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STANDARD FORM C

FINAL REPORT

Cruise Name/Number:	F2014-098 Larval Bluefin Tuna Ecology Survey
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Authorizations:

Coastal State	Authorization Document Number	National Participant(s)
Cuba	Ministerio de Relaciones Exteriores RS/3521 dated 9 December 2014	Julio Baisre Alvarez Naila Peña de la Cruz

Scientist in charge of reporting:

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NOTE: US Department of State research cruise # F2014-098 has a concurrent National Oceanic and Atmospheric Administration cruise identifier: NF-15-02/03.

In the following materials, cruise # NF-15-02/03 is synonymous with F2014-098.

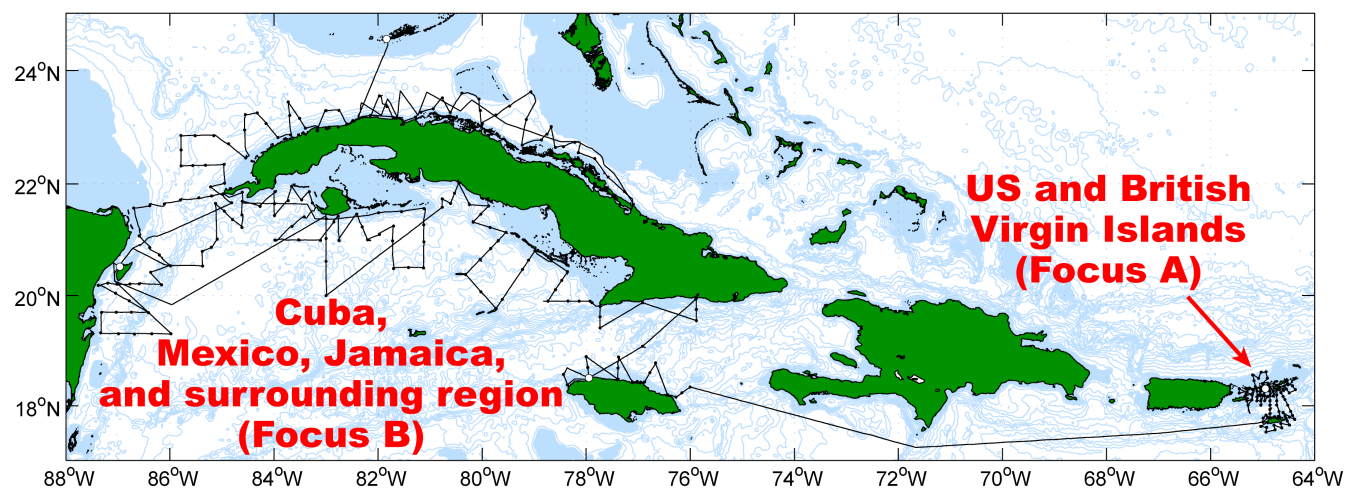
Larval Bluefin Tuna Ecology Survey (2015) FINAL REPORT

CRUISE PERIOD (see Appendices 1 and 2 for more information on scientific operations conducted on each leg listed below)

11 April 2015 through 02 June 2015 (NF-15-02/03)

- 11 April 2015Depart from Charlotte Amalie, St. Thomas, USVI (begin NF-15-02 leg I)
- 22 April 2015Arrive at Montego Bay, Jamaica (end NF-15-02 leg I)
- 26 April 2015Depart from Montego Bay, Jamaica (begin NF-15-02 leg II)
- 05 May 2015Arrive at Cozumel, Mexico (end NF-15-02 leg II)
- 09 May 2015Depart from Cozumel, Mexico (begin NF-15-03 leg I)
- 20 May 2015Arrive at Cozumel, Mexico (end NF-15-03 leg I)
- 22 May 2015Depart from Cozumel, Mexico (begin NF-15-03 leg II)
- 02 June 2015Arrive at Key West, Florida (end NF-15-03 leg II)

GEOGRAPHIC COVERAGE AREA



The completed cruise track for NF-15-02/03 is shown above. Detailed tracks and station activities are shown/listed in the Appendices.

PROJECT OBJECTIVES

FOCUS A. Coral Reef Ecosystem Research (CRER)

The United States Virgin Islands' (USVI) Grammanik Bank, located to the south of St. Thomas, is the site of a multi-species spawning aggregation for economically important fish including yellowfin grouper, Nassau grouper, tiger grouper, and dog snapper. Fishing pressure at this suspected source of larval recruits prompted the US Caribbean Fishery Management Council (CFMC) in 2005 to close the bank yearly from February to April. A series of banks south of St. Thomas and St. John, around St. Croix, and south of the British Virgin Islands (BVI) provides similar habitats and spawning aggregation sites. Prior to the inception of this study, the biological and physical processes, which drive production on these banks, and the circulation connecting these areas had not been quantified. As the 2005 management decisions were made in the absence of these data, regional Marine Protected Area (MPA) designations and temporary closures are presently based on professional judgment rather than quantifiable, defensible scientific information. In addition, meeting new annual catch limit (ACL) requirements of the Magnuson-Stevens reauthorization has become a priority of the CFMC. However, data limitations preclude comprehensive stock assessments for most fisheries in the region.

To address these data gaps, National Oceanic and Atmospheric Administration (NOAA) scientists from the Southeast Fisheries Science Center (SEFSC) and the Atlantic Oceanographic and Meteorological Laboratory (AOML) in Miami, Florida, working with scientists from the University of the Virgin Islands (UVI) and Department of Planning and Natural Resources (DPNR) in St. Thomas, are presently conducting a multi-year, interdisciplinary research project utilizing the NOAA Ship *Nancy Foster* (NF) to conduct biological and physical oceanographic surveys of the Virgin Islands (VI) bank ecosystems and surrounding regional waters. The long-term sustainability of fisheries in the VI and surrounding regions will depend on a comprehensive understanding of regional spawning aggregations, larval transport, and overall larval recruitment in the study area.

Data collected from this program will not only provide information on a data-poor region, but have the potential to address two additional specific needs. First, should economically important species of grouper, snapper, and parrotfish be delineated from individual island groups (e.g. Puerto Rico, St. Thomas/St. John, and St. Croix), from the US Caribbean, or from the broader Caribbean region? This interdisciplinary effort will provide information on the interconnectivity of fish populations and assist in this stock delineation. Secondly, indices of abundance have been identified as a critical component of the length-based assessment methods currently employed in the Caribbean. However, regional indices are lacking, or in some cases nonexistent. This research will serve to improve existing and generate new indices of abundance for the study area, including not only US waters, but also the surrounding region.

During FOCUS A of our 2015 research cruise aboard NF, we measured seawater properties and collected ichthyoplankton samples at sites in Puerto Rico, the USVI, and the BVI. These stations are defined in the attached appendices. Results from the survey should provide a better understanding of regional spatial variation in the supply of settlement-stage fishes between managed and non-managed areas across the region, as well as insights into the relative importance of Grammanik Bank as a source of juvenile fishes recruiting to the waters of the VI.

FOCUS B. Bluefin Tuna Ecology (BTE)

Atlantic bluefin tuna (ABT) is the highest-valued Atlantic tuna species on the market today. The species is an important export for American fishermen, with a majority of the product going to Japanese markets. The United States also imports ABT for consumption from a number of nations.

Management of the ABT is carried out in accordance with agreements by the International Commission for the Conservation of Atlantic Tunas (ICCAT) and the U.S. National Marine Fisheries Service (NMFS) covering the (i) Atlantic Ocean, (ii) Gulf of Mexico, and (iii) US Caribbean. In US waters, ABT are subject to two regulations: the Magnuson-Stevens Fishery Conservation and Management Act and the Atlantic Tunas Convention Act. Given the highly migratory behavior of this species, fisheries management is a complex, international concern. ABT are overfished throughout their range in the Atlantic Ocean, and current population levels are at an historic low. Plankton surveys targeting larval ABT have been completed by NMFS annually in the northern Gulf of Mexico since 1977 using a fixed-grid of stations. However, this current ichthyoplankton sampling strategy is limited to the US EEZ. In an effort to improve our understanding of ABT spawning activity and the environmental conditions affecting the western Atlantic stock, we propose to sample areas adjacent to confirmed spawning grounds (the Gulf of Mexico) in the US EEZ.

Larval abundance data from the northern Gulf of Mexico surveys are used to calculate a larval index of spawning stock biomass by NOAA and ICCAT scientists. Variability in the current larval index is high: up to 100% of the mean, and larger. It is likely that physical oceanographic factors contribute to this variance, but relationships between the distribution of ABT larvae and environmental conditions are currently not well known. In addition, little is known about ABT spawning outside the US EEZ. Recent analyses of larval ABT abundances from 1977 to the present indicate that while larvae are found across the Gulf of Mexico between late April and early June, it is not clear what effect, if any, mesoscale features have on larval distributions. This uncertainty is partially an artifact of the design of the fixed-grid surveys, as the distance between sampled stations is large enough to preclude reliable correlations between ABT larvae and environmental gradients. Also the current index does not take into account multiple sources of larvae and the possibility of extended regional spawning.

During FOCUS B of our 2015 research cruise aboard NF, we extended our annual ABT larval survey to the western Caribbean, the southeastern Gulf of Mexico, and Florida Straits in an effort to determine the extent of ABT spawning in this region. Additionally, we used adaptive sampling methods to further develop a larval habitat model.

Identifying the relationships between ABT larvae and physical oceanographic gradients will greatly enhance current understanding of the early life history dynamics of this species. This work will also provide useful information on larval bluefin abundance and distribution for the entire Gulf of Mexico and western Caribbean. We anticipate that this work will reduce the variance in the calculation of the ABT larval index, which should lead to improved stock assessments across the region.

