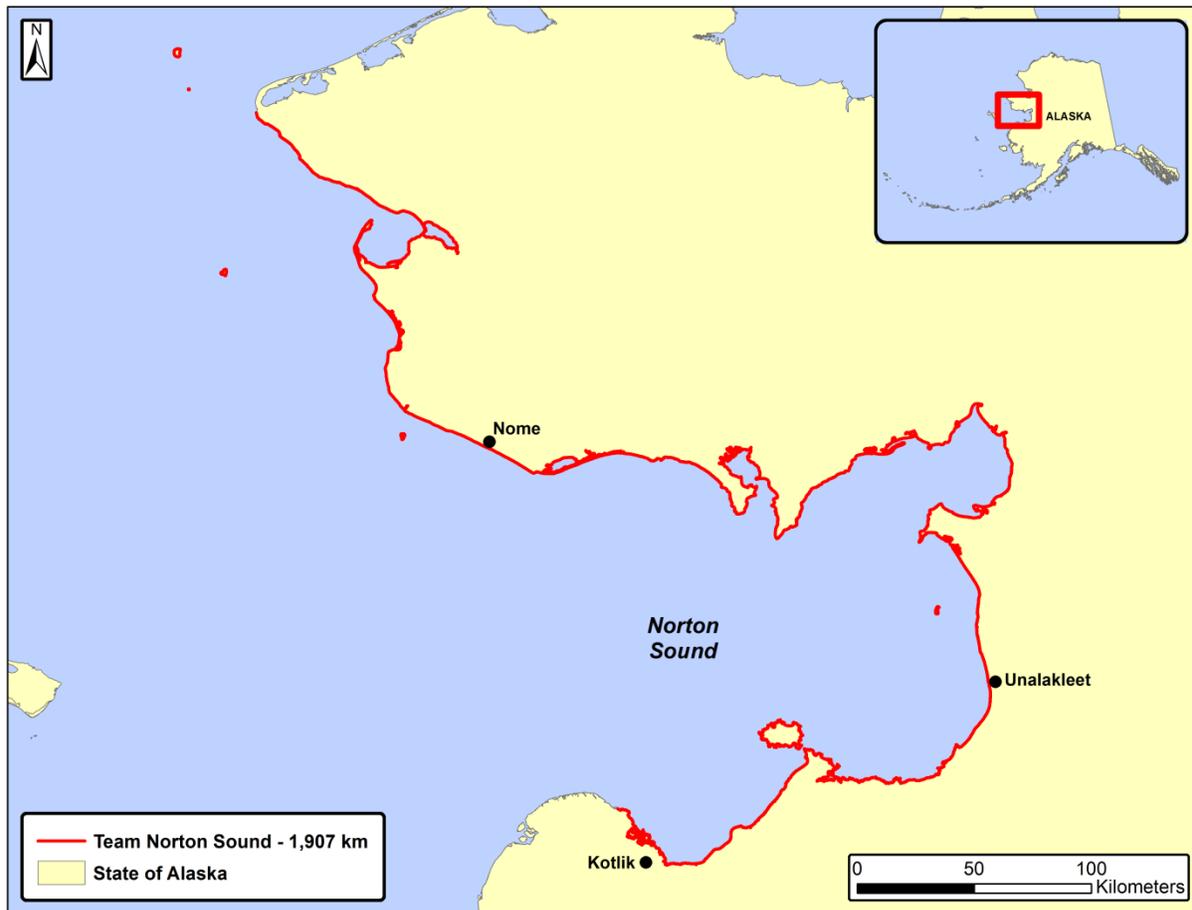


**FLIGHT REPORT**  
**ShoreZone Aerial Video Imaging (AVI) Survey**  
**Team Norton Sound (NS) July 9-14, 2015**



Prepared for:  
**NOAA National Marine Fisheries Service**  
Alaska, Region

Prepared by:  
**Coastal & Ocean Resources**  
Victoria, BC



The purpose of this flight report is to summarize the field activities of the ShoreZone aerial video imaging survey conducted out of Nome and Unalakleet, Alaska during July 9-14, 2015. The survey was conducted by Coastal & Ocean Resources for NOAA NMFS Alaska Region under Contract AB-133F-13-CQ-0038 Order T0010. Table 1 provides a summary of field crew affiliations and responsibilities.

The tables and figures on the following pages summarize the extent and location of the 1,907 km (\*based on the digital Alaska Coastline 1:63,360) of aerial video imagery collected by the team.

A Bell 212 helicopter chartered from Erickson Aviation and a Robinson R44 helicopter chartered from Bering Air were utilized by the team, both of these aircraft are based in Nome, Alaska. Imagery was collected looking at the shoreline from the left side of the aircraft with the doors removed. A total of 28 HD videos were collected during the survey and recorded to MP4 format (Tables 2). This report contains a summary table and map for each video, illustrating its location, length, and key geographic points. Maps for each video 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.

All photos are supplied on a hard drive organized by video number and consistent with the ShoreZone image library data schema. A total of 25,149 photos were collected by the team. The GIS data that accompany this report 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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**Team Norton Sound Survey Data**

**Table 1. Flight Personnel and Responsibilities: Team Norton Sound (NS)**

<b>Crew Member</b>	<b>Individual/ Affiliation</b>	<b>Responsibilities</b>
<i>Geomorphologist</i>	Carl Schoch Coastal and Ocean Resources, Victoria, BC	Videography, geomorphic commentary, in-flight navigation, survey planning & coordination, post-flight data processing
<i>Geomorphologist</i>	Kalen Morrow Coastal and Ocean Resources, Victoria, BC	Videography, geomorphic commentary, in-flight navigation, survey planning & coordination, post-flight data processing
<i>Coastal Ecologist</i>	Sarah Cook Coastal and Ocean Resources, Victoria, BC	Digital photography, biologic commentary
<i>Pilot</i>	Michael Kutyba Erickson Aviation, Nome, Alaska	Bell 212 aircraft operation
<i>Pilot</i>	Blake Bailey Bering Air Nome, Alaska	Robinson R-44 aircraft operation

