

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EST	DATE EDT OCT	NAV FILE NO.	GO PRO VIDEO FILE:
		JD UTC	DATE UTC OCT		
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: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
SAMPLE	EDT HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
Lo / HI TIDE EDT HH MM	Lo / HI TIDE EDT HH MM	STA Lo / HI + / - HH MM = hrs		UTC = EDT +4 HRS	

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 upcast

		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		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		
Filograna implexa	sculpin		
finger spg	sea stars		
flounder	shells & fragments		
haddock	silver hake		

Temp (Onset Tidbit v2): Seabed deg C : Surface (-1 m) deg C : Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

TIDE AT SCITUATE MA USGS STATION

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

V.1  
 Auk 2015062  
 STA 4340-4372

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD <sup>EDT</sup> 294	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: UP 2826 LOW 9738
		JD UTC 294	DATE UTC OCT 21		GP STILLS FILE:
USGS STA 4340	SBNMS SITE 51	CONSEC. STATION 1	DAY - NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD 2 NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 09 18 26	DPH, m 39	Lat N 42 deg 11.250 min	Lon W 70 deg 20.348 min	
SAMPLE	EDT HH MM SS 09 21 46	DPH, m 39	Lat N 42 deg 11.247 min	Lon W 70 deg 20.312 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 09 26 30	DPH, m	Lat N 42 deg 11.247 min	Lon W 70 deg 20.257 min	
Lo/Hi TIDE EDT HH MM	Lo/Hi TIDE EDT HH MM	STA Lo/Hi + / - HH MM = hrs		UTC = EDT +4 HRS	

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 upcast	
				upcast 003	
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		herring wet col y		
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		

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
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PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 51, CONSEC STA 1 USGS STATION 4340



CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD <sup>EDT</sup> 294	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: UP 2827 LOW 9739																																																																				
		JD UTC 294	DATE UTC OCT 21																																																																						
USGS STA 4341	SBNMS SITE 52	CONSEC. STATION	DAY-NIGHT		GP STILLS FILE:																																																																				
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD																																																																				
				NAV GPS																																																																					
VIDEO ON SEABED / SMPL	EDT HH MM SS 094310	DPH, m 26	Lat N 42 deg 11.386 min	Lon W 70 deg 18.237 min																																																																					
SAMPLE	EDT HH MM SS 094903	DPH, m	Lat N 42 deg 11.372 min	Lon W 70 deg 18.183 min																																																																					
VIDEO OFF SEABED / SMPL	EDT HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min																																																																					
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upcast 004.																																																																									
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2"></th> <th colspan="2">SEABED DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>att epifauna</td> <td>herring eggs</td> <td>skate</td> <td>storm ripples (y) n</td> </tr> <tr> <td>Boltenia tunic.</td> <td>lobster</td> <td>Suberites spg</td> <td>crests: sharp (rounded)</td> </tr> <tr> <td>brachiopod</td> <td>moon snail</td> <td>squid</td> <td>gvl in ripple troughs y, n</td> </tr> <tr> <td>bushy bry/hyd</td> <td>mussels</td> <td>tunicate, B pilu.</td> <td>small ripples y, n</td> </tr> <tr> <td>juvenile cod</td> <td>ocean pout</td> <td>yellow encr. spg</td> <td>sand partial veneer on gravel y, n</td> </tr> <tr> <td>✓ cancer crab</td> <td>Polymastia spg</td> <td></td> <td>gravel pavement y, n</td> </tr> <tr> <td>cod</td> <td>red encr. spg</td> <td></td> <td>sand lance in water column y, n</td> </tr> <tr> <td>cunner</td> <td>red hake</td> <td></td> <td>sand lance in substrate y, (n)</td> </tr> <tr> <td>dk yellow spg</td> <td>✓ sand dollars</td> <td></td> <td>sand lance out of substrate y, (n)</td> </tr> <tr> <td>Didemnum cols</td> <td>sand lance adults</td> <td></td> <td>sand lance in sed sample y, (n)</td> </tr> <tr> <td>dogfish</td> <td>sand lance juvs</td> <td></td> <td></td> </tr> <tr> <td>Eucratea loricata</td> <td>✓ scallops</td> <td></td> <td>SL size: sml med lg</td> </tr> <tr> <td>Filograna implexa</td> <td>✓ sculpin</td> <td></td> <td>nos:</td> </tr> <tr> <td>finger spg</td> <td>sea stars</td> <td></td> <td>trawl/dredge marks y, n</td> </tr> <tr> <td>✓ flounder</td> <td>✓ shells &amp; fragments</td> <td></td> <td>ambient light y, n</td> </tr> <tr> <td>haddock</td> <td>silver hake</td> <td></td> <td></td> </tr> </tbody> </table>								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		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		
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Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C																																																																									
DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =																																																																									
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
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USGS STATION 4341

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 52, CONSEC STA 2

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT EST 294	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: UP 2828 LOW 9740
		JD UTC UTC 294	DATE UTC OCT 21		
USGS STA 4342	SBNMS SITE 53	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: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 100546	DPH, m 23	Lat N 42 deg 11.534 min	Lon W 70 deg 16.320 min	
SAMPLE	EDT HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 101114	DPH, m	Lat N 42 deg 11.497 min	Lon W 70 deg 16.253 min	
Lo / Hi HH MM	TIDE EDT HH MM	Lo / Hi HH MM	TIDE EDT HH MM	STA Lo / Hi HH MM	+ / - = hrs UTC = EDT +4 HRS

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 upcast
up Cast 005				
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

Temp (Onset TiddIT v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
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PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 53, CONSEC STA 3

USGS STATION 4342

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT 294	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: UP 2829 LOW 9741
USGS STA 4343		SBNMS SITE 54	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: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 10 26 53	DPH, m 26	Lat N 42 deg 11.683 min	Lon W 70 deg 14.395 min	
SAMPLE	EDT HH MM SS 10 29 09	DPH, m	Lat N 42 deg 11.668 min	Lon W 70 deg 14.382 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 10 32 56	DPH, m	Lat N 42 deg 11.636 min	Lon W 70 deg 14.359 min	
Lo / Hi HH MM	TIDE EDT HH MM	Lo / Hi HH MM	TIDE EDT HH MM	STA Lo / Hi HH MM + / - = hrs	UTC = EDT +4 HRS

