

Auk 2016038

STA 4517-4557

CRUISE: USGS AUK2016038		DATE EDT SEP	JD EDT	GO PRO FWD HD VIDEO, FILE:	
SBNMS SEP 2016		DATE UTC SEP	JD UTC	UP CAM:	
USGS STA		SBNMS SITE	CONSEC. STATION	LO CAM:	
			DAY - NIGHT	FWD NON-HD VIDEO FILE	
			Sunset: Sep 14, 2016	QUAD	
			1855 EDT = 2255 UTC	NAV = GPS	
STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EDT	DPH, m	Lat N 42 deg min	Lon W 70 deg min
STA LOC	SAMPLE	HH MM SS EDT	DPH, m	Lat N 42 deg min	Lon W 70 deg min
STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EDT	DPH, m	Lat N 42 deg min	Lon W 70 deg min
UTC = EDT + 4 HRS		Station date and time, UTC	DDD : HH : MM : SS		

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

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT _____, LEFT _____	RT _____ + LFT _____ = _____	<input type="checkbox"/> SED GRAB	<input type="checkbox"/> TEMP LOGR	<input type="checkbox"/> CTD UPCA
		<input type="checkbox"/> SAND LANCE	<input type="checkbox"/> INVERTS	

	att epifauna	herring eggs	skate	SEABED DESCRIPTION		
	Boltenia tunic.	lobster	Suberites spg	storm ripples	y.	n
	brachiopod	moon snail	squid	crests: hummocky 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		boulders	y.	n
	dk yellow spg	sand dollars		sand lance in water column	y.	n
	Didemnum cols			sand lance on/in substrate	y.	n
	dogfish			sand lance in sed sample	y.	n
	Eucratea loricata	scallops		SL size: sml med lg		
	Filograna implexa	sculpin		nos:		
	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

105694

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM USGS STATION _____
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site _____, CONSEC STA _____

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6291 LO CAM: 2708	
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	FWD NON-HD VIDEO FILE UP CAM: 178	
USGS STA 4517	SBNMS SITE N1	CONSEC. STATION 1	DAY-NIGHT		

Sunset: Sep 14, 2016
1855 EDT = 2255 UTC

QUAD 7 NAV = GPS

STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EDT 10 56 55	DPH, m 34	Lat N 42 deg 25.275 min	Lon W 70 deg 27.03 min
STA LOC	SAMPLE	HH MM SS EDT 11 04 23	DPH, m	Lat N 42 deg 25.259 min	Lon W 70 deg 26.930 min

UTC = EDT + 4 HRS

Station date and time, UTC: 260 14 56 55

DDD : HH : MM : SS

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

DPH SED SURF IN GRAB, cm RIGHT 4, LEFT 8	SED VOL IN GRAB, liters RT 3.6 + LFT 1.9 = 5.5	SAMPLES		
		<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	# 1

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

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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N1, CONSEC STA 1

USGS STATION 4517

Lat/Lon from GPS nav. file.

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6292 LO CAM: 2709
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	FWD NON-HD VIDEO FILE UP CAM: 179
USGS STA 4578	SBNMS SITE N16	CONSEC. STATION 2	DAY-NIGHT DAY	

Sunset: Sep 14, 2016
1855 EDT = 2255 UTC

QUAD 7 NAV = GPS

STA LOC	VIDEO ON SEABED SMPLE	HH MM SS EDT 113058	DPH, m 31	Lat N 42 deg 24.316 min	Lon W 70 deg 27.493 min
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STA LOC	SAMPLE	HH MM SS EDT 113258	DPH, m	Lat N 42 deg 24.320 min	Lon W 70 deg 27.470 min
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STA LOC	VIDEO OFF SEABED SMPLE	HH MM SS EDT 113922	DPH, m	Lat N 42 deg 24.324 min	Lon W 70 deg 27.451 min
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UTC = EDT + 4 HRS

Station date and time, UTC

DDD : HH : MM : SS
260 : 15 : 39 : 22

-3236 -4549

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

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT _____ LEFT _____	RT _____ + LFT _____ = _____	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#2 no smpl

		SEABED DESCRIPTION		
att epifauna	herring eggs	skate	storm ripples	(y) n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky sharp	(y) n rounded
brachiopod	moon snail	squid	gvl in ripple troughs	y. n
bushy bry/hyd	mussels	tunicate, B pitu.	small ripples	y. n
juvenile cod	ocean pout	yellow encr. spg	sand partial veneer on gravel	y. n
✓ cancer crab	Polymastia spg		gravel pavement	y. n
cod	red encr. spg		boulders	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		trawled/dredged shell frags	y n
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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N16, CONSEC STA 2

USGS STATION 4578

CRUISE: USGS AUK2016038
 SBNMS SEP 2016
 USGS STA 4519
 SBNMS SITE N16
 CONSEC. STATION 3
 DATE EDT SEP 16
 DATE UTC SEP 16
 JD EDT 260
 JD UTC 260
 FWD NON-HD VIDEO FILE
 UP CAM: 180
 GO PRO FWD HD VIDEO, FILE: UP CAM: 6293 LO CAM: 2710

Sunset: Sep 14, 2016
 1855 EDT = 2255 UTC
 QUAD 7
 NAV = GPS

STA LOC VIDEO ON SEABED / SMPL
 HH MM SS EDT 11 48 39
 DPH, m 31
 Lat N 42 deg 24.293 min
 Lon W 70 deg 27.832 min

STA LOC SAMPLE
 HH MM SS EDT 11 50 05
 DPH, m
 Lat N 42 deg 24.299 min
 Lon W 70 deg 27.413 min

STA LOC VIDEO OFF SEABED / SMPL
 HH MM SS EDT
 DPH, m
 Lat N 42 deg 24.297 min
 Lon W 70 deg 27.415 min

UTC = EDT + 4 HRS
 Station date and time, UTC
 DDD : HH : MM : SS
 260 15 50 05

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

DPH SED SURF IN GRAB, cm
 RIGHT 9, LEFT 9
 SED VOL IN GRAB, liters
 RT 1.5 + LFT 1.5 = 3
 SAMPLES
 SED GRAB
 SAND LANCE
 TEMP LOGR
 INVERTS
 CTD UPCAST #3

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	y n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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		boulders	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		trawled/dredged shell frags	y n
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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM
 DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM
 USGS STATION 4519
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N16, CONSEC STA 3

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6294 LO CAM: 2711
SBNMS 02 SEP 2016		DATE UTC SEP 16	JD UTC 260	
USGS STA 4520	SBNMS SITE N15	CONSEC. STATION 4	DAY-NIGHT	FWD NON-HD VIDEO FILE UP CAM: 181

Sunset: Sep 14, 2016
1855 EDT = 2255 UTC

QUAD 7 NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 120331	DPH, m 30	Lat N 42 deg 24.28 min	Lon W 70 deg 26.138 min
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STA LOC	SAMPLE	HH MM SS EDT 120501	DPH, m	Lat N 42 deg 24.305 min	Lon W 70 deg 26.129 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 121052	DPH, m	Lat N 42 deg 24.343 min	Lon W 70 deg 26.099 min
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UTC = EDT + 4 HRS

Station date and time, UTC: 260 16 05 01

DDD : HH : MM : SS .3392 .1003

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

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES	
RIGHT 1, LEFT 3	RT 4.9 + LFT 4.0 = 8.9	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR
		<input checked="" type="checkbox"/> SAND LANCE	<input type="checkbox"/> INVERTS none obs. #4

		SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples (y) n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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		boulders y. n
cunner	red hake		sand lance in water column y. n
dk yellow spg	sand dollars	many	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: 11 + 2 partial
Filograna implexa	sculpin		trawled/dredged shell frags y. n
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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N15, CONSEC STA 4

USGS STATION 4520

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6295 LO CAM: 2712
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	
USGS STA 4521	SBNMS SITE N3	CONSEC. STATION 5	DAY-NIGHT	UP CAM: 182

Sunset: Sep 14, 2016
1855 EDT = 2255 UTC

QUAD 8 NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 122758	DPH, m 35	Lat N 42 deg 24.720 min	Lon W 70 deg 24.383 min
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STA LOC	SAMPLE	HH MM SS EDT 123002	DPH, m	Lat N 42 deg 24.737 min	Lon W 70 deg 24.364 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 123506	DPH, m	Lat N 42 deg 24.764 min	Lon W 70 deg 24.323 min
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UTC = EDT + 4 HRS

