

Summary of Scallop RSA Awards

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1.0 OVERVIEW OF RSA FUNDING: 2010 – 2017

Table 1 - Total projects and funding by research priority: 2010 - 2017

Priority	Number of Projects Funded		Total Funding (% of total)	
Survey	47	(42%)	\$36,584,185	(38%)
Bycatch	28	(25%)	\$29,182,167	(30%)
Turtle	9	(8%)	\$7,226,437	(7%)
Non-harvest mortality	8	(7%)	\$6,643,424	(7%)
Ecosystem/ Habitat	7	(6%)	\$6,412,691	(7%)
Biology	6	(5%)	\$4,974,064	(5%)
Meat Quality	5	(4%)	\$2,965,334	(3%)
LPUE	1	(1%)	\$270,199	(>1%)
Survey/Habitat	1	(1%)	\$2,665,944	(3%)
Grand Total	112		\$96,924,445	

Table 2 - Number of RSA projects funded by Research Priority (2010 - 2017)

Priority	2010	2011	2012	2013	2014	2015	2016	2017	Grand Total
Survey	5	9	4	6	6	6	4	7	47
Bycatch	1	2	7	4	1	4	4	5	28
Turtle	2	1	1	1	1	1	1	1	9
Non-harvest mortality					4	3		1	8
Ecosystem/ Habitat		1		2	2	1		1	7
Biology		1		1		1	3		6
Meat Quality			1		1		2	1	5
LPUE								1	1
Survey/Habitat							1		1
Grand Total	8	14	13	14	15	16	15	17	112

Table 3 - Status of RSA project from 2010 - 2016

Status	Projects
Not presented	1
Used in Council Action or presented to AP/PDT	74
Ongoing	20

Table 4 - RSA Funding by year from 2010 - 2017 by research organization

Research Organization	Year								
	2010	2011	2012	2013	2014	2015	2016	2017	Grand Total
Coonamessett Farm	\$2,266,396	\$3,418,500	\$4,936,646	\$4,729,047	\$1,996,777	\$5,464,619	\$5,912,199	\$5,123,052	\$33,847,236
SMAST	\$1,840,511	\$1,484,784	\$2,570,390	\$3,126,763	\$3,058,102	\$4,094,626	\$952,286	\$3,910,300	\$21,037,762
VIMS	\$777,695	\$1,750,069	\$2,135,156	\$2,254,221	\$1,420,327	\$1,659,672	\$5,472,885	\$4,057,873	\$19,527,898
Arnie's Fisheries	\$1,706,300	\$998,000	\$1,297,656	\$995,894	\$1,789,680	\$1,437,888	\$586,540		\$8,811,958
University of Delaware					\$1,147,794	\$508,545		\$2,226,996	\$3,883,335
Northeastern University				\$1,107,448	\$919,277	\$801,465			\$2,828,190
WHOI							\$2,665,944		\$2,665,944
Maine DMR		\$589,314			\$558,515	\$372,344			\$1,520,173
Phoel Associates, Inc.		\$799,600							\$799,600
U Maine		\$712,455							\$712,455
National Fisheries Institute				\$338,931	\$366,588				\$705,519
Fisheries Specialists			\$584,375						\$584,375
Grand Total	\$6,590,902	\$9,752,722	\$11,524,223	\$12,552,304	\$11,257,060	\$14,339,159	\$15,589,854	\$15,318,221	\$96,924,445

