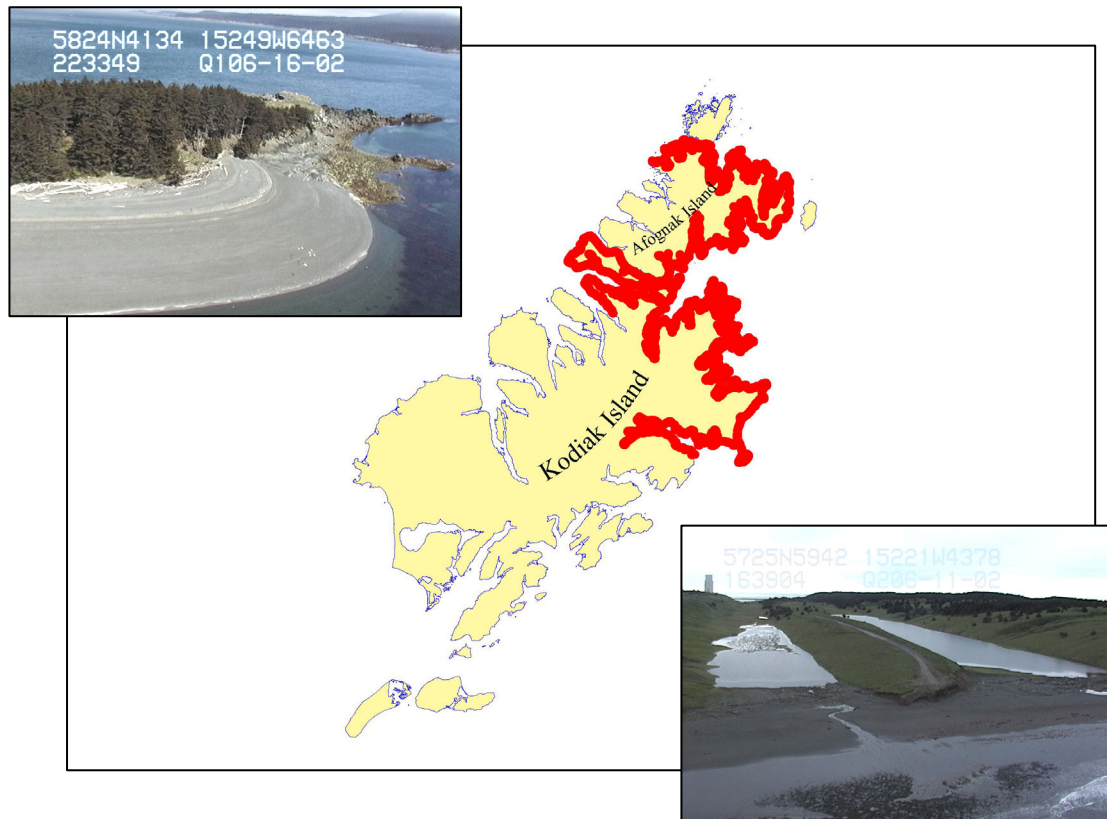


2002 Aerial Video Imaging Survey, Kodiak Island, Alaska (11 -16 June 2002)



prepared for
University of Alaska, Fairbanks, Alaska,
Exxon Valdez Oil Spill Trustee Council



COASTAL & OCEAN RESOURCES INC.
214-9865 W. Saanich Rd., Sidney, BC V8L 5Y8
www.coastalandoceans.com



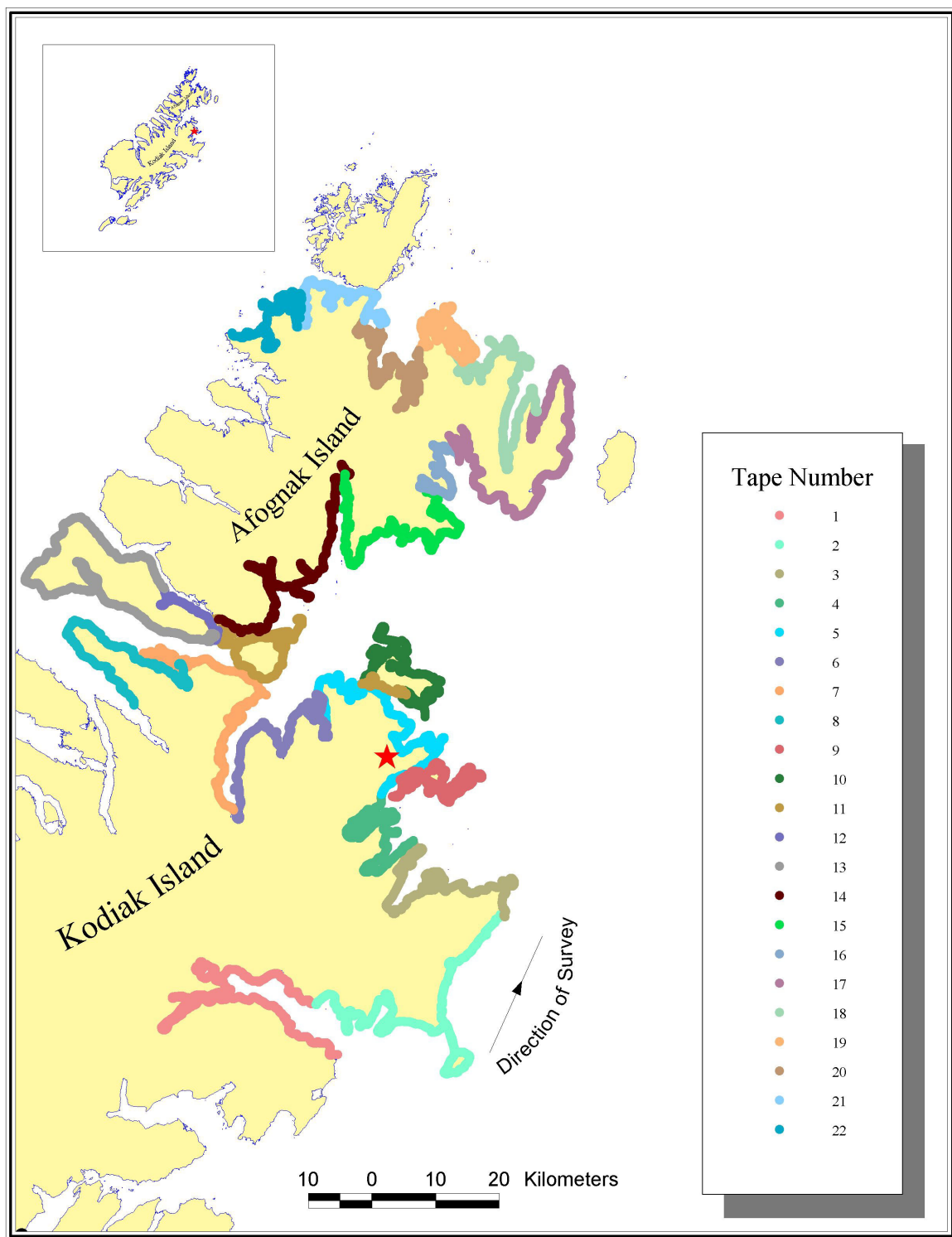


Figure 1. Location of individual tapes from the 2002 Kodiak Island AVI Survey

INTRODUCTION

This survey involved the use of digital video camera technology to image the shoreline of Kodiak and Afognak Islands at low tide. The unusual features of the survey are: (a) the survey was conducted during the lowest tides of the year so the entire intertidal zone is imaged, (b) the technique is not weather dependent so imagery can be collected in any conditions under which aircraft can fly and (c) both a coastal ecologist and coastal geomorphologist were in the aircraft providing real-time commentary on intertidal features that may not be visible on the imagery.

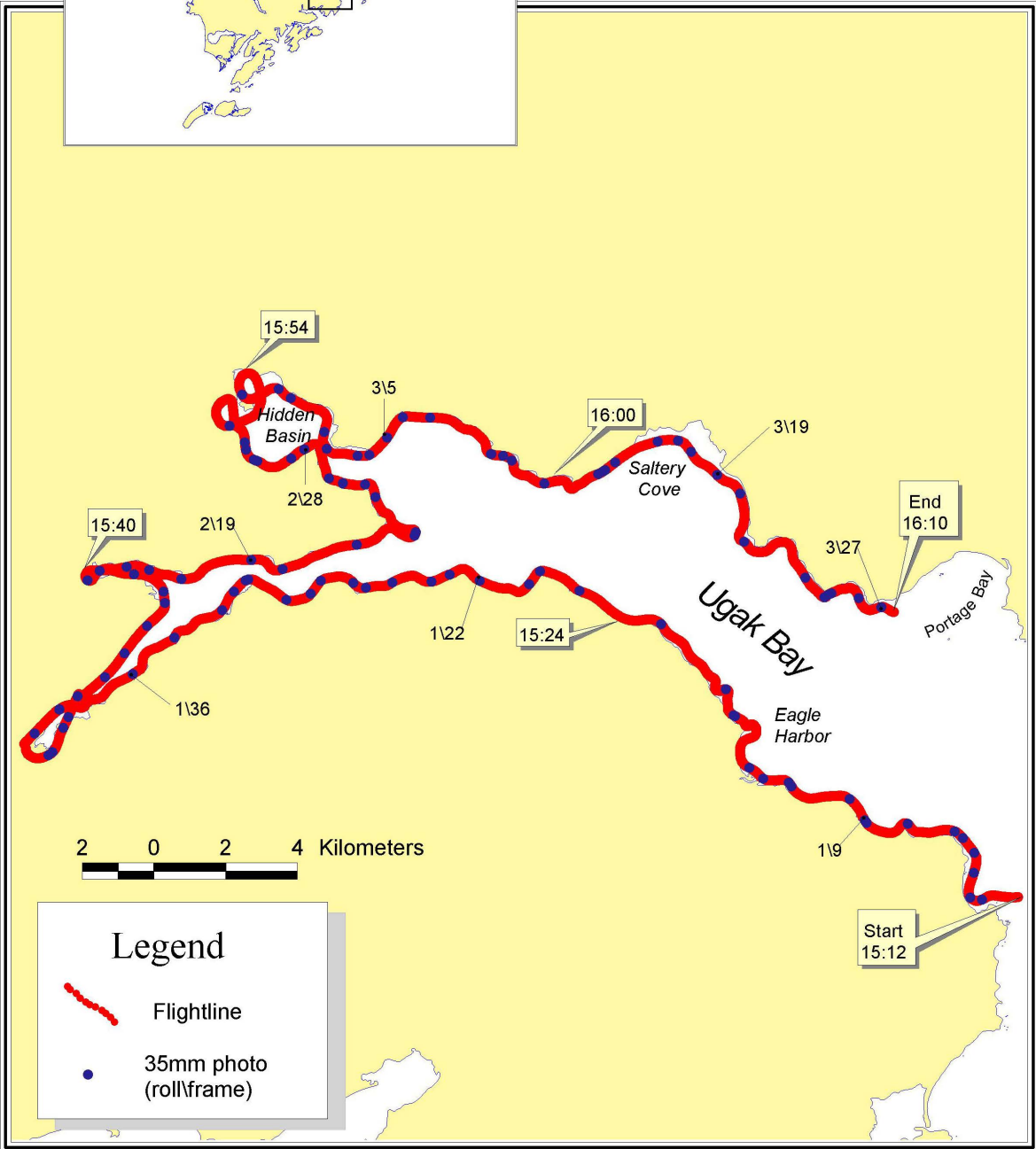
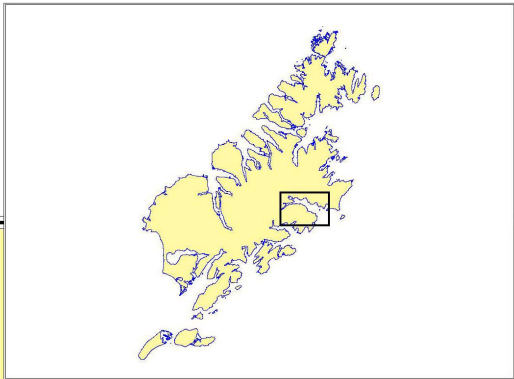
The survey was conducted by Coastal & Ocean Resources Inc. (CORI) of Sidney, BC under contract to University of Alaska, located in Fairbanks Alaska, as part of the Gulf of Alaska Ecosystem Monitoring and Research Program; a program of the *Exxon Valdez* Oil Spill Trustee Council.

