

Digital Observers Log

Client: Durham University	Line: ADDRESS09.1	Observer: Stephen Balfe
Area: Adriatic Sea		Near Trace: Ch. 1
Field:		
Job:	Date: 8/03/09	

Streamer Type:	S.P. Interval	50.0 mtrs	Recording System:	SEAL 408XL	No. of Aux Chai	#1=N/C, #2=stbd gun string phone	Source Volume	2x90cu in.
Fair Channel	Sensitivity	17.4µV/ubar	Recording Format:	Seqd 8058 rev 1	Antenna to Sol		Source Tow Depth	3.75mtrs
Near Channel	Cable Depth	3m	No. of channels	96	Source to Near	33.25 mtrs (measured) 37.75 m (calc)		
No. of Groups	Sample Rate	0.25ms	Low Cut Filter	3Hz (analogue only)	Source Typ	2 x GI Guns		
Group Interval	Record Length	5s	High Cut Filter	800Hz (80% Nyquist)	Source Press	150 / 160 bar		

UTC Time:	Fix	File	Bird Depths									1st Noise file	2nd Noise file
			1	2	3	4	5	6	7	8	9		
		99	1	2	3	4	5	6	7	8	9		
		100											
		101	1.9	3.3	3.5	3.2	2.1	2.7	3.1	3.1	3.1		
12:10		110											
		120											
		130											
		140	1.7	2.9	3.1	2.9	3.2	3.0	3.1	3.1	3.0		Gun pressure increased 150 -> 160 bar
		150											
		160	1.9	2.4	3.0	3.0	3.1	3.0	3.1	3.2	2.8		
		170	1.9	3.3	3.3	3.1	2.8	3.0	2.8	2.8	2.7		
		180	1.7	3.1	3.5	3.1	3.2	3.0	3.2	3.2	3.2		
		190	1.9	2.5	2.8	2.7	2.8	3.0	3.2	3.2	2.9		
		200	1.9	1.8	2.4	2.8	2.9	3.1	3.0	3.1	3.0		
		210	2.00	3.0	3.4	3.5	3.1	2.8	3.0	3.2	3.2		
		220	1.9	2.9	2.7	2.7	2.9	3.2	3.1	3.1	2.8		
		230	2.2	3.6	3.3	3.3	3.6	3.2	3.2	3.2	3.2		
		240	1.6	1.6	2.4	2.9	2.9	3.2	3.0	2.9	3.3		
		250	2.1	3.4	2.6	1.5	1.7	2.8	3.0	2.9	2.9		
		260	2.1	3.4	3.3	3.4	3.9	3.8	3.2	3.1	3.0		
		270	2.3	3.4	3.3	3.3	3.7	3.7	3.0	3.2	2.9		
		280	2.2	3.0	2.9	2.8	2.9	2.9	2.9	3.1	3.1		
		290	2.4	2.4	2.8	3.0	2.8	3.0	3.2	3.1	2.9		
		300	2.5	3.6	3.2	3.0	2.8	3.0	2.9	3.1	3.0		
		310	2.2	3.0	3.0	3.0	3.0	3.1	3.0	3.1	3.2		
		320	2.2	3.3	3.1	3.1	3.1	3.2	3.1	3.1	3.2		
		330	2.0	3.0	2.5	2.6	2.9	2.8	3.2	3.4	2.9		
		340	2.4	3.4	2.2	2.5	3.0	3.0	3.0	3.2	3.2		
		376	2.3	3.0	3.0	3.2	3.7	3.5	3.4	3.4	2.6		

N.B. Only stbd gun string deployed d/t problem with 210cu.in. gun.

EOL - acquisition error. DCXU power fault.

Digital Observers Log

Client: Durham University Line: ADRSets09.2 Observer: Stephen Balfe
 Area: Adriatic Sea Near Trace: Ch. 1
 Field: 8/03/09
 Job: 8/03/09

Streamer Type:	Sercel	S.P. Interval	25.0 mtrs	Recording System:	SEAL 408XL	No. of Aux Chai	2x90cut in.
Fair Channel	96	Sensitivity	17.4uv/lbAr	Recording Format:	SealD 8058 rev 1	Antenna to SW	Source Tow Depth
Near Channel	1	Cable Depth	3m	No. of channels	96	Source to Near	3.75mtrs
No. of Groups	96	Sample Rate	0.25mrs	Low Cut Filter	3Hz (analogue only)	Source Typ	
Group Interval	12.5mrs	Record Length	5s	High Cut Filter	800Hz (80% Nyquist)	Source Press	
						2 x GI Guns	
						140 bar	

UTC Time:	Fix	File	Bird Depths											
			1	2	3	4	5	6	7	8	9			
		99												
		100												
14:05		101	2.2	3.1	3.2	3.4	3.2	3.0	3.0	3.1	2.9		1st Noise file Avg. RMS noise = 4.7 µBar	
		101											2nd Noise file Avg. RMS noise = 4.5 µBar	
		125											SOL	
		140	2.2	2.8	3.0	2.9	3.1	3.0	3.3	3.2	2.8		After sync gun 1 @10ms gun 2 @10.3ms	
		143											Gun injector delays set to 37ms	
		180	1.9	3.7	3.1	1.9	1.3	2.5	2.8	2.9	3.0			
		193											Vessel speed 4.5knts compromising streamer level. Increased noise as ripple propagates down streamer upto file 240	
		220	1.8	3.1	3.1	3.6	4.1	3.7	3.0	3.4	2.7			
		260	1.5	1.8	1.0	1.9	2.6	3.0	3.0	2.6	2.9			
		300	1.9	2.5	3.1	3.1	3.1	3.5	3.3	3.1	3.2			
		340	2.0	2.7	3.3	4.1	3.9	3.8	3.3	3.2	2.7			
		380	2.1	3.6	3.4	3.2	3.1	3.0	3.0	2.9	3.1			
		420	2.1	3.4	3.1	3.1	3.1	2.9	2.9	3.1	3.2			
		460	2.5	2.6	3.7	3.0	3.4	3.1	3.0	3.1	3.2		Gun sync: gun 1 @10ms gun 2 @10.5ms	
15:22		473											EOL	
		474											1st Noise file Avg. RMS noise = 7.7 µBar	
		475											2nd Noise file Avg. RMS noise = 7.6 µBar	
													ripple run. Offset = 0.05 sec	

Digital Observers Log

Client: Durham University Line: AS01 R.1 Observer: Stephen Balle
 Area: Adriatic Sea Near Trace: Ch.1
 Field: Date: 8/03/09
 Job:

Streamer Type:	Sercel	S.P. Interval	25.0 mtrs	Recording System:	SEAL 408XL	No. of Aux Chnl	Source Volume	2x80cu/in
Far Channel	96	Sensitivity	17.4uV/uBar	Recording Format:	SeqD 8058 rev 1	Antenna to Sol	Source Tow Depth	3.75mtrs
Near Channel	1	Cable Depth	31.6 m	No. of Channels	96	Source to Near	33.25 mtrs (measured) 37.75 m (calc)	
No. of Groups	96	Sample Rate	0.25m/s	Low Cut Filter	3Hz (analogue only)	Source Typ	2 x GI Guns	
Group Interval	12.5mtrs	Record Length	5s	High Cut Filter	800Hz (80% Niquist)	Source Press	140 bar	

UTC Time:	Fix	File	Bird Depths									Notes	
			1	2	3	4	5	6	7	8	9		
		99											1st Noise file Avg. RMS noise = 4.4 µBar
		100											2nd Noise file Avg. RMS noise = 3.8 µBar
		101											Guns off - additional noise file
		102											Guns off - additional noise file
		103	2.3	2.8	2.1	1.7	1.9	2.7	2.7	2.9	3.0		SOL
		120											After sync gun 1 @10ms gun 2 @10.3ms
		140											
		180	2.1	1.6	2.2	2.7	3.3	3.3	3.1	3.1	3.1		
		220	2.3	2.3	2.2	2.8	3.0	3.1	3.0	3.1	2.9		
		260	2.4	3.0	2.9	3.1	2.9	3.1	3.1	3.1	2.9		
		300	1.8	2.3	3.1	2.8	2.8	3.1	3.0	2.7	3.1		
		340	2.1	3.7	3.9	3.8	1.8	1.6	1.8	3.1	3.3		
		380	2.2	2.8	2.9	3.1	3.0	3.1	3.0	3.1	3.4		
		420	1.8	3.0	3.1	3.3	3.3	3.1	3.0	2.9	3.2		
		460	1.9	3.3	3.6	3.3	3.1	3.1	3.0	3.1	3.0		
		500	1.9	2.3	2.3	2.9	2.7	3.0	3.1	3.1	2.9		
		540	1.9	3.2	3.0	3.2	3.4	3.4	3.1	2.8	2.8		Gun sync gun 1 @10ms gun 2 @9.8ms
		555											
		580	1.8	2.7	2.8	3.2	2.8	2.9	3.2	3.1	3.1		
		620	1.9	3.4	3.6	3.4	2.9	3.0	3.2	3.2	3.1		
		660	1.9	3.3	3.0	3.0	2.9	3.1	2.9	3.2	3.2		
		700	1.9	2.8	3.1	3.0	3.0	3.1	3.2	3.2	3.0		
		740	1.9	3.0	2.9	2.9	3.1	3.0	2.8	2.8	3.3		
		780	1.7	2.8	2.7	2.8	3.0	2.8	2.7	3.1	3.0		
		820	2.2	3.5	3.3	3.1	2.7	2.9	2.9	2.9	3.0		
		860											
		900	1.7	3.6	3.1	3.2	3.2	3.0	3.1	2.9	3.1		
		940	1.9	2.4	2.9	2.9	3.1	3.3	3.0	3.2	3.1		
		980	1.9	3.4	3.6	3.2	2.7	2.7	3.0	3.2	3.1		
		1020	1.4	2.7	3.0	3.1	3.1	3.1	2.8	2.9	2.9		
		1060	1.8	3.8	3.2	3.0	3.0	2.9	2.9	2.9	3.0		
		1100	1.8	3.7	3.4	3.2	3.1	2.8	3.2	3.1	3.0		
		1140	1.5	2.8	2.8	2.8	2.8	2.4	2.8	2.9	2.9		
		1180	1.6	3.1	3.2	3.2	3.0	3.3	3.1	3.2	3.0		
		1220	1.6	2.7	2.5	2.6	3.0	3.2	3.2	3.1	3.1		
		1250											
		1260	1.8	5.6	6.1	6.0	5.9	5.9	6.0	6.0	6.0		Streamer depth set to 6.0mtrs d/t water column noise observed in processing
		1276											Intentional no-fire (noise record)
		1300	1.8	6.0	6.0	6.0	5.9	6.0	6.0	6.0	5.9		
		1340	2.1	6.1	6.1	6.1	6.0	6.0	6.0	6.1	6.0		
		1386											
		1387											
		1388											

EOL
 1st Noise file Avg. RMS noise = ??? µBar
 2nd Noise file Avg. RMS noise = 6.0 µBar

Digital Observers Log

Client: Durham University	Line: AS02.1	Observer: Stephen Balke
Area: Auratic Sea		Near Trace: CH.1
Field: Sequence:	8/03/09	
Job: Date:		

Streamer Type: Sercel	S.P. Interval: 25.0 mtrs	Recording System: SEAL 408XL	No. of Aux Chai: Antenna to Sol	Source Volume: 2x90cu in
Fat Channel: 96	Sensitivity: 17.4uv/ubar	Recording Format: SeqD 8058 rev 1	Source to Near: 85 mtrs	Source Tow Depth: 3.75mtrs
Near Channel: 1	Cable Depth: 6m	No. of Channels: Low Cut Filter	Source Type: 2 x GI Guns	
No. of Groups: 96	Sample Rate: 0.25mrs	High Cut Filter: High Cut Filter	Source Press: 140 bar	
Group Interval: 12.5mtrs	Record Length: 5s			

UTC Time:	Fix	File	Bird Depths									
			1	2	3	4	5	6	7	8	9	
		99	1	2	3	4	5	6	7	8	9	1st Noise file Avg. RMS noise = 5.5 µBar 2nd Noise file Avg. RMS noise = 5.8 µBar SQL
21:34	101	100	4.4	6.1	6.1	6.1	6.1	6.2	6.1	6.0	6.0	
	140	140	4.8	6.1	6.0	5.8	5.9	6.0	6.1	6.1	6.0	
	180	180	4.8	6.2	6.1	6.1	6.1	6.1	6.0	6.0	6.0	
	210	210										
	220	220	4.3	6.0	6.1	6.1	6.2	5.9	6.0	6.0	6.2	Speed reduced from 4.2knts to 3.75 knts
	225	225										
	226	226										
	227	227										
	260	260	4.5	6.1	6.0	6.0	6.0	5.9	5.9	6.1	6.0	
	300	300	4.5	6.0	5.9	5.8	6.0	6.1	6.2	6.1	6.1	
	340	340	4.9	6.1	6.1	6.1	6.1	6.0	5.9	6.0	6.2	
	380	380	4.8	6.0	5.9	5.9	5.9	5.8	5.9	6.0	6.1	Noise from astern observed. Noise levels increase
	420	420	4.8	5.9	6.0	6.1	5.9	5.9	6.0	6.0	6.1	Large ship/ferry passing astern.
	440	440										Ferry noise dying away.
	460	460	4.7	6.0	5.9	6.0	6.0	5.9	6.1	6.1	5.9	
	500	500	4.8	6.1	6.0	6.1	5.9	5.9	6.1	6.0	6.1	
	540	540	5.0	5.9	6.0	6.0	6.1	6.0	6.1	6.0	6.0	
	580	580										
	620	620	5.2	5.9	5.9	6.1	6.1	6.2	6.2	6.0	6.0	large vessel passing stem causing increased noise
	660	660	4.9	6.2	6.0	6.1	6.0	6.0	6.0	6.0	6.0	
	700	700	5.1	6.3	6.2	6.1	5.9	6.0	6.1	6.0	6.2	vessel passed, noise has mostly reduced
	740	740	5.2	6.2	6.0	6.0	6.1	6.0	5.9	6.0	5.9	
	780	780	5.1	5.9	6.0	6.1	5.9	6.1	6.0	6.0	5.8	
	820	820	5.1	6.1	6.0	6.0	6.1	6.1	5.9	6.1	6.0	
	860	860	5.1	5.8	5.9	6.0	6.0	5.8	5.8	6.0	5.9	
	900	900	5.1	6.2	6.0	6.1	6.1	6.2	6.2	6.0	6.0	
	940	940	4.9	5.9	5.9	5.9	5.8	5.9	6.2	6.1	6.1	
	980	980	4.9	6.1	6.1	6.0	6.1	6.0	6.0	6.1	6.0	
	1020	1020	4.5	5.8	6.0	6.0	6.1	6.0	6.0	6.1	6.0	
	1060	1060	4.8	6.1	6.1	6.1	5.7	5.8	6.2	6.1	6.2	
	1100	1100	4.6	6.1	6.2	6.2	6.1	5.9	6.0	6.1	6.0	
	1140	1140	4.6	6.1	6.3	6.2	6.0	5.9	6.1	6.0	6.2	
	1180	1180	4.6	5.9	6.0	6.1	6.0	6.0	5.9	6.0	6.0	
	1220	1220	4.6	6.0	5.9	6.0	6.0	6.0	5.9	6.0	5.9	
	1250	1250	4.9	6.2	6.1	6.1	6.1	6.0	5.9	6.0	6.0	
	1260	1260	4.6	5.9	5.8	5.9	6.1	6.0	5.9	6.1	6.1	
2:38	1266	1266										EOL
	1267	1267										1st Noise file Avg. RMS noise = 4.02 µBar 2nd Noise file Avg. RMS noise = 3.99 µBar nupdate run. Offset =0.139128 sec