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 upcast	

UP CAST 006

	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

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
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PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 54, CONSEC STA 4

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT 294	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: VP 2830 LOW 9742
USGS STA 4344		SBNMS SITE 55	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: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 104545	DPH, m 33	Lat N 42 deg 11.836 min	Lon W 70 deg 12.508 min	
SAMPLE	EDT HH MM SS 104830	DPH, m	Lat N 42 deg 11.802 min	Lon W 70 deg 12.505 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 105122	DPH, m	Lat N 42 deg 11.760 min	Lon W 70 deg 12.493 min	
Lo/HI TIDE EDT HH MM	Lo/HI TIDE EDT HH MM	STA Lo/HI + / - HH MM = hrs		UTC = EDT +4 HRS	

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 upcast

upcast 007

	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		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		

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 55, CONSEC STA 5

USGS STATION 4344



CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD <sup>EDT</sup> 294 EST	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: UP 2831 LOW 9743
USGS STA 4345		SBNMS SITE 56	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: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 110422	DPH, m 39	Lat N 42 deg 11.957 min	Lon W 70 deg 10.485 min	
SAMPLE	EDT HH MM SS 110844	DPH, m	Lat N 42 deg 11.894 min	Lon W 70 deg 10.478 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 111037	DPH, m	Lat N 42 deg 11.874 min	Lon W 70 deg 10.472 min	
Lo / HI HH MM	TIDE EDT HH MM	Lo / HI HH MM	TIDE EDT HH MM	STA Lo / HI HH MM	+ / - hrs UTC = EDT +4 HRS

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 upcast	
up cast 008					
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		

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 56 CONSEC STA 6

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT 294	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: UP 2832 LOW 9744
		JD UTC 294	DATE UTC OCT 21		
USGS STA 4346	SBNMS SITE 57	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: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD
				NAV GPS	
VIDEO ON SEABED / SMPL	EDT HH MM SS 112525	DPH, m 42	Lat N 42 deg 12.123 min	Lon W 70 deg 08.506 min	
SAMPLE	EDT HH MM SS (112949)	DPH, m	Lat N 42 deg 12.082 min	Lon W 70 deg 08.502 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 113148	DPH, m	Lat N 42 deg 12.064 min	Lon W 70 deg 8.499 min	
Lo/HI TIDE EDT HH MM	Lo/HI TIDE EDT HH MM	STA Lo/HI +/- HH MM = hrs		UTC = EDT +4 HRS	

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 upcast
UP Cast 009				
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	% butterfly fish	gravel pavement	y, n
cunner	red hake		sand lance in water column	y, (h)
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

Temp (Onset Tidbit v2): Seabed deg C : Surface (-1 m) deg C : Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

USGS STATION 4346

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 57, CONSEC STA 7



CRUISE: USGS AUK2015062 SBNMS OCT 2015		JDEDT EST 294	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: UP 2833 LOW 9745
USGS STA 4347	SBNMS SITE 58	JD UTC 294	DATE UTC OCT 21	CONSEC. STATION 8	DAY - NIGHT
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 114145	DPH, m 41	Lat N 42 deg 11.127 min	Lon W 70 deg 8.319 min	
SAMPLE	EDT HH MM SS 114532	DPH, m	Lat N 42 deg 11.089 min	Lon W 70 deg 8.330 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 114736	DPH, m	Lat N 42 deg 11.074 min	Lon W 70 deg 8.335 min	
Lo / HI HH MM	TIDE EDT HH MM	Lo / HI HH MM	TIDE EDT HH MM	STA Lo / HI HH MM	+ / - = hrs UTC = EDT +4 HRS

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 upcast
up Cast 010				
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		SL size: sml	med lg
Filograna implexa	sculpin		nos:	2
finger spg	sea stars		rawl/dredge marks	y, n
flounder	shells & fragments		ambient light	y, n
haddock	silver hake			

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 58, CONSEC STA 8

USGS STATION 4347

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT 294 EST	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: 2834 UP 2834 LOW 9746
USGS STA 4348	SBNMS SITE 59	JD UTC 294 UTC	DATE UTC OCT 21	CONSEC. STATION 9	GP STILL FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 120330	DPH, m 39	Lat N 42 deg 10.976 min	Lon W 70 deg 10.335 min	
SAMPLE	EDT HH MM SS 120737	DPH, m	Lat N 42 deg 10.915 min	Lon W 70 deg 10.371 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 120932	DPH, m	Lat N 42 deg 10.889 min	Lon W 70 deg 10.383 min	
Lo / HI TIDE EDT HH MM	Lo / HI TIDE EDT HH MM	STA Lo / HI + / - HH MM = ____ hrs		UTC = EDT +4 HRS	

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

				SAMPLE TYPES	
				sed grab <input checked="" type="checkbox"/> temp log <input checked="" type="checkbox"/>	
				sand lance <input checked="" type="checkbox"/> ctd upcast <input checked="" type="checkbox"/>	
up cast oil					
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		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				

Temp (Onset Tidbit v2): Seabed deg C : Surface (-1 m) deg C : Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 59 CONSEC STA 9

USGS STATION 4348

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD <u>294</u> EST	DATE EDT OCT <u>21</u>	NAV FILE NO.	GO PRO VIDEO FILE: <u>UP 2835</u> <u>LOW 9747</u>
		JD <u>294</u> UTC	DATE UTC OCT <u>21</u>		
USGS STA <u>4349</u>	SBNMS SITE <u>510</u>	CONSEC. STATION <u>10</u>	<u>DAY-NIGHT</u>		GP STILLS FILE:

