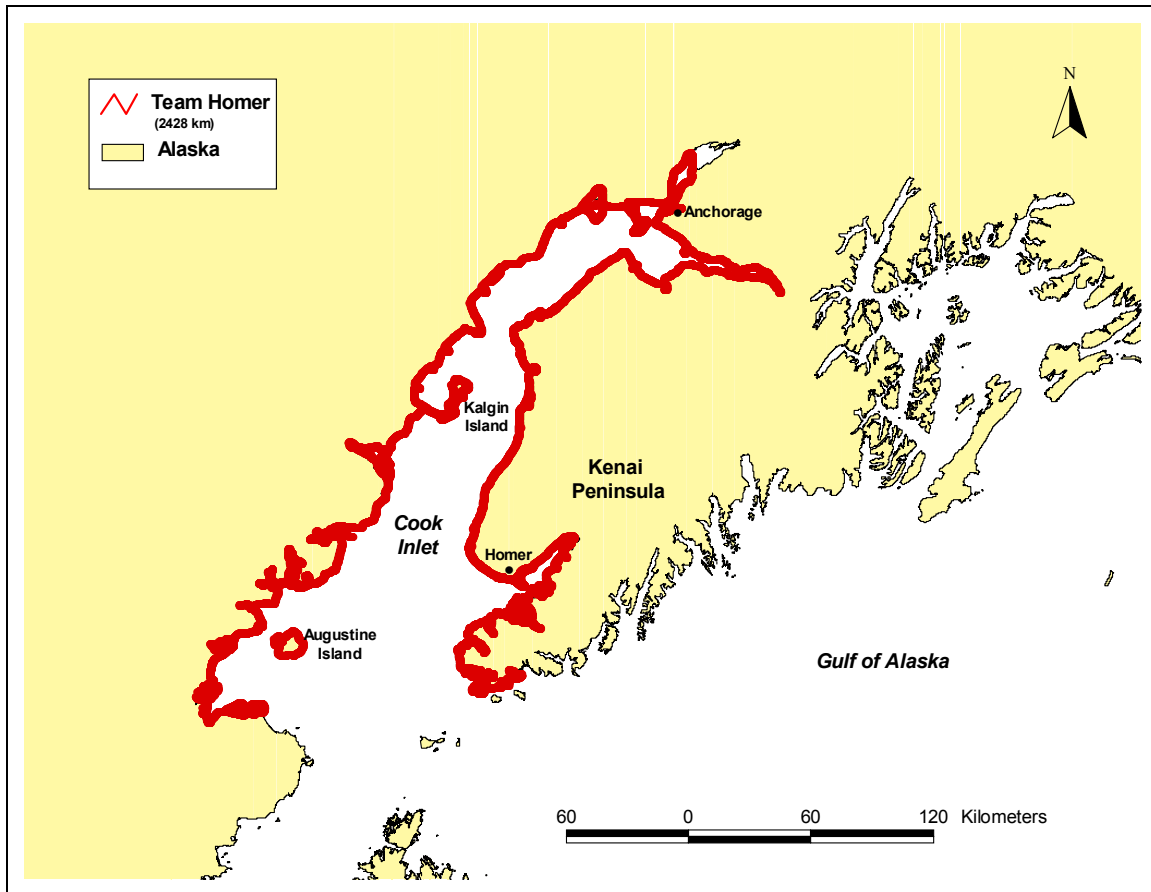


FLIGHT REPORT
ShoreZone Aerial Video Imaging (AVI) Survey
Cook Inlet, Alaska
June 21-26, 2009
Team Homer (HM)



Prepared for:
Cook Inlet Regional Citizens' Advisory Council
(CIRCAC)



COASTAL & OCEAN RESOURCES INC.

214-9865 West Saanich Road, Sidney BC Canada V8L 5Y8

ph: 250-4035, web: www.coastalandoceans.com, email: john@coastalandoceans.com

SUMMARY

ShoreZone is a coastal habitat mapping and classification system in which georeferenced aerial imagery is collected specifically for the interpretation and integration of geological and biological features of the intertidal zone and nearshore environment. Oblique low-altitude aerial video and digital still imagery of the coastal zone is collected during summer low tides (zero tide level or lower), usually from a helicopter flying at <100 m altitude. The flight trackline is recorded at 1-second intervals using Fugawi electronic navigation software and is continuously monitored in-flight to ensure all shorelines have been imaged. Video and still imagery collected are georeferenced and time-synchronized. Video imagery is accompanied by continuous, simultaneous commentary by a geologist and a biologist aboard the aircraft. The imagery and commentary are later used in the definition of discrete along-shore coastal habitat units and the “mapping” of observed physical, geomorphic, sedimentary, and biological features in those units. More than 20 agencies and groups support the ShoreZone Coastal Habitat Mapping Program in Alaska. For more information on the ShoreZone program and its partners, please visit Coastal and Ocean Resources, Inc. web site at <http://www.coastalandoceans.com>.

The purpose of this flight report is to summarize the field activities of the ShoreZone aerial video imaging (AVI) survey conducted out of **Homer, Alaska** during the low-tide window of **June 21-26th, 2009**. The survey was conducted by Coastal & Ocean Resources Inc. (CORI) under contract with Cook Inlet Regional Citizens’ Advisory Council (CIRCAC) and NOAA National Marine Fisheries Service. A coastal ecologist from National Marine Fisheries Service (NOAA) provided biological observations during the flights. Table 2. provides a summary of crew affiliations and responsibilities.

The tables and figures on the following pages summarize the extent and location of the AVI data and imagery collected by the team, a total of **2,428 km of shoreline**. The team utilized a helicopter chartered from Maritime Helicopters in Homer, Alaska. Imagery was collected looking at the shoreline from the left side of the aircraft with the door removed. A total of 20 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 (in hh:mm:ss UTC in 24-hour clock time), and photo numbers. The six-digit UTC time is also imprinted on the video imagery that is provided on DVDs with this report.

Representative digital still photos from each day of the survey are provided in the last section of this report. All photos are supplied on DVD, organized by tape number for each team, consistent with the image library. More than 13, 200 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 (displayed by tape number), as well as the digitized shoreline segments flown. Within each survey team, 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/maps/szintro.htm>).

Table 1. Survey Team and Flight Report Contents.

Team	Base	Tapes	Pages
Homer (HM)	Homer	CI09_HM_01 to CI09_HM_20	6 – 45
Daily Photos			46 - 54

Table 2. ShoreZone AVI Flight Personnel and Responsibilities: Team Homer (HM).

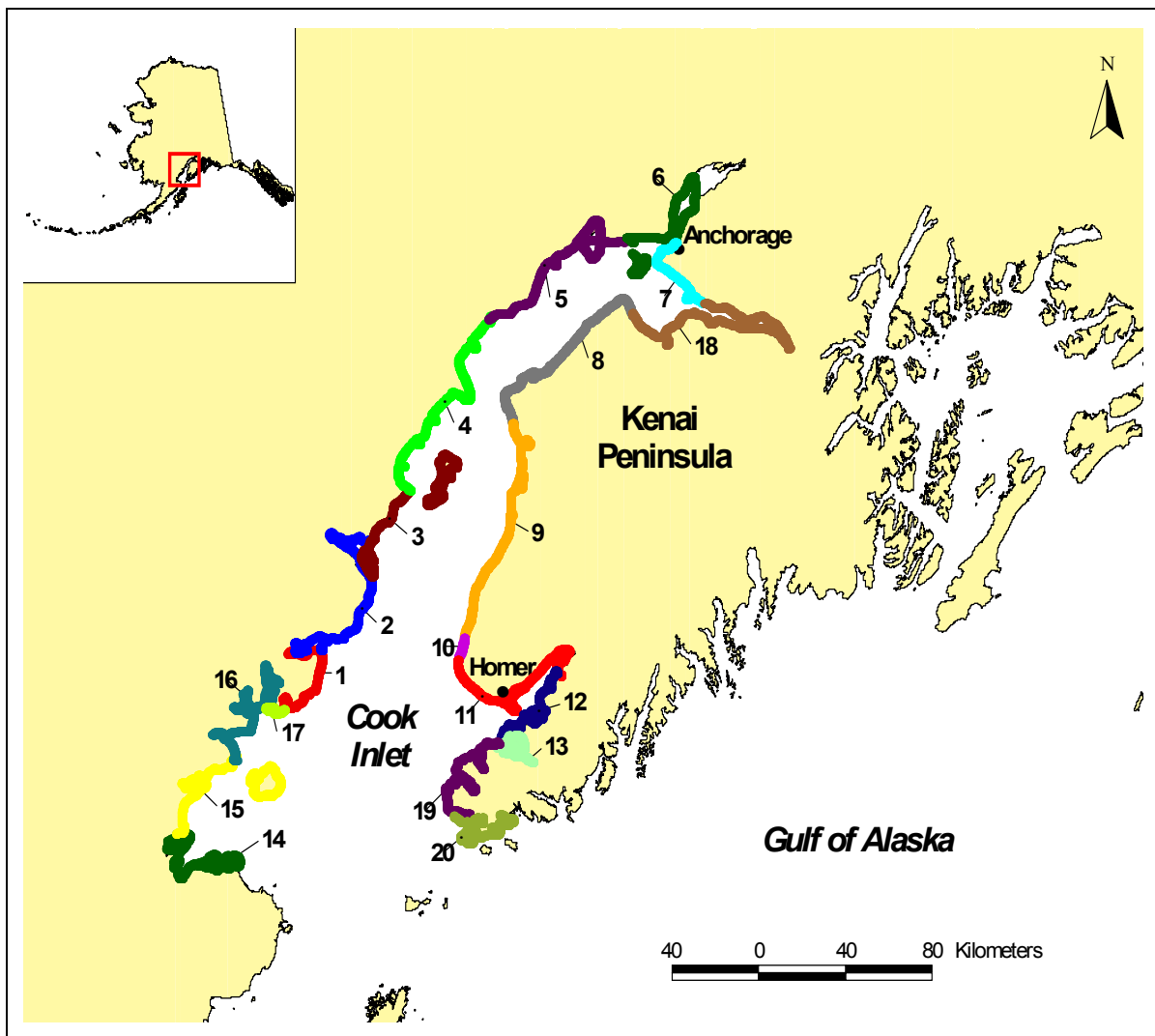
Crew Member	Individual / Affiliation	Responsibilities
Geomorphologist	Jodi Harney CORI, Sidney, BC	survey coordination, videography, geomorphic commentary, post-flight data processing, project reporting
Coastal Ecologist	Mandy Lindeberg NOAA, Juneau Alaska	digital photography, biologic commentary
Navigator	Sean Daley CORI, Sidney, BC	in-flight navigation, post-flight data processing, project reporting
Pilot	Victor Baratti Maritime Helicopters Homer, Alaska	

Table 3. Shoreline Survey Summary, by Team and by Tape.

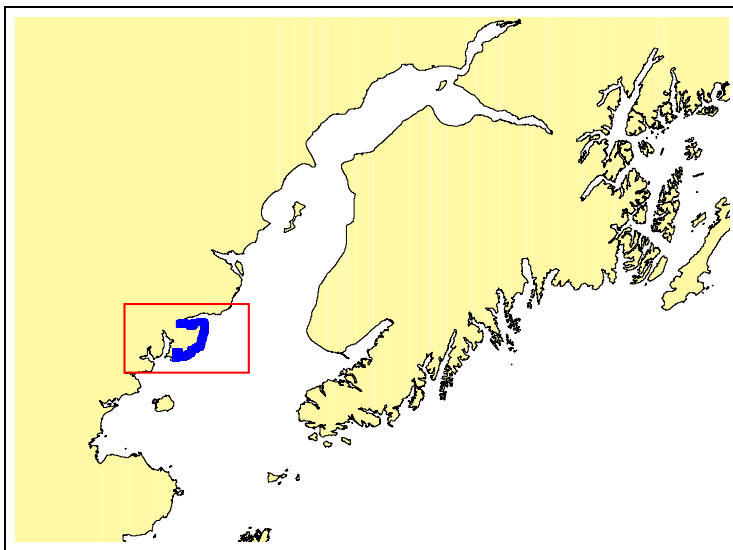
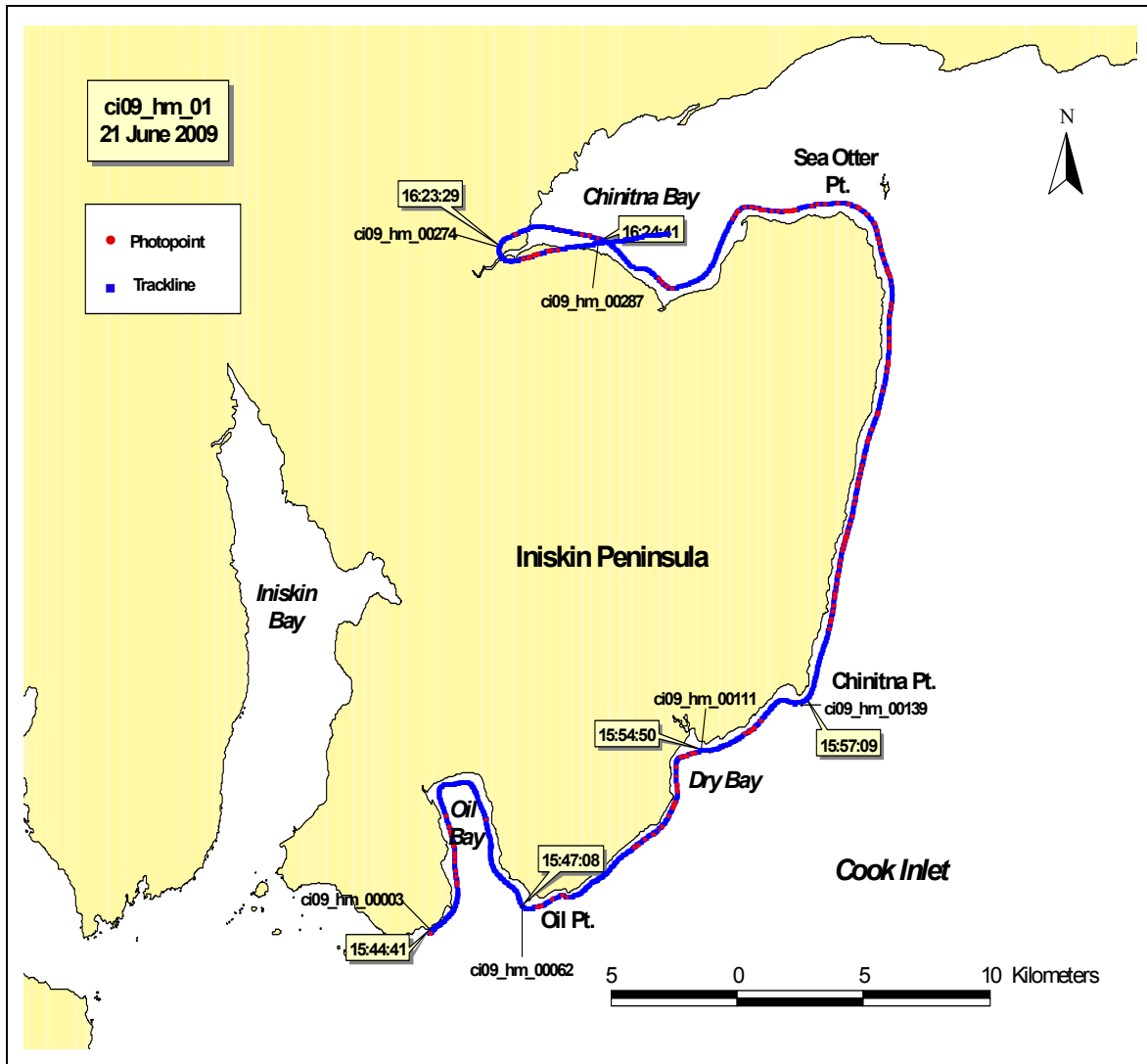
Team	Tape	Location
Homer	CI09_HM_01	Oil Bay
	CI09_HM_02	Chinitna Bay, Tuxedni Bay
	CI09_HM_03	Chisik Island, Kalgin Island
	CI09_HM_04	Redoubt Bay, Trading Bay
	CI09_HM_05	Trading Bay, Susitna Flats
	CI09_HM_06	Fire Island, Knik Arm
	CI09_HM_07	Anchorage, Turnagain Arm
	CI09_HM_08	Point Possession, East Foreland
	CI09_HM_09	Kenai, Cape Starichkof
	CI09_HM_10	Cape Starichkof, Anchor Point
	CI09_HM_11	Homer, Kachemak Bay
	CI09_HM_12	Kachemak Bay
	CI09_HM_13	Sadie Cove; Tutka Bay
	CI09_HM_14	Douglas River, Kamishak Bay
	CI09_HM_15	Kamishak Bay, Augustine Island
	CI09_HM_16	Ursus Cove, Iniskin Bay
	CI09_HM_17	Iniskin Island, Pomeroy Island
	CI09_HM_18	Turnagain Arm, Chickaloon Bay
	CI09_HM_19	Seldovia, Port Graham
	CI09_HM_20	Port Chatham, Chugach Bay

**ShoreZone Aerial Video Imaging (AVI) Survey
Cook Inlet
June 21-26, 2009**

Team Homer (HM)
Survey Maps and Tape Logs
DVDs: CI09_HM_01 to CI09_HM_20



Flight trackline map showing the location and extent of specific videotapes (DVDs) for the June 21-26 **Team Homer** survey in Cook Inlet.



