2014/2015 Scallop RSA Awards (16)

NA14NMF4540068 Coonamessett Farm Foundation (CFF)
"Improvements to the CFTDD Design for Flatfish Bycatch Reduction and Energy Efficient"
$1,082,224 Awarded: 5/9/14

Principal Investigators: Farell Davis, Christopher Parkins, Daniel Ward, & Megan Winton - CFF
Dave Rudders, PhD – Virginia Institute of Marine Science (VIMS)

This project proposes to continue testing gear that reduces bycatch with a focus on side-piece windows. They will also test the energy efficiency of towing the frame in order to determine the economic impact of design changes. Gear testing will take place on Georges Bank and southern New England, in areas of high yellowtail and winter flounder bycatch. They will also locate areas with a wide range in scallop size to better examine changes in scallop size selectivity.

NA14NMF4540069 University of Massachusetts, Dartmouth, School for Marine Science & Technology (SMAST)
"Scallop Fishery Bycatch Avoidance System"
$678,955 Awarded: 5/7/14

Principal Investigator: Steven Cadrin, PhD
Co-Principal Investigators: Catherine O'Keefe, PhD & Greg DeCelles, PhD

This project proposes to conduct research and outreach needed to continue the SMAST Bycatch Avoidance System for the 2014 scallop fishing year. They will work with the Limited Access scallop fleet to conduct the bycatch avoidance system in the access area fisheries in 2014, and will use feedback from industry stakeholders to continue the program in open areas of Georges Bank and the Great South Channel, and expand the system to open areas in southern New England. This project also expands the system to include windowpane flounder bycatch. In addition, they will develop predictive models to explore the relationship between yellowtail flounder bycatch rates and environmental conditions, and apply the model results to assist in the interpretation of bycatch reports from open areas, and predict spatio-temporal bycatch patterns.

NA14NMF4540070 University of Massachusetts, Dartmouth, School for Marine Science & Technology (SMAST)
"Broadscale Video Survey of the Open Areas of Georges Bank"
$1,368,126 (2014) $1,368,126 (2015) Awarded: 5/7/14

Principal Investigator: Kevin Stokesbury, PhD
Co-Principal Investigator: N. David Bethony, PhD

This project proposes to survey the open areas of Georges Bank (3.0 nm grid). This project will produce total and exploitable sea scallop biomass estimates which can be used to inform the pending Fisheries Management Plan for fishing years 2015 and 2016. Further, it will address questions on recruitment and stock health in this area; examining habitat characteristics and the abundance, spatial distribution, size composition, and recruitment patterns of scallops in this area.

NA14NMF4540071 Maine Department of Marine Resources (MDMR)
"Assessment of Sea Scallop Distribution and Abundance in Federal and Adjacent state Waters of the Gulf of Maine"
$558,515 (2014) $372,344 (2015) Awarded: 5/9/14

Principal Investigator: Kevin Kelly - MDMR
Co-Principal Investigators: Young Chen, PhD & Sam Truesdell, PhD - University of Maine

This project proposes to test new dredge bag designs for a new low profile scallop dredge frame that has The design of the proposed survey including selection of survey areas and sampling stations will be determined based on the 2009 and 2012 NGOM federal waters surveys, 2003-13 state waters surveys, current fishery and trawl survey data and historical information on distribution and abundance. The information derived from this proposed survey will be used to fine-tune and optimize a long-term fishery-independent monitoring program. Temporal and spatial variability of scallop distribution in the NGOM will be evaluated and quantified. Stock biomass will be estimated and total allowable catch will be recommended for the assessment and management of the NGOM scallop.

NA14NMF4540072 Northeastern University
"Investigating the effects of ocean acidification and warming on the shell properties and meat weights of NW Atlantic sea scallops via paired field surveys and laboratory experiments"
$919,277 (2014) $801,465 (2015) Awarded: 5/8/14

Principal Investigators: Justin Ries, PhD & Jonathan Grabowski, PhD
Co-Principal Investigators: Bradley Harris, PhD – Alaska Pacific University, Kevin Stokesbury – SMAST, & Daniel Eilertsen – Nordic, Inc.

The primary goal of the proposed research is to investigate the impacts of future CO2-induced ocean acidification and warming on the calcification rate, shell properties, and meat weight of NW Atlantic sea scallops. They propose to investigate these relationships through controlled laboratory experiments and targeted field studies. The proposed research would also produce the first high-spatial resolution maps of seawater carbonate chemistry and temperature across the Georges Bank Sea Scallop Fishery. Identification of these natural gradients in seawater

carbonate chemistry and temperature, and the impacts that these gradients currently have on sea scallop calcification, shell properties, and meat weight, will reveal which areas of the Georges Bank Sea Scallop Fishery are most and least vulnerable to future ocean acidification and warming, thereby identifying candidate areas for future closure and access.

