

**Appendix C. Field notes**

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6/2/03  
Record observations of:

- Segment start/end times, locations.
- weather
- deviations from methods
- discussions
- Survey pt (E/W-back)

o note Tetsuya RM 2.2.

o Access upstream of RM 2 or 3  
slip 3 to slip 4  
is Mucky

o check upland @ 1st Ave S. Bridge  
Phragmites stand  
listening ~ 2 min @ high @ stations

4 habitat types

- 1) non habitat
- 2) foraging / not nesting
- 3) foraging / nesting
- 4) not foraging / nesting

T.M. King

Th	Jun 3	8:45am - 2:30pm
F	Jun 4	9:30am - 3:30pm
M	Jun 7	5am - 10:30am
F	Jun 11	5pm - 9:30pm

- o Binoculars
- o hat
- o watch
- o compass
- o sun screen
- o computer
- o GPS
- o Tools
- o Chest waders
- o Boots
- o Pens / Pencils
- o RAPP
- o Phone
- o Batteries
- o Pliers

6/3/03

spotted sandpiper survey  
 Gersonnett personally  
 Matthew - Boyle habitat survey  
 Matt Luxon 2° birder  
 Kevin Lee 1° birder  
 Megan Schedler - navigation  
 Ben Power - boat driver

8:52 depart from dock  
 navigate to East Waterway lower  
 midge.

8:59 A. Basile to determine  
 boat movement & position.  
 Common merganser & Canada beaver

Photo 1 47.34.156N - Segment 1  
 122.20.755W RR & pens  
 - @ 76.12

9:01 start segment 2

47.34.078 } end seg 2  
 122.20.757 } P. lago

• Buge ~ 20m from start  
 - Pigeon Guillemots

6/3/04

9:10 to 9:15 observed GBH & osprey  
 on nest

segment 3 end 47.33.809 9:16  
 122.20.746 750

3 - Common mergansers, 4 mallards @ outfall  
 mid water

- 0925

Matthew - went onto shore to evaluate  
 47.33.787, 122.20.724

habitat - could better cover for  
 predators than <sup>at</sup> ~~along~~ sandpipers

- Conference between Kevin, Matthew &  
 we determined that engine  
 noise is insignificant &  
 doesn't affect ability to hear birds  
 - Matthew said that doesn't  
 justify listening in this location

- some segments are short but I suggested  
 that any unique habitats, no matter  
 how small are worth noting.

6/3/04

0935 - low flow

0944 - Going ashore to evaluate  
habitat near Coastal America  
restoration site

0945 - Possible sandpiper available  
47.33.477 122.20.636  
across channel on Kellogg  
Island.

Matthew Boyle observed

- Kevin has photo on his camera  
- photo 7 on his camera

47.33.467 } End of segment 6  
122.20.606 } 10:00

- ~~come ashore~~ Beach on beach -

10:10 - Kingfisher (on SE corner KI)

10:12 - navigate downstream to photo  
strip 1

6/3/04

10:15 - End segment 6 - @ C80  
47.33.286, 122.20.492

10:35 - Phone call w/ Benit Clarifying  
segments - segments to be as  
detailed as is ~~now~~ reasonably  
possible - i.e., capture foraging  
habitat.

- 10:48 - End segment 9 -

47.32.940, 122.20.337

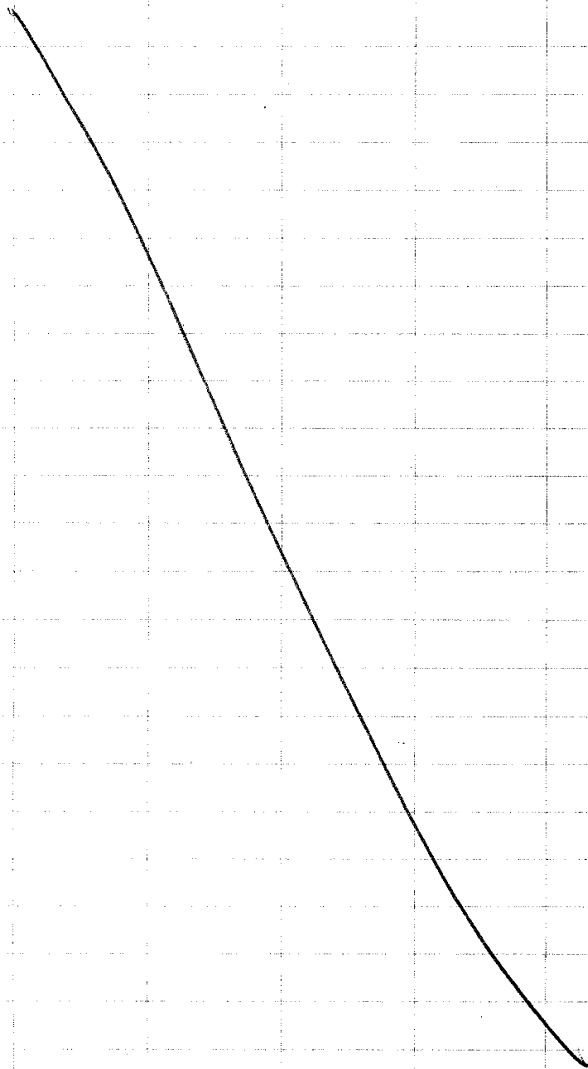
10:57 - End segment 10  
47.32.768, 122.20.224