Digital Observers Log

Client: Durham University Line: **AS03.1**
 Area: Atlantic Sea
 Field: Date: 9/03/09
 Job:

Observer: Mark Whitaker
 Near Trace: Ch. 1

Streamer Type:	Sarcel	S.P Interval	25.0 mtrs	Recording System:	SEAL 408XL	No. of Aux Chai		Source Volume	2x90cu in.
Fair Channel	96	Sensitivity	17.4uV/bar	Recording Format:	Sead8 8058 rev 1	Antenna to Sol		Source Tow Depth	3.75mtrs
Near Channel	1	Cable Depth	6m	No. of channels	96	Source to Near		Source Typ	85 mtrs
No. of Groups	96	Sample Rate	0.25hrs	Low Cut Filter	3Hz (analogue only)	Source Typ		Source Press	2 x GI Guns
Group Interval	12 smtrs	Record Length	5S	High Cut Filter	800Hz (90% Nyquist)	Source Press			140 bar

UTC Time: Fix File

1

2

3

4

5

6

7

8

9

Bird Depths

1st Noise file Avg. RMS noise = 3.90 μBar
 2nd Noise file Avg. RMS noise = 3.59 μBar
 SOL
 Reduce speed from 4 knots to 3.8

	99	1	6.0	6.3	6.1	6.2	6.1	6.1	6.2	6.1	6.2	6.0	6.2			
	100															
	101	4.3	6.0	5.8	6.0	6.2	6.3	6.1	6.0	6.1	6.0	6.1	6.0			
	140	4.6	5.9	6.0	6.2	6.1	6.0	6.1	6.3	6.0	6.1	6.1	6.2			
	180	4.7	6.3	6.3	6.2	6.2	6.2	6.1	6.2	6.1	5.8	6.2	6.2			
	200															
	220	5.2	6.3	6.3	6.1	6.1	6.2	6.1	6.1	6.1	6.1	6.1	6.2			
	260	4.9	5.7	6.0	6.2	6.3	6.1	6.0	6.1	6.1	6.0	6.1	6.0			
	300	4.6	6.1	6.1	6.1	5.9	6.3	6.0	6.1	6.0	6.1	6.0	6.0			
	340	5.4	6.3	6.1	6.1	6.1	6.2	5.9	6.1	6.1	6.1	6.1	6.1			
	380	5.2	6.0	5.9	6.0	6.1	6.4	5.9	6.1	5.9	6.1	5.9	6.0			
	420	5.2	6.1	6.0	6.1	6.1	6.3	6.0	6.0	6.0	6.0	6.0	6.0			
	460	5.2	6.1	5.9	6.0	6.0	6.4	6.2	6.0	6.0	6.0	6.0	6.0			
	500	5.1	5.9	6.1	6.1	6.1	6.0	5.9	6.1	5.9	6.1	5.9	6.0			
	540	4.8	5.8	6.0	6.0	5.9	6.3	6.0	6.0	6.0	6.0	5.9	6.0			
	580	5.1	6.6	6.4	6.0	6.0	5.9	6.0	6.1	6.0	6.1	6.0	6.0			
	620	4.0	6.1	6.1	6.1	6.0	5.9	6.0	6.0	6.1	6.1	6.0	6.0			
	660	4.2	6.1	6.0	6.1	6.2	6.1	6.1	6.1	6.1	6.1	6.1	6.1			
	700	3.8	5.9	5.9	6.0	6.1	5.9	6.0	6.0	6.0	6.0	6.0	6.2			
	740	4.0	6.1	6.0	6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.2	6.2			
	780	3.8	5.9	5.9	5.9	6.0	5.9	6.0	5.8	6.0	6.2	6.2	6.2			
	820	4.3	6.0	6.2	6.1	6.1	6.1	6.1	6.0	6.0	6.0	6.2	6.2			
	860	4.3	6.1	5.9	6.0	6.3	6.2	6.0	5.8	5.9	6.0	6.1	6.0			
	900	4.1	6.0	6.3	6.3	6.1	6.2	6.2	6.1	6.0	6.0	6.0	6.0			
	940	4.6	6.2	6.1	6.2	6.0	6.0	6.2	6.0	6.0	6.0	6.2	6.0			
	980	4.3	6.1	6.1	5.8	6.2	6.2	6.0	6.0	6.0	6.0	6.2	6.0			
	1020	4.4	6.0	6.2	6.0	6.2	6.2	6.0	6.0	6.0	6.2	6.0	6.2			
	1060	4.2	5.9	5.8	6.0	5.9	6.0	6.1	6.1	6.0	6.1	6.0	6.0			
	1100	4.3	6.1	6.1	6.0	6.2	6.1	5.8	6.0	6.0	6.0	6.0	6.0			
	1140	4.5	6.1	6.0	6.0	6.0	5.9	6.0	6.1	6.2	6.0	6.2	6.0			
	1180	4.1	6.3	6.0	6.2	6.0	6.2	6.0	6.0	6.0	6.0	6.0	6.0			
	1220	4.2	5.9	5.9	5.7	5.9	6.2	6.1	5.9	5.9	6.1	6.1	6.1			
	1240															
	1260	3.8	6.0	6.0	6.1	5.9	5.9	5.9	6.1	6.0	6.0	6.1	6.0			
	1300	4.4	6.9	6.4	6.3	5.8	6.2	6.0	6.1	6.1	6.1	6.1	6.1			
	1340	4.0	6.0	6.1	6.0	6.0	6.1	6.1	5.8	6.3	6.3	6.3	6.3			
	1380	4.3	6.2	6.2	6.0	6.1	6.1	6.2	6.1	6.0	6.0	6.0	6.0			
	1399	4.2	6.1	5.9	5.7	6.1	6.1	6.0	6.1	6.0	6.1	6.0	6.0			
	1400															
	1401															

higher noise levels due to 2 vessels passing stern

EDL		
1st Noise file Avg. RMS noise =	8.16	μBar
2nd Noise file Avg. RMS noise =	8.08	μBar
Update run. Offset =	0.081814	sec

Digital Observers Log

Client: Durham University Line:
Area: Adriatic Sea
Field:
Job: Date: 9/03/09

AS04.01

Observer: Mark Whittaker
Near Trace: Ch. 1

Streamer Type:	Sarcel	S.P. Interval	25.0 mtrs	Recording System:	SEAL 408XL	No. of Aux Chai		Source Volume	2x90cu in.
Fair Channel	96	Sensitivity	17.4µV/ubar	Recording Format:	Seed 8058 rev 1	Antenna to Sol		Source Tow Depth	3.75mtrs
Near Channel	1	Cable Depth	6m	No. of channels	96	Source to Near	85 mtrs		
No. of Groups	96	Sample Rate	0.25mrs	Low Cut Filter	3Hz (analogue only)	Source Typ.	2 x GI Guns		
Group Interval	12.5mtrs	Record Length	5s	High Cut Filter	800Hz (80% Nyquist)	Source Press	140 bar		

UTC Time:	Fix	File	Bird Depths									
			1	2	3	4	5	6	7	8	9	
9:41		99	1	2	3	4	5	6	7	8	9	1st Noise file Avg. RMS noise = 6.84 µBar 2nd Noise file Avg. RMS noise = 7.53 µBar SOL
		100										
		101	3.7	6.3	5.6	5.8	6.1	6.2	6.0	6.0	6.2	
		140	4.4	6.7	6.2	6.3	6.2	6.0	6.1	6.0	6.2	
		180	3.0	5.4	5.4	5.8	6.0	5.9	5.9	6.0	6.2	
		220	4.5	6.6	6.4	6.4	6.0	5.9	5.9	6.0	6.0	Hi noise as vessel passing starboard side
		240	240	240	240	240	240	240	240	240	240	
		260	3.3	5.5	6.3	5.9	6.3	5.7	6.2	6.1	5.9	
		300	5.4	6.0	5.6	5.8	6.2	5.8	5.7	6.1	5.8	another vessel to starboard
		310	310	310	310	310	310	310	310	310	310	
		340	2.6	5.1	5.8	6.0	5.9	6.0	5.9	6.0	6.0	
		380	3.4	6.0	6.1	6.1	5.9	5.7	6.1	6.1	5.7	
		420	4.6	6.7	6.3	6.0	5.8	6.0	6.1	6.1	6.3	
		460	3.7	6.1	5.9	5.9	5.9	5.8	6.0	6.1	5.9	
		500	3.8	5.7	5.9	6.3	6.1	6.0	6.1	6.1	5.9	
		540	3.7	5.9	6.2	6.3	6.4	6.4	6.2	6.0	6.0	
		580	3.3	5.7	6.1	6.1	6.1	6.0	6.0	6.1	6.2	
		620	3.6	6.0	6.2	6.2	6.2	6.1	6.0	6.3	6.1	
		660	3.9	6.1	6.1	6.1	6.0	6.0	6.0	6.0	6.0	
		700	4.4	6.1	6.1	6.2	6.2	5.9	5.9	6.0	6.1	
		740	3.6	5.6	5.8	6.0	6.0	6.0	6.0	6.1	5.9	
11:00		777	777	777	777	777	777	777	777	777	777	EOL
		778										1st Noise file Avg. RMS noise = 4.0 µBar
		779										2nd Noise file Avg. RMS noise = 3.9 µBar
												nipdate run. Offset = 0.04 sec

Digital Observers Log

Client: Durham University
 Area: Adiratic Sea
 Field:
 Job:
 Line: ASOL R2
 Heading (true bearing): 32.7°
 Magnetic Deviation: 2.5° east
 Date: 9/03/09

Observer: Stephen Balle
 Near Trace: Cl 1

Compass Bird # Distance from stern to bird
 1 242.35
 2 150
 4 300
 7 450
 9 300

Streamer Type:	Steel	S-P Interval:	25.0 mrs	Recording System:	SEA4 LOGXL	No. of Aux Channels:	23 mrs	Source Volume:	2-90cun
Fur Channel:	96	Sensitivity:	1.7 Auvdubar	Recording Format:	SeaDigger rev 1	Distance from stern to guns:	85 mrs	Source Tow Depth:	3.75mrs
Near Channel:	1	Cable Depth:	6m	No. of Channels:	96	Source to Near trace:	2 X GI GUNS		
No. of Groups:	96	Sample Rate:	0.25mrs	Low Cut Filter:	3/4z (variable gain)	Source Type:	140 Dbv		
Group Interval:	1.25 mrs	Record Length:	55	High Cut Filter:	800Hz (80Hz Adjust)	Source Pressure:			

UTC Time:	Fix	File	Bird Depths									Heading (magnetic bearing)									Feather Angle
			1	2	3	4	5	6	7	8	9	1	2	4	7	9					
11:31	101	100	4.1	5.9	5.8	6.1	6.1	6.0	5.9	6.1	6.0	32.0	32.8	32.3	33.3	31.3	2.8	1st Noise file Avg. RMS noise = 10.3 µBar (high noise) 2nd Noise file Avg. RMS noise = 8.8 µBar SOL			
	140	140	4.0	6.1	6.3	6.3	6.2	6.1	6.0	6.0	6.2	30.2	31.8	31.8	32.5	32.3	3.3				
	220	220	4.0	6.1	6.3	6.3	6.2	6.1	6.0	6.0	6.2	30.2	31.8	31.8	32.5	32.3	3.3				
	300	300	4.0	6.1	6.3	6.3	6.2	6.1	6.0	6.0	6.2	30.2	31.8	31.8	32.5	32.3	3.3				
	340	340	4.3	6.1	6.1	6.0	5.9	6.0	6.0	6.0	6.2	33.1	32.4	32.6	32.4	31.2	2.9				
	380	380	4.3	6.1	6.1	6.0	5.9	6.0	6.0	6.0	6.2	32.6	32.8	31.1	30.4	31.6	3.8				
	420	420	4.8	6.9	6.1	6.2	6.0	6.2	6.0	6.1	5.8	34.6	35.5	33.0	30.8	28.0	3.4				
	460	460	4.0	6.0	6.1	6.0	5.7	5.8	6.0	6.1	6.4	35.1	35.9	36.1	34.8	32.4	0.5				
	500	500	2.8	5.2	5.0	6.0	5.9	6.1	6.2	6.1	6.0	32.9	35.8	36.5	36.1	34.4	-0.1				
	540	540	3.5	6.2	6.4	6.4	5.7	5.6	6.1	6.0	5.9	38.4	39.5	38.9	34.5	28.8	-0.2				
	580	580	4.2	6.2	6.3	6.3	6.6	6.4	5.7	6.3	5.7	38.8	39.9	39.3	35.2	29.8	-0.8				
	620	620	5.4	7.0	6.7	6.7	6.0	6.0	5.9	6.1	6.3	35.5	37.4	39.8	40.0	36.9	-3.1				
	660	660	4.9	6.4	6.3	6.3	6.2	5.7	5.7	6.0	6.0	37.4	36.4	37.4	40.2	40.3	-3.6				
	700	700	3.9	5.7	5.4	5.4	5.5	5.9	5.9	6.0	6.2	35.2	36.4	37.4	38.8	39.3	-2.6				
	740	740	4.3	6.2	6.3	6.2	6.0	5.9	5.9	6.0	5.9	33.5	35.9	37.0	38.2	38.1	-1.7				
	778	778	4.3	5.3	5.5	6.0	5.8	5.9	5.9	6.1	5.9	33.8	32.2	33.8	35.1	35.4	0.8	Noisy file			
	780	780	4.3	5.3	5.5	6.0	5.8	5.9	5.9	6.1	5.9	33.8	32.2	33.8	35.1	35.4	0.8				
	820	820	3.3	5.3	5.5	6.0	5.7	6.0	6.3	6.0	6.0	32.0	33.8	33.9	34.5	34.5	1.3				
	860	860	4.8	6.4	6.5	6.6	6.4	6.0	6.0	6.1	6.1	30.3	31.7	31.3	31.9	32.1	3.7				
	900	900	3.9	6.1	6.3	6.3	6.1	6.1	6.0	6.1	6.3	30.9	30.0	30.3	30.8	29.5	4.8				
	940	940	3.8	5.8	5.9	6.0	6.2	6.2	6.1	6.0	6.0	33.0	31.5	29.8	30.8	29.9	4.3				
	980	980	3.4	6.3	6.3	6.3	6.0	5.7	6.0	6.3	5.9	33.7	33.8	31.1	30.9	30.1	3.6				
	1020	1020	3.7	5.5	5.8	6.0	6.3	6.2	6.2	5.9	6.0	34.4	33.3	31.2	30.4	30.1	3.7				
	1060	1060	3.5	5.2	5.8	6.0	6.0	6.2	6.2	6.0	5.9	38.2	37.1	33.2	29.5	28.6	2.9				
	1100	1100	3.7	5.4	5.5	5.7	6.0	6.0	6.1	6.0	6.0	38.1	39.0	39.1	38.9	38.4	-3.5				
	1190	1190																EOI			
	1191	1191																1st Noise file Avg. RMS noise = 3.3 µBar			
	1192	1192																2nd Noise file Avg. RMS noise = 3.1 µBar			
																		update num. Offset = 0.15 sec			

