

CORI Project: 11-13

June 2011

FLIGHT REPORT
ShoreZone Aerial Video Imaging (AVI) Survey
Oregon
June 1-5, 2011
Team Oregon (OR)



prepared for:

State of Oregon
Department of Fish and Wildlife

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 **Astoria, Tillamook, Newport and North Bend** in Oregon during the low-tide window of **June 1-6, 2011**. The survey was conducted by Coastal & Ocean Resources Inc. (CORI) under contract with Oregon Department of Fish and Wildlife. A coastal ecologist from Archipelago Marine Research Ltd (AMRL) provided biological observations during the flights. Tables 1 & 2 provide a summary of crew affiliations and responsibilities. Methodology followed a standard survey protocol (Harney *et al* 2008; Harper and Morris 2011).

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 1783 **km of shoreline**, plus additional shoreline of numerous rocks, reefs and islets. The team utilized a Bell 206/Jet Ranger helicopter chartered from Hillsboro Aviation, Hillsboro, Oregon. Imagery was collected looking at the shoreline from the left side of the aircraft with the rear door removed. A total of 22 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 in 24-hour clock time; UTC time is 7 hours ahead of Pacific 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 image library. A total of 15,591 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 digital shoreline segments flown. Within each survey, data and imagery are linked by a date time code (yyyymmddhhmmss).

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Table 1. Flight Personnel and Responsibilities: Team Oregon (OR)

Crew Member	Individual / Affiliation	Responsibilities
<i>Geomorphologist</i>	John Harper CORI, Victoria, BC	survey coordination, videography, geomorphic commentary, post-flight data processing, project reporting
<i>Coastal Ecologist</i>	Mary Morris AMR, Victoria, BC	digital photography, biologic commentary
<i>Navigators</i>	Sam Still / Sheri Ward CORI, Victoria, BC	in-flight navigation, post-flight data processing
<i>Pilot</i>	Mike Morris Hillsboro Aviation Hillsboro, OR	

Table 2. Summary of Survey Tapes for Team Oregon (OR).

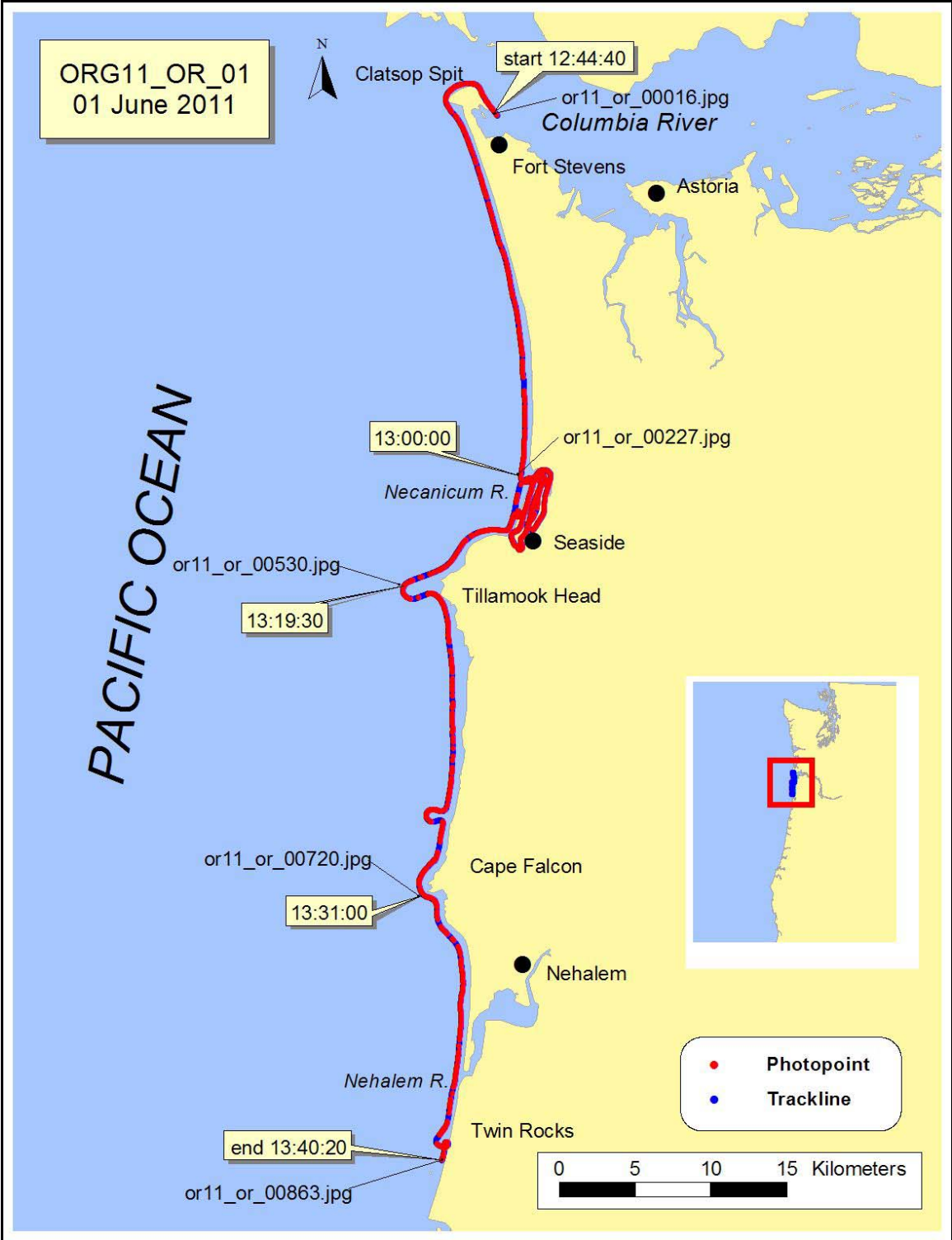
Tape Number	Location
ORG11_OR_01	Clatsop Spit to Twin Rocks
ORG11_OR_02	Twin Rocks to Netarts Bay and Cape Lookout
ORG11_OR_03	west Tillamook Bay, Nehalem Bay, Nehalem River
ORG11_OR_04	NE Tillamook Bay, Miami, Kilchis and Wilson Rivers
ORG11_OR_05	Trask River, Cape Lookout to Nestucca Bay
ORG11_OR_06	Nestucca Bay to Yaquina Head
ORG11_OR_07	Yaquina Head, Siletz Bay and Siletz R., Yaquina Bay
ORG11_OR_08	Yaquina Bay to King Slough
ORG11_OR_09	South shore Yaquina Bay
ORG11_OR_10	Yaquina Bay, Alsea Bay, to Yachats
ORG11_OR_11	Yachats to Siuslaw River, Florence
ORG11_OR_12	Siuslaw River to Umpqua Bay
ORG11_OR_13	Umpqua Bay, Smith and Umpqua Rivers
ORG11_OR_14	Umpqua Bay to North Spit, Coos Bay
ORG11_OR_15	Coos Head to Cape Blanco
ORG11_OR_16	Floras/New River, Coquille River
ORG11_OR_17	Outer Coos Bay, west of bridge, and South Slough
ORG11_OR_18	South Slough, South Jetty, Coos Bay
ORG11_OR_19	Coos River, Catching and Isthmus Soughs
ORG11_OR_20	Cape Blanco to Rogue River
ORG11_OR_21	Rogue River to OR/CA border
ORG11_OR_22	Brookings, Chetco River, Deer point/Whalehead

**ShoreZone Aerial Video Imaging (AVI) Survey
Oregon
June 1-5, 2011**

Team Oregon (OR)
Survey Maps and Tape Logs
DVDs: OR11_OR_01 to OR11_OR_22



Flight trackline map showing the location and extent of specific videotapes (DVDs) for the June 1-5, 2011 **Team Oregon** survey in Oregon