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

Tape: CI09_HM_01

Date: 21 June 09

General Location: Oil Bay

Time Start (UTC): 15:44:41

Geo: Harney

Fuel Break: None

Bio: Lindeberg

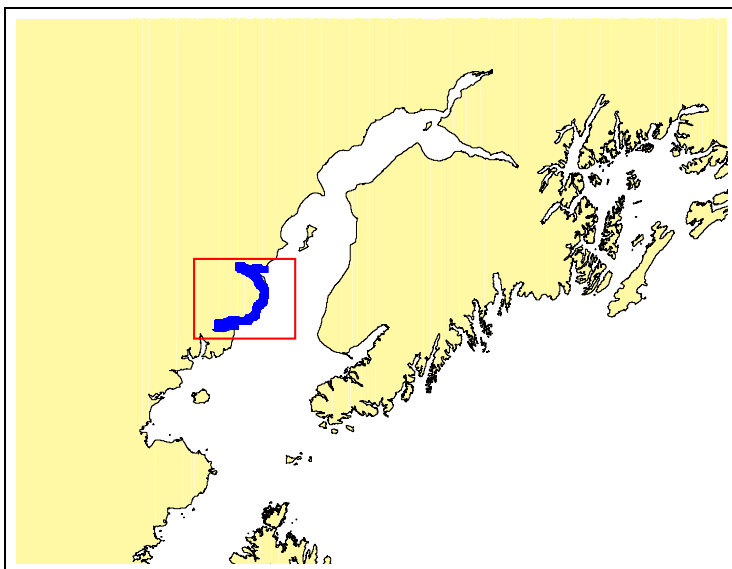
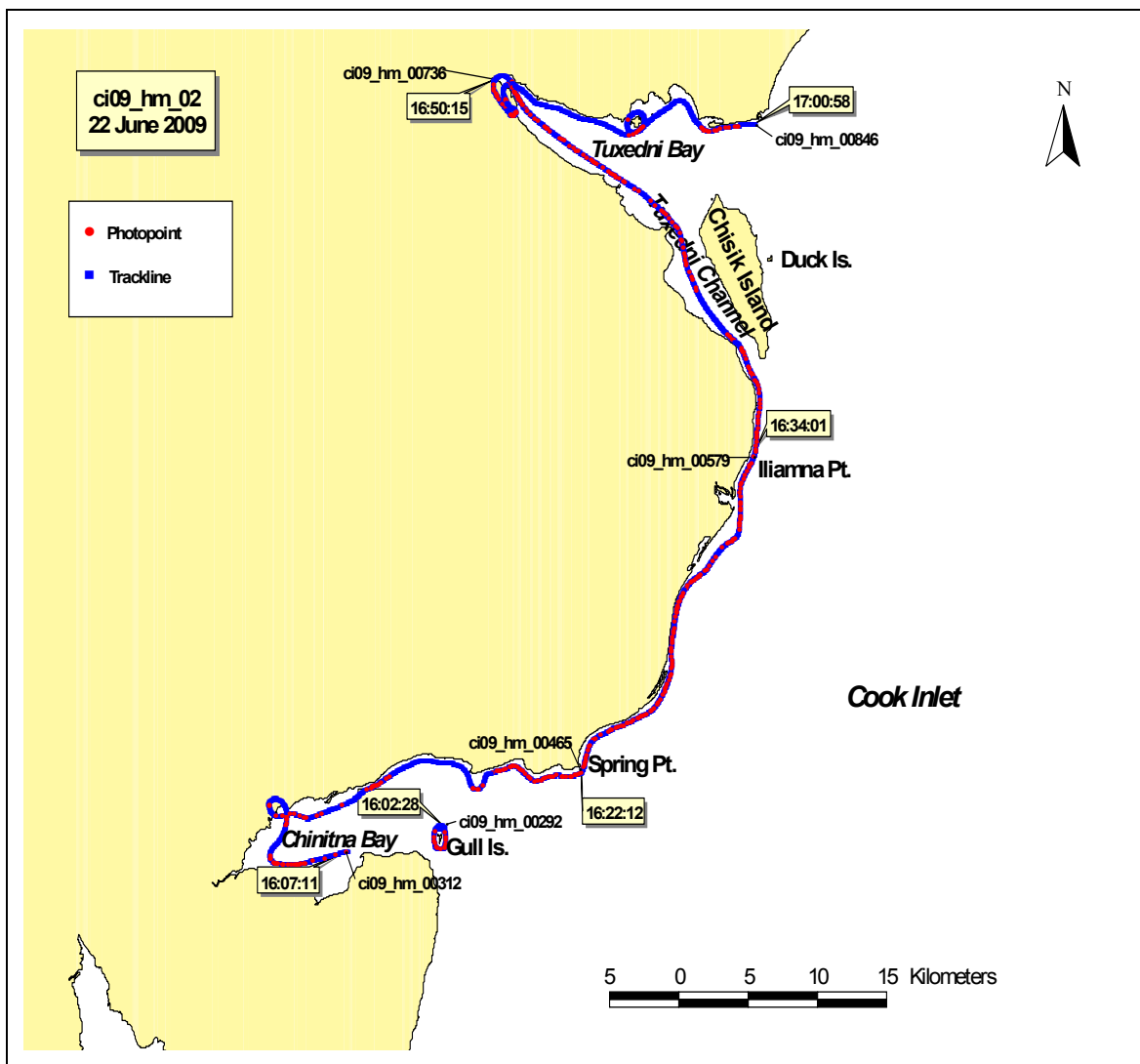
Time End (UTC): 16:26:00

Nav: Daley

Tape Length: 29:31

Weather: Rain, Wind

Time (UTC)	Location	Photo
15:44:41	Start of tape, SW entrance; Oil Bay	ci09_hm_00003
15:47:08	Bowser Creek, Head of Oil Bay	ci09_hm_00029
15:52:00	Oil Point	ci09_hm_00062
15:54:50	Dry Point	ci09_hm_00111
15:57:09	Chinitna Point	ci09_hm_00139
16:23:29	Head of Chinitna Bay	ci09_hm_00274
16:24:41	End of tape, mudflats south Chinitna	ci09_hm_00287



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

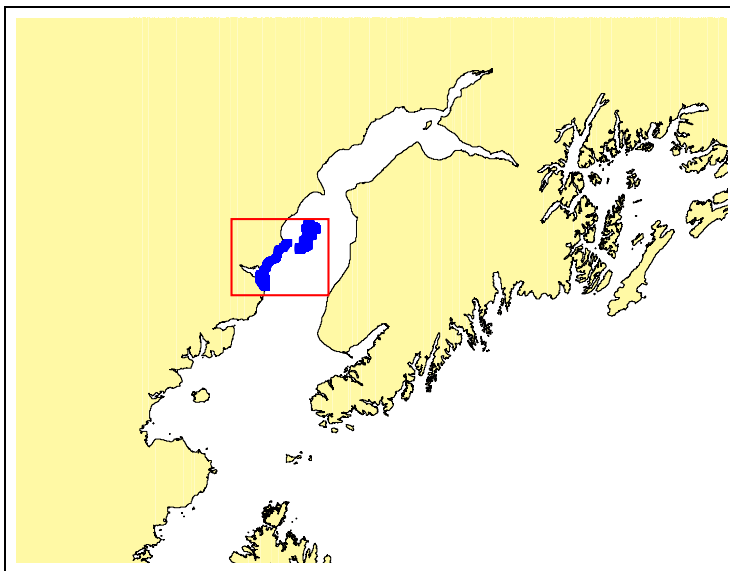
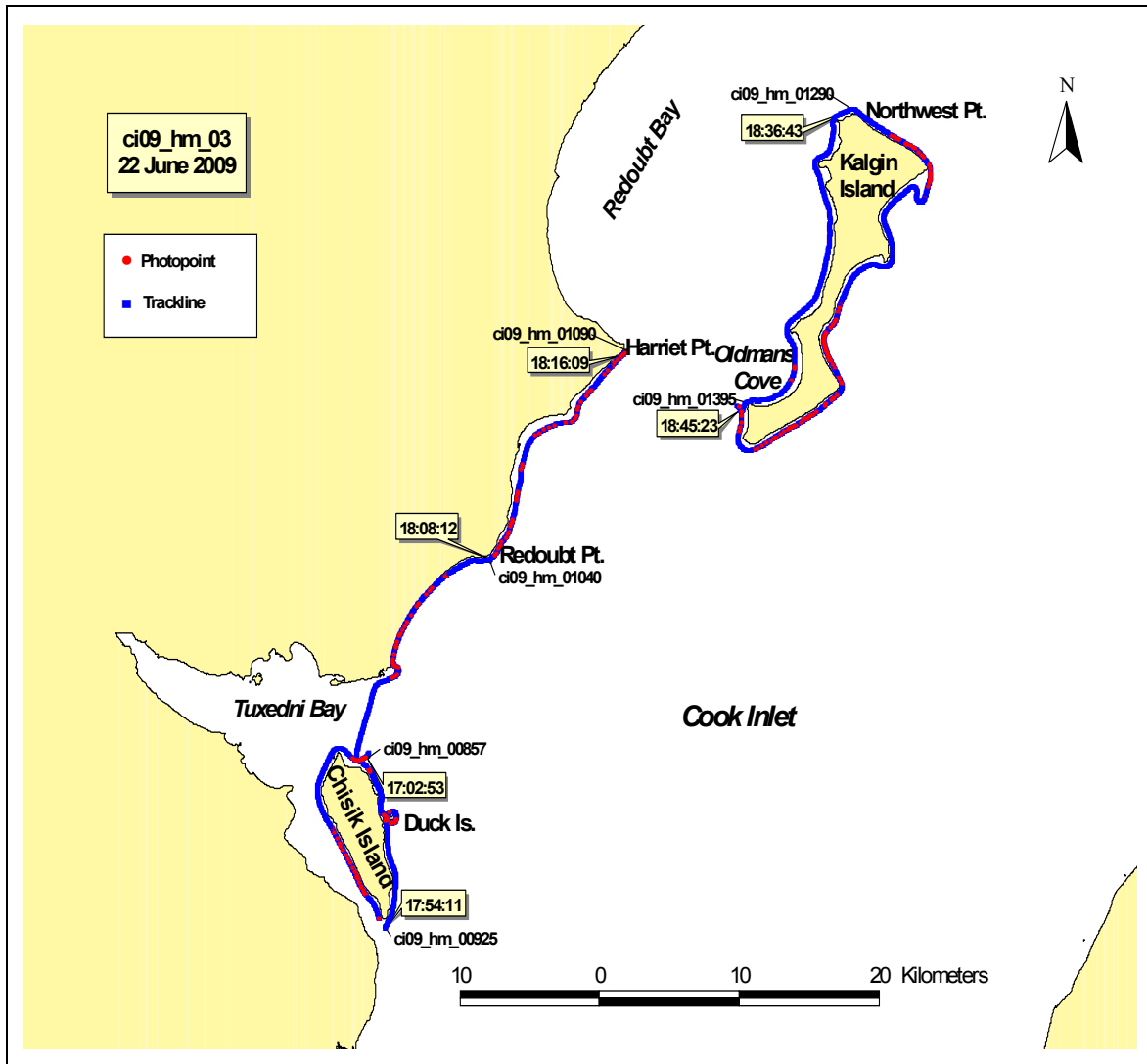
Tape: CI09_HM_02 **Date:** 22 June 09

General Location: Chinitna Bay; Tuxedni Bay

Time Start (UTC): 16:02:28	Geo: Harney
Fuel Break: None	Bio: Lindeberg
Time End (UTC): 17:00:58	Nav: Daley
Tape Length: 55:46	

Weather: Rain, low ceiling, poor visibility

Time (UTC)	Location	Photo
16:02:28	Start of tape, Gull Island	ci09_hm_00292
16:07:11	South Chinitna Bay	ci09_hm_00312
16:22:12	Spring Point	ci09_hm_00465
16:34:01	Iliamna Point	ci09_hm_00579
16:50:15	Head of Tuxedni Bay	ci09_hm_00736
17:00:58	End of tape	ci09_hm_00846



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

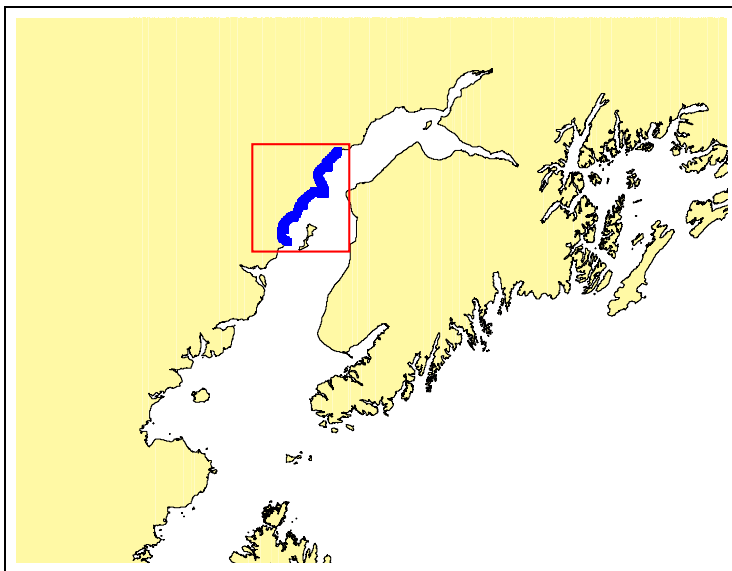
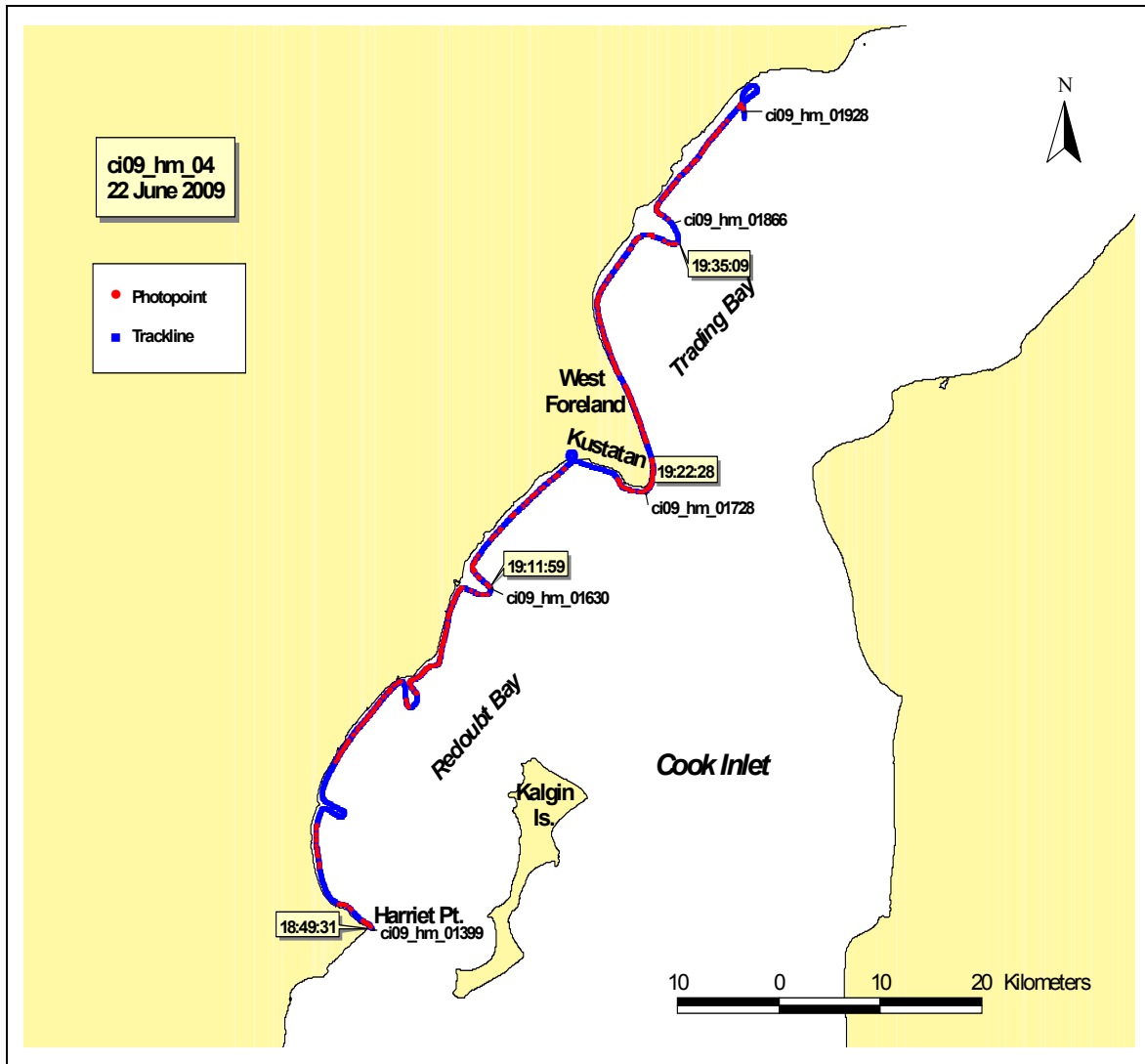
Tape: CI09_HM_03 **Date:** 22 June 09

General Location: Chisik Island; Kalgin Island

Time Start (UTC):	17:02:53	Geo: Harney
Fuel Break:	17:08:42 – 17:54:10	Bio: Lindeberg
Time End (UTC):	18:45:23	Nav: Daley
Tape Length:	53:41	