NA14NMF4540073 University of Deleware (UD)
"Incidental Mortality Estimates of Sea Scallops from AUV based BACI Surveys"
$1,147,794 (2014) $508,545 (2015) Awarded: 5/14/14

Principal Investigators: Art Trembanis, PhD & Doug Miller, PhD – UD, David Rudders, PhD – VIMS, Arthur & Kenneth Ochse – F/V CHRISTIAN & ALEXA

This project proposes a two-year study to estimate the rate of incidental mortality of sea scallops exposed to commercial dredging. This goal will be accomplished conducting a detailed BACI (Before After Control Impact) study of dredge impacts culminating with an estimate of incidental mortality. To quantify the animals that are impacted by fishing operations, they will construct a detailed map of the seabed immediately before and after dredging using selected treatment and control sites within hard bottom substrates in Georges Banks and a sandy substrate off the Mid-Atlantic for a sandy bottom substrate.

NA14NMF4540074 Virginia Institute of Marine Science (VIMS)
"An Assessment of Sea Scallop Abundance and Distribution in the Long Island/Southern New England Area"

$456,346 Awarded: 5/7/14

Principal Investigator: David Rudders, PhD

This project proposes to support scallop management by providing a timely and detailed assessment of the abundance, distribution and biomass of sea scallops in the SNE/LI area. This area is likely to be an area of focus for open area fishing effort in the 2014 fishing year. Linking this effort to an existing VIMS survey effort in the Mid-Atlantic (south of the Hudson Canyon) will provide managers with a comprehensive dredge survey of the entire region (~500 tows). This effort will document the abundance and distribution of both adult and pre-recruit scallops in a region that will likely be the focus of the majority of fishing effort in 2015 and beyond.

NA14NMF4540075 University of Massachusetts, Dartmouth - SMAST
"High-Resolution Video Survey and Biological Sampling of the Northern area of Closed Area I"
$438,898 Awarded: 5/7/14

Principal Investigator: Kevin Stokesbury, PhD
Co-Principal Investigators: Susan Inglis & N. David Bethony, PhD

This project proposes deploying a combination of a high resolution video (1.5 nm grid) and a modified biological dredge survey to sample the Georges Bank northern "sliver" of Closed Area 1. This project will produce total and exploitable sea scallop biomass estimates which can be used to inform the pending Fisheries Management Plan for fishing years 2015 and 2016. Further, it will address questions on recruitment and stock health in this area; examining habitat characteristics and the abundance, spatial distribution, size composition, recruitment patterns and meat quality of scallops in this area.

NA14NMF4540076 Coonamessett Farm Foundation (CFF)
"Habitat Characterization and Sea Scallop Resource Enhancement Study in a proposed Habitat research Area – Year Two"
4$770,852 Awarded: 5/7/14

Principal Investigators: Katherine Thompson, Daniel Ward, & Ron Smolowitz – CFF, Kevin Stokesbury, PhD & Susan Inglis - SMAST

This project proposes to continue monitoring the enhanced seedbed that was established in CAI during the 2013 Scallop Enhancement RSA, as well as to transplant scallop seed from NLCA to the same enhanced site in CAI. First, we will evaluate the long-term success of the previous year's transplanting experiment based on survival, growth, and dispersal of scallop seed. Then, we will transplant seed from a recent high density bed in NCLA, to the experimental seed bed area in CAI. The encompassing goal of this project is to demonstrate the feasibility of a seeding program to enhance and stabilize scallop recruitment on Georges Bank while documenting the factors that affect seed survival. Information gained from this project on scallop growth and survival in offshore populations will be broadly applicable to future studies investigating stock dynamics.

NA14NMF4540077 Virginia Institute of Marine Science (VIMS)
"Discard Mortality of Sea Scallops following capture and handling in the sea scallops dredge fishery"
$963,981 (2014) $693,200 (2015) Awarded: 5/8/14

Principal Investigator: David Rudders, PhD
Co-Principal Investigators: James Sulikowski, PhD – University of New England & James Mandelman, PhD – New England Aquarium

This project proposes to estimate the sea scallop discard mortality rate characteristic of the commercial dredge fishery. The methodological approach will be to assess the short-term survival (~7 days) of observed scallops by holding the animals in a novel chilled seawater deck

tank system engineered for previously funded discard mortality work. Based on these observations the researcher will estimate the probability of mortality as a function of covariates that contribute to scallop discard mortality (i.e. physical trauma, environmental conditions, biological characteristics). An additional component of the deck tank trials will be to construct a scallop vitality index (SVI) based on a suite of factors (e.g. shell damage, reflex response) that can be rapidly assessed.

