



8950 Martin Luther King Jr. Street N. #202
St. Petersburg, Florida 33702-2211
Tel: (727) 563-9070
Fax: (727) 563-0207
Email: MRAG.Americas@mragamericas.com

President: Andrew A. Rosenberg, Ph.D.

US Atlantic Spiny Dogfish, Winter and Little skate fishery

1st Surveillance Report for Winter and Little skate, 2nd Surveillance Report for Spiny Dogfish

Prepared for
Sustainable Fisheries Association
Certificate No: MSC-F-30033

MRAG Americas, Inc.
July 26th, 2021

Conformity Assessment Body (CAB)	MRAG Americas, Inc.
Assessment team	Amanda Stern-Pirlot, Erin Wilson and Dr. Joseph Powers
Fishery client	Sustainable Fisheries Association
Assessment type	2 nd for spiny dogfish; 1 st for winter and little skate
Date	July 26 th , 2021

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2 Glossary

ABC	Acceptable Biological Catch
ACL	Annual Catch Limit
ACT	Annual Catch Target
ALWTRP	Atlantic Large Whale Take Reduction Plan
AM	Accountability Measures
ASMFC	Atlantic States Marine Fisheries Commission
CV	Coefficient of Variation
DAM	Dynamic Area Management
DAS	Days-at-Sea
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
ETP	Endangered, Threatened or Protected
F	Fishing Mortality
FMP	Fishery Management Plan
GARFO	Greater Atlantic Regional Fisheries Office
LOA	Letter of Authorization
LOF	List of Fisheries
MAFMC	Mid-Atlantic Fishery Management Council
Mlb	Million pounds
MMPA	Marine Mammal Protection Act
MSY	Maximum Sustainable Yield
NARW	North Atlantic Right Whale
NEFMC	New England Fishery Management Council
NEFSC	New England Fishery Science Center
OSP	Optimum Sustainable Population
PBR	Potential Biological Removal
PDT	Plan Development Team
SBRM	Standard Bycatch Reporting Methodology
SSB	Spawning Stock Biomass
TAC	Total Allowable Catch
TAL	Total Allowable Landings
UoA	Unit of Assessment
USCG	United States Coast Guard
VMS	Vessel Monitoring System
WWF	World Wildlife Fund

3 Executive summary

This report contains the findings of the second surveillance cycle in relation to the US Spiny Dogfish fishery, and first surveillance for the winter and little skate. A remote surveillance audit was carried out on April 20 – 23rd, with follow-up and closing meetings on May 27th, 2021. The US Spiny Dogfish, winter and little skate fishery is currently certified under the Marine Stewardship Council (MSC).

No issues were identified, and no changes in the fishery occurred that would result in a change in certification from the full assessment. The four conditions of certification that were put in place in the full assessment completed in 2018 have been closed as of this 2nd surveillance, and the relevant Principle 2 performance indicators have been rescored. There is a supplemental explanation of the closing of the conditions pertaining to North Atlantic right whales in the gillnet UoA contained in the P2 section and conditions progress sections of the report. Regarding the Principle 1 conditions for winter and little skate that were raised during the skate scope extension assessments, all Management Track Stock Assessments that were scheduled for 2022 were deferred due to COVID-19. These stock assessments are necessary to report on the required progress for the two conditions. However, these conditions are still ‘on track’ due to the MSC derogations that extended deadlines on conditions by 12 months because of COVID-19.

MRAG Americas confirms that this fishery continues to meet the MSC Fisheries Standard and shall remain certified.

4 Report details

4.1 Surveillance information

Table 1 Surveillance information

1	Fishery name	
	US Atlantic spiny dogfish, winter skate and little skate	
2	Unit(s) of Assessment (UoA)	
	Species: Spiny dogfish (<i>Squalus acanthias</i>), winter skate (<i>Raja ocellata</i>), little skate (<i>Raja erinacea</i>) Fishing gear: Gillnets, longlines and bottom trawls Client group: Sustainable Fisheries Association Geographical area: State and federal waters off the Atlantic coast of the U.S.A., FAO Region 21 Stock: US Atlantic spiny dogfish, winter skate and little skate, Atlantic stock	
3	Date certified	Date of expiry
	22/05/2018	21/11/2023
4	Surveillance level and type	
	<ul style="list-style-type: none"> - Indicate surveillance level and type, e.g. Surveillance level 4, off-site surveillance audit (FCP v2.2 7.28.1-7.28.7). - If surveillance activity has changed from what was indicated in the surveillance program in the PCDR or a previous surveillance report, also note that this is the case and provide updated surveillance program in Appendix 2. - Not applicable for Expedited Audit Reports 	
	Level 2, Off-site Surveillance activity has changed. See Appendix 2 for details.	
5	Surveillance number	
	1st Surveillance	
	2nd Surveillance	X
	3rd Surveillance	
	4th Surveillance	
	Other (expedited etc)	
6	Surveillance team leader	
	<ul style="list-style-type: none"> - Indicate name of team leader and areas that they are responsible for. Explain how they meet the competency criteria (FCP v2.2 7.28.14.1-7.28.14.4, 7.29.4.1.a). If relevant, indicate whether team leader will be on-site or off-site. 	
	Ms. Amanda Stern-Piriot will serve as team leader for the assessment. Amanda is an M.Sc graduate of the University of Bremen, Center for Marine Tropical Ecology (ZMT) in marine ecology and fisheries biology. Ms. Stern-Piriot joined MRAG Americas in mid-June 2014 as MSC Certification Manager (now Director of	

	<p>the Fishery Certification Division) and is currently serving on several different assessment teams as team leader and team member. She has worked together with other scientists, conservationists, fisheries managers and producer groups on international fisheries sustainability issues for over 15 years. With the Institute for Marine Research (IFM-GEOMAR) in Kiel, Germany, she led a work package on simple indicators for sustainable within the EU-funded international cooperation project INCOFISH, followed by five years within the Standards Department at the Marine Stewardship Council (MSC) in London, developing standards, policies and assessment methods informed by best practices in fisheries management around the globe. Most recently she has worked with the Alaska pollock industry as a resources analyst, within the North Pacific Fisheries Management Council process, focusing on bycatch and ecosystem-based management issues, and managing the day-to-day operations of the offshore pollock cooperative. She has co-authored a dozen publications on fisheries sustainability in the developing world and the functioning of the MSC as an instrument for transforming fisheries to a sustainable basis.</p> <p>MRAG Americas confirms that Ms. Stern-Pirlot meets the competency criteria in Annex PC for team leader as follows:</p> <ul style="list-style-type: none"> • She has an appropriate university degree and more than three years' experience in management and research in fisheries; • She has passed the MSC team leader training; • She has the required competencies described in Table PC1, section 2; • She has passed the MSC Traceability training module; • She meets ISO 19011 training requirements; • She has undertaken two fishery assessments as a team member in the last five years, and • She has experience in applying different types of interviewing and facilitation techniques and is able to effectively communicate with clients and other stakeholders. <p>In addition, she has the appropriate skills and experience required to serve as a Principle 2 assessor as described in FCP Annex PC table PC3.</p> <p>MRAG Americas confirms that Ms. Stern-Pirlot has no conflicts of interest in relation to the fishery under assessment.</p>
7	<p>Surveillance team members <i>[remove if not applicable]</i></p>
	<p>- If more than one auditor, also list additional auditors and explain how they meet competency criteria (FCP v2.2 7.28.14.1-7.28.14.4, and 7.29.4.1.a If relevant, indicate which auditors are on-site and which are off-site.</p>
	<p>Dr. Joseph E. Powers has been involved in fisheries issues for more than 40 years, conducting stock assessments, coordinating international stock assessment research, communicating scientific advice to fishery management councils and commissions and also serving as the senior marine fisheries manager in the southeast US. His background includes: professor of marine resource assessment at Louisiana State University; Senior Stock Assessment Scientist of the US's National Marine Fisheries Service (NMFS) southeast region, Laboratory Director of a NMFS facility; lead US scientist for Atlantic tuna, swordfish and billfish species for the International Commission for the conservation of Atlantic Tunas (ICCAT); Chair of the Scientific Committee of ICCAT; Chair of the Stock Assessment Committee for Southern Bluefin Tuna; Chair of the Scientific Committee of the Gulf of Mexico Fisheries Management Council and he has worked on numerous Marine Stewardship Council assessments of tunas, swordfish, hake and other fisheries resources in the Atlantic, Pacific and Indian Oceans.</p> <p>MRAG Americas confirms that Dr. Powers meets the competency criteria in Annex PC for team members as follows:</p> <ul style="list-style-type: none"> • He has an appropriate university degree and more than three years' experience in management or research in fisheries; • He has undertaken at least two MSC fishery assessments or surveillance site visits in the last five years; • He is able to score a fishery using the default assessment tree and describe how conditions are set and monitored; • He has passed the MSC's fishery team member training course. <p>In addition, he has the appropriate skills and experience required to serve as a Principle 1 and Principle 3 assessor as described in FCP Annex PC table PC3, and MRAG Americas confirms he has no conflicts of interest in relation to the fishery under assessment.</p>

	<p>Ms. Erin Wilson joined MRAG Americas, Inc. in February 2015, where she currently works as a Senior Fisheries Consultant and Program Manager. She has collaborated as a team member on several MSC assessments and is team leader for all the Alaska Groundfish fisheries and the West Coast Groundfish limited entry trawl fishery. She provides routine audit services for the International Seafood Sustainability Foundation (ISSF) and is the MRAG Project Manager for the ISSF ProActive Vessel Registry (PVR). Prior to joining MRAG Americas, she worked at the Oregon Department of Fish and Wildlife (ODFW) as a Natural Resource Specialist and Biological Technician for the Oregon Marine Reserves. She has collaborated on a multitude of projects that focus on marine science and conservation in both a biological and social science aspect. She received a M.Sc. in Marine Resource Management from Oregon State University and a B.S. in Zoology from Colorado State University, along with a Spanish minor.</p> <p>MRAG Americas confirms that Ms. Wilson meets the competency criteria in Annex PC for team members as follows:</p> <ul style="list-style-type: none"> • She has an appropriate university degree and more than three years' experience in management or research in fisheries; • She has undertaken at least two MSC fishery assessments or surveillance site visits in the last five years; • She is able to score a fishery using the default assessment tree and describe how conditions are set and monitored; • She has passed the MSC's fishery Team Leader training course; • She has passed the MSC Traceability training module. <p>In addition, she has the appropriate skills and experience required to serve as a Principle 3 assessor as described in FCP Annex PC table PC3, and MRAG Americas confirms she has no conflicts of interest in relation to the fishery under assessment.</p> <p>The whole assessment team collectively meets the requirements as described in FCP Annex PC table PC3.</p> <p>A discussion between team members regarding conflict of interest and biases was held and none were identified.</p>
8	Audit/review time and location
	<ul style="list-style-type: none"> - Time and dates of surveillance or expedited audit activities. Location activities will be carried out (if off site or review of new information, this could be from CAB/auditor office).
	A remote surveillance audit was held April 20 – 23 rd and May 27 th , 2021.
9	Assessment and review activities
	<ul style="list-style-type: none"> - What was assessed/reviewed during the audit.
	The surveillance reviewed any changes in science and management, and monitored progress required for closing conditions.
10	Stakeholder opportunities
	<ul style="list-style-type: none"> - Include link to MSC Template for Stakeholder Input into Surveillance Audits (not applicable for expedited audits). - Inform stakeholders that during the surveillance audit all team members are available to meet either in person or remotely (FCP v2.2 7.28.15.b).
	<p>All team members were available to meet remotely (FCP v2.2 7.28.15.b).</p> <p>Provide input or comments to the team regarding the Surveillance Audit. Stakeholders must use the MSC Template for Stakeholder Input into Surveillance Audits v1.0.</p>

4.2 Background

Impacts of COVID 19

The most noted impact of COVID 19 on spiny dogfish and winter and little skates is the lack of survey data in 2020. In addition to the lack of 2020 data, the observer program was also temporarily suspended. This is expected to impact the data used to set Acceptable Biological Catch (ABCs) in the future.

For winter and little skates, the NEFMC stated that because skate specifications are done on a two-year basis, the Plan Development Team (PDT) is developing recommendations on how to account for data gaps and will make a final decision on that action in September of 2021. It was also noted that a management track assessment for the Northeast Skate Complex was expected to be completed during the pandemic, however it was postponed until 2023.

For spiny dogfish, no real changes in terms of catch were reported. MAFMC noted that end of the year fall/winter fishery didn't occur very much, and that was largely attributed to Virginia. Virginia had a low fishing year because of a new shrimp fishery that is inshore and apparently easy in terms of attainability, which became the preference of many dogfish fishermen (J. Didden, personnel communication, April 23rd, 2021).

4.2.1 Principle 1: Stock status updates

Current Status Little and Winter Skate

Annual evaluations of the status of little and winter skate (as well as other skates in the complex) are based upon survey biomass indices. The most recent survey results are given in Figure 1. As noted above, due to Covid restrictions, the surveys were not conducted in 2020. The 2021 spring survey was conducted, and the fall survey is expected to occur, as well. The missing 2020 data is expected to add to the uncertainty. However, there have been missing years before for other reasons, and because the decision rule is based on a 3-year running average (see below), it is expected that the impact will be limited.

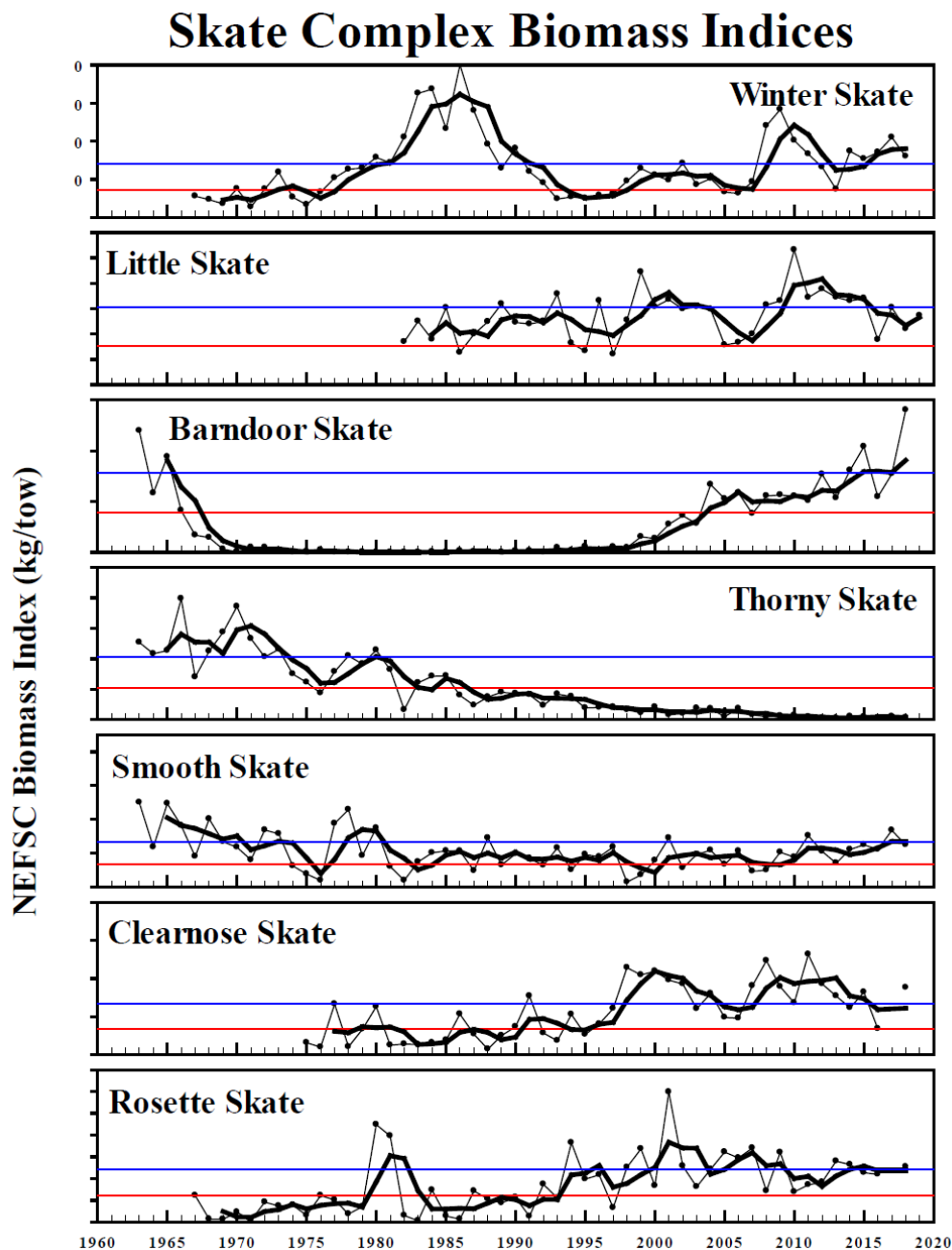


Figure 1 NEFSC survey biomass indices (kg/tow). Thin lines with symbols are annual indices, thick lines are 3-year moving averages, and the thin horizontal lines are the biomass thresholds NEFMC, 2020).

The 3-year moving average of the little skate biomass index has been above the threshold for the entire time series and has fluctuated around the target for approximately the last two decades. Under the current definition, a stock of skates is designated as overfished when the three-year moving average of the NEFSC survey index is less than $B_{THRESHOLD}$, the survey index estimates of the recommended biomass-based reference points (NEFMC 2020). If the three-year moving average of the survey biomass index for a skate species declines by more than the average coefficient of variation (CV) of the survey time series, then fishing mortality is assumed to be greater than F_{msy} and overfishing is occurring.

For little skate, the 2017-2019 NEFSC spring average biomass index of 5.32 kg/tow was above the biomass threshold reference point (3/07 kg/tow), but below the B_{msy} proxy (6.15 kg/tow). The 2017-19 average index was above the previous average (2016-2018) by 13.4%. This stock is not overfished, and overfishing is not occurring (NEFMC 2020).

For winter skate, the 2017-2019 NEFSC fall average biomass index of 8.61 kg/tow is above the biomass threshold reference point (2.83 kg/tow) and above the B_{MSY} proxy (5.66 kg/tow). The 2017-2019 average index is above the 2016-2018 index by 19.2%. This stock is not overfished, and overfishing is not occurring (NEFMC 2020).

These surveys and the associated decision rule were the basis of acceptable biological catch (ABC) and total allowable catch (TAC) determinations for 2020-2023.

Research on Index-Based Methods (NEFSC 2020) was conducted to evaluate alternative approaches for control rules. The skate were among the many stocks used to characterize a set of simulations to determine ABCs. Results were inconclusive in regard to skates. However, the simulations were not structured specifically for the skate stocks. It is expected that simulation framework developed through this research effort will be used to test the skate method under scenarios that more closely adhere to the skate catch history. This will be done as the lead-in to the skate Management Track Stock Assessment scheduled for 2023. Note that the Management Track Stock Assessment was originally scheduled for 2022 but was deferred due to Covid.

Current Spiny Dogfish

Trends in spawning stock biomass (SSB) form the basis of the stock status assessment which are a result of the NEFSC spring bottom trawl survey. Calculations were done to convert the survey data into swept-area estimates of SSB. Based on these results, reference points and status relative to those points were determined.

The SSB_{msy} reference point defines when the stock is rebuilt (above SSB_{msy}) and overfished (below $\frac{1}{2}$ SSB_{msy}). For spiny dogfish, SSB_{msy} is defined as the spawning stock biomass that maximizes recruitment (SSB_{max}) in the stock assessments Stock-Recruitment model. SSB_{max} is estimated to be 159,288 mt (351 million pounds (Mlb)) with $\frac{1}{2}$ of that target corresponding to the biomass threshold (79,644 mt; 176 Mlb). The current status of spiny dogfish remains that the stock is not overfished and not undergoing overfishing (SSB is above the SSB threshold and below the FSSB threshold; Figure 2). However, recent trends in SSB indicate that the SSB is below SSB_{msy} and has not been fluctuating around SSB_{msy} in recent years (this condition is not new to this surveillance in that it has been monitored over the last few years). Debate remains about the accuracy of the 2017 survey, which was very low. However, it was and is included in the assessment with the knowledge that it increases the uncertainty in the status determinations.

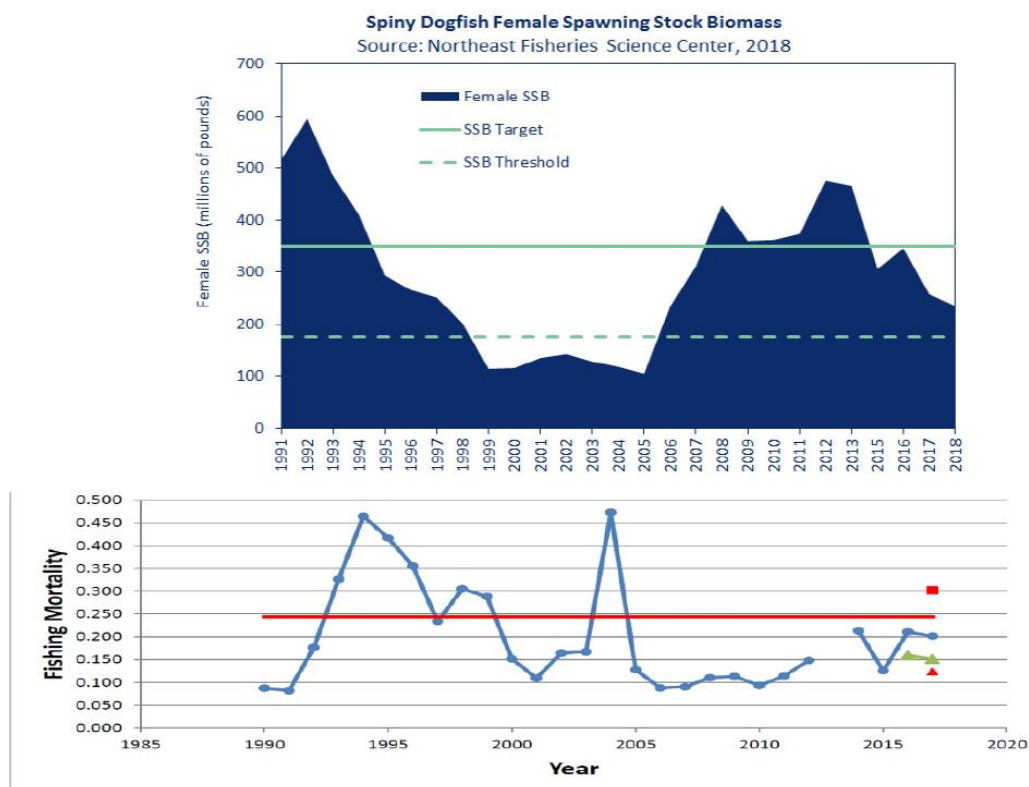


Figure 2 Upper Panel: SSB status relative to target and threshold. Lower Panel: Fishing mortality rates relative to the F threshold of 0.2439

The 2018 assessment determined that the fishing mortality rate was below the overfishing threshold, and that the SSB was above the overfished threshold but below the target. Given those results, the harvest level chosen reduced the target catch by 40% from the catch at F_{msy} (P*-40%) as per the Council's harvest strategy and control rule. This resulted in a reduction in the 2019-2020 coastwide quota of 46%. The TAC was increased somewhat over the three years 2019-21 based on subsequent catch.

Although the survey is conducted annually, the swept-area estimates are only updated periodically. Therefore, the results discussed above are the same as in the 1st spiny dogfish surveillance. Additionally, it should be noted that the survey was not conducted in 2020 due to Covid restrictions. However, a Research Track Assessment is scheduled for 2022 that will integrate recent research and address best approaches for ABC determination and a control rule. That effort is on track.

4.2.2 Principle 2 updates

Non-target species interactions

Updated fishery catch-composition information for the most recent 5 full years of fishing are provided by gear type in the following tables.

Table 2. Gillnet catch composition data 2015-2019 in pounds of observed catch. Target species are highlighted in green, including “Skates NK” as these are primarily winter or little skate, main primary species are highlighted in yellow, and ETP species are highlighted in orange, and all minor species or groups are in white.

