

5th Edition with  
116 fish species  
Images and videos

# SharkCam Fishes

A Guide to Nekton at Frying Pan Tower

By Erin J. Burge, Christopher E. O'Brien, and jon-newbie





Trevor Mendelow, designer of SharkCam, on August 31, 2014, the day of the original SharkCam installation.



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For questions related to this guide or its usage contact [Erin Burge](#). The suggested citation for this guide is:  
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## SharkCam Fishes

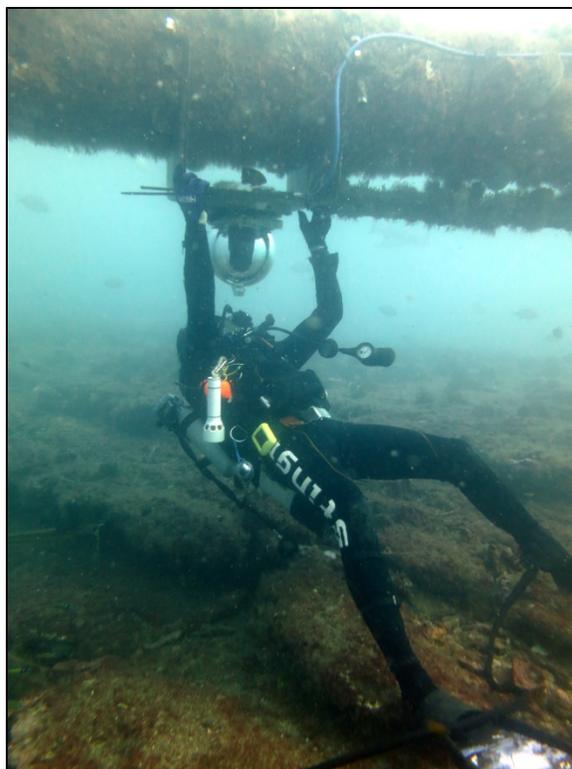
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## FOREWORD AND INTRODUCTION

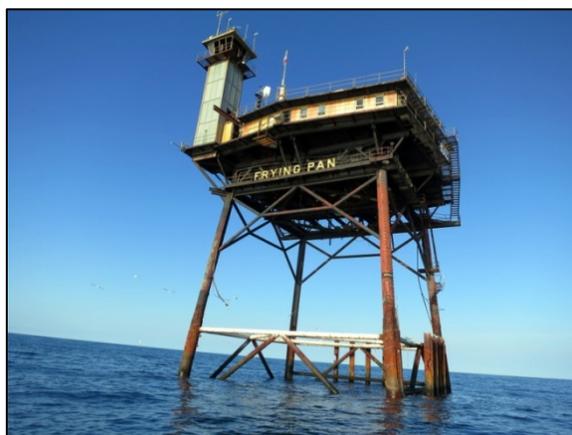
Welcome to our fifth edition of the guide to fishes seen on the Cape Fear SharkCam.<sup>1</sup> SharkCam is a solar-powered underwater camera installed 50 feet (15 meters) below the surface of the Atlantic Ocean. It live-streams on Explore.org, a project of the Annenberg Foundation.<sup>2</sup> The camera is mounted on the Frying Pan Tower,<sup>3</sup> a former U.S. Coast Guard Light Station located atop a natural hard bottom reef area approximately 35 miles (56 kilometers) off the coast of Cape Fear, North Carolina.<sup>4</sup> The area supports a huge diversity of marine life including, as the camera and guide's names suggest, sharks.

Our purpose in presenting this guide is to help viewers attach names to the many species of fish (and some non-fish) seen on SharkCam. We expect that learning the names of the fishes seen will enhance the viewer's appreciation for the ocean's denizens in two ways. First, it will make a more personal connection to them. It will no longer be just a fish; it will be that queen angelfish, nicknamed Dragon, with an unusual forehead notch. It won't be just a shark; it will be that sand tiger shark called Tippy. She's missing a part of her caudal fin. Second, the process of naming enables access to online and print information about the amazing lives of animals beneath the waves and, ultimately, their connections to our own. Besides, we find it fun to be able to name the fish as we see them and we hope you will, too!

"We" are Dr. Erin J. Burge, Christopher E. O'Brien, and jon-newbie (an online pseudonym). Erin is a Professor of Marine Science at Coastal Carolina University,<sup>5</sup> was an installer of the original and current SharkCams, and is the originator of this guide. Chris was an undergraduate marine science major at CCU who completed his honors thesis research on the fish diversity at Frying Pan Tower, and he was author of many profiles in early versions of the guide. jon-newbie authored many profiles, edited the first three editions of this guide, and contributed many of the guide's images and videos. Erin is a moderator and frequent contributor to discussions on the SharkCam website forum. Other contributors to the guide include additional undergraduates from Coastal Carolina University and many SharkCam viewers. Appendix 1 lists specifics on contributions to this guide. The authors very much appreciate all of the species discoveries and amazing screenshots submitted by SharkCam viewers.



Jim Atack inspecting the new high definition SharkCam 3.0 on September 10, 2016



Frying Pan Tower on a calm day on the Atlantic

<sup>1</sup> Watch the live feed from SharkCam at <http://explore.org/live-cams/player/shark-cam>.

<sup>2</sup> Learn more about Explore.org (<https://explore.org/about-us>) and the Annenberg Foundation (<https://www.annenberg.org/>)

<sup>3</sup> Frying Pan Tower is a private facility with a website located at <http://www.fptower.com/>.

<sup>4</sup> Google Maps location for Frying Pan Tower (<https://goo.gl/maps/3HKBBnDQpuK2>)

<sup>5</sup> More information about Coastal Carolina University is available at <http://www.coastal.edu/>.

## SharkCam Fishes

In addition to being useful for you, the viewers of SharkCam, this guide is also intended for use by undergraduate marine science students collecting data about the fishes that are found at Frying Pan Tower. For more details on the funders of this project, the many people involved with the day-to-day operation and maintenance of SharkCam, and the history of the several SharkCams over the last five years, see [Appendix 2](#).

This guide is organized into three main sections. The [Identification Images section](#) contains pictures the reader can use to identify likely matches for a fish sighted on the streaming video. Each picture is an image taken from SharkCam<sup>6</sup> or archive footage<sup>7</sup> and is accompanied by the common and scientific names of the fish. The [scientific names in red](#) are hyperlinked to videos posted to Youtube for each species. We've also included images of some interesting non-fish passersby, like two species of sea turtles and even a diving bird! This section is arranged into categories, or types, of fishes that are similar to each other in some important identification characteristics. The characteristics used are based heavily on the "Identification Groups" used in the book *Reef Fish Identification Florida Caribbean Bahamas*, by Paul Humann and Ned DeLoach.<sup>8</sup> Humann & DeLoach is one of the best commercial guides available for divers and fish watchers. Other guides that are particularly useful for identifying fishes seen on SharkCam include the illustrated book *A Field Guide to Coastal Fishes From Maine to Texas* by Val Kells and Kent Carpenter,<sup>9</sup> and online resources such as the photographic guide *Florent's Guide to the Tropical Reefs*, curated by Florent Charpin,<sup>10</sup> and a scientifically-focused technical guide with numerous photographs and a smartphone app, Robertson and Van Tassell's *Shorefishes of the Greater Caribbean*.<sup>11</sup>

Readers of *SharkCam Fishes* that are familiar with the technical details of groups of fishes will note that the evolutionary relationships between species, families, and orders get a little jumbled using this type of categorization approach. For example, the category "Swims with Pectoral Fins/Obvious Scales" includes many small-bodied wrasse species (Family Labridae), but does not contain the large bodied hogfish or tautog, both wrasses. The latter examples have been grouped with many of the groupers and sea basses as "Heavy Bodies/Large Lips." We feel that this approach works well for the casual viewer or interested layperson, but less well for a technical specialist. We attempt to incorporate the most current taxonomic classifications represented in the peer-reviewed scientific literature and compendia of taxonomy focused on fishes. These include the [Integrated Taxonomic Information System](#), [FishBase](#), and [Eschmeyer's Catalog of Fishes](#). We welcome input on changes in classification (and associated scientific literature) from specialists who may also be SharkCam viewers and guide users.

We do need to include a little "technicalish" information to help viewers make their identifications. For example, the coloration of many fish seen on SharkCam may not match images seen in publications and on websites. This is because those images are from above the surface of the water, or in shallower water, or in deeper water using artificial lighting, or are an artist's rendering using such images. Water at the depth of SharkCam (50 feet or 15 meters) has filtered out most of the longer wavelengths of visible light, including nearly all of the red and much of the orange, leaving primarily shorter wavelengths in yellow, green, and blue. The camera "sees" the color of fishes based on the color spectrum available to illuminate them. For example, a vermillion snapper got its name from the brilliant red color it shows above or just under the water's surface. On SharkCam, the fish looks greenish-grey. On the other hand, there is still a lot of yellow light left at 50 feet, so on SharkCam a yellowtail snapper is true to its name. The current SharkCam video feed is partially colored corrected to more closely match natural sunlight illumination. Older images in this guide were created before color correcting was enabled, while more recent images

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<sup>6</sup> See [Appendix 1](#) for credits for images provided by SharkCam viewers.

<sup>7</sup> Archive footage is harvested as part of the project that produced this guide. Until fall 2018 archive video was also flagged and posted from screenshots taken with the Snapshot tool directly from the Explore.org interface for SharkCam (not on Youtube). Currently this video archive is not available, but snapshots are accessible from <https://explore.org/snapshots/shark-cam/>.

<sup>8</sup> Humann, P., DeLoach, N., 2014. Reef Fish Identification - Florida Caribbean Bahamas. 4<sup>th</sup> ed. New World Publications, Inc., Jacksonville, Florida, 548 pp. ISBN-13: 9781878348579

<sup>9</sup> Kells, V.A., Carpenter, K., 2011. A Field Guide to Coastal Fishes from Maine to Texas. Johns Hopkins University Press. 448 pp. ISBN-13: 9780801898389

<sup>10</sup> Available online at <http://reefguide.org/home.html>.

<sup>11</sup> Robertson, D.R., Van Tassell, J. 2019. Shorefishes of the Greater Caribbean: online information system. Version 2.0 Smithsonian Tropical Research Institute, Balboa, Panamá. <https://biogeodb.stri.si.edu/caribbean/en/pages>

## SharkCam Fishes

(and newly discovered species) will appear more “true color.” This is why some images in this guide are dominated by blues and green, while some orange and red may be obvious in more recent images.

The [Species Profiles section](#) contains detailed profiles of **116 fish species** and **10 other animals** grouped into the categories mentioned previously and arranged roughly alphabetically by common name. We have broken with this convention when two species are very likely to be mistaken for each other, for example the [almaco jack](#) and [greater amberjack](#). Each category grouping also briefly lists the representatives by taxonomic family. Each profile describes characteristics that help the reader distinguish the profiled species from other species seen on SharkCam. The profiles also identify some confusing SharkCam look-alikes and describe how they differ from the profiled subject. For the shark species, a special entry, [Positive identification of SharkCam shark species](#), details the distinguishing characteristics that help viewers differentiate the 8 species of sharks seen on SharkCam to date. Each species entry contains information about the relative likelihood of seeing a given species during a viewing of SharkCam. These categories, and the values they represent, are based on the review of 1,159 video segments of 20 minutes each completed by undergraduate students. Certain species are likely to be more (or less) frequently seen on seasonal or year-to-year bases.

The third section, [Appendix 1](#), contains additional information, including web links to online resources that contain a wealth of images, and scientific and non-scientific information. For species for which we have SharkCam video clips that illustrate distinguishing characteristics, we have included links to postings we made to Youtube.<sup>12</sup> We encourage you to investigate these species further using these and other resources you discover. Ideally, you will use this guide as a gateway to greater appreciation of all of the life the oceans harbor.

Guide users will notice that the guide is extensively hyperlinked as indicated by underlined text. Links under each [Identification Image](#) can be clicked from the common name to go to the [Species Profile](#) to check for a match with your observations from SharkCam, while **scientific names in dark red** and Youtube icons in Species Profiles are linked to videos showing the fish of interest. Each profile contains an information icon link that will take you to the [Additional Information appendix](#). From there hyperlinks out to the web will help you confirm that you have correctly identified your “mystery” fish. If you find that a profile and its images aren’t confirming your identification, there are links to the major sections of the guide available at the bottom of each page. Failure to find a match for your fish might mean that it is a new SharkCam species!

A new species means that you can help us improve this guide! In addition to letting us know via the [SharkCam forum](#) about new species, you can always contact us by e-mail to [Erin Burge](#). Additionally, you will see we do not have crisp, clean images for many of the fishes identified so far. If you get a nice snapshot or video of a fish that would help others and improve the guide, please share it with us.

SharkCam is a real-time glimpse into a world that is largely foreign to most of us. Remember that the oceans are an incredibly dynamic, ever-changing environment. For example, frequent viewers will periodically see the water turn green or brown on SharkCam, reducing water clarity and limiting the number of fish seen. Green water is due to natural increases in the amount of microscopic algae, or phytoplankton, in the water. While the turbidity might be a minor irritation to viewers because of the diminished visibility, the algae feeds zooplankton and small fish, and they feed larger fish, and so on all the way up to the sharks. Be patient; an algal bloom will typically clear within a few days, visibility will return, and the fish will have greatly benefited from the additional food. Brown water is primarily due to sediments stirred up from the sea bottom, as after large storms and high waves, and will also clear up shortly.

Because of the water's effect on SharkCam fish colors, periodic turbidity, and the fact that many fish can change colors and patterns almost at will, our guide relies heavily on fish shape and color tone (e.g., light, dark) rather than true color. It also doesn't use fish size much. Everyone knows how big a mailbox or car is, so here on the surface it has meaning to say a thing is bigger or smaller than a mailbox or car. Underwater, there are no such familiar frames of reference. In addition, the camera is only one "eye," so depth perception is difficult. Saying a fish gets to be 6 or 36 inches long doesn't help much. Is it a big fish far away or a little fish close up? On SharkCam, they can appear to be the same size. To help with this, we have included relative size estimations for each species. These are based on

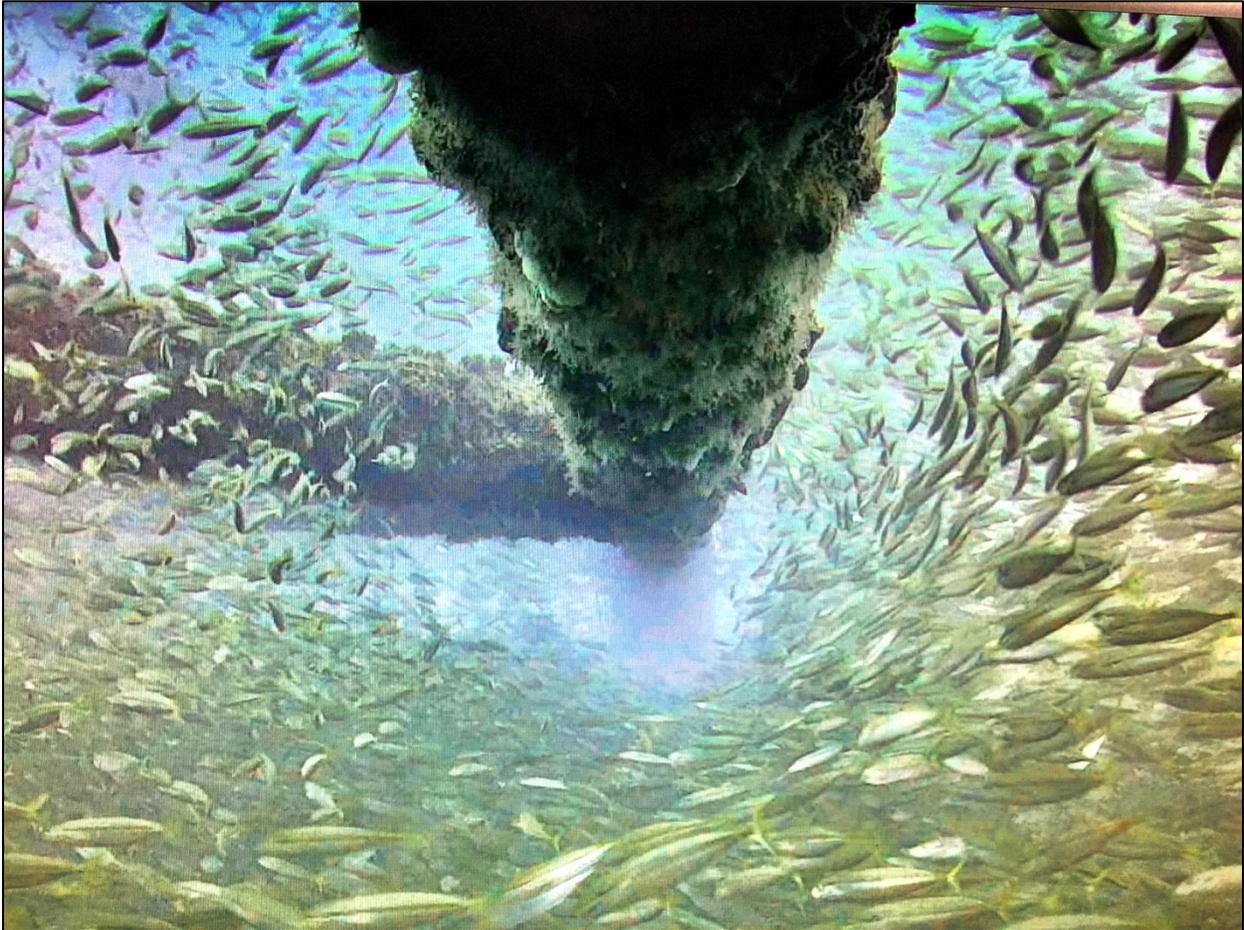
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<sup>12</sup> SharkCam video clips of most species are on the Youtube channel at [Cape Fear SharkCam Fishes](#).

## SharkCam Fishes

*in situ* observations and personal experience of the authors. Some individual fish will not conform to these categorizations, but generally speaking, you, the viewers of SharkCam, should begin to incorporate the relative sizes of fish into your identifications.

So, sit back, watch SharkCam, use the guide, and enjoy. You are guaranteed to see something interesting, and maybe you will be the first to catch a glimpse of a new species that we can add to this guide!



A tornado of round scad (*Decapterus punctatus*) around a beam of Frying Pan Tower. Screen capture by Richard Neal.

## IDENTIFICATION IMAGES

### Sharks and Rays



**Bull Shark** ●  
*Carcharhinus leucas* ○○○○



**Great Hammerhead** ●  
*Sphyrna mokarran* ○○○○



**Great White Shark** ●  
*Carcharodon carcharias* ○○○○



**Lemon Shark** ●  
*Negaprion brevirostris* ○○○○



**Nurse Shark** ● ●  
*Ginglymostoma cirratum* ○○○○



**Sand Tiger Shark** ● ● ● ●  
*Carcharias taurus* ○○○○



**Sandbar Shark** ● ● ●  
*Carcharhinus plumbeus* ○○○○



**Tiger Shark** ●  
*Galeocerdo cuvier* ○○○○

# SharkCam Fishes



**Giant Manta** • *Mobula birostris* ○○○○

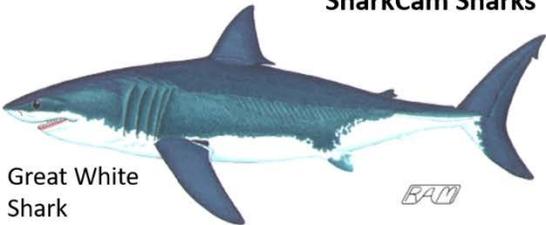


**Spotted Eagle Ray** •  
*Aetobatus narinari* ○○○○

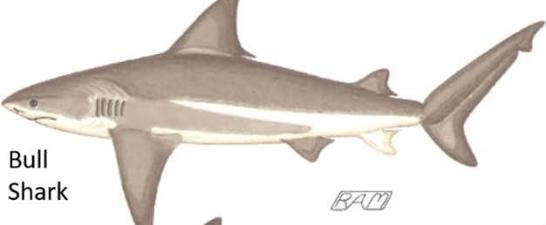


**Southern Stingray** ● ● ●  
*Hypanus americanus* ○○○○

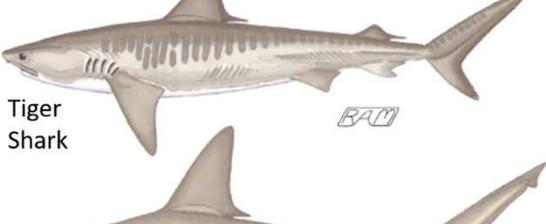
**SharkCam Sharks**



Great White Shark *BAM*



Bull Shark *BAM*



Tiger Shark *BAM*



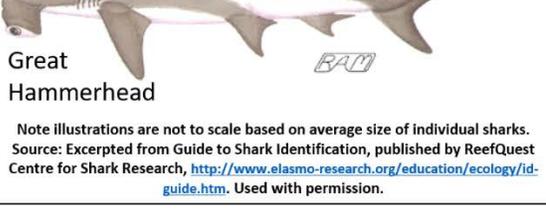
Sandbar Shark *BAM*



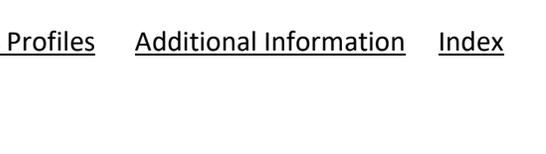
Lemon Shark *BAM*



Sand Tiger Shark *BAM*



Nurse Shark *BAM*



Great Hammerhead *BAM*

Note illustrations are not to scale based on average size of individual sharks. Source: Excerpted from Guide to Shark Identification, published by ReefQuest Centre for Shark Research, <http://www.elasmo-research.org/education/ecology/id-guide.htm>. Used with permission.