2011 Oregon Aerial Video Imaging Survey Team Oregon (OR)

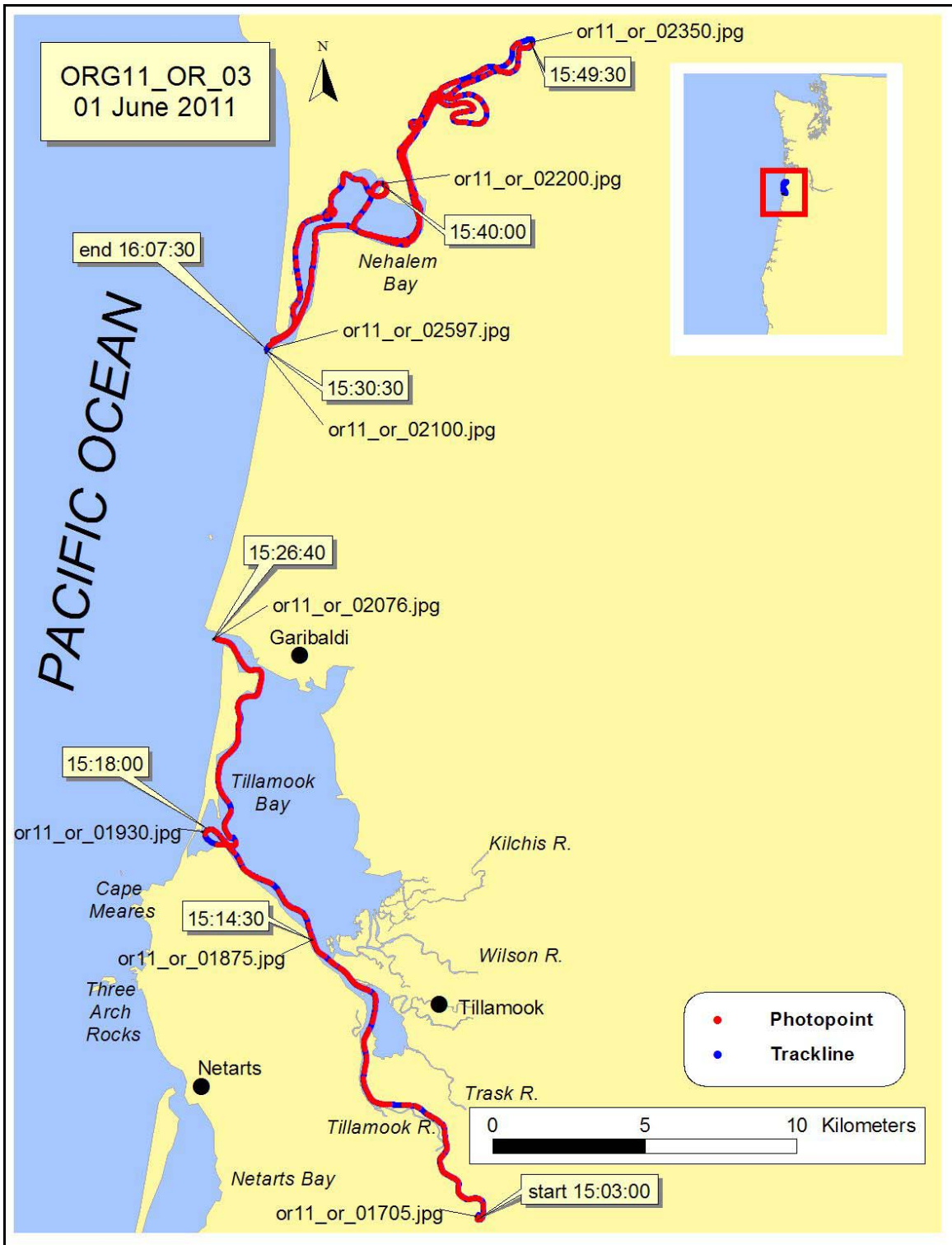
Tape: ORG11_OR_02

Date 01 June 2011

General Location: Twin Rocks to Netarts Bay and Cape Lookout
Time Start (UTC): 13:41:50 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 14:24:10 **Nav:** Still
Tape Length: 42 min 20 sec **Pilot:** Morris
Weather: Cloudy, high overcast, light winds, patchy fog at Warrenton

Time (UTC)	Location	Photo
13:44:01	Twin Rocks	or11_or_00885
13:46:53	Mouth of Tillamook Bay	or11_or_00954
13:52:03	Cape Meares	or11_or_01046
13:56:12	Three Arch Rocks	or11_or_01160
14:08:46	Head of Netarts Bay	or11_or_01389
14:14:59	Mouth of Netarts Bay	or11_or_01518
14:22:40	Cape Lookout	or11_or_01655
	Transit to Tillamook Airport for Refuel 14:24:10	

Note..



2011 Oregon Aerial Video Imaging Survey Team Oregon (OR)

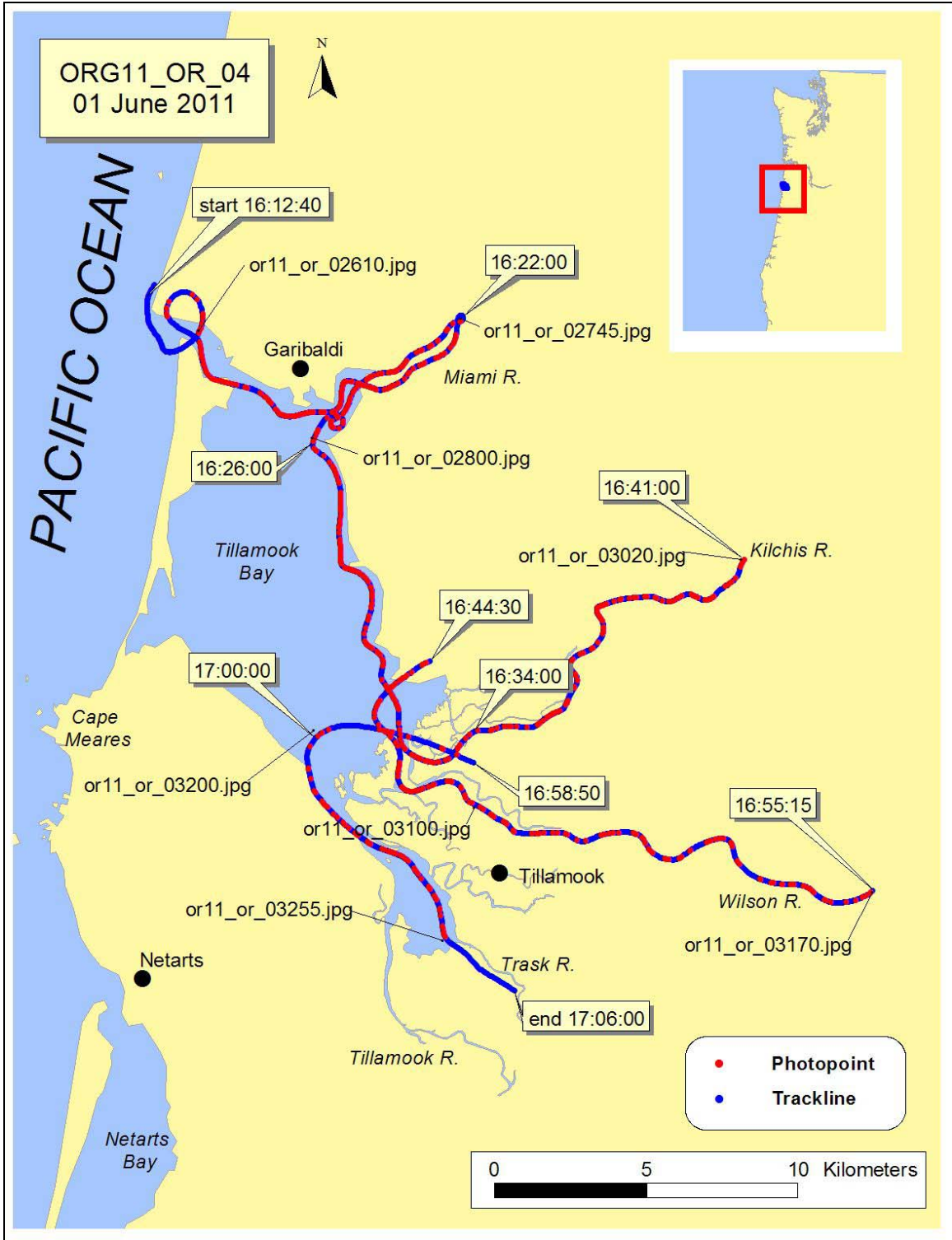
Tape: ORG11_OR_03

Date 01 June 2011

General Location: Tillamook Bay, Nehalem Bay and Nehalem River
Time Start (UTC): 15:02:59 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 16:07:25 **Nav:** Still
Tape Length: 60 min 11 sec **Pilot:** Morris
Weather: Cloudy, high overcast, light winds,

Time (UTC)	Location	Photo
	Transit to Tillamook River 15:01:20 to 15:02:59	
15:03:04	Upper section of Tillamook River	or11_or_01706
15:18:11	Pitcher Point, Tillamook Bay	or11_or_01929
	Transit to Nehalem Bay 15:26:41 to 15:31:26	
15:31:35	Nehalem Spit, Mouth of Nehalem Bay	or11_or_02102
16:01:26	Upper North Fork of Nehalem River	or11_or_02346
16:07:24	Mouth of Nehalem Bay, Southern Shore	or11_or_02597
	Transit to Tillamook Bay 16:07:26 to 16:12:41	

Note:.