Species	Scientific name	2015	2016	2017	2018	2019	Grand total	% of total
SKATE, WINTER (BIG)	RAJA OCELLATA	1,548,908	609,651	957,300	359,043	761,195	4,236,097	57.14%
DOGFISH, SPINY	SQUALUS ACANTHIAS	459,804	300,485	342,542	63,489	209,713	1,376,033	18.56%
MONKFISH (GOOSEFISH)	LOPHIUS AMERICANUS	206,938	143,704	187,893	144,696	309,265	992,496	13.39%
SKATE, NK	RAJIDAE	94,857	26,887	105,127	17,450	93,233	337,554	4.55%
SKATE, BARNDOR	RAJA LAEVIS	32,705	22,170	43,280	19,169	22,822	140,146	1.89%
SKATE, LITTLE	RAJA ERIANCEA	34,876	18,403	42,449	8,641	20,840	125,208	1.69%
DOGFISH, SMOOTH	MUSTELUS CANIS	2,456	2,580	5,432	4,303	6,245	21,015	0.28%
POLLOCK	POLLACHIUS VIRENS	5,249	917	2,172	51	12,189	20,578	0.28%
FLOUNDER, SUMMER (FLUKE)	PARALICHTHYS DENTATUS	4,602	2,832	3,530	2,235	5,388	18,587	0.25%
LOBSTER, AMERICAN	HOMARUS AMERICANUS	7,493	3,151	2,233	1,834	2,399	17,109	0.23%
COD, ATLANTIC	GADUS MORHUA	4,634	1,401	4,858	853	5,031	16,776	0.23%
SKATE, LITTLE/WINTER, NK	LEUCORAJA	6,780	3,025	1,842	435	16	12,098	0.16%
BLUEFISH	POMATOMUS SALTATRIX	4,219	1,848	3,723	26	1,847	11,663	0.16%
STURGEON, ATLANTIC	ACIPENSER OXYRHYNCHUS	996	2,984	829	2,321	2,789	9,919	0.13%
CRAB, JONAH	CANCER BOREALIS	2,487	1,080	1,515	971	847	6,900	0.09%
HADDOCK	MELANOGRAMMUS AEGLEFINUS	629	185	221	719	4,297	6,051	0.08%

CRAB, HORSESHOE	<i>LIMULUS POLYPHEMUS</i>	1,821	934	634	1,330	1,191	5,910	0.08%
MUSSEL, NK	<i>MYTILUS MODIOLUS SP</i>	52	22	93	4,508	7	4,683	0.06%
FISH, NK	<i>OSTEICHTHYES</i>	1,093	582	1,806	703	255	4,439	0.06%
SHARK, PORBEAGLE (MACKEREL SHARK)	<i>LAMNA NASUS</i>	140		498	1,772	1,928	4,338	0.06%
SEAWEED, NK	<i>PHAEOPHYTA</i>	1,759	831	193	332	213	3,327	0.04%
SHARK, SANDBAR (BROWN SHARK)	<i>CARCHARHINUS PLUMBEUS</i>	1,140	240	545		1,027	2,952	0.04%
HAKE, WHITE	<i>UROPHYCIS TENUIS</i>	160	191	211	220	1,650	2,432	0.03%
SKATE, CLEARNOSE	<i>RAJA EGLANTERIA</i>	590	721	199	261	275	2,046	0.03%
HALIBUT, ATLANTIC	<i>HIPPOGLOSSUS HIPPOGLOSSUS</i>	520	48	235	293	889	1,984	0.03%
RAVEN, SEA	<i>HEMITRIPTERUS AMERICANUS</i>	854	204	268	171	369	1,865	0.03%
CRAB, ROCK	<i>CANCER IRRORATUS</i>	129	241	860	60	518	1,807	0.02%
FLOUNDER, YELLOWTAIL	<i>PLEURONECTES FERRUGINEUS</i>	429	14	5	1,328	11	1,786	0.02%
FLOUNDER, WINTER (BLACKBACK)	<i>PLEURONECTES AMERICANUS</i>	215	15	538	808	16	1,592	0.02%
MENHADEN, ATLANTIC	<i>BREVOORTIA TYRANNUS</i>	78	142	396	440	330	1,386	0.02%
SHARK, NK	<i>SQUALIFORMES</i>	520		314		426	1,260	0.02%
MACKEREL, ATLANTIC	<i>SCOMBER SCOMBRUS</i>	129	36	386	284	403	1,238	0.02%
DORY, BUCKLER (JOHN)	<i>ZENOPSIS CONCHIFERA</i>	75		427	79	647	1,228	0.02%
SHARK, THRESHER	<i>ALOPIAS VULPINUS</i>	143	61	-	150	736	1,089	0.01%
SKATE, THORNY	<i>RAJA RADIATA</i>	67	545	11	189	214	1,027	0.01%
BASS, STRIPED	<i>MORONE SAXATILIS</i>	17	267	149	292	274	999	0.01%

STURGEON, NK	<i>ACIPENSERIDAE</i>	-	440	160	35	315	950	0.01%
SCALLOP, SEA	<i>PATINOPECTEN, PLACOPECTEN SP</i>	264	248	252	61	106	930	0.01%
SHARK, BLUE (BLUE DOG)	<i>PRIONACE GLAUCA</i>	435		225	140	50	850	0.01%
SHARK, ATL ANGEL	<i>SQUATINA DUMERILI</i>	108	219	88	209	202	826	0.01%
SHARK, CARCHARHINID, NK	<i>CARCHARHINUS SP</i>	195		120	-	505	820	0.01%
HAKE, SILVER (WHITING)	<i>MERLUCCIIUS BILINEARIS</i>	338	141	36	191	94	800	0.01%
CRAB, SPIDER, NK	<i>LIBINIA PELIA SP</i>	47	123	13	141	384	709	0.01%
FLOUNDER, SAND DAB (WINDOWPANE)	<i>SCOPHTALMUS AQUOSUS</i>	203	106	192	88	119	707	0.01%
SHARK, TIGER	<i>GALEOCERDO CUVIER</i>	700					700	0.01%
CRAB, NORTHERN STONE	<i>LITHODES MAJA</i>	72	65	188	75	250	651	0.01%
SCUP	<i>STENOTOMUS CHRYSOPS</i>	10	9	477	66		562	0.01%
CRAB, CANCER, NK	<i>CANCER SP</i>	78	175	135	143	7	538	0.01%
SPONGE, NK	<i>PORIFERA</i>	118	59	81	27	195	480	0.01%
RAY, TORPEDO	<i>TORPEDO NOBILIANA</i>	32	98	83	65	163	441	0.01%

Table 3. Trawl catch composition data 2015-2019 in pounds of observed catch. Target species are highlighted in green, including “Skates NK” as these are primarily winter or little skate, main primary species are highlighted in yellow, and all minor species or groups are in white.

Species	Scientific Name	2015	2016	2017	2018	2019	Total	Percentage of total
SKATE, NK	<i>RAJIDAE</i>	930310	590325	711823	918325	1132128	4282911	46.7%
SKATE, LITTLE	<i>LEUCORAJA ERIANCEA</i>	445455	263160	206478	169803	294958	1379854	15.1%
SKATE, WINTER (BIG)	<i>LEUCORAJA OCELLATA</i>	299280	196241	271316	145889	256518	1169244	12.8%
SKATE, LITTLE/WINTER, NK	<i>LEUCORAJA</i>	113757	29380	56928	39261	74617	313943	3.4%

FLOUNDER, SUMMER (FLUKE)	<i>PARALICHTHYS DENTATUS</i>	43016	21067	40386	39878	108911	253259	2.8%
SCUP	<i>STENOTOMUS CHRYSOPS</i>	12250	26622	54460	37273	74863	205468	2.2%
MONKFISH (GOOSEFISH)	<i>LOPHIUS AMERICANUS</i>	23136	20726	88129	19397	44394	195782	2.1%
DOGFISH, SPINY	<i>SQUALUS ACANTHIAS</i>	46393	39528	24955	22480	61684	195040	2.1%
FLOUNDER, WINTER (BLACKBACK)	<i>PLEURONECTES AMERICANUS</i>	36270	22491	39514	14525	38912	151712	1.7%
SEA ROBIN, NORTHERN	<i>PRIONOTUS CAROLINUS</i>	4547	5079	11132	13380	51227	85365	0.9%
FLOUNDER, SAND DAB (WINDOWPANE)	<i>SCOPHTALMUS AQUOSUS</i>	12854	12423	18601	17545	23408	84830	0.9%
FISH, NK	<i>OSTEICHTHYES</i>	18325	10000	37503	5992	619	72440	0.8%
SKATE, BARNDOR	<i>RAJA LAEVIS</i>	14470	5928	23219	8851	16908	69376	0.8%
SCALLOP, SEA	<i>PATINOPECTEN, PLACOPECTEN SP</i>	10245	5107	5788	5989	15865	42993	0.5%
HADDOCK	<i>MELANOGRAMMUS AEGLEFINUS</i>	5655	22159	9116	1263	2562	40755	0.4%
SEA BASS, BLACK	<i>CENTROPRISTIS STRIATA</i>	3920	6487	9465	5636	14839	40347	0.4%
FLOUNDER, FOURSPOT	<i>PARALICHTHYS OBLONGUS</i>	9034	4258	9862	5782	11391	40327	0.4%
LOBSTER, AMERICAN	<i>HOMARUS AMERICANUS</i>	10091	3990	5791	6828	11737	38437	0.4%
SEA ROBIN, STRIPED	<i>PRIONOTUS EVOLANS</i>	2564	5885	13484	3480	9394	34806	0.4%
DOGFISH, SMOOTH	<i>MUSTELUS CANIS</i>	3846	2530	6544	7162	13619	33702	0.4%
HAKE, SILVER (WHITING)	<i>MERLUCCIIUS BILINEARIS</i>	6505	792	3494	4012	17266	32069	0.3%
SKATE, CLEARNOSE	<i>RAJA EGLANTERIA</i>	3377	5325	2531	6898	12174	30305	0.3%
CRAB, JONAH	<i>CANCER BOREALIS</i>	6125	3840	7103	3851	7889	28808	0.3%
SQUID, ATL LONG-FIN	<i>LOLIGO PEALEI</i>	1004	1470	8915	281	16977	28647	0.3%
COD, ATLANTIC	<i>GADUS MORHUA</i>	9678	2817	4241	5607	1721	24065	0.3%
FLOUNDER, YELLOWTAIL	<i>PLEURONECTES FERRUGINEUS</i>	9579	2535	4569	3443	1590	21715	0.2%

SCULPIN, LONGHORN	<i>MYOXOCEPHALUS OCTODECIMSPINOSUS</i>	6537	3915	4163	2063	3365	20042	0.2%
BUTTERFISH	<i>PEPRILUS TRIACANTHUS</i>	1223	354	13460	509	2994	18540	0.2%
CRAB, ROCK	<i>CANCER IRRORATUS</i>	2853	3061	2415	1365	8651	18345	0.2%
HAKE, RED (LING)	<i>UROPHYCIS CHUSS</i>	6941	571	1343	2007	4608	15471	0.2%
CRAB, HORSESHOE	<i>LIMULUS POLYPHEMUS</i>	9983	953	1009	731	1279	13955	0.2%

The two main species in the fishery (all primary or “retained” in the previous vernacular) are barndoor skate, and monkfish. The current status of these two species is given in the table below. There have been no updates to their stock assessments since the previous surveillance audit, however, for barndoor skate, the most recent surveys show an increasing trend in barndoor skate stock status (see Figure 1). Monkfish remains in healthy condition according to the most recent (though dated) stock assessment report (Richards 2016). According to NEFMC, the next monkfish stock assessment was due to take place in 2019 but there was no report available at the time of writing.

Table 4. Main retained/primary species stock status.

Stock	SSB or proxy value (year of most recent stock assessment)	Stock relative to PRI	Reference
Barndoor skate	0.96 (survey index value; 2007) old assessment, low certainty	$B_{current}(index)/B_{threshold}(index)=0.96/0.81=1.18$	NMFS 2007
Monkfish	Biomass estimate 131,218mt (southern area; high uncertainty; 2016)	$Biomass/B_{msyproxy}=1.76$ (southern region)	Richards 2016

Thorny skate

Thorny skate (*Raja radiata*) comprises a very small proportion of the overall catch in each gear type (0.01%), however because of concerns raised by stakeholders on stock status (NMFS was petitioned to list thorny skate as endangered in 2015; Sosebee et. al. 2016), and questions about the potentially unknown quantity of thorny skates within the “skates NK” category of the catch composition data, the assessment team consulted with the skate stock assessment biologist, Katherine Sosebee, regarding thorny skate in the catch composition and likelihood of fishery impacts on thorny skate. According to survey data where skate species were disaggregated, thorny skates were present in the catch primarily in Massachusetts, and comprised approximately 0.008% of skates landed in the region, with two to four times this number discarded (Sosebee et. al. 2016). Survey proportions tracked with fishery-dependant data in this regard. In addition, when Amendment 3 to the skate FMP was in development, the distribution of thorny skate with respect to all fisheries was examined. The fisheries tended to operate in areas where thorny skate was not found and the judgement at the time was that commercial fisheries were not impacting thorny skates directly.

Thus the assessment team has determined that it is likely that the proportion of thorny skates in the “skates NK” data is extremely small, and approximately similar to the thorny skate-specific catch data. Therefore thorny skate does not need to be considered as a main species in this assessment.

Recorded Endangered, Threatened and Protected (ETP) species and non-ETP seabird interactions for the period between 2015 and 2019 are listed in the tables below.

Table 5. Observer-recorded annual gillnet interactions with ETP and other out of scope species from 2015 to 2019. Seabird annual mortality estimates are extrapolated from the 5-year average based on observer coverage rate of 12%. Mammal estimates of annual mortality are taken from the respective stock assessment documents.

Common Name	Scientific Name	2015	2016	2017	2018	2019	Total	Average	Population trend	PBR if applicable	Estimated annual mortality 2015-2016*
SHEARWATER, GREATER	<i>PUFFINUS GRAVIS</i>	189	70	793	13	107	1172	234.4	Stable		600
SHEARWATER, SOOTY	<i>PUFFINUS GRISEUS</i>	2	2	77	3	1	85	17	Decreasing		7-12
BIRD, NK	<i>AVES</i>	0	0	13	0	0	13	2.6			
SCOTER, WHITE-WINGED	<i>MELANITTA DEGLANDI</i>	0	0	1	9	0	10	2	Decreasing		17
SCOTER, BLACK	<i>MELANITTA NIGRA</i>	0	0	0	7	0	7	1.4	Decreasing		13
EIDER, COMMON	<i>Somateria mollissima</i>	0	0	1	0	5	6	1.2	Unknown		
MURRE, THIN-BILLED	<i>URIA AALGE</i>	2	2	0	0	0	4	0.8	Increasing		12.5-16
LOON, COMMON	<i>GAVIA IMMER</i>	0	0	1	2	1	4	0.8	Stable		13.5
SHEARWATER, NK	<i>PUFFINUS SP</i>	3	0	0	0	0	3	0.6			
SHEARWATER, CORYS	<i>PUFFINUS DIOMEDEA</i>	3	0	0	0	0	3	0.6	Decreasing		
GULL, NK	<i>LARINAE</i>	0	1	0	1	0	2	0.4			
SHEARWATER, MANX	<i>PUFFINUS PUFFINUS</i>	0	0	1	0	0	1	0.2	Unknown		
GULL, HERRING	<i>LARUS ARGENTATUS</i>	1	0	0	0	0	1	0.2	Decreasing		11.9
FULMAR, NORTHERN	<i>FULMARUS GLACIALIS</i>	1	0	0	0	0	1	0.2	Increasing		5.7
SEAL, GRAY	<i>HALICHOERUS GRYPUS</i>	79	9	20	8	45	161	32.2	Increasing	1,389	899
	<i>PHOCA VITULINA</i>								Unknown but likely not declining	2,006	311
SEAL, HARBOR	<i>CONCOLOR</i>	7	4	4	0	4	19	3.8			
SEAL, NK	<i>PHOCIDAE</i>	6	0	4	4	3	17	3.4			
SEAL, HARP	<i>PHOCA GROENLANDICA</i>	8	0	0	0	4	12	2.4	Stable	Unknown	65
PORPOISE, HARBOR	<i>PHOCOENA PHOCOENA</i>	5	3	0	0	3	11	2.2	Unknown	706	193
DOLPHIN, COMMON (OLD SADDLEBACK)	<i>DELPHINUS DELPHIS (COMMON)</i>	0	3	2	1	1	7	1.4	Unknown	557	97
DOLPHIN, NK (MAMMAL)	<i>DELPHINIDAE</i>	2	0	0	0	0	2	0.4			

TURTLE, LOGGERHEAD	<i>CARETTA CARETTA</i>	4	1	0	0	1	6	1.2	557**
TURTLE, NK HARD-SHELL	<i>CHELONIIDAE</i>	1	0	0	0	1	2	0.4	88**
TURTLE, KEMPS RIDLEY	<i>LEPIDOCHELYS KEMPI</i>	1	0	0	0	0	1	0.2	115**
TURTLE, LEATHERBACK	<i>DERMOCHELYS CORIACEA</i>	0	1	0	0	0	1	0.2	21**

*Estimates for seabird mortalities from Sigourney et. al. (2019) for northeast gillnet fisheries with skates as targets, including all seasons. Note these estimates are derived from 2015 and 2016 observer data, so are only available for some seabird species. Annual mortality rate estimates for marine mammals are from the respective marine mammal stock assessment reports.

**Turtle mortality estimates are from Murray (2018) and reported as TOTALS for the entire Atlantic coast sink gillnet fishery over the period 2012-2016.

Table 6. Bottom trawl ETP and bird interactions recorded between 2015 and 2019.

Common Name	Scientific Name	Year					Total	Population trend	PBR	Estimated annual mortality 2013-2017
		2015	2016	2017	2018	2019				
DOLPHIN, COMMON (OLD SADDLEBACK)	<i>DELPHINUS DELPHIS (COMMON)</i>	0	0	0	0	2	2	Unknown	577	14
SHEARWATER, GREATER	<i>PUFFINUS GRAVIS</i>	0	0	0	0	1	1	Stable		
SEAL, GRAY	<i>HALICHOERUS GRYPUS</i>	0	0	2	1	0	3	Increasing	1,389	16
DOLPHIN, WHITE-SIDED	<i>LAGONORHYNCHUS ACUTUS</i>	0	3	0	0	0	3	Unknown	544	21
PILOT WHALE, LONGFINNED	<i>GLOBICEPHALA MELAS</i>	0	4	0	-	-	4	Unknown	306	15

Long-finned pilot whale

The 2020 stock assessment for long-finned pilot whale constituted a significant change to the understanding of this species' status and recovery. The minimum population size for long-finned pilot whales is 30,627. The maximum productivity rate is 0.04, the default value for cetaceans. The "recovery" factor is 0.5 because this stock is of unknown status relative to optimum sustainable population (OSP) and the CV of the average mortality estimate is less than 0.3 (Wade and Angliss 1997). Potential Biological Removal (PBR) for the western North Atlantic long-finned pilot whale is now 306, whereas it was just 35 when this fishery was first certified.

The mean combined annual mortality of long-finned pilot whales over the period of 2013-2017 in the Northeast Bottom Trawl fishery is 15 individuals.

The long-finned pilot whale is not listed as threatened or endangered under the Endangered Species Act, and the western North Atlantic stock is not considered strategic under the MMPA because the mean annual human-caused mortality and serious injury does not exceed PBR. Total U.S. fishery-related mortality and serious injury for long-finned pilot whales is less than 10% of the calculated PBR and, therefore, can be considered to be insignificant and approaching zero mortality and serious injury rate (NOAA 2020)

This comprises adequate evidence that (1) the effects of the bottom trawl UoA on long-finned pilot whales are known and are highly likely to be within limits of national requirements for protection of marine protected mammals (Marine Mammal Protection Act, MMPA); (2) it is highly likely that the bottom trawl fishery meets MMPA requirements. The most recent stock assessment demonstrates that requirements for protection and rebuilding are being achieved.

North Atlantic Right Whale

The Atlantic Large Whale Take Reduction Plan (ALWTRP) was developed by NOAA's NMFS with a focus on reducing entanglements of endangered fin, humpback, and right whales and was last modified in 2015. The Reasonable and Prudent Alternatives required under the Marine Mammal Protection Act to enable commercial gillnet fisheries to continue operating while minimizing risk to these large whales called for three key regulatory changes: 1) new gear modifications; 2) implementation of a Dynamic Area Management system (DAM) of short-term closures to protect unexpected concentrations or right whales. These measures were all implemented in 2002 (NEFMC 2003).

These regulations still apply to the sink gillnet fisheries that operate under the auspices of the Northeast Spiny Dogfish, Monkfish and Multispecies FMPs (NEFMC 2003). Other areas are subject to seasonal closures in which the use of sink gillnets is prohibited. Supplementary information, or Outreach Guides, are available for the trap/pot and gillnet gear types. The following summary includes the changes applicable to the gillnet fishery (NOAA 2020b).

Universal Gillnet Requirements:

- No buoy line floating at the surface
- No wet storage of gear (all gear must be hauled out of the water at least once every 30 days)
- Fishermen are encouraged to maintain knot-free buoy lines.
- All groundlines must be made of sinking line.

Gillnet Gear Marking Requirements:

- Gillnet surface buoys need to be marked with either the owner's registration number and/or the US vessel documentation number; federal commercial fishing permit number or whatever identification marking is required by the home-port state.
- When marking is not required by state or federal regulations, the letters and numbers to mark gear must be at least 1 inch in height in a color that contrasts with the buoy color.
- Buoy lines are to be marked with three 12-inch colored marks; one at the top, one at the middle and one at the bottom.

Gillnet Weak Link Requirements:

- All buoys, flotation devices and/or weights must be attached to the buoy line with a weak link with a certain breaking strength as defined for each management area.
- Individual weak links are not required in locations where rope of appropriate breaking strength is used.
- Gillnet panel weak links must be chosen from the list of NMFS approved gear, which includes off the shelf weak links, hog rings, rope of appropriate breaking strength, and other materials or devices approved in writing.

Please see the [ALWTRP Outreach guide for Northeast gillnet](#) requirements for further information. (NOAA 2018).

Although the northeast sink gillnet fishery is listed as “Category I” under the MMPA’s List of Fisheries, North Atlantic right whales were removed as a driver for the gillnet fishery’s Category I classification in 2010. There have been no recorded interactions between the Northeast sink gillnet fishery and North Atlantic Right Whales in 25 years (MMPA LOF) and pot fisheries and ship strikes have been more recently identified as the primary risk to these animals (NOAA 2020b). The most recent published information having identified gillnet as a source of entanglement causing serious injury or death of NARWs is 2018, where a total of 1.75 serious injury or mortality events were positively attributed to gillnet gear over this 9-year time period (GAR Marine Animal Incident Database). Of the 37 unknown sources of mortality/serious injury over this time period, all but 0.3% (equating to a fraction of 1) were attributed to pot/line gear since this makes up 99.7% of the vertical lines in the water in this area. The updated Take Reduction Framework proposed to begin rollout in phases starting in 2021 includes in phase 2 modifications to any gillnet gear will contribute to a 0,075 animal reduction serious injury or mortality, and the ESA Section 7 consultation Biological Opinion published May 21, 2021 finds the northeast and mid-Atlantic sink gillnets under the current ALWTRP provisions cause no jeopardy to NARWs.

In the absence of direct evidence that the northeast (and mid-Atlantic) sink gillnet fisheries interact with NARWs, and the fact that NARWs were removed as the driver for the LOF category I listing for the northeast sink gillnet fishery in 2010, means that the assessment team cannot rationally consider this whale as a scoring element for 2.3.1. However, we can consider the adherence of the fleet to the measures required under the ALWTRP as an indicator of whether the requirements for protection and recovery of these animals as laid out in the MMPA (the Reasonable and Prudent Alternatives) are being met. Although the CAB who carried out the initial assessment for spiny dogfish found 3 instances of non-adherence to the TRP regulations, no infractions of this kind have been issued in 2018, 2019 or 2020. In addition the ESA Section 7 consultation Biological Opinion published May 21, 2021 authorized the northeast sink gillnet fishery with a no-jeopardy finding in relation to NARWs under the current management arrangements.

The assessment team’s conclusion in the recent overlapping Southern New England winter and little skate MSC assessment (MRAG Americas 2021) was that North Atlantic Right Whales should not be included as an ETP scoring element in the gillnet fishery UoA for the reasons listed above. However, since there have been management considerations relevant to the gillnet fisheries due to MMPA requirements, it is possible to evaluate them under PI 2.3.2, even though NARWs are not explicitly considered as an ETP scoring element in 2.3.1. In the interest of consistency and harmonization, NARWs have been removed as a scoring element in the gillnet UoAs for this fishery, the conditions related to NARWs closed, and PIs 2.3.1, 2.3.2 and 2.3.3. have been revised.

Atlantic Sturgeon

There have been no changes to the scientific base of information pertaining to stock status or fishery impact on Atlantic Sturgeon since the initial assessment of spiny dogfish (SCS 2018). It continues to be ESA listed and the sink gillnet and bottom trawl fishery interactions continue to be recorded, with interactions occurring each year without significant trend.

Habitats

On January 3, 2020, NOAA Fisheries published a proposed rule to designate coral protection areas on Georges Bank and in the Gulf of Maine and to implement the measures of the New England Fishery Management Council’s Omnibus Deep-Sea Coral Amendment.

The proposed rule would establish deep-sea coral protection areas on the continental slope and continental rise in New England and various coral protection areas in continental shelf waters. Dedicated habitat research areas would also be established. Commercial bottom-tending fishing gears would be restricted in some of these places and provisions for vessels transiting through coral protection areas would be established. This became Final Rule on June 25, 2021.