## SharkCam Fishes

### Silvery Fishes



African Pompano ● ● *Alectis ciliaris* ○ ○ ○ ○



Crevalle Jack ● ● ● *Caranx hippos* ○ ○ ○ ○ ○



Permit ● ● ● *Trachinotus falcatus* ○ ○ ○ ○



Greater Amberjack ● ● ● ● ●  
*Seriola dumerili* ○ ○ ○ ○ ○



Almaco Jack ● ● ● ● *Seriola rivoliana* ○ ○ ○ ○



Banded Rudderfish ● *Seriola zonata* ○ ○ ○ ○ ○  
(top, juvenile; bottom, adult)



Horse-eye Jack ● *Caranx latus* ○ ○ ○ ○ ○

## SharkCam Fishes



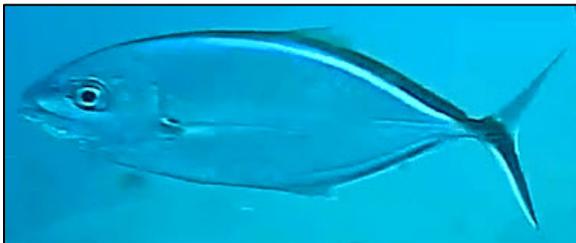
Blue Runner ● ● ● ● *Caranx crysos* ○ ○ ○



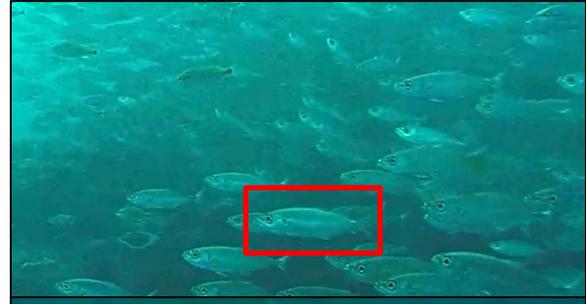
Rainbow Runner ● ●  
*Elagatis bipinnulata* ○ ○ ○ ○



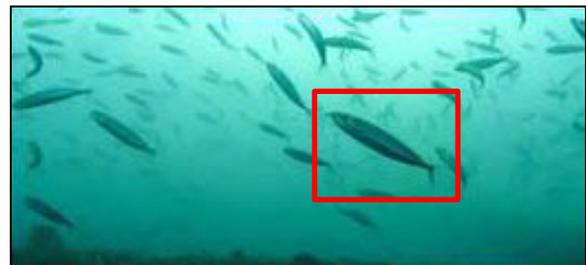
Yellow Jack ● ●  
*Carangoides bartholomaei* ○ ○ ○



Bar Jack ● ● ● ● *Carangoides ruber* ○ ○ ○



Bigeye Scad ● ●  
*Selar crumenophthalmus* ○ ○



Round Scad ● ● ● ● ●  
*Decapterus punctatus* ○ ○

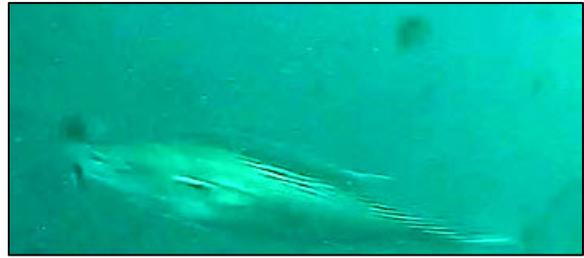


Scaled Herring ● *Harengula jaguana* ○ ○

## SharkCam Fishes



Northern Sennet • *Sphyraena borealis* ○ ○



Atlantic Bonito • • *Sarda sarda* ○ ○ ○



Bluefish • • *Pomatomus saltatrix* ○ ○ ○



Little Tunny • •  
*Euthynnus alletteratus* ○ ○ ○ ○



Tarpon • *Megalops atlanticus* ○ ○ ○ ○ ○



Atlantic Spadefish • • • •  
*Chaetodipterus faber* ○ ○ ○



Great Barracuda • • • • •  
*Sphyraena barracuda* ○ ○ ○ ○ ○



Bermuda Chub • • • • •  
*Kyphosus sectatrix* ○ ○ ○



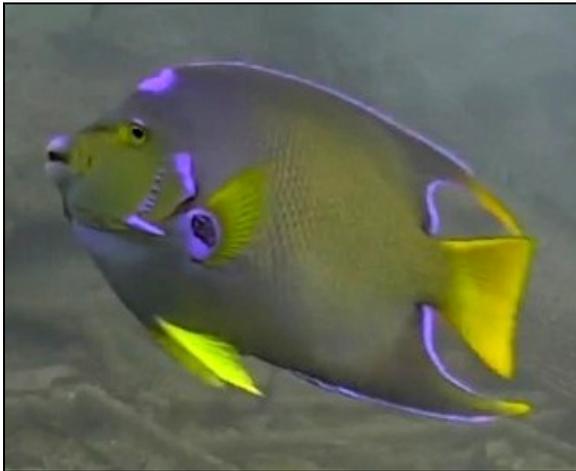
King Mackerel •  
*Scomberomorus cavalla* ○ ○ ○ ○ ○

## SharkCam Fishes

### Colorful Ovals



**Blue Angelfish** ● ● ● ● ●  
***Holacanthus bermudensis*** ○ ○ ○



**Queen Angelfish** ● ● ● ● ●  
***Holacanthus ciliaris*** ○ ○ ○



**French Angelfish** ●  
***Pomacanthus paru*** ○ ○ ○



**Rock Beauty** ● ***Holacanthus tricolor*** ○ ○



**Banded Butterflyfish** ●  
***Chaetodon striatus*** ○ ○



**Spotfin Butterflyfish** ●  
***Chaetodon ocellatus*** ○ ○



**Blue Chromis** ● ● ***Chromis cyanea*** ○

## SharkCam Fishes



Purple Reeffish ● ● ● ● *Chromis scotti* ○



Doctorfish ● ●  
*Acanthurus chirurgus* ○ ○



Bicolor Damselfish ● ● ● *Stegastes partitus* ○



Cocoa Damselfish ● ● ● ● ●  
*Stegastes xanthurus* ○



Blue Tang (juvenile ● ● ● ● [top], adult ●)  
*Acanthurus coeruleus*  
(juvenile ○ ○ [top], adult ○ ○)



Sergeant Major ● ● ● ● *Abudefduf saxatilis* ○

## SharkCam Fishes



**Ocean Surgeon ●**  
***Acanthurus tractus*** ○ ○



**Unidentified surgeonfish ● ● ●**  
***Acanthurus spp.*** ○ ○

### Relative frequency of occurrence

- ● ● ● ● Common = seen often, greater than 50%
- ● ● ● Frequent = seen in 50% to 20% of visits
- ● ● Occasional = seen in 10% to 20% of visits
- ● Uncommon = seen in 1% to 10% of visits
- Rare = seen in less than 1% of

Relative frequency of occurrence describes the likelihood of sighting a given species during a 20 minute viewing interval. Categories are based on the review of 1,159 video segments of 20 minutes in length. Note that seasonal and daily patterns of behavior may alter these likelihoods. Frequency of sightings on SharkCam does not necessarily reflect the actual abundance of fishes at FPT. Some species are much more (or less) likely to be seen than their actual abundance.

### Relative size

- ○ ○ ○ ○ Very large (>1 m or >39 in)
- ○ ○ ○ ○ Large to Very large
- ○ ○ ○ Large (0.5–1 m or 20–39 in)
- ○ ○ ○ Medium to Large
- ○ ○ Medium (20 cm–0.5 m or 8–20 in)
- ○ ○ Small to Medium
- ○ Small (10–20 cm or 4–8 in)
- ○ Very small to Small
- Very small (<10 cm or 4 in)

Relative size is based on *in situ* observations and reported average sizes. Exceptional individuals may not conform to the expected relative size categories.

# SharkCam Fishes

## Swim with Pectoral Fins/Obvious Scales



initial phase,  
all yellow  
variation



initial phase,  
midbody  
stripe  
variation



initial phase,  
midbody  
stripe  
variation



initial to  
terminal  
phase  
intermediate



initial to  
terminal  
phase  
intermediate



terminal  
phase

**Bluehead** ● ● ● ● ●

***Thalassoma bifasciatum*** ○

(color, pattern and maturity variations)



**Yellowhead Wrasse** ● ●

***Halichoeres garnoti*** ○ ○



**Creole Wrasse** ● ● ***Clepticus parrae*** ○ ○ ○



**Puddingwife** ● ●

***Halichoeres radiatus*** ○ ○

(top two images, initial phase; bottom image, terminal phase adult)



initial phase



terminal  
phase

**Clown Wrasse** ● ● ●

***Halichoeres maculipinna*** ○ ○

## SharkCam Fishes



**Slippery Dick** ● ● ● ●  
*Halichoeres bivittatus* ○ ○



**Spanish Hogfish** ● ● ● ● ●  
*Bodianus rufus* ○ ○ ○  
(top, female; bottom, male)



**Spotfin Hogfish** ● ● *Bodianus pulchellus* ○ ○ ○



**Princess Parrotfish** ● *Scarus taeniopterus* ○ ○ ○



**Striped Parrotfish** ● *Scarus iseri* ○ ○ ○  
(top, initial phase; bottom, terminal phase)



**Yellowtail Parrotfish** ● ●  
*Sparisoma rubripinne* ○ ○ ○

## SharkCam Fishes



**Stoplight Parrotfish** ● ●

*Sparisoma viride* ○ ○ ○



**Redband Parrotfish** ● ●

*Sparisoma aurofrenatum* ○ ○ ○

(top, striped initial phase; middle, mottled initial phase; bottom, terminal phase)

### Relative frequency of occurrence

- ● ● ● ● Common = seen often, greater than 50%
- ● ● ● Frequent = seen in 50% to 20% of visits
- ● ● Occasional = seen in 10% to 20% of visits
- ● Uncommon = seen in 1% to 10% of visits
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### Relative size

- ○ ○ ○ ○ Very large (>1 m or >39 in)
- ○ ○ ○ ○ Large to Very large
- ○ ○ ○ ○ Large (0.5–1 m or 20–39 in)
- ○ ○ ○ ○ Medium to Large
- ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)
- ○ ○ Small to Medium
- ○ Small (10–20 cm or 4–8 in)
- ○ Very small to Small
- Very small (<10 cm or 4 in)

Relative size is based on *in situ* observations and reported average sizes. Exceptional individuals may not conform to the expected relative size categories.

## SharkCam Fishes

### Heavy Bodies/Large Lips



Gag ● ● ● ●

*Mycteroperca microlepis* ○ ○ ○ ○  
(color and pattern variation)



Black Grouper ●

*Mycteroperca bonaci* ○ ○ ○ ○



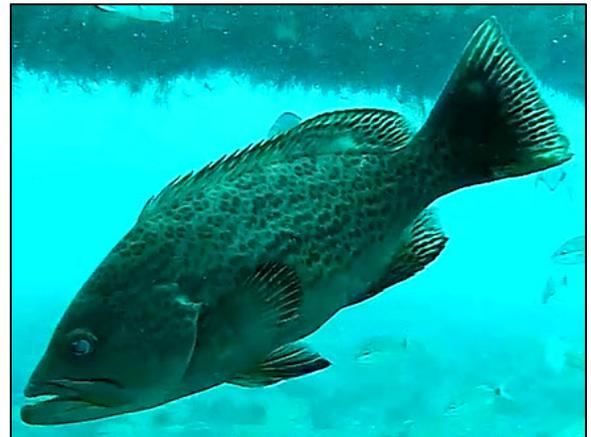
Goliath Grouper ●

*Epinephelus itajara* ○ ○ ○ ○ ○



Graysby ●

*Cephalopholis cruentata* ○ ○ ○



Scamp ● ● ●

*Mycteroperca phenax* ○ ○ ○ ○ ○  
(top, dark phase; bottom, cat's paw phase)

## SharkCam Fishes



**Black Sea Bass** ● ● ● ●  
***Centropristis striata*** ○ ○ ○ ○  
(top, female; bottom, male)



**Greater Soapfish** ●  
***Rypticus saponaceus*** ○ ○ ○ ○



**Whitespotted Soapfish** ● ●  
***Rypticus maculatus*** ○ ○ ○ ○



**Hogfish** ● ●  
***Lachnolaimus maximus*** ○ ○ ○ ○ ○ ○  
(top, initial phase female; bottom, terminal phase male)



**Tautog** ● ●  
***Tautoga onitis*** ○ ○ ○ ○ ○ ○



**Cobia** ● ● ● ● ● ●  
***Rachycentron canadum*** ○ ○ ○ ○ ○ ○ ○ ○

## SharkCam Fishes

### Sloping Heads and Tapered Bodies



**Cubera Snapper** ● ●

*Lutjanus cyanopterus* ○ ○ ○ ○

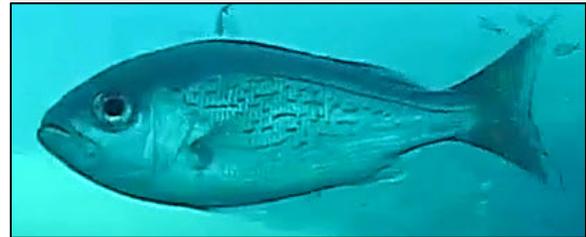
(top, typical color; bottom, barred phase)



**Gray Snapper** ● ● ●

*Lutjanus griseus* ○ ○ ○

(top, nuchal bar; bottom, unmarked)



**Vermilion Snapper** ● ● ● ●

*Rhomboplites aurorubens* ○ ○ ○



**Yellowtail Snapper** ● ● ●

*Ocyurus chrysurus* ○ ○ ○



**Knobbed Porgy** ● ● ● *Calamus nodosus* ○ ○ ○



**Red Porgy** ● ● ● *Pagrus pagrus* ○ ○ ○

## SharkCam Fishes



**Saucereye Pogy** ● ●  
*Calamus calamus* ○ ○



**Black Margate** ●  
*Anisotremus surinamensis* ○ ○ ○



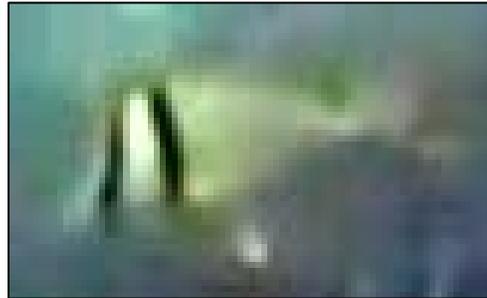
**Scup** ● *Stenotomus chrysops* ○ ○



**White Grunt** ● ● ● ●  
*Haemulon plumierii* ○ ○ ○



**Sheepshead** ● ● ● ●  
*Archosargus probatocephalus* ○ ○ ○



**Porkfish** ● *Anisotremus virginicus* ○ ○ ○



**Spottail Pinfish** ● ● ● ● ●  
*Diplodus holbrookii* ○ ○



**Striped Grunt** ● ●  
*Haemulon striatum* ○ ○

## SharkCam Fishes



**Tomtate** ● ● ● ● ●

***Haemulon aurolineatum*** ○ ○  
(pattern variation)



**Red Drum** ● ***Sciaenops ocellatus*** ○ ○ ○ ○

### Relative frequency of occurrence

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- ● ● ● Frequent = seen in 50% to 20% of visits
- ● ● Occasional = seen in 10% to 20% of visits
- ● Uncommon = seen in 1% to 10% of visits
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### Relative size

- ○ ○ ○ ○ Very large (>1 m or >39 in)
- ○ ○ ○ Large to Very large
- ○ ○ ○ Large (0.5–1 m or 20–39 in)
- ○ ○ ○ Medium to Large
- ○ ○ Medium (20 cm–0.5 m or 8–20 in)
- ○ ○ Small to Medium
- ○ Small (10–20 cm or 4–8 in)
- ○ Very small to Small
- Very small (<10 cm or 4 in)

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## SharkCam Fishes

### Oddly-shaped Swimmers



Gray Triggerfish ● ● *Balistes capriscus* ○ ○ ○



Orangespotted Filefish ● ●  
*Cantherhines pullus* ○ ○



Orange Filefish ● ● *Aluterus schoepfii* ○ ○ ○  
(top, male; bottom, female)



Planehead Filefish ●  
*Stephanolepis hispidus* ○ ○ ○



Scrawled Filefish ● ● *Aluterus scriptus* ○ ○ ○  
(top, typical coloration; bottom, blue phase)



Bandtail Puffer ● *Sphoeroides spengleri* ○ ○



Spot-fin Porcupinefish ●  
*Diodon hystrix* ○ ○ ○

## SharkCam Fishes



**Sharpnose Puffer** • ***Canthigaster rostrata*** ○



**Scrawled Cowfish** •  
***Acanthostracion quadricornis*** ○ ○



**Smooth Trunkfish** • ***Lactophrys triqueter*** ○ ○



**Pilotfish** • ***Naucrates ductor*** ○ ○



**Sharksucker** • • ***Echeneis naucrates*** ○ ○ ○  
(top, juvenile; bottom, adult)



**Whitefin Sharksucker** • •  
***Echeneis neucratoides*** ○ ○ ○



**Trumpetfish** • ***Aulostomus maculatus*** ○ ○ ○

## SharkCam Fishes

### Bottom Fishes



Belted Sandfish ● ● *Serranus subligarius* ○



Harlequin Bass ● ● *Serranus tigrinus* ○ ○



Cubby ● ● *Pareques umbrosus* ○ ○ ○



Red Lionfish ● *Pterois volitans* ○ ○ ○  
(non-native species)



Spotted Scorpionfish ●  
*Scorpaena plumieri* ○ ○ ○



Saddled Blenny ● ●  
*Malacoctenus triangulatus* ○



Seaweed Blenny ● ●  
*Parablennius marmoratus* ○



Spotted Goatfish ●  
*Pseudupeneus maculatus* ○ ○ ○



Yellow Goatfish ●  
*Mulloidichthys martinicus* ○ ○ ○

## SharkCam Fishes



**Squirrelfish ● ●**

***Holocentrus adscensionis*** ○ ○ ○



**Southern Flounder ●**

***Paralichthys lethostigma*** ○ ○ ○



**Green Moray ●**

***Gymnothorax funebris*** ○ ○ ○ ○ ○



**Spotted Moray ●**

***Gymnothorax moringa*** ○ ○ ○ ○ ○



**Sharptail Eel ● *Myrichthys breviceps*** ○ ○ ○ ○ ○

### **Relative frequency of occurrence**

- ● ● ● ● Common = seen often, greater than 50%
- ● ● ● Frequent = seen in 50% to 20% of visits
- ● ● Occasional = seen in 10% to 20% of visits
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### **Relative size**

- ○ ○ ○ ○ Very large (>1 m or >39 in)
- ○ ○ ○ ○ Large to Very large
- ○ ○ ○ ○ Large (0.5–1 m or 20–39 in)
- ○ ○ ○ ○ Medium to Large
- ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)
- ○ ○ ○ Small to Medium
- ○ Small (10–20 cm or 4–8 in)
- ○ Very small to Small
- Very small (<10 cm or 4 in)

Relative size is based on *in situ* observations and reported average sizes. Exceptional individuals may not conform to the expected relative size categories.

## SharkCam Fishes

### Not Fishes



**Blotched Swimming Crab** ●  
*Achelous spinimanus* ○



**Common Octopus** ●  
*Octopus vulgaris* ○ ○ ○



**Caribbean Spiny Lobster** ●  
*Panulirus argus* ○ ○ ○ ○



**Human Freediver** ●  
*Homo sapiens aquaticus* ○ ○ ○ ○ ○



**Common Loon** ● *Gavia immer* ○ ○ ○



**Human Scuba Diver** ●  
*Homo sapiens scubica* ○ ○ ○ ○ ○

## SharkCam Fishes



**Loggerhead Sea Turtle** ●  
*Caretta caretta* ○○○○○



**Comb Jelly** ● *Beroe ovata* ○



**West Indian Sea Egg** ● ●  
*Tripneustes ventricosus* ○



**Green Sea Turtle** ● *Chelonia mydas* ○○○○○



**Moon Jelly** ● *Aurelia aurita* ○○○

### Relative frequency of occurrence

- ● ● ● ● Common = seen often, greater than 50%
- ● ● ● Frequent = seen in 50% to 20% of visits
- ● ● Occasional = seen in 10% to 20% of visits
- ● Uncommon = seen in 1% to 10% of visits
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### Relative size

- ○ ○ ○ ○ Very large (>1 m or >39 in)
- ○ ○ ○ Large to Very large
- ○ ○ ○ Large (0.5–1 m or 20–39 in)
- ○ ○ ○ Medium to Large
- ○ ○ Medium (20 cm–0.5 m or 8–20 in)
- ○ ○ Small to Medium
- ○ Small (10–20 cm or 4–8 in)
- ○ Very small to Small
- Very small (<10 cm or 4 in)

Relative size is based on *in situ* observations and reported average sizes. Exceptional individuals may not conform to the expected relative size categories.

## SPECIES PROFILES (# SPECIES IN GROUP); TOTAL NUMBER OF FISH SPECIES =116

### SHARKS AND RAYS (11)

1. Bull Shark
2. Giant Manta
3. Great Hammerhead
4. Great White Shark
5. Lemon Shark
6. Nurse Shark
7. Sand Tiger Shark
8. Sandbar Shark
9. Southern Stingray
10. Spotted Eagle Ray
11. Tiger Shark

### SILVERY FISHES (23)

12. African Pompano
13. Almaco Jack
14. Atlantic Bonito
15. Atlantic Spadefish
16. Banded Rudderfish
17. Bar Jack
18. Bermuda Chub
19. Bigeye Scad
20. Blue Runner
21. Bluefish
22. Crevalle Jack
23. Great Barracuda
24. Greater Amberjack
25. Horse-eye Jack
26. King Mackerel
27. Little Tunny
28. Northern Sennet
29. Permit
30. Rainbow Runner
31. Round Scad
32. Scaled Herring
33. Tarpon
34. Yellow Jack

### COLORFUL OVALS (14)

35. Banded Butterflyfish

36. Bicolor Damselfish

37. Blue Angelfish
38. Blue Chromis
39. Blue Tang
40. Cocoa Damselfish
41. Doctorfish
42. French Angelfish
43. Ocean Surgeon
44. Purple Reeffish
45. Queen Angelfish
46. Rock Beauty
47. Sergeant Major
48. Spotfin Butterflyfish

### Surgeonfishes (Blue Tang, Doctorfish, Ocean Surgeon)

### SWIM WITH PECTORAL

#### FINS/OBVIOUS

#### SCALES (13)

49. Bluehead
50. Creole Wrasse
51. Clown Wrasse
52. Princess Parrotfish
53. Puddingwife
54. Redband Parrotfish
55. Slippery Dick
56. Spanish Hogfish
57. Spotfin Hogfish
58. Stoplight Parrotfish
59. Striped Parrotfish
60. Yellowhead Wrasse
61. Yellowtail Parrotfish

### HEAVY BODIES/LARGE

#### LIPS (11)

62. Black Grouper
63. Black Sea Bass
64. Cobia
65. Gag

66. Goliath Grouper

67. Graysby
68. Greater Soapfish
69. Hogfish
70. Scamp
71. Tautog
72. Whitespotted Soapfish

### SLOPING HEADS AND

#### TAPERED BODIES

#### (15)

73. Black Margate
74. Cubera Snapper
75. Gray Snapper
76. Knobbed Porgy
77. Porkfish
78. Red Drum
79. Red Porgy
80. Saucereye Porgy
81. Scup
82. Sheepshead
83. Spottail Pinfish
84. Striped Grunt
85. Tomtate
86. Vermilion Snapper
87. White Grunt
88. Yellowtail Snapper

### ODDLY-SHAPED

#### SWIMMERS (14)

89. Bandtail Puffer
90. Gray Triggerfish
91. Orange Filefish
92. Orangespotted Filefish
93. Pilotfish
94. Planehead Filefish
95. Scrawled Cowfish
96. Scrawled Filefish

97. Sharksucker

98. Sharpnose Puffer
99. Smooth Trunkfish
100. Spot-fin Porcupinefish
101. Trumpetfish
102. Whitefin Sharksucker

### BOTTOM FISHES (15)

103. Belted Sandfish
104. Cubbyu
105. Green Moray
106. Harlequin Bass
107. Red Lionfish
108. Saddled Blenny
109. Seaweed Blenny
110. Sharptail Eel
111. Southern Flounder
112. Spotted Goatfish
113. Spotted Moray
114. Spotted Scorpionfish
115. Squirrelfish
116. Yellow Goatfish

### NOT FISHES (10)

- Blotched Swimming Crab
- Caribbean Spiny Lobster
- Comb Jelly
- Common Loon
- Common Octopus
- Green Sea Turtle
- Human (Freediver and Scuba Diver)
- Loggerhead Sea Turtle
- Moon Jelly
- West Indian Sea Egg

**SHARKS AND RAYS (11)**



Requiem Sharks–Carcharhinidae

Bull Shark

Lemon Shark

Sandbar Shark

Tiger Shark

Whiptail Stingrays–Dasyatidae

Southern Stingray

Nurse Sharks–Ginglymostomatidae

Nurse Shark

Mackerel and White Sharks–Lamnidae

Great White Shark

Eagle Rays–Myliobatidae

Spotted Eagle Ray

Manta Rays and Devilfishes–Mobulidae

Giant Manta

Ragged-tooth Sharks–Odontaspidae

Sand Tiger Shark

Hammerhead Sharks–Sphrynidae

Great Hammerhead



Sharks are often accompanied by smaller fish. This behavior may be a way to be close at hand to grab tidbits from a shark's meal, to discourage in-between-sized predators from attacking, and/or make it easier for them to travel to other locations (like drafting behind another vehicle). In this image, a sandbar shark is shadowed by a school of round scad, a few blue runners, and a yellow jack.

## SharkCam Fishes



### **Bull Shark**

*Carcharhinus leucas*  
(Müller and Henle, 1839)

Carcharhinidae (Class Chondrichthyes)



#### **Distinguishing characteristics:**

Bull sharks are large, stout sharks with a short, bluntly rounded snout, and relatively small eyes. The first dorsal fin is moderately tall, triangular, and slopes back. Its height is less than the depth of the body and originates over the pectoral fins. The second dorsal fin is approximately half the size of the first. Pectoral fins are long with an angular rear margin. Color on SharkCam has been gray and light brown, with the underside of the snout and chin lighter-cream to white.

**Relative frequency:** ● Rare—seen in less than 1% of visits

NOTE: A bull shark, likely the same individual, was seen on SharkCam late in the day on 28 August and early in the morning on 29 August 2018.

**Relative size:** ○ ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** Great White Shark (*Carcharodon carcharias*), Lemon Shark (*Negaprion brevirostris*), Nurse Shark (*Ginglymostoma cirratum*), Sand Tiger Shark (*Carcharias taurus*), Sandbar Shark (*Carcharhinus plumbeus*), Tiger Shark (*Galeocerdo cuvier*)

See Positive identification of SharkCam shark species for a discussion of visually distinguishing characteristics and other information.



## SharkCam Fishes



### **Great White Shark** *Carcharodon carcharias* (Linnaeus, 1758)



**Lamnidae (Class Chondrichthyes)**

#### **Distinguishing characteristics:**

A great white shark is massive and stout with a conical snout. The mouth and eyes are large and dark. The first dorsal fin is tall and triangular. It begins at or just behind the rear of the long pointed pectoral fins. The second dorsal fin is very small. From underneath, the pectoral fins have black tips. The caudal fin is very tall, strongly crescent-shaped (lunate), and has equal-sized top and bottom lobes (homocercal). From the side, the great white is dark above with an abrupt transition to a white belly. A caudal keel, stretching from the tail to the rear of the second dorsal fin, is present. This keel is a thickened ridge of skin on the sides of the body that is visible as the shark swims. Among SharkCam sharks, a caudal keel is only present on white and tiger sharks.

