

AUK 2016004

STA 4442-4460

CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN: [REDACTED]	JD EST	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE:
		DATE UTC JAN: [REDACTED]	JD UTC	FWD NON-HD VIDEO FILE	UP CAM:
USGS STA	SBNMS SITE	CONSEC. STATION	DAY - NIGHT	UP CAM:	LO CAM:
STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD	NAV = GPS
STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EST	DPH, m	Lat N 42 deg	Lon W 70 deg
STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg	Lon W 70 deg
STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EST	DPH, m	Lat N 42 deg	Lon W 70 deg
Lo / Hi HH MM	TIDE	Lo / Hi HH MM	TIDE	STA Lo / Hi HH MM	+ / - = _____ hrs
				UTC = EST +5 HRS	CTD CAST NO.

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

Station date and time, UTC	DDD : HH : MM : SS	SAMPLE TYPES
		sed grab temp logr
		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 on/in substrate	y.	n
Didemnum cols			sand lance in sed sample	y.	n
dogfish			SL size: sml med lg		
Eucratea loricata	scallops		nos:		
Filograna implexa	sculpin				
finger spg	sea stars		trawled/dredged shell frags	y	n
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 Auk2016004_sta_img #
1						
2						
3						
4						
5						105691

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM TIDE AT SCITUATE MA USGS STATION _____

102

103

JAN 28, 2016 = JD 028

CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0109 LO CAM: 9844 GP STILL FILE:
USGS STA 4442		SBNMS SITE 512	DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM: clip 012
VIDEO START AT SURFACE EST HH MM SS		VIDEO END AT SURFACE EST HH MM SS		Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 2 NAV = GPS
STA LOC	VIDEO ON SEABED SMPL	HH MM SS EST 124826	DPH, m 25	Lat N 42 deg 10.646 min	Lon W 70 deg 16.217 min
STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg .6456 min	Lon W 70 deg .2163 min
STA LOC ✓	VIDEO OFF SEABED / SMPL	HH MM SS EST 124932	DPH, m	Lat N 42 deg 10.6559 min	Lon W 70 deg 16.2194 min
Lo/Hi HH MM	TIDE	Lo/Hi HH MM	TIDE	STA Lo/Hi +1- HH MM = _____ hrs	UTC = EST +5 HRS
					CTD CAST NO. 001

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

Station date and time, UTC	DDD : HH : MM : SS 028 : 17 : 49 : 32	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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			SEABED DESCRIPTION
att epifauna	herring eggs	skate	
Boltenia tunic.	lobster	Suberites spg	storm ripples y. n
brachiopod	moon snail	squid	crests: <u>w/rip</u> 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 on/in substrate y. n
Didemnum cols			sand lance in sed sample y. n
dogfish			SL size: sml med lg
Eucratea loricata	scallops		nos:
Filograna implexa	sculpin		
finger spg	sea stars		trawled/dredged shell frags y n
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 Auk2016004_sta_img #
1						
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HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM TIDE AT SCITUATE MA USGS STATION 4442
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 512, CONSEC STA 1

Lat/lon from GPS was file

CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0110 LO CAM: 9845 GP STILLS FILE:
USGS STA 4443		DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE	
SBNMS SITE 512		CONSEC. STATION 2	DAY-NIGHT DAY	UP CAM: clip 013	

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 2	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EST 12 59 20	DPH, m 26	Lat N 42 deg 10.599 min	Lon W 70 deg 16.230 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg .5980 min	Lon W 70 deg .2287 min
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STA LOC ✓	VIDEO OFF SEABED SMPL	HH MM SS EST 12 59 52	DPH, m	Lat N 42 deg 10.6051 min	Lon W 70 deg 16.2319 min
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Lo/Hi HH MM	TIDE	Lo/Hi HH MM	TIDE	STA Lo/Hi HH MM	+ / - = _____ hrs	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 17 59 52	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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				SEABED DESCRIPTION
att epifauna	herring eggs	skate		
Boltenia tunic.	lobster	Suberites spg	storm ripples	w/ripes (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 on/in substrate	y, (n)
Didemnum cols			sand lance in sed sample	y, (n)
dogfish			SL size: sml med lg	
Eucratea loricata	scallops		nos:	
Filograna implexa	sculpin			
finger spg	sea stars		trawled/dredged shell frags	y n
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 Auk2016004_sta_img #
1						
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HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM TIDE AT SCITUATE MA USGS STATION 4443

