ORIGINAL LOG BOOK OF THE "HALCYON"

UNITED STATES FISH COMMISSION

STATION NUMBERS

Numbers 10041 to 10089

1912-13

615

DEPARTMENT OF COMMERCE

BUREAU OF FISHERIES

RECORD OF DREDGINGS

615

Station No. 10041 Date: Aug. 24 1912

Hour: 1-2 P. M. to . M.

Position: Lat. Long.

Locality: 11 miles E. by S½S. from Boon I. Light

Depth: Bottom: Sample:

Wind: Direction, W.N.W Force, high
moderate at time station was made

Sea: Choppy Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		61°				✓	
80±	7028	41°				✓	

make obs.

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

During early morning running from Sequin with strong W.N.W. wind. Surface set from the westward.

Color of water: 6 Transparency: Very clear

REMARKS:

11—5314

4 ft. net visible at surf.

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
4 ft.	20-0			
20	0			
Silk	0			

11—5314

NOTES

During the A.m., heavy sea bent launch davit so we were forced to take latter on deck. For this reason could not use winch & wire rope for 4 ft net. & were forced to send it down on a hemp rope; not daring to use more than 135 lb. weight. Most of the time it was towing at about 10 F. i.e. for 15 min.; then for another 15 min., it was deeper, about 15 f., finally wind died, and it sank for 5 min. to about 20 F. It was taken with small wire from ship - two thermoms were used, one just above the other but one tripped on way down. Water bottle used simultaneously.

On surf, saw several large Cyanea - many Phalaropes.

4 ft. net: mass = in in jar (jar = 2 qts.) about 25 large frag. Staurophora - rest mostly "red feed" Cops.

List: 10 small Schizopods - 1 large Amphipods. many Phialidium - few Sagittae - 8 small fishes - rest all Cops.

20 net. very little microplankton - few small pink Copepods.

Silk net. several large blue Cop: 1 small juv. Hake - little else. few Amph. few juv. mussels off sea-weed.

This A.m. at 9. when 16 miles S.S.W. from Sequin towed 20 net on surf. for 10 min. - while hoisting in launch, very rough sea & high wind. Some microplankton; consid. number "red feed" Cop.

615

Station No. 10042 Date: Aug. 24 1912

Hour: 8-9 P. M. to . M.

Position: Lat. Long.

Locality: 4 miles E. by S. ½ S. from Thatcher's I.

Depth: Bottom: Sample:

Wind: Direction, S. Force, Light

Sea: Sky: Clear - moonlight

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
		from log					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
4 ft.	15-0			
Silk	0			
20	0			

11—5314

NOTES

Very little phosphorescence. 4 ft. net used on hemp rope. brought back 1 large Cyanea. 2 ft. in diameter. + about 20 large frag. Stauro-phora - not saved. Towed 3/4 hour. mass 5 in. in jar.

List: 1 large Cyanea, 6 small Tomopteris, many Phialidium, many fish larvae - many small Schizapods. only 1 Sagittae. Few Gastropods Rest all Copepods.

Aug. 25 - Aug. 27 - lay in Gloucester Hr.

615

Station No. 10043 Date: Aug. 29 1912

Hour: 12-2.30 P. M. to . M.

Position: Lat. Long.

Locality: 12 miles E. by N. ½ N. from Peaked Hill bar gas buoy, Cape Cod.

Depth: 95 fms. Bottom: Sample:

Wind: Direction, N.N.W.-N. Force, Light

Sea: Smooth. Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		60°				✓	
20	0	51.2					
40	0	46.8				✓	
60	7277	42.7					
80	7028	42					
95	{7028 {7277	42				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction
						from
0	1.45 P.M.		5 min.	580		N.W. to S.E.
	2.20 "		"	200		S. by E. " N. by W.

Color of water: Transparency: 5 fath. disc.

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME Down	TIME Up	Speed
4 ft.	35-0			
Hensen 2	90-0			
Bigelow	85-60			
20	0			
Silk	0			

11—5314

NOTES

Aug. 28 ran from Gloucester to Provincetown - High S.W. wind. In evening, tow in Provincetown Hr. got very little - all preserved.

Aug. 29. near Peaked Hill Bar. gas buoy (about 3 m. W. from it) 20 net, 15 min. on surface, very little micro. many winrows of Aurelia on surf. Flood tide, running strong to west. Two thermoms. used for bottom T. T. series + water samples taken from dory at ⊥. 4 ft. net; 50 fm. out 50° L±: towed ½ hour, closing net 90 F. out. So little wind that tows were not very satisfactory. Closing net worked perfectly. Current Observation successful. Closing net over ½ hour 20 net. surf. no microplankton, few small Cope., water extremely clear. Silk net on surf. small Cop. of a species not noticed in previous hauls - also caught 2 stickle backs + 3 juv. fish - Hake? Saw few small Bolina - few Aurelia + one shark - Heard a whale, Cyanea tentacles on dory - anchor line.

4 ft. net 1½ inch mass in candy jar (measuring jar) 1 large Beroe; several small Beroe, several large Pleurobrachia 4 large Staurophora (none seen on surf) several Phialidium fair number large Sagittae (all saved) Few large wh. + pink Cop. no eggs. many purple Amphipods - 8 larval Sebastes. fair number purple Schizopods, no fish eggs no microplankton.

Closing net - mass. small - many large wht. + pink Cop. with eggs. 2 Sagittae 1 large + several small Schizopods - several young Beroe - 1 Aglantha, many "red feed" Cop. most of the mass was preserved.

Hensen net. Small haul - "red feed Cop." - little or nothing else - no sway to the wire as ship was lying motionless.

615

Station No. 10044 Date: Aug. 31 1912

Hour: 8.30 A.M. to 10 A.M.

Position: Lat. Long.

Locality: 7 miles N.W. by N. from Race Point Light.

Depth: 30 fms. Bottom: Sample:

Wind: Direction, N. by E. Force, Light

Sea: choppy-tide against wind. Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		58°				✓	
10	0	53					
20	0	46.2					
30	7277	45				✓	
30	7028	45					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Strong current on surf. flowing to the N. E. Estimated 3/4 knot.

Color of water: 6 Transparency: Very Clear

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
4 ft.	20-0			
20	0			
Silk.	0			

11—5314

NOTES

Held in Provincetown yesterday by high h. wind + rough sea.

T. series from dory - for 30 fms. T. two thermoms used - agreed exactly -

20 net almost nothing

Silk net many small Cop.

4 ft. net. mass. = 2 inches in jar - mostly "red feed" Copepods - 1 frag. Cyanea list:

On surface many Aurelia - frg. Cyanea 1 shark. 1 Petrel.

615

Station No. 10045 Date: Aug. 31 191

Hour: 1 P. M. to . M.

Position: Lat. Long.

Locality: Thatchers N.N.E. Boston Lightship W. by S.

Depth: Bottom: Sample:

Wind: Direction, Force, Calm.

Sea: Smooth Sky: Overcast

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		61°					
20	0	48					
30	0	45.3					
40	7177	43.8					
40	7028	43.8					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 6 Transparency: Very clear

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	

11—5314

NOTES

Hydrographic observations only.

615

Station No. 10046 Date: Aug 31 1912

Hour: 3 P. M. to . M.

Position: Lat. Long.

Locality: Thatchers bears N. by E. ½ E. Bakers I. W. by N. ½ N.

Depth: Bottom: Sample:

Wind: Direction, Force,

Sea: Sky:

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		61				✓	
30	7277	45					
30	7028	45				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	

11—5314

NOTES

Hydrographic observations only.

615

Station No. 10047 Date: Nov. 20 1912

Hour: 10-10.30 A. M. to , . M.

Position: Lat. Long.

Locality: 8 miles S ½ W. from Eastern Point Breakwater

Depth: 34 fm. Bottom: Sample:

Wind: Direction, S. W. Force, light - air T. at 10 A.M. was 7.9°C = 46.2 F.

Sea: Sky: Clear, hazy

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		48.5				✓	
25	7277	48.7				✓	
34	7028	48.7				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction
		not taken.				

Color of water: about 6? guesswork. Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME Down	TIME Up	Speed
20	10-0			
4ft	10-0			

11—5314

NOTES

Tow fairly rich, many pink Copepods; black Amphipod; Sagittae; Pleurobrachia Beroe, not much micro. Whole mass preserved. Saw Eider Ducks - Black Back + Herring gulls; many Dovekie; 3 Black Ducks.

On return to Hr. made following thermom. tests.

Chemical thermom.	7.15	15.3	15.25
Salinity Cup thermom.	7.	15.25	15.2
Surface thermom.	44.5	59.9	59.6

S. Surface = 32.57
25f. = 32.57
34f. = 32.61

no fish larvae.

4ft. haul very monotonous.

2 Gadoid (?) larvae
Copepods - mostly Calanus 75 cc. mostly small, 2 or 3 adults
Many Sagittae, mostly elegans, few serratodentata many small, thin sp.?
Many Euthemisto
Few crab zooea
About 30 Pleurobrachia

Very few small fish eggs
2 Euchaeta
no Clione
3 or 4 Limacina
Few large soft species? of Sagittae. Vol. of Sagittae 15 cc.
Few small Hyperia
" Decapod larvae
Frags of Beroe

many very frag. medusae not yet ident.