Weather: Rain, low ceiling, poor visibility

Time (UTC)	Location	Photo
17:02:53	Start of tape, Chisik Island	ci09_hm_00857
17:08:42	Fuel Break; Silver Salmon	
17:54:11	South Chisik Island	ci09_hm_00925
18:08:12	Redoubt Point	ci09_hm_01040
18:16:09	Harriet Point	ci09_hm_01090
18:36:43	Northwest Point, Kalgin Island	ci09_hm_01290
18:45:23	End of tape, Kalgin Island	ci09_hm_01395



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

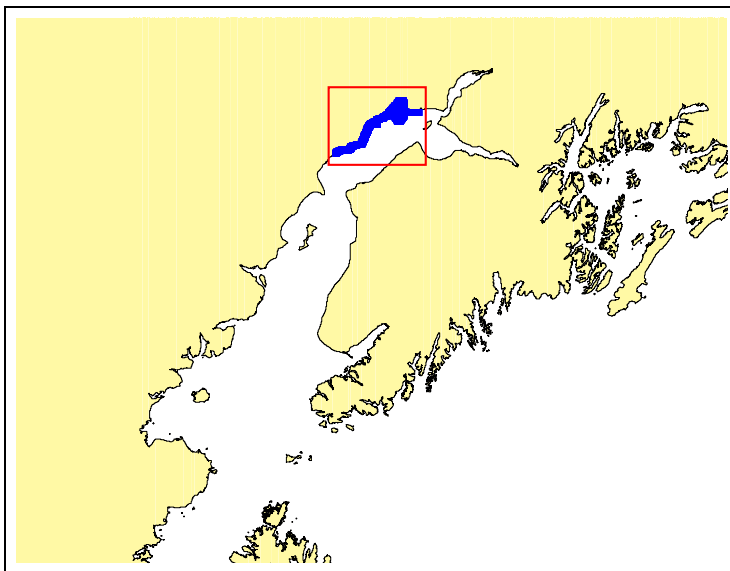
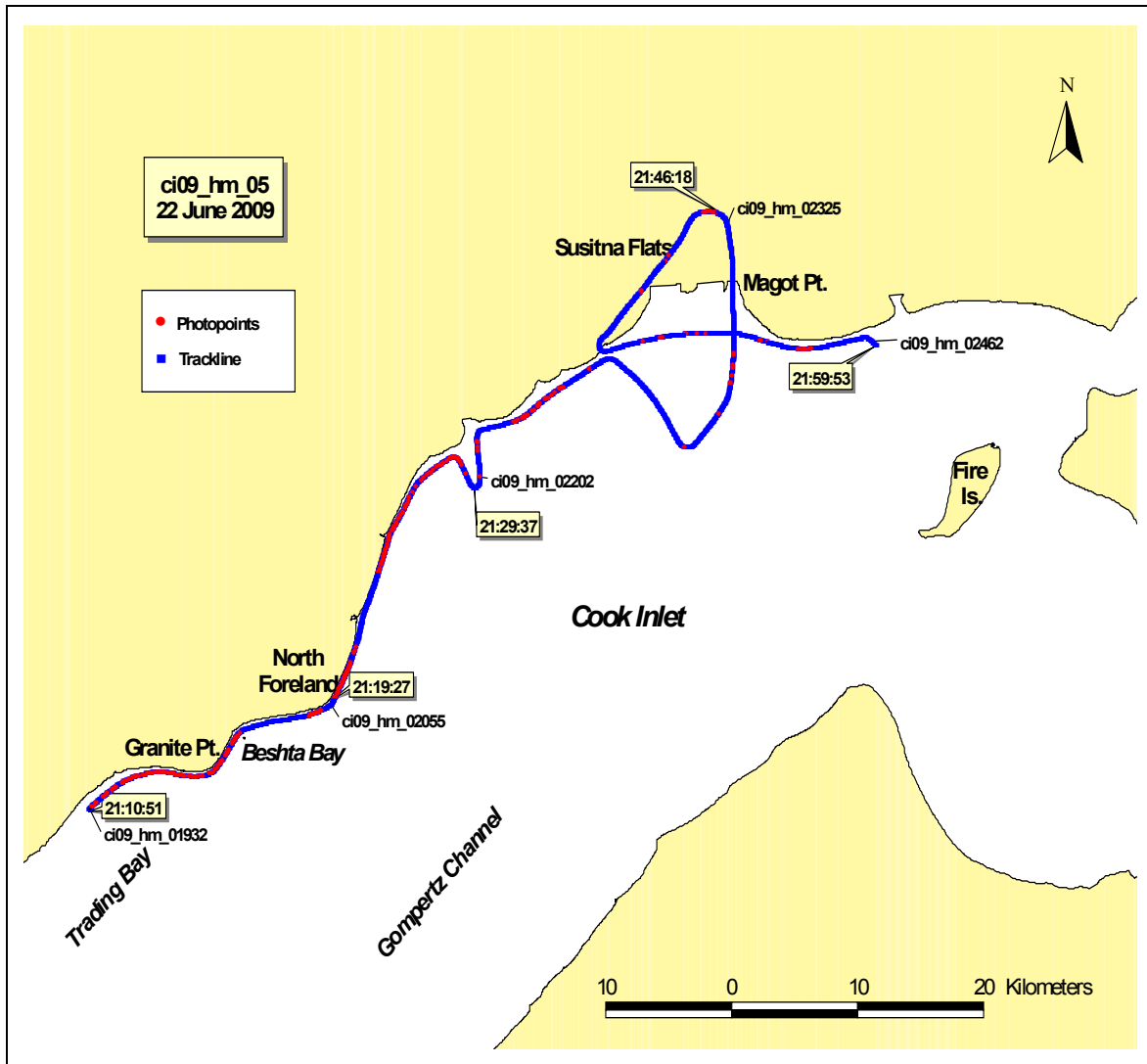
Tape: CI09_HM_04 **Date:** 22 June 09

General Location: Redoubt Bay; Trading Bay

Time Start (UTC): 18:49:31	Geo: Harney
Fuel Break: None	Bio: Lindeberg
Time End (UTC): 19:43:52	Nav: Daley
Tape Length: 54:21	

Weather: Rain, low ceiling, poor visibility

Time (UTC)	Location	Photo
18:49:31	Start of tape, Harriet Point	ci09_hm_01399
19:11:59	Redoubt Bay	ci09_hm_01630
19:22:28	West Foreland	ci09_hm_01728
19:35:09	Trading Bay	ci09_hm_01866
19:43:52	End of tape, Trading Bay	ci09_hm_01928



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

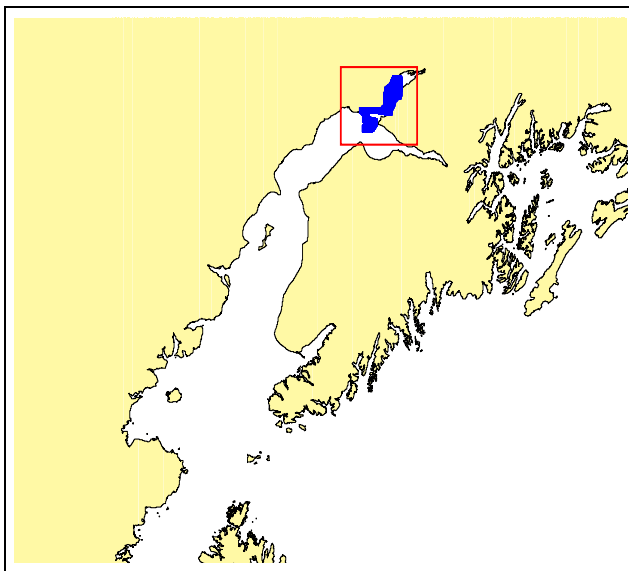
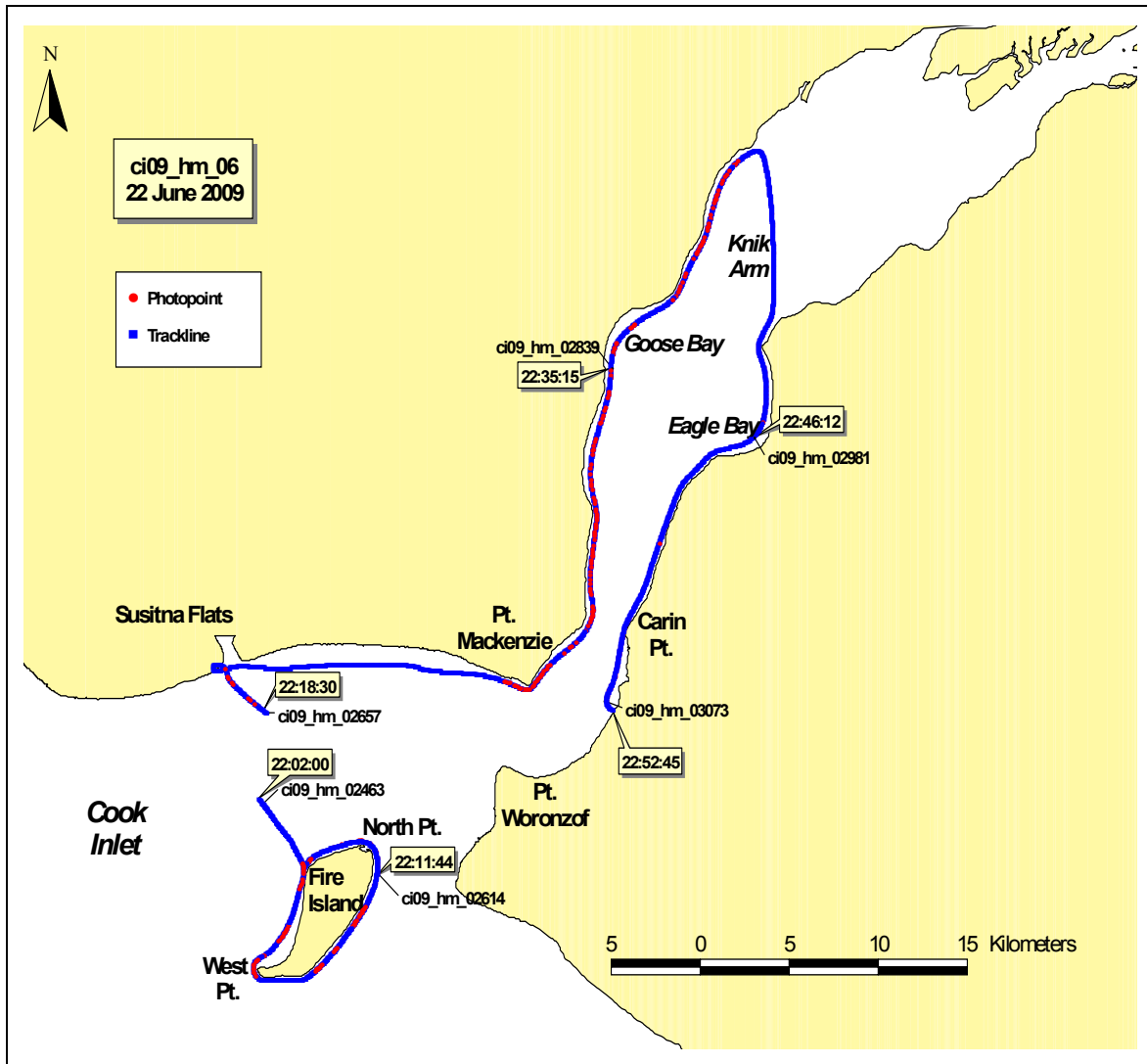
Tape: CI09_HM_05 **Date:** 22 June 09

General Location: Trading Bay; Susitna Flats

Time Start (UTC): 21:10:51 **Geo:** Harney
Fuel Break: None **Bio:** Lindeberg
Time End (UTC): 21:59:53 **Nav:** Daley
Tape Length: 49:02

Weather: Rain, low ceiling, poor visibility

Time (UTC)	Location	Photo
21:10:51	Start of tape, Trading Bay	ci09_hm_01932
21:19:27	North Foreland	ci09_hm_02055
21:29:37	Beluga River	ci09_hm_02202
21:46:18	Susitna Flats	ci09_hm_02325
21:59:53	End of tape, Susitna Flats	ci09_hm_02462



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

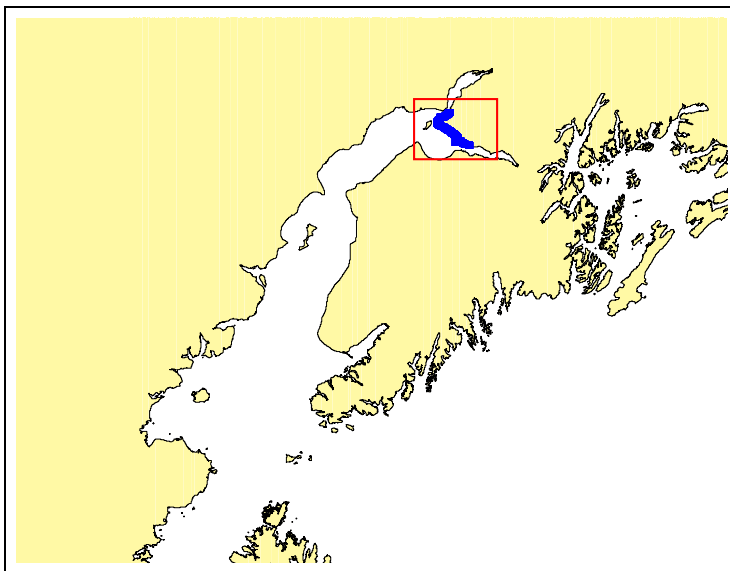
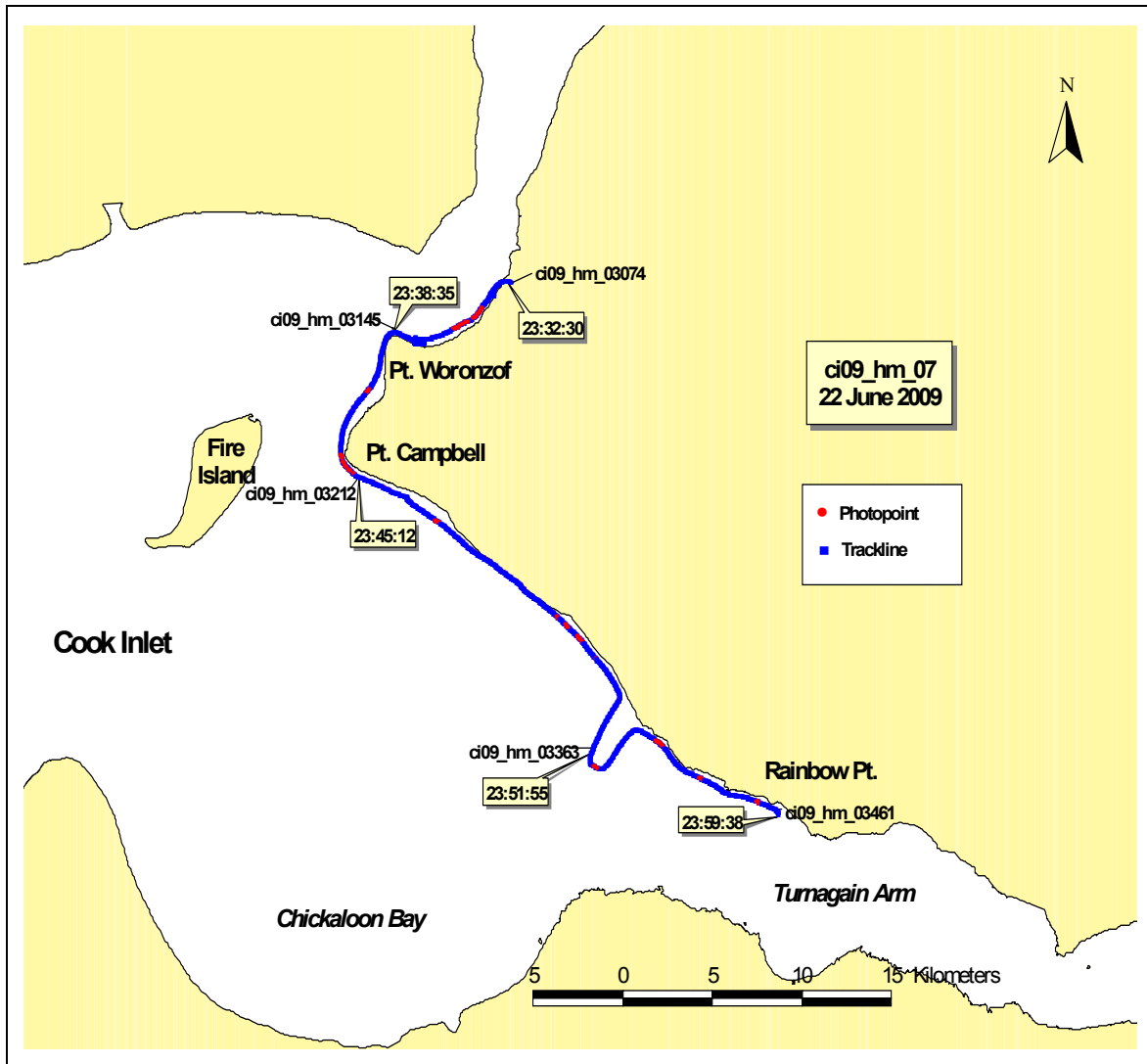
Tape: CI09_HM_06 **Date:** 22 June 09

