



September 1, 2016

Via Electronic Submission

Kimberly B. Damon-Randall
Assistant Regional Administrator
Protected Resources Division
National Marine Fisheries Service
Greater Atlantic Regional Office
55 Great Republic Drive
Gloucester, MA 01930

Re: Comments on the Designation of Critical Habitat for the Gulf of Maine, New York Bight, and Chesapeake Bay Distinct Population Segments of Atlantic Sturgeon, NOAA-NMFS-2015-0107

Dear Ms. Damon-Randall:

Riverkeeper, Inc. and Scenic Hudson, Inc. appreciate the opportunity to comment on the National Marine Fisheries Service's ("NMFS") and the National Oceanic and Atmospheric Administration's proposed rule to designate critical habitat for the Gulf of Maine, New York Bight, and Chesapeake Bay Distinct Population Segments ("DPSs") of Atlantic sturgeon as published in the June 3, 2016 issue of the Federal Register.¹

Riverkeeper and Scenic Hudson's Interests

Riverkeeper is a member-supported watchdog organization dedicated to defending the Hudson River and its tributaries and protecting the drinking water supply of nine million New York City and Hudson Valley residents.

¹ Endangered and Threatened Species: Designation of Critical Habitat for the Gulf of Maine, New York Bight, and Chesapeake Bay Distinct Population Segments of Atlantic Sturgeon, 81 Fed. Reg. 35,701 (June 3, 2016) (to be codified at 50 C.F.R. pt. 226).

Scenic Hudson works to protect and restore the Hudson River as an irreplaceable national treasure and a vital resource for residents and visitors. Scenic Hudson combines land acquisition, support for agriculture, citizen-based advocacy and sophisticated planning tools to create environmentally healthy communities, champion smart economic growth, open up riverfronts to the public and preserve the valley's inspiring beauty and natural resources.

The Proposed Rule

In order to designate critical habitat, the proposed rule identifies four sets of physical and biological features as essential to Atlantic sturgeon conservation: (1) hard-bottom substrate in low salinity waters for settlement of eggs and early life stages; (2) habitat with certain salinity gradients and soft substrate downstream of spawning sites for juvenile foraging and development; (3) water of appropriate depth between the river mouth and spawning sites that supports movement of juveniles, subadults and adults; and (4) water, especially in the bottom meter of the water column, with proper temperature, salinity and oxygen values that support spawning, survival, and growth of the various life stages. The proposed rule also recognizes threats in the form of barriers and in-water structures, land development, commercial and recreational activities, dredging, global climate change, and water withdrawals and attempts to control flows. These activities are examples of why the features essential to the conservation of the DPSs require special management considerations or protections. Based on these factors, the rule designates four critical habitat units for the New York Bight DPS in the main stems of the Connecticut, Housatonic, Hudson and Delaware Rivers.

Comments

Riverkeeper and Scenic Hudson support the designation of all of the Hudson River, bank to bank, from the Federal Dam in Troy, New York downstream to the mouth of the River at the New York Harbor (the "main stem") as critical habitat for the New York Bight DPS of Atlantic sturgeon.² We also appreciate the inclusion of certain historic locations as critical habitat, such as Haverstraw Bay and the Hyde Park area of the Hudson River.³ Moreover, we support the finding to not exclude any habitat areas based on economic impacts, national security issues, or other impacts of the designation.⁴

² 81 Fed. Reg. at 35,717.

³ 81 Fed. Reg. at 35,705.

⁴ 81 Fed. Reg. at 35,713.

While Riverkeeper and Scenic Hudson commend the current proposal, room for improvement remains. The list of physical features essential for the conservation of Atlantic sturgeon and necessary to support successful reproduction and recruitment for these DPSs should be expanded. Specifically, NMFS should designate soft-bottom waters as essential for the conservation of adult Atlantic sturgeon and expand the habitat components for juvenile Atlantic sturgeon. NMFS should also amend the critical habitat boundaries for the New York Bight DPS to establish marine critical habitat in the Long Island Sound and the New York Bight and to include certain tributaries and tributary segments of the Hudson River. Finally, NMFS must fully evaluate how significant and growing uses of the Hudson River will impact Atlantic sturgeon habitat, and ensure that additional research is conducted regarding the habitat of this species.

**I. NMFS Should Designate Additional Physical and Biological Features
Essential to the Conservation of Atlantic Sturgeon.**

The Endangered Species Act defines critical habitat as those specific areas in the geographical area occupied that “(1) have the physical or biological features essential to the conservation of the listed entity, and (2) may require special management considerations or protections.”⁵ As noted above, the proposed rule lists four physical features essential for the conservation of Atlantic sturgeon belonging to the Gulf of Maine, New York Bight, and Chesapeake Bay DPSs. This list should be expanded as follows:

**A. Soft-bottom waters of the Hudson River estuary should be designated as
critical habitat for adult Atlantic Sturgeon.**

Riverkeeper and Scenic Hudson agree with NMFS’s determination that one conservation objective “is to increase the abundance of each DPS by facilitating increased survival, growth, and physiological development to the adult life stage.”⁶ However, we disagree with NMFS’s failure to designate certain critical habitat for adult Atlantic sturgeon. Soft-bottom waters in the Hudson River, particularly those with “sand waves,” are important habitats for spawning Atlantic sturgeon, not only juveniles.

After many years of work with a wide variety of biologists, researchers, regulators, fishers, and the public, Riverkeeper and Scenic Hudson have learned that soft-bottom waters of the Hudson River estuary, particularly those in close proximity to spawning areas, are essential to the conservation of Atlantic sturgeon. While the proposed designation includes soft-bottom waters for juvenile foraging and development, it fails

⁵ 81 Fed. Reg. at 35,707–08; 16 U.S.C.S. § 1532(5)(A) (Lexis 2016).

⁶ 81 Fed. Reg. at 35,709.

to expressly recognize the need to protect soft-bottom areas that serve as resting and feeding habitats for spawning adults.

Atlantic sturgeon spawn in freshwater rivers and develop in estuaries before migrating to marine waters.⁷ They are an anadromous fish, returning to the same freshwater rivers to reproduce.⁸ Successful recovery of the species depends not only on the successful growth and development in early life stages, but also on the maturation of juvenile fish into adults.⁹ Adult Atlantic sturgeon must then survive long enough, and in great enough numbers, to return to their natal rivers to reproduce.¹⁰ In the Hudson River estuary, sonar images show that Atlantic sturgeon congregate on sand waves in soft-bottom areas near Hyde Park, a popular spawning location.¹¹ It is Riverkeeper and Scenic Hudson's understanding that these soft-bottom areas, particularly the sand waves, play an essential role in conservation by providing resting and feeding habitat for adult Atlantic sturgeon returning to the Hudson River estuary to spawn.

