

AUK 2014070

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST	DATE EST DEC	NAV FILE NO.	GO PRO VIDEO FILE:
		JD UTC	DATE UTC DEC		
USGS STA	SBNMS SITE	CONSEC. STATION	DAY - NIGHT	GP STILLS FILE:	
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD
				NAV GPS	
VIDEO ON BOTTOM	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
SAMPLE TAKEN	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF BOTTOM	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	

pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			<b>SAMPLE TYPES</b>
			sed grab temp logr
			sand lance ctd

			SEABED DESCRIPTION
att epifauna	<b>herring eggs</b>	skate	
Boltenia tunic.	lobster	Suberites spg	storm ripples y, n
brachiopod	moon snail	squid	crests: sharp rounded
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y, n
juvenile cod	ocean pout	yellow encr. spg	small ripples y, n
cancer crab	Polymastia spg		sand partial veneer on gravel y, n
cod	red encr. spg		gravel pavement y, n
cunner	red hake		
dk yellow spg	sand dollars		<b>sand lance in water column</b> y, n
Didemnum cols	<b>sand lance adults</b>		<b>sand lance in substrate</b> y, n
dogfish	<b>sand lance juvs</b>		<b>sand lance in sed sample</b> y, n
Eucratea loricata	scallops		size: sml med lg
Filograna implexa	sculpin		nos:
finger spg	sea stars		
flounder	shells & fragments		trawl/dredge marks y, n
haddock	silver hake		ambient light y, n

Time: EST UTC

Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						
2						
3						
4						
5						

105686

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED = 20 USGS STATION \_\_\_\_\_

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site \_\_\_\_\_, CONSEC STA \_\_\_\_\_

STA 4246-4278

NOTE:

GO PRO STILL PHOTO  
INTERVAL = 1 sec.

LOCAL TIME (EST) = UTC TIME - 5 HRS

UTC = EST + 5 HRS

ALL LAT/LON converted by reference  
to GPS nav. file

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 146
		JD UTC "	DATE UTC DEC "		
USGS STA 4246	SBNMS SITE 513	CONSEC. STATION 1	DAY-NIGHT	GP STILLS FILE: STA 4246	

VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EST HH MM SS 13 20 06	DPH, m 23	Lat N 42 deg 10.3276 min	Lon W 70 deg 18.2012 min
SAMPLE TAKEN	EST HH MM SS 13 20 36	DPH, m 23	Lat N 42 deg 10.3218 min	Lon W 70 deg 18.1968 min
VIDEO OFF BOTTOM	EST HH MM SS UTC 18 20 36	DPH, m	Lat N 42 deg min	Lon W 70 deg min

STA NO Sample

pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly — *smpl*

			SAMPLE TYPES
			sed grab temp logr
			sand lance <i>ctd</i>

		SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples <i>y</i> n
Boltenia tunic.	lobster	Suberites spg	crests: <i>sharp</i> rounded
brachiopod	moon snail	squid	gvl in ripple troughs <i>y</i> n
bushy bry/hyd	mussels	tunicate, B pilu.	small ripples <i>y</i> n
juvenile cod	ocean pout	yellow encr. spg	sand partial veneer on gravel <i>y</i> n
cancer crab	Polymastia spg		gravel pavement <i>y</i> n
cod	red encr. spg		
cunner	red hake		
dk yellow spg	sand dollars <i>ab</i>		sand lance in water column <i>y</i> n
Didemnum cols	sand lance adults	<i>12/09</i>	sand lance in substrate <i>y</i> n
dogfish	sand lance juvs		sand lance in sed sample <i>y</i> n
Eucratea loricata	scallops		size: sml med lg
Filograna implexa	sculpin		nos:
finger spg	sea stars		
flounder	shells & fragments		trawl/dredge marks <i>y</i> n
haddock	silver hake		ambient light <i>y</i> n

Time: EST UTC  
 Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						16631 16631,
2						16707-16860
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED = *120* USGS STATION 4246

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site *513*, CONSEC STA *1*

Lat/Lon converted from GPS nav file

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 2 147
USGS STA 4247		SBNMS SITE 513	CONSEC. STATION 2	DAY-NIGHT	GP STILLS FILE: STA4247

VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EST HH MM SS 13 25 26	DPH, m (23)	Lat N 42 deg 10.2396 min	Lon W 70 deg 18.1183 min
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SAMPLE TAKEN	EST HH MM SS 13 25 56	DPH, m 23	Lat N 42 deg 10.2352 min	Lon W 70 deg 18.1128 min
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VIDEO OFF BOTTOM	EST HH MM SS (18 25 56 UTC)	DPH, m	Lat N 42 deg min	Lon W 70 deg min
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pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			<b>SAMPLE TYPES</b>
			sed grab temp logr
			sand lance ctd

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples (y) n
	brachiopod	moon snail	squid	crests: sharp rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y, (n)
	juvenile cod	ocean pout	yellow encr. spg	small ripples y, (n)
	cancer crab	Polymastia spg		sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		
	dk yellow spg	✓ sand dollars ab		sand lance in water column y, (n)
	Didemnum cols	sand lance adults	(in/on)	sand lance in substrate (y) n
	dogfish	sand lance juvs		sand lance in sed sample (y) n
	Eucratea loricata	scallops		size: (sml) med lg
	Filograna implexa	sculpin		nos: 1/2
	finger spg	sea stars		
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST UTC  
 Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						26965,
2						27002 - 27112
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED = USGS STATION 4247

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 148 3
USGS STA 4248		SBNMS SITE 513	CONSEC. STATION 3	DAY-NIGHT	GP STILLS FILE: STA 4248
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EST HH MM SS 133730	DPH, m -	Lat N 42 deg 10.0903 min	Lon W 70 deg 17.9885 min	
SAMPLE TAKEN	EST HH MM SS 133800	DPH, m 23	Lat N 42 deg 10.0871 min	Lon W 70 deg 17.9896 min	
VIDEO OFF BOTTOM	EST HH-MM-SS 183800 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min	

pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			SAMPLE TYPES
			sed grab temp logr
			sand lance ctd

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples (y) n
	brachiopod	moon snail	squid	crests: (sharp) rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y, (n)
	juvenile cod	ocean pout	yellow encr. spg	small ripples y, (n)
	cancer crab	Polymastia spg		sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		
	dk yellow spg	✓ sand dollars at		sand lance in water column y, (n)
	Didemnum cols	sand lance adults	(in/on)	sand lance in substrate (y) n
	dogfish	sand lance juvs	(dimpled sand in stills)	sand lance in sed sample y, (n)
	Eucratea loricata	scallops		size: sml med lg
	Filograna implexa	sculpin		nos:
	finger spg	sea stars		
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST UTC  
 Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						37147, 37148
2						37194 - 37287
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4248