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 512, CONSEC STA 2

CRUISE: USGS AUK2016004
SBNMS JAN-FEB 2016

DATE EST JAN-FEB 28 JD EST 028
DATE UTC JAN-FEB 28 JD UTC 028

USGS STA 4444 SBNMS SITE 512
CONSEC. STATION 3 DAY - NIGHT

NAV FILE NO. GO PRO FWD HD VIDEO, FILE: UP CAM: 0111 LO CAM: 9846 GP STILLS FILE:
FWD NON-HD VIDEO FILE UP CAM: clip 014

VIDEO START AT SURFACE EST HH MM SS VIDEO END AT SURFACE EST HH MM SS
Sunset: Jan 25, 2016 1649 EST = 2149 UTC
QUAD 2 NAV = GPS

STA LOC VIDEO ON SEABED / SMPL HH MM SS EST DPH, m Lat N 42 deg 10.543 min Lon W 70 deg 16.195 min

STA LOC SAMPLE HH MM SS EST DPH, m Lat N 42 deg .5414 min Lon W 70 deg .1936 min

STA LOC VIDEO OFF SEABED / SMPL HH MM SS EST DPH, m Lat N 42 deg 10.5494 min Lon W 70 deg 16.1963 min

Lo/Hi TIDE HH MM Lo/Hi TIDE HH MM STA Lo/Hi +/- HH MM = ____ hrs UTC = EST +5 HRS CTD CAST NO.

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

Station date and time, UTC DDD : HH : MM : SS 028 18 11 48

SAMPLE TYPES
sed grab temp logr
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 on/in substrate	y, n
Didemnum cols			sand lance in sed sample	y, n
dogfish			SL size: sml med lg	
Eucratea loricata	scallops		nos.	
Filograna implexa	sculpin			
finger spg	sea stars		trawled/dredged shell frags	y n
flounder	shells & fragments		trawl/dredge marks	y, n
haddock	silver hake		ambient light	y, n

Temp (Onset Tidbit v2): Seabed deg C 6 from UWATEC ; 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 Auk2016004_sta_img #
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HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM TIDE AT SCITUATE MA USGS STATION 4444

CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0112 LO CAM: 9847 GP STILLS FILE:
USGS STA 4445		DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM: clip015	
SBNMS SITE 512		CONSEC. STATION 4	DAY-NIGHT		

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 2	NAV = GPS
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STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EST 132732	DPH, m 26	Lat N 42 deg 10.597 min	Lon W 70 deg 16.177 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg 05.936 min	Lon W 70 deg 17.68 min
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STA LOC ✓	VIDEO OFF SEABED / SMPL	HH MM SS EST 132804	DPH, m	Lat N 42 deg 10.6010 min	Lon W 70 deg 16.1758 min
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Lo/Hi HH MM	TIDE	Lo/Hi HH MM	TIDE	STA Lo/Hi HH MM	+ / - = _____ hrs	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 18 28 04	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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			SEABED DESCRIPTION
att epifauna	herring eggs	skate	
Boltonia 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 on/in substrate y, n
Didemnum cols			sand lance in sed sample y, n
dogfish			SL size: sml med lg
Eucratea loricata	scallops		nos:
Filograna implexa	sculpin		
finger spg	sea stars		trawled/dredged shell frags y n
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 Auk2016004_sta_img #
1						
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HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM TIDE AT SCITUATE MA USGS STATION 4445

CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0113 LO CAM: 9848 GP STILLS FILE:
USGS STA 4446		SBNMS SITE 511	DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM: cep 016
		CONSEC. STATION 5	DAY - NIGHT		

