Before
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Washington, D.C.

In the Matter of Notice of Intent to Conduct Scoping and to Prepare a Draft Environmental Impact Statement for the Proposed Hudson Canyon National Marine Sanctuary	Docket No. NOAA-NOS-2022-0053

COMMENTS OF
THE NORTH AMERICAN SUBMARINE CABLE ASSOCIATION

The North American Submarine Cable Association ("NASCA"), the premier U.S. submarine telecommunications industry organization, urges the National Oceanic and Atmospheric Administration ("NOAA") to ensure that any designation of a Hudson Canyon National Marine Sanctuary ("NMS") permit and protect existing and future submarine fiber-optic cables transiting the proposed sanctuary boundaries.[1] Consistent with Executive Order 13,547, the regulatory framework most appropriate for management of the proposed sanctuary is one which supports "sustainable, safe, secure, and productive access to, and uses of the ocean,"[2] and NASCA is pleased that the Proposal recognizes both New York as a critical trans-Atlantic telecommunications hub, and the critical role that submarine telecommunications cables play in

1 *See* John Forrest Dohlin, Vice President and Director, N.Y. Aquarium, *Hudson Canyon National Marine Sanctuary Nomination* (Nov. 2016), https://nmsnominate.blob.core.windows.net/nominate-prod/media/documents/hudson-canyon.pdf ("Proposal").

2 Exec. Order No. 13,547, 3 C.F.R. § 13547 (2010–2011).

supporting the U.S. economy and national security.[3] Notably, Proclamation 9496, establishing the Northeast Canyons and Seamounts Marine National Monument to the north of Hudson Canyon, expressly excludes constructing and maintaining submarine cables from the list of prohibited activities.[4] NOAA should do so here.

As NOAA proceeds with this nomination—in drafting an environmental impact statement, identifying boundaries, and proposing regulations—it should do so in a way that supports the critical function that submarine telecommunications cables serve, recognizing that such cables are environmentally neutral-to-benign, and that submarine cable installation and repair activities have only negligible and transitory impacts on the marine environment and on other ocean uses. In particular, NOAA should adopt boundaries that avoid existing submarine telecommunications cables, and avoid adopting any restrictions within the sanctuary boundaries that would prohibit or restrict submarine cable installation and repair, as it did with the Hawaiian Islands Humpback Whale NMS.[5]

Submarine telecommunications cables are a sustainable use of the oceans that supports a wide range of economic, social, and governmental activity—as underscored by the COVID-19 pandemic, which has increased demand for submarine cable connectivity considerably in order to support telework, telemedicine, distance education, and delivery of critical government and social services. As demonstrated through extensive peer-reviewed scientific research, submarine cable materials and installation and repair methods are environmentally benign and do not pose a threat to the flora and fauna of the proposed sanctuary. The submarine cable industry also has a

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3 Proposal at 9.

4 *See* Proclamation No. 9496, 81 F.R. 65,161 (Sept. 15, 2016).

5 15 C.F.R. §§ 922.183–922.184.

long history of working to protect underwater cultural resources and of identifying and avoiding sensitive sites (particularly as such sites pose a risk of damage to the cables themselves), consistent with the National Historic Preservation Act.[6] This would include the rocky outcrops and boulders of the Canyon that provide substrate for sea life, as well as shipwrecks.[7]

NASCA supports the designation of a Hudson Canyon NMS that is based on scientific and risk-based analysis and can address the needs for conservation and cultural heritage preservation along with the need for continuing sustainable ocean uses, including submarine cable installation and maintenance. The Proposal appears to support such a balance, and NASCA urges NOAA to retain that balance as it proceeds with the designation process. In particular, NASCA believes that any final regulations for the management of a Hudson Canyon NMS should expressly recognize the importance of submarine cables to U.S. economic, social, and national security interests, the negligible impact of submarine cables on the environment, and the absence of any need for additional regulations that prohibit or impede submarine cable activities near or in sanctuary boundaries.

In part I of these comments, NASCA provides background information on NASCA, the submarine telecommunications cables that its members own and operate that transit near Hudson Canyon, and the economic, societal, and governmental importance of such cables. In part II, NASCA provides an overview of peer-reviewed scientific research demonstrating the neutral-to-benign environmental characteristic of such cables. In part III, NASCA explains why existing regulation is sufficient to address the negligible risks posed by submarine cable installation and

6 *See generally* 54 U.S.C. § 300101.

7 Proposal at 6.

repair activities, and the negative effect additional regulation would have on broader U.S. interests.

I. SUBMARINE CABLES ARE VITAL TO LOCAL AND U.S. NATIONAL INTERESTS

A. NASCA Represents Significant Submarine Cable Infrastructure Landing on the Atlantic Coast

NASCA is the principal nonprofit trade association for submarine cable owners, submarine cable maintenance authorities, and prime contractors for submarine cable systems operating in North America.[8] NASCA serves both as an advocacy organization and a forum for its members' interests. NASCA's members own and operate the vast majority of active submarine cable systems landing in the United States and support thousands of jobs in the United States, including in the mid-Atlantic and Northeast. NASCA's members currently own and operate trans-Atlantic submarine cables terminating on the East Coast—including in New York, New Jersey, and Massachusetts—which provide significant connectivity between the United States and both Europe and Latin America. Existing systems transiting near Hudson Canyon include:

- ***AEC-1***: connects New York and Ireland;
- ***Apollo****:* connects New Jersey, New York, the United Kingdom, and France;
- ***Atlantic Crossing-1****:* connects New York, the United Kingdom, Germany, and the Netherlands;

[8] NASCA's members include Alaska Communications System; Alaska United Fiber System Partnership; Alcatel Submarine Networks; AT&T Corp.; C&W Networks; Edge Network Services; EXA Infrastructure; Global Cloud Xchange; Global Marine Systems Ltd.; GlobeNet; Lumen Technologies UK, Ltd; OPT French Polynesia; PC Landing Corporation; Rogers Communications; Southern Caribbean Fiber; Southern Cross Cable Network; TampNet Group; Tata Communications (Americas); SubCom; Verizon; Vodafone; and Zayo Group Ltd.