The survey work associated with the two project components (focus areas A and B) outlined above included shipboard neuston, mini-bongo, and Multiple Opening and Closing Net Environmental Sensing System (MOCNESS) trawl tows, as well as Conductivity-Temperature-Depth (CTD) casts measuring temperature, salinity, dissolved oxygen, chlorophyll, colored dissolved organic matter (CDOM), and water velocity. Continuous surface measurements of temperature, salinity, chlorophyll, CDOM, and water velocity were also collected via the ship's flow-through system and hull-mounted acoustic Doppler current profiler (ADCP). 32 satellite-tracked, Lagrangian surface drifters were also deployed to study the regional circulation. Satellite imagery of sea surface temperature, altimetry, and ocean color will be used to aid in the interpretation of shipboard data and drifter observations.

DISSEMINATION OF PROJECT DATA

Metadata:	January 2017
Raw Data:	Furnished upon request after 2017
Processed Data:	January 2017
Data Analysis:	January 2017
WODC Data Registration (if applicable):	N/A
Data Distribution Method:	This final report and a link to the final data collected during this research cruise will be sent to each coastal state through diplomatic channels. An identical data set will also be made available for public ftp download by the coastal states.

PROCESSED PROJECT DATA WILL BE PUBLICLY AVAILABLE IN JANUARY 2017 AT THE FOLLOWING FTP SITE:

ftp://ftp.aoml.noaa.gov/phod/pub/rsmith/CRER/data/NF1502_State_Dept_DVD

APPENDICES

The completed NF-15-02/03 (F2014-098) cruise track and station operations are illustrated in the figures contained in Appendix 1 (attached).

A complete listing of all NF-15-02/03 (F2014-098) station locations, station occupation times, and station operations are detailed in the table found in Appendix 2 (attached).

Biological Sampling results for NF-15-02/03 (F2014-098) are detailed in Appendix 3 (attached).

APPENDIX 1

NF-15-02/03 COMPLETED STATION OPERATIONS: CHARTLETS

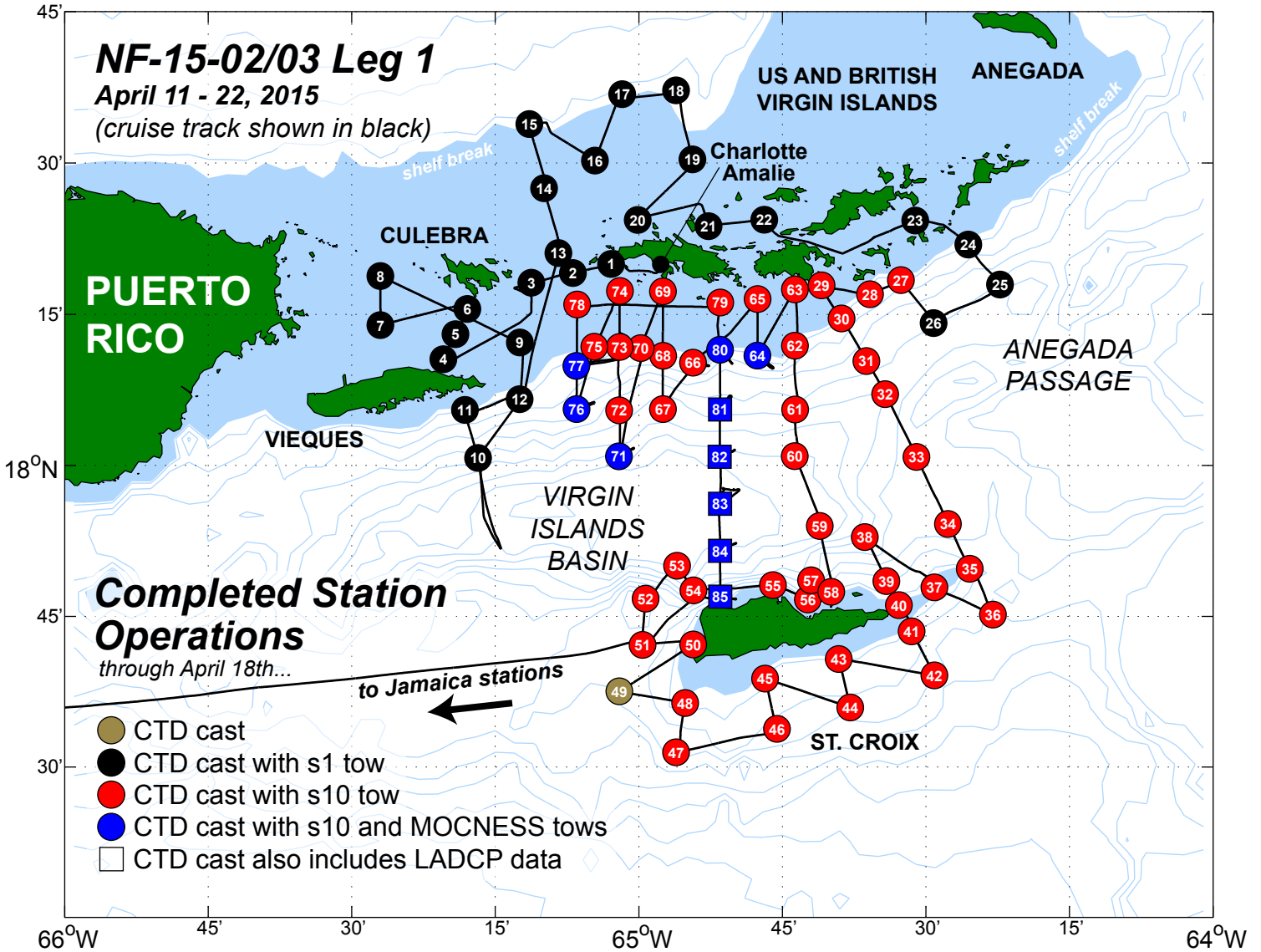


Figure 1. The completed Virgin Islands cruise track and station locations for Leg 1 of research cruise NF-15-02/03 are shown above (April 11-18, 2015). Scientific activities conducted at each station are indicated by the color and shape assigned to the station marker (as described in the legend). Leg 1 originated in Charlotte Amalie, St. Thomas, US Virgin Islands on April 11, 2015.

NF-15-02/03 COMPLETED STATION OPERATIONS: CHARTLETS (CONTINUED)

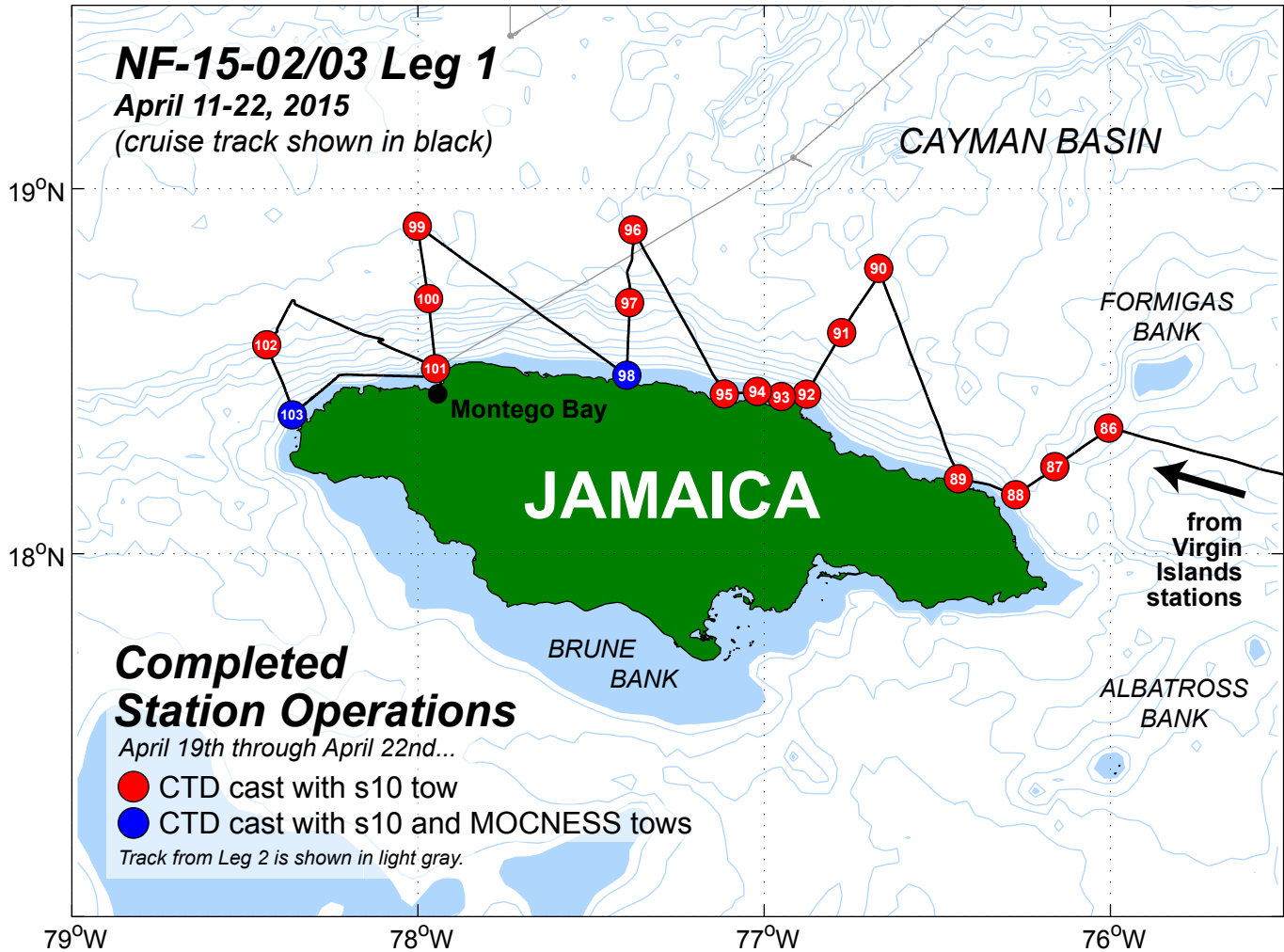


Figure 2. The completed Jamaica cruise track and station locations for Leg 1 of research cruise NF-15-02/03 are shown above (April 19-22, 2015). Scientific activities conducted at each station are indicated by the color assigned to the station marker (as described in the legend). Leg 1 concluded in Montego Bay, Jamaica on April 22, 2015. The track from Leg 2 is also shown (light gray).