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 2	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EST 134906	DPH, m 29	Lat N 42 deg 10.707 min	Lon W 70 deg 14.327 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg .7062 min	Lon W 70 deg .3254 min
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STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EST 134940	DPH, m	Lat N 42 deg 10.7132 min	Lon W 70 deg 14.3258 min
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Lo/Hi HH MM	TIDE	Lo/Hi HH MM	TIDE	STA Lo/Hi HH MM	+ / - = _____ hrs	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 18 49 40	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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	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 on/in substrate y n
	Didemnum cols			sand lance in sed sample y n
	dogfish			SL size: sml med lg
	Eucratea loricata	scallops		nos:
	Filograna implexa	sculpin		
	finger spg	sea stars		trawled/dredged shell frags y n
	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 Auk2016004_sta_img #
1						
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HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM TIDE AT SCITUATE MA

USGS STATION 4446

CRUISE: USGS AUK2016004
SBNMS JAN-FEB 2016

DATE EST JAN-FEB 28 JD EST 028
DATE UTC JAN-FEB 28 JD UTC 028

USGS STA 4447 SBNMS SITE 522 CONSEC. STATION 6 DAY-NIGHT

NAV FILE NO. GO PRO FWD HD VIDEO, FILE:
UP CAM: 0114
FWD NON-HD VIDEO FILE LO CAM: 9849
UP CAM: GP STILLS FILE: clip 017

STA LOC VIDEO START AT SURFACE EST HH MM SS VIDEO END AT SURFACE EST HH MM SS
Sunset: Jan 25, 2016 1649 EST = 2149 UTC
QUAD 3 NAV = GPS

STA LOC VIDEO ON SEABED SMPL HH MM SS EST DPH, m Lat N 42 deg 0.761 min Lon W 70 deg 12.660 min

STA LOC SAMPLE HH MM SS EST DPH, m Lat N 42 deg .7587 min Lon W 70 deg .6607 min

STA LOC VIDEO OFF SEABED / SMPL HH MM SS EST DPH, m Lat N 42 deg 10.7710 min Lon W 70 deg 12.6567 min

Lo / Hi TIDE HH MM Lo / Hi TIDE HH MM STA Lo / Hi + / - HH MM = ___ hrs UTC = EST +5 HRS CTD CAST NO.

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

Station date and time, UTC DDD : HH : MM : SS 028 19 13 06

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	y n
brachiopod	moon snail	squid	gvl in ripple troughs w ripples	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 on/in substrate	y n
dk yellow spg	✓ sand dollars		sand lance in sed sample	y n
Didemnum cols			SL size: sml med lg	
dogfish			nos:	
Eucratea loricata	scallops		trawled/dredged shell frags	y n
Filograna implexa	sculpin		trawl/dredge marks	y n
finger spg	sea stars		ambient light	y n
flounder	shells & fragments			
haddock	silver hake			

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

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2016004_sta_img #
1						
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CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN/FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 015 LO CAM: 9850 GP STILLS FILE:
		DATE UTC JAN/FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM: clip018	
USGS STA 4448	SBNMS SITE 522	CONSEC. STATION 7	DAY-NIGHT DAY		

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 3	NAV = GPS
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STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EST 142720	DPH, m 36	Lat N 42 deg 10.770 min	Lon W 70 deg 12.699 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m 36	Lat N 42 deg	Lon W 70 deg
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STA LOC ✓	VIDEO OFF SEABED / SMPL	HH MM SS EST 142814	DPH, m	Lat N 42 deg 10.799 min	Lon W 70 deg 12.683 min
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Lo/Hi HH MM	TIDE	Lo/Hi HH MM	TIDE	STA Lo/Hi HH MM	+/-	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 19 28 14	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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			SEABED DESCRIPTION	
att epifauna	herring eggs	skate		
Boltenia tunic.	lobster	Suberites spg	storm ripples	
brachiopod	moon snail	squid	crests: sharp rounded	
bushy bry/hyd	mussels	tunicate, B pillu.	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 on/in substrate y, n	
Didemnum cols			sand lance in sed sample y, n	
dogfish			SL size: sml med lg	
Eucratea loricata	scallops		nos: 3	
Filograna implexa	sculpin			
finger spg	sea stars		trawled/dredged shell frags y, n	
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 Auk2016004_sta_img #
1						
2						
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4						
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HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM TIDE AT SCITUATE MA USGS STATION 4448

