

FLIGHT REPORT
ShoreZone Aerial Video Imaging (AVI) Survey
Northwest Alaska
July 18-22, 2012
Team Kotzebue (KZ)



prepared for:
National Park Service - NPS



COASTAL & OCEAN RESOURCES INC.

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The purpose of this flight report is to summarize the field activities of the ShoreZone aerial video imaging (AVI) survey conducted out of **Nome** and **Kotzebue** in Northwest Alaska during July 18-22, 2012. The survey was conducted by Coastal & Ocean Resources Inc. (CORI) under contract with the National Park Service (NPS). A coastal ecologist from Archipelago Marine Research Ltd (AMRL) provided biological observations during the flights. Table1 provides a summary of crew affiliations and responsibilities.

The tables and figures on the following pages summarize the extent and location of the 3,095 km (*based on the digital Alaska Coastline 1:63,360) of AVI data and imagery collected by the team. The teams utilized a Robinson R-44 helicopter chartered from Bering Air in Nome, Alaska. Imagery was collected looking at the shoreline from the left side of the aircraft with the doors removed. A total of 27 HD mini DV master tapes were collected during the survey and recorded to DVDs. This report contains a summary table for each tape, illustrating its location, length, and key geographic points. Maps for each tape are annotated with representative geographic names, trackline times (hh:mm:ss UTC; UTC time is 8 hours ahead of Alaska Daylight Time), and photo numbers. The six-digit UTC time is also imprinted on the video imagery that is provided on DVDs with this report.

All photos are supplied on hard drive, organized by tape number for each team, consistent with the ShoreZone image library. A total of 21,698 photos were collected by the team. The shapefiles and GIS data that accompany this report on DVD illustrate the flight trackline positions at 1-second intervals. Data and imagery are linked by a date time code (yyyymmddhhmmss). When processing is complete, all imagery will be posted online at the NOAA ShoreZone web site.

<http://www.fakr.noaa.gov/shorezone/default.htm>

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Table 1. Flight Personnel and Responsibilities: Team Kotzebue (KZ)

Crew Member	Individual/Affiliation	Responsibilities
<i>Geomorphologist Navigation</i>	Kalen Morrow / John Harper CORI, Victoria, BC	videography, geomorphic commentary, in-flight navigation, survey coordination, post-flight data processing
<i>Coastal Ecologist</i>	Mary Morris AMR, Victoria, BC	digital photography, biologic commentary
<i>Pilot</i>	Cory Konik Bering Air, Nome, Alaska	

Table 2. Survey Tapes: Team Kotzebue (KZ)

Tape Number	Location
NW12_KZ_01	Shishmaref Inlet
NW12_KZ_02	Shishmaref, Cowpack Inlet
NW12_KZ_03	Cowpack Inlet, Shishmaref Inlet
NW12_KZ_04	Arctic Lagoon, Ikpek Lagoon
NW12_KZ_05	Ikpek Lagoon, Arctic Lagoon, Shishmaref
NW12_KZ_06	Goodhope Bay, Nugnugaluktuk River
NW12_KZ_07	Nugnugaluktuk River, Cape Espenberg
NW12_KZ_08	Cape Espenberg, Shishmaref
NW12_KZ_09	Shishmaref, Lopp Lagoon
NW12_KZ_10	Lopp Lagoon
NW12_KZ_11	Lopp Lagoon, Wales
NW12_KZ_12	Baldwin Peninsula, Kotzebue Sound
NW12_KZ_13	Eschscholtz Bay, Buckland River
NW12_KZ_14	Eschscholtz Bay, Kiwalik Lagoon
NW12_KZ_15	Willow Bay, Deering, Kotzebue Sound
NW12_KZ_16	Tigara Peninsula, Point Hope
NW12_KZ_17	Point Hope, Tigara Peninsula, Aiautak Lagoon
NW12_KZ_18	Cape Thompson, Cape Seppings
NW12_KZ_19	Kivalina Lagoon, Imikruk Lagoon, Ipiavik Lagoon
NW12_KZ_20	Kotlik Lagoon, Cape Krusenstern, Krusenstern Lagoon
NW12_KZ_21	Krusenstern Lagoon, Aukulak Lagoon, Sheshalik Spit
NW12_KZ_22	Sheshalik Spit, Noatak River Delta, Kotzebue
NW12_KZ_23	Hotham Inlet, Ekickuk Lake
NW12_KZ_24	Hotham Inlet, Kobuk River Delta, Selawik Lake
NW12_KZ_25	Selawik Lake
NW12_KZ_26	Baldwin Peninsula, Hotham Inlet
NW12_KZ_27	Baldwin Peninsula, Hotham Inlet

**ShoreZone Aerial Video Imaging (AVI) Survey
Northwest Alaska
July 18-22, 2012**

Team Kotzebue (KZ)

Survey Maps and Tape Logs

DVDs: NW12_KZ_01 to NW12_KZ_27



Flight trackline map showing the location and extent of videotapes (DVDs) for the July 18-22, 2012 **Team Kotzebue** survey in Northwest Alaska



**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_01

Date 18 July 2012

General Location: Shishmaref Inlet
Time Start (UTC): 21:20:01
Fuel Break: None
Time End (UTC): 22:03:58
Tape Length: 43 min 52 sec
Weather: Fog, showers, wind

Geo: Morrow
Bio: Morris
Pilot: Konik

Time (UTC)	Location	Photo
21:20:03	Cape Lowenstern, Shishmaref Inlet	nw12_kz_00002
21:31:42	Serpentine River, Shishmaref Inlet	nw12_kz_00161
21:37:16	Sanaguich River, Shishmaref Inlet	nw12_kz_00229
21:52:58	Tin Creek, Shishmaref Inlet	nw12_kz_00418
22:03:55	Arctic Lagoon	nw12_kz_00563



**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_02

Date 18 July 2012

General Location:	Shishmaref, Cowpack Inlet	
Time Start (UTC):	22:56:45	Geo: Morrow
Fuel Break:	None	Bio: Morris
Time End (UTC):	23:54:26	Pilot: Konik
Tape Length:	57 min 41 sec	
Weather:	Fog, showers, wind	

Time (UTC)	Location	Photo
22:56:49	Shishmaref	nw12_kz_00581
23:07:31	East of Shishmaref, inside of barrier island	nw12_kz_00756
23:24:32	West of Kivildo, inside of barrier island	nw12_kz_01014
23:39:31	Kivildo	nw12_kz_01222
23:54:24	Cowpack Inlet	nw12_kz_01433



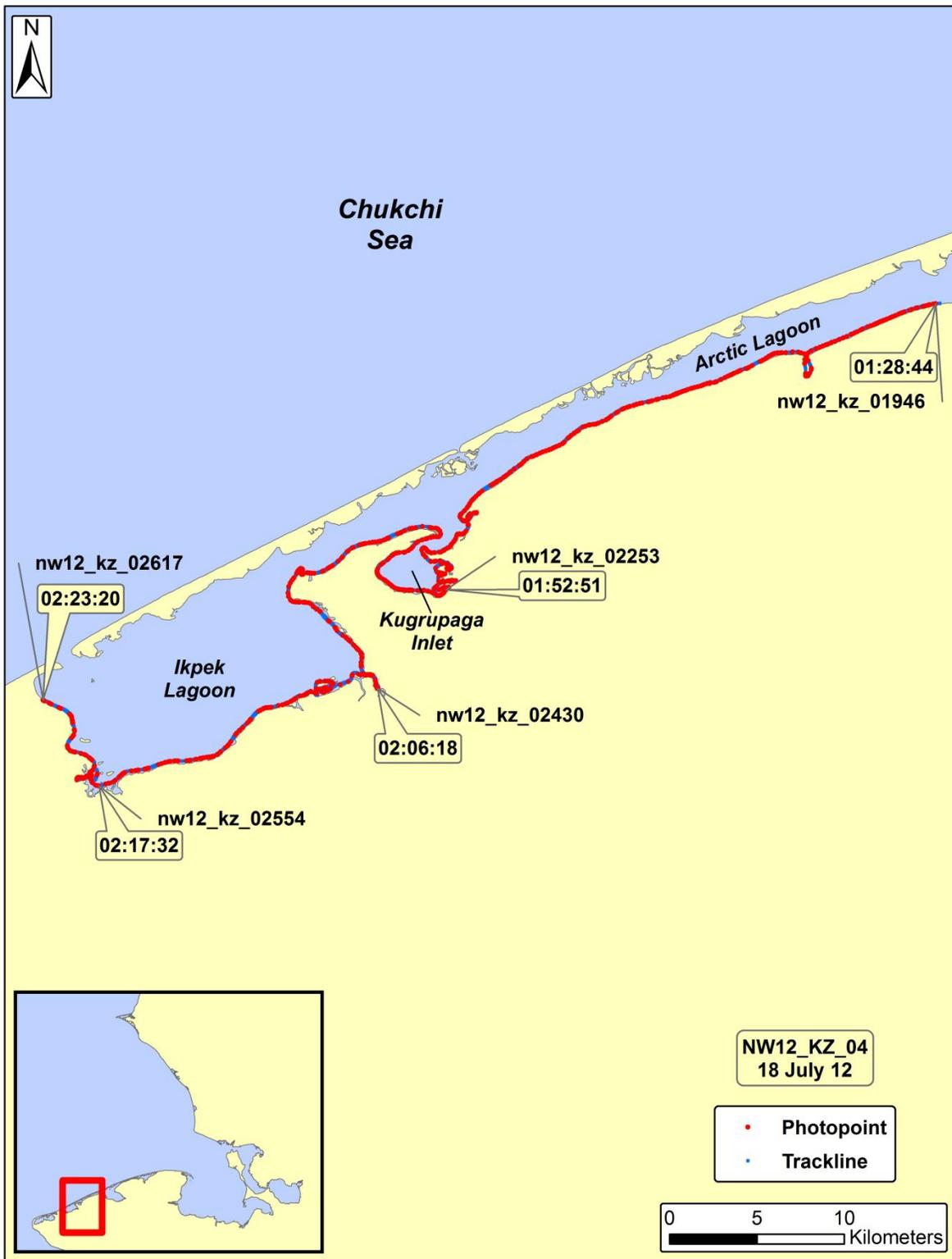
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_03

Date 18 July 2012

General Location: Cowpack Inlet, Shishmaref Inlet
Time Start (UTC): 23:56:03 **Geo:** Morrow
Fuel Break: None **Bio:** Morris
Time End (UTC): 00:35:20 **Pilot:** Konik
Tape Length: 39min 16 sec
Weather: Fog, showers, wind

Time (UTC)	Location	Photo
23:56:05	Cowpack Inlet	nw12_kz_01438
00:12:16	West of Cowpack Inlet, mainland shoreline	nw12_kz_01647
00:24:36	East of Shishmaref Inlet, mainland shoreline	nw12_kz_01789
00:35:09	Cape Lowenstern, Shishmaref Inlet	nw12_kz_01938



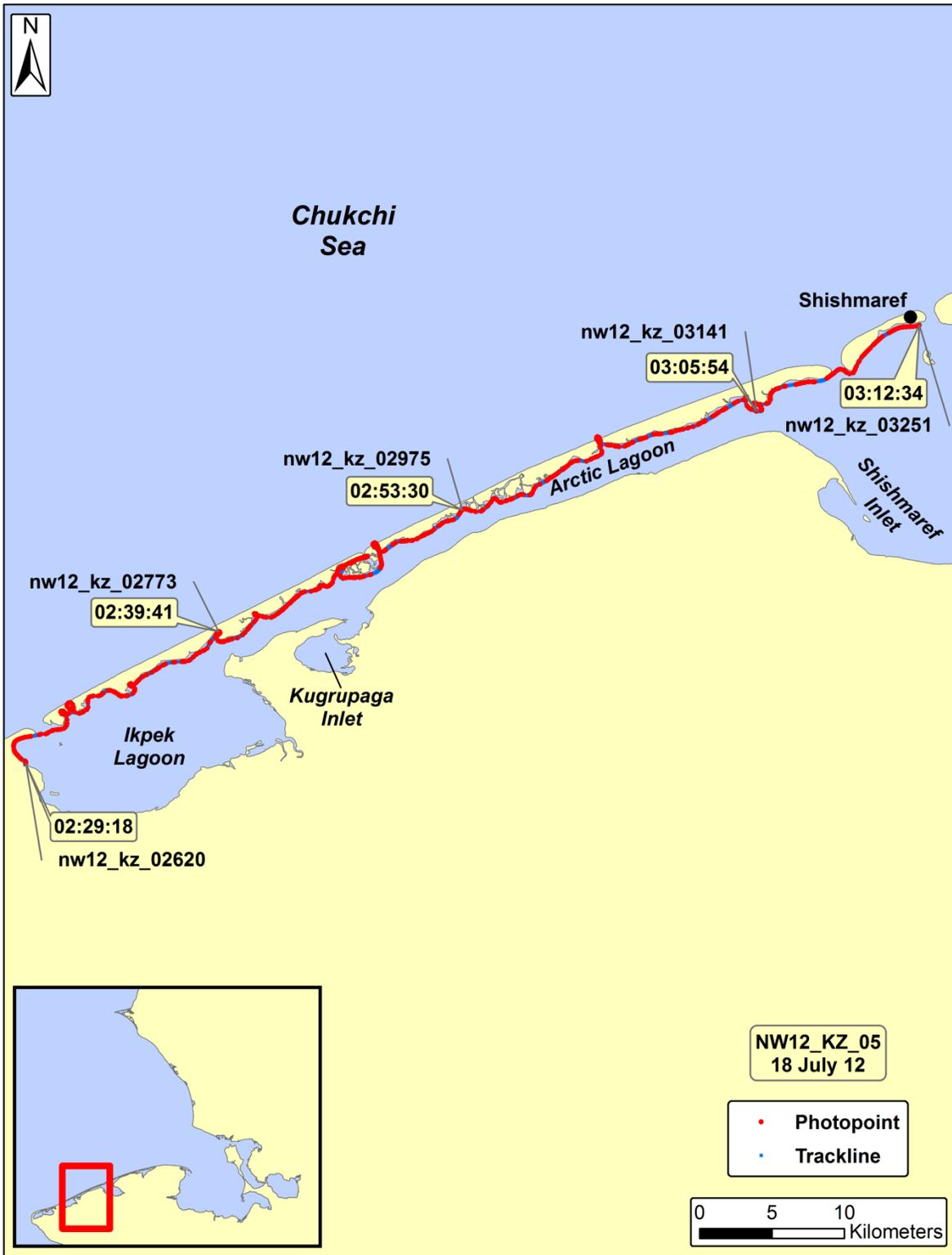
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_04