- ***FLAG Atlantic-1***: connects New York with the United Kingdom and France;
- ***Havfrue*** (meaning "mermaid in Danish")*:* connects New Jersey with Ireland, the United Kingdom, Norway, and Denmark;
- ***Grace Hopper****:* connects New York, the United Kingdom, and Spain;
- ***Seabras-1****:* connects New Jersey and Brazil;
- ***TGN Atlantic****:* connects New Jersey and the United Kingdom;
- ***Yellow****:* connects New York and the United Kingdom.

While the precise boundaries are not yet clear, the Havfrue system likely transits a portion of the area under consideration, and the other systems are installed and operating nearby. Systems currently under construction include:

- ***Amitié***: will connect Massachusetts, the United Kingdom, and France.

These systems, which are shown in the map included as Exhibit A, provide a significant percentage of U.S. connectivity to Europe and Latin America. Notably, the only U.S.-based supplier and installer of fiber optic submarine cable, SubCom, LLC, is based in Eatontown, New Jersey.

B. Submarine Cables Are Vital for the U.S. Economy, Society, and National Security

Even before the onset of the COVID-19 pandemic (and as recognized by the Proposal), submarine cables (not satellites) carried approximately 99 percent of the world's Internet, voice, and data traffic.[9] Submarine cables provide higher-quality, more reliable and secure, and less expensive communications than do communications satellites. Submarine cables have long been

[9] Doug Brake, *Submarine Cables: Critical Infrastructure for Global Communications*, Info. Tech. & Innovation Found., at 1 (Apr. 2019), https://www2.itif.org/2019-submarine-cables.pdf; Proposal at 9.

known for their backhaul of mobile network traffic and carriage of data for credit card and electronic payments. During the pandemic, however, demand for submarine cable capacity has increased considerably and highlighted the full range of activities dependent on submarine cable connectivity, including:

- Internet connectivity and electronic commerce;
- Global payment networks supporting credit card payments, ATM cash withdrawals, and financial transactions;
- Backhaul of mobile wireless communications (as mobile phones use radio spectrum only to connect to the nearest tower, using fiber-optic networks thereafter);
- Government and military communications (as the U.S. Government does not own and operate its own submarine cables for connectivity purposes);
- Remote work and video conferencing;
- Telemedicine;
- Distance education (particularly with school and university campus closings);
- Transmission of large amounts of data by research and educational organizations (which helps to explain why the U.S. National Science Foundation is interested in developing a submarine cable system to provide data connectivity for the McMurdo and Scott Bases in Antarctica);[10]
- Communications with family members and friends by voice, video, photos, and messages; and

[10] *See* Peter Neff *et al., Antarctic Subsea Cable Workshop Report: High-Speed Connectivity Needs to Advance US Antarctic Science* 4–8 (Oct. 21, 2021), https://drive.google.com/file/d/1Ao4Hz6-bBheFMpGSR4nMvSZJ9kHpjj0o/view.

- Entertainment to ease the stresses of home quarantine and self-isolation.[11]

Many businesses, non-profit organizations, and governments innovated during the COVID-19 pandemic to facilitate delivery of services over the Internet while protecting the health of recipients, and the shift to electronic delivery of such services is expected to continue even as the pandemic wanes. The global nature of the Internet and the networks that operate over it mean that even communications within a domestic or local area (such as communications up and down the Eastern seaboard) rely on submarine cable infrastructure to deliver communications and services.

Because of the importance of submarine cables to U.S. commercial and national security interests, submarine cables have long been designated as critical infrastructure by the U.S. Government.[12] The freedoms to install and maintain submarine cables are well-established by

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[11] *See* International Cable Protection Committee, *ICPC Calls on Governments and Industry to Facilitate and Expedite Submarine Cable Installation and Repair During the COVID-19 Pandemic in Order to Protect Internet Connectivity and Critical Communications* 1 (Apr. 3, 2020), https://www.iscpc.org/documents/?id=3299.

[12] Presidential Policy Directive – Critical Infrastructure Security and Resilience, PPD-21 (Feb. 12, 2013), http://www.whitehouse.gov/the-press-office/2013/02/12/presidential-policy-directive-critical-infrastructure-security-and-resil; s*ee* Department of Homeland Security, Communications Sector-Specific Plan 12–14 (2010), http://www.dhs.gov/xlibrary/assets/nipp-ssp-communications-2010.pdf. *See also* Michael Matis, The Protection of Undersea Cables: A Global Security Threat (Jul. 3, 2012) (M.S.S. Strategy Paper, U.S. Army War College: Carlisle, PA), https://apps.dtic.mil/sti/pdfs/ADA561426.pdf.

treaty and customary international law,[13] and are protected under U.S. law.[14]