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 522, CONSEC STA 70

CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0116 LO CAM: 9851 GP STILLS FILE:
USGS STA 4449		DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM: cip019	
SBNMS SITE 522		CONSEC. STATION 8	DAY - NIGHT		

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 3	NAV = GPS
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STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EST 144122	DPH, m 36	Lat N 42 deg 10.746 min	Lon W 70 deg 12.711 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg .7436 min	Lon W 70 deg .7138 min
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STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EST 144210	DPH, m	Lat N 42 deg 10.7553 min	Lon W 70 deg 12.7046 min
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Lo / Hi HH MM	TIDE	Lo / Hi HH MM	TIDE	STA Lo / Hi HH MM	+ / - = _____ hrs	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 19 42 10	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples y, n
	brachiopod	moon snail	squid	crests: sharp rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y, n
	juvenile cod	ocean pout	yellow encr. spg	small ripples y, n
	cancer crab	Polymastia spg		sand partial veneer on gravel y, n
	cod	red encr. spg		gravel pavement y, n
	cunner	red hake		sand lance in water column y, n
	dk yellow spg	sand dollars		sand lance on/in substrate y, n
	Didemnum cols			sand lance in sed sample y, n
	dogfish			SL size: sml med lg
	Eucratea loricata	scallops		nos:
	Filograna implexa	sculpin		
	finger spg	sea stars		trawled/dredged shell frags y, n
	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 Auk2016004_sta_img #
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HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM TIDE AT SCITUATE MA USGS STATION 4449

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 522, CONSEC STA 8

CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0117 LO CAM: 9852 GP STILLS FILE:
USGS STA 4450		SBNMS SITE 522	DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM: cup 020
		CONSEC. STATION 9	DAY-NIGHT		

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 3	NAV = GPS
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STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EST 145458	DPH, m 36	Lat N 42 deg 10.735 min	Lon W 70 deg 12.648 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg 7.330 min	Lon W 70 deg .6506 min
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STA LOC ✓	VIDEO OFF SEABED / SMPL	HH MM SS EST 145610	DPH, m	Lat N 42 deg 10.7537 min	Lon W 70 deg 12.6343 min
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Lo / Hi HH MM	TIDE	Lo / Hi HH MM	TIDE	STA Lo / Hi HH MM	+ / - = _____ hrs	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 19 56 10	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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			SEABED DESCRIPTION
att epifauna	herring eggs	skate	
Boltenia tunic.	lobster	Suberites spg	storm ripples
brachiopod	moon snail	squid	crests: sharp rounded
bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs 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 on/in substrate y n
Didemnum cols			sand lance in sed sample y n
dogfish			SL size: sml med lg
Eucratea loricatea	scallops		nos:
Filograna implexa	sculpin		
finger spg	sea stars		trawled/dredged shell frags y n
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 Auk2016004_sta_img #
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CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0118 LO CAM: 9853 GP STILL FILE:
USGS STA 4451		SBNMS SITE 522	DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM: clip 021
		CONSEC. STATION 10	DAY - NIGHT		

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 3	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EST 15 12 06	DPH, m 36	Lat N 42 deg 10.760 min	Lon W 70 deg 12.672 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg .7544 min	Lon W 70 deg .6619 min
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STA LOC ✓	VIDEO OFF SEABED / SMPL	HH MM SS EST 15 13 40	DPH, m	Lat N 42 deg 10.7798 min	Lon W 70 deg 12.6524 min
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Lo/Hi HH MM	TIDE	Lo/Hi HH MM	TIDE	STA Lo/Hi + / - HH MM = _____ hrs	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 20 13 40	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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			SEABED DESCRIPTION
att epifauna	herring eggs	skate	
Boltenia tunic.	lobster	Suberites spg	storm ripples
brachiopod	moon snail	squid	crests: sharp rounded
bushy bry/hyd	mussels	tunicate, B pillu.	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 on/in substrate y, n
Didemnum cols			sand lance in sed sample y, n
dogfish			SL size: sml med lg
Eucratea loricata	scallops		nos:
Filograna implexa	sculpin		
finger spg	sea stars		trawled/dredged shell frags y, n
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 Auk2016004_sta_img #
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HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM TIDE AT SCITUATE MA USGS STATION 4451

CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0119 LO CAM: 9854 GP STILLS FILE:
USGS STA 4452		SBNMS SITE 55	DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM: clip022
		CONSEC. STATION 11	DAY-NIGHT		

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 3	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EST 153954	DPH, m 36	Lat N 42 deg 11.868 min	Lon W 70 deg 12.468 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg 8.663 min	Lon W 70 deg 4.710 min
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STA LOC ✓	VIDEO OFF SEABED / SMPL	HH MM SS EST 154040	DPH, m	Lat N 42 deg 11.8739 min	Lon W 70 deg 12.4594 min
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Lo/Hi HH MM	TIDE	Lo/Hi HH MM	TIDE	STA Lo/Hi HH MM	+ / - = _____ hrs	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly, smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 20 40 40	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples y n
	brachiopod	moon snail	squid	crests: sharp rounded
	bushy bry/hyd	mussels	tunicate, B pilu.	gvl in ripple troughs y n
	juvenile cod	ocean pout	yellow encr. spg	small ripples y n
	cancer crab	Polymastia spg		sand partial veneer on gravel y n
	cod	red encr. spg		gravel pavement y n
	cunner	red hake		sand lance in water column y n
	dk yellow spg	✓ sand dollars		sand lance on/in substrate y n
	Didemnum cols			sand lance in sed sample y n
	dogfish			SL size: sml med lg
	Eucratea loricata	scallops		nos:
	Filograna implexa	sculpin		
	finger spg	sea stars		trawled/dredged shell frags y n
	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 Auk2016004_sta_img #
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HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM TIDE AT SCITUATE MA USGS STATION 4452

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 55, CONSEC STA 11

CRUISE: USGS AUK2016004
SBNMS JAN-FEB 2016

DATE EST JAN/FEB 28 JD EST 028
DATE UTC JAN/FEB 28 JD UTC 028

USGS STA 4453 SBNMS SITE 55
CONSEC. STATION 12 DAY-NIGHT

NAV FILE NO. clip023
GO PRO FWD HD VIDEO, FILE: UP CAM: 0120 LO CAM: 9855 GP STILLS FILE:

VIDEO START AT SURFACE EST HH MM SS
VIDEO END AT SURFACE EST HH MM SS

Sunset: Jan 25, 2016 1649 EST = 2149 UTC

QUAD 3 NAV = GPS

STA LOC VIDEO ON SEABED / SMPL HH MM SS EST DPH, m Lat N Lon W

155224 35 42 deg 11.848 min 70 deg 12.522 min

STA LOC SAMPLE HH MM SS EST DPH, m Lat N Lon W

.8463 min .5270 min

STA LOC VIDEO OFF SEABED / SMPL HH MM SS EST DPH, m Lat N Lon W

155320 42 deg 11.8593 min 70 deg 12.5105 min

Lo / Hi TIDE HH MM Lo / Hi TIDE HH MM STA Lo / Hi + / - HH MM = ____ hrs UTC = EST +5 HRS CTD CAST NO.

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

Station date and time, UTC DDD : HH : MM : SS 028 20 53 20

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

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

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2016004_sta_img #
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CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0121 LO CAM: 9856 GP STILL FILE:
		DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM:	
USGS STA 4454	SBNMS SITE 55	CONSEC. STATION 13	DAY-NIGHT	clip 024	

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 3	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EST 160510	DPH, m 35	Lat N 42 deg 11.800 min	Lon W 70 deg 12.508 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg .7996 min	Lon W 70 deg .5118 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EST 160556	DPH, m	Lat N 42 deg 11.8090 min	Lon W 70 deg 12.491 min
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Lo/Hi HH MM	TIDE	Lo/Hi HH MM	TIDE	STA Lo/Hi HH MM	+/- = ___ hrs	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal too gravelly/shelly, smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 21 05 56	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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		SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples
Boltenia tunic.	lobster	Suberites spg	crests: <u>sharp</u> <u>rounded</u>
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 on/in substrate y n
dk yellow spg	✓ sand dollars		sand lance in sed sample y n
Didemnum cols			SL size: sml med lg
dogfish			nos:
Eucratea loricata	scallops		trawled/dredged shell frags y n
Filograna implexa	sculpin		trawl/dredge marks y n
finger spg	sea stars		ambient light y n
flounder	shells & fragments		
haddock	silver hake		