615

Station No. 10048 Date: Dec. 4 1912

Hour: 12.30 P. M. to 1-30 P. M.

Position: Lat. Long.

Locality: 9 miles S ½ W. from Eastern Point

Depth: 38 fm. Bottom: Sample:

Wind: Direction, S. W. Force, Light

Air T. 46° ±

Sea: Sky: Fine

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0	7277	47				✓	
0	7028	47					
20	7277	46.6				✓	
40	7028	46.6				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
4 ft.	10-0			
20	10-0			

11—5314

NOTES

Fair haul with 4 ft. net.
Many spawning Pollock being caught on the ridges - many Kittiwakes - no fish larvae!

S. 38 F. 32.61
25 F 32.57
Surf. 32.56

4 ft. tow
Quantitatively rich - qualitatively monotonous - no fish fry. Fair number of small fish eggs, 2 species. no Pteropods, no tomopterus. Copepods - almost pure Calanus, small - vol. = 120 cc. (+ a few Euthemisto) 1 Euchaeta. Sagittae, mostly elegans - few serratodentata - Few very small sp.? few large soft sp.? vol. = 75 cc.
Few Pleurobrachia, homedusae, many Euthemisto. no Schizopods or Hyperia or Zoaea. or Decapod larvae.

615

Station No. 10049 Date: Dec. 23 1912

Hour: 1.30–2.30 P. M. to . M.

Position: Lat. Long.

Locality: 8½ miles S. by W. from Eastern Point
bearings are, Bakers h.W. by h., Thatchers h.E., E. Pt. h. by E.½ E.

Depth: Bottom: Sample:

Wind: Direction, h. W. Force, Brisk
Air T. max. 36°

Sea: Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0	7277	45°				✓	
23	7028	45				✓	
38	7277	45				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
4 ft.	10-0			

11—5314

NOTES

Surf. temperature in Gloucester Hr., 37 in A.m. & P.m., 38 in middle of day. 4 ft haul less than Sta. 10048.

Still many spawning Pollock - Fewer Dovekies than on last visit.

Trial of mar. 12

S. Surf. 32.94

25 fms. 32.75

38 " 32.75

1 fish larvae.

4 ft. tow.

Copepods & Sagittae.

Copepods, vol - 75 cc. almost all Calanus - no Euchaeta - Calanus rather small, 1 large one. 1 large Tomopterus helgolandica - few small fish fry. few fish eggs, many Limacina balea. 3 small Clione limacina 1 large Hyperia Few Euthemisto many Sagittae, vol. = 35 cc. mostly elegans, 1 or 2 Serratodentata - 1 Schizopod; genus?

615

Station No. 10050 Date: Jan. 16 1913?

Hour: 12.30-1.30 P. M. to . M.

Position: Lat. Long.

Locality: About 8 miles S. ½ W. from Eastern Pt.

Depth: Bottom: Sample:

Wind: Direction, S. W. Force, Light

Sea: Rough Sky: Cloudy

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0	7277	42.1					
0	7038	42.3					
25	7038	42					
38	7277	42.6					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
4 ft.	10-0			
20	3-0			

11—5314

NOTES

Pollock have practically stopped spawning. Haddock have not begun. Pollock school has left "the ridges" no Cod being caught. Very few Pollock being caught in Ipswich Bay, + on Jeffrey's Ledge.
no fish larvae.
S. surf. 32.81
25 fms. 32.86
38 " 32.94

4 ft. ton.
Copepods, 75 cc. vol. All Calanus, mostly medium, a few large; ex. 4 large specimens not ident. yet. may be Euchaeta, but look like Calanus. About 35 Euthemisto, large + small, 1 large Clione, 1 large Tomopterus helgolandica, few fish eggs, large + small, no fish fry. 1 small Appendicularia, many Sagittae vol. = cc. mostly elegans, few serrato dentata?, few others, thin, pin-like, sp.?
no medusae - very clean. no Limacina all sorted, all preserved ex. Copepods + of these a sample.

615

Station No. 10051 Date: Jan 30 1913

Hour: 12 noon . M. to . M.

Position: Lat. Long.

Locality: Eastern Point Light House bears N.E. by N. ½ N. 3 miles.

Depth: 19 fm. Bottom: Sand, mud. Sample:

Wind: Direction, S. W. Force,

Sea: Sky: Hazy

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0	7028	41°				✓	
10	7028	41.2					
20	7277	42.2				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
4 ft	15-0			
20	0			

11—5314

NOTES

Jan. 29. high S.E. wind, left a very rough sea - were unable to go to usual location, + had hard work as it was.

Jan. 29, there was about 3 in. of snow + its cooling effect on surf. water shown by the T. series.

4 ft. haul; small - Calanus, + large Sagittae all saved. 20 net very little, no Cop. towed both nets 20 min. 2 juv. fish

S. = surf. 32.56
2 fm. 32.82

Copepods, 40 cc. vol.
mostly Calanus
1 Euchaeta
3 or 4 Euthemisto
1 Shrimp
2 Gammarid amphipods
4 large Tomopterus helgolandica.
2 Appendicularia
Few fish eggs
1 small Hyperia
no Pteropods
many Sagittae, vol. 30 cc. - mostly elegans
2 or 3 serratodentata no medusae.

615

Station No. 10052 Date: Jan. 30 191

Hour: 3 P. M. to . M.

Position: Lat. Long.

Locality: Halibut Point S.E. ¾ S. Annisquam Light House S.W. by S. ¼ S.

Depth: 18 fm. Bottom: Sample:

Wind: Direction, S.W. Force, Light

Sea: Smooth Sky: Hazy

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0	7028	40.8				✓	
10	7028	40.9					
20	7277	42.1				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
4 ft.	10-0			
20	0			

11—5314

NOTES

Came through Squam R., very smooth in shelter of Cape Anne. Same inversion of temp. as in Mass. Bay, but rather more extreme.

4 ft. haul, very rich, Calanus - only hauled 15 min. but mass was ¾ pint. Few or no Sagittae.

20 net - had some Copepods. 1 juv. fish.

S. surf. 32.20

20 fm. 32.9

4 ft. haul.

Quantitative - very rich.

Cop. pure Calanus, vol. = 225 cc. only other things were.

few Euthemisto

20+ Sagittae - all saved

4 Tomopterus helgolandica

few fish eggs, among them 3 or 4 Cod

Frags. of an Ogalmid - very poor - smashed to bits. - not ex. yet.

no medusae - no Pteropods - no fish fry.

1 Euchaeta

1 Pycnogonid.

615

Station No. 10053 Date: Feb. 13 1913

Hour: 2 P. M. to . M.

Position: Lat. Long.

Locality: Thatchers Whistle Buoy bears S.E. ½ E. Thatchers N. Light bears N.W.

Depth: Bottom: Sample:

Wind: Direction, N.W. Force, Brisk. very cold. Thermometer in Gloucester last night +2°.

Sea: Sky:

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0	Surf therm	37				✓	
25	7277	37.5				✓	
45	7028	38.1				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
4 ft.	10-0			

11—5314

NOTES

Since last visit we have had steady cold weather, + 2 small snow storms.
Clapp just back from Georges, reports constant snow storms for past week - surf. water full of slush.

Fair haul - Calanus, few Euchaeta, several fish fry - many Sagittae, some Limacina - 5 juv. fish. S. surf. 32.83
25 fms. 32.83
45 fms. 32.84

Plankton
Swarm of Sagittae, vol. 125 cc.; packed mostly S. elegans. Copepods + Amphipods. vol. 50 cc. fair number of Euthemisto
few Euchaeta no. 1.
mostly Calanus, small. a few large adults
Tomopterus helgolandica, 10, all saved.
Few fish larvae + eggs given to Welsh.
Limacina balea 25
1 very small frag. Beroe.
Several small Appendicularians.

615

Station No. 10054 Date: March 4 1913

Hour: 1 P. M. to . M.

Position: Lat. Long.

Locality: Thatcher's I. bears n.n.w. Eastern Point bears w. by n.

Depth: 45 fm. Bottom: Sample:

Wind: Direction, S. S. E. Force, moderate air at about 30°.

Sea: Sky: Cloudy - snow

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0	7277	37.7				✓	
25	7038	38.				✓	
45	7277	39.				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
4 ft.	15-0			
20	1-0			

11—5314

NOTES

Very small tow in 4 ft. net - few fishes Euthemisto, few Sagittae, mostly Calanus finmarchicus - few large fish eggs. Very little microplankton.

S. surface 32.85
25 fms. 32.96
45 " 33.04

4 ft. haul. Very small haul.

Copepods, all Calanus, only 15 cc. vol. only 12 Sagittae, chiefly elegans.
9 large Tomopterus helgolandica
Several juv. fish. Fair number of Cod (?) eggs, + a smaller egg. Few Euthemisto
no Pteropods, Appendicularians or Medusae.

