

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST	DATE EST NOV	NAV FILE NO.	GO PRO VIDEO FILE:
		JD UTC	DATE UTC NOV		
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: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
Lo / HI TIDE EST HH MM	Lo / HI TIDE EST HH MM	STA Lo / HI + / - HH MM = _____ hrs		UTC = EST +5 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	cid 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			
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

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

V.2

Auk 2015062

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STA 4373-4414

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2859 LOW 9771																																																																																																						
USGS STA 4373		SBNMS SITE 521	CONSEC. STATION 34	(DAY) NIGHT	GP STILL FILE:																																																																																																						
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS																																																																																																						
VIDEO ON SEABED / SMPL	EST HH MM SS 13 11 05	DPH, m 26	Lat N 42 deg 11.980 min	Lon W 70 deg 17.573 min																																																																																																							
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VIDEO OFF SEABED / SMPL	EST HH MM SS 13 16 10	DPH, m	Lat N 42 deg 12.010 min	Lon W 70 deg 17.611 min																																																																																																							
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<table border="1"> <thead> <tr> <th colspan="2"></th> <th colspan="4">SEABED DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>att epifauna</td> <td>herring eggs</td> <td>skate</td> <td colspan="3">storm ripples</td> </tr> <tr> <td>Boltenia tunic.</td> <td>lobster</td> <td>Suberites spg</td> <td colspan="3">crests: sharp</td> </tr> <tr> <td>brachiopod</td> <td>moon snail</td> <td>squid</td> <td colspan="3">gvl in ripple troughs</td> </tr> <tr> <td>bushy bry/hyd</td> <td>mussels</td> <td>tunicate, B pilu.</td> <td colspan="3">small ripples</td> </tr> <tr> <td>juvenile cod</td> <td>ocean pout</td> <td>yellow encr. spg</td> <td colspan="3">sand partial veneer on gravel</td> </tr> <tr> <td>✓ cancer crab</td> <td>Polymastia spg</td> <td></td> <td colspan="3">gravel pavement</td> </tr> <tr> <td>cod</td> <td>red encr. spg</td> <td></td> <td colspan="3">sand lance in water column</td> </tr> <tr> <td>cunner</td> <td>red hake</td> <td></td> <td colspan="3">sand lance in substrate</td> </tr> <tr> <td>dk yellow spg</td> <td>✓ sand dollars</td> <td></td> <td colspan="3">sand lance out of substrate</td> </tr> <tr> <td>Didemnum cols</td> <td>sand lance adults</td> <td></td> <td colspan="3">sand lance in sed sample</td> </tr> <tr> <td>dogfish</td> <td>sand lance juvs</td> <td></td> <td colspan="3">SL size: sml med lg</td> </tr> <tr> <td>Eucratea loricata</td> <td>✓ scallops</td> <td></td> <td colspan="3">nos:</td> </tr> <tr> <td>Filograna implexa</td> <td>✓ sculpin</td> <td></td> <td colspan="3">trawl/dredge marks</td> </tr> <tr> <td>finger spg</td> <td>sea stars</td> <td></td> <td colspan="3">ambient light</td> </tr> <tr> <td>flounder</td> <td>shells & fragments</td> <td></td> <td colspan="3"></td> </tr> <tr> <td>haddock</td> <td>silver hake</td> <td></td> <td colspan="3"></td> </tr> </tbody> </table>								SEABED DESCRIPTION				att epifauna	herring eggs	skate	storm ripples			Boltenia tunic.	lobster	Suberites spg	crests: sharp			brachiopod	moon snail	squid	gvl in ripple troughs			bushy bry/hyd	mussels	tunicate, B pilu.	small ripples			juvenile cod	ocean pout	yellow encr. spg	sand partial veneer on gravel			✓ cancer crab	Polymastia spg		gravel pavement			cod	red encr. spg		sand lance in water column			cunner	red hake		sand lance in substrate			dk yellow spg	✓ sand dollars		sand lance out of substrate			Didemnum cols	sand lance adults		sand lance in sed sample			dogfish	sand lance juvs		SL size: sml med lg			Eucratea loricata	✓ scallops		nos:			Filograna implexa	✓ sculpin		trawl/dredge marks			finger spg	sea stars		ambient light			flounder	shells & fragments					haddock	silver hake				
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HEIGHT OF FWD GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

TIDE AT SCITUATE MA

USGS STATION 4373

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 521, CONSEC STA 34

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: JP 2860 LOW 9772
		JD UTC 307	DATE UTC NOV 3		GP STILLS FILE:
USGS STA 4374	SBNMS SITE 53	CONSEC. STATION 35	DAY NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS (13 38 13)	DPH, m 24	Lat N 42 deg 11.561 min	Lon W 70 deg 16.409 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg 11.587 min	Lon W 70 deg 16.450 min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 1343 26	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
Lo / HI TIDE EST HH MM	Lo / HI TIDE EST HH MM	STA Lo / HI + / - HH MM = hrs	UTC = EST +5 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 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 53, CONSEC STA 35, USGS STATION 4374