Station date and time, UTC

DDD : HH : MM : SS
260 16 35 06

.7614 .3257

NO SAMPLE pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; **smpl too small**; *smpl too small for gsa; smpl smpl; cobbles in grab*

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT 10.5, LEFT 10	RT 1.0 + LFT 1.2 = 2.2	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#5

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	y, n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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		boulders	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		trawled/dredged shell frags	y, n
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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N3, CONSEC STA 5 USGS STATION 4521

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6296 LO CAM: 2713
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	
USGS STA 4522	SBNMS SITE N14	CONSEC. STATION 6	DAY - NIGHT	FWD NON-HD VIDEO FILE UP CAM: 183

Sunset: Sep 14, 2016
1855 EDT = 2255 UTC

QUAD 7 NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 12 53 12	DPH, m (29)	Lat N 42 deg 23.820 min	Lon W 70 deg 25.015 min
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STA LOC	SAMPLE	HH MM SS EDT 12 54 19	DPH, m	Lat N 42 deg 23.830 min	Lon W 70 deg 25.003 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 12 59 42	DPH, m	Lat N 42 deg 23.870 min	Lon W 70 deg 24.970 min
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UTC = EDT + 4 HRS

Station date and time, UTC

DDD : HH : MM : SS
260 16 54 19

.8691 .9735

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

smpl sample but ok for sea

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT 9, LEFT 11.5	RT 1.5 + LFT 0.7 = 2.2	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#6

none obs

			SEABED DESCRIPTION	
att epifauna	herring eggs	<input checked="" type="checkbox"/> skate	storm ripples	(y) n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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		boulders	y. n
cunner	red hake		sand lance in water column	y. n
dk yellow spg	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> scallops		nos:	
Filograna implexa	sculpin		trawled/dredged shell frags	y n
<input checked="" type="checkbox"/> 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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N14, CONSEC STA 6

USGS STATION 4522

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6297 LO CAM: 2714
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	
USGS STA 4523	SBNMS SITE N4	CONSEC. STATION 7	DAY-NIGHT	FWD NON-HD VIDEO FILE UP CAM: 184

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC
 QUAD 8 NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 13 17 30	DPH, m 32	Lat N 42 deg 24.189 min	Lon W 70 deg 23.194 min
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STA LOC	NO SAMPLE	HH MM SS EDT 13 19 15	DPH, m	Lat N 42 deg 24.210 min	Lon W 70 deg 23.185 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 13 24 11	DPH, m	Lat N 42 deg 24.260 min	Lon W 70 deg 23.161 min
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UTC = EDT + 4 HRS Station date and time, UTC 260 17 24 11
 DDD : HH : MM : SS .2589 .1615

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

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES	
RIGHT _____, LEFT _____	RT _____ + LFT _____ = _____	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR
		<input type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS #7

		SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples (y) n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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		boulders 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		trawled/dredged shell frags y n
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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM
 USGS STATION 4523
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N4, CONSEC STA 7

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6298 LO CAM: 2715	
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	FWD NON-HD VIDEO FILE UP CAM: 185 not on	
USGS STA 4524	SBNMS SITE N13	CONSEC. STATION 8	DAY-NIGHT		

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 8	NAV = GPS
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STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EDT 134006	DPH, m (27)	Lat N 42 deg 23.358 min	Lon W 70 deg 23.872 min
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STA LOC	SAMPLE	HH MM SS EDT 134152	DPH, m	Lat N 42 deg 23.384 min	Lon W 70 deg 23.872 min
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STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EDT 134655	DPH, m	Lat N 42 deg 23.434 min	Lon W 70 deg 23.867 min
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UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 260 17 41 52	.4313	.8671
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT 29, LEFT 29	RT 1.5 + LFT 1.5 = 3	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST #8
		<input checked="" type="checkbox"/> SAND LANCE	<input type="checkbox"/> INVERTS	none obs

		SEABED DESCRIPTION		
att epifauna	herring eggs	skate	storm ripples	(y, n)
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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		boulders	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	sand on scallops	nos:	
Filograna implexa	sculpin		trawled/dredged shell frags	y, n
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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM
PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N13, CONSEC STA 8
USGS STATION 4524

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6300, LO CAM: 2716	
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	FWD NON-HD VIDEO FILE	
USGS STA 4525	SBNMS SITE N5	CONSEC. STATION 9	(DAY) - NIGHT	UP CAM: 186	

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 8	NAV = GPS
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STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EDT 140257	DPH, m (33)	Lat N 42 deg 23.802 min	Lon W 70 deg 21.973 min
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STA LOC	SAMPLE	HH MM SS EDT 140439	DPH, m	Lat N 42 deg 23.819 min	Lon W 70 deg 21.968 min
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STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EDT 140942	DPH, m	Lat N 42 deg 23.862 min	Lon W 70 deg 21.940 min
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UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 260 18 09 42	-8612	.9401
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small; *no smpl*

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT _____, LEFT _____	RT _____ + LFT _____ = _____	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#9

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	Low (y) n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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		boulders	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		trawled/dredged shell frags	y n
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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM
PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N5, CONSEC STA 9
USGS STATION 4525

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6301 LO CAM: 2717
SBNMS	SEP 2016	DATE UTC SEP 16	JD UTC 260	
USGS STA 4526	SBNMS SITE N12	CONSEC. STATION 10	DAY-NIGHT NIGHT	UP CAM: 187

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 8	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 14 25 06	DPH, m (27)	Lat N 42 deg 22.859 min	Lon W 70 deg 22.629 min
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STA LOC	SAMPLE	HH MM SS EDT 14 26 54	DPH, m	Lat N 42 deg 22.885 min	Lon W 70 deg 22.634 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 14 32 06	DPH, m	Lat N 42 deg 22.951 min	Lon W 70 deg 22.658 min
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UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 260 18 26 54	.9576	.6532
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT 5, LEFT 6	RT 3.1 + LFT 2.7 = 5.8	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#10

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

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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM
PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N12, CONSEC STA 10
USGS STATION 4526

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6302 LO CAM: 2718	
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	FWD NON-HD VIDEO FILE UP CAM: 188	
USGS STA 4527	SBNMS SITE N6	CONSEC. STATION 11	DAY - NIGHT		
			Sunset: Sep 14, 2016 1855 EDT = 2255 UTC	QUAD 8	NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 14 50 18	DPH, m 33	Lat N 42 deg 23.273 min	Lon W 70 deg 20.677 min
STA LOC	SAMPLE	HH MM SS EDT 14 52 30	DPH, m	Lat N 42 deg 23.299 min	Lon W 70 deg 20.694 min
STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 14 57 32	DPH, m	Lat N 42 deg 23.348 min	Lon W 70 deg 20.726 min

UTC = EDT + 4 HRS Station date and time, UTC DDD : HH : MM : SS .3493 -7199
 260 18 52 30

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

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT 12, LEFT 12	RT 0.6 + LFT 0.6 = 1.2	<input checked="" type="checkbox"/> SED GRAB	<input type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	# 11

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	y, n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky (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	bl dwl att epif	gravel pavement	y, n
cod	red encr. spg		boulders	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		trawled/dredged shell frags	y n
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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM
 USGS STATION 4527
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N6, CONSEC STA 11

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6303 LO CAM: 2719	
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	FWD NON-HD VIDEO FILE	
USGS STA 4528	SBNMS SITE N11	CONSEC. STATION 12	DAY-NIGHT	UP CAM: 189	

Sunset: Sep 14, 2016
1855 EDT = 2255 UTC

QUAD 8 NAV = GPS 3621

STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EDT 151327	DPH, m 28	Lat N 42 deg 22.453 min	Lon W 70 deg 21.367 min
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STA LOC	SAMPLE	HH MM SS EDT 151550	DPH, m	Lat N 42 deg 22.491 min	Lon W 70 deg 21.384 min
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STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EDT 151952	DPH, m	Lat N 42 deg 22.549 min	Lon W 70 deg 21.402 min
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UTC = EDT + 4 HRS

Station date and time, UTC: 260 19 15 50

DDD : HH : MM : SS .5493 .3972

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

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT 4, LEFT 4	RT 3.6 + LFT 3.6 = 7.2	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#12

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	y. n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky	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		boulders	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		trawled/dredged shell frags	y n
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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N11, CONSEC STA 12