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

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

No.	Cumul. No.	Time (EDT) HH MM SS	JPG image #	DVD #	Description √ = in photo	Filename Auk2016004_sta_img #
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CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN/FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0122 LO CAM: 9857 GP STILL FILE:
USGS STA 4455		DATE UTC JAN/FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM: clip025	
SBNMS SITE 54		CONSEC. STATION 14	DAY-NIGHT		

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 2	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EST 162426	DPH, m 28	Lat N 42 deg 11.690 min	Lon W 70 deg 14.409 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg .6862 min	Lon W 70 deg .4163 min
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STA LOC ✓	VIDEO OFF SEABED / SMPL	HH MM SS EST 162514	DPH, m	Lat N 42 deg 11.6997 min	Lon W 70 deg 14.3902 min
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Lo / Hi HH MM	TIDE	Lo / Hi HH MM	TIDE	STA Lo / Hi HH MM	+ / - = _____ hrs	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 21 25 14	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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				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 on/in substrate	y. n
Didemnum cols			sand lance in sed sample	y. n
dogfish			SL size: sml med lg	
Eucratea loricata	scallops		nos: 9	
Filograna implexa	sculpin			
finger spg	sea stars		trawled/dredged shell frags	y. n
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 Auk2016004_sta_img #
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CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0123 LO CAM: 9858 GP STILLS FILE:
USGS STA 4456		SBNMS SITE 54	DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM: clip026
		CONSEC. STATION 15	DAY-NIGHT		

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 2	NAV = GPS
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STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EST 163750	DPH, m 28	Lat N 42 deg 11.695 min	Lon W 70 deg 14.399 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg .6941 min	Lon W 70 deg .4039 min
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STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EST 163832	DPH, m	Lat N 42 deg 11.6979 min	Lon W 70 deg 14.3932 min
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Lo/Hi HH MM	TIDE	Lo/Hi HH MM	TIDE	STA Lo/Hi HH MM	+ / - = _____ hrs	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 21 38 32	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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			SEABED DESCRIPTION
att epifauna	herring eggs	skate	storm ripples
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 on/in substrate y n
dk yellow spg	sand dollars		sand lance in sed sample y n
Didemnum cols			SL size: sml med lg
dogfish			nos: 3
Eucratea loricata	scallops		
Filograna implexa	sculpin		
finger spg	sea stars		trawled/dredged shell frags y n
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 Auk2016004_sta_img #
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CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0124 LO CAM: 9859 GP STILL FILE:
USGS STA 4457		SBNMS SITE 54	DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM: clip027
		CONSEC. STATION 16	DAY (NIGHT)		

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 2	NAV = GPS
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STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EST 164922	DPH, m 28	Lat N 42 deg 11.689 min	Lon W 70 deg 14.406 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg -6855 min	Lon W 70 deg .4121 min
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STA LOC ✓	VIDEO OFF SEABED / SMPL	HH MM SS EST 165004	DPH, m	Lat N 42 deg 11.6979 min	Lon W 70 deg 14.3951 min
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Lo/Hi HH MM	TIDE	Lo/Hi HH MM	TIDE	STA Lo/Hi + / - HH MM = _____ hrs	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 21 50 04	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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			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 pillu.	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 on/in substrate y n
Didemnum cols			sand lance in sed sample y n
dogfish			SL size: sml med lg
Eucratea loricata	scallops		nos: 2 1 1
Filograna implexa	sculpin		
finger spg	sea stars		trawled/dredged shell frags y n
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 Auk2016004_sta_img #
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CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0125 LO CAM: 9860 GP STILLS FILE:
USGS STA 4458		SBNMS SITE 54	DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM: dip 028
		CONSEC. STATION 17	DAY-NIGHT		