**Relative frequency:** ● Rare—seen in less than 1% of visits

NOTE: A great white shark, likely the same individual, was seen on 9 January 2019 twice, at 12:42pm and 4:34pm EST.

**Relative size:** ○ ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** Bull Shark (*Carcharhinus leucas*), Lemon Shark (*Negaprion brevirostris*), Nurse Shark (*Ginglymostoma cirratum*), Sand Tiger Shark (*Carcharias taurus*), Sandbar Shark (*Carcharhinus plumbeus*), Tiger Shark (*Galeocerdo cuvier*)

See Positive identification of SharkCam shark species for a discussion of visually distinguishing characteristics and other information.



## SharkCam Fishes



### Lemon Shark

*Negaprion brevirostris* (Poey, 1868)  
Carcharhinidae (Class Chondrichthyes)



#### Distinguishing characteristics:

Lemon sharks are large, stocky, yellow to brown sharks with triangular dorsal fins of approximately equal size. The first dorsal fin originates behind the pectoral fins. The pectoral fins are large with a straight to slightly curved rear margin. The snout is blunt and shorter than the width of the mouth. It has been described as having a “gummy” appearance.

**Relative frequency:** ● Rare—seen in less than 1% of visits

NOTE: Lemon sharks are late summer visitors to Carolinian waters. They are much more common in Florida and the Caribbean where they are often important predators in shallow waters.

**Relative size:** ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** Bull Shark (*Carcharhinus leucas*), Great White Shark (*Carcharodon carcharias*), Nurse Shark (*Ginglymostoma cirratum*), Sand Tiger Shark (*Carcharias taurus*), Sandbar Shark (*Carcharhinus plumbeus*), Tiger Shark (*Galeocerdo cuvier*)

See [Positive identification of SharkCam shark species](#) for a discussion of visually distinguishing characteristics and other information.



## SharkCam Fishes



### Nurse Shark *Ginglymostoma cirratum* (Bonnaterre, 1788)



#### **Ginglymostomatidae (Class Chondrichthyes)**

#### **Distinguishing characteristics:**

Nurse sharks are long, moderately slender sharks with a snakelike, sinuous style of swimming. They have rounded, blunt snouts when viewed from the side or above. Both dorsal fins are located relatively far back on the body towards the tail. The first dorsal fin typically begins at or behind the body mid-line and it is slightly taller than the second dorsal fin. The dorsal fins are moderately sized, about the same size as its pelvic and anal fins. Pelvic fins are located below the first dorsal fin. Coloration tends to be a shade of brown. Close up, two barbels (“whiskers”) can be seen hanging from the shark’s upper lip.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

NOTE: Due to the nurse shark’s tendency to take up short-term residency in areas before moving on, more frequent sightings over a short period of time could be of a single individual.

**Relative size:** ○ ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** Bull Shark (*Carcharhinus leucas*), Great White Shark (*Carcharodon carcharias*), Lemon Shark (*Neqapron brevirostris*), Sand Tiger Shark (*Carcharias taurus*), Sandbar Shark (*Carcharhinus plumbeus*), Tiger Shark (*Galeocerdo cuvier*)

See Positive identification of SharkCam shark species for a discussion of visually distinguishing characteristics and other information.



## SharkCam Fishes



### Sand Tiger Shark

*Carcharias taurus* Rafinesque, 1810  
Odontaspidae (Class Chondrichthyes)



#### Distinguishing characteristics:

The sand tiger shark is the only shark seen on SharkCam that often hangs motionless or moves very slowly (stealthily) in the water. It has a thick torso and a long head that tapers to a strongly pointed snout. Its two dorsal fins sit rather far back on its body, towards the tail, and are roughly the same moderate size as its anal and pelvic fins. Its pelvic fins are located below the space between the dorsal fins. On a clear close-up, dark blotches can be seen scattered about on the body and fins.

NOTE: The dark blotches form a spot pattern that is unique to each individual. The authors are contributing images from SharkCam to the [Spot-A-Shark USA program](#), in partnership with the conservation program of the North Carolina Aquariums. See the Additional Information entry for how you can be involved.

The sand tiger is the only SharkCam shark that tends to swim with an open mouth and sometimes visible teeth. Most sand tigers seen on SharkCam are large females.

**Relative frequency:** ● ● ● ● Frequent—seen in 50% to 20% of visits

NOTE: Sand tiger sharks are migratory, moving north for the warmer months and south for the cooler ones.

**Relative size:** ○ ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** [Bull Shark \(\*Carcharhinus leucas\*\)](#), [Great White Shark \(\*Carcharodon carcharias\*\)](#), [Lemon Shark \(\*Neqapron brevirostris\*\)](#), [Nurse Shark \(\*Ginglymostoma cirratum\*\)](#), [Sandbar Shark \(\*Carcharhinus plumbeus\*\)](#), [Tiger Shark \(\*Galeocerdo cuvier\*\)](#)

See [Positive identification of SharkCam shark species](#) for a discussion of visually distinguishing characteristics and other information.



## SharkCam Fishes



### Sandbar Shark

*Carcharhinus plumbeus*  
(Nardo, 1827)

Carcharhinidae (Class Chondrichthyes)



#### **Distinguishing characteristics:**

The sandbar shark looks like what people think of when they think of sharks. It has a thick torso and a long head that tapers to a pointed snout. Its first dorsal fin starts above the midline of its pectoral fins and is tall, generally as tall as its body is deep. Its second dorsal fin sits way in the back by the tail and is very small. Sandbar sharks are constantly swimming or gliding on SharkCam.

**Relative frequency:** ● ● ● Occasional—seen in 10% to 20% of visits

**Relative size:** ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** Bull Shark (*Carcharhinus leucas*), Great White Shark (*Carcharodon carcharias*), Lemon Shark (*Negaprion brevirostris*), Nurse Shark (*Ginglymostoma cirratum*), Sand Tiger Shark (*Carcharias taurus*), Tiger Shark (*Galeocerdo cuvier*)

See [Positive identification of SharkCam shark species](#) for a discussion of visually distinguishing characteristics and other information.



Image from Barracuda Cam



## SharkCam Fishes



### Tiger Shark

*Galeocerdo cuvier*

(Péron and Lesueur in Lesueur, 1822)

Carcharhinidae (Class Chondrichthyes)



#### **Distinguishing characteristics:**

Tiger sharks are thick-bodied, especially from the snout to mid-body, and the body tapers strongly to a narrow caudal peduncle with a tall caudal fin. The height of the first dorsal fin is approximately half of the body depth and located mid-body. The second dorsal fin is just forward of the caudal peduncle and relatively small. Tiger sharks are named for the presence of dark blotches and “tiger striped” bars that are distinct in younger individuals, and join and fade with increasing size. The best distinguishing characters for the tiger shark are a large head with a noticeably blunt snout and large eyes. They also have a strong longitudinal keel that begins on the caudal peduncle and crosses it onto the tail. This keel is a thickened ridge of skin on the sides of the body that is visible as the shark swims. Among SharkCam sharks, a caudal keel is only present on white and tiger sharks.

**Relative frequency:** ● Rare—seen in less than 1% of visits

NOTE: Only one tiger shark has been definitively identified from SharkCam, and the angle of viewing does not show the blunt nose and large eyes well. It does, however, show the presence of the longitudinal keel, a feature shared only with the great white shark, among SharkCam sharks. The individual seen in the images was recorded on 27 June 2016 (<https://youtu.be/nz-HZ7CVvs>). SharkCam volunteer UWStig recorded a video (<https://youtu.be/Cv9HlFe13hY>) on site at Frying Pan Tower the afternoon of 27 June that also is clearly of a tiger shark, likely the same individual.

**Relative size:** ○ ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** Bull Shark (*Carcharhinus leucas*), Great White Shark (*Carcharodon carcharias*), Lemon Shark (*Negaprion brevirostris*), Nurse Shark (*Ginglymostoma cirratum*), Sand Tiger Shark (*Carcharias taurus*), Sandbar Shark (*Carcharhinus plumbeus*)

See Positive identification of SharkCam shark species for a discussion of visually distinguishing characteristics and other information..



The top image was taken from a video by UWStig filmed at Frying Pan Tower on the same date as the SharkCam images (bottom three).

## SharkCam Fishes

### POSITIVE IDENTIFICATION OF SHARKCAM

#### SHARK SPECIES



Most of the shark species on SharkCam can be difficult to visually identify with confidence since they generally share large size, active movement, a stout body, overall coloring, and a lack of obvious body patterns. The great hammer-head (*Sphyrna mokarran*) is an exception given its hammer-shaped head (cephalofoil) and distinctly tall and falcate dorsal fin.

The distinguishing characteristics that tend to be most helpful for other SharkCam sharks are the heights and positioning of the dorsal fins and the shapes of the snouts.

**Similar species:** Bull Shark (*Carcharhinus leucas*), Great White Shark (*Carcharodon carcharias*), Lemon Shark (*Negaprion brevirostris*), Nurse Shark (*Ginglymostoma cirratum*), Sand Tiger Shark (*Carcharias taurus*), Sandbar Shark (*Carcharhinus plumbeus*), Tiger Shark (*Galeocerdo cuvier*)

The bull shark dorsal fins are of clearly unequal size, the medium-sized first dorsal begins at mid-body above the pectoral fins, and the first dorsal fin margin is notably curved; the snout is short and blunt. The body forward of the pectoral fins is stocky.

The great white shark first dorsal fin is tall and triangular. It begins at or just behind the rear of the long pointed pectoral fins. The second dorsal fin is very small. From underneath the pectoral fins have black tips. The caudal fin is very tall, strongly crescent-shaped (lunate), and has equal sized top and bottom lobes (homocercal). From the side the great white is dark above with an abrupt transition to a white belly. The body is massive and stout with a conical snout. A caudal keel, stretching from the tail to the rear of the second dorsal fin is present. Among SharkCam sharks, a caudal keel is only present on white and tiger sharks.

The lemon shark dorsal fins are of roughly equal size and the first dorsal begins at mid-body behind the rear margin of the pectoral fins; the snout is somewhat pointed. The body coloration is dusky yellow.

The nurse shark dorsal fins are positioned well back on the body, past the midpoint, and close together. The two fins are similar in size with the second about  $\frac{2}{3}$  the height of the first; the snout is rounded. Two barbels or chin whiskers can be seen when a nurse shark faces the camera. No other SharkCam shark has barbels. Its swimming style is very sinuous compared to the other species. The nurse shark will usually be seen closely



Top to bottom: Bull, Great White, Lemon, Nurse, Sand Tiger, Sandbar, and Tiger sharks

## SharkCam Fishes

following the bottom, not swimming well above it like other SharkCam sharks.

The sand tiger shark has similarly-sized first and second dorsal fins, with the first positioned past mid-body; the snout is conical and strongly pointed. The teeth often protrude slightly and are relatively long and curved. No other sharks will typically show teeth on SharkCam.

The sandbar shark first dorsal fin is positioned forward of the mid-body, is noticeably tall, about equivalent to the body depth, and often preceded by the greatest body depth; the snout is pointed. The typical sandbar shark is smaller than the typical bull, tiger, or lemon shark.

The tiger shark first dorsal fin is similar in size to the bull shark, but the rear margin is straight; the snout is fairly flat and the head is broad on the tiger. Dusky, faded bars on the flanks will be present. On tiger sharks a longitudinal caudal keel that stretches from the tail to forward of the second dorsal fin is present. Among SharkCam sharks, a caudal keel is only present on white and tiger sharks.



(Left) A sand tiger shark (*Carcharias taurus*) surrounded by round scad (*Decapterus punctatus*) and (right) four sandbar sharks (*Carcharhinus plumbeus*)



Six sand tiger sharks (*Carcharias taurus*) milling under Fry Pan Tower

## SharkCam Fishes



### Great Hammerhead

*Sphyrna mokarran* (Rüppell, 1837)  
Sphyrnidae (Class Chondrichthyes)



#### **Distinguishing characteristics:**

Hammerhead sharks are distinguished from other sharks by their distinctive dorsoventrally-flattened and laterally-elongated heads. This head shape is called a cephalofoil, in recognition of its wing-like shape. The great hammerhead head is relatively straight across the front, with a shallow notch in the center. The remainder of the body is stout and classically shark-shaped. The first dorsal fin is very tall and narrow with a distinctive recurved, or falcate, profile. The rear margins of the second dorsal, pelvic and anal fins are also strongly curved, which distinguish the great hammerhead from other hammerheads which may be present in the area.

**Relative frequency:** ● Rare—seen in less than 1% of visits

NOTE: Great hammerheads have been seen twice on SharkCam, on 31 August 2018 at 7:36pm EDT, and on 16 October 2019 at 10:57am and 11:00am EDT.

**Relative size:** ○ ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** No other sharks seen on SharkCam will have the distinctive head and very tall, curved dorsal fin of the great hammerhead.



## SharkCam Fishes



### Giant Manta

*Mobula birostris* (Walbaum, 1792)  
Mobulidae (Class Chondrichthyes)



#### **Distinguishing characteristics:**

The giant manta viewed from the side has a large head that transitions into a very wide body, large triangular pectoral wings that arch backwards, and distinct cephalic fins on each side of the head that extend forward. Coloration is typically dark on top and white underneath. Pale patches on the dorsal surface, especially the trailing edge of the pectoral wings, and dark spots underneath are common. Large gill slits are found underneath and forward on the body. Giant manta “fly” through the water propelled by the pectoral wings, similar to a bird in flight. The dorsal fin is set at the extreme back of the body. It is small relative to the size of the animal and is shaped similarly to a shark’s. A thin, whip-like tail extends almost one body length.

NOTE: A recent genetic analysis of the rays of family Mobulidae concluded that the genus *Manta* was not a valid taxonomic arrangement, and moved the two nominal members of this genus to *Mobula*. For additional information see [White et al. \(2018\)](#).

**Relative frequency:** ● Rare—seen in less than 1% of visits

NOTE: The giant manta has only been seen on SharkCam once when an individual was spotted twice during the evening of 7 July 2017.

**Relative size:** ○ ○ ○ ○ Very large (>1 m or >39 in); the average disc width is 4.5 m (15 ft) making this the largest animal seen on SharkCam to date

**Similar species:** Spotted Eagle Ray (*Aetobatus narinari*)

The spotted eagle ray shares with the giant manta the characteristics of large pelagic rays, including a dark back, light underside, a long, whip-like tail, and “flying” swimming style. During good visibility, the spotted eagle ray is easily distinguished from the giant manta by the presence of a distinctive duck bill-shaped snout, the lack of the manta’s cephalic fins, the white circle and spot patterning on the dorsal surface, and the spotted eagle ray’s large, but not massive, size.



## SharkCam Fishes



### **Spotted Eagle Ray**

*Aetobatus narinari*  
(Euphrasén, 1790)

Myliobatidae (Class Chondrichthyes)



#### **Distinguishing characteristics:**

A spotted eagle ray is shaped like a flattened diamond, and when viewed from the side has a prominent triangular head with a duck bill-shaped snout. The body is dark brown to black on the dorsal surface (above) and white on the ventral surface (below). The dark back will be completely covered with white circles and spots. In clear conditions, a whip-like tail, longer than the body, may be seen.

Spotted eagle rays “fly” through the water propelled by the pectoral fin wings, similar to a bird in flight.

**Relative frequency:** ● Rare—seen in less than 1% of visits

NOTE: Spotted eagle rays have been seen twice on SharkCam, with the first visit on 27 August 2018 at 10:15am EDT and again on 12 November 2019 at 11:08am EST. The first sighting was not clear enough for adequate screen captures (see Sky Pilot’s video).

**Relative size:** ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** Giant Manta (*Mobula birostris*)

The giant manta shares with the spotted eagle ray the characteristics of large pelagic rays, including a dark back, light underside, a long, whip-like tail, and “flying” swimming style. During good visibility, the manta is easily distinguished from the spotted eagle ray by the presence of distinctive cephalic (head) fins that project forward, the lack of patterning on the dorsal surface, and its massive size.



## SharkCam Fishes



### **Southern Stingray**

*Hypanus americanus*

(Hildebrand and Schroeder, 1928)

Dasyatidae (Class Chondrichthyes)



#### **Distinguishing characteristics:**

A southern stingray looks like a horizontal disk “flying” through the water, propelled by rolling two sides (modified pectoral fins) up and down, similar to a bird in flight. The top side (dorsal surface) is dark with a slightly pointed snout, two small protrusions that contain the eyes, no obvious dorsal fins, and a long, whip-like tail. At a distance, intermittent flashes of the white underside are often all that can be seen as a southern stingray “flies” by.

The southern stingray will almost always be closely associated with the bottom.

NOTE: The taxonomic family of the stingrays (Dasyatidae) was recently revised and the genus *Dasyatis* moved to *Hypanus*. See [Last et al. \(2016\)](#) for additional details.

**Relative frequency:** ● ● ● Occasional—seen in 10% to 20% of visits

**Relative size:** ○ ○ ○ ○ Large (0.5–1 m or 20–39 in) to Very large (>1 m or >39 in)

**Similar species:** No other fish seen on SharkCam resembles the southern stingray.





## SILVERY FISHES (23)

Jacks and Pompanos–Carangidae

African Pompano

Almaco Jack

Banded Rudderfish

Bar Jack

Bigeye Scad

Blue Runner

Crevalle Jack

Greater Amberjack

Horse-eye Jack

Permit

Rainbow Runner

Round Scad

Yellow Jack

Herrings, Shads, Sardines, and Menhadens–Clupeidae

Scaled Herring

Spadefishes–Ephippidae

Atlantic Spadefish

Sea chubs–Kyphosidae

Bermuda Chub

Tarpons–Megalopidae

Tarpon

Bluefishes–Pomatomidae

Bluefish

Mackerels, Tunas and Bonitos–Scombridae

Atlantic Bonito

King Mackerel

Little Tunny

Barracudas–Sphyraenidae

Great Barracuda

Northern Sennet

## SharkCam Fishes



### African Pompano *Alectis ciliaris* (Bloch, 1787) Carangidae



#### **Distinguishing characteristics:**

An African pompano shares several characteristics with other members of the jack family: a deeply forked tail, pointed fins (including both lobes of the tail), and a silvery-gray color. From the side, the body is broad, shaped roughly as an oval. The outline of the face and forehead form a straight line that rises steeply from the mouth to form a distinct bump where it joins the outline of the back. The dorsal and anal fins are triangular and short. Overall, the African pompano has a metallic, mirror-like sheen. From the front, the fish is unusually thin.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

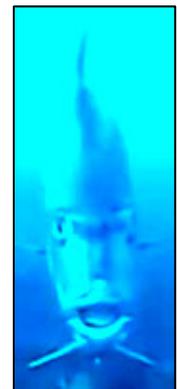
**Relative size:** ○ ○ ○ ○ Large (0.5–1 m or 20–39 in)

**Similar species:** Crevalle Jack (*Caranx hippos*), Permit (*Trachinotus falcatus*)

The crevalle jack and the permit share with the African pompano the several characteristics of the jack family.

From the side, the crevalle jack face and forehead outline forms a smooth arc with the back (no bump like the African pompano). The crevalle jack dorsal and anal fins are tall and scythe shaped (African pompano fins small and triangular) and on SharkCam are usually white (African pompano fins silvery gray). When close enough, crevalle jacks show a small black spot above the pectoral fin (African pompano lacks this).

The permit face and forehead also form a smooth arc with the back (no bump like the African pompano). Permit dorsal and anal fins are tall and thin (African pompano fins small and triangular) and on SharkCam are dark, especially the pectoral fin (African pompano fins silvery gray). The permit has a darker blotch on its side and a white belly patch that, at close viewing, shows a mustard-yellow tint ahead of the anal fin (African pompano shows none of these features).



## SharkCam Fishes



### Crevalle Jack

*Caranx hippos* (Linnaeus, 1766)  
Carangidae



#### Distinguishing characteristics:

Like other members of the jack family, a crevalle jack has a deeply forked tail, rather pointed fins (including both lobes of tail), and a silvery-gray color. From the side, the body is broad, shaped like an elongated oval with a blunt front. The face and forehead outline forms a smooth arc with the back. The dorsal, anal, and pectoral fins are long, scythe shaped, and on SharkCam are usually white. There are two small black spots, one on the base of the pectoral fin and one above the pectoral fin.

Seen face-on, the crevalle jack has unusually forward-facing eyes, relative to most other fish. They are often seen in loosely aggregated groups of a few individuals.

**Relative frequency:** ● ● ● Occasional—seen in 10% to 20% of visits

**Relative size:** ○ ○ ○ ○ Large (0.5–1 m or 20–39 in) to Very large (>1 m or >39 in)

**Similar species:** African Pompano (*Alectis ciliaris*), Permit (*Trachinotus falcatus*), Horse-eye Jack (*Caranx latus*)

Other large bodied jacks, like African pompano, permit, and horse-eye jack have body and fin shapes and colors that are similar to those of the crevalle jack.

The outline of the African pompano head is more angular, with a distinct bump, than the smooth arc of the crevalle jack head. The African pompano is noticeably thin, has shorter dorsal and anal fins, lacks the crevalle jack's dark spots, and has a metallic, mirror-like sheen the crevalle jack lacks.

The permit also has a broad, oval-shaped body but it is rounder, less elongated, than the crevalle jack. The permit has a darker blotch on its side and a white belly patch that, at close viewing, shows a mustard-yellow tint ahead of the anal fin, features the crevalle jack lacks. SharkCam permits have dark fins, especially the short pectoral fin, whereas those of the crevalle jack generally are white.

The horse-eye jack lacks the crevalle jack's dark spot and, unlike the crevalle, has large eyes and usually has a bright yellow tail and a narrow, dark stripe that runs from the tail about half way to the mouth.



## SharkCam Fishes



### Permit

*Trachinotus falcatus* (Linnaeus, 1758)  
Carangidae



#### Distinguishing characteristics:

Like other members of the jack family, the permit has a deeply forked tail, pointed fins (including both lobes of the tail), a slender body cross section, and a silvery-gray color. From the side, most SharkCam permits look relatively round, with an occasional larger individual looking more elongated, or oval shaped. SharkCam permits have long, dark dorsal, anal, and caudal fins and a short, dark pectoral fin. The permit often has a darker blotch on its side and a white belly patch that, at close viewing, shows a mustard-yellow tint ahead of the anal fin. The white belly patch shows well under poor lighting conditions and when the fish is swimming rapidly.

**Relative frequency:** ● ● ● Occasional—seen in 10% to 20% of visits

**Relative size:** ○ ○ ○ ○ Large (0.5–1 m or 20–39 in)

**Similar species:** African Pompano (*Alectis ciliaris*), Crevalle Jack (*Caranx hippos*), Horse-eye Jack (*Caranx latus*)

The African pompano, crevalle jack, and horse-eye jack have body and fin shapes that are similar to those of the permit. From the side, the crevalle jack is shaped like an elongated oval, compared to the permit's typically round shape. The crevalle lacks the darker blotch on the side, the white belly patch, and the short, dark pectoral fin of the permit, and has a dark spot above its pectoral fin that the permit lacks. Typically, the crevalle's fins look white compared to the permit's fins that look dark.

The outline of the African pompano head is more angular, with a distinct bump, than the smooth arc of the permit head. The African pompano has shorter dorsal and anal fins, and has a metallic, mirror-like sheen. It lacks the permit's darker patch on the side, white belly patch, and short, dark pectoral fin.

From the side, the horse-eye jack is oval-shaped with large eyes, a narrow, dark stripe that runs from the tail about half way to the mouth, and a tail that is usually bright yellow. The horse-eye jack lacks the permit's darker patch on the side, white belly patch, and short, dark pectoral fin.



## SharkCam Fishes



### Almaco Jack

*Seriola rivoliana* Valenciennes in Cuvier and Valenciennes, 1833  
Carangidae



#### Distinguishing characteristics:

An almaco jack shares several characteristics with other members of the jack family: a deeply forked tail, rather pointed fins (including both lobes of tail), and a slender body cross section. From the side, the body is oval shaped with a tall dorsal fin shaped like a scythe blade. The almaco's body is about three times as long as it is tall. The body color ranges from silvery gray to a dark olive but the fins are dark colored. A distinct black band runs from the mouth through the eye and up to the front of the dorsal fin. The band can lighten to be almost nonexistent or darken dramatically. It is typically fairly prominent in the almaco jack. From the front, the almaco is shaped like a slender oval.