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2861 LOW 9773
		JD UTC 307	DATE UTC NOV 3		
USGS STA 4375	SBNMS SITE 54	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: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD
				NAV GPS	
VIDEO ON SEABED / SMPL	EST HH MM SS (140609)	DPH, m 27	Lat N 42 deg 11.700 min	Lon W 70 deg 14.451 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg 1 min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 141122	DPH, m	Lat N 42 deg 11.739 min	Lon W 70 deg 14.518 min	
Lo / HI TIDE EST HH MM	Lo / HI TIDE EST HH MM	STA Lo / HI + / - HH MM = hrs		UTC = EST +5 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 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 (n) 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 Tldbt 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 54 CONSEC STA 36 USGS STATION 4375

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2862 LOW 9774
		JD UTC 307	DATE UTC NOV 3		
USGS STA 4376	SBNMS SITE 54	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: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 142116	DPH, m 27	Lat N 42 deg 11.715 min	Lon W 70 deg 14.475 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 142617	DPH, m	Lat N 42 deg 11.773 min	Lon W 70 deg 14.534 min	
Lo / HI TIDE EST HH MM	Lo / HI TIDE EST HH MM	STA Lo / HI + / - HH MM = hrs		UTC = EST +5 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

			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		SL size: sm med lg
finger spg	sea stars		nos: 7 alive, 2 dead
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 =

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TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 54, CONSEC STA 37 USGS STATION 4376

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2863 LOW 9775
		JD UTC 307	DATE UTC NOV 3		GP STILLS FILE:
USGS STA 4377	SBNMS SITE 54	CONSEC. STATION 38	DAY - NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 143642	DPH, m 28	Lat N 42 deg 11.690 min	Lon W 70 deg 14.435 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 144054	DPH, m	Lat N 42 deg 11.736 min	Lon W 70 deg 14.505 min	
Lo/Hi TIDE EST HH MM	Lo/Hi TIDE EST HH MM	STA Lo/Hi + / - HH MM = hrs		UTC = EST +5 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	cld 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			SL size: sml med lg
Filograna implexa	sculpin			nos: 9 alive 3 dead
finger spg	sea stars			trawl/dredge marks y, n
flounder	shells & fragments			ambient light y, n
haddock	silver hake			

Temp (Onset TldBT 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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TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 54, CONSEC STA 38 USGS STATION 4377

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2864 LOW 9776
		JD UTC 307	DATE UTC NOV 3		
USGS STA 4378	SBNMS SITE 54	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: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 145442	DPH, m 28	Lat N 42 deg 11.708 min	Lon W 70 deg 14.438 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 145915	DPH, m	Lat N 42 deg 11.761 min	Lon W 70 deg 14.478 min	
Lo/Hi HH MM	TIDE EST HH-MM	Lo/Hi HH-MM	TIDE EST HH-MM	STA Lo/Hi + / - HH MM = hrs	UTC = EST +5 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

				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: 1 false 9 dead	
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 =

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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 54, CONSEC STA 39 USGS STATION 4378

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: up 2866 LOW 9778
		JD UTC 307	DATE UTC NOV 3		GP STILLS FILE:
USGS STA 4379	SBNMS SITE 54	CONSEC. STATION 40	DAY NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 151226	DPH, m 28	Lat N 42 deg 11.738 min	Lon W 70 deg 14.437 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 151420	DPH, m	Lat N 42 deg 11.769 min	Lon W 70 deg 14.447 min	
Lo / Hi TIDE EST HH MM	Lo / Hi TIDE EST HH MM	STA Lo / Hi HH MM + / -	UTC = EST +5 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 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 live 3 dead
	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 54 CONSEC STA 40

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2867 LOW 9779
		JD UTC 307	DATE UTC NOV 3		
USGS STA 4380	SBNMS SITE 54	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: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD
				NAV GPS	
VIDEO ON SEABED / SMPL	EST HH MM SS 152822	DPH, m 28	Lat N 42 deg 11.742 min	Lon W 70 deg 14.487 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS (153321)	DPH, m	Lat N 42 deg 11.826 min	Lon W 70 deg 14.515 min	
Lo / HI TIDE EST HH MM	Lo / HI TIDE EST HH MM	STA Lo / HI + / - HH MM = hrs		UTC = EST +5 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 cfd 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		SL size: sml med lg
finger spg	sea stars		nos: 5 live 4 dead
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 54, CONSEC STA 41

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2868 LOW 9780
		JD UTC 307	DATE UTC NOV 3		
USGS STA 4381	SBNMS SITE 34	CONSEC. STATION 42	DAY NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 154453	DPH, m 28	Lat N 42 deg 11.741 min	Lon W 70 deg 14.491 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 154852	DPH, m	Lat N 42 deg 11.808 min	Lon W 70 deg 14.502 min	
Lo / HI HH MM TIDE EST	Lo / HI HH MM TIDE EST	STA Lo / HI + / - HH MM = hrs		UTC = EST +5 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
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 in dep.		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:	14 live 8 dead	
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 54, CONSEC STA 42

