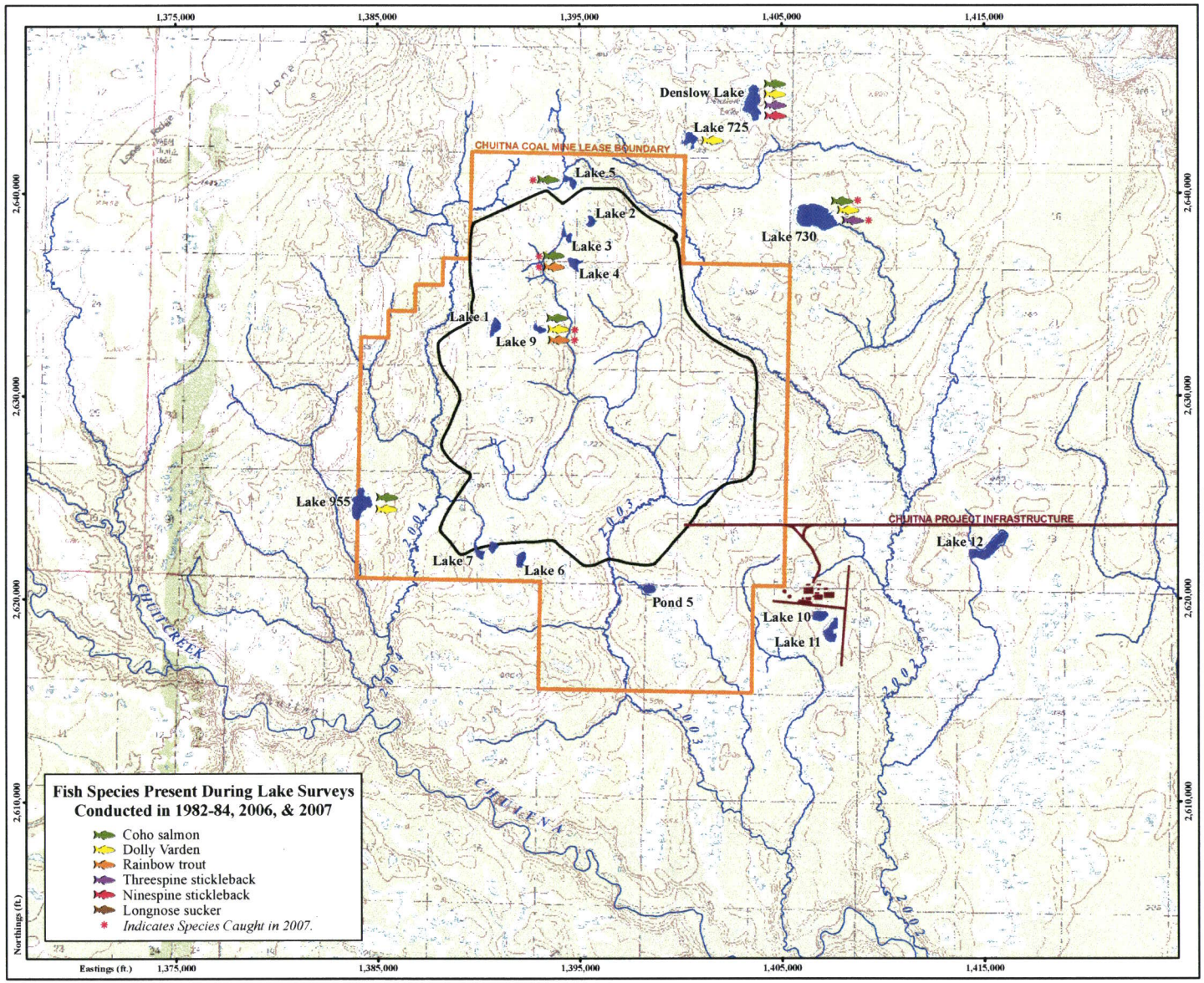


FIGURE 2.1-4.
2007 SAMPLING SITES FOR SELECTED LAKES AND DOCUMENTED FISH SPECIES

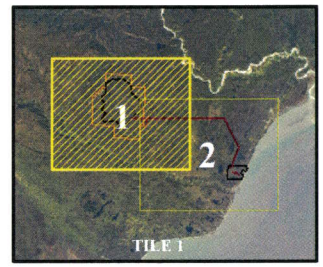


FIGURE LOCATION MAP

Legend

- Project Area Stream
- Project Area Lake
- Proposed Road & Conveyor
- Proposed Facilities
- Ladd Landing Boundary
- Lease Mining Unit-1 Boundary
- Lease Boundary

Data Sources:
Lake Sample Sites & Fish Species, Oasis, 2007.
Mine Infrastructure, Mine Engineers, 2006.
Hydrology, Oasis, 2007
USGS Topographic Quadrangle, 1:63360, Tyonek Sheets A2, A5, & A7, 1958.