615

Station No. 10055 Date: April 3 1913

Hour: 12 – 2 P. M. to . M.

Position: Lat. Long.

Locality: Thatcher's I. n.n.w. Eastern Point W. by N.

Depth: 42 fm Bottom: mud Sample:

Wind: Direction, Force, Flat calm. air T. about 50°

Sea: Sky: Overcast

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0	98245	39.7				✓	
10	98245	39.7					
20	7277	39.8				✓	
30	7028	39.6					
42	98245	39.4				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency: Thick + Cloudy

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
4 ft	10-0			
20	0			
#1 silk.	0			

11—5314

NOTES

Both surface + 4 ft. hauls were brown with diatoms; very little else almost no Copepods. And Welsh notes that on march 29, same type was met with 8 miles N.E. of Boon I.

S. surface 32.32
25 fm 33.03
42 " 33.12

615

Station No. 10056 Date: April 14 1913

Hour: 12 noon . M. to . M.

Position: Lat. Long.

Locality: 2 miles S. from Eastern Point

Depth: Bottom: Sample:

Wind: Direction, N. E. Force, Light
heavy rain last three days.
Sea: Smooth Sky: Cloudy

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0	Surf. therm.	42				✓	
25	M.C.Z. (corr. = .3)	39.9				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
20	0			
coarse silk	10-0			

11—5314

NOTES

Water full of diatoms - little else

S. surface 31-11
25 fm. 32.79

615

Station No. Date: July 7 1913

Hour: 8 P. M. to . M.

Position: Lat. Long.

Locality: 10 miles S. S. E. from Eastern Point

Depth: Bottom: Sample:

Wind: Direction, Force,

air Temp. 68°

Sea: Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		60					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
# 3 silk	0			

11—5314

NOTES

Very rich surface haul, chiefly Calanus (?), + great numbers of large Anamalocera. Many young Schizopods, 2 large Pteropods (Criseis?)

Many juv. Gadoids + other fishes, few fish eggs - no Sagittae, few Hyperiids 1 large juv. Hake. Actinian larvae. 1 large Ostracod.

615

Station No. 10057 Date: July 8 1913

Hour: 8-9 A. M. to . M.

Position: Lat. Long.

Locality: 6 miles E.N.E. from Highland Light

Depth: 47 fm. Bottom: Broken shells Sample:

Wind: Direction, S. breeze Force, Light

air T. about 70°

Sea: Very smooth Sky: Fine

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		61				✓	
10	98252	51.2				✓	
20	7277	43.2				✓	
40	7277	41.8				✓	
30						✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 7 Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	30-0			
4 ft.	15-0			
20 net	0			
#3 silk net	0			

11—5314

NOTES

Rich hauls, very smooth sea. Few Cyanea + Bolina seen on surface.

#3 net on surf. almost nothing, few Calanus, Few fish eggs - 1 large Sagitta elegans no Anamalocera.

20 net on surf. Rich haul - small Cops. Copepod nauplii - Copepod eggs. Ceratium tripos + Ceratium fusus - no diatoms

4 ft. haul. Very rich - chiefly pink Cops Calanus bulk - cc. many large Staurophora - several Pleurobrachia. Few small Sagittae, many small (juv?) Schizopods few Hyperiids - several species - 7 Limacina balea. great number juv. fish. several species. Few Medusae, many Agalmid frags. no whole ones. Frags of Beroe.

Helgoland net. much less bulk than 4 ft. net - about 1/4 the bulk. chiefly Calanus. 1 Euchaeta, 2 Staurophora, several juv. Beroe several Pleurobrachia, 1 Hybocodon, 1 Sarsia few Medusae not yet examined, many Agalmid frags. none whole. Very few Schizopods, + very few Hyperiids, as contrasted with 4 ft. haul - but ~~no~~ large ~~Sagittae~~ number of large Sagittae, which were not taken in 4 ft. haul. no Pteropods - very few juv. fish + eggs. Few Terns seen.

615

Station No. 10058 Date: July 8 1913

Hour: 6 P. M. to . M.

Position: Lat. 41°.47' Long. 69°10'

Locality:

Depth: Bottom: Sample:

Wind: Direction, S. S. W Force, Light

Temp. air 68°

Sea: Sky: Fine

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		63				✓	
30	98252	41.8				✓	
60	98252	41.3				✓	
90	7277	42				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 4 Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	40-0			
20 net.	0			

11—5314

NOTES

1 Petrel seen (square tail)

Helgoland net - Haul very different from last station but nearly so great a mass of Calanus - but a large number of large Euchaeta. + a few large white Calanus hyperboreus (?) Fully ½ of the mass is Agalmid bells in good condition - many denuded stalks but no complete specimens (not ident. yet) very few Sagittae. /2 large, + many small Schizopods - many Hyperiids of several species; several Limacina balea 1 large + 1 small Tomopterus. Fair catch of fish fry, but almost no eggs. Fair number of large + small Pleurobrachia + frags. of large + small Beroe. Few Phialidium, 1 Cyanea, 4 or 5 large Stauvophora Bulk of whole about 75cc.

July 8 - 8 P.M.

at 41°29' Lat. 69°15' Long. Surf. tow with 4 ft. net.

Poor haul, not much in the surf. water. ½ inch in battery jar. equal amounts of Calanus (Pink Cop.) + small Schizopods - 2 large Schizopods, only 1 Sagitta. Few Agalma frags. 2 Medusae not ident. yet. 3 Phialidium 1 jur. Pleurobrachia. Few Hyperiids, about 30 jur. fish, no eggs - 2 small Tomopteris 1 small Cyanea - 2 large Stauvophora.

615

Station No. 10059 Date: July 9 1913

Hour: 8 A. M. to . M.

Position: Lat. 41° 06' Long. 68° 42'

Locality:

Depth: 30 fm. Bottom: Coarse yellow & grey sand Sample:

Wind: Direction, S. Force, Light

Sea: Sky: Fair

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		56°				✓	
0		55.5					
15	7077	55.4				✓	
30	98258	55				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 6 Transparency: Cloudy

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	25-0			
#3. silk	0			
20	surf.			

11—5314

NOTES

Water visibly cloudy. Many small Cyanea on surface. One or two Wilson's Petrels.
20 net. Rich haul of diatoms.
#3 silk net on surf. rich haul mostly Campanularian hydroids of the sort brought in by Douthart & sent to S.F. Clark Have growing ends. Tremendous numbers of them, most unusual haul. Many small Sagittae - Cops. etc.
Helgoland net. Very few Calanus (about 30cc of Cops mostly
no bottom sample Euryte mora(?) few Calanus. Bulk of it all is Sagittae (S. elegans?)
about 200-250 cc. great numbers of same Hydroids as in surface hauls. Large number of small Cyanea (30-40), from 1-3 in. in diameter. Few Agalmid frags. Several Capillidae. Few Hyperiids. 1 juv. Haddock & a few other frg. Few Decapod & Paguvid larvae, 1 Schizopod - few Limacina - little else.

615

Station No. 10060 Date: July 9 1913

Hour: 6 P. M. to . M.

Position: Lat. Long.

Locality: South Shoal Light Ship bears S.W. 3 miles

Depth: 27 fm. Bottom: Sample:

Wind: Direction, S.S.W. Force, Light

Sea: Sky: Overcast

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		61				✓	
10	7277	58.2				✓	
25	98252	50.9				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 5 Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Meter	20-0			
Quantitative	20-0			
20	0			
#3 silk	0			

11—5314

NOTES

Rich hauls- notes later.
20 net. preserved entirely.

#3 net. Pres. entire. Swarm of Obelia many small Sagittae. few small Cops. few Limacina- (sorted in Cambridge).

Quantitative net. small haul, Sagittae + Amphipods- pres. entire.

Meter net. mass. 1/4 in. in battery jar. monotonous- Chiefly Calanus, small Sagittae + small Hyperiids in about equal bulk. A few Obelia- 2 Aglantha. 1 juv. Pleurobrachia 100± Limacina balea- large. 1 juv. Flounder few large Hyperiids. 4 or 5 juv. Schizopods. 1 or 2 Zoea- nothing else.

615

Station No. 10061 Date: July 10 1913

Hour: 9.30 A. M. to . M.

Position: Lat. 40° Long. 69° 29'

Locality:

Depth: 75 fm. Bottom: Sample:

then stood off S-E, probably deepening the water somewhat.

Wind: Direction, S. Force, Brisk

Sea: rough Sky: Cloudy

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		68°				✓	
25	7277	48.7				✓	
50	98258	47.8				✓	
75	98252	51.6 = 51° 51.5				✓	
"							
"	98258	52					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 2 Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	50-0			
meter	30-0			
#3 silk	0			
20	0			

11—5314

NOTES

Rather too rough. meter net badly split. Edge of Gulf Stream. On surf. few frags of gulf-weed.

meter net. chain of very large Salpae; 2 smaller Salpa (fusiformis?) few small Schizopod & decapod larvae. few very small Limacina. many Amph. Hyperiids, large & small - 1 large yellow Phionima? Hosts of small Sagittae. Bulk of haul is small Sagittae & small pink Cops (Calanus juv?) no eggs no fish.