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST 3 NOV	NAV FILE NO.	GO PRO VIDEO FILE: UP 2869 LOW No. VIDEO
USGS STA 4382		SBNMS SITE 54	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: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 160437	DPH, m 28	Lat N 42 deg 11.747 min	Lon W 70 deg 14.495 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 160825	DPH, m	Lat N 42 deg 11.781 min	Lon W 70 deg 14.440 min	
Lo/HI TIDE EST HH MM	Lo/HI TIDE EST HH MM	STA Lo/HI + / - HH MM	UTC = EST +5 HRS		

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

No Sample	SAMPLE TYPES	
	sed grab	temp log
	sand lance	cld 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	herring	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 54, CONSEC STA 43, USGS STATION 4382

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2870 LOW 9782
		JD UTC 307	DATE UTC NOV 3		GP STILLS FILE:
USGS STA 4383	SBNMS SITE 54	CONSEC. STATION 44	DAY-NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 161910	DPH, m 28	Lat N 42 deg 11.716 min	Lon W 70 deg 14.512 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED	EST HH MM SS 162308	DPH, m	Lat N 42 deg 11.778 min	Lon W 70 deg 14.467 min	
Lo/Hi HH MM	TIDE EST HH MM	Lo/Hi HH MM	TIDE EST HH MM	STA Lo/Hi HH MM + / - = hrs	UTC = EST +5 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	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: 10 line 8 deat		
finger spg	sea stars		trawl/dredge marks y, n		
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

TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 54, CONSEC STA 44, USGS STATION 4383

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2871 Low 9783
USGS STA 4384		SBNMS SITE 54	CONSEC. STATION 45	DAY-NIGHT NIGHT	GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 163736	DPH, m 28	Lat N 42 deg 11.747 min	Lon W 70 deg 14.440 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 164107	DPH, m	Lat N 42 deg 11.850 min	Lon W 70 deg 14.396 min	
Lo/HI TIDE EST HH MM	Lo/HI TIDE EST HH MM	STA Lo/HI + / - HH MM	= hrs	UTC = EST +5 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	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 54, CONSEC STA 45

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: VP 2872 LOW 9784
		JD UTC 307	DATE UTC NOV 3		GP STILLS FILE:
USGS STA 4385	SBNMS SITE 54	CONSEC. STATION 46	DAY NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 165333	DPH, m 28	Lat N 42 deg 11.721 min	Lon W 70 deg 14.506 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 165559	DPH, m	Lat N 42 deg 11.757 min	Lon W 70 deg 14.472 min	
Lo/HI TIDE EST HH MM	Lo/HI TIDE EST HH MM	STA Lo/HI + / - HH MM	= hrs	UTC = EST +5 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

				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: 6 live 5 dead
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 54, CONSEC STA 46

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2873 LOW 9785
		JD UTC 307	DATE UTC NOV 3		
USGS STA 4386	SBNMS SITE 54	CONSEC STATION 47	DAY-NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 170942	DPH, m 28	Lat N 42 deg 11.658 min	Lon W 70 deg 14.551 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg 11.720 min	Lon W 70 deg 14.517 min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 171221	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
Lo/Hi HH MM	TIDE EST HH-MM	Lo/Hi HH-MM	TIDE EST HH-MM	STA Lo/Hi HH MM + / - = hrs	UTC = EST +5 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 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: 17 line 10.5.0.0.1
	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

USGS STATION

CONSEC STA

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2874 LOW 9786
		JD UTC 307	DATE UTC NOV 3		
USGS STA 4387	SBNMS SITE 54	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: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD
				NAV GPS	
VIDEO ON SEABED / SMPL	EST HH MM SS 1723 13	DPH, m 28	Lat N 42 deg 11.750 min	Lon W 70 deg 14.507 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 1725 44	DPH, m	Lat N 42 deg 11.779 min	Lon W 70 deg 14.462 min	
Lo / HI HH MM	TIDE EST HH MM	Lo / HI HH MM	TIDE EST HH MM	STA Lo / HI + / - HH MM = hrs	UTC = EST +5 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 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	atlantic mackerel?	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: sm med lg
	finger spg	sea stars		nos: 21 live 4 dead
	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 54, CONSEC STA 48 USGS STATION 4387

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 307	DATE EST NOV 3	NAV FILE NO.	GO PRO VIDEO FILE: UP 2875 LOW 9787
		JD UTC 307	DATE UTC NOV 3		GP STILLS FILE:
USGS STA 4388	SBNMS SITE 54	CONSEC. STATION 49	DAY-NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 1740 04	DPH, m 28	Lat N 42 deg 11.772 min	Lon W 70 deg 14.42 min	
SAMPLE	EST HH MM SS 1742 52	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 1742 52	DPH, m	Lat N 42 deg 11.804 min	Lon W 70 deg 14.374 min	
Lo / HI TIDE EST HH MM	Lo / HI TIDE EST HH MM	STA Lo / HI + / - HH MM = hrs		UTC = EST +5 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 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: 1 dead
	finger spg	sea stars		trawl/dredge marks y, n
	flounder	shells & fragments		ambient light y, n
	haddock	silver hake		

