

STA 4279-4339  
 AUK 2015017

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST	DATE EST MAY	NAV FILE NO.	GO PRO VIDEO FILE:
		JD UTC	DATE UTC MAY		
USGS STA	SBNMS SITE	CONSEC. STATION	DAY - NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD NAV GPS
VIDEO ON BOTTOM	EDT HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO and	EDT HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
SAMPLE	UTC HH MM SS (EDT + 4)	DPH, m	Lat N 42 deg min	Lon W 70 deg min	

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

					SAMPLE TYPES
					sed grab temp logr
					sand lance ctd pH

				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			<del>sand lance in water column</del>	y, n
cunner	red hake			sand lance in substrate	y, n
dk yellow spg	sand dollars			sand lance out of substrate	y, n
Didemnum cols	sand lance adults			sand lance in sed sample	y, n
dogfish	sand lance juvs				
Eucratea loricata	scallops			SL size: sml med lg	
Filograna implexa	sculpin			nos:	
finger spg	sea stars			trawl/dredge marks	y, n
flounder	shells & fragments			ambient light	y, n
haddock	silver hake				

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C      ; Surface (-1 m) 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 Auk2015017_sta_img #
1						
2						
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4						105689
5						

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 \_\_\_\_\_

Loosevs 20 an apart

EDT, NOT EST on form

UTC TIME = EDT TIME + 4 HRS

CRUISE: USGS AUK2015017 SBNMS May 2015		JD <sup>EDT</sup> EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UPPER 2765 LOWER 0344	
		JD UTC 138	DATE UTC MAY 18			GP STILL FILE:
USGS STA 4279	SBNMS SITE 514	CONSEC. STATION 1	DAY-NIGHT			
VIDEO START AT SURFACE EDT HH MM SS 19576 UTC		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2	
				NAV GPS		
VIDEO ON BOTTOM <sup>stx</sup>	EDT HH MM SS 15 57 16	DPH, m 30	Lat N 10.2246 42 deg 10.223 min	Lon W 20.2990 ← 70 deg 20.299 min		
	VIDEO and SAMPLE	EDT HH MM SS 16 02 36	DPH, m	Lat N 10.230 42 deg 10.230 min	Lon W 20.334 ← 70 deg 20.334 min	
		EDT HH MM SS (EDT + 4) 195615 (cast 002)	DPH, m	Lat N 10.2300 42 deg min	Lon W 20.3336 ← 70 deg min	

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

SAMPLE TYPES	
<input checked="" type="checkbox"/> sed grab	<input checked="" type="checkbox"/> temp log
<input checked="" type="checkbox"/> sand lance	<input checked="" type="checkbox"/> ctd pH

	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		sand lance in water column y, (n)
	dk yellow spg	sand dollars		sand lance in substrate (y) n
	Didemnum cols	sand lance adults		sand lance out of substrate (y) n
	dogfish	sand lance juvs		sand lance in sed sample y, (n)
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: (EST) UTC 1202750 pH: Water col 8.0 Surface -1 m nd Salinity: Water col Surface -1 m  
 Temp: Seabed deg C 4.1 : Surface (-1 m) deg C 15.1; Difference deg C 11.0 : (Onset TidbiT v2) 10.7 ctd in GID

DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ 10.7 ctd in GID sec interval; No. of photos =

No.	Cumul. No.	Time (EST) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015017_sta_img #
1						
2						
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4						
5						20cm

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 150cm  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED = USGS STATION 4279  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 514, CONSEC STA 1

lat/lon corrected from GPS nav file



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UPPER 2766 LOWER 0345
		JD UTC 138	DATE UTC MAY 18		
USGS STA 4280	SBNMS SITE 513	CONSEC. STATION 2	DAY-NIGHT		GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2	NAV GPS
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STA VIDEO ON BOTTOM	EDT HH MM SS 164032	DPH, m 22	Lat N 42 deg 10.445 10.444 min	Lon W 70 deg 18.3149 18.311 min
	EDT HH MM SS 164505	DPH, m	Lat N 42 deg 10.495 min	Lon W 70 deg 18.337 min
	UTC HH MM SS (EDT + 4) 203855 (cast 603)	DPH, m	Lat N 42 deg 10.4941 min	Lon W 70 deg 18.3353 min

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

			SAMPLE TYPES
			sed grab temp logr
			sand lance ctd pH

			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		<b>sand lance in water column</b> (y, n)
dk yellow spg	sand dollars		<b>sand lance in substrate</b> (y, n)
Didemnum cols	<b>sand lance adults</b>		<b>sand lance out of substrate</b> (y, n)
dogfish	<b>sand lance juvs</b>		<b>sand lance in sed sample</b> (y, n)
Eucratea loricata	✓ scallops		
Filograna implexa	✓ sculpin many		SL size: sml (med) lg
finger spg	sea stars		nos: 8/2
flounder	shells & fragments		trawl/dredge marks (y, n)
haddock	silver hake		ambient light (y, n)

Time (EST) UTC pH: Water col 8.0 Surface -1 m 8.1 Salinity: Water col Surface -1 m  
Temp: Seabed deg C 5.6 ; Surface (-1 m) deg C 12.1 ; Difference deg C 6.5 ; (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 Auk2015017_sta_img #
1						
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 =  
PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 513, CONSEC STA 2 USGS STATION 4280

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UPPER 2767 LOWER 0346
		JD UTC 138	DATE UTC MAY 18		
USGS STA 4281	SBNMS SITE 512	CONSEC. STATION 3	DAY-NIGHT		GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2	NAV GPS
VIDEO ON BOTTOM	EDT HH MM SS 170657	DPH, m 23	Lat N 42 deg 10.624 min	Lon W 70 deg 16.195 min		
	EDT HH MM SS 171034	DPH, m	Lat N 42 deg 10.660 min	Lon W 70 deg 16.196 min		
	UTC HH MM SS (EDT + 4) no CTD	DPH, m	Lat N 42 deg 10.6588 min	Lon W 70 deg 16.1968 min		

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

NO sample		SAMPLE TYPES
		sed grab <input type="checkbox"/> temp logg <input checked="" type="checkbox"/>
		sand lance ctd <input type="checkbox"/> pH <input checked="" type="checkbox"/>

			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 <input checked="" type="checkbox"/> y, n
cancer crab	Polymastia spg		sand partial veneer on gravel y, n
cod	red encr. spg		gravel pavement y, n
cunner	red hake		<b>sand lance in water column</b> y, <input checked="" type="checkbox"/> n
dk yellow spg	sand dollars		<b>sand lance in substrate</b> y, <input checked="" type="checkbox"/> n
Didemnum cols	<b>sand lance adults</b>		<b>sand lance out of substrate</b> y, <input checked="" type="checkbox"/> n
dogfish	<b>sand lance juvs</b>		<b>sand lance in sed sample</b> y, <input checked="" type="checkbox"/> n
Eucratea loricata	scallops		
Filograna implexa	sculpin		SL size: sml med lg
finger spg	sea stars		nos:
flounder	shells & fragments		trawl/dredge marks y, n
haddock	silver hake		ambient light y, n

Time:  EST, UTC      pH: Water col 8.0 Surface -1 m 8.1      Salinity: Water col Surface -1 m

Temp: Seabed deg C 6.3 ; Surface (-1 m) deg C 11.9 ; Difference deg C 5.6 ; (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 Auk2015017_sta_img #
1						
2						
3						
4						
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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 3      USGS STATION 4281

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UPPER 2768 LOWER 0347
		JD UTC 138	DATE UTC MAY 18		
USGS STA 4282	SBNMS SITE S11	CONSEC. STATION 4	DAY - NIGHT		GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EDT HH MM SS 172917	DPH, m 26	Lat N 42 deg 10.701 min	Lon W 70 deg 14.304 min
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VIDEO and SAMPLE	EDT HH MM SS 173403	DPH, m	Lat N 42 deg 10.746 min	Lon W 70 deg 14.317 min
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	UTC HH MM SS (EDT + 4) 212863 cast 004	DPH, m	Lat N 42 deg .7444 min	Lon W 70 deg .3136 min
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station no. (circled)	on bag in GoPro video = 4281 = WRONG, should be 4282	SAMPLE TYPES
	NO SAMPLE	sed grab (temp log) sand lance (ctd) (pH)

	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 piltu.	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		sand lance in water column	y, (n)
	dk yellow spg	✓ sand dollars		sand lance in substrate	y, (n)
	Didemnum cols	sand lance adults		sand lance out of substrate	y, (n)
	dogfish	sand lance juvs		sand lance in sed sample	y, (n)
	Eucratea loricata	scallops			
	Filograna implexa	✓ sculpin		SL size: sml med lg	
	finger spg	sea stars		nos:	
	flounder	shells & fragments		trawl/dredge marks	y, n
	haddock	silver hake		ambient light	y, n

Time: (EST) UTC pH: Water col 8.1 Surface -1 m 8.2 Salinity: Water col Surface -1 m  
Temp: Seabed deg C 5.9 ; Surface (-1 m) deg C 12.3; Difference deg C 6.4 ; (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 Auk2015017_sta_img #
1						
2						
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4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 150M  
SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site S11, CONSEC STA 4282



CRUISE: USGS AUK2015017 SBNMS May 2015	JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UP 2769 LOW 0348
	JD UTC 138	DATE UTC MAY 18		
USGS STA 4283	SBNMS SITE S10	CONSEC. STATION 5	DAY-NIGHT	GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 3	NAV GPS
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VIDEO ON BOTTOM	EDT HH MM SS (175423)	DPH, m 35	Lat N 42 deg 10.8941 min	Lon W 70 deg 12.330 min
VIDEO and SAMPLE	EDT HH MM SS 175929	DPH, m	Lat N 42 deg 10.878 min	Lon W 70 deg 12.366 min
	UTC HH MM SS (EDT + 4) 215403 cast 05	DPH, m	Lat N 42 deg .8791 min	Lon W 70 deg .3632 min

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

			SAMPLE TYPES	
			sed grab / temp log	
			sand lance ctd pH	

	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	✓ ctenophores	sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		sand lance in water column y, (n)
	dk yellow spg ✓	sand dollars		sand lance in substrate y, (n)
	Didemnum cols	sand lance adults		sand lance out of substrate y, (n)
	dogfish	sand lance juvs		sand lance in sed sample y, (n)
	Eucratea loricata ✓	scallops		no ripples
	Filograna implexa	sculpin		SL size: smt med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: (EST, UTC) pH: Water col 8.1 Surface -1 m 8.2 Salinity: Water col Surface -1 m  
 Temp: Seabed deg C 5.3 ; Surface (-1 m) deg C 12.0 ; Difference deg C 6.7 ; (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 Auk2015017_sta_img #
1						
2						
3						
4						
5						20

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 1.0m  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED = USGS STATION 4283  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site S10 , CONSEC STA 5

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UP 2770 LOW 0349
		JD UTC 138	DATE UTC MAY 18		
USGS STA 4284	SBNMS SITE 55	CONSEC. STATION 6	DAY - NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 3
VIDEO ON BOTTOM	EDT HH MM SS 181736	DPH, m 33	Lat N 42 deg 11.890 min	Lon W 70 deg 12.499 min	
	EDT HH MM SS 182210	DPH, m	Lat N 42 deg 11.923 min	Lon W 70 deg 12.554 min	
VIDEO and SAMPLE	UTC HH MM SS (EDT + 4) <del>181736</del> 182210	DPH, m	Lat N 42 deg .9224 min	Lon W 70 deg .5517 min	