2.0 2017/2018 RSA AWARDS

Table 5 - Summary of 2017/2018 RSA Awards, grouped by priority

<i>Category</i>	<i>Org.</i>	<i>Title</i>	<i>Pounds</i>	<i>Research</i>	<i>Comp.</i>
Bycatch	CFF	Optimizing the Georges Bank Scallop Fishery by Maximizing Meat Yield and Minimizing Bycatch	164,509	\$493,528	\$1,480,584
Bycatch	CFF	Development of an Extended Link Apron: A Broad Range Tool for Bycatch Reduction	87,000	\$261,000	\$783,000
Bycatch	CFF	Improving a low profile dredge using computational fluid dynamics and flume tank testing	38,662	\$115,985	\$347,955
Bycatch	SMAST	Measuring Swimming Capacity of Yellowtail and Windowpane Flounders	41,425	\$124,276	\$372,826
Bycatch	VIMS	Evaluating the Condition and Discard Mortality of Monkfish, <i>Lophius americanus</i> , Following Capture and Handling in the Sea Scallop Dredge Fishery	128,252	\$346,718	\$1,192,309
Ecosystem /Habitat	SMAST	Sea Scallop Larval and Early Juvenile Transport along the Northeast Continental shelf: A Modeling Tool to Enhance Scallop Management of Rotationally Closed Areas	113,137	\$339,065	\$1,017,195
LPUE	SMAST	Factors Influencing Scallop Landings per Unit Effort (LPUE)	22,517	\$77,200	\$192,999
Meat Quality	SMAST	Monitoring Gray Meat Infestations in Atlantic Sea Scallops in a Closed Area on Georges Bank	35,680	\$119,884	\$308,276
Non-harvest mortality	U of Delaware	A Study of Incidental Mortality in Sea Scallops Investigating Predator Response and Size Selective Rates Of Mortality From BACI Image Surveys	185,583	\$556,748	\$1,670,248
Survey	CFF	An Optical Assessment of Sea Scallop and Predator Abundance and Distribution in the Nantucket Lightship Closed Area and Surrounds in Coordination with the VIMS Dredge Survey	61,833	\$195,750	\$546,250

Survey	SMAST	High-resolution Drop Camera Survey Examining the Scallop Population and Habitat in the Closed Area I Access Area and Sliver	12,137	\$42,480	\$103,167
Survey	SMAST	High-resolution Drop Camera Survey Examining the Scallop Population and Habitat in the Closed Area II Access Area and Extension	25,560	\$89,458	\$217,257
Survey	SMAST	2017 BROADSCALE Drop Camera Survey of the US East Coast Sea Scallop Resource	75,518	\$256,681	\$649,536
Survey	VIMS	A Cooperative High Precision Dredge Survey to Assess the Mid-Atlantic Sea Scallop Resource Area in 2018	74,426	\$182,373	\$710,741
Survey	VIMS	An Assessment of Sea Scallop Abundance and Distribution in Georges Bank Closed Area II and the Southern Extension Closure	30,435	\$80,044	\$285,178
Survey	VIMS	A Study to Assess the Effect of Tow Duration and Estimate Dredge Efficiency for the VIMS Sea Scallop Dredge Survey	105,043	\$283,615	\$976,895
Turtles	CFF	Understanding the Impacts of the Atlantic Sea Scallop Fishery on Loggerhead Sea Turtles	74,917	\$224,750	\$674,250

Table 6 - 2017/2018 RSA Awards - Allocations and funding by RSA priority

Priority	Sum of Pounds	Sum of Research	Sum of Compensation	Sum of Total
Bycatch	459,848	\$1,341,507	\$4,176,674	\$5,518,181
Survey	384,952	\$1,130,401	\$3,489,024	\$4,619,425
Non-harvest mortality	185,583	\$556,748	\$1,670,248	\$2,226,996
Ecosystem/Habitat	113,137	\$339,065	\$1,017,195	\$1,356,260
Turtles	74,917	\$224,750	\$674,250	\$899,000
Meat Quality	35,680	\$119,884	\$308,276	\$428,160
LPUE	22,517	\$77,200	\$192,999	\$270,199
Grand Total		\$3,789,555	\$11,528,666	\$15,318,221



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March 17, 2017
 Contact: [Ryan Silva](#)

2017-2018 Sea Scallop Research Set-Aside Recommended Awards Announced

NOAA Fisheries Northeast Fisheries Science Center (NEFSC) and the New England Fishery Management Council (NEFMC) are pleased to announce 17 projects that will be funded through the [Sea Scallop Research Set-Aside \(RSA\) Program](#) (see [Table 1](#)). This research will contribute to the management of one of the nation's most valuable commercial fisheries.