Temp (Onset Tldbt 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

USGS STATION 4388

CONSEC STA 49

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2876 LOW 9788
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4389	SBNMS SITE N1	CONSEC. STATION 50	DAY - NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD
					NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 10 10 09	DPH, m 32	Lat N 42 deg 25.256 min	Lon W 70 deg 26.907 min	
SAMPLE	EST HH MM SS 10 13 28	DPH, m	Lat N 42 deg 25.238 min	Lon W 70 deg 26.892 min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 10 15 58	DPH, m	Lat N 42 deg 25.225 min	Lon W 70 deg 26.881 min	
Lo/HI TIDE EST HH MM	Lo/HI TIDE EST HH MM	STA Lo/HI + / - HH MM = hrs		UTC = EST +5 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		
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 N1, CONSEC STA 50

USGS STATION 4389

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: JP 2877 LOW 9789 GP STILLS FILE:																																																																																					
		JD UTC 308	DATE UTC NOV 4																																																																																							
USGS STA 4390	SBNMS SITE N3	CONSEC. STATION 51	DAY-NIGHT																																																																																							
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD																																																																																					
				NAV GPS																																																																																						
VIDEO ON SEABED / SMPL	EST HH MM SS 10 37 27	DPH, m 32	Lat N 42 deg 24.691 min	Lon W 70 deg 24.393 min																																																																																						
SAMPLE	EST HH MM SS 10 40 58	DPH, m	Lat N 42 deg 24.686 min	Lon W 70 deg 24.376 min																																																																																						
VIDEO OFF SEABED / SMPL	EST HH MM SS 10 42 38	DPH, m	Lat N 42 deg 24.684 min	Lon W 70 deg 24.367 min																																																																																						
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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3"></th> <th colspan="2">SEABED DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>att epifauna</td> <td>herring eggs</td> <td>skate</td> <td colspan="2"></td> </tr> <tr> <td>Boltenia tunic.</td> <td>lobster</td> <td>Suberites spg</td> <td>storm ripples</td> <td>y, n</td> </tr> <tr> <td>brachiopod</td> <td>moon snail</td> <td>squid</td> <td>crests: sharp</td> <td>(rounded)</td> </tr> <tr> <td>bushy bry/hyd</td> <td>mussels</td> <td>tunicate, B pilu.</td> <td>gvl in ripple troughs</td> <td>y, n</td> </tr> <tr> <td>juvenile cod</td> <td>ocean pout</td> <td>yellow encr. spg</td> <td>small ripples</td> <td>y, n</td> </tr> <tr> <td>cancer crab</td> <td>Polymastia spg</td> <td></td> <td>sand partial veneer on gravel</td> <td>y, n</td> </tr> <tr> <td>cod</td> <td>red encr. spg</td> <td></td> <td>gravel pavement</td> <td>y, n</td> </tr> <tr> <td>cunner</td> <td>red hake</td> <td></td> <td>sand lance in water column</td> <td>y, (n)</td> </tr> <tr> <td>dk yellow spg</td> <td>sand dollars</td> <td></td> <td>sand lance in substrate</td> <td>y, n</td> </tr> <tr> <td>Didemnum cols</td> <td>sand lance adults</td> <td></td> <td>sand lance out of substrate</td> <td>y, (n)</td> </tr> <tr> <td>dogfish</td> <td>sand lance juvs</td> <td></td> <td>sand lance in sed sample</td> <td>y, (n)</td> </tr> <tr> <td>Eucratea loricata</td> <td>✓ scallops</td> <td></td> <td>SL size: sml med lg</td> <td></td> </tr> <tr> <td>Filograna implexa</td> <td>✓ sculpin</td> <td></td> <td>nos:</td> <td></td> </tr> <tr> <td>finger spg</td> <td>sea stars</td> <td></td> <td>trawl/dredge marks</td> <td>y, n</td> </tr> <tr> <td>flounder</td> <td>shells & fragments</td> <td></td> <td>ambient light</td> <td>y, n</td> </tr> <tr> <td>haddock</td> <td>silver hake</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>									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			
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Temp (Onset Tidbit v2): Seabed deg C ; Surface (-1 m) deg C ; Difference deg C																																																																																										
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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 4390, CONSEC STA 51

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV. FILE NO.	GO PRO VIDEO FILE: UP 2878 LOW 9790
		JD UTC 308	DATE UTC NOV 4		GP STILLS FILE:
USGS STA 4391	SBNMS SITE N3	CONSEC. STATION 552	DAY-NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS (104851)	DPH, m 32	Lat N 42 deg 24.687 min	Lon W 70 deg 24.406 min	
SAMPLE	EST HH-MM-SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 10 50 23	DPH, m	Lat N 42 deg 24.686 min	Lon W 70 deg 24.403 min	
Lo/Hi TIDE EST HH MM	Lo/Hi TIDE EST HH MM	STA Lo/Hi +/- HH MM = hrs		UTC = EST +5 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

			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		

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 N3, CONSEC STA 52 USGS STATION 4391