**Relative frequency:** ● ● ● ● Frequent—seen in 50% to 20% of visits

**Relative size:** ○ ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in) to Large (0.5–1 m or 20–39 in)

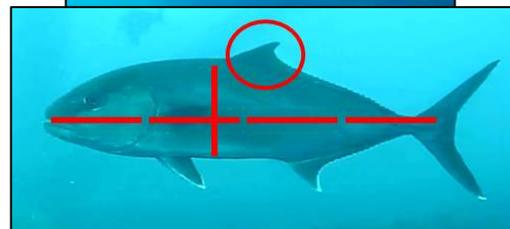
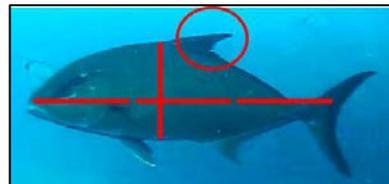
**Similar species:** Greater Amberjack (*Seriola dumerili*),  
Banded Rudderfish (*Seriola zonata*)

Greater amberjack, almaco jack, and banded rudderfish have similar silhouettes and are generally about the same size, although the greater amberjack is typically largest and the almaco jack typically smallest of the three. The almaco jack body is deeper than the other two and with a higher dorsal fin. Banded rudderfish are more streamlined than either almaco or greater amberjacks, and both will lack the bars of the juvenile banded rudderfish. The greater amberjack looks like an elongated almaco jack with a short dorsal fin. The almaco's body is about three times as long as it is tall; the greater amberjack's body is about four times as long as it is tall. From the front, the greater amberjack is usually more circular in cross section than the almaco's slender oval.

It is possible for all three to have a dark bar through the eye, so this is not a good diagnostic character to separate these closely related jacks.



Almaco jack (foreground) and greater amberjack (background)



Comparative view of almaco jack (above) and greater amberjack (below)

## SharkCam Fishes



### **Greater Amberjack** *Seriola dumerili* (Risso, 1810) Carangidae



#### **Distinguishing characteristics:**

A greater amberjack has a deeply forked tail and rather pointed fins (including both lobes of tail), characteristics it shares with other members of the jack family. From the side, the body resembles an elongated oval that is about four times as long as it is tall. The greater amberjack has a short dorsal fin and a color that ranges from silvery gray to amber, with a darker pectoral fin. A black bar, called a nuchal band, runs from the mouth through the eye and up to the front of the dorsal fin. The nuchal band can lighten to be almost nonexistent or darken dramatically.

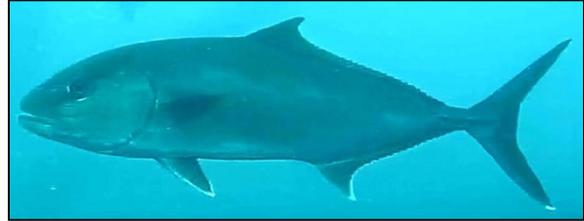
**Relative frequency:** ● ● ● ● ● Common—seen often, greater than 50% of visits

**Relative size:** ○ ○ ○ ○ ○ Large (0.5–1 m or 20–39 in) to Very large (>1 m or >39 in)

**Similar species:** Almaco Jack (*Seriola rivoliana*), Banded Rudderfish (*Seriola zonata*)

Greater amberjack, almaco jack, and banded rudderfish have similar silhouettes and are generally about the same size, although the greater amberjack is typically largest and the almaco jack typically smallest of the three. The almaco jack body is deeper than the other two and with a higher dorsal fin. Banded rudderfish are more streamlined than either almaco or greater amberjacks, and both will lack the bars of the juvenile banded rudderfish. The greater amberjack looks like an elongated almaco jack with a short dorsal fin. The almaco's body is about three times as long as it is tall; the greater amberjack's body is about four times as long as it is tall. From the front, the greater amberjack is usually more circular in cross section than the almaco's slender oval.

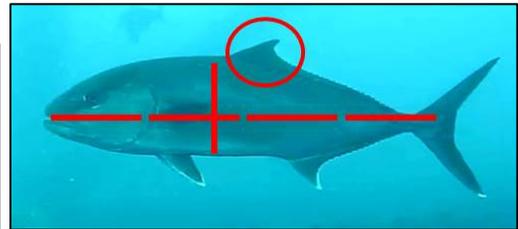
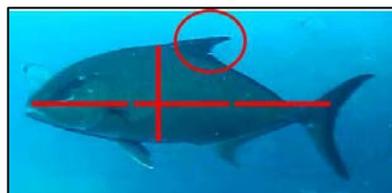
It is possible for all three to have a dark bar through the eye, so this is not a good diagnostic character to separate these closely related jacks.



Almaco jack (foreground) and greater amberjack (background)



Comparative view of almaco jack (left) and greater amberjack (right)



## SharkCam Fishes



### **Banded Rudderfish** *Seriola zonata* (Mitchill, 1815) Carangidae



#### **Distinguishing characteristics:**

A banded rudderfish has a light-colored body shaped like an elongated oval. It has a dark band which runs from the mouth, across the eye, to the front of the dorsal fin. The band can lighten to be almost nonexistent or darken dramatically. Juvenile banded rudderfish have six dark bars spaced along its body. Adult banded rudderfish, or those lacking bars, are easily mistaken for greater amberjacks on SharkCam.

Banded rudderfish are most frequently seen in schools numbering in the dozens.

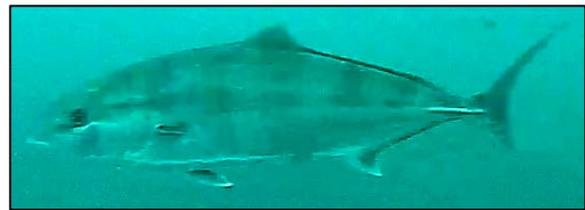
**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in) to Large (0.5–1 m or 20–39 in)

NOTE: Juveniles are reported to lose their bars when they are about 28 cm (11 in) long, but some individuals seen on SharkCam appear to be much larger than that size while still retaining faded bars.

**Similar species:** Greater Amberjack (*Seriola dumerili*),  
Almaco Jack (*Seriola rivoliana*)

Greater amberjack and almaco jack have similar silhouettes and are generally about the same size as the banded rudderfish. The almaco jack body is deeper with a higher dorsal fin. Banded rudderfish are more streamlined than either almaco or greater amberjacks, and both will lack the bars of the juvenile banded rudderfish. It is possible for all three to have a dark bar through the eye, so this is not a good diagnostic character to separate these closely related jacks. Almaco and greater amberjack are only rarely seen in groups of more than a few individuals.



Top image: adult; Middle three images: juveniles; Bottom image: adults schooling



## SharkCam Fishes



### Horse-eye Jack

*Caranx latus* Agassiz in Spix and  
Agassiz, 1831  
Carangidae



#### **Distinguishing characteristics:**

A horse-eye jack shares several characteristics with other members of the jack family: a deeply forked tail, rather pointed fins (including both lobes of tail), a slender body cross section, and a silvery-gray body color. From the side, its body is oval-shaped with a large eye that has a diameter that approximately equals the distance from the eye to the snout. The horse-eye jack has a narrow dark stripe that runs from the tail about half way to the mouth, and its tail is usually bright yellow.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ ○ Large (0.5–1 m or 20–39 in)

**Similar species:** Blue Runner (*Caranx crysos*), Bar Jack (*Carangoides ruber*), Yellow Jack (*Carangoides bartholomaei*), Yellowtail Snapper (*Ocyurus chrysurus*), Vermilion Snapper (*Rhomboplites aurorubens*)

Several other jack species can be confused with the horse-eye jack but lack its large eyes and dark stripe, and have their own distinguishing features. The blue runner has a dark tip on the tail lobes and two short, bright white horizontal lines, one above the base of the pectoral fin and one at the base. The bar jack has a dark stripe along the dorsal fin and down to the lower lobe of the tail, accompanied by a bright blue or white line beneath it. The fins of the yellow jack have a yellow cast, especially the lower lobe of the tail. The crevalle jack has a dark spot just above the pectoral fin.

Although not a jack, the yellowtail snapper has a similar shape, light coloring, and a forked yellow tail with pointed lobes. Unlike the horse-eye jack, the yellowtail snapper also has a yellow stripe that runs from the tail towards the eye, turning dark as it goes.

A vermilion snapper also has a large eye, like the horse-eye jack, but its body is more slender with a tail that is squarer, with only a shallow fork, and not yellow.

## SharkCam Fishes



### Blue Runner

*Caranx crysos* (Mitchill, 1815)  
Carangidae



#### **Distinguishing characteristics:**

A blue runner shares several characteristics with other members of the jack family: a deeply forked tail, rather pointed fins (including both lobes of tail), and a slender body cross section. The body color ranges from a silvery-gray to a silvery blue. From the side, the body is oval-shaped and with dark tips to its tail. SharkCam blue runners show two short, bright white horizontal lines, one above the base of the pectoral fin and one below the eye. The white lines show up well even under poor lighting conditions and when the fish moves rapidly.

This is the jack most likely to be seen in large schools or groups, especially when round scad are abundant.

**Relative frequency:** ● ● ● ● Frequent—seen in 50% to 20% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Bar Jack (*Caranx ruber*), Horse-eye Jack (*Caranx latus*), Yellow Jack (*Caranx bartholomaei*), Bluefish (*Pomatomus saltatrix*)

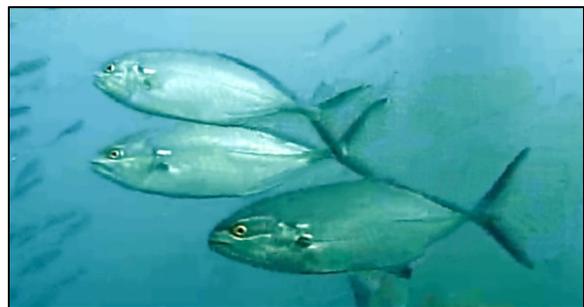
Several other jack species can be confused with the blue runner but lack the blue runner's bright white lines and have their own distinguishing features.

The bar jack has a dark stripe along its dorsal fin and down to the lower lobe of its tail, accompanied by a bright blue or white line beneath it.

The horse-eye jack has large eyes and usually has a bright yellow tail and a narrow, dark stripe that runs from the tail about half way to the mouth.

The fins of the yellow jack have a yellow cast, especially the lower lobe of the tail.

Although not a jack, the bluefish has a similar shape and silvery-gray color. It is distinguished from the blue runner by the larger head, prominent lower jaw, thicker tail, and more elongated body.



## SharkCam Fishes



### Rainbow Runner

*Elagatis bipinnulata* (Quoy and Gaimard, 1825)  
Carangidae



#### **Distinguishing characteristics:**

From the side, a rainbow runner is shaped like a slender oval with a rather pointed head. The tail is jack-like, deeply forked with pointed lobes, and is bright yellow. The body is light gray below and darker gray above, with two bright, light blue, almost white, stripes down the middle.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in) to Large (0.5–1 m or 20–39 in)

**Similar Species:** Cobia (*Rachycentron canadum*), Yellowtail Snapper (*Ocyurus chrysurus*)



The cobia has a similar body shape, but with a flattened head, a large, shallowly forked tail with sharp tips, and a tall, triangular dorsal fin. The cobia overall coloration is dark, although it may have some lighter tones underneath, and the tail is not yellow. All cobia seen on SharkCam have been substantially larger than a rainbow runner.

The yellowtail snapper has a forked yellow tail with pointed lobes, like the rainbow runner. Unlike the rainbow runner, the yellowtail snapper also has a stripe that starts as yellow at the tail and runs towards the snout, becoming darker towards the eye.



## SharkCam Fishes



### Yellow Jack

*Carangoides bartholomaei* (Cuvier in Cuvier and Valenciennes, 1833)  
Carangidae



#### Distinguishing characteristics:

A yellow jack shares several characteristics with other members of the jack family: a deeply forked tail, rather pointed fins (including both lobes of the tail), a slender body cross section, and a silvery-gray color. From the side, the body is oval-shaped. The yellow jack's fins have a yellow cast, especially the lower lobe of the tail.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Horse-eye Jack (*Caranx latus*), Blue Runner (*Caranx crysos*), Bar Jack (*Carangoides ruber*), Yellowtail Snapper (*Ocyurus chrysurus*)

Other jack species share with the yellow jack the several characteristics of the jack family. The horse-eye jack usually has a yellow tail like the yellow jack but also has big eyes and a narrow, dark stripe that runs from the tail about half way to the mouth.

The blue runner and the bar jack have no yellow color to their fins and have their own distinguishing characteristics. The blue runner has a dark tip on the tail lobes and two short, bright white horizontal lines, one above the base of the pectoral fin and one at the base. The bar jack has a dark stripe along its dorsal fin and down to the lower lobe of its tail, accompanied by a bright blue or white line beneath it.

Although not a jack, the yellowtail snapper has a similar shape, light coloring, and a deeply forked tail that shows yellow. Unlike on the yellow jack, on the yellowtail snapper the yellow of the tail extends as a stripe towards the snout, turning darker towards the eye.



## SharkCam Fishes

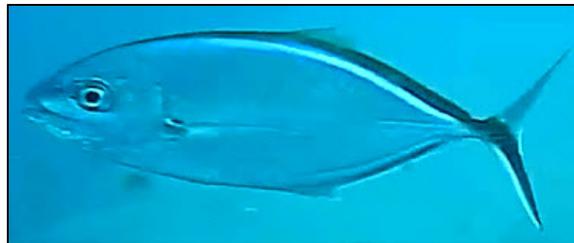


### Bar Jack

*Carangoides ruber* (Bloch, 1793)

Carangidae

LC



#### **Distinguishing characteristics:**

A bar jack shares several characteristics with other members of the jack a deeply forked tail, rather pointed fins (including both lobes of tail), and a slender body cross section. The body color ranges from a silvery-gray to a silvery blue. From the side, the body is oval-shaped, with a dark stripe that runs along the dorsal fin to the lower lobe of the tail. A bright, light blue, almost white stripe runs beneath the black stripe. A white “mustache” shows above the mouth. When swimming, a bar jack wriggles much of its body, a motion that is unlike the other jacks. Bar jacks seen on SharkCam are typically juveniles and often travel in small schools.

**Relative frequency:** ● ● ● ● Frequent—seen in 50% to 20% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Blue Runner (*Caranx crysos*), Horse-eye Jack (*Caranx latus*), Yellow Jack (*Carangoides bartholomaei*),



Several other jack species can be confused with the bar jack but lack the bar jack’s bright blue and black stripes and have their own distinguishing features.

The blue runner has a dark tip on the tail lobes and two short, bright white horizontal lines, one above the base of the pectoral fin and one at the base.

The horse-eye jack has very large eyes and usually has a bright yellow tail and a narrow, dark stripe that runs from the tail about half way to the mouth.

The fins of the yellow jack have a yellow cast, especially the lower lobe of the tail.



## SharkCam Fishes



### **Bigeye Scad**

*Selar crumenophthalmus* (Bloch, 1793)  
Carangidae



#### **Distinguishing characteristics:**

Although small, generally 4 to 6 inches long, bigeye scad show several jack characteristics: silvery-gray coloration, deeply forked tail, rather pointed fins (including both lobes of tail), and a slender cross section. From the side it is shaped like an elongated oval and may show a small dark spot above the pectoral fin. As its name implies, its eye is large, having a diameter as great as or greater than the distance between its eye and the end of its snout. Depending on lighting angles, the bigeye might show a metallic sheen. This is a schooling fish, often forming schools of thousands.

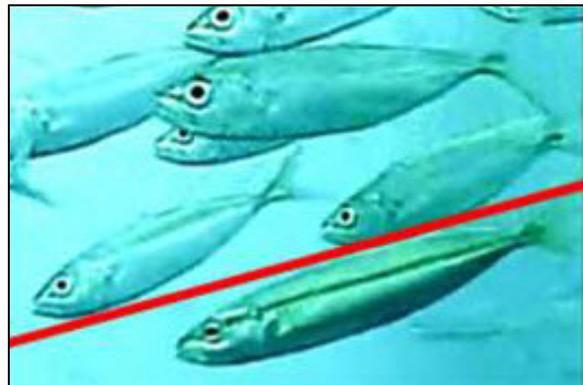
**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ Very small (<10 cm or 4 in) to Small (10–20 cm or 4–8 in)

**Similar species:** Round Scad (*Decapterus punctatus*), Scaled Herring (*Harengula jaquana*), young Tomtate (*Haemulon aurolineatum*)

The round scad has the same jack characteristics as the bigeye scad and a similar elongated oval but its body is more slender. The eye is smaller on the round scad, the diameter being less than the distance between its eye and the end of its snout.

Often seen in and around schools of round scad, young tomtates have a dark blotch at the base of the tail, a feature the bigeye scad does not have.



Comparative view of bigeye scad (above), round scad (below)



## SharkCam Fishes



### Round Scad

*Decapterus punctatus* (Cuvier, 1829)  
Carangidae



#### Distinguishing characteristics:

Although small, generally 6 to 8 inches long, a round scad shares several characteristics with other members of the jack silvery-gray coloration, deeply forked tail, rather pointed fins (including both lobes of tail), and a slender cross section. From the side it is shaped like a slender oval and shows a dark spot above the pectoral fin. The diameter of its eye is less than the distance between its eye and the end of its snout. Occasionally it shows a yellow tail and a darkened stripe mid-body. This is a schooling fish, often forming schools of thousands.

NOTE: Round scad are an extremely important forage fish for larger predators including, groupers, snappers, and jacks. They are harvested commercially and recreationally as baitfish. Round scad are frequently known as cigar minnows in this context.

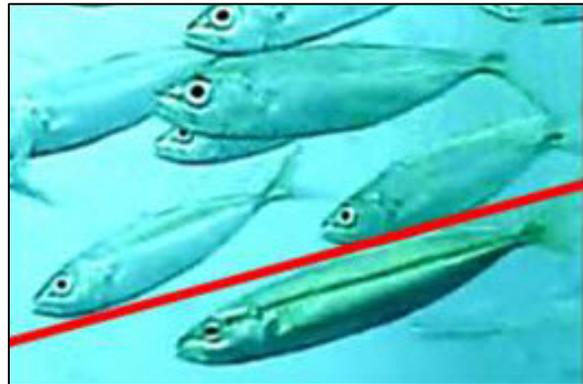
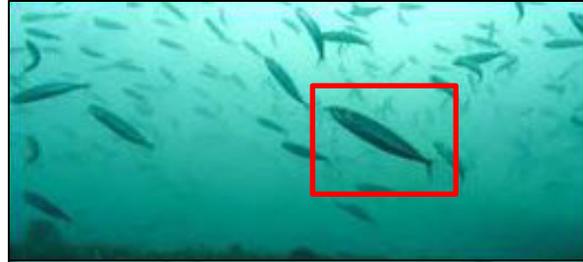
**Relative frequency:** ● ● ● ● ● Common—seen often, greater than 50% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Bigeye Scad (*Selar crumenophthalmus*), Scaled Herring (*Harengula jaquana*), young Tomtate (*Haemulon aurolineatum*)

The bigeye scad has the same jack characteristics as the round scad and the same general body shape but its body is deeper (proportionately taller). Its eye is larger, the diameter being equal to or greater than the distance between its eye and the end of its snout.

Often seen in and around schools of round scad, young tomtates have a deeper body and a dark blotch at the base of the tail, features the round scad does not have.



Comparative view of bigeye scad (above), round scad (below)



## SharkCam Fishes



### Scaled Herring

*Harengula jaguana* Poey, 1865  
Clupeidae



#### **Distinguishing characteristics:**

Scaled herring are a small, generally 4 to 6 inches long, silvery schooling fish seen rarely on SharkCam. It is typically seen in large schools of similarly sized individuals. Depending on lighting conditions, the back is light blue, fading to silver or white on the flanks. The body is compressed, laterally flattened, relative to other small, schooling fishes. The tail fin is deeply forked, although this may not be obvious given its clear color. The only distinguishing characteristic seen may be the flat, relatively large upper lip. This flattened upper lip is a characteristic of the herring and sardine family, Clupeidae. The eye is relatively large.

Images from the web of scaled herring show that the species has relatively large, prominent scales, a feature not seen on SharkCam to date.

**Relative frequency:** ● Rare—seen in less than 1% of visits

NOTE: Scaled herring, or a close relative, are very common at Frying Pan Tower seasonally based on diver observations, but given their small size and fast movement they are rarely positively identified on SharkCam.

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Round Scad (*Decapterus punctatus*),  
Bigeye Scad (*Selar crumenophthalmus*)

The scaled herring closely resembles a round or bigeye scad in body profile and size. It is distinguished from both by the relatively large, flattened upper lip, characteristic of its family. This is a feature neither round nor bigeye scad possess. The body is relatively thin in cross section, similar to the compressed but deep-bodied bigeye scad, and in contrast to the rounded body cross section of the round scad.



## SharkCam Fishes



### Northern Sennet

*Sphyraena borealis* DeKay, 1842

Sphyraenidae



#### **Distinguishing characteristics:**

Northern sennet are diminutive barracudas with a bright silvery body, a deeply forked tail fin, a relatively large eye, and a sharply pointed snout. The body is round in cross section and noticeably long and slender for its depth, similar to its much larger relative, the great barracuda. The mouth ends before the beginning of the eye.

On SharkCam, obvious body markings have not been apparent. A closer approach to the camera in clearer water will reveal small, darkened blotches and two yellow stripes on the flanks. Sightings on SharkCam are limited and have only been in the context of mixed-species schools of round and bigeye scad, and young tomtates of similar size. Typically, sennet will school with similarly sized individuals of their species.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Round Scad (*Decapterus punctatus*), Bigeye Scad (*Selar crumenophthalmus*), Scaled Herring (*Harengula jaquana*)

Northern sennet are clearly distinguished from other small schooling fishes, like round scad, bigeye scad, and scaled herring by how slender and long they appear relative to the other three species. The sharply pointed snout also distinguishes them from their school mates.

Northern sennet are not likely to be mistaken for their massively larger relative, the great barracuda.



## SharkCam Fishes



### **Bluefish**

*Pomatomus saltatrix* (Linnaeus, 1766)  
Pomatomidae



#### **Distinguishing characteristics:**

Bluefish are elongated, somewhat compressed fish, with a prominent lower jaw. They are silvery-gray with the back darker and fading to a white belly. There is a matte finish to the body that typically has no other marks or patterns, except for a prominent dark patch at the base of the pectoral fin. The first dorsal fin is small and frequently folded. The larger second dorsal fin begins past the midpoint of the body and is symmetric with the anal fin. Both fins are similar in size and shape. The caudal fin is deeply forked.

Bluefish are voracious feeders and individuals frequently have penetrating wounds inflicted by other bluefish during pack hunting and feeding.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

NOTE: Schools of large bluefish were seen frequently for several weeks in March and April 2018 on SharkCam. They had not been identified previously. It is likely that they were on a northward migration and took up temporary residence at Frying Pan Tower.

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Blue Runner (*Caranx crysos*)

Bluefish and blue runners frequently travel in large groups of similarly sized individuals of their species. The blue runner is distinguished from the bluefish by its jack family characteristics, and also a less elongated body, smaller head, and thin tail.



## SharkCam Fishes



### Tarpon

*Megalops atlanticus* Valenciennes in  
Cuvier and Valenciennes, 1847

Megalopidae



**Distinguishing characteristics:**

Tarpon are large, bright silvery, elongated fish with a small head and strongly upturned mouth with a lower jaw well forward of the upper jaw. The flanks of the fish are vertical. The scales are very large, but may not be visible except on a close approach to SharkCam. The dorsal fin is tall, shark-like, and originates past the midpoint of the body. It is mirrored by a triangular anal fin midway between the dorsal fin and caudal fin. The caudal fin is deeply forked.

**Relative frequency:** ● Rare—seen in less than 1% of visits

NOTE: Tarpon have only been reported from SharkCam twice. A large individual was seen several times on 10 March and 30 November 2018.

**Relative size:** ○ ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** No other fish seen on SharkCam resembles the tarpon.



## SharkCam Fishes



### Great Barracuda

*Sphyraena barracuda* (Edwards in Catesby, 1771)  
Sphyraenidae



#### Distinguishing characteristics:

The great barracuda is long and slender with a flattened head, a protruding lower lip, and a large, squared-off tail with an indentation in the center and longer fin tips. The mouth ends below the eye and a close approach to the camera or open mouth will reveal large canine teeth.

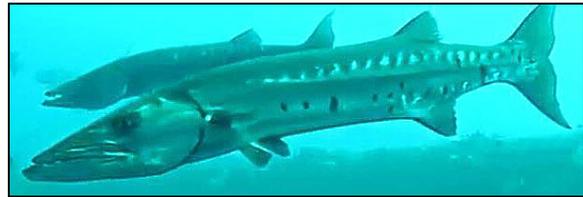
Often only the second dorsal fin shows, located far back on the body above the anal fin. Individuals frequently hang motionless, or almost motionless, with the body tilted slightly lower at the head. The body may be all dark or silvery gray with a row of lighter-toned rectangular markings (“windows”) and indistinct dark-to-black blotches along the midline and belly.