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 513, CONSEC STA 3

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 4,49	
		JD UTC	DATE UTC DEC			
USGS STA 4249	SBNMS SITE 513	CONSEC. STATION 4	(DAY-NIGHT)		GP STILLS FILE: STA 4249	
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS	
VIDEO ON BOTTOM	EST HH MM SS 1349 36	DPH, m	Lat N 42 deg 10.4460 min	Lon W 70 deg 18.4611 min		
SAMPLE TAKEN	EST HH MM SS 13 50 06	DPH, m (23)	Lat N 42 deg 10.4396 min	Lon W 70 deg 18.4537 min		
VIDEO OFF BOTTOM	EST HH MM SS 18 50 06 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min		
pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —						
				SAMPLE TYPES		
				sed grab temp logr		
				sand lance ctd		
att epifauna		herring eggs	skate	SEABED DESCRIPTION		
Boltenia tunic.	lobster	Suberites spg	storm ripples	y. n		
brachiopod	moon snail	squid	crests: (sharp)	rounded		
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs	y. n		
juvenile cod	ocean pout	yellow encr. spg	small ripples	y. n		
cancer crab	Polymastia spg		sand partial veneer on gravel	y. n		
cod	red encr. spg		gravel pavement	y. n		
cunner	red hake					
dk yellow spg	✓ sand dollars		sand lance in water column	y. n		
Didemnum cols	sand lance adults	1 n (on)	sand lance in substrate	y. n		
dogfish	sand lance juvs		sand lance in sed sample	y. n		
Eucratea loricata	scallops		size: sml med lg			
Filograna implexa	sculpin		nos:			
finger spg	sea stars					
flounder	shells & fragments		trawl/dredge marks	y. n		
haddock	silver hake		ambient light	y. n		
Time: EST		UTC				
Bottom temp deg C		; Surface (-1 m) temp deg C		; Difference deg C ; (Onset Tidbit v2)		
DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =						
No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						47332,
2						47366 - 47458
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 5 150	
USGS STA 4250		SBNMS SITE 313	CONSEC. STATION 5	DAY-NIGHT	GP STILLS FILE: STA 4250	
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS	
VIDEO ON BOTTOM	EST HH MM SS 13 56 08	DPH, m	Lat N 42 deg 10.3471 min	Lon W 70 deg 18.3601 min		
SAMPLE TAKEN	EST HH MM SS 135638	DPH, m 23	Lat N 42 deg 10.3387 min	Lon W 70 deg 18.3513 min		
VIDEO OFF BOTTOM	EST HH MM SS 185638 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min		
pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —						
				SAMPLE TYPES		
				sed grab temp logr		
				sand lance ctd		
att epifauna		herring eggs	skate	SEABED DESCRIPTION		
Boltenia tunic.		lobster	Suberites spg	storm ripples	y. n	
brachiopod		moon snail	squid	crests: sharp	rounded	
bushy bry/hyd		mussels	tunicate, B pilu.	gvl in ripple troughs	y. n	
juvenile cod		ocean pout	yellow encr. spg	small ripples	y. n	
cancer crab		Polymastia spg		sand partial veneer on gravel	y. n	
cod		red encr. spg		gravel pavement	y. n	
cunner		red hake				
dk yellow spg		✓ sand dollars		sand lance in water column	y. n	
Didemnum cols		sand lance adults	(in/on)	sand lance in substrate	y. n	
dogfish		sand lance juvs		sand lance in sed sample	y. n	
Eucratea loricata		scallops		size: sm med lg	lg	
Filograna implexa		sculpin		nos: 1/2	1	
finger spg		sea stars				
flounder		shells & fragments		trawl/dredge marks	y. n	
haddock		silver hake		ambient light	y. n	
Time: EST		UTC				
Bottom temp deg C		; Surface (-1 m) temp deg C		; Difference deg C ; (Onset TidbiT v2) 1 sec		
DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ 1 sec interval;				No. of photos =		
No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						57512,
2						57545-57629
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4250

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 313, CONSEC STA 5

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 6151
		JD UTC "	DATE UTC DEC "		
USGS STA 4251	SBNMS SITE 513	CONSEC. STATION 6	DAY-NIGHT		GP STILLS FILE: STA 4251
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EST HH MM SS 140600	DPH, m	Lat N 42 deg 10.2860 min	Lon W 70 deg 18.3596 min	
SAMPLE TAKEN	EST HH MM SS 140630	DPH, m 24	Lat N 42 deg 10.2816 min	Lon W 70 deg 18.3547 min	
VIDEO OFF BOTTOM	EST HH MM SS 190630 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min	

pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			<b>SAMPLE TYPES</b>
			sed grab temp logr
			sand lance ctd

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples y. n
	brachiopod	moon snail	squid	crests: sharp rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y. n
	juvenile cod	ocean pout	yellow encr. spg	small ripples y. n
✓	cancer crab	Polymastia spg		sand partial veneer on gravel y. n
	cod	red encr. spg		gravel pavement y. n
	cunner	red hake		
	dk yellow spg	✓ sand dollars		sand lance in water column y. n
	Didemnum cols	sand lance adults	(1n/0n)	sand lance in substrate y. n
	dogfish	sand lance juvs		sand lance in sed sample y. n
	Eucratea loricata	scallops		size: sm med lg
	Filograna implexa	sculpin		nos: 1/2 2
	finger spg	sea stars		
	flounder	shells & fragments		trawl/dredge marks y. n
	haddock	silver hake		ambient light y. n

Time: EST UTC  
 Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						67680,
2						67713 - 67826
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4251

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 513, CONSEC STA 6



CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 1527
		JD UTC "	DATE UTC DEC "		
USGS STA 4252	SBNMS SITE 512	CONSEC. STATION 7	DAY-NIGHT		GP STILLS FILE: STA 4252

VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EST HH MM SS 142020	DPH, m	Lat N 42 deg 10.6706 min	Lon W 70 deg 16.2408 min
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SAMPLE TAKEN	EST HH MM SS 142050	DPH, m 25	Lat N 42 deg 10.6582 min	Lon W 70 deg 16.2217 min
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VIDEO OFF BOTTOM	EST HH MM SS 192050 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min
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pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			SAMPLE TYPES
			sed grab temp logr
			sand lance ctd

			SEABED DESCRIPTION
att epifauna	herring eggs	skate	
Boltenia tunic.	lobster	Suberites spg	storm ripples y n
brachiopod	moon snail	squid	crests: sharp rounded
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y n
juvenile cod	ocean pout	yellow encr. spg	small ripples y n
cancer crab	Polymastia spg		sand partial veneer on gravel y n
cod	red encr. spg		gravel pavement y n
cunner	red hake		
dk yellow spg	sand dollars		sand lance in water column y n
Didemnum cols	sand lance adults	12/02	sand lance in substrate y n
dogfish	sand lance juvs		sand lance in sed sample y n
Eucratea loricata	scallops		size: sml med lg
Filograna implexa	sculpin		nos:
finger spg	sea stars		
flounder	shells & fragments		trawl/dredge marks y n
haddock	silver hake		ambient light y n

Time: EST UTC  
 Bottom temp deg C : Surface (-1 m) temp deg C : Difference deg C : (Onset TidbiT v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						77868,
2						77912-78027
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4252  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 512, CONSEC STA 7

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 8 153
		JD UTC "	DATE UTC DEC "		
USGS STA 4253	SBNMS SITE 512	CONSEC. STATION 8	DAY-NIGHT		GP STILLS FILE: STA 4253
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EST HH MM SS 14 27 30	DPH, m	Lat N 42 deg 10.5705 min	Lon W 70 deg 16.1120 min	
SAMPLE TAKEN	EST HH MM SS 14 28 00	DPH, m 25	Lat N 42 deg 10.5660 min	Lon W 70 deg 16.1039 min	
VIDEO OFF BOTTOM	EST HH MM SS 19 28 00	DPH, m	Lat N 42 deg min	Lon W 70 deg min	

pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			SAMPLE TYPES sed grab temp logr sand lance ctd
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	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples y, (n)
	brachiopod	moon snail	squid	crests: sharp rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y, (n)
	juvenile cod	ocean pout	yellow encr. spg	small ripples (y, n)
	cancer crab	Polymastia spg		sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		
	dk yellow spg	✓ sand dollars w/		sand lance in water column y, (n)
	Didemnum cols	sand lance adults	(in pool dimple appears in sand)	sand lance in substrate (y, n)
	dogfish	sand lance juvs		sand lance in sed sample y, (n)
	Eucratea loricata	scallops		size: sml med lg
	Filograna implexa	sculpin		nos:
	finger spg	sea stars		
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST UTC  
 Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset TidbiT v2)  
*Sml ripples = trawled?*