In addition to being necessary for the conservation of the species, soft-bottom areas "may require special management considerations or protections."¹² That criteria refers to either a current requirement for special management considerations or protections or potential future requirements.¹³ Soft-bottom areas are particularly vulnerable to

⁷ 81 Fed. Reg. at 35,703.

⁸ 81 Fed. Reg. at 35,703.

⁹ See NATIONAL MARINE FISHERIES SERVICE, DESIGNATION OF CRITICAL HABITAT FOR THE GULF OF MAINE, NEW YORK BIGHT, AND CHESAPEAKE BAY DISTINCT POPULATION SEGMENTS OF ATLANTIC STURGEON DRAFT BIOLOGICAL INFORMATION AND ESA SECTION 4(B)(2) SOURCE DOCUMENT iii (2016) (characterizing Atlantic sturgeon subadult and adult survival as "essential to the conservation of the [DPSs]"); see also 81 Fed. Reg. at 35,709.

¹⁰ 81 Fed. Reg. at 35,709 (stating "given that Atlantic sturgeon mature late and do not necessarily spawn annually, increased adult survival would improve the chances that adult Atlantic sturgeon spawn more than once").

¹¹ See Attach. 1, Sonar Images of Atlantic Sturgeon Over Soft Substrate (Sand Waves) (June 16, 2016).

¹² 81 Fed. Reg. at 35,707-08; 16 U.S.C.S. § 1532(5)(A) (Lexis 2016).

¹³ 81 Fed. Reg. at 35,708 (stating that "the term 'may' in the phrase 'may require special management considerations or protections' was the focus of two cases in Federal district courts that ruled that features can meet this provision because of either a present requirement for special management considerations or protection or possible future requirements.") (citing *Center for Biol. Diversity v. Norton*, 240 F. Supp. 2d 1090 (D. Ariz. 2003); *Cape Hatteras Access Preservation Alliance v. DOI*, 344 F. Supp. 108 (D.D.C. 2004)).

growing and significant uses, such as dredging and the proposal to establish several anchorage grounds in the mid-Hudson River. These activities, and others mentioned later in these comments, pose a threat to the soft substrate habitat that adult Atlantic sturgeon need for sustenance and protection.¹⁴

While NMFS can and should continue to gather information on adult Atlantic sturgeon habitat, it cannot ignore what it currently knows. In the preamble to the proposed rule, NMFS recognizes that studies show that Atlantic sturgeon feed on benthic organisms found in soft-bottom areas.¹⁵ While Riverkeeper and Scenic Hudson appreciate that the proposed rule recognizes the importance of deep water free from obstructions to support “[s]taging, resting, or holding” areas for spawning fish,¹⁶ we urge NMFS to expressly include soft-bottom areas of the Hudson River estuary, particularly sand waves, in critical habitat designation.

B. The habitat designation components for juvenile sturgeon should include a broader range of environments.

In its rulemaking notice, NMFS admitted to finding it difficult to develop water quality parameters for Atlantic sturgeon due to “[t]he complex relationship between dissolved oxygen, temperature, and salinity, as well as other factors that can affect dissolved oxygen levels in estuaries (e.g., water depth and mixing).”¹⁷ At least one study, which was cited by the agency, has found inconsistent correlations between catches of Atlantic sturgeon and temperature and salinity levels.¹⁸ Moreover, variations in Atlantic sturgeon populations occur seasonally and by location.¹⁹ NMFS should take these variations into account by expanding the designated habitat components to include a *broader* range of environments where Atlantic sturgeon are known to occur. Such an approach is consistent with the precautionary principle and the purposes of the Endangered Species Act.

¹⁴ See, e.g., Attach. 2, Sonar Images of Scour Marks in the Hyde Park Area of the Hudson River (June 29-30, 2014).

¹⁵ 81 Fed. Reg. at 35,709.

¹⁶ 81 Fed. Reg. at 35,717.

¹⁷ 81 Fed. Reg. at 35,708.

¹⁸ John A. Sweka et al., *Juvenile Atlantic Sturgeon Habitat Use in Newburgh and Haverstraw Bays of the Hudson River: Implications for Population Monitoring*, 27 NORTH AMERICAN JOURNAL OF FISHERIES MANAGEMENT 1063 (2007).

¹⁹ *Id.* at 1063–66.

Chiefly, the habitat components should recognize the significance of waters with hard and soft substrate for all life stages. We discussed the need to include soft-bottom waters as critical habitat for adult Atlantic sturgeon above. The proposed rule also differentiates between hard-bottom substrate for spawning and soft-bottom substrate for juvenile foraging and development. That overlooks important evidence indicating that juvenile Atlantic sturgeon are not limited to soft-bottom waters. In one study, while juvenile fish frequently occurred in the waters of Haverstraw Bay with soft substrate, some of the largest catches came from waters in the Bay with hard substrates.²⁰ Therefore, it is possible that juvenile Atlantic sturgeon reside in hard-bottom areas, or at least utilize those areas for migration.²¹ Regardless, the habitat components for developing juvenile sturgeon should include both hard and soft substrates.

Next, NMFS should expand the salinity range for juvenile Atlantic sturgeon to include both lower and higher salinity waters. The proposed rule currently includes a limited salinity range of 0.5 – 30 parts per thousand for foraging and development.²² However, the preamble of the proposed rule states that the Environmental Protection Agency recommends, *inter alia*, salinity levels of 0.0 – 0.5 parts per thousand for larval and juvenile fish, including Atlantic sturgeon.²³ It also mentions that juvenile fish “have been shown to tolerate salinities of 33 parts per thousand.”²⁴ Given this clear evidence of the tolerance of juvenile sturgeon, NMFS should revise the proposed salinity features to include a wider range of habitats.

Finally, NMFS should clarify the temperature range necessary for juvenile and subadult development. The proposed rule includes the following habitat component: “[w]ater, especially in the bottom meter of the water column, with the temperature, salinity, and oxygen values that, combined, support: ... (iii) Larval, juvenile, and subadult growth, development, and recruitment (e.g., 13 °C to 26 °C for spawning habitat and no more than 30 °C for juvenile rearing habitat...).”²⁵ It is unclear whether NMFS considers 13 °C as the lower limit on the temperature range for juvenile rearing habitat. Since evidence indicates that juvenile fish can occur in waters with lower temperatures,²⁶ NMFS should

²⁰ *Id.* at 1065.