**Relative frequency:** ● ● ● ● ● Common—seen often, greater than 50% of visits

**Relative size:** ○ ○ ○ ○ ○ Large (0.5–1 m or 20–39 in) to Very large (>1 m or >39 in)

**Similar species:** King Mackerel (*Scomberomorus cavalla*)

Although both the king mackerel and great barracuda are long and slender, the great barracuda is readily distinguished by the length of the head. The great barracuda head is approximately  $\frac{1}{4}$  of the total body length, and the mouth is long, while the head length of the king mackerel is a small fraction of the body length and the mouth is short. The eye of the great barracuda is also significantly larger than the relatively small eye of the king mackerel. King mackerel lack obvious body markings, in contrast to the windows and indistinct black blotches of the great barracuda belly. Behaviorally great barracuda will frequently hang motionless or move slowly through the water. King mackerel will be in constant, usually straight line, motion.



## SharkCam Fishes



### **King Mackerel**

*Scomberomorus cavalla* (Cuvier, 1829)

Scombridae



**Distinguishing characteristics:** King mackerel are long, torpedo-shaped fish with a short head and a deeply forked tail fin. They appear very streamlined and will always be in motion. Symmetric, triangular dorsal and anal fins are positioned just posterior of the mid-line of the body. The upper fin is the second dorsal. Most of the time the first dorsal fin is folded into a groove in the forward third of the body. If seen, it is silvery-gray. Markings on the body are subtle, especially at a distance, and unlikely to be seen on SharkCam.

**NOTE:** King mackerel are migratory, with adult fish inhabiting SharkCam waters from late spring to early fall, and spending the winter off south Florida.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ ○ ○ Large (0.5–1 m or 20–39 in) to Very large (>1 m or >39 in)

**Similar species:** Great Barracuda (*Sphyraena barracuda*)

Although both the great barracuda and king mackerel are long and torpedo-shaped, the great barracuda is readily distinguished by the length of the head. The great barracuda head is approximately  $\frac{1}{4}$  of the total body length, and the mouth is long, while the head length of king mackerel is a small fraction of the body length and the mouth is short. The eye of the great barracuda is also significantly larger than the relatively small eye of the king mackerel. Body markings of the great barracuda include a row of lighter-toned rectangular markings (“windows”) and indistinct dark-to-black blotches along the midline. King mackerel lack obvious body markings.

Another species of large mackerel, the cero (*Scomberomorus regalis*), is rarely reported from North Carolina, and has not been confirmed on SharkCam. Verification as a cero will require that the black first dorsal fin and golden-yellow midline stripe be visible.



## SharkCam Fishes



### **Atlantic Bonito** *Sarda sarda* (Bloch, 1793) Scombridae



#### **Distinguishing characteristics:**

Atlantic bonitos show up on SharkCam when large schools of small prey fish are present. The bonitos swim through the schools so fast that the camera can only catch blurry images of them. Generally, all that is seen is some portion of the narrow black lines on the upper half of the light colored body and a hint of the body shape and fins. The lines are straight and slope up from front to back, especially towards the tail. From the side the body is a streamlined oval, with the halves above and below the midline about the same height. The dorsal fin is rather short at the leading edge and slopes down gradually to the even shorter trailing edge of the fin. The bonito seems to zoom straight past the camera, seldom making quick turns.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Little Tunny (*Euthynnus alletteratus*)

Atlantic bonitos are often seen with little tunnies. The tunny is difficult to distinguish from the bonito on SharkCam. The tunny looks slightly deeper bodied, and its body lines are wavy and horizontal, as compared to the bonito's straight lines that slope up. The tunny's tall dorsal fin shows a sharp curve down from the leading edge to the shorter rest of the fin, and the tunny noticeably erects its dorsal fin when making a quick turn at high speed. The bonito seldom makes quick turns at high speed and its dorsal fin is shorter and forms a more straight line from leading to trailing edges.



## SharkCam Fishes



### Little Tunny

*Euthynnus alletteratus* (Rafinesque,  
1810)

Scombridae



#### **Distinguishing characteristics:**

Little tunnies show up on SharkCam when large schools of small prey fish are present. They swim through the schools so fast that the camera only catches blurry images of them. Generally, all that is seen is a hint of the body shape and fins. The body silhouette is distinctly shaped like an American football. If the fish is even with or below the camera, the viewer might see some portion of narrow black lines on the upper part of the light colored body. From the side, the body is a streamlined oval that is slightly taller from the midline down than from the midline up. The lines are wavy (“worm-like”). At the head end, the lines are short and many go in different directions. From mid-body to the tail, the lines form a horizontal pattern. The dorsal fin is rather tall at the leading edge and curves down sharply to the shorter rest of the fin. The dorsal fin is visibly erect when the tunny makes a quick turn at high speed.

NOTE: Little tunny have several frequently used alternate common names, including false albacore, little tuna, bonita, and albie.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in) to Large (0.5–1 m or 20–39 in)

**Similar species:** Atlantic Bonito (*Sarda sarda*)

The Atlantic bonito is difficult to distinguish from the little tunny on SharkCam. The bonito looks slightly more streamlined (less deeply bodied), and the lines on its body are straight and slope up from head to tail, as compared to the tunny’s wavy and horizontal lines. The bonito seldom makes quick turns at high speed, unlike the tunny. The bonito’s dorsal fin is noticeably shorter than the tunny’s and forms an almost straight line from the leading to the trailing edges, as compared to the sharp curve in the tunny’s dorsal fin.



## SharkCam Fishes



### Atlantic Spadefish

*Chaetodipterus faber*  
(Broussonet, 1782)

Ephippidae



#### Distinguishing characteristics:

Atlantic spadefish are deep-bodied and narrow. They have a unique shape among SharkCam fish. From the side, its outstretched dorsal and anal fins give the fish an outline that is roughly triangular, like a spade with a rounded end. Body and fin coloration is silver to gray with dark borders on the fins and varying numbers of dark bars on the body (the bars fade, one by one, with age).

**Relative frequency:** ● ● ● ● Frequent—seen in 50% to 20% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Sheepshead (*Archosargus probatocephalus*)

The sheepshead has dark bars like the Atlantic spadefish usually does. However, the sheepshead outline is oval shaped, unlike the spadefish's triangular shape. Also unlike the spadefish, the sheepshead body is lighter colored, generally white or off-white, with a gray head.



## SharkCam Fishes



### Bermuda Chub

*Kyphosus sectatrix* (Linnaeus, 1758)  
Kyphosidae



#### **Distinguishing characteristics:**

From the side, the Bermuda chub's body is oval shaped, with the dorsal and anal fins giving the fish a slightly egg-shaped outline. Bermuda chub's have a shallowly forked tail fin.

A short white "mustache" shows above the mouth. Color is highly variable: body and fins all light; body light and fins varying degrees of dark, and body and fins varying degrees of dark. Close up, narrow alternating dark and light stripes can be seen on the body. When a Bermuda chub gets excited, it becomes dark with large, contrasting light spots (spotted phase).

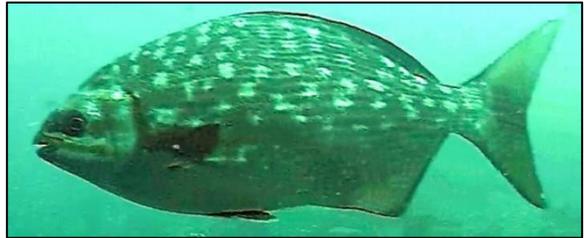
**Relative frequency:** ● ● ● ● ● Common—seen often, greater than 50% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Spottail Pinfish (*Diplodus holbrookii*)

NOTE: Recent taxonomic revisions within the sea chubs (Kyphosidae) conclude that there are four distinct species found circumglobally, including in the tropical western Atlantic Ocean, inclusive of Frying Pan Tower. They are *Kyphosus sectatrix*, *K. bigibbus*, *K. cinerascens*, and *K. vaigiensis*. For additional information see Knudsen and Clements (2013) and Knudsen and Clements (2016), and a conflicting view in Sakai and Nakabo (2014). All are visually similar, although differentiating them from field observations has been reported (see Shorefishes of the Greater Caribbean). These revisions and the requirement for close observation make a definitive identification of sea chubs seen on SharkCam very difficult.

Bermuda chubs and spottail pinfish are often seen together. The spottail pinfish is also oval shaped with a shallowly forked tail but it has a dark band around the base of its tail and its body is always light colored. When seen together, the Bermuda chub's larger size is apparent. In silhouette, the Bermuda chub's slightly egg-shaped outline distinguishes it from the spottail pinfish.





## **COLORFUL OVALS (14)**

Surgeonfishes–Acanthuridae

Blue Tang

Doctorfish

Ocean Surgeon

Surgeonfishes (Blue Tang, Doctorfish, Ocean Surgeon)

Butterflyfishes–Chaetodontidae

Banded Butterflyfish

Spotfin Butterflyfish

Angelfishes–Pomacanthidae

Blue Angelfish

French Angelfish

Queen Angelfish

Rock Beauty

Damselfishes–Pomacentridae

Bicolor Damselfish

Blue Chromis

Cocoa Damselfish

Purple Reeffish

Sergeant Major

## SharkCam Fishes



### **Blue Angelfish**

*Holacanthus bermudensis*

Goode, 1876

Pomacanthidae



#### **Distinguishing characteristics:**

From the side, a broad body and trailing tips of its dorsal and anal fins give the blue angelfish a rectangular shape with a blunt face. The tail is rounded and the end has a light-colored band that is yellow in good light. On the side of its face are several short, light blue lines arranged in a column. Body coloration ranges from deep blue to yellow-green. From far away, the broad body, the trailing fin tips, and the light-colored tail end make identification as a blue angelfish safe.

**Relative frequency:** ● ● ● ● ● Common—seen often, greater than 50% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Queen Angelfish (*Holacanthus ciliaris*), Hogfish (*Lachnolaimus maximus*)

The queen angelfish is nearly identical in shape to the blue angelfish but has a completely yellow tail and its bright blue forehead blotch has a darker center, making a ring (the crown). Hogfish also have similar silhouettes: broad bodies with trailing dorsal and anal fins that give the fish a roughly rectangular shape. Unlike the angelfish, the hogfish swims using primarily its pectoral fins (angelfish use primarily their tails), has a large tail that has long tips, and has a long face.



## SharkCam Fishes



### Queen Angelfish

*Holacanthus ciliaris* (Linnaeus, 1758)  
Pomacanthidae



#### Distinguishing characteristics:

From the side, trailing tips of its dorsal and anal fins give the queen angelfish a rectangular shape. The entire tail is light-colored (yellow in good light). Face-on, the fish has a roughly circular forehead blotch that is brighter blue than the surrounding area. The blotch has a darker center, making a ring (the queen's "crown"). From far away, the broad body, the trailing fin tips, and the light-colored tail make identification as a queen angelfish safe.

**Relative frequency:** ● ● ● ● ● Common—seen often, greater than 50% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Blue Angelfish (*Holacanthus bermudensis*), Hogfish (*Lachnolaimus maximus*)

The blue angelfish is nearly identical in shape to the queen angelfish but only the rear edge of the tail is light colored (yellow) and its bright blue forehead blotch has no darker center (no "crown").

Hogfish and blue and queen angelfish have similar silhouettes; broad bodies with trailing dorsal and anal fins that give the fish a roughly rectangular shape. Unlike the angelfish, the hogfish swims using primarily its pectoral fins (angelfish use primarily their tails) and has a large tail and a long face.



## SharkCam Fishes



### Rock Beauty

*Holacanthus tricolor* (Bloch, 1795)  
Pomacanthidae



#### **Distinguishing characteristics:**

The rock beauty shares with other angelfishes a rectangular body with a rounded, small face. It is deep-bodied and narrow. Its colors and pattern are distinctive among SharkCam fishes. The forward 1/3 of the body, including the head, is all yellow while the rear 2/3 of the body is marked with a large black square outlined with yellow. There is an all-yellow caudal fin. A close approach to the camera may reveal an iridescent blue eye.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Queen Angelfish (*Holacanthus ciliaris*), French Angelfish (*Pomacanthus paru*)

The rock beauty shares the angelfish family Pomacanthidae characteristics of a deep-body and narrow profile. Its all-yellow tail may be mistaken for a queen angelfish far from the camera, but queen angelfish lack black on the body. The French angelfish body is black and yellow, but black is the dominant color and only scales and other highlights are yellow.



## SharkCam Fishes



### French Angelfish

*Pomacanthus paru* (Bloch, 1787)

Pomacanthidae



#### Distinguishing characteristics:

From the side, the erect dorsal and anal fins and their trailing tips give the French angelfish a spade shape (almost triangular). Except for its face, the scales on its body are dark with bright yellow edges, giving a speckled appearance. The face is gray or dark with a yellow ring around the eye and white lips.

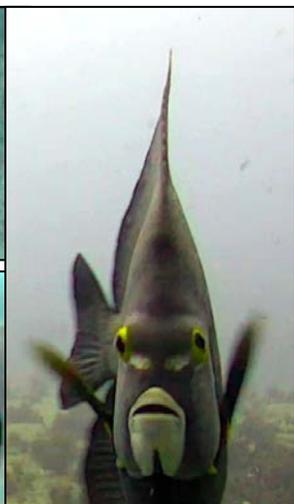
Juvenile French angelfish are shaped similarly to adults, but scales outlined in yellow are not apparent. Instead, the juvenile has a series of vertical yellow bars that appear to begin across the lips, with the next bar behind the eye, and two or three additional ones that become progressively more curved as you move from front to back. Vertical bars are completely absent in the adult.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Blue Angelfish (*Holacanthus bermudensis*), Queen Angelfish (*Holacanthus ciliaris*), Atlantic Spadefish (*Chaetodipterus faber*)

Blue angelfish and queen angelfish have shapes roughly like the French angelfish, but are typically more rectangular, and the French angelfish has no yellow on its tail. The Atlantic spadefish has a similar spade shape but is lighter colored with contrasting black bars and has no yellow coloration. The dorsal and anal fin tips form a diverging angle on the Atlantic spadefish, while the fin tips on the French angelfish are parallel.



## SharkCam Fishes



### **Banded Butterflyfish**

*Chaetodon striatus* Linnaeus, 1758  
Chaetodontidae



**Distinguishing characteristics:**

From the side, banded butterflyfish have a relatively round body. Black and white alternating bars cover the entire body and extend onto the fins. No close approach by a banded butterflyfish has been documented, but even at a distance, the body pattern is readily apparent.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** No other fish seen on SharkCam resembles the banded butterflyfish.



## SharkCam Fishes



### Spotfin Butterflyfish

*Chaetodon ocellatus* Bloch, 1787  
Chaetodontidae



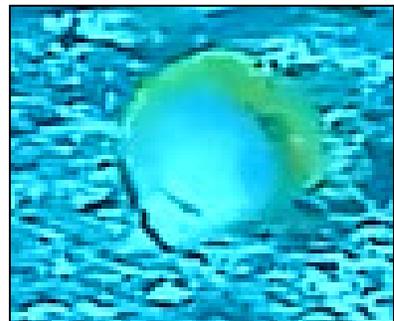
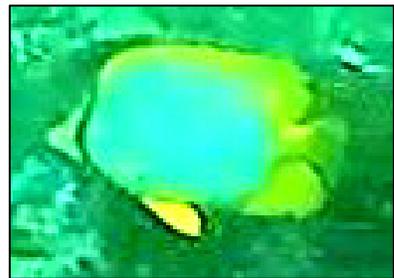
**Distinguishing characteristics:**

From the side, spotfin butterflyfish have relatively round, white and yellow bodies, yellow fins, and a black bar that runs across the eye. The spot for which it is named is located at the trailing edge of its dorsal fin but is small and visible only upon close approach to the camera.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** No other fish seen on SharkCam resembles the spotfin butterflyfish.

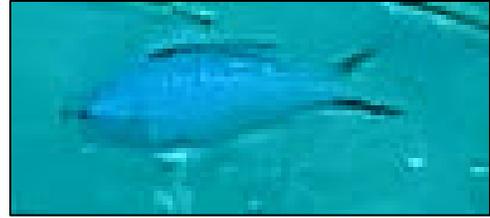


## SharkCam Fishes



### **Blue Chromis**

*Chromis cyanea* (Poey, 1860)  
Pomacentridae



**Distinguishing characteristics:**

The blue chromis is brilliant blue with a deeply forked tail that has dark borders on the top and bottom. The body shape is a slender (elongated) oval. Like other damselfish, the blue chromis is a very active swimmer, constantly darting about.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ Very small (<10 cm or 4 in)

**Similar species:** Juvenile Purple Reeffish (*Chromis scotti*)

Juvenile purple reeffish are difficult to distinguish from blue chromis. Both are brilliant blue, although a side-by-side comparison will reveal that juvenile purple reeffish are more purple-blue than a true blue. The blue chromis has dark borders on its tail edges. The juvenile purple reeffish can have dark edges on its tail, although sometimes this can be difficult to see. The main distinguishing characteristic is the tail shape; the blue chromis tail is deeply forked, while the purple reeffish tail is only shallowly forked. The absence of dark tail edges, or the presence of a shallowly forked tail, signifies a juvenile purple reeffish. As they grow, the juvenile purple reeffish becomes deeper bodied than the blue chromis, more round than oval, and eventually they darken like adult purple reeffish.

## SharkCam Fishes



### Purple Reeffish

*Chromis scotti* Emery, 1968  
Pomacentridae



#### **Distinguishing characteristics:**

SharkCam adult purple reeffish is a deep purple, almost black colored fish with an oval shape and a forked tail with rounded lobes. The chin and throat areas are lighter and a light blue line above the mouth forms a “mustache.” The fish swims using primarily its pectoral fins with little or no tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. The fish feed in loose aggregations in the water column, seemingly in constant motion, darting about like other members of the damselfish family. The juvenile purple reeffish are much more brilliantly colored bluish-purple fish that stay close to the bottom and show the same seemingly constant, quick motion as the adults. They are typically seen in small groups.

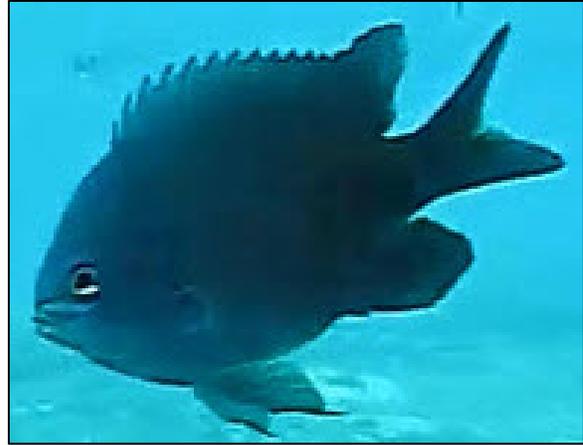
**Relative frequency:** ● ● ● ● Frequent—seen in 50% to 20% of visits

**Relative size:** ○ Very small (<10 cm or 4 in)

**Similar species:** Cocoa Damselfish (*Stegastes xanthurus*),  
Blue Chromis (*Chromis cyanea*)

The cocoa damselfish is another dark damselfish having a forked tail with rounded lobes. Like the purple reeffish and other damselfishes, the cocoa damselfish seems to be in constant motion. However, unlike the purple reeffish’s oval shape, the cocoa damselfish’s large dorsal and anal fins give it a slightly rectangular shape. Other differences are the cocoa damselfish’s use of its tail fin while swimming, and feeding primarily on algae-bearing substrates (i.e., not in the water column). Finally, under good lighting conditions, the cocoa damselfish coloration shows as a deep brown with yellow pectoral fins and a yellow wash in the chest area.

Blue chromis are difficult to distinguish from juvenile purple reeffish. Both are brilliant blue. The blue chromis has dark borders on its tail edges. The juvenile purple reeffish can have dark edges on its tail, although sometimes this can be difficult to see. The main distinguishing characteristic is the tail shape; the blue chromis tail is deeply forked, while the purple reeffish tail is only shallowly forked. The absence of dark tail edges, or the presence of a shallowly forked tail, signifies a juvenile purple reeffish. As they grow, the juvenile purple reeffish becomes deeper bodied than the blue chromis, more round than oval, and eventually they darken like adult purple reeffish.



Adult phase (top two images), adult and juvenile together (3<sup>rd</sup> image); juvenile color and markings (bottom image)



## SharkCam Fishes



### **Bicolor Damselfish**

*Stegastes partitus* (Poey, 1868)  
Pomacentridae



#### **Distinguishing characteristics:**

From the side, dorsal and anal fins give the bicolor damselfish a somewhat rectangular shape. On SharkCam, overall color pattern and tone is highly variable, but generically the forward half of the body is dark and the back half is light. The tail may be all white, or darker than the back half of the body, or even darker than the front half, giving a tricolor or barred appearance. Smaller individuals and juveniles tend to have more clear demarcations in color transition, while on larger adults, color tones are more washed out. Younger fish often have an orange-yellow breast or belly area that may include the pectoral fins.

Both age groups spend most of their time at the bottom. Like other damselfish, bicolor damselfish seem to be constantly moving and are aggressive about chasing even larger fish away from a favorite grazing area.

NOTE: Damselfish species are very similar in silhouette, with a rounded body profile and often dark coloration in shades of brown, black, yellow, blue, or some combination.

**Relative frequency:** ● ● ● Occasional—seen in 10% to 20% of visits

**Relative size:** ○ Very small (<10 cm or 4 in)

**Similar species:** Cocoa Damselfish (*Stegastes xanthurus*)

Cocoa and bicolor damselfish have similar shapes, are similarly sized, and both spend much of their time at the bottom. On SharkCam, the two species often interact with one another, chasing and interacting aggressively. Cocoa damselfish tend to be slightly larger and, so, tend to be the ones doing the chasing most often. Cocoa damselfish are more uniformly dark colored than bicolor damselfish, with some yellow showing in the chest area and on the pectoral and pelvic fins.



## SharkCam Fishes



### Cocoa Damselfish

*Stegastes xanthurus* (Poey, 1860)  
Pomacentridae



#### **Distinguishing characteristics:**

From the side, dorsal and anal fins give the cocoa damselfish a somewhat rectangular shape. At a distance, the fish looks dark with a hint of yellow towards the lower front. When closer, more yellow is visible together with narrow dark bars. The pectoral and pelvic fins are yellow. A very close approach to SharkCam or excellent visibility will reveal an iridescent blue edge to the anal and caudal fin margins.

The juvenile cocoa damselfish is seen occasionally, especially during warmer months. These very small fish (<6 cm or 2 in) are purple across the dorsal region and the rest of the body is bright yellow. No photos of juvenile cocoa damselfish from SharkCam are currently available.

Like other damselfish, cocoas seem to be constantly moving and are aggressive about chasing even larger fish away from a favorite grazing area.

NOTE: See the [Additional Information entry](#) for additional information about a taxonomic change from *Stegastes variabilis* to *S. xanthurus* for the cocoa damselfish.

**Relative frequency:** ● ● ● ● ● Common—seen often, greater than 50% of visits

**Relative size:** ○ Very small (<10 cm or 4 in)

**Similar species:** [Bicolor Damselfish \(\*Stegastes partitus\*\)](#)

Several species of benthic (bottom-dwelling) damselfishes are very common at Frying Pan Tower, as seen by divers. On SharkCam, they are seen at a distance too great to allow positive identification. Additionally, juveniles of benthic damselfishes are often visually distinct from adults, further complicating identification.

Cocoa and bicolor damselfish have similar shapes, are similarly sized, and both spend much of their time at the bottom. On SharkCam, the two species often interact with by chasing each other. Cocoa damselfish tend to be slightly larger and, so, tend to be the ones doing the chasing most often. Cocoa damselfish are more uniformly dark colored than bicolor damselfish, with some yellow showing in the chest area and on the pectoral and pelvic fins.

NOTE: Although they are clearly different in size and silhouette, angelfish often graze above the camera. As a result, as with the cocoa damselfish, fleeting glimpses of their tails and trailing parts of their dorsal and anal fins are often all that are visible. Yellow on the tail and tips of the dorsal and anal fins means the fish is an angelfish.



## SharkCam Fishes



### Sergeant Major

*Abudefduf saxatilis* (Linnaeus, 1758)  
Pomacentridae



#### Distinguishing characteristics:

From the side, a sergeant major is oval shaped. It has a gray head, a lighter colored body that almost always has a yellow cast, and five dark bars. The bars extend onto the dorsal fin. The highest part of its back is roughly above the center of the fish's body, behind its pectoral fin. Like other damselfish, sergeant majors seem to be constantly moving quickly, always busy.