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						88072,
2						88118-88216
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4253  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 512, CONSEC STA 8

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 9,154	
USGS STA 4254		SBNMS SITE S12	CONSEC. STATION 9	DAY - NIGHT	GP STILLS FILE: STA 4254	
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS	
VIDEO ON BOTTOM	EST HH MM SS 14 34 24	DPH, m	Lat N 42 deg 10.4847 min	Lon W 70 deg 16.0093 min		
SAMPLE TAKEN	EST HH MM SS 14 34 54	DPH, m 25	Lat N 42 deg 10.4791 min	Lon W 70 deg 15.9999 min		
VIDEO OFF BOTTOM	EST HH MM SS (1934 54 UTC)	DPH, m	Lat N 42 deg min	Lon W 70 deg min		
pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —						
				SAMPLE TYPES sed grab temp logr sand lance ctd		
SEABED DESCRIPTION						
att epifauna	herring eggs	skate	storm ripples (y) n			
Boltenia tunic.	lobster	Suberites spg	crests: sharp rounded			
brachiopod	moon snail	squid	gvl in ripple troughs y, n			
bushy bry/hyd	mussels	tunicate, B pilu.	small ripples y, n			
juvenile cod	ocean pout	yellow encr. spg	sand partial veneer on gravel y, n			
cancer crab	Polymastia spg		gravel pavement y, n			
cod	red encr. spg					
cunner	red hake					
dk yellow spg	sand dollars		sand lance in water column y, n			
Didemnum cols	sand lance adults	1 n / 0 n	sand lance in substrate y, n			
dogfish	sand lance juvs		sand lance in sed sample y, n			
Eucratea loricata	scallops		size: sml med lg			
Filograna implexa	sculpin		nos:			
finger spg	sea stars					
flounder	shells & fragments		trawl/dredge marks y, n			
haddock	silver hake		ambient light y, n			
Time: EST		UTC				
Bottom temp deg C		; Surface (-1 m) temp deg C		; Difference deg C ; (Onset Tidbit v2)		
DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =						
No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070 sta_img #
1						98265,
2						98299-98384
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4254

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site S12, CONSEC STA 9

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC	NAV FILE NO.	GO PRO VIDEO FILE: 155 10
		JD UTC	DATE UTC DEC		
USGS STA 4255	SBNMS SITE 511	CONSEC. STATION 10	DAY-NIGHT	No STILLS	GP STILLS FILE: STA 4255

VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EST HH MM SS 14 47 06	DPH, m	Lat N 42 deg 10.6999 min	Lon W 70 deg 14.2594 min
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SAMPLE TAKEN	EST HH MM SS 14 47 36	DPH, m 25	Lat N 42 deg 10.6941 min	Lon W 70 deg 14.2499 min
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VIDEO OFF BOTTOM	EST HH MM SS 14 47 36	DPH, m	Lat N 42 deg min	Lon W 70 deg min
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pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			SAMPLE TYPES
			sed grab temp logr
			sand lance ctd

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples y, n
	brachiopod	moon snail	squid	crests: sharp rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y, n
	juvenile cod	ocean pout	yellow encr. spg	small ripples y, n
	cancer crab	Polymastia spg		sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		
	dk yellow spg	sand dollars		sand lance in water column y, m
	Didemnum cols	sand lance adults		sand lance in substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops		size: sml med lg
	Filograna implexa	sculpin	1 sk escaping	nos:
	finger spg	sea stars	from grab	
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST UTC  
 Bottom temp deg C : Surface (-1 m) temp deg C : Difference deg C : (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						
2						
3						
4						
5						

NO STILLS  
gap in images

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4255  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 511, CONSEC STA 10

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO. label not visible	GO PRO VIDEO FILE: 156
		JD UTC "	DATE UTC DEC "		
USGS STA 4256	SBNMS SITE 511	CONSEC. STATION 11	DAY - NIGHT		GP STILLS FILE: STA 4256

VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EST HH MM SS 145340	DPH, m	Lat N 42 deg 10.6347 min	Lon W 70 deg 14.1580 min
SAMPLE TAKEN	EST HH MM SS 145400	DPH, m (26)	Lat N 42 deg 10.6310 min	Lon W 70 deg 14.1481 min
VIDEO OFF BOTTOM	EST HH MM SS (195410)	DPH, m	Lat N 42 deg min	Lon W 70 deg min

pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

NO smpl		SAMPLE TYPES sed grab temp logr sand lance <u>ctd</u>
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		SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples (y) n
Boltenia tunic.	lobster	Suberites spg	crests: sharp rounded
brachiopod	moon snail	squid	gvl in ripple troughs y, (n)
bushy bry/hyd	mussels	tunicate, B pilu.	small ripples y, (n)
juvenile cod	ocean pout	yellow encr. spg	sand partial veneer on gravel y, n
cancer crab	Polymastia spg		gravel pavement y, n
cod	red encr. spg		
cunner	red hake		
dk yellow spg	✓ sand dollars		sand lance in water column y, (n)
Didemnum cols	sand lance adults	in/on	sand lance in substrate y, (n)
dogfish	sand lance juvs		sand lance in sed sample y, n
Eucratea loricata	scallops		size: sml med lg
Filograna implexa	sculpin		nos:
finger spg	sea stars		
flounder	shells & fragments		trawl/dredge marks y, n
haddock	silver hake		ambient light y, n

Time: EST UTC  
 Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						118440
2						118473 - 118586
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4256  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 511, CONSEC STA 11

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 157 12
		JD UTC "	DATE UTC DEC "		
USGS STA 4257	SBNMS SITE 511	CONSEC. STATION 12	DAY-NIGHT		GP STILLS FILE: STA 4257
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EST HH MM SS 150032	DPH, m	Lat N 42 deg 10.7166 min	Lon W 70 deg 14.2964 min	
SAMPLE TAKEN	EST HH MM SS 150108	DPH, m 26	Lat N 42 deg 10.7123 min	Lon W 70 deg 14.2856 min	
VIDEO OFF BOTTOM	EST HH MM SS 200108 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —					
				SAMPLE TYPES sed grab temp logr sand lance ctd	
att epifauna	herring eggs	skate	SEABED DESCRIPTION		
Boltenia tunic.	lobster	Suberites spg	storm ripples	(y) n	
brachiopod	moon snail	squid	crests: sharp	rounded	
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs	y. (n)	
juvenile cod	ocean pout	yellow encr. spg	small ripples	y. (n)	
cancer crab	Polymastia spg		sand partial veneer on gravel	y. n	
cod	red encr. spg		gravel pavement	y. n	
cunner	red hake				
dk yellow spg	✓ sand dollars		sand lance in water column	y. (n)	
Didemnum cols	sand lance adults	(in tow)	sand lance in substrate	(y) n	
dogfish	sand lance juvs		sand lance in sed sample	(y) n	
Eucratea loricata	scallops		size: sml med lg		
Filograna implexa	sculpin		nos: 3 3		
finger spg	sea stars				
flounder	shells & fragments		trawl/dredge marks	y. n	
haddock	silver hake		ambient light	y. n	