VIDEO START AT SURFACE EDT HH MM SS	VIDEO END AT SURFACE EDT HH MM SS	Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD	NAV GPS
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VIDEO ON SEABED / SMPL	EDT HH MM SS <u>125521</u>	DPH, m <u>35</u>	Lat N 42 deg <u>10.826</u> min	Lon W 70 deg <u>12.404</u> min
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SAMPLE	EDT HH MM SS <u>125919</u>	DPH, m	Lat N 42 deg <u>10.759</u> min	Lon W 70 deg <u>12.499</u> min
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VIDEO OFF SEABED / SMPL	EDT HH MM SS <u>130125</u>	DPH, m	Lat N 42 deg <u>10.727</u> min	Lon W 70 deg <u>12.545</u> min
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Lo / HI HH MM	TIDE EDT HH MM	Lo / HI HH MM	TIDE EDT HH MM	STA Lo / HI HH MM	+ / - = <u>      </u> hrs	UTC = EDT +4 HRS
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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 <input checked="" type="checkbox"/> temp log <input checked="" type="checkbox"/> sand lance <input checked="" type="checkbox"/> ctd upcast <input checked="" type="checkbox"/>

att epifauna	herring eggs	skate	SEABED DESCRIPTION
Boltenia tunic.	lobster	Suberites spg	storm ripples <input checked="" type="checkbox"/> <u>y</u> <input checked="" type="checkbox"/> <u>n</u>
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, <input checked="" type="checkbox"/> <u>n</u>
dk yellow spg	✓ sand dollars		sand lance in substrate y, n
Didemnum cols	sand lance adults		sand lance out of substrate y, <input checked="" type="checkbox"/> <u>n</u>
✓ dogfish	sand lance juvs		sand lance in sed sample y, <input checked="" type="checkbox"/> <u>n</u>
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

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

USGS STATION 4349

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 510, CONSEC STA 10



CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT 294	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: UP 2836 LOW 9748
USGS STA 4350		SBNMS SITE 511	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: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 132014	DPH, m 26	Lat N 42 deg 10.649 min	Lon W 70 deg 14.438 min	
SAMPLE	EDT HH MM SS (132209)	DPH, m	Lat N 42 deg 10.621 min	Lon W 70 deg 14.484 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 132634	DPH, m	Lat N 42 deg 10.544 min	Lon W 70 deg 14.592 min	
Lo / HI TIDE EDT HH MM	Lo / HI TIDE EDT HH MM	STA Lo / HI + / - HH MM = hrs		UTC = EDT +4 HRS	

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 upcast
upcast 013				
att epifauna	herring eggs	skate	SEABED DESCRIPTION	
Boltenia tunic.	lobster	Suberites spg	storm ripples	(y) n
brachiopod	moon snail	squid	crests: sharp	(y) 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

Temp (Onset Tidbit v2): Seabed deg C : Surface (-1 m) deg C : Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 511, CONSEC STA 11

USGS STATION 4350

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT 294	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: UP 2837 LOW 9749
USGS STA 4351		SBNMS SITE 512	CONSEC. STATION 12	DAY NIGHT	GP STILL FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 134628	DPH, m 25	Lat N 42 deg 10.536 min	Lon W 70 deg 16.319 min	
SAMPLE	EDT HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 135224	DPH, m	Lat N 42 deg 10.459 min	Lon W 70 deg 16.482 min	
Lo/Hi TIDE EDT HH MM	Lo/Hi TIDE EDT HH MM	STA Lo/Hi + / - HH MM = hrs		UTC = EDT +4 HRS	

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

				SAMPLE TYPES	
				sed grab (circled)	
				temp log (circled)	
				sand lance (circled)	
				ctd upcast (circled)	
up cast 014					
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		

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 512, CONSEC STA 12 USGS STATION 4351

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT 294	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: Up 2838 Low 9750
USGS STA 4352		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: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS (140528)	DPH, m 23	Lat N 42 deg 10.380 min	Lon W 70 deg 18.381 min	
SAMPLE	EDT HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 14 11 50	DPH, m	Lat N 42 deg 10.325 min	Lon W 70 deg 18.547 min	
Lo / HI HH MM	TIDE EDT HH MM	Lo / HI HH MM	TIDE EDT HH MM	STA Lo / HI + / - HH MM = hrs	UTC = EDT +4 HRS

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

				SAMPLE TYPES	
				sed grab (x) temp log (x)	
				sand lance (x) cld upcast (x)	
up cast 015					
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		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				

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 513 CONSEC STA 13

USGS STATION 4352



CRUISE: USGS AUK2015062  
SBNMS OCT 2015

JD EDT 294  
EST

DATE EDT 21  
OCT

NAV  
FILE NO.

GO PRO VIDEO  
FILE:

UP 2839  
LOW 9751

USGS  
STA 4353

SBNMS  
SITE 514

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: Oct 19, 2015  
1756 EDT = 2156 UTC

QUAD

NAV

GPS

VIDEO ON  
SEABED / SMPL

EDT HH MM SS

142339

DPH, m

31

Lat N

42 deg 10.240 min

Lon W

70 deg 20.361 min

SAMPLE

EDT HH MM SS

DPH, m

Lat N

42 deg min

Lon W

70 deg min

VIDEO OFF  
SEABED / SMPL

EDT HH MM SS

142944

DPH, m

Lat N

42 deg 10.195 min

Lon W

70 deg 20.502 min

Lo/HI TIDE EDT  
HH MM

Lo/HI TIDE EDT  
HH MM

STA Lo/HI + / -

HH MM = hrs

UTC = EDT +4 HRS

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

old upcast

upcast oib

att epifauna	herring eggs	skate	SEABED DESCRIPTION
Boltenia tunic.	lobster	Suberites spg	storm ripples
brachiopod	moon snail	squid	crests: sharp
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs
juvenile cod	ocean pout	yellow encr. spg	small ripples
cancer crab	Polymastia spg		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 coils	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		

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 514, CONSEC STA 14

USGS STATION 4353

CRUISE: USGS AUK2015062  
SBNMS OCT 2015

JD EDT  
EST 294

DATE EDT  
OCT 21

NAV  
FILE NO.