²¹ *Id.*

²² 81 Fed. Reg. at 35,717.

²³ 81 Fed. Reg. at 35,708.

²⁴ 81 Fed. Reg. at 35,703.

²⁵ 81 Fed. Reg. at 35,717.

²⁶ 81 Fed. Reg. at 35,703; *see also* Sweka, *supra* note 18, at 1063–64.

revise the proposed rule to clarify that there is no lower limit on the temperature range for juvenile and subadult Atlantic sturgeon. Moreover, NMFS should provide some rationale for its contention that 30 °C is the upper limit of sturgeon temperature tolerance.

II. The Critical Habitat Boundaries of the New York Bight DPS Should be Expanded to Identify Marine Habitats and Include Hudson River Tributaries.

A. Areas of the Long Island Sound and New York Bight should be designated as critical habitat for subadult and adult Atlantic Sturgeon.

NMFS contends that, due to a lack of information, it cannot at this time identify physical or biological features in the marine environment essential to the New York Bight DPS.²⁷ However, evidence indicates that Atlantic sturgeon congregate in the marine waters of the Long Island Sound and the New York Bight, particularly within the 50-meter depth contour.

Marine environments play an important role in the successful recruitment of Atlantic sturgeon.²⁸ Previous surveys of Atlantic sturgeon populations reveal a troubling inconsistency between the abundance of juvenile and adult Atlantic sturgeon populations in and around the Hudson River.²⁹ While surveys show that juveniles are increasing in abundance in the River, mature fish populations in marine waters remain low.³⁰ This inconsistency leads to “a concern that an increase in premigrant juveniles is not resulting in an increased abundance of late juvenile and adult Atlantic sturgeon.”³¹

The New York Bight and the Long Island Sound support adult populations of Atlantic sturgeon from the Hudson River estuary.³² At a minimum, aggregation areas along Long Island should be designated as critical habitat for Atlantic sturgeon. As one study concluded:

²⁷ 81 Fed. Reg. 35709.

²⁸ See Keith J. Dunton et al., *Marine Distribution and Habitat Use of Atlantic Sturgeon in New York Lead to Fisheries Interaction and Bycatch*, 7:1 MARINE AND COASTAL FISHERIES: DYNAMICS, MANAGEMENT, AND ECOSYSTEM SCIENCE 19 (2015).

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.*

³² 81 Fed. Reg. at 35,707.

In addition to protection in the Hudson River, concentrations of Atlantic Sturgeon, combined with the high incidence of bycatch during the spring and fall off western Long Island, indicate the need for spatial and temporal marine fisheries closures to reduce bycatch and allow population recovery. Because several distinct and endangered populations segments are inadvertently caught in the [New York Bight], protecting aggregation areas off Long Island will impact the recovery of significant segments of the Atlantic Sturgeon population.³³

Marine areas are critical to the conservation of Atlantic sturgeon. They spend most of their lives there, where they are vulnerable to various threats, including commercial fishery bycatch, dredging, and vessel strikes. Atlantic sturgeon are known to use inshore marine areas, like mouths of estuaries, bays, inlets, narrow migration corridors along the coast. Such areas have been designated as critical habitat for other species of sturgeon, including green sturgeon and Gulf sturgeon. Marine area designations could be based on known occupied areas (i.e., congregation areas, migration routes), the associated physical habitat conditions in the occupied areas, or more dynamic conditions such as seascapes (i.e., based on ocean color and sea surface temperature).

Continuing uncertainty about adult Atlantic sturgeon habitat is no reason to disregard the best available science. NMFS knows that “[s]ubadult and adult Atlantic sturgeon use marine waters to traverse between estuarine areas, particularly within the 50 meter depth contour.”³⁴ The agency also knows that adult Atlantic sturgeon congregate in marine environments.³⁵ Therefore, known aggregation areas within the 50 meter depth contour should be designated as critical habitat.

B. Additional tributary segments of the Hudson River should be designated as critical habitat for the New York Bight DPS of Atlantic Sturgeon.

The proposed rule would establish critical habitat for the New York Bight DPS of Atlantic sturgeon in the Hudson River from the Federal Dam downstream to where the main stem empties into the New York Harbor.³⁶ While Riverkeeper and Scenic Hudson agree that the main stem of the Hudson River should be designated as critical habitat, tributaries of the river should not be ignored.

³³ Dunton, *supra* note 28, at 31.

³⁴ 81 Fed. Reg. at 35,709.

³⁵ 81 Fed. Reg. at 35,709.

³⁶ 81 Fed. Reg. at 35,705; 81 Fed. Reg. at 35,717.

Tributaries are vital components of the estuarine habitat that Atlantic sturgeon need to reproduce and develop.³⁷ Atlantic sturgeon spawn in freshwater rivers and develop in estuaries before migrating to marine waters.³⁸ They are an anadromous fish, returning to the same freshwater rivers to reproduce.³⁹ New York's Hudson River Estuary Management Act defines the Hudson River estuary as "the tidal waters of the Hudson River, including the tidal waters of its tributaries and wetlands..." from the Federal Dam to the New York Harbor.⁴⁰ The Hudson River Estuary Program, a collaborative effort led by the New York State Department of Environmental Conservation, views the restoration of tributaries as essential to combating the decline of fish populations in the Hudson River, including Atlantic sturgeon.⁴¹ Tributaries are directly connected to the main stem, and conditions in tributaries affect the Hudson River. NMFS should recognize that tidally-connected tributaries are essential to the ecosystem that supports Atlantic sturgeon populations and designate those tributaries as critical habitat.

Riverkeeper and Scenic Hudson urge NMFS to include the tributaries and tributary segments in the following table. We recognize that physical barriers, like dams and

³⁷ New York State Department of Environmental Conservation, *The Atlantic Sturgeon: The Symbol of the Hudson River Estuary*, <http://www.dec.ny.gov/lands/5084.html> (last visited September 1, 2016); NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION HUDSON RIVER ESTUARY PROGRAM, HUDSON RIVER ESTUARY ACTION AGENDA 2015-2020 62 (2015), available at http://www.dec.ny.gov/docs/remediation_hudson_pdf/dhreaa15.pdf (stating that "[t]he estuary serves as a spawning and nursery ground for important fish and shellfish species, such as ... Atlantic and shortnose sturgeon..."). DANIEL E. MILLER, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, HUDSON RIVER ESTUARY HABITAT RESTORATION PLAN iii (2013) (available at http://www.dec.ny.gov/docs/remediation_hudson_pdf/hrhrp.pdf (stating that "[c]oastal migratory fish, such as...Atlantic sturgeon...rely on the Hudson River Estuary for spawning, nursery, and forage habitat.")).