11:05 End segment 11  
47.32.785, 122.20.139

11:10 47.32.707, 122.20.196

Matthew went ashore to check  
substrate coarseness on constructed  
beach - spiced herbicides on  
beach benches.

6/3/04



6/3/04

11:15 - End segment 12  
 47.32.679, 122.20.202

11:22 - End segment 13  
 117.32.59, 122.20.108  
 POS. reversal on shore beneath  
 bridge (11:28)

11:37 - harbor seal @ mouth of slip  
 3 - middle of channel.

11:38 117.32.444, 122.19.885  
 End segment 15

11:48 End segment 16  
 47.32.222, 122.19.569

1150 - 1156 - Matthew went ashore to  
 observe habitat on wide reef flat.

- long. other hunting location  
 - seal same as  
 photo 20

6/3/04

12:00 - End Seg 16  
 47.32.083, 122.19.351

Slip 4 = Segment 18. (N. side)

12:05 no evidence of  
 sheet pile wall construction

47.32.192, 122.19.155

End of segment 18 - 12:08 -

slip 4 head to north S. side =  
 Segment 19 (see obs. sheet for loc)

12:16 47.32.050, 122.19.284  
 End of segment 20

12:28 End of segment 21  
 47.31.763  
 122.18.843

12:55 pit stop @ South Pl. Marina  
 1:10 start again

47.31.666 - 122.18.655  
 End segment 22

6/3/04

1:19 47.31.465  
 122.18.483

End of segment 22

1:30 122.18.40, 47.34.136

End segment 23  
 will be heard & seen

47.31.087, 122.18.302  
 End segment 1:37

- western Gebe same location  
 mid River

1:45 - Replaced batteries in Computer  
 2685

1:47 Start Seg 27

1:53 - Start seg 28

1:57 start seg 29

6/3/04

2:06 - Start w. side  
Segment 30

2:17 - went on shore w/ Matthew on  
W. Bank - discussed possibility  
of nesting @ top of  
R. papp - possibility is  
small due to mowing.

2:45 (1445) - photograph of Twinning bas. w  
photos is to           
on Kevin's camera  
representative photo had nest  
habitat (trails interspersed  
throughout area)

14:52 - rebound boat

14:55 - end of segment & habitat digging  
47.30.746  
122.18.287

© Talk w/ Bob Re. Putting the boat  
@ HI Marina for Monday Am.

6/4/04

Survey of W Bank Habitat & Sandpiper  
Presence - weather - Survey in m. 17 70's

Personnel

Matthew Boyle - Habitat Survey  
Wesley Li - 1<sup>st</sup> Birder  
Matt Luxon - 2<sup>nd</sup> Birder  
Gene Power - Captain  
Kegan Scheeler - Navigator

Start Survey @ 9:29 am @ W. Seattle  
Bridge

1<sup>st</sup> photo is Matthew

47.34.089, 122.21.007

End of run 32 - 0934-

9:40 - 10:05 - went ashore to TIOS side  
channel - Matthew noted habitat on  
high Q. Seg 32 & 33 have some steel  
position

Start seg 34 47 34 023 122 20 990



6/4/04

10:12 - End seg 35. 47.33.923  
 122.20.942

10:17 - west ashore @ T107

Sandpiper foraging in small Ch  
 swimming in gravel.