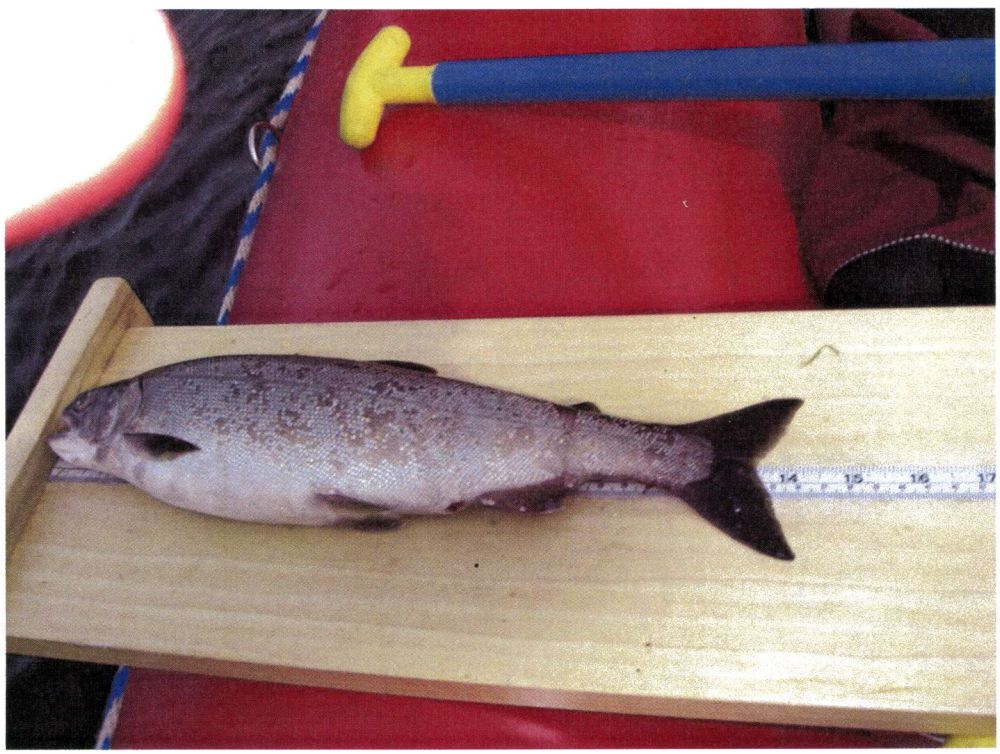
0 0.25 0.5 1 1.5 Miles
0 0.5 1 2 Kilometers
N
1:60,000 1 inch equals 5,000 feet
Projection: NAD83 AK State Plane Zone 4 (feet)

CHUITNA COAL PROJECT

PACRIM COAL

PacRim Coal, LP
711 H Street, Suite 350
Anchorage, AK 99501 USA
Phone: (907) 276-6868

Lake 5 and captured coho salmon from 9/4/2007



OASIS ENV.
Chuitna Coal
Project

"Rite in the Rain"®
ALL-WEATHER
LEVEL
No. 311

August, 2007

Josh
needs 10/15/07

Lakes

"Rite in the Rain"®
ALL-WEATHER WRITING PAPER

Name OASIS ENVIRONMENTAL

Address
Anchorage Alaska

Phone 907-258-4880

Project Chuitna Coal Project
LAKE STUDIES

Clear Vinyl Protective Slipcovers (Item No. 30) are available for this style of notebook.
Helps protect your notebook from wear & tear. Contact your dealer or the J. L. Darling Corporation

CONTENTS

PAGE	REFERENCE	DATE
1-12	LAKE Studies - Gill netting - minnow trapping - Zooplankton net tows - Field notes Dave Trudgen (D.T.) and John O'Brien (JO. or JOB)	Aug 18 2007 through Aug 22 2007
13-18	Lake Studies Josh Brekken + Zack Kirk	
19-21	Lake Surveys Josh B. and Tommy P.	

J.O. & D.T.