USGS STATION 4528

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6304 LO CAM: 2720	
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	FWD NON-HD VIDEO FILE	
USGS STA 4529	SBNMS SITE N7	CONSEC. STATION 13	DAY-NIGHT	UP CAM: 190	

Sunset: Sep 14, 2016
1855 EDT = 2255 UTC

QUAD 8 NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 153533	DPH, m 31	Lat N 42 deg 22.759 min	Lon W 70 deg 19.450 min
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STA LOC	SAMPLE	HH MM SS EDT 153734	DPH, m	Lat N 42 deg 22.787 min	Lon W 70 deg 19.469 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 154228	DPH, m	Lat N 42 deg 22.850 min	Lon W 70 deg 19.501 min
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UTC = EDT + 4 HRS

Station date and time, UTC: 260 19 42 28

DDD : HH : MM : SS: -8511 .4970

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

no smpl

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES	
RIGHT _____, LEFT _____	RT _____ + LFT _____ = _____	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS
			CTD UPCAST #13

no smpl

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	y. n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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	blds w/ eqnf	boulders	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		cds w/ eqnf.	sand lance in sed sample	y. n
dogfish			SL size: sml med lg	
Eucratea loricata	✓ scallops	calc algae	nos:	
Filograna implexa	✓ sculpin		trawled/dredged shell frags	y n
✓ 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

cgs / pch 6

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N7, CONSEC STA 13

USGS STATION 4529

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6305 LO CAM: 2721	
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	FWD NON-HD VIDEO FILE UP CAM: 191	
USGS STA 4530	SBNMS SITE N10	CONSEC. STATION 14	DAY-NIGHT		

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC

QUAD 8 NAV = GPS

STA LOC	VIDEO ON SEABED SMPLE	HH MM SS EDT 155546	DPH, m (29)	Lat N 42 deg 21.931 min ⁹³⁰¹	Lon W 70 deg 20.179 min ¹⁷¹⁰
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STA LOC	SAMPLE	HH MM SS EDT 155754	DPH, m	Lat N 42 deg 21.967 min	Lon W 70 deg 20.182 min
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STA LOC	VIDEO OFF SEABED SMPLE	HH MM SS EDT 160318	DPH, m	Lat N 42 deg 22.050 min	Lon W 70 deg 20.178 min
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UTC = EDT + 4 HRS Station date and time, UTC 260 20 03 18

DDD : HH : MM : SS .0514 .1718

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

no sample

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES	
RIGHT _____, LEFT _____	RT _____ + LFT _____ = _____	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR <input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS #14

no sample

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	y, n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky	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
<input checked="" type="checkbox"/> cancer crab	Polymastia spg		gravel pavement	y, n
cod	red encr. spg		boulders	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 <input checked="" type="checkbox"/>	scallops		nos:	
Filograna implexa	sculpin		trawled/dredged shell frags	y n
finger spg	sea stars		trawl/dredge marks	y, n
<input checked="" type="checkbox"/> flounder	shells & fragments		ambient light	y, n
haddock	<input checked="" type="checkbox"/> silver hake			

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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N10, CONSEC STA 14

USGS STATION 4530

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6306 LO CAM: 2722	
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	FWD NON-HD VIDEO FILE	UP CAM:
USGS STA 4531	SBNMS SITE N8	CONSEC. STATION 15	DAY - NIGHT		192

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 8	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 161842	DPH, m (35)	Lat N 42 deg 22.367 min	Lon W 70 deg 18.355 min
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STA LOC	SAMPLE	HH MM SS EDT 162044	DPH, m	Lat N 42 deg 22.377 min	Lon W 70 deg 18.385 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 162549	DPH, m	Lat N 42 deg 22.459 min	Lon W 70 deg 18.447 min
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UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 260 20 20 44	.4590	.4414
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm RIGHT 5, LEFT 6.5	SED VOL IN GRAB, liters RT 3.1 + LFT 2.5 = 5.6	SAMPLES		
		<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#15

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	y, n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky	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		boulders	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	trld/dreds	trawled/dredged shell frags	y, n
finger spg	sea stars	remnants	trawl/dredge marks	y, n
flounder	shells & fragments	of storm	ambient light	y, n
haddock	silver hake	v:ps		

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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

USGS STATION 4531

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N8, CONSEC STA 15

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6307 LO CAM: 2723
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	
USGS STA 4532	SBNMS SITE N9	CONSEC. STATION 16	DAY - NIGHT	

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC

QUAD 8 NAV = GPS

STA LOC	VIDEO ON SEABED SMPLE	HH MM SS EDT 164136	DPH, m 31	Lat N 42 deg 21.449 min	Lon W 70 deg 19.015 min
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STA LOC	SAMPLE	HH MM SS EDT 164321	DPH, m	Lat N 42 deg 21.477 min	Lon W 70 deg 19.030 min
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STA LOC	VIDEO OFF SEABED SMPLE	HH MM SS EDT 164832	DPH, m	Lat N 42 deg 21.542 min	Lon W 70 deg 19.074 min
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UTC = EDT + 4 HRS Station date and time, UTC 260 20 48 32

DDD : HH : MM : SS .5419 .0680

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

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES #16		
RIGHT _____, LEFT _____	RT _____ + LFT _____ = _____	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	low v. small

		SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples (y, n)
Boltenia tunic.	lobster	Suberites spg	crests: hummocky (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
<input checked="" type="checkbox"/> cancer crab	Polymastia spg	gornet fish	gravel pavement y, n
cod	red encr. spg		boulders 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	<input checked="" type="checkbox"/> scallops		nos:
Filograna implexa	sculpin		trawled/dredged shell frags y n
finger spg	sea stars		trawl/dredge marks y, n
<input checked="" type="checkbox"/> flounder	shells & fragments		ambient light y, n
haddock	silver hake		

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

low sharp storm ripples

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site N9, CONSEC STA 16

USGS STATION 4532

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6308 LO CAM: 2724
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	
USGS STA 4533	SBNMS SITE C14	CONSEC. STATION 17	DAY-NIGHT	FWD NON-HD VIDEO FILE UP CAM: 194

Sunset: Sep 14, 2016
1855 EDT = 2255 UTC

QUAD 5 NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 171601	DPH, m 29	Lat N 42 deg 18.458 min	Lon W 70 deg 18.445 min
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STA LOC	SAMPLE	HH MM SS EDT 171808	DPH, m	Lat N 42 deg 18.490 min	Lon W 70 deg 18.473 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 172242	DPH, m	Lat N 42 deg 18.544 min	Lon W 70 deg 18.532 min
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UTC = EDT + 4 HRS

Station date and time, UTC: 260 21 18 08

DDD : HH : MM : SS: .5465 .5267

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

DPH SED SURF IN GRAB, cm RIGHT 12, LEFT 13	SED VOL IN GRAB, liters RT 0.6 + LFT 0.3 = 0.9	SAMPLES		
		<input checked="" type="checkbox"/> SED GRAB	<input type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#17

			SEABED DESCRIPTION			
	att epifauna	herring eggs	skate	storm ripples low (y) n		
	Boltenia tunic.	lobster	Suberites spg	crests: hummocky sharp (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		
<input checked="" type="checkbox"/>	cancer crab	Polymastia spg		gravel pavement y. n		
	cod	red encr. spg		boulders 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	<input checked="" type="checkbox"/> scallops		nos:		
	Filograna implexa	<input checked="" type="checkbox"/> sculpin		trawled/dredged shell frags y n		
	finger spg	sea stars		trawl/dredge marks y. n		
<input checked="" type="checkbox"/>	flounder	shells & fragments		ambient light y. n		
	haddock	<input checked="" type="checkbox"/> silver hake				

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

r-cys / pg

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C14, CONSEC STA 17

USGS STATION 4533

CRUISE: USGS AUK2016038		DATE EDT SEP 16	JD EDT 260	GO PRO FWD HD VIDEO, FILE: UP CAM: 6309 LO CAM: 2725	
SBNMS SEP 2016		DATE UTC SEP 16	JD UTC 260	FWD NON-HD VIDEO FILE	
USGS STA 4534	SBNMS SITE C1	CONSEC. STATION 18	DAY - NIGHT	UP CAM: 195	

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 5	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 173949	DPH, m (31)	Lat N 42 deg 18.519 min	Lon W 70 deg 17.060 min
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STA LOC	SAMPLE	HH MM SS EDT 174138	DPH, m	Lat N 42 deg 18.538 min	Lon W 70 deg 17.086 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 174543	DPH, m	Lat N 42 deg 18.569 min	Lon W 70 deg 17.173 min
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UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 260 21 41 38	.5674	.1623
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT 1, LEFT 3	RT 4.9 + LFT 4.0 = 8.9	<input checked="" type="checkbox"/> SED GRAB	<input type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#18