GO PRO VIDEO  
FILE:  
UP 2840  
LOW 9752

USGS  
STA 4354

SBNMS  
SITE 515

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: Oct 19, 2015  
1756 EDT = 2156 UTC

QUAD

NAV

GPS

VIDEO ON  
SEABED / SMPL

EDT HH MM SS

DPH, m

Lat N  
42 deg 09.743 min

Lon W  
70 deg 20.258 min

SAMPLE

EDT HH MM SS

DPH, m

Lat N  
42 deg 09.711 min

Lon W  
70 deg 20.396 min

VIDEO OFF  
SEABED / SMPL

EDT HH MM SS

DPH, m

Lat N  
42 deg min

Lon W  
70 deg min

Lo / HI  
HH MM

TIDE EDT  
HH MM

STA Lo / HI + / -

HH MM

= hrs

UTC = EDT +4 HRS

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

cld upcast

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		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			

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
1						
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3						
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5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 515, CONSEC STA 15

USGS STATION 4354

CRUISE: USGS AUK2015062  
SBNMS OCT 2015

JD EDT 294

DATE EDT OCT 21

NAV FILE NO.

GO PRO VIDEO FILE:

UP 2841  
LOW 9753

USGS STA 4355

SBNMS SITE 516

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: Oct 19, 2015  
1756 EDT = 2156 UTC

QUAD

NAV

GPS

VIDEO ON SEABED / SMPL

EDT HH MM SS

145831

DPH, m

22

Lat N 42 deg 09.587 min

Lon W 70 deg 19.240 min

SAMPLE

EDT HH MM SS

DPH, m

Lat N 42 deg min

Lon W 70 deg 19.404 min

VIDEO OFF SEABED / SMPL

EDT HH MM SS

150426

DPH, m

Lat N 42 deg 09.556 min

Lon W 70 deg ↓ min

Lo / Hi TIDE EDT  
HH MM

Lo / Hi TIDE EDT  
HH MM

STA Lo / Hi + / -  
HH MM = hrs

UTC = EDT +4 HRS

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 upcast

upcast 018

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 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		SL size: sml med lg
Filograna implexa	sculpin		nos: 1
finger spg	sea stars		trawl/dredge marks y, n
flounder	shells & fragments		ambient light y, n
haddock	silver hake		

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
1						
2						
3						
4						
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 516, CONSEC STA 16

USGS STATION 4355



CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD <sup>EDT</sup> 294 EST	DATE EDT 21 OCT	NAV FILE NO.	GO PRO VIDEO FILE: UP 2842 LOW 9754
USGS STA 4356	SBNMS SITE 317	JD UTC 294	DATE UTC 21 OCT	CONSEC. STATION 17	GP STILL FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS (151654)	DPH, m 21	Lat N 42 deg 9.491 min	Lon W 70 deg 18.141 min	
SAMPLE	EDT HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 1522 42	DPH, m	Lat N 42 deg 9.458 min	Lon W 70 deg 18.284 min	
Lo / Hi HH MM	TIDE EDT HH MM	Lo / Hi HH MM	TIDE EDT HH MM	STA Lo / Hi HH MM	UTC = EDT +4 HRS

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 upcast
upcast-019					
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	

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
1						
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 517, CONSEC STA 17

USGS STATION 4356

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT EST 294	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: UP 2843 LOW 9755
USGS STA 4357		SBNMS SITE 518	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: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 153124	DPH, m 21	Lat N 42 deg 9.085 min	Lon W 70 deg 19.078 min	
SAMPLE	EDT HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 153732	DPH, m	Lat N 42 deg 9.049 min	Lon W 70 deg 19.228 min	
Lo / HI HH MM	TIDE EDT HH MM	Lo / HI HH MM	TIDE EDT HH MM	STA Lo / HI HH MM	+ / - = hrs UTC = EDT +4 HRS

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 upcast
				UPcast 020	
att epifauna	herring eggs	skate	SEABED DESCRIPTION		
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 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		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				

Temp (Onset Tidbit v2): Seabed deg C : Surface (-1 m) deg C : Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
1						
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 518, CONSEC STA 18

USGS STATION 4357

CRUISE: USGS AUK2015062  
SBNMS OCT 2015

JD EST 294

DATE EDT OCT 21

NAV FILE NO.

GO PRO VIDEO FILE:

JD UTC 294

DATE UTC OCT 21

UP 2844  
LOW 9756

USGS STA 4358

SBNMS SITE C8

CONSEC. STATION 19

DAY-NIGHT

GP STILLS FILE:

VIDEO START AT SURFACE  
EDT HH MM SS

VIDEO END AT SURFACE  
EDT HH MM SS

Sunset: Oct 19, 2015  
1756 EDT = 2156 UTC

QUAD

NAV

VIDEO ON SEABED / SMPL

EDT HH MM SS

DPH, m

Lat N 42 deg 12.452 min

Lon W 70 deg 17.470 min

SAMPLE

EDT HH MM SS

DPH, m

Lat N 42 deg 12.446 min

Lon W 70 deg 17.520 min

VIDEO OFF SEABED / SMPL

EDT HH MM SS

DPH, m

Lat N 42 deg 12.438 min

Lon W 70 deg 17.652 min

Lo / Hi TIDE EDT  
HH MM

Lo / Hi TIDE EDT  
HH MM

STA Lo / Hi + / -  
HH MM = hrs

UTC = EDT +4 HRS

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

Sed smpl small; check against  
others from C8 upcast 021

SAMPLE TYPES

sed grab

temp log

sand lance

cid upcast

		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		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		gvl piment on last part
Filograna implexa	✓ sculpin		SL size: sml med lg
finger spg	sea stars		nos:
flounder	shells & fragments		trawl/dredge marks
haddock	silver hake		ambient light

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description ✓ = in photo	Filename Auk2015062_sta_img #
1						
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3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C8, CONSEC STA 19, USGS STATION 4358



CRUISE: USGS AUK2015062  
SBNMS OCT 2015

JD EDT  
294

DATE EDT  
OCT 21

NAV  
FILE NO.