- killdeer calls upland  
 - 4 killdeers foraging in mudflat (2)

- spot at W end of channel by  
 Gray line lot

2 spot - 37

Segment ~~38~~ in the side channel /  
 backwater segment

- 3 spotted sandpipers were  
 observed in Marsh foraging @  
 the edge of the mud. They  
 went in & out of the veg -  
 possibly 4 birds but only  
 3 were observed @ any point in  
 time

10:57 - end segment 38 47.33.622  
 122.20.980

west went ashore here.

6/4/04

11:00 - me & Matthew ashore  
 Start Segment 39 11:11

11:25 - End segment 39

47.33.492 N

122.21.020 W

2 killdeer  
 4. dead in  
 prev. segment.

12:55 - Reboard boat from N End K.I.

1:06 - End segment 45 / Begin 46

1:12 47.33.350, 122.20.738

End segment 46 begin 47

1:37 - End 47. begin 48 (segment)

47.33.031 E

122.20.439

1:45 - end Segment 48, begin 49

47.32.904

122.20.434

6/4/04

1:19 Start 50, End 49  
47.32.708 122.20.281

1:53 End 50, start 51  
47.32.543 122.20.127

End seg 51 start 52 (back water)  
1:57 47.32.484  
122.20.068

End seg 53 same loc as start  
Start 54 2:27

Returned from shore examining  
habitat under 1st Ave Bridge  
walked to w. Marginal way  
saw 1 spotted sandpiper.

G-Bit seen @ North @ start &  
end of segment (same loc)

2:31 - Malachuk got off boat to  
examine habitat & discussed that  
one should be taken throughout  
site to minimize contact w/  
sediments. Kevin, Matthew & I went ashore  
start segment 55 @ end 54

6/4/04

47.32.295 } start & end segments  
 122.19.278 } ~~54~~ 55 156

47.32.026 start segment 52  
 122.19.399 2:53

2:56 start segment 58  
 47.31.925  
 122.19.181

3:02 47.31.754 } start segment 59  
 122.18.860

start segment 60  
 47.31.624  
 122.18.645

3:08 - Data reporting - get back to  
 Matthew regarding when data needs  
 to be written up.

- Camera battery died - subsequent  
 photos on Kenix camera.

6/4/04

47.31.333 } start section 61  
 122.18.486

47.31.235 } start section 62  
 122.18.468 } Durumish yakul club

start segment 63  
 47.31.128 } - Delta Measure  
 122.18.405

3:18 47.31.044 start segment 64  
 122.18.372  
 Humm & area

3:23 went where @ Humm & area

3:39 - start segment 65

3:46 - end segment 65 -  
 Complete habitat survey

- Bob - 577-1297

- cell. 465-7886 & H:

2/4/04

4:32 - talked w/ Bob - arranged to meet  
 @ end of C dock Harbor Island Museum

Monday @ 5am

Meeting Matthew & Kevin @ 4:50  
 @ HI museum.

- Not using Megan on Monday.

5:00 - Return to dock

6/7/04

Arrived @ boat @ 5:15 ~~Temp~~ Cool (50.?)  
 Mostly cloudy

- RM 0.0-0.5

Start Segment 1 05:35 (Served to New Software)

End Segment 1 05:50 (Served to New Software)

Bill Eagle (flying) + Killdeer (on shore)

Osprey on powerline pole

Start Segment 2 05:51

Lat 47 33.819 N

Long 122 20.785 W

End Segment 2 06:02

Lat: 47 34.217 N

Long: 122 20.738 W

Osprey observed w/ nest on light pole

GBH observed on shore

- RM 0.5-1.0

Start Segment 3 06:03

Lat 47 33.779 N

Long 122 20.871 W

End Segment 3 06:45

Lat: 47 33.575

Long: 122 20.858

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Segment 3 cont'd  
 observations Bald Eagle (flying)  
 GBH on shore

Not marked on GPS  
 \* Add a point Spotted Sandpiper at Northern  
 tip of Kullag IS.  
 Spotted Sandpiper along west of KI

06:20 Cut engine to observe birds  
 along the west side of Kullag IS.  
 and along the west bank of the Ldw

Segment 3 Started at RM 0.5  
 and continued along the west bank  
 around Kullag IS and ended at the N  
 tip of Kullag IS