		SEABED DESCRIPTION		
att epifauna	herring eggs	skate	storm ripples	y. n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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		boulders	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		trawled/dredged shell frags	y. n
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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM
PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C1, CONSEC STA 18
USGS STATION 4534

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6310 LO CAM: 2726
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4535	SBNMS SITE S2	CONSEC. STATION 19	DAY-NIGHT	FWD NON-HD VIDEO FILE UP CAM: 196

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC
 QUAD 2 NAV = GPS

STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EDT 10 13 58	DPH, m 26	Lat N 42 deg 11.391 min	Lon W 70 deg 18.238 min
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STA LOC	SAMPLE	HH MM SS EDT 10 15 50	DPH, m	Lat N 42 deg 11.403 min	Lon W 70 deg 18.251 min
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STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EDT 10 20 52	DPH, m	Lat N 42 deg 11.437 min	Lon W 70 deg 18.300 min
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UTC = EDT + 4 HRS Station date and time, UTC 263 14 15 50
 .4337 .2954

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

DPH SED SURF IN GRAB, cm RIGHT 11.5, LEFT 10	SED VOL IN GRAB, liters RT 0.7 + LFT 1.2 = 1.9	SAMPLES		
		<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST #19
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	none obs

			SEABED DESCRIPTION			
att epifauna	herring eggs	skate	storm ripples	y	n	
Boltonia tunic.	lobster	Suberites spg	crests: hummocky sharp	y	n	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		boulders	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 many			SL size: sml med lg			
Eucratea loricata	✓ scallops		nos:			
Filograna implexa	sculpin		trawled/dredged shell frags	y	n	
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

silver hake biting shiny chain

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM
 USGS STATION 4535
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site S2, CONSEC STA 19

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6311 LO CAM: 2727
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4536	SBNMS SITE 53	CONSEC. STATION 20		DAY → NIGHT

Sunset: Sep 14, 2016
1855 EDT = 2255 UTC

QUAD 2 NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 104635	DPH, m 24	Lat N 42 deg 11.509 min	Lon W 70 deg 16.426 min
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STA LOC	X	HH MM SS EDT 104819	DPH, m	Lat N 42 deg 11.514 min	Lon W 70 deg 16.466 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 105311	DPH, m	Lat N 42 deg 11.537 min	Lon W 70 deg 16.596 min
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UTC = EDT + 4 HRS

Station date and time, UTC: 263 14 53 11

DDD : HH : MM : SS

.5361 .5880

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

no sample

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT _____, LEFT _____	RT _____ + LFT _____ = _____	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#20

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

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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 53, CONSEC STA 20

USGS STATION 4536

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6312 LO CAM: 2728	
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	FWD NON-HD VIDEO FILE UP CAM: 198	
USGS STA 4537	SBNMS SITE 54	CONSEC. STATION 21	DAY-NIGHT		
			Sunset: Sep 14, 2016 1855 EDT = 2255 UTC	QUAD 2	NAV = GPS
STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 110900	DPH, m 28	Lat N 42 deg 11.721 min	Lon W 70 deg 14.409 min
STA LOC	SAMPLE	HH MM SS EDT 111054	DPH, m	Lat N 42 deg 11.728 min	Lon W 70 deg 14.459 min
STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 111507	DPH, m	Lat N 42 deg 11.741 min	Lon W 70 deg 14.569 min
UTC = EDT + 4 HRS		Station date and time, UTC	DDD : HH : MM : SS 263 15 10 54	-7385	-5661
NO SAMPLE: <input type="checkbox"/> pre-tripped; <input type="checkbox"/> no smpl attempted; <input type="checkbox"/> jaws partly open; <input type="checkbox"/> washout; <input type="checkbox"/> refusal; <input type="checkbox"/> too gravelly/shelly; <input type="checkbox"/> smpl too small;					
DPH SED SURF IN GRAB, cm		SED VOL IN GRAB, liters		SAMPLES	
RIGHT 3.5, LEFT 3		RT 3.8 + LFT 4.0 = 7.8		<input checked="" type="checkbox"/> SED GRAB <input checked="" type="checkbox"/> TEMP LOGR <input checked="" type="checkbox"/> CTD UPCAST <input checked="" type="checkbox"/> SAND LANCE <input checked="" type="checkbox"/> INVERTS #21 <i>none obs</i>	
			SEABED DESCRIPTION		
<input type="checkbox"/> att epifauna	<input type="checkbox"/> herring eggs	<input checked="" type="checkbox"/> skate			
<input type="checkbox"/> Boltenia tunic.	<input type="checkbox"/> lobster	<input type="checkbox"/> Suberites spg	storm ripples	<input type="checkbox"/> y, <input type="checkbox"/> n	
<input type="checkbox"/> brachiopod	<input type="checkbox"/> moon snail	<input type="checkbox"/> squid	crests: hummocky	<input checked="" type="checkbox"/> sharp <input checked="" type="checkbox"/> rounded	
<input type="checkbox"/> bushy bry/hyd	<input type="checkbox"/> mussels	<input type="checkbox"/> tunicate, B pilu.	gvl in ripple troughs	<input type="checkbox"/> y, <input type="checkbox"/> n	
<input type="checkbox"/> juvenile cod	<input type="checkbox"/> ocean pout	<input type="checkbox"/> yellow encr. spg	small ripples	<input type="checkbox"/> y, <input type="checkbox"/> n	
<input type="checkbox"/> cancer crab	<input type="checkbox"/> Polymastia spg		sand partial veneer on gravel	<input type="checkbox"/> y, <input type="checkbox"/> n	
<input type="checkbox"/> cod	<input type="checkbox"/> red encr. spg		gravel pavement	<input type="checkbox"/> y, <input type="checkbox"/> n	
<input type="checkbox"/> cunner	<input type="checkbox"/> red hake		boulders	<input type="checkbox"/> y, <input type="checkbox"/> n	
<input type="checkbox"/> dk yellow spg	<input checked="" type="checkbox"/> sand dollars		sand lance in water column	<input type="checkbox"/> y, <input checked="" type="checkbox"/> n	
<input type="checkbox"/> Didemnum cols			sand lance on/in substrate	<input type="checkbox"/> y, <input checked="" type="checkbox"/> n	
<input checked="" type="checkbox"/> dogfish			sand lance in sed sample	<input type="checkbox"/> y, <input checked="" type="checkbox"/> n	
<input type="checkbox"/> Eucratea loricata	<input checked="" type="checkbox"/> scallops		SL size: sml med lg		
<input type="checkbox"/> Filograna implexa	<input type="checkbox"/> sculpin		nos:		
<input type="checkbox"/> finger spg	<input type="checkbox"/> sea stars		trawled/dredged shell frags	<input type="checkbox"/> y, <input type="checkbox"/> n	
<input checked="" type="checkbox"/> flounder	<input type="checkbox"/> shells & fragments		trawl/dredge marks	<input type="checkbox"/> y, <input type="checkbox"/> n	
<input type="checkbox"/> haddock	<input checked="" type="checkbox"/> silver hake		ambient light	<input type="checkbox"/> y, <input type="checkbox"/> n	

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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

USGS STATION 4537

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 54, CONSEC STA 21

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6313 LO CAM: 2729	
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	FWD NON-HD VIDEO FILE UP CAM: 199	
USGS STA 4538	SBNMS SITE 55	CONSEC. STATION 22	DAY-NIGHT		

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 3	NAV = GPS 4945
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 113415	DPH, m 35	Lat N 42 deg 11.8558 min	Lon W 70 deg 12.501 min
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STA LOC	SAMPLE	HH MM SS EDT 113600	DPH, m	Lat N 42 deg 11.861 min	Lon W 70 deg 12.540 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 114006	DPH, m	Lat N 42 deg 11.866 min	Lon W 70 deg 12.629 min
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UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 263 15 36 00	.8630	.6260
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm RIGHT 5.5, LEFT 6	SED VOL IN GRAB, liters RT 2.9 + LFT 2.7 = 5.6	SAMPLES		
		<input checked="" type="checkbox"/> SED GRAB	<input type="checkbox"/> TEMP LOGR	<input type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#22