Helgoland net. Small haul. about ¼ in. in battery jar. mostly Cops., Calanus etc. no Euchaeta. Small Sagittae. Several small Aglantha. Some small Schizopods & Decapod larvae. a few small Limacina - many small Hyperiids. no fish or eggs Some of same Hydroids as in 10059. nothing else.

Station No. 10062 Date: July 10 1913

Hour: 6.30 P. M. to . M.

Position: Lat. 40° 29' Long. 70° 29'

Locality:

Depth: Bottom: Sample:

Wind: Direction, S.S.W Force, Fresh

Air T. 68°

Sea: Heavy Sky: Threatening

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		67°				✓	
20	98258	46=46.5				✓	
	7277	46.2=47					
40	98258	44.1				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 4 Transparency:

REMARKS:

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
4 ft.	15-0			
20	0			
#3 silk	0			

11—5314

NOTES

Very heavy sea running. Used 4 ft. net on rope, not on wire, to take up the jars & strains - Successful.

On surf - many small Amphipods.
Have been unable to sort last few tows on account of heavy sea. Pres. 4 ft. haul entire; also surf hauls.
Most of it was small Hyperiids.

615

Station No. 10063 Date: July 11 1913

Hour: 7 A. M. to . M.

Position: Lat. 41° 45' Long. 71° 16'

Locality:

Depth: 93 fm. Bottom: Sample: green, muddy sand.

Wind: Direction, N.N.W. Force, Light

Sea: falling Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		67°				✓	
15	98258	53.6				✓	
30	7277	45				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 6 Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	*Up	
Helgoland	25-0			
20	0			
# 3.	0			

11—5314

NOTES

Helgoland net, rich in mass 1 ¼ in. in jar mostly small Hyperiids & many large ones. Many small Sagittae, Cops (small pink) much less in mass than the Amphipods - Few Pleurobrachia, 1 Agalma stalk, no medusae. Many juv. Clione (?) Many fish fry of 3 sp; no eggs, no Schizopods -

20 net - considerable micro - many small blue Cops.

615

Station No. 10064 Date: July 11 191

Hour: 6 P. M. to . M.

Position: Lat. 39° 55′ Long. 71° 12′

Locality:

Depth: Bottom: Sample:

Wind: Direction, S. W. Force, Light

Sea: smooth Sky: Fine, clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		70°				✓	
50	7277	54.8				✓	
150	98258	49				✓	
250	98252	42.3				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 2 Transparency: Very clear at 7 fms.

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME Down	TIME Up	Speed
4 ft.	250 out at 175-0			
Helgoland	25-0			
20	0			
#3 silk.	0			

11—5314

NOTES

Fine smooth day, water visibly blue. Physalia on surf.

4 ft. net big haul of Salpae of several species, few Doliolum. Many large + a few small Euthemisto bispinosa. Many Schizopods, large + small, several species. Few large Phronima - Few Pink gamnarids. Copepods mass is small, but variety of species, no Calanus, different from cold water.

1 Saphirrina. 1 Rhopalonema velatum.

1 Aclantha, 2 Praya bells, palpons of Physophora - few frags of Agalma elegans - Several large Sagittae (Lyra?) Few small Sagittae. Few small Ostracods. No Pteropods many small Mictoplyds - 1 Calycopsis Typa in good condition.

Helgoland net. Rich haul of Agalma elegans, not much else. Few hard Salpae, single + in chains. Fair number large Hyperiids + Phronima, many small Schizopods 1 Stomatopod larva - 2 small sergistidae 2 large Polyp larvae - 1 juv. bat fish. 2 other juv. fish. 3 small Sagittae

Surf. hauls preserved entire.

615

Station No. 10065 Date: July 12 1913

Hour: 9 A. M. to 3·30 P. M.

Position: Lat. 40° Long. 72° 06′ 15″

Locality:

Depth: 45 fm. Bottom: green sand & mud Sample: ✓ saved on surf. Physalia, whales & black-fish.

Wind: Direction, S. S. W-S.S.E. Force, Light

Sea: Smooth. Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		69.6 at 11 A.M.				✓	
0		70 at noon					
15	48252	55.5					
30	98252	45.3					
30	7277	47					
40	98252	51.3				✓	
45	98258	51.6					
20		.				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 3 Transparency: Very clear

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME Down	TIME Up	Speed
Helgoland	20-0			
20	0			
#3 Silk	0			
Otter Trawl	Bottom			

11—5314

NOTES

6.4 A.M. sounded in 45 fm. green mud - take position from chart. 45 fm. T. repeated in P.M. as follows: 53° 48.2° brisk currents may explain anomalies in 48252 7227 The 45 fm. T. made two very successful hauls of Otter Trawl - yielded about 9 bushels of Scallops (Pecten magellanicus), many Asterias vulgaris (or forbesii) many of another Star-fish (Spec. pres.) many crabs (Cancer irroratus); 7, 4 spot Flounders. 2 Squirrel Hake, 1 juv. flounder. Mr. Welsh took currents from 9 A.M. - to 3. P.M. hourly, this taking in last half of flood & first half of ebb.

Time of day	Depth	Duration of Observ.	No. Revo.	Knots per	Compass Direct.
9 A.M.	Surface	4 min. 58 sec.	275	.4	W. n. W.
"	40	5 " 10 "	148	.2	n.W. by n.
10 "	surface	5 "	130	.2	W. n. W.
10 "	40,	2 " 20 "	150	.5	W. by n.
11 "	surface	5 " 28 "	160	.25	W. " n.
11 "	40	5 " 10 "	40	trace	n. W.
12.30 P.M.	surface	5 " 5 "	400	.65	n. n. W
" "	40	5 " 45 "	480	.7	S. by E.
2 "	surface	4 "	280	.65	n. E.
" "	40	4 " 45 "	395	.7	S. by E.
2.45 "	surface	5 "	490	.75	n. E.
" "	40	5 " 5 "	220	.35	S. S.

High water at Five I. Inlet at 2.05 P.M.
Bearings are direction toward which current flows.

Helgoland net typical "red feed" haul rich (½ in. in battery jar - towed 30 min.) mostly Calanus, many small Sagittae, many small & few large Hyperiids, fair number Limacina helea - few Agalmid frags. almost nothing else - a typical "Gulf of Maine" haul.

615

Station No. 10066 Date: July 12 1913

Hour: 9 P. M. to . M.

Position: Lat. 40° 20′ Long. 72° 55′

Locality:

Depth: Bottom: Sample:

Wind: Direction, Force, wind, squalls,

Air T. 72°

Sea: heavy, very rough Sky:

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		69°				✓	
15	98258	52				✓	
"	7277	53					
25	98258	46.2				✓	
"	7277	46.5					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
4 ft.	0			

11—5314

NOTES

Very rough. high seas. squalls + gale
worked with difficulty.

615

Station No. 10067 Date: July 13 1913

Hour: 7 A. M. to . M.

Position: Lat. 40° 29′ Long. 73° 46′

Locality:

Depth: 12 fm. Bottom: Sample:

Wind: Direction, W. S. W. Force, Light

Sea: smooth Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		63°					
12	98252	49.8					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 10 Transparency: Soupy

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	10-0			
20	0			

11—5314

NOTES

Sounded in 12 fm. good sample. Small tow with Hel. net. Chiefly Pleurobrachia pres. entire.

20 net. haul. pres. entire water very green, several whales.

615

Station No. 10068 Date: July 17 1913

Hour: 5 P. M. to . M.

Position: Lat. 42° 22' N Long. 73° 50' W.
This is approximately.

Locality:

Depth: 20 fms. Bottom: Green mud Sample:

Wind: Direction, S. Force, moderate

Sea: Sky: Cloudy

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		67				✓	
20	7277	48				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Very green Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Trawl	20			
Helgoland	10-0			

11—5314

NOTES

This station lay in the Hudson trough & was made chiefly to test the Otter trawl. It proved a "dead" bottom - many dead sea clams, 1 dead Scallop, many dead Quahaugs - sponges & crabs (alive); 1 squid, & of fish, 14, 4 spot Flounders, all ♀, several ripe, or spent, 6 Winter Flounders (small) 1 ripe ♂ Squirrel Hake (Physis).

Helgoland net haul, about ⅓ of a bucket of small Pleurobrachia - "Sago". Almost nothing else - very clean haul. Several juv. fish, Flounder, Sea Robin, Labrids, 1 juv. squid. Several Tomopteris, a few juv. Decapods - no Copepods, or other crustacea - Few fracs of Bolina - no medusae.

Had a squally, rainy night - head wind - 4 A.M. started to run back to Sandy Hook. Fog. 9 A.M., some 4 miles S. of Scotland, L.S. made surf. tow with 20 net - many small cops. & a good deal of micro. also used Otter trawl, 15 - fms. Big haul of Flounders & Skates. List: 20 net haul - many very small Cops. Ceratium tripos, C. fusus, many Peridinians, many Eggs (?) no diatoms.

