

November 16, 2021

Andrew J. Strelcheck  
Regional Administrator  
National Marine Fisheries Service  
Southeast Regional Office  
263 13th Ave. South  
St. Petersburg, Florida 33701-5505

Dear Mr. Strelcheck:

The South Carolina Aquarium (SCA) requests a five (5) year Exempted Fishing Permit (EFP) for the purpose of collecting specimens for public educational display, valid from July 1, 2022 through June 30, 2027.

The applicant's contact information is as follows:

Rachel Kalisperis, Director of Animal Care  
South Carolina Aquarium  
100 Aquarium Wharf  
Charleston, SC 29401  
Desk: (843) 579-8610  
E-mail: [rkalisperis@scaquarium.org](mailto:rkalisperis@scaquarium.org)

#### Statement of Purpose and Goals

The South Carolina Aquarium (SCA) is a 501 (c) (3) not-for-profit public institution dedicated to the understanding and conservation of South Carolina's natural habitats and resources. It is accredited by the American Zoo and Aquarium Association (AZA), and is located on the Cooper River in Charleston, SC.

The SCA was first issued an EFP in May of 1998, and has been operating under an EFP without protected species interaction for over 20 years. Our methods are designed specifically to avoid such interactions, maximize survivorship, and are targeted to meet specific educational and conservation goals.

The SCA displays and interprets South Carolina's diverse range of aquatic habitats from mountain streams to oceanic depths in approximately 45 aquatic displays, ranging in size up to a 330,000-gallon Great Ocean Tank, where most of our large fishes are displayed. Only species endemic to the South Carolina region are on permanent display. It is a major educational institution, with free admission to school children in prearranged program groups, extensive field studies, virtual education offerings, and outreach programs. Our goal in requesting this permit is to showcase the charismatic fishes found in our oceans in a way that inspires strong appreciation of the natural world and motivates people to take conservation action.

#### *South Carolina Aquarium Mission Statement*

*The mission of the South Carolina Aquarium is to inspire conservation of the natural world by exhibiting and caring for animals, by excelling in education and research, and by providing an exceptional visitor experience.*

The Aquarium achieves this through its commitment to excellence in exhibit and animal care, education, and customer service. The professional Education Division at the Aquarium has a tremendous amount of

experience in interpreting the natural world to our guests of various ages and backgrounds. All of the education staff, including the division director, school program manager, education program coordinator, and outreach educator, are required to complete and maintain a professional certification. Animal care personnel are well qualified to carry out the proposed objectives of this permit and maximize animal survivorship. This team, including two full time veterinarians, life support operators, and several experienced aquarists provide on-call coverage for animal care 24/7/365. The aquarium also operates a sea turtle rehabilitation center, therefore the staff included in this application are trained in safe sea turtle handling methods. Several also have earned certificates in Safe Handling, Release and Identification as offered by NMFS workshops.

#### Location and Frequency of Collections

The SCA ideally would like to collect in federal waters off the coast of South Carolina once a week during the months of May through September and twice a month for all other months. In reality, weather conditions and personnel schedules make actual collection trips less frequent. In addition, we stipulate below that collection methods using sea bass pots, spiny lobster traps and golden crab traps (#3 below) would not be deployed between November 1 and April 30 of each year. The aquarium would also like to collect in federal waters off the coast of North Carolina; however, collecting trips to this location would be far less frequent (we anticipate no more than five trips per year).

Collecting will usually take place during mid-day hours with 24-hour prior notification before each trip made to the appropriate authorities as directed. Notification will include intended time of collecting, location of collecting, and gear type that will be deployed. Estimated time of collecting per collecting trip should not exceed five hours in duration.

Species of Request are stipulated annually in Appendix A. Species not currently managed by either the SAFMC or NMFS are not included in Appendix A.

The total 5-year maximum request for animals totals 7,180 fishes and 2,275 invertebrates. Annually, this represents 1,436 fishes and 455 invertebrates.