"The Scallop RSA Program continues to be integral to the successful management of this fishery," said New England Council Chairman Dr. John Quinn. "We genuinely appreciate everyone's long-standing engagement with this program. We have many industry members, managers, institutions, and researchers who help us set our research priorities, and this collaboration has fostered a constructive feedback loop between science and management."

The awards are expected to generate more than \$15 million; \$3.5 million to fund research and \$11.5 million to compensate industry partners who harvest set-aside quota. More than 30 researchers from 15 organizations will be conducting the projects.

Projects will address sea scallop research priorities established by the NEFMC for 2017 and 2018. Among these are resource surveys to estimate scallop biomass, projects addressing bycatch reduction, and work to improve understanding of scallop biology and recruitment.

"The Research Set-Aside Program funds science projects that are directly applicable to the management of Atlantic sea scallop - a highly valuable resource," said Jon Hare, director of the Northeast Fisheries Science Center. "The selected projects complement research and monitoring that is ongoing at the NEFSC and this collaborative approach - enabled by the RSA program - is a real strength for scallop science and management."

Research set-aside programs are unique to federal fisheries in the Greater Atlantic Region. Under the scallop RSA program, no federal funds are provided to support the research. Instead, projects are awarded pounds of scallops, which have been "set aside" from the overall fishery allocation by the NEFMC for this purpose. Successful applicants partner with the fishing industry to harvest their set-aside award to generate funds for the research. There are active research set-aside programs for Atlantic sea scallops, Atlantic herring, and monkfish.

The NEFMC established the sea scallop RSA program to address research that will support management of the scallop resource. The NEFMC annually sets the research priorities and researchers compete for funding through a federal grant competition managed by NOAA Fisheries. NOAA Fisheries does not retain or use any of these funds. To learn more about these unique programs, please visit the [Research Set-Aside \(RSA\) Program](#).

2017/2018 Scallop RSA Award Summary

Scallop Surveys

Extensive survey coverage of the sea scallop resource this summer will support both the NEFMC's management decisions and the upcoming sea scallop stock assessment in 2018. The six awards made under this competition, and three pre-existing survey awards from last year, will provide survey coverage throughout the Mid-Atlantic Bight and on Georges Bank, including several high-intensity surveys of scallop access areas. Surveys will be conducted using a mix of imaging technologies and survey dredges.

A team of researchers led by the [Coonamessett Farm Foundation](#) will conduct an optical survey of the Nantucket Lightship using the HabCam V3 instrument system ([Figure 1](#)). They will also coordinate closely with researchers from the Virginia Institute of Marine Science who are conducting a dredge survey to better understand survey dredge efficiency.

The University of Massachusetts, Dartmouth, School for Marine Science and Technology ([SMAST](#)) received three awards to conduct surveys using their drop-camera array ([Figure 2](#)). High resolution surveys of Closed Area I, Closed II, and the Elephant Trunk will be completed, as well as a broad-scale survey in the Mid-Atlantic Bight and Georges Bank.

The Virginia Institute of Marine Science ([VIMS](#)) received two awards to support survey work this funding cycle. VIMS will conduct a fine-scale dredge survey of Closed Area II and surrounds for the second year in row and survey the Mid-Atlantic Bight in 2018 ([Figure 3](#)). Investigators also will assess variable dredge efficiency as a function of scallop density and evaluate shorter survey tows.

Three awards made last year will continue to support survey work this summer. VIMS will conduct intensive dredge surveys in the Nantucket Lightship Area and throughout the Mid-Atlantic Bight, and the [Woods Hole Oceanographic Institution](#) will conduct a Habcam survey on the northern



Credit: Coonamessett Farm Foundation

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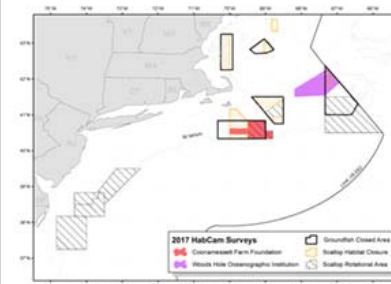


Figure 1. RSA scallop HabCam surveys in 2017

part of Georges Bank. See Figures 1-3 for more detail on 2017 scallop RSA surveys.