On surface, great numbers small Pleurobrachia, & a few Bolina, no medusae. Menhaden steamers fishing along the beach. Large finback close to the vessel - very few Petrels - one Shearwater (Sooty?) In the evening many finbacks.

615

Station No. 10069 Date: July 19 1913

Hour: 10 A. M. to . M.

Position: Lat. 39° 35' Long. 73° 47'

Locality:

Depth: 15 fm. Bottom: Coarse gravel Sample: none saved

Wind: Direction, N.S.W Force, Light

Air T. 82°

Sea: Smooth Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		69°				✓	
7	7277	60.9				✓	
15	98258	58.4				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency: about 3 fm. ±

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Juv. Fish Trawl	15-0			
Helgoland	10-0			
20 net	0			

11—5314

NOTES

Early this morning about 5 miles off Barnegat, great numbers of small Salpa chains, + Mnemiopsis leidyi on surface (made short surf. tow); many small Cyanea seen. And this continued to, + after the station. At the station great numbers of Salpae (small, with blue nucleus) + Mnemiopsis, + a few Pleurobrachia on surface. many large Aequoreas 1 - several fath. down, + a few Cyanea.

Helgoland net, brought back a few Cyanea several Aequoreas of 2 species, A. forskali + B; the form called Zygodactyla by J. G. Mayer - has subumbral knob. - in good condition. Net yielded 1 pail full of Pleurobrachia small, same as at last haul, but very few Salpae. This is interesting as showing to how shallow a surface zone the Salpae, which seemed to fill the water, were confined. List: very little else, about 12 Aglantha, 6 or 7 small Sagittae, few Stomatopod larvae. - 2 large + 4 or 5 very small Euthemistids - many juv. fishes, several species - no eggs - 1 large Tomopteris. no Cops. or Schizopods.

Juv. fish trawl. worked well - but bottom - many naked molluscs - starfish - sponges, crabs etc. few fish - Skates, 1 Zooices, several juv. flounders shrimps. Very few Petrels - no other birds.

20 net. except for Salpae, practically nothing no micro visible in the jar - but pres. entire!

615

Station No. 10070 Date: July 19 1913

Hour: 7.30 P. M. to . M.

Position: Lat. 39° 9' Long. 72° 58'

Locality:

Depth: 44 fms. Bottom: green muddy sand ~~Sample:~~ with broken shells + pebbles.

Wind: Direction, Force,

Sea: Sky: Getting cloudy

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		74°				✓	
10	98258	70.8					
20	7277	50.6				✓	
40	98252	49				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 3-4 at 6 P.m. Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Otter trawl	44			
Helgoland	20-0			
#3 silk	0			
20 net.	0			

11—5314

NOTES

At. 6 P.M. about miles N.W. of Sta. 10070 Sounded in 35 fath. - bottom: broken shells color between 3 & 4. Sounded in 44 fms. green muddy sand, broken shells & pebbles. Otter trawl, 1/2 bushel scallop (mostly small to medium) (P. magellanicus); great mass of dead ones too, great no. starfish, few crabs; few Quahaugs, few flounders, 3 monk fish (list from W.W.W.).

Surf. nets, no Salpae, but many Sagittae. Helgoland net. about ¼ bucket; chiefly the same small Pleurobrachia as befor, with great numbers of juv. fishes of many species a few Diphyes - many soft Pteropods (?) very few Cops. - a few Schizopods, Stomatopods larvae. 1 juv. Squid (all Crustacea preserved together! On the run out from 10069 Salps & Mnemiopsis thick on surf till about 5 p.m. (15 miles from 10070) - after that we saw no more.

Only 1 or 2 petrels, & in the evening no Phosphorescence. #3 net on surf. many small thin & a few short stout transparent Sagittae. many juv. fish. 1 Hyperiid, 1 Phronima & 1 Stomatopod larva - 1 large Idotea - piece of Gulf-weed with Hydroids. many small Copepods. not Calanus. Few Anomalocera - 2 small Annelids. Few Pleurobrachia. same as in preceding hauls, not saved. 1 large Salpa with tails.

615

Station No. 10071 Date: July 20 1913

Hour: 1 A.m.—4 A. M. to . M.

Position: Lat. 38° 56′ Long. 72° 39′

Locality:

Depth: 400 fms. Bottom: no bottom. Sample:

Wind: Direction, W. Force, Light

Air T. 78°

Sea: Sky: Overcast

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		76°				✓	
50	98238	59.3				✓	
150	98252	49.7				✓	
250	7277	44.3				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 2 about sunrise Transparency: Sam net at about 6 fm

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME Down	TIME Up	Speed
4 ft	150-0			
Young fish trawl	175-0			
20 net	0			
#3 Silk	0			

11—5314

NOTES

Used 2 thermoms at each depth = readings given above are the lowest - the others are, 50 fms. 60.3, #7277; 150 fm. 58.5, 7277; 250, 47°, 98252.

As soon as it was light, noted that there were no Salpae on surf. and only a few bits of gulf-weed. While it was dark, no phosphorescence. Only 1 or 2 Petrels seen in A.m. Young fish trawl + 4 ft. net (50 f. ap. out on wire, 250 out L. 45°). Great masses of Salpae of several species - very few large Sagittae, many Schizopods, several Amphipods (Hyperiids, a species not noted in colder water). Several large yellow Phronima few Agalmid bells. 1 Diphyes. 1 large Calycophis in fair condition. 1 large Phyllosome larva & 1 Stomatopod larvae - 1 small sergestiv. 2 juv. Blackfish + a few other fish fry. Few fish eggs. Few small Ostracods. no Pteropods. Few Cops. of several species, same as in previous Gulf Stream haul.

July 20 at 12 noon - 72°00; x 39°01' #3 net on surf bottled " " " 4 P.m. 73,09; x 38°54' whole - some Salpae, gulf weed.

Helgoland net. a very varied haul but small in mass. few large + small Salpae + Doliolum. many juv. fish.; 1 large Leptocephalus in excellent condition. Few small Schizopods, many Stomatopod larvae. Many Sergestidae. Few Amphipods, very few Cops. - warm water species. 3 species of Pteropods. + atlantica. 1 large Carinaria, many short stout transparent Sagittae. + a few thin Sagittae. 1 Rhizophysa; frags of Agalma okeni, Diphyes + Eudoxids. no Salpae or anything else seen on surf. Evidently the Salps were deeper than the Helgoland net. July 20, 6 P.m. on surf. caught 2 large Salpae with , + a few Pleurobrachia + small pink Cops. - but none of the small Salpae or Mnemiopsis which filled the water off Barnegat - saw none on surf. a few Petrels. Head wind all day. 1 juv. fish, a few eggs few Pleurobrachia.

615

Station No. 10072 Date: July 21 1913

Hour: 1 A.m.-10 A. M. to . M.

Position: Lat. 38° 50' n. Long. 73° 51' 30"

Locality:

Depth: Bottom: Sample:

Wind: Direction, n.w. Force, rising breeze

Sea: Sky: Clearing

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
		1-3 A.m.					
0		72°					
0		4-9 A.m. 73°					
0		10 A.m. 72°.					
10	mess.	66.6					
24	mess.	48.3					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 4-5 Transparency: Sam net at 3 fms. +

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME Down	TIME Up	Speed
Otter trawl	24			
Helgoland	15-0			
20 net	0			
#3 silk	0			

11—5314

NOTES

This was a current station. Anchored vessel in 24 fath. at 1 A.m. + got under weigh for towing at 8.30 A.m. On surf. saw many Mnemiopsis, but no Salpae. Trawl showed we were still on the Scallop bed - about 3/4 bushel of very large ones - great mass of Echinarachnius - many star fish. (sample saved) few Sea Urchins + Crabs several small Squid (Rossia?) + naked molluscs. Sandy bottom. probably near inner edge of the bed. Cf. bottom T. with that of other Scallop stations. Sand dollars, 1/2 bushels. few fishes list from Welsh later (Skates, Physiculus, Sand lance)

Helgoland net chiefly Mnemiopsis, many fry - many small thin Sagittae - only 1 Cop. + 1 Sapphirina - few Seigestidae, few Stomatopod larvae no other Crustacea, few small Salpae. 2 frag. Aglmidae, many Pleurobrachia but fewer than in last haul, large number small medusae not iden. yet, + soft Ctenophores. a great deal of debris + slime (of Ctenophores). 1 small flounder, 6 skates, 1 juv. monk, 3 Silver Hake, 3 Phycis, 1 sand lance. 20 net - not much.

#3 net. Large frag. Aequorea. much debris of Mnemiopsis, 2 small Balistes, frags of Gulf weed - 1 juv. Silver Hake, 1 Sagitta nothing else.