NF-15-02/03 COMPLETED STATION OPERATIONS: CHARTLETS (CONTINUED)

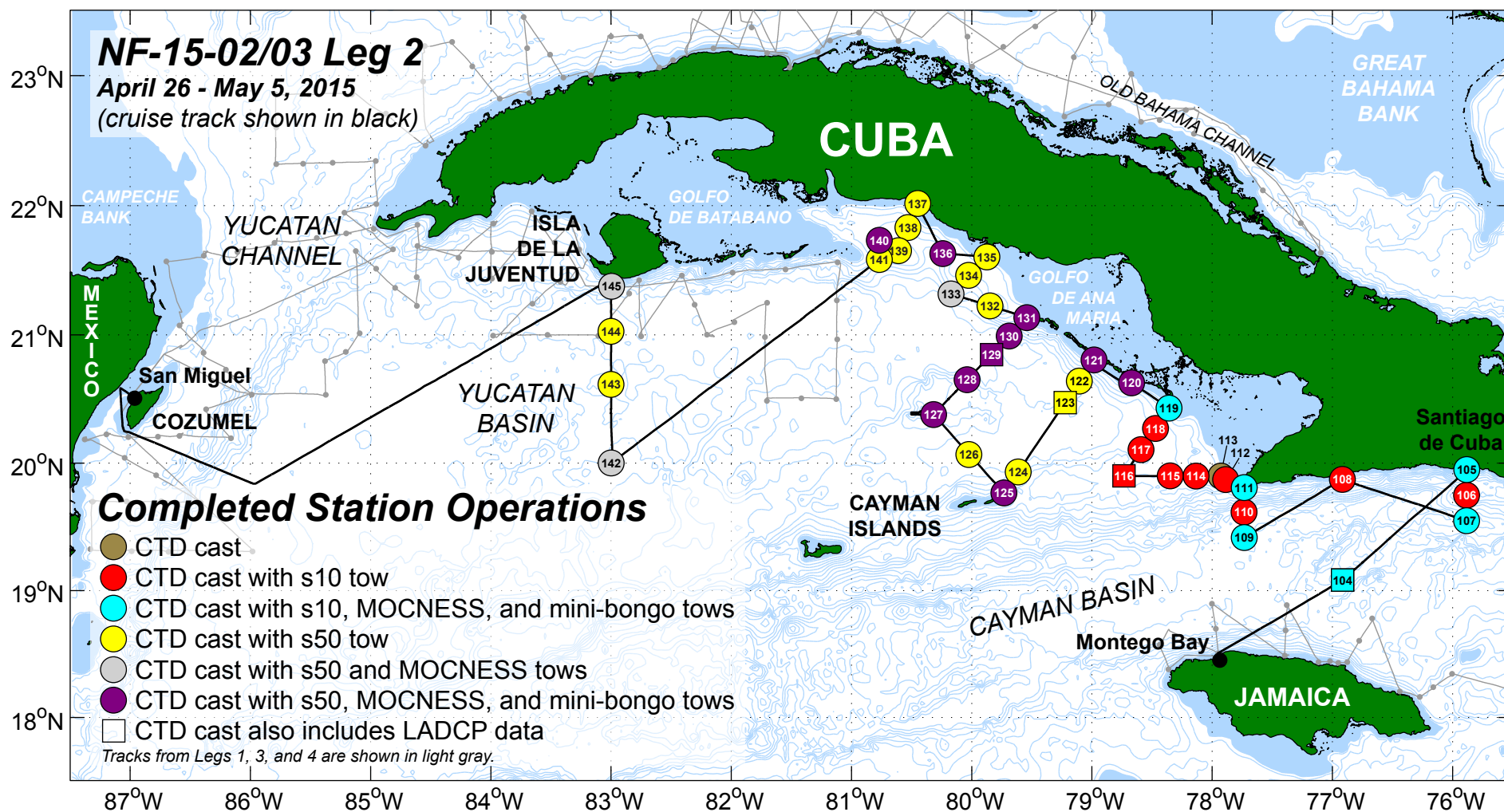


Figure 3. The completed cruise track and station locations for Leg 2 of research cruise NF-15-02/03 are shown above (April 26 – May 5, 2015). Scientific activities conducted at each station are indicated by the color and shape assigned to the station marker (as described in the legend). Leg 2 originated in Montego Bay, Jamaica, and concluded in San Miguel, Cozumel, Mexico. Tracks from Legs 1, 3, and 4 are also shown (light gray).

NF-15-02/03 COMPLETED STATION OPERATIONS: CHARTLETS (CONTINUED)

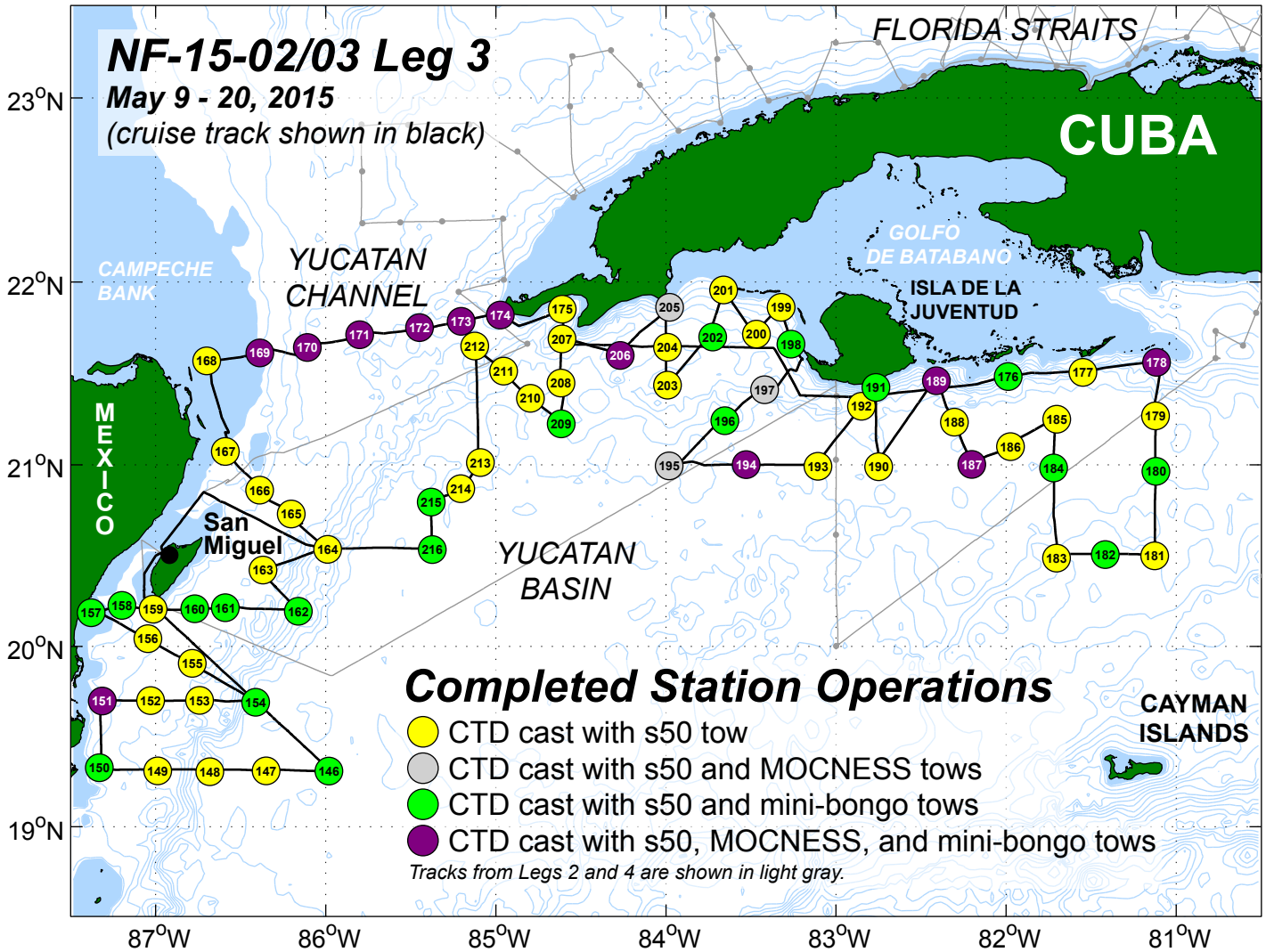


Figure 4. The completed cruise track and station locations for Leg 3 of research cruise NF-15-02/03 are shown above (May 9-20, 2015). Scientific activities conducted at each station are indicated by the color assigned to the station marker (as described in the legend). Leg 3 originated in San Miguel, Cozumel, Mexico. San Miguel was also the terminus for Leg 3. Tracks from Legs 2 and 4 are shown in light gray.