2011 Oregon Aerial Video Imaging Survey Team Oregon (OR)

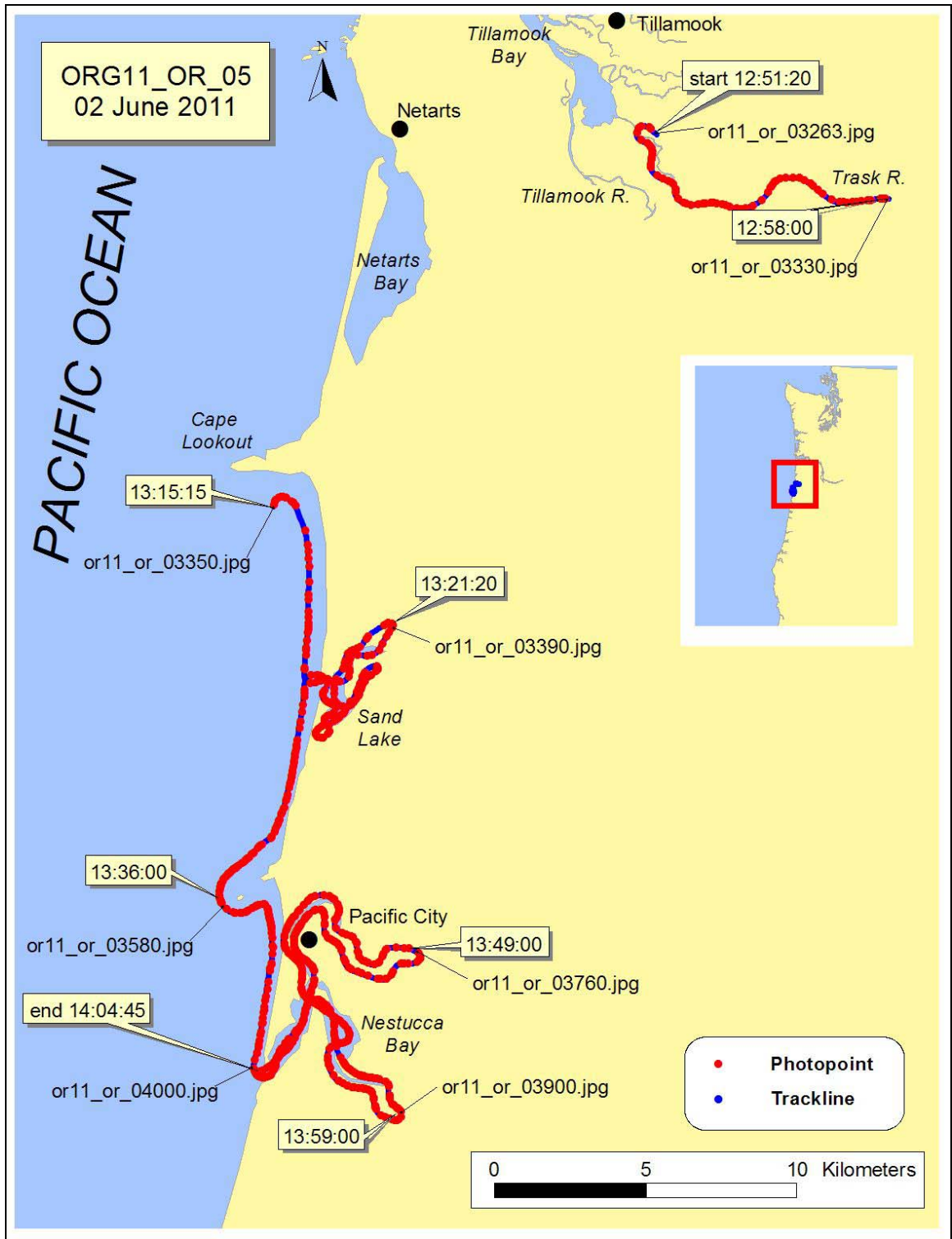
Tape: ORG11_OR_04

Date 01 June 2011

General Location:	NE Tillamook Bay; Miami, Kilchis, and Wilson Rivers	
Time Start (UTC):	16:12:42	Geo: Harper
Fuel Break:	none	Bio: Morris
Time End (UTC):	17:05:55	Nav: Still
Tape Length:	53 min 13 sec	Pilot: Morris
Weather:	Cloudy, high overcast, light winds, fog at Astoria	

Time (UTC)	Location	Photo
16:14:17	Mouth of Tillamook Bay	or11_or_02610
16:17:00	Garibaldi	or11_or_02662
16:22:03	Miami River	or11_or_02741
16:28:58	Bay City	or11_or_02857
16:40:59	Kilchis River	or11_or_03019
16:55:06	Wilson River	or11_or_03169
17:04:40	Trask River	or11_or_03255
	Transit to Tillamook Airport 17:05:56	

Note:.



2011 Oregon Aerial Video Imaging Survey Team Oregon (OR)

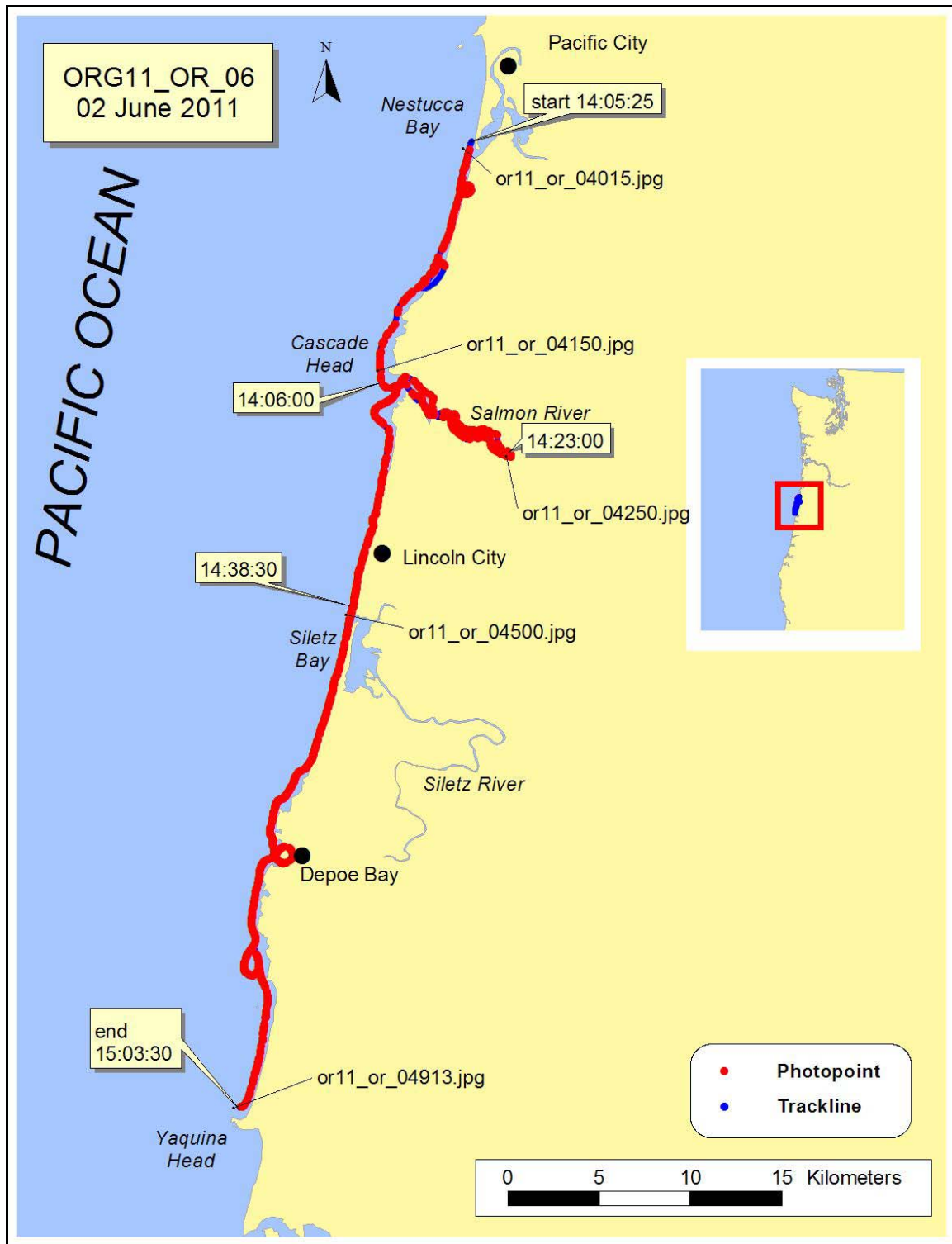
Tape: ORG11_OR_05

Date 02 June 2011

General Location: Trask River. Cape Lookout to Nestucca Bay
Time Start (UTC): 12:51:20 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 14:03:40 **Nav:** Ward
Tape Length: 56 min 59 sec **Pilot:** Morris
Weather: Cloudy, high overcast, light to moderate winds, occasional gusts, occasional showers