³⁸ 81 Fed. Reg. at 35,703.

³⁹ 81 Fed. Reg. at 35,703.

⁴⁰ N.Y. ENVTL. CONSERV. LAW § 11-0306 (Consol. 2016) (*emphasis added*); New York State Department of Environmental Conservation, *Hudson River Estuary Program Boundaries* (2008), http://www.dec.ny.gov/docs/remediation_hudson_pdf/hrepb.pdf; New York State Department of Environmental Conservation, *The Hudson Estuary: A River That Flows Two Ways*, <http://www.dec.ny.gov/lands/4923.html> (last visited September 1, 2016).

⁴¹ Miller, *supra* note 37, at 8 (stating that "[s]uccessful restoration of high quality spawning, nursery, and refuge habitats in the Hudson River estuary, including tributaries, will allow greater spawning success and survival of young-of-year fish."))

impassible rapids, can impede movement to and from spawning grounds.⁴² For tributaries that contain those types of obstructions, Riverkeeper and Scenic Hudson recommend including the downstream portion as critical habitat.

Tributaries and Tributary Segments

Lents Cove	Ramshorn Creek
Annsville Creek	Catskill Creek below the rapids
Popolopen Creek	Stockport Creek below the dam
Constitution Marsh & Foundry Cove	Coxsackie Creek
Moodna Creek below Route 9W	Schodack Creek
Wappinger Creek below the rapids	Moordener Kill
Rondout Creek below the dam	Normans Kill
Esopus Creek below the dam	Mohawk River below the locks
Jansen Kill below Route 9G	

The proposed rule identifies certain areas of the main stem of the Hudson River where studies have shown that Atlantic sturgeon reproduce and develop. For example, juvenile fish live in the Hudson River estuary from at least Kingston downstream to the Tappan Zee Bridge.⁴³ Several tributaries join the main stem of the Hudson River in that stretch, including Rondout Creek, Wappinger Creek, Moodna Creek, Constitution Marsh & Foundry Cove, Popolopen Creek, Annsville Creek, and Lents Cove. These tributaries and tributary segments below obstructions are directly connected to juvenile critical habitat, and should be included in the designation.

The proposed rule also states that “[s]pawning may occur in multiple sites within the river.”⁴⁴ NMFS specifically identified the Hyde Park area between Kingston and Poughkeepsie as a likely spawning grounds based on scientific studies and historical documentation.⁴⁵ In addition, NMFS recognized an area between Poughkeepsie and Beacon as a likely spawning location because of its similarity to the Hyde Park area in freshwater content and water depth.⁴⁶ Rondout Creek joins the main stem of the Hudson River just upstream of Hyde Park and Wappinger Creek joins the main stem between Poughkeepsie and Beacon. The proximity of these tributaries to likely

⁴² 81 Fed. Reg. at 35,717.

⁴³ 81 Fed. Reg. at 35,706.

⁴⁴ 81 Fed. Reg. at 35,706.

⁴⁵ 81 Fed. Reg. at 35,705.

⁴⁶ 81 Fed. Reg. at 35,705.

spawning grounds provides additional support for including them in the critical habitat designation.

Furthermore, NMFS recognizes the possibility that, in addition to a spring spawning season, the New York Bight DPS of Atlantic sturgeon may spawn in the fall.⁴⁷ If so, "it is likely that the fall spawning would occur or would have occurred further upstream than the locations for spring spawning in rivers."⁴⁸ Therefore, tributaries and tributary segments below obstructions further upstream, including Esopus Creek, Jansen Kill, Ramshorn Creek, Catskill Creek, Stockport Creek, Coxsackie Creek, Schodack Creek, Moordener Kill, Normans Kill, and the Mohawk River should be considered in the critical habitat designation.

Water quality data that Riverkeeper collects and maintains for some tributaries show no reason to exclude them from the critical habitat designation. According to the proposed rule, "[t]he physical features essential for the conservation of [the DPSs of Atlantic sturgeon] are those habitat components that support successful reproduction and recruitment."⁴⁹ Hard-bottom substrate and low salinity (0.0 – 0.5 parts per thousand) waters are the essential habitat components for spawning and early life stages.⁵⁰ Gradually increasing salinity (0.5 – 30 parts per thousand) and soft substrate are the essential habitat components for juvenile life stages.⁵¹ Additional habitat components include water of sufficient depth with no physical barriers to allow adult and juvenile fish to move freely, and suitable temperature, salinity, and oxygen levels for all life stages.⁵² At least three years of salinity and temperature data for Annsville Creek, Wappinger Creek, Rondout Creek, Esopus Creek, Catskill Creek, and the Mohawk River all fall within the habitat component ranges for spawning and early life and/or juvenile stages of Atlantic sturgeon.⁵³

Riverkeeper and Scenic Hudson urge NMFS to include this broader set of tributaries and tributary segments as critical habitat. Should NMFS choose not to do so, we ask

⁴⁷ 81 Fed. Reg. at 35,704.

⁴⁸ 81 Fed. Reg. at 35,704.

⁴⁹ 81 Fed. Reg. at 35,717.

⁵⁰ 81 Fed. Reg. at 35,717.

⁵¹ 81 Fed. Reg. at 35,717.

⁵² 81 Fed. Reg. at 35,717.

⁵³ See Riverkeeper, Inc., Hudson River Data, <http://www.riverkeeper.org/water-quality/hudson-river/> (last visited September 1, 2016).

that the agency explain its rationale for omitting these vital components of the Hudson River estuary from the critical habitat designation.

III. NMFS Should Evaluate How Significant and Growing Uses of the Hudson River Will Adversely Affect Atlantic Sturgeon Critical Habitat.