Figure 1 shows the overall flight coverage by tape number. The flight crew names and responsibilities are summarized in Table 1. We very much appreciate the assistance of Maritime Helicopters, and the principle pilot in this survey, Tom Walters. His flight expertise and local knowledge contributed greatly to the success of this survey.

Table 1 AVI Flight Personnel and Responsibilities

Function	Individual/ Affiliation	Responsibilities
<i>geomorphologist project leader</i>	John Harper CORI	co-ordination of survey video imaging geomorphology commentary project reporting
<i>coastal ecologist</i>	Mary Morris Archipelago Marine Resources	biology commentary 35mm photographs
<i>navigator</i>	Neil Borecky CORI	in flight navigation & recording post-flight track plotting
<i>pilot</i>	Tom Walters – Maritime Helicopters, Homer, AK	

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 1



Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 1
General Location: Ugak Bay
Date: 11 June 2002
Time Start: 15:12:40
Time End: 16:10:33
Tape Length: 57:53
Weather: DFC (Dead. Flat. Calm), overcast. 600ft aprox. ceiling.
Electronic File: Kodiak2002.dbf, KodiakPhotos.dbf

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
15:20:37	Eagle Harbor	1	16	16593	p.45
15:55:21	Hidden Basin	2	37	16593	p.45
16:00:44	Saltery Cove	3	11	16593	p.45
16:10:33	Portage Bay	3	27	16593	p.45

2002 Kodiak Island Aerial Video Imaging Survey Tape 2

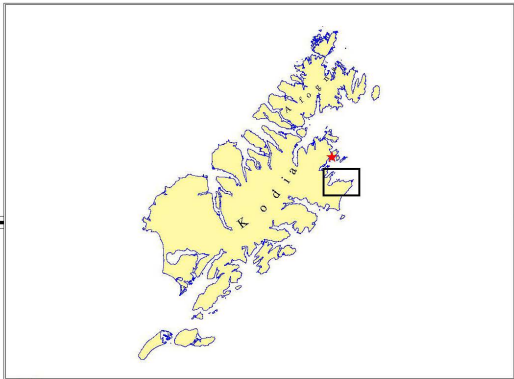


Kodiak Island 2002 Aerial Video Imaging Survey

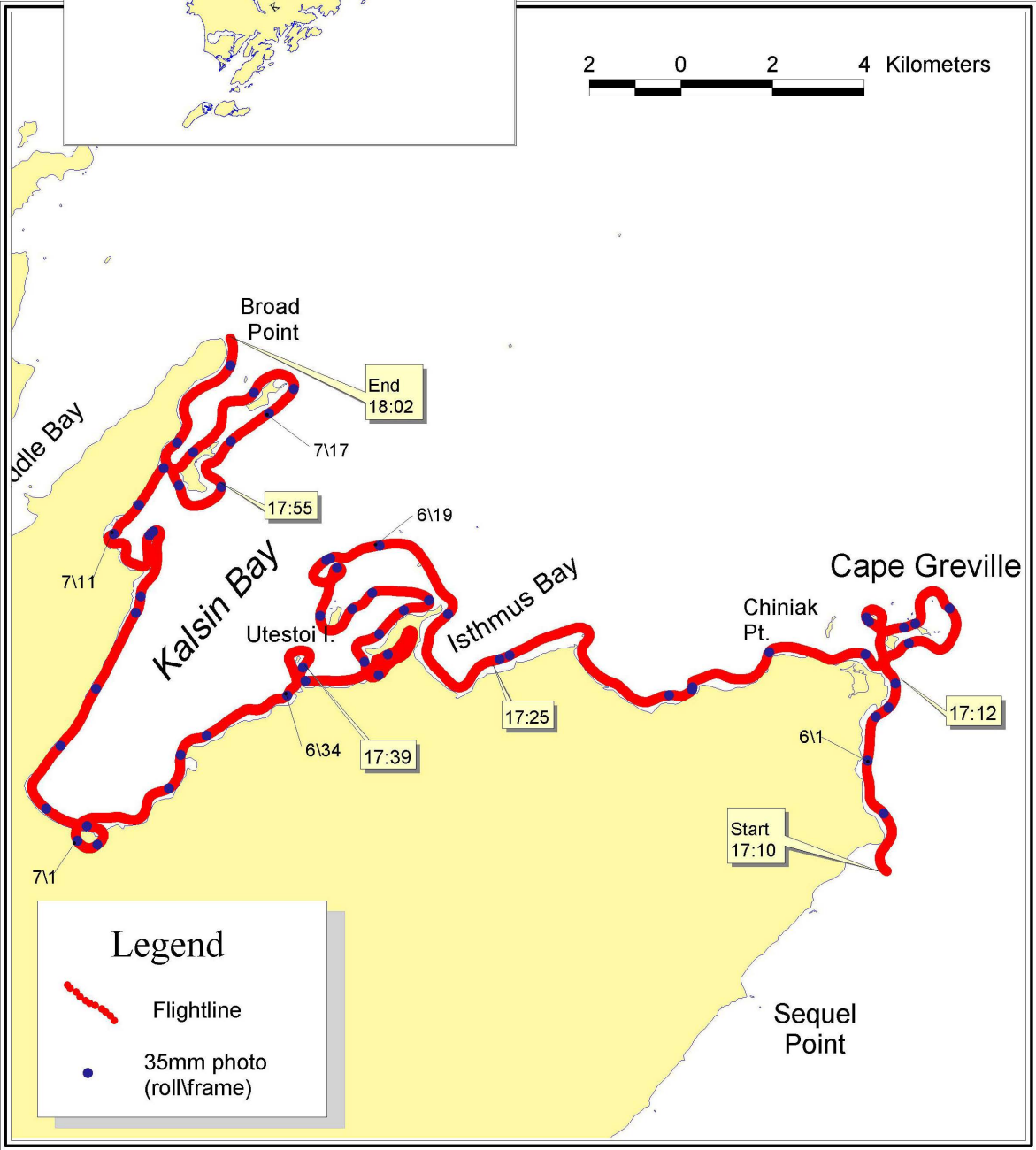
Tape Number: 2
General Location: Ugak Bay to Cape Greville
Date: 11 June 2002
Time Start: 16:11:10
Time End: 17:09:15
Tape Length: 57:55
Weather: DFC (Dead.. Flat..Calm), overcast. 600ft aprox. ceiling.
Electronic File: Kodiak2002.dbf, KodiakPhotos.dbf

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
16:17:10	Shark Point	3	36	16593	p.45
16:34:06	Pusagshak Pt.	4	19	16593	p.45
16:40:59	Fossil Beach, Narrow Cape	4	30	16593	p.45
16:50:24	Ugak Island	5	9	16593	p.45
17:09:15	Sequel Pt.	5	36	16593	p.45

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 3



2 0 2 4 Kilometers

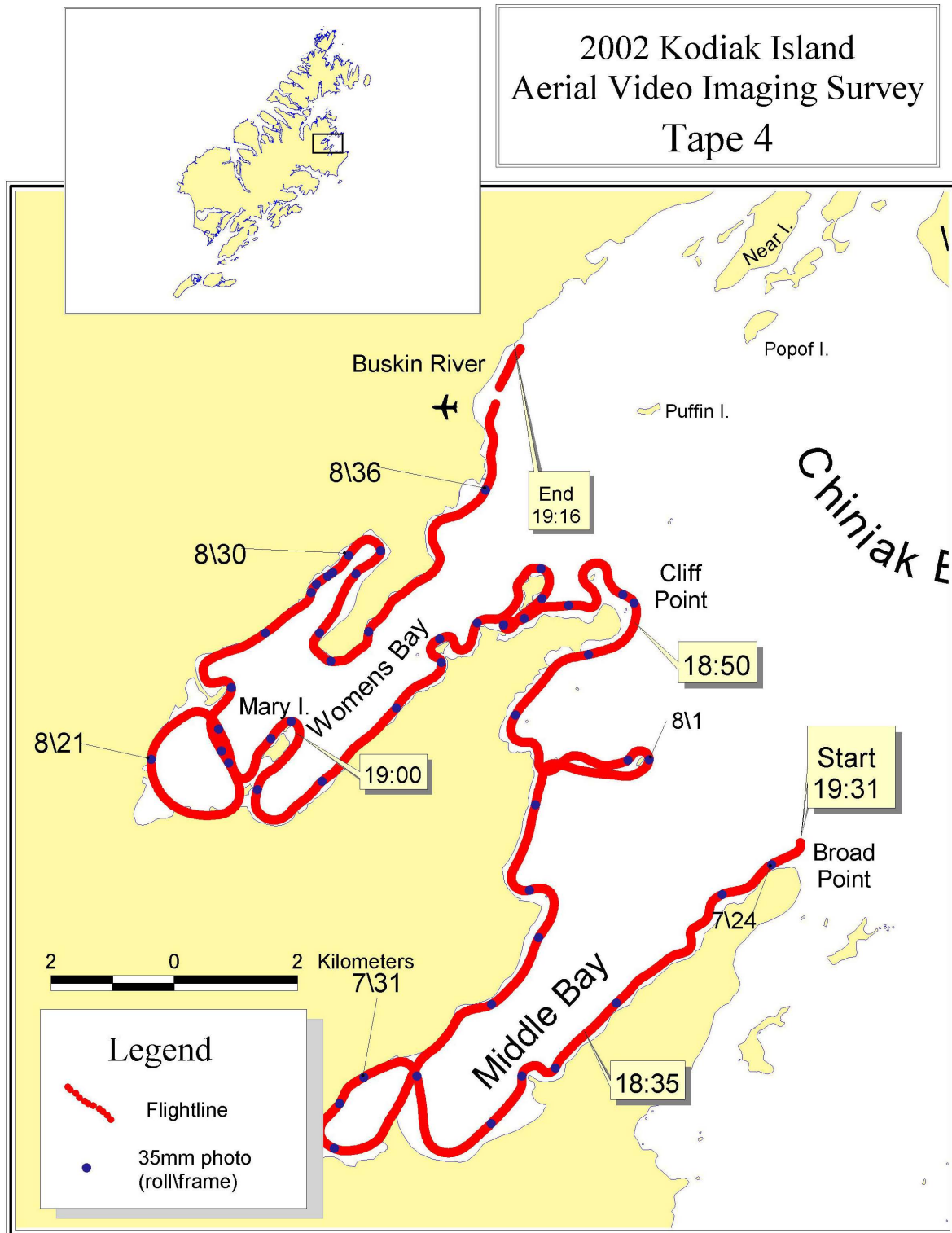


Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 3
General Location: Cape Greville to Kalsin Bay
Date: 11 June 2002
Time Start: 17:10:16
Time End: 18:02:36
Tape Length: 52:20
Weather: DFC (Dead.. Flat..Calm), overcast. 600ft aprox. ceiling.
Electronic File: Kodiak2002.dbf, KodiakPhotos.dbf