Date 18 July 2012

General Location: Arctic Lagoon, Ikpek Lagoon
Time Start (UTC): 01:28:37 **Geo:** Morrow
Fuel Break: None **Bio:** Morris
Time End (UTC): 02:23:24 **Pilot:** Konik
Tape Length: 54 min 47 sec
Weather: Fog, showers, wind

Time (UTC)	Location	Photo
01:28:44	Arctic Lagoon	nw12_kz_01946
01:52:51	Kugrupaga Inlet	nw12_kz_02253
02:06:18	Nuluk River, Ikpek Lagoon	nw12_kz_02430
02:17:32	Pinguk River, Ikpek Lagoon	nw12_kz_02554
02:23:20	Northwest corner of Ikpek Lagoon	nw12_kz_02617



**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_05

Date 18 July 2012

General Location: Ikpek Lagoon, Arctic Lagoon, Shishmaref
Time Start (UTC): 02:29:16 **Geo:** Morrow
Fuel Break: None **Bio:** Morris
Time End (UTC): 03:12:36 **Pilot:** Konik
Tape Length: 43 min 20 sec
Weather: Fog, showers, wind

Time (UTC)	Location	Photo
02:29:18	Northwest corner of Ikpek Lagoon	nw12_kz_02620
02:39:41	Ikpek Lagoon, inside of barrier island	nw12_kz_02773
02:53:30	Sinrazat shelter cabin	nw12_kz_02975
03:05:54	Arctic Lagoon, inside of barrier island	nw12_kz_03141
03:12:34	Shishmaref	nw12_kz_03251



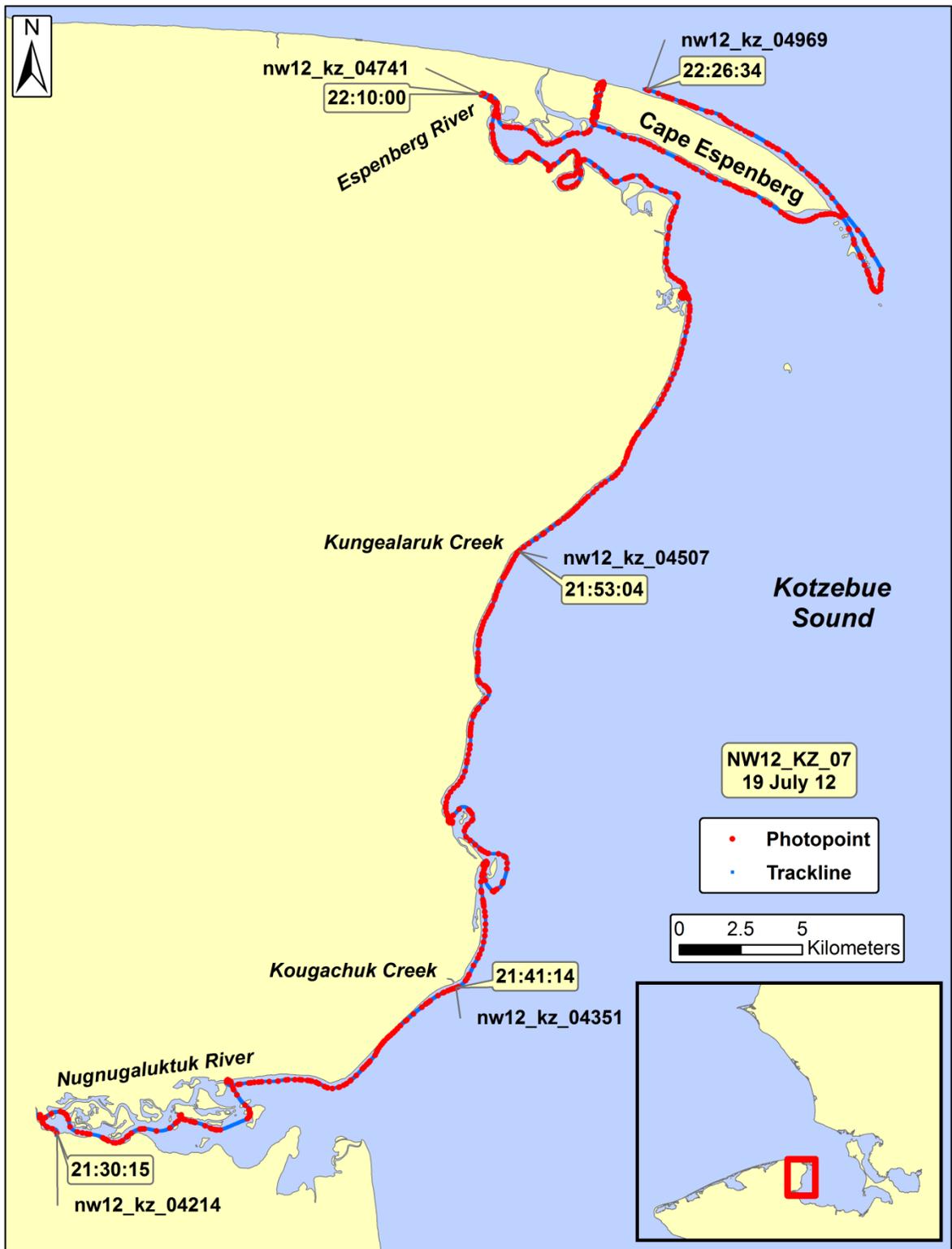
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_06

Date 19 July 2012

General Location:	Goodhope Bay, Nugnugaluktuk River	
Time Start (UTC):	20:33:18	Geo: Morrow
Fuel Break:	None	Bio: Morris
Time End (UTC):	21:28:33	Pilot: Konik
Tape Length:	55 min 15 sec	
Weather:	Fog, cloud	

Time (UTC)	Location	Photo
20:33:18	West of Cape Deceit, Kotzebue Sound	nw12_kz_03257
20:52:11	Rex Point, Kozebue Sound	nw12_kz_03572
21:06:56	Goodhope River, Goodhope Bay	nw12_kz_03881
21:16:00	Nugnugaluktuk River mouth	nw12_kz_04017
21:28:28	Nugnugaluktuk River	nw12_kz_04202



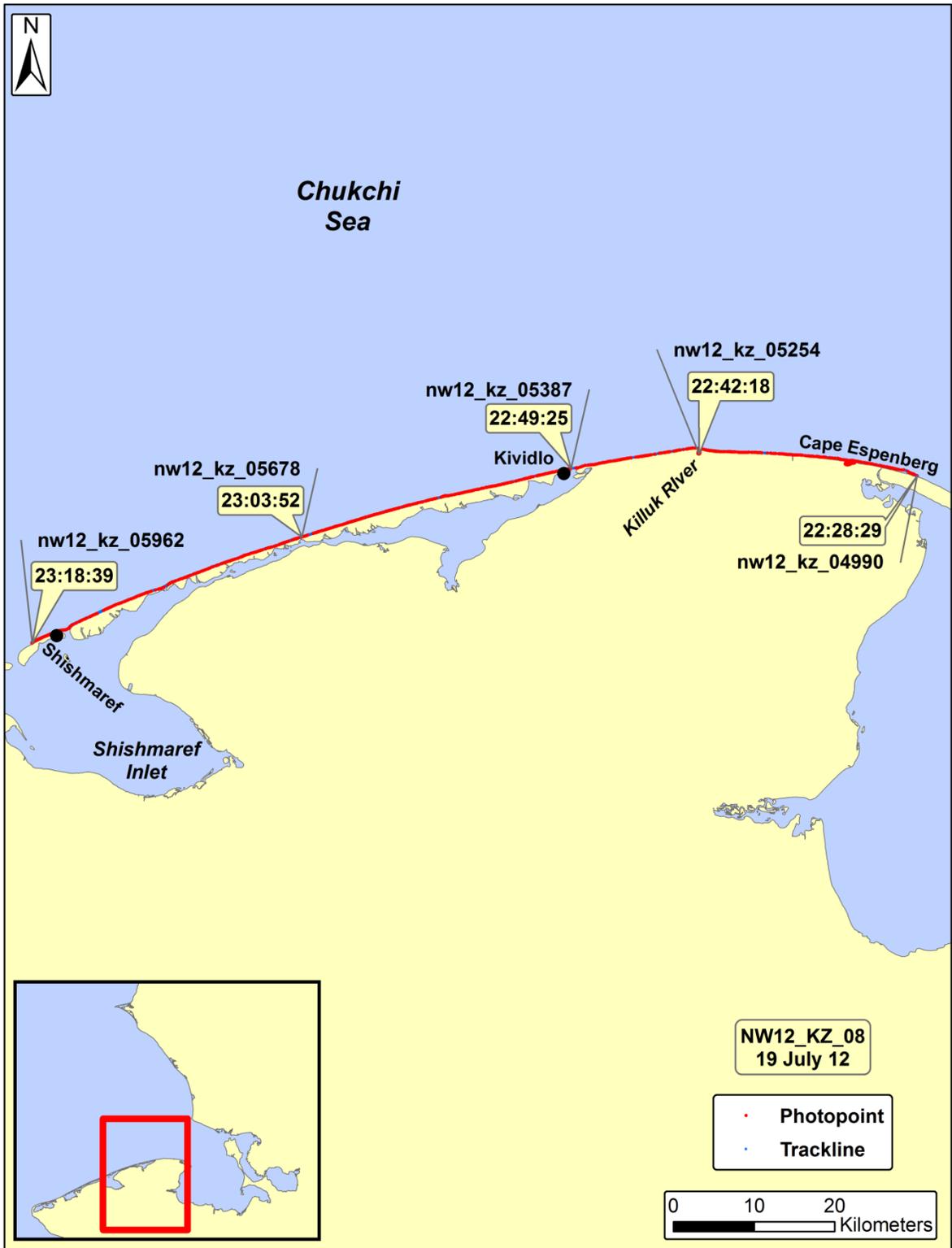
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_07

Date 19 July 2012

General Location: Nugnugaluktuk River, Cape Espenberg
Time Start (UTC): 21:30:11 **Geo:** Morrow
Fuel Break: None **Bio:** Morris
Time End (UTC): 22:26:37 **Pilot:** Konik
Tape Length: 56 min 26 sec
Weather: Low overcast, scattered sunny periods

Time (UTC)	Location	Photo
21:30:15	Nugnugaluktuk River	nw12_kz_04214
21:41:14	Kougachuk Creek, Kozebue Sound	nw12_kz_04351
21:53:04	Kungealaruk Creek, Kotzebue Sound	nw12_kz_04507
22:10:00	Espenberg River	nw12_kz_04741
22:26:34	Cape Espenberg	nw12_kz_04969