The location of coral canyons and projected closures are shown in the figure below.

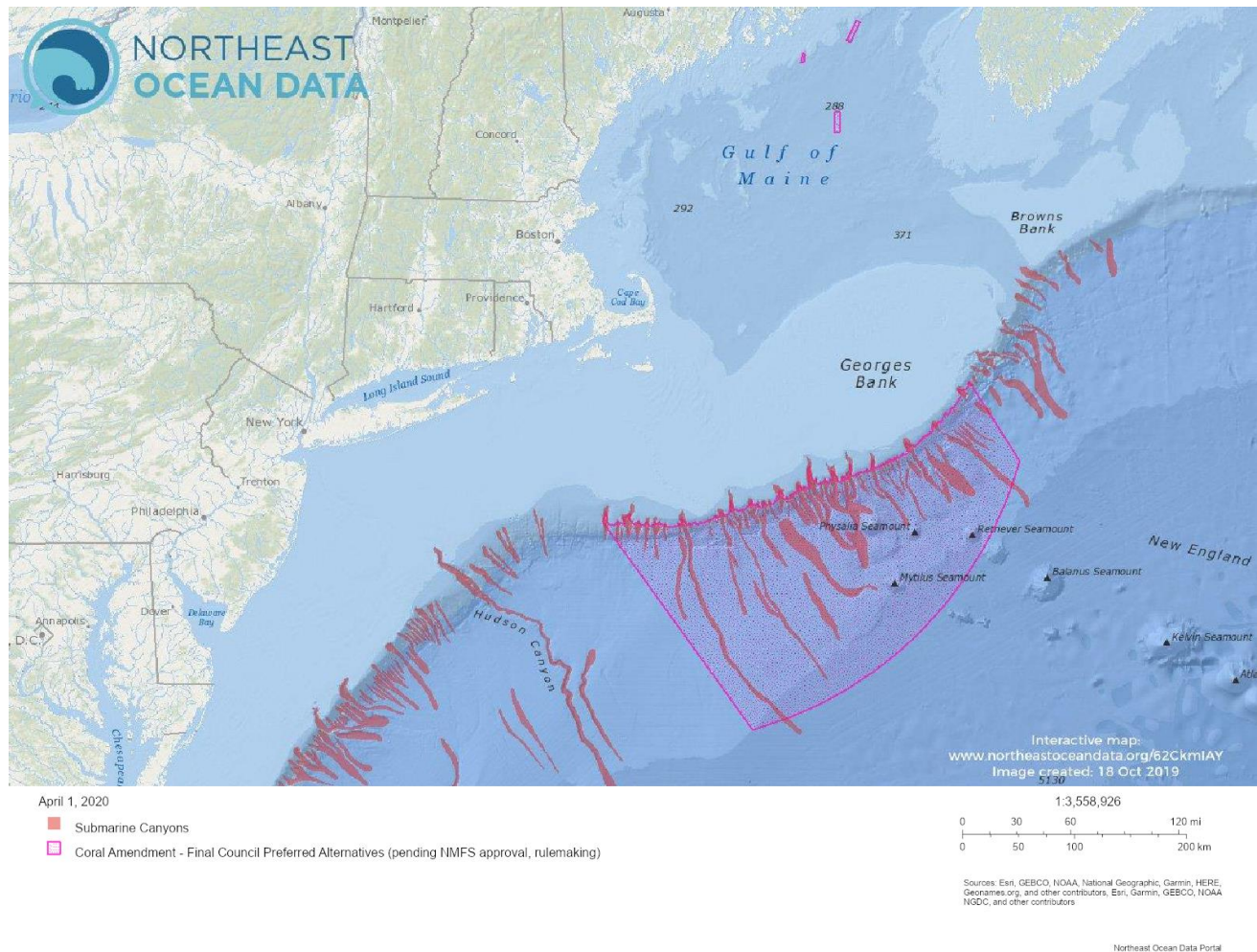


Figure 3 . Submarine canyons and Council’s preferred alternatives part of the Coral Amendment. These closures are unlikely to have any major effect on the fishery due to their limited size.

4.2.3 Ecosystem update

There are no significant updates to ecosystem status, information or management since the 2020 surveillance audit.

4.2.4 Potential or actual changes to the management system

Spiny dogfish:

In federal waters, spiny dogfish are managed jointly by the Mid-Atlantic (MAFMC) and New England Fishery Management Councils (NEFMC) under a single fishery management plan (FMP). The main management tool is the specification of an annual catch limit, which is apportioned between two quota periods that divide up the fishing year (MAFMC 2021). The Atlantic States Marine Fisheries Commission (ASMFC) coordinates interstate

management complimentary with federal management. Spiny dogfish is also controlled through the establishment of trip limits, which limit the amount fishermen can harvest during a single fishing trip. Since the last surveillance audit in 2019, the following actions have been incorporated into the spiny dogfish FMP:

Framework 4 – Omnibus Commercial Electronic Reporting Framework established a requirement for commercial fishing vessels with federal permits for all species managed by the MFMC and NEFMC to submit vessel trip reports electronically within 48 hours after entering port at the end of a trip. This rule became effective November 10, 2021.

Framework 5 – Omnibus Acceptable Biological Catch (ABC) and Risk Policy Framework revised the Council's ABC control rule and risk policy. The revised risk policy is intended to reduce the chance of overfishing as stock size falls below the target biomass while allowing for greater economic benefit and increased risk under higher stock biomass conditions. This action also eliminated the typical/atypical species distinction currently included in the risk policy. This rule became effective December 15, 2020.

In addition to the Frameworks, NEFSC solicited for a Stock Assessment Working Group for several upcoming research track stock assessments, including Spiny dogfish, which will be occurring in 2022 (MAFMC 2021b).

Winter and Little skate:

This is the first surveillance audit for the winter and little skate fisheries. Winter skate was added to this certificate by scope extension in October 2019, and little skate was added by scope extension in August 2020.

The Code of Federal Regulations, Title 50, Chapter VI, Part 648, Subpart O states the official regulations for the Northeast skate complex in federal waters of the New England and Mid-Atlantic region. The contents of these regulations include:

- §648.320 Skate FMP review and monitoring.
- §648.321 Framework adjustment process.
- §648.322 Skate allocation, possession, and landing provisions.
- §648.323 Accountability measures.

Details of these regulations can be found at the following link: [Management measures for the NE skate complex fisheries](#).

The skate fishery is managed using coastwide quotas and possession limits for the bait and wing fisheries, with different seasonal quota periods for each (Table 8). Quota changes usually occur every 1 -2 years (GARFO 2018). This fishery is also indirectly managed by limiting fishing effort through days-at-sea (DAS). The fishing season mirrors that of the NE multispecies fishery, May 1 – April 30. Individual coastal states mirror the federal possession limits and regulations for skates.

The skate bait fishery, where whole skates are landed and used for bait, is managed under a letter of authorization (LOA) program. This program exempts the owner from lower possession limits of the skate wing fishery. Any Federal skate permit holder may request a LOA from NMFS. The skate bait letter of authorization (LOA) does not exempt the participating vessel from the DAS requirements of the northeast (NE) multispecies, monkfish, or scallop fisheries, unless the vessel is fishing in a skate exemption area in Southern New England or the Mid-Atlantic. (GARFO 2018).

The skate bait TAL is divided into three seasons to ensure a supply of bait throughout the fishing year.

The New England Fishery Management Council (NEFMC) developed the Skate FMP in 2003. A summary of the plan amendments, frameworks and specifications that were added to this FMP after the scope extension in 2019 are listed below (NEFMC 2021). For a full list of Amendments and Frameworks that have been added to this FMP since its inception, please see [Northeast Skate Complex Plan Amendments, Frameworks and Specifications](#).

Plan Amendments:

Amendment 7 (June 25, 2021)

This Amendment is part of the Omnibus Deep-Sea Coral Amendment, which includes management area to protect coral habitat from the impacts of fishing gears, provisions to encourage further research on deep-sea corals and fisheries, and measures to facilitate future updates to coral management approaches. The Council identified final preferred alternatives at its January 2018 meeting, and the amendment document and Environmental Assessment (EA) were submitted to NMFS. The Final Rule on Amendment 7 occurred on June 25, 2021.

Amendment 6 (February 7, 2020) - This Amendment is part of the Omnibus Industry-funded Monitoring (IFM) Amendment and Environmental Assessment, which standardizes the development and administration of future industry-funded monitoring programs in Council FMPs. FMPs managed by the council may include IFM to supplement existing monitoring required by the Standard Bycatch Reporting Methodology (SBRM).

Amendment 5 (January 4, 2017) Under development

This action considers establishing limited entry in the skate wing and/or bait fisheries.

The Council has conducted two rounds of scoping for Amendment 5, the first in 2017 and the second in January and February 2021. According to updates received from the NEFMC, the Council will continue to work on this Amendment, however the Council will not be developing alternatives that involve limited access for either the skate wing or skate bait fisheries as part of this amendment. The Council made this decision during its April 2021 webinar meeting. The Council did, however, support the following next steps for the amendment:

- Proceed to develop Amendment 5 using the goals and other types of measures approved by the Council at previous meetings.
- Update two objectives of the Skate FMP that need technical revisions
- Develop alternatives for an immediate possession limit trigger for the wing and bait fisheries and options for possession limit reductions of 50% and 75% when an intermediate possession limit is triggered
- Develop alternatives that would require federal skate permits to be held year-round to prevent fishery participants from dropping or acquiring permits mid-year
- Develop options to improve accuracy of skate data with at-sea monitoring and/or vessel monitoring system (VMS) requirements (NEFMC 2021b).

Amendment 4 (June 30, 2015) – Establishes standards of precision for bycatch estimation for all Northeast Region Fisheries.

Amendment 2 (April 9, 2018) – This action implements approved regulations for the NEFMC Omnibus Essential Fish Habitat (See Amendment 4 for Monkfish FMP for further details).

Framework Adjustments:

Framework 8 (April 27, 2020) – This framework contains proposed specifications for the 2020 and 2021 fishing years, including total allowable landings (TALs) and increase seasonal trip limits for both the wing and bait fisheries. The intent of this action is to establish appropriate catch limits for the skate fishery, while providing additional operational flexibility to fishery participants. The Northeast Skate Complex FMP requires the annual specification of harvest and catch limits for up to two years at a time. If specifications are not in place at the start of the fishing year, the existing specifications roll over until new regulations are finalized. Table 7 shows the current skate specifications for the 2021 – 2022 years.

Table 7 Current Skate Specifications (May 1, 2021 - April 30, 2022)

Overfishing Limit (OFL)	Undefined
Acceptable Biological Catch (ABC)	32,715 mt
Annual Catch Limit (ACL)	32,715 mt
Annual Catch Target (ACT)	29,444 mt
Total Allowable Landings (TAL)	17,864 mt
Wing TAL (66.5%)	11,879 mt
Bait TAL (33.5%)	5,984 mt

Table 8 2021 Seasonal Quota Allocations

Fishery	Season	TAL (mt)
Wing	1: May 1 - Aug 31	6,771
	2: Sept 1 - Apr 30	5,108
Bait	1: May 1 - Jul 31	1,843
	2: Aug 1 - Oct 31	2,220
	3: Nov 1 - Apr 30	1,921

Additional In-season Actions and Accountability Measures (AM) are listed below (NOAA 2021):
In-season Actions:

- *If 85% of the skate wing season 1 quota (57% of the annual skate wing TAL) is projected to be landed between May 1 and August 17, the skate wing possession limit will be reduced to the incidental limit of 500lb of skate wings for all vessels for the remainder of Season 1.*
- *If 85% of the annual skate wing TAL is projected to be landed any time between August 18 and April 30, the Regional Administrator may reduce the possession limit to the incidental limit of 500lb of skate wings to prevent overfishing from occurring, provided that doing so would not prevent the skate win TAL from being attained.*
- *When 90% of the skate bait seasonal quota is landed in either Season 1 or 2, or when 80% of the annual skate bait TAL is landed, the skate bait possession limit will be reduced to the incidental limit of 8,000lb. If 100% of the skate bait TAL is landed, the skate bait fishery will be closed and LOAs will be voided.*

Accountability Measures (AM) (NOAA 2021):

- *If the skate wing fishery TAL or skate bait fishery TAL is determined to have been exceeded by more than 5% in any given year based upon, but not limited to, available landings information, the Regional Administrator shall reduce the inseason possession limit trigger for that fishery in the next fishing year by 1%for each 1% of the TAL overage.*
- *If the annual catch limit (ACL) is determined to have been exceeded in any given year, based upon available landings and discard information, the percent buffer between ACL and annual catch target (ACT), initially specified at 10%, shall be increased by 1% for each 1% ACL overage in the second fishing year following the fishing year in which the ACL overage occurred, either through the specifications or framework adjustment process.*

Framework 7 (May 19, 2020) – This framework adjustment would allow surfclam and mussel dredging under restrictive conditions in the Great South channel Habitat Management Area.

Framework 6 (February 15, 2019) – This action allows the skate wing total allowable landings to be achieved while minimizing the need to restrict fishing operations through incidental possession limits. Framework 6 reduced the management uncertainty buffer between the annual catch limit and catch target from 25 to 10 percent. It is intended to extend the directed fishing time for both the skate wing and bait fisheries.

Framework 5 (September 28, 2018) – This action establishes skate specifications to be consistent with the most recent scientific information and improve management of the skate fisheries. It is intended to establish appropriate catch limits for the skate fishery and to provide additional operational flexibility to fishery participants. Framework 5 implemented specifications and several new management measures for the wing fishery; including limited possession of barndoor skate, and exemptions for some vessels when fishing exclusively within the Northwest Atlantic Fisheries Organization Regulatory Area (NOAA 2021).

Framework 4 (January 3, 2018) – This rule implements measures to reduce the risk of the skate bait fishery from effectively closing down as it did in fishing year 2016. It reduces the skate bait season 3 possession limit and establishes a separate skate bait incidental possession limit.

4.2.5 Personnel changes in science, management of industry

There have been a few minor personnel shifts in the management of spiny dogfish and skates. In relation to spiny dogfish, it was noted that Rachel Feeney took over for Fiona Hogan who left the NEFMC. The New England Fishery Science Center (NEFSC) is also losing assessment resources, so there will be reassignments on the various fisheries. Devora Hart will be taking more of a lead role at the NEFMC.

4.2.6 Enforcement updates

According to the Enforcement Actions Report from January through June 2020, here are thirteen listed infractions for the Northeast Atlantic region. None of these infractions directly implicated the Spiny dogfish or skate fishery, however it was noted that many of these vessels that received these infractions fish under the same permits. The July 2020 – December 2020 report listed fourteen infractions for the Northeast Atlantic region, with one of those implicating the skate fishery.¹

A review of the infractions from the 2019 reports had similar enforcement actions, but none that were directly linked to the Spiny dogfish or skate fishery. Most of the infractions deal with overages in overlapping fisheries, inaccurate reporting or failure to obtain required observer coverage. The fishery is thought to be compliant with regulations and the sanctions issued appear to deter non-compliance (NOAA 2021b, 2020, 2020b, 2019).

The United States Coast Guard (USCG) District 1, Quarterly Report from 17 September – 17 November 2020, listed an observed compliance rate of 94%, with 15 fishery violations issued and 252 fishing vessel boardings. Of these violations, 9 were species retention violations (striped bass, scup, summer flounder, black sea bass and lobster; five violations were permit related and one was related to the Atlantic Large Whale Take Reduction Plan (ALWTRP). The USCG report from November 2020 – January 2021 listed 193 fishing vessel boardings; 16 violations issued and an observed compliance rate of 92%. The violations included 7 species retention violations (black sea bass, bluefin tuna, cod, lobster and scup, 3 Canadian EEZ incursions, 2 permit violations, 2 ALWTRP and 1 undersized net mesh. Based on this recent data, the fishery's management regulations and the sanctions in place appear to be effective in deterring noncompliance.

4.3 Version details

Table 9 Fisheries program documents versions

Document	Version number
MSC Fisheries Certification Process	Version 2.2
MSC Fisheries Standard	Version 1.3
MSC General Certification Requirements	Version 2.4.1
MSC Surveillance Reporting Template	Version 2.1

¹ NE1800193 was issued to the fishing vessel Sao Jacinto for violating the terms of a LOA by possessing and/or landing skate in excess of the maximum size limit and a \$4750 NOVA was issued (NOAA 2021b).

5 Results

5.1 Surveillance results overview

5.1.1 Summary of conditions

Table 10 Summary of Conditions Spiny Dogfish

Condition number	Condition	Performance Indicator (PI)	Status	PI original score	PI revised score
Add rows as needed	Add condition summary		Choose from: New / Closed / Ahead of target / On target / Behind target. If closed, indicate surveillance number when closed.	PI score from most recent assessment	PI score after this surveillance, or 'Not revised'.
1	By the fourth surveillance the fishery shall provide evidence that (1) the effects of the bottom trawl UoA on long-finned pilot whales are known and are highly likely to be within limits of national requirements for protection of marine protected mammals (Marine Mammal Protection Act, MMPA); (2) it is highly likely that the bottom trawl fishery meets MMPA requirements, there would be direct demonstration that requirements for protection and rebuilding are being achieved.	2.3.1 trawl	Closed	75	80 (gillnets)
2	By the fourth surveillance the fishery shall provide evidence that (1) the effects of the gillnet UoA on Atlantic right whales are known and are highly likely to be within limits of national requirements for protection of marine protected mammals (Marine Mammal Protection Act, MMPA);	2.3.1 gillnet	Closed	75	80 (trawl)

	(2) it is highly likely that the gillnet fishery meets MMPA requirements, there would be direct demonstration that requirements for protection and rebuilding are being achieved.				
3	By the fourth surveillance the fishery shall present evidence to demonstrate there is an objective basis for confidence that the Atlantic Large Whale Take Reduction Plan strategy will work, based on information directly about the gillnet fishery and/or North Atlantic right whales.	2.3.2 gillnet	Closed	75	80
4	By the fourth annual surveillance the fishery shall provide evidence that (A) sufficient information is available to allow fishery related mortality to be quantitatively estimated for Atlantic right whales AND (B) information is sufficient to support a full strategy to manage impacts on Atlantic right whales.	2.3.3 gillnet	Closed	75	80

Table 11 Summary of Conditions Winter and Little skate

Condition number	Condition	Performance Indicator (PI)	Status	PI original score	PI revised score
Add rows as needed	Add condition summary		Choose from: New / Closed / Ahead of target / On target / Behind target. If closed, indicate surveillance number when closed.	PI score from most recent assessment	PI score after this surveillance, or 'Not revised'.
1	By the 4 th annual surveillance for the winter skate UoAs (in 2022), sufficient relevant information related to stock	1.2.3 (Winter skate and little skate; All gears)	On target	75	Not revised

	structure, stock productivity, fleet composition and other data shall be available to support the harvest strategy.				
2	By the 4 th annual surveillance for the winter skate UoAs (in 2022), the assessment of winter skate stock status shall take into account uncertainty sufficiently to reach the 80SG for scoring issue c.	1.2.4c (Winter skate; all gears)	On target	75	Not revised

5.1.2 Total Allowable Catch (TAC) and catch data

To be deleted in an expedited audit report

Table 12 Total Allowable Catch (TAC) and catch data for Spiny dogfish

TAC	Year	2020	Amount	10,602 mt
UoA share of TAC	Year	2020	Amount	10,602 mt
UoA share of total TAC	Year	2020	Amount	10,602 mt
Total green weight catch by UoC	Year (most recent)	2020	Amount	8,377 mt
Total green weight catch by UoC	Year (second most recent)	2019	Amount	8,377 mt

Table 13 TAC for skates

TAC = Skate Complex Annual Catch Target	Year	2020	Amount	29,444 mt
UoA share of Total Allowable Landings (TAL*)	Year	2020	Amount	17,967 mt
UoA share of total TAC	Year	2020	Amount	15,903 mt
Total green weight catch by UoC	Year (most recent)	2020	Amount	12,582 mt
Total green weight catch by UoC	Year (second most recent)	2019	Amount	12,449 mt

5.1.3 Recommendations

If the CAB or assessment team wishes to include any recommendations to the client or notes for future assessments, these may be included in this section.

5.2 Re-scoring Performance Indicators

PIs 2.3.1, 2.3.2 and 2.3.3 have been rescored. For the trawl UoC, the score for small cetaceans was revised from 75 to 80 for 2.3.1. For the gillnet UoC, the score for large cetaceans was revised from 75 to 80 for all three ETP PIs. Additions are given in **red**, and deletions in ~~strike through~~.

Evaluation Table for PI 2.3.1 – ETP species outcome

PI 2.3.1		The fishery meets national and international requirements for the protection of ETP species The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species.		
Scoring Issue		SG 60	SG 80	SG 100
a	Guided post	Known effects of the fishery are likely to be within limits of national and international requirements for protection of ETP species.	The effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species.	There is a high degree of certainty that the effects of the fishery are within limits of national and international requirements for protection of ETP species.
	Met?	Otter Trawl: Y Gillnet: Y Bottom Longline: Y	Otter Trawl: N Gillnet: N Y Bottom Longline: Y	Otter Trawl: N Gillnet: N Bottom Longline: Y
	Justification	<p>LIMITS OF NATIONAL REQUIREMENTS FOR PROTECTION OF ETP SPECIES</p> <p>The US Marine Mammal Protection Act (MMPA) establishes the Potential Biological Removal (PBR) Levels for the protection of marine mammals. The PBR is calculated as the product of minimum population size, one-half the maximum productivity rate, and a recovery factor. The PBR level has been set up as a conservative standard to allow for protection and recovery of a stock.</p> <p>Fisheries are classified annually based on the cumulative fishery mortality and serious injury for a particular marine mammal stock and for the fishery-specific mortality for that stock, relative to the PBR established for that stock. This categorization determines whether participants in that fishery are subject to certain provisions of the MMPA such as registration, observer coverage, and take reduction plan requirements (See p. 58).</p> <p>The Endangered Species Act (ESA) defines the Incidental Take Statements (ITSs) for listed species, including sea turtles and Atlantic sturgeon.</p> <p>There are no limits established for the seabird species impacted by the spiny dogfish fishery, this element is scored in SIb of this PI.</p> <p>PBR and ITSs levels are <u>not</u> considered to be quantitative limits (e.g., similar to harvest control rules). In practice PBRs and ITSs are used as triggers for additional management actions, these are considered to be “requirements for protection and rebuilding provided through the national legislation” (MSC CRv1.3 CB3.11.3). Because both PBRs and ITSs are</p>		

		not hard quantitative limits, in SIa the assessment team interprets <i>within limits</i> as in compliance with requirements to reduce take. If a species is above a PBR or ITTs limit, but there are complying with the requirements in place to reduce take, the fishery is considered to comply with the intent of this SI ¹¹ . The number of fishery mortality and serious injury
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¹¹ **MSC Interpretation Date: 24/05/2016 ID: 2299** "In scoring issue (a) of PI 2.3.1, it is required that effects of the fishery are..."within limits of national and international requirements for protection of ETP species". The MSC does not specify what is meant by 'limits' in this case. Limits that are part of binding regulatory requirements that the fishery needs to comply with (e.g. similar to harvest control rules) should always be considered as 'limits of national and international requirements' by assessment teams. In cases, however, where guidance reference levels are used in concert with protection requirements, the main element

		<p>events are not evaluated here, but are considered direct information about the fishery and the species and are used to evaluate the likelihood that the strategy will work in reducing take under PI 2.3.2 SIb.</p> <p>The national requirements for fisheries are based on their classification, derived from the fishery-specific mortality and serious injury against the PBR for that stock. Consequently, the potential effects of sublethal impacts from entanglement events on a population's reproductive output are not directly related to the national requirements scored in PI 2.3.1. They are, however, relevant to whether the fishery poses a risk to the particular marine mammal stocks and need to be considered. Sublethal effects on reproductive health would be reflected on population trends and estimates, which are used to calculate the PBR. Moreover, scarring rates is one of the indicators employed in the monitoring strategy for the ALWTRP. Consequently, sublethal entanglement effects are also assessed under PI 2.3.2 SIb where the effectiveness of management strategy is evaluated.</p> <p>The PBRs (See Table 18) [in SCS 2018] and ITTs (See Table 21[in SCS 2018]) requirements are generally applied to the aggregated impacts of all fisheries within a region, rather than at an individual fishery-level. For this reason the team relied mostly on estimated effects based on an aggregated assessments of fishery interactions based on region and/or gear type (MSC Interpretation Log Date: 24/05/2016 ID: 2299). Estimates of the effects of fishery on ETP species are derived primarily from the observer program data, stranding reports and sometimes opportunistic observations.</p> <p>Indirect effects of the fishery are those that may impact the ETP species through effects of the fishery on their predators or their prey, these are assessed under the SIc.</p> <p>LARGE WHALES</p> <p>GILLNET FISHERY</p> <p>According to observer data since 2015, the gillnet fishery has not interacted with any large whales. However, the Atlantic Large Whale Take Reduction Plan (ALWTRP) has in place regulations aimed at reducing bycatch in gillnet fisheries in the western North Atlantic for humpback, fin, minke and right whales.</p> <p>The gillnet UoA affects four species of large whales, the Western Northern Atlantic right whale stock (<i>Eubalaena glacialis</i>), the Gulf of Maine humpback whale stock, the Canadian East Coast minke whale stock (<i>Balaenoptera acutorostrata</i>) and the Western North Atlantic fin whale stock (<i>Balaenoptera physalus</i>).</p> <p>Humpback, minke and fin whales:</p> <p>For the period 2010 through 2014, the minimum annual rate of fishery-caused mortality and serious injury for the minke whale stock was below 50% of their prescribed PBR of 14. For the humpback (PBR= 13) and fin whales stocks (PBR = 2.5) , the minimum annual fishery</p>
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		mortality was below their prescribed PBR, but above their 50% threshold, driving the classification of Category I for the Northeast sink gillnet fleet (Table 18). The 2016 Marine Mammal Stock Assessments indicates a positive population trend for the Gulf of Maine humpback whale stock; a trend analysis has not been conducted for the fin whale stock. (Hayes et al. 2016).
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to address is whether the requirements themselves are being met. For example, if a Potential Biological Removal (PBR) is used as a trigger for additional management action to reduce the take of a given species (as it is in the US Marine Mammal Protection Act), the key thing is that the fishery is complying with the requirements to reduce the take (as monitored by the national requirements).”