General Location: Fire Island; Knik Arm

Time Start (UTC): 22:02:00	Geo: Harney
Fuel Break: None	Bio: Lindeberg
Time End (UTC): 22:52:45	Nav: Daley
Tape Length: 46:53	

Weather: Rain, low ceiling, poor visibility

Time (UTC)	Location	Photo
22:02:00	Start of tape, Fire Island	ci09_hm_02463
22:11:44	North Point, Fire Island	ci09_hm_02614
22:18:30	Susitna Flats	ci09_hm_02657
22:35:15	Goose Bay, Knik Arm	ci09_hm_02839
22:46:12	Eagle Bay, Knik Arm	ci09_hm_02981
22:52:45	End of tape, Carin Point	ci09_hm_03073



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

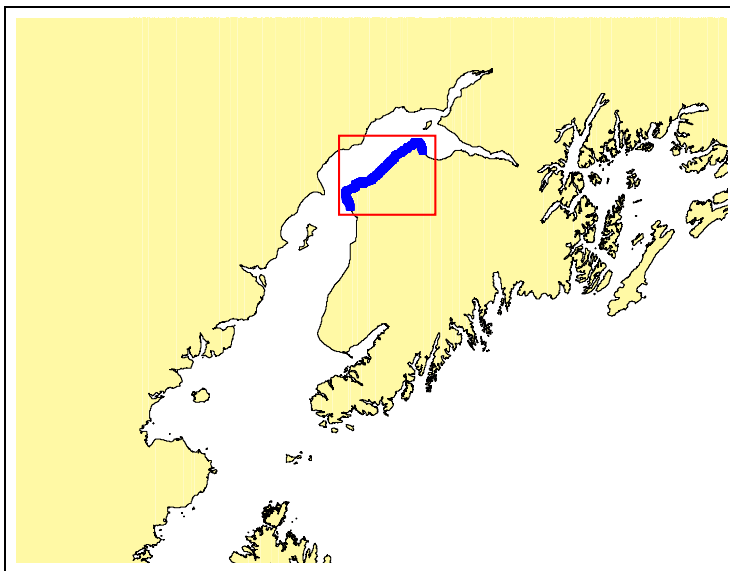
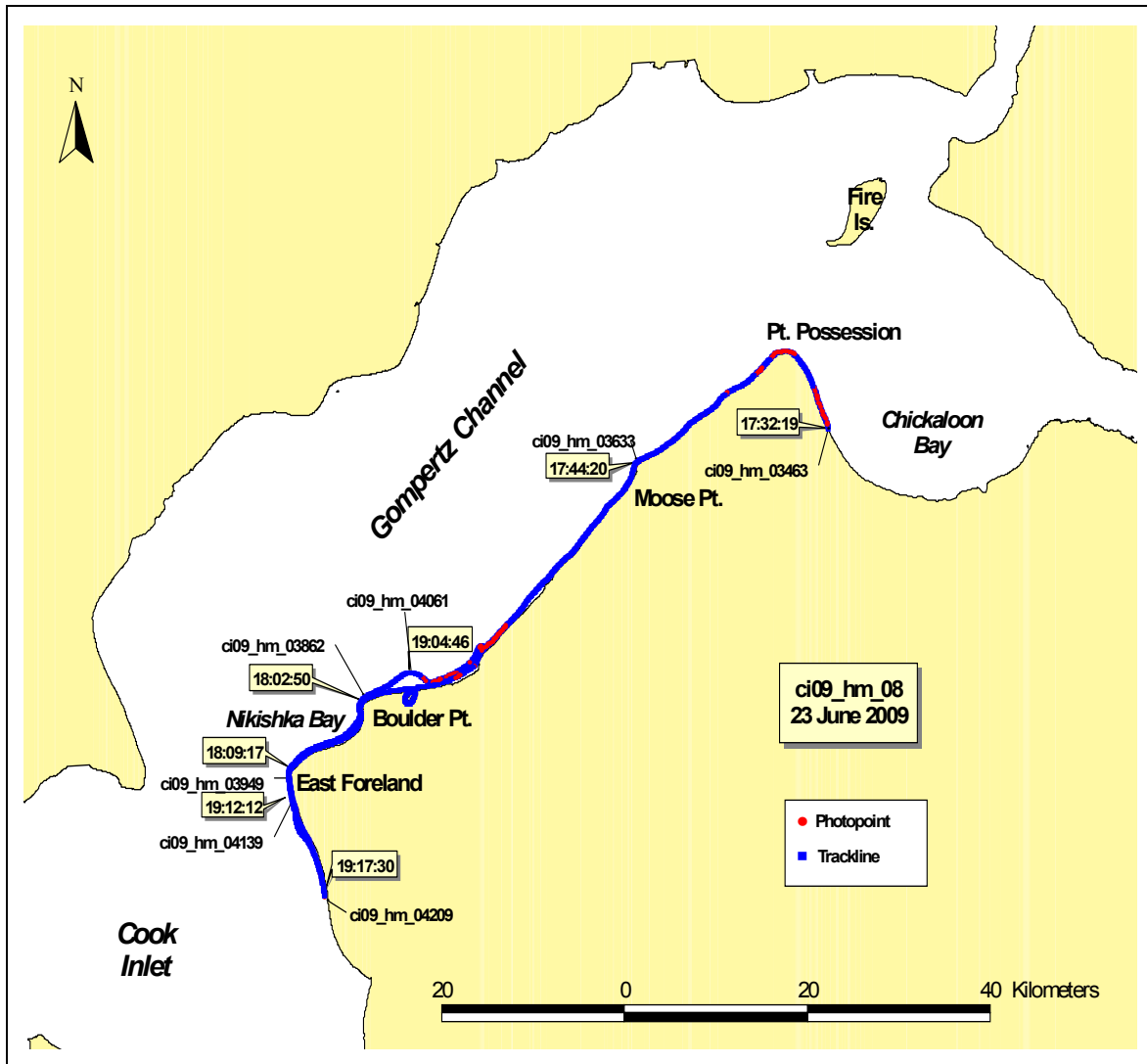
Tape: CI09_HM_07 **Date:** 22 June 09

General Location: Anchorage; Turnagain Arm

Time Start (UTC): 23:32:30	Geo: Harney
Fuel Break: None	Bio: Lindeberg
Time End (UTC): 23:58:38	Nav: Daley
Tape Length: 26:08	

Weather: Rain, low ceiling, poor visibility

Time (UTC)	Location	Photo
23:32:30	Start of Tape, Anchorage	ci09_hm_03074
23:38:35	Point Woronzof	ci09_hm_03145
23:42:12	Point Campbell	ci09_hm_03212
23:51:55	Entrance to Turnagain Arm	ci09_hm_03363
23:58:38	End of tape, Rainbow Point	ci09_hm_03461



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

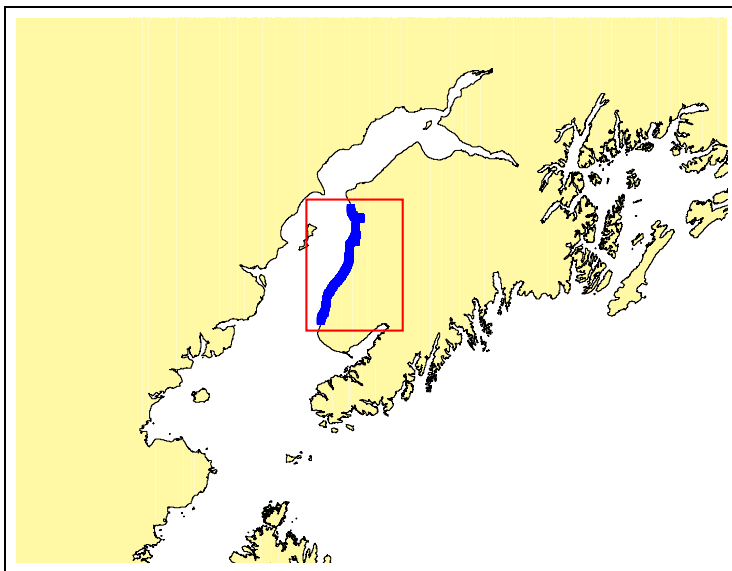
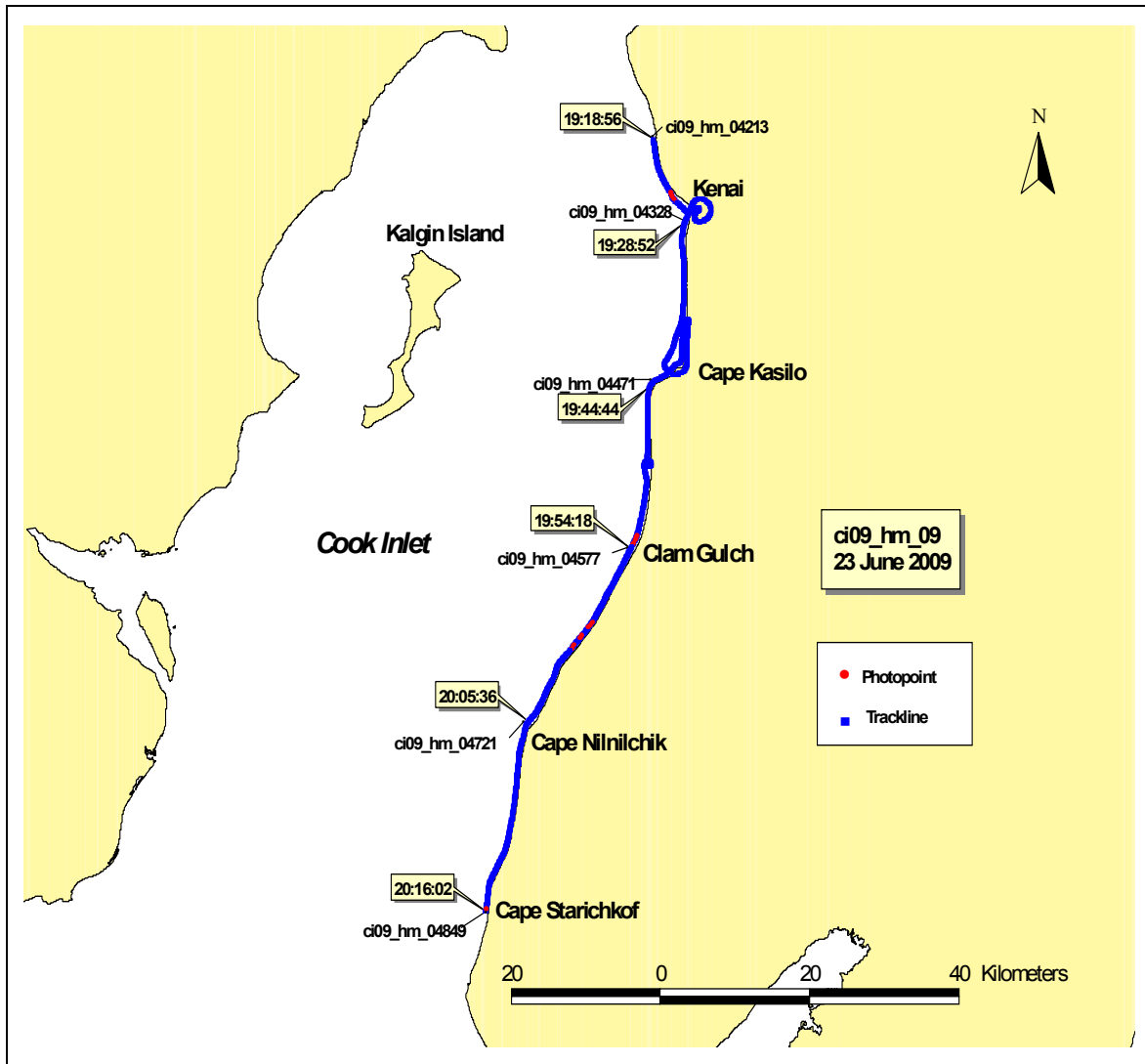
Tape: CI09_HM_08 **Date:** 23 June 09

General Location: Point Possession; East Foreland

Time Start (UTC): 17:32:19	Geo: Harney
Fuel Break: 18:12:23 – 19:00:37	Bio: Lindeberg
Time End (UTC): 19:17:30	Nav: Daley
Tape Length: 56:55	

Weather: Rain, low ceiling, poor visibility

Time (UTC)	Location	Photo
17:32:19	Start of tape, Point Possession	ci09_hm_03463
17:44:20	Moose Point	ci09_hm_03633
18:02:50	Boulder Point	ci09_hm_03862
18:09:17	East Foreland	ci09_hm_03949
18:12:23	Fuel Break	
19:04:46	Boulder Point, Outside flats	ci09_hm_04061
19:12:12	East Foreland, Second flight path	ci09_hm_04139
19:17:30	End of Tape, East Foreland	ci09_hm_04209



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

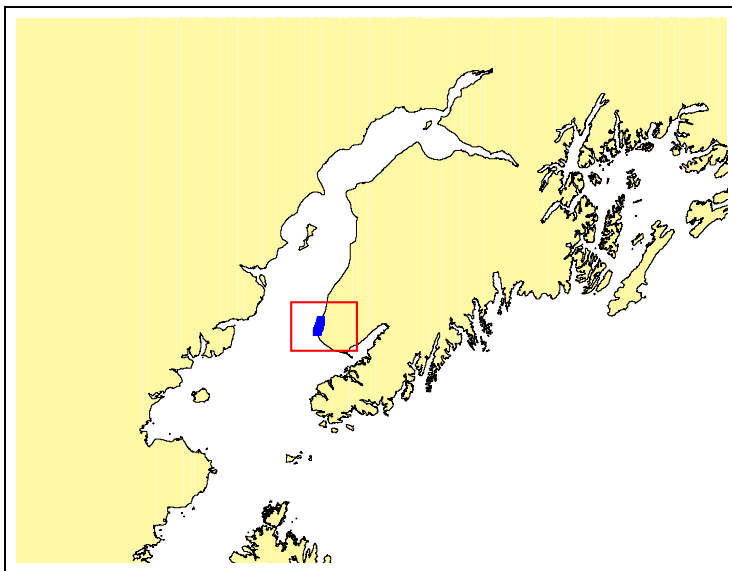
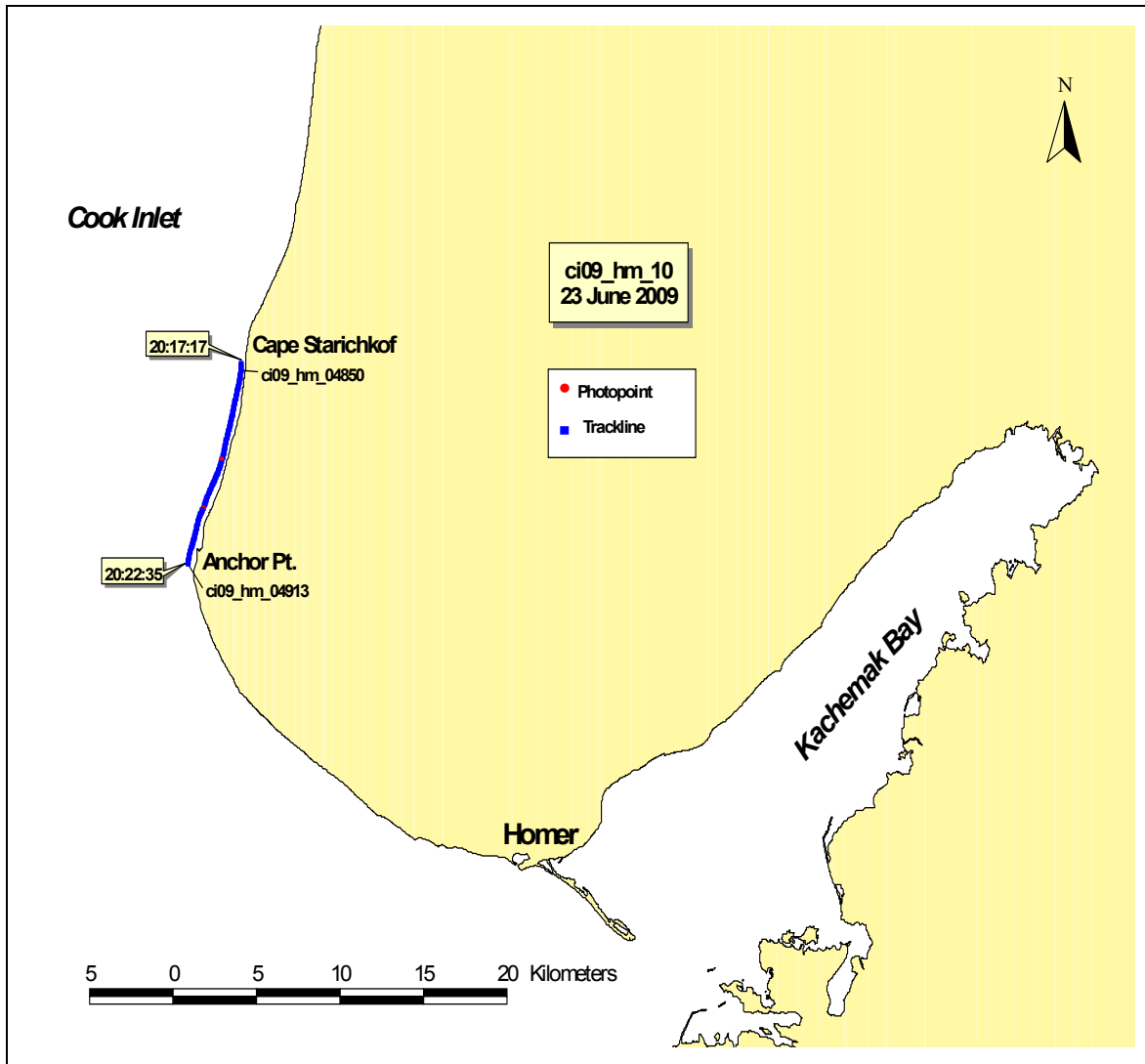
Tape: CI09_HM_09 **Date:** 23 June 09