In reality, actual catch is much lower. The request represents the absolute maximum for which the SCA could acquire per year. Referencing previous reports demonstrates the actual catch to be expected. Annual collections since 2013 generally do not exceed 200 fishes and almost no invertebrates. The application is designed as such to allow the flexibility in meeting the aquarium's conservation and education goals. The reasoning is that it is difficult to predict the species and quantities we will collect, we have the knowledge to care for multiple species, and our educational displays depict habitats native to South Carolina, where numerous species reside. This application approach gives us flexibility in bringing back species alive to serve as ambassadors for their species and represent the habitats off of the South Carolina coast. In reality, the sum total being requested overall (7,180 fishes and 2,275 invertebrates) would not be acquired.

Collecting Vessels and Participants are stipulated in Appendix B.

#### Collection Gear and Methods

The SCA uses a variety of collection methods, detailed below, to focus on specific needs. All animal capture and handling techniques are designed to maximize survivorship.

- 1) Scuba diving at depth with small hand nets and "dip netting" (Table 1) on the surface from a boat in areas around sargassum mats.

- Note: generally, no bycatch is involved with these collection methods because desired animals are first seen and then targeted with individual nets. Any non-target animals that may enter the net are released alive immediately. Incidental collection of sargassum weed from dip netting is anticipated to be none or very low because the methods target the animals and avoid collection of the sargassum weed.

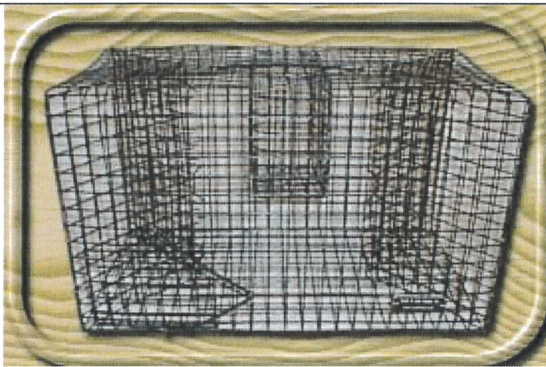
Table 1. Hand and dip nets used by the SCA.

Name	Hoop Dimensions	Handle Length	Net Depth	Mesh
Hand Net	11"x11" square	12"	17"	Clear vinyl with ¼" Delta weave nylon mesh bottom
Hand Net	13"x13" square	8"	22"	1" square knotted monofilament
Dip Net	21"x26" teardrop	48"	21"	½" King weave nylon
Dip Net	21"x26" teardrop	48"	21"	¼" Delta weave nylon