		<p>The effects of the gillnet fishery on humpback, minke and fin whale stocks are known and considered highly likely to be within MMPA limits, thus the SG80 is met for these species. Because fishery mortality are minimum estimates, considered to be biased low the SG100 is not met.</p> <p>North Atlantic Right whale</p> <p>Although the northeast sink gillnet fishery is listed as “Category I” under the MMPA’s List of Fisheries, North Atlantic right whales were removed as a driver for the gillnet fishery’s Category I classification in 2010. There have been no recorded interactions between the Northeast sink gillnet fishery and North Atlantic Right Whales in 25 years (MMPA LOF) and pot fisheries and ship strikes have been more recently identified as the primary risk to these animals (NOAA 2020b). The most recent published information having identified gillnet as a source of entanglement causing serious injury or death of NARWs is 2018, where a total of 1.75 serious injury or mortality events were positively attributed to gillnet gear over this 9-year time period (GAR Marine Animal Incident Database). Of the 37 unknown sources of mortality/serious injury over this time period, all but 0.3% (equating to a fraction of 1) were attributed to pot/line gear since this makes up 99.7% of the vertical lines in the water in this area. The updated Take Reduction Framework proposed to begin rollout in phases starting in 2021 includes in phase 2 modifications to any gillnet gear will contribute to a 0,075 animal reduction serious injury or mortality, and the ESA Section 7 consultation Biological Opinion published May 21, 2021 finds the northeast and mid-Atlantic sink gillnets under the current ALWTRP provisions cause no jeopardy to NARWs.</p> <p>In the absence of direct evidence that the northeast (and mid-Atlantic) sink gillnet fisheries interact with NARWs, and the fact that NARWs were removed as the driver for the LOF category I listing for the northeast sink gillnet fishery in 2010, means that the assessment team cannot rationally consider this whale as a scoring element for 2.3.1. However, we can consider the adherence of the fleet to the measures required under the ALWTRP as an indicator of whether the requirements for protection and recovery of these animals as laid out in the MMPA (the Reasonable and Prudent Alternatives) are being met. Although the CAB who carried out the initial assessment for spiny dogfish found 3 instances of non-adherence to the TRP regulations, no infractions of this kind have been issued in 2018, 2019 or 2020. In addition the ESA Section 7 consultation Biological Opinion published May 21, 2021 authorized the northeast sink gillnet fishery with a no-jeopardy finding in relation to NARWs under the current management arrangements.</p> <p>The assessment team’s conclusion in the recent overlapping Southern New England winter and little skate MSC assessment (MRAG Americas 2021) was that North Atlantic Right Whales should not be included as an ETP scoring element in the gillnet fishery UoA for the reasons listed above. However, since there have been management considerations relevant to the gillnet fisheries due to MMPA requirements, it is possible to evaluate them under PI 2.3.2, even though NARWs are not explicitly considered as an ETP scoring element in 2.3.1.</p>
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		<p>In the interest of consistency and harmonization, NARWs have been removed as a scoring element in the gillnet UoAs for this fishery</p> <p>Right whales are categorized as a <i>strategic stock</i> because the level of direct human-caused mortality exceeds the PBR level of one.</p> <p>NMFS has determined that the annual mortality and serious injury of Atlantic right whales in the Northeast sink gillnet fishery is greater than or equal to 50% of the PBR level for this stock, classifying this fishery under Category I. On account of their classification as a Category I fishery and its interaction with a strategic stock, the fishery is required to follow the ALWTRP regulations including spatial and seasonal closures, gear modifications and gear marking requirements. For more details on these management measures please see the background (p. 70). For the fishery to meet SG60 the team needs to determine it is likely (60% probability) that the gillnet fishery is complying with these requirements, the SG80 requires a 'highly likely' probability (70th percentile) (MSC CR v1.3 CB3.2.3). The interpretation of likelihood levels may be either qualitative (plausible argument, empirical observation of sustainability and qualitative risk) or quantitative (measured data relevant to the fishery, statistical analysis, quantitative risk assessment) (MSC v2.0 GSA 3.2.4).</p> <p>At the November 2017 'Atlantic Large Whale Take Reduction Team Monitoring Webinar' the United States Coast Guard (USCG) reported on "[...] three cases involving violations of gillnet vessels in the Northeast and mid-Atlantic. These cases included failure to have an anchor, buoy lines with no markings, and failure to use weak links." And concluded that across <i>all</i> fisheries, there is an 87.4% compliance rate with gear regulations (NMFS 2017b). The overall compliance rate across all fisheries >80% suggests that the gillnet fishery is <i>likely</i> complying with the requirements to reduce take of right whales meeting SG60. However, because of the limited compliance verification, the limited information on entanglement events, and evidence of some non-compliance events, reduce the confidence that the gillnet fishery is highly likely to be complying with national requirements for protection and rebuilding (MSC CR v2.0 GSA3.2). The fishery does not meet SG80.</p> <p>Large Whales – Gillnet (SG60) Gillnet (SG80)</p>
		<p>TRAWL FISHERY</p>
		<p>Minke whales:</p> <p>The trawl UoA affects minke whales. For the period 2010 through 2014, the minimum annual rate of fishery-caused mortality and serious injury for the minke whale stock was below 50% of their prescribed PBR, but >10%PBR, correspondingly the Mid-Atlantic and Northeast bottom trawl fisheries are designated by the MMPA as Category II fisheries. The effects of the fishery on minke whales are known and are highly likely to be within MMPA limits, meeting SG80. As a result of limited information on all effects of the fishery on minke whales and uncertainty surrounding the status of minke whales, the high degree of certainty (SG100) is not achieved.</p> <p>Large Whales – Trawl (SG80)</p>

	<p>BOTTOM LONGLINE FISHERY</p> <p>All Large Whales:</p> <p>Bottom longlines pose a potential threat to whales that feed near the bottom, and “injuries and entanglements can occur from vertical lines attached to surface buoys and in derelict gear” (NMFS 2014b). There are no documented interactions for the bottom longline UoA with large whales. This fishery is identified as “Category III”, the lowest level of risk categorization given to a fishery, for which the annual mortality and serious injury of a stock in a given fishery is $\leq 1\%$ of the PBR level.</p> <p>Given the low risk of this fishery and the absence of any potential interaction there is a high degree of certainty that the known effects of the bottom longline fishery on large whales are within limits of MMPA requirements, meeting SG100.</p> <p>Large Whales – Bottom Longline (SG100)</p>
	<p>SMALL CETACEANS</p>
	<p>GILLNET FISHERY</p> <p>The gillnet UoA affects the West North Atlantic white-sided dolphin (<i>Lagenorhynchus acutus</i>) stock and the common bottlenose dolphin (<i>Tursiops truncatus</i>) and harbor porpoises (<i>Phocoena phocoena</i>).</p> <p>Atlantic white-sided dolphins</p> <p>For the period 2010 through 2014, the minimum annual rate of fishery-caused mortality and serious injury for the Atlantic white-sided dolphins stock was below 50% of their prescribed PBR (Table 18).</p> <p>Harbor porpoise</p> <p>The estimated mean annual mortality of harbor porpoise to sink gillnets surpasses the 50% PBR. For this stock there is in place the Harbor Porpoise Take Reduction Plan (HPTRP) which has a number of regulations in place to reduce take of harbor porpoises by the fishery, including seasonal closure areas and use of pingers.</p> <p>Common bottlenose dolphin</p> <p>In the North Atlantic the Common bottlenose dolphin consists of four distinct stocks; because these four stocks overlap it is not always possible to assign a mortality to a specific stock, and thus all four stocks are included as potentially impacted by the fishery. For the Northern Migratory Coastal Stock estimated fishery-mortality ranges (2010-2014) are $< 50\%$PBR, for the Southern Migratory Coastal Stock estimated fishery-mortality ranges (2010-2014) are $< 50\%$PBR, for the both the Northern NC estuarine system (NNCES) stock and southern NC estuarine system (SNCES) stocks there is a possibility that fishery mortalities (2010–2014) are above their PBR. The Mid-Atlantic gillnet fishery is classified as Category I and there is in place a Bottlenose Dolphin Take Reduction Plan (BDTRP). The BDTRP includes regulatory management measures: gear modifications, time and area closures, and limited soak durations. Because there are in place actions to reduce take triggered by the PBR, the effects of the gillnet fishery on common bottlenose dolphins are considered highly likely to be within limits of MMPA requirements for protection, meeting the SG80.</p> <p>Due to biased low mortality estimates and sparse observer coverage for certain regions the SG100 is not met.</p>

	<p>Small Cetaceans– Gillnet(SG80)</p> <p>TRAWL FISHERY</p> <p>The trawl UoA affects Atlantic white-sided dolphins, common dolphins, Risso’s dolphin, long finned pilot whales and harbor porpoises.</p> <p>Common dolphins, Risso’s dolphin and harbor porpoises.</p> <p>Common dolphins and Risso’s dolphin are under their prescribed PBRs. The estimated mortality of harbor porpoises assigned to the North Atlantic Bottom fishery is of four, which is below the Zero Mortality Rate Goal (ZMRG) of 10%PBR.</p> <p>Long Finned Pilot Whales</p> <p>The 2020 stock assessment for long-finned pilot whale constituted a significant change to the understanding of this species’ status and recovery. The minimum population size for long-finned pilot whales is 30,627. The maximum productivity rate is 0.04, the default value for cetaceans. The “recovery” factor is 0.5 because this stock is of unknown status relative to optimum sustainable population (OSP) and the CV of the average mortality estimate is less than 0.3 (Wade and Angliss 1997). Potential Biological Removal (PBR) for the western North Atlantic long-finned pilot whale is now 306, whereas it was just 35 when this fishery was first certified.</p> <p>The mean combined annual mortality of long-finned pilot whales over the period of 2013-2017 in the Northeast Bottom Trawl fishery is 15 individuals.</p> <p>The long-finned pilot whale is not listed as threatened or endangered under the Endangered Species Act, and the western North Atlantic stock is not considered strategic under the MMPA because the mean annual human-caused mortality and serious injury does not exceed PBR. Total U.S. fishery-related mortality and serious injury for long-finned pilot whales is less than 10% of the calculated PBR and, therefore, can be considered to be insignificant and approaching zero mortality and serious injury rate (NOAA 2020)</p> <p>This comprises adequate evidence that (1) the effects of the bottom trawl UoA on long-finned pilot whales are known and are highly likely to be within limits of national requirements for protection of marine protected mammals (Marine Mammal Protection Act, MMPA); (2) it is highly likely that the bottom trawl fishery meets MMPA requirements. The most recent stock assessment demonstrates that requirements for protection and rebuilding are being achieved. SG80 is met.</p> <p>The 2010-2014 average annual mortality of long-finned pilot whales attributed to the northeast bottom trawl was 33.2 animals (CV=0.15). The PBR for long-finned pilot whales is of 35 whales; the total reported takes across all fisheries exceeded this at 38. Annual mortality and serious injury of a stock in a given fishery higher than 50% of the PBR merits a designation of Category I under the MMPA. As of the 2017 List of Fisheries (LOF), this fishery continues to be classified under Category II; and there is no evidence that additional management actions to reduce take are being developed or implemented. The assessment team acknowledges that there is significant uncertainty in the stock assessment informing the PBR and that the 2017 stock assessment report states survey results are impartial and likely underestimate overall abundance of this species. Nonetheless, the published stock assessment is expected to represent the best available information used for management. Due to the inconsistency between the estimated annual mortality to its PBR and the MMPA categorization of the trawl fishery does not meet the SG80.</p> <p>Small Cetaceans–Trawl (SG60)(SG80)</p> <p>BOTTOM LONGLINE FISHERY</p>
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	<p>All small cetaceans:</p> <p>There are no documented potential interactions for the bottom longline UoA with small cetaceans. As explained previously the bottom longline fishery is identified as “Category III”. Given the low risk of annual mortality/serious injury of this fishery on small cetaceans and the absence of any potential interaction, there is a high degree of certainty that the effects of the bottom longline fishery are within limits of national and international requirements, meeting SG100.</p> <p>Small Cetaceans– Bottom Longline (SG100)</p>
	<p>PINNIPEDS</p>
	<p>GILLNET FISHERY</p>
	<p>All pinnipeds:</p> <p>Gillnet fisheries have recorded interactions with a number of seal species: hooded, harp, harbor and gray seals. Estimated mortalities of these species either below the prescribed PBRs or the total fishery-related mortality and serious injury for these stock can be considered insignificant and approaching zero mortality and serious injury rate.</p>
	<p>The SG80 is met for the gillnet UoA.</p> <p>Pinnipeds– Gillnet(SG80)</p>
	<p>TRAWL FISHERY</p>
	<p>All pinnipeds:</p> <p>There are potential for interactions for the trawl fishery with gray, harbor and harp seals. Estimated mortalities of these species either below the prescribed PBRs or the total fishery-related mortality and serious injury for these stock can be considered insignificant and approaching zero mortality and serious injury rate.</p> <p>The SG80 is met for the trawl UoA.</p> <p>Pinnipeds–Trawl (SG80)</p>
	<p>BOTTOM LONGLINE FISHERY</p>
	<p>All pinnipeds:</p> <p>There are no potential for interactions of bottom long line and pinnipeds. Given the low risk of annual mortality/serious injury of this fishery on pinnipeds and the absence of any potential interaction, there is a high degree of certainty that the effects of the bottom longline fishery are within limits of national and international requirements, meeting SG100.</p> <p>Pinnipeds– Bottom Longline (SG100)</p>
	<p>SEA TURTLES</p>
	<p>GILLNET FISHERY</p>

		<p>Sink gillnet are recorded as interacting mostly with loggerhead and to a lesser extent with other hard-shelled sea turtle species (kemp's ridley, green and hawksbill). Due to the low number of interactions there is low risk that the fishery is impacting the other hard-shelled sea turtle species.</p> <p>For sink gillnet loggerhead total annual interactions from 2007-2011 were estimated to be 89 (CV = 0.26, 95% CI=29-82) with an estimated 52 interactions resulting in mortality.</p> <p>In the latest 2013 Biological Opinion on ESA-listed the anticipated number of sea turtle interactions and the mortality expected to occur annually in gillnets is 269 interactions (167 mortalities). The 2018 Annual Determination proposed to improve observer coverage of the Mid-Atlantic Gillnet fishery, to obtain more basic information on loggerhead bycatch.</p> <p>The known interaction of gillnet fisheries are below the Incidental Take Statement (ITS) of 269 interactions and are in line with the current biological opinion expectations that interactions from this fishery do not hinder recovery of loggerhead or other sea turtle species, meeting S80.</p> <p>Sea Turtles– Gillnet(SG80)</p>
		<p>TRAWL FISHERY</p> <p>Bottom trawl are recorded as interacting mostly with loggerhead and to a lesser extent with other hard-shelled sea turtle species (kemp's ridley, green and hawksbill). Due to the low number of interactions there is low risk that the fishery is impacting the other hard-shelled sea turtle species.</p> <p>Estimated interactions of commercial trawl fisheries and loggerheads occur mostly in the in U.S. Mid-Atlantic in warm and shallow waters. Average annual estimates of sea turtle interactions and in U.S. Mid-Atlantic bottom trawl fishery 2009 to 2013 are at 231 (CV=0.13), out of which 96 interactions are estimated to have resulted in mortality.</p> <p>The ITS interaction levels are formally evaluated on a 5-year basis, on an annual basis observed takes of loggerhead turtles to consider trends in takes and look for patterns and changes in take levels.</p> <p>In the latest 2013 Biological Opinion on ESA-listed the anticipated number of sea turtle interactions and the mortality expected to occur annually in trawl fisheries is 204 interactions (67 mortalities). The anticipated lethal removal of loggerhead is not likely to result in any appreciable decline to the Loggerhead North West Atlantic DPS.</p> <p>Despite the high number of interactions for the trawl UoA, exceeding the ITS of 204, the data available on UoA interactions that is in line with current biological opinion expectations indicate that the trawl fishery is not hindering recovery of loggerhead or other sea turtle species, meeting S80.</p> <p>Sea Turtles–Trawl (SG80)</p> <p>BOTTOM LONGLINE FISHERY</p>

	<p>Bottom longline is not considered to be an important source of interaction and mortality for sea turtles, meeting SG80 is considered. Annually the National Marine Fisheries Service (NMFS) reviews information on sea turtle-fishery interactions, sea turtle distribution and spatial overlap with fisheries operations, sea turtle standings and temporal overlap with fisheries operations, and fishing techniques and gears used that are known or likely to result in incidental take of sea turtles. This information is used to determine which commercial and recreational fisheries should be considered for inclusion on the Annual Determination (AD). NMFS analysis the impacts of numerous fisheries in various biological opinions, and bottom longline is not included as a fishery in the AD, indicating that based on its analysis NMFS has determined that bottom longline are known or likely to not result in incidental take of sea turtle. Uncertainty in data on interactions and the level of ongoing interactions prevents the UoA from meeting the SG100 criteria.</p> <p>Sea Turtles–Bottom Longline (SG80)</p>
	<p>FISHES - Atlantic Sturgeon</p> <p>GILLNET & TRAWL FISHERIES</p> <p>The U.S. populations of Atlantic sturgeon is divided into five distinct population segments (DPS). In 2012 all five DPS are listed under ESA.</p> <p>Atlantic sturgeon are known to be captured in sink gillnet and drift gillnets and in bottom trawl gear. Of these gear types, sink gillnet gear poses the greatest known risk of mortality for bycaught sturgeon. Allocating of takes of Atlantic sturgeon to individual Fishery</p>
	<p>Management Plans (FMPs) is difficult, thus the NEFSC allocates takes to otter vs. sink gillnet (NEFMC 2012).</p> <p>Miller & Shepherd (2011) estimated that between 2006 and 2010, a total of 7,848 lbs. of Atlantic sturgeon were captured and discarded by sink gillnet gear and a total of 7,740 lbs. by otter trawls.</p> <p>Based on observer data, discard mortality in gillnets is estimated to be 20%, for gillnets where the primary target species is monkfish the mortality rate increases to 27%. In otter trawls discard mortality is estimated to be only 5% (NEFMC 2012).</p> <p>In 2017 the stock assessment subcommittee (SAS) conducted an evaluation of the status of Atlantic sturgeon along the U.S. Atlantic coast relative to relative abundance and total mortality. The assessment found that the coastwide estimate (grouping all five DPSs) of total mortality was below the $Z_{50\%EPR}$ threshold, suggesting current levels of mortality for the entire meta-population are sustainable. The assessment found that mortality levels at the individual DPS-level, are above the Z threshold for four of the five DPSs, however, these estimates are considered highly uncertain because affected animals are rarely genotyped, making it challenging to assign mortalities to an individual DPS(ASMFC, 2017a).</p> <p>The 2013 Biological Opinion concluded that the projected incidental capture may adversely affect, but are not likely to reduce the likelihood that the status of the five DPSs of Atlantic sturgeon can improve to the point where it is recovered and could be delisted any of the ESA.</p> <p>Since Atlantic sturgeon were listed under the ESA, several measures have been implemented aimed at recovery of Atlantic sturgeon, including available guidance for commercial fishermen on sturgeon resuscitation, continuous studies to assess modified gillnet gears to reduce interactions, review of distribution models, state's increase in observer coverage.</p> <p>The assessment team considers that the effects of both gillnets and bottom trawl on Atlantic sturgeon are known. Given that the Biological Opinion concludes that projected incidental capture will not reduce the likelihood of recovery, and that the coast wide metapopulation is considered to be below the Z threshold, the team concludes that both gillnet and bottom trawl UoA meet SG80.</p> <p>Due to the uncertainty surrounding status of individual DPSs and considerations that bycatch mortality is likely underestimated for Atlantic sturgeon (ASMFC, 2017a), the SG100-level is</p>

		not achieved. Fishes – Gillnet(SG80), Trawl (SG80) BOTTOM LONGLINE FISHERY Bottom longline is not considered to be a source of mortality for Atlantic Sturgeon, Given the low risk of annual mortality/serious injury of this fishery on Atlantic Sturgeon and the absence of any potential interaction, there is a high degree of certainty that the effects of the bottom longline fishery are within limits of national and international requirements, meeting SG100. Fishes – Bottom Longline (SG100)		
		SEABIRDS GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES There are no limits on seabird interactions. Sla is therefore not scored for these ETP elements. Summary of scores for Sla for each scoring element: Large Whales – Gillnet (SG80), Trawl (SG80), Bottom Longline (SG100) Small Cetaceans – Gillnet (SG80), Trawl (SG60) (SG80) , Bottom Longline (SG100) Pinnipeds – Gillnet (SG80), Trawl (SG80), Bottom Longline (SG100) Sea Turtles – Gillnet (SG80), Trawl (SG80), Bottom Longline (SG80) Fishes – Gillnet (SG80), Trawl (SG80), Bottom Longline (SG100)		
b	Guidepost	Known direct effects are unlikely to create unacceptable impacts to ETP species.	Direct effects are highly unlikely to create unacceptable impacts to ETP species.	There is a high degree of confidence that there are no significant detrimental direct effects of the fishery on ETP species.
	Met?	Otter Trawl: Y Gillnet: Y Bottom Longline: Y	Otter Trawl: N Gillnet: N Y Bottom Longline: Y	Otter Trawl: N Gillnet: N Bottom Longline: Y
	Justification	MARINE MAMMALS , FISHES & SEA TURTLES GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES For marine mammals score and sea turtles the score of Slb is the same as for Sla because where there are requirements for protection and rebuilding, provided through the national legislation, MSC requires the team interpret “unacceptable impacts” as the likelihood that the fishery meets these protection requirements (MSC CR v1.3 Clause CB3.11.3.1) ¹² . The Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA) requirements are both set to achieve both protection and rebuilding of the stocks (See MMPA Background Information & ESA Background Information). For this reason thus considered to meet the overall intent of PI 2.3.1 that “the fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species” Because Sla already focuses on assessing compliance with the limits of national requirements for protection and rebuilding; the scoring criteria, and consequently scores/rationales, of Slb match those of Sla and are thus not repeated here.		

¹² MSC Certification Requirements V1.3 CB3.11.3.1. The team shall interpret “unacceptable impacts” as: [...] At SG80, where it is highly likely that the fishery meets the requirements, there would be direct demonstration that requirements for protection and rebuilding are being achieved.