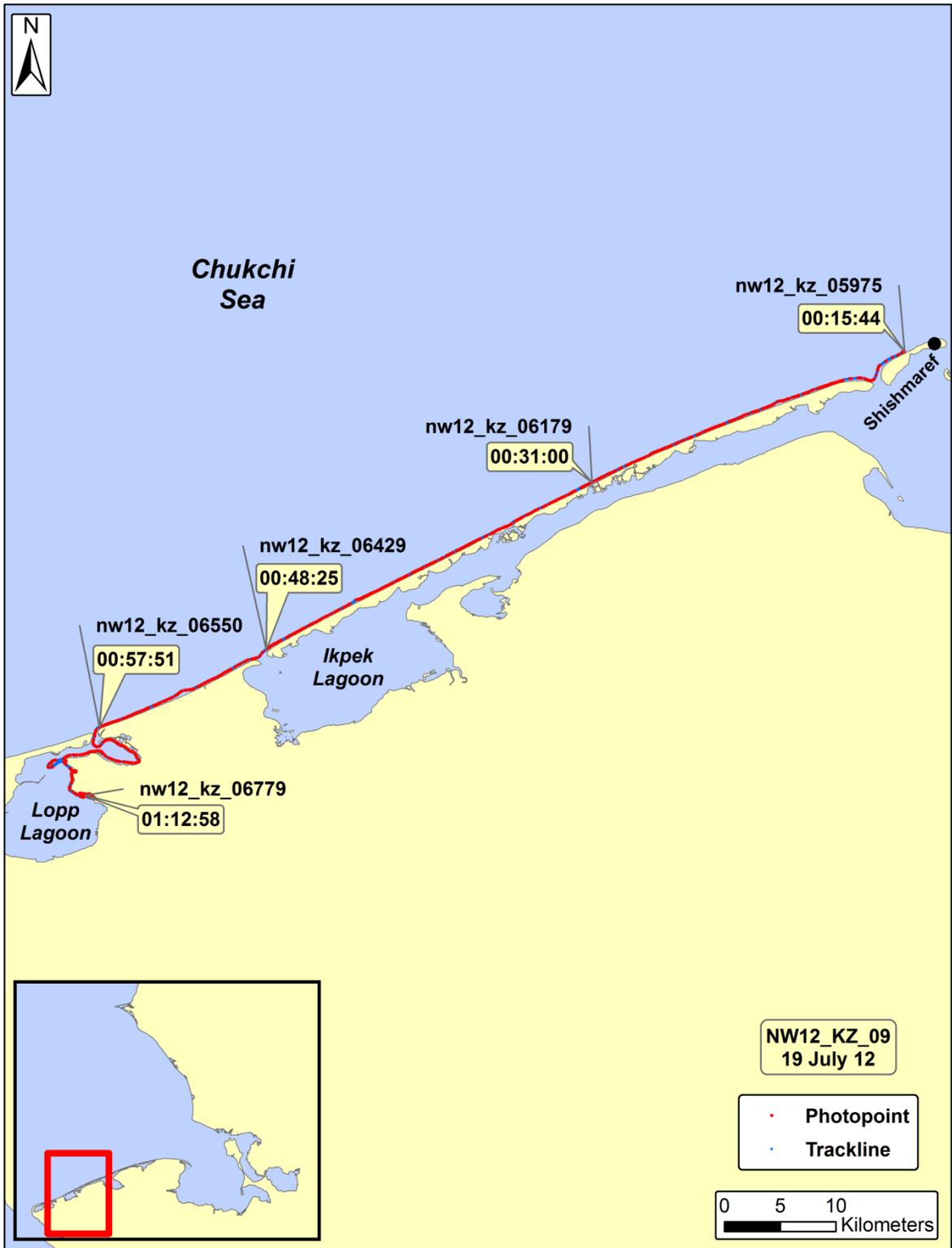
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_08

Date 19 July 2012

General Location:	Cape Espenberg, Shishmaref	
Time Start (UTC):	22:28:25	Geo: Morrow
Fuel Break:	None	Bio: Morris
Time End (UTC):	23:18:40	Pilot: Konik
Tape Length:	50 min 15 sec	
Weather:	Low overcast	

Time (UTC)	Location	Photo
22:28:29	Cape Espenberg	nw12_kz_04990
22:42:18	Killuk River	nw12_kz_05254
22:49:25	Kivildo	nw12_kz_05387
23:03:52	East of Shishmaref, outer shoreline	nw12_kz_05678
23:18:39	Shishmaref	nw12_kz_05962



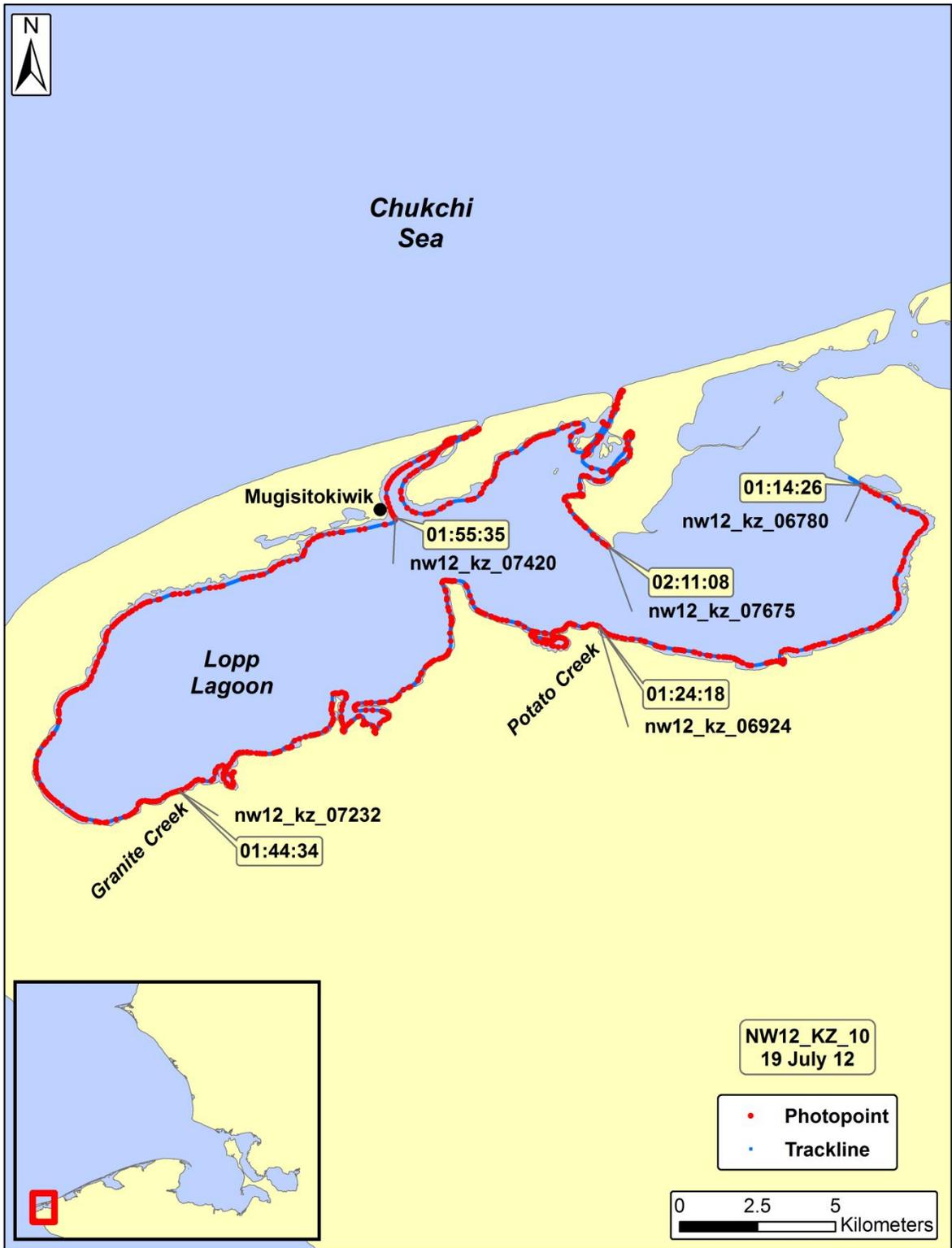
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_09

Date 19 July 2012

General Location: Shishmaref, Lopp Lagoon
Time Start (UTC): 00:15:43 **Geo:** Morrow
Fuel Break: None **Bio:** Morris
Time End (UTC): 01:12:58 **Pilot:** Konik
Tape Length: 57 min 15 sec
Weather: Overcast turning to sun, wind

Time (UTC)	Location	Photo
00:15:44	Shishmaref, west end of town	nw12_kz_05975
00:31:00	Sinrazat Shelter Cabin	nw12_kz_06179
00:48:25	Entrance to Ikpek Lagoon	nw12_kz_06429
00:57:51	East entrance to Lopp Lagoon	nw12_kz_06550
01:12:58	Lopp Lagoon, near Mint River	nw12_kz_06779



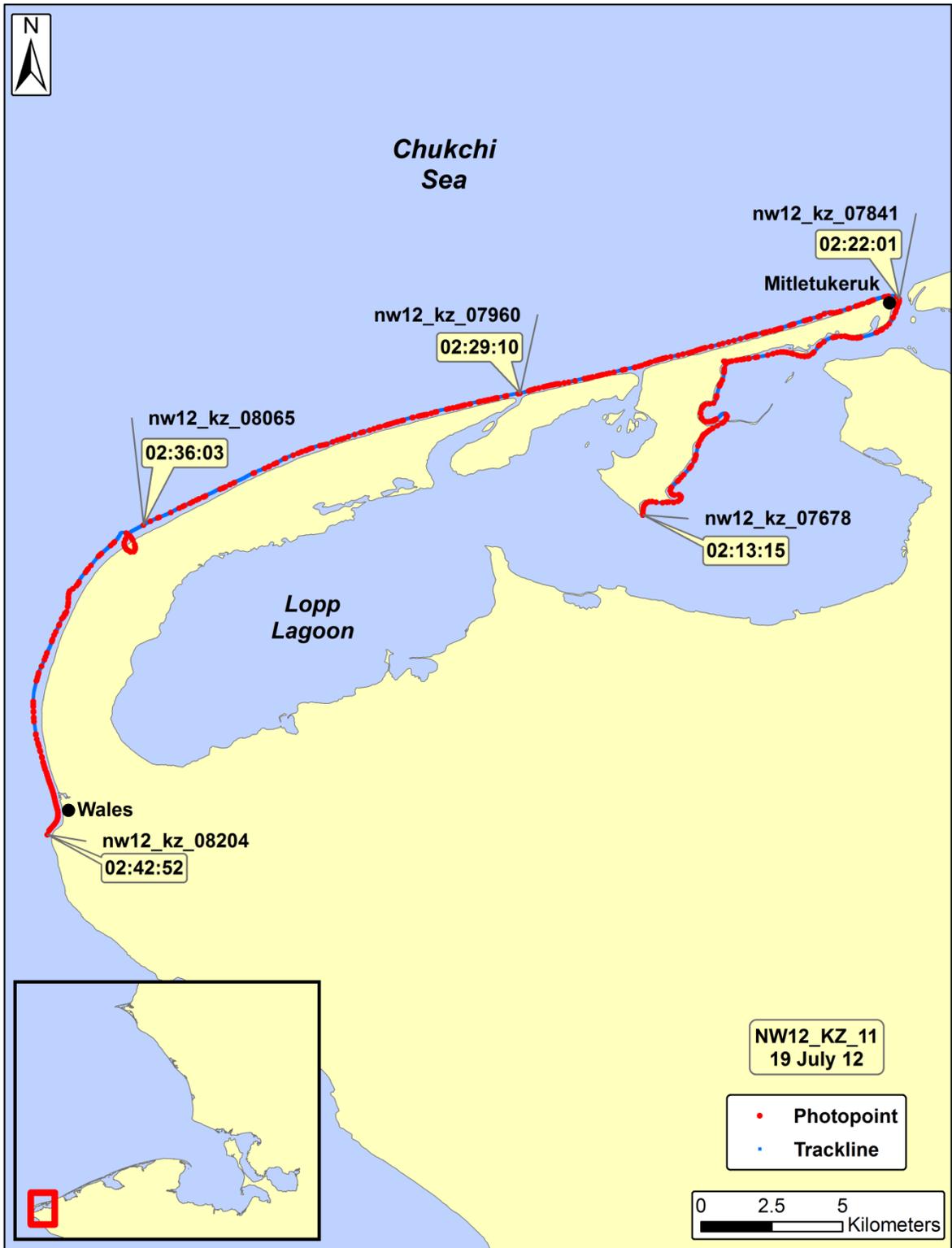
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_10

Date 19 July 2012

General Location:	Lopp Lagoon	Geo:	Morrow
Time Start (UTC):	01:14:07	Bio:	Morris
Fuel Break:	None	Pilot:	Konik
Time End (UTC):	02:11:08		
Tape Length:	57 min 01 sec		
Weather:	Sun, wind, scattered cloud		

Time (UTC)	Location	Photo
01:14:26	Lopp Lagoon, near Mint River	nw12_kz_06780
01:24:18	Potato Creek, Lopp Lagoon	nw12_kz_06924
01:44:34	Granite Creek, Lopp Lagoon	nw12_kz_07232
01:55:35	Mugisitokiwik, Lopp Lagoon	nw12_kz_07420
02:11:08	Lopp Lagoon	nw12_kz_07675