July 21. Sta. 10072. Bearings are directions from which current comes (i.e. head of vane)

High tide at Barnegat Inlet at

Hour	Depth	Duration	No. Revs.	Compass direct.	Knots per hour.
1.46 A.m	24	5'	140	N. by W.	.21
2.15 "	4	5	176	N. by E - S. by W.	.3
2.50 "	0	5	100	N.N.E.	.15
3. "	24	5	98	E.N.E	.15
3.15 "	4	5	100	N. by E.	.15
3.20 "	0	5	99	N.N.E.	.15
4 "	24	5	100	S.S.E.	.15
4.15 "	4	5	105	2 balls N.S.E., 1 N.N.E.	.15
4.20 "	0	5	400	N.N.E	.65
5 "	24	5	370	3 balls N. by E. 6 balls S. by E.	.6
5.15 "	4	5	504	E. by N.	.8
5.25 "	0	5	563	N. " E.	.9
6 "	24	5	260	S " E.	.4
6.15 "	4	5	542	E.	.85
7 "	24	5	202	S. by W.	.3
7.15 "	4	5	535	E. " S	.85
7.50 "	0	5	535	E. " N.	.85
8.00 "	24	5	188	S.W. by S.	.3
8.15 "	4	5	410	E.S.E.	.65

Surf. readings were more or less distributed by movements of the vessel.

615

Station No. 10073 Date: July 21 1913

Hour: 4 P. M. to . M.

Position: Lat. 38° 26′ N. Long. 74° 30′ W.

Locality:

Depth: 22 fms Bottom: fine sand Sample: ✓

Wind: Direction, W. N. W Force, Light

Very warm 75°.

Sea: Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		75°				✓	
10	mess	70.8				✓	
22	"	51.9				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 2 Transparency: Saw net about 6 fms.

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME Down	TIME Up	Speed
Trawl	22			
Helgoland	15-0			
20	0			
#3 silk.	0			

11—5314

NOTES

Positions.

8 P.m. July 20 Long. 73° 26'
Lat 39° 00'
"Corner" night " " Long. 73° 45'
Lat. 38° 58'
noon " 21 " 38° 41 n.
Long. 74° 10' "

Nothing on the surface ex. 1 or 2 Innemiopsis no Salpae - no Petrels.

Trawl - still yielded 1 peck of live Scallops + about ½ bushel of dead shells, a few starfish same sp. as this A.m. naked mollusces, 1 Squid (Rossia?) few Anemone, few Flounders Bottom, fine sand. #3 net, some fish eggs - put in hatchery - first trial.

Helgoland net. very small haul - only a thin layer on bottom of jar - strong contrast to the rich hauls further N.E. in the cold water - but very varied. Bulk was Innemiopsis, which clogged the net - rest largely soft Doliolum (?) + very few small Salps - 2 or 3 thin Sagittae 1 juv Geryonia - + 2 or 3 other juv. Medusae. 1 Diphyes, 1 Halopyramis, 3 large Pteropods (Cymbulia?). Few small (soft) Pteropods (?). many juv. fishes + several Sapphirina - few Stomatopod larvae - no other Crustacea.

#3 net on surface: 1 large Salp. 1 soft Doliolum, 2 or 3 small Sagittae - few small Cops. 1 small Tiroloides. 1 juv. Hake. some fish eggs several fine Stilyola, 2 frag. of Atalanta 1 juv. spotted Sandpiper came on board.

615

Station No. 10074 Date: July 22 1913

Hour: 7.30 A.M. to 3 P.M.

Position: Lat. 37° 41' Long. 74° 27' 30"

Locality:

Depth: 30 fm. Bottom: Stickygreenish sand Sample: in trawl

Wind: Direction, Force, Calm.

Sea: Sky: Hazy but fine

TEMPERATURES

Depth	~~Thermometer Make and No.~~ Time	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0	7 A.m	75°				✓	
0	8 "	75					
0	9 "	75					
0	10 "	77					
0	11 "	77					
0	12 noon	77					
0	1 P.m.	?					
0	2 "	76					
0	3 "	78°					
15	98258	65°				✓	
30		51.2				✓	
"	98258	51.3					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 3-4 Transparency: 13 fm. with disc. Hel. not visible at 15 f.

REMARKS: Cont. from opp. page 11—5314

Hour	Depth	Dura.	Rev.	Direct.	Knots.
3. P.m.	30	.3'	74	n.n.w	.3
3.10 "	Surf.	.5'	204	W ½ S. E ½ N.	

30 fm. obs. are at the bottom.

NETS, ETC., USED

Description	Depth	TIME Down	TIME Up	Speed
Trawl.	30			
Helgoland	15-0 To 20-0			
20 net-	0			
# 3 net-	0			

11—5314

NOTES

Shows warming from 75° at 7 A.m to 77° at noon, cooling again to 76 at 2, but then warming to 78° at 3 P.m, when we took W.W. & his dory on board & finised the station.

On surface - 2 turtles (Loggerhead) - 2 sharks Pilot fish - school of Porpoises - some large salps in chains (Cyclosalpa?) a few very large single Salps - some schools of juv. Bluefish (?) many Petrels. In P.m. a tame pigeon lit on bow-sprit for a few minutes. 20 net rather rich haul of micro-plankton, chiefly Ceratium, like tripos, but with very long horns. Trawl. 1 bushel very large Scallops. few Sand-dollars - Star-fish, crabs, dead shells. covered with worm tubes - We found fish in about 10 Scollops, some goby-like species Important.

Compass direction is the direction from ~~which current flows.~~

High water at Cape May - 11 A.m.

at Barnegat 10.35 A.m.

Hour of day	Depth	Duration min. sec.	No. Revo.	Comp. direct.	Knots per hour
7-45 A.m	30 f	5'	78	n. by W.	.12
8 "	Surf.	5'	440	E	.7
8.45 "	30 f	5'	32	no. balls	trace
9 "	Surf.	5'	422	E.	.7
9.45 "	30	10'	135	n.n.w.	.1
10 "	Surf.	5'	290	S.E. by E.	.5
10.45 "	30	5'	135	n. by W.	.2
11 "	Surf	5'	135	S-S-E.	.2
11.45 "	30	5'	235	n.n.w.	.35
12 noon	Surf.	5'	147	S. by E.	.25
1.10 P.m.	30	5'	105	n ½ E.	.15
1.20 "	Surf	5'	50	S-S.W	.1
2 "	30	5'	138	n.	.2
2.10 "	Surf	5'	265	W.S.W	.4

Continued

615

Station No. 10074 Date: 191

Hour: . M. to . M.

Position: Lat. Long.

Locality:

Depth: Bottom: Sample:

Wind: Direction, Force,

Sea: Sky:

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	

11—5314

NOTES

#3 on surface. Few small Cops, few Salpae, 1 Cyclosalp. On surface got a lot of juv. Hake? Helgoland net. mass small, ½ inch in jar, but very rich variety. Few Appendicularia (in same bottle as Medusae) many juv. fish: Several spotted Leptocephalus, many eggs, probably eel + flounder. Few Salpae of several species. Few soft Doliolum. Few Cops, pink, blue, peacock; 1 small juv. Squid. Many Sagittae thick + thin. Many Stomatopod larvae: 2 Euthemistids, 1 Gammarid. Some juv. crabs. Several Styliola + ⌒. Several Cymbalia (?) Several Firoloides, few soft Pteropods (?) Same as in previous hauls. Fair number of Pleurobrachia, Liriope, Aglaura. Rhopalonema other Medusae not ident. yet. many juv. Agalma, few Sergestidae - all Coelenterates together (1 bottle + 1 vial).

At. 6 P.M. about 5 miles W. of Station 10074, towed No. 3. net on surface for a few minutes, got great number of small Cops - strong contrast to their scarcity at the station. Many Sagittae of 3 species, Liriope, 2 juv. Agalma. Many Petrels. Many Mnemiopsis - fine phosphorescence.

615

Station No. 10075 Date: July 23 1913

Hour: 8 A. M. to . M.

Position: Lat. 39° 29' Long. 75° 21'

Locality:

Depth: 9 fath Bottom: Sand Sample:

Wind: Direction, Force, Calm.

Very hot

Sea: Smooth Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		75°				✓	
9	Mess	59.5				✓	
"	"	59.5					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 6 Transparency: 7 fms. with disc.

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	8-0			
Trawl	9			
20	0			
#3 Silk	0			

11—5314

NOTES

Early last night the surface was covered with mnemiopsis, very brilliant phosphorescence. This A.M. they had disappeared but the surface water was full of small Salpae + large Beroe. Several preserved — a few Cranea, some Aequorea, 2 species porpoises; many schools of Menhaden; caught 1 Bluefish — several Pogy Steamers made station just in sight of Hog I. no Petrels. By 12 noon we had run out of the Beroe.

Trawl. Very little — Skates — clusters of Squid eggs —

Helgoland net. about 2 pails of Salps. few Beroe & Aequorea — few Pleurobrachia 1 Styliola — few fish fry. 1 or 2 Cops. 1 Hyperiid, & Stomatopod larvae. all the rest is pure Salpa soup — about 2 pails full

#3 net

#20 net rich haul of micro.

~~Sand piper,~~ Saw Black headed gulls — spotted Sandpiper came aboard.

615

Station No. 10076 Date: July 24 1913

Hour: 5- 8 A. M. to . M.