GO PRO VIDEO  
FILE:

VP 2845  
LOW 9757

USGS  
STA 4399

SBNMS  
SITE C9

CONSEC.  
STATION 20

DAY - NIGHT

GP STILLS FILE:

VIDEO START AT SURFACE  
EDT HH MM SS

VIDEO END AT SURFACE  
EDT HH MM SS

Sunset: Oct 19, 2015  
1756 EDT = 2156 UTC

QUAD

NAV

GPS

VIDEO ON  
SEABED / SMPL

EDT HH MM SS

161830

DPH, m

29

Lat N

42 deg 13.518 min

Lon W

70 deg 17.624 min

SAMPLE

EDT HH MM SS

162054

DPH, m

Lat N

42 deg 13.514 min

Lon W

70 deg 17.686 min

VIDEO OFF  
SEABED / SMPL

EDT HH MM SS

162432

DPH, m

Lat N

42 deg 13.509 min

Lon W

70 deg 17.769 min

Lo / HI TIDE EDT  
HH MM

Lo / HI TIDE EDT  
HH MM

STA Lo / HI + / -

HH MM = hrs

UTC = EDT +4 HRS

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 upcast

UPCAST '022

att epifauna	herring eggs	skate	SEABED DESCRIPTION
Boltenia tunic.	lobster	Suberites spg	storm ripples
brachiopod	moon snail	squid	crests: sharp
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs
juvenile cod	ocean pout	yellow encr. spg	small ripples
cancer crab	Polymastia spg		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 loricate	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		

Temp (Onset Tidbit v2): Seabed deg C 1.4 ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
1						
2						
3						
4						
5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C9, CONSEC STA 20

USGS STATION 4399

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT 294	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: UP 2846 LOW 9758
USGS STA 4360	SBNMS SITE C10	JD UTC 294	DATE UTC OCT 21	CONSEC. STATION 21	DAY - NIGHT
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 163902	DPH, m 33	Lat N 42 deg 14.557 min	Lon W 70 deg 17.821 min	
SAMPLE	EDT HH MM SS (164058)	DPH, m	Lat N 42 deg 14.551 min	Lon W 70 deg 17.866 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 164515	DPH, m	Lat N 42 deg 14.545 min	Lon W 70 deg 17.948 min	
Lo / HI TIDE EDT HH MM	Lo / HI TIDE EDT HH MM	STA Lo / HI + / - HH MM = hrs		UTC = EDT +4 HRS	

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 upcast
Upcast. 023				
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		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			

Temp (Onset Tidbit v2): Seabed deg C 17.0 ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description ✓ = in photo	Filename Auk2015062_sta_img #
1						
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5						

HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C10 CONSEC STA 21 USGS STATION 4360

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EST <u>294</u>	DATE EDT OCT <u>21</u>	NAV FILE NO.	GO PRO VIDEO FILE: <u>UP 2847</u> <u>LOW 9759</u>
USGS STA <u>4361</u>		SBNMS SITE <u>C11</u>	CONSEC. STATION <u>22</u>	DAY - NIGHT <u>DAY</u>	GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS <u>(165540)</u>	DPH, m <u>34</u>	Lat N 42 deg <u>15.629</u> min	Lon W 70 deg <u>17.918</u> min	
SAMPLE	EDT HH-MM-SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS <u>170156</u>	DPH, m	Lat N 42 deg <u>15.628</u> min	Lon W 70 deg <u>18.020</u> min	
Lo/Hi TIDE EDT HH MM	Lo/Hi TIDE EDT HH MM	STA Lo/Hi + / - HH MM = hrs		UTC = EDT +4 HRS	

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

<p><i>pebbles in jaws; sample small; complete w/ other C11 smpls</i></p>	upcast only	SAMPLE TYPES
	sed grab	temp log
	sand lance	ctd upcast

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples
	brachiopod	moon snail	squid	crests: sharp
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs
	juvenile cod	ocean pout	yellow encr. spg	small ripples
	cancer crab	Polymastia spg		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		

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
1						
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C11, CONSEC STA 22 **USGS STATION 4361**



CRUISE: USGS AUK2015062 SBNMS OCT 2016		JD EDT EST 294	DATE EDT OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: UP 2348 LOW 9760
USGS STA 4362		SBNMS SITE C12	CONSEC. STATION 23	DAY - NIGHT	GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 171247	DPH, m 36	Lat N 42 deg 16.510 min	Lon W 70 deg 18.235 min	
SAMPLE	EDT HH MM SS 171526	DPH, m	Lat N 42 deg 16.504 min	Lon W 70 deg 18.267 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 171946	DPH, m	Lat N 42 deg 16.502 min	Lon W 70 deg 18.315 min	
Lo / Hi HH MM	TIDE EDT HH MM	Lo / Hi HH MM	TIDE EDT HH MM	STA Lo / Hi + / - HH MM = ____ hrs	
					UTC = EDT +4 HRS

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

Drifted onto gal pment	Upcast 025	SAMPLE TYPES
		sed grab <input checked="" type="checkbox"/> temp log <input checked="" type="checkbox"/>
Sample small; compare/corier C12		sand lance <input type="checkbox"/> ctd upcast <input type="checkbox"/>

	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	part 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	looks det.	trawl/dredge marks	y, n
	haddock	silver hake		ambient light	y, n

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG Image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C12, CONSEC STA 23 **USGS STATION 4362**

