

No.	Title	Description, rationale, potential use	Rating	Status	FMP	Species	Broad categories	Cross-listing	Notes	NEFSC updates for 2022
6	Scallop surveys (rotational areas or other important areas).	Contribute to total and exploitable biomass estimates	Urgent (essential)	Underway	Sea scallop	Scallops	Fish surveys	RSA	Priority added in 2020. Is a long-standing Scallop RSA priority; see RSA announcement for details.	
21	Expand the body of knowledge on scallops in the Gulf of Maine bioregion.	Understanding growth, reproduction, natural mortality in GOM would address data gaps & assessment needs.	Strategic (future needs)	Underway	Sea scallop	Scallops	Population dynamics	Unknown	Priority added in 2020. A 2020-2023 Scallop RSA priority. Research on growth by Hodgedon et al. (2020). Surveys funded by Scallop RSA.	
22	Scallop life history work focusing on natural mortality, including all sources of non-harvest mortality such as predation, disease, and discard mortality.	Attention should be directed to the large mortality events to inform future management practices.	Important (near term)	Underway	Sea scallop	Scallops	Population dynamics	Assessment, RSA	A 2021-2023 Scallop RSA priority; see RSA announcement for details. As of the latest assessment (2020), discard mortality questions remain. The next research track assessment (benchmark) planned in 2024.	
32	Develop a gonad-based estimate of SSB and reference points for scallops.	Understand how gonad weight changes in space and time, when spawning is occurring, and the reproductive output. Need to develop a standard way to measure gonads (wet v. dry).	Important (near term)	Unknown	Sea scallop	Scallops	Stock assessment, Population dynamics	Unknown	Priority added in 2020.	
33	Investigate different growth rates found in different scallop harvesting areas, particularly the Nantucket Lightship region.	Understand if growth rates are driven by local production.	Important (near term)	Underway	Sea scallop	Scallops	Stock assessment, Population dynamics	RSA	Priority added in 2020. A 2021-2023 Scallop RSA priority; see RSA announcement for details. VIMS (Rudders et al) funded through Scallop RSA, focus on NLS.	
34	Further evaluate and compare assessment model configurations.	Comparison of models used for status determination (CASA, SYM) and for projections (SAMS).	Important (near term)	Underway	Sea scallop	Scallops	Stock assessment	Unknown	Priority added in 2020. RSA funded VIMS to look at age-based scallop model (Mann). NEFSC hired contractor to program GEOSAMS.	
45	Investigate the economic impacts of GB yellowtail flounder quotas on the scallop fishery, particularly how allocations of other fisheries impact rotational management.	Would improve the economic impact assessments of groundfish and scallop actions.	Urgent (essential)	Underway	Northeast multispecies, Sea scallop	Scallops, Groundfish	Fisheries management, Human dimensions	Unknown	Priority added in 2020.	
48	Research to elucidate modes of infection, transmission and distribution of scallop diseases and parasites that may adversely impact scallop health, meat quality and reproductive viability.	Special attention should be directed to conditions that may result in modifications to the scallop rotational area management strategy to maximize yield.	Important (near term)	Underway	Sea scallop	Scallops	Fisheries management	Unknown	A 2020-2021 Scallop RSA priority. RSA funded projects on gray meats (SMAS, CFF), and nematodes (VIMS/Rutgers). Outside of NEFSC expertise.	
49	Evaluate ways to control predation on scallops.	Managing to optimize yield/recruit; natural mortality events can impact short and long-term management.	Strategic (future needs)	Not begun	Sea scallop	Scallops	Fisheries management	Unknown	Outside of NEFSC expertise, but scallop dredge survey has been monitoring sea star abundances since 2000.	
50	Research to address potential implications of spat collection, seeding and relocation of scallops for enhancement purposes.	Identify standards for future work. Explore ways to supplement wild harvest in light of below average recruitment, anomalous slow growth, and unknown impacts of diseases and parasites.	Important (near term)	Underway	Sea scallop	Scallops	Fisheries management	RSA	Is a 2021-2023 Scallop RSA priority; see RSA announcement for details. CFF has been funded in the past to do some of this work.	
51	Research that investigates the factors affecting scallop fishing power and estimates of how they relate to projections of landings per unit of effort.		Important (near term)	Underway	Sea scallop	Scallops	Fisheries management	Unknown	SMAS (Wright, Cadrin, O'Keefe) funded by RSA to complete LPUE work. It was presented to the SAW 65 workgroup. Current LPUE submodel of the SAMS forecasting model is updated.	
52	Research related to identifying the major sources of scallop management uncertainty and measuring their potential effects on future fishery allocations.	A MSE-like study may be appropriate.	Important (near term)	Unknown	Sea scallop	Scallops	Fisheries management	Unknown	A15 lists sources of mgmt. uncertainty. Scallop CTE wanted to look at carryover as a potential 2019 priority & the PDT would consider mgmt. uncertainty in this evaluation.	