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boitonia tunic.	lobster	Suberites spg	storm ripples (y, n)
	brachiopod	moon snail	squid	crests: hummocky (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		boulders (y, n)
	dk yellow spg	✓ sand dollars		sand lance in water column (y, n)
	Didemnum cole			sand lance on/in substrate (y, n)
	✓ dogfish			sand lance in sed sample (y, n)
	✓ Eucratea loricata	✓ scallops		SL size: (sml) (med) (lg)
	Filograna implexa	sculpin		nos: 38 + 6 part = 44
	✓ 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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED =	CM	DISTANCE BETWEEN PARALLEL LASERS =	20 CM
HEIGHT OF FWD LOWER GO PRO ABOVE SEABED =	CM		

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 55, CONSEC STA 22
USGS STATION 4538

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6314 LO CAM: 2730
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4539	SBNMS SITE 56	CONSEC. STATION 23	DAY - NIGHT	UP CAM: 200

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 3	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 120040	DPH, m 41	Lat N 42 deg 11.998 min	Lon W 70 deg 10.457 min
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STA LOC	SAMPLE	HH MM SS EDT 120225	DPH, m	Lat N 42 deg 11.999 min	Lon W 70 deg 10.487 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 120608	DPH, m	Lat N 42 deg 12.001 min	Lon W 70 deg 10.557 min
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UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 263 16 02 25	11-9982	.5574
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm RIGHT 3.5, LEFT 4.5	SED VOL IN GRAB, liters RT 3.8 + LFT 3.4 = 7.2	SAMPLES		
		<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#23

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

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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 56, CONSEC STA 23 USGS STATION 4539

CRUISE: USGS AUK2016038
 SBNMS SEP 2016
 USGS STA 4540
 SBNMS SITE 57
 CONSEC. STATION 24
 DATE EDT SEP 19
 DATE UTC SEP 19
 JD EDT 263
 JD UTC 263
 FWD NON-HD VIDEO FILE UP CAM: 201
 GO PRO FWD HD VIDEO, FILE: UP CAM: 6315 LO CAM: 2731

Sunset: Sep 14, 2016
 1855 EDT = 2255 UTC
 QUAD 6
 NAV = GPS

STA LOC VIDEO ON SEABED SMPL
 HH MM SS EDT 122340
 DPH, m (44)
 Lat N 42 deg 12.138 min
 Lon W 70 deg 8.491 min

STA LOC SAMPLE
 HH MM SS EDT 122547
 DPH, m
 Lat N 42 deg 12.137 min
 Lon W 70 deg 8.536 min

STA LOC VIDEO OFF SEABED SMPL
 HH MM SS EDT 122932
 DPH, m
 Lat N 42 deg 12.131 min
 Lon W 70 deg 8.599 min

UTC = EDT + 4 HRS
 Station date and time, UTC 263 16 25 47
 DDD : HH : MM : SS .1291 .6002

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

DPH SED SURF IN GRAB, cm RIGHT 4, LEFT 3.5
 SED VOL IN GRAB, liters RT 3.6 + LFT 3.8 = 7.4
 SAMPLES
 SED GRAB TEMP LOGR CTD UPCAST
 SAND LANCE INVERTS #24

			SEABED DESCRIPTION			
att epifauna	herring eggs	skate	storm ripples	y.	n	
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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		boulders	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		trawled/dredged shell frags	y	n	
finger spg	sea stars	good ex mpl	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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM
 USGS STATION 4540
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 57, CONSEC STA 24

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6316 LO CAM: 2732	
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	FWD NON-HD VIDEO FILE UP CAM: 202	
USGS STA 4541	SBNMS SITE 58	CONSEC. STATION 25	DAY-NIGHT		
			Sunset: Sep 14, 2016 1855 EDT = 2255 UTC	QUAD 3	NAV = GPS
STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 124510	DPH, m (44)	Lat N 42 deg 11.167 min	Lon W 70 deg 8.394 min
STA LOC	SAMPLE	HH MM SS EDT 124701	DPH, m	Lat N 42 deg 11.197 min	Lon W 70 deg 8.434 min
STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 125138	DPH, m	Lat N 42 deg 11.125 min	Lon W 70 deg 8.516 min
UTC = EDT + 4 HRS		Station date and time, UTC	DDD : HH : MM : SS 263 16 47 01	.1218	.5181
NO SAMPLE: <input type="checkbox"/> pre-tripped; <input type="checkbox"/> no smpl attempted; <input type="checkbox"/> jaws partly open; <input type="checkbox"/> washout; <input type="checkbox"/> refusal; <input type="checkbox"/> too gravelly/shelly; <input type="checkbox"/> smpl too small;					
DPH SED SURF IN GRAB, cm RIGHT 4.5, LEFT 3		SED VOL IN GRAB, liters RT 3.4 + LFT 4.0 = 7.4		SAMPLES	
				<input checked="" type="checkbox"/> SED GRAB <input type="checkbox"/> TEMP LOGR <input type="checkbox"/> CTD UPCAST <input checked="" type="checkbox"/> SAND LANCE <input checked="" type="checkbox"/> INVERTS #25	
att epifauna	herring eggs	skate	SEABED DESCRIPTION		
Boltenia tunic.	lobster	Suberites spg	storm ripples	(y, n)	
brachiopod	moon snail	squid	crests: hummocky (sharp)	(y, n) 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		boulders	(y, n)	
dk yellow spg	✓ sand dollars		sand lance in water column	(y, n)	
Didemnum cols			sand lance on/in substrate	(y, n)	
dogfish			sand lance in sed sample	(y, n)	
Eucratea loricata	✓ scallops		SL size: sml med lg		
Filograna implexa	sculpin		nos:		
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

dredged vs undredged

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 58 , CONSEC STA 25 USGS STATION 4541

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6317 LO CAM: 2133	
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	FWD NON-HD VIDEO FILE UP CAM: 203	
USGS STA 4542	SBNMS SITE 59	CONSEC. STATION 26	DAY - NIGHT		
Sunset: Sep 14, 2016 1855 EDT = 2255 UTC				QUAD 3	NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 130952	DPH, m 41	Lat N 42 deg 11.000 .0029 min	Lon W 70 deg 10.4258 10.433 min
STA LOC	SAMPLE	HH MM SS EDT 131200	DPH, m	Lat N 42 deg 11.013 .0132 min	Lon W 70 deg 10.4615 10.469 min
STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 131721	DPH, m	Lat N 42 deg 11.051 min	Lon W 70 deg 10.520 min

UTC = EDT + 4 HRS Station date and time, UTC DDD : HH : MM : SS .0531 .5153

263 17 12 00

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

DPH SED SURF IN GRAB, cm RIGHT 6, LEFT 8.5	SED VOL IN GRAB, liters RT 2.7 + LFT 1.7 = 4.4	SAMPLES		
		<input checked="" type="checkbox"/> SED GRAB	<input type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#26
		none fl.		

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	y, n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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		boulders	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		trawled/dredged shell frags	y, n
finger spg	sea stars	very dredge	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

Many examples of → dredged vs undredged

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

USGS STATION 4542

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 59, CONSEC STA 26

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6318 LO CAM: 2734
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4543	SBNMS SITE S10	CONSEC. STATION 27	DAY-NIGHT	FWD NON-HD VIDEO FILE UP CAM: 204

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC

QUAD 3 NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 133435	DPH, m (39)	Lat N 42 deg 10.923 min	Lon W 70 deg 12.378 min
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STA LOC	SAMPLE	HH MM SS EDT 133641	DPH, m	Lat N 42 deg 10.942 min	Lon W 70 deg 12.385 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 134136	DPH, m	Lat N 42 deg 10.987 min	Lon W 70 deg 12.384 min
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UTC = EDT + 4 HRS Station date and time, UTC 263 17 41 36 .9902 .3797

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

dogfish in jaws

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT _____ LEFT _____	RT _____ + LFT _____ = _____	<input checked="" type="checkbox"/> SED GRAB	<input type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input type="checkbox"/> SAND LANCE	<input type="checkbox"/> INVERTS	#27

no smpl

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	(y) (n)
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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		boulders	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
<input checked="" type="checkbox"/> dogfish <i>many</i>			SL size: (sml) med lg	
Eucratea loricata	scallops		nos: 2	
Filograna implexa	sculpin		trawled/dredged shell frags	(y) n
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 *sl w/ dogfish*

trawled/untrawled

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM USGS STATION 4543

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6319 LO CAM: 2735
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4544	SBNMS SITE 910	CONSEC STATION 28	DAY-NIGHT	FWD NON-HD VIDEO FILE UP CAM: 205

