



## New England Fishery Management Council

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### MEMORANDUM

**DATE:** March 4, 2020  
**TO:** Skate Committee  
**FROM:** Skate Plan Development Team (PDT)  
**SUBJECT:** **2020-2024 Council Research Priorities Related to Skates**

The Skate PDT recommends updates to the skate-related Council research priorities for consideration by the Skate Committee ahead of the Council decision on the 2020-2024 Council Research Priorities, scheduled for the April 2020 Council meeting.

The 2019-2023 Council Research Priorities included nine directly related to skates. The PDT has reviewed these and recommends no change to one priority (# 28), clarify or refocus three priorities (#79, 82, 84), delete three priorities (#81, 83, 94), and combine two priorities with others that are broader in nature (#92 with 75, 93 with 76). Details and rationale are in Table 1. **Green bold** text are proposed additions, ~~red-strikethrough~~ are proposed deletions, and comments are in **blue** text.

In March 2019, during the 2019-2023 research priority setting process, the Scientific and Statistical Committee (SSC) noted that it periodically makes research recommendations and that these should be considered by the Council for addition to its research priority list.

In August 2019, the SSC made the following recommendations:

1. Evaluate setting Acceptable Biological Catch for Northeast Skate Complex, excluding thorny skate.
2. Examine using alternative abundance indices for skates (i.e., obtained from longline surveys).
3. Develop a more systematic approach to account for non-sampled strata in trawl surveys.

The Skate PDT does not agree with the SSC recommendation to add those items as research priorities, because they are all tasks that could be addressed in an assessment or by the PDT rather than through research. For example, during the 2021 management track assessment, thorny skates can be kept out of the ABC equation, because landings are prohibited for this species.

In February 2020, the Northeast Fisheries Science Center provided to Council staff notes on what research it is doing that may meet the Council research priorities. The notes related to the skate priorities are included in Table 1.

**Table 1 – DRAFT skate-related updates from the 2019-2023 Council research priorities**

	Title	Description, rationale, potential use	Priority	Status	FMP	Species	Broad categories	Cross-listing	Notes
11	Investigate age, growth, maturity, and fecundity of managed skate species ( <b>esp. thorny and rosette</b> ).		<b>Important (near term)</b>	underway	Skates	Skates	Population dynamics	assessment	<b>Thorny skate life history would help address rebuilding issues, but data on rosette is particularly lacking.</b> The Skate PDT recommends focusing on thorny and rosette and changing the status from "strategic" to "important" due to the need to rebuild thorny.  NEFSC notes: <b>James (2018, 2019) found that sexual maturation can lead to decreased frequency of band-pair formation resulting in age underestimation for species thought to produce annual band-pairs throughout their life cycle.</b>
32	<del>Evaluate the benefits of skate species-specific management.</del>	<b>A MSE-like study may be appropriate.</b>	<del>Strategic (future needs)</del>	<del>unknown</del>	<del>Skates</del>	<del>Skates</del>	<del>Fisheries management</del>	<del>unknown</del>	<del>Recommended by the SSC.</del> This note has been here since the spreadsheet was first created in 2018. However, the PDT cannot find this recommendation by the SSC in the record. In August 2017, the SSC said that the current approach seems to be working (except for thorny). The PDT recommends deleting this priority. Species-specific management is impossible until species identification improves. Effort on thorny is controlled via the possession limit restriction. NEFSC added the description.
33	Develop effective skate species identification methods for fishermen, dealers, and port samplers (e.g., inexpensive biochemical/genetic assay method, better training & morphological keys for juvenile skates and skate wings).	To improve data on species composition of landings and discards.	Strategic (future needs)	<b>underway</b>	Skates	Skates	Fisheries management	assessment	<b>Reporting skate landings by species has been required since Framework 2, but it can be very difficult, particularly for juvenile skates, and there are known errors in the data (e.g., landings of "smooth skates" where smooth skates are known to not occur).</b> The PDT recommends changing the status from "not begun" to "underway" as there has been some outreach and methods development. NEFSC notes: <b>No NEFSC research.</b>