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69	Commercial scallop dredge catch efficiency.	improve scallop size selectivity, reduce scallop damage, reduce non-target species bycatch, and to reduce fuel consumption.	Important (near term)	Underway	Sea scallop	Scallops	Bycatch, Gear	RSA	Priority added in 2020. A 2021-2023 Scallop RSA priority; see RSA announcement for details. N-Viro (CFRF), modified cutting bar (NFI, CFF) work has been funded recently.	
70	Identify and evaluate methods to reduce the impacts of the scallop fishery with respect to bycatch of small scallops and non-target species.	Could include seasonal and spatial patterns.	Urgent (essential)	Underway	Sea scallop	Scallops	Bycatch, Gear	RSA	Priority added in 2020. A 2021-2023 Scallop RSA priority; see RSA announcement for details.	
71	Research and development of fishery dependent data collection systems that support scallop management.	In-season, near real-time data collection at haul level would inform fishing operations (e.g., bycatch avoidance) and more real-time management.	Important (near term)	Underway	Sea scallop	Scallops	Bycatch, Fishery performance & monitoring	Unknown	Priority added in 2019. NEFSC/FSB deploys IFS observers on 5-15% of all LA and LAGC scallop trips and record haul level data for ≥50% of the tows.	
72	Identify areas, conditions, or behaviors (both fishing and species-specific) where sea turtle interactions with scallop dredge gear are more likely to occur.	Need data on observed turtle interactions for other fisheries or fishery surveys in the area where the scallop fishery operates.	Strategic (future needs)	Underway	Sea scallop	Scallops	Protected species, Bycatch	Unknown	A 2022-2023 RSA priority. CFF has done turtle research for many years. Some NEFSC work on Scallop RSA projects.	
74	Investigate turtle behavior and its potential impact on the scallop fishery in the Mid-Atlantic and Georges Bank (via satellite tagging or other means).	Understand seasonal movements, vertical habitat utilization, & status and range of the population in response to climate change.	Important (near term)	Unknown	Sea scallop	Scallops	Bycatch, Climate change, Protected species	RSA	Priority added in 2020. A 2021-2023 Scallop RSA priority; see RSA announcement for details. RSA funded work in 2021 (CFF - 2 projects).	
77	Evaluate the socioeconomic impacts and consequences of area rotation on the scallop fishery, including potential distributional effects and impacts on other fisheries.	A MSE-like study may be appropriate.	Important (near term)	Not begun	Sea scallop	Scallops	Human dimensions	Unknown	Topic came up in the 2019 interviews of Council members (Williams et al 2020). This is a 2021 Council work priority.	
86	Identify & evaluate methods to reduce the habitat impacts of scallop & clam dredge fishing, incl. evaluating variability in dredge efficiency across habitats, times, areas.	Would support development of gear-restriction vs. closure area management approaches.	Strategic (future needs)	Underway	Sea scallop	Scallops	Habitat	Unknown	What are the benefits of modified gear? What are the effects of gear on EFH for other species, e.g., what are the effects of trawl gear on scallop recruitment? Importance of considering impacts in specific settings. Bethoney et al (ongoing) on the N-Viro dredge. Miller et al. (2019) estimated a lower efficiency on hard bottom (27%) than sand/soft bottom (40%). Some international research (see #83).	
106	Evaluate impact of offshore wind development and aquaculture on behavior, reproductive success, and survivorship of managed fish and shellfish species (e.g., scallops).	Information is needed to assess impacts of offshore development on marine fishery resources. Could include: impacts on scallop larval settlement, growth, reproduction, fishing opportunities, etc.	Urgent (essential)	Underway	Habitat, Sea scallop	Multiple, Scallops	Wind energy, Habitat, Population dynamics, Fisheries management, Aquaculture	Unknown	Priority added in 2019. Was 2019 Scallop RSA priority. Very active area of research. Complex issue, beyond first order effects. What information is needed at baseline? Consider short term mitigation options during construction. What about resource changes (e.g., increases in BSB habitat, loss of sand habitats)? BOEM-funded: Acoustics: Behavioral effects of sound sources from offshore renewable energy construction on the black sea bass (<i>Centropristis striata</i>) & longfin inshore squid (<i>Doryteuthis pealeii</i> ; NSL #AT-17-02; NEFSC & WHOI, 2021). MIT/WHOI study on longfin inshore squid (Jones et al. 2020). SMAST-WHOI 2019 RSA project: Assessing Potential Impacts of Offshore Wind Facilities on Regional Sea Scallop Larva & Early Juvenile Transport; BOEM-funded DHI study 'Hydrodynamic Modeling and Particle Tracking in the U.S. Mid-Atlantic Bight.' Friedland et al. (2021b).	
109	Increase understanding of scallop spatial population structure and population dynamics, including processes such as connectivity, source-sink dynamics	Would improve scallop stock assessment	Strategic (future needs)	Unknown	Sea scallop	Scallops	Population dynamics	Unknown	Priority added in 2021. A 2022-2023 RSA priority.	