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
17:12:12	Cape Greville	6	4	16593	p.45
17:25:17	Isthmus Bay	6	17	16593	p.45
17:39:09	Utesistoi I.	6	34	16593	p.45
18:02:36	Broad Pt.	7	23	16593	p.45

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 4

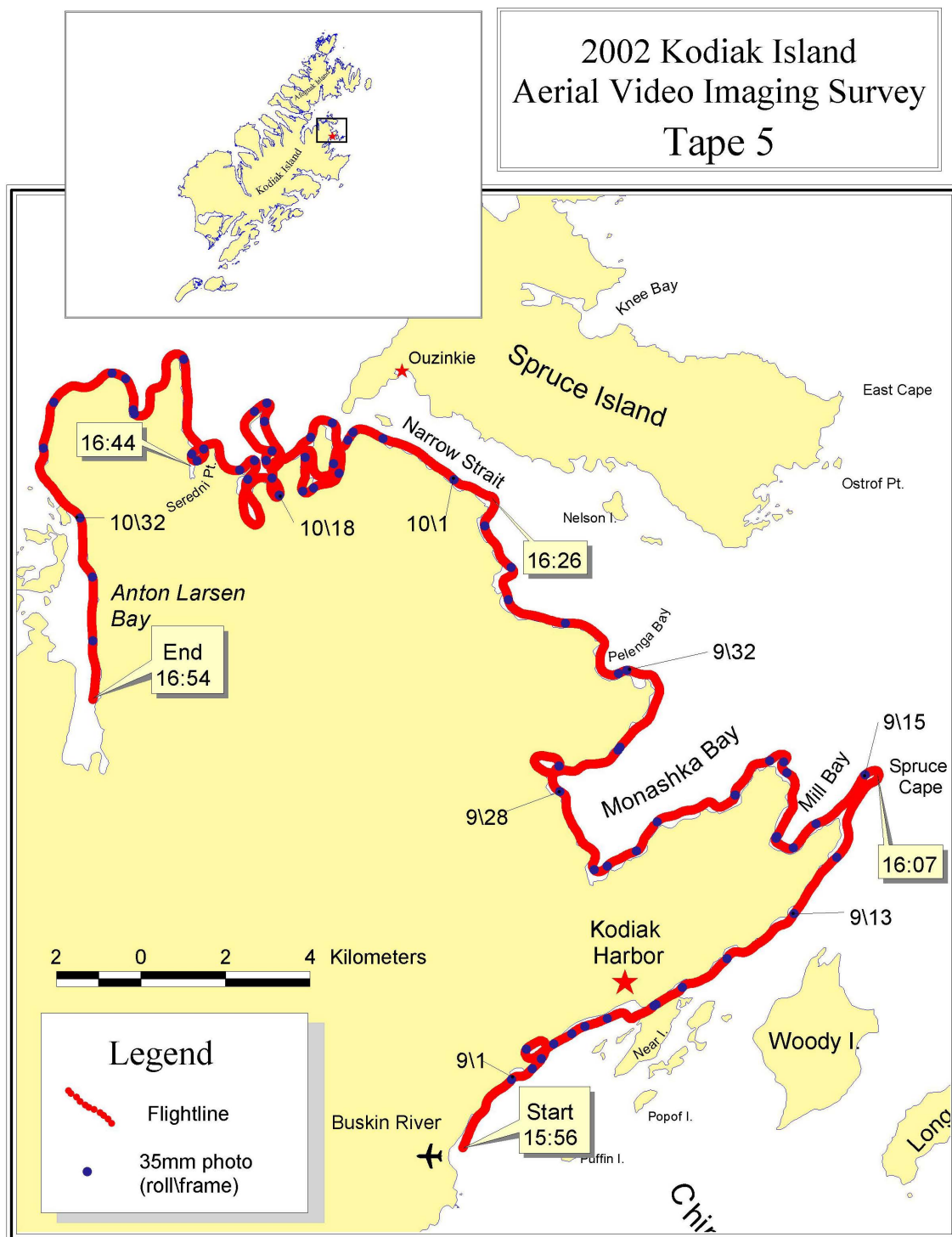


Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 4
General Location: Middle Bay and Womens Bay
Date: 11 June 2002
Time Start: 18:31:36
Time End: 19:16:05
Tape Length: 44:29
Weather: DFC (Dead.. Flat..Calm), overcast. 600ft aprox. ceiling.
Electronic File: Kodiak2002.dbf, KodiakPhotos.dbf

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
18:35:30	S-Side Middle Bay	7	27	16593	p.45
18:50:31	Cliff Point	8	6	16593	p.45
19:00:39	Womens Bay- Mary Island	8	18	16593	p.45
19:16:05	Airport, Buskin R.	8	36	16593	p.45

2002 Kodiak Island Aerial Video Imaging Survey Tape 5

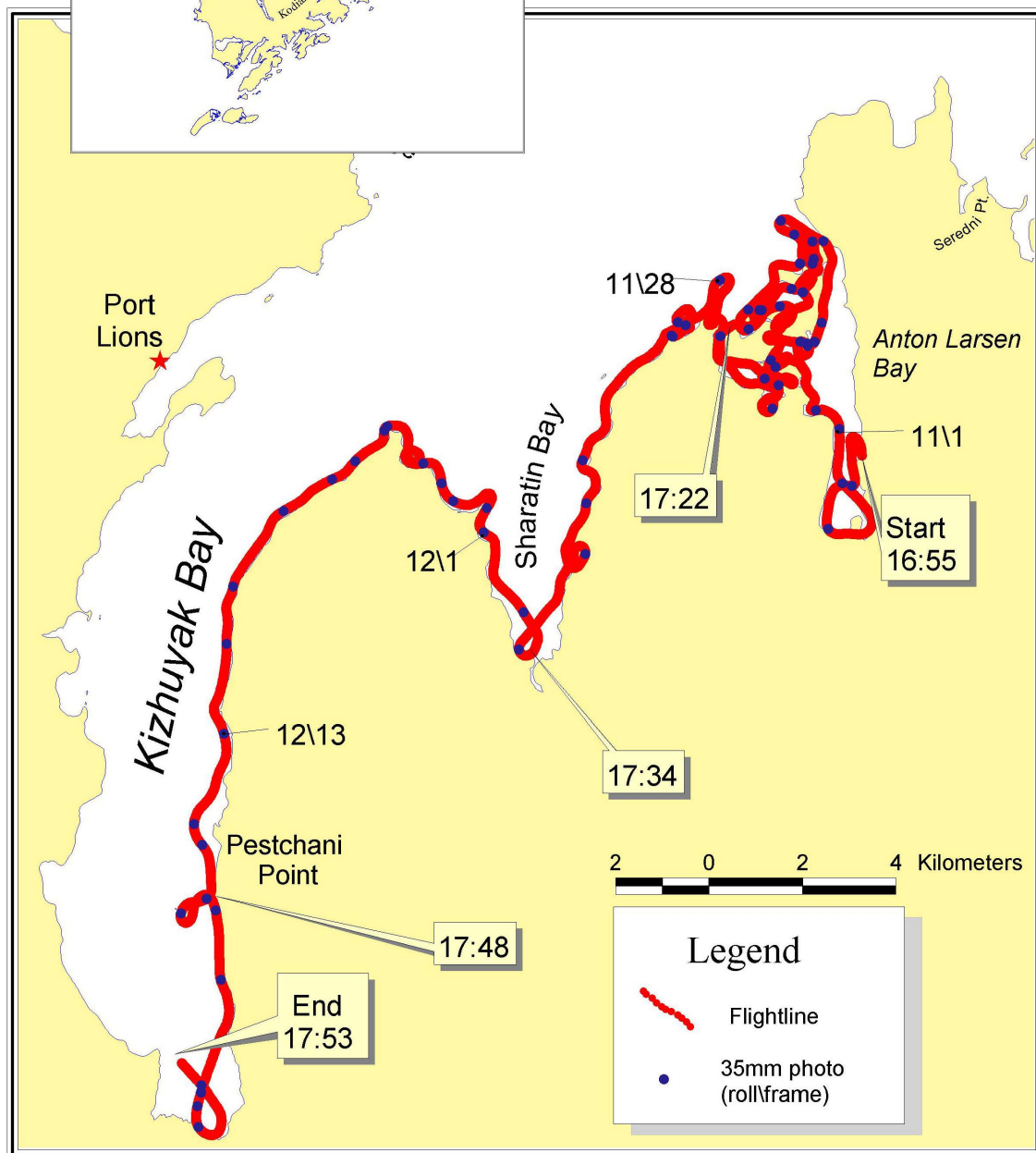


Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 5
General Location: Buskin River, Kodiak, Narrow Strait, to Anton Larsen Bay
Date: 12 June 2002
Time Start: 15:56:17
Time End: 16:54:38
Tape Length: 58:20
Weather: DFC (Dead.. Flat..Calm), overcast. 600ft aprox. ceiling.
Electronic File: Kodiak2002.dbf, KodiakPhotos.dbf

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
16:07:45	Spruce Cape	9	15	16594	p.45
16:26:00	Narrow Cape	9	37	16594	p.45
16:44:48	Seredni Pt.	10	24	16594	p.45
16:54:38	Anton Larsen Bay	10	34	16594	p.45