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

			SAMPLE TYPES	
			sed grab temp logr	
			sand lance (ctd) pH	

			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	V. l. encr. spg	sand partial veneer on gravel	y, n
cod	red encr. spg		gravel pavement	y, n
cunner	red hake		sand lance in water column	y, (n)
dk yellow spg	sand dollars		sand lance in substrate	y, (n)
Didemnum cols	sand lance adults		sand lance out of substrate	y, (n)
dogfish	sand lance juvs		sand lance in sed sample	y, (n)
Eucratea loricata	scallops		no ripples	
Fitograna implexa	sculpin		SL size: 11 sml	med lg
finger spg	sea stars		nos:	
flounder	shells & fragments		trawl/dredge marks	y, n
haddock	silver hake		ambient light	y, n

Time: (EST) UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m

Temp: Seabed deg C 6.1 : Surface (-1 m) deg C 11.4 : Difference deg C 5.3 : (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 Auk2015017_sta_img #
1						
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 75 CM

SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4284

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 55, CONSEC STA 6



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UP 2771 LOW 0350
		JD UTC 138	DATE UTC MAY 18		
USGS STA 4285	SBNMS SITE 54	CONSEC. STATION 7	DAY-NIGHT	GP STILLS FILE:	
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2
				NAV GPS	
VIDEO ON BOTTOM	EDT HH MM SS 183532	DPH, m 26	Lat N 42 deg 11.731 min	Lon W 70 deg 14.391 min	
VIDEO and	EDT HH MM SS 184012	DPH, m	Lat N 42 deg 11.792 min	Lon W 70 deg 14.469 min	
SAMPLE	UTC HH MM SS (EDT + 4) 223502 cast007	DPH, m	Lat N 42 deg 11.7887 min	Lon W 70 deg 14.4638 min	

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

				SAMPLE TYPES	
				sed grab	temp logr
				sand lance	ctd pH

	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	<i>extenuata</i>	sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		sand lance in water column y, (n)
	dk yellow spg	sand dollars		sand lance in substrate y, (n)
	Didemnum cols	sand lance adults		sand lance out of substrate y, (n)
	dogfish	sand lance juvs		sand lance in sed sample y, (n)
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m  
 Temp: Seabed deg C 6.1 ; Surface (-1 m) deg C 11.7 ; Difference deg C 5.6 ; (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 Auk2015017_sta_img #
1						
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 4285  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 54, CONSEC STA 7

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: JP 2772 LOW 0351
		JD UTC 138	DATE UTC MAY 18		
USGS STA 4286	SBNMS SITE 53	CONSEC. STATION 8	DAY-NIGHT	GP STILLS FILE:	
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2
				NAV GPS	
VIDEO ON BOTTOM	EDT HH-MM SS (185342)	DPH, m 23	Lat N 42 deg 11.563 min	Lon W 70 deg 16.424 min	
VIDEO and SAMPLE	EDT HH MM SS 185821	DPH, m	Lat N 42 deg 11.612 min	Lon W 70 deg 16.530 min	
	UTC HH MM SS (EDT + 4) 2253+2 cont 008	DPH, m	Lat N 42 deg 11.6105 min	Lon W 70 deg 16.5255 min	

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

			SAMPLE TYPES	
			sed grab	temp logr
			sand lance (ctd) pH	

	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	✓ <i>atroph</i>	sand partial veneer on gravel	y, n
	cod	red encr. spg		gravel pavement	y, n
	cunner	red hake		sand lance in water column	y, (n)
	dk yellow spg	sand dollars		sand lance in substrate	y, (n)
	Didemnum cols	sand lance adults		sand lance out of substrate	y, (n)
	dogfish	sand lance juvs		sand lance in sed sample	y, (n)
	Eucratea loricata	scallops		SL size: sml med lg	
	Filograna implexa	sculpin		nos:	
	finger spg	sea stars		trawl/dredge marks	y, n
	flounder	shells & fragments		ambient light	y, n
	haddock	silver hake			

Time: (EST) UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m

Temp: Seabed deg C 5.2 ; Surface (-1 m) deg C 11.7 ; Difference deg C 6.5 ; (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 Auk2015017_sta_img #
1						
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4286

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 53, CONSEC STA 8

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UP NO VIDEO LOW 0352
		JD UTC 138	DATE UTC MAY 18		
USGS STA 4287	SBNMS SITE 52	CONSEC. STATION 9	DAY - NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2
VIDEO ON BOTTOM EDT HH MM SS (19 10 48)		DPH, m 26	Lat N 42 deg 11.428 min	Lon W 70 deg 18.3574 min	NAV GPS
VIDEO and SAMPLE EDT HH MM SS (19 15 48)		DPH, m	Lat N 42 deg 11.486 min	Lon W 70 deg 18.479 min	
UTC HH MM SS (EDT + 4) <del>23 10 22 2014 009</del>		DPH, m	Lat N 42 deg 11.4872 min	Lon W 70 deg 18.4728 min	

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

				SAMPLE TYPES
				sed grab temp logr
				sand lance ctd pH

	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	stenoph	sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		sand lance in water column y, n
	dk yellow spg ✓	sand dollars		sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata ✓	scallops		
	Filograna implexa ✓	sculpin many		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m  
Temp: Seabed deg C 4.5; Surface (-1 m) deg C 12.0; Difference deg C 7.5; (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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4287

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 52, CONSEC STA 9



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UP 2774 LOW 0353
		JD UTC 138	DATE UTC MAY 18		
USGS STA 4258	SBNMS SITE 51	CONSEC. STATION 10	DAY - NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS 223404 90		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2
VIDEO ON BOTTOM <i>spg</i>	EDT HH MM SS 1940 41	DPH, m 40	Lat N 42 deg 11.2730 min	Lon W 70 deg 20.4680 min	
	EDT HH MM SS 1945 46	DPH, m	Lat N 42 deg 11.298 min	Lon W 70 deg 20.588 min	
VIDEO and SAMPLE	UTC HH MM SS (EDT + 4) 233957 cast 010	DPH, m	Lat N 42 deg .2966 min	Lon W 70 deg .5834 min	

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

			SAMPLE TYPES		
			sed grab temp logr		
			sand lance ctd pH		

	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	<i>etc</i>	sand partial veneer on gravel	y, n
	cod	red encr. spg		gravel pavement	y, n
	cunner	red hake		sand lance in water column	y, n
	dk yellow spg	sand dollars		sand lance in substrate	(y), n
	Didemnum cols	sand lance adults		sand lance out of substrate	(y), n
	dogfish	sand lance juvs		sand lance in sed sample	(y), n
	Eucratea loricata	scallops			
	Filograna implexa	sculpin		SL size: sml (med) lg	
	finger spg	sea stars		nos: 5	
	flounder	shells & fragments		trawl/dredge marks	y, n
	haddock	silver hake		ambient light	y, n

Time: (EST) UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m  
 Temp: Seabed deg C 4.1; Surface (-1 m) deg C 11.0; Difference deg C 6.9; (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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4258  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 51, CONSEC STA 10

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UP 2775 LOW 0354
		JD UTC 139	DATE UTC MAY 19		
USGS STA 4289	SBNMS SITE 514	CONSEC. STATION 11	DAY-NIGHT	GP STILLS FILE:	

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2	NAV GPS
VIDEO ON BOTTOM EDT HH MM SS 203642	DPH, m 30	Lat N 42 deg 10.212 min	Lon W 70 deg 20.360 min	
VIDEO and SAMPLE EDT HH MM SS 204231	DPH, m	Lat N 42 deg 10.217 min	Lon W 70 deg 20.423 min	
UTC HH MM SS (EDT + 4) 003614 cast oil	DPH, m	Lat N 42 deg 10.2169 min	Lon W 70 deg 20.4190 min	

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

SAMPLE TYPES		
sed grab	temp log	
sand lance	ctd	pH

			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		sand lance in water column y, n
dk yellow spg	sand dollars		sand lance in substrate y, n
Didemnum cols	sand lance adults		sand lance out of substrate y, n
dogfish	sand lance juvs		sand lance in sed sample y, n
Eucratea loricata	scallops		
Filograna implexa	sculpin		SL size: sml med lg
finger spg	sea stars		nos:
flounder	shells & fragments		trawl/dredge marks y, n
haddock	silver hake		ambient light y, n

Time: EST, UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m  
 Temp: Seabed deg C 4.9 ; Surface (-1 m) deg C 11.7 ; Difference deg C 6.8 ; (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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4289  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 514, CONSEC STA 11

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UP 2776 LOW 0355
		JD UTC 139	DATE UTC MAY 19		
USGS STA 4290	SBNMS SITE 513	CONSEC. STATION 12	DAY-NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2
VIDEO ON BOTTOM EDT HH MM SS		DPH, m	Lat N 42 deg	Lon W 70 deg	GPS
VIDEO and SAMPLE EDT HH MM SS		DPH, m	Lat N 42 deg	Lon W 70 deg	
UTC HH MM SS (EDT + 4)		DPH, m	Lat N 42 deg	Lon W 70 deg	

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

NO SMPL			SAMPLE TYPES
			sed grab temp log
			sand lance ctd pH

	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		sand lance in water column (y, n)
	dk yellow spg	sand dollars		sand lance in substrate (y, n)
	Didemnum cols	sand lance adults		sand lance out of substrate (y, n)
	dogfish	sand lance juvs		sand lance in sed sample (y, n)
	Eucratea loricate	scallops		
	Filograna implexa	sculpin many		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks (y, n)
	haddock	silver hake		ambient light (y, n)

Time: EST UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m

Temp: Seabed deg C 6.1; Surface (-1 m) deg C 11.8; Difference deg C 5.7; (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 Auk2015017_sta_img #
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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 12, USGS STATION 4290



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UP 2777 LOW 0356
		JD UTC 139	DATE UTC MAY 19		
USGS STA 4291	SBNMS SITE 513	CONSEC. STATION 13	DAY - NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EDT HH MM SS 211721	DPH, m 24	Lat N 42 deg 10.461 min .4553	Lon W 70 deg 18.355 min .3478	
VIDEO and	EDT HH MM SS 212303	DPH, m	Lat N 42 deg 10.562 min	Lon W 70 deg 18.450 min	
SAMPLE	UTC HH MM SS (EDT + 4) 011655 cast 013	DPH, m	Lat N 42 deg .5595 min	Lon W 70 deg .4449 min	

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

				SAMPLE TYPES	
				sed grab	temp logr
				sand lance	ctd pH

			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 pitu.	small ripples	y. n
juvenile cod	ocean pout	yellow encr. spg	sand partial veneer on gravel	y. n
✓ cancer crab	Polymastia spg	✓ <i>Chelop</i>	gravel pavement	y. n
cod	red encr. spg		sand lance in water column	y. n
cunner	red hake		sand lance in substrate	y. n
dk yellow spg	sand dollars		sand lance out of substrate	y. n
Didemnum cols	sand lance adults		sand lance in sed sample	y. n
dogfish	sand lance juvs			
Eucratea loricata	scallops		SL size: sml med lg	
Filograna implexa	✓ sculpin		nos: 13	
finger spg	sea stars		trawl/dredge marks	y. n
✓ flounder	shells & fragments		ambient light	y. n
✓ haddock	silver hake			

Time: 07 UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m

Temp: Seabed deg C 6.1 ; Surface (-1 m) deg C 11.7 ; Difference deg C 5.6 ; (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 Auk2015017_sta_img #
1						
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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 13, USGS STATION 4291

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: VP 277B LOW 0357
		JD UTC 139	DATE UTC MAY 19		
USGS STA 4292	SBNMS SITE 512	CONSEC. STATION 14	DAY - NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2
VIDEO ON BOTTOM	EDT HH MM SS 21 51 19	DPH, m 24	Lat N 42 deg 10.671 min	Lon W 70 deg 16.253 min	
	EDT HH MM SS 21 56 22	DPH, m	Lat N 42 deg 10.754 min	Lon W 70 deg 16.336 min	
	UTC HH MM SS (EDT + 4) 015700 last 014	DPH, m	Lat N 42 deg .7494 min	Lon W 70 deg .3300 min	