	Title	Description, rationale, potential use	Priority	Status	FMP	Species	Broad categories	Cross-listing	Notes
34	Investigate skate discards: discard mortality rates for any outstanding species and gear type; alternative methods of estimating dead discards in the specifications process, e.g. forecasting; and examining trends in magnitude of discards.	Discards affect TALs; recent estimates have fluctuated; incidental possession limits triggered in FY2016 & 2017; moving away from the assumed discard rate.	Important (near term)	underway	Skate s	Skates	Fisheries management	assessment, RSA	There is a 2018 monkfish RSA project on reducing skate bycatch in monkfish gillnets. The PDT recommends combining this with priority #55.  NEFSC notes: No NEFSC work.
54	Research the extent and composition of discards and bycatch in the skate and monkfish fisheries.	-	Strategic (future needs)	unknown	Skate s, Monkfish	Skates, Monkfish	Fishery performance & monitoring	assessment	The Skate PDT recommends deleting, as the directed skate and monkfish fisheries are small, and these species are usually caught incidentally in other fisheries.  NEFSC notes: No NEFSC work, though data are being collected.
55	Investigate discard mortality rates by gear type, area, season, depth, and bottom type for all seven skate species with an emphasis on overfished species (thorny and smooth skates), and alternative ways to estimate dead discards in the specifications process, e.g. forecasting; and examining trends in magnitude of discards.	To improve data for specifications setting, as several skates have unknown discard mortality rates for several gear types due to lack of original research or insufficient sample size	Important (near term)	unknown	Skate s	Skates, Smooth skate, Thorny skate	Fishery performance & monitoring	assessment, RSA	The SSC has not adopted discard mortality rates other than the 50% assumption for barndoor, clearnose, rosette for all gear types; for little for gillnet and longline; for smooth and thorny for gillnet, longline, and scallop dredge; for winter for longline. Examining gear type would be a helpful first step. The PDT recommends combining this with priority #34 and deleting smooth skate as it is no longer overfished. NEFSC notes: Outside of NEFSC expertise.
57	Identify gears and/or methods that would reduce bycatch and/or improve discard survival of unwanted catch, that may change the ratio of component catch species or improve size and species selectivity of gear for monkfish, herring and skates.		Important (near term)	underway	Monkfish, Atlantic herring, Skates	Monkfish, Atlantic herring, Skates	Bycatch	RSA	A 2013 S-K project on reducing sturgeon bycatch in monkfish gillnet.  NEFSC notes: Outside NEFSC expertise.

	Title	Description, rationale, potential use	Priority	Status	FMP	Species	Broad categories	Cross-listing	Notes
82	<del>Investigate the influence of physical factors (incl. environmental changes) on shifts in the range and distribution of skate species.</del>	<del>Could improve understanding of why thorny skate is not rebuilding.</del>	<del>Important (near term)</del>	<del>underway</del>	<del>Skates</del>	<del>Skates</del>	<del>Ecosystems</del>	<del>unknown</del>	The Skate PDT recommends combining this with priority #88. NEFSC notes: <b>NEFSC habitat modeling work underway for thorny skate.</b> Kleisner et al included skate species.
83	<del>Examine trophic interactions between skate species and other bottom species that occupy the same habitats.</del>	-	<del>Strategic (future needs)</del>	<del>underway</del>	<del>Skates</del>	<del>Skates</del>	<del>Ecosystems</del>	<del>unknown</del>	The Skate PDT recommends combining this with priority #89. NEFSC notes: <b>NEFSC Food Habits Program.</b> Status changed from "unknown" to "underway".
88	Better understand species responses to climate change (e.g. distribution changes) and how these changes may affect fisheries (e.g., South Atlantic stocks moving north).	Information is needed to build resiliency into FMPs, and to account for possible new interactions between fisheries and fish species. It could potentially explain why some species are not rebuilding (e.g., <b>thorny skate</b> ).	Urgent (essential)	underway	Multiple	Multiple	Ecosystems, Habitat, Climate change, Human dimensions	unknown	Ongoing climate vulnerability assessment work, Rutgers modeling work. This priority was added in 2019.  The Skate PDT recommends adding thorny skate as an example.  NEFSC notes: <b>NEFSC work in Northeast groundfish and Climate Program Office programs.</b>
89	Research ecosystem operational advice: synthesize existing data, modelling, and meta-data analysis, incl. environmental variability and climate change; relationship between habitat and fishery resource productivity (incl. impact of fishing on functional value of habitat); trophic interactions and their implications; managing mix species fisheries; function and effectiveness of closed area management.	Information is needed to develop ecosystem management tools and approaches.	Important (near term)	underway	Multiple	Multiple	Ecosystems, Climate change	unknown	This integrates other habitat research priorities, including the importance and role of quality habitat on recruitment and juvenile productivity/survival. There is a 2017 S-K project on "choke" species in a changing climate. <b>Information on the trophic interaction of skates with other benthic species would be helpful.</b> The Skate PDT recommends adding this note.  NEFSC notes: <b>Several NEFSC projects underway.</b>