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2879 LOW 9791
		JD UTC 308	DATE UTC NOV 4		GP STILLS FILE:
USGS STA 4392	SBNMS SITE N4	CONSEC. STATION 53	DAY NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 110442	DPH, m 31	Lat N 42 deg 24.178 min	Lon W 70 deg 23.187 min	
SAMPLE	EST HH MM SS 110839	DPH, m	Lat N 42 deg 24.170 min	Lon W 70 deg 23.156 min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 111054	DPH, m	Lat N 42 deg 24.167 min	Lon W 70 deg 23.144 min	
Lo / Hi TIDE EST HH MM	Lo / Hi TIDE EST HH MM	STA Lo / Hi + / - HH MM = hrs		UTC = EST +5 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		
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 11.1 ; 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 N4, CONSEC STA 53

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2880 LOW 9792	
USGS STA 4393		SBNMS SITE N5	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: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS	
VIDEO ON SEABED / SMPL	EST HH MM SS (112153)	DPH, m 32	Lat N 42 deg 23.791 min	Lon W 70 deg 21.976 min		
SAMPLE	EST HH MM SS 112532	DPH, m	Lat N 42 deg 23.785 min	Lon W 70 deg 21.964 min		
VIDEO OFF SEABED / SMPL	EST HH MM SS 112752	DPH, m	Lat N 42 deg 23.781 min	Lon W 70 deg 21.954 min		
Lo/Hi TIDE EST HH MM	Lo/Hi TIDE EST HH MM	STA Lo/Hi + / - HH MM = hrs		UTC = EST +5 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 cld 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	✓ goosefish	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					
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 N5, CONSEC STA 54 USGS STATION 4393

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2881 LOW 9293
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4394	SBNMS SITE N5	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: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 113555	DPH, m 32	Lat N 42 deg 23.789 min	Lon W 70 deg 22.007 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 113751	DPH, m	Lat N 42 deg 23.788 min	Lon W 70 deg 22.006 min	
Lo/Hi HH MM	TIDE EST HH MM	Lo/Hi HH MM	TIDE EST HH MM	STA Lo/Hi HH MM	+ / - = hrs
					UTC = EST +5 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
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

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N5 CONSEC STA 55 USGS STATION 4394

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2882 LOW 9794
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4395	SBNMS SITE Nb	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: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 114924	DPH, m 32	Lat N 42 deg 23.295 min	Lon W 70 deg 20.723 min	
SAMPLE	EST HH MM SS (1153 50)	DPH, m	Lat N 42 deg 23.276 min	Lon W 70 deg 20.732 min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 1155 32	DPH, m	Lat N 42 deg 23.272 min	Lon W 70 deg 20.734 min	
Lo/HI TIDE EST HH MM	Lo/HI TIDE EST HH MM	STA Lo/HI +/- HH MM = ____ hrs		UTC = EST +5 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

			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 few	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 Nb, CONSEC STA 56 USGS STATION 4395

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2883 LOW 9295
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4396	SBNMS SITE N7	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: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 120653	DPH, m 31	Lat N 42 deg 22.796 min	Lon W 70 deg 19.522 min	
SAMPLE	EST HH MM SS (121155)	DPH, m	Lat N 42 deg 22.773 min	Lon W 70 deg 19.541 min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 121308	DPH, m	Lat N 42 deg 22.766 min	Lon W 70 deg 19.548 min	
Lo / HI TIDE EST HH MM	Lo / HI TIDE EST HH MM	STA Lo / HI + / - HH MM	= hrs	UTC = EST +5 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
4396 / 121308					
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	✓ calc alg	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				

Temp (Onset Tidbit v2): Seabed deg C 11.1 ; Surface (-1 m) deg C 11.1 ; Difference deg C 0.0

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 N7, CONSEC STA 57 USGS STATION 4396

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2884 LOW 9796
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4397	SBNMS SITE N10	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: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD
					NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 122556	DPH, m 30	Lat N 42 deg 21.996 min	Lon W 70 deg 20.223 min	
SAMPLE	EST HH MM SS 122939	DPH, m	Lat N 42 deg 21.982 min	Lon W 70 deg 20.248 min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 123152	DPH, m	Lat N 42 deg 21.977 min	Lon W 70 deg 20.266 min	
Lo / Hi TIDE EST HH MM	Lo / Hi TIDE EST HH MM	STA Lo / Hi + / - HH MM = hrs		UTC = EST +5 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	y	n
brachiopod	moon snail	squid	crests: sharp	rounded	
bushy bry/hyd	mussels	tunicate, B pilu.	gvi 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 N10, CONSEC STA 58 USGS STATION 4397

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: vP 2885 LOW 9797
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4398	SBNMS SITE N9	CONSEC. STATION 59	DAY NIGHT		GP STILL FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 124454	DPH, m 31	Lat N 42 deg 21.496 min	Lon W 70 deg 19.167 min	
SAMPLE	EST HH MM SS (124850)	DPH, m	Lat N 42 deg 21.474 min	Lon W 70 deg 19.204 min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 125048	DPH, m	Lat N 42 deg 21.471 min	Lon W 70 deg 19.227 min	
Lo/HI TIDE EST HH MM	Lo/HI TIDE EST HH MM	STA Lo/HI + / - HH MM = ____ hrs		UTC = EST +5 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	goosefish	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 N9, CONSEC STA 59 USGS STATION 4398