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 2	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EST 170102	DPH, m 28	Lat N 42 deg 11.712 min	Lon W 70 deg 14.395 min
STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg .7083 min	Lon W 70 deg .4032 min
STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EST 170154	DPH, m	Lat N 42 deg 11.7253 min	Lon W 70 deg 14.3759 min

Lo/Hi HH MM	TIDE	Lo/Hi HH MM	TIDE	STA Lo/Hi HH MM	+ / -	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 22 01 54	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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			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 on/in substrate	y, n
Didemnum cols			sand lance in sed sample	y, n
dogfish			SL size: sml med lg	
Eucratea loricata	scallops		nos:	
Filograna implexa	sculpin			
finger spg	sea stars		trawled/dredged shell frags	y n
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 Auk2016004_sta_img #
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HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM TIDE AT SCITUATE MA USGS STATION 4458
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 54 CONSEC STA 17

CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0126 LO CAM: 9861 GP STILL FILE:
USGS STA 4459		SBNMS SITE 54	DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE UP CAM: clip029
		CONSEC. STATION 18	DAY - NIGHT		

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 2	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EST 171258	DPH, m 28	Lat N 42 deg 11.704 min	Lon W 70 deg 14.375 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg .7009 min	Lon W 70 deg -3830 min
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STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EST 171338	DPH, m	Lat N 42 deg 11.7141 min	Lon W 70 deg 14.3622 min
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Lo / Hi HH MM	TIDE	Lo / Hi HH MM	TIDE	STA Lo / Hi + / - HH MM = _____ hrs	UTC = EST +5 HRS	CTD CAST NO.
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 22 13 38	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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			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 on/in substrate y. n
Didemnum cols			sand lance in sed sample y. n
dogfish			SL size: sml med lg
Eucratea loricata	scallops		nos:
Filograna implexa	sculpin		
finger spg	sea stars		trawled/dredged shell frags y. n
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 Auk2016004_sta_img #
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HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM TIDE AT SCITUATE MA USGS STATION 4459
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 54, CONSEC STA 18

CRUISE: USGS AUK2016004 SBNMS JAN-FEB 2016		DATE EST JAN-FEB 28	JD EST 028	NAV FILE NO.	GO PRO FWD HD VIDEO, FILE: UP CAM: 0127 LO CAM: 9862
		DATE UTC JAN-FEB 28	JD UTC 028	FWD NON-HD VIDEO FILE	GP STILLS FILE:
USGS STA 4460	SBNMS SITE 54	CONSEC. STATION 19	DAY-NIGHT NIGHT	UP CAM: cup030	

STA LOC	VIDEO START AT SURFACE EST HH MM SS	VIDEO END AT SURFACE EST HH MM SS	Sunset: Jan 25, 2016 1649 EST = 2149 UTC	QUAD 2	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EST 172438	DPH, m 28	Lat N 42 deg 11.702 min	Lon W 70 deg 14.392 min
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STA LOC	SAMPLE	HH MM SS EST	DPH, m	Lat N 42 deg -6.996 min	Lon W 70 deg .3968 min
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STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EST 172510	DPH, m	Lat N 42 deg 11.7115 min	Lon W 70 deg 14.3822 min
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Lo/Hi HH MM	TIDE	Lo/Hi HH MM	TIDE	STA Lo/Hi HH MM	+ / - = _____ hrs	UTC = EST +5 HRS	CTD CAST NO. 019
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NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small

Station date and time, UTC	DDD : HH : MM : SS 028 22 2510	SAMPLE TYPES sed grab temp logr sand lance ctd upcast
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			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	y. n
Boltenia tunic.	lobster	Suberites spg	crests: sharp rounded	y. n
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 on/in substrate	y. n
dk yellow spg	sand dollars		sand lance in sed sample	y. n
Didemnum cols			SL size: sml med lg	
dogfish			nos: ? 1	
Eucratea loricata	scallops			
Filograna implexa	sculpin			
finger spg	sea stars		trawled/dredged shell frags	y. n
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 Auk2016004_sta_img #
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HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM TIDE AT SCITUATE MA USGS STATION 4460

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