Bycatch Mitigation

Two projects undertaken by the Coonamessett Farm Foundation focus on reducing bycatch by modifying scallop dredge gear. Both projects will improve on previous dredge designs to further reduce bycatch while maintaining target catch of scallops. One project will modify the dredge bag to increase escapement by finfish and small scallops. Another project will use the flume tank at Memorial University in Newfoundland to better understand hydrodynamic characteristics of a low-profile dredge design and ways to improve dredge performance.

The Coonamessett Farm Foundation will continue its seasonal bycatch survey on Georges Bank, collecting information on bycatch rates for yellowtail flounder and other species relative to scallop meat yield. This year, the project will shift focus from the northern part of Georges Bank to Closed Area II. Data also will be used to evaluate sea scallop health and meat quality to inform questions about several flounder species and to examine lobsters for shell disease while also collecting biological data.

Coonamessett Farm will continue its loggerhead sea turtle tagging program, with plans to tag up to 15 turtles with water-activated satellite tags. Researchers will observe sea turtle behavior using a remotely operated vehicle, take biological samples, and collect length and weight measurements. This year, in addition to supporting ongoing objectives, the project will characterize overlaps between the distribution of loggerhead sea turtles and sea scallop fishing activity in southern New England and Georges Bank. Finally, this group will analyze the association between loggerhead sea turtles and a nematode parasite that infects scallops.

In collaboration with the [University of New England](#), VIMS will attempt to quantify immediate, short-term (72 hour) and extended (post-72 hour) discard mortality of monkfish after capture in scallop dredges. This will be done through direct observation using an on-deck tank system and by using pop-up satellite tags.

Researchers at SMAST will study the swimming capabilities and behaviors of yellowtail and windowpane flounders in a new seawater tank facility. Investigators will evaluate various aspects of swimming physiology, including speed and endurance, in an attempt to inform potential bycatch mitigation strategies and conservation engineering designs.

Sea Scallop Biology, Meat Quality, and Productivity Projects

The [University of Delaware](#) will further develop incidental mortality estimates for scallops exposed to dredging. Investigators will focus on hard-bottom habitats and develop size-specific incidental mortality estimates by analyzing previously collected images. Results from this research will be available for the 2018 sea scallop assessment.

Expanding on previous sea scallop gray-meat research, SMAST will attempt to delineate the southern range of gray-meat occurrences and assess the growth, meat weights, and reproductive potential of animals found with gray meat in scallop populations. This project will complement ongoing lab-based research funded last year.

SMAST, in collaboration with the Woods Hole Oceanographic Institution, will develop a predictive model for scallop recruitment to improve the understanding of spawning and recruitment dynamics. Results could assist managers with considering recruitment dynamics when making management decisions.

SMAST will explore how environmental, management, and behavioral factors influence sea scallop landings-per-unit-effort (LPUE) in an attempt to improve the accuracy of LPUE estimates. These estimates are used to help set overall fishery allocations, as well as the number of fishing days allocated for the Limited Access scallop fishery. Researchers will collaborate with the sea scallop assessment working group so that information can be used in the 2018 sea scallop assessment.

For more information about these awards and the Scallop RSA Program, please contact Ryan Silva (ryan.silva@noaa.gov, 978-281-9326), Cheryl Corbett (cheryl.corbett@noaa.gov, 508-495-2070), or Jonathon Peros (jperos@nefmc.org, 978-465-0492).

Learn more about the Sea Scallop RSA program and previously funded research projects by visiting [this page](#).