General Location: Kenai; Cape Starichkof

Time Start (UTC): 19:18:56	Geo: Harney
Fuel Break: None	Bio: Lindeberg
Time End (UTC): 20:16:02	Nav: Daley
Tape Length: 57:06	

Weather: Rain, low ceiling, poor visibility

Time (UTC)	Location	Photo
19:18:56	Start of tape, Salamatof	ci09_hm_04213
19:28:52	Kenai	ci09_hm_04328
19:44:44	Cape Kasilo	ci09_hm_04471
19:54:18	Clam Gulch	ci09_hm_04577
20:05:36	Cape Nilnilchik	ci09_hm_04721
20:16:02	End of tape, Cape Starichkof	ci09_hm_04849



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

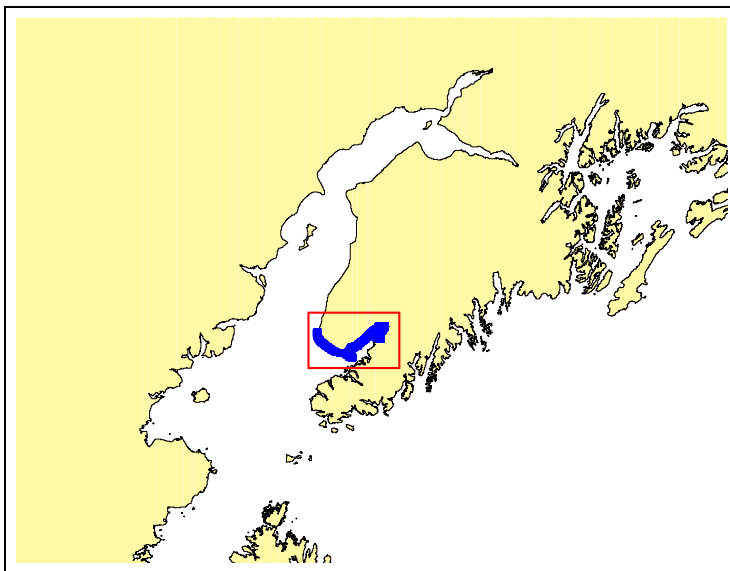
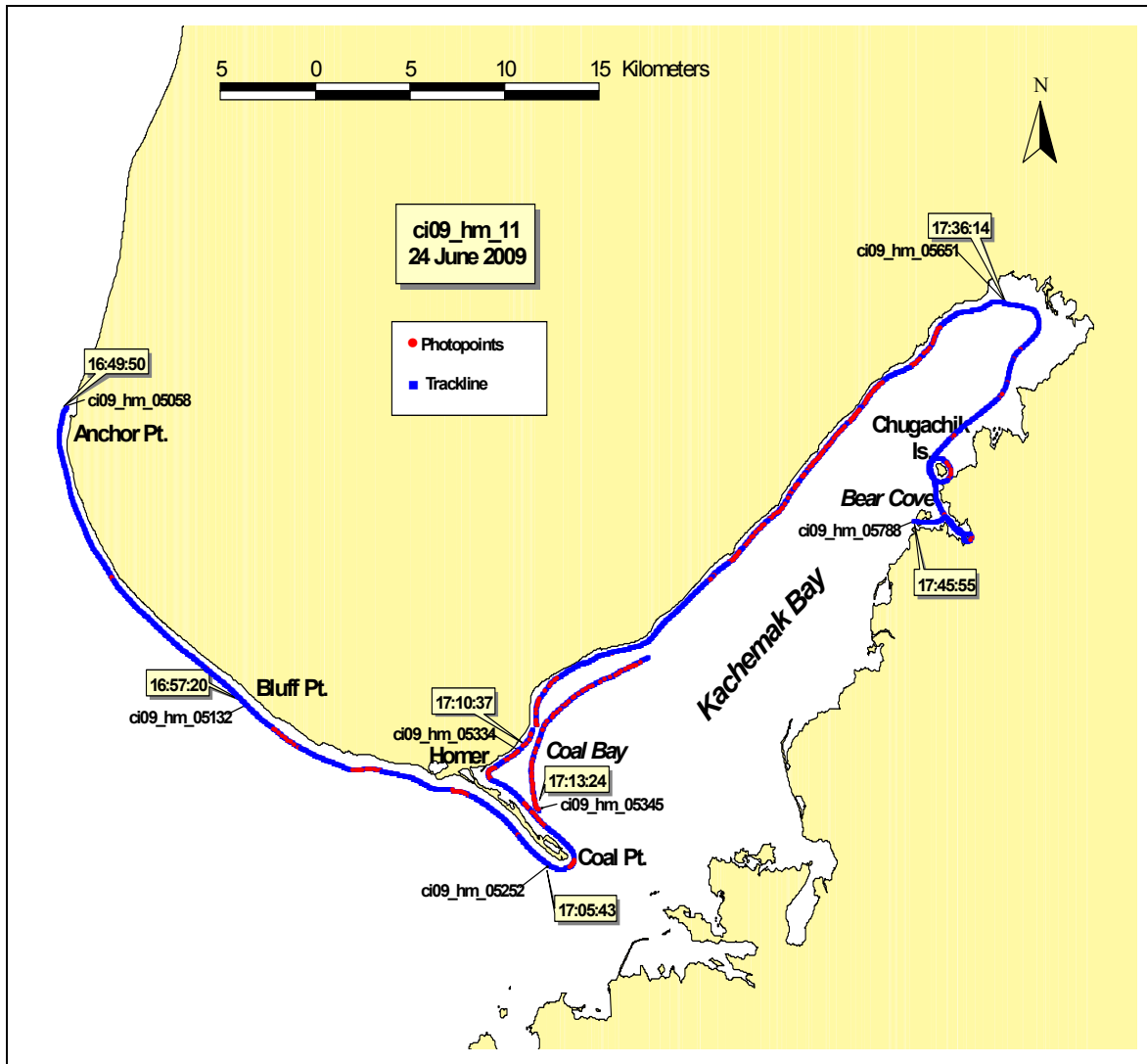
Tape: CI09_HM_10 **Date:** 23 June 09

General Location: Cape Starichkof; Anchor Point

Time Start (UTC):	20:17:17	Geo:	Harney
Fuel Break:	None	Bio:	Lindeberg
Time End (UTC):	20:22:35	Nav:	Daley
Tape Length:	05:18		

Weather: Rain, low ceiling, poor visibility

Time (UTC)	Location	Photo
20:17:17	Start of tape, Cape Starichkof	ci09_hm_04850
20:22:35	End of tape, Anchor Point	ci09_hm_04913



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

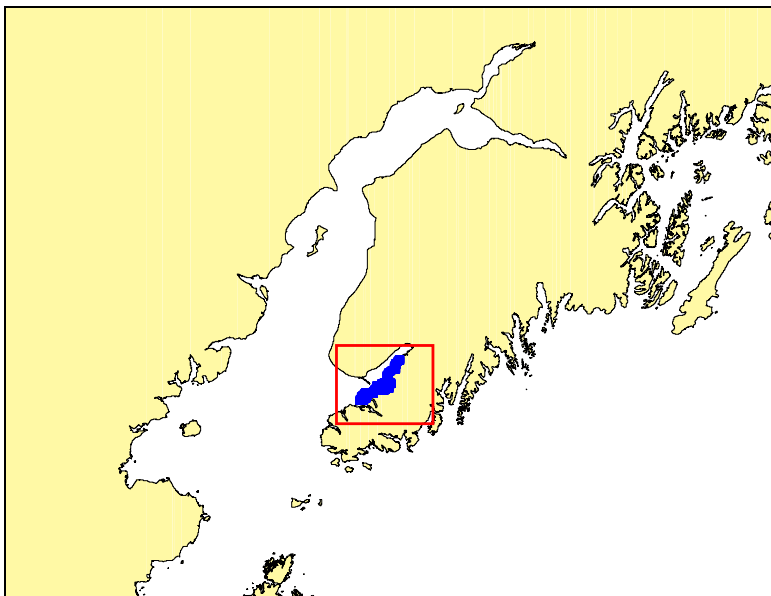
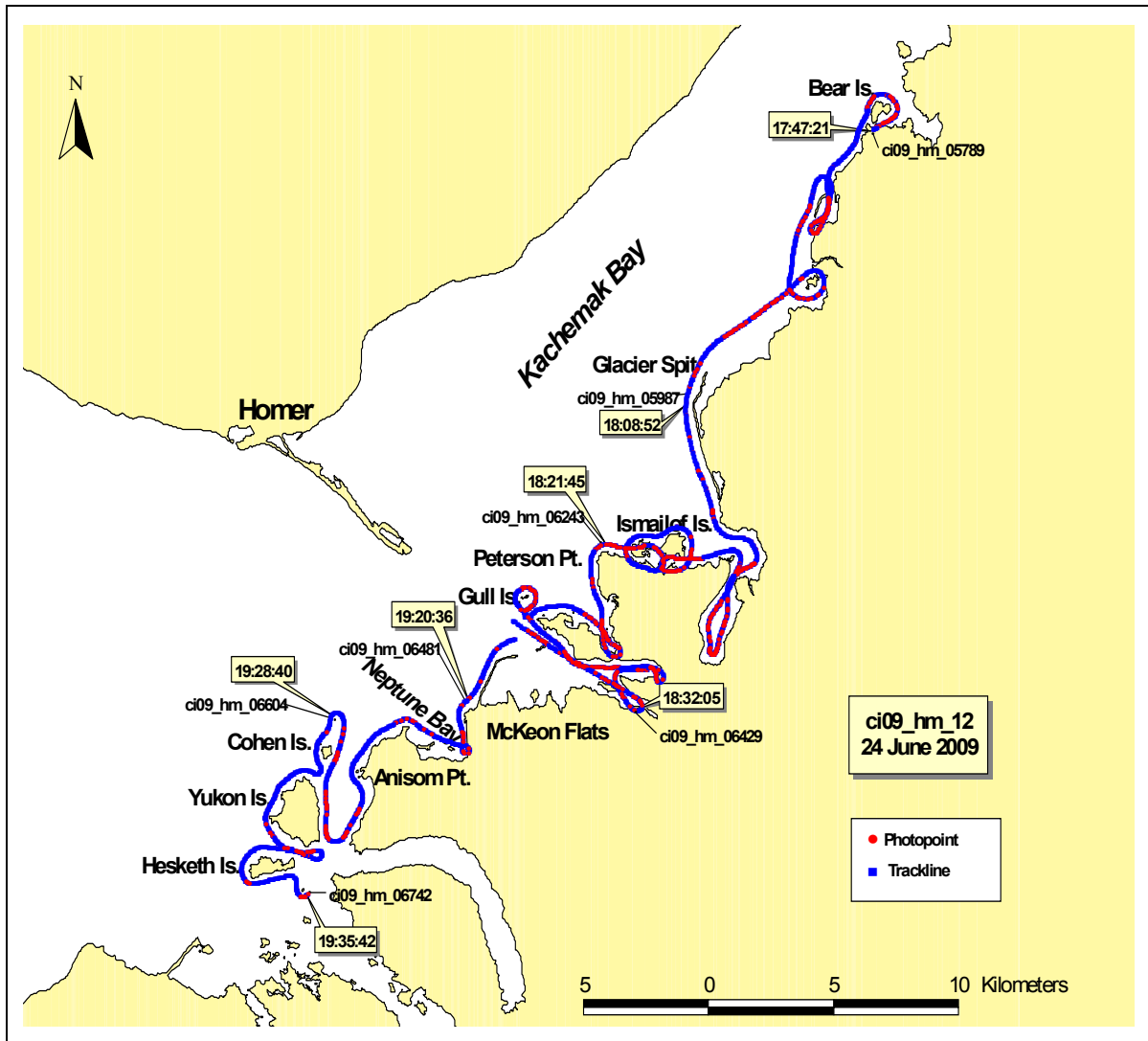
Tape: CI09_HM_11 **Date:** 24 June 09

General Location: Homer; Kachemak Bay

Time Start (UTC): 16:49:50	Geo: Harney
Fuel Break: None	Bio: Lindeberg
Time End (UTC): 17:45:55	Nav: Daley
Tape Length: 51:10	

Weather: Overcast

Time (UTC)	Location	Photo
16:49:50	Start of tape, Anchor Point	ci09_hm_05058
16:57:20	Bluff Point	ci09_hm_05132
17:05:43	Coal Point, Homer Spit	ci09_hm_05252
17:10:37	Coal Bay	ci09_hm_05334
17:13:24	Coal Bay, outer flats	ci09_hm_05345
17:36:14	Head of Kachemak Bay	ci09_hm_05651
17:45:55	End of tape, Bear Cove	ci09_hm_05788



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

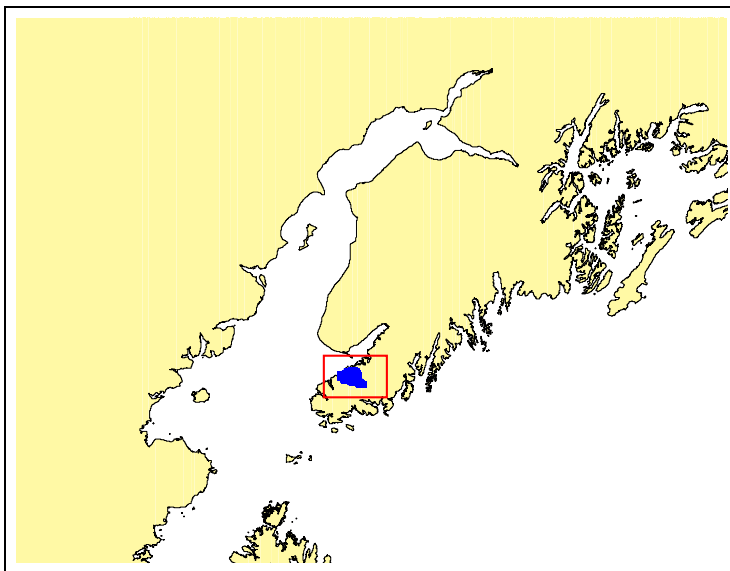
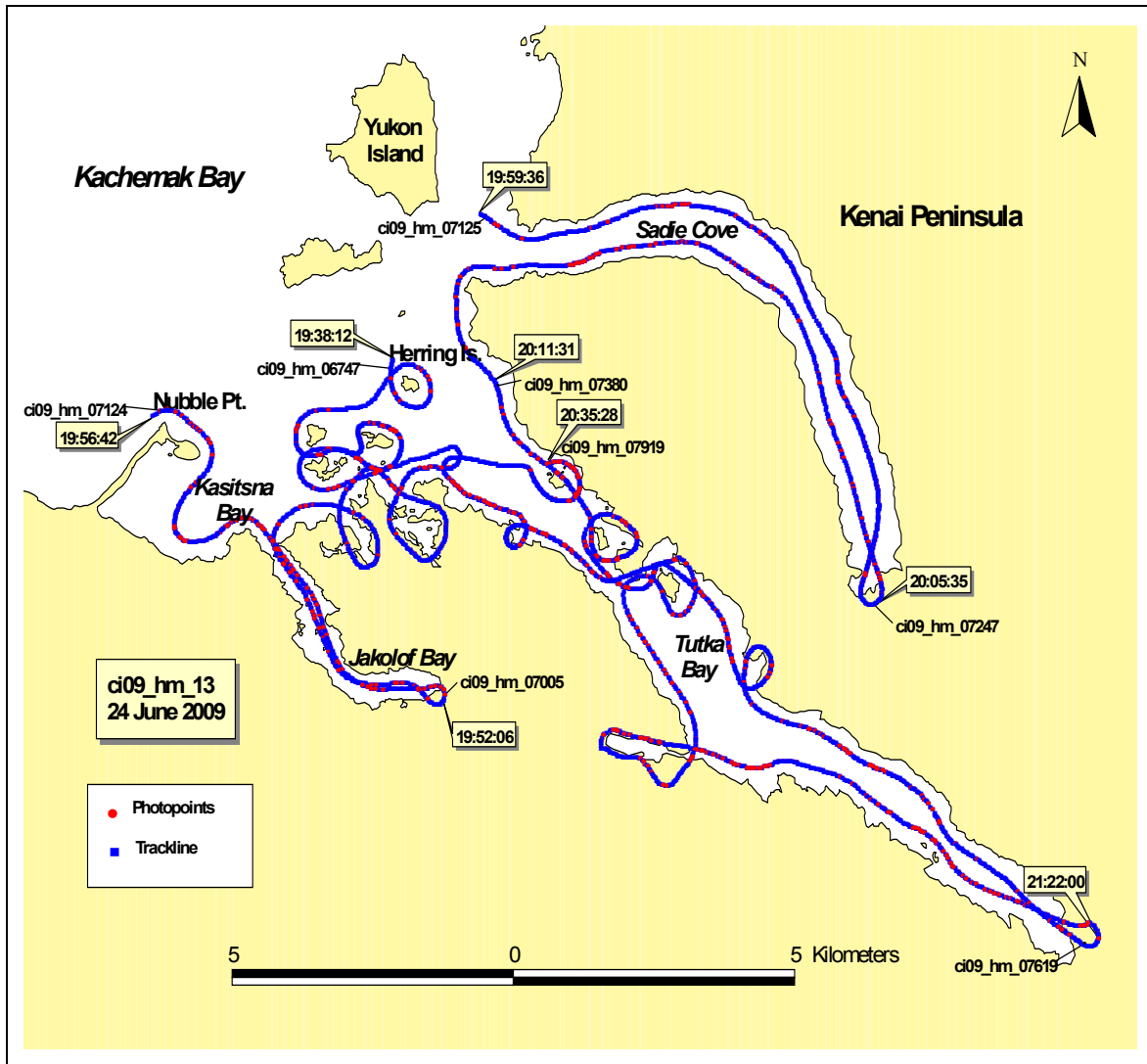
Tape: CI09_HM_12 **Date:** 24 June 09