**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_11

Date 19 July 2012

General Location: Lopp Lagoon, Wales

Time Start (UTC): 02:13:15

Geo: Morrow

Fuel Break: None

Bio: Morris

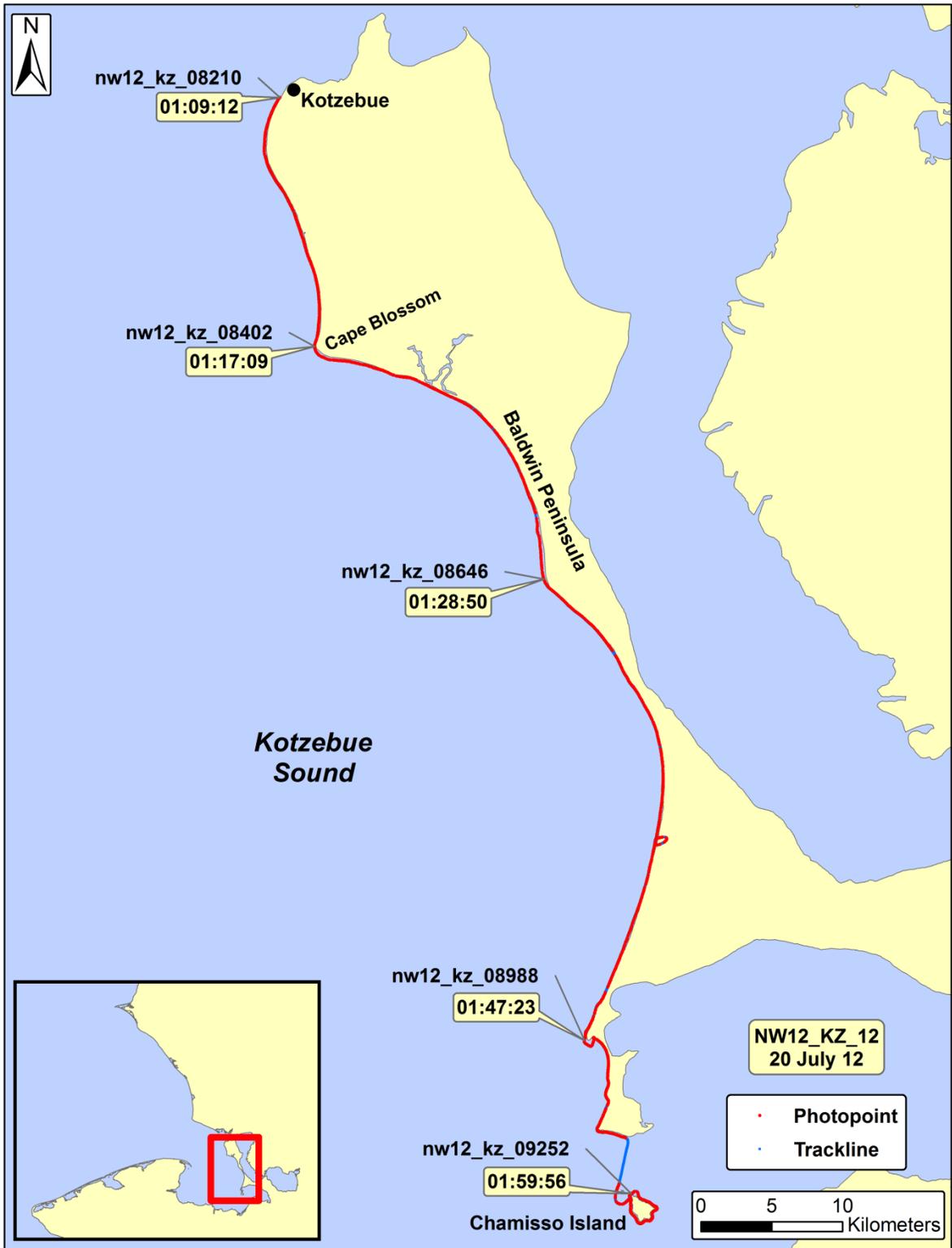
Time End (UTC): 02:42:52

Pilot: Konik

Tape Length: 29 min 37 sec

Weather: Sun, wind

Time (UTC)	Location	Photo
02:13:15	Lopp Lagoon	nw12_kz_07678
02:22:01	Mitletukeruk, east entrance to Lopp Lagoon	nw12_kz_07841
02:29:10	West entrance to Lopp Lagoon	nw12_kz_07960
02:36:03	Bering Strait, north of Wales	nw12_kz_08065
02:42:52	Wales	nw12_kz_08204



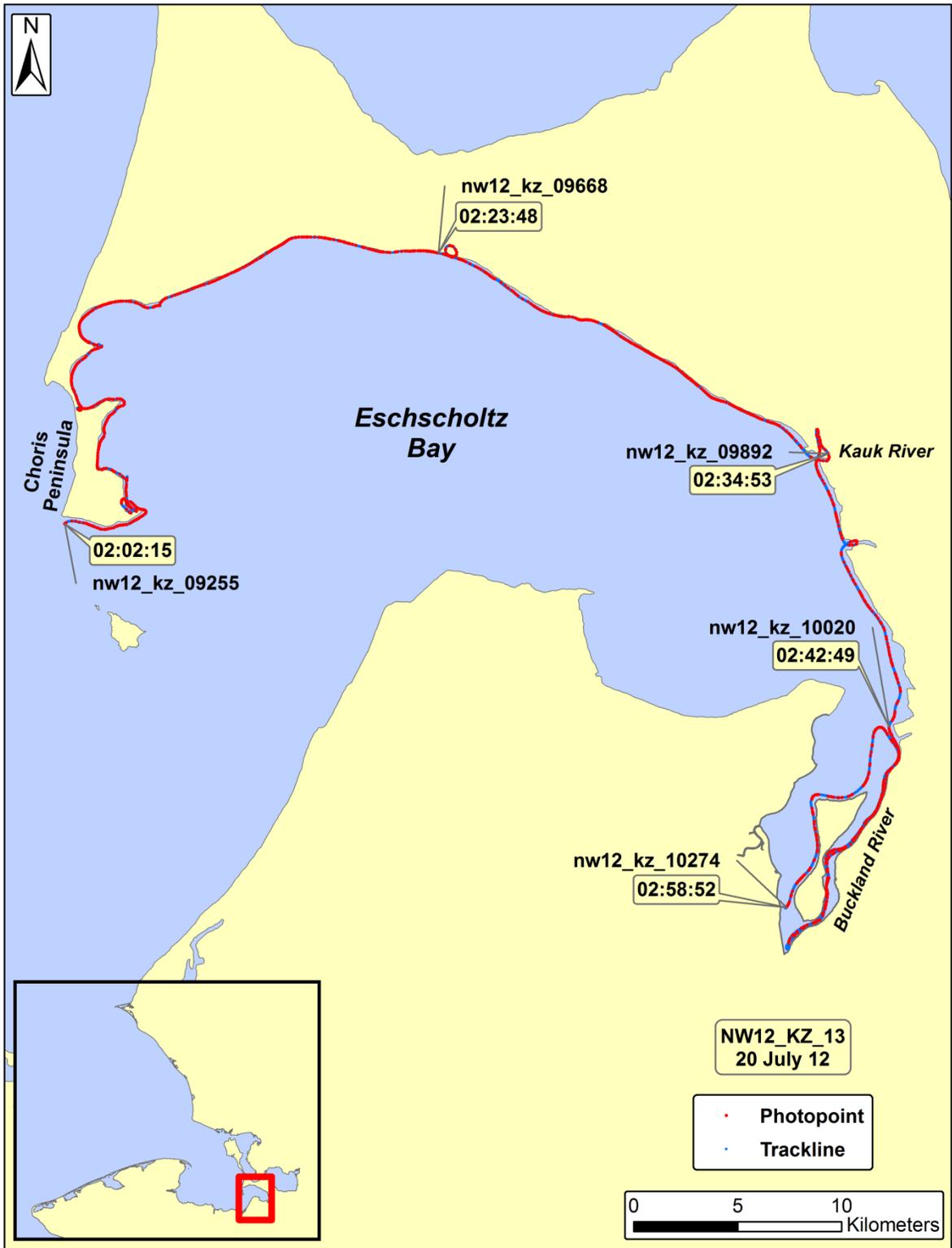
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_12

Date 20 July 2012

General Location: Baldwin Peninsula, Kotzebue Sound
Time Start (UTC): 01:09:11 **Geo:** Morrow
Fuel Break: None **Bio:** Morris
Time End (UTC): 01:59:56 **Pilot:** Konik
Tape Length: 50 min 45 sec
Weather: Sun, high scattered cloud

Time (UTC)	Location	Photo
01:09:12	Kotzebue, south of airport	nw12_kz_08210
01:17:09	Cape Blossom	nw12_kz_08402
01:28:50	Baldwin Peninsula, Kotzebue Sound	nw12_kz_08646
01:47:23	Choris Peninsula	nw12_kz_08988
01:59:56	Chamisso Island	nw12_kz_09252



**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_13

Date 20 July 2012

General Location: Eschschooltz Bay, Buckland River
Time Start (UTC): 02:02:15 **Geo:** Morrow
Fuel Break: None **Bio:** Morris
Time End (UTC): 02:58:54 **Pilot:** Konik
Tape Length: 56 min 39 sec
Weather: Sun, high scattered cloud

Time (UTC)	Location	Photo
02:02:15	Pt. Garnet, Choris Peninsula	nw12_kz_09255
02:23:48	Callahan Shelter Cabin, Eschschooltz Bay	nw12_kz_09668
02:34:53	Kauk River, Eschschooltz Bay	nw12_kz_09892
02:42:49	Mouth of Buckland River, Eschschooltz Bay	nw12_kz_10020
02:58:52	Buckland River, Eschschooltz Bay	nw12_kz_10274



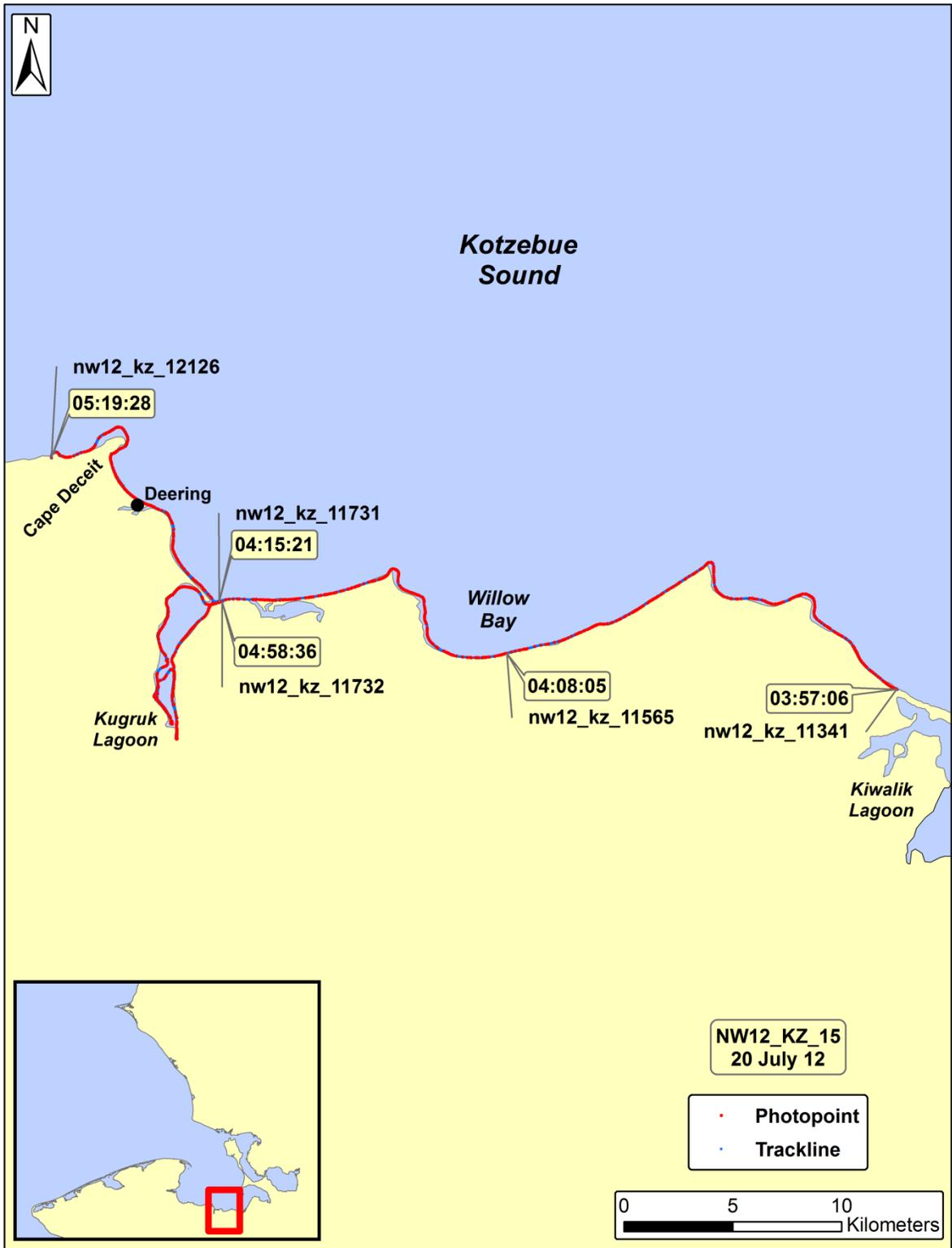
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_14

Date 20 July 2012

General Location: Eschscholtz Bay, Kiwalik Lagoon
Time Start (UTC): 03:00:31 **Geo:** Morrow
Fuel Break: None **Bio:** Morris
Time End (UTC): 03:56:14 **Pilot:** Konik
Tape Length: 55 min 43 sec
Weather: Sun, high scattered cloud

Time (UTC)	Location	Photo
03:00:47	Buckland River	nw12_kz_10281
03:17:59	Elephant Point, Eschscholtz Bay	nw12_kz_10610
03:26:24	Church Rock, Eschscholtz Bay	nw12_kz_10806
03:39:54	Kiwalik Lagoon	nw12_kz_11030
03:56:04	West of Kiwalik Lagoon entrance	nw12_kz_11333