Table 1. 2017-2018 Sea Scallop Research Set-Aside Projects

Institution, Principal Investigator	Project Title	Set-Aside Award based on \$12 per pound
Coonamessett Farm Foundation (CFF), Luisa Garcia	Optimizing the Georges Bank Scallop Fishery by Maximizing Meat Yield and Minimizing Bycatch	164,509 lbs. scallops Research: \$493,528 Compensation: \$1,480,584 Total: \$1,974,112
CFF, Ronald Smolowitz	An Optical Assessment of Sea Scallop and Predator Abundance and Distribution in the Nantucket Lightship Closed Area and Surrounds in Coordination with the VIMS Dredge Survey	61,833 lbs. scallops Research: \$195,750 Compensation: \$546,250 Total: \$742,000
CFF, Farrell Davis	Development of an Extended Link Apron: A Broad Range Tool for Bycatch Reduction	87,000 lbs. scallops

[Click image to enlarge](#)

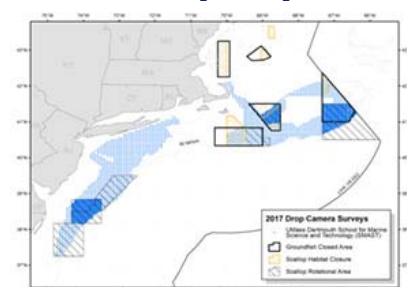


Figure 2. RSA scallop drop camera surveys in 2017

[Click image to enlarge](#)



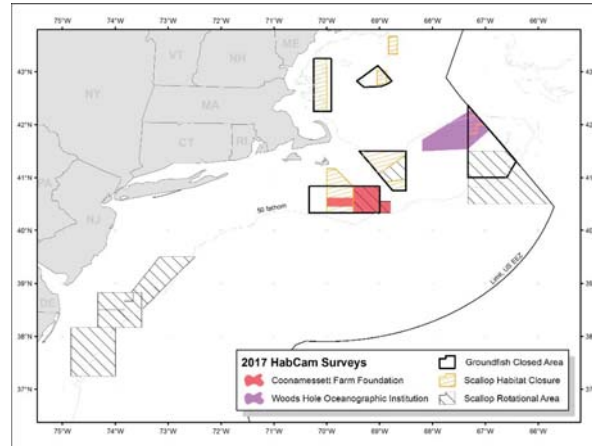
Figure 3. RSA scallop dredge surveys in 2017