Time: EST

UTC

Bottom temp deg C

; Surface (-1 m) temp deg C

; Difference deg C

; (Onset TidbiT v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @

sec interval;

No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						128615,
2						128645-128753
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4257

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 511, CONSEC STA 12

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 13158
USGS STA 4258		SBNMS SITE 511	CONSEC. STATION 13	DAY - NIGHT	GP STILL FILE: STA 4258
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EST HH MM SS 150920	DPH, m	Lat N 42 deg 10.6026 min	Lon W 70 deg 14.0802 min	
SAMPLE TAKEN	EST HH MM SS 150950	DPH, m 25	Lat N 42 deg 10.5991 min	Lon W 70 deg 14.0706 min	
VIDEO OFF BOTTOM	EST HH MM SS 200950 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
pre-tripped ---; no smpl attempted ---; jaws partly open ---; washout ---; refusal ---; too gravelly/shelly ---					
				SAMPLE TYPES sed grab temp logr sand lance ctd	
SEABED DESCRIPTION					
att epifauna	herring eggs	skate			
Boltenia tunic.	lobster	Suberites spg	storm ripples	y. n	
brachiopod	moon snail	squid	crests: sharp	rounded	
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs	y. n	
juvenile cod	ocean pout	yellow encr. spg	small ripples	y. n	
cancer crab	Polymastia spg		sand partial veneer on gravel	y. n	
cod	red encr. spg		gravel pavement	y. n	
cunner	red hake				
dk yellow spg	✓ sand dollars		sand lance in water column	y. n	
Didemnum cols	sand lance adults	1n/0n	sand lance in substrate	y. n	
dogfish	sand lance juvs		sand lance in sed sample	y. n	
Eucratea loricata	scallops		size: sml med lg		
Filograna implexa	sculpin		nos:		
finger spg	sea stars				
flounder	shells & fragments		trawl/dredge marks	y. n	
haddock	silver hake		ambient light	y. n	

Time: EST UTC  
 Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						138803
2						138851-138967
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 511, CONSEC STA 13 USGS STATION 4258

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 159 14
		JD UTC "	DATE UTC DEC "		
USGS STA 4259	SBNMS SITE 54	CONSEC. STATION 14	DAY - NIGHT		GP STILLS FILE: STA 4259
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EST HH MM SS 15 27 10	DPH, m	Lat N 42 deg 11.7236 min	Lon W 70 deg 14.3633 min	
SAMPLE TAKEN	EST HH MM SS 15 27 40	DPH, m 28	Lat N 42 deg 11.7199 min	Lon W 70 deg 14.3504 min	
VIDEO OFF BOTTOM	EST HH MM SS 20 27 40 JTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min	

pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			SAMPLE TYPES
			sed grab temp logr
			sand lance ctd

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples y, n
	brachiopod	moon snail	squid	crests: sharp rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y, n
	juvenile cod	ocean pout	yellow encr. spg	small ripples y, n
	cancer crab	Polymastia spg		sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		
	dk yellow spg	✓ sand dollars <i>dk</i>		sand lance in water column y, n
	Didemnum cols	sand lance adults	<i>in/on</i>	sand lance in substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops		size: sml med lg
	Filograna implexa	sculpin		nos:
	finger spg	sea stars		
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST UTC  
 Bottom temp deg C : Surface (-1 m) temp deg C : Difference deg C : (Onset TidbiT v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						149011
2						149050-149137
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 54, CONSEC STA 14 USGS STATION 4259



CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 160 TS	
USGS STA 4260		SBNMS SITE 54	CONSEC. STATION 15	DAY - NIGHT	GP STILLS FILE: STA 4260	
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS	
VIDEO ON BOTTOM	EST HH MM SS 1533 22	DPH, m	Lat N 42 deg 11.6254 min	Lon W 70 deg 14.1852 min		
SAMPLE TAKEN	EST HH MM SS 1533 52	DPH, m 128	Lat N 42 deg 11.6228 min	Lon W 70 deg 14.1732 min		
VIDEO OFF BOTTOM	EST HH MM SS 2033 52 JTA	DPH, m	Lat N 42 deg min	Lon W 70 deg min		
pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —						
				SAMPLE TYPES sed grab temp logr sand lance ctd		
SEABED DESCRIPTION						
att epifauna	herring eggs	skate				
Boltenia tunic.	lobster	Suberites spg	storm ripples	(y, n)		
brachiopod	moon snail	squid	crests: (sharp)	rounded		
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs	y, (n)		
juvenile cod	ocean pout	yellow encr. spg	small ripples	y, (n)		
cancer crab	Polymastia spg		sand partial veneer on gravel	y, n		
cod	red encr. spg		gravel pavement	y, n		
cunner	red hake					
dk yellow spg	✓ sand dollars ab		sand lance in water column	y, (n)		
Didemnum cols	sand lance adults	12/07	sand lance in substrate	y, (n)		
dogfish	sand lance juvs		sand lance in sed sample	y, (n)		
Eucratea loricata	scallops		size: sml med lg			
Filograna implexa	sculpin		nos:			
finger spg	sea stars					
flounder	shells & fragments		trawl/dredge marks	y, n		
haddock	silver hake		ambient light	y, n		
Time: EST UTC						
Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)						
DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =						
No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						159194
2						159232-159345
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 54, CONSEC STA 15 USGS STATION 4260

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 161 18
		JD UTC "	DATE UTC DEC "		
USGS STA 4261	SBNMS SITE 54	CONSEC. STATION 16	DAY-NIGHT		GP STILLS FILE: STA 4261
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EST HH MM SS 154542	DPH, m	Lat N 42 deg 11.7160 min	Lon W 70 deg 14.3600 min	
SAMPLE TAKEN	EST HH MM SS 154612	DPH, m 28	Lat N 42 deg 11.7113 min	Lon W 70 deg 14.3473 min	
VIDEO OFF BOTTOM	EST HH MM SS 204612 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min	

pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			SAMPLE TYPES
			sed grab temp logr
			sand lance ctd

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples y, n
	brachiopod	moon snail	squid	crests: sharp rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y, n
	juvenile cod	ocean pout	yellow encr. spg	small ripples y, n
	cancer crab	Polymastia spg		sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		
	dk yellow spg	sand dollars ab		sand lance in water column y, n
	Didemnum cols	sand lance adults	in/on	sand lance in substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops		size: sml med lg
	Filograna implexa	sculpin		nos:
	finger spg	sea stars		
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST UTC  
 Bottom temp deg C : Surface (-1 m) temp deg C : Difference deg C : (Onset TidbiT v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						169388,
2						169425-169534
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 54, CONSEC STA 4261 16