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 6

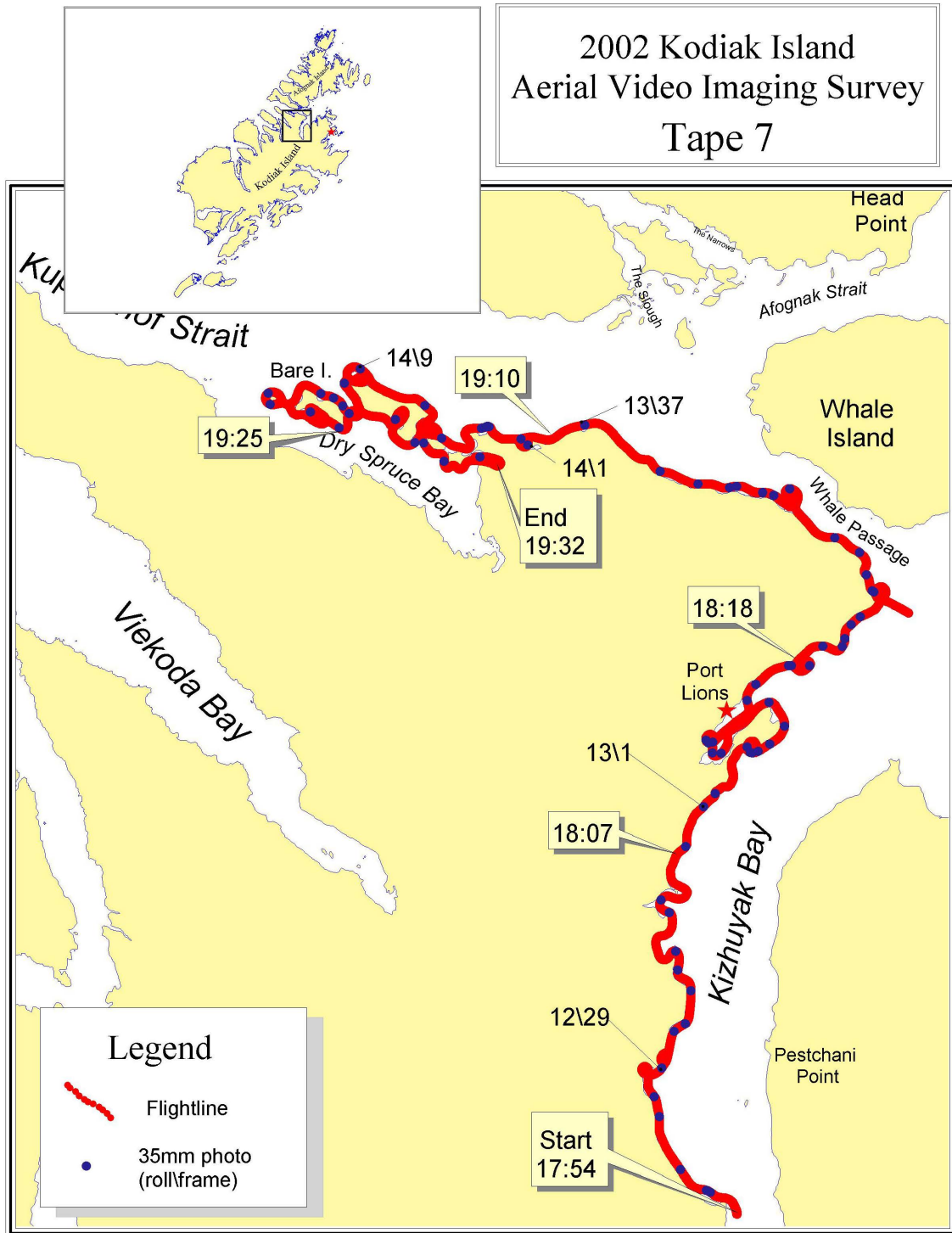


Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 6
General Location: Anton Larsen Bay to Sharatin Bay and Kizhuyak Bay
Date: 12 June 2002
Time Start: 16:55:09
Time End: 17:53:18
Tape Length: 58:09
Weather: DFC (Dead.. Flat..Calm), overcast. 600ft aprox. ceiling.
Electronic File: Kodiak2002.dbf, KodiakPhotos.dbf

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
17:22:43	W. Side Anton Larsen Bay, Larsen I.	11	27	16594	p.45
17:34:34	Head of Sharatin Bay	11	37	16594	p.45
17:48:46	Pestchani Pt. in Kizhuyak Bay	12	18	16594	p.45
17:53	Head of Kizhuyak Bay	12	23	16594	p.45

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 7

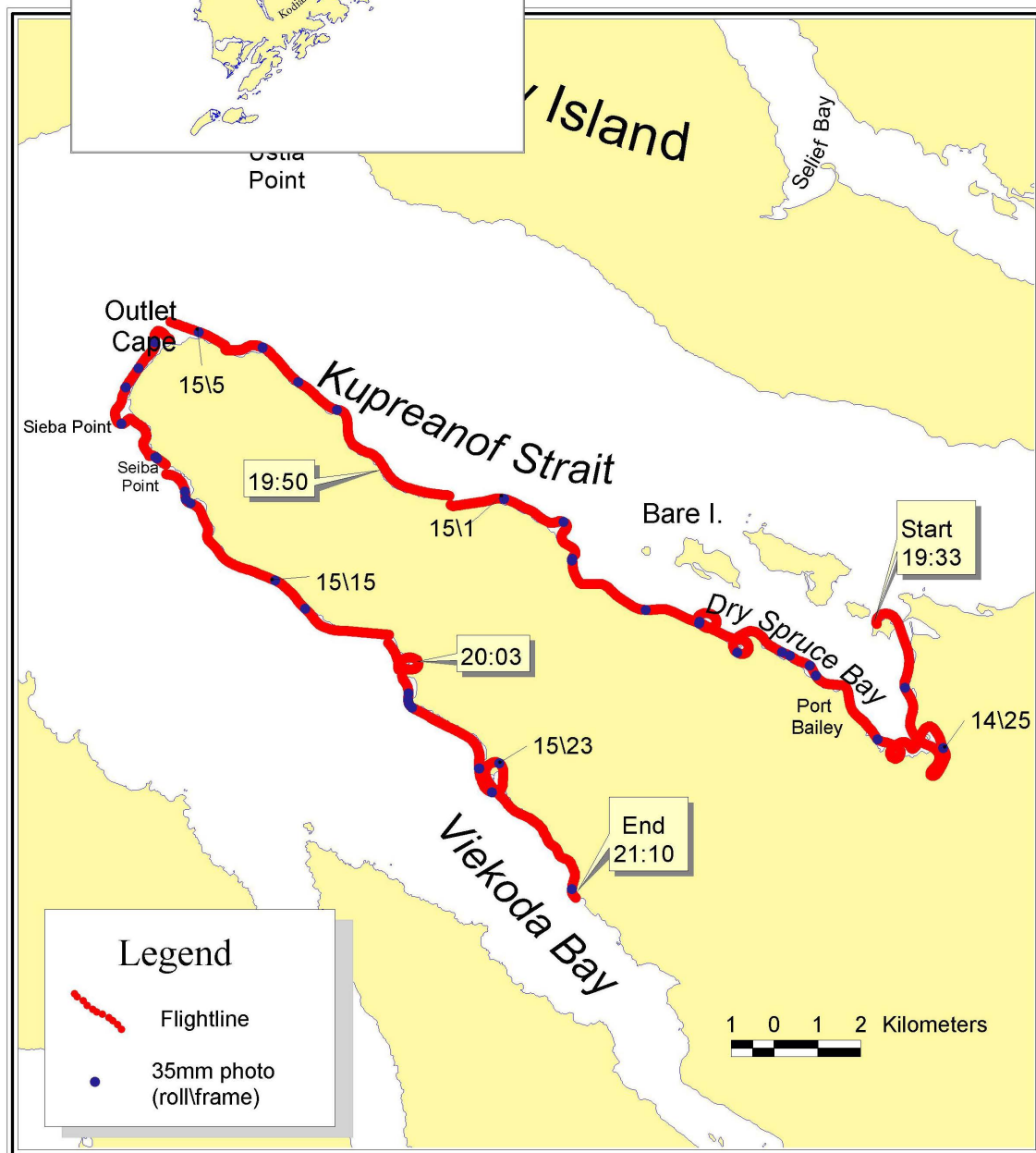


Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 7
General Location: Kizhuyak Bay, Whale Passage, Dry Spruce Bay.
Date: 12 June 2002
Time Start: 17:54:34
Time End: 19:32:36
Fuel Break: 18:22:09 to 19:00:18
Tape Length: 57:57
Weather: DFC (Dead.. Flat..Calm), overcast. 600ft aprox. ceiling.
Electronic File: Kodiak2002.dbf, KodiakPhotos.dbf

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
18:07:11	W. Kizhuyak Bay	12	37	16594	p.45
18:18:25	Port Lions, Settler's Cove	13	19	16594	p.45
18:22:09 to 19:00:18	Fuel Break				
19:10:13	Whale Passage Chernof Pt.	13	37	16594	p.45
19:25:47	Dry Spruce Bay, Bare Island	14	17	16594	p.45
19:32:36	Dry Spruce Island, Drying Pt.	14	23	16594	p.45