Sunset: Sep 14, 2016
1855 EDT = 2255 UTC

QUAD 3 NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 135539	DPH, m (38)	Lat N 42 deg 10.929 min	Lon W 70 deg 12.278 min
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STA LOC	SAMPLE	HH MM SS EDT 135720	DPH, m	Lat N 42 deg 10.945 min	Lon W 70 deg 12.281 min
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STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EDT	DPH, m	Lat N 42 deg	Lon W 70 deg
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UTC = EDT + 4 HRS

Station date and time, UTC: 263 17 57 20

DDD : HH : MM : SS

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

sand dolls in jaws; no smpl

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT _____ LEFT _____	RT _____ + LFT _____ = _____	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input type="checkbox"/> INVERTS	#28

no smpl

	att epifauna	herring eggs	skate	SEABED DESCRIPTION
	Boltenia tunic.	lobster	Suberites spg	storm ripples (y, n)
	brachiopod	moon snail	squid	crests: hummocky sharp rounded
	bushy bry/hyd	mussels	tunicate, B pitu.	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		boulders y, n
	dk yellow spg	sand dollars		sand lance in water column y, n
	Didemnum cols.			sand lance on/in substrate y, n
	(dogfish <i>many</i>)			sand lance in sed sample (y, n)
	Eucratea loricatea	scallops		SL size: (sml) (med) (lg)
	Filograna implexa	sculpin		nos: 13
	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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 910, CONSEC STA 28 USGS STATION 4544

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6320 LO CAM: 2736
SBNMS	SEP 2016	DATE UTC SEP 19	JD UTC 263	
USGS STA 4545	SBNMS SITE 511	CONSEC. STATION 29	DAY-NIGHT	FWD NON-HD VIDEO FILE UP CAM: 206

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 2	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 14 22 34	DPH, m (29)	Lat N 42 deg 10.735 min .7339	Lon W 70 deg 14.295 min .2932
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STA LOC	SAMPLE	HH MM SS EDT 14 25 02	DPH, m	Lat N 42 deg 10.764 min .7648	Lon W 70 deg 14.284 min .2804
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 14 29 32	DPH, m	Lat N 42 deg 10.818 min	Lon W 70 deg 14.253 min
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UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 263 18 25 02	.8204	.2485
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm RIGHT 1.5, LEFT 2.5	SED VOL IN GRAB, liters RT 4.7 + LFT 4.2 = 8.9	SAMPLES		
		<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	# 29

			SEABED DESCRIPTION
	att epifauna	herring eggs	skate
	Boltenia tunic.	lobster	Suberites spg
	brachiopod	moon snail	squid
	bushy bry/hyd	mussels	tunicate, B pilu.
	juvenile cod	ocean pout	yellow encr. spg
	cancer crab?	Polymastia spg	sand partial veneer on gravel
	cod gull?	red encr. spg	gravel pavement
	cunner	red hake	boulders
	dk yellow spg	sand dollars	sand lance in water column
	Didemnum cols		sand lance on/in substrate
	dogfish		sand lance in sed sample
	Eucratea loricata	scallops	SL size: (sml) (med) (lg)
	Filograna implexa	sculpin	nos: 18 total
	finger spg	sea stars	trawled/dredged shell frags
	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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

USGS STATION 4545

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 511, CONSEC STA 29

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6322 LO CAM: 2737
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4546	SBNMS SITE 512	CONSEC. STATION 30	DAY-NIGHT 207	FWD NON-HD VIDEO FILE UP CAM:

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 2	NAV = GPS .1582
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 14 50 01	DPH, m (26)	Lat N 42 deg 10.638 min	Lon W 70 deg 16.157 min
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STA LOC	SAMPLE	HH MM SS EDT 14 51 19	DPH, m	Lat N 42 deg 10.654 min	Lon W 70 deg 16.143 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 14 56 11	DPH, m	Lat N 42 deg 10.715 min	Lon W 70 deg 16.060 min
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UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 263 18 51 19	.7126	.0601
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm RIGHT 3.5, LEFT 3	SED VOL IN GRAB, liters RT 3.8 + LFT 4.0 = 7.8	SAMPLES		
		<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#30

	att epifauna	herring eggs	skate	SEABED DESCRIPTION	
	Boltenia tunic.	lobster	Suberites spg	storm ripples	(y) n
	brachiopod	moon snail	squid	crests: hummocky 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		boulders	y. n
	dk yellow spg	✓ sand dollars		sand lance in water column	y. (n)
	✓ Didemnum cols			sand lance on/in substrate	y. (n)
	✓ dogfish <i>manu</i>			sand lance in sed sample	(y) n
	Eucratea loricata	scallops		SL size: sml med lg	
	Filograna implexa	sculpin		nos: 3	
	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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM
 USGS STATION 4546
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 512, CONSEC STA 30

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6323 LO CAM: 2738	
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	FWD NON-HD VIDEO FILE	UP CAM: 208
USGS STA 4547	SBNMS SITE S13	CONSEC. STATION 31	DAY-NIGHT		

Sunset: Sep 14, 2016
1855 EDT = 2255 UTC

QUAD 2 NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 151501	DPH, m (25)	Lat N 42 deg 10.408 min	Lon W 70 deg 18.191 min
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STA LOC	SAMPLE	HH MM SS EDT 151623	DPH, m	Lat N 42 deg 10.419 min	Lon W 70 deg 18.169 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 152122	DPH, m	Lat N 42 deg 10.452 min	Lon W 70 deg 18.074 min
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UTC = EDT + 4 HRS

Station date and time, UTC

DDD : HH : MM : SS
263 19 16 23

.4550 .0748

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

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT 1.5, LEFT 2	RT 4.7 + LFT 4.5 = 9.2	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#31

			SEABED DESCRIPTION	
	att epifauna	herring eggs	skate	
	Boltenia tunic.	lobster	Suberites spg	storm ripples (y) n
	brachiopod	moon snail	squid	crests: hummocky 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		boulders y, n
	dk yellow spg	sand dollars		sand lance in water column y, n
	Didemnum cols	gopher fish?		sand lance on/in substrate y, n
	dogfish			sand lance in sed sample (y) n
	Eucratea loricata	scallops		SL size: (sml) (med) lg
	Filograna implexa	sculpin		nos: 4
	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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

USGS STATION 4547

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site S13, CONSEC STA 31

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6324 LO CAM: 2739
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4548	SBNMS SITE 514	CONSEC. STATION 32	DAY-NIGHT	UP CAM: 209

	Sunset: Sep 14, 2016 1855 EDT = 2255 UTC	QUAD 2	NAV = GPS
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STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EDT 15 39 13	DPH, m (31)	Lat N 42 deg 10.287 min .2869	Lon W 70 deg 20.269 min .2710
STA LOC	SAMPLE	HH MM SS EDT 15 41 09	DPH, m	Lat N 42 deg 10.311 min .3100	Lon W 70 deg 20.245 min .2446
STA LOC	VIDEO OFF SEABED / SMPL	HH MM SS EDT 15 46 18	DPH, m	Lat N 42 deg 10.373 min	Lon W 70 deg 20.183 min

UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 263 19 41 09	+3750	.1817
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm RIGHT 3.5, LEFT 5	SED VOL IN GRAB, liters RT 3.8 + LFT 3.1 = 6.9	SAMPLES		
		<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#32

			SEABED DESCRIPTION	
	att epifauna	herring eggs	skate	
	Boltenia tunic.	lobster	Suberites spg	storm ripples y. n
	brachiopod	moon snail	squid	crests: hummocky 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		boulders y. n
	dk yellow spg	sand dollars		sand lance in water column y. n
	Didemnum cols			sand lance on/in substrate y. n
	dogfish			sand lance in sed sample y. n
	Eucratea loricata	scallops		SL size: (sml) (med) lg
	Filograna implexa	sculpin		nos: 20 total
	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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site 514, CONSEC STA 32 USGS STATION 4548

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6325 LO CAM: 2740
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4549	SBNMS SITE C8	CONSEC. STATION 33	DAY-NIGHT	UP CAM: 210