General Location: Kachemak Bay

Time Start (UTC): 17:47:21	Geo: Harney
Fuel Break: 18:34:37 - 19:19:12	Bio: Lindeberg
Time End (UTC): 19:35:42	Nav: Daley
Tape Length: 53:01	

Weather: Overcast

Time (UTC)	Location	Photo
17:47:21	Start of tape, Bear Island	ci09_hm_05789
18:08:52	Glacier Spit	ci09_hm_05987
18:21:45	Peterson Point	ci09_hm_06243
18:32:05	Mckeon Flats	ci09_hm_06429
18:34:37	Fuel Break	
19:20:36	Neptune Bay	ci09_hm_06481
19:28:40	Cohen Island	ci09_hm_06604
19:35:42	End of tape, Hesketh Island	ci09_hm_06742



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

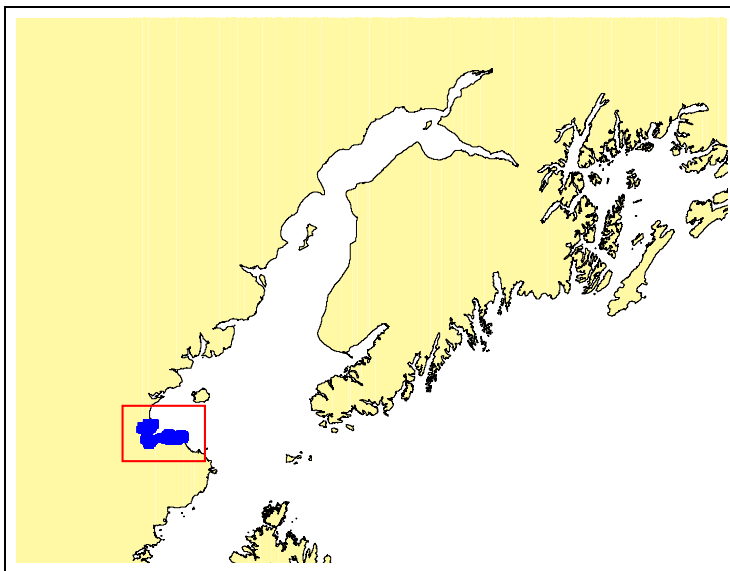
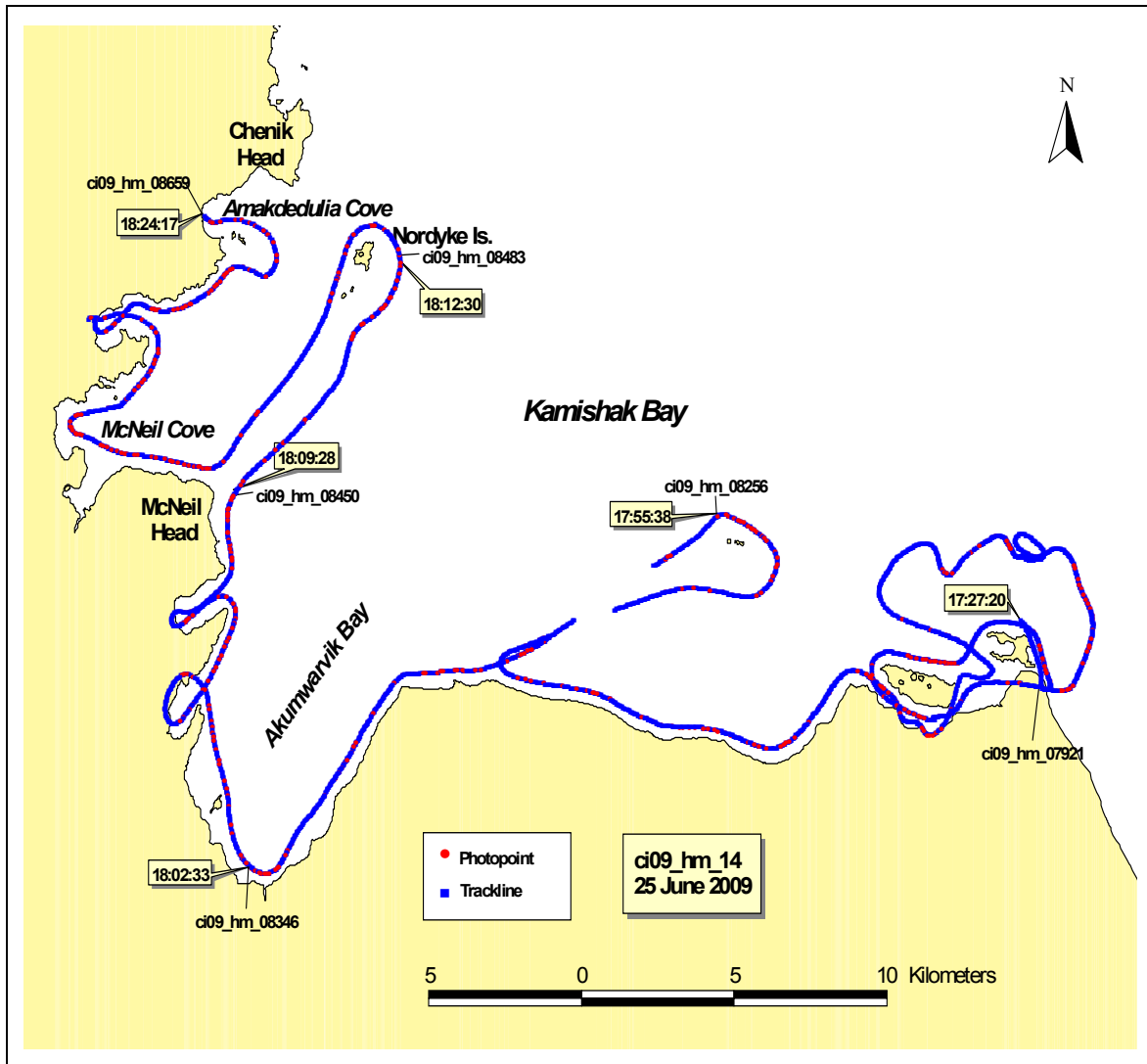
Tape: CI09_HM_13 **Date:** 24 June 09

General Location: Sadie Cove; Tutka Bay

Time Start (UTC): 19:38:12	Geo: Harney
Fuel Break: None	Bio: Lindeberg
Time End (UTC): 20:35:28	Nav: Daley
Tape Length: 54:22	

Weather: Overcast

Time (UTC)	Location	Photo
19:38:12	Start of tape, Herring Island	ci09_hm_06747
19:52:06	Head of Jakolof Bay	ci09_hm_07005
19:56:42	Nubble Point; break to Sadie Cove	ci09_hm_07124
19:59:36	Entrance to Sadie Cove	ci09_hm_07125
20:05:35	Head of Sadie Cove	ci09_hm_07247
20:11:31	Entrance to Tutka Bay	ci09_hm_07380
20:22:00	Head of Tutka Bay	ci09_hm_07619
20:35:28	End of tape, Aleutika Island	ci09_hm_07919



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

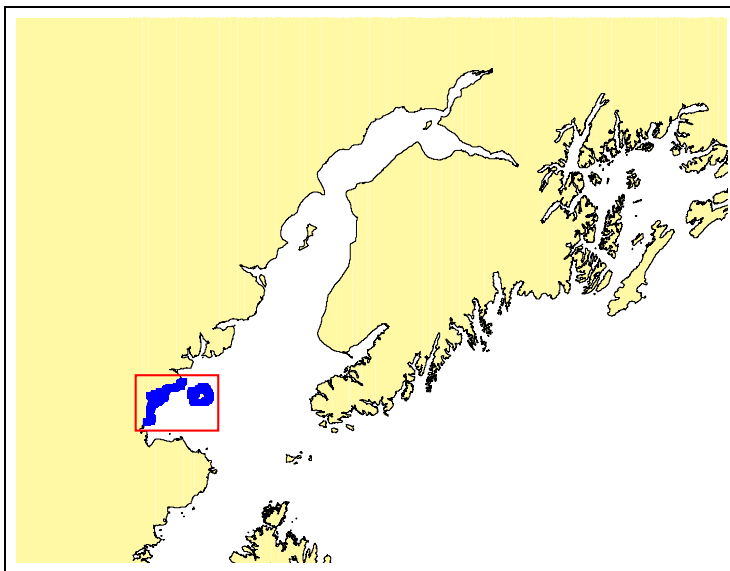
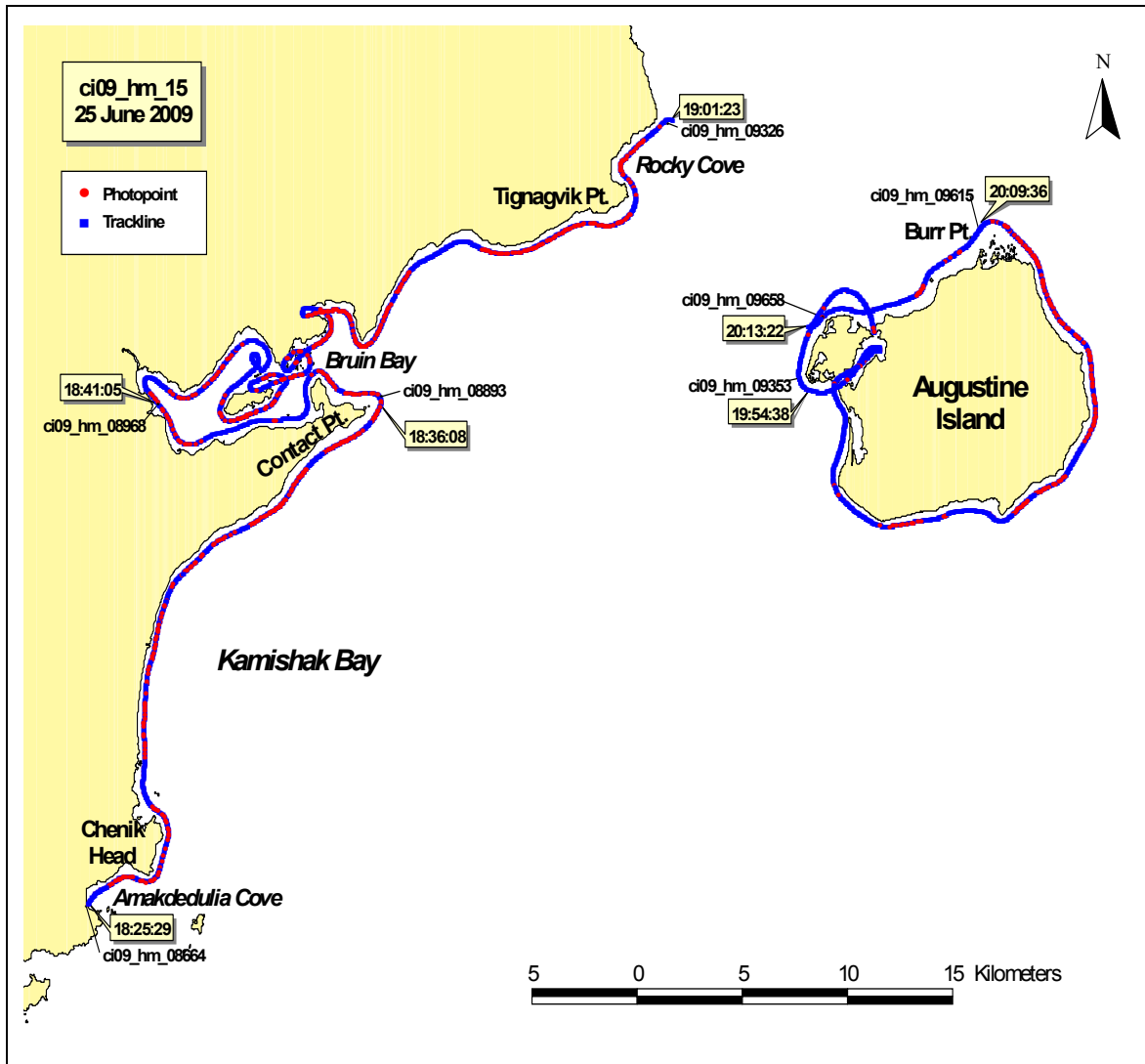
Tape: CI09_HM_14 **Date:** 25 June 09

General Location: Douglas River; Kamishak Bay

Time Start (UTC): 17:27:20	Geo: Harney
Fuel Break: None	Bio: Lindeberg
Time End (UTC): 18:24:17	Nav: Daley
Tape Length: 55:04	

Weather: Overcast

Time (UTC)	Location	Photo
17:27:20	Start of tape, Douglas River	ci09_hm_07921
17:51:43	Transit to offshore reefs	
17:55:38	Outer reefs, Kamishak Bay	ci09_hm_08256
17:56:31	Transit back to shoreline	
18:02:33	Head of Akumwarvik Bay	ci09_hm_08346
18:09:28	McNeil Head	ci09_hm_08450
18:12:30	Nordyke Island	ci09_hm_08483
18:24:17	End of tape, Amakdedulia Cove	ci09_hm_08659



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

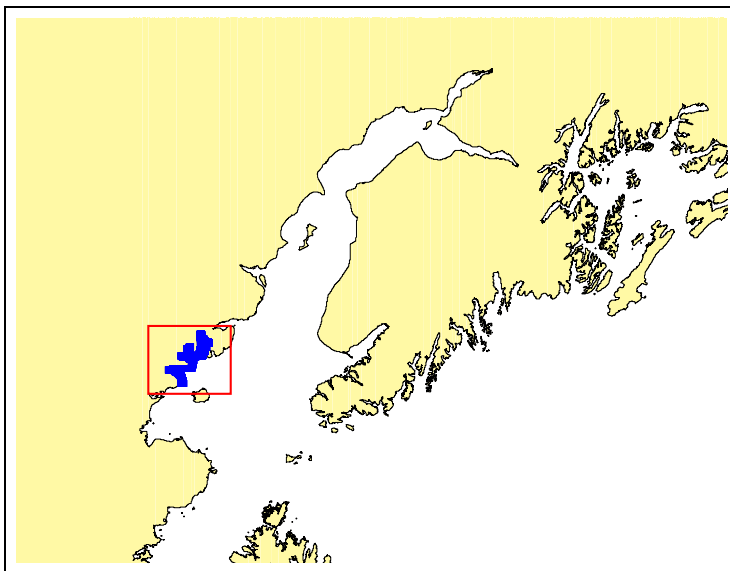
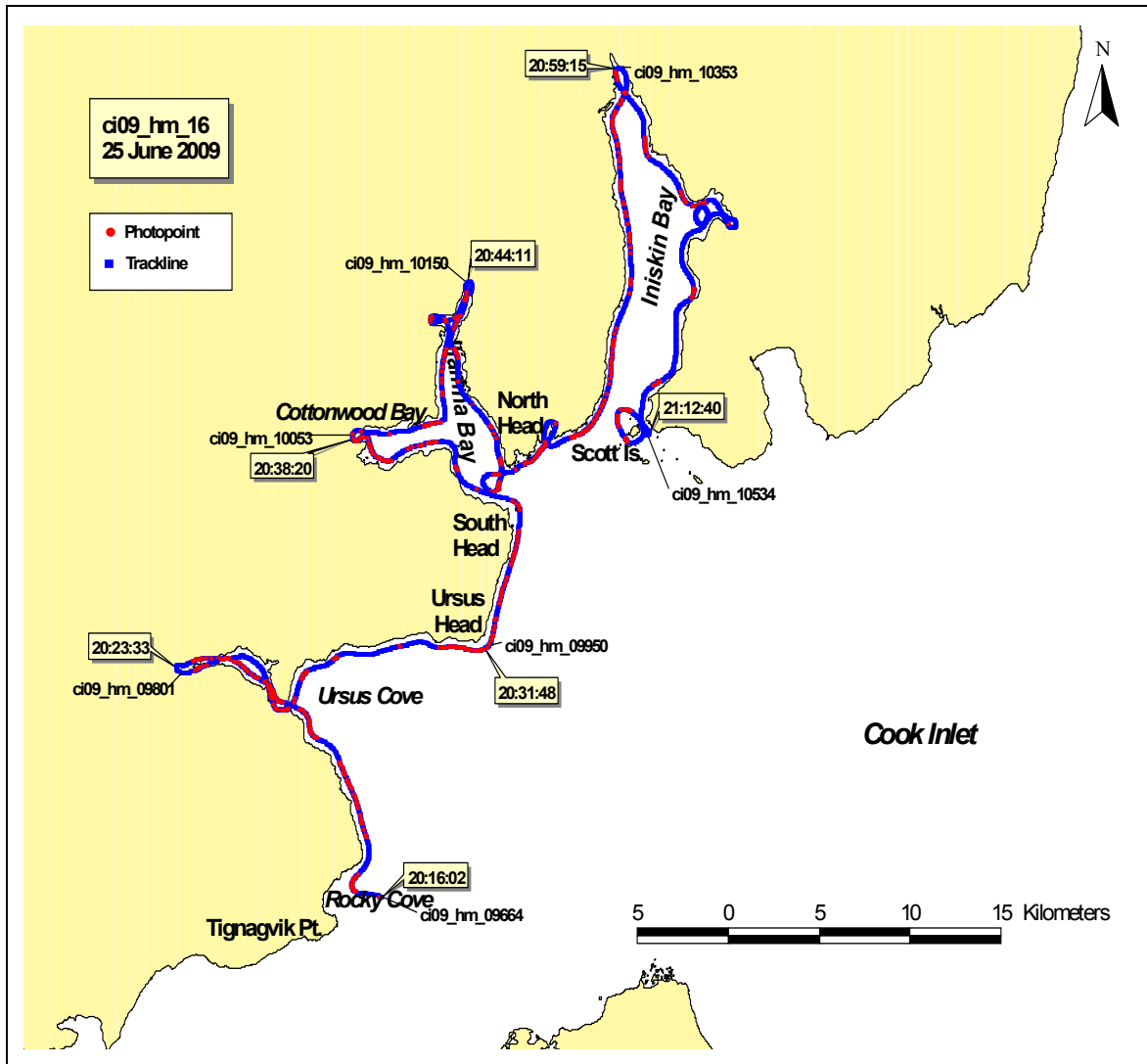
Tape: CI09_HM_15 **Date:** 25 June 09