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 8

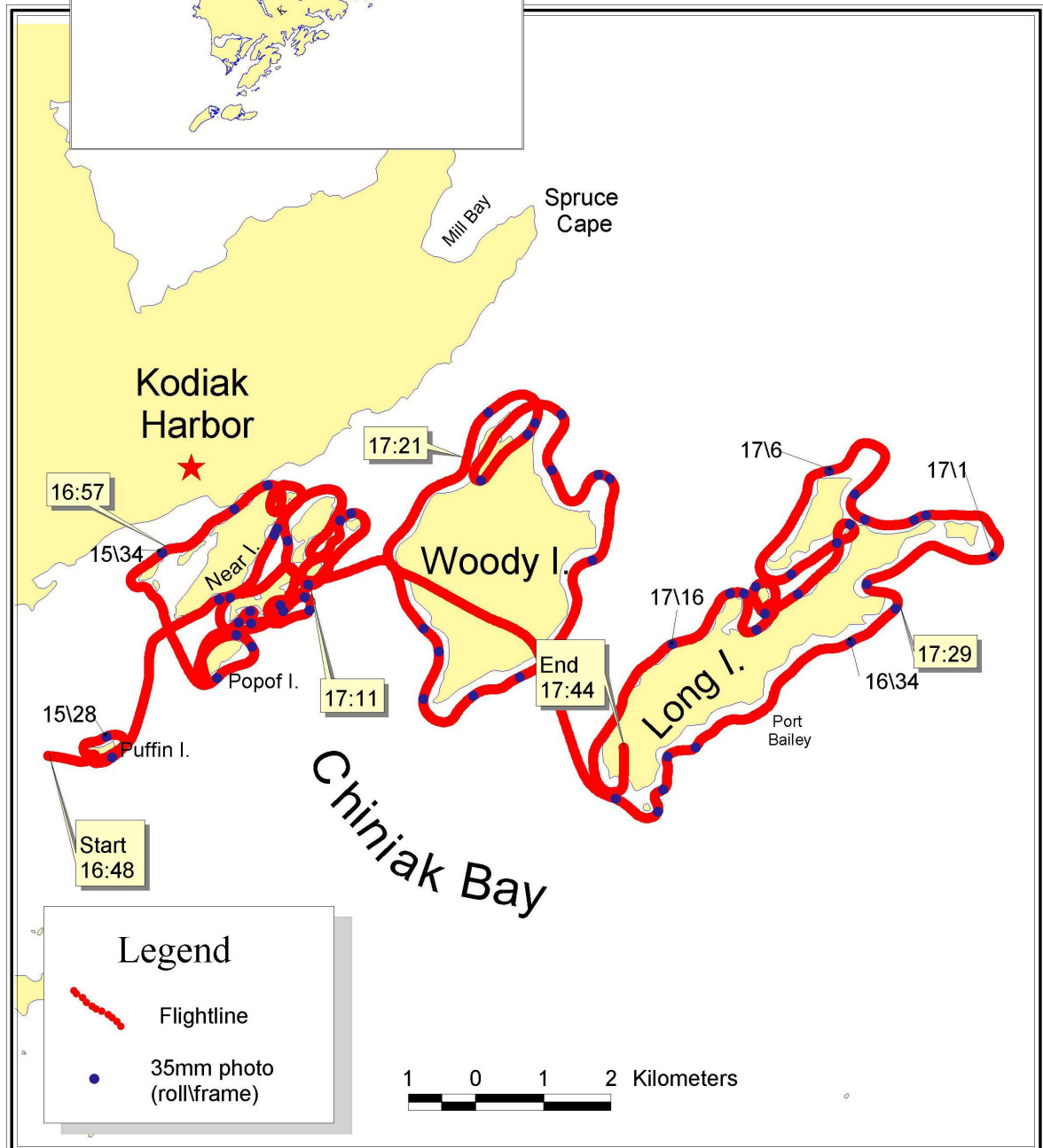


Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 8
General Location: Kupreanof Peninsula
Date: 12 June 2002
Time Start: 19:33:10
Time End: 20:10:13
Tape Length: 37:02
Weather: DFC (Dead.. Flat..Calm), overcast. 600ft aprox. ceiling.
Electronic File: Kodiak2002.dbf, KodiakPhotos.dbf

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
19:47:57	Dry Spruce Bay, Port Bailey	14	37	16594	p.45
19:59:35	Kupreanof Peninsula, Sieba Pt.	15	14	16594	p.45
20:10:13	Mid-Viekoda Bay	15	25	16594	p.45

A map of the British Isles, including Great Britain and Ireland. The landmasses are colored yellow, and the surrounding waters are blue. A black rectangular box is drawn on the northeastern coast of Great Britain, specifically over the Scottish Highlands, to indicate the study area. Within this box, a red dot marks a specific location, and a small blue line segment is also visible.



Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 9
General Location: Near Island, Woody Island, Long Island
Date: 13 June 2002
Time Start: 16:48:51
Time End: 17:44:16
Tape Length: 55:25
Weather: Clear, Sunny, Calm
Electronic File: Kodiak2002.txt, dbf, .xls

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
16:57	Kodiak Harbour side of Near Island	15	34	16594	p. 45
17:11:05	Near Island	16	14	16594	p. 45
17:21:21	Woody Island	16	28	16594	p. 45
17:29:46	E.Side Long Island	16	36	16594	p. 45
17:44:16	SW. tip, Long Island	17	17	16594	p. 45

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 10

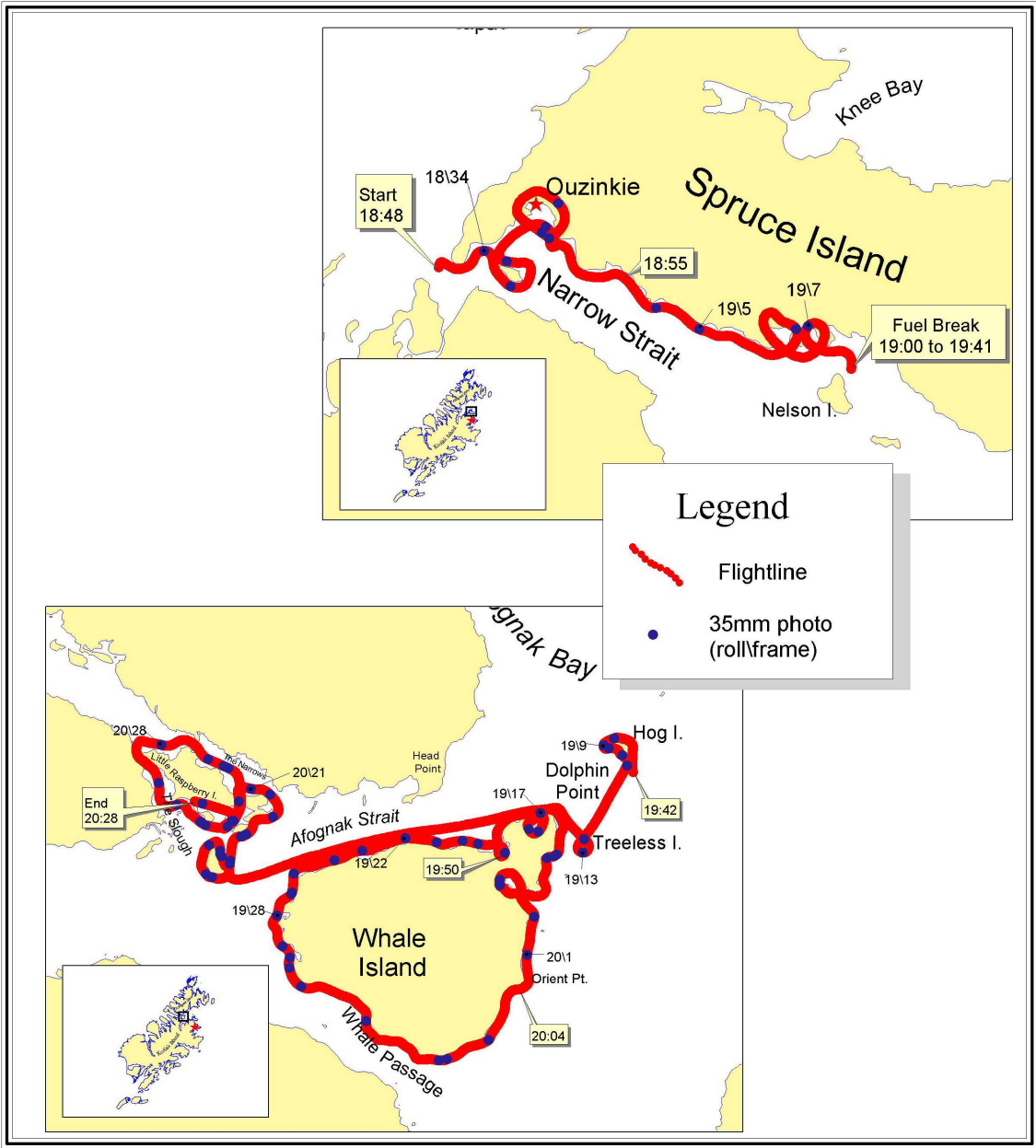


Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 10
General Location: Spruce Island
Date: 13 June 2002
Time Start: 17:49:37
Time End: 18:47:53
Tape Length: 58:00
Weather: Clear, Sunny, Calm
Electronic File: Kodiak2002.txt, dbf, .xls

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
18:13:24	East Cape	17	37	16594	p. 45
18:31:38	The Triplets.	18	16	16594	p. 45
18:47:53	Zapadni Pt.	18	34	16594	p. 45

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 11

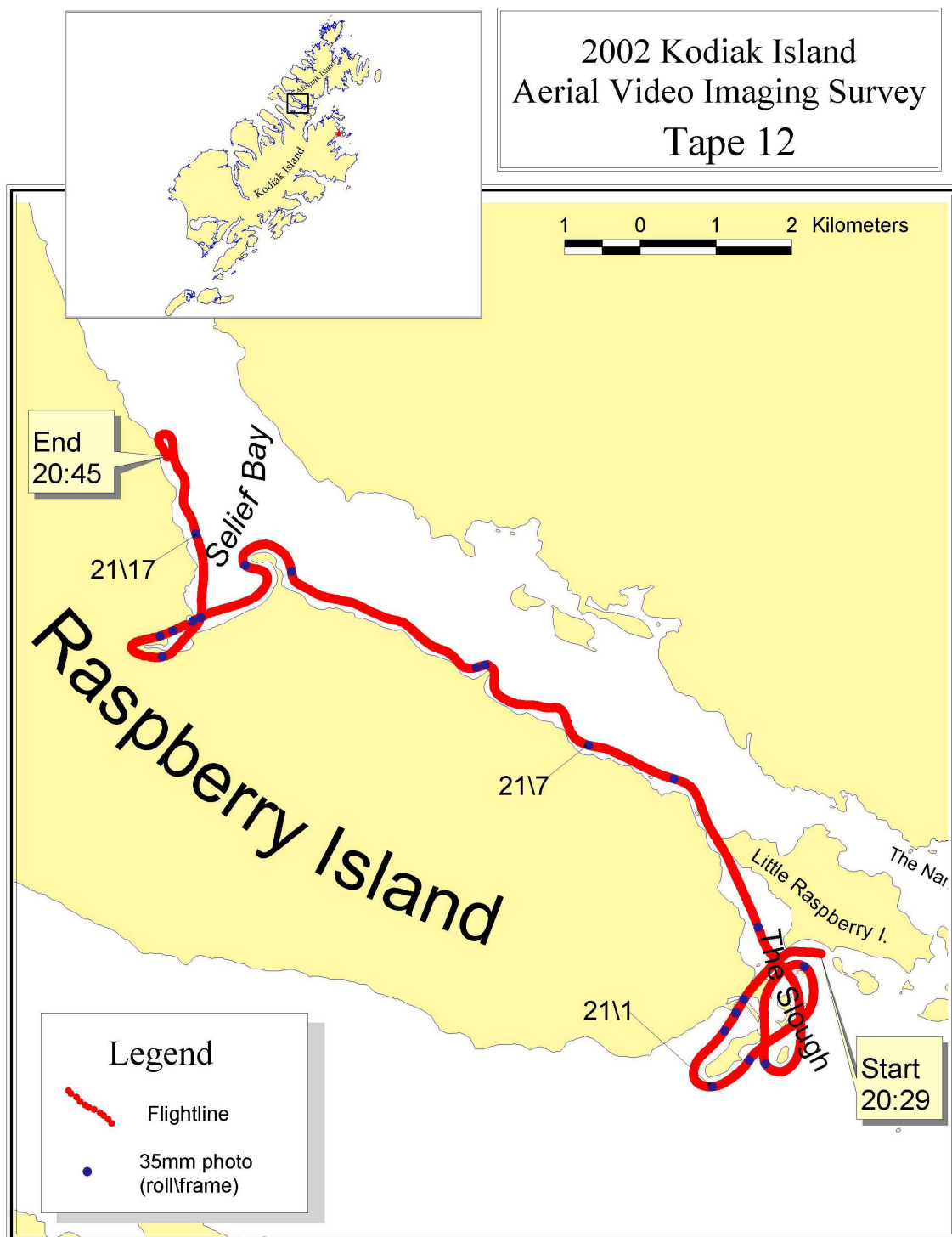


Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 11
General Location: Spruce Island, Whale Island
Date: 13 June 2002
Time Start: 18:48:38
Time End: 20:28:22
Fuel Break: 19:00:17 to 19:41:44
Tape Length: 58:18
Weather: Clear, Sunny, Calm
Electronic File: Kodiak2002.txt, dbf, .xls