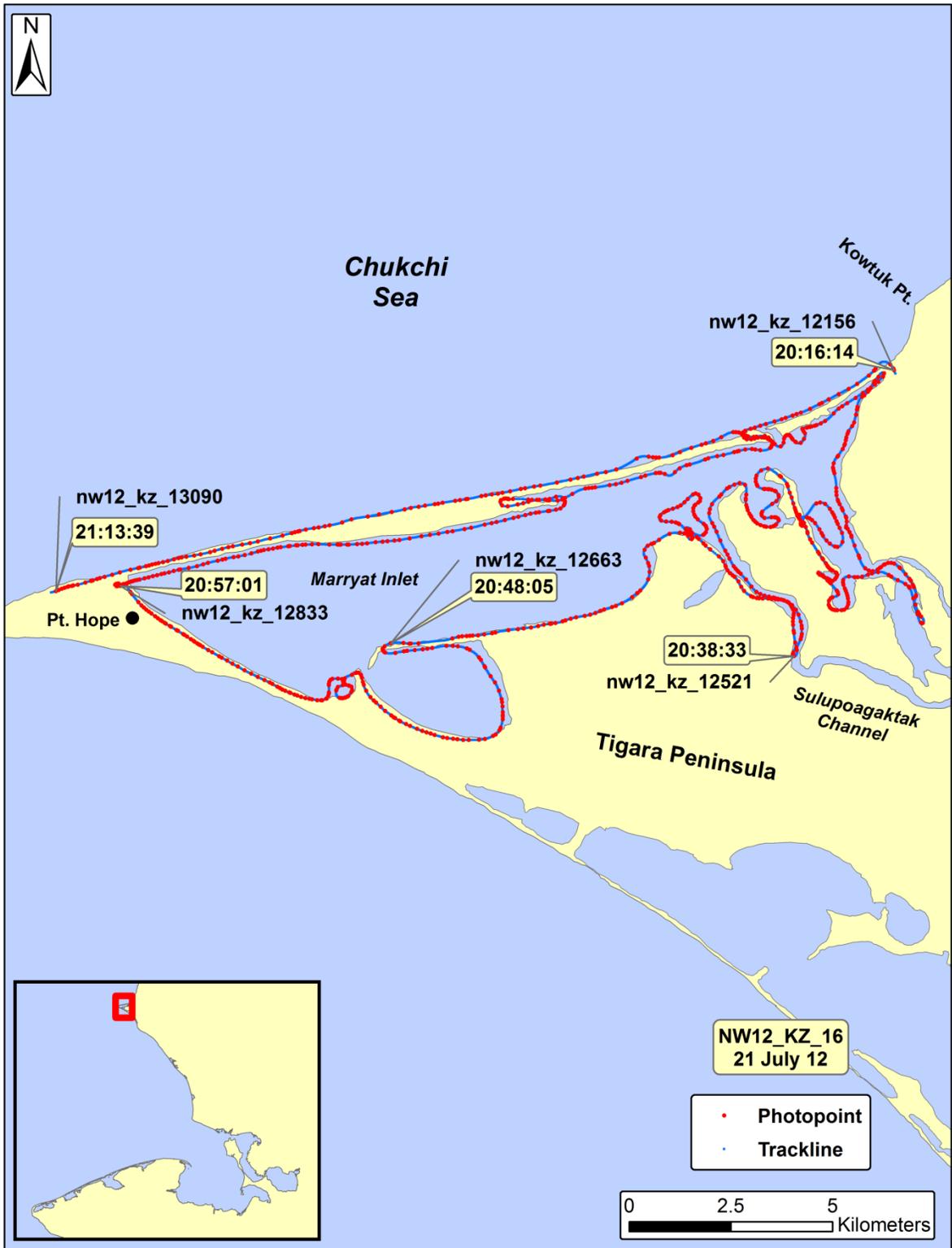
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_15

Date 20 July 2012

General Location: Willow Bay, Deering, Kotzebue Sound
Time Start (UTC): 03:57:03 **Geo:** Morrow
Fuel Break: 04:15:25 to 04:58:33 **Bio:** Morris
Time End (UTC): 05:19:30 **Pilot:** Konik
Tape Length: 39 min 19 sec
Weather: Sun, high scattered cloud

Time (UTC)	Location	Photo
03:57:06	West of Kiwalik Lagoon	nw12_kz_11341
04:08:05	Willow Bay, Kotzebue Sound	nw12_kz_11565
04:15:21	Kugruk Lagoon entrance	nw12_kz_11731
	Fuel Break: 04:15:25 to 04:58:33	
04:58:36	Kugruk Lagoon entrance	nw12_kz_11732
05:19:28	West of Cape Deceit, Kotzebue Sound	nw12_kz_12126



**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_16

Date 21 July 2012

General Location: Tigara Peninsula, Point Hope
Time Start (UTC): 20:16:12 **Geo:** Morrow
Fuel Break: None **Bio:** Morris
Time End (UTC): 21:13:42 **Pilot:** Konik
Tape Length: 57 min 30 sec
Weather: Sun, light winds

Time (UTC)	Location	Photo
20:16:14	South of Kowtuk Pt., Tigara Peninsula	nw12_kz_12156
20:38:33	Sulupoagaktak Channel	nw12_kz_12521
20:48:05	Marryat Inlet, Tigara Peninsula	nw12_kz_12663
20:57:01	Ipiutak Lagoon, Marryat Inlet	nw12_kz_12833
21:13:39	North end of Pt. Hope runway	nw12_kz_13090



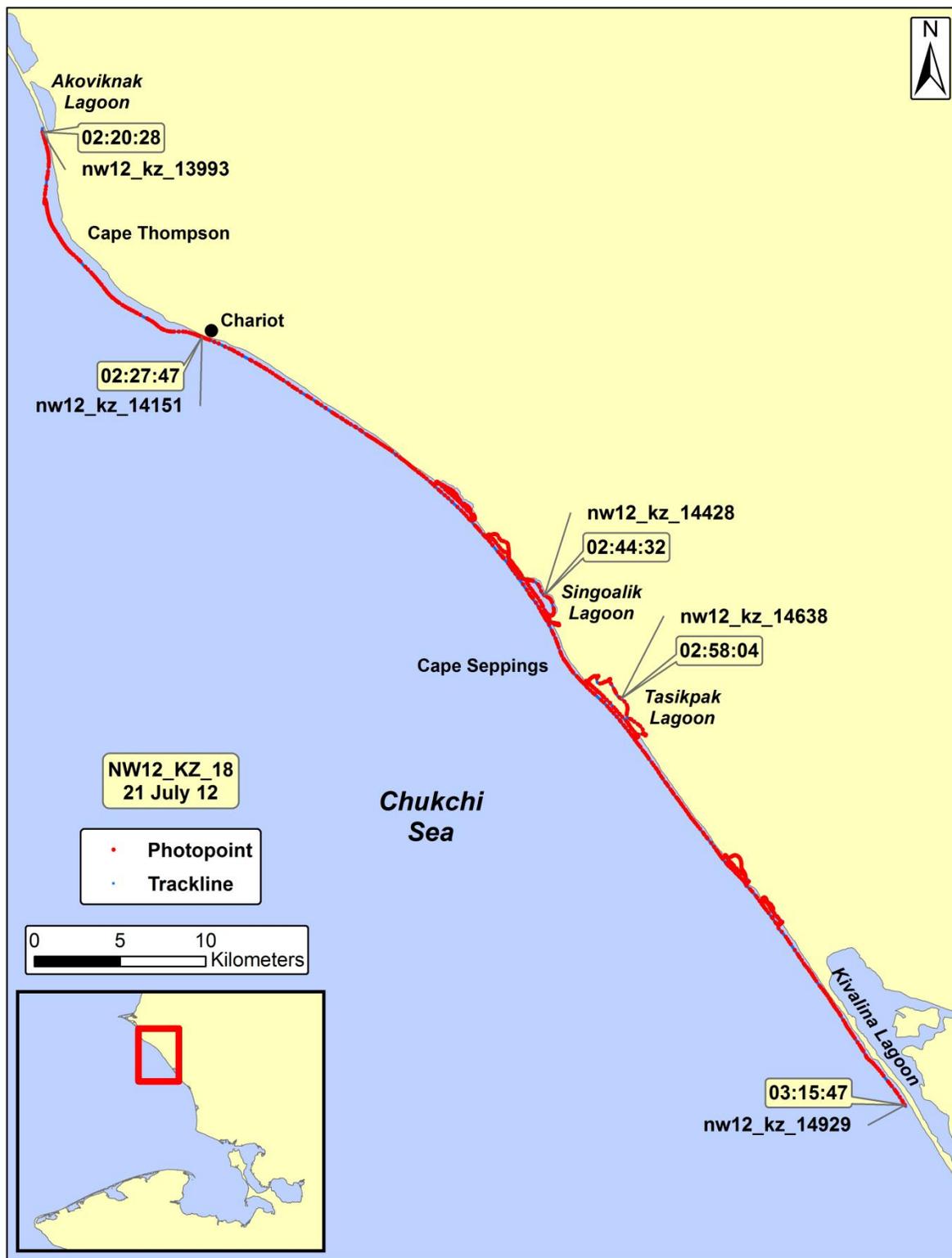
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_17

Date 21 July 2012

General Location: Point Hope, Tigara Peninsula, Aiautak Lagoon
Time Start (UTC): 21:15:04 **Geo:** Morrow
Fuel Break: 21:33:54 to 01:40:20 **Bio:** Morris
Time End (UTC): 02:19:18 **Pilot:** Konik
Tape Length: 57 min 48 sec
Weather: Sun, light winds

Time (UTC)	Location	Photo
21:15:07	North end of Pt. Hope runway	nw12_kz_13096
21:33:33	Near Jabbertown (ruins)	nw12_kz_13397
	Fuel Break: 21:33:54 to 01:40:20	
01:40:20	Near Jabbertown (ruins)	nw12_kz_13407
01:53:11	Aiautak Lagoon	nw12_kz_13606
02:19:18	Akoviknak Lagoon	nw12_kz_13988



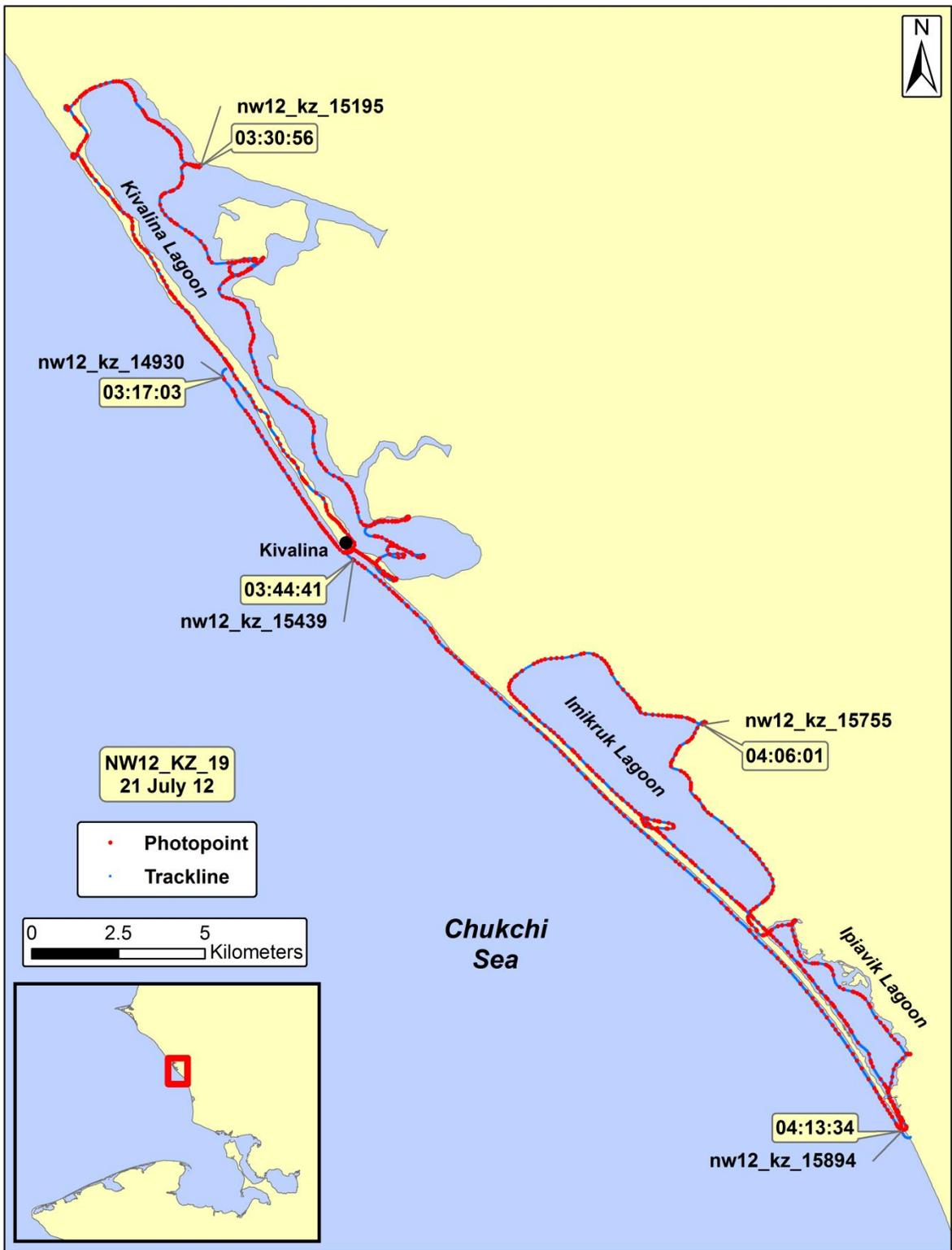
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_18