General Location: Kamishak Bay; Augustine Island

Time Start (UTC): 18:25:29	Geo: Harney
Fuel Break: 19:01:24 – 19:52:01	Bio: Lindeberg
Time End (UTC): 20:13:22	Nav: Daley
Tape Length: 57:14	

Weather: Overcast

Time (UTC)	Location	Photo
18:25:29	Start of tape, Amakdedulia Cove	ci09_hm_08664
18:36:08	Contact Point	ci09_hm_08893
18:41:05	Head of Bruin Bay	ci09_hm_08968
19:01:23	Rocky Cove	ci09_hm_09326
19:01:24	Fuel Break	
19:54:38	Augustine Island	ci09_hm_09353
20:09:36	Burr Point, Augustine Island	ci09_hm_09615
20:13:22	End of Tape, Augustine Island	ci09_hm_09658



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

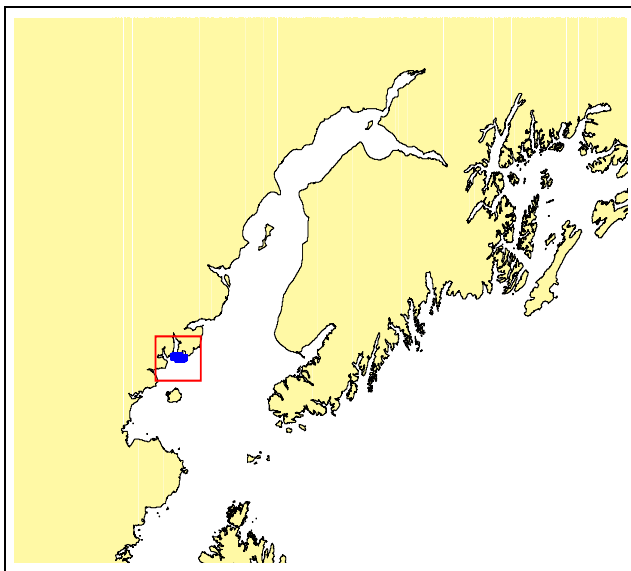
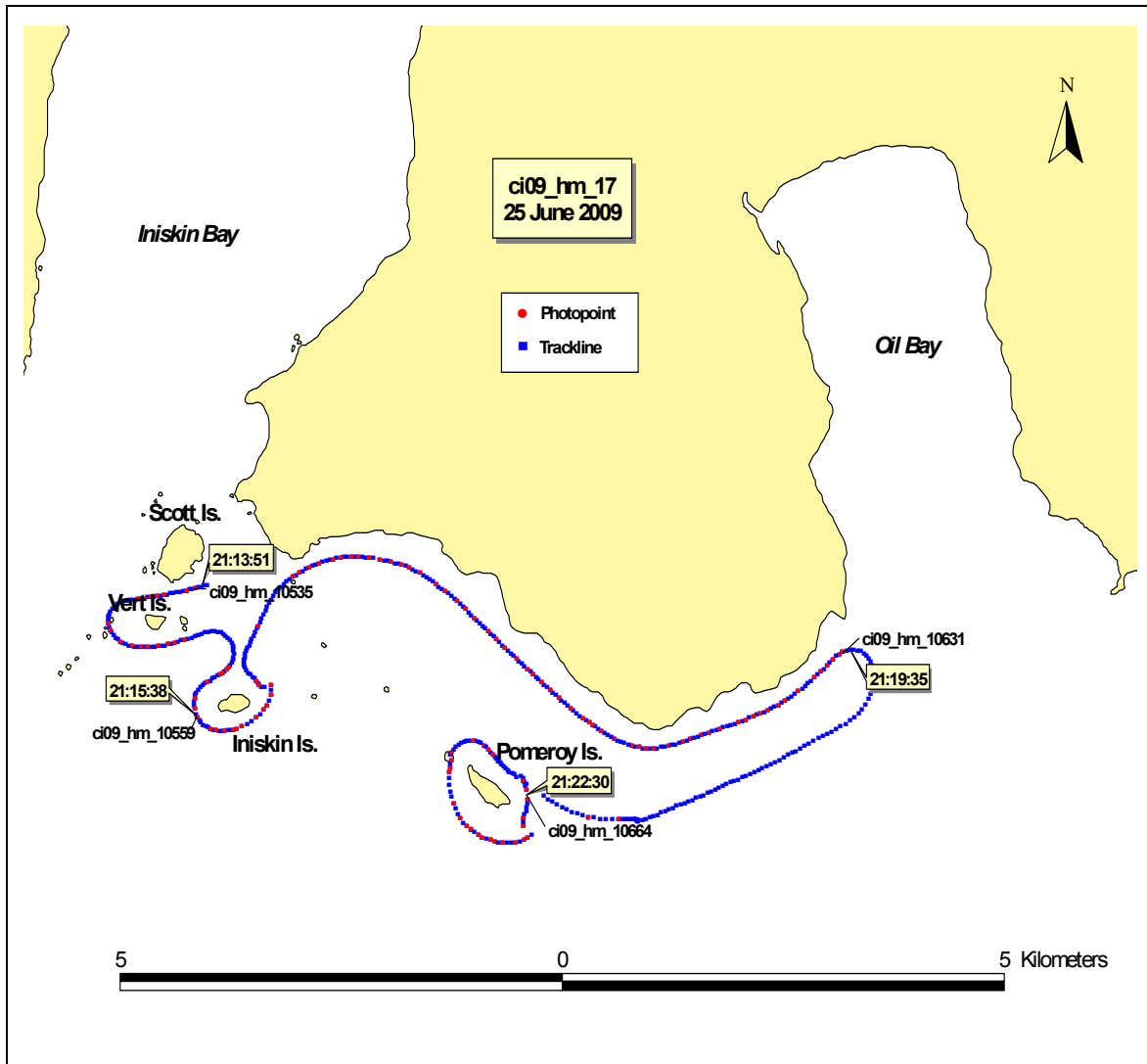
Tape: CI09_HM_16 **Date:** 25 June 09

General Location: Ursus Cove; Iniskin Bay

Time Start (UTC): 20:16:02	Geo: Harney
Fuel Break: None	Bio: Lindeberg
Time End (UTC): 21:12:40	Nav: Daley
Tape Length: 56:38	

Weather: Sunny

Time (UTC)	Location	Photo
20:16:02	Start of tape, Rocky Cove	ci09_hm_09664
20:23:33	Head of Ursus Cove	ci09_hm_09801
20:31:48	Ursus Head	ci09_hm_09950
20:38:20	Head of Cottonwood Bay	ci09_hm_10053
20:44:11	Head of Iliamna Bay	ci09_hm_10150
20:59:15	Head of Iniskin Bay	ci09_hm_10353
21:12:40	End of tape, Scott Island	ci09_hm_10534



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

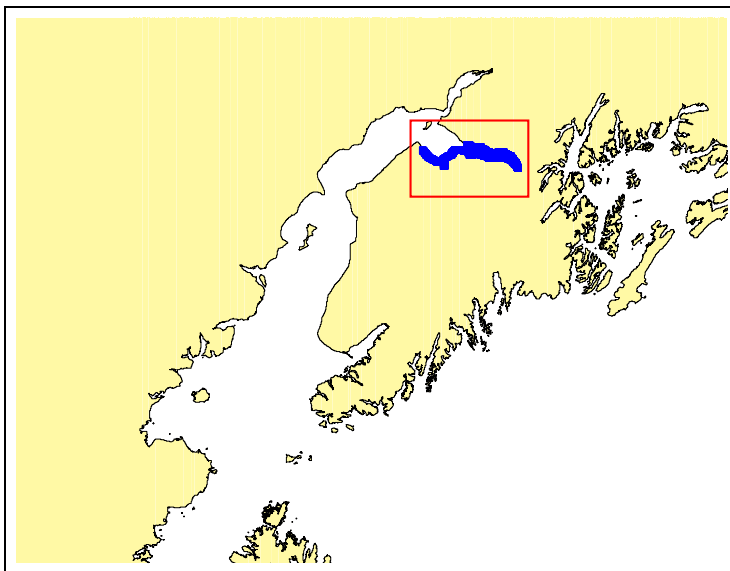
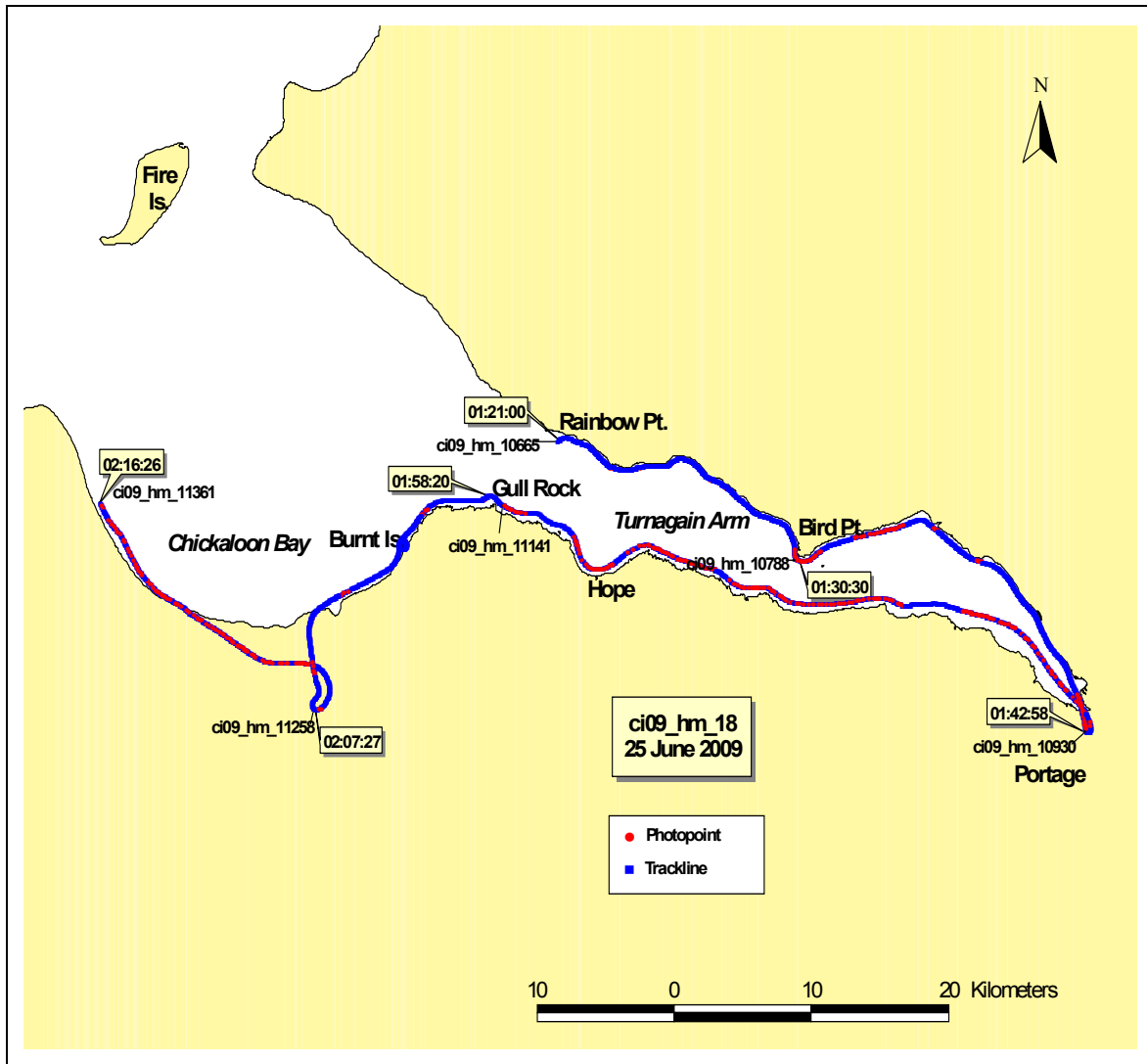
Tape: CI09_HM_17 **Date:** 25 June 09

General Location: Iniskin Island; Pomeroy Island

Time Start (UTC): 21:13:51	Geo: Harney
Fuel Break: None	Bio: Lindeberg
Time End (UTC): 21:22:30	Nav: Daley
Tape Length: 08:39	

Weather: Sunny

Time (UTC)	Location	Photo
21:13:51	Start of tape, Vert Island	ci09_hm_10535
21:15:38	Iniskin Island	ci09_hm_10559
21:19:35	Entrance to Oil Bay	ci09_hm_10631
21:22:30	End of tape, Pomeroy Island	ci09_hm_10664



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

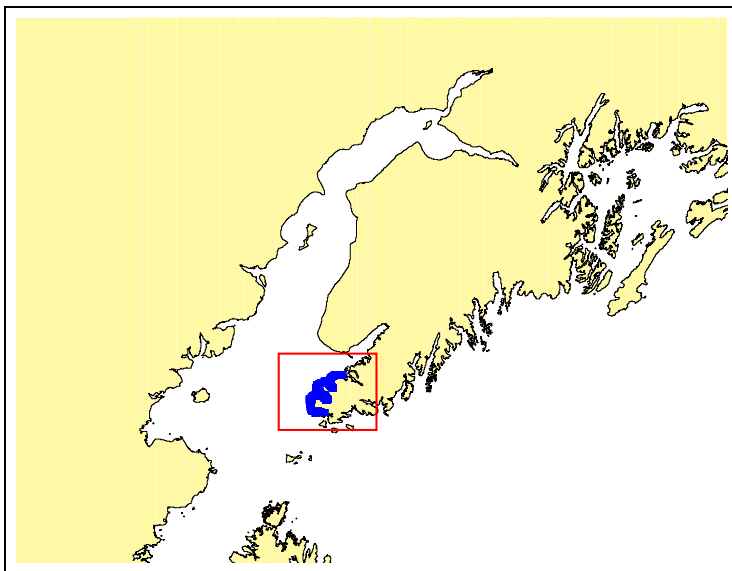
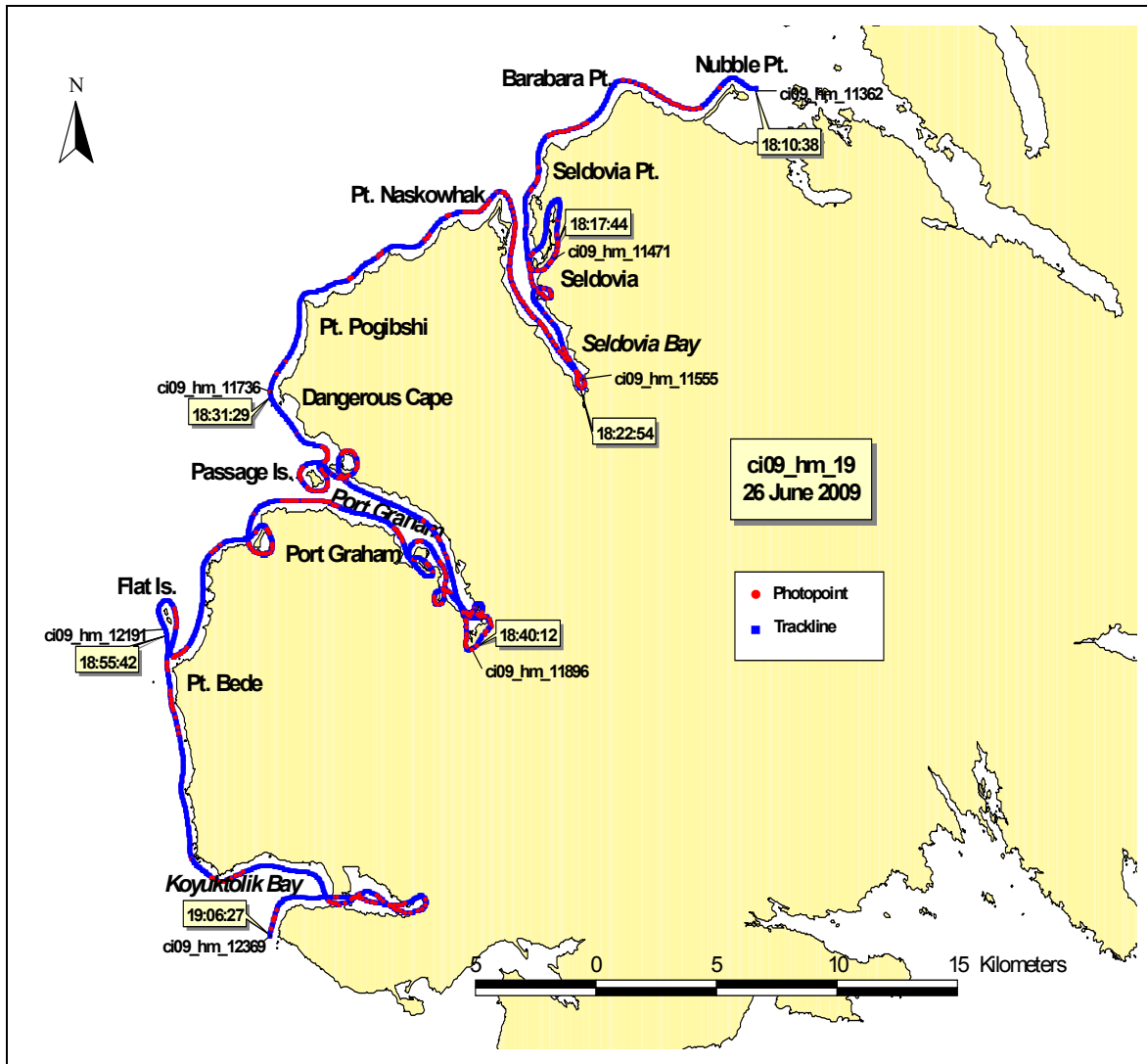
Tape: CI09_HM_18 **Date:** 25 June 09