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2886 LOW 9798
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4399	SBNMS SITE N8	CONSEC. STATION 60	DAY NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD
				NAV GPS	
VIDEO ON SEABED / SMPL	EST HH MM SS 130227	DPH, m 35	Lat N 42 deg 22.401 min	Lon W 70 deg 18.443 min	
SAMPLE	EST HH MM SS 130620	DPH, m	Lat N 42 deg 22.410 min	Lon W 70 deg 18.502 min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 130822	DPH, m	Lat N 42 deg 22.408 min	Lon W 70 deg 18.530 min	
Lo / Hi HH MM	TIDE EST HH MM	Lo / Hi HH MM	TIDE EST HH MM	STA Lo / Hi + / - HH MM = hrs	UTC = EST +5 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	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	✓ garfish	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 few	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 N8 CONSEC STA 60 USGS STATION 4399

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2887 LOW 9799
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4400	SBNMS SITE C1	CONSEC. STATION 61	DAY NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 13 31 29	DPH, m 32	Lat N 42 deg 18.582	Lon W 70 deg 17.125	
SAMPLE	EST HH MM SS 13 35 12	DPH, m	Lat N 42 deg 18.557	Lon W 70 deg 17.168	
VIDEO OFF SEABED / SMPL	EST HH MM SS 13 37 33	DPH, m	Lat N 42 deg 18.547	Lon W 70 deg 17.203	
Lo / Hi TIDE EST HH MM	Lo / Hi TIDE EST HH MM	STA Lo / Hi + / - HH MM = ____ hrs		UTC = EST +5 HRS	

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

v. cgs into v. cgs / c6 G; 7 cgs		SAMPLE TYPES
		sed grab temp log
		sand lance cld upcast

			SEABED DESCRIPTION
att epifauna	herring eggs	skate	storm ripples
Boltenia tunic.	lobster	Suberites spg	crests: sharp
brachiopod	moon snail	squid	gvl in ripple troughs
bushy bry/hyd	mussels	tunicate, B pilu.	small ripples
juvenile cod	ocean pout	yellow encr. spg	sand partial veneer on gravel
cancer crab	Polymastia spg		gravel pavement
cod	red encr. spg		sand lance in water column
cunner	red hake		sand lance in substrate
dk yellow spg	sand dollars		sand lance out of substrate
Didemnum cols	sand lance adults		sand lance in sed sample
dogfish	sand lance juvs		
Eucratea loricata	scallops		
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 #
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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 4400 USGS STATION 4400
CONSEC STA 61

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: VP 2888 LOW 9800
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4401	SBNMS SITE C2	CONSEC. STATION 62	DAY NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH-MM-SS (13 40 58)	DPH, m 32	Lat N 42 deg 17.627 min	Lon W 70 deg 16.934 min	
SAMPLE	EST HH-MM-SS 13 50 20	DPH, m	Lat N 42 deg 17.607 min	Lon W 70 deg 16.991 min	
VIDEO OFF SEABED / SMPL	EST HH-MM-SS 13 52 54	DPH, m	Lat N 42 deg 17.599 min	Lon W 70 deg 17.027 min	
Lo/HI TIDE EST HH MM	Lo/HI TIDE EST HH MM	STA Lo/HI + / - HH MM = ____ hrs		UTC = EST +5 HRS	

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

"orange red" patch		SAMPLE TYPES
		sed grab temp log
		sand lance cld upcas

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		bl ds
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 C2, CONSEC STA 62

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2889 LOW 9801
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4402	SBNMS SITE C3	CONSEC. STATION 63	DAY NIGHT	GP STILLS FILE:	
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 140113	DPH, m 30	Lat N 42 deg 16.697 min	Lon W 70 deg 16.838 min	
SAMPLE	EST HH MM SS 140512	DPH, m	Lat N 42 deg 16.685 min	Lon W 70 deg 16.904 min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 140707	DPH, m	Lat N 42 deg 16.683 min	Lon W 70 deg 16.938 min	
Lo / Hi TIDE EST HH MM	Lo / Hi TIDE EST HH MM	STA Lo / Hi + / - HH MM = hrs		UTC = EST +5 HRS	

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

smpl spl	SAMPLE TYPES	
	sed grab	temp log
	sand lance	cld 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		
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 C3, CONSEC STA 63 USGS STATION 4402

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2890 LOW 9802
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4403	SBNMS SITE C4	CONSEC. STATION 64	DAY - NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 14 18 17	DPH, m 28	Lat N 42 deg 15.751 min	Lon W 70 deg 16.645 min	
SAMPLE	EST HH MM SS 14 22 10	DPH, m	Lat N 42 deg 15.757 min	Lon W 70 deg 16.718 min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 14 24 09	DPH, m	Lat N 42 deg 15.759 min	Lon W 70 deg 16.762 min	
Lo / Hi HH MM	TIDE EST HH MM	Lo / Hi HH MM	TIDE EST HH MM	STA Lo / Hi HH MM + / - = hrs	UTC = EST +5 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) 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