LAKE#	DATE#	SET TIME	Pick Time	GEAR TYPE	NOTES	DEPTH AT Net Center (ft)	WATER Surface Temp.	Secchi DEPTH	HABITAT NOTES
11	8-18-07	0915	1241	mult-(2) mesh Gill Net	125' net weather cloudy	1.5 M	65°F	clear to bottom	1st 2 lakes are connected by small rivulet. photos 0743 + 0744
10	8-18-07	1000*		(1) multi mesh Gill Net	125' Net cloudy, breezy	18.5	65.8°F	6 ft.	LK10 appears to be deeper. plankton tow PHOTO 0746 0745
		reset@ 1145	1505	NET NOT PROPERLY -	- FISHING RESET!				Common loon on lake moved when we landed
12 pond 5					LOONS present Ducks (Goldeneye?) 20'0				NOT able to gill net due to waterfowl in area.
1	8-19-07	0845	1153	(2) 125 mult-mesh Gill Net	(1) redneck Grebe present	5 ft	61.9°F	clear to bottom	weather = cloudy, light rain photo 751
4	8-19-07	1000	1430	(1) 125' multi-mesh Gill Net	[illegible] for [illegible] (1) [illegible] flume in	[illegible]	63.3°F	8 ft	rainy, cloudy
9	8-19-07	1345	1515	(1) [illegible]	RT* 285 mm	5.5	62.0°F	1.5 M	small lake outlet cool water tributary 57.5 °F (befor noon) photo 754 photo 755 photo 757
2	8-20-07	0855	[illegible]	(2) 125' mult-mesh Gill Net		Net #1 = [illegible] Net #2 = 18'	62.1°F	9 ft	[illegible]
3 (Butterfly)	8-20-07	1345	[illegible]	(2) 125' mult-mesh Gill Net		[illegible]	[illegible]	[illegible]	RAIN

8/18/07 D.T + J.O. ZOOP TOWS

Airport LK (LK #10) Total Depth = 18 ft

Tow Depth = 14 ft

Tow #1 SECCHI DEPTH = 6.0 ft

Tow #2 TOTAL DEPTH = 18 ft

Tow DEPTH 14 ft

JO'B

Tow #1 + #2 coordinates N 61° 09' 45.3"

W 151° 19' 19.5"

Waypt. SAVED on OASIS GARMIN GPS II plus

as ZOOP10

8/19/07 D.T. + J.O'B.

LAKE #4 TOTAL DEPTH = 19.5 ft

Tow DEPTH = 15.5

Tow #1 SECCHI DEPTH = 2.7 M (8 ft.)

Tow #2 TOTAL DEPTH = 19.5 ft

Tow DEPTH = 15.5 ft

LAKE #1 TOTAL DEPTH = 5'2"

Tow #1 JO'B ~~TOTAL~~ TOW DEPTH = ~~1'2~~ JO'B 2.0'

Tow #2 TOTAL Depth = 5'2"

Tow Depth = 2.0'

Secch = 2.5 m

LAKE #4 fish

Species	Total Length	Mort?	
RT	430 mm	yes	photo 755
	281		
	285		
	282		

JO'B

LAKE #9

RT	304	no	
RT	232	no	
DV	205	yes	
RT	286	yes	
RT	301	yes	
DV	185	no	
DV	[illegible]	no	
DV	177	no	
*RT	285	yes	

JO'B

lakes 4 and 9 are the only lakes that fish were gill netted in as of 8-21-07 1130 JO'B

JO'B

8/19/07 D.T. + J.O. ZOOP TOWS

LAKE #9 Total Depth = 5.5 ft

Tow #1 Tow Depth = 2 ft

JO'B

Tow #2 Total Depth = 5.5 ft

Tow Depth = 2 ft

8/20/07 D.T. + J.O.

LAKE #2 Total Depth = 18 ft

Tow 1 Tow Depth = 11 ft

photos 0761 #0762

JO'B

Tow 2 Total Depth = 18 ft

Tow Depth = 11 ft

LAKE #3 D.T. + J.O.

Tow 1 Total depth = 15 14'9"

Tow depth = 11 ~~10~~ 203

JO'B

Tow 2 Total Depth = 15 14'9"

Tow Depth = 11

LAKE 7 D.T. + J.O. 8-21-07 PHOTOS

Tow 1 Total Depth: 23 ft 0785

Tow Depth: 19 ft

JO'B

Tow 2 Total Depth: 23 ft.

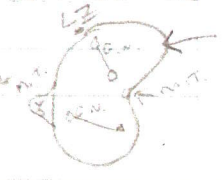
Tow Depth: 19 ft.

JO'B

Field Notes

LAKE #9 - old beaver Dam at one end (west) Also old (not active beaver lodge. Juvenile sized fish observed rising to surface (observed by D.T.). Water is present in old channel on the other side of beaver dam. 2 mallard hens or y.o.y. mallards observed there. Many moose and a few black bear tracks. Inlet stream is cool compared w/ surface lake temperature. Shore is very muddy around this shallow lake. JO'B

LAKE #2 This lake is kidney-shaped when viewed from the air. Gill nets were continuously monitored for three (3) hours. Plankton tows looked visibly different from other lakes. Corixid in Tow 1 and many seen on lake surface (water boatmen) 2 minnow traps set while waiting, both baited w/ cured salmon roe.



one set in backwater

one set on lake shore

G.N. = Gill net

M.T. = minnow trap

J.O + D.T.