**Relative frequency:** ● ● ● ● Frequent—seen in 50% to 20% of visits

**Relative size:** ○ Very small (<10 cm or 4 in)

**Similar species:** Sheepshead (*Archosargus probatocephalus*), juvenile Banded Rudderfish (*Seriola zonata*), Atlantic Spadefish (*Chaetodipterus faber*)

Individuals of these similar species will always be many times larger than a sergeant major.

A sheepshead also has a gray head, a lighter colored body, and dark bars. However, it never looks yellow, it usually has six or seven bars, the high point of its back is roughly over its pectoral fin, and it acts more sedate than the busy sergeant major.

A juvenile banded rudderfish also has dark bars on a lighter colored body but the body is more elongated (not as deep) and does not have a darker head. Unlike the sergeant major, it has a dark bar, called a nuchal mark, which runs from the mouth, across the eye, to the front of the dorsal fin.

An Atlantic spadefish has dark bars on a lighter colored body but has an unmistakable triangular shape.



## SharkCam Fishes



### Blue Tang

*Acanthurus coeruleus*  
Bloch and Schneider, 1801  
Acanthuridae



#### **Distinguishing characteristics:**

The blue tang swims using primarily its pectoral fins, with little or no tail movement. The swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely because they are small and move rapidly. The body is oval, almost round, with a small, protruding snout and mouth.

The juvenile blue tang is all yellow. As it transitions to an adult, it can be a mixture of yellow and darker, typically blue colors, with the tail the last to darken. Young juveniles stay close to the bottom and are visible as small, yellow, darting fish. As they get bigger (and braver), they venture higher up the water column to SharkCam level.

An adult blue tang can vary its fin and body color tone from a light, almost white, powder blue, through various darker shades of blue. In individuals transitioning from juvenile to adult, the tail may retain some yellow.

Depending on proximity to the camera and lighting, the adult blue tang shows a single, short, light-colored, white to yellow line on the side of the base of its tail. The mark is a spur, and is the only failsafe way to identify an adult blue tang on SharkCam.

Occasionally on SharkCam, oval-shaped dark fish are seen swimming using primarily their pectoral fins, usually in small groups of 3–6. Some of these might be adult blue tangs but identification as such is difficult without evidence for a light colored spur, and because other members of the family Acanthuridae (surgeonfishes) are similarly shaped, exhibit the same swimming style, and can be darkly colored.

**Relative frequency:** Juveniles—● ● ● ● Frequent—seen in 50% to 20% of visits; Adults—● Rare—seen in less than 1% of visits

**Relative size:** Juvenile—○ ○ Very small (<10 cm or 4 in) to Small (10–20 cm or 4–8 in); Adult—○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Doctorfish (*Acanthurus chirurgus*), Ocean Surgeon (*Acanthurus tractus*), see Surgeonfishes (*Acanthurus* spp.)

Because of its bright yellow color and round body, no other fish seen on SharkCam resembles a juvenile blue tang. See the Surgeonfishes profile for discussion of similarities between the adult blue tang, doctorfish, and ocean surgeon.



## SharkCam Fishes



### Doctorfish

*Acanthurus chirurgus* (Bloch, 1787)  
Acanthuridae



#### **Distinguishing characteristics:**

The doctorfish swims using primarily its pectoral fins, with little or no tail movement. From the side, its body is oval, almost egg-shaped, typical of all three species of SharkCam surgeonfishes.

It has 10 to 12 dark bars on its side, and can have two, short, light colored lines, separated by a dark line (a spur), on the side of the base of its tail. On SharkCam, doctorfish have shown light blue to dark brown bodies, the two light colored lines, and, in good lighting, darker brown bars and blue highlights in the fins and tail. Rarely a faint lighter area will encircle the body just forward of the tail.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Adult Blue Tang (*Acanthurus coeruleus*), Ocean Surgeon (*Acanthurus tractus*), see Surgeonfishes (*Acanthurus* spp.)

See the Surgeonfishes profile for discussion of similarities between the adult blue tang, doctorfish, and ocean surgeon.



## SharkCam Fishes



### Ocean Surgeon

*Acanthurus tractus* Poey, 1860  
Acanthuridae



#### **Distinguishing characteristics:**

The ocean surgeon swims using primarily its pectoral fins, with little or no tail movement. From the side, its body is oval, almost egg-shaped, typical of all three species of SharkCam surgeonfishes.

A light colored band may be present around the base of the tail. This is not a failsafe identifier to separate surgeonfishes, however. The pectoral and pelvic fins are darker than other surgeonfishes. In good light and close to the camera ocean surgeons have two, short, light colored lines, separated by a dark line (a spur), on the side of the base of its tail. On SharkCam, ocean surgeons have been brownish yellow primarily above the midline and on the tail. This color fades to gray-blue on the face and below the midline.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Adult Blue Tang (*Acanthurus coeruleus*), Doctorfish (*Acanthurus chirurgus*), see Surgeonfishes (*Acanthurus* spp.)

A light colored band around the base of the tail is common in ocean surgeons, but the other two species can also show this marker. See the Surgeonfishes profile for discussion of similarities between the adult blue tang, doctorfish, and ocean surgeon.



## SharkCam Fishes



### **Surgeonfishes (Blue Tang, Doctorfish, Ocean Surgeon)**

*Acanthurus coeruleus* Bloch and Schneider, 1801

*Acanthurus chirurgus* (Bloch, 1787)

*Acanthurus tractus* Poey, 1860

Acanthuridae

#### **Distinguishing characteristics:**

Occasionally on SharkCam, oval-shaped, dark fish are seen, usually in small groups of 3–6. Coloration is typically dark, with or without a tinge of deep blue, or a dark brown.

They swim using primarily their pectoral fins. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. The fish are probably adult blue tang, doctorfish, or ocean surgeons, and are collectively referred to as surgeonfish. The three species are difficult to distinguish when dark colored and complicate identification by frequently schooling together.



Each species has a small (0.5 in or 1 cm), sharp spine, called a spur, on each side of its tail that it can erect like a thorn as a defense mechanism. The spur color is a distinguishing characteristic. The spur on a blue tang shows as a short white to yellow horizontal line on the base of the tail and is the key distinguishing characteristic for the adult of the species (see separate species entry for blue tang). There have been few confirmed sightings of adult blue tangs on SharkCam.

Spurs on the doctorfish and ocean surgeon are dark colored and can have short white lines above and below the spurs. Doctorfish are distinguished from ocean surgeonfish by their 10 – 12 dark bars on their sides (see separate species profile for doctorfish). Because dark bars are difficult to see on a dark body, an inability to see bars cannot be a safe distinguishing characteristic. An apparent absence of the bars can mean the fish is an ocean surgeonfish or is a doctorfish but the bars cannot be seen.

The ocean surgeon is more brownish blue to gray than the typical blue tang (powder blue) or doctorfish (blue-gray), but all three species change color and frequently darken. Of the three, the ocean surgeon is more likely to have a light colored band around the base of the tail, but the other two species may also show this characteristic, and the blue tang may additionally be seen with a blue body and a yellow tail that fades as the fish transitions from juvenile to adult colors.

**Relative frequency:** ● ● ● Occasional—seen in 10% to 20% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Adult Blue Tang (*Acanthurus coeruleus*), Doctorfish (*Acanthurus chirurgus*), Ocean Surgeon (*Acanthurus tractus*)

See species descriptions and Distinguishing Characteristics above. No other fish seen on SharkCam have dark, oval-shaped bodies and swim using primarily their pectoral fins.

NOTE: Reference books and online resources have historically used the scientific name *Acanthurus bahianus* for the entire geographic range of the ocean surgeon. It was recently proposed that the northwestern Atlantic *A. bahianus* is actually *A. tractus*, and that *A. bahianus* be reserved for the Brazilian populations of the ocean surgeon. See Additional Information for more detail.





**SWIM WITH PECTORAL FINS/OBVIOUS SCALES (13)**

Wrasses–Labridae

Bluehead

Creole Wrasse

Clown Wrasse

Puddingwife

Slippery Dick

Spanish Hogfish

Spotfin Hogfish

Yellowhead Wrasse

Parrotfishes–Scaridae

Princess Parrotfish

Redband Parrotfish

Stoplight Parrotfish

Striped Parrotfish

Yellowtail Parrotfish

## SharkCam Fishes



### Bluehead

*Thalassoma bifasciatum* (Bloch, 1791)

Labridae



#### Distinguishing characteristics:

Blueheads, like all wrasses, swim using primarily their pectoral fins with little or no tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. Their tails are kept closed except when needed for a burst of speed. Like other wrasses, blueheads are small and slender, and change color patterns as they go through juvenile, initial, and terminal maturation phases. Blueheads in the same phase can exhibit different color variations, and intermediate stages between phases can greatly alter their appearance.

**Initial phase**—SharkCam initial phase blueheads show three color variations, all with a white belly. The “all-yellow variation” has a yellow head and back and black around the eye. The “mid-body-stripe variation with yellow back” looks like the “all-yellow variation” but with a dark stripe on the side. The “mid-body-stripe variation with white back” shows no yellow, just a wide dark stripe. The last variation is the most common bluehead seen on SharkCam.

**Intermediate stage**—As SharkCam initial phase blueheads transition to a terminal phase, they develop a series of alternating light and dark bars. The light-colored bars are white or greenish yellow; the dark-colored bars are black and may include lighter coloration above and below. The top and bottom edges of the tail are dark colored.

**Terminal phase**—The terminal phase bluehead has a blue head and a rear body that is blue, green, or blue-green. The head and rear body are separated by two dark bars, which are separated by a white bar. The top and bottom edges of the tail are dark colored.

#### Relative frequency:

**All phases**—●●●●● Common—seen often, greater than 50% of visits

##### Initial phase—

all-yellow variation; ● Rare—seen in less than 1% of visits

mid-body-stripe variation with yellow back; ●●● Occasional—seen in 10% to 20% of visits

mid-body-stripe variation with white back; ●●●●● Common—seen often, greater than 50% of visits

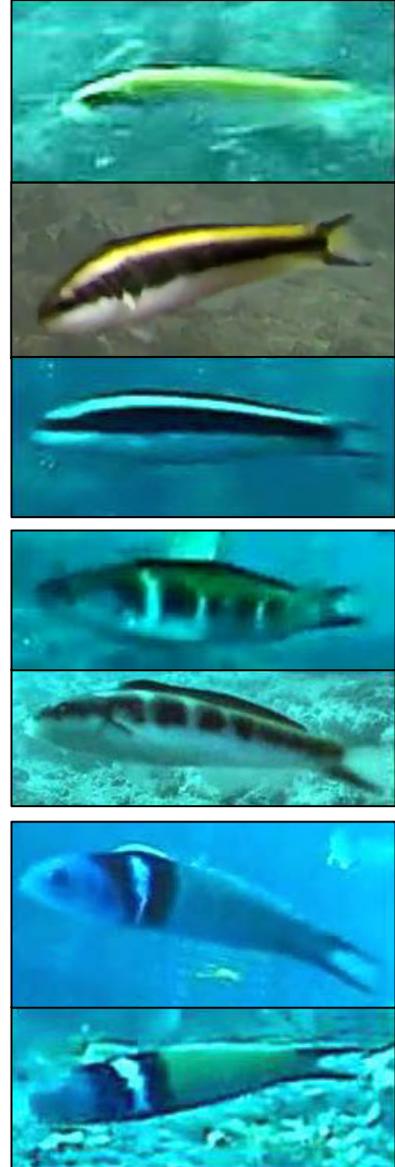
**Intermediate stage**—●●●● Frequent—seen in 50% to 20% of visits

**Terminal phase**—●●● Occasional—seen in 10% to 20% of visits

**Relative size:** ○ Very small (<10 cm or 4 in)

**Similar species:** Initial phase Puddingwife (*Halichoeres radiatus*), initial phase Slippery Dick (*Halichoeres bivittatus*)

White bars on an initial phase puddingwife and light-colored bars on an intermediate stage bluehead make the fish resemble one another. However, the puddingwife has black between only three white bars, while the bluehead has black between all its light-colored bars. In addition, the puddingwife is deeper bodied (taller) than the slender bluehead. SharkCam initial phase slippery dick also has white bars like the intermediate stage bluehead, but the bars are more numerous than those on the bluehead, about 10 versus about five.



Initial phase (top three images),  
intermediate stage (middle two),  
terminal phase (bottom two images)



## SharkCam Fishes



### Clown Wrasse

*Halichoeres maculipinna*

(Müller and Troschel in Schomburgk, 1848)

Labridae



#### **Distinguishing characteristics:**

Wrasses swim using primarily their pectoral fins, with little or no tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. Clown wrasses seem to swim constantly, always going somewhere. Their bodies are small, 4 to 6 inches long, and slender as seen from the side. Like other wrasses, clown wrasses change color patterns as they go through juvenile, initial, and terminal maturation phases. The juvenile phase has not been seen on SharkCam.

**Initial phase** – A SharkCam initial phase clown wrasse is a moderate-toned green to dark above and white below, with no dark spot on its side. In good lighting three reddish-brown bars may be seen above the eye, on top of the head.

**Terminal phase** – SharkCam terminal phase clown wrasses are seen in two color variations, both having a black spot on the side. The typical variation looks like the initial phase (green above, white below) but with the spot and a yellow chin. The other variation, called “nuptial colors,” has a white back, a moderate-toned stripe, a white underside, and the spot.

**Relative frequency:** ● ● ● Occasional—seen in 10% to 20% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Bluehead (*Thalassoma bifasciatum*), Puddingwife (*Halichoeres radiatus*), Slippery Dick (*Halichoeres bivittatus*)

Other SharkCam small wrasses have slender bodies and swimming styles like the clown wrasse: bluehead, puddingwife, slippery dick, and yellowhead. In silhouette, these fish can be difficult to distinguish from the clown wrasse. With good lighting, the dark spot on the side of the terminal phase clown wrasse distinguishes it from the terminal phases of the other species, but juveniles and initial phases of the bluehead and slippery dick are more difficult.

The light-colored bars on intermediate stage bluehead and the white bars on initial phase puddingwife and initial phase slippery dick are absent in the clown wrasse. The initial phase clown wrasse can be distinguished from the slippery dick by dark-over-light stripes in the clown wrasse, compared to dark-light-intermediate stripes in the slippery dick.



Initial phase variations (top two images), terminal phase variations (bottom two images)



## SharkCam Fishes



### Puddingwife

*Halichoeres radiatus* (Linnaeus, 1758)  
Labridae



#### **Distinguishing characteristics:**

The puddingwife, like all wrasses, swims using primarily its pectoral fins with little or no tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. Also like other wrasses, it changes color patterns as it goes through juvenile, initial, and terminal maturation phases. Adult and initial phase puddingwife have been seen on SharkCam.

NOTE: Mixed species hunting behaviors have been described between puddingwife and bar jacks by Baird (1993). See <https://youtu.be/r5nyBLmMJ2M> for an example of this behavior.

**Juvenile/initial phase:** From the side the initial phase has a slender oval shape with five white bars across the back and black areas between two or three of the bars. The main body color is orange-brown, with areas of blue and green. Stripes may be present on the body and face or absent.

**Terminal phase:** The adult phase is deeper-bodied and does not show the distinct white bars across the dorsal surface. The main body colors are green and orange.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Bluehead (*Thalassoma bifasciatum*)

Light-colored bars on an intermediate stage bluehead and white bars on an initial stage puddingwife make the fish resemble one another. However, the bluehead has black between all its light-colored bars, while the puddingwife has black between only three of its white bars. In addition, the bluehead is more slender than the oval-shaped puddingwife.



Initial phase variations (top four images); juvenile phase (above); terminal phase (left)

## SharkCam Fishes



### Slippery Dick

*Halichoeres bivittatus* (Bloch, 1791)

Labridae



#### **Distinguishing characteristics:**

Slippery dicks, like all wrasses, swim using primarily their pectoral fins with little or no tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. Slippery dicks seem to swim constantly, always going somewhere. Their bodies are small and, from the side, slender. Like other wrasses, slippery dicks change color patterns as they go through juvenile, initial, and terminal maturation phases. SharkCam juvenile and initial phases typically have two dark stripes separated by a white stripe. The initial phase can also have numerous (10 or so) light bars, giving these individuals a blotched appearance. The terminal phase has not been confirmed from SharkCam.

**Relative frequency:** ● ● ● ● Frequent—seen in 50% to 20% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Bluehead (*Thalassoma bifasciatum*), Puddingwife (*Halichoeres radiatus*), Clown Wrasse (*Halichoeres maculipinna*)

Other initial phase, slim-bodied wrasses may be easily mistaken for the slippery dick. The light-colored bars on an intermediate stage bluehead and the white bars on an initial phase puddingwife resemble the white bars on the initial phase slippery dick. In addition, the dark bars on the bluehead can resemble the dark stripes on the slippery dick. However, the slippery dick has many more white bars than the other two fish, 10 compared to 5 or so. The initial phase clown wrasse can be distinguished from the slippery dick by dark-over-light stripes in the clown wrasse, compared to dark-light-intermediate stripes in the slippery dick.



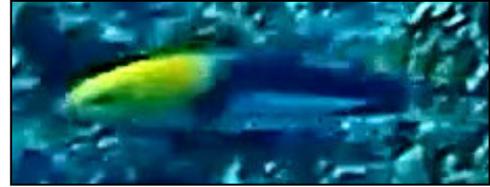
## SharkCam Fishes



### Yellowhead Wrasse

*Halichoeres garnoti* (Valenciennes in  
Cuvier and Valenciennes, 1839)

Labridae



#### **Distinguishing characteristics:**

Wrasses swim using primarily their pectoral fins, with little or no tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. Yellowhead wrasses seem to swim constantly, always going somewhere. Seen from the side, their bodies are slender. Like other wrasses, the yellowhead changes color patterns as it goes through juvenile, initial, and terminal maturation phases. Only the terminal phase has been seen on SharkCam. True to its name, the terminal phase yellowhead has a yellow head. The rest of its body is white, partially framed by a black bar against the yellow, a black back, and a black tail.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** No other fish seen on SharkCam resembles the adult yellowhead wrasse.



## SharkCam Fishes



### Creole Wrasse

*Clepticus parrae* (Bloch and Schneider,  
1801)  
Labridae



#### **Distinguishing characteristics:**

Wrasses swim using primarily their pectoral fins, with little or no tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. Creole wrasses seem to swim constantly, always going somewhere. They are normally seen in small groups of a few individuals. Creole wrasses have the elongated body shape typical of small-bodied wrasses, a symmetrically tapered head region, and are slender from the side. The tail fin appears shallowly forked.

On SharkCam, creole wrasse appear purplish-blue with lighter colored (white) lips and belly regions. A darker purple to blackish blotch on the face between the eyes extends onto the upper lip. In more mature individuals the anal and dorsal fins may appear dark and have yellow tips. Like other wrasses, the creole changes color patterns as it becomes more mature. Only the initial phase has been seen on SharkCam.

A search of reference books or the web will produce images of creole wrasse that are distinctly purple. These are pictures taken above the surface of the water, or in water less than 15 feet deep (about 4.5 meters), or in deeper water using artificial lighting, or are an artist's rendering using such images. Water at the depth of SharkCam, about 50 feet (about 15 meters) screens out all of the red and much of the orange portion of sunlight, leaving whatever colors the rest of the spectrum shows. This is why creole wrasse may appear more blue than purple on SharkCam.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Blue Chromis (*Chromis cyanea*), juvenile Purple Reeffish (*Chromis scotti*)

Although the body shape and swimming style of the creole wrasse is clearly similar to other small-bodied wrasses, the bright purplish-blue coloration makes them unlikely to be confused for other wrasses.

Two other fishes on SharkCam, blue chromis and juvenile purple reefish, share a blue to purplish overall coloration. Both are members of the damselfish family (Pomacentridae) and are noticeably deeper bodied, more rounded or oval fishes. Also similarly, both blue chromis and juvenile purple reefish may appear to have a forked tail, but in each lobe of the tail in these damselfishes has a dark or black stripe along the outer margins. Both blue chromis and juvenile purple reefish are quite a bit smaller than the typical creole wrasse, and so relative size along with the wrasse-like body and swimming style make identification as creole wrasse reasonably straightforward.



## SharkCam Fishes



### Spanish Hogfish

*Bodianus rufus* (Linnaeus, 1758)  
Labridae



#### Distinguishing characteristics:

Spanish hogfish, like all wrasses, swim using primarily their pectoral fins with little or no tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. Spanish hogfish change patterns as they go through juvenile, initial, and terminal maturation phases. They start with a bright yellow body except for a dark “cape” covering their upper body from the nose almost to the end of the dorsal fin. As they age, the yellow coloration gives way to dark gray-purple, until the mature terminal phase is almost all dark with little yellow remaining. The body shape remains generally the same as they age, with a pointed snout and long tips of the dorsal and anal fins that give the fish an almost rectangular shape. The tail fin margin is often irregular or ragged.

NOTE: Very small individuals may be seen engaging in cleaning behavior with larger, often predatory, fishes.

**Relative frequency:** ● ● ● ● ● Common—seen often, greater than 50% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Spotfin Hogfish (*Bodianus pulchellus*)

The spotfin hogfish and the Spanish hogfish have the same body shape and similar combinations of dark and yellow coloration. Only the spotfin shows white as a stripe from the chin towards the tail.



Juvenile (top), initial phase female (second), and terminal phase male (bottom two images) coloration of the Spanish hogfish. Larger (male) individuals generally have less yellow.

## SharkCam Fishes



### **Spotfin Hogfish**

*Bodianus pulchellus* (Poey, 1860)

Labridae



#### **Distinguishing characteristics:**

Spotfin hogfish, like all wrasses, swim using primarily their pectoral fins with little or no tail movement. They have a pointed snout and long tips on the dorsal and anal fins that give the fish an almost rectangular shape. Also like other wrasses, spotfin hogfish change color patterns as they go through juvenile, initial, and terminal maturation phases. Only the terminal phase has been seen on SharkCam.

The terminal phase spotfin hogfish seen on SharkCam has a dark body with a white stripe that starts wide at the chin and narrows towards the tail. The end of the dorsal fin, upper part of the tail base, and the tail are bright yellow. The fish may have a white stripe that runs from the mouth, up the nape, and across the back.



A search of reference books or the web will produce images of spotfin hogfish that show the body being bright red instead of dark brown or black. These are pictures taken above the surface of the water, or in water less than 15 feet deep (4.5 meters), or in deeper water using artificial lighting, or are an artist's rendering using such images. Water at the depth of SharkCam, about 50 feet (about 15 meters), screens out all of the red and much of the orange portion of sunlight, leaving whatever colors the rest of the spectrum shows. This is why spotfin hogfish bodies look dark and not red on SharkCam.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Spanish Hogfish (*Bodianus rufus*)

The Spanish hogfish and the spotfin hogfish have the same body shape and similar combinations of dark and yellow coloration. The Spanish hogfish shows no white, as the spotfin does in its stripe from the chin towards the tail.



## SharkCam Fishes



### Redband Parrotfish

*Sparisoma aurofrenatum*

(Valenciennes in Cuvier and Valenciennes, 1840)

Scaridae



#### Distinguishing characteristics:

Parrotfish swim primarily using their pectoral fins with little tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. From the side they are oval shaped. Parrotfish change color patterns as they go through juvenile, initial, and terminal maturation phases.

There has been no confirmed sighting of a juvenile-phase redband parrotfish on SharkCam.

**Initial phase:** Redband parrotfish on SharkCam show two basic color and marking variations. The first variation is dark with two white stripes running the length of the body. The second variation looks mottled with dark and lighter tones of gray-green and no white stripes. As the fish transition from one variation to the other, various combinations of stripe intensity, length, and number occur. Regardless of the variation or transition, a white saddle or spot is always visible behind the dorsal fin just forward of the tail. The lighter colored anal fin always shows dark spots.

**Terminal phase:** Redbands on SharkCam show little color or marking variation. They generally appear gray-green above the midline and yellowish-white below and around the base of the tail, masking the saddle. The tail is light colored with dark borders on the top, bottom, and end. A distinct line with darker tones above and lighter tones below begins as the corner of the mouth, passes under the eye, and terminates near the gill opening. In good light, the anal fin and tail borders will show hints of red.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Striped Parrotfish (*Scarus iseri*), Princess Parrotfish (*Scarus taeniopterus*), Stoplight Parrotfish (*Sparisoma viride*), Yellowtail Parrotfish (*Sparisoma rubripinne*)

Initial phases of other parrotfish species may be mistaken for the redband parrotfish. The yellowtail parrotfish is the only other species on SharkCam that shows a white saddle across the base of its tail. As its name implies, this species has a yellow tail, a feature redbands do not have. The stoplight parrotfish has a similar swimming style and silhouette but, unlike the redband parrotfish, has a white bar across the middle of its tail and three roughly horizontal rows of white spots on its body. Initial phase striped and princess parrotfishes share a striped appearance similar to the initial phase redband parrotfish but lack the white saddle behind the dorsal fin.