**Table 2. Survey Videos: Team Norton Sound (NS)**

<b>Tape Number</b>	<b>Location</b>
BS14_NS_01	Sledge Island
BS14_NS_02	King Island
BS14_NS_03	Fairway Rock
BS14_NS_04	Little Diomedea
BS14_NS_05	Wales, Cape York
BS14_NS_06	Brevig Lagoon, Port Clarence
BS14_NS_07	Grantley Harbor
BS14_NS_08	Port Clarence, Pt. Spencer
BS14_NS_09	Cape Douglas, Cape Woolley
BS14_NS_10	Cape Wooley, Nome
BS14_NS_11	Nome, Safety Sound
BS14_NS_12	Safety Sound
BS14_NS_13	Safety Sound, Topkok Head
BS14_NS_14	Topkok Head, Rocky Point
BS14_NS_15	Golovnin Bay, Golovnin Lagoon
BS14_NS_16	Golovnin Bay, Cape Darby, Elim
BS14_NS_17	Elim, Moses Pt., Kiviniuk Inlet
BS14_NS_18	Koyuk River, Reindeer Cove, Norton Bay
BS14_NS_19	Reindeer Cove, Cape Denbigh
BS14_NS_20	Besboro Island
BS14_NS_21	Cape Denbigh, Shaktoolik, Egavik Creek
BS14_NS_22	Unalakleet, Unalakleet River
BS14_NS_23	Unalakleet, St. Michael Bay
BS14_NS_24	St. Michael, Stebbins
BS14_NS_25	Egg Island
BS14_NS_26	Stuart Island
BS14_NS_27	Pt. Romanof, North Yukon River
BS14_NS_28	North Yukon River, Okwega Pass, Apoon Pass

ShoreZone Aerial Video Imaging (AVI) Survey  
Team Norton Sound (NS) July 9-14, 2015  
Survey Maps and Video Logs  
Videos: BS15\_NS\_01 to BS15\_NS\_28



Map showing the location and extent of videos for the July 9-14, 2015 Team Norton Sound (NS) survey in Western Alaska.



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video: BS15\_NS\_01**

**Date: 09 July 2015**

<b>General Location:</b>	Sledge Island	<b>Geo:</b>	Schoch
<b>Time Start (UTC):</b>	15:23:53	<b>Bio:</b>	Cook
<b>Time End (UTC):</b>	15:28:28	<b>Nav:</b>	Morrow
<b>Video Length:</b>	4 min 35 sec	<b>Pilot:</b>	Kutyba
<b>Weather:</b>	Clear		

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
15:24:01	North Sledge Island	bs15_ns_00001
15:28:24	North Sledge Island	bs15_ns_00115

**Video: BS15\_NS\_02**

**Date: 09 July 2015**

<b>General Location:</b>	King Island	<b>Geo:</b>	Schoch
<b>Time Start (UTC):</b>	15:58:31	<b>Bio:</b>	Cook
<b>Time End (UTC):</b>	16:05:26	<b>Nav:</b>	Morrow
<b>Video Length:</b>	6 min 55 sec	<b>Pilot:</b>	Kutyba
<b>Weather:</b>	Clear		

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
15:58:40	Southeast King Island	bs15_ns_00133
16:05:12	Southeast King Island	bs15_ns_00329



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video: BS15\_NS\_03**

**Date: 09 July 2015**

<b>General Location:</b>	Fairway Rock	<b>Geo:</b>	Schoch
<b>Time Start (UTC):</b>	16:30:34	<b>Bio:</b>	Cook
<b>Time End (UTC):</b>	16:32:45	<b>Nav:</b>	Morrow
<b>Video Length:</b>	2 min 11 sec	<b>Pilot:</b>	Kutyba
<b>Weather:</b>	Clear		

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
16:30:47	Fairway Rock	bs15_ns_00330
16:32:44	Fairway Rock	bs15_ns_00379

**Video: BS15\_NS\_04**

**Date: 09 July 2015**

<b>General Location:</b>	Little Diomed Island	<b>Geo:</b>	Schoch
<b>Time Start (UTC):</b>	16:37:45	<b>Bio:</b>	Cook
<b>Time End (UTC):</b>	16:46:35	<b>Nav:</b>	Morrow
<b>Video Length:</b>	8 min 50 sec	<b>Pilot:</b>	Kutyba
<b>Weather:</b>	Clear		

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
16:37:48	South Little Diomed Island	bs15_ns_00387
16:43:30	Little Diomed village	bs15_ns_00561
16:46:34	South Little Diomed Island	bs15_ns_00647



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_05

**Date:** 09 July 2015

**General Location:** Wales, Cape York

**Time Start (UTC):** 17:52:48

**Geo:** Schoch

**Time End (UTC):** 18:28:43

**Bio:** Cook

**Video Length:** 35 min 55 sec

**Nav:** Morrow

**Weather:** Clear, Windy

**Pilot:** Kutumba

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
17:52:50	Wales	bs15_ns_00648
17:57:53	Tin City	bs15_ns_00823
18:11:35	Cape York	bs15_ns_01301
18:20:13	Lost River	bs15_ns_01614
18:28:42	North entrance to Port Clarence	bs15_ns_01907



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_06

**Date:** 10 July 2015

**General Location:** Brevig Lagoon, Port Clarence

**Time Start (UTC):** 15:33:00

**Geo:** Morrow

**Time End (UTC):** 16:22:55

**Bio:** Cook

**Video Length:** 49 min 55 sec

**Pilot:** Bailey

**Weather:** Clear, Sunny

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
15:33:21	North entrance to Port Clarence	bs15_ns_01911
15:39:20	Pt. Jackson, Brevig Lagoon entrance	bs15_ns_02094
16:00:35	California River, Brevig Lagoon	bs15_ns_02554
16:11:34	Brevig Mission, Port Clarence	bs15_ns_02792
16:22:54	Entrance to Grantley Harbor	bs15_ns_03029



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_07

**Date:** 10 July 2015

**General Location:** Grantley Harbor

**Time Start (UTC):** 16:24:05

**Time End (UTC):** 17:05:10

**Video Length:** 41 min 5 sec

**Weather:** Clear, Sunny

**Geo:** Morrow

**Bio:** Cook

**Pilot:** Bailey

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
16:24:15	North entrance Grantley Harbor	bs15_ns_03031
16:32:32	North Grantley Harbor	bs15_ns_03250
16:38:24	Entrance to Tuksuk Channel	bs15_ns_03415
16:45:33	Tuksuk Channel, entrance to Imuruk Basin	bs15_ns_03613
16:56:30	South Grantley Harbor	bs15_ns_03944
17:05:09	Port Clarence, lagoon south of Teller	bs15_ns_04185