General Location: Turnagain Arm; Chickaloon Bay

Time Start (UTC): 01:21:00	Geo: Daley
Fuel Break: None	Bio: Lindeberg
Time End (UTC): 02:16:26	Nav: Harney
Tape Length: 55:26	

Weather: Overcast

Time (UTC)	Location	Photo
01:21:00	Start of tape, Rainbow Point	ci09_hm_10665
01:30:30	Bird Point	ci09_hm_10788
01:42:58	Head of Turnagain Arm; Portage	ci09_hm_10930
01:58:20	Gull Rock	ci09_hm_11141
02:07:27	Head of Chickaloon Bay	ci09_hm_11258
02:16:26	End of tape, Chickaloon Bay	ci09_hm_11361



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

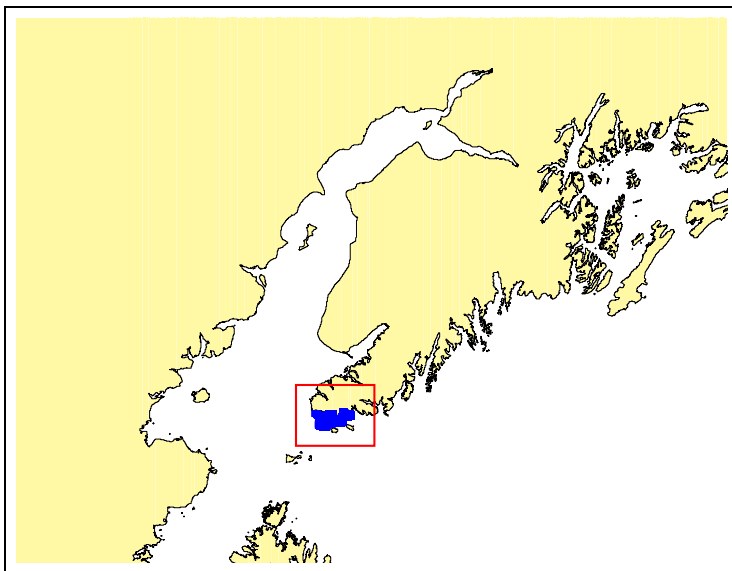
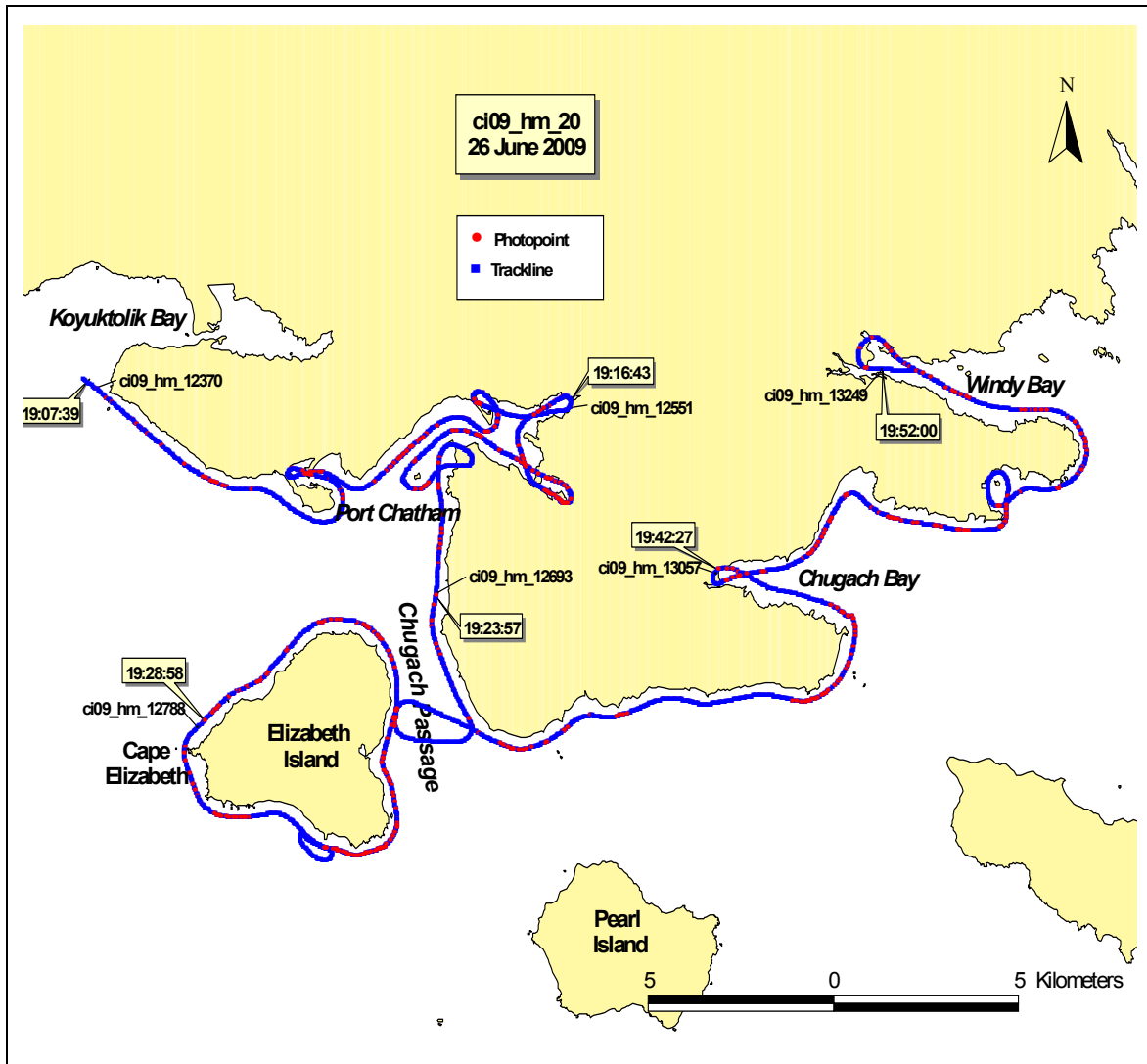
Tape: CI09_HM_19 **Date:** 26 June 09

General Location: Kasitsna Bay; Koyuktalik Bay

Time Start (UTC): 18:10:38	Geo: Harney
Fuel Break: None	Bio: Lindeberg
Time End (UTC): 19:06:27	Nav: Daley
Tape Length: 55:49	

Weather: Overcast

Time (UTC)	Location	Photo
18:10:38	Start of tape, Nubble Point	ci09_hm_11362
18:17:44	Seldovia	ci09_hm_11471
18:22:54	Head of Seldovia Bay	ci09_hm_11555
18:31:29	Dangerous Cape	ci09_hm_11736
18:40:12	Head of Port Graham	ci09_hm_11896
18:55:42	Flat Island	ci09_hm_12191
19:06:27	End of tape, Koyuktolik Bay	ci09_hm_12369



2009 Cook Inlet Aerial Video Imaging Survey

Team Homer (HM)

Tape: CI09_HM_20 **Date:** 26 June 09

General Location: Port Chatham; Chugach Bay

Time Start (UTC): 19:07:39	Geo: Harney
Fuel Break: None	Bio: Lindeberg
Time End (UTC): 19:52:00	Nav: Daley
Tape Length: 44:21	

Weather: Overcast

Time (UTC)	Location	Photo
19:07:39	Start of tape, Koyuktolik Bay	ci09_hm_12370
19:16:43	Port Chatham	ci09_hm_12551
19:23:57	Chugach Passage	ci09_hm_12693
19:28:58	Cape Elizabeth, Elizabeth Island	ci09_hm_12788
19:42:27	Head of Chugach Bay	ci09_hm_13057
19:52:00	End of tape, Head of Windy Bay	ci09_hm_13249

**ShoreZone Aerial Video Imaging (AVI) Survey
Cook Inlet
June 21-26, 2009**

**Team Homer (HM)
Sample Photos**

CI09 AVI Team HM Sample Photos: Iliamna Bay
Iliamna Bay, Knoll Head, Iniskin Bay

June 21, 2009

Biobands on the rock platforms were RED (Palmariales – *Palmaria* and *Devaleraea*) and ULV (high intertidal *Rosenvingiella* and *Ulothrix/Urospora* in the low intertidal).

	
Near Oil Point, west Cook Inlet; distinctive red bioband; CI09 HM 00063	North of Oil Point, west Cook Inlet; two green biobands; CI09 HM 00071
	
Between Oil Pt and Dry Bay, west Cook Inlet; red bioband on bedrock; CI09 HM 00086	Near Chinitna Point, west Cook Inlet; green bioband and waterfall; CI09 HM 00128
	
South of Sea Otter Point, Chinitna Bay, west Cook Inlet; green and red biobands; CI09 HM 00168	South of Sea Otter Point, Chinitna Bay, west Cook Inlet; green bioband on cobble; CI09 HM 00189
	
Upper Chinitna Bay, west Cook Inlet; marsh vegetation and mud; CI09 HM 00257	Estuary at head of Chinitna Bay; brown bears grazing on sedges; CI09 HM 00284

SE09 AVI Team HM Sample Photos: Iliamna Bay to Anchorage June 22, 2009
 Iliamna B., Chinitna B., Tuxedni B., Kaglin Is., Drift R., Susitna R., Fire Is., Knik Arm,
 Turnagain Arm.









Dominant biobands for this region were extensive dune grass, sedges and salt marsh (GRA, SED, PUC).

	
Head of Chinitna Bay, west Cook Inlet; marsh vegetation; CI09 HM 00323	East side Kaglin Island; sorting of boulder cobble by winter ice; CI09 HM 01201
	
Drift River; Redoubt ash laden Drift River riverbed; CI09 HM 01525	Trading Bay, McArthur Flats, upper Cook Inlet; marsh vegetation in mud; CI09 HM 01917
	
Susitna Flats, Upper Cook Inlet; marsh vegetation on stream delta; CI09 HM 02229	Fire Island, Anchorage; deposition of sediment by winter storms and ice; CI09 HM 02556
	
Port of Anchorage; modified shoreline; CI09 HM 03074	Beluga Pt., Turnagain Arm; modified hillside; CI09 HM 03431

SE09 AVI Team HM Sample Photos: Kenai Peninsula June 23, 2009

Pt. Possession, Nikiski, Kenai R., Kasilof R., Clam Gulch, Ninilchik, Anchor Pt.

Major biobands for this region were limited to spits and river deltas (GRA, SED, PUC). Extensive clam beds were observed north and south of the Clam Gulch area.

	
Southwest of Point Possession, south entrance Turnagain Arm; developing spit; CI09 HM 03631	Approximately 26km NE of East Foreland, Upper Cook Inlet; boulders with green bioband; CI09 HM 03759
	
Near Moose Point, Upper Cook Inlet, east coast; erosional bluff with blooming Lupine; CI09 HM 04014	Approximately 4km south of East Foreland, Upper Cook Inlet; petroleum docks; CI09 HM 04161
	
Kenai River mouth; fishing vessels in river channel; CI09 HM 04276	East shore Cook Inlet, near Ninilchik; clamming activity; CI09 HM 04689
	
Near Cape Starichkof, east shore Cook Inlet; alongshore river and marsh; CI09 HM 04830	Bluff Point, approximately 15km north of Homer; emergent coal veneer in mid intertidal; CI09 HM 04986





SE09 AVI Team HM Sample Photos: Kachemak Bay June 24, 2009

Anchor Pt., Homer Spit, Fox River, Halibut Cove, Tutka Bay, McDonald Spit

The southern shoreline of Kachemak Bay had the most biodiversity (PUC, SED, VER, BAR, FUC, BMU, HAL, RED, ALA, SBR, ALF, NER).

	
Anchor Point Bluff; erosional bluff with vegetated bedrock; CI09 HM 05171	Homer Spit; depositional feature with modifications; CI09 HM 05265
	
Northeast shore Kachemak Bay, near Eastland Creek; erosional bluff with coal bands ; CI09 HM 05565	Fox Creek; small community; CI09_HM_05611
	
Grewingk River; glacially fed delta; CI09_HM_05971	Halibut Cove; lagoons with development; CI09 HM 06177
	
Sixty Foot Rock; canopy kelps and nesting birds; CI09 HM 06599	Jackpot Bay; estuarine habitat; CI09_HM_07006









In addition to substrate and exposure bioband patterns are a reflection of winter ice scour. Impressive reefs with *Palmariales* – *Palmaria* and *Devaleraea*, SBR, ZOS and extensive mud flats with patchy ZOS.

	
Douglas River entrance; erosion due to winter ice; CI09 HM 07964	Douglas Reefs; red bioband on offshore reefs; CI09 HM 08044
	
McNeil Head; erosional bluff with rock platform; CI09 HM 08296	West Kamishak Bay, southwest Cook In; rock platform with coralline algae in tidepools; CI09 HM 08702
	
Bruin Bay, southwest Cook Inlet; mud flats with eelgrass in depressions; CI09 HM 09012	Rocky Cove, Tignagvik Point, southwest Cook Inlet; rock platform; CI09 HM 09322
	
Tignagvik Point, southwest Cook Inlet; extensive rock platform with red bioband; CI09 HM 09675	South entrance to Ursus Cove, southwest Cook Inlet; lagoon; CI09 HM 09750

SE09 AVI Team HM Sample Photos: Augustine Is., & Turnagain Arm June 25, 2009









Augustine Is., Turnagain Arm, Chickaloon Bay

Augustine dominated by RED and SBR biobands. Turnagain Arm and Chickaloon Bay dominated by GRA, SED, PUC with very little biota in the lower intertidal.

	
Augustine Island; erosional area; CI09_HM_09477	Augustine Island; ash laden slope with red bioband; CI09_HM_08044
	
Augustine Island; red and brown biobands crowning sorted substrate; CI09_HM_09603	Augustine Island; vegetated cinder cones; CI09_HM_09651
	
Bird Point, Turnagain Arm; mud flats; CI09_HM_10785	Alaska highway crossing Placer River, Turnagain Arm.; CI09_HM_10930
	
Burnt Island, Chickaloon Bay, south Turnagain Arm; orange lichen and rockweed; CI09_HM_11207	Chickaloon Bay, south Turnagain Arm; marsh vegetation; CI09_HM_11272

SE09 AVI Team HM Sample Photos: Seldovia to Windy Bay June 26, 2009
Seldovia Bay, Port Graham, English Bay, Port Chatham, Elizabeth Is., Chugach Bay,
Windy Bay

Impressive biota and diversity from Port Graham to Windy Bay. Extensive ZOS, ALF and NER beds throughout.

	
Seldovia Harbor; modified shoreline; CI09_HM_11468	Passage Is., Port Graham; biologically rich with <i>Mazzaella parksii</i> bioband; CI09_HM_11786
	
English Bay, southeast Cook Inlet; red bioband with Dragon kelp on either side; CI09_HM_12067	Port Chatham, southeast entrance Cook Inlet; eelgrass with kelps; CI09_HM_12527
	
Elizabeth Island; rich kelp biobands including triple rib kelp (<i>Cymathere triplacata</i>); CI09_HM_12806	Elizabeth Island; exposed habitat with indicator species <i>Laminaria setchellii</i> ; CI09_HM_12869
	
Chugach Bay, north of East Chugach Island; surf grass on rock ramp; CI09_HM_13140	Badger Hill, north of East Chugach Island; logging in uplands; CI09_HM_13157