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 162 17	
USGS STA 4262		SBNMS SITE 53	CONSEC. STATION 17	DAY-NIGHT	GP STILLS FILE: STA 4262	
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS	
VIDEO ON BOTTOM	EST HH MM SS 160440	DPH, m	Lat N 42 deg 11.5726 min	Lon W 70 deg 16.4325 min		
SAMPLE TAKEN	EST HH MM SS 160510	DPH, m 25	Lat N 42 deg 11.5690 min	Lon W 70 deg 16.4188 min		
VIDEO OFF BOTTOM	EST HH MM SS 210510 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min		
pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —						
				SAMPLE TYPES sed grab temp logr sand lance ctd		
att epifauna	herring eggs	skate	SEABED DESCRIPTION			
Boltenia tunic.	lobster	Suberites spg	storm ripples	y, n		
brachiopod	moon snail	squid	crests: sharp	rounded		
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs	y, n		
juvenile cod	ocean pout	yellow encr. spg	small ripples	y, n		
cancer crab	Polymastia spg		sand partial veneer on gravel	y, n		
cod	red encr. spg		gravel pavement	y, n		
cunner	red hake					
dk yellow spg	✓ sand dollars ab		sand lance in water column	y, n		
Didemnum cols	sand lance adults		sand lance in substrate	y, n		
dogfish	sand lance juvs		sand lance in sed sample	y, n		
Eucratea loricata	scallops		size: sml med lg			
Filograna implexa	sculpin		nos:			
finger spg	sea stars					
flounder	✓ shells & fragments		trawl/dredge marks	y, n		
haddock	✓ silver hake		ambient light	y, n		
Time: EST UTC						
Bottom temp deg C		; Surface (-1 m) temp deg C		; Difference deg C ; (Onset Tidbit v2)		
DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =						
No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						179571,
2						179609-179705
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 53, CONSEC STA 17 USGS STATION 4262

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 163 18
		JD UTC "	DATE UTC DEC "		
USGS STA 4263	SBNMS SITE 53	CONSEC. STATION 18	DAY-NIGHT		GP STILLS FILE: STA 4263
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EST HH MM SS 16 10 50	DPH, m	Lat N 42 deg 11.5406 min	Lon W 70 deg 16.2653 min	
SAMPLE TAKEN	EST HH MM SS 16 11 20	DPH, m 25	Lat N 42 deg 11.5380 min	Lon W 70 deg 16.2515 min	
VIDEO OFF BOTTOM	EST HH MM SS 21 11 20 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
pre-tripped —; no smpl-attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —					
				SAMPLE TYPES	
				sed grab temp logr	
				sand lance ctd	
	att epifauna	herring eggs	skate	SEABED DESCRIPTION	
	Boltenia tunic.	lobster	Suberites spg	storm ripples	y, n
	brachiopod	moon snail	squid	crests: sharp	rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs	y, n
	juvenile cod	ocean pout	yellow encr. spg	small ripples	y, n
	cancer crab	Polymastia spg		sand partial veneer on gravel	y, n
	cod	red encr. spg		gravel pavement	y, n
	cunner	red hake			
	dk yellow spg	✓ sand dollars ab		sand lance in water column	y, n
	Didemnum cols	✓ sand lance adults	(in/on)	sand lance in substrate	y, n
	dogfish	✓ sand lance juvs		sand lance in sed sample	y, n
	Eucratea loricata	scallops		size: sml med lg	
	Filograna implexa	sculpin		nos: 2 3	
	finger spg	sea stars			
	flounder	✓ shells & fragments		trawl/dredge marks	y, n
	haddock	✓ silver hake		ambient light	y, n

Time: EST

UTC

Bottom temp deg C

; Surface (-1 m) temp deg C

; Difference deg C

; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @

sec interval;

No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						189754
2						189796-189880
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4263

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 53, CONSEC STA 18

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 164 19
USGS STA 4264		SBNMS SITE 53	CONSEC. STATION 19	DAY - NIGHT	GP STILLS FILE: STA 4264

VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EST HH MM SS 16 21 28	DPH, m	Lat N 42 deg 11.5413 min	Lon W 70 deg 16.2997 min
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SAMPLE TAKEN	EST HH MM SS 16 21 58	DPH, m (25)	Lat N 42 deg 11.5374 min	Lon W 70 deg 16.2829 min
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VIDEO OFF BOTTOM	EST HH MM SS (21 21 58)	DPH, m	Lat N 42 deg min	Lon W 70 deg min
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pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			SAMPLE TYPES
			sed grab temp logg
			sand lance ctd

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples y, (n)
	brachiopod	moon snail	squid	crests: sharp rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y, n
	juvenile cod	ocean pout	yellow encr. spg	small ripples (y), n
	cancer crab	Polymastia spg		sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		
	dk yellow spg	✓ sand dollars <i>ok</i>		sand lance in water column y, (n)
	Didemnum cols	sand lance adults	<i>(in/on)</i>	sand lance in substrate (y), n
	dogfish	sand lance juvs		sand lance in sed sample (y), n
	Eucratea loricata	scallops		size: sml (med) lg
	Filograna implexa	sculpin		nos: <i>10</i>
	finger spg	sea stars		
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST UTC  
 Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						199917,
2						199956-200068
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4264  
 SBNMS Site S3, CONSEC STA 19

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 165 20
USGS STA 4265		SBNMS SITE 511	CONSEC. STATION 20	DAY - NIGHT	GP STILLS FILE: STA 4265

VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EST HH MM SS 16 43 36	DPH, m	Lat N 42 deg 10.6814 min	Lon W 70 deg 14.2510 min
SAMPLE TAKEN	EST HH MM SS 16 44 06	DPH, m 28	Lat N 42 deg 10.6771 min	Lon W 70 deg 14.2335 min
VIDEO OFF BOTTOM	EST HH MM SS 21 44 06 <i>JK</i>	DPH, m	Lat N 42 deg min	Lon W 70 deg min

pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			SAMPLE TYPES
			sed grab temp logr
			sand lance ctd

		SEABED DESCRIPTION	
att epifauna	herring eggs	skate	
Boftenia tunic.	lobster	Suberites spg	storm ripples (y, n)
brachiopod	moon snail	squid	crests: sharp rounded
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs (y, n)
juvenile cod	ocean pout	yellow encr. spg	small ripples (y, n)
cancer crab	Polymastia spg		sand partial veneer on gravel (y, n)
cod	red encr. spg		gravel pavement (y, n)
cunner	red hake		
dk yellow spg	✓ sand dollars		sand lance in water column (y, n)
Didemnum cols	sand lance adults	(in/out)	sand lance in substrate (y, n)
dogfish	sand lance juvs		sand lance in sed sample (y, n)
Eucratea loricata	scallops		size: sml med lg
Filograna implexa	sculpin		nos:
finger spg	sea stars		
flounder	shells & fragments		trawl/dredge marks (y, n)
haddock	silver hake		ambient light (y, n)

Time: EST UTC  
 Bottom temp deg C : Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						210116,
2						210163 -210267
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 511, CONSEC STA 20 USGS STATION 4265

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 226 21
		JD UTC "	DATE UTC DEC "		
USGS STA 4266	SBNMS SITE S11	CONSEC. STATION 21	DAY - NIGHT		GP STILLS FILE: STA 4266

VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EST HH MM SS 16 51 12	DPH, m	Lat N 42 deg 10.6264 min	Lon W 70 deg 14.0004 min
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SAMPLE TAKEN	EST HH MM SS 16 51 42	DPH, m 28	Lat N 42 deg 10.6200 min	Lon W 70 deg 13.9818 min
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VIDEO OFF BOTTOM	EST HH MM SS 21 51 42	DPH, m	Lat N 42 deg min	Lon W 70 deg min
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pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly *no trip*