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_08

**Date:** 10 July 2015

**General Location:** Port Clarence, Pt. Spencer

**Time Start (UTC):** 17:45:15

**Geo:** Morrow

**Time End (UTC):** 18:44:25

**Bio:** Cook

**Video Length:** 59 min 10 sec

**Pilot:** Bailey

**Weather:** Clear, Sunny

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
17:45:30	Port Clarence, lagoon south of Teller	bs15_ns_04187
17:55:25	Jones Pt., Port Clarence	bs15_ns_04501
18:14:16	South Port Clarence	bs15_ns_04973
18:30:30	Pt. Spencer	bs15_ns_05396
18:44:23	Lagoon south of Pt. Spencer	bs15_ns_05783



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_09

**Date:** 10 July 2015

**General Location:** Cape Douglas, Cape Woolley

**Time Start (UTC):** 18:45:05

**Geo:** Morrow

**Time End (UTC):** 19:42:00

**Bio:** Cook

**Video Length:** 55 min 33 sec

**Pilot:** Bailey

**Weather:** Clear, Sunny

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
18:45:27	Lagoon south of Pt. Spencer	bs15_ns_05784
	Video Break 18:56:05 to 18:57:26	
19:00:17	Cape Douglas	bs15_ns_06145
19:10:20	Entrance to Tisuk River Lagoon	bs15_ns_06449
19:25:48	Tisuk River	bs15_ns_06816
19:42:00	Cape Woolley	bs15_ns_07213



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_10

**Date:** 11 July 2015

**General Location:** Cape Woolley, Nome

**Time Start (UTC):** 02:03:10

**Geo:** Schoch

**Time End (UTC):** 02:45:15

**Bio:** Cook

**Video Length:** 42 min 5 sec

**Pilot:** Bailey

**Weather:** Clear, Sunny

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
02:03:32	Cape Woolley	bs15_ns_07214
02:12:06	Cape Rodney	bs15_ns_07503
02:17:55	Sinuk River	bs15_ns_07676
02:34:40	Cripple River	bs15_ns_08137
02:45:08	Snake River, Nome Harbor	bs15_ns_08436



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_11

**Date:** 11 July 2015

**General Location:** Nome, Safety Sound

**Time Start (UTC):** 03:19:20

**Geo:** Schoch

**Time End (UTC):** 04:27:40

**Bio:** Cook

**Video Length:** 1 hr 8 min 20 sec

**Pilot:** Bailey

**Weather:** Clear, Sunny

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
03:20:02	Nome Harbor	bs15_ns_08437
03:31:11	Cape Nome	bs15_ns_08748
03:55:29	Fox Lake outlet, Safety Sound	bs15_ns_09387
04:12:55	Bonanza River, Safety Sound	bs15_ns_09809
04:27:39	Near entrance to Safety Sound	bs15_ns_10140



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_12

**Date:** 11 July 2015

**General Location:** Safety Sound

**Time Start (UTC):** 04:27:41

**Geo:** Schoch

**Time End (UTC):** 04:34:40

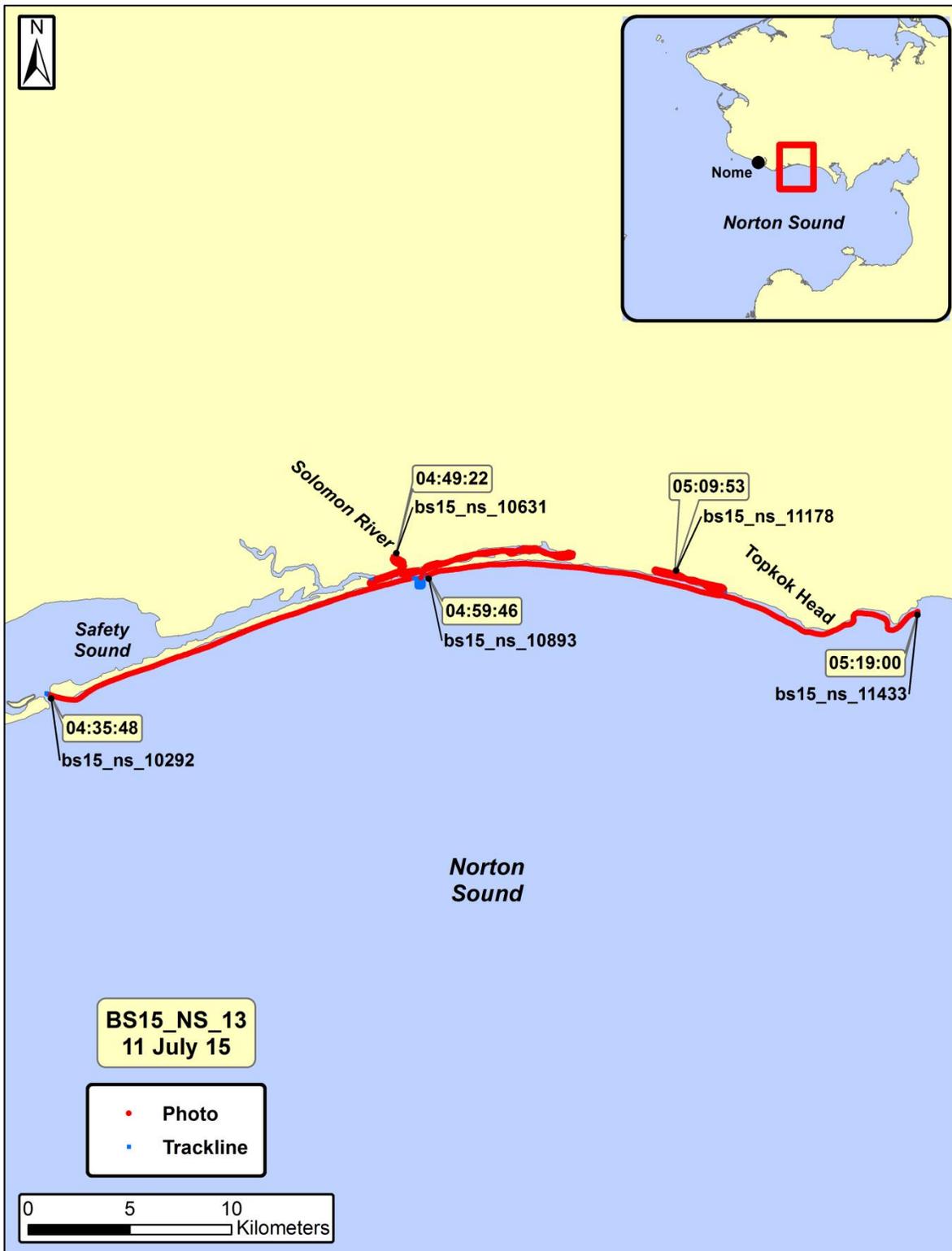
**Bio:** Cook

**Video Length:** 6 min 59 sec

**Pilot:** Bailey

**Weather:** Clear, Sunny

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
04:27:42	Near entrance to Safety Sound	bs15_ns_10141
04:31:45	Safety Sound	bs15_ns_10213
04:34:36	Entrance to Safety Sound	bs15_ns_10291