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
18:59:38	Ouzinkie, South Spruce Island	19	7	16594	p. 45
19:00:17 to 19:41:44	Fuel Break				
19:50:09	Dolphin Pt.	19	18	16594	p. 45
20:02:45	West side Whale I., Bird Pt.	19	36	16594	p. 45
20:09:25	E.side Whale I. Orient Pt.	20	7	16594	p. 45
20:28:22	Little Raspberry Island cluster	20	34	16594	p. 45

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 12

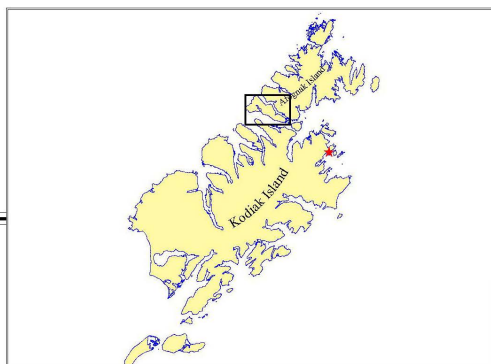


Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 12
General Location: SE Raspberry Island
Date: 13 June 2002
Time Start: 20:29:30
Time End: 20:45:52
Tape Length: 16: 12
Weather: Clear, Sunny, Calm
Electronic File: Kodiak2002.txt, dbf, .xls

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
20:36:54	The Slough	21	7	16594	p. 45
20:45:52	Selief Bay	21	17	16594	p. 45

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 13



2 0 2 4 Kilometers



Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 13
General Location: Raspberry Island
Date: 14 June 2002
Time Start: 17:32:01
Time End: 18:27:06
Tape Length: 55:05
Weather: Clear, Sunny, Calm
Electronic File: Kodiak2002.txt, dbf, .xls

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
17:40:08	Raspberry Strait Iron Creek	21	37	16594	p. 45
17:56:42	NW. Raspberry Island, Raspberry Cape	22	23	16594	p. 45
18:05:06	Ustia Pt.	22	37	16594	p. 45
18:12:44	Onion Bay	23	10	16594	p. 45
18:27:06	The Slough	23	24	16594	p. 45

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 14



Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 14
General Location: SE Afognak Is- Afognak Strait to Kazakof Bay
Date: 14 June 2002
Time Start: 18:29:11
Time End: 19:26:52
Tape Length: 57:41
Weather: Clear, Sunny, Calm
Electronic File: Kodiak2002.txt, dbf, .xls

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
18:36:20	Afognak Strait, Head Pt.	23	37	16594	p. 45
18:42:27	S. Afognak Bay	24	13	16594	p. 53
19:02:02	Afognak Bay, Skipwith Reefs	24	36	16594	p. 53
19:26:52	Kazakof Bay	25	31	16594	p. 53

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 15

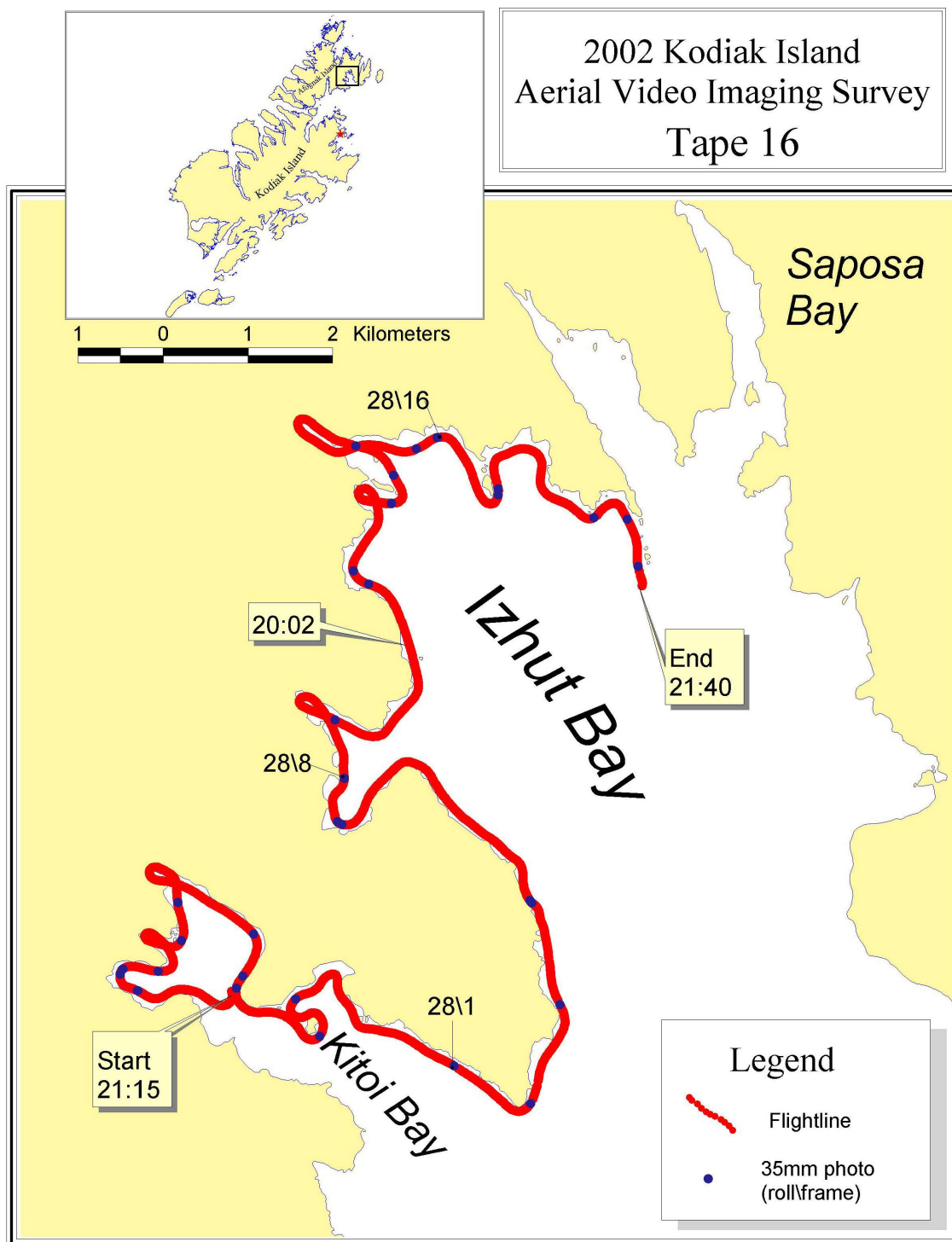


Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 15
General Location: Afognak Is- Kazakof Bay, Duck Bay, Kitoi Bay
Date: 14 June 2002
Time Start: 19:27:38
Time End: 21:15:22
Fuel Break: 19:46:53 to 20:36:38
Tape Length: 58:08
Weather: Clear, Sunny, Calm
Electronic File: Kodiak2002.txt, dbf, .xls

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
19:46:24	E. side Kazakof Bay	26	17	16594	p. 53
19:46:53 to 20:36:38	Fuel Break				
20:47:07	Mary Anderson Bay	26	29	16594	p. 53
20:52:14	Selezen Pt	26	37	16594	p. 53
21:00:37	Peril Cape	27	13	16594	p. 53
21:15:22	Kitoi Bay	27	26	16594	p. 53

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 16

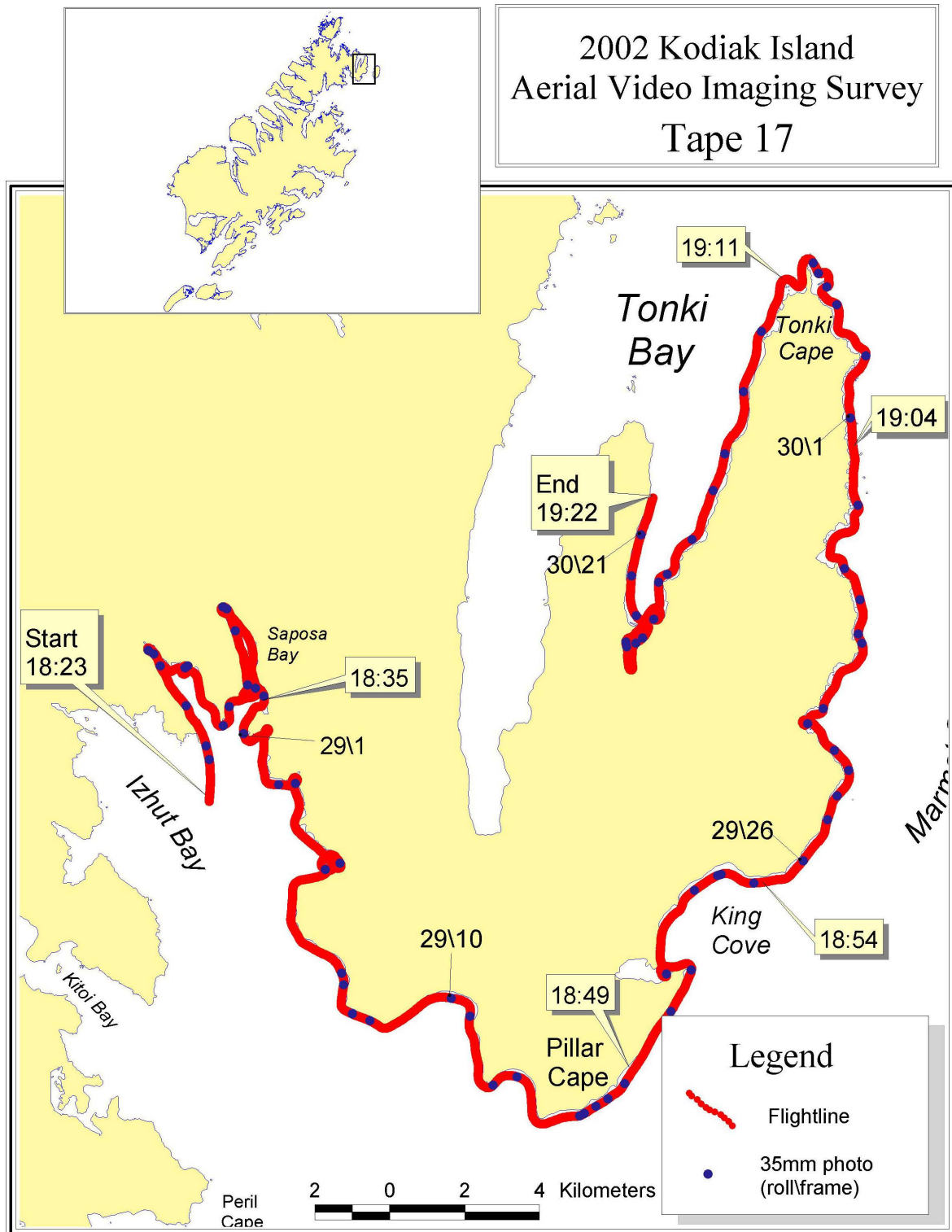


Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 16
General Location: Afognak Is, Izhut Bay
Date: 14 June 2002
Time Start: 21:15:58
Time End: 21:40:14
Tape Length: 24:16
Weather: Clear, Sunny, Calm
Electronic File: Kodiak2002.txt, dbf, .xls