		SEABIRDS		
		GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES		
		<p>Observer data provided to the assessment team included low levels of incidental interactions with several protected species of migratory seabirds. There is no indication that these fisheries are having a population level impact on these seabird species, though there is a lack of ongoing monitoring of impacts by Northeast fleets on seabird populations. From the information available, it is highly likely the UoA is not hindering recovery of any of the seabird species with which interactions have been recorded, but there is not a high degree of confidence due to uncertainties in the extent of interactions and population impacts in the Northeast.</p> <p>Summary of scores for SIb for each scoring element:</p> <p>Large Whales – Gillnet (SG60)(SG80), Trawl (SG80), Bottom Longline (SG100) Small Cetaceans– Gillnet (SG80), Trawl (SG60)(SG80), Bottom Longline (SG100) Pinnipeds– Gillnet (SG80), Trawl (SG80), Bottom Longline (SG100)</p> <p>Sea Turtles– Gillnet (SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Fishes– Gillnet (SG80), Trawl (SG80), Bottom Longline (SG100)</p> <p>Seabirds– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p>		
c	Guided post		Indirect effects have been considered and are thought to be unlikely to create unacceptable impacts.	There is a high degree of confidence that there are no significant detrimental indirect effects of the fishery on ETP species.
	Met?		(Y)	(N)
	Justification	MARINE MAMMALS , FISHES, SEA TURTLES & SEABIRDS		
		GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES		
		<p>According to MSC Indirect impacts under in SIc "include situations where the removal of the target species reduces its availability as prey for a predator species, and a range of ecosystem level changes as described in section GSA3.16" (MSC CR v2.0 GSA3.1). Section GSA3.16 describes broad ecological community and ecosystem indirect impacts including ecosystem structure, trophic relationships and biodiversity. Broad ecosystem impacts of the fishery are also scored under PI 2.5.1. Indirect impacts have been considered for ETP species via stock assessments, designation of critical habitat under the ESA, and various studies of the trophic ecology of the NES LME and role of forage species (e.g. Houde et al 2014).</p> <p>The 2013 Specifications for the Dogfish Fishery conclude that the fishery does not affect the availability of prey of protected species, mainly marine mammals and sea turtles stating that “ Sea turtles feed on a variety of plants and animals and large whales feed on copepods, krill and small schooling fish, which are either not affected by the fishing gear used to target spiny dogfish or in species such as herring and mackerel caught in relatively small volumes.</p>		

		<p>Large Whales – Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Small Cetaceans– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Pinnipeds– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Sea Turtles– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Fishes– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Seabirds– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p>
References		
OVERALL PERFORMANCE INDICATOR SCORE:		
Otter Trawl (2 elements <SG80, 14 all elements ≥SG80) <i>All elements meet SG60; most achieve higher performance, at or exceeding SG80; only a few fail to achieve SG80 and require intervention action.</i>		75 80
Gillnet (16 elements =SG80) <i>All elements meet SG80</i>		75 80
Bottom Longline (11 elements ≥SG100, 5 elements ≥SG80) <i>All elements meet SG80; most achieve higher performance at SG100, and only a few fail to achieve SG100.</i>		95
<p>2.1 By the fourth surveillance the fishery shall provide evidence that (1) the effects of the bottom trawl UoA on long-finned pilot whales are known and are highly likely to be within limits of national requirements for protection of marine protected mammals (Marine Mammal Protection Act, MMPA); (2) it's highly likely that the bottom trawl fishery meets MMPA requirements, there would be direct demonstration that requirements for protection and rebuilding are being achieved.</p> <p>2.2 By the fourth surveillance the fishery shall provide evidence that (1) the effects of the gillnet UoA on Atlantic right whales are known and are highly likely to be within limits of national requirements for protection of marine protected mammals (Marine Mammal Protection Act, MMPA); (2) it's highly likely that the gillnet fishery meets MMPA requirements, there would be direct demonstration that requirements for protection and rebuilding are being achieved</p>		

Evaluation Table for PI 2.3.2 – ETP species management strategy

PI 2.3.2		The fishery has in place precautionary management strategies designed to: <ul style="list-style-type: none"> Meet national and international requirements; Ensure the fishery does not pose a risk of serious harm to ETP species; Ensure the fishery does not hinder recovery of ETP species; and Minimise mortality of ETP species. 		
Scoring Issue		SG 60	SG 80	SG 100
a	Guidepost	There are measures in place that minimise mortality of ETP species, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species.	There is a strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality, which is designed to be highly likely to achieve national and international requirements for the protection of ETP species.	There is a comprehensive strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality, which is designed to achieve above national and international requirements for the protection of ETP species.
	Met?	Otter Trawl: Y Gillnet: Y Bottom Longline: Y	Otter Trawl: Y Gillnet: Y Bottom Longline: Y	Otter Trawl: N Gillnet: N Bottom Longline: N

	Justification	<p>MARINE MAMMALS (Large whales, small cetaceans, and pinnipeds)</p> <p>GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES</p> <p>The U.S. Office of Protected Resources List of Fisheries (LOF) classifies U.S. commercial fisheries into one of three Categories according to the level of incidental mortality or serious injury of marine mammals. The categorization in the LOF determines whether participants in that fishery are subject to certain provisions of the Marine Mammal Protection Act (MMPA) such as registration, observer coverage, and take reduction plan requirements.</p> <p>All marine mammals under the (MMPA) undergo annual stock assessments reports (SARs) which include a minimum population estimate, a maximum net productivity rate, a description of current population trend, and estimate of annual human-caused mortality and serious injury. Sources of information for the SARs include; census of individuals using photo-id sightings, observed stranding and entanglements, and for some species there are shipboard, aerial and acoustic surveys.</p> <p>Information from the SAR is used to assign a Potential Biological Removal (PBR) level that is the product of the following factors: the minimum population estimate of the stock; one-half the maximum theoretical or estimated net productivity rate of the stock at a small population size; and a recovery factor of between 0.1 and 1.0. This factor is designed to ensure the recovery and account for uncertainties other than the precision of the abundance estimate. The default values are 0.1 for endangered stocks and 0.5 for depleted and threatened stocks and stocks of unknown status.</p> <p>PBR is designed as a metric to be used when comparing all estimated annual, anthropogenic mortalities. Stocks for which the level of direct human-caused mortality exceeds the PBR level, are considered as 'strategic stocks' requiring the formation of a 'Take Reduction Team/Plan' with an immediate goal to reduce take, within 6 months of its implementation. The long-term goals of a take reduction plan for a strategic stock is to reduce, within 5 years,</p>
		<p>the incidental mortality or serious injury of marine mammals to insignificant levels approaching zero mortality and serious injury rate (10% PBR), "taking into account the economics of the fishery, the availability of existing technology, and existing State or regional fishery management plans." (MMPA 16 U.S.C. 1387 Sec. 118. f)</p> <p>An overview of the recent actions taken by the Take Reduction Team/Plans are described in the background, for the Atlantic Large Whale Take Reduction Team (See p. 70). Bottlenose Dolphin Take Reduction Plan (See p. 73), for the long-finned pilot whale (See p. 75) and for the Harbor Porpoise (See p. 76).</p> <p>The categorization is updated annually an informed by the production of the annual SARs.</p> <p>For the Atlantic Large Whale Take Reduction Plan (ALWTRP), in 2012 NMFS published a monitoring strategy to review compliance with and to assess the effectiveness of the regulations in achieving the MMPA short- and long-term goals. The metrics to evaluate the ALWTRP include; serious injuries and mortalities compared to PBR, population estimate and trend, observed/reported entanglements and scarring analysis. If analyses determine that the Plan is not achieving its goals, NMFS will evaluate the potential causes for not achieving the management objectives and consult with the Team on the development of appropriate actions to address any identified shortcomings in the Plan (NMFS 2012).</p> <p>The cohesive arrangement of monitoring, analysis, management measures and analysis, qualifies the MMPA as a comprehensive strategy, meeting the SG80. This strategy is designed to achieve national requirements and not to achieve <i>above</i> national and international requirements, thus the SG100 is not met.</p> <p>Large Whales – Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Small Cetaceans– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Pinnipeds– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>SEA TURTLES, FISH and SEABIRDS</p>

		GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES		
		<p>The ESA, signed on 1973, provides for the conservation of species that are endangered or threatened the conservation of the ecosystems on which they depend. NOAA has jurisdiction over 159 endangered and threatened marine species and works with the U.S. Fish and Wildlife Service (USFWS) to manage ESA-listed species. Generally, NOAA manages marine species, while USFWS manages land and freshwater species. When a species is listed as endangered it is illegal to “take” (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to do these things) that species. Section 10 of the ESA allows NOAA Fisheries Service to issue permits for incidental take, with the requirement of a conservation plan to minimize and mitigate impacts to the affected species. NMFS’ Office of Law Enforcement works with the U.S. Coast Guard and other partners to enforce and prosecute ESA violations (NOAA).</p> <p>A 2013 Biological Opinion on seven fishery management plans, and the associated revised (2016) incidental take statement provide for an operationalized strategy for managing impacts of 7 federally managed fisheries, including the Squid Mackerel Butterfish FMP, on ETP species. This BiOp includes an incidental take statement that includes an expected number of interactions and required ‘reasonable and prudent measures’ to be undertaken by the fisheries to minimize impacts on sea turtles and Atlantic sturgeon. The ITS was updated in 2016. This meets the requirements of a “comprehensive strategy” as “a</p>		
		<p>complete and tested strategy made up of linked monitoring, analyses, and management measures and responses.” The SG80 is met.</p> <p>Seabird management under is administered by the US FWS. The linkage of protections under the federally managed fisheries to commercial fisheries is not formally established as in the FMP(s) and ESA, but there is evidence of successful implementation of seabird impact mitigation initiatives in US fisheries such as the Pacific pelagic longline fishery. There is ongoing monitoring of interactions via the observer program and evidence of consideration of commercial fishery impacts. Seabirds are also considered in the NOAA National Bycatch Report. The evidence of monitoring and studies on impacts (e.g. Hatch 2017) along with the legislative protections and seabird management initiatives at the US FWS is sufficient to meet the requirements for a strategy, but is cannot be considered a comprehensive strategy due to the lack of a formal linkages between the fishery and US FWS initiatives with commercial fisheries management monitoring by NMFS. SG80, only, is met.</p> <p>This strategy is designed to achieve national requirements and not to achieve <i>above</i> national and international requirements, thus the SG100 is not met.</p> <p>Sea Turtles– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Fishes– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Seabirds– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p>		
b	Guided post	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/species).	There is an objective basis for confidence that the strategy will work, based on information directly about the fishery and/or the species involved.	The strategy is mainly based on information directly about the fishery and/or species involved, and a quantitative analysis supports high confidence that the strategy will work.
	Met?	<p>Otter Trawl: Y</p> <p>Gillnet: Y</p> <p>Bottom Longline: Y</p>	<p>Otter Trawl: Y</p> <p>Gillnet: N Y</p> <p>Bottom Longline: Y</p>	<p>Otter Trawl: Y</p> <p>Gillnet: N</p> <p>Bottom Longline: Y</p>
	Justification	<p>MARINE MAMMALS (Large whales, small cetaceans, and pinnipeds)</p> <p>GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES</p>		

		<p>The MMPA strategy is mainly based on information directly about the fishery and the marine mammal species involved, the use of the observer program and abundance surveys of the species, provide quantitative data which support high confidence that the strategy works meeting SG80 for these scoring elements (species).</p> <p>Atlantic North Right Whales</p> <p>The measures in place to reduce take of right whales (gear modifications, area closures, gear marking, disentanglement efforts) are in theory expected to work. There are experiences of other fisheries that have been successful in reducing large whale entanglements via gear modifications (i.e., Australia's West Coast Rock Lobster Fishery). There are also cases of successful entanglement response networks in Mexico and South Africa (Laverick et al., 2017). Research specifically on North Atlantic right whale survivorship indicates that gear removal (disentanglement) is effective in increasing the survival rate of a whale (Robbins et al., 2015). Furthermore, there are no recent mortality events assigned to the gillnet fishery,</p>
		<p>and the last confirmed entanglement event was recorded in early 2012. Considering the theoretical feasibility of these mitigation measures, and the absence of recent recorded mortality and entanglement events of the gillnet fishery with right whales, it is plausible that the measures are likely to work, meeting SG60.</p> <p>In addition, there is an objective basis for confident that the measures will work/are working in the 2021 Biological Opinion (NMFS 2021). The updated Take Reduction Framework proposed to begin rollout in phases starting in 2021 includes in phase 2 modifications to any gillnet gear will contribute to a 0,075 animal reduction serious injury or mortality, and the ESA Section 7 consultation Biological Opinion published May 21, 2021 finds the northeast and mid-Atlantic sink gillnets under the current ALWTRP provisions cause no jeopardy to NARWs.</p> <p>In the absence of direct evidence that the northeast (and mid-Atlantic) sink gillnet fisheries interact with NARWs, and the fact that NARWs were removed as the driver for the LOF category I listing for the northeast sink gillnet fishery in 2010, means that the assessment team cannot rationally consider this whale as a scoring element for 2.3.1. However, we can consider the adherence of the fleet to the measures required under the ALWTRP as an indicator of whether the requirements for protection and recovery of these animals as laid out in the MMPA (the Reasonable and Prudent Alternatives) are being met. Although the CAB who carried out the initial assessment for spiny dogfish found 3 instances of non-adherence to the TRP regulations, no infractions of this kind have been issued in 2018, 2019 or 2020. In addition the ESA Section 7 consultation Biological Opinion published May 21, 2021 authorized the northeast sink gillnet fishery with a no-jeopardy finding in relation to NARWs under the current management arrangements.</p> <p>The assessment team's conclusion in the recent overlapping Southern New England winter and little skate MSC assessment (MRAG Americas 2021) was that North Atlantic Right Whales should not be included as an ETP scoring element in the gillnet fishery UoA for the reasons listed above. However, since there have been management considerations relevant to the gillnet fisheries due to MMPA requirements, it is possible to evaluate them under PI 2.3.2, even though NARWs are not explicitly considered as an ETP scoring element in 2.3.1. In the interest of consistency and harmonization, NARWs have been removed as a scoring element in the gillnet UoAs for this fishery</p> <p>However, the team concluded that the SG80 is not met because the information based on the direct mortality events for the species does not provide an objective basis for confidence that the mitigation measures will work:</p> <ul style="list-style-type: none"> ■ The implemented regulations have failed to reduce the frequency and number of observed/reported entanglement events (NMFS 2017a): 5 Year Review of the status of North Atlantic right whale recovery completed in 2017, concluded that the status of this species has not improved since the last review in 2012. The 5-year rate of serious injuries and mortalities of 4.65 from 2010-2014 surpasses the PBR of one and is a decreasing trend for the population estimate (Pace et al., 2017) ■ Despite the lack of recent confirmed entanglement events for the gillnet fishery it is difficult to arrive at an objective basis for confidence that the implemented

		<p>regulations have worked for this fishery on account of the limited information. Confirmed fishery caused mortality and injury events are considered a minimum because not all entangled whales are discovered or reported. Few entanglement and mortality events can be assigned to a specific fishery because entanglement events for this species are unobserved in the majority of the cases, where no gear is documented, recovered, or identifiable.</p> <p>It's also unclear how considerations for sublethal entanglement⁴³ effects are incorporated into regulations. Several studies suggest that chronic entanglement events may impact energy expenditure and reproductive success of right whales (Rolland et al. 2016; van der Hoop et al. 2017). Arguably, the effects of sublethal effects on reproductive health are reflected on population trends and estimates, used to calculate the PBR. Moreover, scarring rates are one of the indicators employed in the monitoring strategy for the ALWTRP. However, distinguishing between the effects of sub-lethal entanglement events and other effects is difficult. Other co-occurring intrinsic and extrinsic factors may be limiting right whale recovery, including climate change, prey availability, acoustic disturbance and genetic factors (Meyer-Gutbrod et al. 2015; Grieve et al. 2017 in NMFS 2017a).</p> <p>Based on the information directly on the performance and effectiveness of the ALWTRP the team concludes that there is not an objective basis for confidence that the ALWTRP strategy will work to reduce entanglements of right whale in the gillnet fishery. The SG80 is not met for the gillnet UoA.</p> <p>Large Whales – Gillnet(SG60) SG80, Trawl (SG100), Bottom Longline (SG100) Small Cetaceans– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80) Pinnipeds– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p>
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¹³ Sublethal effects that hinder recovery are not directly related to the national limits, which are based solely on fishery mortality and serious injury, they are however relevant to whether the fishery poses a risk to the particular marine mammal stocks and thus are considered under the effectiveness of management strategy.

		SEA TURTLES, FISH and SEABIRDS (ESA) GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES <p>The ESA strategy is mainly based on information directly about the fishery and the marine species involved, the use of the observer program and of nesting surveys provide quantitative data which support a high confidence that the strategy works.</p> <p>Sea Turtles– Gillnet(SG100), Trawl (SG100), Bottom Longline (SG100)</p> <p>Fishes– Gillnet(SG100), Trawl (SG100), Bottom Longline (SG100)</p> <p>Seabirds– Gillnet(SG100), Trawl (SG100), Bottom Longline (SG100)</p>		
c	Guided post		There is evidence that the strategy is being implemented successfully.	There is clear evidence that the strategy is being implemented successfully.
	Met?		Otter Trawl: Y Gillnet: Y Bottom Longline: Y	Otter Trawl: N Gillnet: N Bottom Longline: N
	Justification	MARINE MAMMALS (Large whales, small cetaceans, and pinnipeds) GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES		

		<p>Evidence of implementation of the MMPA is provided via the annually updated stock assessments for marine mammals and the associated annually updated LOF classifications where fisheries are classified based on their interactions with marine mammals, relative to their established PBRs. Additional evidence of implementation is the creation of the take reduction teams (TRT) and the recommendations and plans derived from the TRT which inform the implementation of management measures and regulations, meeting the SG80.</p> <p>An overview of the recent actions taken by the Take Reduction Team/Plans are described in the background, for the Atlantic Large Whale Take Reduction Team (See p. 70). Bottlenose Dolphin Take Reduction Plan (See p. 73), for the long-finned pilot whale (See p. 75) and for the Harbor Porpoise (See p. 76).</p> <p>Because compliance with MMPA regulations has room for improvement the SG100 is not met.</p> <p>Large Whales – Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Small Cetaceans– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Pinnipeds– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p>		
		<p>SEA TURTLES, FISH and SEABIRDS (ESA)</p>		
		<p>GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES</p>		
		<p>There is some evidence that the ESA strategy has been implemented successfully, as a Biological Opinion has been issued covering the FMPs to which the UoA applies that subjects the fishery to an ITS and specific ‘reasonable and prudent measures’. There is at least some evidence of ongoing monitoring of fishery impacts and consideration of further mitigation measures seen in the historic and recent testing of TED configurations that could be</p>		
		<p>implemented in the bottom trawl fleet (see background). This is not considered ‘clear’ evidence because of the uncertainty in the status of loggerheads, the ongoing rate of interactions of the fleet with sea turtles, and the broad gear-level designation of the ITS that combined with relatively low observer coverage makes does not allow the assessment team to draw any clear conclusion regarding the UoA specifically. SG80 only is met for trawl.</p> <p>Some evidence is available that the strategy for seabirds is being implemented successfully in the form of observer data and FWS identification of select birds of conservation and management concern and plans for focal species (including greater shearwater and red-throated loons). None of these sources of information indicate that the UoA is of primary impact concern such that specific management measures are merited. On this basis, SG80 is considered met. However, the lack of cohesiveness between the FWS management and NMFS monitoring means there is not clear evidence that the management strategy is being implemented successfully.</p> <p>Sea Turtles– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG100)</p> <p>Fishes– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG100)</p> <p>Seabirds– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG100)</p>		
d	Guidepost			There is evidence that the strategy is achieving its objective.
	Met?			<p>Otter Trawl: N</p> <p>Gillnet: N</p> <p>Bottom Longline: Y</p>
	Justification	<p>MARINE MAMMALS (Large whales, small cetaceans, and pinnipeds)</p> <p>GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES</p>		

		<p>Because the MMPA has not been successful at reducing the take of all marine mammals under the PBR or the long-term goal is to reduce bycatch to levels approaching a zero mortality, for this reason it is considered that the strategy is not achieving its objective, the SG100 is not met.</p> <p>For bottom longline the strategy is considered to be achieving its objective because there is no evidence that this fishery interacts with marine mammals.</p> <p>Large Whales – Gillnet(SG80), Trawl (SG80), Bottom Longline (SG100)</p> <p>Small Cetaceans– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG100)</p> <p>Pinnipeds– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG100)</p>
		<p>SEA TURTLES, FISH and SEABIRDS (ESA)</p>
		<p>GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES</p>
		<p>Because the annual incidental take for loggerheads by trawls has been exceeded it's not considered that the strategy is not achieving its objective for sea turtles, the SG100 is not met for the sea turtle element.</p> <p>Sea Turtles– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG100)</p>
		<p>Fishes– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG100)</p> <p>Seabirds– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG100)</p>
References		
OVERALL PERFORMANCE INDICATOR SCORE:		
Otter Trawl <i>All elements meet SG80; a few achieve higher performance, but most do not meet SG100.</i>		85
Gillnet <i>All elements meet SG60; most achieve higher performance, at or exceeding SG80; only a few fail to achieve SG80 and require intervention action. All elements meet SG80</i>		75 80
Bottom Longline <i>All elements meet SG80; a few achieve higher performance, but most do not meet SG100.</i>		85
CONDITION NUMBER (if relevant): 2-3. There is an objective basis for confidence that the Atlantic Large Whale Take Reduction Plan strategy will work, based on information directly about the gillnet fishery and/or North Atlantic right whales.		

Evaluation Table for PI 2.3.3 – ETP species information

PI 2.3.3	Relevant information is collected to support the management of fishery impacts on ETP species, including: <ul style="list-style-type: none"> Information for the development of the management strategy; Information to assess the effectiveness of the management strategy; and Information to determine the outcome status of ETP species. 		
Scoring Issue	SG 60	SG 80	SG 100

a	Guided post	Information is sufficient to qualitatively estimate the fishery related mortality of ETP species.	Sufficient information is available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.	Information is sufficient to quantitatively estimate outcome status of ETP species with a high degree of certainty.
	Met?	Otter Trawl: Y Gillnet: Y Bottom Longline: Y	Otter Trawl: Y Gillnet: N Y Bottom Longline: Y	Otter Trawl: N Gillnet: N Bottom Longline: N
	Justification	MARINE MAMMALS, SEA TURTLES, FISH and SEABIRDS GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES <p>The UoA related mortality and impact on all ETP species is provided primarily via the observer program data. Observer coverage is relatively low, but can be extrapolated to provide estimates of total impacts. There is significant uncertainty in the population status and trends of several ETP species such that establishing biologically based limits for fisheries impacts may likewise be uncertain. The uncertainties in estimating population status and trends for many ETP species is not easily overcome, and the assessment team considers that the management systems use the available quantitative information to assess fishery impacts in a precautionary manner. The management system also allows for observer placements to be made by some sea turtle and MMPA impact considerations- which are the impacts of greatest concern to this fishery- to increase the available quantitative data on fishery impacts as needed.</p> <p>Observer coverage for the fleet is around 10%. The SBRM annual reports provide the CV for the discard estimates for each species by gear type. The goal of the SBRM is to achieve a discard estimate with a precision of 30% coefficient of variation (CV) across all species and fleets.</p> <p>There are not discard mortality estimates available for most species, and discards comprise a significant amount of total catch for some main primary species (skates and spiny dogfish in particular)</p> <p>The assessment team concludes that there is sufficient information available to allow fishery-related mortality and the impact of fishing to be quantitatively estimated for most ETP elements, meeting SG80.</p> <p>Although the northeast sink gillnet fishery is listed as “Category I” under the MMPA’s List of Fisheries, North Atlantic right whales were removed as a driver for the gillnet fishery’s Category I classification in 2010. There have been no recorded interactions between the Northeast sink gillnet fishery and North Atlantic Right Whales in 25 years (MMPA LOF) and pot fisheries and ship strikes have been more recently identified as the primary risk to these animals (NOAA 2020b). The most recent published information having identified gillnet as a source of entanglement causing serious injury or death of NARWs is 2018, where a total of 1.75 serious injury or mortality events were positively attributed to gillnet gear over this 9-year time period (GAR Marine Animal Incident Database). Of the 37 unknown sources of mortality/serious injury over this time period, all but 0.3% (equating to a fraction of 1) were attributed to pot/line gear since this makes up 99.7% of the vertical lines in the water in this area. The updated Take Reduction Framework proposed to begin rollout in phases starting in 2021 includes in phase 2 modifications to any gillnet gear will contribute to a 0,075 animal reduction serious injury or mortality, and the ESA Section 7 consultation Biological Opinion published May 21, 2021 finds the northeast and mid-Atlantic sink gillnets under the current ALWTRP provisions cause no jeopardy to NARWs. Gillnet fishery-related mortality has been quantitatively estimated for the NARWs, and the SG80 is met.</p> <p>Atlantic right whales entanglement occurrences are rarely observed during fishing operations. Consequently, there are difficulties in attributing mortalities to specific fisheries. Recorded entanglement incidents are considered a minimum, since not all entangled whales</p>		

		<p>are discovered or reported. Entangled animals are usually not found in the same location where it was initially entangled, making it at times impossible to identify the gear type and area where the entanglement occurred. In the majority of the cases, no gear was documented or recovered, or the whale was carrying sections (line or rope) of unknown/undetermined gear type. Though the majority of mortalities for right whales has no identified gear type, there is evidence that right whales are susceptible to entanglement in gear employed by gillnet fisheries (See PI 2.3.1 Sla). Because available information is not sufficient to allow the gillnet fishery-related mortality and the impact of fishing to be quantitatively estimated for Atlantic right whales the SG80 is not met.</p> <p>Large Whales – Gillnet(SG60) SG80, Trawl (SG80), Bottom Longline (SG80)</p> <p>Small Cetaceans– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Pinnipeds– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Sea Turtles– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Fishes– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p>		
b	Guidepost	Information is adequate to broadly understand the impact of the fishery on ETP species.	Information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species.	Accurate and verifiable information is available on the magnitude of all impacts, mortalities and injuries and the consequences for the status of ETP species.
	Met?	<p>Otter Trawl: Y</p> <p>Gillnet: Y</p> <p>Bottom Longline: Y</p>	<p>Otter Trawl: Y</p> <p>Gillnet: Y</p> <p>Bottom Longline: Y</p>	<p>Otter Trawl: N</p> <p>Gillnet: N</p> <p>Bottom Longline: N</p>
	Justification	<p>MARINE MAMMALS, SEA TURTLES, FISH and SEABIRDS</p> <p>GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES</p> <p>The data collected from the observer program, stranding reports and surveys on abundance of ETP species are sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species, meeting SG80. However, because of the uncertainties in estimating population status of all ETP species, quantifying all unobserved mortalities and assigning mortalities to different fisheries, the assessment team concludes there that there is no accurate and verifiable information on the magnitude of all impacts. The SG100 is not met.</p> <p>Large Whales – Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Small Cetaceans– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Pinnipeds– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Sea Turtles– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p> <p>Fishes– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p>		
c	Guidepost	Information is adequate to support measures to manage the impacts on ETP species.	Information is sufficient to measure trends and support a full strategy to manage impacts on ETP species.	Information is adequate to support a comprehensive strategy to manage impacts, minimize mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives.