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_13

**Date:** 11 July 2015

**General Location:** Safety Sound, Topkok Head

**Time Start (UTC):** 04:35:40

**Geo:** Schoch

**Time End (UTC):** 05:19:00

**Bio:** Cook

**Video Length:** 43 min 20 sec

**Pilot:** Bailey

**Weather:** Clear, Sunny

Time (UTC)	Location	Photo
04:35:48	Entrance to Safety Sound	bs15_ns_10292
04:49:22	Solomon River	bs15_ns_10631
04:59:46	Solomon River exit	bs15_ns_10893
05:09:53	Lagoon west of Topkuk Head	bs15_ns_11178
05:19:00	East of Topkuk Head	bs15_ns_11433



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_14

**Date:** 11 July 2015

**General Location:** Topkok Head, Rocky Point

**Time Start (UTC):** 05:39:20

**Geo:** Schoch

**Time End (UTC):** 06:04:10

**Bio:** Cook

**Video Length:** 24 min 50 sec

**Pilot:** Bailey

**Weather:** Clear, Sunny

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
05:39:22	East of Topkuk Head	bs15_ns_11445
05:46:53	Square Rock	bs15_ns_11668
05:51:50	Chiukak Lagoon	bs15_ns_11832
06:00:01	Rocky Point	bs15_ns_12102
06:04:09	Rocky Point, Golovnin Bay	bs15_ns_12234



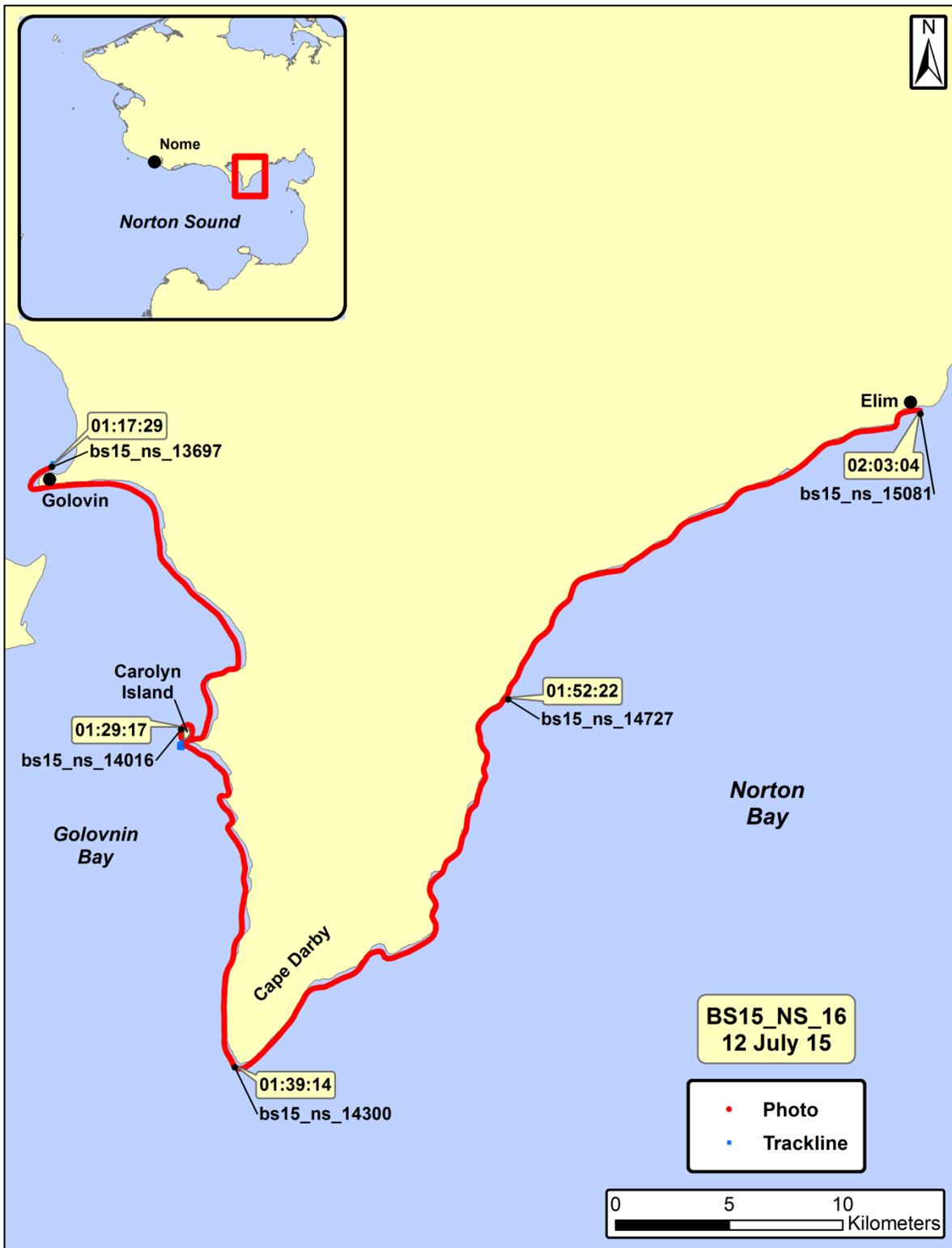
**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_15

**Date:** 12 July 2015

**General Location:** Golovnin Bay, Golovnin Lagoon  
**Time Start (UTC):** 00:23:05      **Geo:** Schoch  
**Time End (UTC):** 01:16:30      **Bio:** Cook  
**Video Length:** 53 min 25 sec      **Pilot:** Bailey  
**Weather:** Forest Fire Smoke, Haze