Digital Observers Log

Client: Durham University Line: **A5304.2**
 Area: Atlantic Sea Heading (true bearing): **218.4°**
 Field: Magnetic Deviation: **2.5° East**
 Job: Date: **9/03/09**

Observer: Stephen Baile
 Near Track: CH. 1

Compass Distance from stern to bird
 1 242.35
 2 150
 4 300
 7 450
 9 300

Streamer Type	Sercol	S/R Interval	25.0mins	Recording System	SEAL-408XL	No. of Aux Channels	
Far Channel	96	Sensitivity	17.4uV/uBar	Recording Format	SEAD 8058 rev 1	Distance from stern to quirs	
Near Channel	1	Cable Depth	6m	No. of channels	96	Source to Near trace	
No. of Quirs	96	Sample Rate	0.25ms	High Cut Filter	80Hz (80% Nyquist)	Source Type	2 x CI Quirs
Grand Interval	12.5mins	Record Length	5s	High Cut Filter	80Hz (80% Nyquist)	Source Pressure	140 bar

UTC Time	Fix	File	Bird Depths									Heading (Magnetic bearing)									Feather Angle	Comments
			1	2	3	4	5	6	7	8	9	1	2	4	7	9						
16:08	101	101	4.4	5.7	5.9	5.8	5.7	5.8	5.9	6.0	5.9	6.0	5.9	6.1	6.1	217.7	216.7	211.9	198.3	189.7	11.0	1st Noise file Avg. RMS noise = 2.5 uBar 2nd Noise file Avg. RMS noise = 2.6 uBar SOI Streamer @6.0m Noise file 3.2UB Noise file 3.3UB Noise file Streamer set to 5.0m
	140	140	4.5	5.8	6.1	6.2	6.0	6.2	6.1	6.1	6.1	6.1	6.1	6.1								Noise file 3.2UB Noise file 3.3UB Noise file Streamer set to 4.0m
	161	161																				Noise file 3.1UB Noise file 3.1UB Noise file 3.1UB Streamer set to 3.0m
	162	162																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m
	167	167																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m, Vessel speed 3.8knts Vessel speed reduced to 3.5knts
	175	175	4.2	5.1	5.0	5.1	4.8	5.4	5.1	4.8	5.1	4.8	5.1	4.8								Noise file 3.1UB Noise file 3.1UB Noise file 3.1UB Streamer set to 3.0m
	182	182																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m
	183	183																				Noise file 3.1UB Noise file 3.1UB Noise file 3.1UB Streamer set to 3.0m
	184	184																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m
	195	195	3.8	4.1	4.0	4.2	4.2	4.2	4.1	4.0	3.8	4.0	3.8									Noise file 3.1UB Noise file 3.1UB Noise file 3.1UB Streamer set to 3.0m
	205	205																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m, Vessel speed 3.8knts Vessel speed reduced to 3.5knts
	209	209																				Noise file 3.1UB Noise file 3.1UB Noise file 3.1UB Streamer set to 3.0m
	210	210																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m
	221	221																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m, Vessel speed 3.8knts Vessel speed reduced to 3.5knts
	231	231	2.8	3.4	3.0	2.9	2.7	3.0	2.9	2.9	3.0	2.9	3.0									Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m
	234	234																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m
	235	235																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m
	250	250																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m, Vessel speed 3.8knts Vessel speed reduced to 3.5knts
	270	270	4.4	5.7	6.3	6.3	6.1	6.3	6.0	6.0	5.9	6.0	5.9	6.0	215.3	215.0	216.6	217.6	219.0	-1.1	Noise file 3.1UB Noise file 3.1UB Noise file 3.1UB Streamer set to 3.0m	
	294	294																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m
	298	298																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m
	311	311																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m
	312	312																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m
	320	320	4.8	6.2	6.2	6.3	5.9	6.2	6.1	5.8	6.0	5.9	6.0	6.0	214.0	215.3	215.2	214.2	214.8	1.3	Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m	
	360	360	3.7	6.0	5.9	5.9	5.9	6.0	6.2	6.0	6.0	6.0	6.0	6.0	213.8	213.9	214.0	215.0	215.7	1.3	Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m	
	400	400	3.4	4.9	5.1	5.7	5.9	6.2	6.2	6.1	5.9	6.1	5.9	6.1	215.3	213.7	213.4	213.2	214.9	1.9	Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m	
	475	475																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m
	476	476																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m
	477	477																				Noise file 3.1UB Noise file 3.2UB Noise file 3.3UB Streamer set to 6.0m

1st Noise file Avg. RMS noise = 3.8 uBar
 2nd Noise file Avg. RMS noise = 4.13 uBar
 update run. Onset = 0.04 sec.

Digital Observers Log

Client: Durham University Line: **AS05.1**
 Area: Adriatic Sea Heading (true bearing): **36.1°**
 Field: Magnetic Deviation: **2.5° east**
 Job: Date: **10/03/09**

Observer: Stephen Balfe
 Near Trace: Ch. 5

Streamer Type:	Sercel	S/P Interval:	12.5 mtrs	Recording System:	SEAL 408XL	No. of Aux Channels:	
Far Channel:	96	Sensitivity:	17 μ V/ubar	Recording Format:	SEID 8058 rev 1	Distance from stem to guns:	23 mtrs
Near Channel:	1	Cable Depth:	3m	No. of Channels:	96	Source to Near trace:	35 mtrs
No. of Groups:	96	Sample Rate:	0.25ms	Low Cut Filter:	Low Cut Filter	Source Type:	1 x GI Guns
Group Interval:	12.5mtrs	Record Length:	5s	High Cut Filter:	High Cut Filter	Source Pressure:	130 bar

UTC Time:	Fix	File	1	2	3	4	5	6	7	8	9	2	3	5	8	9	Feather Angle	Comments
		99																1st Noise file Avg. RMS noise = 3.7 μ Bar 2nd Noise file Avg. RMS noise = 4.1 μ Bar SOL
20:40		101	3.4	3.7	4.1	3.2	3.0	3.1	3.0	3.1	3.1	35.8	37.6	42.0	45.4	47.9	-10.1	Guns not turned on First good shot
		117																Vessel speed 3.5mtrs, streamer @3.0m offset 35m
		180	2.6	6.0	2.7	2.6	2.8	3.1	3.2	3.1	3.3	37.7	37.9	37.0	36.2	37.0	-3.2	
		260	2.6	3.1	3.3	3.1	3.4	3.3	3.2	3.2	2.8	36.9	37.0	37.4	36.3	36.7	-3.2	
		340	2.8	3.1	2.7	2.7	2.6	3.1	4.8	3.5	3.2	36.6	36.1	35.6	37.2	38.2	-3.3	
		420	2.8	2.8	3.3	3.7	2.6	2.3	2.9	2.9	3.2	35.7	35.0	35.9	34.5	35.1	-1.5	
		500	2.8	2.8	2.9	2.9	2.8	2.8	4.0	3.6	2.4	37.6	36.5	35.9	35.0	36.1	-2.2	
		580	3.1	3.0	3.3	3.0	3.3	3.3	4.0	3.1	3.3	38.5	37.3	35.6	35.0	36.4	-2.3	
		660	2.9	3.0	3.5	3.1	4.1	4.1	4.1	2.8	3.5	36.6	36.5	36.9	35.6	35.7	-2.5	
21:53		742																EOL
		743																1st Noise file Avg. RMS noise = 4.6 μ Bar
		744																2nd Noise file Avg. RMS noise = 4.3 μ Bar

Digital Observers Log

Client: Durham University Line: A505A.1
 Adriaic Sea Heading (true bearing): 36.1°
 Field: Magnetic Deviation: 2.5° east
 Date: 10/03/09

Observer: Stephen Baile / Mark Whittaker
 Near Trace: Ch 5

Streamer Type:	Sevcol	S.P. Interval:	37.5 mts	Recording System:	SEAL 408XL	No. of Aux Channels:	
Far Channel:	96	Sensitivity:	17.4µV/div	Recording Format:	Send 8058 rev 1	Distance from stern to guns:	23 mts
Near Channel:	1	Cable Depth:	3m	No. of channels:	96	Source to Near trace:	35 mts
No. of Groups:	96	Sample Rate:	0.25m/s	Low Cut Filter:	3Hz (analogue only)	Source Type:	2x GI Guns
Group Interval:	12.5m/s	Record Length:	5s	High Cut Filter:	1.6kHz (80% Nyquist)	Source Pressure:	130 bar

UTC Time:	Fix	File	Bird Depths									Heading (magnetic bearing)									Feather Angle	Comments
			1	2	3	4	5	6	7	8	9	2	3	5	8	9						
21:56	101	100	2.9	2.7	2.8	3.4	2.7	2.4	3.5	3.1	3.3	36.7	37.4	37.6	35.7	36.3	-2.9	1st Noise file Avg. RMS noise = 4.6 µBar 2nd Noise file Avg. RMS noise = 4.5 µBar SOL				
	140	101	2.6	2.8	3.4	3.1	2.9	3.0	3.8	3.2	3.1	35.4	35.0	36.4	35.5	34.9	-1.9					
	180	180	3.4	2.9	3.7	4.6	4.7	4.5	3.3	2.6	2.7	42.9	36.1	38.5	35.6	34.4	-2.8					
	220	220	2.9	2.9	2.8	4.0	3.1	2.5	4.7	3.7	4.0	43.2	40.5	37.4	38.0	39.5	-5.1					
	250	250	2.8	2.8	2.8	4.3	4.0	3.5	3.4	2.9	3.9	42.6	40.3	39.6	37.5	36.7	-4.7					
	300	300	2.9	3.0	2.0	3.0	3.1	3.1	2.9	3.3	3.2	43.3	43.9	41.6	37.8	38.1	-6.1					
	340	340	2.6	2.6	3.5	4.8	3.9	4.0	4.1	3.2	3.0	43.0	40.6	41.2	43.5	41.2	-8.4					
	380	380	2.8	3.1	3.7	4.1	3.7	2.9	2.0	2.2	3.4	39.6	37.6	39.4	38.4	41.4	-5.7					
1:03	420	420	2.5	2.5	3.1	4.3	3.6	3.9	3.1	2.5	3.4	38.0	37.1	37.4	38.3	38.1	-4.3	Change depths to 0m EOL				
	421	421																1st Noise file Avg. RMS noise = 6.34 µBar 2nd Noise file Avg. RMS noise = 8.75 µBar nppdate run. Offset = sec				
	422	422																				

Digital Observers Log

Client: **Durham University** Line: **AS05B.1**
 Area: **Adriatic Sea** Heading (true bearing): **36.1°**
 Field: **.....** Magnetic Deviation: **2.5° east**
 Job: **.....** Date: **11/03/09**

Observer: **Mark Whittaker**
 Near Trace: **.....** Ch: **5**

Stream Type:	Sercel	S.P. Interval	18.75	Recording System:	SEAL 408XL	No. of Aux Channels	
Far Channel	96	Sensitivity	17.4uV/bar	Recording Format:	Seid 8058 rev 1	Distance from stern to quirs	23 mtrs
Near Channel	1	Cable Depth	6m	No. of Channels	96	Source to Near trace	35 mtrs
No. of Groups	96	Sample Rate	0.25ms	Low Cut Filter	3Hz (analogue only)	Source Type	1 x GI/Quirs
Group Interval	12.5mtrs	Record Length	5s	High Cut Filter	1.6kHz (80% Nyquist)	Source Pressure	142