Initial phase variations (top two images),  
terminal phase variations (bottom two images)



## SharkCam Fishes



### Princess Parrotfish

*Scarus taeniopterus* Desmarest in Bory de Saint-Vincent, 1831

Scaridae



#### **Distinguishing characteristics:**

Parrotfish swim primarily using their pectoral fins with little tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. They are oval shaped from the side and change color patterns as they go through juvenile, initial, and terminal maturation phases. On SharkCam, there has been no confirmed sighting of a juvenile or terminal phase princess parrotfish.

**Juvenile/initial phase:** The body has three brownish-black stripes, two white stripes and a white belly. Near the camera, thin silver stripes may be visible on the belly. The borders of the tail will be dark. During the transition to initial phase, the body has a brownish color with dark stripes that are less distinct than the juvenile phase. During maturation, stripes fade and become brown while the fins may become yellowish. The borders of the tail will be dark.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** initial phase Striped Parrotfish (*Scarus iseri*), initial phase Redband Parrotfish (*Sparisoma aurofrenatum*)

The initial phase striped parrotfish is very similar to initial phase princess parrotfish. They are distinguished by the lack of dark borders on the tail fin of striped parrotfish, and will often have a yellow smudge on the nose. Generally the fins and body will have a yellowish tint, relative to the “cleaner” dark brown and white of the initial phase princess parrotfish. Striped and princess parrotfishes of similar size often associate together in small groups. Late initial phase princess parrotfish stripes tend to fade and become less defined, similar to the initial phase redband parrotfish. Redband parrotfish, regardless of the variation or transition, will have a white saddle or spot visible just ahead of the tail and the lighter colored anal fin always shows dark spots.



## SharkCam Fishes



### **Striped Parrotfish** *Scarus iseri* (Bloch, 1789) Scaridae



#### **Distinguishing characteristics:**

Parrotfish swim primarily using their pectoral fins with little tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. They are oval shaped from the side and change color patterns as they go through juvenile, initial, and terminal maturation phases.

**Juvenile/initial phase:** The body has three brownish-black stripes, two white stripes and a white to yellow belly. Near the camera thin, broken yellow to brown stripes may be visible on the belly. The borders of the tail will be clear. During the transition to initial phase, the body has a brownish color with dark stripes that are less distinct than the juvenile phase. A yellow smudge is often present on the nose and the body and fins may have a yellowish tint.

**Terminal phase:** Mature male striped parrotfish are green to blue with indistinct pink on the face and ventral body. They will typically have a mid-body yellow blotch, beginning at the pectoral fin and extending a short distance toward the tail. A black spot may be visible at the corner of the gill cover.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** initial phase Princess Parrotfish (*Scarus taeniopterus*), initial phase Redband Parrotfish (*Sparisoma aurofrenatum*)

The initial phase princess parrotfish is very similar to initial phase striped parrotfish. They are distinguished by the dark borders on the tail fin of princess parrotfish. Striped and princess parrotfishes of similar size often associate together in small groups. Late initial phase striped parrotfish stripes tend to fade and become less defined, similar to the initial phase redband parrotfish. Redband parrotfish, regardless of the variation or transition, will have a white saddle or spot visible just ahead of the tail and the lighter colored anal fin always shows dark spots.



Initial phase variations (top two images), terminal phase variations (bottom two images)

## SharkCam Fishes



### Stoplight Parrotfish

*Sparisoma viride* (Bonnaterre, 1788)  
Scaridae



#### **Distinguishing characteristics:**

Parrotfish swim primarily using their pectoral fins with little tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. They are oval shaped from the side and change color patterns as they go through juvenile, initial, and terminal maturation phases.

On SharkCam, there has been no confirmed sighting of a juvenile- or terminal-phase stoplight parrotfish. SharkCam initial phase stoplight parrotfish is dark with a white bar across the middle of its tail and three roughly horizontal rows of white spots on its body. The spots are similar in size to the large scales of the parrotfish. Depending on proximity and lighting, additional white spots may also show.

A search of reference books or the web will produce images of initial phase stoplight parrotfish that show varying amounts of red coloration. These are images made above the surface of the water, or in water less than 15 feet deep (4.5 meters), or in deeper water using artificial lighting, or are an artist's rendering using such images. Water at the depth of SharkCam, about 50 feet (about 15 meters) screens out all of the red and much of the orange portions of sunlight, leaving whatever colors the rest of the spectrum shows. This is why initial phase stoplight parrotfish show no red on SharkCam.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Redband Parrotfish (*Sparisoma aurofrenatum*), Yellowtail Parrotfish (*Sparisoma rubripinne*)

Other parrotfish seen on SharkCam, redband parrotfish and yellowtail parrotfish, have a similar swimming style and body silhouette as the stoplight parrotfish but no other species seen on SharkCam has a white bar across the middle of its tail like the stoplight parrotfish.



## SharkCam Fishes



### Yellowtail Parrotfish

*Sparisoma rubripinne* (Valenciennes in Cuvier and Valenciennes, 1840)

Scaridae



#### **Distinguishing characteristics:**

Parrotfish swim primarily using their pectoral fins with little tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. They are oval shaped from the side and change color patterns as they go through juvenile, initial, and terminal maturation phases. On SharkCam, there has been no confirmed sighting of a juvenile- or terminal-phase yellowtail parrotfish.

SharkCam initial phase yellowtail parrotfish are gray to pink with a squared off yellow tail. There is a white marking, called a “saddle,” across the top of the base of the tail (the white saddle does not encircle the tail base), and there are three or four white spots along the top of the body, next to the dorsal fin. Close up, the large scales on the side show rows of alternating dark and light gray tones. Occasionally, a yellowtail shows a white stripe on its side.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Redband Parrotfish (*Sparisoma aurofrenatum*)

The redband parrotfish is the only other SharkCam species that shows a white saddle across the base of its tail. The redband does not have a yellow tail. Other SharkCam species have yellow tails but do not swim like a parrotfish.





**HEAVY BODIES/LARGE LIPS (11)**

Sea Basses and Groupers–Serranidae

Black Grouper

Black Sea Bass

Gag

Greater Soapfish

Goliath Grouper

Graysby

Scamp

Whitespotted Soapfish

Wrasses–Labridae

Hogfish

Tautog

Cobia–Rachycentridae

Cobia

## SharkCam Fishes



### Gag

*Mycteroperca microlepis* (Goode and Bean, 1879)  
Serranidae



#### Distinguishing characteristics:

From the side the gag has the typical grouper body shaped like an elongated oval with a protruding lower lip. The body has many dark markings that form no pattern and are often called “wormy.” The markings are difficult to see if the fish is dark colored or in silhouette. The tail is squared off or slightly convex, and the pectoral and anal fins are rounded. Close up, short dark lines can be seen radiating from the eye. This is the grouper seen most frequently on SharkCam.

NOTE: Gag color and pattern differences are related to social behaviors. See the Additional Information entry and <https://youtu.be/yFKheZy5kqo>.

**Relative frequency:** ● ● ● ● Frequent—seen in 50% to 20% of visits

**Relative size:** ○ ○ ○ ○ Large (0.5–1 m or 20–39 in)

**Similar species:** Black grouper (*Mycteroperca bonaci*), Goliath Grouper (*Epinephelus itajara*), Scamp (*Mycteroperca phenax*), Cubera Snapper (*Lutjanus cyanopterus*)

Gag are frequently seen on SharkCam and the only other relatively abundant grouper is the scamp (Occasional—seen in 10% to 20% of visits). In contrast, few black or goliath grouper have been seen on SharkCam. Gag and black grouper are easily mistaken, especially at a distance from the camera as their body shapes and silhouettes are very similar. In good light black grouper are distinguished from gag by the dark band on the caudal fin margin for black grouper and by the presence of white edges to the pectoral and anal fins on gag. Patterns on the body are formed by lighter lines and blotches in black grouper, while lines and blotches on gags are formed by darker areas.

The rear edge of the scamp anal fin is straight with an elongated tip, in contrast to the rounded margin of the gag anal fin. The body of the adult scamp is covered with dark dots that tend to form lines on the lower part and roughly shaped rings on the upper, rings that are sometimes called “cat’s paws.” The markings are difficult to see if the fish is dark colored or in silhouette but the differently shaped tails and anal fins still distinguish the species at distance. Young scamps have squarer tails like the gag but have body markings and a straight rear edge of the anal fin like the adult scamp.

Cubera snappers have a similar body shape but do not have the protruding lower lip and their canine teeth are typically visible. Either they have no body markings or they have bars.



## SharkCam Fishes



### Black Grouper

*Mycteroperca bonaci* (Poey, 1860)  
Serranidae



#### **Distinguishing characteristics:**

Black grouper have the typical grouper body shape, with a relatively thick, oval body cross section, and a protruding lower lip. Color and pattern are variable and able to change quickly. The body colors typically are brown, olive, and gray, often including a yellowish hue with dark brown to black edges on fins. Darker fins are especially apparent as a dark band at the edge of the caudal fin and dark edges on the second dorsal fin and anal fin. If visible, the pelvic fins will show a similar dark edge. Patterns on the body are variable, but when present are distinct. They often appear as irregular blotches and wavy lines formed by lighter areas. A close approach to the camera may reveal that the lighter lines are composed of small, light spots.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in) to Large (0.5–1 m or 20–39 in)

**Similar species:** Gag (*Mycteroperca microlepis*), Goliath Grouper (*Epinephelus itajara*), Scamp (*Mycteroperca phenax*), Cubera Snapper (*Lutjanus cyanopterus*)

Few black grouper have been seen on SharkCam, and they are easily mistaken, especially at a distance from the camera, for gag, as their body shapes and silhouettes are very similar. In good light black grouper are distinguished from gag by the dark band on the caudal fin margin and by the lack of white edges to the pectoral and anal fins. Patterns on the body are formed by lighter lines and blotches in black grouper, while lines and blotches on gags are formed by darker areas.

The goliath grouper will always have a much deeper body than black grouper and gag, while the scamp tends to be thinner in cross section than any of the other species. Scamp are also distinguished by other reliable characteristics like the caudal and anal fin margin shapes, and goliath grouper have a clearly rounded caudal fin. A feature that the other large groupers do not have.

Cubera snappers have a similar heavy body shape but are more deep bodied and they do not have the protruding lower lip of groupers. They are more compressed in cross-section relative to black grouper.



## SharkCam Fishes



### Goliath Grouper

*Epinephelus itajara* (Lichtenstein,  
1822)

Serranidae



#### **Distinguishing characteristics:**

The goliath grouper body is deep and wide, appearing oval shaped from the side, and shows the typical grouper protruding lower lip. The tail is rounded. Irregularly shaped dark bars show on the light-colored bodies and tails of smaller fish but lose their definition, becoming mottled blotches starting at the front, as the fish grows.

**Relative frequency:** ● Rare—seen in less than 1% of visits

NOTE: Goliath grouper have been closed to harvesting in the US southeast since 1990. Their populations have rebounded somewhat in the region in recent years.

**Relative size:** ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** Gag (*Mycteroperca microlepis*), Scamp (*Mycteroperca phenax*), Cubera Snapper (*Lutjanus cyanopterus*)

Gags and scamps have the same body shape, but are substantially less deep bodied than the goliath grouper. All possess the protruding lower lip of the goliath grouper, but neither gag nor scamp have a rounded tail. Cubera snappers have a similar body shape but do not have the protruding lower lip or rounded tail, and are more compressed in cross-section.



## SharkCam Fishes



### Scamp

*Mycteroperca phenax* Jordan and Swain, 1884  
Serranidae



#### Distinguishing characteristics:

From the side the scamp has the typical grouper body shaped like an elongated oval with a protruding lower lip. Smaller scamp have roughly squared-off tails but as they grow the tips of their tail become elongated into what are called “exserts.” The tail’s trailing edge can be marginally scalloped, with the upper and lower portions slightly convex and the middle portion slightly concave. The rear edge of the scamp anal fin is straight and develops an elongated tip as the fish grows.

On SharkCam, scamp bodies have been moderately dark, generally olive green to brown, with darker markings and fins. The markings can be all dots, dots aggregated to form tightly spaced and irregular short lines, dots that form roughly shaped rings (called “cat’s paws”) or rectangles, or some combination. The markings are difficult to see if the fish is dark colored or is in silhouette. The back edge of the upper jaw and the lower lip may show a yellowish blush in good lighting.

NOTE: Color and pattern differences in scamp are related to social behaviors. See the [Additional Information](#) entry.

**Relative frequency:** ● ● ● Occasional—seen in 10% to 20% of visits

**Relative size:** ○ ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in) to Large (0.5–1 m or 20–39 in)

**Similar species:** [Gag \(\*Mycteroperca microlepis\*\)](#), [Goliath Grouper \(\*Epinephelus itajara\*\)](#), [Cubera Snapper \(\*Lutjanus cyanopterus\*\)](#)

The gag and the goliath grouper have similar body shapes and protruding lower lips as the scamp. The gag has a square tail and the goliath grouper has a rounded tail, neither tail having the elongated tips of the adult scamp. Gags have square tails like the young scamp but “wormy” markings rather than the scamp’s “cat’s paw” markings, and a rounded anal fin with no straight edge like the scamp.

Cubera snappers have a similar body shape but do not have the protruding lower lip. Their canine teeth are typically visible. They have square tails with no elongated tips, and they lack body markings or they have bars.



Dark phase individual with tail exserts (top two images), spotted phase (middle), and cat’s paw phase (bottom two images).

## SharkCam Fishes



### Graysby

*Cephalopholis cruentata* (Lacepède,  
1802)  
Serranidae



#### Distinguishing characteristics:

The graysby shares the general characteristics of the groupers and sea basses, including an oval-shaped, stout body, a rounded body cross section, and a protruding lower lip. The mouth is large if opened and the eyes are set relatively high on the head and slightly protuberant. The tail is distinctly rounded relative to other groupers. Pectoral fins are rounded and often held out away from the body. These are used for close maneuvering near the bottom.

Coloration on SharkCam has usually been very dark with little apparent body color or pattern. Three to five dark spots are present along the bottom of the dorsal fin. Close approach to the camera may reveal lighter streaks on the head that appear to radiate from the eye towards the gill cover and a multitude of small, darker (orange-red in good light) spots completely covering the head, fins, and body. The body background can vary from light to dark. Rarely, three white spots can be seen below the dorsal fin at the edge of the back. See [this video](#) for an example of color and pattern changing in graysby.

Graysby are likely to only be seen in close association to the bottom, and typically near overhanging cover.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Black Sea Bass (*Centropristis striata*), Whitespotted Soapfish (*Rypticus maculatus*), Greater Soapfish (*Rypticus saponaceus*)

The graysby shares the grouper and sea bass characteristics with black sea bass and the soapfishes, all also members of the Serranidae.

It differs from the black sea bass in that the bass will always show body patterning, frequently including light saddles across the back of the body, and white edges to the dorsal and tail fins. The black sea bass tail will be squared or display a scalloped pattern, and it is often held relaxed or closed when close to the bottom, never rounded like the graysby. Graysby are unlikely to be seen off-bottom.

The whitespotted and greater soapfish are similar to the graysby in their dark coloration and close affinity for the bottom and overhanging cover. The whitespotted soapfish will have numerous small, lightly colored spots or freckles along the flanks, and the greater soapfish body is likely to be black and gray. The heads of both soapfishes appears small and pointed relative to the more symmetrical head of the graysby. When viewed from above or face-on the soapfishes are noticeably thin, relative to the rounded body of the graysby.



## SharkCam Fishes



### Greater Soapfish

*Rypticus saponaceus* (Bloch and Schneider, 1801)

Serranidae



#### **Distinguishing characteristics:**

With their large dorsal and anal fins, greater soapfish are wedge-shaped, like a door stop, with a rounded tail. The head is small and has a slightly protruding lower lip, characteristic of the family Serranidae. The body profile is very narrow. They are dark charcoal to light gray, with the face and rear  $\frac{1}{3}$  to  $\frac{1}{2}$  of the body often darker than the forward and mid-body sections. Light and dark gray mottling or fine streaks of these tones may be apparent. Swimming, the fish looks sinuous, wriggling much of its body. It will nearly always be strongly associated with the bottom and typically an overhanging shelter. This species is nocturnal and is most likely to be seen early in the morning and late in the afternoon.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Whitespotted Soapfish (*Rypticus maculatus*),  
Cubbyu (*Pareques umbrosus*)

The body silhouette and habits of the whitespotted soapfish are very similar to the greater soapfish. In comparison to the charcoal to light gray of the greater soapfish, the whitespotted soapfish is typically smaller, more frequently seen, and will show hints of brown to tan. A light dorsal stripe from the lips and up the head between the eyes and distinct white spots on the flanks clearly distinguish the whitespotted soapfish from the greater soapfish.

The cubbyu is another dark fish that is frequently seen at the bottom. The cubbyu tends to be more of a social fish than the soapfishes, often seen in groups of four to eight. The soapfishes lacks the distinctive first dorsal fin of the cubbyu.



## SharkCam Fishes



### Whitespotted Soapfish

*Rypticus maculatus* Holbrook, 1855  
Serranidae



#### **Distinguishing characteristics:**

With their large dorsal and anal fins, whitespotted soapfish are wedge-shaped, like a door stop, with a rounded tail. The body profile is very narrow. They are dark brown to golden colored, slightly paler underneath, and may have a light stripe that runs from the mouth, between the eyes, and up the back to the dorsal fin. Up close, randomly placed small white spots may be seen on the flanks, and in good light, the fish will appear dark brown with lighter tan to cream on the dorsal stripe.

Swimming, the fish looks sinuous, wriggling much of its body. It will nearly always be strongly associated with the bottom and typically an overhanging shelter.

NOTE: Videos from winter 2015 until spring 2016 (see SharkCam videos below) appear to show whitespotted soapfish engaging in cleaner fish behavior with client groupers. Please report instances of this or similar behaviors by whitespotted soapfish.

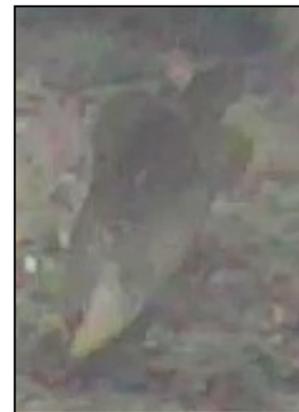
**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Greater Soapfish (*Rypticus saponaceus*),  
Cubbyu (*Pareques umbrosus*)

The body silhouette and habits of the greater soapfish are very similar to the whitespotted soapfish. The greater soapfish is typically larger, less frequently seen, and has charcoal to light gray body colors, while the whitespotted soapfish shows hints of brown to tan. Greater soapfish lack a light dorsal stripe lips and also lack distinct white spots on the flanks. The body pattern of the greater soapfish, if present, is less distinct and clearly distinguishes the greater soapfish from the whitespotted soapfish.

The cubbyu is another all-dark fish that is frequently seen at the bottom. The cubbyu tends to be more of a gregarious than the soapfishes, often seen in groups of four to eight. The soapfishes lacks the distinctive first dorsal fin of the cubbyu.



## SharkCam Fishes



### Black Sea Bass

*Centropristis striata* (Linnaeus, 1758)  
Serranidae



#### Distinguishing characteristics:

Black sea basses swim primarily using their large pectoral fins with little or no tail movement. From the side, they are oval-shaped and mostly black. Close up, their bulging eyes are apparent. Their tails have white borders on the top and bottom and are roughly truncate with an irregular, often convex, edge, except for large individuals that start to develop caudal fin extensions from the tips and center, giving the appearance of a three-lobed or scalloped tail. They tend to swim with their tails relaxed, closed, and with a humped-back profile. Their dorsal fins have white tips. In the right lighting and proximity to the camera, they show narrow white stripes that run from the head to the tail. Juveniles and smaller females may appear more dark brown than black and often have indistinct lighter saddles across the dorsal surface.

The lips and especially the protruding lower jaw are prominent, a similarity with other members of family Serranidae, the groupers and sea basses. Adult males will often have a lighter gray head and, during breeding season, a noticeable forehead bump called a nuchal lump.

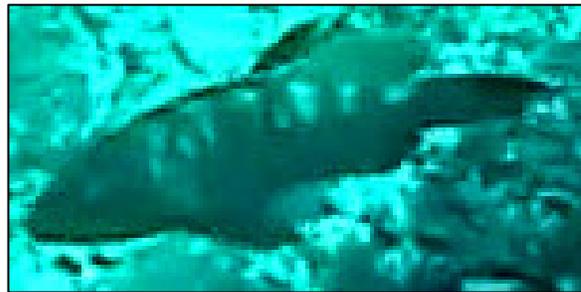
**Relative frequency:** ● ● ● ● Frequent—seen in 50% to 20% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Graysby (*Cephalopholis cruentata*), Tautog (*Tautoga onitis*)

The graysby shares characteristics of the family Serranidae with the black sea bass and both will frequently be seen moving near the bottom. The graysby lacks white edges to the dorsal and tail fins and will never have light colored saddles across the back.

The tautog shares several characteristics with the black sea bass: swimming style, gray, brown or black body, and white highlights on the long dorsal fin and tail. The tautog is typically longer and stockier than the black sea bass and has prominent lightly colored lips and chin. The tautog does not have white stripes like the black sea bass.



Adult males showing slight nuchal lump (images 2 and 3), females showing light saddles (bottom two images)



## SharkCam Fishes



### **Hogfish** *Lachnolaimus maximus* (Walbaum, 1792) Labridae



#### **Distinguishing characteristics:**

Hogfish, like all wrasses, swim using primarily their pectoral fins with little or no tail movement. Also like other wrasses, hogfish change color patterns as they go through juvenile, initial, and terminal maturation phases. No juvenile hogfish have been seen on SharkCam.

Initial and terminal phase hogfish are shaped similarly, but the terminal phase has a much exaggerated snout. Long tips to dorsal and anal fins give hogfish a slightly rectangular shape. The body is broad with a face that comes to a point and slopes back to the dorsal fin in almost a straight line. The angle of the slope of the head is greater in smaller (typically female) fish, and becomes more acute as fish transition to terminal phase males. The tail is almost as tall as the body and has long tips. Although not always visible, the first three spines on the dorsal fin are very long. Coloration on SharkCam ranges from white in large, adult males to light brown in smaller fish, with or without mottling. Large individuals have a distinct dark brown snout and forehead that appears black. Darker coloration and mottling in smaller fish can make it difficult to see body markings that distinguish initial and terminal phases. In natural light, hogfish are distinctly orange to pink.

**Initial phase**—Initial phase hogfish have a black blotch on the rear base of the dorsal fin, and none of the terminal-phase markings.

**Terminal phase**—Terminal phase hogfish have a black bar on the base of their tail and a black spot on their side. The black blotch from the initial phase fades and is replaced by a black stripe at the base of the dorsal fin. On large individuals, the snout becomes elongated like a pig's, hence the common name.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in) to Large (0.5–1 m or 20–39 in)

**Similar species:** Blue Angelfish (*Holacanthus bermudensis*), Queen Angelfish (*Holacanthus ciliaris*)

Hogfish and blue and queen angelfish have similar silhouettes: broad bodies with trailing dorsal and anal fins that give the fish a roughly rectangular shape, but the angelfishes have a small “face” that is clearly distinct from the much larger hogfish head. Unlike the hogfish, the angelfish swim using primarily their tails, which are relatively small with no trailing tips.



Initial phase variations (top three images), transitional phase (fourth image), terminal phase (bottom two images)



## SharkCam Fishes



### Tautog

*Tautoga onitis* (Linnaeus, 1758)  
Labridae



#### **Distinguishing characteristics:**

Like other wrasses, the tautog swims using primarily its pectoral fins with little or no tail movement. From the side, the body is shaped like an elongated oval with a bluntly rounded head. SharkCam males have had gray-black bodies with contrasting light colored chin and lips. The dorsal fin tips are white and the tail has white edges on the top and bottom. Some individuals have light colored underparts and some have a white spot in the middle of the sides.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in) to Large (0.5–1 m or 20–39 in)

**Similar species:** Black Sea Bass (*Centropristis striata*)

The black sea bass shares several characteristics with the tautog: swimming style, dark body, and white highlights on the long dorsal fin and tail. The bass is not elongated like the tautog and does not have light colored lips and chin. The bass has narrow white stripes on the body that run from the head to the tail and are visible close up; the tautog has none.