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
00:23:05	Rocky Point, Golovnin Bay	bs15_ns_12235
00:39:19	West Golovnin Lagoon	bs15_ns_12723
00:53:53	Golovnin Lagoon	bs15_ns_13125
01:07:01	Yuonglik River, Golovnin Lagoon	bs15_ns_13458
01:16:29	Golovin	bs15_ns_13691



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_16

**Date:** 12 July 2015

**General Location:** Golovnin Bay, Cape Darby, Elim  
**Time Start (UTC):** 01:17:20      **Geo:** Schoch  
**Time End (UTC):** 02:03:05      **Bio:** Cook  
**Video Length:** 45 min 45 sec      **Pilot:** Bailey  
**Weather:** Forest Fire Smoke, Haze

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
01:17:29	Golovin	bs15_ns_13697
01:29:17	Carolyn Island, Golovnin Bay	bs15_ns_14016
01:39:14	Cape Darby	bs15_ns_14300
01:52:22	West Norton Bay	bs15_ns_14727
02:03:04	Elim	bs15_ns_15081



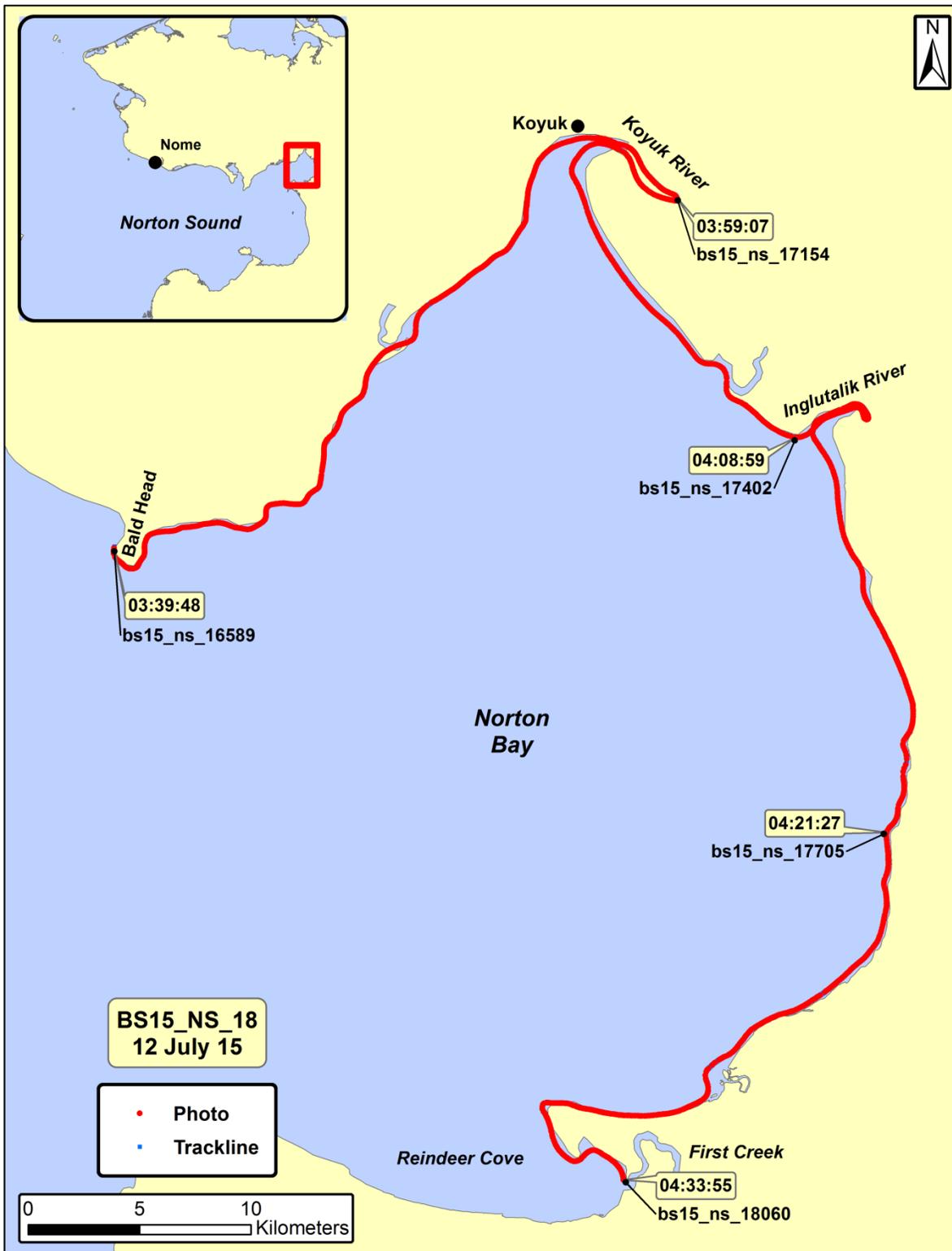
**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_17

**Date:** 12 July 2015

**General Location:** Elim, Moses Pt., Kiviniuk Inlet  
**Time Start (UTC):** 02:44:30                      **Geo:** Schoch  
**Time End (UTC):** 03:38:55                      **Bio:** Cook  
**Video Length:** 54 min 25 sec                      **Pilot:** Bailey  
**Weather:** Forest Fire Smoke, Haze

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
02:44:32	Elim	bs15_ns_15083
02:56:18	Moses Pt. (camp)	bs15_ns_15430
03:13:54	Kiviniuk Inlet	bs15_ns_15943
03:30:51	Kwik River	bs15_ns_16361
03:38:54	Bald Head	bs15_ns_16585



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_18

**Date:** 12 July 2015

**General Location:** Koyuk River, Reindeer Cove, Norton Bay  
**Time Start (UTC):** 03:39:45                      **Geo:** Schoch  
**Time End (UTC):** 04:33:55                      **Bio:** Cook  
**Video Length:** 54 min 10 sec                      **Pilot:** Bailey  
**Weather:** Forest Fire Smoke, Haze

Time (UTC)	Location	Photo
03:39:48	Bald Head	bs15_ns_16589
03:59:07	Koyuk River	bs15_ns_17154
04:08:59	Inglutalik River	bs15_ns_17402
04:21:27	East Norton Bay	bs15_ns_17705
04:33:55	First Creek, Reindeer Cove	bs15_ns_18060