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

				SAMPLE TYPES	
				sed grab temp logr	
				sand lance ctd pH	

		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	✓ starop	sand partial veneer on gravel y, n
✓ cod	red encr. spg		gravel pavement y, n
cunner	red hake		sand lance in water column y, n
dk yellow spg	✓ sand dollars		sand lance in substrate y, n
Didemnum cols	sand lance adults		sand lance out of substrate y, n
dogfish	sand lance juvs		sand lance in sed sample y, n
Eucratea loricata	scallops		
Filograna implexa	✓ sculpin		SL size: sml med lg
finger spg	sea stars		nos:
✓ flounder	shells & fragments		trawl/dredge marks y, n
✓ haddock	✓ silver hake		ambient light y, n

Time: 07 UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m

Temp: Seabed deg C 6.0 ; Surface (-1 m) deg C 11.3 ; Difference deg C 5.3 ; (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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 150M  
SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4292

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 512, CONSEC STA 14

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UP 2779 LOW 0358
		JD UTC 139	DATE UTC MAY 19		
USGS STA 4293	SBNMS SITE 511	CONSEC. STATION 15	DAY - NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM <sup>SPR</sup>	EDT HH MM SS (22 15 13)	DPH, m 28	Lat N 42 deg 10.738 min	Lon W 70 deg 14.330 min	
	EDT HH MM SS 22 20 25	DPH, m	Lat N 42 deg 10.813 min	Lon W 70 deg 14.436 min	
VIDEO and SAMPLE	UTC HH MM SS (EDT + 4) 02 14 38	DPH, m	Lat N 42 deg 08.109 min	Lon W 70 deg 14.432 min	

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

			SAMPLE TYPES	
			sed grab temp logr	
			sand lance ctd pH	

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

Time: 07 UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m  
Temp: Seabed deg C 5.6 ; Surface (-1 m) deg C 11.4 ; Difference deg C 5.8 ; (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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15.9M  
SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
USGS STATION 4293  
PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 511, CONSEC STA 15



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UP 2780 LOW 0359
		JD UTC 139	DATE UTC MAY 19		
USGS STA 4294	SBNMS SITE 510	CONSEC. STATION 16	DAY - NIGHT	GP STILLS FILE:	
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 3
VIDEO ON BOTTOM	EDT HH MM SS 223928	DPH, m 37	Lat N 42 deg 10.916 min	Lon W 70 deg 12.370 min	
VIDEO and	EDT HH MM SS 224452	DPH, m	Lat N 42 deg 10.952 min	Lon W 70 deg 12.509 min	
SAMPLE	UTC HH MM SS (EDT + 4) 023856 cast 016	DPH, m	Lat N 42 deg .9508 min	Lon W .5015 min	

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

			SAMPLE TYPES		
			sed grab temp log		
			sand lance ctd pH		

	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	✓ stenoph	sand partial veneer on gravel	y, n
	cod	red encr. spg		gravel pavement	y, n
	cunner ?	✓ red hake		sand lance in water column	y, n
	dk yellow spg	✓ sand dollars		sand lance in substrate	y, n
	Didemnum cols	sand lance adults		sand lance out of substrate	y, n
	dogfish	sand lance juvs		sand lance in sed sample	y, n
	Eucratea loricata	✓ scallops		SL size: sml med lg	
	Filograna implexa	✓ sculpin		nos:	
	finger spg	sea stars		trawl/dredge marks	y, n
✓	flounder	shells & fragments		ambient light	y, n
	haddock	silver hake			

Time: 07 UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m

Temp: Seabed deg C 5.2 ; Surface (-1 m) deg C 9.8 ; Difference deg C 4.6 ; (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 Auk2015017_sta_img #
1						
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 150m  
SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4294

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 510, CONSEC STA 16

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UP 2781 LO 0360
		JD UTC 139	DATE UTC MAY 19		
USGS STA 4295	SBNMS SITE 55	CONSEC. STATION 17	DAY - NIGHT		GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 3	NAV GPS
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VIDEO ON BOTTOM +	EDT HH MM SS 22 55 23	DPH, m 36	Lat N 42 deg 11.872 min	Lon W 70 deg 12.549 min
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VIDEO and	EDT HH MM SS 23 00 32	DPH, m	Lat N 42 deg 11.919 min	Lon W 70 deg 12.633 min
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SAMPLE	UTC HH MM SS (EDT + 4) 025454 cast 017	DPH, m	Lat N 42 deg 11.9168 min	Lon W 70 deg 12.6259 min
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

No SMPL			SAMPLE TYPES
			sed grab temp logr
			sand lance ctd pH

			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	ctenoph	gravel pavement y, n
cod	red encr. spg		sand lance in water column y, n
cunner	red hake		sand lance in substrate y, n
dk yellow spg	sand dollars		sand lance out of substrate y, n
Didemnum cols	sand lance adults		sand lance in sed sample y, n
dogfish	sand lance juvs		
Eucratea loricata	scallops		SL size: sml med lg
Filograna implexa	sculpin		nos:
finger spg	sea stars		trawl/dredge marks y, n
flounder	shells & fragments		ambient light y, n
haddock	silver hake		

Time: EST, UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m  
 Temp: Seabed deg C 5.0 ; Surface (-1 m) deg C 10.1 ; Difference deg C 5.1 ; (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 Auk2015017_sta_img #
1						
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 4295  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 55, CONSEC STA 17

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: JP 2782 LOW 0364
		JD UTC 139	DATE UTC MAY 19		
USGS STA 4296	SBNMS SITE 54	CONSEC. STATION 18	DAY - NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM + STA	EDT HH MM SS (231328)	DPH, m 29	Lat N 42 deg 11.735 min .7319	Lon W 70 deg 14.448 min .4436	
VIDEO and STA	EDT HH MM SS 231841	DPH, m	Lat N 42 deg 11.800 min	Lon W 70 deg 14.513 min	
SAMPLE	UTC HH MM SS (EDT + 4) 031300 cast 018	DPH, m	Lat N 42 deg .7980 min	Lon W 70 deg .5096 min	

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

			SAMPLE TYPES	
			sed grab	temp log
			sand lance	ctd pH

		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	ctenoph	sand partial veneer on gravel	y, n
cod	red encr. spg		gravel pavement	y, n
cunner	red hake		sand lance in water column	y, n
dk yellow spg	sand dollars		sand lance in substrate	y, n
Didemnum cols	sand lance adults		sand lance out of substrate	y, n
dogfish	sand lance juvs		sand lance in sed sample	y, n
Eucratea loricata	scallops			
Filograna implexa	sculpin		SL size: sml med lg	
finger spg	sea stars		nos:	
flounder	shells & fragments		trawl/dredge marks	y, n
haddock	silver hake		ambient light	y, n

Time: 07 UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m

Temp: Seabed deg C 5.3 ; Surface (-1 m) deg C 10.4 ; Difference deg C 5.1 ; (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 Auk2015017_sta_img #
1						
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 cm  
SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4296

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 54, CONSEC STA 18



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 138	DATE EST MAY 18	NAV FILE NO.	GO PRO VIDEO FILE: UP 2783 LOW 0362
USGS STA 4297		SBNMS SITE 53	JD UTC 139	DATE UTC MAY 19	GP STILLS FILE:
CONSEC. STATION 19		DAY - NIGHT			

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EDT HH MM SS 23 36 50	DPH, m 26	Lat N 42 deg 11.888 min	Lon W 70 deg 15.348 min
VIDEO and SAMPLE	EDT HH MM SS 23 41 58	DPH, m	Lat N 42 deg 11.990 min	Lon W 70 deg 15.339 min
	UTC HH MM SS (EDT + 4) 03 41 58	DPH, m	Lat N 42 deg 11.9854 min	Lon W 70 deg 15.3384 min

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

15E 4298	NOT \$3, MISTAKE! LOG OF WRECK IN SHIP'S NAV/DISPLAY	SAMPLE TYPES sed grab temp log
LEFT PAGE	SAW PEECE OF WRECKAGE AT END AND LEFT SEABED IMMEDIATELY	sand lance (ctd) pH

			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		sand lance in water column	y. n
dk yellow spg	sand dollars		sand lance in substrate	y. n
Didemnum cols	sand lance adults		sand lance out of substrate	y. n
dogfish	sand lance juvs		sand lance in sed sample	y. n
Eucratea loricata	scallops			
Filograna implexa	sculpin		SL size: sml med lg	
finger spg	sea stars		nos: 1	
flounder	shells & fragments		trawl/dredge marks	y. n
✓ haddock	silver hake		ambient light	y. n

Time: EST, UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m  
Temp: Seabed deg C 5.5 ; Surface (-1 m) deg C 11.8 ; Difference deg C 6.3 ; (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 Auk2015017_sta_img #
1						
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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 USGS STATION 4297  
SBNMS Site 53, CONSEC STA 19

EDT 138 EDT 18  
**CRUISE: USGS AUK2015017**  
**SBNMS May 2015**  
 NAV FILE NO. GO PRO VIDEO FILE: VP 2784 LOW 0363  
 GP STILLS FILE:

USGS STA 4298 SBNMS SITE 53 CONSEC. STATION 20 DAY-NIGHT  
 VIDEO START AT SURFACE EDT HH MM SS VIDEO END AT SURFACE EDT HH MM SS  
 Sunset: May 16, 2015 1959 EDT = 2359 UTC QUAD 2 NAV GPS  
 VIDEO ON BOTTOM STA <sup>SPR</sup> EDT HH MM SS (23 53 33) DPH, m 25 Lat N 42 deg 11.611 min Lon W 70 deg 16.386 min  
 VIDEO and SAMPLE EDT HH MM SS 23 57 44 DPH, m Lat N 42 deg 11.686 min Lon W 70 deg 16.341 min  
 UTC HH MM SS (EDT + 4) DPH, m 035309 cast 020 Lat N 42 deg 11.6821 min Lon W 70 deg 16.3433 min

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

NEAR WRECK - SAW WRECKAGE AT END  
 SAMPLE TYPES sed grab temp logr sand lance ctd pH

	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.	gvf 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		sand lance in water column y, n
	dk yellow spg	sand dollars		sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
✓	haddock	silver hake		ambient light y, n

Time (EST, UTC) pH: Water col Surface -1 m Salinity: Water col Surface -1 m  
 Temp: Seabed deg C 5.9; Surface (-1 m) deg C 11.3; Difference deg C 5.4; (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 Auk2015017_sta_img #
1						
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED = USGS STATION 4298  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 53, CONSEC STA 20

CRUISE: USGS AUK2015017 SBNMS May 2015	JD <sup>EDT</sup> EST 139	DATE <sup>EDT</sup> MAY 19	NAV FILE NO.	GO PRO VIDEO FILE: UP 2785 LOW 0364
	JD UTC 139	DATE MAY 19		
USGS STA 4299	SBNMS SITE 52	CONSEC. STATION 21	DAY - NIGHT	GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2	NAV GPS
VIDEO ON BOTTOM +	EPT HH MM SS 00 1734	DPH, m 28	Lat N 42 deg 11.426 min	Lon W 70 deg 18.288 min
VIDEO and SAMPLE	EDT HH MM SS 00 2249	DPH, m	Lat N 42 deg 11.506 min	Lon W 70 deg 18.245 min
	UTC HH MM SS (EDT + 4) 041649 cast 021	DPH, m	Lat N 42 deg 11.5047 min	Lon W 70 deg 18.2479 min