NF-15-02/03 COMPLETED STATION OPERATIONS: CHARTLETS (CONTINUED)

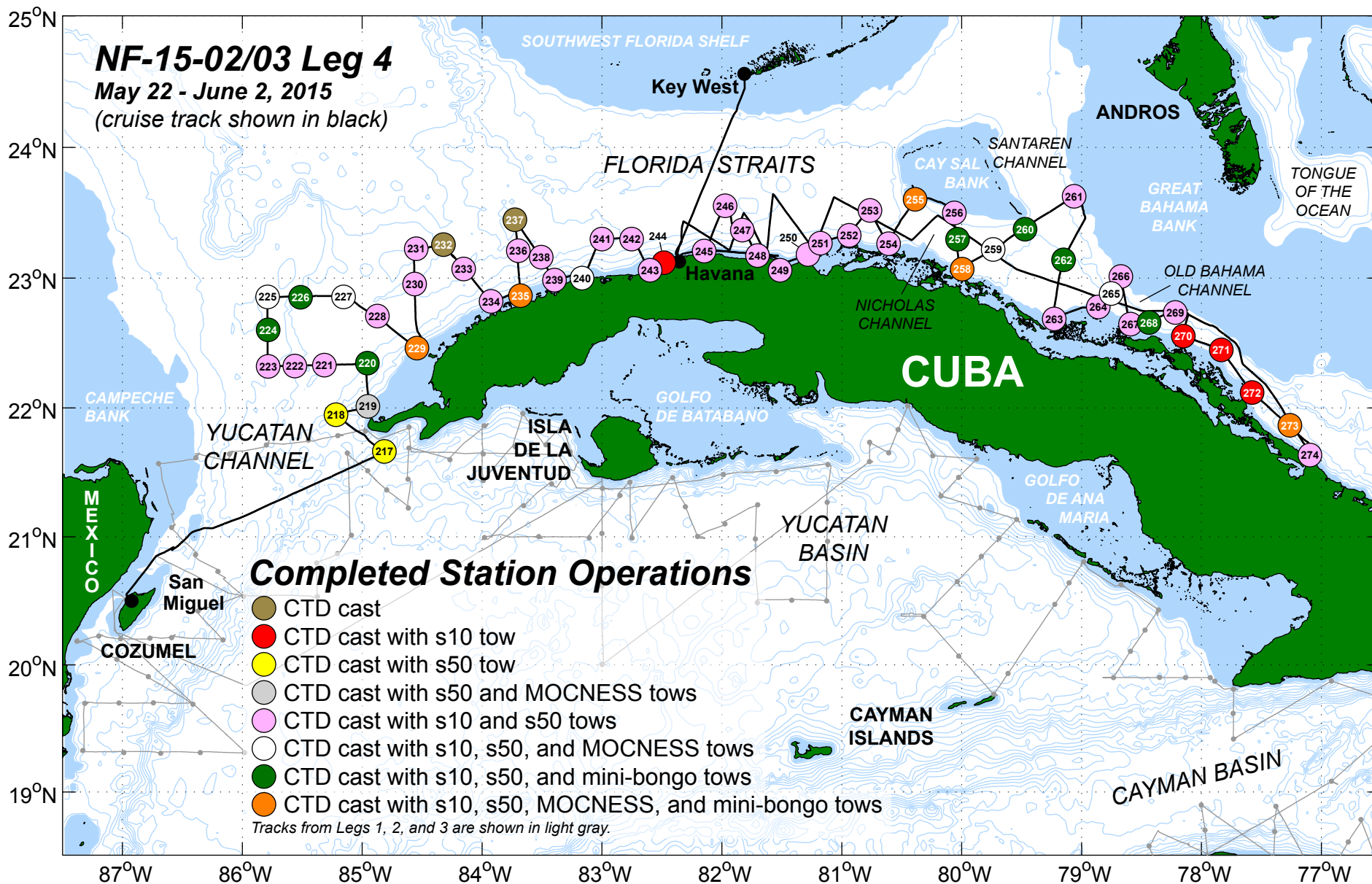


Figure 5. The completed cruise track and station locations for Leg 4 of research cruise NF-15-02/03 are shown above (May 22 – June 2, 2015). Scientific activities conducted at each station are indicated by the color assigned to the station marker (as described in the legend). Leg 4 originated in San Miguel, Cozumel, Mexico and concluded in Key West, Florida. Tracks from Legs 1-3 are also shown (light gray).

APPENDIX 2

NF-15-02/03 COMPLETED STATION OPERATIONS: TABLE

Station #	Leg #	Latitude	Longitude	Date/Time	Operations Completed
001	1	18°20.00'N	065°02.90'W	11-Apr-15, 23:14z	CTD cast, s1 tow
002	1	18°19.11'N	065°06.89'W	12-Apr-15, 00:11z	CTD cast, s1 tow
003	1	18°18.15'N	065°11.24'W	12-Apr-15, 01:39z	CTD cast, s1 tow
004	1	18°10.56'N	065°20.43'W	12-Apr-15, 04:34z	CTD cast, s1 tow
005	1	18°13.03'N	065°19.15'W	12-Apr-15, 05:32z	CTD cast, s1 tow
006	1	18°15.53'N	065°17.92'W	12-Apr-15, 06:25z	CTD cast, s1 tow
007	1	18°13.93'N	065°27.00'W	12-Apr-15, 08:13z	CTD cast, s1 tow
008	1	18°18.80'N	065°27.00'W	12-Apr-15, 09:19z	CTD cast, s1 tow
009	1	18°12.21'N	065°12.43'W	12-Apr-15, 11:23z	CTD cast, s1 tow
010	1	18°00.74'N	065°16.80'W	12-Apr-15, 13:51z	CTD cast, s1 tow
011	1	18°05.52'N	065°18.16'W	12-Apr-15, 17:14z	CTD cast, s1 tow
012	1	18°06.58'N	065°12.46'W	12-Apr-15, 18:46z	CTD cast, s1 tow
013	1	18°21.09'N	065°08.41'W	12-Apr-15, 21:05z	CTD cast, s1 tow
014	1	18°27.51'N	065°09.91'W	12-Apr-15, 22:30z	CTD cast, s1 tow
015	1	18°33.87'N	065°11.45'W	13-Apr-15, 00:19z	CTD cast, s1 tow
016	1	18°30.24'N	065°04.58'W	13-Apr-15, 02:42z	CTD cast, s1 tow
017	1	18°36.82'N	065°01.75'W	13-Apr-15, 04:39z	CTD cast, s1 tow
018	1	18°37.20'N	064°56.11'W	13-Apr-15, 05:57z	CTD cast, s1 tow
019	1	18°30.36'N	064°54.41'W	13-Apr-15, 07:18z	CTD cast, s1 tow
020	1	18°24.36'N	065°00.11'W	13-Apr-15, 08:36z	CTD cast, s1 tow
021	1	18°23.75'N	064°52.72'W	13-Apr-15, 09:59z	CTD cast, s1 tow
022	1	18°24.39'N	064°46.90'W	13-Apr-15, 11:06z	CTD cast, s1 tow
023	1	18°24.30'N	064°31.12'W	13-Apr-15, 14:01z	CTD cast, s1 tow
024	1	18°21.92'N	064°25.58'W	13-Apr-15, 15:27z	CTD cast, s1 tow
025	1	18°17.96'N	064°22.27'W	13-Apr-15, 16:53z	CTD cast, s1 tow
026	1	18°14.13'N	064°29.19'W	13-Apr-15, 18:36z	CTD cast, s1 tow
027	1	18°18.41'N	064°32.62'W	13-Apr-15, 19:58z	CTD cast, s10 tow
028	1	18°17.00'N	064°35.85'W	13-Apr-15, 21:19z	CTD cast, s10 tow
029	1	18°17.89'N	064°40.90'W	13-Apr-15, 22:36z	CTD cast, s10 tow
030	1	18°14.60'N	064°38.82'W	13-Apr-15, 23:41z	CTD cast, s10 tow
031	1	18°10.37'N	064°36.22'W	14-Apr-15, 01:07z	CTD cast, s10 tow
032	1	18°07.09'N	064°34.25'W	14-Apr-15, 02:15z	CTD cast, s10 tow
033	1	18°00.85'N	064°31.00'W	14-Apr-15, 04:01z	CTD cast, s10 tow
034	1	17°54.19'N	064°27.70'W	14-Apr-15, 05:35z	CTD cast, s10 tow
035	1	17°49.73'N	064°25.42'W	14-Apr-15, 06:55z	CTD cast, s10 tow
036	1	17°45.17'N	064°23.00'W	14-Apr-15, 08:12z	CTD cast, s10 tow
037	1	17°47.89'N	064°29.11'W	14-Apr-15, 09:43z	CTD cast, s10 tow
038	1	17°52.88'N	064°36.40'W	14-Apr-15, 11:13z	CTD cast, s10 tow
039	1	17°48.50'N	064°34.13'W	14-Apr-15, 12:32z	CTD cast, s10 tow
040	1	17°46.11'N	064°32.83'W	14-Apr-15, 13:38z	CTD cast, s10 tow
041	1	17°43.50'N	064°31.50'W	14-Apr-15, 14:36z	CTD cast, s10 tow
042	1	17°39.12'N	064°29.12'W	14-Apr-15, 15:54z	CTD cast, s10 tow
043	1	17°40.76'N	064°39.10'W	14-Apr-15, 17:50z	CTD cast, s10 tow
044	1	17°35.93'N	064°37.90'W	14-Apr-15, 19:06z	CTD cast, s10 tow
045	1	17°38.80'N	064°46.80'W	14-Apr-15, 20:57z	CTD cast, s10 tow
046	1	17°33.80'N	064°45.56'W	14-Apr-15, 22:14z	CTD cast, s10 tow
047	1	17°31.47'N	064°56.11'W	15-Apr-15, 00:12z	CTD cast, s10 tow
048	1	17°36.37'N	064°55.16'W	15-Apr-15, 01:34z	CTD cast, s10 tow
049	1	17°37.53'N	065°02.04'W	15-Apr-15, 03:13z	CTD cast
050	1	17°42.19'N	064°54.31'W	15-Apr-15, 04:38z	CTD cast, s10 tow

NF-15-02/03 COMPLETED STATION OPERATIONS: TABLE (CONTINUED)