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_19

**Date:** 12 July 2015

**General Location:** Reindeer Cove, Cape Denbigh  
**Time Start (UTC):** 04:34:35      **Geo:** Schoch  
**Time End (UTC):** 04:55:40      **Bio:** Cook  
**Video Length:** 19 min 5 sec      **Pilot:** Bailey  
**Weather:** Forest Fire Smoke, Haze

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
04:34:44	First Creek, Reindeer Cove	bs15_ns_18061
04:39:08	Reindeer Cove	bs15_ns_18191
	Video Break 04:41:25 to 04:43:24	
04:44:58	Pt. Dexter	bs15_ns_18293
04:49:53	Reindeer Hills	bs15_ns_18445
04:55:39	Cape Denbigh	bs15_ns_18622



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video: BS15\_NS\_20**

**Date: 13 July 2015**

**General Location:** Besboro Island  
**Time Start (UTC):** 00:49:00      **Geo:** Schoch  
**Time End (UTC):** 00:53:45      **Bio:** Cook  
**Video Length:** 4 min 45 sec      **Pilot:** Bailey  
**Weather:** Forest Fire Smoke, Haze

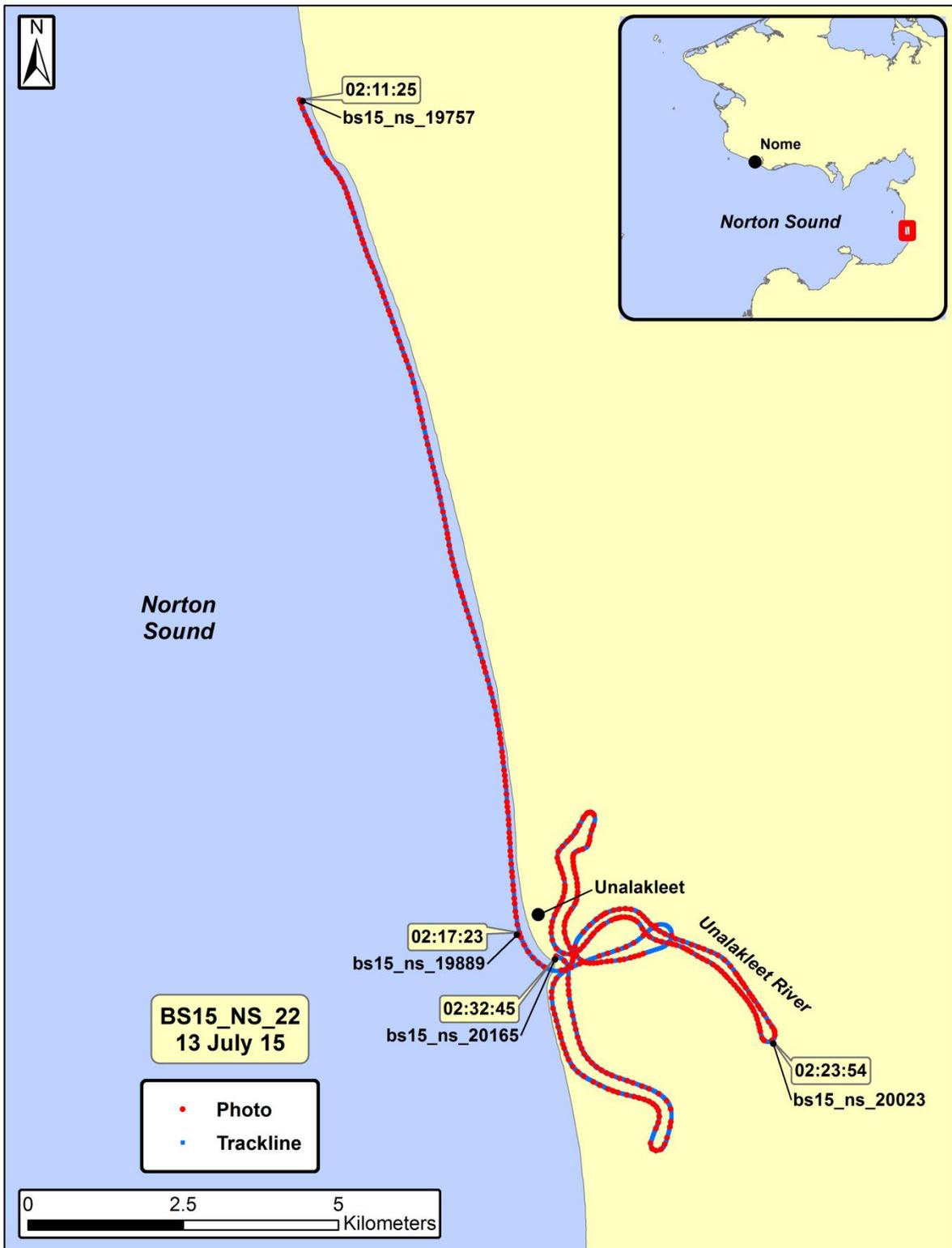
<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
00:49:01	Besboro Island	bs15_ns_18626
00:53:44	Besboro Island	bs15_ns_18752

**Video: BS15\_NS\_21**

**Date: 13 July 2015**

**General Location:** Cape Denbigh, Shaktoolik, Egavik Creek  
**Time Start (UTC):** 01:04:15      **Geo:** Schoch  
**Time End (UTC):** 02:03:20      **Bio:** Cook  
**Video Length:** 59 min 5 sec      **Pilot:** Bailey  
**Weather:** Forest Fire Smoke, Haze

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
01:04:15	Cape Denbigh	bs15_ns_18755
01:23:23	Malikfik Bay	bs15_ns_19111
01:43:18	Shaktoolik	bs15_ns_19397
01:50:40	Beeson Slough	bs15_ns_19517
02:03:18	South of Egavik Creek	bs15_ns_19753