SAMPLE TYPES		
sed grab	temp logr	
sand lance	ctd	

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples <i>y, n</i>
	brachiopod	moon snail	squid	crests: <i>sharp</i> rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs <i>y, n</i>
	juvenile cod	ocean pout	yellow encr. spg	small ripples <i>y, n</i>
	cancer crab	Polymastia spg		sand partial veneer on gravel <i>y, n</i>
	cod	red encr. spg		gravel pavement <i>y, n</i>
	cunner	red hake		
	dk yellow spg	sand dollars		sand lance in water column <i>y, n</i>
	Didemnum cols	sand lance adults	<i>in/on</i>	sand lance in substrate <i>y, n</i>
	dogfish	sand lance juvs		sand lance in sed sample <i>y, n</i>
	Eucratea loricata	scallops		size: sml med lg
	Filograna implexa	sculpin		nos:
	finger spg	sea stars		
	flounder	shells & fragments		trawl/dredge marks <i>y, n</i>
	haddock	silver hake		ambient light <i>y, n</i>

Time: EST UTC  
 Bottom temp deg C : Surface (-1 m) temp deg C : Difference deg C : (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						220434-220565
2						no sta label
3					shown in stills images	
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4266  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site S11, CONSEC STA 21

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 227 22
USGS STA 4267		SBNMS SITE 511	CONSEC. STATION 22	DAY - NIGHT	GP STILLS FILE: STA 4267
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EST HH MM SS 16 55 32	DPH, m	Lat N 42 deg 10.5758 min	Lon W 70 deg 13.8523 min	
SAMPLE TAKEN	EST HH MM SS 16 56 02	DPH, m 28	Lat N 42 deg 10.5692 min	Lon W 70 deg 13.8345 min	
VIDEO OFF BOTTOM	EST HH-MM-SS 21 56 02 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —					
				SAMPLE TYPES sed grab temp logr sand lance ctd	
att epifauna	herring eggs	skate	SEABED DESCRIPTION		
Boltenia tunic.	lobster	Suberites spg	storm ripples	y. n	
brachiopod	moon snail	squid	crests: sharp	rounded y. n	
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs	y. n	
juvenile cod	ocean pout	yellow encr. spg	small ripples	y. n	
cancer crab	Polymastia spg		sand partial veneer on gravel	y. n	
cod	red encr. spg		gravel pavement	y. n	
cunner	red hake				
dk yellow spg	✓ sand dollars		sand lance in water column	y. n	
Didemnum cols	sand lance adults		sand lance in substrate	y. n	
dogfish	sand lance juvs		sand lance in sed sample	y. n	
Eucratea loricata	scallops		size: sml med lg		
Filograna implexa	sculpin		nos: 1		
finger spg	sea stars				
flounder	shells & fragments		trawl/dredge marks	y. n	
haddock	silver hake		ambient light	y. n	

Time: EST

UTC

Bottom temp deg C

: Surface (-1 m) temp deg C

: Difference deg C

: (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval;

No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						230610,
2						230646 - 230767
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4267

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 511, CONSEC STA 22



CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 22823	
USGS STA 4268		SBNMS SITE 511	CONSEC. STATION 23	DAY - NIGHT	GP STILLS FILE: STA 4268	
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS	
VIDEO ON BOTTOM	EST HH MM SS 170310	DPH, m	Lat N 42 deg 10.4588 min	Lon W 70 deg 13.5989 min		
SAMPLE TAKEN	EST HH MM SS 170340	DPH, m 28	Lat N 42 deg 10.4484 min	Lon W 70 deg 13.5764 min		
VIDEO OFF BOTTOM	EST HH MM SS 220340 JV	DPH, m	Lat N 42 deg min	Lon W 70 deg min		
pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —						
				SAMPLE TYPES		
				sed grab temp logr		
				sand lance ctd		
NO SMPL						
att epifauna		herring eggs	skate	SEABED DESCRIPTION		
Botlenia tunic.		lobster	Suberites spg	storm ripples y. n		
brachiopod		moon snail	squid	crests: sharp rounded		
bushy bry/hyd		mussels	tunicate, B pilu.	gvl in ripple troughs y. n		
juvenile cod		ocean pout	yellow encr. spg	small ripples y. n		
✓ cancer crab		Polymastia spg		sand partial veneer on gravel y. n		
cod		red encr. spg		gravel pavement y. n		
cunner		red hake				
dk yellow spg		✓ sand dollars		sand lance in water column y. n		
Didemnum cols		sand lance adults	17/10/12	sand lance in substrate y. n		
dogfish		sand lance juvs		sand lance in sed sample y. n		
Eucratea loricata		scallops		size: sml med lg		
Filograna implexa		sculpin		nos:		
finger spg		sea stars				
flounder		shells & fragments		trawl/dredge marks y. n		
haddock		silver hake		ambient light y. n		
Time: EST		UTC				
Bottom temp deg C		; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)				
DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =						
No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						240820,
2						240855-240979
3						
4					sta label not visible on video	
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4268

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 511, CONSEC STA 23

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 229 <del>24</del>
		JD UTC "	DATE UTC DEC "		
USGS STA 4269	SBNMS SITE 512	CONSEC. STATION 24	DAY - NIGHT		GP STILLS FILE: STA 4269
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EST HH MM SS 172048	DPH, m	Lat N 42 deg 10.6049 min	Lon W 70 deg 16.1744 min	
SAMPLE TAKEN	EST HH MM SS 172118	DPH, m 25	Lat N 42 deg 10.5948 min	Lon W 70 deg 16.1546 min	
VIDEO OFF BOTTOM	EST HH MM SS 222118 JG	DPH, m	Lat N 42 deg min	Lon W 70 deg min	

pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			SAMPLE TYPES	
			sed grab	temp log
			sand lance	cld

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boftenia tunic.	lobster	Suberites spg	storm ripples y, n
	brachiopod	moon snail	squid	crests: sharp rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y, n
	juvenile cod	ocean pout	yellow encr. spg	small ripples y, n
	cancer crab	Polymastia spg		sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		
	dk yellow spg	sand dollars		sand lance in water column y, n
	Didemnum cols	sand lance adults	in/out	sand lance in substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops		size: sml med lg
	Filograna implexa	sculpin		nos:
	finger spg	sea stars		
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST UTC  
 Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						251029,
2						251076-251177
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4269  
 SBNMS Site 512, CONSEC STA 24

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 23025
		JD UTC "	DATE UTC DEC "		
USGS STA 4270	SBNMS SITE 512	CONSEC. STATION 25	DAY - NIGHT		GP STILLS FILE: STA4270
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EST HH MM SS 17 28 06	DPH, m	Lat N 42 deg 10.5120 min	Lon W 70 deg 15.9409 min	
SAMPLE TAKEN	EST HH MM SS 17 28 36	DPH, m 25	Lat N 42 deg 10.5054 min	Lon W 70 deg 15.9258 min	
VIDEO OFF BOTTOM	EST HH MM SS 22 28 36	DPH, m	Lat N 42 deg min	Lon W 70 deg min	

pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			SAMPLE TYPES sed grab temp logr sand lance ctd
--	--	--	------------------------------------------------------