NA14MF4540078 National Fisheries Institute-Scientific Monitoring Committee (NFI-SMC)
"Determining Incidental Discard Mortality of Atlantic Sea Scallops, Placopecten magellanicus (Gmelin, 1791), in the Scallop Dredge Fishery in the Mid-Atlantic Bight"
$366,588 Awarded: 5/8/14

Principal Investigators: Eleanor Bochenek & Jason Morson – Rutgers University

This project proposes to assess the incidental mortality of scallops passing through the 4-inch rings of a 12'' turtle dredge on sandy and hard substrates off the coast of New Jersey. Study results will be made available to stock assessment scientists to estimate incidental mortality from the 4-inch rings.

NA14NMF4540079 Coonamessett Farm Foundation (CFF)
"Understanding Impacts of the Sea Scallop Fishery on Loggerhead Sea Turtles"
$919,360 Awarded: 5/7/14

Principal Investigators: Daniel Ward & Brianna Valenti

This project will build upon the success of prior Coonamessett Farm Foundation (CFF) turtle behavioral research, the proposed project will tag twenty juvenile loggerhead turtles with water-activated satellite tags. This work will require two tagging trips with a total of fifteen days at sea aboard two chartered scallop vessels. The scientists and crewmembers aboard the vessels will conduct turtle sighting surveys for the duration of field operations.

NA14NMF4540080 University of Massachusetts, Dartmouth - SMAST
"Tracking the occurrence of grey meat in Atlantic sea scallops"
$572,123 Awarded: 5/7/14

Principal Investigator: Kevin Stokesbury, PhD
Co-Principal Investigators: Susan Inglis & Daniel Georgianna, PhD

This project proposes to use visual observation of scallops at the Whaling City Seafood Display Auction and scallop vessel captains' local ecological and fishing knowledge to identify fine scale location of gray meats in time and space. Habitat conditions associated with gray meat locations will be detailed using the SMAST video survey library, classifying benthic habitat conditions conducive for gray meat formation. A series of laboratory experiments will be

conducted to test the ability of gray meat scallops to recover to white meat quality. The Project will produce a temporal and spatial map of gray meat outbreaks to provide fishermen with a useful product to avoid poor quality and lower value scallops, and provide management with information to assess the vulnerability of stocks and develop methods to manage the condition.

NA14NMF4540081 Arnies Fisheries, Inc.
"Optical Survey of Scallop Resource in the Elephant Trunk Scallop Access Area"
$895,320 Awarded: 5/13/14

Principal Investigator: Richard Taylor

This project proposes an optical survey of the Elephant Trunk Access Area to be conducted in the summer of 2014 using the HABCAM Version 2 towed instrument system. The extent of the settlement area within the Access Area, scallop counts and density, and resultant harvestable biomass, are the key components needed in order to set the Total Allowable Catch (TAC) when the area reopens in 2015. The survey transect is to be conducted in an east and west direction at a 2nm spacing, with higher density areas run at 1nm spacing, with a total length of ~870nm

NA14NMF4540082 Coonamessett Farm Foundation (CFF)
"Estimating Incidental Mortality in the Sea Scallop Fishery"
$306,565 (2014) $429,755 (2015) Awarded: 5/7/14

Principal Investigator: Ron Smolowitz

This project proposes to utilize a Remotely Operated Vehicle (ROV), dredge-mounted cameras, and a camera trolley to examine the dredge path of a 4.57-meter-wide Coonamessett Farm Turtle Deflector Dredge (CFTDD). They plan on conducting three trips, each trip of five days-at-sea (DAS), to examine a total of 20-30 tow paths. The tows will be made on commercial scallop grounds; one trip each to Georges Bank (GB), Southern New England (SNE), and the Mid-Atlantic Bight (MAB). The paths will be made by a dredge equipped with forward facing cameras towed at commercial speed (4.5 knots) and will be 500 meters long. Video data will be collected by the ROV in such a manner as to determine the quantity and condition of species left in the dredge path with the main focus being on sea scallops. Dredge catches will be examined to evaluate dredge efficiency, discard mortality, and meat losses associated with scallop condition and processing.

NA14NMF4540083 Arnies Fisheries, Inc.
"Optical Survey of Recent Scallop Settlement Areas Along the Southern New England Continental Shelf"
$894,360 Awarded: 5/12/14

Principal Investigator: Richard Taylor

This project proposes to use the HABCAM Version 2 towed instrument system to conduct an optical survey of the large scallop recruitment event south of the Great South Channel and extending east and west along the continental shelf. The proposed survey follows a preliminary survey conducted by the HABCAM GROUP in August 2013 after large numbers of year 0 scallops were identified by both Virginia Institute of Marine Science and NOAA Fisheries scallop survey efforts in 2013 along the 30-40 fathom edge in the Nantucket Lightship scallop Access Area (NLSAA) and in contiguous areas to both east and west (Fig. 1). Additional areas of recruitment along the southern edge of Long Island have been reported by industry vessels and are to be included.