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_22

**Date:** 13 July 2015

**General Location:** Unalakleet, Unalakleet River

**Time Start (UTC):** 02:11:25

**Geo:** Schoch

**Time End (UTC):** 02:32:45

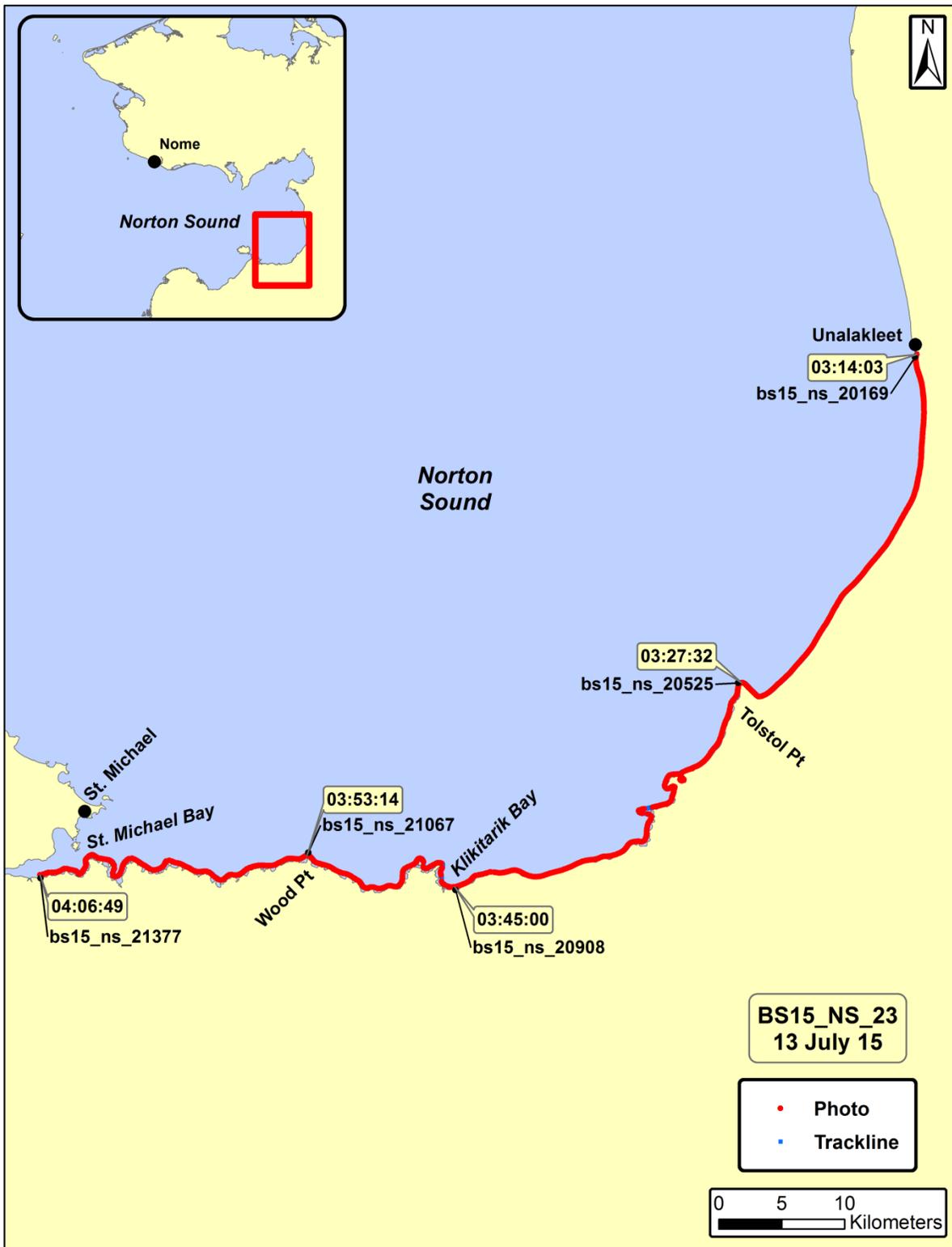
**Bio:** Cook

**Video Length:** 21 min 20 sec

**Pilot:** Bailey

**Weather:** Forest Fire Smoke, Haze

Time (UTC)	Location	Photo
02:11:25	South of Egavik Creek	bs15_ns_19757
02:17:23	Unalakleet	bs15_ns_19889
02:23:54	Unalakleet River	bs15_ns_20023
02:32:45	Unalakleet River exit	bs15_ns_20165



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_23

**Date:** 13 July 2015

**General Location:** Unalakleet, St. Michael Bay

**Time Start (UTC):** 03:14:00

**Geo:** Schoch

**Time End (UTC):** 04:06:50

**Bio:** Cook

**Video Length:** 52 min 50 sec

**Pilot:** Bailey

**Weather:** Forest Fire Smoke, Haze

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
03:14:03	Unalakleet River exit	bs15_ns_20169
03:27:32	Tolstol Pt.	bs15_ns_20525
03:45:00	Kilkitarik Bay	bs15_ns_20908
03:53:14	Wood Pt.	bs15_ns_21067
04:06:49	St. Michael Bay	bs15_ns_21377



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_24

**Date:** 13 July 2015

**General Location:** St. Michael, Stebbins

**Time Start (UTC):** 04:07:55

**Geo:** Schoch

**Time End (UTC):** 04:56:20

**Bio:** Cook

**Video Length:** 48 min 25 sec

**Pilot:** Bailey

**Weather:** Forest Fire Smoke, Haze

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
04:07:56	St. Michael Bay	bs15_ns_21379
04:17:24	St. Michael	bs15_ns_21575
04:36:24	Stebbins	bs15_ns_21972
04:43:30	Canal Pt.	bs15_ns_22178
04:56:20	South Canal, St. Michael Bay	bs15_ns_22319



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_25

**Date:** 14 July 2015

**General Location:** Egg Island

**Time Start (UTC):** 00:10:45

**Geo:** Morrow

**Time End (UTC):** 00:12:45

**Bio:** Cook

**Video Length:** 2 min 0 sec

**Pilot:** Bailey

**Weather:** Forest Fire Smoke, Haze

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
00:11:03	Egg Island	bs15_ns_22320
00:12:03	Egg Island	bs15_ns_22339



**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_26

**Date:** 14 July 2015

**General Location:** Stuart Island

**Time Start (UTC):** 00:24:05

**Geo:** Morrow

**Time End (UTC):** 01:15:20

**Bio:** Cook

**Video Length:** 51 min 15 sec

**Pilot:** Bailey

**Weather:** Forest Fire Smoke, Haze

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
00:24:06	Southeast Stuart Island, Stephens Pass	bs15_ns_22353
00:33:07	North Pt.	bs15_ns_22528
00:39:35	Stuart Canal	bs15_ns_22633
00:50:15	West Stuart Island	bs15_ns_22820
01:06:20	Stuart Canal	bs15_ns_23068
01:15:20	Southeast Stuart Island, Stephens Pass	bs15_ns_23248