Field notes 8-21-07

Lake 6 - medium size, oval shaped with old beaver lodge at one end. North side of lake has very hill w/ thick vegetation. Old beaver dam drains east side of lake into a wetland complex. Quaking bog on west side of lake. No birds or beaver obs. in lake. Red poll heard in that area and over head

Minn Trap	Set Time	pick time	Fish	Total Set Time
1	1425	1545	Ø	1:20
2	1430	1552	Ø	1:22
3	1440	1559	Ø	1:29
4	1447	1609	Ø	1:39
5	1455	1620	Ø	1:50

Field notes 8-22-07 Pond 5 Minnow Trapping

1	1055	1252	Ø
2	1100	1259	Ø
3	1107	1305	Ø
4	1112	1315	Ø
5	1118	1320	Ø

The SW side of Pond 5 has an overgrown beaver dam containing it which drains into a wetland complex. (photo 0799)

Field Notes 8-20-07

LAKE #7 2-lobed laked (like the [illegible] butterfly) beaver lodge ([illegible] on lake)

Trap	[illegible]
2	[illegible] the perimeter
3	1445 [illegible] of the lake
4	1455 [illegible]
5	1500 [illegible]

Ø fish in [illegible] nets

Ø fish in minnow traps

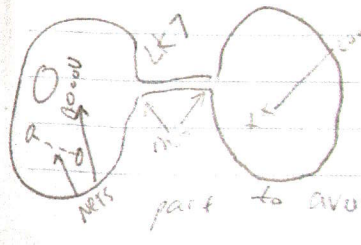
8-21-07

LAKE #7 M.T. Set Time Pick Time

0830 ——— [illegible] 2 min

Ø fish

LK7 has 2 parts to it connected by 50M strip of water 1-2M wide. There is a beaver lodge (senescent; has become an island) in the Eastern part of "7"



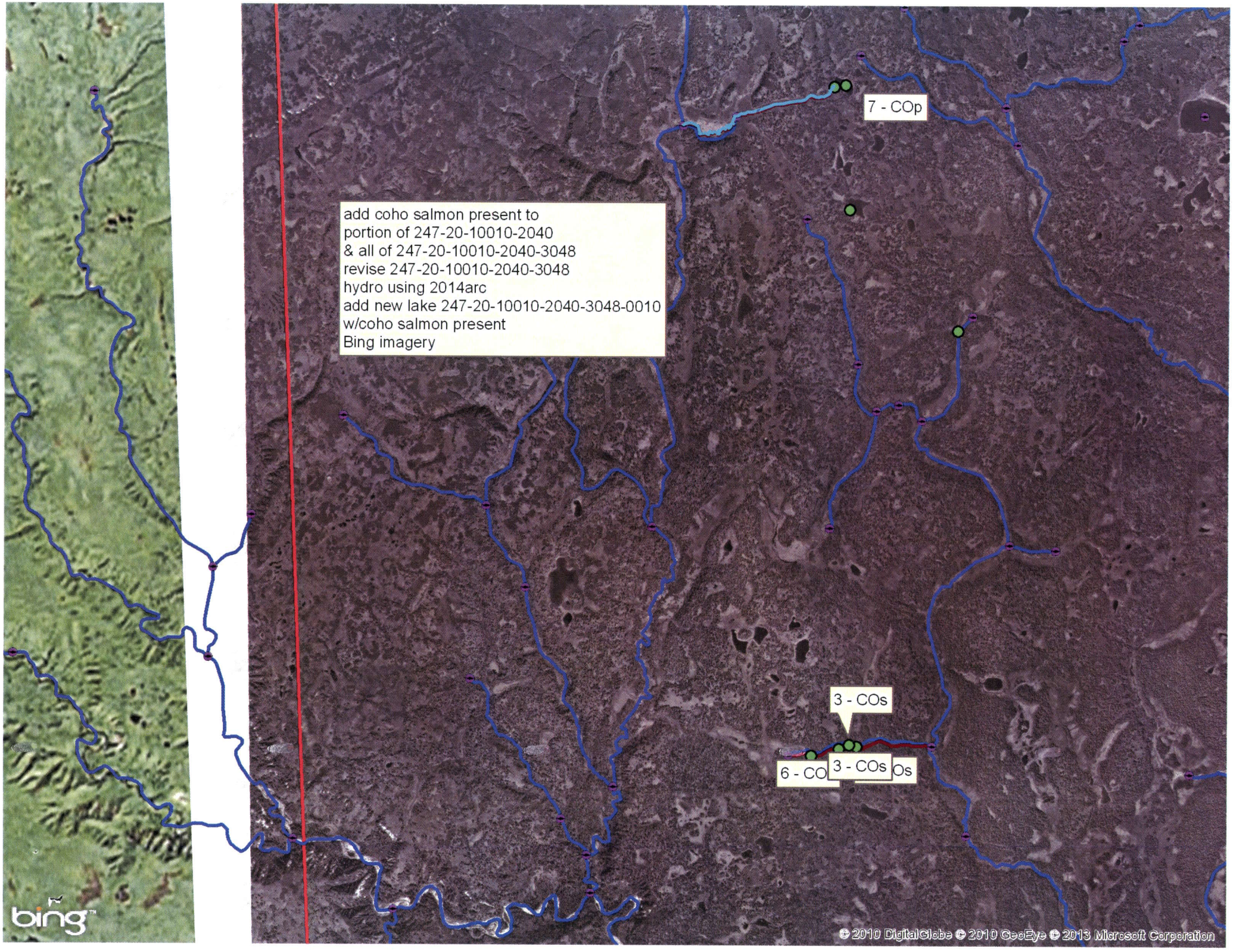
Two pacific loons obs. in western part, so nets were set in a "T" pattern in the Eastern part to avoid netting birds