			SEABED DESCRIPTION
att epifauna	herring eggs	skate	
Boltenia tunic.	lobster	Suberites spg	storm ripples (y, n)
brachiopod	moon snail	squid	crests: sharp rounded
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs (y, n)
juvenile cod	ocean pout	yellow encr. spg	small ripples (y, n)
cancer crab	Polymastia spg		sand partial veneer on gravel (y, n)
cod	red encr. spg		gravel pavement (y, n)
cunner	red hake		
dk yellow spg	sand dollars		sand lance in water column (y, n)
Didemnum cols	sand lance adults	1 in (out)	sand lance in substrate (y, n)
dogfish	sand lance juvs		sand lance in sed sample (y, n)
Eucratea loricata	scallops		size: (sml) med lg
Filograna implexa	sculpin		nos: 42
finger spg	sea stars		
flounder	shells & fragments		trawl/dredge marks (y, n)
haddock	silver hake		ambient light (y, n)

Time: EST UTC  
Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						261240,
2						261274-261378
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 512, CONSEC STA 25 USGS STATION 4270

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 231 26																																																																																																
USGS STA 4271		SBNMS SITE 512	CONSEC. STATION 26	DAY - NIGHT	GP STILLS FILE: STA-4271																																																																																																
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS																																																																																																
VIDEO ON BOTTOM	EST HH MM SS 1739 22	DPH, m	Lat N 42 deg 10.5620 min	Lon W 70 deg 16.1499 min																																																																																																	
SAMPLE TAKEN	EST HH MM SS 1739 52	DPH, m 25	Lat N 42 deg 10.5516 min	Lon W 70 deg 16.1301 min																																																																																																	
VIDEO OFF BOTTOM	EST HH MM SS 2239 52	DPH, m	Lat N 42 deg min	Lon W 70 deg min																																																																																																	
pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —																																																																																																					
				SAMPLE TYPES sed grab temp logr sand lance ctd																																																																																																	
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No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070 sta_img #																																																																																															
1						271428,																																																																																															
2						271472-271578																																																																																															
3																																																																																																					
4																																																																																																					
5																																																																																																					

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4271

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 512, CONSEC STA 26

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 23227	
USGS STA 4272		SBNMS SITE 513	CONSEC. STATION 27	DAY - NIGHT	GP STILLS FILE: STA 4272	
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS	
VIDEO ON BOTTOM	EST HH MM SS 17 58 14	DPH, m	Lat N 42 deg 10.4184 min	Lon W 70 deg 18.3304 min		
SAMPLE TAKEN	EST HH MM SS 17 58 46	DPH, m (23)	Lat N 42 deg 10.4104 min	Lon W 70 deg 18.3100 min		
VIDEO OFF BOTTOM	EST HH MM SS 22 58 48 vfk	DPH, m	Lat N 42 deg min	Lon W 70 deg min		
pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —						
				SAMPLE TYPES		
				sed grab temp logr		
				sand lance ctd		
SEABED DESCRIPTION						
att epifauna	herring eggs	skate	storm ripples (v) n			
Boltenia tunic.	lobster	Suberites spg	crests: (sharp) rounded			
brachiopod	moon snail	squid	gvl in ripple troughs y. (n)			
bushy bry/hyd	mussels	tunicate, B pilu.	small ripples y. (n)			
juvenile cod	ocean pout	yellow encr. spg	sand partial veneer on gravel y. n			
cancer crab	Polymastia spg		gravel pavement y. n			
cod	red encr. spg					
cunner	red hake					
dk yellow spg	✓ sand dollars		sand lance in water column y. (n)			
Didemnum cols	sand lance adults	(1-2 fruit)	sand lance in substrate (y) n			
dogfish	sand lance juvs		sand lance in sed sample y. (n)			
Eucratea loricata	scallops		size: sml med lg			
Filograna implexa	sculpin		nos:			
finger spg	sea stars					
flounder	shells & fragments		trawl/dredge marks y. n			
haddock	silver hake		ambient light y. n			
Time: EST UTC						
Bottom temp deg C		: Surface (-1 m) temp deg C		: Difference deg C ; (Onset Tidbit v2)		
DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =						
No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						281615
2						281653-281739
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4272

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 513, CONSEC STA 27

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 233 28																																																																																																
		JD UTC "	DATE UTC DEC "																																																																																																		
USGS STA 4273	SBNMS SITE S13	CONSEC. STATION 28	DAY - NIGHT	GP STILLS FILE: STA 4273 NO STILLS																																																																																																	
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS																																																																																																
VIDEO ON BOTTOM	EST HH MM SS 180502	DPH, m	Lat N 42 deg 10.3244 min	Lon W 70 deg 18.1226 min																																																																																																	
SAMPLE TAKEN	EST HH MM SS 180532	DPH, m 23	Lat N 42 deg 10.3161 min	Lon W 70 deg 18.1065 min																																																																																																	
VIDEO OFF BOTTOM	EST HH MM SS 230532 JTW	DPH, m	Lat N 42 deg min	Lon W 70 deg min																																																																																																	
pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —																																																																																																					
				SAMPLE TYPES sed grab temp logr sand lance ctd																																																																																																	
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	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs	y. n																																																																																																
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	finger spg	sea stars																																																																																																			
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	haddock	silver hake		ambient light	y. n																																																																																																
Time: EST		UTC																																																																																																			
Bottom temp deg C		; Surface (-1 m) temp deg C		; Difference deg C ; (Onset Tidbit v2)																																																																																																	
DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =																																																																																																					
No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #																																																																																															
1						NO STILLS																																																																																															
2																																																																																																					
3																																																																																																					
4																																																																																																					
5																																																																																																					

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4273

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site S13, CONSEC STA 28

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 234 29
		JD UTC "	DATE UTC DEC "		
USGS STA 4274	SBNMS SITE 513	CONSEC. STATION 29	DAY - NIGHT		GP STILLS FILE: STA 4274

VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EST HH MM SS 18 11 24	DPH, m	Lat N 42 deg 10.2032 min	Lon W 70 deg 17.8684 min
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SAMPLE TAKEN	EST HH MM SS 18 11 54	DPH, m 23	Lat N 42 deg 10.1896 min	Lon W 70 deg 17.8541 min
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VIDEO OFF BOTTOM	EST HH MM SS 23 11 54 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min
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pre-tripped ---; no smpl attempted ---; jaws partly open ---; washout ---; refusal ---; too gravelly/shelly --- (no tr.p)

no smpl			SAMPLE TYPES
			sed grab temp logr
			sand lance ctd

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples y. n
	brachiopod	moon snail	squid	crests: sharp rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y. n
	juvenile cod	ocean pout	yellow encr. spg	small ripples y. n
	cancer crab	Polymastia spg		sand partial veneer on gravel y. n
	cod	red encr. spg		gravel pavement y. n
	cunner	red hake		
	dk yellow spg	✓ sand dollars		sand lance in water column y. n
	Didemnum cols	sand lance adults		sand lance in substrate y. n
	dogfish	sand lance juvs		sand lance in sed sample y. n
	Eucratea loricata	scallops		size: sml med lg
	Filograna implexa	sculpin		nos:
	finger spg	sea stars		
	flounder	shells & fragments		trawl/dredge marks y. n
	haddock	silver hake		ambient light y. n

Time: EST UTC  
Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						301803,
2						301854-301959
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 513, CONSEC STA 29 USGS STATION 4274