Position: Lat. 37° 3' Long. 74° 33'

Locality:

Depth: 120 fm. Bottom: Sample:

Wind: Direction, S. W. Force,

Sea: Sky: Clear, fair

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		76°				✓	
25	69489	60.2					
50	98258	55				✓	
100	98258	51.8				✓	
150	98252	49.9				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 2 Transparency: 7 fath.

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	20-0			
4 ft.	120-0			
# 20	0			
# 3	0			

11—5314

NOTES

Sounded in 120 fms. Then stood eastward 3 miles and made the station; no bottom at 130 fms. Near the surface, a few strings of Cyclosalps, + a few single very large and medium Salpae. School of Porpoises - 10 ft; high fin, square nose. no Gulf weed.
20 net rich - #3 net, almost nothing, but some eelgrass - noted also at last station.
Helgoland net. Very poor dirty haul. Some large + small Salpae. (sample saved) few Sagittae - Some juv. fish: 1 Leptocephalus - eggs. (eel?) 1 or 2 Agalmid bells; 1 aequorea. Few Crustacea, few Copepods, Sergestids, Hyperiids, Stomatopod larvae (all crustacea in one bottle) 2 Styliola. nothing else.
4 ft. net. poor (scanty) but clean. Fair number Salpae various species. Few Sagittae - thick + thin, many small Cops. + some big ones. 1 Physophora - 2 small Medusae - many large Schizopods. 2 juv. fish (butterfish?) 3 or 4 Euthemistids - little or nothing else.

615

Station No. 10077 Date: July 24 1913

Hour: 10 A. M. to noon. . M.

Position: Lat. 37° 3′ Long. 74° 56′

Locality:

Depth: 25 fm. Bottom: Sample:

Wind: Direction, S.W. Force, Brish

Sea: Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		77				✓	
10	Mess.	68.8				✓	
25	"	52.				✓	
25	"	52					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 4-5 Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	20-0			
Trawl	25			
20	0			
#3	0			

11—5314

NOTES

Sounded - 25 fm. good bottom sample from clam shells in the trawl.
Trawl: 1/2 bushel live + many dead Scollops - 1 Squid - 3 or 4 Hake + juv. monkfish. few Starfish, Crabs + Anemones. Very few Salps on surface. Many Petrels.
20 net - rather rich micro.

#3. little or nothing.

Helgoland net - preserved entire.

615

Station No. 10078 Date: July 29 1913

Hour: 5 P. M. to . M.

Position: Lat. 37° Long. 75° 38'

Locality:

Depth: 12 fm. Bottom: Sand Sample: ✓

Wind: Direction, S. Force,

Air Temp. 85° Very hot.

Sea: Sky:

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		80° (tried twice)					
5	mess.	76					
12	mess.	58					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 5 Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Trawl	12			
Helgoland	8-0			
20	0			
3	0			

II—5314

NOTES

Trawl - very poor haul. many starfish of 2 species (specimens preserved) very little else. 1 Cyanea, frags of Limulus, few Spider-crabs + Hermit crabs - 2 summer flounders. 2 Skates - 2 spotted flounders. 1 Squid - egg-mass (only one finger?) no Scollops, nothing seen on surface.

Helgoland net. Very scanty, layer ⅛ in. in pail (besides 2 or 3 qts. of Beroe) mostly large + small Beroe + some small Salpa few Medusae - Liriope + ? (X) 1 juv Aequorea 2 Sergestids are all the Crustacea. 2 juv. fish - 1 egg. 2 Styliola - nothing else.

#3 net. many juv. crabs - pres. entire.

#20 " rich micro.

Few Petrels. In evening heard flock of spotted Sandpipers. saw black headed Gulls + Terns.

Very little phosphorescence south of Cape Cod. By 8-30 P.M., very dark, fairly bright phosphorescence. 8.30 just abreast of Hog I. about 10 miles off, made surf. tow 10 min. #3 net. Very rich haul of small Crustacea (chiefly juv. crabs) Some Medusae. several large Beroe.

List. 2 large Beroe. few small Sagittae, Liriope + other juv. Medusae. 2 juv. Squids. 1 juv. Clupeoid fish - few Sergestids (all the large Crustacea are in one bottle) Great numbers of Zooae - probably of the Blue Crab (Calinectes, seen swimming in Chesapeake Bay in great numbers; (f spawning) Few small Salps. 1 Styliola.

On last winter's rep. note Haddock eggs can't float on top when it gets too fresh - come up with salt ½ 0 when wind is n.w.

615

Station No. 10079 Date: July 30 1913

Hour: 11 A. M. to 1 P. M.

Position: Lat. 38° 02′ Long. 74° 53′

Locality:

Depth: 15 fms. Bottom: Sample:

Wind: Direction, S. W. Force, Light

Warm

Sea: Sky: fair

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		76				✓	
5	mess	74.8				✓	
15	"	53				✓	
15	"	53					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 5 Transparency: 8½ fms.

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Trawl	9			
Helgoland	8-0			
#3	0			
#20	0			

11—5314

NOTES

Sounded in 15 fms. + took T. + W. S.; then had had 9 fm. on the Bank + tried Trawl. It carried away - Hard bottom. Lost trawl + boards - working on the Bank.
#20 net small haul micro.
#3 - Long thin fish, small Salps, 2 Aequorea. Fair no. eggs - more than we have seen south of Cape Cod. these are of some fish spawning on the Bank when off it - we found none.
Helgoland net. Several Aequorea - many Mnemiopsis, whole + in frags. many Cymbalia - most of the haul is small Salps (about 2/3 of a pail full). Very little else. Few Pleurobrachia - frags of Agalma. Some Styliola or allied genus. many juv. flounders + Butter-fish - very few eggs - few Sagittae. Few soft Doliolum. Very few Cops + other Crustacea (bottle) several small Tiroloides - 1 Eudoxid, frags of Beroe, 1 frag. of Oikopleura in bottle with Sagittae. Helgoland net stained red with a spiny mass, seems to be radiolarians (?) not studied yet. - sample pres. most of the Cops. are with it. On surface many Aequorea + few Cranea - all frag. Few Petrels. several greater Shearwater.
#3 net on surf. many small Sagittae, few small Cops. few juv. Butterfish - 1 Pleurobrachia 2 Odotea 1 Styliola - 3 Sagittae, many fish eggs. 1 Tiroloides nothing else.
4 P.m. off Fenwick Shoal L.S. Surf tow - #3 net many Mnemiopsis, Aequorea, Salpae - few eggs - Schools of juv. Blue-fish.

615

Station No. 10080 Date: July 31 1913

Hour: 4 A. M. to . M.

Position: Lat. 39° 7' Long. 74° 24'

Locality:

Depth: 13 fms Bottom: Sample:

Wind: Direction, E. Force, Light

Sea: Smooth Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		76.5				✓	
5	mess	54.				✓	
"	"	54.1					
"	"	53.1					
"	"	55					
13	"	53.1				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 5-6 Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	10-0			
# 3	0			
#20	0			
Scrim.	0			

11—5314

NOTES

Sounded, 13 fms. Small sample. Repeated 5 fm. Temp. at the end of the tow, with above results - evidently uniform bottom water encounted at about 5 fath.
On surf. - water full of small Salpae + Mnemiopsis - Scrim net brought in heavy load of them. - #3 + #20, working about 3 ft down, caught comparatively few. Also many Aequorea with them. caught many juv. Butter fish (Stromatiids) - apparently commensal - often several with one medusa.
2 species of Aequorea, soft, + hard + tubercular - Few Petrels.
Helgoland net. 1 pail full - Pleurobrachia + small Salpae, 2:1. Very little else - Few Sagittae, juv-fish, hardly any Crustacea - 2 juv. Squids - 1 Aequorea.

615

Station No. 10081 Date: July 31 1913

Hour: 6 P. M. to . M.

Position: Lat. 39° 45' Long. 73° 58'

Locality:

Depth: 11 fms. Bottom: Pebbles Sample: ✓

Wind: Direction, E. Force, brisk

Sea: rough Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		75°				✓	
5	mess.	74.5				✓	
7	"	53.5					
11	"	53.1				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 4 Transparency:

REMARKS:

11—6314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	8-0			
#3.	0			
Scrim.	0			
#20	0			

11—5314

NOTES

Sounded, 11 fms. Pebbles - sample saved. On surf. Aequorea (many) many small Salps - In scrim net (see side of vessel) many juv. blue crabs (Calinectes .25" - .5" in. in diam.) some juv. fish in eel-grass. 2 Pipe fish. juv. Cutter fish. many Cinders 1 or 2 Idotea. Few juv. Stomatopods many juv. Decapods. 1 Sergestes. many Anomalocera - few Zoeas. Few juv. Butter fish. + Hake.

Helgoland net, rich Salpa soup (small Salpa) - 1 pail full. Very little else. 2 Copepods - 3 or 4 Sagittae. few juv. Stomatopods. Few juv. Schizopods - + Decapods - 1 or 2 Sergestes, 2 juv. Squid. Frags of Mnemiopsis, Few frags of Beroe. nothing else.