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
21:22:51	Kitoi Bay	27	37	16594	p. 53
21:40:14	W. Izhut Bay	28	20	16594	p. 53

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 17



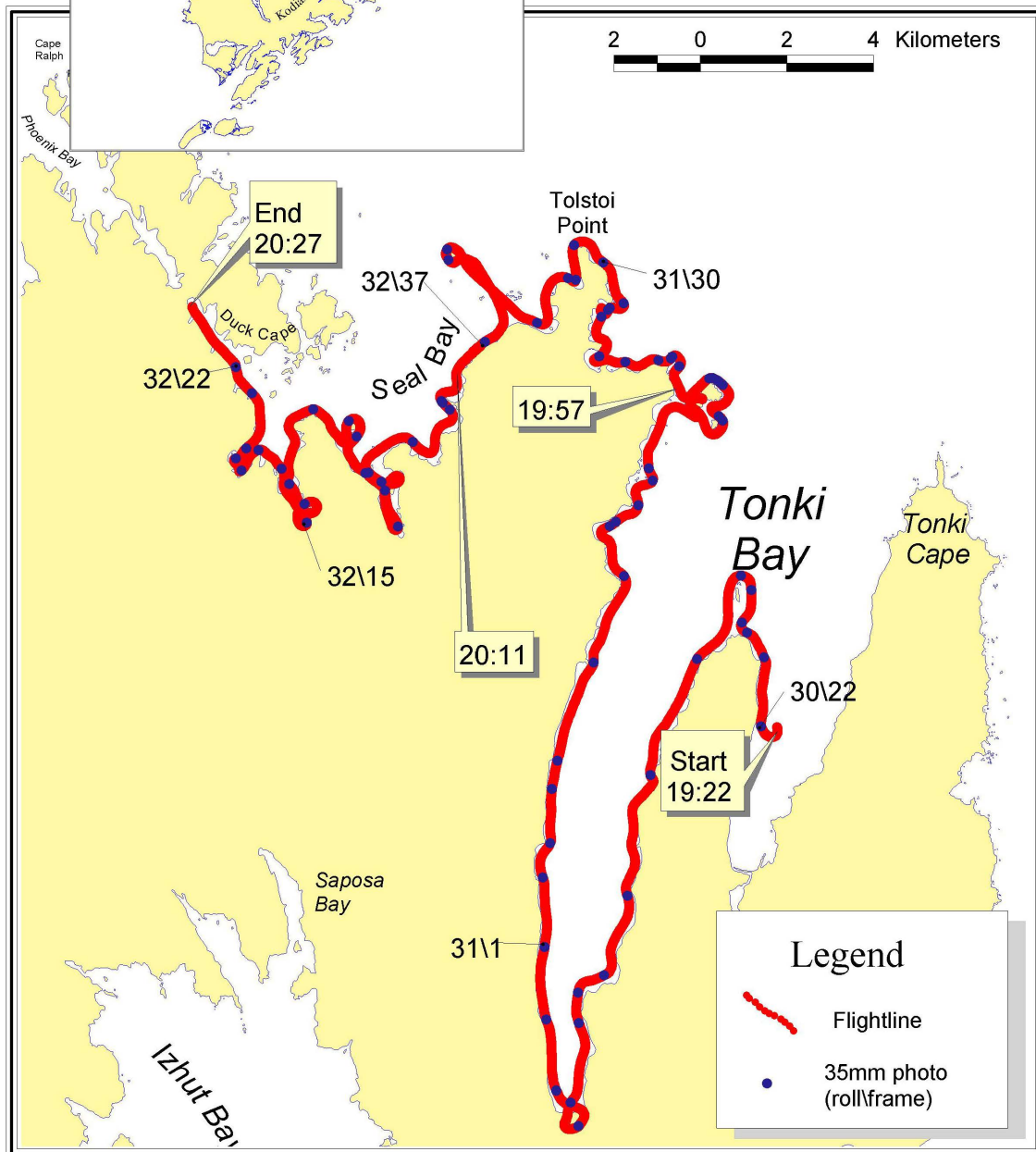
Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 17
General Location: Afognak Is- Izhut Bay, Tonki Cape Peninsula
Date: 15 June 2002
Time Start: 18:23:11
Time End: 19:22:02
Tape Length: 56:20
Weather: Clear, Sunny, Hot, Gusting Winds
Electronic File: Kodiak.xls, .dbf, .txt

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
18:35:00	Saposa Bay	28	37	16604	p. 53
18:49:26	Pillar Cape	29	18	16604	p. 53
18:54:30	King Cove	29	25	16604	p. 53
19:04:06	Midway Marmot Strait.	29	37	16604	p. 53
19:11:11	Tonki Cape	30	7	16604	p. 53
19:22:02	E. Arm Tonki Bay	30	21	16604	p. 53

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 18

2 0 2 4 Kilometers

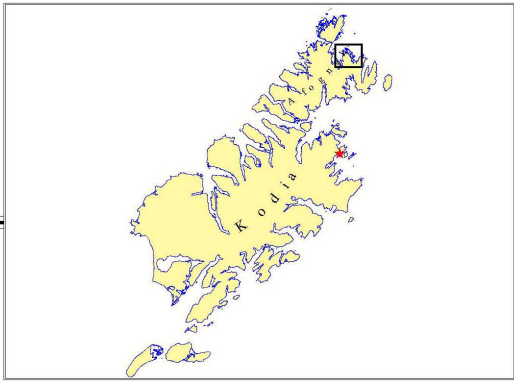


Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 18
General Location: Afognak Is- Tonki Bay to Seal Bay
Date: 15 June 2002
Time Start: 19:22:29
Time End: 20:27:44
Tape Length: 55:55
Weather: Clear, Sunny, Hot, Gusting Winds
Electronic File: Kodiak.xls, .dbf, .txt

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
19:36:01	Head of W. Arm Tonki Bay	30	37	16604	p. 53
19:57:08	W. Side Tonki Bay	31	19	16604	p. 53
20:11:09	E. side Seal Bay	31	37	16604	p. 53
20:27:44	Islands near Duck Cape in Seal Bay	32	22	16604	p. 53

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 19



Legend

- Flightline
- 35mm photo (roll/frame)

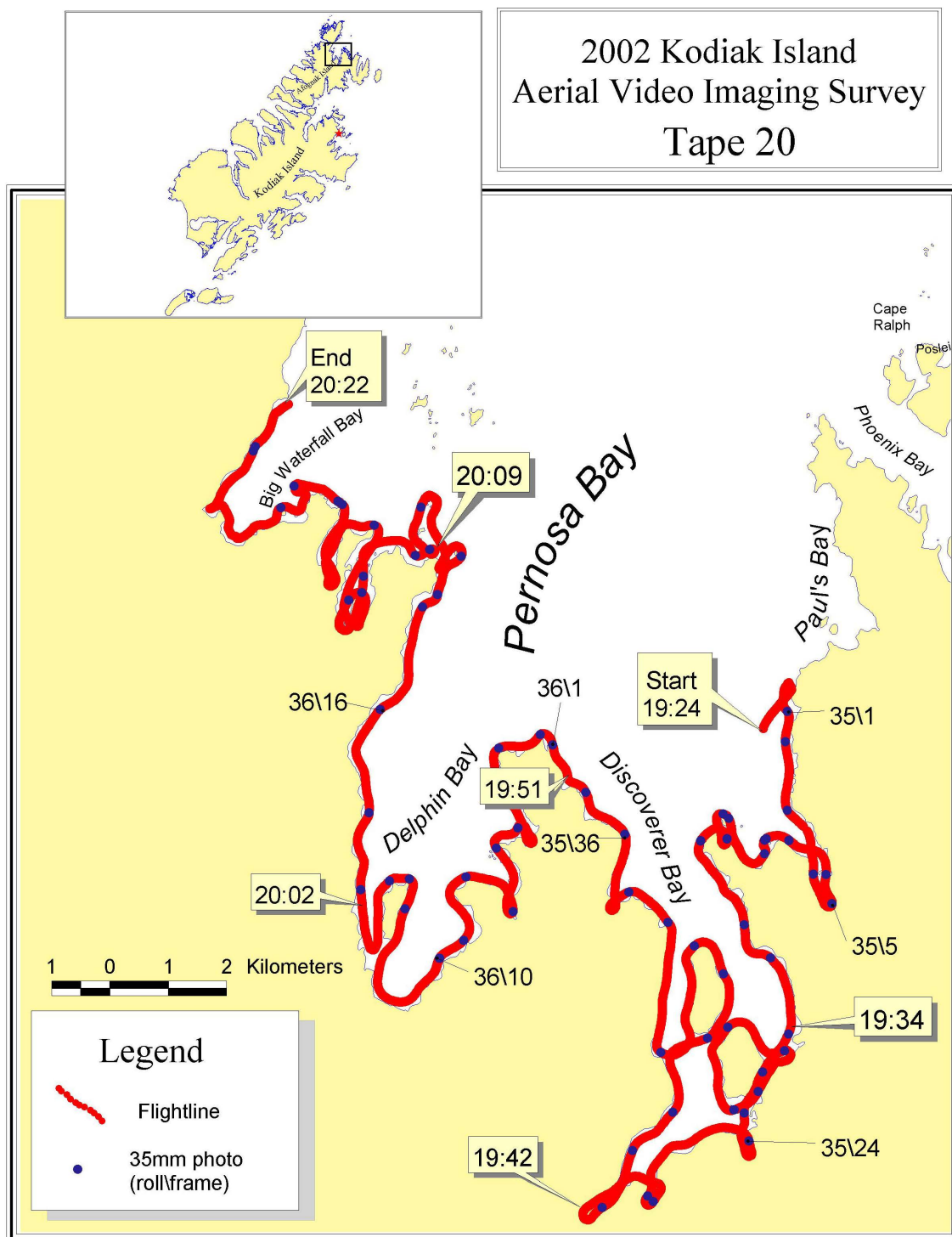


Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 19
General Location: Afognak Is- Seal Bay, Phoenix Bay, Paul's Bay
Date: 15 June 2002
Time Start: 21:14:49
Time End: 22:11:51
Tape Length: 57:02
Weather: Clear, Sunny, Hot, Gusting Winds
Electronic File: Kodiak.xls, .dbf, .txt

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
21:22:18	Islands near Duck Cape	32	37	16604	p. 53
21:32:23	Duck Cape	33	12	16604	p. 53
21:42:02	Seal Islands	33	32	16604	p. 53
21:54:13	Posedni Pt.	34	36	16604	p. 53
22:11:51	Paul's Bay	35	23	16604	p. 53