	Met?	<p>Otter Trawl: Y</p> <p>Gillnet: Y</p> <p>Bottom Longline: Y</p>	<p>Otter Trawl: Y</p> <p>Gillnet: NY</p> <p>Bottom Longline: Y</p>	<p>Otter Trawl: N</p> <p>Gillnet: N</p> <p>Bottom Longline: N</p>
	Justification	<p>MARINE MAMMALS, SEA TURTLES, FISH and SEABIRDS</p> <p>GILLNET, TRAWL & BOTTOM LONGLINE FISHERIES</p> <p>The information as described above is sufficient to support the associated strategies to manage impacts on ETP species. The U.S. Office of Protected Resources requires regular monitoring of the status of all federally listed ETP species and, where applicable, management measures (e.g. careful handling or gear modifications) and limits are put in place to ensure requirements for protection and rebuilding are met. There is sufficient evidence of historical implementation of management measures when indicated by monitoring to meet the SG80. Any conclusion with a high degree of certainty cannot be made due to the relatively low levels of observer coverage and uncertainty regarding the population status and trends of several ETP species. SG80 is met for most of the elements.</p> <p>Regarding NARWs, information is sufficient to support a full strategy for managing impacts. Although the northeast sink gillnet fishery is listed as “Category I” under the MMPA’s List of Fisheries, North Atlantic right whales were removed as a driver for the gillnet fishery’s Category I classification in 2010. There have been no recorded interactions between the Northeast sink gillnet fishery and North Atlantic Right Whales in 25 years (MMPA LOF) and pot fisheries and ship strikes have been more recently identified as the primary risk to these animals (NOAA 2020b). The most recent published information having identified gillnet as a source of entanglement causing serious injury or death of NARWs is 2018, where a total of 1.75 serious injury or mortality events were positively attributed to gillnet gear over this 9-year time period (GAR Marine Animal Incident Database). Of the 37 unknown sources of mortality/serious injury over this time period, all but 0.3% (equating to a fraction of 1) were attributed to pot/line gear since this makes up 99.7% of the vertical lines in the water in this area. The updated Take Reduction Framework proposed to begin rollout in phases starting in 2021 includes in phase 2 modifications to any gillnet gear will contribute to a 0,075 animal reduction serious injury or mortality, and the ESA Section 7 consultation Biological Opinion published May 21, 2021 finds the northeast and mid-Atlantic sink gillnets under the current ALWTRP provisions cause no jeopardy to NARWs.</p> <p>In the absence of direct evidence that the northeast (and mid-Atlantic) sink gillnet fisheries interact with NARWs, and the fact that NARWs were removed as the driver for the LOF category I listing for the northeast sink gillnet fishery in 2010, means that the assessment team cannot rationally consider this whale as a scoring element for 2.3.1. However, we can consider the adherence of the fleet to the measures required under the ALWTRP as an indicator of whether the requirements for protection and recovery of these animals as laid out in the MMPA (the Reasonable and Prudent Alternatives) are being met. Although the CAB who carried out the initial assessment for spiny dogfish found 3 instances of non-adherence to the TRP regulations, no infractions of this kind have been issued in 2018, 2019 or 2020. In addition the ESA Section 7 consultation Biological Opinion published May 21, 2021 authorized the northeast sink gillnet fishery with a no-jeopardy finding in relation to NARWs under the current management arrangements.</p> <p>The limited information on the specific fisheries/gear type on mortalities of Atlantic right whales (See Sla of this PI), impedes the development of reduction measures that effectively target the appropriate fishing areas/gear types/fisheries. Given the susceptibility of Atlantic right whales to gillnet fisheries, the available information is not considered sufficient to support a full strategy to manage the impacts of this fishery on this stock.</p> <p>Large Whales – Gillnet(SG60) SG80, Trawl (SG80), Bottom Longline (SG80)</p> <p>Small Cetaceans– Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)</p>		

		Pinnipeds – Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80) Sea Turtles – Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80) Fishes – Gillnet(SG80), Trawl (SG80), Bottom Longline (SG80)
References		
OVERALL PERFORMANCE INDICATOR SCORE:		
Otter Trawl		80
Gillnet		75 80
Bottom Longline		80
CONDITION NUMBER (if relevant):		
2-4. By the fourth annual surveillance the fishery shall provide evidence that (A) sufficient information is available to allow fishery related mortality to be quantitatively estimated for Atlantic right whales AND (B) information is sufficient to support a full strategy to manage impacts on Atlantic right whales.		

The above changes result in an overall change to the gillnet UOA only, from 81.0 to 81.7. No other Principle-level scores are affected.

5.3 Conditions

5.3.1 Closed Conditions

To be deleted in an expedited audit report

Table 14. Condition 1 (originally 2-1)

Performance Indicator	2.3.1 (trawl)
Score	75
Justification	<p>Summary for PI 2.3.1 SIA Small Cetaceans Scoring Element (Bottom Trawl)</p> <p>The 2010-2014 average annual mortality of long-finned pilot whales attributed to the northeast bottom trawl was 33.2 animals (CV=0.15). The PBR for long-finned pilot whales is of 35 whales; the total reported takes across all fisheries exceeded this at 38. Annual mortality and serious injury of a stock in a given fishery higher than 50% of the PBR merits a designation of Category I under the MMPA. As of the 2017 List of Fisheries (LOF), this fishery continues to be classified under Category II; and there is no evidence that additional management actions to reduce take are being developed or implemented. The assessment team acknowledges that there is significant uncertainty in the stock assessment informing the PBR and that the 2017 stock assessment report states survey results are partial and likely underestimate overall abundance of this species. Nonetheless, the published stock assessment is expected to represent the best available information used for management. Due to the inconsistency between the estimated annual mortality to its PBR and the MMPA categorization of the trawl fishery does not meet the SG80.</p>
Condition	<p>By the fourth surveillance the fishery shall provide evidence that (1) the effects of the bottom trawl UoA on long-finned pilot whales are known and are highly likely to be within limits of national requirements for protection of marine protected mammals (Marine Mammal Protection Act, MMPA); (2) it is highly likely that the bottom trawl fishery meets MMPA requirements, there would be direct demonstration that requirements for protection and rebuilding are being achieved.</p>
Milestones	<p>Year 1 Surveillance (2019). The fishery shall provide evidence of supporting federal management agency actions to address the discrepancy between the long-finned pilot</p>

	<p>whale SAR and PBR and Northeast Bottom Trawl LOF classification such that bottom trawl fishery is meeting the MMPA requirements.</p> <p>Year 2 Surveillance (2020) The fishery shall present evidence of continued support of actions taken by the federal management agency towards meeting the national requirements for the protection of long-finned pilot whales by the trawl fishery.</p> <p>Year 3 Surveillance (2021). The fishery shall present evidence of continued support of actions taken by the federal management agency to further progress 1 towards meeting the national requirements for the protection of long-finned pilot whales by the trawl fishery.</p> <p>Year 4 Surveillance (2022). The fishery shall present evidence of meeting national requirements for the protection of long-finned pilot whales.</p>
Consultation on condition	N/A
Progress on Condition (Year 1)	<p>Work is ongoing within NOAA to produce an updated population estimate for long-finned pilot whales. As specified for milestone Year 1, the client provided evidence of communications with NOAA fisheries and GARFO protected species monitoring branch. NOAA has conducted an updated population assessment on long-finned pilot whales since the dogfish full assessment. At a meeting of the NOAA Atlantic scientific review group (ASRG) in May of 2019, statements were made indicating there was a significant increase in the population estimate since 2018 NOAA Technical Memo NMFS-NE-258 was released. The minutes of the ASRG May 2019 meeting have not yet been published (as of November 12, 2019). The client group has been in touch with the ASRG chair, Dr Geneviève Nesslage, but it is still unknown when the minutes will be posted. The condition therefore remains open and on-target while we await the revised population estimate.</p> <p>.</p>
Progress on Condition (Year 2)	<p>The minimum population size for long-finned pilot whales is 30,627. The maximum productivity rate is 0.04, the default value for cetaceans. The “recovery” factor is 0.5 because this stock is of unknown status relative to optimum sustainable population (OSP) and the CV of the average mortality estimate is less than 0.3 (Wade and Angliss 1997). Potential Biological Removal (PBR) for the western North Atlantic long-finned pilot whale is 306.</p> <p>The mean combined annual mortality of long-finned pilot whales over the period of 2013-2017 in the Northeast Bottom Trawl fishery is 15 individuals.</p> <p>The long-finned pilot whale is not listed as threatened or endangered under the Endangered Species Act, and the western North Atlantic stock is not considered strategic under the MMPA because the mean annual human-caused mortality and serious injury does not exceed PBR. Total U.S. fishery-related mortality and serious injury for long-finned pilot whales is less than 10% of the calculated PBR and, therefore, can be considered to be insignificant and approaching zero mortality and serious injury rate</p> <p>This comprises adequate evidence that (1) the effects of the bottom trawl UoA on long-finned pilot whales are known and are highly likely to be within limits of national requirements for protection of marine protected mammals (Marine Mammal Protection Act, MMPA); (2) it is highly likely that the bottom trawl fishery meets MMPA requirements. The most recent stock assessment demonstrates that requirements for protection and rebuilding are being achieved. This condition can therefore be closed.</p>
Status	Closed
Additional information	NA

Table 15. Condition 2 (originally 2-2)

Performance Indicator	2.3.1 Sla and Slb The effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species.
Score	75
Justification	<p><u>North Atlantic Right whale</u></p> <p>Right whales are categorized as a strategic stock because the level of direct human-caused mortality exceeds the PBR level of one.</p> <p>NMFS has determined that the annual mortality and serious injury of Atlantic right whales in the Northeast sink gillnet fishery is greater than or equal to 50% of the PBR level for this stock, classifying this fishery under Category I. On account of their classification as a Category I fishery and its interaction with a strategic stock, the fishery is required to follow the ALWTRP regulations including spatial and seasonal closures, gear modifications and gear marking requirements. For more details on these management measures please see the background (p. 68 of SCS 2018). For the fishery to meet SG60 the team needs to determine it is likely (60% probability) that the gillnet fishery is complying with these requirements, the SG80 requires a 'highly likely' probability (70th percentile) (MSC CR v1.3 CB3.2.3). The interpretation of likelihood levels may be either qualitative (plausible argument, empirical observation of sustainability and qualitative risk) or quantitative (measured data relevant to the fishery, statistical analysis, quantitative risk assessment) (MSC v2.0 GSA 3.2.4).</p> <p>At the November 2017 'Atlantic Large Whale Take Reduction Team Monitoring Webinar' the United States Coast Guard (USCG) reported on "[...] three cases involving violations of gillnet vessels in the Northeast and mid-Atlantic. These cases included failure to have an anchor, buoy lines with no markings, and failure to use weak links." And concluded that across all fisheries, there is an 87.4% compliance rate with gear regulations (NMFS 2017b). The overall compliance rate across all fisheries >80% suggests that the gillnet fishery is likely complying with the requirements to reduce take of right whales meeting SG60. However, because of the limited compliance verification, the limited information on entanglement events, and evidence of some non-compliance events, reduce the confidence that the gillnet fishery is highly likely to be complying with national requirements for protection and rebuilding (MSC CR v2.0 GSA3.2). The fishery does not meet SG80.</p> <p>Large Whales – Gillnet (SG60)</p>
Condition	By the fourth surveillance the fishery shall provide evidence that (1) the effects of the gillnet UoA on Atlantic right whales are known and are highly likely to be within limits of national requirements for protection of marine protected mammals (Marine Mammal Protection Act, MMPA); (2) it's highly likely that the gillnet fishery meets MMPA requirements, there would be direct demonstration that requirements for protection and rebuilding are being achieved.
Milestones	<p>Year 1 Surveillance (2019). (<i>Condition 2-3 PI 2.3.3 and Condition 2-2 PI 2.3.1</i>) The fishery shall present evidence of efforts to continue complying with existing regulations to protect Atlantic right whales, including gear marking and weak links. Additionally, the fishery shall present evidence of supporting federal management agency actions to improve data collection aimed at enhancing information on Atlantic right whales mortality estimates and management measures.</p> <p>Year 2 Surveillance (2020) (<i>Condition 2-3 PI 2.3.3 and Condition 2-2 PI 2.3.1</i>). The fishery shall present evidence of continued compliance with existing regulations to protect Atlantic right whales (gear markings, weak links). Additionally, the fishery shall present evidence of continued support of federal management agency actions to improve data collection aimed at enhancing information on Atlantic right whales mortality estimates and management measures.</p> <p>Year 3 Surveillance (2021). (<i>Condition 2-3 PI 2.3.3</i>). The fishery shall present evidence of continued support of federal management agency actions to improve data collection aimed at enhancing information on Atlantic right whales mortality estimates and management measures.</p> <p>Year 4 Surveillance (2022). (<i>Condition 2-3 PI 2.3.3</i>) The fishery shall present evidence that there is sufficient information collected to allow the Northeast sink gillnet fishery related mortality to be quantitatively estimated for Atlantic right whales (if any) and to support a full strategy to manage impacts of the Northeast sink gillnet fishery, if necessary.</p>

	(Condition 2-2 PI 2.2.3) The fishery shall present evidence to demonstrate there is an objective basis for confidence that the Atlantic Large Whale Take Reduction Plan strategy will work, based on information directly about the Northeast sink gillnet fishery and/or North Atlantic right whales.
Consultation on condition	N/A
Progress on Condition (Year 1)	<p>The Northeast sink gillnet fishery remains as Category I on the MMPA List of Fisheries due to interactions with Atlantic right whales. The number of participants in the fishery has decreased from an estimated 4,375 in 2016 to an estimated 3,163 in 2019 (https://www.fisheries.noaa.gov/national/marine-mammal-protection/northeast-sink-gillnet-fishery-mmpa-list-fisheries).</p> <p>The client group attended the Atlantic Large Whale Take Reduction Team (ALWTRT) meeting in April 2019 in Providence, RI. Numerous documents related to the meeting may be found at: https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/trt/meetings/April%202019/19_april_2019_trt_meeting.html</p> <p>Following the April 2019 meeting, NOAA distributed a document entitled ALWTRT Scoping 2019 https://www.fisheries.noaa.gov/webdam/download/94527970. Subsequently, NOAA conducted scoping sessions regarding developing gear modifications. https://content.govdelivery.com/accounts/USNOAAFISHERIES/bulletins/25520da</p> <p>The client group attended the ALWTRT Scoping meetings. Although a number of private groups made presentations regarding gear modifications (gear markings, weak links, etc.) at the meetings, those presentations were not posted on any public forum and the client group was unable to get copies of any of said presentations. The client group notes that said presentations ranged from concepts to tangible prototypes and it is likely that the presenters will pursue grants and funding to develop and field-test the efficacy of their proposals. The client group expects to be able to give a more tangible response in the next audit.</p> <p>It is anticipated that NOAA will publish proposed rules regarding gear modifications (gear markings, weak links, etc.) in early 2020.</p> <p>The client group is aware of the recent (September 11, 2019) gear marking proposed regulatory change by Maine DMR, which can be found here: https://content.govdelivery.com/accounts/MEDMR/bulletins/25ea755</p> <p>The client group will continue to participate in the rule making process and support federal management agency actions to improve data collection aimed at enhancing information on Atlantic right whales' mortality estimates and management measures.</p> <p>.</p>
Progress on Condition (Year 2)	<p>Although the northeast sink gillnet fishery is listed as "Category I" under the MMPA's List of Fisheries, North Atlantic right whales were removed as a driver for the gillnet fishery's Category I classification in 2010. There have been no recorded interactions between the Northeast sink gillnet fishery and North Atlantic Right Whales in 25 years (MMPA LOF) and pot fisheries and ship strikes have been more recently identified as the primary risk to these animals (NOAA 2020b). The most recent published information having identified gillnet as a source of entanglement causing serious injury or death of NARWs is 2018, where a total of 1.75 serious injury or mortality events were positively attributed to gillnet gear over this 9-year time period (GAR Marine Animal Incident Database). Of the 37 <u>unknown</u> sources of mortality/serious injury over this time period, all but 0.3% (equating to a fraction of 1) were attributed to pot/line gear since this makes up 99.7% of the vertical lines in the water in this area. The updated Take Reduction Framework proposed to begin rollout in phases starting in 2021 includes in phase 2 modifications to any gillnet gear will contribute to a 0,075 animal reduction serious injury or mortality, and the ESA Section 7 consultation Biological Opinion published May 21, 2021 finds the northeast and mid-Atlantic sink gillnets under the current ALWTRP provisions cause no jeopardy to NARWs.</p> <p>In the absence of direct evidence that the northeast (and mid-Atlantic) sink gillnet fisheries interact with NARWs, and the fact that NARWs were removed as the driver for the LOF category I listing for the northeast sink gillnet fishery in 2010, means that the assessment team cannot rationally consider this whale as a scoring element for 2.3.1. However, we can consider the adherence of the fleet to the measures required under the ALWTRP as an indicator of whether the requirements for protection and recovery of these animals as laid out in the MMPA (the Reasonable and Prudent Alternatives) are being met. Although the CAB who carried out the initial assessment for spiny dogfish found 3 instances of non-adherence to the TRP regulations, no infractions of this kind have been issued in 2018, 2019 or 2020. In addition the ESA Section 7 consultation Biological Opinion published May 21, 2021 authorized the</p>

	<p>northeast sink gillnet fishery with a no-jeopardy finding in relation to NARWs under the current management arrangements.</p> <p>The assessment team's conclusion in the recent overlapping Southern New England winter and little skate MSC assessment (MRAG Americas 2021) was that North Atlantic Right Whales should not be included as an ETP scoring element in the gillnet fishery UoA for the reasons listed above. However, since there have been management considerations relevant to the gillnet fisheries due to MMPA requirements, it is possible to evaluate them under PI 2.3.2, even though NARWs are not explicitly considered as an ETP scoring element in 2.3.1. In the interest of consistency and harmonization, NARWs have been removed as a scoring element in the gillnet UoAs for this fishery, the conditions related to NARWs closed, and PIs 2.3.1, 2.3.2 and 2.3.3. have been revised.</p>
Status	Closed
Additional information	N/A

Table 16. Condition 3 (originally 2-3)

Performance Indicator	2.3.2. SIb. There is an objective basis for confidence that the strategy will work, based on information directly about the fishery and/or the species involved
Score	75
Justification	<p>The Atlantic Large Whale Take Reduction Plan (ALWTRP) went into effect in 1997 reduce the serious injury and mortality of right, humpback, and fin whales in U.S. commercial fisheries.</p> <p>The 5-Year Review of the status of North Atlantic right whale recovery completed in 2017, concluded that the status of this species has not improved since the last review in 2012. The 5-year rate of serious injuries and mortalities of 4.65 from 2010-2014 surpasses the PBR of one, there is a decreasing trend for the population estimate (Pace et al., 2017), the implemented regulations have failed to reduce the frequency and number of observed/reported entanglement events (NMFS 2017a) , and the increases in fishing rope strength may be leading to higher rates of entanglements (Knowlton et al 2015). Confirmed fishery-caused mortality and injury events are considered a minimum; not all entangled whales are discovered or reported. Because entanglement events for this species are unobserved in the majority of the cases, no gear is documented, recovered, or identifiable. Over 95% of mortality/serious injury events recorded between 2010 and 2014 did not have sufficient information to assign the event to a specific fishery/gear type. Though during period no observed mortalities were attributed to the gillnet fishery, there are eight cases between 2010-2015 of whale entanglements determined to be gillnet gear (Consortium for Wildlife Bycatch Reduction: Right Whale Entanglement Case Studies).</p> <p>Sublethal effects that hinder recovery are not directly related to the national limits, which are based solely on fishery mortality and serious injury, they are however relevant to whether the fishery poses a risk to the particular marine mammal stocks and thus are considered under PI 2.3.2 SIb where the effectiveness of management strategy is evaluated.</p> <p>Studies indicate a deterioration in population health trends for right whales which coincide with decline in calving (Rolland et al. 2016) and it has been suggested that chronic entanglement events may impact energy expenditure and reproductive success of right whales (Van der Hoop et al. 2017). There is also evidence that other co-occurring intrinsic and extrinsic factors may be limiting right whale recovery, including climate change and prey availability (Meyer-Gutbrod et al. 2015; Grieve et al. 2017 in NMFS 2017a), acoustic disturbance and genetic factors. Distinguishing between the effects of sub-lethal entanglement events and other effects is difficult. The effects of sublethal effects on reproductive health would be reflected on population trends and estimates, which are being used to calculate the PBR. Moreover, scarring rates is one of the indicators employed in the monitoring strategy for the ALWTRP. Despite these efforts the incorporation of sublethal entanglement effects are not clearly incorporated into regulations.</p> <p>The measures in place (gear modifications, area closures, gear marking) are in theory expected to work. There are experiences of other fisheries with large whales that have been successful; the gear</p>

	<p>modifications in Australia's West Coast Rock Lobster Fishery are believed to have successfully reduced whale entanglements, there are also cases on successful entanglement response networks in Mexico and South Africa (Laverick et al., 2017). The SG60 is met.</p> <p>Based on the information directly on the performance and effectiveness of the ALWTRP the team concludes that there is not an objective basis for confidence that the ALWTRP strategy will work to reduce entanglements of right whale in the gillnet fishery, thus the SG80 is not met for the gillnet UoA.</p>
Condition	<p>By the fourth surveillance the fishery shall present evidence to demonstrate there is an objective basis for confidence that the Atlantic Large Whale Take Reduction Plan strategy will work, based on information directly about the gillnet fishery and/or North Atlantic right whales.</p>
Milestones	<p>Year 1 Surveillance (2019). (<i>Condition 2-3 PI 2.3.3 and Condition 2-2 PI 2.3.1</i>) The fishery shall present evidence of efforts to continue complying with existing regulations to protect Atlantic right whales, including gear marking and weak links. Additionally, the fishery shall present evidence of supporting federal management agency actions to improve data collection aimed at enhancing information on Atlantic right whales mortality estimates and management measures.</p> <p>Year 2 Surveillance (2020) (<i>Condition 2-3 PI 2.3.3 and Condition 2-2 PI 2.3.1</i>). The fishery shall present evidence of continued compliance with existing regulations to protect Atlantic right whales (gear markings, weak links). Additionally, the fishery shall present evidence of continued support of federal management agency actions to improve data collection aimed at enhancing information on Atlantic right whales' mortality estimates and management measures.</p> <p>Year 3 Surveillance (2021). (<i>Condition 2-3 PI 2.3.3</i>). The fishery shall present evidence of continued support of federal management agency actions to improve data collection aimed at enhancing information on Atlantic right whales mortality estimates and management measures.</p> <p>Year 4 Surveillance (2022). (<i>Condition 2-3 PI 2.3.3</i>) The fishery shall present evidence that there is sufficient information collected to allow the Northeast sink gillnet fishery related mortality to be quantitatively estimated for Atlantic right whales (if any) and to support a full strategy to manage impacts of the Northeast sink gillnet fishery, if necessary.</p> <p>(<i>Condition 2-2 PI 2.2.3</i>) The fishery shall present evidence to demonstrate there is an objective basis for confidence that the Atlantic Large Whale Take Reduction Plan strategy will work, based on information directly about the Northeast sink gillnet fishery and/or North Atlantic right whales.</p>
Consultation on condition	N/A
Progress on Condition (Year 1)	<p>The Northeast sink gillnet fishery remains as Category I on the MMPA List of Fisheries due to interactions with Atlantic right whales. The number of participants in the fishery has decreased from an estimated 4,375 in 2016 to an estimated 3,163 in 2019 (https://www.fisheries.noaa.gov/national/marine-mammal-protection/northeast-sink-gillnet-fishery-mmpa-list-fisheries).</p> <p>The client group attended the Atlantic Large Whale Take Reduction Team (ALWTRT) meeting in April 2019 in Providence, RI. Numerous documents related to the meeting may be found at: https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/trt/meetings/April%202019/19_april_2019_trt_meeting.html</p> <p>Following the April 2019 meeting, NOAA distributed a document entitled ALWTRT Scoping 2019 https://www.fisheries.noaa.gov/webdam/download/94527970. Subsequently, NOAA conducted scoping sessions regarding developing gear modifications. https://content.govdelivery.com/accounts/USNOAAFISHERIES/bulletins/25520da</p> <p>The client group attended the ALWTRT Scoping meetings. Although a number of private groups made presentations regarding gear modifications (gear markings, weak links, etc.) at the meetings, those presentations were not posted on any public forum and the client group was unable to get copies of any of said presentations. The client group notes that said presentations ranged from concepts to tangible prototypes and it is likely that the presenters will pursue grants and funding to develop and field-test the efficacy of their proposals. The client group expects to be able to give a more tangible response in the next audit.</p> <p>It is anticipated that NOAA will publish proposed rules regarding gear modifications (gear markings, weak links, etc.) in early 2020.</p>