Damage to submarine cables can pose grave risks to U.S. national security and the U.S. economy, given (a) the U.S. Government's reliance on such cables to communicate with its civilian and military personnel worldwide and with other governments and to deliver services to U.S. residents; and (b) the dollar-value of commerce conducted using submarine cables. Timely repairs are therefore critical, and maintenance providers and cable ships must be prepared to respond rapidly, with vessels on standby with qualified personnel and appropriate equipment.[15]

II. SUBMARINE CABLES ARE NEUTRAL-TO-BENIGN IN THE MARINE ENVIRONMENT

Unlike other marine industries, particularly offshore oil and gas development, submarine telecommunications cable installation and repair have a negligible impact on the environment. Peer-reviewed scientific research conducted by leading academic and government scientists

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[13] *See, e.g.*, United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 ("UNCLOS") (entered into force on Nov. 16, 1994) arts. 58(1) ("[I]n the exclusive economic zone, all States . . . enjoy, subject to the relevant provisions of this Convention, the freedoms referred to in article 87 of . . . the laying of submarine cables and pipelines.") and 79(1) ("[A]ll States are entitled to lay submarine cables and pipelines on the continental shelf, in accordance with the provisions of this article."). Although the United States is not a party to UNCLOS, it has recognized UNCLOS (other than the original deep seabed mining regime) as customary international law since 1981. Presidential proclamations by two different U.S. presidents expressly stated that the establishments of an Exclusive Economic Zone ("EEZ") and a contiguous zone, respectively, did not infringe on the high-seas freedoms to lay and repair submarine cables. *See* Proclamation No. 5030, 48 Fed. Reg. 10,605 (Mar. 10, 1983) ("Pres. Proc. No. 5030") (establishing the U.S. EEZ); Proclamation No. 7219, 64 Fed. Reg. 48,701 (Aug. 2, 1999) (establishing the U.S. contiguous zone).

[14] U.S. law provides that damaging a submarine cable—whether deliberately or through negligence—is a federal offense punishable by fine, imprisonment, or both. 47 U.S.C. §§ 21 (willful damage), 22 (negligent damage). Submarine cable owners also have a statutory right under U.S. law to sue for damage to their cables. 47 U.S.C. § 28.

[15] *See* Kent Bressie *et al.*, Working Group 4A, Communications Security, Reliability, and Interoperability Council, Federal Communications Commission, Final Report – Protection of Submarine Cables Through Spatial Separation, at 1–2 (2014) ("CSRIC Spatial Separation Report").

confirms that submarine cables are neutral to benign in the marine environment. Key overview reports have consistently concluded that the environmental impact of cables is very limited and outweighed by the economic, societal, and governmental benefits they provide:

- ***UNEP-WCMC-ICPC Report 2009***: "The weight of evidence shows the environmental impact of fibre-optic cables is neutral to minor."[16]
- ***U.N. Secretary General's UNCLOS Report 2015***: "Submarine cables themselves are considered to have a low-carbon footprint and a small relative impact on the environment . . . ."[17]
- ***U.N. World Ocean Assessment 2016***: Submarine telecommunications cables "have very limited environmental impacts."[18] "A large body of knowledge already exists about the construction and operation of submarine communication cables, including how to survey environmentally acceptable routes and allow for the submarine geology."[19]

Below, NASCA reviews submarine cable materials and methods and the research on their environmental characteristics. The submarine cable industry and the International Cable Protection Committee ("ICPC"), the principal global organization promoting submarine cable protection, continue to encourage additional peer-reviewed research by scientists.

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16 L. Carter *et al.*, *Submarine Cables and the Oceans–Connecting the World*, 30 UNEP-WCMC Biodiversity Series, ICPC and the United Nations Environment Program-World Climate Monitoring Centre at 54 (2009), https://www.unep-wcmc.org/system/dataset_file_fields/files/000/000/118/original/ICPC_UNEP_Cables.pdf?1398680911.

17 U.N. Secretary-General, *Oceans and the Law of the Sea, Seventieth Session*, ¶¶ 53–55, U.N. Doc. A/70/74 (2015), https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/093/76/PDF/N1509376.pdf?OpenElement.

18 U.N. Group of Experts on the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects, *World Ocean Assessment I: The First Global Integrated Marine Assessment*, pt. V, ch. 19 at 3–4 (2016) ("World Ocean Assessment I"), https://www.un.org/depts/los/global_reporting/WOA_RPROC/Chapter_19.pdf.

19 *Id.* at 6.

A. Submarine Cable Materials and Methods

Submarine telecommunications cables—which typically have the diameter of a garden hose—are made from chemically inert materials, including glass fibers, a copper core for conducting power, high-grade polyethylene sheathing, and steel wire rod for armoring in shallow-water areas. These cables are installed and repaired by cable ships built specifically for cable-related operations and designed for covering vast distances over multi-month deployments. Cable ships are crewed by highly trained and experienced crews that use specialized equipment working on the surface of the sea, in the water column, and on the sea floor to install and repair submarine cables, which have a planned commercial lifespan of 25 years but are often used for longer periods of time. In deep-sea areas, submarine cables rest on the surface of the sea floor (they are not buried, as stated in the Proposal).[20] In shallow coastal areas, submarine cables are typically armored externally with steel wire rod and buried to a depth of up to two meters. Cable maintenance providers contract with individual owners of submarine cable systems and/or with regional maintenance authorities for the provision of long-term maintenance services.

Once a cable is installed, a cable operator rarely needs to access it, except in the event of a repair. The capacities of existing cables are increased by changing the electronics on shore, rather than with any new marine construction. When a cable is damaged or breaks, no polluting material is released, as the cable is transmitting light on the fiber.