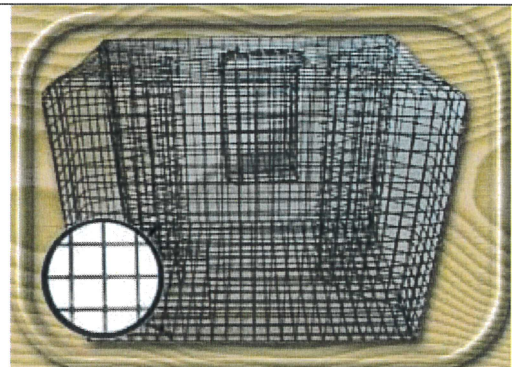
- 2) Vertical hook and line and trolling with rod and reel. Lines may be of the following types (a, b, c, and d) described below. No more than 7 lines total regardless of type will be deployed at the same time.
  - a) Vertical hook and line fishing rod and reel using natural baits and circle hooks, no more than 3 hooks per line.
  - b) Vertical hook and line fishing rod and reel using sabiki-style artificial rigs with J hooks, no more than 7 hooks per line.
  - c) Vertical hook and line fishing rod and reel using artificial jigs with J hooks, no more than 2 hooks per jig and 1 jig per line.
  - d) Trolling rod and reel, J hooks, no more than one hook per line; hooks may have artificial lures or natural bait.
  - Note: Incidental bycatch is expected to be very low based on previous fishing reports. Every effort is made to release all non-targeted bycatch alive. Animals that are caught at depth may be de-gassed at the surface using a hypodermic needle prior to release or taken back down and released at depth using a depth release tool (e.g. the "BlackTip Catch and Release Recompression Tool"). No more than 7 lines are deployed at one time so staff members on board are able to constantly monitor the lines and respond immediately. Generally, most fishing is done in less than 300 feet.
- 3) Sea bass pots, spiny lobster traps and golden crab traps that meet the construction requirements of 50 CFR 622.40. These traps will NOT be set between November 1 and April 30 of each year. These traps will be deployed and retrieved during individual collection trips (i.e. the traps will be deployed for no more than 5 hours at a time) in waters less than 300 feet deep. No more than 5 traps at a time will be set and they may be set on individual nylon lines with buoys; or, they may be hand placed by SCUBA divers with no buoys attached. They will not be tied together on a longline. The traps may be baited with natural bait items.
  - Note: Incidental bycatch is expected to be very low based on previous fishing reports; every effort is made to release all non-targeted bycatch alive. Traps are retrieved using a controlled ascent to allow for gas absorption. Animals may be de-gassed at the surface using a hypodermic needle prior to release or taken back down and released at depth using a depth release tool (e.g. the "BlackTip Catch and Release Recompression Tool"). Interaction with protected species is expected to be low

or none based on previous reports and the use of single lines, short soak times (< 5 hrs), and limited months for deployment.

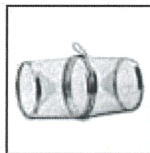
- 4) Bait Traps and Minnow Traps (Figures 1-3): These traps (maximum 5 traps) will only be deployed by hand during SCUBA dives in waters less than 300 feet deep. The traps will not have lines or buoys on them and could be deployed year-round. Any non-target species retained in the traps will be released at depth unharmed after a maximum period of 5 hours. Each trap will be retrieved when divers exit the water. These traps may be baited with natural bait items.
- Note: Incidental bycatch is expected to be very low based on previous fishing reports; any non-target species retained in the traps will be released at depth unharmed after a maximum period of 5 hours. Interaction with protected species is expected to be low or none based on previous reports, the short soak time, and the lack of lines or buoys associated with the traps.



**Figure 1. Mid size fisherman's classic bait fish trap**  
Dimensions 14" High x 13" Wide x 24" Long, 1" square mesh, rubber coated galvanized wire, 2 high entries at 14"



**Figure 2. Jumbo size fisherman's jumbo plus bait fish trap**  
Dimensions 24" High x 24" Wide x 24" Long, 1" square mesh, rubber coated galvanized wire. 2 high entries at top.



**Figure 3. Minnow Trap** 1/4" galvanized uncoated wire mesh.

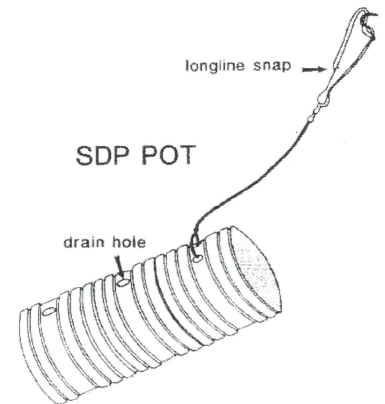


5) Octopus Traps (Figure 4). These traps will be deployed in depths less than 100 feet, do not have lines with buoys, and would be deployed year-round. They are described by Whittaker et al. (1991) as being made of 18" (46 cm) lengths of 4" (10.2 cm) diameter black HDPE corrugated drainage pipe. One end is filled with cement to a depth of 2-3" (5-7.5 cm) to block egress and provide weight. The other end will remain open so that the animals may come and go at will. A 3' (1 m) length of ¼" nylon line is used to attach a longline snap to the open end. Up to 10 traps will be deployed unbaited on a nylon line of not more than 250 feet total length with a cinder block weight at each end; or they may be hand placed by divers in the same areas. Set times are expected to be about 7 days but may vary slightly with weather conditions (set time will not exceed 30 days). Animals can easily crawl or swim out of the 4" opening of this habitat trap and octopi are the only animals that will be targeted with it. All traps will be deployed in waters less than 100 feet. These traps will not be deployed with buoys and will be recovered with one grapple hook line which will be tended at all times.