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

NO SPL			SAMPLE TYPES
			sed grab (amp log)
			sand lance (ctd) pH

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boletia 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	stenoph	sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		sand lance in water column y, n
	dk yellow spg	sand dollars		sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate (y) n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata ✓	scallops		
	Filograna implexa ✓	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 6.1 ; Surface (-1 m) deg C 11.4 ; Difference deg C 5.3 ; (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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =      USGS STATION 4299  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site 52, CONSEC STA 21



CRUISE: USGS AUK2015017 SBNMS May 2015		JD, EST <sup>EDT</sup> 739	DATE EST MAY 19	NAV FILE NO.	GO PRO VIDEO FILE: UP 2786 LOW 0365
		JD UTC 739	DATE UTC MAY 19		
USGS STA 4300	SBNMS SITE S1	CONSEC. STATION 22	DAY-NIGHT		

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM + 500	EDT HH MM SS (00 3618)	DPH, m 42	Lat N 42 deg 11.278 min <sup>.2757</sup>	Lon W 70 deg 20.379 min <sup>.3826</sup>
	EDT HH MM SS 00 4136	DPH, m	Lat N 42 deg 11.336 min	Lon W 70 deg 20.332 min
	UTC HH MM SS (EDT + 4) 043545 cost022	DPH, m	Lat N 42 deg 11.336 min	Lon W 70 deg 11.3352 min

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

			SAMPLE TYPES	
			sed grab	temp logr
			sand lance	ctd pH

			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	<i>stenoph</i>	sand partial veneer on gravel	y. n
cod	red encr. spg		gravel pavement	y. n
cunner	red hake		sand lance in water column	y. n
dk yellow spg	✓ sand dollars		sand lance in substrate	y. n
Didemnum cols	sand lance adults		sand lance out of substrate	(y) n
dogfish	✓ sand lance juvs		sand lance in sed sample	(y) n
Eucratea loricata	✓ scallops			
Filograna implexa	✓ sculpin		SL size: sml (med) lg	
finger spg	sea stars		nos: 4	
flounder	shells & fragments		trawl/dredge marks	y. n
haddock	✓ silver hake		ambient light	y. n

Time: EST UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 4.7; Surface (-1 m) deg C 11.4; Difference deg C 6.7; (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 Auk2015017_sta_img #
1						
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = ~~90CM~~  
 SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =      USGS STATION 4300  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site S1, CONSEC STA 22

CRUISE: USGS AUK2015017 SBNMS May 2015		JD <sup>EDT</sup> EST 149	DATE <sup>EDT</sup> MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2787 LOW 0366
USGS STA 4301		SBNMS SITE 51	CONSEC. STATION 23	DAY-NIGHT	GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS 133810 UTC	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EDT HH MM SS 09 38 10	DPH, m 41	Lat N 42 deg 11.2388 min	Lon W 70 deg 20.376 min
VIDEO and SAMPLE	EDT HH MM SS 09 43 46	DPH, m	Lat N 42 deg 11.209 min	Lon W 70 deg 20.308 min
	UTC HH MM SS (EDT + 4) 133723 LAST 023	DPH, m	Lat N 42 deg .2097 min	Lon W 70 deg .3101 min

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

			SAMPLE TYPES
			sed grab (temp log)
			sand lance (ctd) (pH)

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Botlenia tunic.	lobster	Suberites spg	storm ripples v. faint (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	stenophores	sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		sand lance in water column y, (n)
	dk yellow spg	sand dollars dead		sand lance in substrate y, (n)
	Didemnum cols	sand lance adults		sand lance out of substrate y, (n)
	dogfish	sand lance juvs		sand lance in sed sample y, (n)
	Eucratea loricata ✓	scallops	sl. drumples	
	Filograna implexa ✓	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC 1202750 pH: Water col 1202756 Surface -1 m Salinity: Water col Surface -1 m  
 Temp: Seabed deg C 4.7 : Surface (-1 m) deg C 15.1 ; Difference deg C 12.2 ; (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 Auk2015017_sta_img #
1						
2						
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4						
5						

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 4301  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 51, CONSEC STA 23

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: OP 2788 LOW 0367
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4302	SBNMS SITE S2	CONSEC. STATION 24	DAY - NIGHT		GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2	NAV GPS
VIDEO ON BOTTOM + 5M	EDT HH MM SS (1004 29)	DPH, m 27	Lat N 42 deg 11.384 min	Lon W 70 deg 18.257 min		
	EDT HH MM SS 10 10 22	DPH, m	Lat N 42 deg 11.351 min	Lon W 70 deg 18.169 min		
VIDEO and SAMPLE	UTC HH MM SS (EDT + 4) 140344 cast 024	DPH, m	Lat N 42 deg .3504 min	Lon W 70 deg .1688 min		

NO SAMPLE pre-tripped; no smpl attempted, (jaws partly open) washout; refusal; too gravelly/shelly; smpl too small

NO SAMPLE		SAMPLE TYPES	
no smpl		sed grab (temp log)	
		(sand lance) (ctd) (pH)	

	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	clenoph	sand partial veneer on gravel (y, n)
	cod	red encr. spg		gravel pavement (y, n)
	cunner	red hake	✓ herring	sand lance in water column (y, n)
	dk yellow spg	sand dollars	✓ herring	sand lance in substrate (y, n)
	Didemnum cols	sand lance adults		sand lance out of substrate (y, n)
	dogfish	sand lance juvs		sand lance in sed sample (y, n)
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks (y, n)
	haddock	silver hake		ambient light (y, n)

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 4.9 : Surface (-1 m) deg C 12.5 : 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM      DISTANCE BETWEEN PARALLEL LASERS = 150M  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4302  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site S2, CONSEC STA 24



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2789 LOW 0368
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4303	SBNMS SITE 53	CONSEC. STATION 25	DAY-NIGHT		GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EDT HH MM SS 102430	DPH, m 25	Lat N 42 deg 11.5403 11.539 min	Lon W 70 deg 16.317 min 16.3251
VIDEO and SAMPLE	EDT HH MM SS 1030 20	DPH, m	Lat N 42 deg 11.497 min	Lon W 70 deg 16.201 min
	UTC HH MM SS (EDT + 4) 142333 cut 025	DPH, m	Lat N 42 deg 11.4975 min	Lon W 70 deg 16.2037 min

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

			SAMPLE TYPES
			sed grab temp logr
			sand lance ctd pH

	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	stenoph	sand partial veneer on gravel y. n
	cod	red encr. spg		gravel pavement y. n
	cunner	red hake		sand lance in water column y. n
	dk yellow spg	sand dollars		sand lance in substrate y. n
	Didemnum cols	sand lance adults		sand lance out of substrate (y) n
	dogfish	sand lance juvs		sand lance in sed sample y. n
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y. n
	haddock	silver hake		ambient light y. n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 5.0 ; Surface (-1 m) deg C 12.5 ; 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 Auk2015017_sta_img #
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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      USGS STATION 4303      CONSEC STA 25

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2790 LOW 0369
USGS STA 4304		JD UTC 149	DATE UTC MAY 29		GP STILLS FILE:
SBNMS SITE 517		CONSEC. STATION 26	(DAY) - NIGHT		

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM + EDT HH MM SS (10 50 38)	DPH, m 21	Lat N 42 deg 09.502 min .5041	Lon W 70 deg 18.095 min .0975
VIDEO and EDT HH MM SS (10 56 36)	DPH, m	Lat N 42 deg 09.479 min	Lon W 70 deg 18.038 min
SAMPLE UTC HH MM SS (EDT + 4) 144919 cast 026	DPH, m	Lat N 42 deg .4790 min	Lon W 70 deg .0395 min

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

			SAMPLE TYPES
			sed grab temp log
			sand lance (C) pH

			SEABED DESCRIPTION
att epifauna	herring eggs	skate	
Boltenia tunic.	lobster	Suberites spg	storm ripples <i>no direction</i> (y) n
brachiopod	moon snail	squid	crests: sharp rounded
bushy bry/hyd	mussels	tunicate, B pifu.	gvt in ripple troughs y, n
juvenile cod	ocean pout	yellow encr. spg	small ripples y, n
cancer crab	Polymastia spg	<i>demson</i>	sand partial veneer on gravel y, n
cod	red encr. spg	<i>hydrilla</i>	gravel pavement y, n
cunner	red hake		sand lance in water column y, (n)
dk yellow spg	sand dollars		sand lance in substrate y, (n)
Didemnum cols	sand lance adults		sand lance out of substrate y, (n)
dogfish	sand lance juvs		sand lance in sed sample (y), n
Eucratea loricata	scallops		
Filograna implexa	sculpin		SL size: sml (med) lg
finger spg	sea stars		nos: 3
flounder	shells & fragments		trawl/dredge marks y, n
haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 5.7 ; Surface (-1 m) deg C 12.9 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 50 CM  
 SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =  
 USGS STATION 4304  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site 517, CONSEC STA 26

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2791 LOW 0370
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4305	SBNMS SITE 516	CONSEC. STATION 27	DAY-NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2
VIDEO ON BOTTOM 574	EDT HH MM SS (11 10 46)	DPH, m 22	Lat N 42 deg 9.595 min	Lon W 70 deg 19.091 min	
	EDT HH MM SS (11 16 50)	DPH, m	Lat N 42 deg 09.556 min	Lon W 70 deg 19.059 min	
	UTC HH MM SS (EDT + 4) (151046 last 027)	DPH, m	Lat N 42 deg .5567 min	Lon W 70 deg .0603 min	

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

See 0532-0536 <sup>img on video</sup> for sculpin catching sl	SAMPLE TYPES	
	sed grab	temp log
	sand lance	ctd pH

	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	hyd	gravel pavement y, n
	cunner	red hake		sand lance in water column y, (n)
	dk yellow spg	sand dollars		sand lance in substrate y, (n)
	Didemnum cols	sand lance adults	many	sand lance out of substrate (y, n)
	dogfish	sand lance juvs		sand lance in sed sample (y, n)
	Eucratea loricata	scallops		
	Filograna implexa ✓	sculpin many, went for 50		SL size: (sm) med lg
	finger spg	sea stars		nos: 4 + 3 heads
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 5.9 ; Surface (-1 m) deg C 12.6 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =

USGS STATION 4305

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site 516, CONSEC STA 27



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP NO VIDEO LOW NO VIDEOS
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4306	SBNMS SITE 516	CONSEC. STATION 28	DAY-NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2
VIDEO ON BOTTOM	EDT HH MM SS (112744)	DPH, m 22	Lat N 42 deg 09.607 min	Lon W 70 deg 19.092 min	
VIDEO and	EDT HH MM SS 113232	DPH, m	Lat N 42 deg 09.577 min	Lon W 70 deg 19.571 min	
SAMPLE	UTC HH MM SS (EDT + 4) 152709 149028	DPH, m	Lat N 42 deg 09.577 min	Lon W 70 deg 19.571 min	

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

			SAMPLE TYPES		
			sed grab temp logr		
			sand lance ctd pH		

	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	ctenoph	sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		sand lance in water column y, n
	dk yellow spg	✓ sand dollars		sand lance in substrate y, n
	Didemnum cols	sand lance adults	many	sand lance out of substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops		
	Filograna implexa	✓ sculpin	sculpin meditation	SL size: sml med lg
	finger spg	sea stars		nos: 9
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 6.3 ; Surface (-1 m) deg C 12.8 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =      USGS STATION 4306

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site 516      CONSEC STA 28

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2793 (LOW 3D: L0193 R-8414)
USGS STA 4307		SBNMS SITE 518	CONSEC. STATION 29	(DAY) - NIGHT	GP-STILLS-FILE: HIGH 1237
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2 NAV GPS
VIDEO ON BOTTOM	EDT HH MM SS (114902)	DPH, m 20	Lat N 42 deg 09.093 min	Lon W 70 deg 18.845 min	
VIDEO and	EDT HH MM SS 11 55 04	DPH, m	Lat N 42 deg 09.075 min	Lon W 70 deg 18.790 min	
SAMPLE	UTC HH MM SS (EDT + 4) 154747: cast 030	DPH, m	Lat N 42 deg 07.48 min	Lon W 70 deg 07.910 min	