B. Submarine Cable Routes Are Designed to Avoid Sensitive Ecosystems, Such as Hydrothermal Vents and Seamounts, and Underwater Cultural Resources, as They Could Damage Cables

Submarine telecommunications cable operators prefer to install cables on flat sandy seabed and avoid natural and archaeological features that might entangle, abrade, or suspend

[20] Proposal at 9.

cables or expose them to great heat and thereby increase the risk of damage. Such considerations are addressed in the initial route design for the cable, first in a desktop study of the route and then in a marine seafloor survey.[21] Accordingly, as noted above, submarine cables pose no risk to the sensitive areas of Hudson Canyon, such as the rocky outcrops and boulders of the Canyon that provide substrate for hard and soft corals, sea pens, anemones, and sponges,[22] and shipwrecks that serve as landmarks or as habitat for diverse life.[23]

C. Submarine Cables Are Small, Chemically Inert Objects that Do Not Leach into Seawater or Generate Harmful Electromagnetic Effects

Peer-reviewed scientific studies have consistently shown that submarine telecommunications cables' high-grade polyethylene sheathing is chemically inert and that cable materials do not leach into seawater.[24] The electrical fields of submarine telecommunications cables are shielded, emitting a smaller electromagnetic field than that of a laptop computer, and do not cause disturbance to marine fauna.[25]

D. Submarine Cables Are Laid with Minimal Disturbance to the Seabed and Marine Fauna

Submarine telecommunications cables cause minimal disturbance to the seabed and marine fauna. Scientific studies of submarine telecommunications cables on the continental shelf and slope have shown that there is no difference in faunal abundance and diversity near and

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21 CSRIC Spatial Separation Report, at 25.

22 Proposal at 6.

23 Proposal at 7–8.

24 *See, e.g.*, Lionel Carter *et al.*, Chemical and Physical Stability of Submarine Fibre-Optic Cables in the Area Beyond National Jurisdiction (ABNJ), Presentation at SubOptic 2019 (Mar. 3, 2019).

25 *See, e.g.*, Luana Albert *et al.*, *A current synthesis on the effects of electric and magnetic fields emitted by submarine power cables on invertebrates*, 159 Marine Env't Rsch. 104958, 104962 (2020).

distant from cables.[26] Modern cables and installation techniques prevent marine mammal entanglement. Notwithstanding certain sensational videos on the Internet, fish bites are not a source of damage to contemporary cables. Finally, further disturbance resulting from a cable fault and repair is rare. As noted above, owners do not access installed cables in the ocean to upgrade capacity.

E. Activities Associated with the Survey of Cable Routes and Installation and Maintenance of Cables Produce Minimal Underwater Noise

The Proposal identifies vessel noise pollution as an adverse impact on the Hudson Canyon area.[27] Compared with other offshore activities, including other vessel traffic, submarine cables and cable ships produce minimal underwater noise. The frequencies of acoustic instruments used during submarine cable route survey are directional and/or low energy,[28] and frequency and acoustic output of instruments used for surveying in deep water are all-directional, above the hearing range of most animals, and sound naturally attenuates over modest distances. Animals that can hear these sounds (particularly *Odontoceti*) have highly directional hearing. Deep water surveys progress at ~200 kilometers per day across oceans. Usually, the area inside the acoustic footprint of deep water multibeam echo sounders will not be re-surveyed for decades when another cable route is surveyed.

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[26] *See, e.g.*, Lionel Carter *et al.*, Chemical and Physical Stability of Submarine Fibre-Optic Cables in the Area Beyond National Jurisdiction (ABNJ), Presentation at SubOptic 2019 (Mar. 3, 2019); Christoph Kraus and Lionel Carter, *Seabed recovery following protective burial of subsea cables - Observations from the continental margin*, 157 Ocean Engineering 251 (2018), https://doi.org/10.1016/j.oceaneng.2018.03.037.

[27] Proposal at 19.

[28] Richard Hale, Director, EGS Survey Group, Sounds from Submarine Cable & Pipeline Operations, Presentation before the United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea (Mar. 13, 2020), https://www.un.org/depts/los/consultative_process/icp19_presentations/2.Richard%20Hale.pdf.

F. Submarine Cables Are Mostly Invisible in the Marine Environment

Submarine telecommunications cables have a diameter approximate to that of a garden hose and have a tiny footprint on the seafloor. Upon installation, they are mostly invisible in the marine environment, particularly within a year of installation, as seafloor sediment covers even those cables not buried at the outset. Moreover, they do not involve any fixed infrastructure protruding above the seabed, in the water column, or above the ocean surface. Cable landing station facilities near the ocean shore are small structures that are indistinguishable from other residential or enterprise structures in the coastal environment, to the extent they are even close enough to the shore to be visible from the water. Consequently, the presence of submarine cables in and around an NMS would not threaten to despoil the visual environment or suggest any sort of "industrial" presence, in contrast to facilities such as oil rigs and refineries and offshore wind turbine towers.