UTC Time:	Fix	File	Bird Depths									Heading (magnetic bearing)									Feather Angle	Comments
			1	2	3	4	5	6	7	8	9	2	3	5	8	9						
		99	100	2.9	3.4	4.2	5.4	5.8	5.9	6.0	6.1	5.1	4.6	30.0	29.8	29.8	30.8	30.7	3.2	1st Noise file Avg. RMS noise = 7.20 µBar 2nd Noise file Avg. RMS noise = 7.01 µBar SOL		
		101	101	3.1	3.5	5.6	6.6	6.0	6.1	6.0	6.0	6.0	5.3	31.6	29.7	29.2	30.1	30.1	3.7			
		140	140	2.9	3.1	6.0	6.2	6.0	6.2	6.3	6.0	6.6	5.1	27.3	30.2	30.0	29.7	29.8	3.9			
		180	180	2.9	3.1	6.0	6.2	6.0	6.2	6.3	6.0	6.6	5.1	31.4	30.4	29.4	28.9	29.8	4.1			
		220	220	2.9	3.3	6.0	6.0	6.0	6.0	6.0	6.1	5.2	5.2	31.9	31.9	29.8	29.6	29.2	3.6			
		260	260	2.8	3.3	6.2	5.8	5.9	6.0	5.9	6.0	5.9	4.7	30.3	30.3	31.4	29.1	28.2	4.0			
		308	308	2.5	3.0	5.0	4.8	5.1	5.1	5.4	5.1	5.2	5.2	30.1	30.8	30.2	30.8	31.4	2.6			
		340	340	2.6	2.7	4.8	5.2	5.0	5.2	5.2	5.1	5.0	5.1	29.7	29.2	29.2	30.1	30.1	2.7			
		380	380	2.8	3.4	5.6	5.3	5.3	5.4	5.0	5.1	5.1	5.1	27.3	30.2	30.0	29.7	29.8	3.9			
		420	420	2.8	2.9	5.0	4.8	5.1	5.3	5.0	5.1	5.1	5.1	31.4	30.4	29.4	28.9	29.8	4.1			
		460	460	2.8	2.8	4.9	4.3	4.4	4.5	4.9	5.1	5.2	5.2	31.9	31.9	29.8	29.6	29.2	3.6			
		500	500	3.1	3.4	6.0	5.4	5.4	5.1	4.6	4.7	5.2	5.2	30.3	30.3	31.4	29.1	28.2	4.0			
		540	540	2.6	2.9	5.2	5.0	5.2	5.3	5.2	5.1	5.2	5.2	30.8	30.8	30.2	30.8	31.4	2.6			
		580	580	2.5	2.7	4.6	4.4	4.9	5.0	5.1	4.9	5.0	5.0	37.4	30.8	32.5	29.2	28.5	2.7			
		620	620	2.8	3.1	4.5	4.4	4.8	5.0	5.2	5.1	5.0	5.1	34.8	34.5	34.4	33.5	31.5	0.2			
		660	660	2.8	3.1	5.1	5.1	4.9	5.0	5.0	5.0	5.0	5.0	33.4	33.4	33.8	34.5	34.9	-0.7			
		700	700	2.8	3.1	5.1	5.3	5.2	5.1	5.1	5.1	5.1	5.1	33.7	33.7	33.6	33.1	34.8	-0.2			
		730	730	3.1	3.4	5.2	5.3	5.2	5.1	5.1	5.1	5.1	5.1	35.1	33.7	33.6	33.1	34.8	-0.2			
		731	731																			
		732	732																	1st Noise file Avg. RMS noise = 4.608 µBar 2nd Noise file Avg. RMS noise = 4.31 µBar mpdate run. Offset = 0.265645 sec		

Digital Observers Log

Client: Durham University Line: AS06.1
 Area: Adriatic Sea Heading (true bearing): 218.4°
 Job: Magnetic Deviation: 2.5° east
 Date: 11/03/09

Observer: Mark Whitaker
 Near Trace: Ch. 5

Stemline Type:	Serial	S/P Interval	18.75	Recording System:	SEAL 408X1	No. of Aux Channels	
Fat Channel	96	Sensitivity	17.4uV/Hz	Recording Format:	SEAD 8088 rev 1	Distance from stern to guns	23 mtrs
Near Channel	1	Cable Depth	5m	No. of Channels	96	Source to Near Trace	35 mtrs
No. of Grouns	96	Sample Rate	0.25ms	Low Cut Filter		Source Type	1 x GI Guns
Group Interval	12.5mins	Record Length	5s	High Cut Filter		Source Pressure	130 bar

UTC Time:	Fix	File	1	2	3	4	5	6	7	8	9	2	Heading (magnetic bearing)			Feather Angle	Comments	
													5	8	9			
		100																
		101	2.8	3.1	4.5	4.2	4.2	5.1	5.1	4.9	5.0	223.4	226.0	229.7	235.2	240.6	-5.8	1st Noise file Avg. RMS noise = 4.59 µBar
		140	3.4	4.2	7.9	7.3	5.7	5.4	5.2	5.1	5.1	224.3	226.0	225.2	226.1	227.7	-1.6	2nd Noise file Avg. RMS noise = 4.54 µBar
		180	2.9	3.4	5.7	6.8	5.8	5.3	4.4	4.7	5.1	217.5	220.4	222.3	224.6	225.4	-7.5	Birds unstable due to changes in speed
		220	2.5	3.1	4.8	4.6	5.1	5.2	5.3	5.1	5.4	215.9	217.9	218.2	220.3	221.6	-3.7	
		260	2.9	3.6	5.6	6.1	6.2	5.9	5.3	4.9	6.3	215.8	215.9	215.8	217.9	218.7	-1.4	
		300	3.2	3.9	5.2	5.0	5.1	5.1	5.0	5.1	5.2	217.6	217.4	215.2	217.0	217.1	-0.8	
		340	3.8	4.2	6.3	5.7	5.0	4.4	4.5	5.0	5.6	218.1	215.9	214.2	216.2	215.3	0.3	
		380	2.6	3.0	4.6	4.4	4.3	4.4	4.9	5.1	4.7	212.2	214.5	215.9	215.7	215.2	0.6	
		420	2.5	3.3	4.4	4.9	5.1	5.1	5.2	5.1	4.4	212.3	214.5	215.4	215.4	215.4	0.7	
		460	2.9	3.5	4.6	5.3	6.1	5.2	5.2	4.6	4.6	212.1	216.4	216.7	214.6	215.2	0.6	
		500	3.2	3.9	4.7	4.7	4.8	5.4	5.1	4.9	4.9	216.8	218.1	215.4	216.1	215.1	0.0	
		540	3.1	3.7	6.5	6.0	5.2	4.4	4.9	5.3	5.6	213.1	214.0	214.3	216.5	214.9	1.5	
		580	3.1	3.2	5.1	5.0	4.8	4.8	4.9	5.1	5.1	211.2	211.7	213.8	215.4	215.4	0.7	
		620	2.5	3.0	5.1	5.0	5.1	5.2	4.8	4.8	5.0	211.6	213.8	213.6	214.1	215.6	1.7	
		660	2.8	3.3	5.8	5.3	4.8	5.0	5.1	5.2	5.0	210.8	212.5	213.1	213.3	213.3	2.9	
		700	2.9	3.4	4.8	4.7	4.9	5.5	5.1	5.2	5.1	210.2	211.3	211.7	213.6	214.1	3.0	
		740	2.6	3.2	5.2	4.9	4.5	5.1	4.9	4.8	5.0	211.9	211.6	211.4	212.4	211.6	4.0	
		780	2.5	3.0	5.4	5.8	4.8	4.8	4.9	5.1	4.9	210.1	209.3	210.1	210.4	211.6	4.4	
		820	3.1	3.4	5.4	4.8	4.8	4.8	4.9	4.8	5.3	209.6	210.3	210.1	210.4	211.6	5.3	
		860	2.3	2.9	5.0	5.3	4.9	5.2	5.3	5.0	5.3	209.5	210.7	209.3	210.8	211.4	5.4	
		900	2.9	3.3	5.0	5.4	4.8	5.2	4.9	5.2	5.3	207.9	209.0	208.6	210.9	209.5	6.2	
		940	2.6	3.4	4.8	4.5	5.1	5.2	4.9	5.3	4.7	205.8	205.6	209.1	209.3	208.8	7.3	vessel passing stern
		980	2.9	3.5	5.7	5.7	5.1	5.2	5.1	5.1	5.4	206.2	208.3	206.8	209.2	208.7	9.2	
		1020	2.8	3.5	5.9	5.2	5.2	5.6	5.3	5.1	5.0	201.4	204.0	205.9	207.2	208.5	9.2	
		1060	2.6	3.0	4.4	4.2	4.8	5.0	5.3	5.1	4.8	199.2	199.2	204.6	205.2	205.8	11.4	
		1100	2.9	3.3	5.2	6.4	6.7	6.0	5.6	5.3	4.2	212.8	213.6	207.5	194.0	201.6	13.3	
		1140	2.9	3.5	3.4	4.0	4.8	4.8	5.1	5.3	5.5	216.0	214.7	215.3	211.6	206.7	4.0	wind picked up, blowing head on bow, affecting bird control and noise levels and reducing feather noise levels increased, 5 vessels within 2 miller radii
		1180	2.5	3.0	4.3	6.2	6.6	6.3	5.0	5.0	4.6	216.3	216.9	217.3	215.2	213.9	0.3	
		1220	2.5	3.3	4.2	5.2	5.3	4.0	4.3	4.1	5.1	215.2	218.8	218.3	217.8	217.1	-1.8	
		1260	3.2	3.7	6.0	5.8	4.9	4.7	4.7	4.7	3.9	216.7	218.6	217.7	218.5	217.6	-2.1	
		1300	2.8	3.3	5.3	6.2	6.1	5.4	4.7	4.9	5.6	216.4	220.4	217.5	218.5	217.5	-2.4	
		1340	2.9	3.3	5.0	4.9	5.4	5.1	4.3	4.6	5.6	219.4	219.1	218.9	219.0	216.6	-2.4	
		1380	2.9	3.5	6.2	5.3	5.4	5.6	6.0	5.5	4.7	217.5	220.6	219.6	219.6	218.3	-3.4	
		1420	3.4	3.8	4.1	4.0	4.9	4.9	5.0	5.0	5.2	221.0	219.0	220.3	220.4	218.5	-3.9	
		1460	2.6	3.0	4.6	5.3	5.0	5.3	5.3	5.4	4.8	215.5	220.3	219.8	219.7	220.0	-3.7	vessel passing stern
		1500	2.8	3.3	4.4	4.8	5.0	4.9	4.9	5.1	5.2	216.0	219.3	219.7	220.4	219.4	-3.0	
		1540	2.9	3.5	4.2	4.2	4.9	5.3	5.0	5.1	5.1	218.6	217.7	218.6	218.8	219.8	-3.0	
		1580	2.8	3.2	5.3	5.6	5.4	5.2	5.4	4.8	5.3	217.0	220.7	218.6	218.9	218.3	-2.9	vessel passed
		1620	3.1	3.3	5.3	5.5	5.9	5.6	5.3	5.0	5.3	215.4	217.3	218.0	219.4	218.8	-2.6	
		1660	3.4	3.5	4.8	4.8	5.1	5.6	5.3	5.0	5.5	212.7	216.7	217.7	217.5	217.4	-1.3	
		1700	2.9	3.4	5.3	4.8	4.7	4.8	5.2	4.8	4.9	214.7	217.0	216.9	217.4	217.2	-1.2	
		1740	2.5	2.8	4.7	4.6	4.8	4.8	5.2	5.1	5.1	213.8	216.9	217.0	216.7	216.8	-0.8	
		1780	3.2	3.6	5.5	5.8	5.3	5.0	4.8	4.9	5.1	216.4	215.4	215.7	217.2	216.9	-0.6	
		1809	2.5	2.7	4.4	4.5	5.2	4.9	4.6	5.1	5.4	218.0	215.9	216.4	215.8	215.2	0.0	
		1810																
		1811																

1st Noise file Avg. RMS noise = 10.15 µBar
 2nd Noise file Avg. RMS noise = 10.812 µBar
 Inpdate run. Onset = 0.101704 sec

Digital Observers Log

Client: **Durham University** Line: **AS07.1**
 Area: **Adriatic Sea** Heading (true bearing): **36.1°**
 Field: **.....** Magnetic Deviation: **2.5° east**
 Job: **.....** Date: **11/03/09**

Observer: **Mark Whitaker**
 Near Trace: **.....** Ch: **5**

Stream Type:	Seval	S.P. Interval	18.75	Recording System:	SEAL 408XL	No. of Aux Channels	
Fat Channel	96	Sensitivity	17.4uV/bar	Recording Format:	Seqd 8038 rev 1	Distance from stem to quirs	23 mtrs
Near Channel	1	Cable Depth	5m	No. of Channels	96	Source to Near Trace	35 mtrs
No. of Groups	96	Sample Rate	0.25ms	Low Cut Filter	3Hz (analogue only)	Source Type	1 x GI/Guns
Group Interval	12.5mtrs	Record Length	5s	High Cut Filter	1.6kHz (80% Nyquist)	Source Pressure	130 bar