Time (UTC)	Location	Photo
12:51:20	Tillamook	or11_or_03262
12:57:50	Trask River	or11_or_03331
Transit to Cape Lookout 12:57:56 to 13:15:17		
13:15:23	Cape Lookout	or11_or_03350
13:21:20	Sand Creek	or11_or_03390
13:31:14	Mouth of Sand Lake	or11_or_03497
13:36:00	Haystack Rock	or11_or_03580
13:49:00	Nestucca River	or11_or_03760
13:59:00	Little Nestucca River	or11_or_03900
14:04:45	Mouth of Nestucca Bay	or11_or_04000

Note: Intermittent audio Trask River segment



2011 Oregon Aerial Video Imaging Survey Team Oregon (OR)

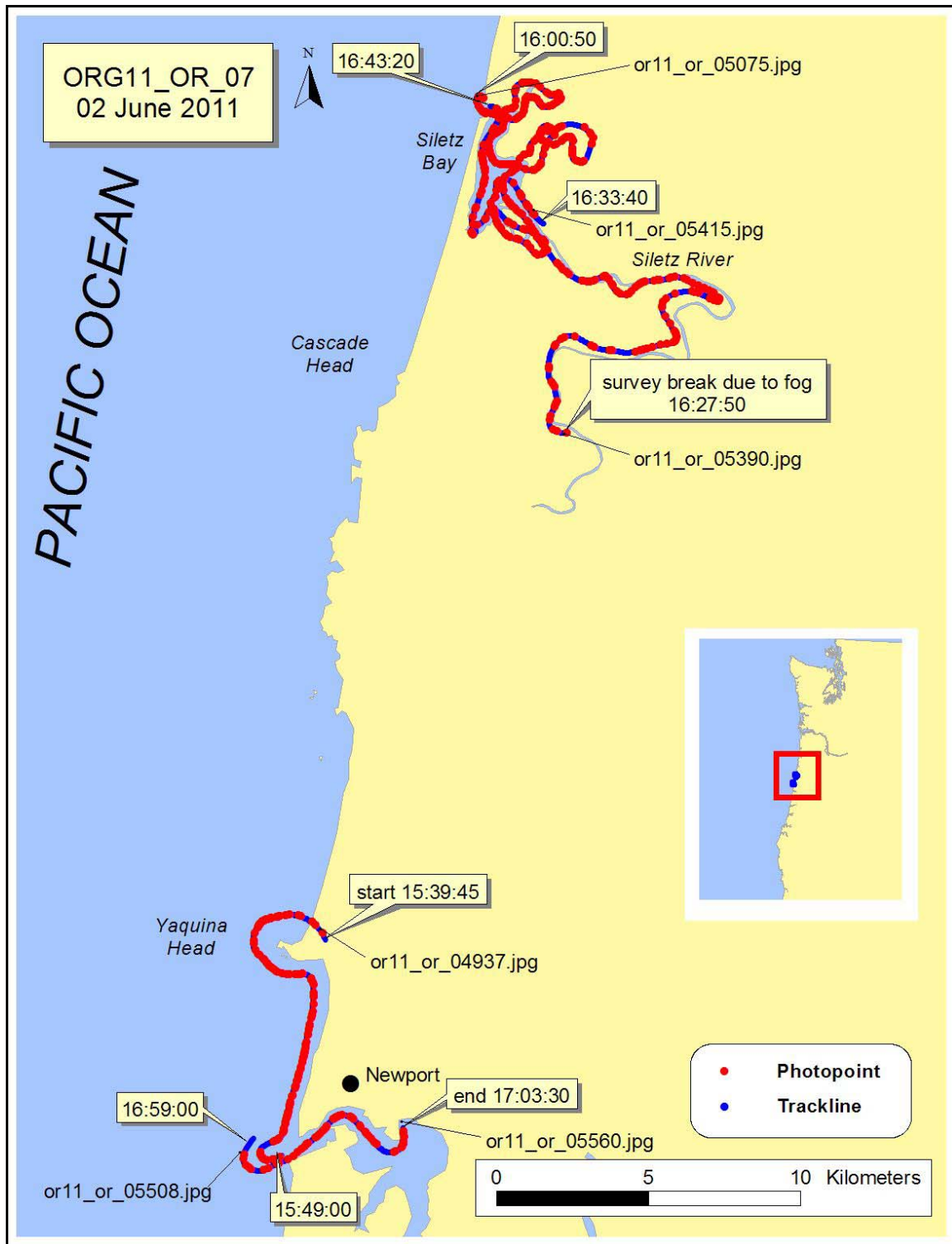
Tape: ORG11_OR_06

Date 02 June 2011

General Location: entrance to Nestucca Bay to Yaquina Head
Time Start (UTC): 14:05:18 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 15:03:23 **Nav:** Ward
Tape Length: 58 min 5 sec **Pilot:** Morris
Weather: Cloudy, high overcast, light to moderate winds, occasional gusts, occasional showers

Time (UTC)	Location	Photo
14:05:25	Mouth of Nestucca Bay	or11_or_04015
14:15:27	Cascade Head	or11_or_04150
14:23:00	Salmon River	or11_or_04250
14:35:53	Lincoln City	or11_or_04437
14:38:30	Siletz Bay	or11_or_04500
14:49:41	Depoe Bay	or11_or_04705
14:55:12	Gull Rock/Otter Rock	or11_or_04800
15:03:21	Yaquina Head	or11_or_04913
	Transit to Newport For Refuel 15:03:24	

Note:.



2011 Oregon Aerial Video Imaging Survey Team Oregon (OR)

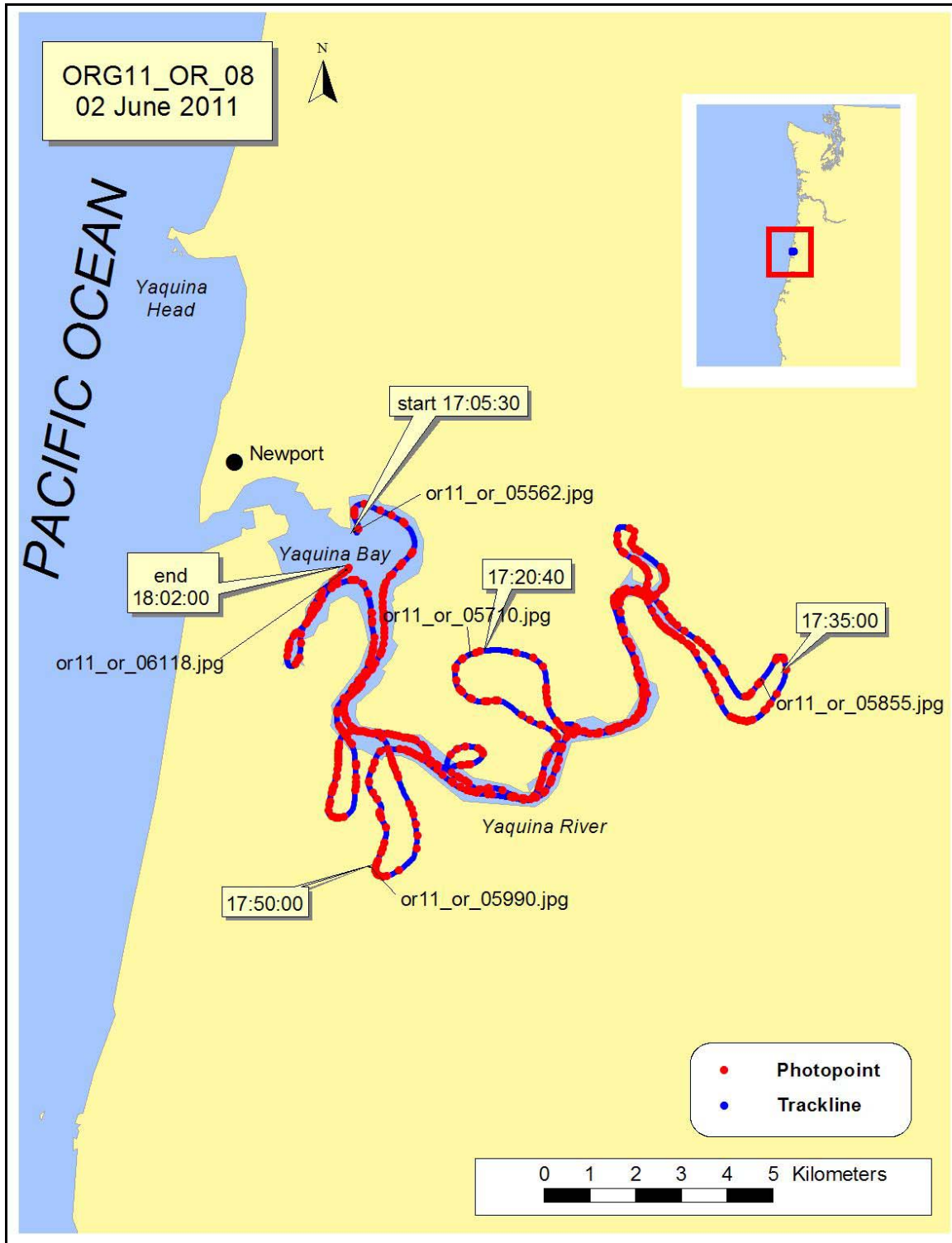
Tape: ORG11_OR_07

Date 02 June 2011

General Location: Yaquina Head to Yaquina Bay, Siletz Bay and estuary
Time Start (UTC): 15:39:45 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 17:03:27 **Nav:** Ward
Tape Length: 60 min 42 sec **Pilot:** Morris
Weather: Cloudy, high overcast, light to moderate winds, occasional gusts, occasional showers.