USGS STATION 4403

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C4 CONSEC STA 64

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2891 LOW 9804! GP STILLS FILE:	
		JD UTC 308	DATE UTC NOV 4			
USGS STA 4404	SBNMS SITE C5	CONSEC. STATION 65	DAY-NIGHT			
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD GPS	
VIDEO ON SEABED / SMPL	EST HH MM SS 143601	DPH, m 28	Lat N 42 deg 14.710 min	Lon W 70 deg 16.470 min		
SAMPLE X	EST HH MM SS 144009	DPH, m	Lat N 42 deg 14.717 min	Lon W 70 deg 16.559 min		
VIDEO OFF SEABED / SMPL	EST HH MM SS 144203	DPH, m	Lat N 42 deg 14.722 min	Lon W 70 deg 16.603 min		
Lo/Hi HH MM TIDE EST	Lo/Hi HH MM TIDE EST	STA Lo/Hi + / - HH MM = ____ hrs		UTC = EST +5 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		SEABED DESCRIPTION		
Boltenia tunic.		lobster		storm ripples y. n		
brachiopod		moon snail		crests: (sharp) (rounded)		
bushy bry/hyd		mussels		gvl in ripple troughs y. n		
juvenile cod		ocean pout		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

TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C5 USGS STATION 4404 CONSEC STA 65

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2892 LOW 9805
USGS STA 4405		SBNMS SITE C6	CONSEC. STATION 66	DAY-NIGHT	GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 145306	DPH, m 26	Lat N 42 deg 13.709 min	Lon W 70 deg 16.449 min	
SAMPLE	EST HH MM SS (145705)	DPH, m	Lat N 42 deg 13.725 min	Lon W 70 deg 16.536 min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 145910	DPH, m	Lat N 42 deg 13.730 min	Lon W 70 deg 16.585 min	
Lo / Hi TIDE EST HH MM	Lo / Hi TIDE EST HH MM	STA Lo / Hi + / - HH MM = ____ hrs		UTC = EST +5 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 (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 few		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 C6, CONSEC STA 66 USGS STATION 4405

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2893 LOW 9806
		JD UTC 308	DATE UTC NOV 4		GP STILLS FILE:
USGS STA 4406	SBNMS SITE C7	CONSEC. STATION 67	DAY - NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 151006	DPH, m 25	Lat N 42 deg 12.713 min	Lon W 70 deg 16.125 min	
SAMPLE	EST HH MM SS 151421	DPH, m	Lat N 42 deg 12.723 min	Lon W 70 deg 16.206 min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 151605	DPH, m	Lat N 42 deg 12.728 min	Lon W 70 deg 16.241 min	
Lo / Hi TIDE EST HH MM	Lo / Hi TIDE EST HH MM	STA Lo / Hi + / - HH MM = hrs		UTC = EST +5 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	hi + 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		SL size:	sml med lg	
Filograna implexa	sculpin		nos:	17 live + dead	
finger spg	sea stars		trawl/dredge marks		y, n
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

TIDE AT SCITUATE MA

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C7, CONSEC STA 67, USGS STATION 4406

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2894 LOW 9807
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4407	SBNMS SITE C15	CONSEC. STATION 68	DAY-NIGHT		GP STILL FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD
				NAV GPS	
VIDEO ON SEABED / SMPL	EST HH MM SS 153121	DPH, m 28	Lat N 42 deg 14.234 min	Lon W 70 deg 16.693 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 153341	DPH, m	Lat N 42 deg 14.243 min	Lon W 70 deg 16.738 min	
Lo / Hi TIDE EST HH MM	Lo / Hi TIDE EST HH MM	STA Lo / Hi + / - HH MM = hrs		UTC = EST +5 HRS	

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

cgS		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		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 C15, CONSEC STA 68 USGS STATION 4407

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2895 LOW 9808
		JD UTC 308	DATE UTC NOV 4		GP STILLS FILE:
USGS STA 4408	SBNMS SITE C16	CONSEC. STATION 69	DAY - NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 154142	DPH, m 27	Lat N 42 deg 14.227 min	Lon W 70 deg 16.430 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 154355	DPH, m	Lat N 42 deg 14.237 min	Lon W 70 deg 16.472 min	
Lo / HI TIDE EST HH MM	Lo / HI TIDE EST HH MM	STA Lo / HI + / - HH MM = hrs		UTC = EST +5 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
cgs		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		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 4408

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C16 CONSEC STA 69

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2896 LOW 9809
		JD UTC 308	DATE UTC NOV 4		GP STILLS FILE:
USGS STA 4409	SBNMS SITE C17	CONSEC. STATION 70	DAY NIGHT		
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 155230	DPH, m 28	Lat N 42 deg 14.224 min	Lon W 70 deg 16.307 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 155443	DPH, m	Lat N 42 deg 14.230 min	Lon W 70 deg 16.353 min	
Lo/Hi TIDE EST HH MM	Lo/Hi TIDE EST HH MM	STA Lo/Hi + / - HH MM = hrs		UTC = EST +5 HRS	