UTC Time:	Fix	File	Bird Depths									Heading (magnetic bearing)									Feather Angle	Comments
			1	2	3	4	5	6	7	8	9	2	3	5	8	9						
9.13		100	2.6	3.0	5.8	5.9	5.5	5.1	4.8	4.8	4.7	4.7	5.5	28.0	27.7	28.5	24.9	24.0	7.5	1st Noise file Avg. RMS noise = 8.02 µBar 2nd Noise file Avg. RMS noise = 7.99 µBar SOL		
		101	2.6	3.1	5.8	5.4	5.1	4.8	4.8	4.8	4.8	4.8	5.1	31.1	29.7	28.8	24.9	26.6	5.6			
		140	2.6	2.5	4.7	5.1	5.1	5.2	5.0	5.0	5.0	5.0	5.1	32.7	29.7	29.0	27.9	28.5	4.8			
		180	2.6	3.1	4.9	5.0	5.1	5.2	5.0	5.2	5.0	5.2	5.1	33.7	33.0	32.6	29.5	27.9	3.2			
		220	2.6	3.1	5.7	5.4	5.1	4.9	4.9	5.0	5.0	5.2	5.2	35.2	34.8	32.3	31.8	32.0	1.1			
		260	2.5	3.1	5.7	5.4	5.1	4.8	4.9	5.1	5.2	5.1	5.1	35.2	34.8	34.0	34.0	32.5	0.1			
		300	2.6	3.2	5.0	4.9	5.1	4.8	5.1	5.2	5.1	5.1	5.1	31.8	31.8	32.6	33.7	34.6	0.2			
		340	2.6	3.1	5.3	5.2	4.8	4.8	5.2	5.3	5.1	5.5	5.1	32.5	31.8	31.6	32.7	33.8	1.1			
		380	2.6	3.1	5.3	5.2	4.8	4.8	5.3	5.1	5.5	5.5	5.1	30.8	31.4	31.6	32.7	33.8	1.1			
		420	2.6	3.2	4.8	4.8	5.1	5.0	4.7	4.9	4.5	4.5	5.0	30.8	30.8	31.5	32.3	31.5	1.9			
		460	2.3	2.7	4.9	4.8	4.9	4.9	4.9	5.1	5.1	5.1	5.1	30.7	30.4	29.7	30.5	32.4	2.9			
		500	2.3	2.9	5.1	4.9	4.8	4.8	4.9	5.1	4.7	4.7	5.1	31.8	30.4	29.7	30.5	30.4	3.3			
		540	2.6	2.9	5.4	5.2	5.0	5.3	5.4	5.3	4.9	4.9	5.1	31.5	31.2	28.7	29.6	30.8	3.7			
		580	2.5	3.1	5.9	6.5	6.3	5.9	5.5	5.2	4.4	4.4	4.4	29.2	29.9	31.4	31.8	28.8	2.9			
		620	2.6	3.1	5.3	5.2	5.3	5.3	4.9	5.3	5.4	5.4	5.4	29.9	30.7	30.1	31.0	31.4	2.8			
		660	2.8	3.1	5.0	4.7	4.9	5.2	5.1	5.1	5.0	5.0	5.0	33.3	33.8	29.6	26.5	25.5	5.2			
		700	2.8	3.2	4.9	5.0	4.9	4.9	5.1	4.8	5.0	5.1	5.1	45.2	44.3	39.6	28.5	24.8	0.8			
		740	2.8	3.3	5.0	5.0	4.8	5.1	5.3	5.0	5.0	5.0	5.0	43.4	43.8	43.9	44.9	43.3	-10.3			
		780	2.8	3.2	4.9	4.9	5.0	5.2	5.1	5.1	5.1	5.1	4.9	42.2	43.2	43.9	44.1	45.2	-10.4			
		820	2.8	3.2	4.8	5.1	5.1	5.1	5.4	5.1	5.1	5.1	4.9	40.7	39.9	40.5	43.7	44.4	-8.8			
		860	3.1	3.5	5.1	5.2	5.1	5.1	5.1	5.1	5.1	5.0	5.0	40.3	42.5	42.4	41.3	43.2	-8.4			
		900	2.6	3.2	5.0	5.1	5.0	5.2	5.2	5.1	5.3	5.3	39.3	38.7	39.5	41.4	42.0	-7.0				
		940	2.8	3.0	5.3	5.8	5.4	5.4	5.3	5.2	5.1	5.1	38.8	38.1	39.6	40.5	40.9	-6.3				
		980	2.9	3.3	4.4	4.4	4.8	4.9	4.8	5.0	5.0	5.0	39.2	38.8	38.2	39.0	40.0	-5.4				
		1020	3.4	4.0	5.4	5.2	5.1	5.0	5.1	5.1	5.1	5.1	37.4	39.2	39.2	39.5	39.3	-5.6				
		1060	2.8	3.4	5.2	4.8	4.8	4.9	5.3	5.0	5.0	5.1	36.5	37.6	37.3	38.2	39.2	-4.5				
		1100	3.2	3.8	5.2	5.3	5.2	5.0	5.0	5.1	5.1	5.1	36.0	36.9	37.0	37.8	38.1	-3.8				
		1140	2.9	3.4	5.2	5.1	5.1	5.2	5.1	5.1	5.1	5.1	35.2	36.3	36.6	37.1	37.0	-3.2				
		1180	3.5	4.1	5.1	5.0	5.0	4.8	5.1	5.0	5.0	5.0	34.9	35.9	36.4	36.2	36.5	-2.6				
		1260	3.5	3.9	5.1	5.1	5.1	4.9	5.1	5.1	5.1	5.1	34.2	35.9	36.6	36.7	36.7	-2.9				
		1340	3.2	3.8	5.1	5.1	5.1	5.2	5.1	5.1	5.0	5.0	33.8	35.2	35.0	36.7	36.7	-2.4				
		1420	3.1	3.7	5.0	5.1	5.1	5.0	5.1	5.1	5.1	5.1	35.0	36.0	35.9	35.9	35.9	-2.3				
		1500	3.4	3.8	5.1	5.0	5.1	5.0	5.1	5.1	5.1	5.1	35.0	35.7	35.9	36.3	35.9	-2.4				
		1527																				
		1528																				
		1529																				

EOL
 1st Noise file Avg. RMS noise = 4.3 µBar
 2nd Noise file Avg. RMS noise = 4.6 µBar
 Inpdate run. Offset = 0.04 sec

Digital Observers Log

Client: **Durham University** Line: **AS08.1**
 Area: **Adriatic Sea** Heading (true bearing): **256.4°**
 Field: **.....** Magnetic Deviation: **2.5° east**
 Job: **.....** Date: **12/03/09**

Observer: **Stephen Balfe**
 Near Trace: **.....** Ch: **5**

Streamer Type:	Sevcol	S.P. Interval	25 mtrs	Recording System:	SEAL 408XL	No. of Aux Channels	
Fat Channel	1	Sensitivity	17.4uV/bar	Recording Format:	SEAD 8058 rev 1	Distance from stem to guns	23 mtrs
Near Channel	96	Cable Depth	3m	No. of Channels	96	Source to Near Trace	35 mtrs
No. of Groups	96	Sample Rate	0.25ms	Low Cut Filter	3Hz (analogue only)	Source Type	2 x GI/Guns
Group Interval	12.5mtrs	Record Length	5s	High Cut Filter	1.6kHz (80% Nyquist)	Source Pressure	130 bar

UTC Time:	Fix	File	Bird Depths									Heading (magnetic bearing)									Feather Angle	Comments
			1	2	3	4	5	6	7	8	9	2	3	5	8	9						
		99																				
		100																				
21:32		101	1	2	3	4	5	6	7	8	9	2	3	5	8	9	-6.0	1st Noise file Avg. RMS noise = 12.1 µBar 2nd Noise file Avg. RMS noise = 9.6 µBar miss-file / noise file				
		102	2.5	2.9	4.1	3.4	2.8	3.6	2.2	2.8	3.3	263.7	260.8	260.0	259.6	259.1	-7.6	Swell bursts and streamer level compromised d/t weather conditions.				
		140	2.3	3.4	3.7	3.4	3.1	2.5	2.4	3.2	2.1	264.2	261.5	264.3	260.5	259.8	-6.8					
		180	3.4	3.6	3.2	2.8	2.9	3.6	4.2	3.9	4.1	260.2	260.6	260.3	260.5	261.7	-6.9					
		220	2.5	2.5	3.3	2.3	1.9	2.4	2.5	2.9	3.3	265.5	264.9	262.4	259.1	259.1	-8.2					
		260	2.9	3.3	3.4	2.8	2.8	2.9	2.8	3.4	3.5	257.8	259.4	262.5	262.3	263.7	-3.5					
		300	3.4	3.7	3.6	2.0	2.3	2.9	2.9	2.9	3.1	261.0	263.1	258.9	255.1	256.0	-3.9					
		340	2.9	3.2	3.8	4.6	4.5	3.5	2.4	2.8	3.4	258.1	259.9	261.2	256.1	256.0	-6.4					
		380	2.6	2.7	2.7	2.8	2.5	2.4	2.3	3.1	3.0	262.9	262.9	261.8	258.4	260.2	-4.8					
		420	2.9	2.6	3.6	3.4	2.8	3.1	3.2	3.2	3.3	259.4	259.3	259.0	257.3	260.2	-4.1					
		460	3.4	3.3	3.9	3.5	2.6	3.4	3.3	2.6	3.0	262.4	259.7	258.0	257.7	256.8	-5.8					
		500	2.8	2.5	3.4	4.6	3.9	3.8	3.4	3.0	3.1	258.8	260.4	259.6	259.7	259.8	-4.6					
		540	3.1	3.1	3.5	3.0	2.8	2.8	2.8	3.0	3.1	259.1	260.2	258.8	257.9	258.4						
23:01		562																EOL				
		563																1st Noise file Avg. RMS noise = 5.9 µBar				
		564																2nd Noise file Avg. RMS noise = 5.1 µBar mpdate run. Offset = 1.1 sec				

Digital Observers Log

Client: Durham University Line: (true bearing) AS03
Address: 170°
Field: Magnetic Deviation: 12.5° east
Job: Date: 12/03/09

Observer: Mark Whittaker
Name: CH 5
Near Track:
1300W

Table with 3 columns: Parameter, Value, Unit. Includes Station Type, Frequency, No. of Channels, Source, etc.

Main data table with columns: UTC Time, File, Fk, Bird Density (1-9), Heading (magnetic bearing) (1-9), Feather Angle, Comments. Contains multiple rows of numerical data.

EOL
1st Noise file
2nd Noise file
Inpdate run. Offset = 0.27 sec

Digital Observers Log

Client: Durham University Line: **AS12** Observer: Stephen Bellie/Mark Whittaker
 Area: Acoustic S/N1 Heading (true bearing): **242.6** Magnet: AS12 Magnet Deviation: 1.30309 Altitude: 102 MSL
 Date: 13/03/09

Station Type: S e manual 26 stars Reception System: 2260
 Fax Channel: 96 Satellite L2 Bandwidth: 180
 Main Channel: 1 Cable Depth: 50 No. of Channels: 1 Low Cut Filter: 3Hz (Auto-on/Off)
 No. of Crosses: 96 Sample Rate: 600ms High Cut Filter: _____
 Gain: 30 IIR Filter: Second Order L1 Rate (Hz): Auto

No. of Stars: 26 Star Type: S e manual Star Position: S e manual Star Position: _____
 Star Position: _____
 Star Position: _____

UTC Time	Fix		Bird Deaths									Heading (magnetic bearing)			Feather Angle		Comments
	File	1	2	3	4	5	6	7	8	9	2	3	5	8	9		
906	101	101	4.5	5.1	5.1	5.1	5.1	5.0	5.0	221.7	221.0	219.6	219.2	220.9	-8.4	SOI	
	140	140	3.4	3.7	4.9	5.0	4.3	5.1	4.9	217.4	219.0	220.2	220.3	219.6	-8.4		
	180	180	3.2	3.9	4.9	5.2	5.1	5.0	5.0	216.2	215.9	219.9	219.8	220.6	-8.8		
	220	220	3.2	3.9	4.6	4.8	5.2	5.2	4.8	214.7	214.7	217.2	217.2	218.8	-8.2		
	260	260	3.9	4.1	5.1	5.1	5.2	5.1	4.9	213.9	213.9	215.7	215.2	216.4	-9.7		
	300	300	3.7	4.1	5.1	5.2	4.7	5.0	5.1	210.6	210.0	211.6	211.6	211.0	-0.1		
	340	340	3.2	3.7	4.9	4.9	4.8	5.1	5.2	206.9	208.0	210.4	210.7	212.0	1.0		
	380	380	3.4	3.9	5.1	5.1	5.2	5.1	5.2	207.6	207.4	208.0	208.8	210.4	2.7		
	420	420	3.2	3.7	5.0	4.9	5.1	4.6	5.3	207.6	207.4	208.0	208.8	210.4	2.7		
	460	460	3.2	3.8	5.4	5.4	5.2	5.2	5.0	204.8	203.1	205.8	207.4	208.1	4.6		
	500	500	3.4	3.9	4.8	4.9	5.1	5.1	5.1	207.0	207.1	206.5	203.6	206.2	6.2		
	540	540	3.8	4.4	5.0	4.8	4.9	4.9	5.0	207.8	204.4	203.0	203.7	206.2	7.0		
	580	580	3.8	4.3	5.2	5.1	5.2	4.7	4.5	211.8	209.7	209.3	207.9	199.6	4.9		
	620	620	3.5	4.2	5.2	5.2	5.2	5.1	4.8	210.9	212.7	214.7	211.6	206.8	0.5		
	660	660	3.7	4.0	4.9	5.0	5.1	5.1	5.0	210.5	210.6	212.2	213.0	214.5	-1.3		
	700	700	3.5	4.2	5.2	5.2	4.9	5.3	5.3	210.8	211.2	211.8	211.6	213.0	-1.3		
	740	740	3.4	4.1	5.0	5.1	5.2	5.1	5.0	209.1	209.2	209.5	208.8	208.7	2.4		
	780	780	3.6	4.1	5.0	5.0	4.4	5.4	5.0	209.1	209.2	209.5	208.8	208.7	2.4		
	820	820	3.5	4.2	5.1	5.0	4.3	5.3	5.3	210.6	208.6	208.6	208.4	210.8	2.3		
	860	860	3.6	4.3	5.1	5.1	4.9	4.5	5.0	212.1	211.6	211.6	208.4	208.5	1.5		
	900	900	3.5	4.3	5.0	5.1	4.9	4.5	5.0	212.1	211.6	211.6	208.4	208.5	1.5		
	960	960	3.7	4.3	5.0	5.1	4.9	4.5	5.1	218.0	215.9	211.0	209.5	210.6	0.3		
	1020	1020	3.8	3.8	5.5	5.3	5.2	5.1	5.1	225.3	226.6	223.2	217.4	209.9	-0.8		
	1080	1080	3.1	3.8	4.8	4.8	4.8	4.8	4.6	224.9	225.9	224.9	223.1	231.3	-13.9		
	1140	1140	3.2	3.9	4.8	4.8	4.8	4.6	5.2	223.3	223.1	224.1	227.2	227.7	-14.0		
	1200	1200	3.7	4.2	5.3	5.3	5.1	5.0	4.6	224.5	224.5	224.5	224.3	224.2	-12.5		
	1260	1260	3.4	4.0	4.9	4.8	4.9	4.4	5.1	216.0	220.9	221.6	220.9	221.0	-9.4		
	1320	1320	3.2	3.9	5.3	5.3	5.1	5.1	5.1	218.0	220.9	221.6	220.9	221.0	-9.4		
	1380	1380	3.5	4.0	4.9	4.8	4.9	5.0	5.1	218.1	218.8	218.7	218.7	220.4	-9.9		
	1440	1440	3.4	3.8	5.0	5.1	5.1	5.1	5.1	218.1	218.8	218.7	218.7	220.4	-9.9		
	1500	1500	3.4	4.2	5.0	4.8	4.9	5.1	5.0	216.7	217.3	217.1	217.2	217.7	-5.8		
	1560	1560	3.5	4.1	5.1	5.0	5.1	5.1	5.1	215.4	215.8	215.9	215.9	216.1	-4.4		
	1620	1620	3.5	4.3	5.1	5.1	4.9	5.1	5.0	215.6	214.8	214.3	214.7	215.1	-8.2		
	1680	1680	3.8	4.0	5.0	4.9	4.8	5.2	5.1	211.6	214.1	215.2	213.9	213.4	-2.5		
	1740	1740	3.4	4.0	5.0	4.9	4.9	4.5	4.5	211.1	214.2	215.4	212.5	211.9	-1.7		
	1800	1800	3.1	3.7	4.6	4.8	4.3	4.9	4.5	209.4	210.7	211.9	213.9	213.2	-1.2		
	1860	1860	3.2	3.8	4.8	5.0	5.2	5.0	5.1	211.5	211.7	212.4	212.2	211.6	-0.5		
	1920	1920	3.7	4.2	5.2	5.1	4.9	5.1	5.0	210.5	211.3	211.6	212.1	211.6	-0.2		
	1980	1980	3.5	4.0	5.1	5.1	4.9	5.3	5.0	210.0	212.2	211.5	211.5	210.8	0.0		
	2040	2040	3.5	4.0	4.9	4.7	4.9	5.1	5.1	211.6	212.0	211.8	211.8	210.8	0.3		
	2100	2100	3.7	4.2	4.8	5.0	4.8	5.1	5.1	211.6	212.0	211.8	211.8	210.8	0.3		
	2160	2160	3.4	4.3	4.8	4.9	4.9	5.3	5.3	209.9	209.8	209.8	208.7	208.2	1.0		
	2220	2220	3.2	3.9	5.1	5.0	4.9	5.0	5.0	207.9	208.2	208.2	208.4	208.7	2.0		
	2280	2280	3.2	3.9	5.1	4.9	4.9	5.0	5.0	207.9	208.2	208.2	208.4	208.7	2.0		
	2340	2340	3.5	4.2	5.0	4.8	4.6	4.9	4.9	206.5	205.9	207.5	208.7	208.2	2.9		
	2400	2400	3.5	4.0	5.1	5.2	5.3	5.0	4.8	206.8	206.1	205.8	206.5	206.7	3.7		
	2460	2460	3.7	4.4	5.3	5.0	5.4	5.1	5.4	209.7	208.1	205.8	206.5	206.7	5.1		
	2520	2520	3.1	3.5	4.6	4.6	4.8	5.1	5.0	207.3	208.3	205.0	205.3	206.0	5.2		
	2580	2580	3.5	4.0	5.1	5.1	4.9	5.1	5.3	211.6	210.6	207.4	206.6	204.5	4.5		
	2640	2640	3.2	3.9	4.9	5.2	4.8	5.1	5.0	211.4	211.1	209.2	206.9	206.2	2.4		
	2700	2700	3.4	3.8	4.9	4.3	4.6	5.0	5.0	215.5	215.2	213.1	213.1	212.7	-1.5		
	2760	2760	3.4	3.8	5.2	5.3	4.8	5.4	5.0	213.9	214.6	215.7	215.2	212.9	-2.8		
	2820	2820	3.4	4.0	5.1	5.1	4.7	5.1	5.0	211.9	210.9	211.7	214.0	214.1	-2.6		
	2880	2880	3.4	3.9	4.9	5.2	4.7	5.2	4.8	211.9	211.3	213.0	208.7	208.1	2.0		
	2901	2901															
	2932	2932															