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

? ab sand dollars vs sl?			SAMPLE TYPES
			sed grab temp log sand lance ctd pH

	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	clenop hyd in	sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		sand lance in water column y, n
	dk yellow spg	sand dollars		sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 6.2 ; Surface (-1 m) deg C 12.7 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 16 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4307  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 518, CONSEC STA 29

CRUISE: USGS AUK2015017 SBNMS May 2015	JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2794 LOW 3D: L0144 R0415
	JD UTC 149	DATE UTC MAY 29		
USGS STA 4308	SBNMS SITE S15	CONSEC. STATION 30	DAY-NIGHT	GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2	NAV GPS
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VIDEO ON BOTTOM	EDT HH MM SS 121630	DPH, m 26	Lat N 42 deg 09.739 min	Lon W 70 deg 20.184 min
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VIDEO and SAMPLE	EDT HH MM SS 122232	DPH, m	Lat N 42 deg 09.713 min	Lon W 70 deg 20.177 min
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	UTC HH MM SS (EDT + 4) 16162 cast 032	DPH, m	Lat N 42 deg .7134 min	Lon W 70 deg .1778 min
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

			SAMPLE TYPES	
			sed grab temp log	
			sand lance ctd pH	

	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	by d rock	sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake	stenop	sand lance in water column y, (n)
	dk yellow spg	sand dollars rare		sand lance in substrate y, n
	Didemnum cols	sand lance adults	few	sand lance out of substrate (y) n
	dogfish	sand lance juvs		sand lance in sed sample y, (n)
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 4.7 ; Surface (-1 m) deg C 12.9 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 150 CM  
 SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =  
 USGS STATION 4308  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site S15, CONSEC STA 30



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2795 LOW 0371
USGS STA 4309		SBNMS SITE C8	CONSEC. STATION 31	DAY-NIGHT	GP STILL FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5 NAV GPS
VIDEO ON BOTTOM	EDT HH MM SS 12 55 18	DPH, m 26	Lat N 42 deg 12.420 min .4226	Lon W 70 deg 17.375 min .3809	
VIDEO and	EDT HH MM SS 13 01 22	DPH, m	Lat N 42 deg 12.384 min	Lon W 70 deg 17.315 min	
SAMPLE	UTC HH MM SS (EDT + 4) 165502 - LAST 033	DPH, m	Lat N 42 deg 12.384 min .3854	Lon W 70 deg 17.315 min .3169	

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

			SAMPLE TYPES
			sed grab temp logn
			sand lance ctd pH

			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	clams	sand partial veneer on gravel	y, n
cod	red encr. spg	limpods	gravel pavement	y, n
cunner	red hake		sand lance in water column	y, n
dk yellow spg	✓ sand dollars		sand lance in substrate	y, n
Didemnum coils	sand lance adults		sand lance out of substrate	y, n
dogfish	sand lance juvs		sand lance in sed sample	y, n
Eucratea loricata	✓ scallops			
Filograna implexa	✓ sculpin		SL size: sml med lg	
finger spg	sea stars		nos:	
flounder	shells & fragments		trawl/dredge marks	y, n
haddock	silver hake		ambient light	y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.7 ; Surface (-1 m) deg C 12.9 ; 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 Auk2015017_sta_img #
1						
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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 4309, CONSEC STA 31

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2796 LOW 0372
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4310	SBNMS SITE C9	CONSEC. STATION 32	DAY-NIGHT		GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5	NAV GPS
VIDEO ON BOTTOM to EDT HH MM SS (13 17 06)	DPH, m 28	Lat N .4832 42 deg 13.481 min	Lon W .5428 70 deg 17.537 min	
VIDEO and side EDT HH MM SS 13 23 30	DPH, m	Lat N 42 deg 13.453 min	Lon W 70 deg 17.464 min	
SAMPLE UTC HH MM SS (EDT + 4) 171620 cast 034	DPH, m	Lat N .4529 42 deg min	Lon W .4660 70 deg min	

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

			SAMPLE TYPES
			sed grab temp logr
			sand lance (std) pH

	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	stenoph	sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake	hydrorids in	sand lance in water column y, (n)
	dk yellow spg	sand dollars	troughs	sand lance in substrate y, n
	Didemnum cols	sand lance adults	few	sand lance out of substrate (y) n
	dogfish	sand lance juvs		sand lance in sed sample (y) n
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml (med) lg
	finger spg	sea stars		nos: 1
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.4 ; Surface (-1 m) deg C 13.1 ; 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 Auk2015017_sta_img #
1						
2						
3						
4						
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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 C9      USGS STATION 4310      CONSEC STA 32

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2797 LOW 0373
USGS STA 4311		SBNMS SITE C10	CONSEC. STATION 33	DAY-NIGHT	GP STILL FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5
VIDEO ON BOTTOM X	EDT HH MM SS 133650	DPH, m 31	Lat N 42 deg 14.534 min	Lon W 70 deg 17.752 min	NAV GPS
VIDEO and GP	EDT HH MM SS 134320	DPH, m	Lat N 42 deg 14.522 min	Lon W 70 deg 17.676 min	
SAMPLE	UTC HH MM SS (EDT + 4) 173550 cast 035	DPH, m	Lat N 42 deg 15.221 min	Lon W 70 deg 17.678 min	

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

			SAMPLE TYPES	
			sed grab temp logr	
			sand lance ctd pH	

	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	stenoph	sand partial veneer on gravel y, n
	cod	red encr. spg	many	gravel pavement y, n
	cunner	red hake		sand lance in water column y, n
	dk yellow spg ✓	sand dollars		sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops		
	Filograna implexa ✓	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.14 ; Surface (-1 m) deg C 12.5 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =

USGS STATION 4311

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site C10, CONSEC STA 33



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: MP 2798 LOW 0374
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4312	SBNMS SITE C11	CONSEC. STATION 34	DAY - NIGHT	GP STILLS FILE:	

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5	NAV GPS
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VIDEO ON BOTTOM	EDT HH MM SS (135610)	DPH, m 32	Lat N 42 deg 15.598 min	Lon W 70 deg 17.858 min
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VIDEO and SAMPLE	EDT HH MM SS 140236	DPH, m	Lat N 42 deg 15.599 min	Lon W 70 deg 17.788 min
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	UTC HH MM SS (EDT + 4) 175549	DPH, m	Lat N 42 deg .5990 min	Lon W 70 deg .7889 min
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

			SAMPLE TYPES	
			sed grab	temp log
			sand lance	ctd pH

*bad sample, analysis discarded*

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples (y) n
	brachiopod	moon snail <i>core</i>	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	<i>hydra in tr.</i>	gravel pavement y, n
	cunner	red hake		sand lance in water column y, n
	dk yellow spg	sand dollars	<i>stenosp</i>	sand lance in substrate y, n
	Didemnum cols	sand lance adults	<i>fan</i>	sand lance out of substrate (y) n
	dogfish	sand lance juvs		sand lance in sed sample y, (n)
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.0 ; Surface (-1 m) deg C 12.4 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =      USGS STATION 4312

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site C11, CONSEC STA 34

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2799 LOW 0375	
USGS STA 4313		SBNMS SITE C12	CONSEC. STATION 35	DAY - NIGHT	GP STILLS FILE:	
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5 NAV GPS	
VIDEO ON BOTTOM x	EDT HH MM SS (14 14 50)	DPH, m 34	Lat N 42 deg 16.501 min 5013	Lon W 70 deg 18.169 min 1735		
VIDEO and SAMPLE	EDT HH MM SS 14 20 40	DPH, m	Lat N 42 deg 16.501 min	Lon W 70 deg 18.110 min		
	UTC HH MM SS (EDT + 4) 18 11 29 CASE 037	DPH, m	Lat N 42 deg 15.008 min	Lon W 70 deg 11.114 min		
NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small						
				SAMPLE TYPES sed grab temp log sand lance ctd pH		
had smpl; analysis discovered						
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	✓ encr	sand partial veneer on gravel	y. n		
cod	red encr. spg	05:07	gravel pavement	y. n		
cunner	✓ red hake in dip	fishes spg on ripples	sand lance in water column	y. n		
dk yellow spg	sand dollars		sand lance in substrate	y. n		
Didemnum cols	sand lance adults		sand lance out of substrate	y. n		
dogfish	sand lance juvs	dead surf clam	sand lance in sed sample	y. n		
Eucratea loricata	scallops		SL size: sml med lg			
Filograna implexa	sculpin		nos:			
finger spg	sea stars	✓ herring?	trawl/dredge marks	y. n		
flounder	✓ shells & fragments	05:07	ambient light	y. n		
haddock	silver hake	05:29				
Time: EST, UTC		pH: Water col	Surface -1 m	05:34	Salinity: Water col	
Temp: Seabed deg C 4.0		Surface (-1 m) deg C 12.0	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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4313

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C12, CONSEC STA 35

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2800 LOW 0376
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4314	SBNMS SITE C13	CONSEC. STATION 36	DAY-NIGHT		GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5	NAV GPS
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VIDEO ON BOTTOM	EDT HH MM SS (14 34 34)	DPH, m 30	Lat N 42 deg 17.494 min	Lon W 70 deg 18.279 min
VIDEO and SAMPLE	EDT HH MM SS (14 40 32)	DPH, m	Lat N 42 deg 17.481 min	Lon W 70 deg 18.255 min
	UTC HH MM SS (EDT + 4) (18 33 59 LAST 038)	DPH, m	Lat N 42 deg .4818 min	Lon W 70 deg .2558 min

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

egs / pcg, mostly veneer few pc sml b	SAMPLE TYPES sed grab temp log sand lance ctd pH
--	--

	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	md coral	sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake	stenoph	sand lance in water column y, n
	dk yellow spg	sand dollars		sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 4.0 ; Surface (-1 m) deg C 11.5 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =      USGS STATION 4314  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site C13, CONSEC STA 36



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2801 LOW 0377
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4315	SBNMS SITE C14	CONSEC. STATION 37	DAY-NIGHT		GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5	NAV GPS
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VIDEO ON BOTTOM STA	EDT HH MM SS 145256	DPH, m 29	Lat N 42 deg 18.448 min .4487	Lon W 70 deg 18.391 min .5933
	EDT HH MM SS 145918	DPH, m	Lat N 42 deg 18.442 min	Lon W 70 deg 18.372 min
	UTC HH MM SS (EDT + 4) 185154 CGST039	DPH, m	Lat N 42 deg .4417 min	Lon W 70 deg .3723 min

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

			SAMPLE TYPES
			sed grab temp logr
			sand lance ctd pH

	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	clenop	sand partial veneer on gravel y. n
	cod	red encr. spg		gravel pavement y. n
	cunner	red hake		sand lance in water column y. n
	dk yellow spg	sand dollars		sand lance in substrate y. n
	Didemnum cols	sand lance adults		sand lance out of substrate y. n
	dogfish	sand lance juvs		sand lance in sed sample y. n
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y. n
	haddock	silver hake		ambient light y. n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 3.9 ; Surface (-1 m) deg C 11.1 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

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CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2802 LOW 0378
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4316	SBNMS SITE C1	CONSEC. STATION 38	DAY-NIGHT	GP STILLS FILE:	

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5	NAV GPS
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VIDEO ON BOTTOM + STA	EDT HH MM SS (151206)	DPH, m 32	Lat N 42 deg 18.605 min .6054	Lon W 70 deg 17.098 min .092
	EDT HH MM SS 1518 50	DPH, m	Lat N 42 deg 18.595 min	Lon W 70 deg 17.092 min
	UTC HH MM SS (EDT + 4) 191142 COST 040	DPH, m	Lat N 42 deg .5954 min	Lon W 70 deg .0928 min