Station No. 10082 Date: Aug. 1 1913

Hour: 12.30 A. M. to . M.

Position: Lat. 40° 9' Long. 73° 21'

Locality:

Depth: 22 fm. Bottom: Sand Sample:

Wind: Direction, S. E. Force, Light

Sea: Smooth Sky: Clear - dark.

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		74				✓	
10		55.2				✓	
22		47.5				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	18-0			
#20	0			
#3	0			
Scrim	Scrimming on surface			

11—5314

NOTES

Sounded. 22 fath. sand.

Helgoland net. Pleurobrachia soup. 1 pail full. Very little else. Many small Salpae. 15-20 fine Tomopteris Few Gammarids + juv. Decapods. no Copepods - great number juv. fishes of many species almost no eggs. 2 juv. Squid. 2 juv. + 2 large Aequorea, 1 juv. Anemone.

Surf. #3 net. Many small Salps from bulk of tow. Many very small Copepods. Several Idotea - Few juv. Decapods - many juv. fish.

Station No. 10083 Date: Aug. 1 1913

Hour: 4 P. M. to . M.

Position: Lat. 40° 48' Long. 72° 17'

Locality:

Depth: 16 fms. Bottom: Sample:

Wind: Direction, S.W. Force, Squally

Sea: Sky: Overcast

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		68°				✓	
8	Mess.	65.1				✓	
16	"	57.				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: about 5 or 6 Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	8-0			
#20	0			
#3	0			

11—5314

NOTES

Sounded, 16 fms. Nothing seen on surface.

Helgoland net. smallest haul yet. whole tow put in a 4 oz. bottle. Contained 1 juv. lobster, few small Copepods, 1 Stomatopod - 1 juv. Squid. Few Sagittae. 100 juv. fish & many eggs some species just hatching.

Aug. 2, 3 A.M. 8 miles off Montauk Surf. tow with scrim net.

10083 - surface haul. large number small Copepods - many eggs - many fish just hatching. few juv. Crabs - Few Idotea - no soft things at all.

615

Station No. 10084 Date: Aug. 2 191 3

Hour: 10 A. M. to . M.

Position: Lat. 41° 10′ Long. 71° 13′

Locality:

Depth: 20 fms. Bottom: sand Sample: ✓

Wind: Direction, S. S. W. Force, Light

Sea: Smooth Sky: Overcast

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		71.5				✓	
10	Negs	62.7				✓	
20	"	50.6				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 7 Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	

11—5314

NOTES

Hydrographic observations only

Sounded 20fms. Sample - sand

Station No. 10085 Date: Aug. 4 1913

Hour: 6 P. M. to . M.

Position: Lat. 41° 39′ N. Long. 69° 42′ W.

Locality:

Depth: 26 fm. Bottom: Pebbles. Sample:

Wind: Direction, N.N.E. Force, Brisk

Sea: Sky: Overcast

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		63.5				✓	
10	Negs	44				✓	
26	"	42.9				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 7 Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	18-0			
#3	0			
20	0			

11—5314

NOTES

In Pollock Rip Shoe, 3.30 P.M. Surf. T. 50°.

Took surface water sample ½ mile S.W. of Shovelful Light Ship, off Monomoy. LL

1 Large Cyanea on Surf. Thesher sharks jumping, 2 Orca 1 mile west of us - tall dorsal fins plainly seen many times - Estimated 7 ft. tall.

Helgoland net - 6 juv. haddock, 1 - 3 in. long - frags of Cyanea - 1 Pleurobrachia about 1 tablespoon Copepods - bottled entire - a very scanty haul.

#3 - small haul Cops - bottled entire, except fish & fry?, or eggs?, of which there were great numbers.

Station No. 10086 Date: Aug. 5 1913

Hour: 8 A. M. to . M.

Position: Lat. 42° 6' 30" Long. 70°

Locality:

Depth: 40 fms. Bottom: Broken shells. Sample:

Wind: Direction, n.n.w. Force, Light

Sea: Smooth Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		62.8					
10	Mess.	53.5					
20	7038	44.5					
30	7038	44					
40	7277	43.8					
		?					

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 7 Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	18-0			
Scrim	0			
20	0			

11—5314

NOTES

Helgoland net, small haul - bottled entire - chiefly Calanus + juv. fish.

Scrim. surf. mostly eggs + juv. fish - many juv. Hake, from very small to 1 inch long, rest bottled entire

Helgoland net - mostly juv. fish, rest "red-feed" fish picked out, rest bottled entire

20 net - very little micro.

Scrim net - juv. fish, very little else - bottled entire. nothing on surf. except eel-grass. 1 Orca seen close to the vessel Whole - no Petrels.

2 A.M. Towed scrim net off Hausel; 50 minutes on surf. few Cops. small haul mostly very juv. fish, 4 species + eggs - rest pres. entire.

615

Station No. 10087 Date: Aug. 9 1913

Hour: 3.30 P. M. to . M.

Position: Lat. 42° 31' Long. 70° 21'

Locality:

Depth: 71 fms Bottom: broken stones, bluish mud Sample:

Wind: Direction, S.W. Force, Brisk

Sea: Smooth Sky: Overcast

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		62°				✓	
10	98245	51.8					
25	98252	43.4					
50	98258	41.7					
71	7277	41.9					
20						✓	
70						✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: 5-6 Transparency: Rather thick.

REMARKS: Hel. net at 5 fms. 11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	40-0			
Quantitative	70-0			
4 ft.	15-0			
#3	0			
20	0			

11—5314

NOTES

Nothing on surface. Aurelia near Eastern Point. Head piece of Quantitative net split, + new one bent.

Hel. net - 1 large Haddock, 5 in. Little "red-feed" many juv. Schizopods - some juv. fish, small haul - 1/4 in. in jar. Great number small Schizopods of several species - many more than in 4 ft.. Few Limacina. few Sagittae few juv. fish - Sebastes - several large larval Actiniari, few large Euchaeta, + other large Calanids - Few Hyperiids - 2 Pleurotrachia - Cranea -

4 ft. net. much more "red-feed". Few very small Schizopods of 2 or 3 species. ½ doz. Sagittae - Few Hyperiids - 2 or 3 Limacina many juv. fish - chiefly Sebastes - + few Flounders - 3 or 4 Pleurotrachia - 2 Melicertum - 2 small Tomopteris.

#3, almost nothing except 1 juv. Lump fish - + 1 juv. Hake.

615

Station No. 10088 Date: Aug. 9 1913

Hour: 9 P. M. to midnight. M.

Position: Lat. 42° 33′ Long. 69° 33′

Locality:

Depth: 149 fms. Bottom: Sample: none.

Wind: Direction, S. W. Force, Brisk

Sea: Sky: Clear

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		66.5				✓	
10	98252	46.5					
25	98258	41.6					
50	7277	43.9				✓	
100	7277	44				✓	
150	7277	44				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency:

REMARKS:

11—5314

NETS, ETC., USED

Description	Depth	TIME Down	TIME Up	Speed
Helgoland	80-0			
4 ft.	80-0			
#3	0			
#20	0			

11—5314

NOTES

Repeated bottom Temp. as it seemed so surprising to find it so warm - 100 fm. Temp. proved to be about the same.

4 ft. net slid down to the end of the wire, so it, like Hel. net was 80-0. Catches combined, except that Hel. net had 3 large Prawns.
4 ft. & Hel. net. each had 1 large Cranea which spoiled everything. 3/4 in. in battery jar. mostly pink Cops. Rich haul large Euchaeta, many large Meganyctiphanes & small Schizopods. Only 3 juv. fish. no eggs - many Agalmid fracs. (torn up by Cranea). Few fracs. of Phialidium, 1 Melicertum - 3 Tomopteris - Few large Sagittae Few Limacina - Several large juv. Actinians - few Hyperiids of several species - Quant. net. rather rich haul "Red feed"

#3. practically nothing except 2 or 3 Anomalocera.

615

Station No. 10089 Date: Aug. 10 1913

Hour: 5-8 A. M. to . M.

Position: Lat. 43° 02' Long. 69° 19'

Locality:

Depth: 108 fm. Bottom: Sample:

Wind: Direction, W. S. W. Force, Light

Sea: Sky: Overcast

TEMPERATURES

Depth	Thermometer—Make and No.	Reading	Stem Temp.	Correction	Corrected Temp.	W. Sample	Bottle used
0		61.5				✓	
10	98245	54					
25	98252	44.5				✓	
50	98258	44.5				✓	
100	7277	41.7				✓	

CURRENTS

Depth	Hour	Tide	Time down	Revolutions	Speed	Direction

Color of water: Transparency: Quantitative

REMARKS: not seen at 10 fm. 11—5314

NETS, ETC., USED

Description	Depth	TIME		Speed
		Down	Up	
Helgoland	30-0			
Quantitative	100-0			
# 20	0			
# 3	0			

11—5314

NOTES

Sounded 108 fms.

Helgoland net. Small haul; pres. entire - juv. Sebastes - few small Schizopods - Several large Stauro-phora - Evidently missed the "red feed" zone, for the Quant. net got a rich haul of Calanus.