Station #	Leg #	Latitude	Longitude	Date/Time	Operations Completed
051	1	17°42.15'N	064°59.62'W	15-Apr-15, 05:52z	CTD cast, s10 tow
052	1	17°46.76'N	064°59.30'W	15-Apr-15, 07:07z	CTD cast, s10 tow
053	1	17°50.03'N	064°56.01'W	15-Apr-15, 08:22z	CTD cast, s10 tow
054	1	17°47.58'N	064°54.29'W	15-Apr-15, 09:29z	CTD cast, s10 tow
055	1	17°48.11'N	064°45.99'W	15-Apr-15, 11:16z	CTD cast, s10 tow
056	1	17°46.67'N	064°42.33'W	15-Apr-15, 12:41z	CTD cast, s10 tow
057	1	17°48.58'N	064°42.00'W	15-Apr-15, 13:41z	CTD cast, s10 tow
058	1	17°47.44'N	064°39.89'W	15-Apr-15, 14:41z	CTD cast, s10 tow
059	1	17°53.98'N	064°41.09'W	15-Apr-15, 16:09z	CTD cast, s10 tow
060	1	18°00.92'N	064°43.70'W	15-Apr-15, 17:41z	CTD cast, s10 tow
061	1	18°05.57'N	064°43.67'W	15-Apr-15, 19:11z	CTD cast, s10 tow
062	1	18°11.90'N	064°43.69'W	15-Apr-15, 20:48z	CTD cast, s10 tow
063	1	18°17.48'N	064°43.69'W	15-Apr-15, 22:16z	CTD cast, s10 tow
064	1	18°10.91'N	064°47.61'W	16-Apr-15, 00:03z	CTD cast, s10 and MOCNESS tows
065	1	18°16.51'N	064°47.58'W	16-Apr-15, 02:36z	CTD cast, s10 tow
066	1	18°10.20'N	064°54.33'W	16-Apr-15, 05:20z	CTD cast, s10 tow
067	1	18°05.60'N	064°57.49'W	16-Apr-15, 06:36z	CTD cast, s10 tow
068	1	18°10.89'N	064°57.46'W	16-Apr-15, 07:53z	CTD cast, s10 tow
069	1	18°17.29'N	064°57.49'W	16-Apr-15, 09:18z	CTD cast, s10 tow
070	1	18°11.66'N	064°59.81'W	16-Apr-15, 10:25z	CTD cast, s10 tow
071	1	18°00.90'N	065°02.07'W	16-Apr-15, 12:56z	CTD cast, s10 and MOCNESS tows
072	1	18°05.48'N	065°02.05'W	16-Apr-15, 15:03z	CTD cast, s10 tow
073	1	18°11.78'N	065°02.00'W	16-Apr-15, 16:28z	CTD cast, s10 tow
074	1	18°17.33'N	065°01.98'W	16-Apr-15, 18:00z	CTD cast, s10 tow
075	1	18°11.80'N	065°04.64'W	16-Apr-15, 19:06z	CTD cast, s10 tow
076	1	18°05.60'N	065°06.50'W	16-Apr-15, 20:47z	CTD cast, s10 and MOCNESS tows
077	1	18°09.89'N	065°06.52'W	16-Apr-15, 23:11z	CTD cast, s10 and MOCNESS tows
078	1	18°15.97'N	065°06.45'W	17-Apr-15, 02:36z	CTD cast, s10 tow
079	1	18°16.17'N	064°51.48'W	17-Apr-15, 05:42z	CTD cast, s10 tow
080	1	18°11.50'N	064°51.51'W	17-Apr-15, 08:10z	CTD cast, s10 and MOCNESS tows
081	1	18°05.56'N	064°51.51'W	17-Apr-15, 10:58z	CTD/LADCP cast, s10 and MOCNESS tows
082	1	18°00.87'N	064°51.55'W	17-Apr-15, 15:15z	CTD/LADCP cast, s10 and MOCNESS tows
083	1	17°56.20'N	064°51.52'W	17-Apr-15, 22:46z	CTD/LADCP cast, s10 and MOCNESS tows
084	1	17°51.51'N	064°51.51'W	18-Apr-15, 05:58z	CTD/LADCP cast, s10 and MOCNESS tows
085	1	17°46.96'N	064°51.48'W	18-Apr-15, 11:15z	CTD/LADCP cast, s10 and MOCNESS tows
086	1	18°20.70'N	076°00.28'W	20-Apr-15, 22:12z	CTD cast, s10 tow
087	1	18°14.35'N	076°09.63'W	21-Apr-15, 00:08z	CTD cast, s10 tow
088	1	18°09.70'N	076°16.42'W	21-Apr-15, 01:48z	CTD cast, s10 tow
089	1	18°12.33'N	076°26.33'W	21-Apr-15, 03:35z	CTD cast, s10 tow
090	1	18°46.94'N	076°40.15'W	21-Apr-15, 07:56z	CTD cast, s10 tow
091	1	18°36.35'N	076°46.57'W	21-Apr-15, 09:47z	CTD cast, s10 tow
092	1	18°26.26'N	076°52.60'W	21-Apr-15, 12:08z	CTD cast, s10 tow
093	1	18°25.85'N	076°57.01'W	21-Apr-15, 13:21z	CTD cast, s10 tow
094	1	18°26.71'N	077°01.17'W	21-Apr-15, 14:48z	CTD cast, s10 tow
095	1	18°26.29'N	077°06.91'W	21-Apr-15, 16:07z	CTD cast, s10 tow
096	1	18°53.23'N	077°22.73'W	21-Apr-15, 19:52z	CTD cast, s10 tow
097	1	18°41.29'N	077°23.33'W	21-Apr-15, 21:56z	CTD cast, s10 tow
098	1	18°29.35'N	077°23.79'W	22-Apr-15, 00:18z	CTD cast, s10 and MOCNESS tows
099	1	18°53.83'N	078°00.13'W	22-Apr-15, 06:26z	CTD cast, s10 tow
100	1	18°41.97'N	077°58.18'W	22-Apr-15, 08:24z	CTD cast, s10 tow
101	1	18°30.44'N	077°56.93'W	22-Apr-15, 10:52z	CTD cast, s10 tow
102	1	18°34.36'N	078°26.21'W	22-Apr-15, 16:41z	CTD cast, s10 tow

NF-15-02/03 COMPLETED STATION OPERATIONS: TABLE (CONTINUED)

Station #	Leg #	Latitude	Longitude	Date/Time	Operations Completed
103	1	18°22.86'N	078°21.79'W	22-Apr-15, 19:15z	CTD cast, s10 and MOCNESS tows
104	2	19°05.06'N	076°54.93'W	27-Apr-15, 00:18z	CTD/LADCP cast, s10, MOCNESS, and mini-bongo tows
105	2	19°56.99'N	075°52.90'W	27-Apr-15, 14:51z	CTD cast, s10, MOCNESS, and mini-bongo tows
106	2	19°44.97'N	075°52.98'W	27-Apr-15, 17:36z	CTD cast, s10 tow
107	2	19°32.98'N	075°53.03'W	27-Apr-15, 20:15z	CTD cast, s10, MOCNESS, and mini-bongo tows
108	2	19°52.36'N	076°54.98'W	28-Apr-15, 03:21z	CTD cast, s10 tow
109	2	19°25.02'N	077°44.00'W	28-Apr-15, 10:02z	CTD cast, s10, MOCNESS, and mini-bongo tows
110	2	19°37.08'N	077°44.11'W	28-Apr-15, 12:41z	CTD cast, s10 tow
111	2	19°48.53'N	077°44.02'W	28-Apr-15, 14:30z	CTD cast, s10, MOCNESS, and mini-bongo tows
112	2	19°52.30'N	077°53.30'W	28-Apr-15, 17:38z	CTD cast, s10 tow
113	2	19°53.96'N	077°55.60'W	28-Apr-15, 18:33z	CTD cast
114	2	19°54.00'N	078°07.98'W	28-Apr-15, 20:11z	CTD cast, s10 tow
115	2	19°54.08'N	078°20.97'W	28-Apr-15, 22:13z	CTD cast, s10 tow
116	2	19°54.03'N	078°44.01'W	29-Apr-15, 01:41z	CTD/LADCP cast, s10 tow
117	2	20°06.38'N	078°35.53'W	29-Apr-15, 05:23z	CTD cast, s10 tow
118	2	20°16.32'N	078°28.28'W	29-Apr-15, 07:21z	CTD cast, s10 tow
119	2	20°25.81'N	078°21.54'W	29-Apr-15, 10:26z	CTD cast, s10, MOCNESS, and mini-bongo tows
120	2	20°37.64'N	078°40.22'W	29-Apr-15, 15:44z	CTD cast, s50, MOCNESS, and mini-bongo tows
121	2	20°48.31'N	078°59.01'W	29-Apr-15, 19:46z	CTD cast, s50, MOCNESS, and mini-bongo tows
122	2	20°38.44'N	079°06.25'W	29-Apr-15, 22:19z	CTD cast, s50 tow
123	2	20°28.38'N	079°13.37'W	30-Apr-15, 01:02z	CTD/LADCP cast, s50 tow
124	2	19°55.89'N	079°36.83'W	30-Apr-15, 07:33z	CTD cast, s50 tow
125	2	19°46.10'N	079°43.97'W	30-Apr-15, 11:00z	CTD cast, s50, MOCNESS, and mini-bongo tows
126	2	20°04.07'N	080°01.43'W	30-Apr-15, 14:39z	CTD cast, s50 tow
127	2	20°22.80'N	080°19.00'W	30-Apr-15, 22:10z	CTD cast, s50, MOCNESS, and mini-bongo tows
128	2	20°39.06'N	080°02.29'W	1-May-15, 02:30z	CTD cast, s50, MOCNESS, and mini-bongo tows
129	2	20°50.83'N	079°50.11'W	1-May-15, 05:20z	CTD/LADCP cast, s50, MOCNESS, and mini-bongo tows
130	2	20°59.42'N	079°41.27'W	1-May-15, 12:33z	CTD cast, s50, MOCNESS, and mini-bongo tows
131	2	21°08.06'N	079°32.51'W	1-May-15, 16:12z	CTD cast, s50, MOCNESS, and mini-bongo tows
132	2	21°13.49'N	079°50.90'W	1-May-15, 19:02z	CTD cast, s50 tow
133	2	21°19.04'N	080°10.32'W	1-May-15, 22:50z	CTD cast, s50 and MOCNESS tows
134	2	21°27.72'N	080°01.52'W	2-May-15, 00:54z	CTD cast, s50 tow
135	2	21°36.30'N	079°52.48'W	2-May-15, 03:01z	CTD cast, s50 tow
136	2	21°37.81'N	080°14.47'W	2-May-15, 07:08z	CTD cast, s50, MOCNESS, and mini-bongo tows
137	2	22°01.00'N	080°26.96'W	2-May-15, 13:07z	CTD cast, s50 tow
138	2	21°49.92'N	080°31.80'W	2-May-15, 15:13z	CTD cast, s50 tow
139	2	21°39.17'N	080°36.49'W	2-May-15, 17:21z	CTD cast, s50 tow
140	2	21°44.01'N	080°46.10'W	2-May-15, 20:29z	CTD cast, s50, MOCNESS, and mini-bongo tows
141	2	21°35.06'N	080°46.13'W	2-May-15, 22:39z	CTD cast, s50 tow
142	2	20°00.10'N	082°59.97'W	4-May-15, 00:05z	CTD cast, s50 and MOCNESS tows
143	2	20°36.92'N	083°00.03'W	4-May-15, 04:17z	CTD cast, s50 tow
144	2	21°01.61'N	083°00.01'W	4-May-15, 07:41z	CTD cast, s50 tow
145	2	21°22.64'N	082°59.78'W	4-May-15, 11:52z	CTD cast, s50 and MOCNESS tows
146	3	19°18.54'N	085°58.89'W	10-May-15, 03:20z	CTD cast, s50 and mini-bongo tows
147	3	19°18.64'N	086°21.03'W	10-May-15, 06:21z	CTD cast, s50 tow
148	3	19°18.31'N	086°40.88'W	10-May-15, 09:29z	CTD cast, s50 tow
149	3	19°18.58'N	086°59.29'W	10-May-15, 12:45z	CTD cast, s50 tow
150	3	19°19.66'N	087°19.84'W	10-May-15, 15:58z	CTD cast, s50 and mini-bongo tows
151	3	19°41.88'N	087°18.85'W	10-May-15, 20:07z	CTD cast, s50, MOCNESS, and mini-bongo tows
152	3	19°42.02'N	087°01.75'W	10-May-15, 22:54z	CTD cast, s50 tow
153	3	19°42.06'N	086°44.51'W	11-May-15, 01:28z	CTD cast, s50 tow
154	3	19°41.46'N	086°24.74'W	11-May-15, 04:32z	CTD cast, s50 and mini-bongo tows