- Note: Incidental bycatch is expected to be none or very little because animals can easily crawl or swim out of the 4" opening of this trap. Any non-target species retained in the traps will be released unharmed at depth when retrieved by SCUBA divers. When retrieved from the surface, bycatch may be de-gassed at the surface using a hypodermic needle prior to release or taken back down and released at depth using a depth release tool (e.g. the "BlackTip Catch and Release Recompression Tool"). Every effort is made to deploy these traps over sandy bottom habitats. Deployment sites are investigated by SCUBA divers prior to deployment. Interaction with protected species is expected to be low or none based on previous reports, the lack of lines with buoys, depth of deployment, and the targeted site selection and method of removal.

#### Record Keeping

Detailed records are kept for every collection trip (please see the enclosed Accession Form and Trip Log) and saved digitally. This information is used in part to submit the required annual report for this permit. We record all animals that are retained and we will report any protected species interactions if they occur (none to date; first EFP issued May 1998). Individual specimens are not measured in order to minimize stress and reduce handling time as much as possible. This is extremely important in maximizing survivorship.



**Figure 4. Octopus habitat trap** (Whittaker et al. 1991)

Please feel free to contact me if you have any further questions regarding this EFP request. I would be happy to provide further information in order to make this request easier to process.

Thank you in advance for your consideration,



Rachel E.G. Kalisperis  
Director of Animal Care  
South Carolina Aquarium

Reference: Whittaker, J. David, L.B. DeLancey and J.E. Jenkins. 1991. Aspects of the biology and fishery potential for *Octopus vulgaris* off the coast of South Carolina. *Bull. Mar. Sci* 49(1-2):482-493.

# Appendix A Annual Requested Species and Quantities

The following table lists the annual collection request for federally managed species and their quantities. Desired specimens will be collected and transported live to the SCA for public educational display. Species that are not federally managed are not included in this request.

	Common Name	Scientific Name	Annual Request
<b>Groupers - <i>Epinephelus</i> spp. Total</b>			50
	Rock Hind	<i>Epinephelus adscensionis</i>	
	Graysby	<i>Epinephelus cruentatus</i>	
	Speckled Hind	<i>Epinephelus drummondhayi</i>	no more than 2
	Yellowedge Grouper	<i>Epinephelus flavolimbatus</i>	
	Coney	<i>Epinephelus fulvus</i>	
	Red Hind	<i>Epinephelus guttatus</i>	
	Goliath Grouper	<i>Epinephelus itajara</i>	no more than 2
	Red Grouper	<i>Epinephelus morio</i>	
	Misty grouper	<i>Epinephelus mystacinus</i>	
	Warsaw grouper	<i>Epinephelus nigritus</i>	no more than 2
	Snowy Grouper	<i>Epinephelus niveatus</i>	
	Nassau Grouper	<i>Epinephelus striatus</i>	no more than 2
<b>Groupers - <i>Mycteroperca</i> spp. Total</b>			50
	Gag grouper	<i>Mycteroperca microlepis</i>	
	Black Grouper	<i>Mycteroperca bonaci</i>	
	Yellowmouth Grouper	<i>Mycteroperca interstitialis</i>	
	Scamp	<i>Mycteroperca phenax</i>	
	Yellowfin grouper	<i>Mycteroperca venenosa</i>	
<b>Grunts - <i>Haemulon</i> spp. Total</b>			250
	Margate	<i>Haemulon album</i>	
	Tomtate	<i>Haemulon aurolineatum</i>	
	Cottonwick	<i>Haemulon melanurum</i>	
	Sailors Choice	<i>Haemulon parra</i>	
	White Grunt	<i>Haemulon plumierii</i>	
<b>Invertebrates (non-Penaeid)</b>			
	Golden Crab	<i>Chaceon fenneri</i>	5
	Spiny Lobster	<i>Panulirus argus</i>	25
	Rock Shrimp	<i>Sicyonia brevirostris</i>	25
<b>Jacks - <i>Caranx</i> spp. Total</b>			75
	Bar Jack	<i>Caranx ruber</i>	
<b>Jacks - <i>Seriola</i> spp. Total</b>			125
	Greater Amberjack	<i>Seriola dumerili</i>	
	Lesser Amberjack	<i>Seriola fasciata</i>	
	Almaco Jack	<i>Seriola rivoliana</i>	
	Banded Rudderfish	<i>Seriola zonata</i>	