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC

QUAD 5 NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 160836	DPH, m (27)	Lat N 42 deg 12.449 min .4475	Lon W 70 deg 17.318 min .3271
STA LOC	SAMPLE	HH MM SS EDT 161005	DPH, m	Lat N 42 deg 12.456 min .4554	Lon W 70 deg 17.281 min 2868
STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 161932	DPH, m	Lat N 42 deg 12.487 min	Lon W 70 deg 17.144 min

UTC = EDT + 4 HRS Station date and time, UTC DDD : HH : MM : SS 263 20 10 05 .4866 .1451

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

DPH SED SURF IN GRAB, cm RIGHT 6 LEFT 7.5	SED VOL IN GRAB, liters RT 2.7 + LFT 2.1 = 3.8	SAMPLES		
		<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS none obs	#33

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	y, n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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
<input checked="" type="checkbox"/> cancer crab	Polymastia spg		gravel pavement	y, n
cod	red encr. spg		boulders	y, n
cunner	red hake		sand lance in water column	y, n
dk yellow spg	<input checked="" type="checkbox"/> sand dollars		sand lance on/in substrate	y, n
<input checked="" type="checkbox"/> Didemnum cols			sand lance in sed sample	y, n
<input checked="" type="checkbox"/> dogfish			SL size: sml med lg	
Eucratea loricata	scallops		nos:	
Filograna implexa	<input checked="" type="checkbox"/> sculpin		trawled/dredged shell frags	y, n
finger spg	sea stars		trawl/dredge marks	y, n
<input checked="" type="checkbox"/> flounder	shells & fragments		ambient light	y, n
haddock	<input checked="" type="checkbox"/> silver hake			

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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C8 , CONSEC STA 33 USGS STATION 4549

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6326 LO CAM: 2741
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4550	SBNMS SITE C9	CONSEC. STATION 34	DAY - NIGHT	FWD NON-HD VIDEO FILE UP CAM: 211

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 5	NAV = GPS .5211
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 163029	DPH, m (28)	Lat N 42 deg 13.537 min	Lon W 70 deg 17.519 min
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STA LOC	SAMPLE	HH MM SS EDT 163153	DPH, m	Lat N 42 deg 13.549 min	Lon W 70 deg 17.492 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 163638	DPH, m	Lat N 42 deg 13.597 min	Lon W 70 deg 17.370 min
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UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 263 20 31 53	.5971	.3708
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm RIGHT 6, LEFT 8.5	SED VOL IN GRAB, liters RT 2.7 + LFT 1.7 = 3.4	SAMPLES	
		<input checked="" type="checkbox"/> SED GRAB	<input type="checkbox"/> TEMP LOGR
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS
			#34

			SEABED DESCRIPTION	
	att epifauna	herring eggs	skate	
	Boltenia tunic.	lobster	Suberites spg	storm ripples y, n
	brachiopod	moon snail	squid	crests: hummocky sharp rounded
	bushy bry/hyd	mussels	tunicate, B pitu.	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		boulders y, n
	dk yellow spg	sand dollars		sand lance in water column y, (n)
	Didemnum cols			sand lance on/in substrate y, (n)
	dogfish			sand lance in sed sample y, (n)
	Eucratea loricata	scallops		SL size: sml med lg
	Filograna implexa	sculpin		nos:
	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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
 HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM USGS STATION 4550
 PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C9, CONSEC STA 34

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6327 LO CAM: 2742
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4551	SBNMS SITE C10	CONSEC. STATION 35	DAY - NIGHT	UP CAM: 212

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 5	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 165013	DPH, m (31)	Lat N 42 deg 14.573 min	Lon W 70 deg 17.711 min
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STA LOC	SAMPLE	HH MM SS EDT 165151	DPH, m	Lat N 42 deg 14.594 min	Lon W 70 deg 17.677 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 165634	DPH, m	Lat N 42 deg 14.637 min	Lon W 70 deg 17.576 min
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UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 263 20 51 51	.6399	.5748
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm RIGHT 3.5, LEFT 4	SED VOL IN GRAB, liters RT 3.8 + LFT 3.6 = 7.4	SAMPLES		
		<input checked="" type="checkbox"/> SED GRAB	<input type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#35

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	(y) n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky	(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
<input checked="" type="checkbox"/> cancer crab	Polymastia spg		gravel pavement	y, n
cod	red encr. spg		boulders	y, n
cunner	red hake		sand lance in water column	y, n
dk yellow spg	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> scallops		nos:	
Filograna implexa	<input checked="" type="checkbox"/> sculpin		trawled/dredged shell frags	y (n)
finger spg	sea stars		trawl/dredge marks	y, (n)
<input checked="" type="checkbox"/> flounder	shells & fragments		ambient light	y, n
haddock	<input checked="" type="checkbox"/> silver hake			

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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM USGS STATION 4551
PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C10, CONSEC STA 35

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6328 LO CAM: 2743
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4552	SBNMS SITE C11	CONSEC. STATION 36	DAY - NIGHT	UP CAM: 213

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 5	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 170943	DPH, m (32)	Lat N 42 deg 15.606 min	Lon W 70 deg 17.862 min
STA LOC	SAMPLE	HH MM SS EDT 171124	DPH, m	Lat N 42 deg 15.620 min	Lon W 70 deg 17.830 min
STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 171642	DPH, m	Lat N 42 deg 15.675 min	Lon W 70 deg 17.727 min

UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 263 21 11 24	.6744	.7253
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm RIGHT 4, LEFT 5.5	SED VOL IN GRAB, liters RT 3.6 + LFT 2.9 = 6.5	SAMPLES		
		<input checked="" type="checkbox"/> SED GRAB	<input type="checkbox"/> TEMP LOGR	<input type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#36

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	y, n
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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		boulders	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		trawled/dredged shell frags	y, n
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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM
USGS STATION 4552
PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C11, CONSEC STA 36

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6329 LO CAM: 2744
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4553	SBNMS SITE C12	CONSEC STATION 37	DAY-NIGHT	UP CAM: 214

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC

QUAD 5 NAV = GPS

STA LOC	VIDEO ON SEABED / SMPL	HH MM SS EDT 172920	DPH, m (32)	Lat N 42 deg 16.585 min .5796	Lon W 70 deg 18.050 min .0576
STA LOC	SAMPLE	HH MM SS EDT 173047	DPH, m	Lat N 42 deg 16.609 min .6054	Lon W 70 deg 18.016 min .0190
STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 173550	DPH, m	Lat N 42 deg 16.675 min	Lon W 70 deg 17.922 min

UTC = EDT + 4 HRS

Station date and time, UTC 263 21 30 47

DDD : HH : MM : SS .6710 .9218

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

DPH SED SURF IN GRAB, cm RIGHT 3.5, LEFT 5	SED VOL IN GRAB, liters RT 3.8 + LFT 3.1 = 6.9	SAMPLES	
		<input checked="" type="checkbox"/> SED GRAB	<input type="checkbox"/> TEMP LOGR
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS
			CTD UPCAST #37

			SEABED DESCRIPTION
<input type="checkbox"/>	att epifauna	<input checked="" type="checkbox"/> herring eggs	skate
<input type="checkbox"/>	Boltenia tunic.	lobster	Suberites spg
<input type="checkbox"/>	brachiopod	moon snail	squid
<input type="checkbox"/>	bushy bry/hyd	mussels	tunicate, B pitu.
<input type="checkbox"/>	juvenile cod	ocean pout	yellow encr. spg
<input checked="" type="checkbox"/>	cancer crab	Polymastia spg	sand partial veneer on gravel
<input type="checkbox"/>	cod	red encr. spg	gravel pavement
<input type="checkbox"/>	cunner	red hake	boulders
<input type="checkbox"/>	dk yellow spg	sand dollars	sand lance in water column
<input checked="" type="checkbox"/>	Didemnum cols		sand lance on/in substrate
<input checked="" type="checkbox"/>	dogfish		sand lance in sed sample
<input type="checkbox"/>	Eucratea loricata	scallops	SL size: sml med lg
<input type="checkbox"/>	Filograna implexa	sculpin	nos:
<input checked="" type="checkbox"/>	finger spg	sea stars	trawled/dredged shell frags
<input checked="" type="checkbox"/>	flounder	shells & fragments	trawl/dredge marks
<input type="checkbox"/>	haddock	silver hake	ambient light

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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C12, CONSEC STA 37

USGS STATION 4553

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6330 LO CAM: 2745
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4554	SBNMS SITE C3	CONSEC. STATION 38	DAY-NIGHT	UP CAM: 215