NF-15-02/03 COMPLETED STATION OPERATIONS: TABLE (CONTINUED)

Station #	Leg #	Latitude	Longitude	Date/Time	Operations Completed
155	3	19°54.37'N	086°47.06'W	11-May-15, 07:45z	CTD cast, s50 tow
156	3	20°02.54'N	087°02.76'W	11-May-15, 10:24z	CTD cast, s50 tow
157	3	20°11.10'N	087°22.76'W	11-May-15, 13:51z	CTD cast, s50 and mini-bongo tows
158	3	20°13.53'N	087°11.86'W	11-May-15, 17:22z	CTD cast, s50 and mini-bongo tows
159	3	20°12.28'N	087°00.90'W	11-May-15, 20:30z	CTD cast, s50 tow
160	3	20°12.47'N	086°46.18'W	11-May-15, 22:37z	CTD cast, s50 and mini-bongo tows
161	3	20°12.79'N	086°35.38'W	12-May-15, 02:01z	CTD cast, s50 and mini-bongo tows
162	3	20°11.65'N	086°09.69'W	12-May-15, 05:38z	CTD cast, s50 and mini-bongo tows
163	3	20°25.24'N	086°22.14'W	12-May-15, 08:23z	CTD cast, s50 tow
164	3	20°32.10'N	085°59.31'W	12-May-15, 11:32z	CTD cast, s50 tow
165	3	20°43.79'N	086°12.20'W	12-May-15, 14:34z	CTD cast, s50 tow
166	3	20°51.67'N	086°23.34'W	12-May-15, 16:55z	CTD cast, s50 tow
167	3	21°04.37'N	086°35.38'W	12-May-15, 19:55z	CTD cast, s50 tow
168	3	21°34.15'N	086°41.95'W	12-May-15, 23:39z	CTD cast, s50 tow
169	3	21°36.79'N	086°23.27'W	13-May-15, 03:59z	CTD cast, s50, MOCNESS, and mini-bongo tows
170	3	21°38.55'N	086°06.46'W	13-May-15, 08:05z	CTD cast, s50, MOCNESS, and mini-bongo tows
171	3	21°42.76'N	085°48.01'W	13-May-15, 12:19z	CTD cast, s50, MOCNESS, and mini-bongo tows
172	3	21°45.08'N	085°26.90'W	13-May-15, 15:26z	CTD cast, s50, MOCNESS, and mini-bongo tows
173	3	21°47.13'N	085°12.22'W	13-May-15, 19:48z	CTD cast, s50, MOCNESS, and mini-bongo tows
174	3	21°49.21'N	084°58.44'W	13-May-15, 22:29z	CTD cast, s50, MOCNESS, and mini-bongo tows
175	3	21°51.12'N	084°36.59'W	14-May-15, 02:25z	CTD cast, s50 tow
176	3	21°29.02'N	081°59.31'W	14-May-15, 18:22z	CTD cast, s50 and mini-bongo tows
177	3	21°30.41'N	081°32.89'W	14-May-15, 21:35z	CTD cast, s50 tow
178	3	21°33.67'N	081°06.96'W	15-May-15, 00:44z	CTD cast, s50, MOCNESS, and mini-bongo tows
179	3	21°16.10'N	081°07.28'W	15-May-15, 04:23z	CTD cast, s50 tow
180	3	20°57.87'N	081°07.13'W	15-May-15, 07:12z	CTD cast, s50 and mini-bongo tows
181	3	20°29.98'N	081°07.58'W	15-May-15, 10:27z	CTD cast, s50 tow
182	3	20°30.35'N	081°25.03'W	15-May-15, 13:04z	CTD cast, s50 and mini-bongo tows
183	3	20°29.17'N	081°42.23'W	15-May-15, 15:55z	CTD cast, s50 tow
184	3	20°58.98'N	081°43.24'W	15-May-15, 20:16z	CTD cast, s50 and mini-bongo tows
185	3	21°14.98'N	081°42.12'W	15-May-15, 22:50z	CTD cast, s50 tow
186	3	21°05.98'N	081°58.47'W	16-May-15, 01:26z	CTD cast, s50 tow
187	3	21°00.14'N	082°12.15'W	16-May-15, 04:04z	CTD cast, s50, MOCNESS, and mini-bongo tows
188	3	21°14.03'N	082°18.27'W	16-May-15, 08:04z	CTD cast, s50 tow
189	3	21°27.64'N	082°24.63'W	16-May-15, 10:44z	CTD cast, s50, MOCNESS, and mini-bongo tows
190	3	20°59.38'N	082°44.98'W	16-May-15, 15:36z	CTD cast, s50 tow
191	3	21°25.44'N	082°45.93'W	16-May-15, 19:21z	CTD cast, s50 and mini-bongo tows
192	3	21°19.25'N	082°50.99'W	16-May-15, 20:55z	CTD cast, s50 tow
193	3	20°59.52'N	083°06.36'W	17-May-15, 00:05z	CTD cast, s50 tow
194	3	21°00.05'N	083°31.68'W	17-May-15, 03:33z	CTD cast, s50, MOCNESS, and mini-bongo tows
195	3	20°59.67'N	083°58.86'W	17-May-15, 08:04z	CTD cast, s50 and MOCNESS tows
196	3	21°14.50'N	083°39.24'W	17-May-15, 12:12z	CTD cast, s50 and mini-bongo tows
197	3	21°24.69'N	083°25.22'W	17-May-15, 14:31z	CTD cast, s50 and MOCNESS tows
198	3	21°39.67'N	083°15.91'W	17-May-15, 19:46z	CTD cast, s50 and mini-bongo tows
199	3	21°51.69'N	083°19.37'W	17-May-15, 21:55z	CTD cast, s50 tow
200	3	21°42.92'N	083°28.10'W	18-May-15, 00:03z	CTD cast, s50 tow
201	3	21°57.43'N	083°39.63'W	18-May-15, 03:04z	CTD cast, s50 tow
202	3	21°42.02'N	083°43.52'W	18-May-15, 05:43z	CTD cast, s50 and mini-bongo tows
203	3	21°26.20'N	083°59.47'W	18-May-15, 09:01z	CTD cast, s50 tow
204	3	21°38.66'N	083°59.47'W	18-May-15, 11:17z	CTD cast, s50 tow
205	3	21°51.71'N	083°58.73'W	18-May-15, 13:34z	CTD cast, s50 and MOCNESS tows
206	3	21°35.94'N	084°16.10'W	18-May-15, 17:46z	CTD cast, s50, MOCNESS, and mini-bongo tows

NF-15-02/03 COMPLETED STATION OPERATIONS: TABLE (CONTINUED)