G. Submarine Cables Underpin Ocean Observatories, Which Have Confirmed the Cables' Benign Impact

Ocean observatories—such as NOAA's own MARS system, Oregon's Ocean Observing Initiative, and Neptune in Canada—use submarine cables made from the same materials and installed using the same methods as commercial submarine telecommunications cables.[29] Most recently, a 2020 study conducted by the Monterey Bay Aquarium Research Institute concluded that the MARS cable system in Monterey Bay "has had little detectable impact on seabed

[29] *See e.g. Sustainable Development: Submarine Cables In The Marine Environment*, ECO Mag. (January 19, 2017), https://www.ecomagazine.com/in-depth/featured-stories/sustainable-development-submarine-cables-in-the-marine-environment; World Ocean Assessment I, pt. V, ch. 19 1–2; Int'l Seabed Authority ("ISA"), *Submarine Cables and Deep Seabed Mining*, 14 ISA Technical Study, 47–49 (2015), https://isa.org.jm/files/files/documents/techstudy14_web_27july.pdf.

geomorphology, sediment qualities, or biological assemblages."[30] In particular, the study concludes that:

> Inspection of the MARS cable, coupled with a sampling program to evaluate changes in surficial sediments and biological conditions on local and regional scales with respect to the installation of the cable indicated little detectable influence of cable installation.[31]

The study also concludes that:

- Local variation in benthic megafaunal communities within 50-100 meters of the MARS cable is minor or undetectable.
- The MARS cable has little effect on the distribution and density of macrofaunal and megafaunal assemblages on a regional scale.

While there is no research submarine telecommunications cable in or around the Hudson Canyon, it is possible that such a cable could be installed to support environmental and climate research, as the MARS cable does in Monterey, helping scientists and policymakers to gather information and close the data gaps identified in the Proposal.[32]

III. ANY REGULATORY FRAMEWORK SHOULD ACCOUNT FOR EXISTING REGULATION OF SUBMARINE CABLES, THE ABSENCE OF ADVERSE ENVIRONMENT AND CULTURAL HERITAGE IMPACTS BY CABLES, AND CABLES' IMPORTANCE TO U.S. ECONOMIC AND SECURITY INTERESTS

Any regulatory framework should—like the Proposal itself, and the numerous law makers and business organizations that support the Proposal—expressly recognize the importance of the Hudson Canyon area to the Mid-Atlantic region and the "network of deep sea

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[30] L.A. Kuhnz et al., *MARS Biological Survey Report: Potential Impacts of the Monterey Accelerated Research System (MARS) Cable on the Seabed and Benthic Faunal Assemblages*, Monterey Bay Aquarium Rsch. Inst., at i (2020), http://dx.doi.org/10.13140/RG.2.2.12907.57122.

[31] *Id.* at 35.

[32] Proposal at 13.

communication cables that connect us to the world" that traverse Mid-Atlantic waters.[33] As discussed in part 1, these cables support vital economic and national security interests with negligible environmental impact. Such cables are also subject to numerous federal statutes and permitting processes that ensure they are installed, operated, repaired, and maintained consistent with environmentally sound practices. There is, therefore, no need for any regulatory framework to impose additional restrictions on the submarine cable industry—and indeed, NASCA believes that any such restrictions are inconsistent with the applicable statutory criteria for a new sanctuary designation.

The National Marine Sanctuaries Act ("NMSA") sets forth designation criteria that any NMS must satisfy. In particular, the NMSA requires that the Secretary of Commerce find that "existing State and Federal authorities are inadequate or should be supplemented to ensure coordinated and comprehensive conservation and management of the area, including resource protection, scientific research, and public education" and that "designation of the area as a national marine sanctuary will facilitate [such] objectives."[34] In making such a determination, the Secretary shall consider:

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[33] Proposal at 1; *see also* supporting letters submitted (among others) by: Members of Congress José E. Serrano, Jerrold Nadler, Nita M. Lowey, Grace Meng, Steve Israel, Joseph Crowley, Gregory W. Meeks, Hakeem S. Jeffries, Nydia M. Velázquez, Carolyn B. Maloney, Charles B. Rangel, Kathleen M. Rice, and Paul Tonko (Nov. 16, 2016); New York State Senators Tony Avella, Joseph P. Addabbo, Jr., George Latimer, Kemp Hannon, Timothy Kennedy, and Liz Krueger (Sept. 12, 2016); New York State Senator Carl L. Marcellino (Sept. 16, 2016), New York State Assembly Members Steve Englebright, Barbara S. Lifton, Michelle Schimel, Steven Cymbrowitz, Thomas J. Abinanti, Patricia A. Fahy, Kenneth P. Zebrowski, Steven Otis, Brian Kavanagh, Deborah Glick, Matthew J. Titone, Daniel G. Stec, Jaime Williams, Sean M. Ryan, Nily Rozic, and Daniel J. O'Donnell (Aug. 22, 2016); Mark Jaffe, President and CEO, New York Chamber of Commerce (Sept. 16, 2016); Carlo A. Scissura, President and CEO, Brooklyn Chamber of Commerce (Sept. 16, 2016); and Thomas J. Grech, Executive Director, Queens Chamber of Commerce (Sept. 4, 2016).

[34] 16 U.S.C. § 1433(a)(3)–(4).

(A) the area's natural resource and ecological qualities, including its contribution to biological productivity, maintenance of ecosystem structure, maintenance of ecologically or commercially important or threatened species or species assemblages, maintenance of critical habitat of endangered species, and the biogeographic representation of the site;

(B) the area's historical, cultural, archaeological, or paleontological significance;

(C) the present and potential uses of the area that depend on maintenance of the area's resources, including commercial and recreational fishing, subsistence uses, other commercial and recreational activities, and research and education;

(D) the present and potential activities that may adversely affect the factors identified in subparagraphs (A), (B), and (C);

(E) the existing State and Federal regulatory and management authorities applicable to the area and the adequacy of those authorities to fulfill the purposes and policies of this chapter;

(F) the manageability of the area, including such factors as its size, its ability to be identified as a discrete ecological unit with definable boundaries, its accessibility, and its suitability for monitoring and enforcement activities;

. . .