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EST <u>294</u>	DATE EDT OCT <u>21</u>	NAV FILE NO.	GO PRO VIDEO FILE: <u>UP 2849</u> <u>LOW 9761</u>																																																																																															
USGS STA <u>4363</u>	SBNMS SITE <u>C13</u>	JD UTC <u>294</u>	DATE UTC OCT <u>21</u>	CONSEC. STATION <u>24</u>	GP STILL FILE: <u>DAY - NIGHT</u>																																																																																															
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS																																																																																															
VIDEO ON SEABED / SMPL	EDT HH MM SS <u>173203</u>	DPH, m <u>33</u>	Lat N 42 deg <u>17.501</u> min	Lon W 70 deg <u>18.334</u> min																																																																																																
<u>SAMPLE</u>	EDT HH MM SS <u>(173713)</u>	DPH, m	Lat N 42 deg <u>17.500</u> min	Lon W 70 deg <u>18.374</u> min																																																																																																
VIDEO OFF SEABED / SMPL	EDT HH MM SS <u>173904</u>	DPH, m	Lat N 42 deg <u>17.500</u> min	Lon W 70 deg <u>18.385</u> min																																																																																																
Lo / Hi TIDE EDT HH MM	Lo / Hi TIDE EDT HH MM	STA Lo / Hi + / - HH MM = <u>      </u> hrs.		UTC = EDT +4 HRS																																																																																																
NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small																																																																																																				
<u>gvl ment → smpl vif sand</u>			SAMPLE TYPES																																																																																																	
<u>sample is veneer + ment</u>			<input checked="" type="checkbox"/> sed grab <input checked="" type="checkbox"/> sand lance <input checked="" type="checkbox"/> temp log <input checked="" type="checkbox"/> ctd upcast																																																																																																	
<table border="1"> <tr><td><input type="checkbox"/></td><td>att epifauna</td><td><input type="checkbox"/></td><td>herring eggs</td><td><input checked="" type="checkbox"/></td><td>skate</td></tr> <tr><td><input type="checkbox"/></td><td>Boltenia tunic.</td><td><input type="checkbox"/></td><td>lobster</td><td><input type="checkbox"/></td><td>Suberites spg</td></tr> <tr><td><input type="checkbox"/></td><td>brachiopod</td><td><input type="checkbox"/></td><td>moon snail</td><td><input type="checkbox"/></td><td>squid</td></tr> <tr><td><input type="checkbox"/></td><td>bushy bry/hyd</td><td><input type="checkbox"/></td><td>mussels</td><td><input type="checkbox"/></td><td>tunicate, B pilu.</td></tr> <tr><td><input type="checkbox"/></td><td>juvenile cod</td><td><input type="checkbox"/></td><td>ocean pout</td><td><input type="checkbox"/></td><td>yellow encr. spg</td></tr> <tr><td><input checked="" type="checkbox"/></td><td>cancer crab</td><td><input type="checkbox"/></td><td>Polymastia spg</td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td>cod</td><td><input type="checkbox"/></td><td>red encr. spg</td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td>cunner</td><td><input type="checkbox"/></td><td>red hake</td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td>dk yellow spg</td><td><input type="checkbox"/></td><td>sand dollars</td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td>Didemnum cols</td><td><input type="checkbox"/></td><td>sand lance adults</td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input checked="" type="checkbox"/></td><td>dogfish</td><td><input type="checkbox"/></td><td>sand lance juvs</td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td>Eucratea loricata</td><td><input type="checkbox"/></td><td>scallops</td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td>Filograna implexa</td><td><input checked="" type="checkbox"/></td><td>sculpin</td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td>finger spg</td><td><input type="checkbox"/></td><td>sea stars</td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input checked="" type="checkbox"/></td><td>flounder</td><td><input type="checkbox"/></td><td>shells &amp; fragments</td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td>haddock</td><td><input type="checkbox"/></td><td>silver hake</td><td><input type="checkbox"/></td><td></td></tr> </table>		<input type="checkbox"/>	att epifauna	<input type="checkbox"/>	herring eggs	<input checked="" type="checkbox"/>	skate	<input type="checkbox"/>	Boltenia tunic.	<input type="checkbox"/>	lobster	<input type="checkbox"/>	Suberites spg	<input type="checkbox"/>	brachiopod	<input type="checkbox"/>	moon snail	<input type="checkbox"/>	squid	<input type="checkbox"/>	bushy bry/hyd	<input type="checkbox"/>	mussels	<input type="checkbox"/>	tunicate, B pilu.	<input type="checkbox"/>	juvenile cod	<input type="checkbox"/>	ocean pout	<input type="checkbox"/>	yellow encr. spg	<input checked="" type="checkbox"/>	cancer crab	<input type="checkbox"/>	Polymastia spg	<input type="checkbox"/>		<input type="checkbox"/>	cod	<input type="checkbox"/>	red encr. spg	<input type="checkbox"/>		<input type="checkbox"/>	cunner	<input type="checkbox"/>	red hake	<input type="checkbox"/>		<input type="checkbox"/>	dk yellow spg	<input type="checkbox"/>	sand dollars	<input type="checkbox"/>		<input type="checkbox"/>	Didemnum cols	<input type="checkbox"/>	sand lance adults	<input type="checkbox"/>		<input checked="" type="checkbox"/>	dogfish	<input type="checkbox"/>	sand lance juvs	<input type="checkbox"/>		<input type="checkbox"/>	Eucratea loricata	<input type="checkbox"/>	scallops	<input type="checkbox"/>		<input type="checkbox"/>	Filograna implexa	<input checked="" type="checkbox"/>	sculpin	<input type="checkbox"/>		<input type="checkbox"/>	finger spg	<input type="checkbox"/>	sea stars	<input type="checkbox"/>		<input checked="" type="checkbox"/>	flounder	<input type="checkbox"/>	shells & fragments	<input type="checkbox"/>		<input type="checkbox"/>	haddock	<input type="checkbox"/>	silver hake	<input type="checkbox"/>		SEABED DESCRIPTION		
<input type="checkbox"/>	att epifauna	<input type="checkbox"/>	herring eggs	<input checked="" type="checkbox"/>	skate																																																																																															
<input type="checkbox"/>	Boltenia tunic.	<input type="checkbox"/>	lobster	<input type="checkbox"/>	Suberites spg																																																																																															
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<input type="checkbox"/>	juvenile cod	<input type="checkbox"/>	ocean pout	<input type="checkbox"/>	yellow encr. spg																																																																																															
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<input type="checkbox"/>	Eucratea loricata	<input type="checkbox"/>	scallops	<input type="checkbox"/>																																																																																																
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<input type="checkbox"/>	haddock	<input type="checkbox"/>	silver hake	<input type="checkbox"/>																																																																																																
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			gvl in ripple troughs y. n																																																																																																	
			small ripples <u>near end</u> (y) n																																																																																																	
			sand partial veneer on gravel y. n																																																																																																	
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			sand lance in substrate y. n																																																																																																	
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			trawl/dredge marks y. n																																																																																																	
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Temp (Onset TidbiT v2): Seabed deg C        ; Surface (-1 m) deg C        ; Difference deg C       