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

			SAMPLE TYPES
			sed grab temp log
			sand lance ctg pH

			SEABED DESCRIPTION
att epifauna	herring eggs	✓ skate	
Boltenia tunic.	lobster	Suberites spg	storm ripples <i>p. 55 d. (v. low)</i> 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	<i>Aemorph</i>	sand partial veneer on gravel y, n
cod	red encr. spg		gravel pavement y, n
cunner	red hake	<i>long work</i>	sand lance in water column y, n
dk yellow spg	sand dollars		sand lance in substrate y, n
Didemnum cols	sand lance adults		sand lance out of substrate y, n
dogfish	sand lance juvs		sand lance in sed sample y, n
Eucratea loricata	✓ scallops		
Filograna implexa	✓ sculpin		SL size: sml med lg
finger spg	sea stars		nos:
flounder	✓ shells & fragments		trawl/dredge marks y, n
haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.1 ; Surface (-1 m) deg C 11.4 ; 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 Auk2015017_sta_img #
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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 C1      CONSEC STA 4316 38

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2803 LOW 0379
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4317	SBNMS SITE C2	CONSEC. STATION 39	DAY-NIGHT	GP STILLS FILE:	
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5
				NAV GPS	
VIDEO ON BOTTOM	EDT HH MM SS (153120)	DPH, m 32	Lat N 42 deg 17.627 min	Lon W 70 deg 16.901 min	
VIDEO and	EDT HH MM SS 153732	DPH, m	Lat N 42 deg 17.601 min	Lon W 70 deg 16.923 min	
SAMPLE	UTC HH MM SS (EDT + 4) 193106 cast 041	DPH, m	Lat N 42 deg 16.601 min	Lon W 70 deg 16.9226 min	

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

cgs / pcg → pcg present		SAMPLE TYPES sed grab temp logr sand lance (ctd) pH
best sed smpl		

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples v. low 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		sand lance in water column y, n
	dk yellow spg	sand dollars		sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.1 ; Surface (-1 m) deg C 11.8 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4317

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CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2904 LOW 0380
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4318	SBNMS SITE C3	CONSEC. STATION 40	DAY - NIGHT	GP STILLS FILE:	
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5
VIDEO ON BOTTOM	EDT HH MM SS (154928)	DPH, m 30	Lat N 42 deg 16.679 min	Lon W 70 deg 16.815 min	NAV GPS
VIDEO and	EDT HH MM SS 155536	DPH, m	Lat N 42 deg 16.641 min	Lon W 70 deg 16.855 min	
SAMPLE	UTC HH MM SS (EDT + 4) 194904 COST 042	DPH, m	Lat N 42 deg 16.641 min	Lon W 70 deg 16.855 min	

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

			SAMPLE TYPES		
			sed grab temp log		
			sand lance ctd pH		

				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		high mite	sand partial veneer on gravel	y, n
cod	red encr. spg			gravel pavement	y, n
cunner	red hake		adenop	sand lance in water column	y, n
dk yellow spg	sand dollars			sand lance in substrate	y, n
Didemnum cols	sand lance adults			sand lance out of substrate	y, n
dogfish	sand lance juvs			sand lance in sed sample	y, n
Eucratea loricata	scallops				
Filograna implexa	✓ sculpin			SL size: sml	med lg
finger spg	sea stars			nos: 5	4
flounder	shells & fragments			trawl/dredge marks	y, n
haddock	silver hake			ambient light	y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.1 ; Surface (-1 m) deg C 12.2 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =

USGS STATION 4318

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CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2905 LOW 0381
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4319	SBNMS SITE C4	CONSEC. STATION 41	DAY-NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5
VIDEO ON BOTTOM	EDT HH MM SS (160734)	DPH, m 28	Lat N 42 deg 15.725 min	Lon W 70 deg 16.610 min	
	VIDEO and SAMPLE	EDT HH MM SS 161432	DPH, m	Lat N 42 deg 15.679 min	Lon W 70 deg 16.648 min
	UTC HH MM SS (EDT + 4) 206710 LAST 043	DPH, m	Lat N 42 deg .6805 min	Lon W 70 deg .6470 min	

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

			SAMPLE TYPES		
			sed grab temp log		
			sand lance ctd pH		

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate		
Boltenia tunic.	lobster	Suberites spg	storm ripples 2 sets?	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	hard	sand partial veneer on gravel	y, n
cod	red encr. spg	c. serroph	gravel pavement	y, n
cunner	red hake		sand lance in water column	y, n
dk yellow spg	sand dollars		sand lance in substrate	y, n
Didemnum cols	sand lance adults	few tiny	sand lance out of substrate	y, n
dogfish	sand lance juvs	many all	sand lance in sed sample	y, n
Eucratea loricata	scallops			
Filograna implexa	sculpin		SL size: sml	med lg
finger spg	sea stars		nos: 3 1/2	
flounder	shells & fragments		trawl/dredge marks	y, n
haddock	silver hake		ambient light	y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 4.2 ; Surface (-1 m) deg C 12.5 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4319  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site C4 , CONSEC STA 41

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP NO VIDEO LOW 0382 GP STILLS FILE:
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4320	SBNMS SITE C5	CONSEC. STATION 42	DAY-NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5
VIDEO ON BOTTOM	EDT HH MM SS (162710)	DPH, m 27	Lat N 42 deg 14.681 min	Lon W 70 deg 16.418 min	NAV GPS
VIDEO and	EDT HH MM SS 163344	DPH, m	Lat N 42 deg 14.640 min	Lon W 70 deg 16.486 min	
SAMPLE	UTC HH MM SS (EDT + 4) 201650 cast 044	DPH, m	Lat N 42 deg .6402 min	Lon W 70 deg .4841 min	

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

				SAMPLE TYPES	
				sed grab temp logr	
				sand lance ctd pH	

	att epifauna	herring eggs	skate	SEABED DESCRIPTION	
	Boltenia tunic.	lobster	Suberites spg	storm ripples 2 sets?	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	cf. encr. spg	sand partial veneer on gravel	y, n
	cod	red encr. spg	hyd. int.	gravel pavement	y, n
	cunner	red hake		sand lance in water column	y, n
	dk yellow spg	✓ sand dollars rare		sand lance in substrate	y, n
	Didemnum cols	sand lance adults	many	sand lance out of substrate	y, n
	dogfish	sand lance juvs		sand lance in sed sample	y, n
	Eucratea loricata	scallops			
	Filograna implexa	✓ sculpin		SL size: sml	(med) lg
	finger spg	sea stars		nos: /	
	flounder	shells & fragments		trawl/dredge marks	y, n
	haddock	silver hake		ambient light	y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.4 ; Surface (-1 m) deg C 13.0 ; 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 Auk2015017_sta_img #
1						
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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 C5      USGS STATION 4320      CONSEC STA 42



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: vP 2807 LOW 0383
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4321	SBNMS SITE C6	CONSEC. STATION 43	DAY-NIGHT		GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5	NAV GPS
VIDEO ON BOTTOM x EDT HH MM SS (164820)	DPH, m 25	Lat N 42 deg 13.663 min	Lon W 70 deg 16.458 min	
VIDEO and SAMPLE EDT HH MM SS (165512)	DPH, m	Lat N 42 deg 13.621 min	Lon W 70 deg 16.541 min	
UTC HH MM SS (EDT + 4) 204752 LAST 046	DPH, m	Lat N 42 deg 13.622 min	Lon W 70 deg 16.539 min	

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

			SAMPLE TYPES
			sed grab temp log
			sand lance ctd pH

	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	nyct an tr	sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake	ctenoph	sand lance in water column y, n
	dk yellow spg	sand dollars	verse	sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs	at st,	sand lance in sed sample y, n
	Eucratea loricata	scallops	many at end	
	Filograna implexa	sculpin		SL size: sml (med) lg
	finger spg	sea stars		nos: 5 2+(1/2) 9
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.6; Surface (-1 m) deg C 13.4; 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 Auk2015017_sta_img #
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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 C6, CONSEC STA 43      USGS STATION 4321

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2808 LOW 0384
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4322	SBNMS SITE C7	CONSEC. STATION 44	DAY-NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 5
				NAV GPS	
VIDEO ON BOTTOM	EDT HH MM SS 170810	DPH, m 24	Lat N 42 deg 12.672 min .6744	Lon W 70 deg 16.128 min 1.226	
VIDEO and	EDT HH MM SS 171416	DPH, m	Lat N 42 deg 12.649 min	Lon W 70 deg 16.207 min	
SAMPLE	UTC HH MM SS (EDT + 4) 210748 LAST 047	DPH, m	Lat N 42 deg .6490 min	Lon W 70 deg .2042 min	

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

				SAMPLE TYPES
				sed grab temp logr
				sand lance ctd pH

	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	hydr. mtr.	sand lance in water column y, n
	dk yellow spg	sand dollars wave		sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.8 ; Surface (-1 m) deg C 13.3 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4322

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site C7, CONSEC STA 44

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: VP 2809 LOW 0385
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4323	SBNMS SITE S16	CONSEC. STATION 45	DAY-NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2
				NAV GPS	
VIDEO ON BOTTOM	EDT HH MM SS (174338)	DPH, m 21	Lat N 42 deg 9.588 min	Lon W 70 deg 19.272 min	
VIDEO and SAMPLE	EDT HH MM SS 1756 18	DPH, m	Lat N 42 deg 9.573 min	Lon W 70 deg 19.380 min	
	UTC HH MM SS (EDT + 4) 21423 cast 048	DPH, m	Lat N 42 deg .5727 min	Lon W 70 deg .3786 min	

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

				SAMPLE TYPES	
				sed grab	temp log
				sand lance	ctd pH

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	hyd on tv	gravel pavement y. n
cunner	red hake		sand lance in water column y. n
dk yellow spg	sand dollars		sand lance in substrate y. n
Didemnum cols	sand lance adults	many	sand lance out of substrate y. n
dogfish	sand lance juvs		sand lance in sed sample y. n
Eucratea loricata	scallops		
Filograna implexa ✓	sculpin many		SL size: sml med lg
finger spg	sea stars		nos: 9 + 1 sml escaped
flounder	shells & fragments		trawl/dredge marks y. n
haddock	silver hake		ambient light y. n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 6.9 ; Surface (-1 m) deg C 13.5 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =  
 USGS STATION 4323  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site S16      CONSEC STA 45



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2812 LOW 30: 0145 128146
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4324	SBNMS SITE 516	CONSEC. STATION 46	DAY-NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2
VIDEO ON BOTTOM	EDT HH MM SS (180 50 6)	DPH, m 21	Lat N 42 deg 09.599 min	Lon W 70 deg 19.050 min	GPS
VIDEO and SAMPLE	EDT HH MM SS 18 16 12	DPH, m	Lat N 42 deg 09.594 min	Lon W 70 deg 19.257 min	
	UTC HH MM SS (EDT + 4) 220450 cast 049	DPH, m	Lat N 42 deg .5941 min	Lon W 70 deg .2521 min	

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

				SAMPLE TYPES	
				sed grab temp log	
				sand lance ctd pH	

	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	hyd in tr	sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		sand lance in water column y, n
	dk yellow spg	sand dollars		sand lance in substrate y, n
	Didemnum cols	sand lance adults	many	sand lance out of substrate (y, n)
	dogfish	sand lance juvs		sand lance in sed sample (y, n)
	Eucratea loricata	scallops		
	Filograna implexa	✓ sculpin many		SL size: (sm) (med) (lg)
	finger spg	sea stars		nos: 3 (1) (1) (1)
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 6.9 ; Surface (-1 m) deg C 13.6 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =  
 USGS STATION 4324  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site 516 , CONSEC STA 46