Date 21 July 2012

General Location: Cape Thompson, Cape Seppings
Time Start (UTC): 02:20:18 **Geo:** Morrow
Fuel Break: None **Bio:** Morris
Time End (UTC): 03:15:50 **Pilot:** Konik
Tape Length: 55 min 32 sec
Weather: Sun, light winds

Time (UTC)	Location	Photo
02:20:28	Akoviknak Lagoon, north of Cape Thompson	nw12_kz_13993
02:27:47	Chariot	nw12_kz_14151
02:44:32	Singoalik Lagoon	nw12_kz_14428
02:58:04	Tasikpak Lagoon	nw12_kz_14638
03:15:47	Outside of Kivalina Lagoon	nw12_kz_14929



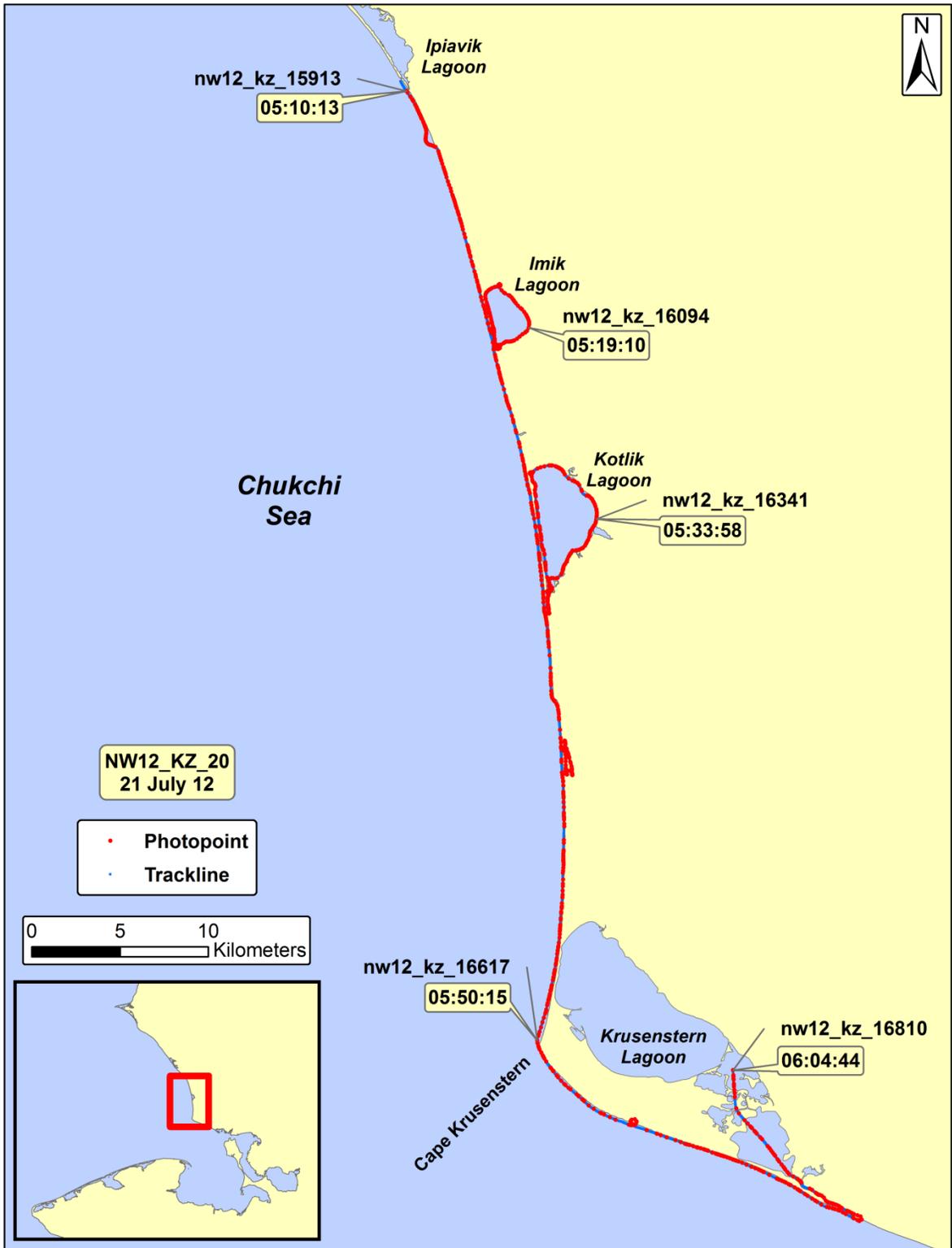
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_19

Date 21 July 2012

General Location:	Kivalina Lagoon, Imikruk Lagoon, Ipiavik Lagoon	
Time Start (UTC):	03:16:54	Geo: Morrow
Fuel Break:	None	Bio: Morris
Time End (UTC):	04:13:44	Pilot: Konik
Tape Length:	56 min 50 sec	
Weather:	Sun, light winds	

Time (UTC)	Location	Photo
03:17:03	North of Kivalina	nw12_kz_14930
03:30:56	Kivalina River, Kivalina Lagoon	nw12_kz_15195
03:44:41	South side or Singauk Entrance, opposite Kivalina	nw12_kz_15439
04:06:01	Imikruk Creek, Imikruk Lagoon	nw12_kz_15755
04:13:34	Ipiavik Lagoon entrance	nw12_kz_15894



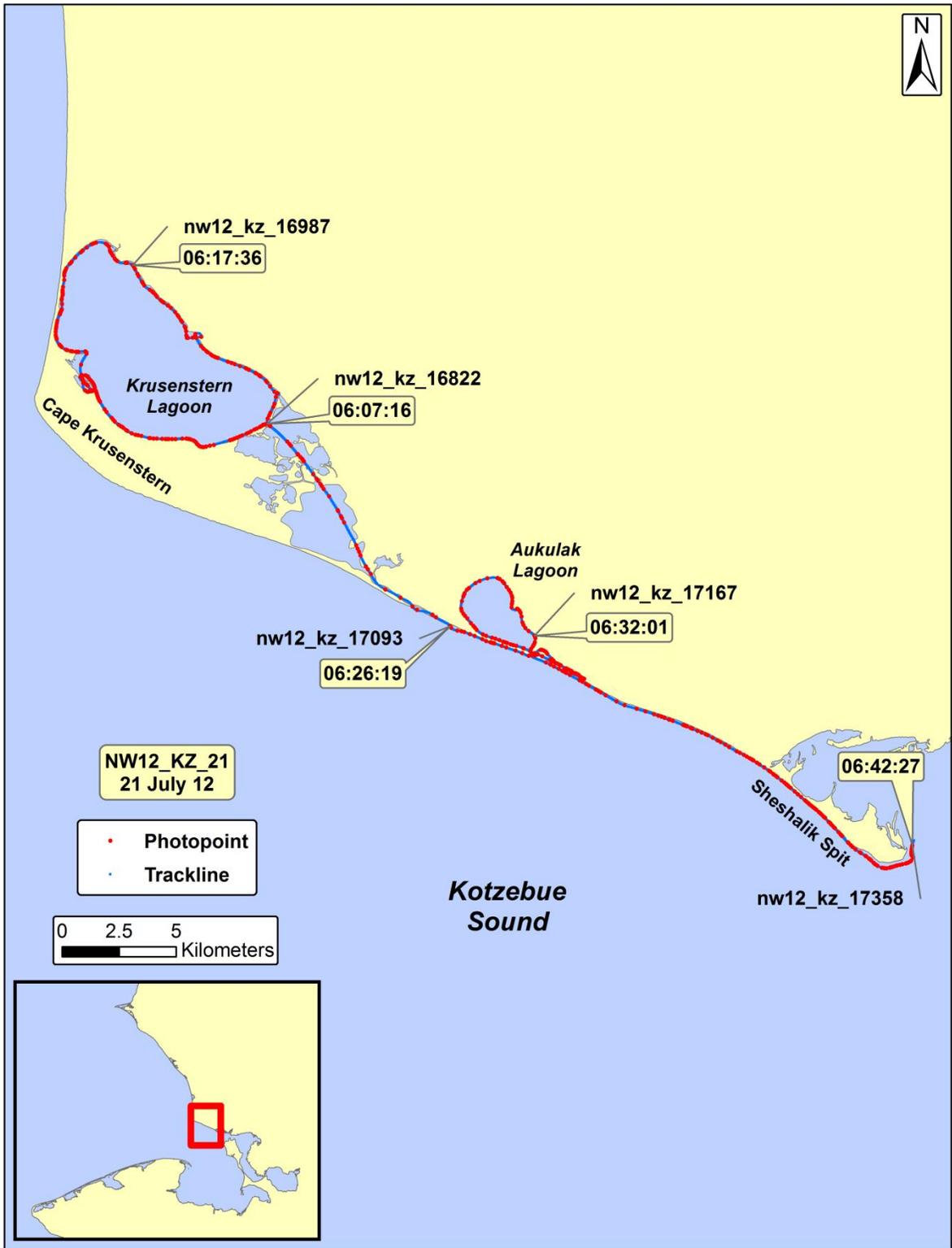
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_20

Date 21 July 2012

General Location: Kotlik Lagoon, Cape Krusenstern, Krusenstern Lagoon
Time Start (UTC): 05:10:00 **Geo:** Morrow
Fuel Break: None **Bio:** Morris
Time End (UTC): 06:04:44 **Pilot:** Konik
Tape Length: 54 min 44 sec
Weather: Sun, light winds

Time (UTC)	Location	Photo
05:10:13	Ipiavik Lagoon entrance	nw12_kz_15913
05:19:10	Imak Lagoon	nw12_kz_16094
05:33:58	Kotlik Lagoon	nw12_kz_16341
05:50:15	Cape Krusenstern	nw12_kz_16617
06:04:44	Krusenstern Lagoon	nw12_kz_16810



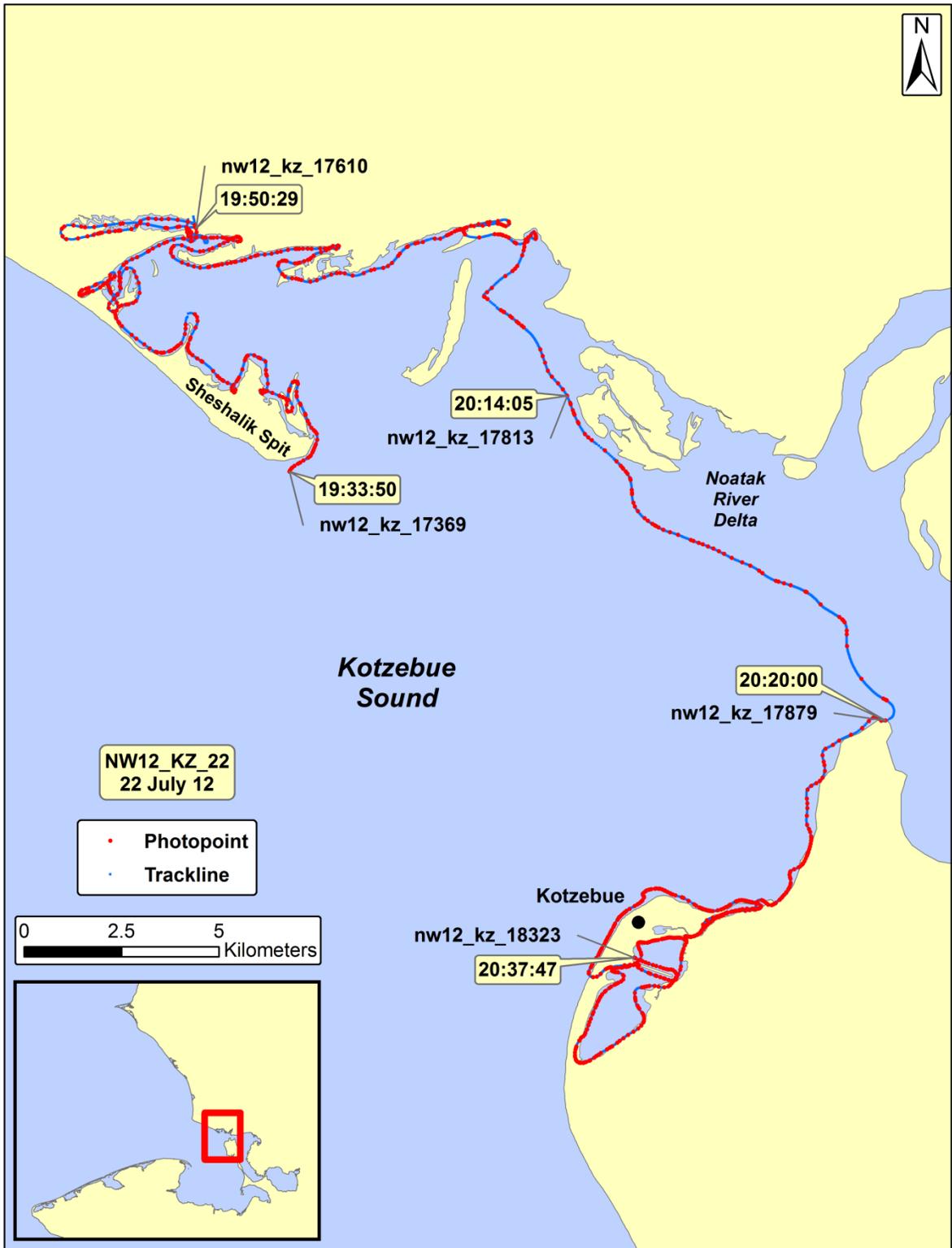
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_21