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED =        CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C13 CONSEC STA 24

USGS STATION 4363

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT 294 JD UTC 294	DATE EDT OCT 21 DATE UTC OCT 21	NAV FILE NO.	GO PRO VIDEO FILE: UP 2850 LOW 9762
USGS STA 4364	SBNMS SITE C14	CONSEC. STATION 25	DAY - NIGHT		GP STILL FILE:
VIDEO START AT SURFACE EDT HH MM SS 21 48 46		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 17 48 46	DPH, m 31	Lat N 42 deg 18.448 min	Lon W 70 deg 18.400 min	
SAMPLE	EDT HH MM SS 17 52 07	DPH, m	Lat N 42 deg 18.447 min	Lon W 70 deg 18.407 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 17 54 24	DPH, m	Lat N 42 deg 18.450 min	Lon W 70 deg 18.414 min	
Lo/HI TIDE EDT HH MM	Lo/HI TIDE EDT HH MM	STA Lo/HI + / - HH MM = hrs	UTC = EDT +4 HRS		

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

sampled sand veneer on pc gnl		SAMPLE TYPES
		sed grab temp log
up cast 027		sand lance ctd upcast

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples sm (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

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C14 USGS STATION 4364 CONSEC STA 25



CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT EST 295	DATE EDT OCT 22	NAV FILE NO.	GO PRO VIDEO FILE: UP 2851 LOW 9763
USGS STA 4365		SBNMS SITE N16	CONSEC. STATION 26	DAY - NIGHT	GP STILL FILE:
VIDEO START AT SURFACE EDT HH MM SS 1318100R		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 091810	DPH, m 31	Lat N 42 deg 24.264 min	Lon W 70 deg 27.435 min	
SAMPLE	EDT HH MM SS 092040	DPH, m	Lat N 42 deg 24.293 min	Lon W 70 deg 27.440 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 092416	DPH, m	Lat N 42 deg 24.337 min	Lon W 70 deg 27.447 min	
Lo / HI HH MM	TIDE EDT HH MM	Lo / HI HH MM	TIDE EDT HH MM	STA Lo / HI HH MM	+ / - hrs
					UTC = EDT +4 HRS

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 upcast
VPCast - 028					
att epifauna	herring eggs	skate	SEABED DESCRIPTION		
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 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		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				

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG Image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

TIDE AT SCITUATE MA USGS STATION 4365

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N16, CONSEC STA 26

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD <sup>EST</sup> 295	DATE EDT OCT 22	NAV FILE NO.	GO PRO VIDEO FILE: UP 2852 LOW 9764
		JD UTC 295	DATE UTC OCT 22		
USGS STA 4366	SBNMS SITE N15	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: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD
					NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 093912	DPH, m 29	Lat N 42 deg 24.283 min	Lon W 70 deg 26.109 min	
SAMPLE	EDT HH MM SS (094216)	DPH, m	Lat N 42 deg 24.316 min	Lon W 70 deg 26.113 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 094518	DPH, m	Lat N 42 deg 24.355 min	Lon W 70 deg 26.116 min	
Lo/HI TIDE EDT HH MM	Lo/HI TIDE EDT HH MM	STA Lo/HI + / - HH MM = _____ hrs		UTC = EDT +4 HRS	

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 upcast
up cast 029					
att epifauna	herring eggs	skate	SEABED DESCRIPTION		
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 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)		
Eucrateria 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		

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N15, CONSEC STA 27 USGS STATION 4366

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD <sup>EDT</sup> 295 EST	DATE EDT 22 OCT	NAV FILE NO.	GO PRO VIDEO FILE: UP 2853 LOW 9765
USGS STA 4367	SBNMS SITE N14	JD UTC 295	DATE UTC 22 OCT	CONSEC. STATION 28	(DAY-NIGHT)
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 100016	DPH, m 28	Lat N 42 deg 23.849 min	Lon W 70 deg 24.976 min	
SAMPLE	EDT HH MM SS (100150)	DPH, m	Lat N 42 deg 23.874 min	Lon W 70 deg 24.970 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 100656	DPH, m	Lat N 42 deg 23.964 min	Lon W 70 deg 24.952 min	
Lo / HI HH MM	TIDE EDT HH MM	Lo / HI HH MM	TIDE EDT HH MM	STA Lo / HI HH MM	+ / - hrs
					UTC = EDT +4 HRS

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 upcast	
				up cast 030	
att epifauna	herring eggs	skate	SEABED DESCRIPTION		
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		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				

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N14, CONSEC STA 28

USGS STATION 4367



CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT 295 JD UTC 295	DATE EDT OCT 22 DATE UTC OCT 22	NAV FILE NO.	GO PRO VIDEO FILE: UP 2854 LOW 9766 GP STILLS FILE:
USGS STA 4368	SBNMS SITE N13	CONSEC. STATION 29	DAY - NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS 102035	DPH, m 27	Lat N 42 deg 23.459 min	Lon W 70 deg 23.781 min	
SAMPLE	EDT HH MM SS 102332	DPH, m	Lat N 42 deg 23.535 min	Lon W 70 deg 23.765 min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 102638	DPH, m	Lat N 42 deg 23.608 min	Lon W 70 deg 23.743 min	
Lo/HI TIDE EDT HH MM	Lo/HI TIDE EDT HH MM	STA Lo/HI + / - HH MM = hrs		UTC = EDT +4 HRS	

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 upcast

		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		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		