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 149	DATE EST MAY 29	NAV FILE NO.	GO PRO VIDEO FILE: UP 2811 LOW 0386
		JD UTC 149	DATE UTC MAY 29		
USGS STA 4325	SBNMS SITE 518	CONSEC. STATION 47	DAY-NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS 222828		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 2
VIDEO ON BOTTOM	EDT HH MM SS 182828	DPH, m 21	Lat N 42 deg 09.098 min	Lon W 70 deg 19.056 min	
VIDEO and SAMPLE	EDT HH MM SS 183430	DPH, m	Lat N 42 deg 09.077 min	Lon W 70 deg 19.136 min	
	UTC HH MM SS (EDT + 4) 222758	DPH, m	Lat N 42 deg 07.75 min	Lon W 70 deg 13.41 min	

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

			SAMPLE TYPES	
			sed grab	temp log
			sand lance	cid pH

		SEABED DESCRIPTION	
att epifauna	herring eggs	skate	
Boltenia tunic.	lobster in dep	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	hyd m tv	sand partial veneer on gravel y n
cod	red encr. spg	ctenoph	gravel pavement y n
cunner	red hake		sand lance in water column y n
dk yellow spg	sand dollars	cnarians	sand lance in substrate y n
Didemnum cols	sand lance adults		sand lance out of substrate y n
dogfish	sand lance juvs		sand lance in sed sample y n
Eucratea loricata	scallops		
Filograna implexa	sculpin		SL size: sml med lg
finger spg	sea stars		nos:
flounder	shells & fragments		trawl/dredge marks y n
haddock	silver hake		ambient light y n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 6.9 ; Surface (-1 m) deg C 13.2 ; 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 Auk2015017_sta_img #
1						
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =

USGS STATION 4325

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site 518      CONSEC STA 47

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 154	DATE EST MAY Jun 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2812 LOW 0388
USGS STA 4326		SBNMS SITE N1	CONSEC. STATION 48	DAY - NIGHT	GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 7
VIDEO ON BOTTOM + EDT HH MM SS		DPH, m 32	Lat N 42 deg 25.162 min	Lon W 70 deg 26.931 min	NAV GPS
VIDEO and EDT HH MM SS		DPH, m	Lat N 42 deg 25.108 min	Lon W 70 deg 26.929 min	
SAMPLE UTC HH MM SS (EDT + 4)		DPH, m	Lat N 42 deg 1.087 min	Lon W 70 deg .9287 min	

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

SAND RIPS			SAMPLE TYPES
			sed grab temp log
			sand lance ctd pH

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples <i>faceted</i> 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		sand lance in water column y, n
	dk yellow spg	sand dollars <i>rare</i>		sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC pH: Water col Surface -1 m Salinity: Water col Surface -1 m

Temp: Seabed deg C 4.3 ; Surface (-1 m) deg C 8.7 ; 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 Auk2015017_sta_img #
1						
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 cm 4326  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED = USGS STATION

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N1, CONSEC STA 48



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 154	DATE EST MAY JUN 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2813 LOW 0389
		JD UTC "	DATE UTC MAY "		
USGS STA 4327	SBNMS SITE N3	CONSEC. STATION 49	DAY-NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 8
					NAV GPS
VIDEO ON BOTTOM	EDT HH MM SS (064952)	DPH, m 32	Lat N 42 deg 24.673 min	Lon W 70 deg 24.389 min	
VIDEO and	EDT HH MM SS (065556)	DPH, m	Lat N 42 deg 24.632 min	Lon W 70 deg 24.399 min	
SAMPLE	UTC HH MM SS (EDT + 4) (104928 cast 052)	DPH, m	Lat N 42 deg .6331 min	Lon W 70 deg .3988 min	

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

			SAMPLE TYPES	
			(sed grab) (temp log)	
			sand lance ctd pH	

	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 piltu.	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	big of spg to 20g	gravel pavement y, n
	cunner	red hake		sand lance in water column y, n
	dk yellow spg	sand dollars		sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata ✓	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.6 ; Surface (-1 m) deg C 8.1 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4327

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site N3, CONSEC STA 49

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 154	DATE EST MAY Jun 3	NAV FILE NO.	GO PRO VIDEO FILE: VP2814 LOW 0390
		JD UTC "	DATE UTC MAY "		
USGS STA 4328	SBNMS SITE N4	CONSEC. STATION 56	DAY-NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 8
					NAV GPS
VIDEO ON BOTTOM	EDT HH MM SS 070822	DPH, m 31	Lat N 42 deg 24.185 min	Lon W 70 deg 23.170 min	
VIDEO and	EDT HH-MM-SS 071442	DPH, m	Lat N 42 deg 24.130 min	Lon W 70 deg 23.171 min	
SAMPLE	UTC HH MM SS (EDT + 4) -110802 cast 053	DPH, m	Lat N 42 deg .1299 min	Lon W 70 deg .1707 min	

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

no smpl	compare Seabed description w/ 3-14 N4	SAMPLE TYPES
		sed grab temp logr
		sand lance ctd pH

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples faint low 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	clenop	gravel pavement y, n
	cunner	red hake		sand lance in water column y, n
	dk yellow spg	sand dollars		sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata ✓	scallops small few		
	Filograna implexa ✓	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.6 ; Surface (-1 m) deg C 8.3 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =

USGS STATION 4328

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site N4, CONSEC STA 56

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 154	DATE EST MAY JUN 03	NAV FILE NO.	GO PRO VIDEO FILE: UP 2815 LOW 0391
		JD UTC "	DATE UTC MAY "		
USGS STA 4329	SBNMS SITE N5	CONSEC. STATION 51	(DAY) - NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 8
					NAV GPS
VIDEO ON BOTTOM	EDT HH MM SS 072808	DPH, m 32	Lat N 42 deg 23.760 min	Lon W 70 deg 22.012 min	
VIDEO and SAMPLE	EDT HH MM SS 0734 12	DPH, m	Lat N 42 deg 23.699 min	Lon W 70 deg 22.067 min	
	UTC HH MM SS (EDT + 4) 112734 cost 054	DPH, m	Lat N 42 deg .6996 min	Lon W 70 deg .0657 min	

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

see N5 2014 for scolls		SAMPLE TYPES sed grab temp logr sand lance ctd pH
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	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples <i>vibent</i> (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	<i>hyd</i>	gravel pavement y, n
	cunner	red hake		sand lance in water column y, (n)
	dk yellow spg	sand dollars		sand lance in substrate y, (n)
	Didemnum cols	sand lance adults		sand lance out of substrate (y) n
	dogfish	sand lance juvs		sand lance in sed sample y, (n)
	Eucratea loricata ✓	scallops <i>small few</i>		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock ✓	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.6 ; Surface (-1m) deg C 8.8 ; 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 Auk2015017_sta_img #
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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 N5, CONSEC STA 51      USGS STATION 4329



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 154	DATE EST MAY Jun 03	NAV FILE NO.	GO PRO VIDEO FILE: UP 2816 LOW 0392
		JD UTC "	DATE UTC MAY "		
USGS STA 4330	SBNMS SITE N6	CONSEC. STATION 52	DAY-NIGHT		GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 8	NAV GPS
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VIDEO ON BOTTOM +	EDT HH MM SS 074904	DPH, m 32	Lat N 42 deg 23.255 min	Lon W 70 deg 20.713 min
VIDEO and SAMPLE	EDT HH MM SS 075508	DPH, m	Lat N 42 deg 23.203 min	Lon W 70 deg 20.789 min
	UTC HH MM SS (EDT + 4) 114847 LAST 055	DPH, m	Lat N 42 deg .2041 min	Lon W 70 deg .7859 min

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

SCALL-CP N6 2014		SAMPLE TYPES sed grab temp logr sand lance ctd pH
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			SEABED DESCRIPTION
att epifauna	herring eggs	skate	
Boltenia tunic.	lobster	Suberites spg	storm ripples faint (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	ctenoph	gravel pavement y, n
cunner	red hake		sand lance in water column y, n
dk yellow spg	sand dollars	mpd	sand lance in substrate y, n
Didemnum cols	sand lance adults		sand lance out of substrate y, n
dogfish	sand lance juvs		sand lance in sed sample y, n
Eucratea loricata	scallops sm lcv		
Filograna implexa	sculpin lg flw		SL size: sml med lg
finger spg	sea stars		nos:
flounder	shells & fragments		trawl/dredge marks y, n
haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 4.3 ; Surface (-1 m) deg C 9.0 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =  
 USGS STATION 4330  
 SBNMS Site N6 , CONSEC STA 52

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 154	DATE EST MAY Jun 03	NAV FILE NO.	GO PRO VIDEO FILE: UP 2817 LOW 0393
USGS STA 4331		SBNMS SITE N7	CONSEC. STATION 53	DAY-NIGHT	GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 8 NAV GPS
VIDEO ON BOTTOM	EDT HH MM SS 080952	DPH, m 31	Lat N 42 deg 22.770 min .7742	Lon W 70 deg 19.521 min .5139	
VIDEO and	EDT HH MM SS 081554	DPH, m	Lat N 42 deg 22.715 min	Lon W 70 deg 19.618 min	
SAMPLE	UTC HH MM SS (EDT + 4) 120933 cost 056	DPH, m	Lat N 42 deg .7162 min	Lon W 70 deg .6137 min	

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

cgS / pch G		SAMPLE TYPES sed grab temp logr sand lance ctd pH
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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 1st crest y, n
	cancer crab	Polymastia spg		sand partial veneer on gravel y, n
	cod	red encr. spg	stenoph	gravel pavement y, n
	cunner	red hake		sand lance in water column y, n
	dk yellow spg	sand dollars	hyd	sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs	calc. nival	sand lance in sed sample y, n
	Eucratea loricata	scallops	on c, b	
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.2 ; Surface (-1 m) deg C 9.1 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =

USGS STATION 4331

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site N7, CONSEC STA 53

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 154	DATE EST MAY Jun 03	NAV FILE NO.	GO PRO VIDEO FILE: JP 2818 LOW 0394
		JD UTC "	DATE UTC MAY		
USGS STA 4332	SBNMS SITE N10	CONSEC. STATION 54	DAY-NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD E
					NAV GPS
VIDEO ON BOTTOM +0	EDT HH MM SS (082736)	DPH, m 30	Lat N 42 deg 21.980 min	Lon W 70 deg 20.259 min	
VIDEO and +0	EDT HH MM SS (083338)	DPH, m	Lat N 42 deg 21.929 min	Lon W 70 deg 20.373 min	
SAMPLE	UTC HH MM SS (EDT +4) (+22722 last 057)	DPH, m	Lat N 42 deg .9292 min	Lon W 70 deg .3701 min	

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

			SAMPLE TYPES		
			sed grab temp logr		
			sand lance ctd pH		

	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.	gylin ripple troughs y n
	juvenile cod	ocean pout	yellow encr. spg	small ripples patch; orange y n
	cancer crab	Polymastia spg		sand-partial veneer on gravel y n
	cod	red encr. spg	ckh...	gravel pavement y n
	cunner	red hake		sand lance in water column y n
	dk yellow spg	sand dollars	...	sand lance in substrate y n
	Didemnum cols	sand lance adults		sand lance out of substrate y n
	dogfish	sand lance juvs		sand lance in sed sample y n
	Eucratea loricata	✓ scallops		
	Filograna implexa	✓ sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
✓	flounder	shells & fragments		trawl/dredge marks y n
	haddock	silver hake		ambient light y n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.0 ; Surface (-1 m) deg C 8.9 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT ABOVE SEABED =