	Common Name	Scientific Name	Annual Request
<b>Mackerel</b>			
	Bullet Mackerel	<i>Auxis rochei</i>	100
	Frigate Mackerel	<i>Auxis thazard</i>	100
	King Mackerel	<i>Scomberomorus cavalla</i>	15
	Spanish Mackerel	<i>Scomberomorus maculatus</i>	15
<b>Other</b>			
	Wahoo	<i>Acanthocybium solandri</i>	5
	Atlantic Spadefish	<i>Chaetodipterus faber</i>	50
	Dolphin Fish	<i>Coryphaena hippurus</i> or <i>C. equiselis</i>	50
	Hogfish	<i>Lachnolaimus maximus</i>	8
	Wreckfish	<i>Polyprion americanus</i>	2
	Cobia	<i>Rachycentron canadum</i>	6
<b>Porgies - <i>Calamus</i> spp. Total</b>			65
	Jolthead Porgy	<i>Calamus bajonado</i>	
	Saucereye Porgy	<i>Calamus calamus</i>	
	Whitebone Porgy	<i>Calamus leucosteus</i>	
	Knobbed Porgy	<i>Calamus nodosus</i>	
<b>Porgies - Other</b>			
	Red Porgy	<i>Pagrus pagrus</i>	25
	Longspine Porgy	<i>Stenotomus caprinus</i>	50
	Scup	<i>Stenotomus chrysops</i>	50
<b>Sea Basses Total</b>			100
	Bank Sea Bass	<i>Centropristis ocyurus</i>	
	Rock Sea Bass	<i>Centropristis philadelphica</i>	
	Black Sea Bass	<i>Centropristis striata</i>	
<b>Shrimp Total</b>			400
	Penaeid Shrimp	<i>Litopenaeus setiferus</i>	
	Penaeid Shrimp	<i>Farfantepenaeus duorarum</i>	
	Penaeid Shrimp	<i>Farfantepenaeus aztecus</i>	
<b>Snappers Total</b>			175
	Blackfin snapper	<i>Lutjanus buccanella</i>	
	Queen Snapper	<i>Etelis oculatus</i>	no more than 2
	Mutton Snapper	<i>Lutjanus analis</i>	
	Red Snapper	<i>Lutjanus campechanus</i>	no more than 25
	Cubera Snapper	<i>Lutjanus cyanopterus</i>	
	Gray Snapper	<i>Lutjanus griseus</i>	
	Lane Snapper	<i>Lutjanus synagris</i>	
	Yellowtail Snapper	<i>Ocyurus chrysurus</i>	
	Vermilion Snapper	<i>Rhomboplites aurorubens</i>	no more than 75