SOI | 1st Noise file
 SOI | 2nd Noise file
 IIR Filter: Chirp = 0.27 sec

Digital Observers Log

Client: **Durham University** Line: **AS11.1**
 Area: **Adriatic Sea** Heading (true bearing): **32.8°**
 Field: **.....** Magnetic Deviation: **2.5° east**
 Job: **.....** Date: **13/03/09**

Observer: **Stephen Balfe**
 Near Trace: **.....** Ch: **5**

Streamer Type:	Sevcol	S.P. Interval	18.75 mins	Recording System:	SEAL 408XL	No. of Aux Channels	.....	Source Volume	1 x 150cu in. (true GI mode)
Fat Channel	1	Sensitivity	17.4uV/bar	Recording Format:	96	Distance from stem to quins	.....	Source Tow Depth	2.0mtrs
Near Channel	96	Cable Depth	5m	No. of Channels	3Hz (analogue only)	Source to Near Trace	.....	1 x GI/Guns	.....
No. of Groups	12.5mtrs	Sample Rate	0.25m/s	High Cut Filter	1.6kHz (80% Nyquist)	Source Pressure	.....	130 bar	.....
Group Interval	.....	Record Length	5s	.....	.....	.....	.....	.....	.....

UTC Time:	Fix	File	Bird Depths									Heading (magnetic bearing)									Feather Angle	Comments
			1	2	3	4	5	6	7	8	9	2	3	5	8	9						
19.17	101	100	2.8	3.1	3.0	3.0	3.1	3.6	3.2	3.4	2.9	22.5	23.4	25.8	33.8	41.3	-1.7	1st Noise file Avg. RMS noise = 4.8 µBar 2nd Noise file Avg. RMS noise = 4.9 µBar SOL				
	160	160	2.8	3.0	3.0	3.1	3.7	2.5	3.4	2.9	29.5	28.8	27.9	33.8	22.4	-1.7						
	220	220	2.9	3.1	3.1	3.1	3.5	3.1	3.6	3.2	28.7	28.9	29.1	27.6	28.2	2.0						
	280	280	2.8	3.1	3.0	3.3	3.0	3.4	3.4	2.9	28.5	28.7	29.0	28.7	29.4	1.4						
	340	340	2.9	3.1	2.9	3.1	3.7	3.1	3.7	2.8	30.5	30.2	29.5	28.1	28.2	1.5						
	400	400	2.9	3.1	3.1	3.1	3.5	3.0	3.6	3.1	30.9	30.5	29.4	27.9	28.5	1.5						
	460	460	2.9	3.1	3.0	3.0	3.5	3.1	3.5	3.2	33.3	32.9	31.9	29.7	29.5	-0.4						
	520	520	2.8	3.0	3.1	3.2	3.1	3.1	3.1	2.9	32.3	32.7	32.1	31.3	31.3	-1.4						
	580	580	2.8	3.1	3.1	3.1	3.7	2.8	3.6	3.3	34.1	33.5	31.6	29.3	31.6	-0.8						
	640	640	2.9	3.1	2.9	3.0	3.6	3.2	3.5	3.1	34.5	34.2	33.0	30.3	29.6	-1.1						
	700	700	2.9	3.1	2.9	3.0	3.7	3.1	3.1	3.4	29.0	32.7	35.0	33.8	34.2	-3.5						
	760	760	2.9	3.1	2.9	3.1	3.0	3.6	3.2	3.2	31.2	33.3	32.3	30.7	30.6	-1.1						
	820	820	2.9	3.1	2.9	3.1	3.7	3.1	3.6	3.2	31.2	33.3	32.3	30.7	30.6	-1.2						
	880	880	2.8	3.0	3.2	3.3	3.6	2.8	3.4	2.9	30.3	32.3	32.7	31.1	30.8	-1.2						
	940	940	2.8	3.0	3.0	3.1	3.7	2.9	3.6	3.1	31.8	31.6	31.0	31.1	32.7	-1.2						
	1000	1000	2.8	3.0	3.2	3.3	3.6	2.9	3.6	3.1	31.8	31.6	31.0	31.1	32.7	-1.2						
	1060	1060	2.9	3.0	3.2	3.1	3.6	3.0	3.7	3.2	31.8	32.1	32.2	31.3	31.4	-1.4						
	1120	1120	2.9	3.1	2.8	2.9	3.5	3.0	3.8	3.3	39.4	39.6	38.6	37.1	34.5	-6.9						
	1180	1180	2.9	3.1	2.8	2.9	3.6	3.0	3.5	3.3	38.1	39.3	39.1	37.7	36.2	-7.5						
	1240	1240	2.9	3.0	2.9	3.0	3.7	2.9	3.5	3.0	38.1	38.4	38.4	38.7	38.8	-8.2						
	1300	1300	2.9	3.0	3.0	3.1	3.5	3.3	3.6	3.0	35.2	36.8	37.4	38.2	39.2	-7.6						
	1360	1360	2.9	3.1	3.1	3.0	2.7	2.8	3.2	3.1	35.9	36.1	35.7	34.6	36.1	-5.1						
	1420	1420	2.8	3.0	2.9	2.9	3.0	2.8	3.2	3.0	32.4	33.1	33.5	34.4	35.7	-4.0						
22:52	1487	1487																EOL				
	1488	1488																1st Noise file Avg. RMS noise = 2.9 µBar				
	1489	1489																2nd Noise file Avg. RMS noise = 2.9 µBar				
																		update run. Offset = sec				

Digital Observers Log

Client: **Durham University** Line: **AS12.1**
 Area: **Adriatic Sea** Heading (true bearing): **211.0°**
 Field: **.....** Magnetic Deviation: **2.5° east**
 Job: **.....** Date: **13/03/09**

Observer: **Mark Whittaker**
 Near Trace: **.....** Ch: **5**

Streamet Type:	Sercel	S/P Interval	25.0 mtrs	Recording System:	SEAL 408XL	No. of Aux Channels	
Far Channel	1	Sensitivity	17.4uV/bar	Recording Format:	Serd 8058 rev 1	Distance from stern to guns	
Near Channel	96	Cable Depth	3m	No. of Channels	96	Source to Near Trace	
No. of Groups	96	Sample Rate	0.25ms	Low Cut Filter	3Hz (analogue only)	Source Type	
Group Interval	12.5mtrs	Record Length	5s	High Cut Filter	1.6kHz (80% Nyquist)	Source Pressure	

UTC Time:	Fix	File	Bird Depths									Heading (magnetic bearing)									Feather Angle	Comments
			1	2	3	4	5	6	7	8	9	2	3	5	8	9						
23:46		100	2.9	3.2	3.1	3.1	2.8	3.1	2.5	3.0	3.1	2.5	3.0	3.1	2.064	2.057	2.006	185.2	142.1	22.0	1st Noise file Avg. RMS noise = 4.74 μ Bar 2nd Noise file Avg. RMS noise = 4.60 μ Bar SOL	
		101	2.0	3.1	2.9	2.9	3.1	3.1	3.0	3.0	2.5	3.0	3.0	2.086	2.094	2.084	204.6	205.8	2.0			
		140	2.9	3.0	3.0	3.2	3.0	3.0	2.5	3.1	3.0	3.1	3.0	2.096	2.101	2.094	208.7	208.6	-0.5			
		180	2.9	3.0	3.1	3.1	3.1	3.1	2.4	3.1	2.4	3.0	3.1	2.082	2.090	2.097	209.9	209.7	-1.1			
		220	2.9	3.0	3.1	3.1	2.9	3.1	2.3	2.9	2.3	2.9	2.9	2.064	2.079	2.090	209.3	209.9	-0.6			
		260	2.9	3.1	3.0	3.1	3.1	3.1	2.4	3.1	2.3	2.9	3.0	2.067	2.073	2.081	208.6	209.2	0.1			
		300	2.9	3.1	3.1	3.1	3.0	3.0	2.3	3.1	2.3	2.9	3.0	2.061	2.066	2.074	207.9	208.2	0.9			
		340	2.6	2.9	3.0	3.1	3.0	3.1	2.3	3.0	2.3	2.9	3.0	2.046	2.059	2.068	206.7	207.8	1.7			
		380	2.9	3.1	3.1	3.0	3.0	3.0	2.3	3.0	2.3	2.9	3.0	2.048	2.048	2.054	206.2	207.0	2.5			
		420	2.8	3.1	3.0	3.0	2.9	3.0	2.3	3.0	2.3	2.9	3.0	2.041	2.048	2.054	206.2	207.0	2.5			
		460	2.8	3.1	3.1	3.1	3.1	3.0	2.4	3.0	2.4	2.9	3.0	2.031	2.031	2.037	204.9	206.2	3.8			
		500	2.8	2.9	3.1	3.1	3.1	2.9	2.4	3.1	2.4	2.9	3.0	2.019	2.032	2.032	203.6	204.6	4.9			
		540	2.6	2.9	2.9	2.9	2.9	2.9	2.3	3.0	2.3	2.9	3.0	2.017	2.019	2.021	202.4	203.0	6.1			
		580	2.8	3.0	2.9	3.0	3.0	3.1	2.3	3.0	2.3	2.9	3.0	2.017	2.019	2.021	202.4	203.0	6.1			
		620	3.1	3.3	3.3	3.3	3.0	3.1	2.4	2.9	2.4	2.9	3.0	2.059	2.045	2.024	199.6	207.4	5.5			
		660	2.9	3.1	3.1	3.1	3.3	3.0	2.4	3.0	2.4	2.9	3.0	2.063	2.060	2.038	201.2	207.4	4.4			
		700	2.8	3.0	3.1	3.1	3.1	3.2	2.7	3.0	2.7	3.1	3.3	2.069	2.075	2.066	204.3	204.6	3.1			
		740	2.8	3.0	2.9	2.9	2.9	2.9	2.4	2.8	2.4	3.1	2.8	2.063	2.056	2.060	203.8	205.8	2.6			
		780	2.9	3.0	3.0	3.2	3.1	2.9	2.8	3.0	2.8	3.0	3.0	2.081	2.083	2.083	203.0	203.6	3.3			
		820	3.1	3.3	3.3	3.2	3.1	3.0	2.6	2.9	2.6	2.9	2.9	2.077	2.060	2.067	207.4	205.2	1.9			
		860	2.9	3.1	3.2	3.1	3.1	3.0	3.3	3.3	3.3	3.3	3.2	2.121	2.123	2.106	204.7	204.4	1.3			
		900	3.2	3.2	3.3	3.3	3.1	2.9	2.9	3.0	2.9	3.0	3.1	2.184	2.138	2.097	210.0	208.7	-1.9			
		940	2.9	3.1	2.9	2.8	3.0	2.9	2.8	3.0	2.8	3.0	3.2	2.177	2.177	2.168	210.1	205.7	-3.3			
		980	2.8	3.0	3.0	3.1	3.1	3.1	2.6	2.8	2.6	2.8	2.8	2.172	2.172	2.173	216.8	215.9	-8.2			
		1020	2.9	3.1	3.1	2.9	3.1	2.7	2.2	2.9	2.2	2.9	3.2	2.188	2.176	2.177	216.1	216.6	-8.3			
		1060	2.8	3.0	3.0	3.1	3.1	3.0	2.3	3.0	2.3	3.0	3.1	2.184	2.185	2.179	217.2	217.9	-9.1			
		1100	2.8	3.0	3.0	3.1	3.2	2.9	2.5	3.0	2.5	3.0	3.1	2.160	2.178	2.175	216.5	218.5	-9.2			
		1140	2.8	3.0	3.0	3.1	3.0	3.0	2.7	3.0	2.7	3.0	3.0	2.156	2.163	2.167	216.6	218.1	-8.3			
		1180	2.9	3.0	3.0	3.0	3.0	3.0	2.8	3.3	2.8	3.3	3.0	2.131	2.139	2.151	216.1	217.4	-7.2			
		1220	2.9	3.1	3.1	3.1	3.1	2.9	2.5	3.0	2.5	2.9	3.2	2.146	2.130	2.138	214.8	215.5	-6.0			
		1260	2.9	3.0	3.1	3.1	2.9	2.9	2.9	3.1	2.9	3.1	3.0	2.133	2.136	2.132	213.7	214.4	-4.9			
		1300	2.8	3.1	3.0	2.9	2.8	2.8	2.7	3.0	2.7	3.0	3.0	2.123	2.141	2.143	212.9	213.2	-5.3			
		1340	2.9	3.1	2.8	3.1	3.0	3.0	2.8	3.0	2.7	3.0	3.0	2.144	2.144	2.146	213.4	213.5	-5.3			
		1380	2.8	2.9	3.3	3.1	3.1	3.1	2.5	3.1	2.5	3.1	2.9	2.156	2.143	2.138	212.9	213.8	-5.1			
		1401	2.9	3.0	2.9	2.8	3.0	3.2	2.8	3.1	2.8	3.1	3.2	2.138	2.138	2.144	213.4	213.5	-5.2			
		1402																			EOL	
		1403																				1st Noise file Avg. RMS noise = 4.04 μ Bar 2nd Noise file Avg. RMS noise = 4.21 μ Bar Inpdate run. Offset = 0.101704 sec