0645 Dropped field crew at N-East tip  
 of Kullag IS to allow for  
 on shore bird observations

0715 Retrieved field crew from Kullag  
 IS to continue w/ survey

0720 Dropped crew at public access area  
 to the N of Kullag IS (T105?)  
 to conduct on shore bird observations

~~Retrieved~~  
 Lit 47 33.663 N  
 Long 122 21.009 W

06/07/04

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0730 Retrieved crew to ~~continue~~ Continue  
 - RM 0.5-1.0 cont'd Survey

Start Segment 4 07:35

Lat 47 33.803

Long 122 20.756

GBH observed on shore

End Segment 4 0750

Lat: 47 33.405 N

Long: 122 20.434 W

- RM 1.0-1.5

Start Segment 5 0753

Lat: 47 33.360

Long: 122 20.614

End Segment 5 0759

Lat 47 33.097

Long 122 20.476

1 bald eagle observed flying

Start Segment 6 08:03

Lat 47 33.131

Long 122 20.432

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End Segment 6 08:09 Lat 47 33.274  
 Long 122 20.506

Spotted Sandpiper observed on Skutumpah Shoreline

- RM 1.5-2.0

Start Segment 7 08:15  
 Lat 47 33.097  
 Long 122 20.476

GBH observed on piling

End Segment 7 08:37  
 Lat 47 32.559  
 Long 122 20.145

Start Segment 8 08:39  
 Lat 47 32.592  
 Long 122 20.130

Osprey observed on nest 200 m east of west bank

End Segment 8 08:57  
 Lat 47 33.124 N  
 Long 122 20.412 W

1 Spotted Sandpiper observed on pier

Location saved on laptop Navigation software

06/07/04

- RM 2.0-2.5

Start Segment 9 09:05  
 Lat: 47 32.548 N  
 Long: 122 20.098 W

Spotted Sandpiper observed 09:11  
 47 32.467 N  
 122 20.092 W

tollboar + GBH observed

Spotted Sandpiper 09:22  
 47 32.353 N  
 122 19.883 W

End Segment 9 09:28  
 Lat 47 32.290 N  
 Long 122 19.756 W

Start Segment 10 09:30  
 Lat 47 32.227 N  
 Long 122 19.673 W

GBH observed on barge

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End Segment 10

09:40  
Lat 47 32.560 N  
Long 122 19.845 W

- RM 2.5-3.0

Start Segment 11

09:46  
Lat: 47 32.268 N  
Long: 122 19.710 W

End Seg 11

09:53  
Lat 47 31.968 N  
Long 122 19.251 W

Start Seg 12

09:54  
Lat 47 31.968 N  
Long 122 19.251 W

GBH observed on shore in slip

End Seg 12

10:05  
Lat 47 32.293 N  
Long 122 19.648 W

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06/07/04

- RM 3.0-3.5

Start Seg 13

10:13  
Lat: 47 31.962 N  
Long: 122 19.241 W

End Seg 13

10:21  
Lat 47 31.714  
Long 122 18.840

Start Seg 14

10:29  
Lat 47 31.747  
Long 122 18.791

End Seg 14

10:35  
Lat: 47 31.982 N  
Long: 122 19.195 W

- RM 3.5-4.0

Start Seg 15

10:39  
Lat: 47 31.729 N  
Long: 122 18.813 W

perigrine falcon on top of bearing plot 2  
GBH on piling

End Seg 15

10:47  
Lat: 47 31.462  
Long: 122 18.544

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Start Seg 16 10:47  
 Lat: 47 31.462 N  
 Long: 122 18.544 W

End Seg 16 10:52  
 Lat: 47 31.669 N  
 Long: 122 18.665 W

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RM 4.0-4.5

Start Seg 17 10:56  
 Lat: 47 31.447 N  
 Long: 122 18.540 W

Started Raining @ 11:00

End Seg 17 11:06  
 Lat: 47 31.005 N  
 Long: 122 18.380 W

Start Seg 18 11:11  
 Lat: 47 31.005 N  
 Long: 122 18.380 W

GBT on piling

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End Seg 18 11:22  
 Lat: 47 31.312 N  
 Long: 122 18.420 W

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RM 4.5-5.0 Stopped Raining @ 11:25

Start Seg 19 11:30  
 Lat: 47 30.785 N  
 Long: 122 18.357 W

OSpray + rest atop piling pile  
 100 m from shore along the  
 west bank.