USGS STATION 4332

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N10, CONSEC STA 54



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 154	DATE EST MAY Jun 03	NAV FILE NO.	GO PRO VIDEO FILE: UP 2919 LOW 0395
		JD UTC "	DATE UTC MAY "		
USGS STA 4333	SBNMS SITE N11	CONSEC. STATION 55	DAY - NIGHT		GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 8	NAV GPS
VIDEO ON BOTTOM	EDT HH MM SS 084644	DPH, m 28	Lat N 42 deg 22.491 min	Lon W 70 deg 21.469 min		
	VIDEO and SAMPLE	EDT HH MM SS 085250	DPH, m	Lat N 42 deg 22.427 min	Lon W 70 deg 21.578 min	
	UTC HH MM SS (EDT + 4) 124626 cast 058	DPH, m	Lat N 42 deg .4296 min	Lon W 70 deg .5738 min		

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

				SAMPLE TYPES	
				sed grab	temp logr
				sand lance	ctd pH

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples (-) 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 on crash y, n
	cancer crab	Polymastia spg		sand partial veneer on gravel y, n
	cod	red encr. spg	denoph	gravel pavement y, n
	cunner	red hake		sand lance in water column y, n
	dk yellow spg	sand dollars	myd m tv	sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs	gtr fish	sand lance in sed sample y, n
	Eucratea loricata ✓	scallops		
	Filograna implexa ✓	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	✓ flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 4.0 ; Surface (-1 m) deg C 8.9 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =      USGS STATION 4333  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site N11      , CONSEC STA 55

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 154	DATE EST MAY Jun 03	NAV FILE NO.	GO PRO VIDEO FILE: JP 2820 LOW 0396
USGS STA 4334		SBNMS SITE N12	CONSEC. STATION 56	DAY - NIGHT	GP STILL FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 8 NAV GPS
VIDEO ON BOTTOM + VIDEO and SAMPLE	EDT HH MM SS 090302	DPH, m 27	Lat N .8782 42 deg 22.874 min	Lon W .6470 70 deg 22.657 min	
	EDT HH MM SS 090908	DPH, m	Lat N 42 deg 22.812 min	Lon W 70 deg 22.753 min	
	UTC HH MM SS (EDT + 4) 130229 cast 059	DPH, m	Lat N .8136 42 deg min	Lon W .7495 70 deg min	

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

				SAMPLE TYPES	
				sed grab	temp logr
				sand lance	ctd pH

			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 on crests y, n
cancer crab	Polymastia spg		sand partial veneer on gravel y, n
cod	red encr. spg	clenoph	gravel pavement y, n
cunner	red hake		sand lance in water column y, n
dk yellow spg	sand dollars		sand lance in substrate y, n
Didemnum cols	sand lance adults		sand lance out of substrate y, n
dogfish	sand lance juvs		sand lance in sed sample y, n
Eucratea loricata ✓	scallops sm many cul		
Filograna implexa	sculpin		SL size: sml med lg
finger spg	sea stars		nos:
flounder	shells & fragments		trawl/dredge marks y, n
haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 4.4 ; Surface (-1 m) deg C 9.0 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =      USGS STATION 4334  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site N12, CONSEC STA 56

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 154	DATE EST MAY Jun 03	NAV FILE NO.	GO PRO VIDEO FILE: UP 2821 LOW 0397
		JD UTC "	DATE UTC MAY "		
USGS STA 4335	SBNMS SITE N13	CONSEC. STATION 57	DAY-NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 8
					NAV GPS
VIDEO ON BOTTOM	EDT HH MM SS 0923 54	DPH, m 27	Lat N 42 deg 23.364 min	Lon W 70 deg 23.857 min	
VIDEO and	EDT HH MM SS 0929 56	DPH, m	Lat N 42 deg 23.300 min	Lon W 70 deg 23.931 min	
SAMPLE	UTC HH MM SS (EDT + 4) 132215 cast 060	DPH, m	Lat N 42 deg 23.304 min	Lon W 70 deg 23.9288 min	

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

			SAMPLE TYPES		
			sed grab temp logr		
			sand lance ctd pH		

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples y, n
	brachiopod	moon snail <i>cast</i>	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 on crests y, n
	cancer crab	Polymastia spg		sand partial veneer on gravel y, n
	cod	red encr. spg	<i>hydr, n tv</i>	gravel pavement y, n
	cunner	red hake		sand lance in water column y, n
	dk yellow spg	sand dollars	<i>cleuoph</i>	sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops <i>small</i>		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.7 ; Surface (-1 m) deg C 8.2 ; 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 Auk2015017_sta_img #
1						
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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 N13, CONSEC STA 57      USGS STATION 4335



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 154	DATE EST MAY Juno 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2822 LOW 0398
USGS STA 4336		SBNMS SITE N14	CONSEC. STATION 58	DAY - NIGHT	GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 7 NAV GPS
VIDEO ON BOTTOM	EDT HH MM SS 094210	DPH, m 29	Lat N 42 deg 23.783 min 23.783	Lon W 70 deg 25.085 min 25.085	
VIDEO and SAMPLE	EDT HH MM SS 094830	DPH, m	Lat N 42 deg 23.723 min 23.723	Lon W 70 deg 25.085 min 25.085	
	UTC HH MM SS (EDT + 4) 134153 cast 061	DPH, m	Lat N 42 deg .7245 min .7245	Lon W 70 deg .0835 min .0835	

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

				SAMPLE TYPES	
				sed grab	temp log
				sand lance	ctd pH

				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 pitu.	gvl in ripple troughs	y, n
juvenile cod	ocean pout	yellow encr. spg	small ripples in crests	y, n
cancer crab	Polymastia spg		sand partial veneer on gravel	y, n
cod	red encr. spg	Hyd in tr	gravel pavement	y, n
cunner	red hake	ctenopid	sand lance in water column	y, n
dk yellow spg	sand dollars		sand lance in substrate	y, n
Didemnum cols	sand lance adults		sand lance out of substrate	y, n
dogfish	sand lance juvs		sand lance in sed sample	y, n
Eucratea loricata	scallops			
Filograna implexa	sculpin		SL size: sml med lg	
finger spg	sea stars		nos:	
flounder	shells & fragments		trawl/dredge marks	y, n
haddock	silver hake		ambient light	y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.6 ; Surface (-1 m) deg C 8.3 ; 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 Auk2015017_sta_img #
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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 N14      CONSEC STA 58      USGS STATION 4336

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 154	DATE EST MAY Jun 03	NAV FILE NO.	GO PRO VIDEO FILE: UP 2823 LOW 0399
		JD UTC 1r	DATE UTC MAY 11		GP STILLS FILE:
USGS STA 4337	SBNMS SITE N15	CONSEC. STATION 59	DAY - NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 7 NAV GPS
VIDEO ON BOTTOM 40	EDT HH MM SS (100152)	DPH, m 29	Lat N 42 deg 24.284 min	Lon W 70 deg 26.141 min	
VIDEO and	EDT HH MM SS 100756	DPH, m	Lat N 42 deg 24.218 min	Lon W 70 deg 26.225 min	
SAMPLE	UTC HH MM SS (EDT + 4) 140136 last 062	DPH, m	Lat N 42 deg 24.218 min	Lon W 70 deg 26.227 min	

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

			SAMPLE TYPES		
			sed grab temp logr		
			sand lance (ctd) pH		

		SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples well-formed (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 on wash 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	hidden +	sand lance in water column y, n
cunner	red hake		sand lance in substrate y, n
dk yellow spg	✓ sand dollars		sand lance out of substrate y, n
Didemnum cols	sand lance adults		sand lance in sed sample y, n
dogfish	sand lance juvs		
Eucratea loricata	✓ scallops		SL size: sml med lg
Filograna implexa	✓ sculpin		nos:
finger spg	sea stars		trawl/dredge marks y, n
flounder	shells & fragments		ambient light y, n
haddock	silver hake		

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C 4.8 ; Surface (-1 m) deg C 8.8 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =

USGS STATION 4337

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site N15, CONSEC STA 59

CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 194	DATE EST MAY 03	NAV FILE NO.	GO PRO VIDEO FILE: UP 2824 LOW 0400
		JD UTC "	DATE UTC MAY		GP STILLS FILE:
USGS STA 4338	SBNMS SITE N16	CONSEC. STATION 60	DAY-NIGHT		

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 7	NAV GPS
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VIDEO ON BOTTOM	EDT HH MM SS 101932	DPH, m 32	Lat N 42 deg 24.263 min	Lon W 70 deg 27.478 min
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VIDEO and SAMPLE	EDT HH MM SS 102540	DPH, m	Lat N 42 deg 24.196 min	Lon W 70 deg 27.553 min
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	UTC HH MM SS (EDT + 4) 141906 cast 063	DPH, m	Lat N 42 deg .1970 min	Lon W 70 deg .5499 min
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

no spid			SAMPLE TYPES
			sed grab temp logr
			sand lance ctd pH

			SEABED DESCRIPTION
att epifauna	herring eggs	skate	
Boltenia tunic.	lobster	Suberites spg	storm ripples well-formed (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 on mussels y, n
cancer crab	Polymastia spg		sand partial veneer on gravel y, n
cod	red encr. spg	hyd an tv	gravel pavement y, n
cunner	red hake		sand lance in water column y, n
dk yellow spg	sand dollars ab		sand lance in substrate y, n
Didemnum cols	sand lance adults		sand lance out of substrate y, n
dogfish	sand lance juvs		sand lance in sed sample y, n
Eucratea loricata	scallops		
Filograna implexa	sculpin		SL size: sml med lg
finger spg	sea stars		nos:
flounder	shells & fragments		trawl/dredge marks y, n
haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m  
 Temp: Seabed deg C 4.7 ; Surface (-1 m) deg C 9.3 ; 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM  
 SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =  
 USGS STATION 4338  
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA      SBNMS Site N16, CONSEC STA 60



CRUISE: USGS AUK2015017 SBNMS May 2015		JD EST 154	DATE EST MAY JUN 03	NAV FILE NO.	GO PRO VIDEO FILE: VP 2825 LOW 0401
USGS STA 4339		SBNMS SITE N16	CONSEC. STATION 61	DAY-NIGHT	GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS 43430 UTC		VIDEO END AT SURFACE EDT HH MM SS		Sunset: May 16, 2015 1959 EDT = 2359 UTC	QUAD 7
VIDEO ON BOTTOM	EDT HH MM SS 103430	DPH, m 31	Lat N 42 deg 24.248 min	Lon W 70 deg 27.478 min	NAV GPS
VIDEO and SAMPLE	EDT HH MM SS 103532	DPH, m	Lat N 42 deg 24.236 min	Lon W 70 deg 27.494 min	
	UTC HH MM SS (EDT + 4) 143410 LAST 064	DPH, m	Lat N 42 deg 23.81 min	Lon W 70 deg 27.4892 min	

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

			SAMPLE TYPES		
			sed grab temp log		
			sand lance ctd pH		

	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		sand lance in water column y, n
	dk yellow spg	sand dollars		sand lance in substrate y, n
	Didemnum cols	sand lance adults		sand lance out of substrate y, n
	dogfish	sand lance juvs		sand lance in sed sample y, n
	Eucratea loricata	scallops		
	Filograna implexa	sculpin		SL size: sml med lg
	finger spg	sea stars		nos:
	flounder	shells & fragments		trawl/dredge marks y, n
	haddock	silver hake		ambient light y, n

Time: EST, UTC      pH: Water col      Surface -1 m      Salinity: Water col      Surface -1 m

Temp: Seabed deg C ~ : Surface (-1 m) 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 Auk2015017_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =      CM      DISTANCE BETWEEN PARALLEL LASERS = 15 CM

SIZE OF BOTTOM AREA IMAGED AT      ABOVE SEABED =

USGS STATION 4339

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