(H) the negative impacts produced by management restrictions on income-generating activities such as living and nonliving resources development;

(I) the socioeconomic effects of sanctuary designation;

. . .

(K) the feasibility, where appropriate, of employing innovative management approaches to protect sanctuary resources or to manage compatible uses.[35]

[35] *Id.* § 1433(b)(1).

A. With Respect to Submarine Cables, Existing Federal Authorities and Permitting Processes Are Sufficient to Conserve and Manage Marine Resources and Cultural Heritage Within the Proposed Sanctuary Boundaries

A comprehensive network of federal laws operate today to protect the Atlantic Ocean's marine environment, in particular laws such as the Endangered Species Act, the Fisheries Conservation and Management Act (the "Magnuson-Stevens Act"), the Marine Mammal Protection Act, the Migratory Bird Treaty Act, the Rivers and Harbors Act (as amended by the Outer Continental Shelf Lands Act), the National Environmental Policy Act, the National Historic Preservation Act, and the Antiquities Act.[36]

Submarine cable owners and operators must install and repair submarine cables in compliance with these laws. Moreover, a number of these laws are implicated in submarine cable permitting processes. Such laws and processes ensure that submarine cable projects mitigate any potential impacts on fish and wildlife resources, marine mammals, endangered species, the benthic environment, cultural and archeological sites, water quality, air quality, navigation, shoreline erosion and accretion, and water supply, among other considerations. In fact, submarine cable projects are routinely authorized under these laws and regulations.

In short, submarine cable installation and repair procedures are already subject to extensive regulation and oversight, notwithstanding the fact that peer-reviewed scientific research indicates that there is little environmental impact to regulate. Consequently, NASCA believes that the need for sanctuary-related restrictions on submarine cable installation and repair

[36] Fishery Conservation and Management Act, 16 U.S.C. §§ 1801–1891(d); Marine Mammal Protection Act of 1972, Pub. L. No. 92-522, 86 Stat. 1027 (codified as amended in scattered sections of 16 U.S.C.); Migratory Bird Treaty Act, 16 U.S.C. §§ 703–708, 711–712; Rivers and Harbors Appropriations Act of 1899, 33 U.S.C. § 403 (amended by the Outer Continental Shelf Lands Act (OCSLA), 43 U.S.C. § 1333(e)) ("Rivers and Harbors Act"); National Environmental Policy Act, 42 U.S.C. §§ 4321–4347 ("NEPA"); Antiquities Act, 54 U.S.C. §§ 320301–320303.

cannot be used as a basis for satisfying the designation standard for any NMS framework or restricting submarine cable installation and repair within the proposed Hudson Canyon NMS pursuant to 16 U.S.C. § 1433(a)(3)–(4), as there would be no contributing factor of inadequate existing federal and state authorities under 16 U.S.C. § 1433(b)(1)(E).

B. A Broad and Restrictive Hudson Canyon NMS Designation Would Have a Detrimental Effect on U.S. Communications Infrastructure and Magnify the Risk of Damage Resulting from a Single Incident

The boundaries of any Hudson Canyon NMS should be tailored to take into account existing infrastructure, and any regulatory framework should facilitate submarine cable installation and repair activities. A regulatory framework that either prohibits submarine cables in or around the Hudson Canyon NMS, or imposes burdensome regulatory restrictions on such cables and cable operations, would unnecessarily undermine the broad public interests identified in part I above. Of particular concern is that such unnecessary restrictions would force submarine cable owners and operators to lay cables along crowded routes that land farther away from the populations they serve. The first option would result in excessive cable clustering, increasing the risk that an incident damaging one cable—such as a cargo ship dragging an anchor, an underwater landslide triggered by an earthquake, or a malicious attack—would very likely damage multiple cables. This, of course, increases the amount of repair activity conducted in the marine environment. It also decreases the ability of submarine operators to re-route traffic along a different cable to maintain connectivity in the event of a cable fault. The second option would increase the underlying cost of connectivity, as operators must secure terrestrial connectivity from the landing sites to population centers.

IV. CONCLUSION

For the reasons stated above, NASCA supports the proposed Hudson Canyon NMS, provided that any regulatory framework expressly recognizes the importance of submarine cable installation and repair activities and the absence of risks to environmental and cultural heritage resources within the NMS boundaries by such activities.