	<p>The client group is aware of the recent (September 11, 2019) gear marking proposed regulatory change by Maine DMR, which can be found here: https://content.govdelivery.com/accounts/MEDMR/bulletins/25ea755</p> <p>The client group will continue to participate in the rule making process and support federal management agency actions to improve data collection aimed at enhancing information on Atlantic right whales' mortality estimates and management measures.</p> <p>.</p>
Progress on Condition [Year 2]	<p>Although the northeast sink gillnet fishery is listed as "Category I" under the MMPA's List of Fisheries, North Atlantic right whales were removed as a driver for the gillnet fishery's Category I classification in 2010. There have been no recorded interactions between the Northeast sink gillnet fishery and North Atlantic Right Whales in 25 years (MMPA LOF) and pot fisheries and ship strikes have been more recently identified as the primary risk to these animals (NOAA 2020b). The most recent published information having identified gillnet as a source of entanglement causing serious injury or death of NARWs is 2018, where a total of 1.75 serious injury or mortality events were positively attributed to gillnet gear over this 9-year time period (GAR Marine Animal Incident Database). Of the 37 <u>unknown</u> sources of mortality/serious injury over this time period, all but 0.3% (equating to a fraction of 1) were attributed to pot/line gear since this makes up 99.7% of the vertical lines in the water in this area. The updated Take Reduction Framework proposed to begin rollout in phases starting in 2021 includes in phase 2 modifications to any gillnet gear will contribute to a 0,075 animal reduction serious injury or mortality, and the ESA Section 7 consultation Biological Opinion published May 21, 2021 finds the northeast and mid-Atlantic sink gillnets under the current ALWTRP provisions cause no jeopardy to NARWs.</p> <p>In the absence of direct evidence that the northeast (and mid-Atlantic) sink gillnet fisheries interact with NARWs, and the fact that NARWs were removed as the driver for the LOF category I listing for the northeast sink gillnet fishery in 2010, means that the assessment team cannot rationally consider this whale as a scoring element for 2.3.1. However, we can consider the adherence of the fleet to the measures required under the ALWTRP as an indicator of whether the requirements for protection and recovery of these animals as laid out in the MMPA (the Reasonable and Prudent Alternatives) are being met. Although the CAB who carried out the initial assessment for spiny dogfish found 3 instances of non-adherence to the TRP regulations, no infractions of this kind have been issued in 2018, 2019 or 2020. In addition the ESA Section 7 consultation Biological Opinion published May 21, 2021 authorized the northeast sink gillnet fishery with a no-jeopardy finding in relation to NARWs under the current management arrangements.</p> <p>The assessment team's conclusion in the recent overlapping Southern New England winter and little skate MSC assessment (MRAG Americas 2021) was that North Atlantic Right Whales should not be included as an ETP scoring element in the gillnet fishery UoA for the reasons listed above. However, since there have been management considerations relevant to the gillnet fisheries due to MMPA requirements, it is possible to evaluate them under PI 2.3.2, even though NARWs are not explicitly considered as an ETP scoring element in 2.3.1. In the interest of consistency and harmonization, NARWs have been removed as a scoring element in the gillnet UoAs for this fishery, the conditions related to NARWs closed, and PIs 2.3.1, 2.3.2 and 2.3.3. have been revised.</p>
Status	Closed
Additional information	N/A

Table 17. Condition 4 (originally 2-4)

Performance Indicator	<p>PI 2.3.3 SI a. at SG80: Sufficient information is available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.</p> <p>PI 2.3.3 SI c at SG80: Information is sufficient to measure trends and support a full strategy to manage impacts on ETP species.</p>
Score	75

Justification	<p><i>Summary for PI 2.3.3 Sla Large Whales Scoring Element (Gillnet)</i></p> <p>Atlantic right whales entanglement occurrences are rarely observed during fishing operations. Consequently, there are difficulties in attributing mortalities to specific fisheries. Recorded entanglement incidents are considered a minimum, since not all entangled whales are discovered or reported. Entangled animals are usually not found in the same location where it was initially entangled, making it at times impossible to identify the gear type and area where the entanglement occurred. In the majority of the cases, no gear was documented or recovered, or the whale was carrying sections (line or rope) of unknown/undetermined gear type. Though the majority of mortalities for right whales has no identified gear type, there is evidence that right whales are susceptible to entanglement in gear employed by gillnet fisheries (See PI 2.3.1 Sla). Because available information is not sufficient to allow the gillnet fishery-related mortality and the impact of fishing to be quantitatively estimated for Atlantic right whales the SG80 is not met.</p> <p><i>Summary for PI 2.3.3 Slc Large Whales Scoring Element (Gillnet)</i></p> <p>The limited information on the specific fisheries/gear type on mortalities of Atlantic right whales (See Sla of this PI), impedes the development of reduction measures that effectively target the appropriate fishing areas/gear types/fisheries. Given the susceptibility of Atlantic right whales to gillnet fisheries, the available information is not considered sufficient to support a full strategy to manage the impacts of this fishery on this stock.</p>
Condition	<p>By the fourth annual surveillance the fishery shall provide evidence that (A) sufficient information is available to allow fishery related mortality to be quantitatively estimated for Atlantic right whales AND (B) information is sufficient to support a full strategy to manage impacts on Atlantic right whales.</p>
Milestones	<p>Year 1 Surveillance (2019). (<i>Condition 2-3 PI 2.3.3 and Condition 2-2 PI 2.3.1</i>) The fishery shall present evidence of efforts to continue complying with existing regulations to protect Atlantic right whales, including gear marking and weak links. Additionally, the fishery shall present evidence of supporting federal management agency actions to improve data collection aimed at enhancing information on Atlantic right whales mortality estimates and management measures.</p> <p>Year 2 Surveillance (2020) (<i>Condition 2-3 PI 2.3.3 and Condition 2-2 PI 2.3.1</i>). The fishery shall present evidence of continued compliance with existing regulations to protect Atlantic right whales (gear markings, weak links). Additionally, the fishery shall present evidence of continued support of federal management agency actions to improve data collection aimed at enhancing information on Atlantic right whales mortality estimates and management measures.</p> <p>Year 3 Surveillance (2021). (<i>Condition 2-3 PI 2.3.3</i>). The fishery shall present evidence of continued support of federal management agency actions to improve data collection aimed at enhancing information on Atlantic right whales mortality estimates and management measures.</p> <p>Year 4 Surveillance (2022). (<i>Condition 2-3 PI 2.3.3</i>) The fishery shall present evidence that there is sufficient information collected to allow the Northeast sink gillnet fishery related mortality to be quantitatively estimated for Atlantic right whales (if any) and to support a full strategy to manage impacts of the Northeast sink gillnet fishery, if necessary.</p> <p>(<i>Condition 2-2 PI 2.2.3</i>) The fishery shall present evidence to demonstrate there is an objective basis for confidence that the Atlantic Large Whale Take Reduction Plan strategy will work, based on information directly about the Northeast sink gillnet fishery and/or North Atlantic right whales.</p>
Consultation on condition	<p>N/A</p>
Progress on Condition (Year 1)	<p>The Northeast sink gillnet fishery remains as Category I on the MMPA List of Fisheries due to interactions with Atlantic right whales. The number of participants in the fishery has decreased from an estimated 4,375 in 2016 to an estimated 3,163 in 2019 (https://www.fisheries.noaa.gov/national/marine-mammal-protection/northeast-sink-gillnet-fishery-mmpa-list-fisheries).</p> <p>The client group attended the Atlantic Large Whale Take Reduction Team (ALWTRT) meeting in April 2019 in Providence, RI. Numerous documents related to the meeting may be found at: https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/trt/meetings/April%202019/19_april_2019_trt_meeting.html</p>

	<p>Following the April 2019 meeting, NOAA distributed a document entitled ALWTRT Scoping 2019 https://www.fisheries.noaa.gov/webdam/download/94527970. Subsequently, NOAA conducted scoping sessions regarding developing gear modifications. https://content.govdelivery.com/accounts/USNOAAFISHERIES/bulletins/25520da</p> <p>The client group attended the ALWTRT Scoping meetings. Although a number of private groups made presentations regarding gear modifications (gear markings, weak links, etc.) at the meetings, those presentations were not posted on any public forum and the client group was unable to get copies of any of said presentations. The client group notes that said presentations ranged from concepts to tangible prototypes and it is likely that the presenters will pursue grants and funding to develop and field-test the efficacy of their proposals. The client group expects to be able to give a more tangible response in the next audit.</p> <p>It is anticipated that NOAA will publish proposed rules regarding gear modifications (gear markings, weak links, etc.) in early 2020.</p> <p>The client group is aware of the recent (September 11, 2019) gear marking proposed regulatory change by Maine DMR, which can be found here: https://content.govdelivery.com/accounts/MEDMR/bulletins/25ea755</p> <p>The client group will continue to participate in the rule making process and support federal management agency actions to improve data collection aimed at enhancing information on Atlantic right whales' mortality estimates and management measures.</p> <p>.</p>
Progress on Condition (Year 2)	<p>Although the northeast sink gillnet fishery is listed as "Category I" under the MMPA's List of Fisheries, North Atlantic right whales were removed as a driver for the gillnet fishery's Category I classification in 2010. There have been no recorded interactions between the Northeast sink gillnet fishery and North Atlantic Right Whales in 25 years (MMPA LOF) and pot fisheries and ship strikes have been more recently identified as the primary risk to these animals (NOAA 2020b). The most recent published information having identified gillnet as a source of entanglement causing serious injury or death of NARWs is 2018, where a total of 1.75 serious injury or mortality events were positively attributed to gillnet gear over this 9-year time period (GAR Marine Animal Incident Database). Of the 37 <u>unknown</u> sources of mortality/serious injury over this time period, all but 0.3% (equating to a fraction of 1) were attributed to pot/line gear since this makes up 99.7% of the vertical lines in the water in this area. The updated Take Reduction Framework proposed to begin rollout in phases starting in 2021 includes in phase 2 modifications to any gillnet gear will contribute to a 0.075 animal reduction serious injury or mortality, and the ESA Section 7 consultation Biological Opinion published May 21, 2021 finds the northeast and mid-Atlantic sink gillnets under the current ALWTRP provisions cause no jeopardy to NARWs.</p> <p>In the absence of direct evidence that the northeast (and mid-Atlantic) sink gillnet fisheries interact with NARWs, and the fact that NARWs were removed as the driver for the LOF category I listing for the northeast sink gillnet fishery in 2010, means that the assessment team cannot rationally consider this whale as a scoring element for 2.3.1. However, we can consider the adherence of the fleet to the measures required under the ALWTRP as an indicator of whether the requirements for protection and recovery of these animals as laid out in the MMPA (the Reasonable and Prudent Alternatives) are being met. Although the CAB who carried out the initial assessment for spiny dogfish found 3 instances of non-adherence to the TRP regulations, no infractions of this kind have been issued in 2018, 2019 or 2020. In addition the ESA Section 7 consultation Biological Opinion published May 21, 2021 authorized the northeast sink gillnet fishery with a no-jeopardy finding in relation to NARWs under the current management arrangements.</p> <p>The assessment team's conclusion in the recent overlapping Southern New England winter and little skate MSC assessment (MRAG Americas 2021) was that North Atlantic Right Whales should not be included as an ETP scoring element in the gillnet fishery UoA for the reasons listed above. However, since there have been management considerations relevant to the gillnet fisheries due to MMPA requirements, it is possible to evaluate them under PI 2.3.2, even though NARWs are not explicitly considered as an ETP scoring element in 2.3.1. In the interest of consistency and harmonization, NARWs have been removed as a scoring element in the gillnet UoAs for this fishery, the conditions related to NARWs closed, and PIs 2.3.1, 2.3.2 and 2.3.3. have been revised.</p>
Status	Closed

Additional information	N/A
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5.3.2 Progress against conditions

Table 18 Condition 1

Performance Indicator	1.2.3a (Winter and little skate; All gears)
Score	75
Justification	The range of information available for assessments and harvest strategy support for Winter skate is limited primarily to survey indices of abundance and limited size data. For those reasons the skate complex status was addressed by the Data Poor Working Group in 2008. Their conclusions were that status determination would have to depend on Bmsy proxies from surveys. That situation has not changed. The use of those survey indices as the basis for decision rules has largely been successful. Thus, some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy (SG 60 met). But this information base is not sufficient to support the harvest strategy. There is little information on potential stock productivity that can be directly related to the amount of catch that might be allowed. While the catch decision rules appear to have been effective, they are not directly related to the assessment and index monitoring.
Condition	By the 4 th annual surveillance for the little and winter skate UoAs (in 2022), sufficient relevant information related to stock structure, stock productivity, fleet composition and other data shall be available to support the harvest strategy.
Condition start	2019-2020, at the time of the scope extension to include winter skate and then the second scope extension to include little skate.
Condition deadline	2022. The MSC issued Derogation 6: Covid-19 Fishery Conditions Extension, which extended existing deadlines on eligible conditions by 12 months. The derogation will be applied with the publishing of this surveillance report, making the new deadline the by the end of 2023.
Milestones	<p>Year 1 Surveillance (2019²). The fishery shall present evidence of efforts to improve the information related to stock productivity and other data for winter skate which is available to support the harvest strategy. Also, the fishery shall provide a schedule of those efforts planned for years 2-4.</p> <p>Year 2 Surveillance (2020) The fishery shall present evidence of efforts to improve the information related to stock productivity and other data for winter skate which is available to support the harvest strategy. Also, the fishery shall report on the progress to improve the information relative to the schedule established in Surveillance Year 1 and to modify that schedule as appropriate.</p> <p>Year 3 Surveillance (2021). The fishery shall present evidence of efforts to improve the information related to stock productivity and other data for winter skate which is available to support the harvest strategy. Also, the fishery shall report on the progress to improve the information relative to the schedule established in Surveillance Year 1 and to modify that schedule as appropriate</p>

² The milestones were extended due to the MSC Derogation granting certificate extension by 6 months.

	Year 4 Surveillance (2022³) . The fishery shall present evidence of the improvements in the information related to stock productivity and other data for winter skate which is available to support the harvest strategy.	
Progress on Condition (Year X)	<i>The progress made by the fishery client to address conditions shall be detailed, along with any observations from the assessment team. The CAB may include progress summaries from previous surveillance audits.</i>	
	Year 1	See below
	Year 2	Summary of progress
	Year 3	Summary of progress
	Year 4	Summary of progress
	Insert additional years if relevant	
Progress status	<p>Research on Index-Based Methods (NEFSC 2020) was conducted to evaluate alternative approaches for control rules. The skate were among the many stocks used to characterize a set of simulations to determine ABCs. Results were inconclusive in regard to skates. However, the simulations were not structured specifically for the skate stocks. It is expected that simulation framework developed through this research effort will be used to test the skate method under scenarios that more closely adhere to the skate catch history. This will be done as the lead-in to the skate Management Track Stock Assessment scheduled for 2023. Note that the Management Track Stock Assessment was originally scheduled for 2022 but was deferred due to Covid.</p> <p>Therefore, this Condition is “On-Track” under the derogation-modified schedule of 2023</p>	
Remedial action	None	
Additional information	None	

Table 19 Condition 2

Performance Indicator	1.2.4 (Winter and Little skate; All gears)
Score	75
Justification	<p>Major sources of uncertainty have been identified. However, the assessment does not take into account many of the uncertainties. The pragmatic specifications of overfishing and overfished levels were chosen appropriately, however, they have not been clearly linked to actual stock productivity. The uncertainties in biological productivity, distribution, reproduction and mortality have not been explored since the Data Poor Workshop (2008).</p> <p>Discard rates and their monitoring are an important component of the HCR. Additionally, there was a change in survey vessel during the period when the target index was established. Calibration was undertaken, but uncertainties remain. Alternative assessment analysis methods might be explored to better take this uncertainty into account, which can then be related to the index monitoring methods. The index itself has been reviewed and modified, but the uncertainties in the relationship between productivity and the assessment have not.</p>
Condition	Evidence shall be presented to show that there is an adequate assessment of the stock status that takes uncertainty into account (1.2.4.c). Additionally, the assessment shall be appropriate for both the stock and for the harvest control rule; and stock status relative to reference points that are appropriate to the stock can be estimated.

³ This milestone was extended due to the MSC Derogation 6

Condition start	2019-2020, at the time of the scope extension to include winter skate and then the second scope extension to include little skate.	
Condition deadline	2022. The MSC issued Derogation 6: Covid-19 Fishery Conditions Extension, which extended existing deadlines on eligible conditions by 12 months. The derogation will be applied with the publishing of this surveillance report, making the new deadline the by the end of 2023.	
Milestones	<ul style="list-style-type: none">• Year 1 (2019⁴): Evidence of an approach or plan being developed to address condition needs to be presented• Year 2 (2020): Evidence of the plan being implemented needs to be presented• Year 3 (2021): Evidence that the assessment is being reviewed and/or modified• Year 4 (2022⁵): surveillance milestone: evidence of 1.2.4 achieving a score of 80.	
Progress on Condition (Year X)	<i>The progress made by the fishery client to address conditions shall be detailed, along with any observations from the assessment team. The CAB may include progress summaries from previous surveillance audits.</i>	
	Year 1	See below
	Year 2	<i>Summary of progress</i>
	Year 3	<i>Summary of progress</i>
	Year 4	<i>Summary of progress</i>
	<i>Insert additional years if relevant</i>	
Progress status	Research on Index-Based Methods (NEFSC 2020) was conducted to evaluate alternative approaches for control rules. The skate were among the many stocks used to characterize a set of simulations to determine ABCs. Results were inconclusive in regard to skates. However, the simulations were not structured specifically for the skate stocks. It is expected that simulation framework developed through this research effort will be used to test the skate method under scenarios that more closely adhere to the skate catch history. This will be done as the lead-in to the skate Management Track Stock Assessment scheduled for 2023. Note that the Management Track Stock Assessment was originally scheduled for 2022 but was deferred due to Covid. Therefore, this Condition is “On-Track” under the derogation-modified schedule of 2023	
Remedial action	None	
Additional information	None	

5.4 Client Action Plan

Not applicable. No revisions to the Client Action Plan were required in this surveillance audit.

⁴ The milestones were extended due to the MSC Derogation granting certificate extension by 6 months.

⁵ This milestone was extended due to the MSC Derogation 6

6 Appendices

6.1 Evaluation processes and techniques

6.1.1 Site visits

The surveillance audit process as defined in the MSC FCP v2.1 was followed in this audit.

Information supplied by the client and management agencies was reviewed by the assessment team ahead of the remote meeting, and discussions with the client and management agencies centred on the content within the provided documentation. In cases where relevant documentation was not provided in advance of the meeting, it was requested by the assessment team and subsequently supplied during, or shortly after the meeting.

Thirty days prior to the remote audit, all stakeholders from the full assessment were informed of the visit and the opportunity to provide information to the auditors in advance of, or during, audit.

The following stakeholders were contacted for this surveillance audit:

Table 20 Stakeholders Contacted

Name	Stakeholder type	Email
Ben Marten	Industry	Ben@mainecoastfishermen.org
Alex Gryska	Industry	AGryska@myseafood.com
Ashton Harp	Government	aharp@asmfc.org
Bob Blais	Industry	bblais@myseafood.com
Catherine Blum	Government	Catherine.Blum@ncdenr.gov
Charles Bangley	NGO	cbangley@gmail.com
Clark Gray	Government	Clark.Gray@ncdenr.gov
Dave Kulla	International Government	Dave.Kulka@dfo-mpo.gc.ca
Deborah Hart	Government	Deborah.Hart@noaa.gov
Dr. Andreas Keppeler	NGO	Dr.A.Keppeler@web.de
Erling Berg	NGO	erlingberg99@yahoo.com
Sarah Fowler	NGO	fowler.sarah.123@gmail.com
Frances Fleet Whale Watching	Industry	francesflt@aol.com
	Government	info@asmfc.org
	Government	info@nefmc.org
	NGO	info@sharkadvocates.org
Jason Didden	Government	jdidden@mafmc.org
John Whiteside	Client Representative	john@jwhiteside.com
John Pappalardo	Industry	john@capecodfishermen.org
Jon Mitchell	Government	jon.mitchell@newbedford-ma.gov
Joseph Cimino	Government	Joseph.Cimino@dep.nj.gov
Kristian Kristensen	Industry	k.kristensen@capeannseafoodexchange.com
Katherine Sosebee	Government	katherine.sosebee@noaa.gov
Kirby Rootes-Murdy	Government	krootes-murdy@asmfc.org
Marin Hawk	MSC/NGO	marin.hawk@msc.org
Maureen Davidson	Government	maureen.davidson@dec.ny.gov
Mary Beth Tooley	Industry	mbtooley@live.com
Michael P. Luisi	Government	mluisi@dnr.state.md.us
Marder Trawling	Industry	mtrawl@aol.com
Patrick Augustine	NGO	paugustine3@verizon.net
Pierre Juillard	Industry	pierre@marderbrands.com
Pres Pate	Government	ppate@ec.rr.com
Raymond Cane	Industry	ray@capecodfishermen.org
Robert Beal	Government	rbeal@asmfc.org
Rich Ruais	Industry	rruais@aol.com
Scott Newlin	Government	SCOTT.NEWLIN@STATE.DE.US
Scott Olszewski	Government	Scott.olszewski@dem.ri.gov
Savannah Young	NGO	syoung@hsus.org
Toni Kerns	Government	tkerns@asmfc.org

Tom Nies	Government	tnies@nefmc.org
Tobey Curtis	Government	Tobey.Curtis@noaa.gov
Terry Stockwell	Government	tstockwell60@gmail.com
Shannon Arnold	NGO	sarnold@ecologyaction.ca
Christopher Laughton	NGO	christopher.laughton@farmcrediteast.com
Tom Seaman	Media	ts@undercurrentnews.com

A remote surveillance audit was held via teleconference on April 20 – 23rd and May 27th, 2021. The following participants were in attendance via teleconference:

Amanda Stern-Pirlot	MRAG Americas, Assessment team leader
Erin Wilson	MRAG Americas, assessment team member
Dr. Joseph Powers	Assessment team member
John Whiteside, Jr.	Client representative
Rachel Feeney	NEFMC
Chris Kellogg	NEFMC
Jason Didden	MAFMC

6.1.2 Stakeholder participation

Thirty days prior to the audit site visit, all stakeholders from the full assessment were informed of the visit and the opportunity to provide information to the auditors in advance of, or during, the site visit. We received no requests from outside stakeholders to take part in meetings. The team did receive comments from the World Wildlife Fund (WWF) for a similar assessment, the Southern New England Winter and Little skate fishery, however the comments were received too late to be included on that assessment. The team addressed them as part of this surveillance audit as the issues addressed in WWF's comments are also applicable to this fishery. The summary is included below.