Station #	Leg #	Latitude	Longitude	Date/Time	Operations Completed
207	3	21°41.39'N	084°36.63'W	18-May-15, 21:31z	CTD cast, s50 tow
208	3	21°26.86'N	084°37.05'W	18-May-15, 23:44z	CTD cast, s50 tow
209	3	21°13.47'N	084°36.92'W	19-May-15, 02:30z	CTD cast, s50 and mini-bongo tows
210	3	21°21.86'N	084°47.76'W	19-May-15, 04:35z	CTD cast, s50 tow
211	3	21°30.83'N	084°57.25'W	19-May-15, 06:29z	CTD cast, s50 tow
212	3	21°39.03'N	085°07.43'W	19-May-15, 08:22z	CTD cast, s50 tow
213	3	21°00.76'N	085°05.42'W	19-May-15, 13:23z	CTD cast, s50 tow
214	3	20°52.10'N	085°12.36'W	19-May-15, 15:31z	CTD cast, s50 tow
215	3	20°47.74'N	085°22.80'W	19-May-15, 17:56z	CTD cast, s50 and mini-bongo tows
216	3	20°32.02'N	085°22.41'W	19-May-15, 20:10z	CTD cast, s50 and mini-bongo tows
217	4	21°39.81'N	084°48.88'W	23-May-15, 05:53z	CTD cast, s50 tow
218	4	21°56.82'N	085°13.10'W	23-May-15, 09:39z	CTD cast, s50 tow
219	4	22°00.76'N	084°57.17'W	23-May-15, 11:57z	CTD cast, s50 and MOCNESS tows
220	4	22°20.72'N	084°57.43'W	23-May-15, 15:56z	CTD cast, s10, s50, and mini-bongo tows
221	4	22°19.83'N	085°18.95'W	23-May-15, 18:55z	CTD cast, s10 and s50 tows
222	4	22°19.46'N	085°33.69'W	23-May-15, 21:11z	CTD cast, s10 and s50 tows
223	4	22°19.23'N	085°47.06'W	23-May-15, 23:16z	CTD cast, s10 and s50 tows
224	4	22°36.13'N	085°47.11'W	24-May-15, 02:05z	CTD cast, s10, s50, and mini-bongo tows
225	4	22°51.40'N	085°47.37'W	24-May-15, 04:30z	CTD cast, s10, s50, and MOCNESS tows
226	4	22°51.22'N	085°30.87'W	24-May-15, 08:52z	CTD cast, s10, s50, and mini-bongo tows
227	4	22°51.38'N	085°09.37'W	24-May-15, 12:13z	CTD cast, s10, s50, and MOCNESS tows
228	4	22°42.57'N	084°52.38'W	24-May-15, 16:08z	CTD cast, s10 and s50 tows
229	4	22°27.70'N	084°32.61'W	24-May-15, 20:02z	CTD cast, s10, s50, MOCNESS, and mini-bongo tows
230	4	22°57.31'N	084°33.82'W	25-May-15, 01:52z	CTD cast, s10 and s50 tows
231	4	23°13.55'N	084°32.98'W	25-May-15, 04:45z	CTD cast, s10 and s50 tows
232	4	23°15.48'N	084°19.35'W	25-May-15, 07:27z	CTD cast
233	4	23°04.26'N	084°09.21'W	25-May-15, 10:21z	CTD cast, s10 and s50 tows
234	4	22°49.34'N	083°55.55'W	25-May-15, 13:35z	CTD cast, s10 and s50 tows
235	4	22°51.93'N	083°40.78'W	25-May-15, 16:12z	CTD cast, s10, s50, MOCNESS, and mini-bongo tows
236	4	23°12.64'N	083°41.87'W	25-May-15, 20:48z	CTD cast, s10 and s50 tows
237	4	23°26.88'N	083°43.63'W	26-May-15, 00:10z	CTD cast
238	4	23°09.65'N	083°30.46'W	26-May-15, 03:28z	CTD cast, s10 and s50 tows
239	4	22°59.15'N	083°23.75'W	26-May-15, 05:52z	CTD cast, s10 and s50 tows
240	4	23°00.06'N	083°10.00'W	26-May-15, 08:50z	CTD cast, s10, s50, and MOCNESS tows
241	4	23°17.96'N	083°00.07'W	26-May-15, 12:52z	CTD cast, s10 and s50 tows
242	4	23°18.03'N	082°45.14'W	26-May-15, 16:08z	CTD cast, s10 and s50 tows
243	4	23°03.66'N	082°35.89'W	26-May-15, 19:23z	CTD cast, s10 and s50 tows
244	4	23°07.13'N	082°29.04'W	26-May-15, 21:43z	CTD cast, s10 tow
245	4	23°12.52'N	082°08.88'W	27-May-15, 11:47z	CTD cast, s10 and s50 tows
246	4	23°33.28'N	081°58.35'W	27-May-15, 16:00z	CTD cast, s10 and s50 tows
247	4	23°22.10'N	081°49.82'W	27-May-15, 18:59z	CTD cast, s10 and s50 tows
248	4	23°10.39'N	081°42.14'W	27-May-15, 21:20z	CTD cast, s10 and s50 tows
249	4	23°03.69'N	081°30.84'W	28-May-15, 00:04z	CTD cast, s10 and s50 tows
250	4	23°10.91'N	081°16.92'W	28-May-15, 02:38z	CTD cast, s10 and s50 tows
251	4	23°16.07'N	081°10.72'W	28-May-15, 04:12z	CTD cast, s10 and s50 tows
252	4	23°19.70'N	080°56.31'W	28-May-15, 06:33z	CTD cast, s10 and s50 tows
253	4	23°31.13'N	080°45.92'W	28-May-15, 09:45z	CTD cast, s10 and s50 tows
254	4	23°15.88'N	080°36.57'W	28-May-15, 12:53z	CTD cast, s10 and s50 tows
255	4	23°36.29'N	080°23.32'W	28-May-15, 16:51z	CTD cast, s10, s50, MOCNESS, and mini-bongo tows
256	4	23°30.00'N	080°03.70'W	28-May-15, 21:18z	CTD cast, s10 and s50 tows
257	4	23°17.91'N	080°02.07'W	28-May-15, 23:37z	CTD cast, s10, s50, and mini-bongo tows
258	4	23°04.19'N	079°59.74'W	29-May-15, 02:14z	CTD cast, s10, s50, MOCNESS, and mini-bongo tows

NF-15-02/03 COMPLETED STATION OPERATIONS: TABLE (CONTINUED)

Station #	Leg #	Latitude	Longitude	Date/Time	Operations Completed
259	4	23°13.21'N	079°44.24'W	29-May-15, 05:51z	CTD cast, s10, s50, and MOCNESS tows
260	4	23°22.56'N	079°28.31'W	29-May-15, 10:16z	CTD cast, s10, s50, and mini-bongo tows
261	4	23°37.66'N	079°03.72'W	29-May-15, 14:09z	CTD cast, s10 and s50 tows
262	4	23°08.47'N	079°09.05'W	29-May-15, 19:54z	CTD cast, s10, s50, and mini-bongo tows
263	4	22°41.20'N	079°13.70'W	29-May-15, 23:23z	CTD cast, s10 and s50 tows
264	4	22°46.74'N	078°51.59'W	30-May-15, 02:24z	CTD cast, s10 and s50 tows
265	4	22°52.94'N	078°45.16'W	30-May-15, 04:07z	CTD cast, s10, s50, and MOCNESS tows
266	4	23°00.82'N	078°40.35'W	30-May-15, 07:01z	CTD cast, s10 and s50 tows
267	4	22°38.78'N	078°35.49'W	30-May-15, 10:15z	CTD cast, s10 and s50 tows
268	4	22°39.56'N	078°26.19'W	30-May-15, 12:26z	CTD cast, s10, s50, and mini-bongo tows
269	4	22°44.20'N	078°13.13'W	30-May-15, 14:47z	CTD cast, s10 and s50 tows
270	4	22°33.27'N	078°09.09'W	30-May-15, 17:48z	CTD cast, s10 tow
271	4	22°26.91'N	077°50.11'W	30-May-15, 20:13z	CTD cast, s10 tow
272	4	22°07.14'N	077°34.70'W	30-May-15, 23:13z	CTD cast, s10 tow
273	4	21°51.96'N	077°15.77'W	31-May-15, 02:23z	CTD cast, s10, s50, MOCNESS, and mini-bongo tows
274	4	21°38.15'N	077°05.72'W	31-May-15, 09:55z	CTD cast, s10 and s50 tows

Biological sampling & results: plankton tows

REGION SUMMARY BY GEAR

Plankton Gear	FOCUS A		FOCUS B		Total
	USVI	Cuba	Mexico	Jamaica	
MOCNESS	37	168	16	8	229
S10	58	68	0	18	144
S50	0	123	26	n/a	149
NEUSTON	26	n/a	n/a	n/a	26
Bongo-20		48	11	n/a	59
TOTAL	121	407	53	26	607

Table 1. Summary of biological samples (plankton tows) collected during Focus A and B of NF1502 using multiple plankton gears.

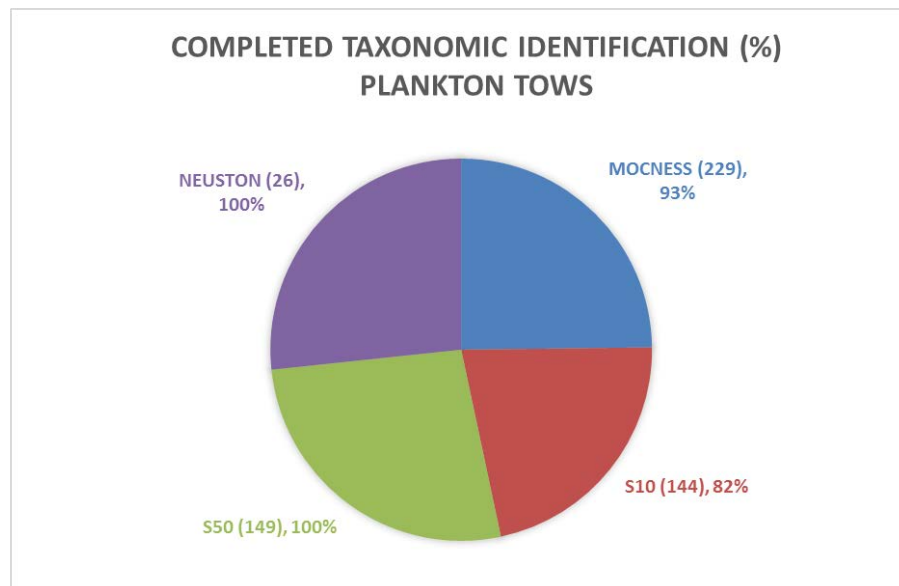


Figure 1. Summary of the percentage (%) of completed taxonomic identifications. In parenthesis () are the number of plankton samples processed by each of the four gears utilized (MOCNESS, Neuston, S50 and S10) during the NF1502 survey Focus A and B combined.