Time (UTC)	Location	Photo
	Transit from Newport Airport to Yaquina Head	
15:39:48	Yaquina Head	or11_or_04936
15:48:46	Mouth of Yaquina Bay	or11_or_05067
	Transit to Siletz Bay 15:48:46 to 16:00:43	
16:00:52	Mouth of Siletz Bay	or11_or_05076
16:04:58	Schooner Creek	or11_or_05132
16:12:53	Drift Creek	or11_or_05230
16:27:44	Siletz River	or11_or_05389
	Survey aborted due to fog 16:27:50	
16:43:12	Mouth of Siletz Bay	or11_or_05503
	Transit to Yaquina Bay 16:43:21 to 16:58:45	
16:59:18	Mouth of Yaquina Bay	or11_or_05510

Note: Variable ceiling and fog in Siletz River. DV recorder paused, gap in burn-on, HDV camera recording continuous



**2011 Oregon Aerial Video Imaging Survey
Team Oregon (OR)**

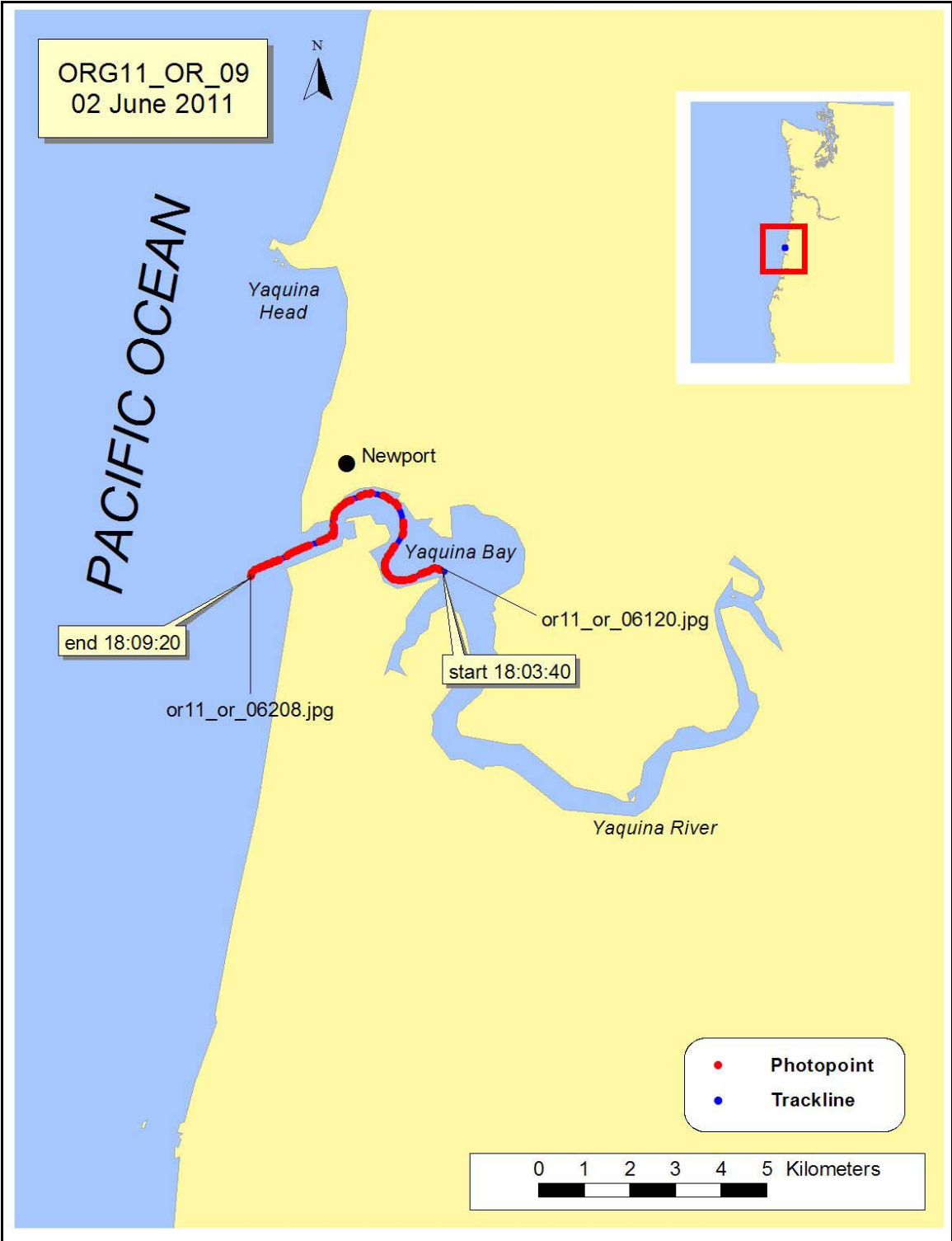
Tape: ORG11_OR_08

Date 02 June 2011

General Location: Yaquina Bay and Yaquina River to King Slough
Time Start (UTC): 17:05:36 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 18:01:57 **Nav:** Ward
Tape Length: 56 min 21 sec **Pilot:** Morris
Weather: Cloudy, high overcast, light winds.

Time (UTC)	Location	Photo
17:05:40	Yaquina Bay	or11_or_05563
17:20:40	Yaquina River	or11_or_05710
17:28:49	Toledo	or11_or_05786
17:33:58	Miller Creek/Yaquina River Fork	or11_or_05846
17:49:38	Yaquina River, South of Yaquina Bay	or11_or_05988
17:57:57	King Slough	or11_or_06078
18:01:53	South Shore of Yaquina Bay	or11_or_06117

Note:.



**2011 Oregon Aerial Video Imaging Survey
Team Oregon (OR)**

Tape: ORG11_OR_09

Date 02 June 2011

General Location: south shoreline of Yaquina Bay to south jetty
Time Start (UTC): 18:03:40 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 18:09:16 **Nav:** Ward
Tape Length: 5 min 36 sec **Pilot:** Morris
Weather: Cloudy, high overcast, light winds.

Time (UTC)	Location	Photo
18:03:48	South Shore of Yaquina Bay	or11_or_06120
18:09:14	Mouth of Yaquina Bay	or11_or_06207
	Transit to Newport Airport 18:09:18	

Note:.