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

cgs		SAMPLE TYPES
		sed grab temp log
		sand lance ctd 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		
	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 4409

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C17, CONSEC STA 70

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2897 LOW 9810
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4410	SBNMS SITE C18	CONSEC. STATION 71	DAY - NIGHT		GP STILL FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD
				NAV GPS	
VIDEO ON SEABED	EST HH MM SS (160501)	DPH, m 28	Lat N 42 deg 14.236 min	Lon W 70 deg 16.030 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 160636	DPH, m	Lat N 42 deg 14.242 min	Lon W 70 deg 16.057 min	
Lo/HI TIDE EST HH MM	Lo/HI TIDE EST HH MM	STA Lo/HI + / - HH MM = ____ hrs		UTC = EST +5 HRS	

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

r fgs	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		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 C18 USGS STATION 4410 CONSEC STA 71

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2898 LOW 9811																																																																				
USGS STA 4411		SBNMS SITE C19	CONSEC. STATION 72	DAY NIGHT	GP STILL FILE:																																																																				
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS																																																																				
VIDEO ON SEABED / SMPL	EST HH MM SS 161736	DPH, m 28	Lat N 42 deg 14.235 min	Lon W 70 deg 15.714 min																																																																					
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min																																																																					
VIDEO OFF SEABED / SMPL	EST HH MM SS 16 18 55	DPH, m	Lat N 42 deg 14.241 min	Lon W 70 deg 15.735 min																																																																					
Lo / HI TIDE EST HH MM	Lo / HI TIDE EST HH MM	STA Lo / HI + / - HH MM = hrs		UTC = EST +5 HRS																																																																					
NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small																																																																									
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				sed grab temp logr																																																																					
fgz / PG				sand lance ctd upcast																																																																					
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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 C19, CONSEC STA 72 USGS STATION 4411

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2899 LOW 9812
		JD UTC 308	DATE UTC NOV 4		
USGS STA 4412	SBNMS SITE C20	CONSEC. STATION 73	DAY - NIGHT		GP STILLS FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD
					NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS	DPH, m	Lat N	Lon W	
	16 28 57	29	42 deg 14.242 min	70 deg 15.381 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N	Lon W	
			42 deg min	70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS	DPH, m	Lat N	Lon W	
	16 30 29		42 deg 14.250 min	70 deg 15.411 min	
Lo / Hi TIDE EST HH MM	Lo / Hi TIDE EST HH MM	STA Lo / Hi + / - HH MM = ____ hrs		UTC = EST +5 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 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 C20, CONSEC STA 73, USGS STATION 4412

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: UP 2900 LOW 9813
USGS STA 4413		SBNMS SITE C21	CONSEC. STATION 74	DAY - NIGHT	GP STILL FILE:
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED	EST HH MM SS 164140	DPH, m 29	Lat N 42 deg 14.236 min	Lon W 70 deg 14.994 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 164346	DPH, m	Lat N 42 deg 14.247 min	Lon W 70 deg 15.035 min	
Lo / HI TIDE EST HH MM	Lo / HI TIDE EST HH MM	STA Lo / HI + / - HH MM = hrs		UTC = EST +5 HRS	

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

Smpl Sed Smpl Fgs		SAMPLE TYPES
		sed grab temp log
		sand lance ctd 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	✓ herring	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: (sm) med lg
	finger spg	sea stars		nos: 2
	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 C21, CONSEC STA 74

USGS STATION 4413

CRUISE: USGS AUK2015062 SBNMS OCT-NOV 2015		JD EST 308	DATE EST NOV 4	NAV FILE NO.	GO PRO VIDEO FILE: VP 2901 LOW 9814
USGS STA 4414		SBNMS SITE C21	JD UTC 308	DATE UTC NOV 4	GP STILL FILE:
CONSEC. STATION 75		DAY NIGHT			
VIDEO START AT SURFACE EDT HH MM SS		VIDEO END AT SURFACE EDT HH MM SS		Sunset: Nov 3, 2015 1635 EDT = 2135 UTC	QUAD NAV GPS
VIDEO ON SEABED / SMPL	EST HH MM SS 165339	DPH, m 29	Lat N 42 deg 14.252 min	Lon W 70 deg 15.012 min	
SAMPLE	EST HH MM SS	DPH, m	Lat N 42 deg min	Lon W 70 deg min	
VIDEO OFF SEABED / SMPL	EST HH MM SS 165944	DPH, m	Lat N 42 deg 14.309 min	Lon W 70 deg 15.110 min	
Lo/HI TIDE EST HH MM	Lo/HI TIDE EST HH MM	STA Lo/HI + / - HH MM = ____ hrs		UTC = EST +5 HRS	

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

f93		SAMPLE TYPES
		sed grab temp logr
		sand lance cid 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 loricatea	scallops		
	Filograna implexa	✓ sculpin		SL size: sml med lg
	finger spg	sea stars		nos: 22
✓	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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USGS STATION 4414

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C21, CONSEC STA 75