Respectfully submitted,

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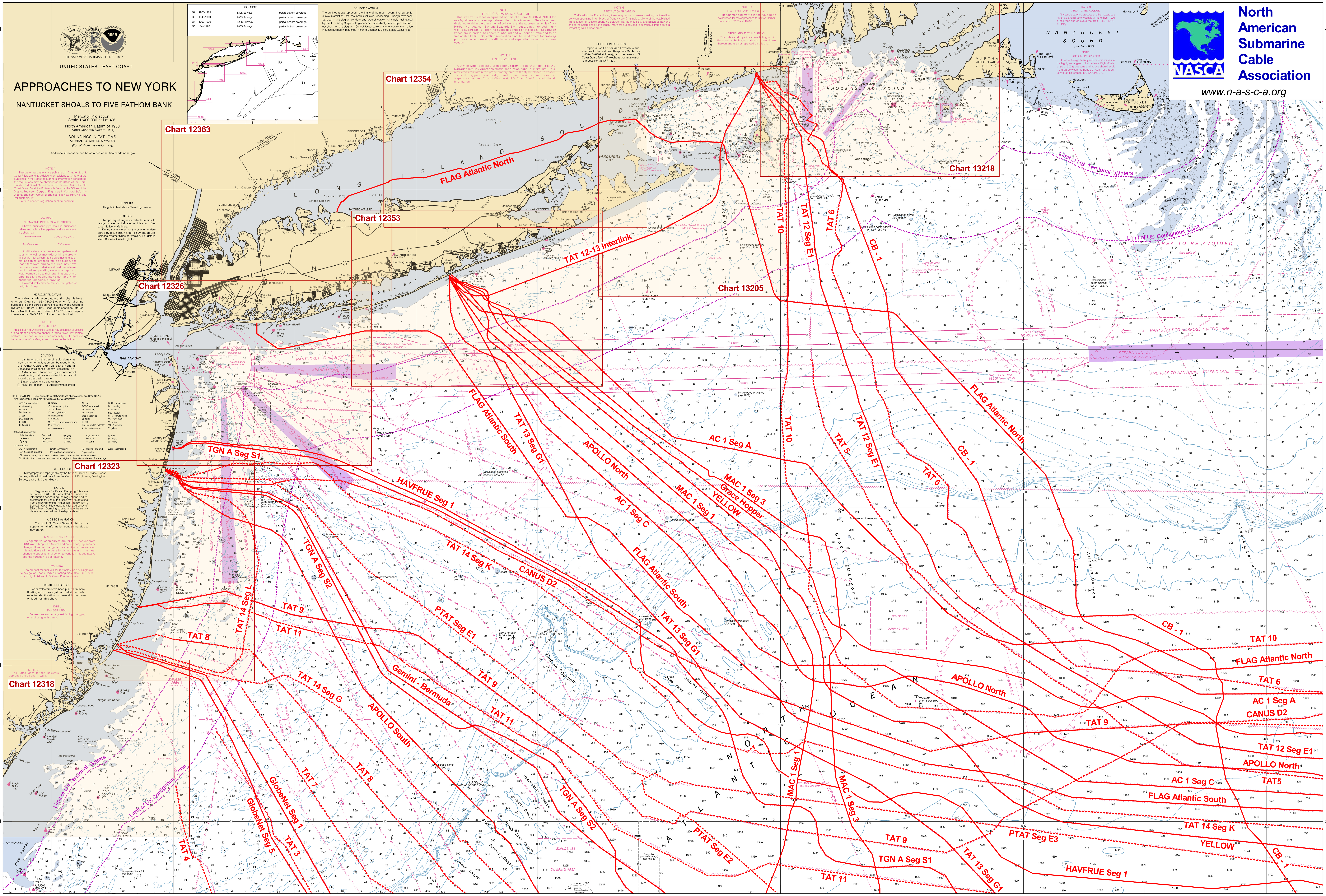
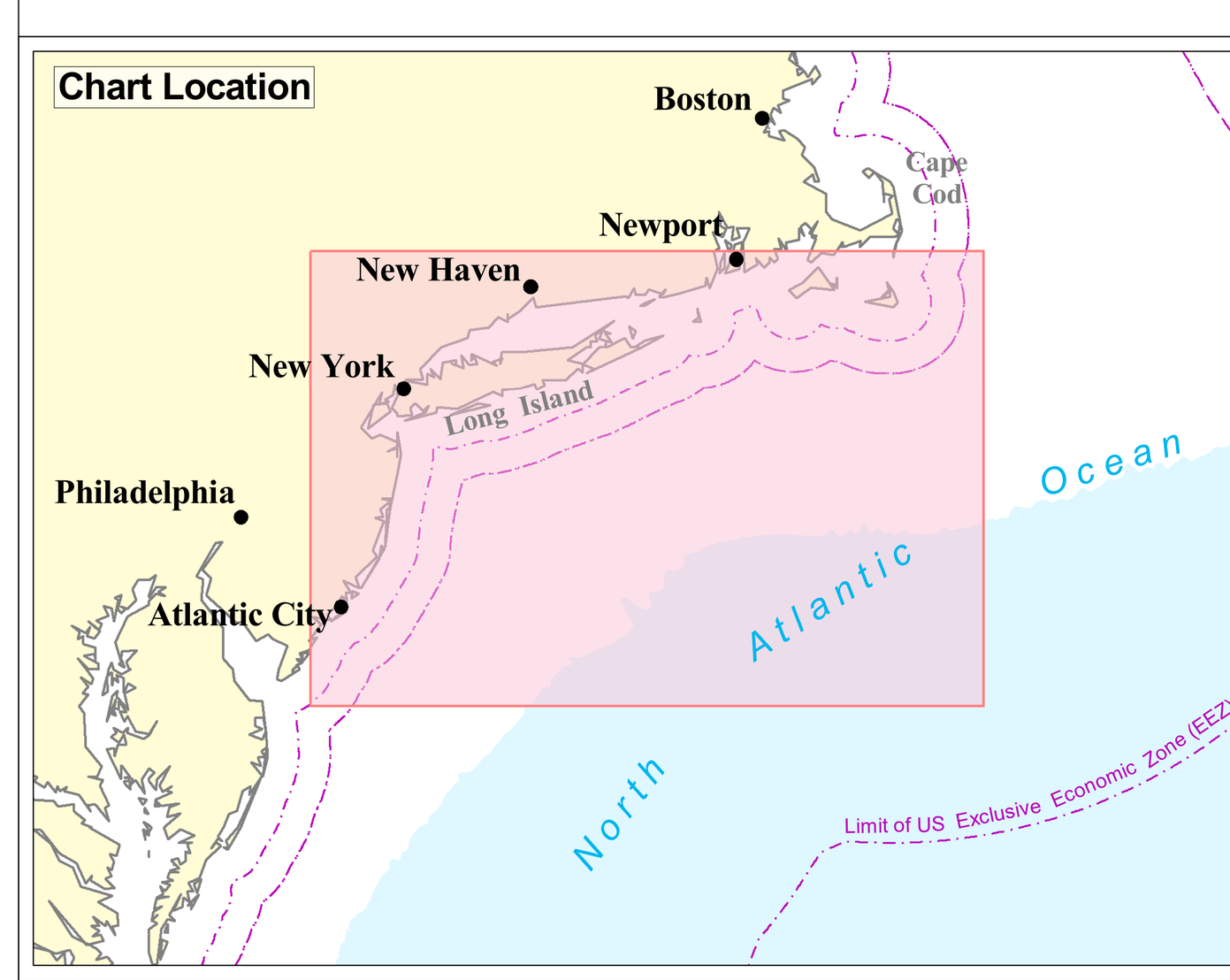
EXHIBIT A:

NASCA MEMBER CABLES PROXIMATE TO HUDSON CANYON





LEGEND

- NASCA Member Cables In Service
- NASCA Member Cables Out of Service
- Maritime Boundaries

General Note

These cables are plotted based on the best available data from cable owners and members of the North American Submarine Cable Association (NASCA) at the time of production.

Please be aware that there may be other cables in the area that are not depicted on this chart.

CABLE & CONTACT INFORMATION

Cable System	Status	Owner	Emergency Contact No.
AC 1 Segment A	*In Service*	Lumen Technologies	1-877-881-9205
AC 1 Segment C	*In Service*	Lumen Technologies	1-877-881-9205
APOLLO North	*In Service*	Vodafone	+44 (0) 20 71387117
APOLLO South	*In Service*	Vodafone	+44 (0) 20 71387117
CB-1	*In Service*	Verizon	1-866-246-4186
FLAG Atlantic South	*In Service*	Global Cloud Xchange	+44 20-8282-1599
FLAG Atlantic North	*In Service*	Global Cloud Xchange	+44 20-8282-1599
Gemini - Bermuda	*In Service*	Verizon	1-866-246-4186
GlobeNet Segment 1	*In Service*	Globenet	1-609-377-9494 or 1-609-294-8661
GlobeNet Segment 5	*In Service*	Globenet	1-609-377-9494 or 1-609-294-8661
Grace Hopper	*In Service*	Google	1-973-216-2096

Cable System	Status	Owner	Emergency Contact No.
MAC 1 Segment 1	*In Service*	Lumen Technologies	1-877-881-9205
MAC 1 Segment 3	*In Service*	Lumen Technologies	1-877-881-9205
PTAT Segment E1	*OOS*	Sprint	1-800-726-2669
PTAT Segment E2	*OOS*	Sprint	1-800-726-2670
PTAT Segment E3	*OOS*	Sprint	1-800-726-2671
TAT 3	*OOS*	AT&T	1-866-466-2288, Prompt 5
TAT 4	*OOS*	AT&T	1-866-466-2288, Prompt 5
TAT 5	*OOS*	AT&T	1-866-466-2288, Prompt 5
TAT 6	*OOS*	AT&T	1-866-466-2288, Prompt 5
TAT 7	*OOS*	AT&T	1-866-466-2288, Prompt 5
TAT 8	*OOS*	AT&T	1-866-466-2288, Prompt 5
TAT 9	*OOS*	AT&T	1-866-466-2288, Prompt 5

Cable System	Status	Owner	Emergency Contact No.
TAT 10	*OOS*	AT&T	1-866-466-2288, Prompt 5
TAT 11	*OOS*	AT&T	1-866-466-2288, Prompt 5
TAT 12 Segment E1	*In Service*	AT&T	1-866-466-2288, Prompt 5
TAT 12-13 Interlink	*In Service*	AT&T	1-866-466-2288, Prompt 5
TAT 13 Segment G1	*In Service*	AT&T	1-866-466-2288, Prompt 5
TAT 14 Segment G	*OOS*	AT&T	1-866-466-2288, Prompt 5
TAT 14 Segment K	*OOS*	Sprint	1-800-726-2669
TAT 14 Segment L	*OOS*	AT& T	1-866-466-2288, Prompt 5
TGN A Segment S1	*In Service*	TATA	1-732-282-4001
TGN A Segment S2	*In Service*	TATA	1-732-282-4001
YELLOW	*In Service*	Lumen Technologies	1-877-881-9205
Havfrue Segment 1	*In Service*	Subcom	1-973-216-2096

Emergency Contact Information

In the event you one become entangled in one of the submarine cables shown on this chart please contact the relevant owner listed on this chart 24 hours a day, seven days a week.

For General Information

For non-emergency information regarding any of the cable systems shown on this chart, or for marine planning purposes, please contact: **cableinfo@N-A-S-C-A.org**

NATURAL SCALE 1 : 400,000 at 40°00' N

0 5 10 15 20 25
Miles

0 5 10 15 20 25
Nautical Miles

SPHEROID & DATUM : WGS84

PROJECTION : MERCATOR

Notes:

This chart is intended for general reference only and **NOT FOR NAVIGATION PURPOSES.**

Please be aware that other cables may exist in addition to those shown on this chart.

SOUNDINGS IN FATHOMS
AT MEAN LOW WATER

CHART HISTORY

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NASCA Cable Awareness Chart

Mid-Atlantic Region

Chart no. 12300

APPROACHES TO NEW YORK