Killer sighting (turning back west bank)

End Seg 19 11:42  
 Lat: 47 30.678 N  
 Long: 122 17.844 W

Start Seg 20 11:43  
 Lat: 47 30.678 N  
 Long: 122 17.844 W

GBT on piling observed



06/07/2004

End Day 20 11:53  
 Lat 47 31.047 N  
 Long 122 18.310 W

End of Survey

Arrive back @ HI marina

RAC  
06/07/04

END

12:00  
 observed 2 peregrine  
 & 2 osprey on  
 Boeing float 2  
 - Eagle flew overhead

6/11/04

Left dock @ Spun. Standing survey @  
 Viewing tower 3  
 species list of all birds sighted

crow  
 pigeon guillemot  
 blackbird  
 Hutton's

- left observations forms  
 to desk, data  
 transcribed after survey

- Start @ 47.30.205  
 122.18.333

ON W. Beach

5:30pm  
 weather mostly cloudy  
 cool (60s)

- Common nighthawk
- Starling
- Song sparrow
- House finch
- Canada goose
- Cliff swallows
- Barn swallows - rough winged swallow
- Double crested cormorants
- VE swallow
- Purple martin

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weather mostly cloudy ~ 60°

Species	Time	# birds	Loc desc	GPS	behavior
willow	5:49	1	Mudflat	47.30.701 122.18.883	FN
			inlet bleeder to S		
willow	5:52	1	Mudflat	47.30.13.3 122.18.015 47.30.720 122.18.852	in air 9/5 FN
			in side channel of T.V. wing basin		
willow	5:57	1	Mudflat	47.30.107 122.17.911	FN
			on W bank		
ring-billed				Same as above	
willow	6:01	1	M	47.30.728 122.17.908	FN
			on E bank		

spotted	6:06	1	bravely beach	47.30.786 122.18.204	FN
			flew from E Bank to W bank landed		
6:06	End of Segment 2			same as above	
Segment 1 to Segment 2-2.					
River Otter	6:10	1	RR	47.30.723 122.18.285	on bank
willow	6:18	1 audio	above veg in M. Lot	47.31.170 122.18.174	

possible spotted sandpiper in same loc.

Audio of bird. 2 slip 6

listened for 2 minutes, heard 2 MEBs flying at height toward river

GBH	6:26	1	M	47.31.253 122.18.375 47.31.265 122.18.455	FN
					End of Segment 2
					Segment 3 on west Bank -

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Spec	Time	#	Loc desc	GPS	behavior
spotted	6:35	2	M (light pole)	47.31.011 122.18.357	on west
spotted	6:41	1	RR	47.30.379 122.18.321	FN same bird as before?
			Start segment 4	122.18.400	
			East Bank	47.31.280	
			segment 3 went to start of seg 1		
GBH	6:54	1	IM (dolphin)	47.31.630 122.18.683	R
			End segment 4	47.31.340 122.18.456	
			47.31.303 N		start segment 5
			122.18.383 W		start of beach E of here - no habitat
					East shore
GBH	7:20			47.32.208 122.19.133	on 2. long pier when approached today from on H <sub>2</sub> O 2-Photo's
					start segment 5
				47.32.015 122.19.340	end seg 4 to loc of slip 4
				47.31.702 122.18.837	end segment 5
					7:32
spotted	7:45	1	audio	47.32.585 122.19.812	on W bank somewhere 2 photos

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SP	time	loc	GPS	bel	
GBH	7:58	MM (piling)	47.32.54 122.20.876	R	flow above we heard
end segment 1			8:00	47.32.580	
E Bank				122.20.073	
start segment 2				47.32.571	
W Bank			8:04	122.20.110	
spotted sawpiper	8:06	M	47.32.573 122.20.084		flow N All on
GBH	1	M	"	FN	W is on under (3:00)
willow	1	Reed	"	?	
8:31 start segment 3				47.32.528	
				122.20.154	W Bank
spotted	8:31	M	"	FN	flow 5 when we approached
start 9				47.32.720 N	
E. S. de				122.20.280 N	
GBH (1)	8:47		47.32.980 N 122.20.326 W	FN, Riprap	flow - N
8:54 decided to continue on E bank because wedges is well characterized & light in the heavy.					
GBH	(1)		9:03 pm		
willow	(3)		47.33.638 122.20.697	FN was mudflat	