Date 21 July 2012

General Location: Krusenstern Lagoon, Aukulak Lagoon, Sheshalik Spit
Time Start (UTC): 06:07:15 **Geo:** Morrow
Fuel Break: None **Bio:** Morris
Time End (UTC): 06:42:34 **Pilot:** Konik
Tape Length: 35 min 19 sec
Weather: Sun, light winds

Time (UTC)	Location	Photo
06:07:36	Krusenstern Lagoon	nw12_kz_16987
06:17:36	Krusenstern Lagoon north end	nw12_kz_16822
06:26:19	Krusenstern Lagoon entrance	nw12_kz_17093
06:32:01	Aukulak Lagoon	nw12_kz_17167
06:42:27	Sheshalik Spit	nw12_kz_17358



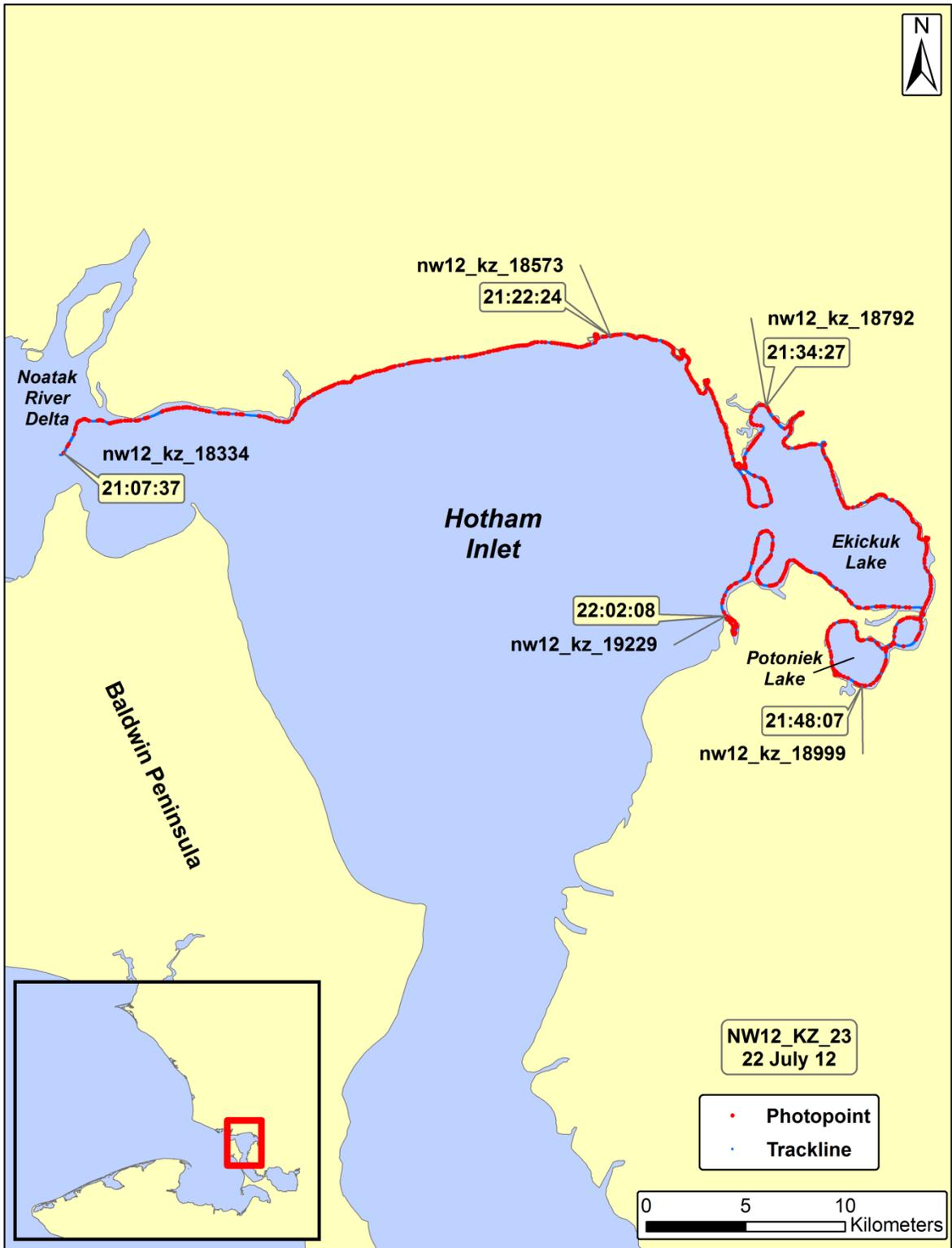
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_22

Date 22 July 2012

General Location:	Sheshalik Spit, Noatak River Delta, Kotzebue	
Time Start (UTC):	19:33:50	Geo: Harper
Fuel Break:	None	Bio: Morris
Time End (UTC):	20:37:47	Pilot: Konik
Tape Length:	54 min 38 sec	
Weather:	Sun, fog patches	

Time (UTC)	Location	Photo
19:33:50	Sheshalik Spit	nw12_kz_17369
19:50:29	Fog break north of Sheshalik Spit	nw12_kz_17610
	Fog Break: 19:50:36 to 19:59:55	
20:14:05	Noatak River Delta	nw12_kz_17813
20:20:00	North point of Baldwin Peninsula	nw12_kz_17879
20:37:47	Kotzebue Airport runway	nw12_kz_18323



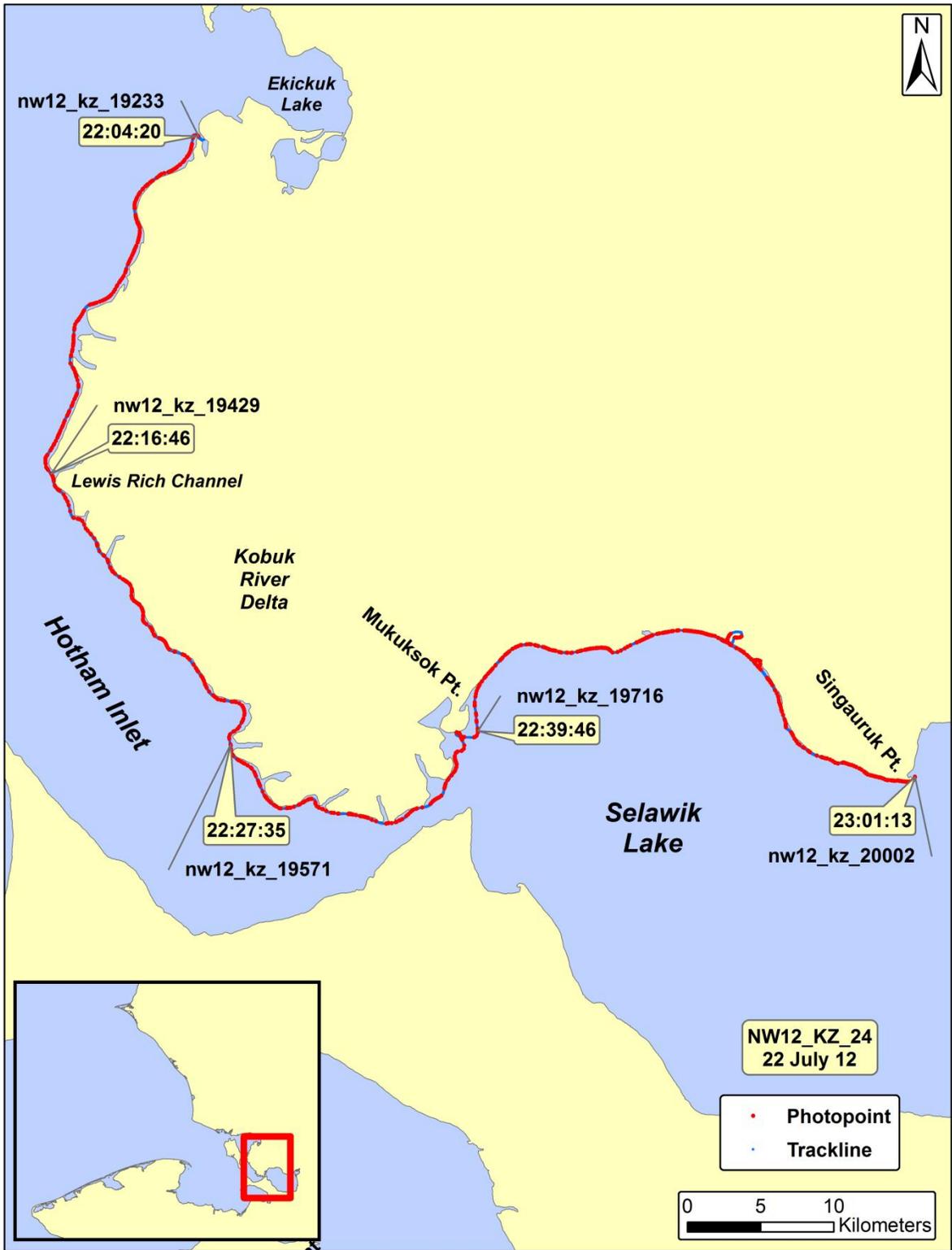
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_23

Date 22 July 2012

General Location:	Hotham Inlet, Ekickuk Lake	
Time Start (UTC):	21:07:32	Geo: Harper
Fuel Break:	None	Bio: Morris
Time End (UTC):	22:02:09	Pilot: Konik
Tape Length:	54 min 37 sec	
Weather:	Sun	

Time (UTC)	Location	Photo
21:07:37	Noatak River Delta	nw12_kz_18334
21:22:24	North Hotham Inlet	nw12_kz_18573
21:34:27	Ekickuk Lake	nw12_kz_18792
21:48:07	Potoniek Lake	nw12_kz_18999
22:02:08	Hotham Inlet, south of Ekickuk Lake	nw12_kz_19229



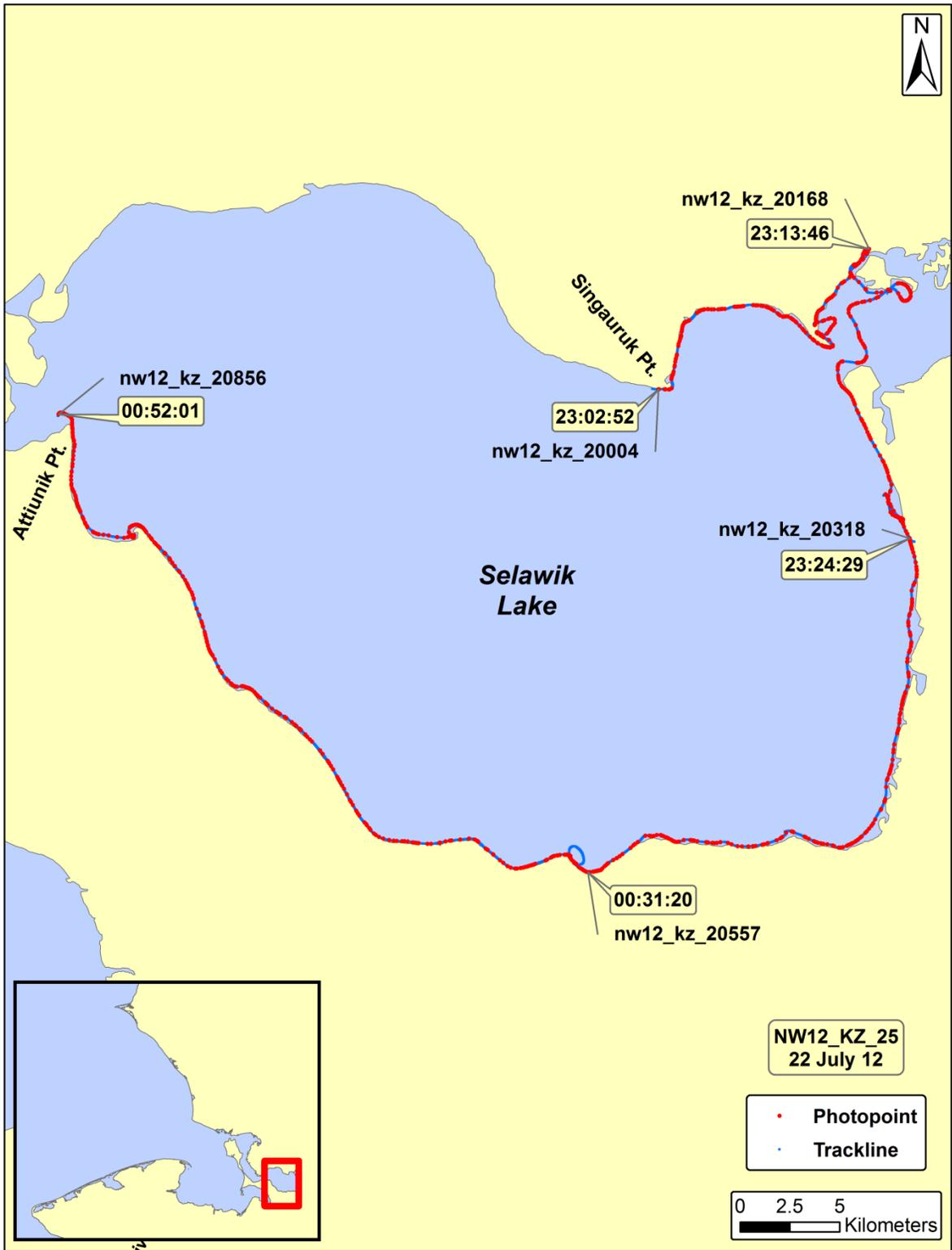
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_24