LAKE #	DATE	SET TIME	PICK TIME	GEAR TYPE	NOTES
LK 7	8-21-07	0820	1120	(2) mult mesh Gill Net	125' net weather cloudy
				90 B	
[illegible]	8-21-07	1350	1650	[illegible]	[illegible] overcast light [illegible]
					90' B
Pond 5	8-22-07	1030	1330	(2) mult mesh Gill Nets	125' net weather overcast

90' B

DEPTH AT NET CENTER	WATER SURFACE TEMP.	Sachi depth	HABITAT NOTES	J.O.A.D.T picture #
Net 1 = 18'7" Net 2 = 16'10"	61.5°F	2.1M	Ø FISH Ø	0779
				90' B
Net 1 = [illegible] Net 2 = [illegible]	62.0°F	2.0 M	* Deepest part of lake is near the North SHORE (Hillside) NOT where the zoo plankton tows were obtained. Ø fish	0789 0791 0792 0793 0794
				90' B
Net 1 = 9' Net 2 = 9'	61.6	2.0M	Lake depth appears to be quite uniform.	0799 0800

90' B


add coho salmon present to
portion of 247-20-10010-2040
& all of 247-20-10010-2040-3048
revise 247-20-10010-2040-3048
hydro using 2014arc
add new lake 247-20-10010-2040-3048-0010
w/coho salmon present
Bing imagery
7 - COp
3 - COs
6 - CO
3 - COs
Os
bing
© 2010 DigitalGlobe © 2010 GeoEye © 2013 Microsoft Corporation

J.O. + D.T.

8-21-07 Zoop Tow

Lake 6 Total depth = 15 ft* picture#

Tow 1 Tow depth = 11 ft n/a

Tow 2 Total depth = 15 ft*

tow Depth = 11 ft

see * explanation in habitat notes on the previous page.

Pond 5 8-22-07

Total depth = 9.5 ft

Tow 1 Tow depth 5.5 ft

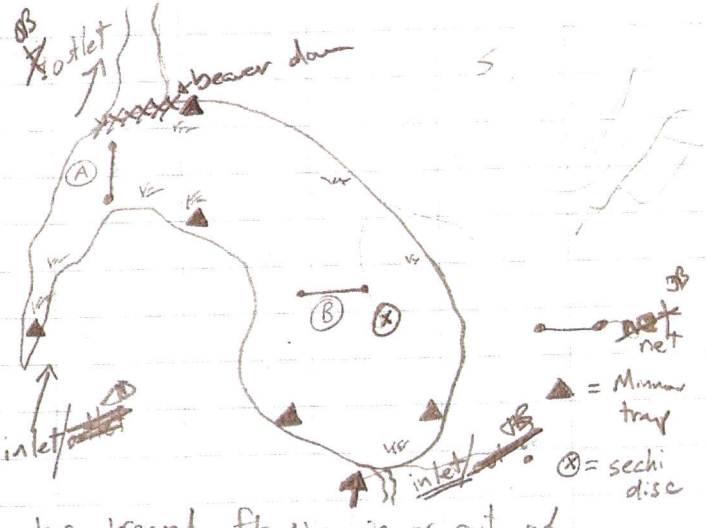
Tow 2 total depth 9.5 ft

Tow depth = 5.5 ft

9/4/07 ZK + JB

Lake 5 (Mining Lake 5)
- located just north of northern mine boundary

T = 58.1 °F
total depth = 13'



no water observed flowing in or out of lake, but inlet + outlet inferred from topo features. Notes on next page

JB

9/4/07

Lake 5

Net	~~Time~~	Range of Depth	Habitat	Temp.	picture
A		5-8'	some cm. veg.	58.2°F	823+824
B		5-13'	open H_2O	58.1°F	822 and 821

NET
Set: 1015 am, pick @ 1423
Sechi disc = 4' 7" taken at center of larger lobe of lake
Zooplankton tows

	time	total tow depth	temp (surface)
A	1240	11.5'	58.1°F
B	1255	11.5'	58.1°F

H_2O direction confirmed: Outlet of lake is in NW corner w/ inlet is SE corner and potential in/out in SW corner