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

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CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT 295	DATE EDT OCT 22	NAV FILE NO.	GO PRO VIDEO FILE: VP 2855 LOW 9767	
USGS STA 4369		SBNMS SITE N12	CONSEC. STATION 30	DAY - NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS	
VIDEO ON SEABED / SMPL	EDT HH MM SS 163906	DPH, m 27	Lat N 42 deg 22.950 min	Lon W 70 deg 22.558 min		
SAMPLE	EDT HH MM SS 104058	DPH, m	Lat N 42 deg 23.000 min	Lon W 70 deg 22.541 min		
VIDEO OFF SEABED / SMPL	EDT HH MM SS 104508	DPH, m	Lat N 42 deg 23.107 min	Lon W 70 deg 22.504 min		
Lo/HI TIDE EDT HH MM	Lo/HI TIDE EDT HH MM	STA Lo/HI + / - HH MM = hrs		UTC = EDT +4 HRS		
NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small						
				SAMPLE TYPES		
				sed grab <input checked="" type="checkbox"/> temp log <input checked="" type="checkbox"/>		
				sand lance <input checked="" type="checkbox"/> ctd upcast <input checked="" type="checkbox"/>		
upcast-032						
SEABED DESCRIPTION						
att epifauna	herring eggs	<input checked="" type="checkbox"/> skate	storm ripples			
Boltenia tunic.	lobster	Suberites spg	crests: sharp <input checked="" type="checkbox"/> 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			
<input checked="" type="checkbox"/> cancer crab	Polymastia spg		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	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> scallops		SL size: sml med lg			
Filograna implexa	<input checked="" type="checkbox"/> sculpin		nos:			
finger spg	sea stars		trawl/dredge marks y, n			
<input checked="" type="checkbox"/> flounder	shells & fragments		ambient light y, n			
haddock	silver hake					
Temp (Onset TdbIT v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C						
DIGITAL VIDEO STILL PHOTOS: GO PRO (3, 3+) @ sec interval; No. of photos =						
No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM						
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PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N12, CONSEC STA 30						

CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD <sup>EDT</sup> 295 EST	DATE EDT OCT 22	NAV FILE NO.	GO PRO VIDEO FILE: UP 2856 LOW 9768 GP STILLS FILE:
USGS STA 4370	SBNMS SITE N11	JD UTC 295	DATE UTC OCT 22	CONSEC. STATION 31	DAY - NIGHT
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS (105919)	DPH, m 28	Lat N 42 deg 22.527 min	Lon W 70 deg 21.366 min	
SAMPLE	EDT HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 110832	DPH, m	Lat N 42 deg 22.693 min	Lon W 70 deg 21.273 min	
Lo/HI HH MM	TIDE EDT HH MM	Lo/HI HH MM	TIDE EDT HH MM	STA Lo/HI HH MM	+/- = hrs UTC = EDT +4 HRS

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

			upcast 031		SAMPLE TYPES	
			gve ment		sed grab sand lance	
			her end → fgs		temp log ctd upcast	
	att epifauna	herring eggs	skate	SEABED DESCRIPTION		
	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		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		rawl/dredge marks		
	flounder	shells & fragments		ambient light		
	haddock	silver hake				

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
TIDE AT SCITUATE MA

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USGS STATION 4370



CRUISE: USGS AUK2015062 SBNMS OCT 2015		JD EDT EST 295	DATE EDT OCT 22	NAV FILE NO.	GO PRO VIDEO FILE: UP 2857 LOW 9769
USGS STA 4371		SBNMS SITE 519	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: Oct 19, 2015 1756 EDT = 2156 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EDT HH MM SS (121827)	DPH, m 23	Lat N 42 deg 12.051 min	Lon W 70 deg 16.427 min	
SAMPLE	EDT HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EDT HH MM SS 122416	DPH, m	Lat N 42 deg 12.138 min	Lon W 70 deg 16.337 min	
Lo / HI HH MM	TIDE EDT HH MM	Lo / HI HH MM	TIDE EDT HH MM	STA Lo / HI HH MM	+ / - hrs
					UTC = EDT +4 HRS

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 upcast	
att epifauna	herring eggs	skate	SEABED DESCRIPTION		
Boltenia tunic.	lobster	Suberites spg	storm ripples		
brachiopod	moon snail	squid	crests: sharp		
bushy bry/hyd	mussels	tunicate, B pilu.	gvi in ripple troughs		
juvenile cod	ocean pout	yellow encr. spg	small ripples		
cancer crab	Polymastia spg		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				

Temp (Onset Tidbit v2): Seabed deg C : Surface (-1 m) deg C : Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
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USGS STATION 4371

CRUISE: USGS AUK2015062  
SBNMS OCT 2015

JD <sup>EST</sup> 295  
JD UTC 295

DATE EDT OCT 22  
DATE UTC OCT 22

NAV  
FILE NO.

GO PRO VIDEO  
FILE:  
UP 2858  
LOW 9770  
GP STILLS FILE:

USGS  
STA 4372

SBNMS  
SITE 520

CONSEC.  
STATION 33

DAY-NIGHT

VIDEO START AT SURFACE  
EDT HH MM SS

VIDEO END AT SURFACE  
EDT HH MM SS

Sunset: Oct 19, 2015  
1756 EDT = 2156 UTC

QUAD

NAV

GPS

VIDEO ON  
SEABED / SMPL

EDT HH MM SS

DPH, m

Lat N  
42 deg 11.632 min

Lon W  
70 deg 16.463 min

SAMPLE

EDT HH MM SS

DPH, m

Lat N  
42 deg min

Lon W  
70 deg min

VIDEO OFF  
SEABED / SMPL

EDT HH MM SS

DPH, m

Lat N  
42 deg 11.663 min

Lon W  
70 deg 16.430 min

Lo / Hi  
HH MM

Lo / Hi  
HH MM

STA Lo / Hi + / -  
HH MM = hrs

UTC = EDT +4 HRS

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 upcast

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	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		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		
	Filograna implexa	sculpin		
	finger spg	sea stars		SL size: sml med lg
	flounder	shells & fragments		nos: 2 2 parts
	haddock	silver hake		ambient light

Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2015062_sta_img #
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM  
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USGS STATION 4372

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