Riverkeeper and Scenic Hudson agree that certain structures and activities, including barriers and in-water structures, land development, commercial and recreational activities, dredging, climate change, and water withdrawals illustrate why and how the physical features essential for successful reproduction and recruitment of Atlantic sturgeon may require special management.⁵⁴ We also agree that many activities, including those previously mentioned, will adversely affect critical habitat for Atlantic sturgeon.⁵⁵

Riverkeeper and Scenic Hudson request that specific language be included in the final rule to address known, significant, and growing uses that will adversely impact Atlantic sturgeon habitat in the Hudson River. These uses should be fully evaluated, as they demonstrate why the physical features that are essential to the conservation of Atlantic sturgeon may require special management considerations or protections. They include: major oil storage facilities; public/private utilities such as petroleum and gas pipelines; horizontal directional drilling; proposed additional tug and barge anchorages, including those for refined and crude oil transport barges; bulkhead permits; and local waterfront revitalization initiatives. The unique and localized impacts from large water intake facilities and drinking water intakes on the Hudson River should also be fully examined. These additional considerations further support NMFS's conclusion that the combination of physical features and the need for special management warrant the designation of critical habitat in the occupied geographical area of the DPSs.

IV. Continued Research Is Necessary for Full Understanding of the Species.

Finally, while we believe this designation is appropriate given our current knowledge about the species biology, there is a need for continued research to fill many of the gaps in the available information. Therefore, we urge the National Oceanic and Atmospheric Administration and NMFS to:

- Continue supporting research into the biology and habitat needs of the species, including the potential use of additional habitats, such as tidal tributaries to the main stem rivers, to improve the chances of species recovery;

⁵⁴ 81 Fed. Reg. at 35,709.

⁵⁵ 81 Fed. Reg. at 35,713.

**Comments of Riverkeeper, Inc., and Scenic Hudson, Inc.
on the Designation of Critical Habitat for Atlantic Sturgeon
by the National Marine Fisheries Service.**

September 1, 2016

- Continue to support research to characterize the important physical and biological habitat features of marine environments for subadult and adult Atlantic sturgeon, and to understand the importance of marine migration routes and congregation areas to rates of survival and spawning; and
- Ensure there is an avenue to regularly update the critical habitat designation with new information.

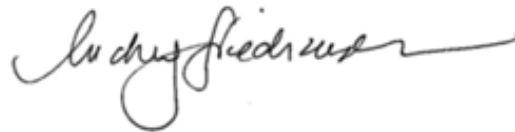
In sum, Riverkeeper and Scenic Hudson appreciate and support the proposal to designate the entire main stem of the Hudson River as critical habitat for the New York Bight DPS of Atlantic sturgeon. However, we also urge NMFS to expand the critical habitat designation as discussed above, and to fully evaluate the range of adverse impacts associated with significant and growing uses on the Hudson River. Finally, we urge NMFS to continue to research this important species and update the critical habitat designation if warranted.

On behalf of our members and our constituents, we thank you for the opportunity to comment on the proposed critical habitat designation. Please do not hesitate to contact us if you have any questions.

Sincerely,



John Parker
Director of Legal Programs
Riverkeeper, Inc.

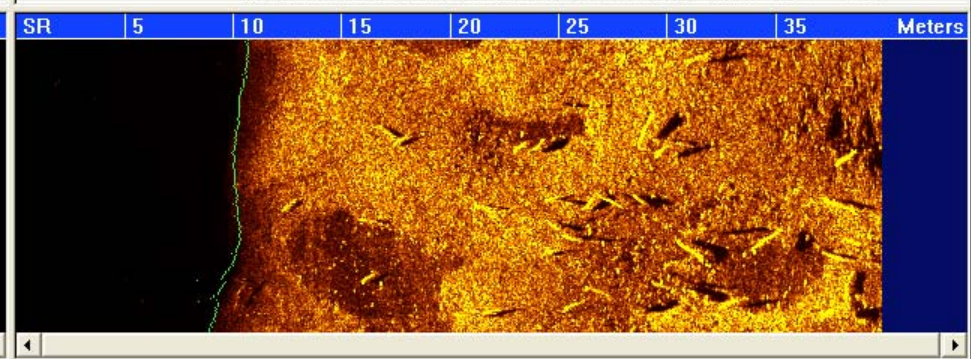
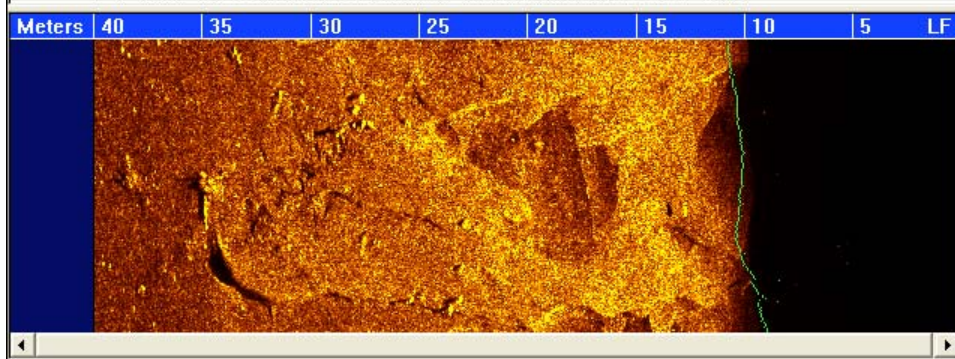
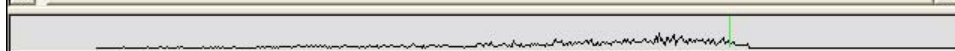
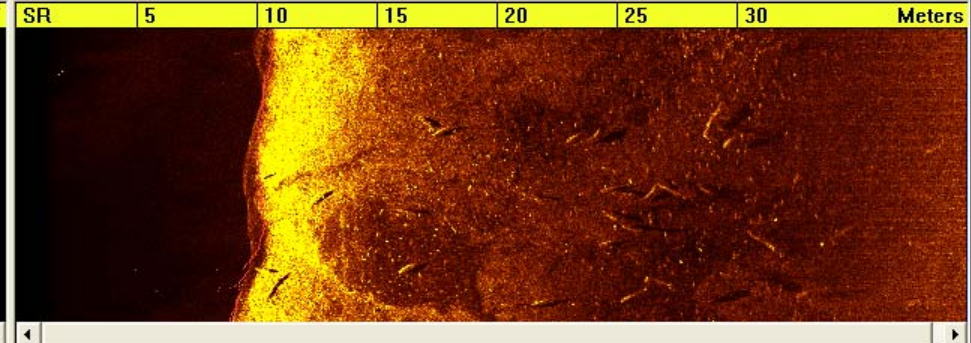
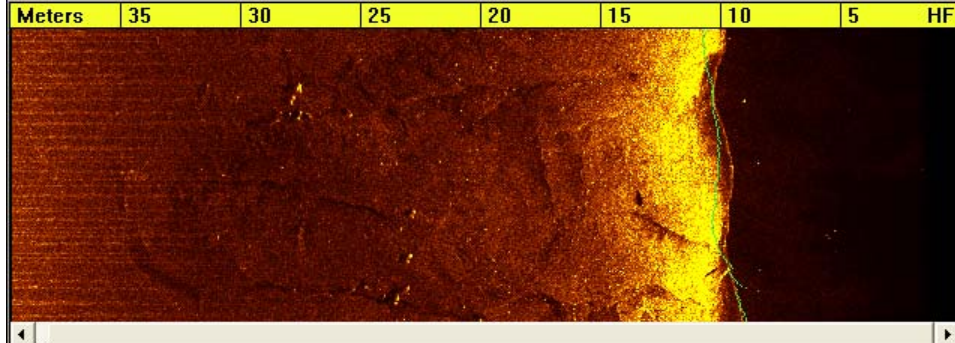