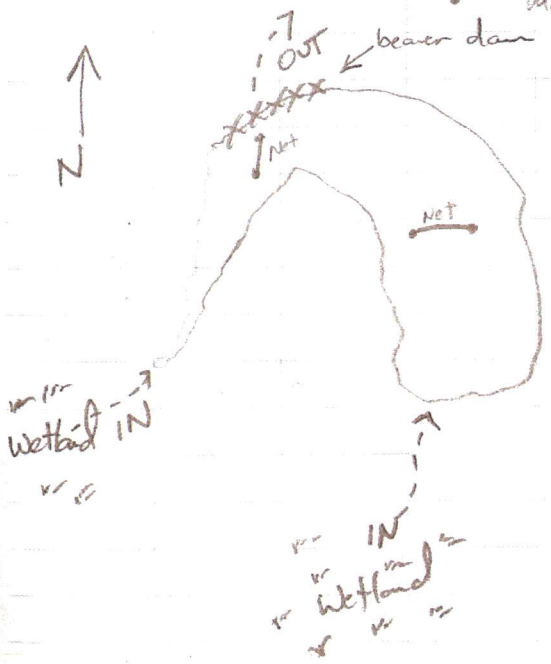
Beaver dam at outlet - observed H_2O flowing out of lake, through dam and continuing to wetland to the North

Lake 5
set: 1015
unset: 1425

Fish:		Net A	Net B
	CO	40cm	39.5 cm
	CO	41 cm	41 cm
	CO	36 cm	40 cm
			36 cm

9/4/07

Lake 5 overview flight after sampling. - drainage pattern mapped below



7 CO total captured in gill net and 0 fish in minnow traps.
(5 dead CO)

9/4/07

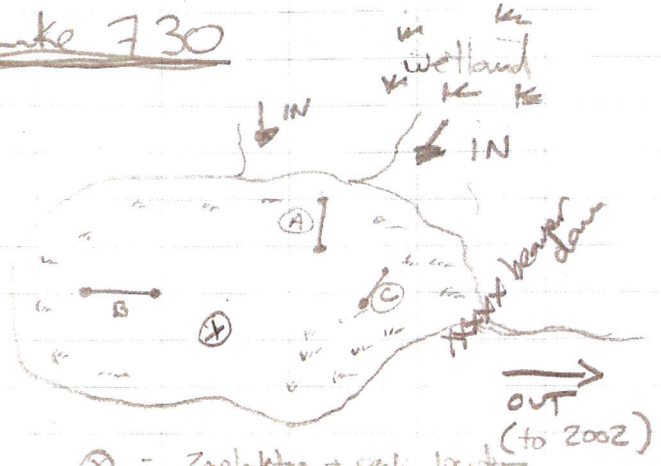
1545 Collect H_2O samples for flocculant study at WS 141
- sent on 6 pm flight (Spernak)

1830 End Day

JB

9/5/07

Lake 730



⊗ = Zooplankton + sechi location
▸ = emergent veg
—• = net

No minnow traps set (full of sticklebacks last year)
- SB observed in H_2O today

Net	Range of Depth	Hab.	Picture
A	5-10'	em. veg + open	A-829
B	10-15'	open H_2O	B {830 + 831
C	5-10'	em. veg.	C-832

temp. = 58.9° F

set time = 0800

JB

9/4/07

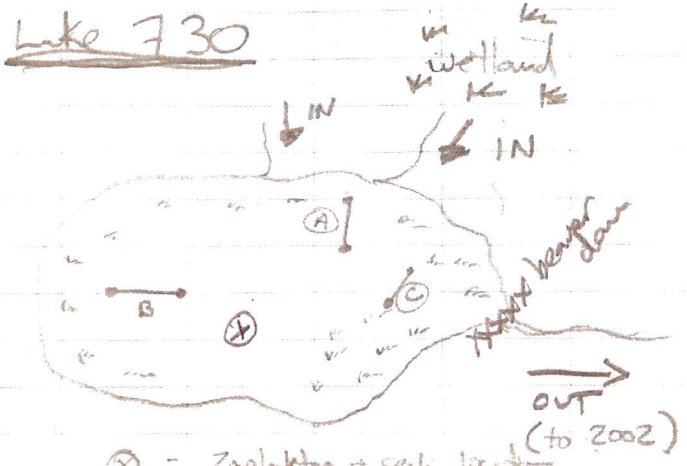
1545 Collect H_2O samples for floculant study at WS 141
- sent on 6 pm flight (Spernak)