**2011 Oregon Aerial Video Imaging Survey
Team Oregon (OR)**

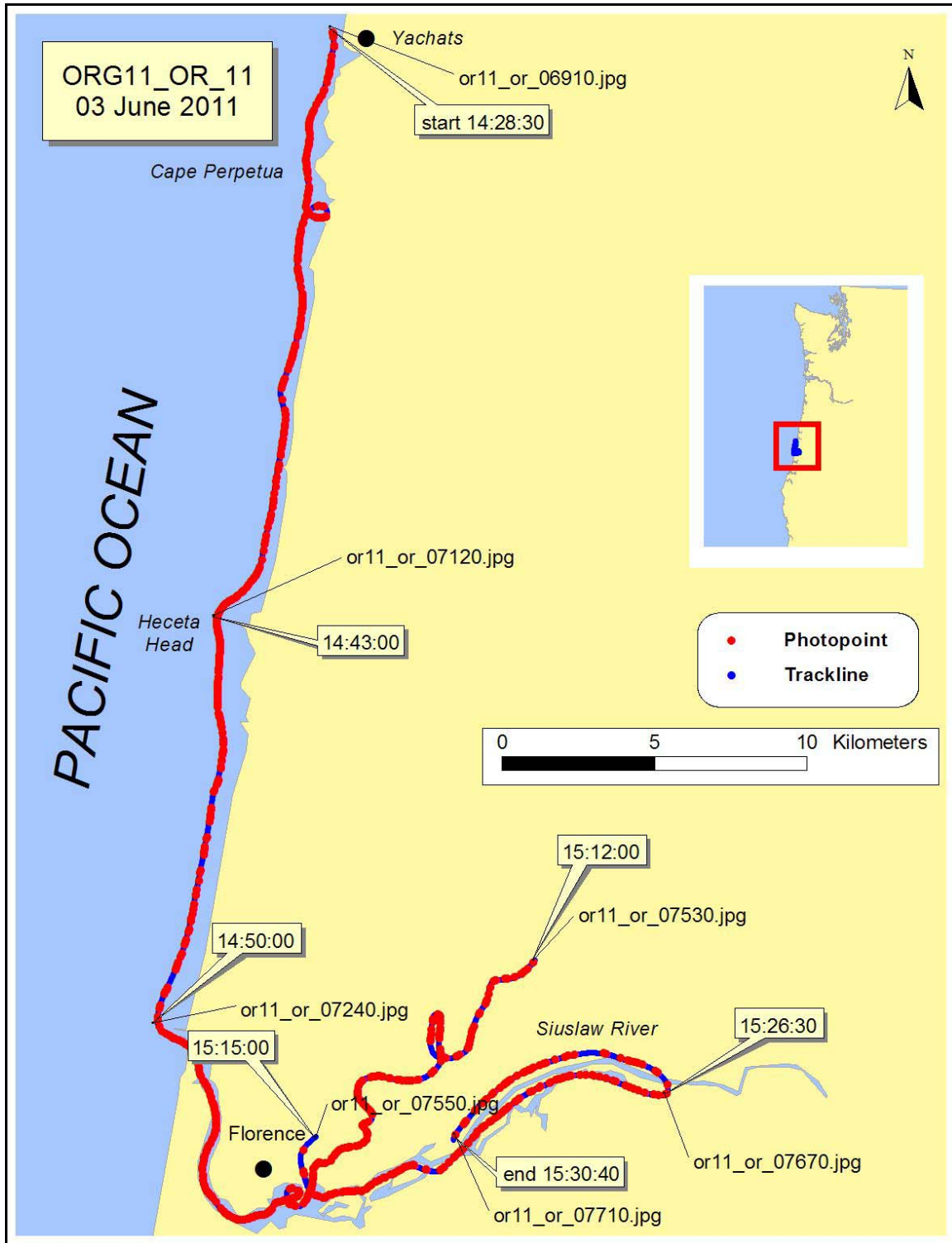
Tape: ORG11_OR_10

Date 03 June 2011

General Location: entrance to Yaquina Bay to Yachats River
Time Start (UTC): 13:30:09 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 14:26:52 **Nav:** Still
Tape Length: 56 min 43 sec **Pilot:** Morris
Weather: High, bright overcast, clearing to sunny

Time (UTC)	Location	Photo
13:30:09	Yaquina Bay	or11_or_06215
13:38:10	Beaver Creek	or11_or_06292
13:40:29	Seal Rocks	or11_or_06308
13:45:14	North Shore Mouth of Alsea Bay	or11_or_06377
14:01:29	Alsea River	or11_or_06546
14:13:49	Waldport	or11_or_06690
14:19:37	San Marine	or11_or_06906
14:26:52	Yachats River	or11_or_06906

Note:.



2011 Oregon Aerial Video Imaging Survey Team Oregon (OR)

Tape: ORG11_OR_11

Date 03 June 2011

General Location:	Yachats River to Siuslaw River	
Time Start (UTC):	14:28:32	Geo: Harper
Fuel Break:	none	Bio: Morris
Time End (UTC):	15:30:41	Nav: Still
Tape Length:	59 min 54 sec	Pilot: Morris
Weather:	Clear, sunny, light winds	

Time (UTC)	Location	Photo
14:28:53	Mouth of Yachats River	or11_or_06915
14:30:26	Cape Perpetua	or11_or_06938
14:39:06	Rocky Knoll	or11_or_07067
14:42:47	Heceta Head	or11_or_07121
14:49:54	Siuslaw River Mouth	or11_or_07242
15:11:50	North Fork of the Siuslaw River	or11_or_07533
	Transit to Siuslaw River 15:11:56 to 15:15:10	
15:16:29	Main Channel of Siuslaw River	or11_or_07557
15:26:37	Siuslaw River and Duncan Inlet	or11_or_07667

Note:.

2011 Oregon Aerial Video Imaging Survey Team Oregon (OR)

Tape: ORG11_OR_12

Date 03 June 2011

General Location: Siuslaw River to Umpqua Bay, Umpqua River
Time Start (UTC): 15:32:21 **Geo:** Harper
Fuel Break: 15:46:33 – 16:17:46 **Bio:** Morris
Time End (UTC): 17:00:32 **Nav:** Still
Tape Length: 55 min 25 sec **Pilot:** Morris
Weather: Bright, hazy, light winds, occasional sunny breaks

Time (UTC)	Location	Photo
15:32:21	Duncan Inlet and Siuslaw River	or11_or_07718
15:37:06	South Inlet of Siuslaw River	or11_or_07778
	Refuel at Florence Airport 15:46:33 to 16:17:46	
16:17:47	Mouth of Siuslaw River	or11_or_07931
16:28:33	Siltcoos River/Dunes City	or11_or_08040
16:35:04	Tahkenitch Creek	or11_or_08108
16:43:29	Mouth of Umpqua River	or11_or_08185
16:48:12	North Spit on Umpqua River	or11_or_08236
16:58:59	Mouth of Smith River	or11_or_08349

Note:.



**2011 Oregon Aerial Video Imaging Survey
Team Oregon (OR)**

Tape: ORG11_OR_13

Date 03 June 2011

General Location: Smith River, Umpqua River
Time Start (UTC): 17:01:20 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 17:59:55 **Nav:** Still
Tape Length: 58 min 35 sec **Pilot:** Morris
Weather: Hazy, bright, light winds

Time (UTC)	Location	Photo
17:02:14	Mouth of Smith River	or11_or_08366
17:10:59	Smith River	or11_or_08465
17:20:28	Fork of Umpqua River and Smith River	or11_or_08560
17:32:50	Umpqua River	or11_or_08655
17:44:51	Gardiner	or11_or_08754
17:47:20	Reedsport	or11_or_08781
17:57:55	Scholfield Creek	or11_or_08877

Note:.



**2011 Oregon Aerial Video Imaging Survey
Team Oregon (OR)**

Tape: ORG11_OR_14

Date 03 June 2011

General Location: Umpqua Bay to North Spit/North Jetty Coos Bay
Time Start (UTC): 18:00:58 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 18:35:59 **Nav:** Still
Tape Length: 35 min 1 sec **Pilot:** Morris
Weather: Hazy, bright, light winds

Time (UTC)	Location	Photo
18:02:33	Scholfield Creek	or11_or_08915
18:07:39	Umpqua Bay	or11_or_08959
18:13:39	Salmon Harbor, Umpqua River	or11_or_09031
18:23:37	Tenmile Creek	or11_or_09187
18:35:58	North Spit, Mouth of Coos Bay	or11_or_09305
	Transit to North Bend Airport 18:36:00	

Note:.



2011 Oregon Aerial Video Imaging Survey Team Oregon (OR)

Tape: ORG11_OR_15

Date 04 June 2011

General Location: South Jetty/Coos Bay to Cape Blanco, Orford Reef
Time Start (UTC): 13:55:17 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 14:53:15 **Nav:** Ward
Tape Length: 57 min 58 sec **Pilot:** Morris
Weather: High overcast, occasional showers

Time (UTC)	Location	Photo
13:55:38	Mouth of Coos Bay	or11_or_09309
13:58:47	Coos Head	or11_or_09357
14:04:28	Cape Arago	or11_or_09490
14:11:37	Fivemile Point	or11_or_09607
14:19:27	Coquille Point	or11_or_09733
14:28:59	New Lake	or11_or_09876
14:36:19	Blacklock Point	or11_or_09981
14:42:50	Sixes River	or11_or_10079
14:47:20	Cape Blanco	or11_or_10148
14:52:17	Orford Reef	or11_or_10224
Transit to Blacklock Point 14:53:15 to 14:58:36		

Note..



2011 Oregon Aerial Video Imaging Survey Team Oregon (OR)

Tape: ORG11_OR_16

Date 04 June 2011

General Location: Floras and New Rivers, Coquille R., Bandon Marsh
Time Start (UTC): 14:58:37 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 15:52:39 **Nav:** Ward
Tape Length: 54 min 02 sec **Pilot:** Morris
Weather: Clearing, hazy, bright, light winds

Time (UTC)	Location	Photo
14:58:39	Blacklock Point	or11_or_10294
15:06:22	Coquille Point	or11_or_10388
15:17:18	Randolph	or11_or_10531
15:28:44	Riverton	or11_or_10635
15:33:25	Coquille River	or11_or_10673
15:44:44	Parkersburg	or11_or_10763
15:48:33	Prosper	or11_or_10816
15:51:22	Bandon	or11_or_10863
15:52:39	Mouth of Coquille River	or11_or_10894
	Transit to Refuel at North Bend Airport 15:52:40	

Note: HDV camera tape eject jam. HDV camera change-out during refuel.