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 20



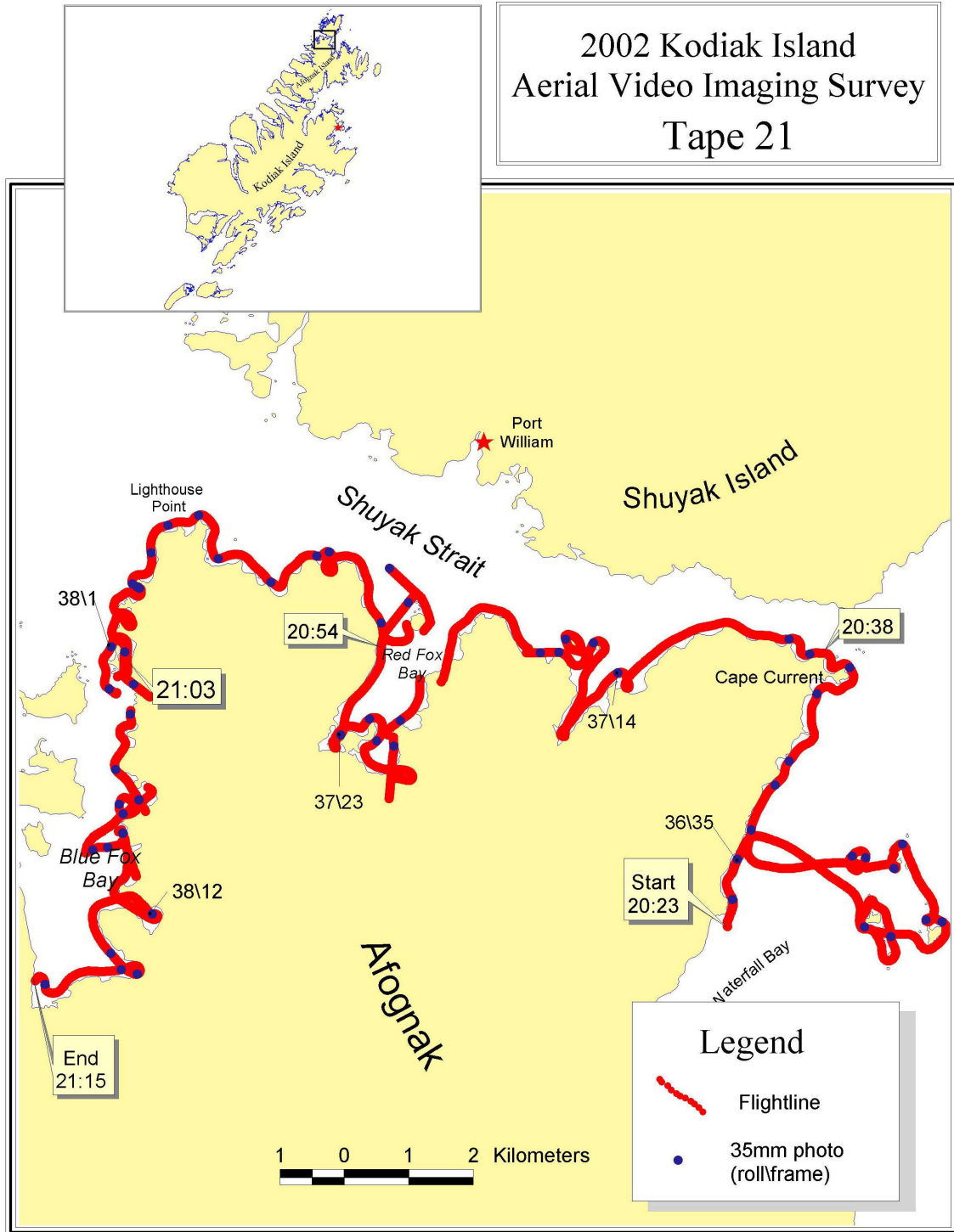
Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 20
General Location: Afognak Is- Pernosa Bay
Date: 16 June 2002
Time Start: 19:24:26
Time End: 20:22:23
Tape Length: 58:06
Weather: Foggy, Low Ceiling 400ft.
Electronic File: Kodiak.xls, .dbf, .txt

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
19:34:00	SW island in Discoverer bay	35	17	16604	p. 53
19:42:23	Head of Discoverer Bay	35	27	16604	p. 53
19:51:42	E. Mouth of Discoverer Bay	35	37	16604	p. 53
20:02:31	Delphin Island, Delphin Bay	36	14	16604	p. 53
20:09:32	Head of Pernosa Bay	36	21	16604	p. 53
20:22:23	Big Waterfall Bay	36	33	16604	p. 53

Note: This section of trackline is quite patchy due to the interference of higher mountains blocking out the GPS constellation. Trackline jumps in places.

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 21

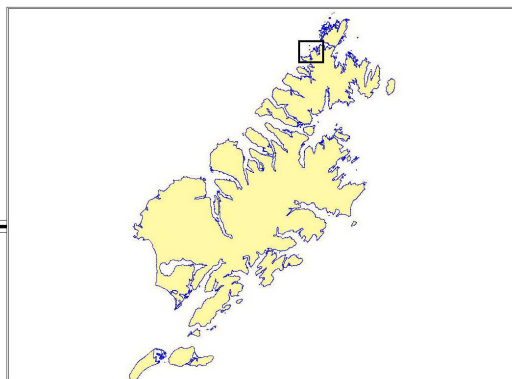


Kodiak Island 2002 Aerial Video Imaging Survey

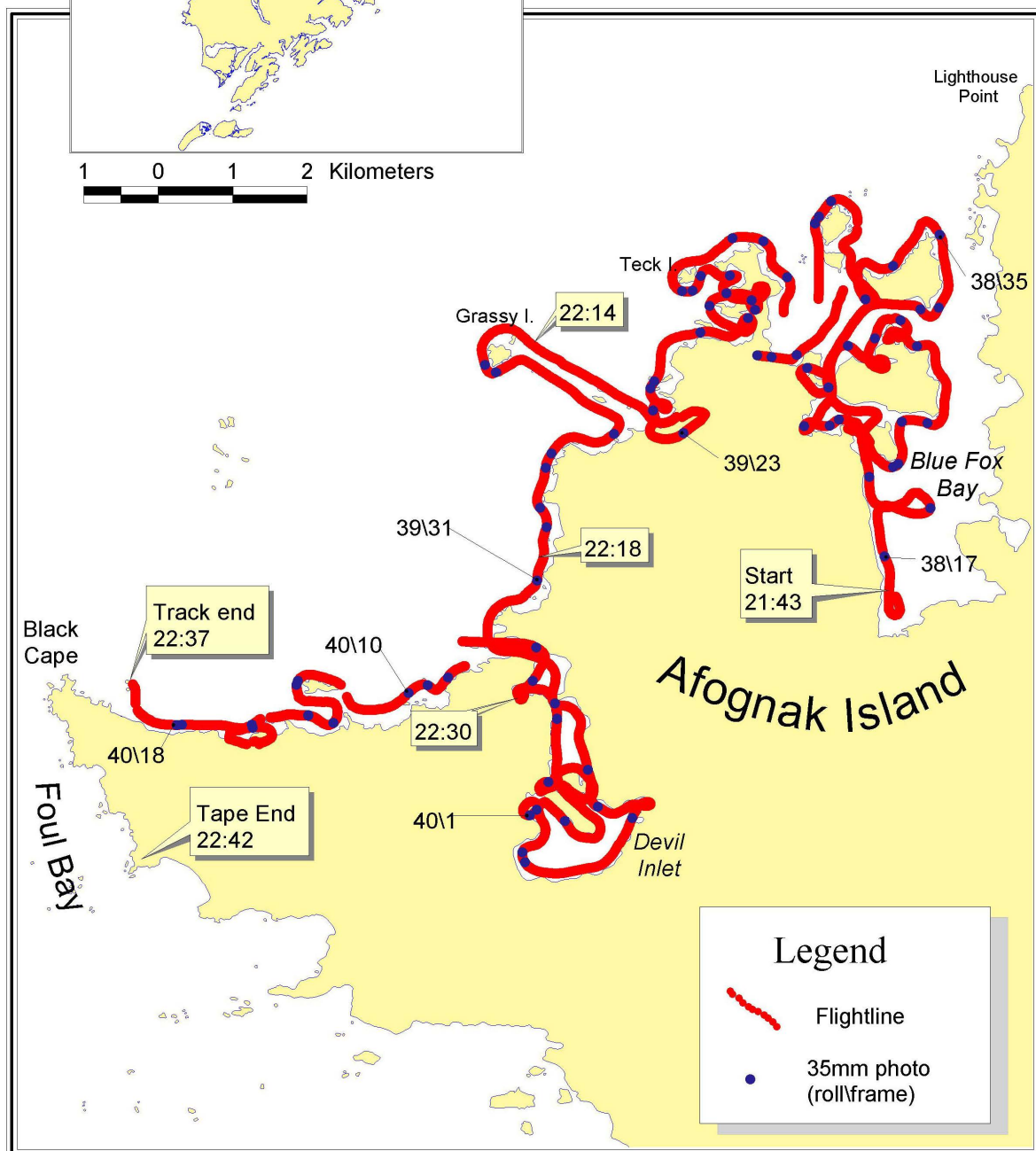
Tape Number: 21
General Location: Afognak Is- Cape Current, Shuyak Strait
Date: 16 June 2002
Time Start: 20:23:10
Time End: 21:15:55
Tape Length: 52:45
Weather: Foggy, Low Ceiling 400ft.
Electronic File: Kodiak.xls, .dbf, .txt

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
20:38:38	Cape Current	37	14	16604	p. 53
20:54:50	Red Fox Bay	37	26	16604	p. 53
21:03:06	Lighthouse Point	37	37	16604	p. 53
21:15:55	Head of Bluefox Bay, fuel cache	38	16	16604	p. 53

2002 Kodiak Island
Aerial Video Imaging Survey
Tape 22



1 0 1 2 Kilometers



Kodiak Island 2002 Aerial Video Imaging Survey

Tape Number: 22
General Location: Afognak Is- Blue Fox Bay, Devil Inlet, Black Cape
Date: 16 June 2002
Time Start: 21:43:11
Time End: 22:42:02
Tape Length: 58:50
Note: Track Ends at 22:37:47 due to battery failure
Weather: Foggy, Low Ceiling 400ft.
Electronic File: Kodiak.xls, .dbf, .txt

Time UTC	Location	Film Roll	Film Frame	Chart	Topo
21:59:56	Teck Island	38	37	16604	p. 53
22:14:53	Grassy I.	39	25	16604	p. 53
22:18:30	Entrance Devil Inlet	39	31	16604	p. 53
22:30:51	Devil Inlet	40	7	16604	p. 53
22:37:00	Black Cape	40	18	16604	p. 53
22:42:02	Outer Foul Bay	40	25	16604	p. 53