Digital Observers Log

Client: Durham University Line: **AS13.1**
 Adriaic Sea Heading (true bearing): **240°**
 Field: Magnetic Deviation: **2.5° east**
 Job: Date: **14/03/09**

Observer: Mark Whitaker
 Near Trace: Ch 5

Streamet Type:	Sercel	S/P Interval	25.0 mtrs	Recording System:	SEAL 408XL	No. of Aux Channels		Source Volume	2 x 90cu in. (harmonic mode)
Far Channel	96	Sensitivity	17.4uV/bar	Recording Format:	Serd 8058 rev 1	Distance from stern to quirs	23 mtrs	Source Tow Depth	3.75mtrs
Near Channel	1	Cable Depth	5m	No. of Channels	96	Source to Near trace	35 mtrs		
No. of Groups	96	Sample Rate	0.25ms	Low Cut Filter	3Hz (harmonic only)	Source Type	2 x GI/Quirs		
Group Interval	12.5mtrs	Record Length	5s	High Cut Filter	1.6kHz (80% Nyquist)	Source Pressure	130 bar		

UTC Time:	Fix	File	Bird Depths									Heading (magnetic bearing)					Feather Angle	Comments			
			1	2	3	4	5	6	7	8	9	2	3	5	8	9					
3.48		99	100	2.8	2.8	3.1	3.0	3.1	3.1	3.0	3.0	3.0	3.2	3.1	45.4	47.0	52.4	61.1	63.8	-30.2	1st Noise file Avg. RMS noise = 4.56 µBar 2nd Noise file Avg. RMS noise = 4.23 µBar
		101	101	2.9	3.0	3.1	3.1	3.0	3.0	3.0	3.0	3.2	3.1	28.4	30.3	35.8	47.5	53.7	-20.3	SOL gun pressure reset at start of line	
		140	140	2.9	3.1	2.9	3.1	3.0	3.0	3.0	2.9	3.0	3.0	28.7	28.1	28.8	30.3	34.9	-9.0		
		180	180	2.8	3.0	3.0	3.1	2.8	2.9	3.0	3.0	3.2	3.0	25.7	27.1	27.1	26.9	27.9	-5.6		
		220	220	3.1	3.1	3.0	3.1	3.3	3.1	2.8	2.8	3.3	2.9	26.8	27.4	26.4	26.2	26.8	-5.0		
		260	260	3.1	3.1	3.0	3.1	3.0	3.0	3.0	2.6	3.0	2.9	28.3	28.0	27.2	26.1	25.3	-5.0		
		300	300	2.8	2.9	3.2	3.2	3.0	3.0	3.0	2.6	3.0	3.0	27.6	28.8	28.2	26.9	26.5	-5.8		
		340	340	3.1	3.2	3.0	3.2	3.1	3.1	3.0	2.6	3.1	3.2	29.4	29.4	28.3	27.0	27.1	-6.2		
		380	380	2.9	3.0	3.1	3.1	3.0	3.0	3.2	3.1	3.0	3.1	27.1	27.9	28.3	28.1	28.7	-6.7		
		420	420	2.9	3.0	2.9	2.9	2.8	2.8	3.0	3.0	3.1	3.0	27.1	27.4	27.7	28.0	28.9	-6.5		
		460	460	2.9	3.1	3.2	3.1	3.1	3.1	3.2	3.1	2.9	3.0	26.2	26.5	27.1	26.7	28.3	-4.6		
		500	500	2.9	3.0	3.2	3.2	3.1	3.1	3.2	3.0	3.0	3.0	23.8	23.7	25.5	26.5	27.8	-4.6		
		540	540	2.9	3.1	3.3	3.2	3.1	3.1	3.2	3.0	3.0	3.0	22.8	22.2	23.4	24.9	26.4	-3.0		
		580	580	3.1	3.1	2.9	2.9	2.9	3.3	3.0	3.0	3.0	2.9	22.1	22.2	23.4	24.9	26.4	-1.9		
		620	620	3.1	3.1	3.2	3.2	3.3	3.2	3.3	3.3	3.1	3.0	22.8	22.9	22.8	23.6	24.1	-1.9		
		660	660	2.8	2.8	2.9	3.1	3.1	3.1	3.1	2.5	3.0	3.0	22.5	23.0	21.7	22.3	22.9	-0.9		
		700	700	2.6	2.7	2.6	3.0	3.0	3.0	3.3	3.3	3.3	2.9	31.8	32.9	32.5	32.4	27.2	-2.0		
		740	740	3.2	3.4	3.5	3.0	3.0	3.0	2.7	3.1	2.9	3.1	37.4	35.8	33.5	28.6	25.3	-8.6		
		780	780	2.6	2.7	3.6	3.8	3.3	3.3	3.2	2.8	3.1	2.8	37.3	38.2	35.6	33.7	32.4	-12.7		
		820	820	2.8	3.0	2.6	3.0	3.0	3.0	3.0	2.5	3.1	3.0	38.8	38.8	38.0	35.4	34.6	-14.4		
		860	860	2.9	3.0	3.2	3.5	3.1	3.1	2.5	2.4	2.9	3.0	39.4	39.8	39.8	39.8	37.7	-17.0	vessel passing, slightly in noise	
		900	900	2.9	3.1	2.7	2.9	3.1	3.0	2.4	2.4	3.0	2.9	38.1	38.9	39.5	40.2	39.9	-17.4	vessel passed	
		940	940	2.8	2.8	3.1	3.1	2.7	2.8	2.7	2.8	2.9	3.0	38.2	39.1	39.6	39.4	39.6	-17.1		
		980	980	2.9	3.1	3.1	2.9	2.9	3.3	2.4	2.4	3.1	3.0	36.7	36.7	38.3	39.7	39.8	-16.6		
		1020	1020	2.8	3.0	2.9	3.0	3.0	3.1	2.2	2.2	3.1	3.0	34.6	36.0	37.0	38.2	38.8	-15.5		
		1060	1060	2.8	3.0	2.4	2.3	2.8	3.1	2.8	2.8	3.2	3.0	35.1	35.2	37.0	36.2	36.6	-14.4		
		1100	1100	2.8	3.1	2.9	2.8	3.0	2.8	2.4	2.4	3.0	2.8	33.1	34.2	35.4	36.9	35.9	-13.9		
		1140	1140	2.9	3.2	3.1	3.0	3.1	2.5	3.0	3.0	2.9	3.2	32.6	33.9	34.2	35.4	35.4	-13.0		
		1180	1180	2.9	3.1	2.8	2.8	3.0	3.4	2.3	2.3	3.1	3.0	33.0	33.1	33.0	34.9	35.9	-12.6		
		1220	1220	2.9	3.1	3.2	3.2	3.1	2.8	2.3	2.3	3.0	2.7	33.4	32.3	32.0	33.0	33.8	-11.2		
		1260	1260	2.9	3.1	3.1	3.4	3.0	2.8	2.2	2.2	2.9	3.1	32.1	32.4	31.7	31.7	33.1	-10.5		
		1300	1300	2.8	2.9	2.6	2.4	2.7	3.1	2.9	2.9	3.1	2.9	29.2	31.4	32.7	32.8	32.3	-10.6		
		1336	1336	2.9	3.2	3.1	3.1	2.9	2.9	2.1	2.1	3.0	2.9	28.4	29.4	30.2	31.2	31.8	-9.2	EOL	
		1337	1337																20.1	1st Noise file Avg. RMS noise = 7.73 µBar	
		1338	1338																20.1	2nd Noise file Avg. RMS noise = 8.17 µBar	
																			20.1	inppdate run. Offset = sec	
																			20.1		
																			20.1		
																			20.1		

Digital Observers Log

Client: **Durham University** Line: **AS14.1**
 Area: **Adriatic Sea** Heading (true bearing): **289.0°**
 Field: **.....** Magnetic Deviation: **2.5° east**
 Job: **.....** Date: **14/03/09**

Observer: **Mark Whitaker / Stephen Balfe**
 Near Trace: **.....** Ch: **5**

Stream Type:	Sevcol	S.P. Interval	18.75 mins	Recording System:	SEAL 408XL	No. of Aux Channels	
Fat Channel	96	Sensitivity	17.4uV/bar	Recording Format:	Sead 8038 rev 1	Distance from stem to quins	23 mins
Near Channel	1	Cable Depth	5m	No. of channels	96	Source to Near trace	35 mins
No. of Groups	96	Sample Rate	0.25ms	Low Cut Filter	3Hz (analogue only)	Source Type	2 x GI/Guns
Group Interval	12.5mins	Record Length	5s	High Cut Filter	1.6kHz (80% Nyquist)	Source Pressure	130 bar

UTC Time:	Fix	File	Bird Depths									Heading (magnetic bearing)			Feather Angle	Comments			
			1	2	3	4	5	6	7	8	9	2	3	5			8	9	
		99																	
	8:04	100	2.9	3.0	3.6	3.5	3.1	3.2	3.1	2.1	3.3	3.6	285.5	283.4	282.8	280.8	306.1	-1.3	1st Noise file Avg. RMS noise = 4.16 µBar
		101	2.8	3.0	2.7	3.2	3.0	3.3	2.8	2.8	3.1	2.9	286.4	284.9	284.4	284.1	302.8	-2.3	2nd Noise file Avg. RMS noise = 4.23 µBar
		140	2.9	2.8	3.3	3.3	3.1	3.3	3.0	3.1	3.0	3.6	285.1	284.5	285.6	284.1	300.7	-2.0	
		180	2.5	3.2	2.8	3.0	3.4	3.0	2.8	2.9	2.9	3.0	286.0	285.3	285.4	283.4	300.0	-1.7	
		220	2.9	3.2	2.4	2.8	3.1	3.0	3.0	3.3	3.1	3.0	284.4	284.2	285.0	283.3	300.2	-1.4	
		260	2.9	3.1	2.4	2.8	3.1	3.0	3.0	3.0	3.0	2.9	283.4	283.6	285.0	283.3	300.6	-1.4	
		300	2.8	3.0	3.4	3.4	3.4	3.1	3.1	2.8	2.9	3.3	284.9	284.7	284.3	283.1	300.8	-1.4	
		340	2.8	3.0	2.5	2.5	3.1	3.0	3.0	3.1	3.0	2.9	282.9	282.9	283.5	282.7	301.1	-1.0	
		380	2.8	3.1	3.1	3.1	2.8	3.0	3.0	3.1	3.0	3.1	281.4	281.3	283.0	282.7	301.8	-0.6	
		420	2.8	3.1	3.2	3.5	3.7	3.6	3.1	3.0	3.1	3.1	281.4	281.3	283.0	282.7	301.8	-0.6	
		460	2.9	3.1	3.0	2.9	2.7	2.6	2.8	3.1	3.1	3.1	281.5	281.8	281.5	281.2	302.2	0.1	
		500	2.6	3.0	3.1	3.1	3.0	3.2	3.3	3.2	3.2	3.0	281.5	281.7	282.0	280.4	303.0	0.1	
		540	2.8	3.0	3.0	2.9	3.1	3.0	2.8	3.1	3.1	3.2	280.2	279.8	280.5	280.9	303.3	0.5	
		580	2.6	2.9	3.1	2.8	2.9	2.9	2.8	2.9	3.0	3.0	280.5	280.5	281.3	279.5	304.5	0.4	
		620	2.9	3.2	3.3	3.2	2.6	3.0	3.2	3.0	3.2	3.1	280.1	280.0	281.3	279.5	304.7	0.7	
		660	2.6	3.0	3.1	3.2	2.8	3.1	2.8	2.9	3.1	3.1	280.1	280.0	280.2	279.5	304.5	0.4	
		700	2.8	2.8	3.1	3.1	2.8	2.8	2.8	2.8	2.9	3.1	278.8	279.0	280.5	278.7	305.2	1.3	
		740	2.9	3.0	3.3	2.8	2.7	3.1	3.0	3.0	3.0	3.0	279.8	280.0	279.8	278.2	306.5	0.9	
		780	2.8	2.9	3.0	3.1	3.1	3.2	3.1	2.4	2.8	3.1	282.7	282.2	276.7	277.2	305.5	1.8	vessel passing
		820	2.8	3.0	3.3	3.1	3.0	3.0	3.0	3.0	3.1	3.0	280.4	280.4	281.4	281.9	301.3	0.3	vessel passed
		860	3.1	3.1	2.8	2.7	3.1	3.3	3.0	3.0	2.9	3.0	279.8	277.3	277.8	281.0	302.4	0.4	
		900	2.6	2.8	3.2	3.2	3.1	2.8	1.7	2.3	3.1	3.1	282.9	283.3	281.2	275.4	309.2	1.6	
		940	2.8	3.0	3.0	2.9	2.9	2.9	2.2	3.0	3.1	3.1	290.4	288.5	284.7	276.9	307.8	-1.5	
		980	2.8	3.1	3.1	3.1	3.1	3.0	1.9	2.9	3.3	3.0	290.7	291.4	291.5	290.5	302.2	-4.9	
		1020	3.1	3.1	3.0	3.0	3.0	3.1	2.4	2.9	3.0	3.1	291.2	291.4	290.8	290.5	293.6	-4.2	
		1060	2.8	3.0	3.1	3.1	3.0	2.9	2.6	3.0	3.1	3.1	289.6	289.8	290.0	289.2	294.4	-4.4	
		1100	2.6	2.8	2.5	2.9	3.1	3.2	2.4	2.9	3.2	3.2	288.7	288.6	289.9	290.4	294.2	-4.2	
		1140	2.8	3.1	3.0	3.0	2.9	3.1	2.6	3.2	3.2	3.0	289.1	288.0	289.1	288.8	296.8	-4.2	
		1180	2.8	3.1	2.8	3.1	2.9	3.3	2.7	3.3	3.0	2.8	288.0	288.5	288.7	289.0	295.7	-3.9	
		1220	2.9	3.1	2.7	3.1	3.1	3.2	2.6	3.3	2.8	2.8	288.3	288.5	288.3	287.8	296.3	-3.6	
		1260	2.8	3.0	3.0	2.9	3.2	2.8	2.8	3.4	3.2	3.2	290.8	289.4	287.5	286.7	297.4	-3.4	
	11:33	1316																	
		1317																	
		1318																	