Audrey Friedrichsen, Esq., LL.M.
Land Use and Environmental
Advocacy Attorney
Scenic Hudson, Inc.

Joined by:

Daniel E. Estrin
General Counsel & Legal Director
Waterkeeper Alliance

ATTACHMENT 1



High:	Normalize	Gain (dB): 71	TVG (dB/100M): 90	Max TVG (dB): 85	Compression (dB): 0	Starboard Gain (dB): 0	Video Gain: 71.0 71.0
Low:	Normalize	Gain (dB): 40	TVG (dB/100M): 60	Max TVG (dB): 55	Compression (dB): 0	Starboard Gain (dB): 0	Video Gain: 40.0 40.0

EdgeTech Discover - 4125D Dual Frequency Side-Scan

File View Configuration Control Help

Off 40 + N 40 + T 60 + Off 40 + N 69 + T 90 +

Meters 35 30 25 20 15 10 5 HF SR 5 10 15 20 25 30 Meters

Meters 40 35 30 25 20 15 10 5 LF SR 5 10 15 20 25 30 35 Meters

Towfish Control Video Gains Display Disk Bottom Track Grids Image Capture Printer Status

High: Normalize Gain (dB): 69 TVG (dB/100M): 90 Max TVG (dB): 85 Compression (dB): 0 Starboard Gain (dB): 0

Low: Normalize Gain (dB): 40 TVG (dB/100M): 60 Max TVG (dB): 55 Compression (dB): 0 Starboard Gain (dB): 0

Video Gain: 69.0 69.0 40.0 40.0

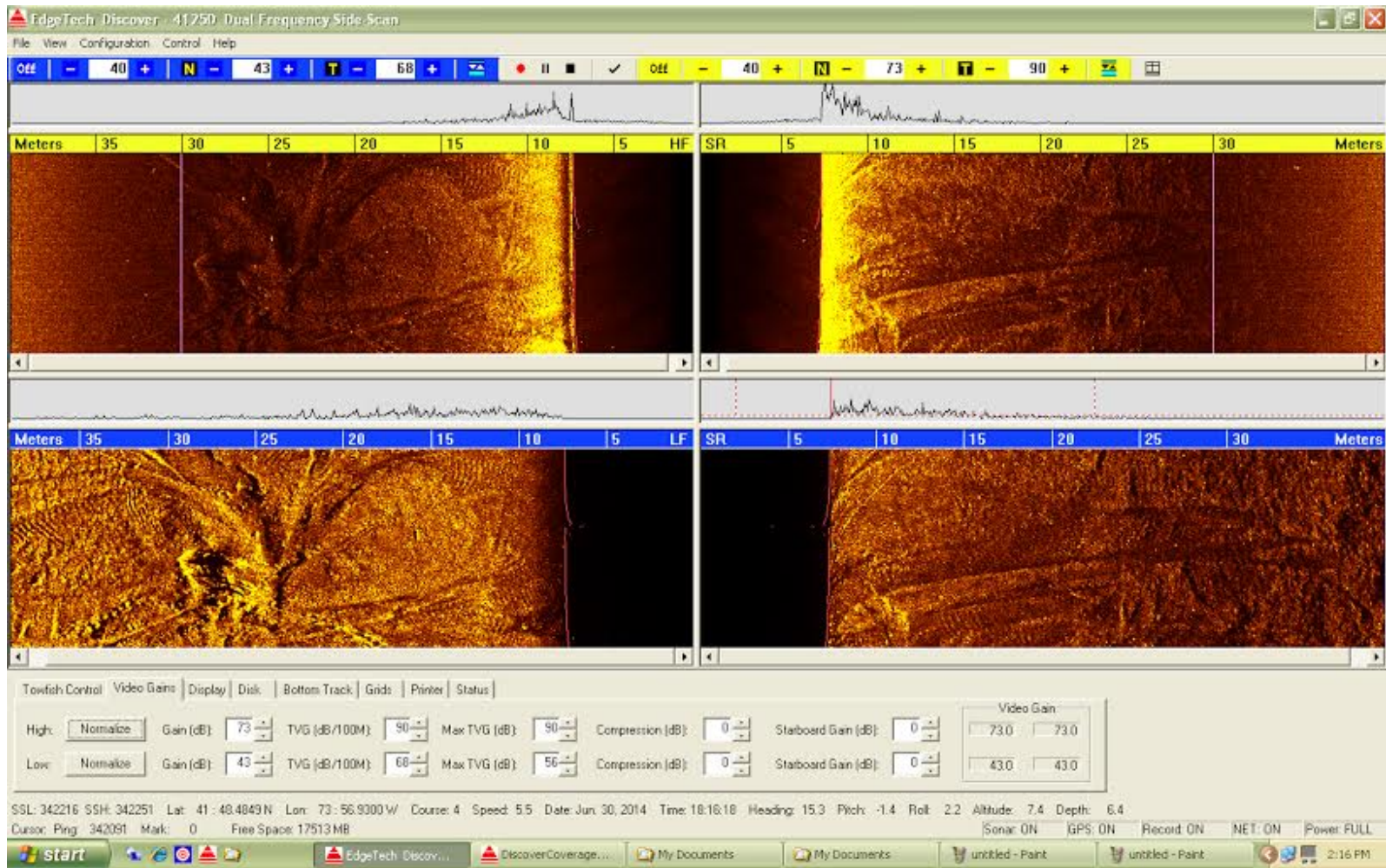
SSL: 105752 SSH: 105821 Lat: 41 : 46.8093 N Lon: 73 : 56.9824 W Course: 10.19 Speed: 4.79 ATD: 0.14 Heading: 26.6 Pitch: -3.1 Roll: -1.1 Altitude: 6.8 Depth: 8.1 SV: 1500