2011 Oregon Aerial Video Imaging Survey Team Oregon (OR)

Tape: ORG11_OR_17

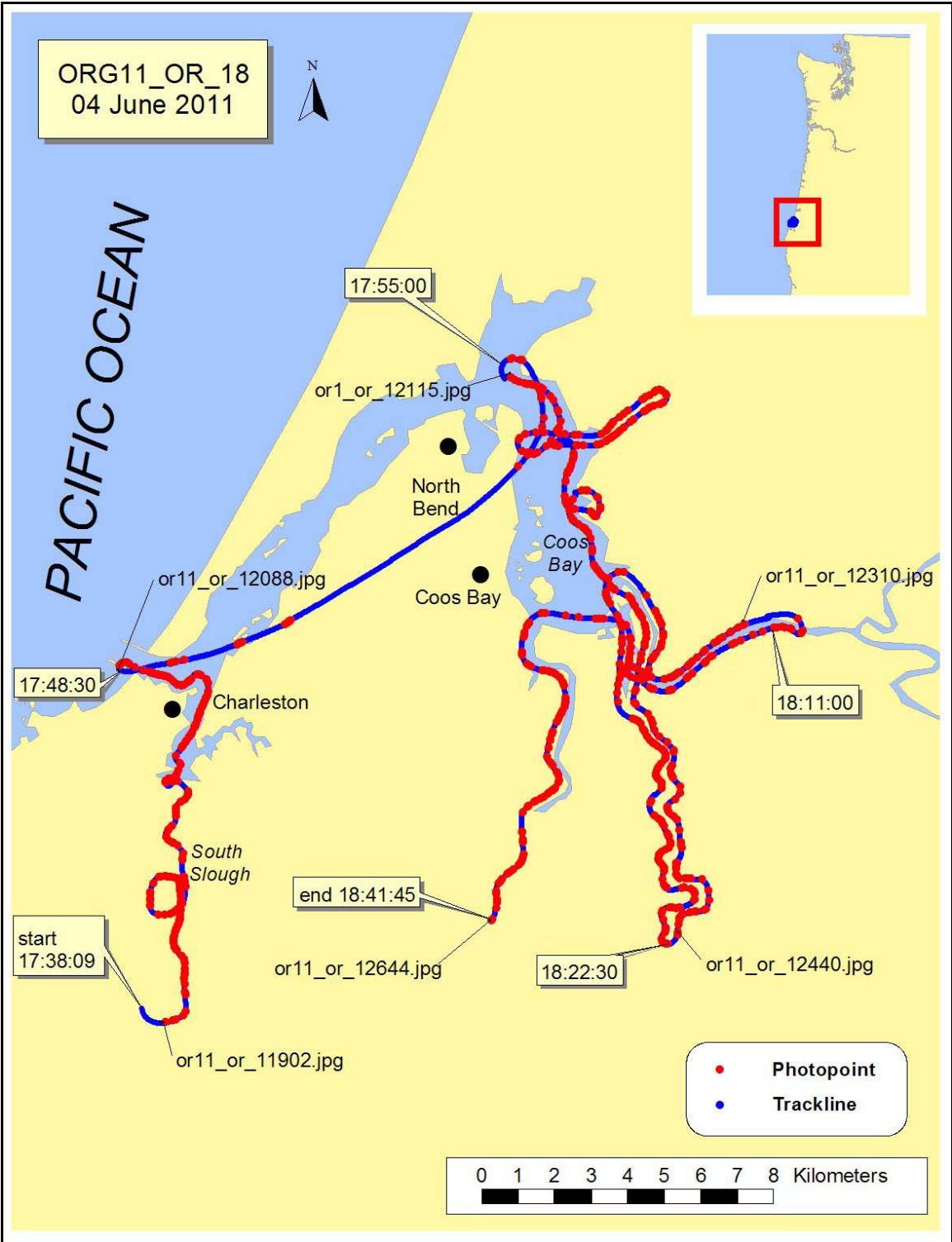
Date 04 June 2011

General Location: north side Coos Bay, north jetty to bridge,
North Bend Airport to South Slough

Time Start (UTC): 16:37:43 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 17:36:07 **Nav:** Ward
Tape Length: 58 min 24 sec **Pilot:** Morris
Weather: High overcast, hazy, bright

Time (UTC)	Location	Photo
16:39:26	North Spit, Mouth of Coos Bay	or11_or_10912
16:48:08	Mouth of North Slough	or11_or_11056
16:55:33	Mouth of Haynes Inlet	or11_or_11171
17:06:39	North Bend	or11_or_11380
17:13:20	Empire	or11_or_11518
17:16:15	Fossil Point	or11_or_11601
17:21:02	JoeNey Slough	or11_or_11693
17:31:29	South Slough (East Fork)	or11_or_11838
17:35:44	South Slough (West Fork)	or11_or_11891

Note:.



**2011 Oregon Aerial Video Imaging Survey
Team Oregon (OR)**

Tape: ORG11_OR_18

Date 04 June 2011

General Location: South Slough Coos Bay, Coos Bay and River,
Isthmus Sough

Time Start (UTC): 17:38:09 **Geo:** Harper

Fuel Break: none **Bio:** Morris

Time End (UTC): 18:41:45 **Nav:** Ward

Tape Length: 58 min 36 sec **Pilot:** Morris

Weather: Hazy, bright, light winds

Time (UTC)	Location	Photo
17:38:09	South Slough	or11_or_11902
17:48:30	South Jetty, Coos Bay	or11_or_12088
	Transit to NE Coos Bay, main bridge	
17:55:00	Main bridge to North Bend	or11_or_12115
18:11:20	Coos River	or11_or_12310
18:22:30	Head of Catching Slough	or11_or_12440
18:41:45	Head of Isthmus Slough	or11_or_12644

Note:.