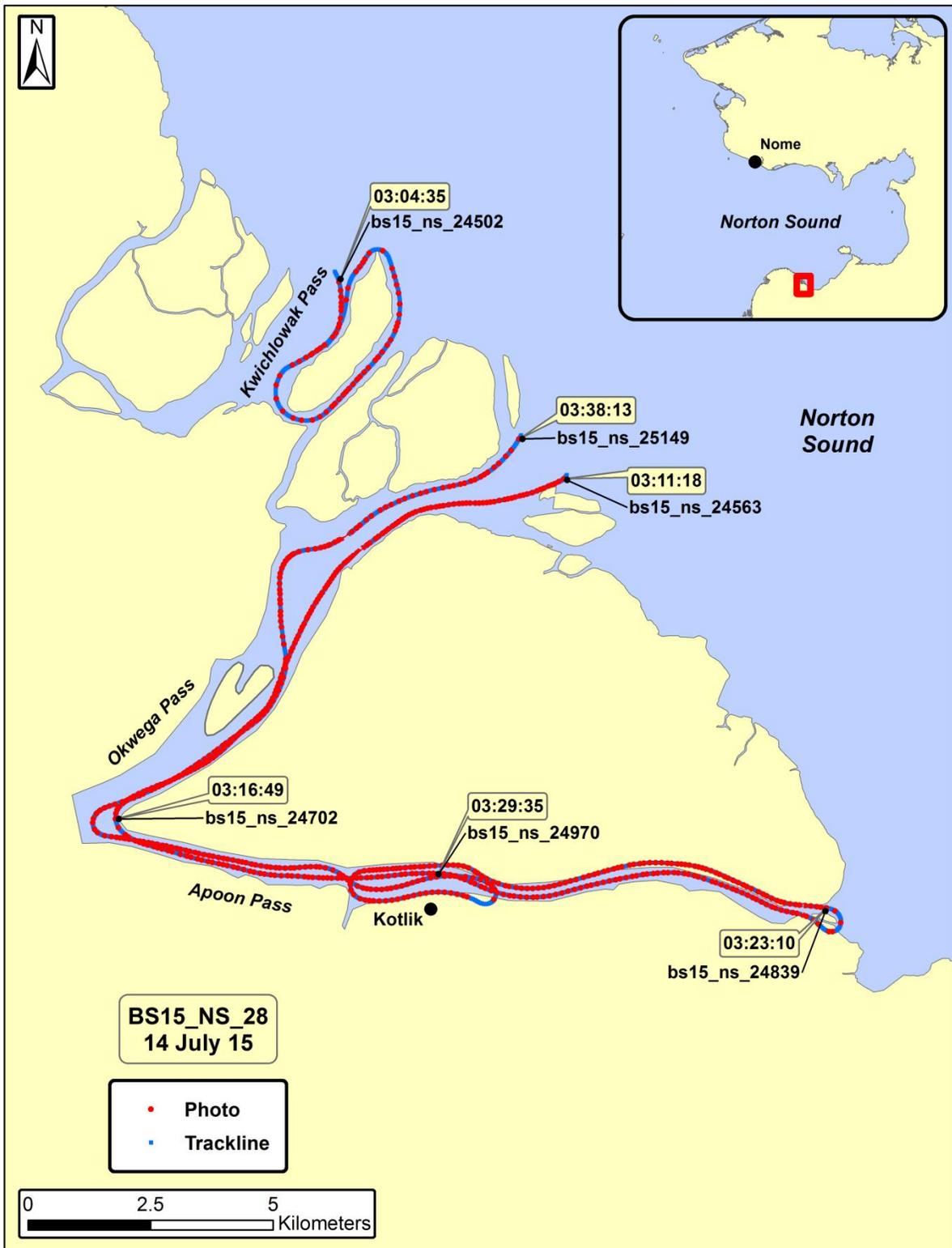
**2015 Bering Sea Alaska Aerial Video Imaging Survey  
Team Norton Sound (NS)**

**Video:** BS15\_NS\_27

**Date:** 14 July 2015

**General Location:** Pt. Romanof, North Yukon River  
**Time Start (UTC):** 01:54:40                      **Geo:** Morrow  
**Time End (UTC):** 02:59:10                      **Bio:** Cook  
**Video Length:** 1 hr 4 min 30 sec              **Pilot:** Bailey  
**Weather:** Forest Fire Smoke, Haze

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
01:54:46	Canal Pt.	bs15_ns_23258
02:14:19	Pt. Romanof	bs15_ns_23654
02:27:23	Pastoliak River	bs15_ns_23920
02:39:10	Mouth of Okwega Pass	bs15_ns_24112
02:59:08	Mouth of Okshokwewhik Pass	bs15_ns_24500





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## References

Harper, J.R. and M.C. Morris 2014. Alaska ShoreZone Coastal Habitat Mapping Protocol. Report prepared by Nuka Research and Planning LCC of Seldovia for the Bureau of Ocean Energy Management (BOEM), Anchorage, AK, 144 p.  
<http://alaskafisheries.noaa.gov/shorezone/chmprotocol0114.pdf>

## Acknowledgments

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## Access and Use Constraints

Protocols for data access and distribution are established by the program partner agencies. Please see [www.shorezone.org](http://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://alaskafisheries.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. Carl Schoch ([carl@coastalandoceans.com](mailto:carl@coastalandoceans.com)).

To effectively and appropriately use ShoreZone data, the user shall refer to the ShoreZone Coastal Habitat Mapping Protocol (2014) available at:  
<http://alaskafisheries.noaa.gov/shorezone/chmprotocol0114.pdf>

Data provided are derived from large, regional databases that are continually being updated and modified. The accuracy of some information is subject to change. Any published data sets utilizing ShoreZone products (printed, digital, or online) shall clearly indicate their source. If the user has modified the data in any way, the user is obligated to describe the types of modifications performed. The user specifically agrees not to misrepresent these data, nor to imply that changes made were approved by the ShoreZone program or its partners.



King Island – bs15\_ns\_00316.jpg