Cursor: Ping: 105576 Mark: 0 Date: Jun. 16, 2016 Time: 15:11:28 Free Space: 159834 MB Sonar: ON GPS: ON Record: ON NET: ON Power: FULL

start EdgeTech Discover - ... DiscoverCoverageMa... sturgeon_example_4... 11:11 AM

ATTACHMENT 2

Scour Marks Hyde Park



EdgeTech Discover - 41250 Dual Frequency Side-Scan

File View Configuration Control Help

Off 40 + N 41 + T 80 + Off 40 + N 72 + T 90 +

Meters 35 30 25 20 15 10 5 HF SR 5 10 15 20 25 30 Meters

Meters 35 30 25 20 15 10 5 LF SR 5 10 15 20 25 30 Meters

Towfish Control Video Gains Display Disk Bottom Track Grids Printer Status

High: Normalize Gain (dB): 72 TVG (dB/100M): 90 Max TVG (dB): 75 Compression (dB): 0 Starboard Gain (dB): 0

Low: Normalize Gain (dB): 41 TVG (dB/100M): 60 Max TVG (dB): 56 Compression (dB): 0 Starboard Gain (dB): 0

Video Gain: 72.0 72.0 41.0 41.0

SSL: 117707 SSH: 117765 Lat: 41:48.4867 N Lon: 73:56.6315 W Course: 187 Speed: 5.0 Date: Jun. 30, 2014 Time: 14:08:43 Heading: 197.0 Pitch: -1.0 Roll: 1.7 Altitude: 7.7 Depth: 7.4

Cursor: Ping: 117546 Mark: 0 Free Space: 37068 MB Sonar: ON GPS: ON Record: ON NET: ON Power: FULL

start EdgeTech Discover - ... DiscoverCoverageMa... My Documents My Documents 10:08 AM

EdgeTech Discover - 4125D Dual Frequency Side Scan

File View Configuration Control Help

off - 40 + N - 40 + T - 85 + off - 40 + N - 70 + T - 90 +

Meters 30 25 20 15 10 5 HF SR 5 10 15 20 25 Meters

Meters 35 30 25 20 15 10 5 LF SR 5 10 15 20 25 30 Meters

Towfish Control Video Gain Display Disk Bottom Track Grids Printer Status

High: Normalize Gain (dB) 70 TVG (dB/100M) 90 Max TVG (dB) 75 Compression (dB) 0 Starboard Gain (dB) 0

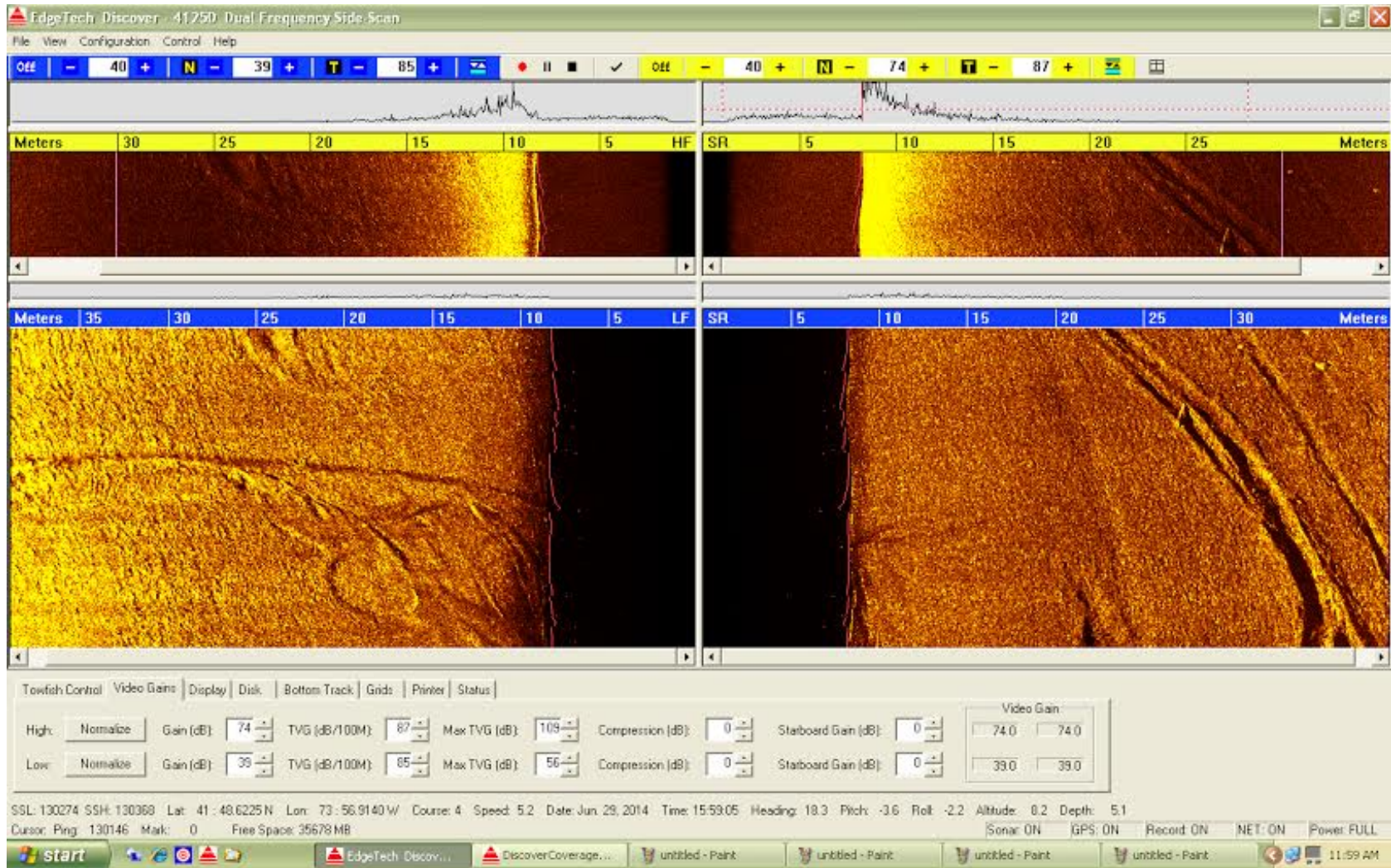
Low: Normalize Gain (dB) 40 TVG (dB/100M) 85 Max TVG (dB) 56 Compression (dB) 0 Starboard Gain (dB) 0