1830 End Day

JB

9/5/07

Lake 730



⊗ = Zooplankton + sech. location
▸ = emergent veg
—● = net

No minnow traps set (full of sticklebacks last year)
- SB observed in H_2O today

Net	Range of Depth	Hab.	Picture
A	5-10'	em. veg + open	A-829
B	10-15'	open H_2O	B {830 + 831
C	5-10'	em. veg.	C-832

temp. = 58.9° F

set time = 0800

JB

9/5/07

Lake 730

Zooplankton

Sample	time	total depth	total tow depth	temp
A	0835	14'	9.5'	59.1
B	0845	14'	9.5'	59.1°F

Sechi disk: 4.5'

Pick-up nets @ 12:00
1 CO 24.5 cm long
(released live)

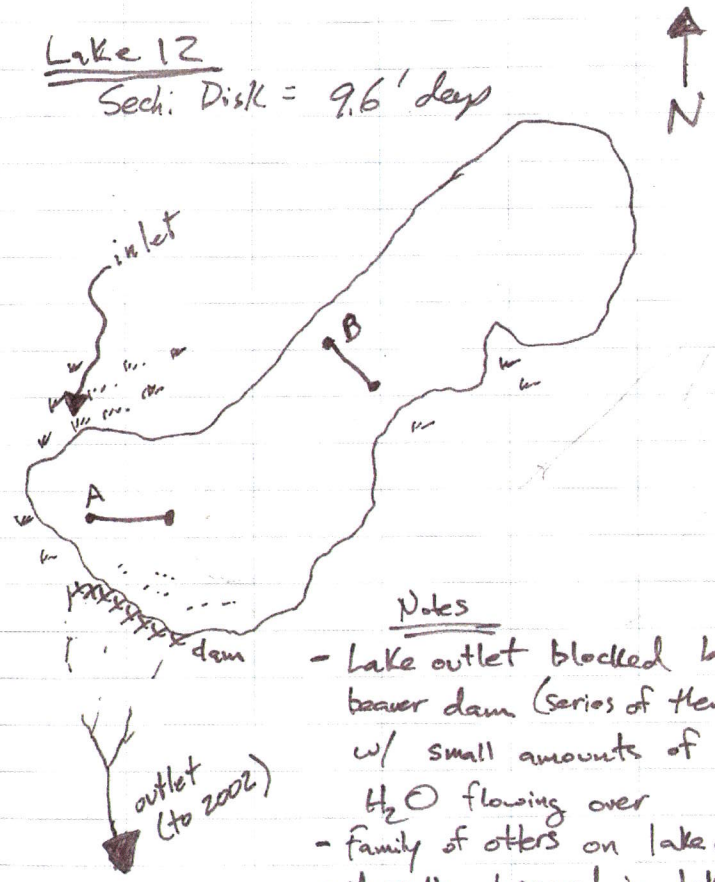
Lake 730 (recap)

1 CO captured
no MT set (loaded w/ STB last year)
3-spine STB observed in lake this year
Trumpeter swans + common loons observed on lake.
Outlet is to E to 2002 drainage

Oct. 17, 2007

Lake 12

Sechi Disk = 9.6' deep



Notes
- Lake outlet blocked by beaver dam (series of them) w/ small amounts of H_2O flowing over
- Family of otters on lake (5)
- Mussells observed in lake

Set	time	photo	depth range	habitat
A)	0855	1096	9-12'	some emergent veg.
B)	0905	1097	5-12'	mostly open H_2O

pick nets @ 1200

No Fish

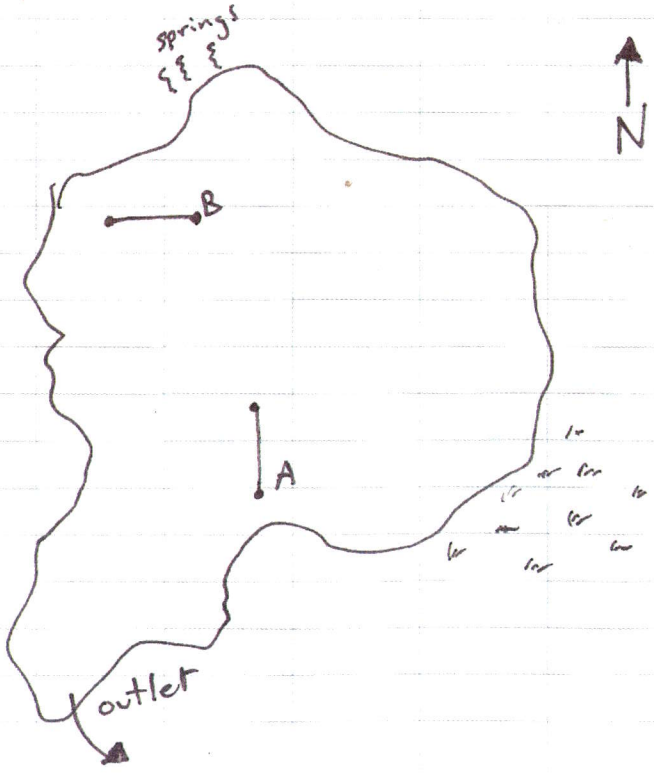
Oct. 17-'07

LL2 (JB)