Date 22 July 2012

General Location: Hotham Inlet, Kobuk River Delta, Selawik Lake
Time Start (UTC): 22:04:04 **Geo:** Harper
Fuel Break: None **Bio:** Morris
Time End (UTC): 23:01:14 **Pilot:** Konik
Tape Length: 57 min 10 sec
Weather: Sun

Time (UTC)	Location	Photo
22:04:20	Hotham Inlet, south of Ekickuk Lake	nw12_kz_19233
22:16:46	Kobuk River Delta, Lewis Rich Channel	nw12_kz_19429
22:27:35	Kobuk River Delta, Attiunik Channel	nw12_kz_19571
22:39:46	Mukuksok Point, Selawik Lake	nw12_kz_19716
23:01:13	Singauruk Point, Selawik Lake	nw12_kz_20002



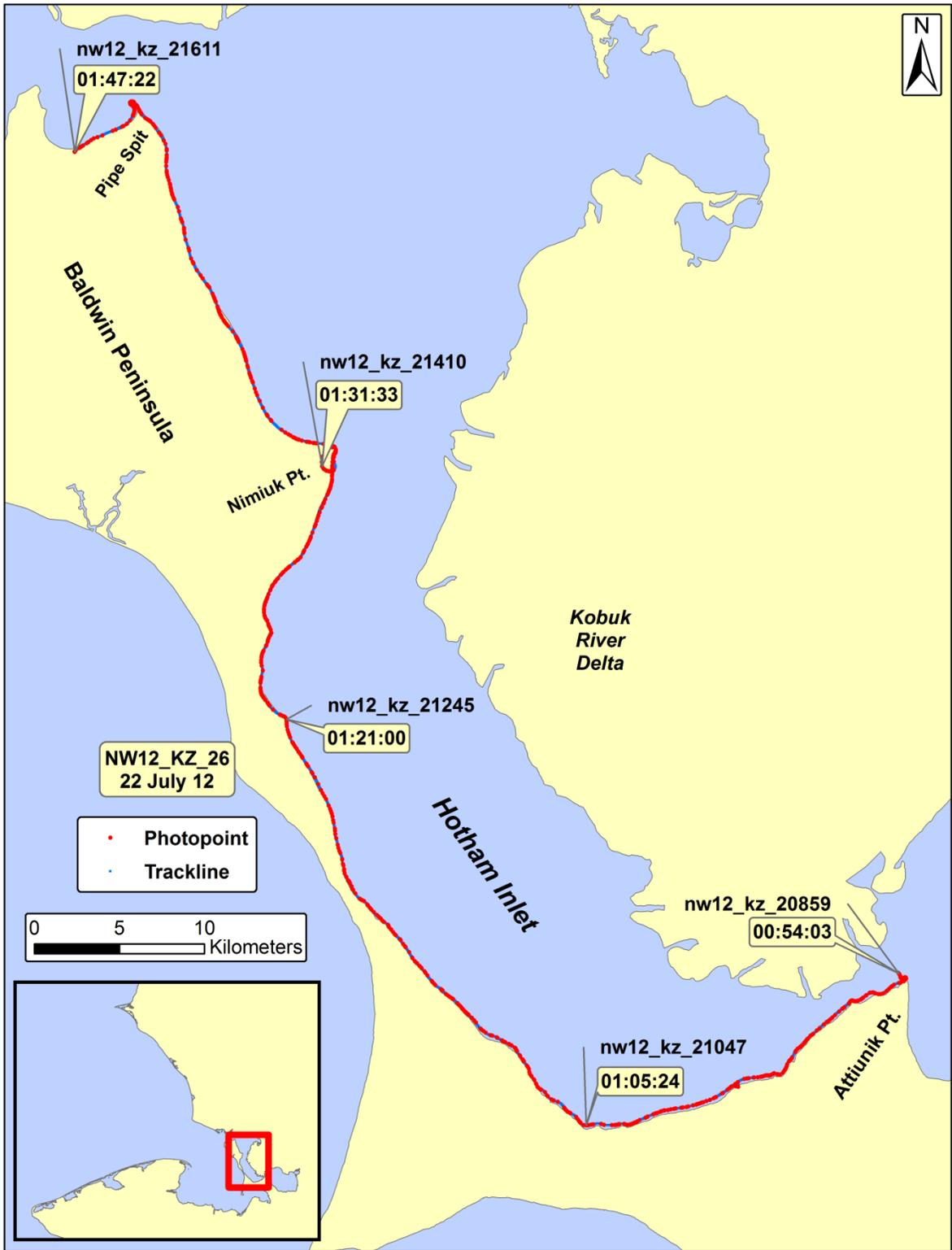
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_25

Date 22 July 2012

General Location:	Selawik Lake	Geo:	Harper
Time Start (UTC):	23:02:42	Bio:	Morris
Fuel Break:	23:24:38 to 00:17:55	Pilot:	Konik
Time End (UTC):	00:52:04		
Tape Length:	56 min 05 sec		
Weather:	Sun		

Time (UTC)	Location	Photo
23:02:52	Singaurak Point, Selawik Lake	nw12_kz_20004
23:13:46	Selawik River Delta	nw12_kz_20168
23:24:29	East side of Selawik Lake	nw12_kz_20318
	Fuel Break: 23:24:38 to 00:17:55	
00:31:20	South side of Selawik Lake	nw12_kz_20557
00:52:01	Attiiunik Point, Selawik Lake	nw12_kz_20856



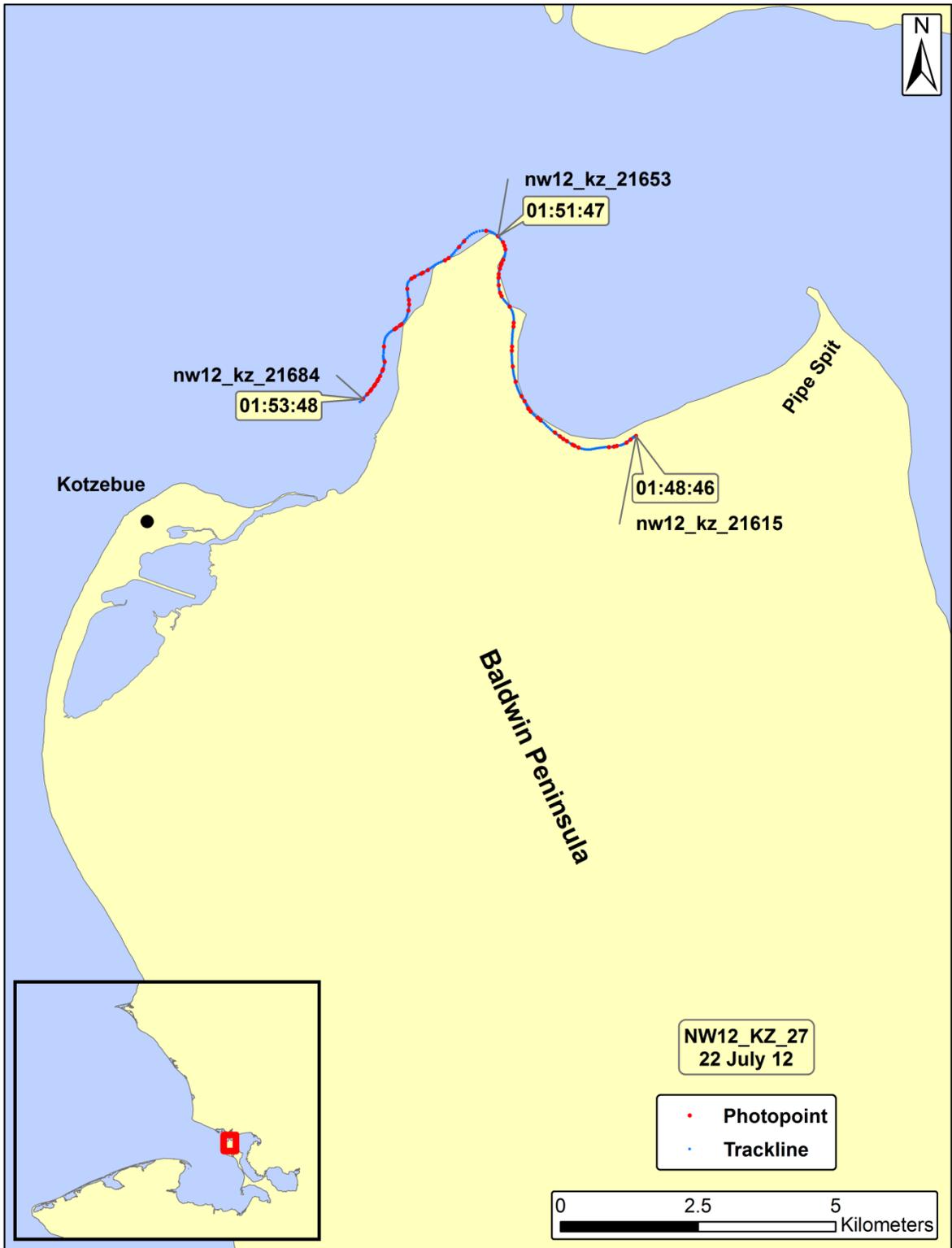
**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_26

Date 22 July 2012

General Location: Baldwin Peninsula, Hotham Inlet
Time Start (UTC): 00:53:58 **Geo:** Harper
Fuel Break: None **Bio:** Morris
Time End (UTC): 01:47:23 **Pilot:** Konik
Tape Length: 53 min 25 sec
Weather: Sun

Time (UTC)	Location	Photo
00:54:03	Attiunik Point, Selawik Lake	nw12_kz_20859
01:05:24	Hotham Inlet, Baldwin Peninsula	nw12_kz_21047
01:21:00	Hotham Inlet, Baldwin Peninsula	nw12_kz_21245
01:31:33	Nimiuk Pt., Hotham Inlet	nw12_kz_21410
01:47:22	West of Pipe Spit, Baldwin Peninsula	nw12_kz_21611



**2012 Northwest Alaska Aerial Video Imaging Survey
Team Kotzebue (KZ)**

Tape: NW12_KZ_27

Date 22 July 2012

General Location: Baldwin Peninsula, Hotham Inlet
Time Start (UTC): 01:48:46 **Geo:** Harper
Fuel Break: None **Bio:** Morris
Time End (UTC): 01:53:50 **Pilot:** Konik
Tape Length: 5 min 04 sec
Weather: Sun

Time (UTC)	Location	Photo
01:48:46	West of Pipe Spit, Baldwin Peninsula	nw12_kz_21615
01:51:47	North point of Baldwin Peninsula	nw12_kz_21653
01:53:48	Baldwin Peninsula, north of Kotzebue	nw12_kz_21684

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References

Harney, J.N., Morris, M., and Harper, J.R. 2008. ShoreZone Coastal Habitat Mapping Protocol for the Gulf of Alaska. Report prepared for The Nature Conservancy, NOAA National Marine Fisheries Service, and the Alaska State Department of Natural Resources (Juneau, AK). 153 p.
http://www.fakr.noaa.gov/shorezone/goa_protocol.pdf

Acknowledgments

The ShoreZone program is a partnership of scientists, GIS specialists, web specialists, non-profit organizations, and governmental agencies. We gratefully acknowledge the support of organizations working in partnership for the Alaska ShoreZone effort, including:

- Alaska Department of Fish and Game
- Alaska Department of Natural Resources
- Archipelago Marine Research Ltd.
- Coastal and Ocean Resources Inc.
- Cook Inlet Regional Citizens' Advisory Council
- Exxon Valdez Oil Spill Trustee Council
- National Park Service
- NOAA National Marine Fisheries Service
- Prince William Sound Regional Citizens' Advisory Council
- The Nature Conservancy
- University of Alaska
- U.S. Forest Service
- U.S. Fish and Wildlife Service
- U.S. National Park Service

We also thank the staff of Coastal and Ocean Resources Inc. and Archipelago Marine Research Ltd. for their efforts in the field and in the office.

Access and Use Constraints

Protocols for data access and distribution are established by the program partner agencies. Please see www.shorezone.org for a list of partner agencies and related web sites. Video imagery can be viewed and digital stills downloaded online at: <http://www.fakr.noaa.gov/shorezone/default.htm>

Any hardcopies or published data sets utilizing ShoreZone products shall clearly indicate their source. To ensure distribution of the most current public information or for correct interpretation, contact the ShoreZone project manager at Coastal and Ocean Resources, Inc. At the time of publication, that person is Dr. John Harper.

To effectively and appropriately use ShoreZone data, the user shall refer to the ShoreZone Coastal Habitat Mapping Protocol (2008) available at:
http://www.fakr.noaa.gov/shorezone/goa_protocol.pdf

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