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 235 30	
USGS STA 4275		SBNMS SITE 513	CONSEC. STATION 30	DAY - NIGHT	GP STILLS FILE: STA 4275	
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS	
VIDEO ON BOTTOM	EST HH MM SS 18 21 54	DPH, m	Lat N 42 deg 10.3670 min	Lon W 70 deg 18.2207 min		
SAMPLE TAKEN	EST HH MM SS 18 22 24	DPH, m 23	Lat N 42 deg 10.3536 min	Lon W 70 deg 18.1971 min		
VIDEO OFF BOTTOM	EST HH MM SS 23 22 24 JTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min		
pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —						
				SAMPLE TYPES sed grab temp logr sand lance ctd		
att epifauna	herring eggs	skate	SEABED DESCRIPTION			
Boltenia tunic.	lobster	Suberites spg	storm ripples	y. n		
brachiopod	moon snail	squid	crests: sharp	rounded		
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs	y. n		
juvenile cod	ocean pout	yellow encr. spg	small ripples	y. n		
cancer crab	Polymastia spg		sand partial veneer on gravel	y. n		
cod	red encr. spg		gravel pavement	y. n		
cunner	red hake					
dk yellow spg	sand dollars		sand lance in water column	y. n		
Didemnum cols	sand lance adults	In/out	sand lance in substrate	y. n		
dogfish	sand lance juvs		sand lance in sed sample	y. n		
Eucratea loricata	scallops		size: sml med	lg		
Filograna implexa	sculpin		nos:			
finger spg	sea stars		1/cut in 1/2 3 left			
flounder	shells & fragments		trawl/dredge marks	alive y. n		
haddock	silver hake		ambient light	y. n		
Time: EST UTC						
Bottom temp deg C		: Surface (-1 m) temp deg C		: Difference deg C : (Onset Tidbit v2)		
DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =						
No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						312032,
2						312069-312172
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4275

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 513, CONSEC STA 30



CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 31 236
		JD UTC "	DATE UTC DEC "		
USGS STA 4276	SBNMS SITE 513	CONSEC. STATION 31	DAY-NIGHT		GP STILLS FILE: STA 4276

VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EST HH MM SS 183920	DPH, m	Lat N 42 deg 10.3783 min	Lon W 70 deg 18.2220 min
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SAMPLE TAKEN	EST HH MM SS 183950	DPH, m 23	Lat N 42 deg 10.3672 min	Lon W 70 deg 18.2070 min
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no sp  
STA

VIDEO OFF BOTTOM	EST HH-MM SS 233950 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min
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pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

NO SmpL			SAMPLE TYPES
			sed grab temp logr
			sand lance (ctd)

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples (y) n
	brachiopod	moon snail	squid	crests: sharp rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs (y) (n)
	juvenile cod	ocean pout	yellow encr. spg	small ripples (y) (n)
	cancer crab	Polymastia spg		sand partial veneer on gravel (y) n
	cod	red encr. spg		gravel pavement (y) n
	cunner	red hake		
	dk yellow spg	✓ sand dollars		sand lance in water column (y) (n)
	Didemnum cols	sand lance adults	(in/on)	sand lance in substrate (y) n
	dogfish	sand lance juvs		sand lance in sed sample (y) n
	Eucratea loricata	scallops		size: sml med lg
	Filograna implexa	sculpin		nos:
	finger spg	sea stars		
	flounder	shells & fragments		trawl/dredge marks (y) n
	haddock	silver hake		ambient light (y) n

Time: EST UTC  
 Bottom temp deg C ; Surface (-1 m) temp deg C ; Difference deg C ; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						322220,
2						322285-322372
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4276  
 SBNMS Site 513, CONSEC STA 31

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 237 32
USGS STA 4277		SBNMS SITE 513	CONSEC. STATION	DAY - NIGHT	GP STILLS FILE: STA 4277
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EST HH MM SS 184256	DPH, m	Lat N 42 deg 10.3174 min	Lon W 70 deg 18.1229 min	
SAMPLE TAKEN	EST HH MM SS 184326	DPH, m 23	Lat N 42 deg 10.3122 min	Lon W 70 deg 18.1074 min	
<del>VIDEO OFF BOTTOM</del>	<del>EST HH MM SS 234326 UTC</del>	<del>DPH, m</del>	<del>Lat N 42 deg min</del>	<del>Lon W 70 deg min</del>	
pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —					
				SAMPLE TYPES sed grab temp logr sand lance ctd	
att epifauna		herring eggs	skate	SEABED DESCRIPTION	
Boltenia tunic.	lobster	Suberites spg	storm ripples	y. n	
brachiopod	moon snail	squid	crests: sharp	rounded	
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs	y. n	
juvenile cod	ocean pout	yellow encr. spg	small ripples	y. n	
cancer crab	Polymastia spg		sand partial veneer on gravel	y. n	
cod	red encr. spg		gravel pavement	y. n	
cunner	red hake				
dk yellow spg	✓ sand dollars		sand lance in water column	y. n	
Didemnum cols	sand lance adults	(in/on)	sand lance in substrate	y. n	
dogfish	sand lance juvs		sand lance in sed sample	y. n	
Eucratea loricata	scallops		size: sml med lg		
Filograna implexa	sculpin		nos:		
finger spg	sea stars				
flounder	shells & fragments		trawl/dredge marks	y. n	
haddock	silver hake		ambient light	y. n	

Time: EST

UTC

Bottom temp deg C

; Surface (-1 m) temp deg C

; Difference deg C

; (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @

sec interval;

No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						332417,
2						332454-332455
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4277

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 513, CONSEC STA 32

CRUISE: USGS AUK2014070 SBNMS Dec 2014		JD EST 346	DATE EST DEC 12	NAV FILE NO.	GO PRO VIDEO FILE: 238 33
USGS STA 4278		SBNMS SITE 513	CONSEC. STATION 33	DAY - NIGHT	GP STILLS FILE: STA 4278
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Dec 12, 2014 1612 EST = 2112 UTC	QUAD 2 NAV GPS

VIDEO ON BOTTOM	EST HH MM SS 185300	DPH, m	Lat N 42 deg 10.3748 min	Lon W 70 deg 18.2130 min
SAMPLE TAKEN	EST HH MM SS 185330	DPH, m 23	Lat N 42 deg 10.3624 min	Lon W 70 deg 18.1996 min
VIDEO OFF BOTTOM	EST HH MM SS 235330 UTC	DPH, m	Lat N 42 deg min	Lon W 70 deg min

pre-tripped —; no smpl attempted —; jaws partly open —; washout —; refusal —; too gravelly/shelly —

			SAMPLE TYPES
			sed grab temp logr
			sand lance ctd

			SEABED DESCRIPTION
att epifauna	herring eggs	skate	
Boltenia tunic.	lobster	Suberites spg	storm ripples y. n
brachiopod	moon snail	squid	crests: sharp rounded
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y. n
juvenile cod	ocean pout	yellow encr. spg	small ripples y. n
cancer crab	Polymastia spg		sand partial veneer on gravel y. n
cod	red encr. spg		gravel pavement y. n
cunner	red hake		
dk yellow spg	sand dollars		sand lance in water column y. n
Didemnum cols	sand lance adults	(in/on)	sand lance in substrate y. n
dogfish	sand lance juvs		sand lance in sed sample y. n
Eucratea loricata	scallops		size: sml med lg
Filograna implexa	sculpin		nos:
finger spg	sea stars		
flounder	shells & fragments		trawl/dredge marks y. n
haddock	silver hake		ambient light y. n

Time: EST UTC  
 Bottom temp deg C : Surface (-1 m) temp deg C : Difference deg C : (Onset Tidbit v2)

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG Image #	DVD #	Description √ = in photo	Filename Auk2014070_sta_img #
1						342599
2						342640-342740
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