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 5	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 174916	DPH, m 31	Lat N 42 deg 16.832 min	Lon W 70 deg 16.687 min
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STA LOC	SAMPLE	HH MM SS EDT 175100	DPH, m	Lat N 42 deg 16.856 min	Lon W 70 deg 16.651 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 175728	DPH, m	Lat N 42 deg 16.926 min	Lon W 70 deg 16.532 min
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UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 263 21 51 00	.9246	.5332
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal; too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT 7, LEFT 9	RT 2.3 + LFT 1.5 = 3.8	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#38

			SEABED DESCRIPTION	
att epifauna	herring eggs	skate	storm ripples	(y, n)
Boltenia tunic.	lobster	Suberites spg	crests: hummocky 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		boulders	y, n
✓ cunner by pot	✓ red hake	lg	sand lance in water column	y, n
dk yellow spg	sand dollars		sand lance on/in substrate	y, n
Didemnum cols	✓ lobster in clay outcrop burrow		sand lance in sed sample	y, n
dogfish			SL size: sml med lg	
Eucratea loricata	scallops		nos:	
Filograna implexa	✓ sculpin		trawled/dredged shell frags	y (n)
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

ghost lobster pot		burrowed clay outcrop? s	
crossed lobster pot line		after bld	
		v. cgs / scM	

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

USGS STATION 4554

PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C3, CONSEC STA 38

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6331 LO CAM: 2746	
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	FWD NON-HD VIDEO FILE	
USGS STA 4555	SBNMS SITE C4	CONSEC. STATION 39	DAY-NIGHT	UP CAM: 216	

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC			QUAD 5	NAV = GPS
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STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 181401	DPH, m (28)	Lat N 42 deg 15.737 min	Lon W 70 deg 16.408 min
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STA LOC	SAMPLE	HH MM SS EDT 181532	DPH, m	Lat N 42 deg 15.753 min	Lon W 70 deg 16.377 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 182040	DPH, m	Lat N 42 deg 15.791 min	Lon W 70 deg 16.276 min
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UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 263 22 15.32	.7892	.2773
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT ~11.5, LEFT ~12	RT ~0.7 + LFT ~0.6 = ~1.3	<input checked="" type="checkbox"/> SED GRAB	<input type="checkbox"/> TEMP LOGR	<input type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#39

		SEABED DESCRIPTION	
	att epifauna	herring eggs	skate
	Boltenia tunic.	lobster	Suberites spg
	brachiopod	moon snail	squid
	bushy bry/hyd	mussels	tunicate, B pilu.
	juvenile cod	ocean pout	yellow encr. spg
	cancer crab	Polymastia spg	sand partial veneer on gravel
	cod	red encr. spg	gravel pavement
	cunner	red hake	boulders
	dk yellow spg	sand dollars	sand lance in water column
	Didemnum cols		sand lance on/in substrate
	dogfish		sand lance in sed sample
	Eucratea loricata	scallops	SL size: sml med lg
	Filograna implexa	sculpin	nos:
	finger spg	sea stars	trawled/dredged shell frags
	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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM
HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM
PAGE VALENTINE, USGS COASTAL AND MARINE GEOLOGY PROGRAM, WOODS HOLE, MA SBNMS Site C4, CONSEC STA 39
USGS STATION 4555

CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6332 LO CAM: 2747	
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	FWD NON-HD VIDEO FILE	
USGS STA 4556	SBNMS SITE C5	CONSEC. STATION 40	DAY-NIGHT	UP CAM: 217	

			Sunset: Sep 14, 2016 1855 EDT = 2255 UTC	QUAD 5	NAV = GPS
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STA LOC	VIDEO ON SEABED/ SMPL	HH MM SS EDT 183501	DPH, m 26	Lat N 42 deg 14.675 min .6765	Lon W 70 deg 16.419 min .4268
STA LOC	SAMPLE	HH MM SS EDT 183642	DPH, m	Lat N 42 deg 14.687 min .6889	Lon W 70 deg 16.384 min .3919
STA LOC	VIDEO OFF SEABED/ SMPL	HH MM SS EDT 184146	DPH, m	Lat N 42 deg 14.720 min	Lon W 70 deg 16.295 min

UTC = EDT + 4 HRS	Station date and time, UTC	DDD : HH : MM : SS 263 22 36 42	.7249	.2978
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NO SAMPLE: pre-tripped; no smpl attempted; jaws partly open; washout; refusal;
 too gravelly/shelly; smpl too small;

DPH SED SURF IN GRAB, cm	SED VOL IN GRAB, liters	SAMPLES		
RIGHT 8, LEFT ~9	RT 1.9 + LFT 1.5 = 3.4	<input checked="" type="checkbox"/> SED GRAB	<input checked="" type="checkbox"/> TEMP LOGR	<input checked="" type="checkbox"/> CTD UPCAST
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS	#40

			SEABED DESCRIPTION
	att epifauna	herring eggs	skate
	Boltenia tunic.	lobster	Suberites spg
	brachiopod	moon snail	squid
	bushy bry/hyd	mussels	tunicate, B pilu.
	juvenile cod	ocean pout	yellow encr. spg
<input checked="" type="checkbox"/>	cancer crab	Polymastia spg	sand partial veneer on gravel
	cod	red encr. spg	gravel pavement
	cunner	red hake	boulders
	dk yellow spg	<input checked="" type="checkbox"/> sand dollars	sand lance in water column
	Didemnum cols		sand lance on/in substrate
	dogfish		sand lance in sed sample
	Eucratea loricata	scallops	SL size: sml med lg
	Filograna implexa	sculpin	nos:
<input checked="" type="checkbox"/>	finger spg	sea stars	trawled/dredged shell frags
<input checked="" type="checkbox"/>	flounder	shells & fragments	trawl/dredge marks
	haddock	<input checked="" type="checkbox"/> silver hake	ambient light

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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

USGS STATION 4556

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CRUISE: USGS AUK2016038		DATE EDT SEP 19	JD EDT 263	GO PRO FWD HD VIDEO, FILE: UP CAM: 6333 LO CAM: 2748
SBNMS SEP 2016		DATE UTC SEP 19	JD UTC 263	
USGS STA 4557	SBNMS SITE C6	CONSEC. STATION 41	DAY - NIGHT	UP CAM: 218

Sunset: Sep 14, 2016 1855 EDT = 2255 UTC

QUAD 5 NAV = GPS

STA LOC	VIDEO ON SEABED SMPL	HH MM SS EDT 185402	DPH, m (24)	Lat N 42 deg 13.696 min	Lon W 70 deg 16.511 min
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STA LOC	SAMPLE	HH MM SS EDT 185526	DPH, m	Lat N 42 deg 13.709 min	Lon W 70 deg 16.493 min
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STA LOC	VIDEO OFF SEABED SMPL	HH MM SS EDT 190011	DPH, m	Lat N 42 deg 13.745 min	Lon W 70 deg 16.446 min
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UTC = EDT + 4 HRS Station date and time, UTC 263 23 00 11 .7473 .4442

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

DPH SED SURF IN GRAB, cm RIGHT 9.5, LEFT ~12	SED VOL IN GRAB, liters RT 1.3 + LFT 0.6 = 1.9	SAMPLES	
		<input checked="" type="checkbox"/> SED GRAB	<input type="checkbox"/> TEMP LOGR
		<input checked="" type="checkbox"/> SAND LANCE	<input checked="" type="checkbox"/> INVERTS
			<input checked="" type="checkbox"/> CTD UPCAST #41

none obs

			SEABED DESCRIPTION	
att epifauna	herring eggs	<input checked="" type="checkbox"/> skate	storm ripples	strat. (y) n
Boltenia tunic.	lobster		crests: (hummocky) (sharp)	rounded
brachiopod	moon snail		gvl in ripple troughs	y. (n)
bushy bry/hyd	mussels		small ripples	y. n
juvenile cod	ocean pout		sand partial veneer on gravel	y. n
<input checked="" type="checkbox"/> cancer crab	Polymastia spg		gravel pavement	y. n
cod	red encr. spg		boulders	y. n
cunner	red hake		sand lance in water column	y. (n)
dk yellow spg	<input checked="" type="checkbox"/> 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		trawled/dredged shell frags	y. (n)
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

HEIGHT OF FWD UPPER GO PRO ABOVE SEABED = CM DISTANCE BETWEEN PARALLEL LASERS = 20 CM

HEIGHT OF FWD LOWER GO PRO ABOVE SEABED = CM

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USGS STATION 4557