	Common Name	Scientific Name	Annual Request
<b>Tilefish</b>			
	Blueline Tilefish	<i>Caulolatilus microps</i>	5
	Golden Tilefish	<i>Lopholatilus chamaeleonticeps</i>	5
	Sand tilefish	<i>Malacanthus plumieri</i>	10
<b>Triggerfish - <i>Balistes spp.</i></b>			25
	Gray Triggerfish	<i>Balistes capriscus</i>	
<b>Triggerfish - Other</b>			
	Ocean Triggerfish	<i>Canthidermis sufflamen</i>	25
		<b>Total Fishes per year</b>	<b>1436</b>
		<b>Total non-Penaeid Inverts per year</b>	<b>55</b>
		<b>Total Penaeid shrimp per year</b>	<b>400</b>

#### Appendix B Collecting Vessels and Participants

The SCA would like to use a total of three (3) vessels for collecting purposes. Our two primary vessels belong to SCA and therefore the contact information for these two vessels is the same.

- |  |   |
|--|---|
| <p>1) 32' 3" Scout (<i>REEL SCIENCE</i>)<br/> Registration number SC-9152-DE<br/> Hull identification number SLPXM305C314<br/> Docking Location: Seabreeze Marina<br/> 50 Immigration St, Charleston, SC 29403</p> | <p>Rachel Kalisperis, Director of Animal Care<br/> South Carolina Aquarium<br/> 100 Aquarium Wharf<br/> Charleston, SC 29401<br/> Desk: (843) 579-8610<br/> Email: <a href="mailto:rkalisperis@scaquarium.org">rkalisperis@scaquarium.org</a></p> |
| <p>2) 17' Scout (<i>CUB SCOUT</i>)<br/> Registration number SC-9288-BF<br/> Hull identification number SLPL8051E999<br/> Not docked. Stored on trailer at SCA.</p>   |   |

Because these vessels are owned by SCA, the captain will be one of several SCA staff members, many of whom have been staff at SCA for more than 10 years. Their contact information is the same as that listed above for the SCA owned vessels and the resumes of our most experienced staff (who mentor the others) are enclosed.

Angela Zepp	<b>Arnold Postell</b>	<b>Chris Matthews</b>	Nick Bellofatto
<b>David Wilkins</b>	<b>Jason Cassell</b>	Jessica Kubuski	Whitney Daniel
Laura Buker	Lauren Michaels	<b>Markus Pallos</b>	<b>Shannon Howard</b>
Matthew Reasor	<b>Nigel Bowers</b>	<b>Rachel Kalisperis</b>	<b>Sallie Behrend</b>
<b>Ryan Yuen</b>			

The third vessel, named GEORGE, is privately owned and operated locally by a SCA staff member, Nigel Bowers:

- |   |  |
|---|--|
| <p>3) 28' World Cat 295 DC (<i>GEORGE</i>)<br/> registration number SC-5352-DF<br/> hull identification number USEPY03704F617</p> | <p>Docking Location: Seabreeze Marina<br/> 145 Lockwood Dr, Charleston, SC 29403</p> |
|---|--|

Nigel Bowers, 282 S Plaza Court, Mt. Pleasant, SC 29464 (843) 579-8530



*last modified 2019*

## COLLECTING INFORMATION \* = required for HMS and EFP

Name \_\_\_\_\_ Acquisition Date \_\_\_\_\_ ISIS Number: \_\_\_\_\_

## Participants

\*Location (Lat/Long, descript.): \_\_\_\_\_ Tide: \_\_\_\_\_

\*Gear Type: \_\_\_\_\_

*Capture Mortality	*Length	*Weight	*Sex	*Gravid? Y / N
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\*Tag #: \_\_\_\_\_ \*Water Depth: \_\_\_\_\_ \*Water Temp: \_\_\_\_\_

COMMENTS:

[illegible]

## Reel Science - Trip Log


**Inshore**  
**Offshore**  
**Weather**  
**Tide**


**Notes:**

Dock	Time	Temp	Trip hrs	Miles	Gas/bars	Gas Used

Weather	rpm	Speed	Trim	MPG	Gas

[illegible]