Credit: Coonamessett Farm Foundation

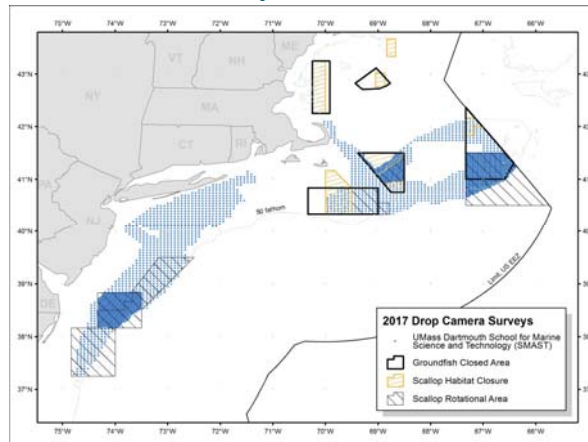
		Research: \$261,000 Compensation: \$783,000 Total: \$1,044,000
CFF, Samir Patel, PhD	Understanding the Impacts of the Atlantic Sea Scallop Fishery on Loggerhead Sea Turtles	74,917 lbs. scallops Research: \$224,750 Compensation: \$674,250 Total: \$899,000
CFF, Liese Siemann, PhD	Improving a Low Profile Dredge Using Computational Fluid Dynamics and Flume Tank Testing	38,662 lbs. scallops Research: \$115,985 Compensation: \$347,955 Total: \$463,940
University Of Delaware, Arthur Trembanis, PhD	A Study of Incidental Mortality in Sea Scallops Investigating Predator Response and Size Selective Rates Of Mortality From BACI Image Surveys	185,583 lbs. scallops Research: \$556,748 Compensation: \$1,670,248 Total: \$2,226,996
University of Massachusetts Dartmouth (SMAST), Steven Cadrin, PhD	Factors Influencing Scallop Landings per Unit Effort (LPUE)	22,517 lbs. scallops Research: \$77,200 Compensation: \$192,999 Total: \$270,199
SMAST, Daniel Georgiana, PhD	Monitoring Gray Meat Infestations in Atlantic Sea Scallops in a Closed Area on Georges Bank	35,680 lbs. scallops Research: \$119,884 Compensation: \$308,276 Total: \$428,160
SMAST, Kevin Stokesbury, PhD	High-resolution Drop Camera Survey Examining the Scallop Population and Habitat in the Closed Area I Access Area and Sliver	12,137 lbs. scallops Research: \$42,480 Compensation: \$103,167 Total: \$145,647
SMAST, Changsheng Chen, PhD	Sea Scallop Larval and Early Juvenile Transport along the Northeast Continental shelf: A Modeling Tool to Enhance Scallop Management of Rotationally Closed Areas	113,022 lbs. scallops Research: \$339,065 Compensation: \$1,017,195 Total: \$1,356,260
SMAST, Kevin Stokesbury, PhD	High-resolution Drop Camera Survey Examining the Scallop Population and Habitat in the Closed Area II Access Area and Extension	25,560 lbs. scallops Research: \$89,458 Compensation: \$217,257 Total: \$306,715
SMAST, Pingguo He, PhD	Measuring Swimming Capacity of Yellowtail and Windowpane Flounders	41,425 lbs. scallops Research: \$124,276 Compensation: \$372,826 Total: \$497,102
SMAST, Kevin Stokesbury, PhD	2017 Broadscale Drop Camera Survey of the US East Coast Sea Scallop Resource	75,518 lbs. scallops Research: \$256,681 Compensation: \$649,536 Total: \$906,217
VA Institute of Marine Science (VIMS), David Rudders, PhD	A Cooperative High Precision Dredge Survey to Assess the Mid-Atlantic Sea Scallop Resource Area in 2018	74,426 lbs. scallops Research: \$182,373 Compensation: \$710,741 Total: \$893,114
VIMS, David Rudders, PhD	An Assessment of Sea Scallop Abundance and Distribution in Georges Bank Closed Area II and the Southern Extension Closure	30,435 lbs. scallops Research: \$80,044 Compensation: \$285,178 Total: \$365,222
VIMS, David Rudders, PhD	Evaluating the Condition and Discard Mortality of Monkfish, <i>Lophius americanus</i> , Following Capture and Handling in the Sea Scallop Dredge Fishery	128,252 lbs. scallops Research: \$346,718 Compensation: \$1,192,309 Total: \$1,539,027
VIMS, David Rudders, PhD	A Study to Assess the Effect of Tow Duration and Estimate Dredge Efficiency for the VIMS Sea Scallop Dredge Survey	105,043 lbs. scallops Research: \$283,615 Compensation: \$976,895 Total: \$1,260,510

2017 RSA HabCam Surveys



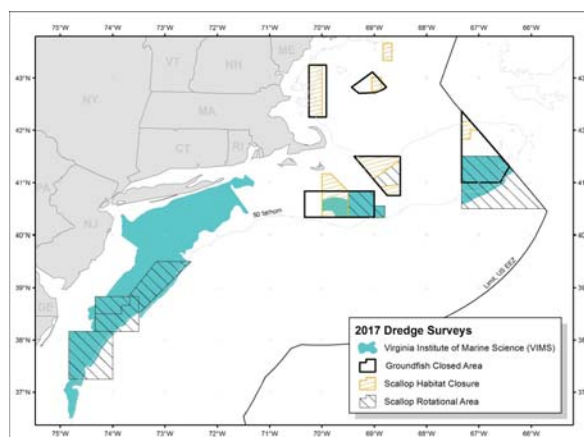
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2017 RSA Drop Camera Surveys



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2017 RSA Dredge Surveys



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