**2011 Oregon Aerial Video Imaging Survey
Team Oregon (OR)**

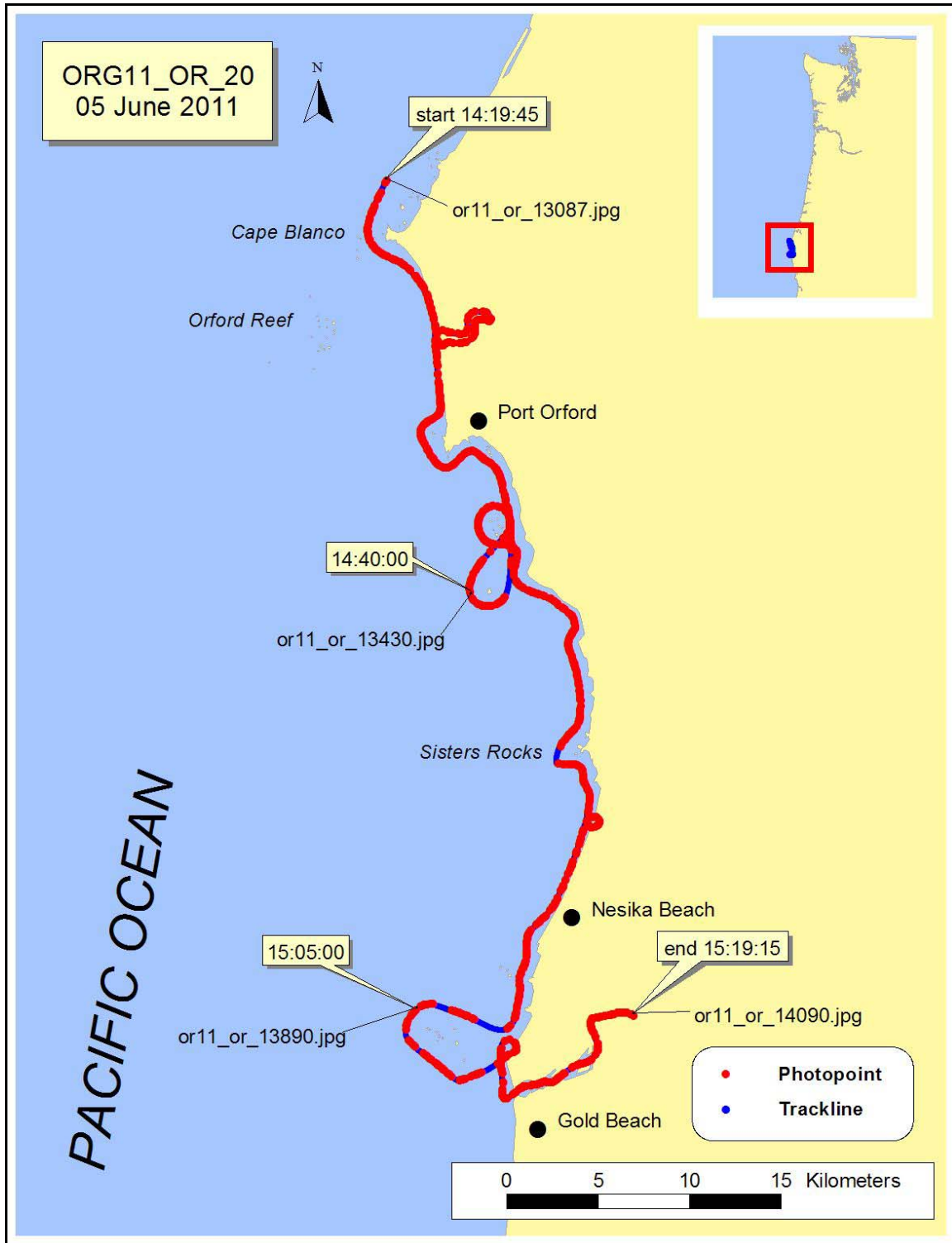
Tape: ORG11_OR_19

Date 04 June 2011

General Location: Isthmus Sough to North Bend Airport, Coos Bay
Time Start (UTC): 18:42:45 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 19:11:30 **Nav:** Ward
Tape Length: 28 min 45 sec **Pilot:** Morris
Weather: Hazy, bright, light winds

Time (UTC)	Location	Photo
18:42:45	Isthmus Slough	or11_or_12645
18:50:00	Head of Isthmus Slough	or11_or_12715
19:00:00	Coalbank Slough	or11_or_12885
19:11:30	Main bridge to North Bend	or11_or_13077

Note:.



**2011 Oregon Aerial Video Imaging Survey
Team Oregon (OR)**

Tape: ORG11_OR_20

Date 05 June 2011

General Location: Cape Blanco, Port Orford to Rogue River
Time Start (UTC): 14:20:00 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 15:18:15 **Nav:** Ward
Tape Length: 58 min 15 sec **Pilot:** Morris
Weather: Poor visibility, showers

Time (UTC)	Location	Photo
14:20:00	North of Cape Blanco	or11_or_13087
14:27:00	Elk River	or11_or_13209
14:34:45	Port Orford	or11_or_13350
14:52:00	Sisters Rocks	or11_or_13686
15:05:00	Rogue Reef	or11_or_13888
15:18:15	Rogue River	or11_or_14903

Note:.



2011 Oregon Aerial Video Imaging Survey Team Oregon (OR)

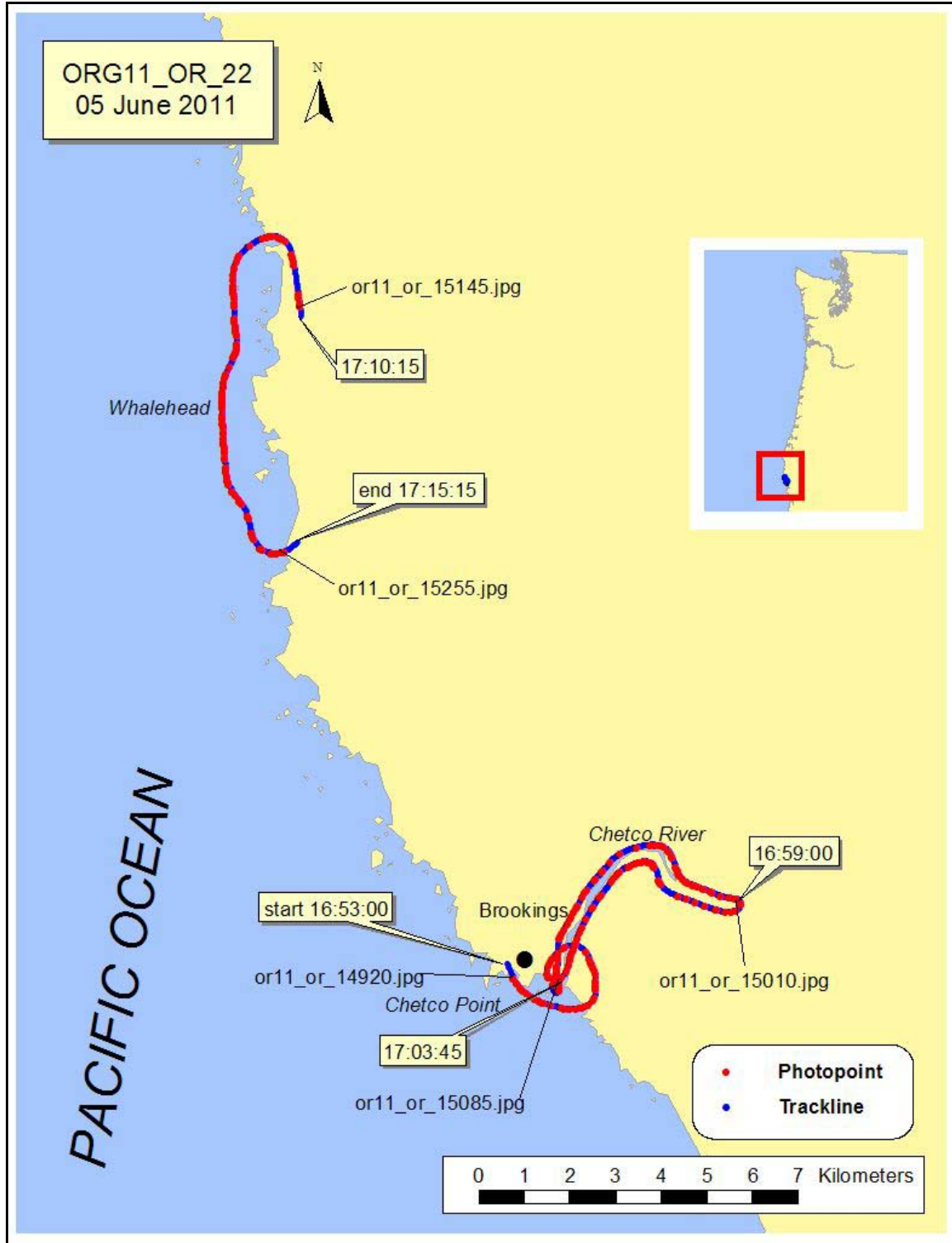
Tape: ORG11_OR_21

Date 05 June 2011

General Location: Rogue River to Winchuk River, OR/CA border
Time Start (UTC): 15:19:15 **Geo:** Harper
Fuel Break: none **Bio:** Morris
Time End (UTC): 16:13:10 **Nav:** Ward
Tape Length: 53 min 55 sec **Pilot:** Morris
Weather: Poor visibility, showers, fog patches

Time (UTC)	Location	Photo
15:19:15	Rogue River	or11_or_14095
15:28:30	Gold Beach	or11_or_14210
15:36:00	Cape Sebastian	or11_or_14325
15:43:30	Pistol River	or11_or_14408
16:05:00	Chetco Point	or11_or_14755
16:09:10	Oregon/California border	or11_or_14834
16:13:10	mouth Winchuk River	or11_or_14880

Note: Visibility extremely poor, survey aborted on Pistol River due to fog.



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Tape: ORG11_OR_22

Date 05 June 2011

General Location:	Brookings, Chetco River,	Geo: Harper
Time Start (UTC):	16:53:00	Bio: Morris
Fuel Break:	none	Nav: Ward
Time End (UTC):	17:15:15	Pilot: Morris
Tape Length:	15 min 45 sec	
Weather:	Poor visibility, showers, fog patches	

Time (UTC)	Location	Photo
16:53:00	Chetco Point, Brookings	or11_or_14920
16:59:00	Head of Chetco River	or11_or_15010
17:03:45	Mouth of Chetco River	or11_or_15085
	Transit to xxx 17:03:45 – 17:10:15	
17:10:15	Re-survey Deer Point/Whalehead area	or11_or_15145
17:15:15	End survey	or11_or_15255
	Transit to North Bend	or11_or_15591

Note: Improved visibility; re-surveyed Deer Point/ Whalehead. High-resolution still photographs continuous throughout transits

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References

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Harper, J.R. and M.C. Morris 2011. ShoreZone Coastal Habitat Mapping Protocol for Oregon (DRAFT). Technical Report by Coastal & Ocean Resources Inc of Victoria, BC prepared for the Oregon Department of Fish and Wildlife, Newport, OR. 153 p.

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