Biological sampling results: Larval abundances

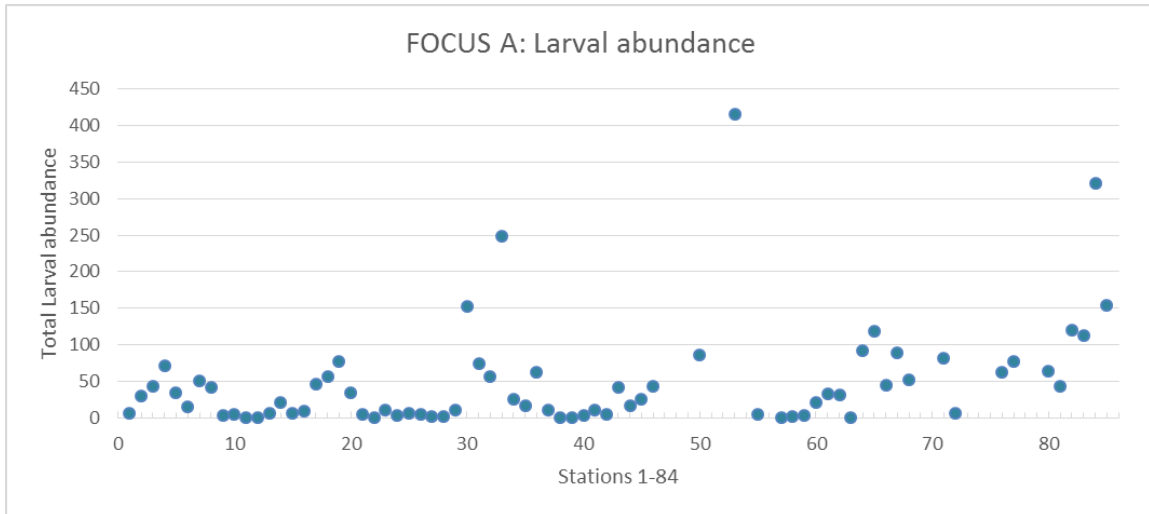


Figure 2: Larval abundances for FOCUS A of the NF1502 Survey shown for stations 1-84

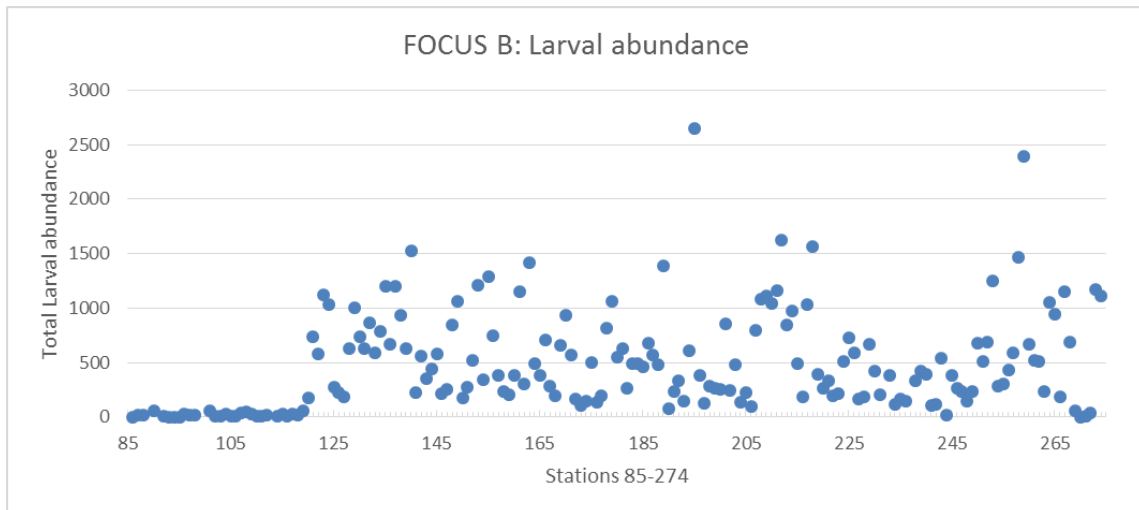


Figure 3: Larval abundances for FOCUS B of the NF1502 Survey shown for stations 85-274

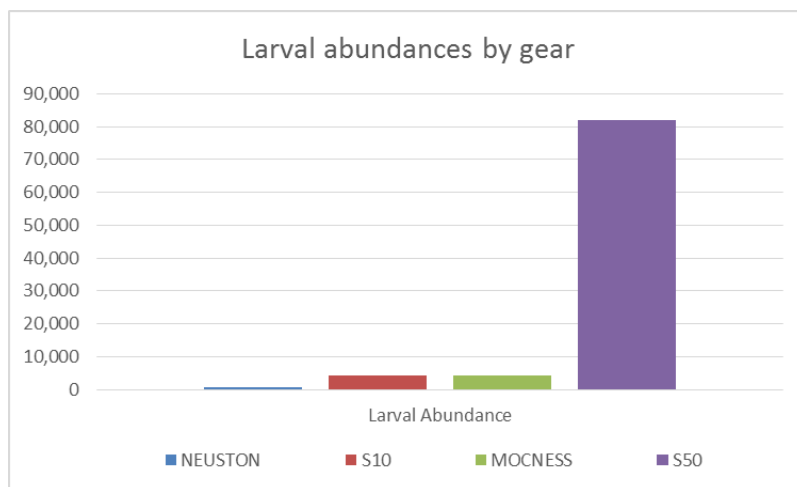


Figure 4: Larval abundances for FOCUS A and B of the NF1502 Survey by plankton gear utilized.

Biological sampling results: Taxonomic Identifications

Region	Family	Genus	Species	n
USVI	Istiophoridae			45
USVI	Lutjanidae	<i>Lutjanus</i>	<i>spp</i>	41
USVI	Lutjanidae			49
USVI	Lutjanidae	<i>Pristipomoides</i>	<i>spp</i>	1
USVI	Scaridae	<i>Cryptotomus</i>	<i>roseus</i>	128
USVI	Scaridae			151
USVI	Scaridae	<i>Scarus</i>	<i>spp</i>	460
USVI	Scaridae	<i>Sparisoma</i>	<i>spp</i>	1,667
USVI	Scombridae	<i>Thunnus</i>	<i>spp</i>	476
USVI	Scorpaenidae	<i>Pterois</i>	<i>spp</i>	19
USVI	Serranidae	<i>Anthiinae</i>		17
USVI	Serranidae	<i>Epinephelinae</i>		1
USVI	Serranidae	<i>Grammastinae</i>		50
USVI	Serranidae	<i>Liopropominae</i>		46
USVI	Serranidae	<i>Serraninae</i>		271
USVI	Serranidae			5
USVI	Xiphiidae	<i>Xiphias</i>	<i>gladius</i>	2
				3,433

Table 2. Preliminary taxonomic identifications completed for FOCUS A of the NF1502 survey as of date of completion for this report.

Family	n	Family	n	Family	n
Acanthuridae	1,088	Diretmidae	1	Neoscopelidae	1
Achiridae	1	Echeneidae	27	Nettastomatidae	12
Acropomatidae	42	Elopidae	27	Nomeidae	80
Albulidae	7	Elopiformes	1	Notosudidae	146
Alepisauroidi	1	Engraulidae	183	Ophichthidae	234
Anguillidae	5	Epigonidae	3	Ophidiidae	88
Anguilliformes	73	Evermannellidae	123	Ophidiiformes	2
Anomalopidae	1	Exocoetidae	79	Opisthognathidae	17
Apogonidae	527	Fistulariidae	41	Ostraciidae	4
Argentinidae	1	Gempylidae	1,010	Paralepididae	468
Argentinoidei	1	Gerreidae	338	Paralichthyidae	112
Astronesthidae	17	Gibberichthyidae	2	Percoidei	246
Atherinidae	1	Giganturidae	4	Phosichthyidae	1,498
Atherinopsidae	9	Gobiesocidae	9	Pleuronectiformes	1
Aulopiformes	1	Gobiidae	5,711	Pomacanthidae	121
Aulostomidae	4	Gonostomatidae	4,636	Pomacentridae	865
Balistidae	617	Gonostomatoidei	2	Priacanthidae	273
Barbourisidae	1	Haemulidae	183	Rachycentridae	3
Belonidae	10	Hemiramphidae	69	Radiicephalidae	1
Blenniidae	54	Holocentridae	1,669	Scaridae	17,220
Blennioidei	15	Howellidae	49	Scombridae	4,447
Bothidae	3,768	Ipnopidae	9	Scombroidei	9
Bramidae	145	Istiophoridae	286	Scombrolabracidae	61
Bregmacerotidae	151	Kyphosidae	36	Scopelarchidae	2
Bythitidae	3	Labridae	10,386	Scorpaenidae	272
Callionymidae	268	Labroidei	6	Scorpaeniformes	15
Caproidae	212	Lamprididae	3	Serranidae	1,626
Carangidae	2,435	Lampridiformes	5	Sparidae	75
Carapidae	8	Lobotidae	7	Sphyrnaeidae	1,627
Ceratioidei	136	Lutjanidae	1,746	Sternoptychidae	2
Cetomimidae	1	Malacanthidae	22	Stomiidae	2
Chaetodontidae	116	Megalopidae	90	Stomiiformes	33
Chauliodontidae	2	Melamphidae	4	Stomioidei	7
Chiasmodontidae	7	Melanostomiidae	54	Stromateidae	5
Chlopsidae	6	Microdesmidae	181	Syngnathidae	94
Chlorophthalmidae	3,633	Microstometidae	1	Syngnathiformes	1
Cirrhitidae	9	Monacanthidae	542	Synodontidae	572
Clupeidae	618	Moringuidae	15	Tetraodontidae	129
Clupeiformes	399	Mugilidae	38	Tetraodontiformes	37
Congridae	232	Mullidae	337	Trachipteridae	5
Coryphaenidae	407	Muraenidae	46	Trichiuridae	7
Cynoglossidae	25	Myctophidae	14,133	Triglidae	7
Dactylopteridae	10	Myctophiformes	19	Uranoscopidae	8
Diodontidae	23	Nemichthyidae	2	Xiphiidae	23

Table 3. Taxonomic identifications completed for FOCUS B of the NF1502 survey as of date of completion for this report.