Video Gain: 70.0 70.0 40.0 40.0

SSL: 207936 SSH: 208050 Lat: 41 - 48.1570 N Lon: 73 - 56.8598 W Course: 4 Speed: 4.7 Date: Jun 29, 2014 Time: 17:32:01 Heading: 22.0 Pitch: -2.3 Roll: 1.0 Altitude: 8.5 Depth: 6.9

Cursor: Ping 207735 Mark: 0 Free Space: 29043 MB Sonar: ON GPS: ON Record: ON NET: ON Power: FULL

start EdgeTech Db... DiscoverCave... untitled - Paint untitled - Paint untitled - Paint untitled - Paint untitled - Paint 1:32 PM



EdgeTech Discover - 41750 Dual Frequency Side Scan

File View Configuration Control Help

Off - 40 + N - 40 + T - 85 + Off - 40 + N - 74 + T - 87 +

Meters 30 25 20 15 10 5 HF SR 5 10 15 20 25 Meters

Meters 35 30 25 20 15 10 5 LF SR 5 10 15 20 25 30 Meters

Towfish Control Video Gain Display Disk Bottom Track Grids Printer Status

High: Normalize Gain (dB): 74 TVG (dB/100M): 87 Max TVG (dB): 109 Compression (dB): 0 Starboard Gain (dB): 0

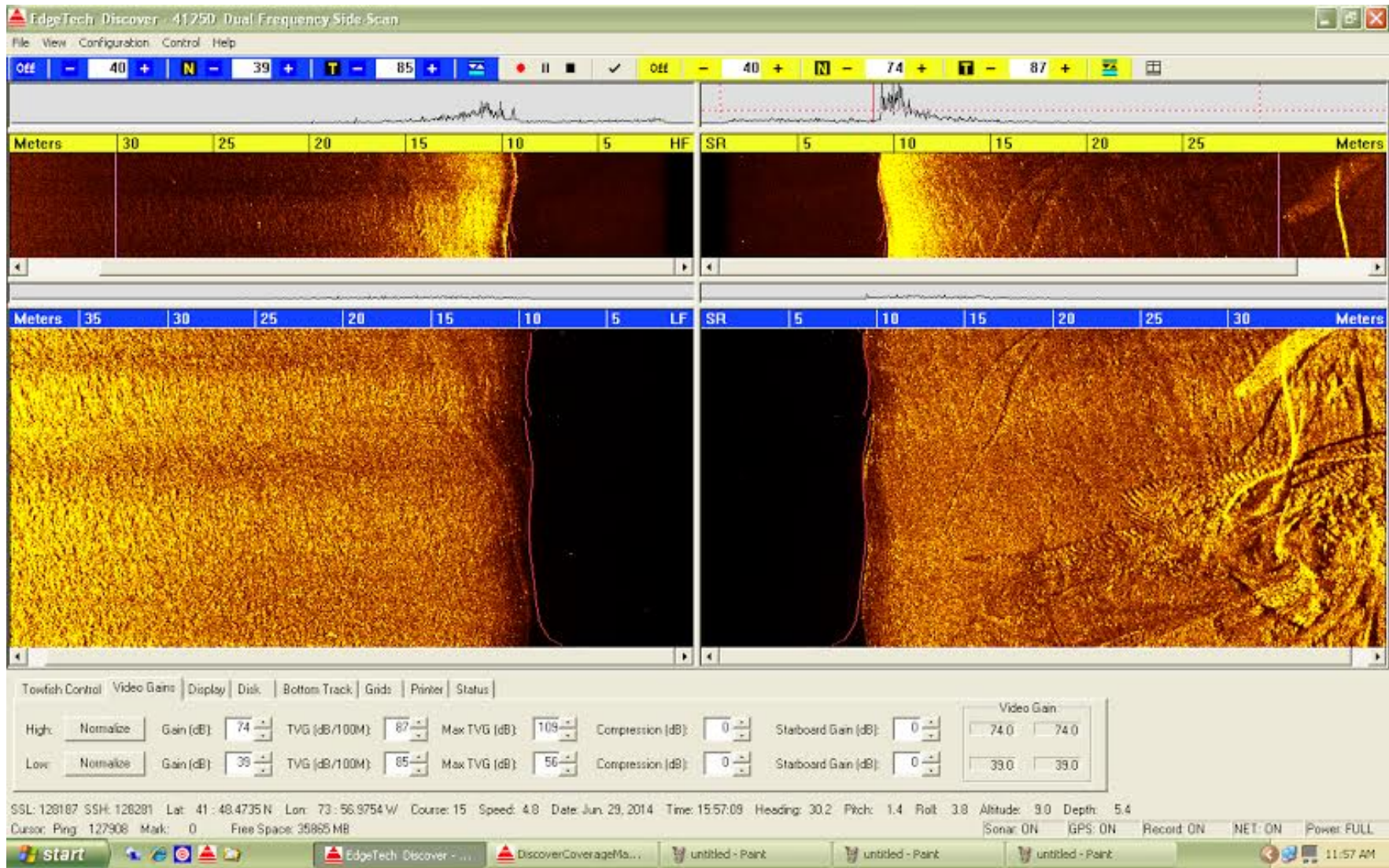
Low: Normalize Gain (dB): 40 TVG (dB/100M): 85 Max TVG (dB): 56 Compression (dB): 0 Starboard Gain (dB): 0

Video Gain: 74.0 74.0 40.0 40.0

SSL: 124795 SSH: 124809 Lat: 41: 48.2159 N Lon: 73: 56.9740 W Course: 354 Speed: 5.1 Date: Jun. 29, 2014 Time: 15:54:00 Heading: 6.4 Pitch: -3.4 Roll: 0.7 Altitude: 7.9 Depth: 5.1

Cursor: Ping: 124537 Mark: 0 Free Space: 36174 MB Sonar: ON GPS: ON Record: ON NET: ON Power: FULL

start EdgeTech Discover - ... DiscoverCoverageMs... untitled - Paint untitled - Paint 11:54 AM



Anchor from Ship