~~LL1~~ (Ladd Lake 1)

Set time	photo	depth range	Net	Habitat
1220		10-20'	A	Open H_2O
1230	1098	12-19'	B (deep)	near shore

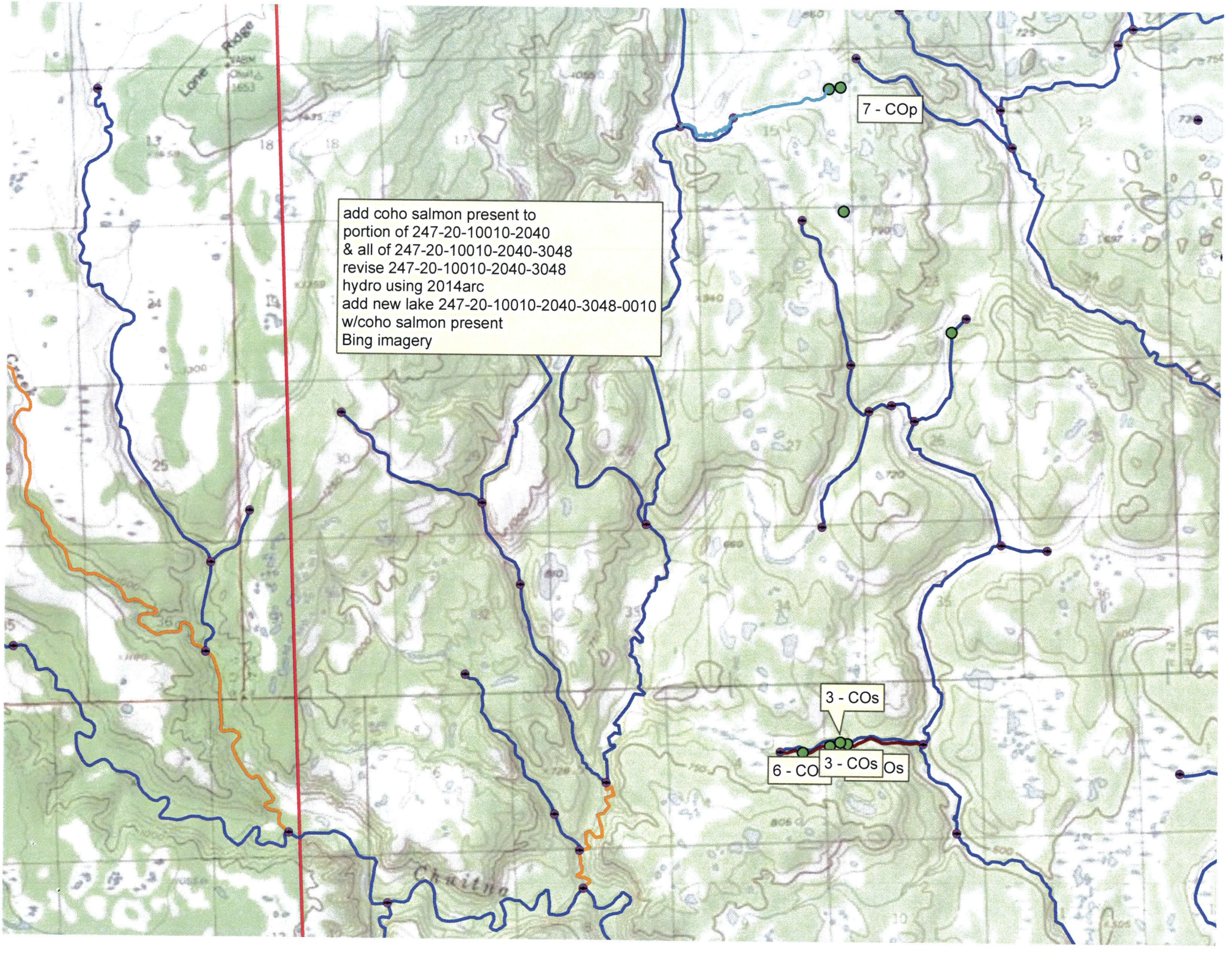
Sechi Disk = 6.8'



LL1 checking nets

sp.	length
long-nose sucker	29.5 cm
CO	19 cm
CO	24 cm
CO	28 cm
LNS	23 cm
LNS	22.5 cm
LNS	27 cm

Freshh$_2$O mussels observed in lake


add coho salmon present to
portion of 247-20-10010-2040
& all of 247-20-10010-2040-3048
revise 247-20-10010-2040-3048
hydro using 2014arc
add new lake 247-20-10010-2040-3048-0010
w/coho salmon present
Bing imagery
7 - COp
3 - COs
6 - CO
3 - COs
Os
Lone Ridge
Chuitna