

No.	Title	Description, rationale, potential use	Rating	Status	FMP	Species	Broad categories	Cross-listing	Notes
23	Investigate age, growth, maturity, and fecundity of managed skate species (esp. thorny and rosette).	Thorny skate life history would help address rebuilding issues, but data on rosette is particularly lacking.	Important (near term)	underway	Skates	Skates	Population dynamics	assessment	Recent literature review may help. James (2018, 2019) found 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.
44	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)	underway	Skates	Skates	Fisheries management	assessment	Reporting skate species landed has been required since FW 2, but it can be very difficult, particularly for juvenile skates. There are known data errors (e.g., landings of "smooth skates" where smooth skates are known to not occur). Some outreach & methods development. No NEFSC work.
61	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 skates) and alternative ways to estimate dead discards in the specifications process, e.g. forecasting; and examining trends in magnitude of discards.	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	Skates	Skates, Smooth skate, Thorny skate	Fishery performance & monitoring	assessment	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. Outside of NEFSC expertise.
64	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 groundfish, monkfish, herring and skates.	Minimize bycatch	Urgent (essential)	underway	Northeast multispecies, Monkfish, Atlantic herring, Skates	Groundfish, Monkfish, Atlantic herring, Skates	Bycatch, Gear	RSA	Many projects, e.g., BREP 2018 award creating bycatch avoidance model for rec fishery; small-mesh belly panel to reduce flatfish. Four S-K projects on lobster trap bycatch & haddock trawls. 2013 S-K project on reducing sturgeon bycatch in monkfish gillnet. Outside of NEFSC expertise.