EOL
 1st Noise file Avg. RMS noise = 3.0 µBar
 2nd Noise file Avg. RMS noise = 3.4 µBar
 nupdate run. Offset = 0.024 sec

Digital Observers Log

Client: **Durham University** Line: **AS15.1** Stephen Balfe
 Area: **Adriatic Sea** Heading (true bearing): **Various 110 - 112** Ch: 5
 Field: **.....** Magnetic Deviation: **2.5° east**
 Job: **.....** Date: **14/03/09**

Streamer Type:	Sencil	S.P. Interval:	18.75	Recording System:	SEAL 408XL	No. of Aux Channels:	2 x 90cm In. (harmonic mode)
Fat Channel:	96	Sensitivity:	17.4uV/dB	Recording Format:	SEID 8058 rev.1	Distance from stem to quirs:	Source Tow Depth
Near Channel:	1	Cable Depth:	5m	No. of Channels:	96	Source to Near Trace:	3.75mrs
No. of Groups:	96	Sample Rate:	0.25mrs	Low Cut Filter:	3Hz (analogue only)	Source Type:	
Group Interval:	12.5mrs	Record Length:	5s	High Cut Filter:	1.6KHz (80% Nyquist)	Source Pressure:	

UTC Time:	Fix	File	Bird Depths									Heading (magnetic bearing)									Comments
			1	2	3	4	5	6	7	8	9	2	3	5	8	9					
12:27	101	101	3.8	4.4	5.1	4.7	4.8	5.3	4.8	5.1	5.0	91.8	94.0	96.0	107.6	113.0	1st Noise file Avg. RMS noise = 4.5 µBar 2nd Noise file Avg. RMS noise = 4.1 µBar				
	160	160	4.0	4.6	4.9	5.1	5.2	5.3	5.3	5.4	4.8	97.6	98.9	98.8	107.6	127.9	Hull mounted phone on aux. 3 fitted from this line of SOL				
	220	220	4.0	4.6	5.4	5.2	4.9	5.3	4.9	5.3	5.0	98.0	98.0	99.0	98.6	127.7					
	280	280	3.7	4.0	5.0	5.0	4.9	5.1	5.2	5.3	5.0	99.8	100.0	98.9	98.1	129.3					
	340	340	3.5	4.2	4.9	4.9	5.1	5.3	4.8	5.2	5.0	99.3	100.5	99.7	99.1	126.2					
	400	400	4.0	4.5	5.1	5.0	4.9	5.1	5.1	5.3	5.1	99.5	99.5	99.2	99.2	126.9					
	460	460	3.7	4.1	4.8	4.7	5.1	5.3	4.9	5.4	5.1	96.9	98.6	98.7	99.1	126.8					
	520	520	3.5	4.0	4.8	4.7	4.8	5.1	5.1	5.3	5.0	102.1	103.8	103.3	101.6	125.3					
	580	580	3.5	4.0	5.4	5.3	5.2	5.4	4.6	5.2	4.8	105.0	104.5	101.6	102.0	123.5					
	640	640	3.5	4.0	4.8	4.9	4.9	5.3	4.9	5.2	4.8	105.7	107.4	107.7	107.5	119.7					
	700	700	3.8	4.3	5.1	5.2	5.1	5.3	5.0	5.2	4.8	104.9	105.5	106.8	107.2	118.1					
	760	760	3.8	4.5	4.9	5.0	5.0	5.3	4.8	5.2	4.8	104.4	104.5	104.7	106.9	118.3					
	820	820	3.7	4.1	5.1	5.1	5.2	5.3	4.9	5.6	5.1	112.2	110.9	104.6	95.5	125.9					
	880	880	3.2	3.8	4.7	4.5	4.9	5.3	4.8	5.3	4.8	113.4	115.0	114.2	112.3	116.2					
	940	940	3.7	4.2	4.9	4.7	4.8	5.3	4.3	5.2	5.6	108.0	110.8	115.0	115.4	113.2					
	1000	1000	3.7	4.2	4.8	4.7	4.8	5.4	3.8	5.1	5.0	110.2	110.3	110.1	112.7	116.5					
	1060	1060	3.8	4.2	5.2	5.0	5.0	5.3	4.2	5.2	5.2	108.3	110.1	111.3	110.6	116.2					
	1120	1120	3.7	4.2	5.2	5.2	5.0	5.3	4.5	5.3	4.9	109.8	109.6	110.0	110.0	117.4					
	1180	1180	3.5	4.0	4.9	4.4	4.8	5.0	4.4	5.1	5.1	105.2	107.2	108.1	110.2	116.8	Shipping noise observed. Noise levels up to 25uB; EOL				
	1229	1229															1st Noise file Avg. RMS noise = 5.3 µBar				
	1230	1230															2nd Noise file Avg. RMS noise = 5.7 µBar				
	1231	1231															nupdate run. Offset = 0.12 sec				

Digital Observers Log

Client: Durham University Line: AS16.1
 Area: Adriatic Sea Heading (true bearing): 314.9°
 Field: Magnetic Deviation: 2.5° east
 Job: Date: 14/03/09

Observer: Stephen Balfe
 Near Trace: Ch: 5

Streamet Type:	Sensel	S/P Interval	50 mtrs	Recording System:	SEAL 408XL	No. of Aux Channels	
Fat Channel	96	Sensitivity	17.4uV/bar	Recording Format:	SEAD 8098 Rev 1	Distance from stem to guns	23 mtrs
Near Channel	1	Cable Depth	5m	No. of Channels	96	Source to Near Trace	35 mtrs
No. of Groups	96	Sample Rate	0.25ms	Low Cut Filter	3Hz (analogue only)	Source Type	2 x GI/Guns
Group Interval	12.5mtrs	Record Length	5s	High Cut Filter	1.6kHz (80% Nyquist)	Source Pressure	130 bar

UTC Time:	Fix	File	Bird Depths									Heading (magnetic bearing)	Feather Angle	Comments					
			1	2	3	4	5	6	7	8	9								
16:11		99													1st Noise file Avg. RMS noise = 6.8 µBar 2nd Noise file Avg. RMS noise = 6.9 µBar Miss fire - Streamer not yet straight! FGS - Lots of shipping noise from astern				
		100																	
		101	3.5	4.2	5.3	5.2	5.1	5.1	5.1	3.9	5.4	5.0	322.9	324.8	326.4	329.7	335.4	-16.3	
		102	3.5	4.1	4.9	5.1	4.9	5.1	3.8	5.3	5.0	314.8	316.1	317.6	318.2	320.6	320.6	-5.8	
		140	3.4	4.0	4.8	5.0	4.9	5.3	3.5	5.2	5.0	313.1	314.1	315.0	314.0	314.9	314.9	-2.0	
		180	3.4	4.0	5.1	5.0	4.9	5.1	3.4	5.2	4.8	312.5	313.3	314.0	313.6	313.8	313.8	-1.3	
		220	3.4	4.0	5.1	5.2	5.2	5.7	3.9	5.6	5.2	313.2	312.5	312.9	312.7	313.9	313.3	-0.6	
		260	3.5	4.2	5.1	5.2	5.1	5.4	3.7	5.5	4.8	311.4	312.5	313.2	311.7	313.3	313.3	-0.1	
		300	3.5	4.2	5.1	5.0	5.2	5.6	3.9	5.6	5.1	309.4	309.6	310.5	310.9	312.3	312.3	1.5	
		340	3.5	4.0	5.0	5.0	4.9	5.6	3.9	5.5	5.1	309.5	309.0	308.8	310.9	312.3	312.3	1.9	
		380	3.5	4.0	5.1	5.1	5.1	5.6	3.8	5.5	5.1	319.5	319.5	316.3	308.5	307.4	307.4	0.6	
		420	3.4	4.2	5.1	5.0	5.1	5.6	3.8	5.5	4.9	319.5	319.5	320.3	319.8	320.7	320.7	0.6	
		460	3.4	4.0	5.1	5.1	5.1	5.4	3.8	5.4	5.1	320.3	320.4	320.3	319.8	320.7	320.7	-7.8	
18:10		469	3.5	4.0	5.1	5.1	5.1	5.4	3.8	5.4	5.1	320.3	320.4	320.3	319.8	320.7	320.7	-7.8	
		470																	
		471																	

Digital Observers Log

Client: **Durham University** Line: **AS17.1**
 Area: **Adriatic Sea** Heading (true bearing): **212.7°**
 Field: **.....** Magnetic Deviation: **2.5° east**
 Job: **.....** Date: **14/03/09**

Observer: **Stephen Balfe**
 Near Trace: **.....** Ch: **5**

Streamet Type:	Seavel	S.P Interval	18.75 mtrs	Recording System:	SEAL 408XL	No. of Aux Channels		ibest: dboxes + hull mount	Source Volume	2 x 90cu in. (harmonic mode)
Fat Channel	96	Sensitivity	17.4uV/bar	Recording Format:	Seqd 8038 rev 1	Distance from stem to quirs		23 mtrs	Source Tow Depth	3.75mtrs
Near Channel	1	Cable Depth	5m	No. of Channels	96	Source to Near trace		35 mtrs		
No. of Groups	96	Sample Rate	0.25ms	Low Cut Filter	3Hz (analogue only)	Source Type		2 x GI/Guns		
Group Interval	12.5mtrs	Record Length	5s	High Cut Filter	1.6kHz (80% Nyquist)	Source Pressure		130 bar		

UTC Time:	Fix	File	Bird Depths									Heading (magnetic bearing)									Feather Angle	Comments
			1	2	3	4	5	6	7	8	9	2	3	5	8	9						
19:08	101	101	4.2	4.6	4.6	4.5	4.9	5.4	4.5	5.2	4.5	212.7	212.3	208.8	199.8	211.0	3.5	1st Noise file Avg. RMS noise = 4.4 µBar 2nd Noise file Avg. RMS noise = 3.9 µBar SOL				
	140	140	4.0	4.6	5.1	5.0	5.0	5.0	4.8	5.5	5.1	211.5	211.5	211.9	211.5	209.9	-1.0					
	180	180	4.2	4.7	4.9	4.9	5.1	5.6	5.1	5.4	5.0	211.5	211.6	211.8	212.0	211.9	-1.7					
	220	220	4.3	4.9	5.1	5.0	4.9	5.4	5.0	5.5	4.9	211.9	211.9	211.2	210.6	212.3	-1.2					
	260	260	4.4	5.1	5.0	5.0	5.1	5.6	5.1	5.6	5.0	214.4	213.5	212.3	210.8	209.7	-1.2					
	300	300	4.4	5.0	5.0	5.0	5.3	5.6	5.1	5.5	5.0	214.3	214.3	214.4	212.6	212.0	-2.9					
	340	340	4.6	5.1	5.0	5.0	4.9	5.4	4.8	5.4	5.0	215.3	215.2	214.5	213.8	213.0	-3.8					
	380	380	4.4	5.1	5.1	5.1	4.9	5.5	5.1	5.5	5.1	215.6	215.5	215.4	214.3	213.7	-4.4					
	420	420	4.6	5.0	5.0	5.0	5.1	5.6	5.0	5.4	5.1	215.8	215.9	216.2	214.6	214.5	-4.9					
	460	460	4.4	5.1	4.9	4.9	5.1	5.5	5.0	5.4	5.1	216.2	216.9	217.3	215.4	216.2	-6.0					
	500	500	4.2	4.6	4.9	4.9	5.0	5.4	4.9	5.4	5.0	216.5	215.4	215.8	217.7	217.2	-6.6					
	540	540	4.4	4.9	5.1	5.0	5.1	5.6	5.1	5.5	5.1	216.9	215.9	215.5	217.2	217.5	-6.5					
	580	580	4.4	5.1	5.2	5.2	5.1	5.6	5.0	5.7	5.2	215.9	217.2	218.7	214.9	214.9	-5.9					
	640	640	4.4	5.2	5.1	4.9	5.0	5.4	5.1	5.4	5.1	215.3	215.7	215.6	217.0	219.4	-6.8					
	700	700	4.0	4.5	5.0	5.1	5.1	5.6	4.6	5.6	4.8	212.3	212.7	213.7	214.3	215.2	-3.9					
20:52	734	734																EOL				
	735	735																1st Noise file Avg. RMS noise = 4.3 µBar				
	736	736																2nd Noise file Avg. RMS noise = 4.2 µBar Inpdate run. Offset = 0.11 sec				

Line Index

Line Name	Date	Time SOL	Time EOL	First Fix	Last Fix	First File	Last File	Comments
ADRSeis09.1	3/8/09	12:10	13:59	101	376	99	376	
ADRSeis09.2	3/8/09	14:05	15:22	101	473	99	475	Aqision error at EOL
AS01R.1	3/8/09	16:10	20:28	101	1386	99	1388	
AS02.1	3/8/09	21:34	2:38	101	1265	99	1267	
AS03.1	3/9/09	3:24	8:03	101	1399	99	1401	
AS04.1	3/9/09	9:41	11:00	101	777	99	779	
AS01R.2	3/9/09	11:31	15:16	101	1190	99	1192	
AS04.2	3/9/09	16:08	17:28	101	475	99	477	
AS05.1	3/10/09	20:40	21:53	101	742	99	744	
AS05A.1	3/10/09	21:56	1:03	101	420	99	422	
AS05B.1	3/11/09	1:04	2:44	101	730	99	732	
AS06.1	3/11/09	3:34	8:06	101	1809	99	1811	
AS07.1	3/11/09	9:13	11:59	101	1527	99	1529	
AS08.1	3/12/09	21:32	23:01	101	562	99	564	
AS09.1	3/12/09	23:44	8:05	101	2739	99	2741	
AS10.1	3/13/09	9:06	18:26	101	2901	99	2903	
AS11.1	3/13/09	19:17	22:52	101	1487	99	1489	
AS12.1	3/13/09	23:46	3:01	101	1401	99	1403	
AS13.1	3/14/09	3:48	7:16	101	1336	99	1338	
AS14.1	3/14/09	8:04	11:33	101	1316	99	1318	
AS15.1	3/14/09	12:27	15:35	101	1229	99	1231	
AS16.1	3/14/09	16:11	18:10	101	469	99	471	
AS17.1	3/14/09	19:08	20:52	101	734	99	736	

Bird Channels

Sheets 1 - 8	
Bird Number	Closest channel
1	No channel
2	12
3	24
4	36
5	48
6	60
7	72
8	84
9	96

Sheets 9+	
Bird Number	Closest channel
1	No channel
2	1
3	12
4	24
5	36
6	48
7	60
8	72
9	96