6.2 Stakeholder Input

Principle 2 - Minimising environmental impacts

Principle 2 - Minimising environmental impacts						
2.1.1 - Primary species outcome						
2.1.2 - Primary species management						
2.1.3 - Primary species information						
2.2.1 - Secondary species outcome		WWF considers bycatches of thorny skate to be a high conservation concern. Thorny skate is considered by the IUCN Red List (globally the species is listed as “Vulnerable” and overfished in the UoA area (Sosebee 2015). It is very irritating that this species is not listed in the bycatch reports of the trawl UoA (Table 12) although other sources report indicate frequent bycatch of Thorny skates in similar fisheries in the area (Sosebee 2015). Given that nearly 50% of the trawl UoA catch are skates that are not identified to species level (Table 12), we suggest that Thorny skates are classified as primary bycatch species. Given that thorny skate biomass is currently at only 2.3% of its highest historical level (i.e. 364 million mt in 1966; Sosebee et al., 2016) the population is likely highly sensitive to even small-scale sources of mortality. Therefore the fishery should implement best-practices aimed at reducing mortality in this fishery. This could include best-practice handling methods such as prioritizing the immediate release of skates to reduce time on-deck and air exposure and encouraging fishers to avoid picking skate in areas of vital organs (i.e. cranial, pericardial, and abdominal cavities). Other factors to consider include mitigation measures that address animal size: particularly the			Thorny skate (<i>Raja radiata</i>) comprises a very small proportion of the overall catch in each gear type (0.01%), however because of concerns raised by stakeholders on stock status (NMFS was petitioned to list thorny skate as endangered in 2015; Sosebee et. al. 2016), and questions about the potentially unknown quantity of thorny skates within the “skates NK” category of the catch composition data, the assessment team consulted with the skate stock assessment biologist, Katherine Sosebee, regarding thorny skate in the catch composition and likelihood of fishery impacts on thorny skate. According to survey data where skate species were disaggregated, thorny skates were present in the catch primarily in Massachusetts, and comprised approximately 0.008% of skates landed in the region, with two to four times this number discarded (Sosebee et. al. 2016). Survey proportions tracked with fishery-dependant data in this regard. In addition, when Amendment 3 to the skate FMP was in development, the distribution of thorny skate with respect to all fisheries was examined. The fisheries tended to operate in areas where thorny skate was not found and the judgement at the time was that commercial fisheries were not impacting thorny skates directly.	Accepted (no score change - additional evidence presented)

		avoidance of areas where smaller skate are found in abundance. (Knotek et al. 2019)	
2.2.2 - Secondary species management		WWF considers bycatches of thorny skate to be a high conservation concern. Thorny skate is considered by the IUCN Red List (globally the species is listed as "Vulnerable" and overfished in the UoA area (Sosebee 2015). It is very irritating that this species is not listed in the bycatch reports of the trawl UoA (Table 12) although other sources report indicate frequent bycatch of Thorny skates in similar fisheries in the area (Sosebee 2015). Given that nearly 50% of the trawl UoA catch are skates that are not identified to species level (Table 12), we suggest that Thorny skates are classified as primary bycatch species. Given that thorny skate biomass is currently at only 2.3% of its highest historical level (i.e. 364 million mt in 1966; Sosebee et al., 2016) the population is likely highly sensitive to even small-scale sources of mortality. Therefore the fishery should implement best-practices aimed at reducing mortality in this fishery. This could include best-practice handling methods such as prioritizing the immediate release of skates to reduce time on-deck and air exposure and encouraging fishers to avoid picking skate in areas of vital organs (i.e. cranial, pericardial, and abdominal cavities). Other factors to consider include mitigation measures that	

		Thorny skate (<i>Raja radiata</i>) comprises a very small proportion of the overall catch in each gear type (0.01%), however because of concerns raised by stakeholders on stock status (NMFS was petitioned to list thorny skate as endangered in 2015; Sosebee et. al. 2016), and questions about the potentially unknown quantity of thorny skates within the "skates NK" category of the catch composition data, the assessment team consulted with the skate stock assessment biologist, Katherine Sosebee, regarding thorny skate in the catch composition and likelihood of fishery impacts on thorny skate. According to survey data where skate species were disaggregated, thorny skates were present in the catch primarily in Massachusetts, and comprised approximately 0.008% of skates landed in the region, with two to four times this number discarded (Sosebee et. al. 2016). Survey proportions tracked with fishery-dependant data in this regard. In addition, when Amendment 3 to the skate FMP was in development, the distribution of thorny skate with respect to all fisheries was examined. The fisheries tended to operate in areas where thorny skate was not found and the judgement at the time was that commercial fisheries were not impacting thorny skates directly.	Accepted (no score change - additional evidence presented)

		address animal size; particularly the avoidance of areas where smaller skate are found in abundance. (Knotek et al. 2019)	
2.2.3 - Secondary species information		WWF considers bycatches of thorny skate to be a high conservation concern. Thorny skate is considered by the IUCN Red List (globally the species is listed as "Vulnerable" and overfished in the UoA area (Sosebee 2015). It is very irritating that this species is not listed in the bycatch reports of the trawl UoA (Table 12) although other sources report indicate frequent bycatch of Thorny skates in similar fisheries in the area (Sosebee 2015). Given that nearly 50% of the trawl UoA catch are skates that are not identified to species level (Table 12), we suggest that Thorny skates are classified as primary bycatch species. Given that thorny skate biomass is currently at only 2.3% of its highest historical level (i.e. 364 million mt in 1966; Sosebee et al., 2016) the population is likely highly sensitive to even small-scale sources of mortality. Therefore the fishery should implement best-practices aimed at reducing mortality in this fishery. This could include best-practice handling methods such as prioritizing the immediate release of skates to reduce time on-deck and air exposure and encouraging fishers to avoid picking skate in areas of vital organs (i.e. cranial, pericardial, and abdominal cavities). Other factors to consider include mitigation measures that address animal size; particularly the avoidance of areas where smaller skate are found in abundance. (Knotek et al. 2019)	

Thorny skate (<i>Raja radiata</i>) comprises a very small proportion of the overall catch in each gear type (0.01%), however because of concerns raised by stakeholders on stock status (NMFS was petitioned to list thorny skate as endangered in 2015; Sosebee et al. 2016), and questions about the potentially unknown quantity of thorny skates within the "skates NK" category of the catch composition data, the assessment team consulted with the skate stock assessment biologist, Katherine Sosebee, regarding thorny skate in the catch composition and likelihood of fishery impacts on thorny skate. According to survey data where skate species were disaggregated, thorny skates were present in the catch primarily in Massachusetts, and comprised approximately 0.008% of skates landed in the region, with two to four times this number discarded (Sosebee et al. 2016). Survey proportions tracked with fishery-dependant data in this regard. In addition, when Amendment 3 to the skate FMP was in development, the distribution of thorny skate with respect to all fisheries was examined. The fisheries tended to operate in areas where thorny skate was not found and the judgement at the time was that commercial fisheries were not impacting thorny skates directly.	Accepted (no score change - additional evidence presented)

2.3.1 - ETP species outcome		Atlantic sturgeon (<i>Acipenser oxyrinchus</i>): The assessment team missed to identify and to score Atlantic sturgeon as an ETP species although it is present in the catches of the UoAs and listed in the Endangered Species Act.	
2.3.1 - ETP species outcome		With fewer than 360 North Atlantic right whales (<i>Eubalaena glacialis</i>), the species is near the brink of extinction and entanglement in gillnets is a known source of mortality for this species. NMFS has acknowledged that “[a]ny fishing gear that is fixed in the water column poses a risk to right whales, but given the high volume of trap/pot and gillnet fisheries in the waters where right whales feed, calve, and transit, the highest risk comes from these fisheries.” In the Northeast, NMFS has long acknowledged that the American lobster fishery and the Northeast sink gillnet fishery kill and seriously injure North Atlantic right whales. In fact, NMFS has repeatedly determined that the American lobster fishery and the Northeast sink gillnet fisheries cause “frequent” mortality and serious injury of right whales, meaning the “[a]nnual mortality and serious injury of” right whales in each of the fisheries “is greater than or equal to 50 percent of the PBR level.”	(For more details see link https://www.biologicaldiversity.org/species/mammals/North_Atlantic_right_whale/pdfs/2020-12-02-Center-et-al-NARW-MMPA-Emergency-Petition.pdf)

This comment isn't relevant to this assessment because Atlantic sturgeon has been considered as an ETP species. Although at low levels, there are interactions between the gillnet fishery and Atlantic sturgeon each year. This should be added as a scoring element in the Southern New England winter and little skate fishery and will be at the 1st surveillance	Accepted (no score change - additional evidence presented)
In the absence of direct evidence that the northeast (and mid-atlantic) sink gillnet fisheries interact with NARWs, and the fact that NARWs were removed as the driver for the LOF category I listing for the northeast sink gillnet fishery in 2010, means that the assessment team cannot rationally consider this whale as a scoring element for 2.3.1. However, we can consider the adherence of the fleet to the measures required under the ALWTRP as an indicator of whether the requirements for protection and recovery of these animals as laid out in the MMPA (the Reasonable and Prudent Alternatives) are being met. Although the CAB who carried out the initial assessment for spiny dogfish found 3 instances of non-adherence to the TRP regulations, no infractions of this kind have been issued in 2018, 2019 or 2020.	Not accepted (no change)

2.3.2 - ETP species management	<p>“Gillnet gear also emerged as a known threat to right whales. There has been a slight increase in trend in gillnet gear or netting removed from right whales, with one case documented prior to 2010 and seven cases over the last decade; three of these recent cases resulted in serious injuries” (Glenn Salvador, Gear Specialist and Fisheries Liaison for NOAA Fisheries (NMFS) Case 1:18-cv-00112-JEB Document 115-5 . It is therefore not understandable why the assessment team did not harmonize with the findings and conditions of the similar UoA “US Atlantic spiny dogfish, winter skate and little skate” assessment in regard to Northern Right whale entanglements.</p>	(Glenn Salvador, Gear Specialist and Fisheries Liaison for NOAA Fisheries (NMFS) Case 1:18-cv-00112-JEB Document 115-5
2.3.3 - ETP species information		
2.4.1 - Habitats outcome	<p>Regarding VME identification, the assessment teams highlight the analysis of DeAlteris et al 2020. However, neither a link to this document nor the title is provided and it is therefore impossible for stakeholders to follow the rationale. From our perspective, it is improper to dismiss a range of VME classified habitat types that were identified and scored in various Atlantic MSC assessments and that are occurring in the area of the UoA (e.g. horse mussel beds, sponge grounds, sea pen fields).</p>	
2.4.2 - Habitats management strategy	<p>Regarding VME identification, the assessment teams highlight the analysis of DeAlteris et al 2020. However, neither a link to this document nor the title is provided and it is therefore impossible for stakeholders to follow the rationale. From our perspective, it is improper to dismiss a range of VME classified habitat types that were identified and scored in various Atlantic MSC assessments and that are occurring in the</p>	

<p>The assessment team searched for data to verify the statement contained within Mr. Salvador's testimony and we could not. The most recent published information having identified gillnet as a source of entanglement causing serious injury or death of NARWs is 2018, where a total of 1.75 serious injury or mortality events were positively attributed to gillnet gear over this 9-year time period (GAR Marine Animal Incident Database). Of the 37 unknown sources of mortality/serious injury, all but 0.3% (equating to a fraction of 1) were attributed to pot/line gear since this makes up 99.7% of the vertical lines in the water in this area. The updated Take Reduction Framework proposed to begin rollout in phases starting in 2021 includes in phase 2 modifications to any gillnet gear will contribute to a 0,075 animal reduction serious injury or mortality, and the ESA Section 7 consultation Biological Opinion published May 21, 2021 finds the northeast and mid-Atlantic sink gillnets to cause no jeopardy to NARWs.</p>	Accepted (no score change - additional evidence presented)
<p>These comments are not relevant to this assessment because it was carried out under version 1.3 of the Fishery Standard, and v1.3 does not contain the concept of VME habitats. However, there has been progress on the Deep Sea Coral omnibus amendment and this is reported in the P2 section of the surveillance audit.</p>	Accepted (no score change - additional evidence presented)
<p>These comments are not relevant to this assessment because it was carried out under version 1.3 of the Fishery Standard, and v1.3 does not contain the concept of VME habitats. However, there has been progress on the Deep Sea Coral omnibus amendment and this is reported in the P2 section of the surveillance audit.</p>	Accepted (no score change - additional evidence presented)

		area of the UoA (e.g. horse mussel beds, sponge grounds, sea pen fields).	
2.4.3 - Habitats information		Regarding VME identification, the assessment teams highlight the analysis of DeAlteris et al 2020. However, neither a link to this document nor the title is provided and it is therefore impossible for stakeholders to follow the rationale. From our perspective, it is improper to dismiss a range of VME classified habitat types that were identified and scored in various Atlantic MSC assessments and that are occurring in the area of the UoA (e.g. horse mussel beds, sponge grounds, sea pen fields).	

These comments are not relevant to this assessment because it was carried out under version 1.3 of the Fishery Standard, and v1.3 does not contain the concept of VME habitats. However, there has been progress on the Deep Sea Coral omnibus amendment and this is reported in the P2 section of the surveillance audit.	Accepted (no score change - additional evidence presented)

6.3 Revised surveillance program

Table 21 Fishery surveillance program

Surveillance level	Year 1	Year 2	Year 3	Year 4
Level 2	Off-site surveillance audit	Off-site surveillance audit	Off-site surveillance audit	On-site surveillance audit & re-certification site visit

Table 22 Timing of surveillance audit

Year	Anniversary date of certificate	Proposed date of surveillance audit	Justification
e.g. 1	e.g. May 2018	e.g. July 2018	e.g. Scientific advice to be released in June 2018, proposal to postpone audit to include findings of scientific advice
2	December 2020	April 2021	The Covid-19 pandemic caused a delay in conducting the surveillance announcement.

Table 23 Surveillance level justification

Year	Surveillance activity	Number of auditors	Justification
e.g.3	e.g. On-site audit	e.g. 1 auditor on-site with remote support from 1 auditor	e.g. From client action plan it can be deduced that information needed to verify progress towards conditions 1.2.1, 2.2.3 and 3.2.3 can be provided remotely in year 3. Considering that milestones indicate that most conditions will be closed out in year 3, the CAB proposes to have an on-site audit with 1 auditor on-site with remote support – this is to ensure that all information is collected and because the information can be provided remotely.
2	Off-site audit	3 auditors working remotely	The MSC's Derogation 3: Covid-19 Fishery and Chain of Custody Remote Auditing enables CABs to conduct surveillance audits remotely when Covid-19 risk factors prevent on-site assessments. In the U.S. the CDC recommends not travelling at this time. https://www.cdc.gov/coronavirus/2019-ncov/travelers/travel-during-covid19.html

6.4 Harmonised fishery assessments

Table 24 Overlapping fisheries

Fishery name	Certification status and date	Performance Indicators to harmonise
US Acadian redfish, pollock and haddock	Re-Certified V1.3, May 28th, 2018. 1st Surveillance report published 13 Nov 2019	P2 and P3 (3.1.1-3.1.2 and 3.1.4- only for V1.3 fisheries)
US Gulf of Maine and Georges Bank haddock, pollock and redfish fishery	1st Surveillance published on 21 Aug 2019.	P1, P2 (2.3.1-2.3.3) and P3 (3.1.1-3.1.2 and 3.1.4- only for V1.3 fisheries)
U.S. Atlantic Sea scallop fishery	Re- Certified, V1.3, Oct 11 th , 2018.	P3 (3.1.1-3.1.2 and 3.1.4- only for V1.3 fisheries)
US Atlantic Longfin Inshore Squid Bottom Trawl	Certified V2.0 May 18 th , 2018. 1 st Surveillance published 23 Sep 2019.	P2 (2.3.1-2.3.3) and P3 (3.1.1-3.1.2 and 3.1.4- only for V1.3 fisheries)
US Atlantic Surfclam and Ocean Quahog	Certified V1.3 December 15th, 2016. 3rd Surveillance published 04 Feb 2020.	P3 (3.1.1-3.1.2 and 3.1.4- only for V1.3 fisheries)

Table 25 Overlapping fisheries

Supporting information	
<ul style="list-style-type: none"> - Describe any background or supporting information relevant to the harmonisation activities, processes and outcomes. 	
Was either FCP v2.2 Annex PB1.3.3.4 or PB1.3.4.5 applied when harmonising?	No
Date of harmonisation meeting	No meetings were held during the 4th surveillance audit regarding harmonization.
If applicable, describe the meeting outcome	
<ul style="list-style-type: none"> - e.g. Agreement found among teams or lowest score adopted. 	
N/A	

Table 26 Scoring differences

Performance Indicators (PIs)	US Acadian redfish, pollock and haddock	US Gulf of Maine and Georges Bank haddock, pollock and redfish trawl	US Atlantic Scallop	US Atlantic Longfin Inshore Squid Bottom Trawl	US Atlantic Surfclam and Ocean Quahog
PI 1.1.1		100			
PI 1.2.1		95			
PI 1.2.2		95			

PI 1.2.3		90			
PI 1.2.4		100			
PI 2.1.1	70				
PI 2.1.2	70				
PI 2.1.3	90				
PI 2.2.1	95				
PI 2.2.2	95				
PI 2.2.3	90				
PI 2.3.1	90			85	
PI 2.3.2	90			75	
PI 2.3.3				80	
PI 2.4.1				80	
PI 2.4.2	85			75	
PI 2.4.3	95			80	
PI 2.5.1				80	
PI 2.5.2				85	
PI 2.5.3	80			90	
PI 3.1.1	95		95	100	100
PI 3.1.2			100	100	100
PI 3.1.3			100	100	100
PI 3.1.4			100	NA	NA

Table 27 Rationale for scoring differences

If applicable, explain and justify any difference in scoring and rationale for the relevant Performance Indicators (FCP v2.2 Annex PB1.3.6)

P2 PIs are harmonised in some fisheries, some of the overlapping fisheries (US Gulf of Maine and Georges Bank haddock, pollock and redfish trawl and US Atlantic Longfin Inshore Squid Bottom Trawl) have been evaluated against V2.0 of the MSC standard and it is not possible to harmonize the PI of primary and secondary species as different version of the standard (V1.3) has been used for the US spiny dogfish, winter and little skate fishery and the classification of the species is completely different. Therefore, the scope of minor and main species is different, and the harmonization is not feasible. The US Atlantic spiny dogfish, winter and little skate retained and bycatch species profile is different from the US Acadian redfish, pollock and haddock fishery because there are multiple gears in this UoA while only bottom trawl in the US Acadian redfish, pollock and haddock fishery. The conditions

for the US Acadian redfish, haddock and pollock fishery are not applicable to the US spiny dogfish, winter and little skate fisheries.

Minor differences in ETP species have been identified due to the different operation methodologies of the gear types and the fisheries in fact.

Slight differences in habitats have been the result of differences attributed to scale of impact of fishery or the use of different versions of the standard. Ecosystems PIs have been largely consistent among the overlapping fisheries.

P3 PIs are very similar in all the fisheries, slightly differences can be found in 3.1.1 because some of the fisheries have given the management system a score of 80 for "Legal Rights." Other fisheries have evaluated 100 on all the SG for PI 3.1.1 because they considered the management stronger and it considered that management plans constitute a formal commitment while other fisheries scoring 95 consider that as a mechanism to observe the legal rights. However, the difference in the overall score is from 95 to 100 and it does not represent a relevant issue among fisheries.

If exceptional circumstances apply, outline the situation and whether there is agreement between or among teams on this determination

7 References

Principle 1:

NEFSC 2020. Index Based Methods and Harvest Control Rules. <https://www.fisheries.noaa.gov/new-england-mid-atlantic/population-assessments/stock-assessment-working-group-index-based-methods-and-control-rules>

NEFMC 2020. Annual Monitoring Report for Fishing Year 2019. <https://www.nefmc.org/management-plans/skates>

NEFMC 2021. Northeast Skate Complex Management Overview. <https://www.nefmc.org/management-plans/skates>

MAFMC 2020. Spiny Dogfish Fishery Information Document. <https://www.mafmc.org/dogfish>

Principle 2:

MRAG 2021. U.S. Southern New England Winter and Little Skate. Public Certification Report. February 19, 2021.

NEFMC 2003. Northeast Skate Complex Fishery Management Plan. September 18, 2003.
<https://s3.amazonaws.com/nefmc.org/FINAL.Skate-FMP.EIS.FINAL.VOL.pdf>

NOAA 2020. Long-Finned Pilot Whale (*Globicephala melas melas*): Western North Atlantic Stock. April 2020.
Accessed at: https://media.fisheries.noaa.gov/dam-migration/2019_sars_atlantic_lfpilotwhale.pdf

NOAA 2020b NORTH ATLANTIC RIGHT WHALE (*Eubalaena glacialis*): Western Atlantic Stock. April 2020. Accessed at: https://media.fisheries.noaa.gov/dam-migration/2019_sars_atlantic_northatlanticrightwhale.pdf

NOAA 2018. Atlantic Large Whale Take Reduction Plan: Northeast trap/Pot Fisheries Requirements and Management Areas. https://media.fisheries.noaa.gov/dam-migration/northeast_trap_pot___2018_alwtrp.pdf

NMFS (2021). Endangered Species Act Section 7 Consultation, Biological Opinion. Endangered Species Act
Richards, R. Anne (2016). 2016 Monkfish Operational Assessment. Northeast Fisheries Science Center Reference Document 16-09, U.S. DEPARTMENT OF COMMERCE. National Oceanic and Atmospheric Administration, National Marine Fisheries Service. Northeast Fisheries Science Center, Woods Hole, Massachusetts. July 2016.
doi:10.7289/V5NP22GR

Section 7 Consultation on the: (a) Authorization of the American Lobster, Atlantic Bluefish, Atlantic Deep-Sea Red Crab, Mackerel/Squid/Butterfish, Monkfish, Northeast Multispecies, Northeast Skate Complex, Spiny Dogfish, Summer Flounder/Scup/Black Sea Bass, and Jonah Crab Fisheries and (b) Implementation of the New England Fishery Management Council's Omnibus Essential Fish Habitat Amendment 2 [Consultation No. GARFO-2017-00031] May 21, 2021.

Sigourney, D., Orphanides, C.D., Hatch, J.M. 2019. Estimates of Seabird Bycatch in Commercial Fisheries off the East Coast of the United States from 2015 to 2016. NOAA Technical Memorandum NMFS-NE-252. U.S. DEPARTMENT OF COMMERCE. National Oceanic and Atmospheric Administration, National Marine Fisheries Service. Northeast Fisheries Science Center, Woods Hole, Massachusetts. March 2019.

Sosebee, K., Miller, A., O'Brien, L., McElroy, D. and S. Sherman. 2016. Update of Thorny Skate (*Amblyraja radiata*) Commercial and Survey Data. NEFSC Reference Document 16-08. November 2016. Accessed at: <https://repository.library.noaa.gov/view/noaa/14208>

Principle 3:

Mid-Atlantic Fishery Management Council (MAFMC) 2021. <https://www.mafmc.org/dogfish>

MAFMC 2021b. Newsfeed: NEFSC Soliciting Working Group Members for Upcoming Research Track Assessments. <https://www.mafmc.org/newsfeed/2021/nefsc-soliciting-working-group-members-for-upcoming-research-track-assessments>

MRAG Americas 2021. US Southern New England Winter and Little skate. Public Certification Report. February 2021.

MRAG Americas 2020. US Atlantic Spiny Dogfish and Winter skate, Scope Extension for Little Skate. Public Certification Report. August 2020.

MRAG Americas 2019. US Atlantic Spiny Dogfish and Winter Skate Fishery 1st Surveillance Report. November 12, 2019.

NEFMC 2021. <https://www.nefmc.org/management-plans/skates>

NEFMC 2021b. Press Release Skates: Work on Amendment 5 Continues but Council Drops Limited Access from Toolbox for both Wing and Bait Fisheries. April 26, 2021. <https://s3.amazonaws.com/nefmc.org/Skates-Work-on-Amendment-5-Continues-but-Council-Drops-Limited-Access-from-Toolbox-for-Both-Wing-and-Bait-Fisheries.pdf>

NOAA 2021. Northeast Skate Complex Management Overview. <https://www.fisheries.noaa.gov/species/northeast-skate-complex#management>

NOAA 2020. NOAA Office of General Counsel, Enforcement Section. Enforcement Actions January 1, 2020 through June 30, 2020. <https://www.gc.noaa.gov/documents/2020/Enforcement-Actions-January-June-2020-8-24-2020.pdf>

NOAA 2021b. NOAA Office of General Counsel, Enforcement Section. Enforcement Actions July 1, 2020 through December 31, 2020. <https://www.gc.noaa.gov/documents/2020/Enforcement-Actions-July-December-2020-2-18-2021.pdf>

NOAA 2020b. NOAA Office of General Counsel, Enforcement Section. Enforcement Actions July 1, 2019 through December 31, 2019. <https://www.gc.noaa.gov/documents/2020/Enforcement-Actions-July-December-2019-3-18-2020.pdf>

NOAA 2019. NOAA Office of General Counsel, Enforcement Section. Enforcement Actions January 1, 2019 through June 30, 2019. <https://www.gc.noaa.gov/documents/2019/Enforcement-Actions-January-June-2019-9-23-19.pdf>

UCSG 2020. First Coast Guard District 2020 Quarterly Report to the NEFMC. https://s3.amazonaws.com/nefmc.org/4_DRE-NEFMC-DEC-2020-POWER-POINT.pdf

UCSG 2021. First Coast Guard District 2021 Quarterly Report to the NEFMC.