## SharkCam Fishes



**Cobia**  
*Rachycentron canadum*  
(Linnaeus, 1766)  
Rachycentridae



**Distinguishing characteristics:**

From the side, a cobia is elongated and thick-bodied with a rather pointed, flattened head. It has a large, shallowly forked tail with sharp tips, and a triangular dorsal fin. The cobia body and fin coloration is dark, although it may have some lighter tones underneath. The cobia swims with its dorsal fin erect and its large pectoral fins outstretched and horizontal. When excited, thick, high contrast dark and light stripes may be present running the length of the body.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ ○ ○ Large (0.5–1 m or 20–39 in) to Very large (>1 m or >39 in)

**Similar species:** Sharksucker (*Echeneis naucrates*), Whitefin Sharksucker (*Echeneis neucratoides*), Rainbow Runner (*Elaqatis bipinnulata*), Greater Amberjack (*Seriola dumerili*)

A cobia could be mistaken for some species of shark, due to its elongated shape, forked tail, pointed fins and tail lobes, erect dorsal fin, and outstretched, horizontal pectoral fins. SharkCam shark species, however, do not have symmetrical tails like the cobia. Instead, the upper lobe of the sharks' tail is much larger than the lower lobe, being a significant portion of the sharks' length.

Sharksuckers (genus *Echeneis*) resemble cobia in their elongated shape, typically dark coloration, and symmetrical tails. However, the forward portion of the dorsal fin on sharksuckers (the portion above the eyes) is modified into a sucking disc that allows them to attach to larger animals. Sharksuckers seen on SharkCam are typically much smaller than the typical cobia, and are most often seen attached to or in tight association with a larger fish or turtle. Cobia are sometimes seen associated with large rays or sharks and can be easily mistaken for a large sharksucker.

The rainbow runner and the greater amberjack have body shape similar to the cobia but their tails are more deeply forked, their heads are not flattened, and neither swim with outstretched pectoral fins.





**SLOPING HEADS AND TAPERED BODIES (16)**

Grunts–Haemulidae

Black Margate

Porkfish

Striped Grunt

Tomtate

White Grunt

Snappers–Lutjanidae

Cubera Snapper

Gray Snapper

Vermilion Snapper

Yellowtail Snapper

Drums–Sciaenidae

Red Drum

Porgies–Sparidae

Knobbed Porgy

Red Porgy

Saucereye Porgy

Scup

Sheepshead

Spottail Pinfish

## SharkCam Fishes



### Cubera Snapper

*Lutjanus cyanopterus* (Cuvier in Cuvier and Valenciennes, 1828)

Lutjanidae



#### Distinguishing characteristics:

From the side, the cubera snapper is shaped like an oval with a square tail. The lips are large and the lower lip does not protrude beyond the upper. Usually there are no distinctive body markings. However, some individuals can show bars. These bars are generally confined to the upper half of the body. Up close, the cubera's large canine teeth often show even if the mouth is closed.

A search of reference books or the web will produce images of cuberas that show varying amounts of rusty red and orange coloration. These are images made in full spectrum light or with a color filter applied to the camera.

**Relative frequency:** Unmarked individuals: ● ●  
Uncommon—seen in 1% to 10% of visits; Barred individuals:  
● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ ○ Large (0.5–1 m or 20–39 in)

**Similar species:** *Gag* (*Mycteroperca microlepis*), *Gray Snapper* (*Lutjanus griseus*)

The gag has a similar body and tail shape and large lips, and its body is often dark with darker fins. However, the grouper's protruding lip is a feature the cubera does not have. When lighter colored, the grouper's body shows short, dark, squiggly lines that the cubera does not have.

The gray snapper and the cubera have similar body and tail shapes consistent with their inclusion in the genus *Lutjanus*. SharkCam gray snappers have all had light gray colored bodies, unlike the darker cubera. They also often show a nuchal mark, a feature the cubera does not have.



## SharkCam Fishes



### Gray Snapper

*Lutjanus griseus* (Linnaeus, 1758)

Lutjanidae



#### **Distinguishing characteristics:**

From the side, the gray snapper is shaped like an oval with a sloped forehead and a square tail. On SharkCam, the body has been light gray. Fin coloration can vary between light gray like the body to a very dark tone. There is a dark ring around the eye, which, against the light-colored body, makes the eye look large. Gray snapper often show a black band running from the mouth, through the eye, and up to the shoulder (above the base of the pectoral fin). This band is called a nuchal mark and can lighten to be almost nonexistent or darken dramatically. When dark, the band obscures the eye ring.

NOTE: A frequently used alternative common name for the gray snapper is mangrove snapper. This usage is very prevalent in North and South Carolina.

**Relative frequency:** ● ● ● Occasional—seen in 10% to 20% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Cubera Snapper (*Lutjanus cyanopterus*)

The cubera snapper and the gray snapper have similar body and tail shapes. SharkCam gray snappers have all had light gray colored bodies, unlike the darker cubera. Cubera lips are more prominent than the gray's, and the cubera does not show a nuchal mark. On SharkCam, cuberas look more robust, chunkier, than grays, and if close to the camera, may show protruding canine teeth.



When in use, SharkCam's color filter will show that gray snapper have hints of orange and brown as part of body coloration.



## SharkCam Fishes



### **Vermilion Snapper**

*Rhomboplites aurorubens* (Cuvier in Cuvier and Valenciennes, 1829)

Lutjanidae



#### **Distinguishing characteristics:**

From the side a vermilion snapper is shaped like an elongated oval with a shallowly forked tail and a large eye. The diameter of the eye is equal to the distance between it and the snout. The body and fins are generally a dull grey-green color, or, if the color filter on SharkCam is active, vermilion snapper may be pink to red with the back darker. Close up, a slightly protruding lower lip is visible.

A search of reference books or the web will produce images of vermilion snappers that show varying amounts of vermilion (brilliant red) and pink coloration. These are pictures taken under full-spectrum lighting or with the colors adjusted. SharkCam currently has a color correction filter applied to the stream so some images may show clear pink or red color, while vermilion snapper seen in older footage will appear as gray-green.

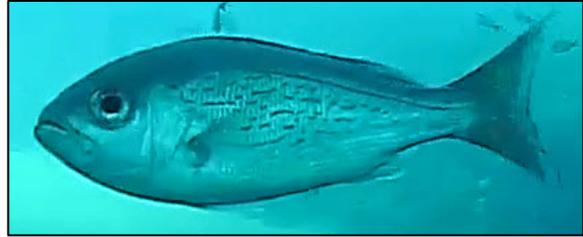
NOTE: A frequently used alternative common name for the vermilion snapper is beeliner.

**Relative frequency:** ● ● ● ● Frequent—seen in 50% to 20% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Bigeye Scad (*Selar crumenophthalmus*)

The bigeye scad has a similar body shape, apparent coloring, and large eye but has a deeply forked tail. Bigeye scad will almost always be in large schools, often mixed with another small jack, the round scad. Vermilion snappers will usually be in much smaller groups or seen individually. When seen together, the vermilion snapper is noticeably larger than the bigeye scad.



## SharkCam Fishes



### Yellowtail Snapper

*Ocyurus chrysurus* (Bloch, 1791)

Lutjanidae



#### **Distinguishing characteristics:**

From the side, the yellowtail snapper is oval shaped with a deeply forked tail that has pointed lobes. The body is light colored with a stripe that starts as yellow at the tail and becomes darker towards the eye. Good lighting and a close approach to the camera may reveal the presence of small yellow spots above the midline stripe.

**Relative frequency:** ● ● ● Occasional—seen in 10% to 20% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Horse-eye Jack (*Caranx latus*), Yellow Jack (*Caranxoides bartholomaei*)

A horse-eye jack has a similar shape, light body coloring, and a forked yellow tail with pointed lobes. Unlike the yellowtail snapper, the horse-eye jack has no yellow stripe but has a narrow dark stripe that runs from the tail about half way to the mouth and has a large eye.

A yellow jack also has a similar shape, light body coloring, and a forked yellow tail with pointed lobes. Unlike the yellowtail snapper, the yellow jack has no yellow stripe.



## SharkCam Fishes



### **Knobbed Porgy**

*Calamus nodosus* Randall and  
Caldwell, 1966  
Sparidae



#### **Distinguishing characteristics:**

The knobbed porgy has an oval-shaped body with a sharp hump between its face and back profiles where they join. The highest part of its body, the hump, is forward of the body's centerline, approximately above its pectoral fin. The profile of its face is roughly a straight line from its mouth to the hump, and the profiles of the face and underside form an approximately 60-degree angle. On SharkCam, the body and fin color is a silvery light gray that can develop darker gray bars. If seen close to the camera, small speckles and fine stripes of blue and yellow may be apparent, especially on the face.

Knobbed porgies, like other porgies, are often seen slowly swimming close to the bottom with frequent brief stops. This start and stop behavior is a hunting technique, and it helps distinguish porgies from other species.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Red Porgy (*Pagrus pagrus*), Saucereye Porgy (*Calamus calamus*), Scup (*Stenotomus chrysops*), White Grunt (*Haemulon plumieri*)

Three other porgies seen on SharkCam have somewhat similar body shapes and coloration, the red and saucereye porgies, and the scup. None has a back as sharply humped as the knobbed porgy. The profiles of the red porgy and scup faces are a gentle curve from mouth to back, and the profile of the saucereye porgy face is roughly a straight line from its mouth to a point even with its eye, where it makes a bend and continues straight across its nape to its back. These profiles differ from the steep, straight knobbed porgy profile. Finally, the red porgy is distinctly more elongated than the knobbed (and saucereye) porgy. Scup are the only porgy likely to be seen in a school. All others are typically alone, or seen near a few companions of the same species.

White grunts and knobbed porgies have similar body shapes, both fish have a facial profile that is roughly straight from the mouth to the back, and the grunt is often silvery gray like the porgy. The angle formed by the underside and face is less steep on the grunt than on the porgy, more like 45 degrees than 60 degrees, and the grunt does not show a prominent hump. When the white grunt shows its dark coloration, or when the porgy shows its bars, it is easy to distinguish the species. When the fish is silvery gray, the hump and the angle formed by the underside and face are the distinctive differences.



## SharkCam Fishes



### Red Porgy

*Pagrus pagrus* (Linnaeus, 1758)  
Sparidae



#### **Distinguishing characteristics:**

The red porgy has a slightly elongated oval-shaped body. The highest part of its back is forward of the centerline, approximately above its pectoral fin. The profile of its face is a gentle curve from its mouth to its back, where it continues curving to the base of its tail. On SharkCam, its body and fin color is a silvery, light gray that can develop darker gray bars.

Red porgies, like other porgies, are often seen slowly swimming close to the bottom with frequent brief stops. This start and stop behavior is a hunting technique, and it helps distinguish porgies from other species.

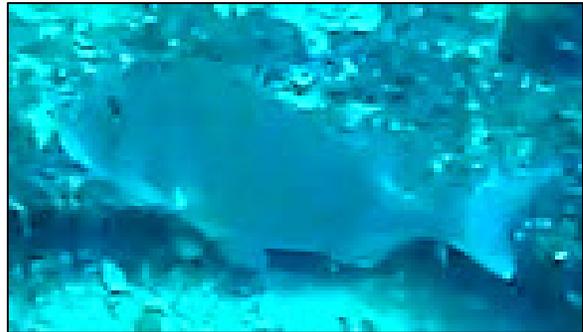
A search of reference books or the web will produce images of red porgies that show red coloration. These are images made above the surface of the water, or in water less than 15 feet deep (about 4.5 meters), or underwater using artificial lighting, or are an artist's rendering using such specimens. Water at the depth of SharkCam, about 50 feet (about 15 meters), screens out all of the red and much of the orange portions of sunlight, leaving whatever colors the rest of the spectrum shows. This is why red porgies are not red on SharkCam.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar Species:** Knobbed Porgy (*Calamus nodosus*), Saucereye Porgy (*Calamus calamus*), Scup (*Stenotomus chrysops*)

Three other porgies seen on SharkCam have somewhat similar body shapes and coloration, the knobbed and saucereye porgies, and the scup. The profile of the knobbed porgy face is a straight line from its mouth to its back. The profile of the saucereye face is a straight line from its mouth to a point even with its eye, where it makes a bend and continues straight across its nape to its back. Both these profiles differ from the smooth curve from the red porgy's mouth to its tail. The scup profile is most similar to the red porgy, but the scup body is less elongated. Unlike the red porgy, the knobbed porgy has a sharp hump where facial and back profiles meet, and the red porgy is more elongated than the saucereye porgy or scup species. Scup are the only porgy likely to be seen in a school. All others are typically alone, or seen with only a few companions of the same species.



## SharkCam Fishes



### **Saucereye Porgy**

*Calamus calamus* (Valenciennes in Cuvier and Valenciennes, 1830)

Sparidae

LC



#### **Distinguishing characteristics:**

The saucereye porgy has an oval-shaped body. The highest part of its back is forward of the body's centerline, approximately above its pectoral fin. The head profile is straight from its mouth to a point even with its eye, where it makes a bend and continues straight across its nape to its back. On SharkCam, the saucereye body and fin color is a silvery, light gray that can develop darker gray bars. Despite its name, the saucereye's eye is not larger than those of other porgies. Instead, a clear close-up will show a small, blue "saucer" (curved line) under the eye.

Saucereye porgies, like other porgies, are often seen slowly swimming close to the bottom with frequent brief stops. This start and stop behavior is a hunting technique, and it helps distinguish porgies from other species.

A search of reference books or the web will produce images of saucereye porgies that show pink coloration. These are pictures taken above the surface of the water, or in water less than 15 feet deep (about 4.5 meters), or in deeper water using artificial lighting, or are an artist's rendering using such specimens. Water at the depth of SharkCam, about 50 feet (about 14.5 meters), screens out all of the red and much of the orange portions of sunlight, leaving whatever colors the rest of the spectrum shows. This is why saucereye porgies are not pink on SharkCam.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Knobbed Porgy (*Calamus nodosus*), Red Porgy (*Paqrus paqrus*), Scup (*Stenotomus chrysops*)

Three other porgies seen on SharkCam have somewhat similar body shapes and coloration, the knobbed and red porgies, and the scup. The profile of the knobbed porgy head is a straight line from its mouth to its back. The profile of the red porgy head is a smooth curve from its mouth to the base of its tail. Both these profiles differ from that of the saucereye, which is roughly straight from the mouth to the eye and, with a bend there, straight across its nape to its back. The scup profile is a gentler slope, compared to the saucereye porgy (or knobbed porgy). Unlike the red porgy, the knobbed porgy has a sharp hump where facial and back profiles meet, and the red porgy is more elongated than the saucereye, knobbed porgy, or scup. Scup are the only porgy likely to be seen in a school. All others are typically alone, or seen with only a few companions of the same species.



## SharkCam Fishes



### Scup

*Stenotomus chrysops* (Linnaeus, 1766)  
Sparidae



#### **Distinguishing characteristics:**

The scup has the classical sloping head and tapered body of the porgies. The head to back profile is a gentle slope to the deepest portion of the body located in-line with the origin of the pectoral and pelvic fins. The body lacks distinguishing marks and will appear silvery-white in most light conditions. A close approach to the camera, or clear water, may reveal a blue patch over the eye. It shows up on the SharkCam as a white eyebrow that gives the fish a woebegone look.

Scup, like other porgies, are often seen slowly swimming close to the bottom with frequent brief stops. This start and stop behavior is a hunting technique, and it helps distinguish porgies from other species. All sightings of scup on SharkCam have been as parts of loosely aggregated schools of similarly sized individuals.

**Relative frequency:** ● Rare—seen in less than 1% of visits

NOTE: Scup are considered primarily northern and inshore fish that may undergo seasonal southward and deeper migration during the fall in order to overwinter offshore. This migration reverses in the spring. Scup have only been positively identified from SharkCam over a two-week period in May 2016.

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Knobbed Porgy (*Calamus nodosus*), Red Porgy (*Parus parus*), Saucereye Porgy (*Calamus calamus*), Spottail Pinfish (*Diplodus holbrookii*)

Three other porgies seen on SharkCam have somewhat similar body shapes and coloration, the knobbed, saucereye, and red porgies. The profile of the knobbed porgy head is a straight line from its mouth to its back. The profile of the red porgy head is a smooth curve from its mouth to the base of its tail, and both these profiles differ from that of the saucereye, which is roughly straight from the mouth to the eye and, with a bend there, straight across its nape to its back. The scup profile is a gentler slope compared to the saucereye porgy (or knobbed porgy). Unlike the red porgy, the knobbed porgy has a sharp hump where facial and back profiles meet, and the red porgy is more elongated than the saucereye, knobbed porgy, or scup. Scup are the only porgy likely to be seen in a school. All others are typically alone, or seen with only a few companions of the same species.

Scup may be mistaken for the spottail pinfish, as the head and back profile are similar between the species; however, spottail pinfish are more disc-shaped. Spottail pinfish will always have a distinctive dark blotch across the caudal peduncle composed of a wide, black band that encircles the base of the tail and a dark line that extends up the back and down the belly from the band.



## SharkCam Fishes



### Sheepshead

*Archosargus probatocephalus*  
(Walbaum, 1792)  
Sparidae



#### **Distinguishing characteristics:**

From the side, a sheepshead has an oval-shaped body that is light colored with a gray head and six to seven silvery-gray and gray-black alternating bars (zebra-like). The highest part of its back is forward of the body's centerline, approximately over its pectoral fins. Sheepsheads move rather sedately through the water. A close approach to the camera may reveal the strangely human-like teeth, used for scraping hard shelled prey, like barnacles and molluscs, from the tower legs or bottom.

**Relative frequency:** ● ● ● ● Frequent—seen in 50% to 20% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Sergeant Major (*Abudefduf saxatilis*), Atlantic Spadefish (*Chaetodipterus faber*), juvenile Banded Rudderfish (*Seriola zonata*)

Three other fish seen on SharkCam have dark bars: sergeant majors, Atlantic spadefish, and juvenile banded rudderfish. A sergeant major differs from the sheepshead by having only five bars and the highest point of a sergeant major's back is over the body's center line, and it seems to be constantly moving quickly, always busy. The sergeant major is very small compared to the sheepshead.

The Atlantic spadefish differs by being spade-shaped (triangular) and having a gray body. In addition, spadefish bars fade one by one with age, so they have varying numbers of bars.

The juvenile banded rudderfish differs by having an elongated body shape and a dark band, which runs from the mouth, across the eye, to the front of the dorsal fin.



## SharkCam Fishes



### Spottail Pinfish

*Diplodus holbrookii* (Bean, 1878)  
Sparidae



#### **Distinguishing characteristics:**

From the side, the spottail pinfish is shaped like an oval with a light colored silvery-gray body. When seen with ample light the body may have a golden sheen. A wide, black band encircles the base of the tail and a dark line extends up the back and down the belly from the band. Close up, narrow alternating dark and light stripes can be seen on the body. Depending on lighting conditions and proximity to the camera, faint vertical bars spaced evenly along the upper body may be present.

NOTE: This is the most frequently seen fish on SharkCam. It will be present in >95% of visits.

**Relative frequency:** ● ● ● ● ● Common—seen often, greater than 50% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Tomtate (*Haemulon aurolineatum*), Bermuda Chub (*Kyphosus sectatrix*)

Two species are often seen with the spottail pinfish, the tomtate and the Bermuda chub. The tomtate has a large, dark blotch at the base of its tail, similar to the spottail pinfish, but no dark lines extend up the back and down the belly and its body shape is more elongated (less tall). The Bermuda chub can be light colored like the pinfish but has no dark band or blotch at the base of its tail, is larger than the pinfish, and is slightly egg-shaped with its tail at the wider end (helpful when in silhouette).



## SharkCam Fishes



**Black Margate**  
*Anisotremus surinamensis*  
(Bloch, 1791)  
Haemulidae



**Distinguishing characteristics:**

Black margate are generically fish-like with the head sloping gently back to the dorsal fin. The body profile is noticeably deep with the greatest profile occurring behind the gill cover to the point where the dorsal fin begins. Body coloration is light to dark gray. Contrasting black, dark-centered, scales may be obvious at the high point of the body. A large black patch that blends into the gray body begins immediately behind the operculum and extends past mid-body towards the tail. It lightens and blends dorsally. The fins are all black, and the tail fin is deeply notched with rounded lobes.

**Relative frequency:** ● Rare—seen in less than 1% of visits

NOTE: Black margate are considered a tropical species not normally seen in North Carolina. Sightings in October 2018 are likely all of the same individual.

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** *White Grunt (Haemulon plumierii)*

From a distance, the black margate may be confused with the white grunt. Both may show prominent, dark-centered scales, especially on the dorsal surface, and both may appear to have a darker belly region. The slope of the head of the white grunt is straight-edged and joins the back at the dorsal fin in a straight line, while the forehead slope of the black margate has a gentle curve as it joins the back. The dark belly patch is prominent on the black margate while more a trick of the light or shadow in the white grunt. The snout of the black margate is rounded and short in comparison to the sharper and longer snout of the white grunt.



## SharkCam Fishes



**Porkfish**  
*Anisotremus virginicus*  
(Linnaeus, 1758)  
Haemulidae



**Distinguishing characteristics:**

From the side, the porkfish is roughly oval shaped, with a somewhat flattened underside and a steep forehead profile that is straight from the mouth to its highest point where the back meets the dorsal fin. The porkfish is notably deep bodied for a grunt.

Other grunts have a yellow sheen to their bodies, but the porkfish is the only one where bright yellow dominates the coloration, especially on the belly and tail. Two black bars run vertically and roughly demarcate the head from the body. The first is diagonal and runs from the rear edge of the mouth, through the eye, to the forehead. The second black bar is vertical, traces the rear edge of the opercula (gill openings), and extends to the back at the beginning of the yellow dorsal fin. A bright white, slightly triangular, bar separates the black bars.

Finer body details have not been seen on SharkCam as occurrences of porkfish have all been distant from the camera.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** No other fish seen on SharkCam resemble porkfish.



## SharkCam Fishes



### **Striped Grunt**

*Haemulon striatum* (Linnaeus, 1758)  
Haemulidae



#### **Distinguishing characteristics:**

From the side, a striped grunt is shaped like an elongated oval with about five dark stripes on a light-colored body (4–6 stripes, depending on age and lighting angle). The lowermost stripe is the widest and runs from beneath the eye to the middle of the tail. In good light the body has a yellowish tint, especially forward of the eye.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

NOTE: Observed striped grunt on SharkCam have all been seen schooling with similarly sized fish of other species, usually tomtate.

**Similar species:** Tomtate (*Haemulon aurolineatum*)

Tomtates typically have a small to large and dark blotch at the base of the tail. Their bodies are deeper than the striped grunt with the maximum body depth occurring at the back of the head where the dorsal fin occurs.



## SharkCam Fishes



### Tomtate

*Haemulon aurolineatum* Cuvier in  
Cuvier and Valenciennes, 1830  
Haemulidae



#### Distinguishing characteristics:

From the side, a tomtate is shaped like a slightly elongated oval. Its body is light colored with a dark spot at the base of its tail. It can have one or more dark, narrow stripes or no stripe at all. On some tomtates, the dark coloration of the spot radiates out along the top and bottom edges of the tail.

**Relative frequency:** ● ● ● ● ● Common—seen often, greater than 50% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar Species:** Spottail Pinfish (*Diplodus holbrookii*), Striped Grunt (*Haemulon striatum*), Bigeye Scad (*Selar crumenophthalmus*), Round Scad (*Decapterus punctatus*)

Tomtates are often seen with spottail pinfish but are distinguished by their elongated shape and lack of dark lines extending up the back and down the belly.

Striped grunts occasionally school with tomtates but are distinguished by their more prominent and wider stripes and lack of a dark spot at the bases of their tails.

Young tomtates occasionally school with bigeye scad and round scad but are always distinguishable by the dark spot at the base of their tails and a deeper body than the scads.



Tomtates engage in “kissing” behaviors where individuals square off with mouths widely agape and push towards each other. This is believed to be a territorial or dominance display.

## SharkCam Fishes



### White Grunt

*Haemulon plumierii* (Lacepède, 1801)  
Haemulidae



#### Distinguishing characteristics:

From the side, a white grunt is roughly oval shaped, with a somewhat flattened underside and a head profile that is straight from the mouth to the back. The underside and face form an approximately 45-degree angle. On SharkCam, depending on the lighting angle, the white grunt usually looks like a dark or silvery white shape but occasionally will show a darker bluish gray below its midline or a bluish-gray tint to the head. Up close, the head is dark with horizontal light blue, almost white lines, and the body shows narrow rows of dark- and light-toned small rectangles. The eye appears to have an iridescent ring around it. From a distance, this is the only fish that tends to show a lighter back with a darker (gray) belly region.

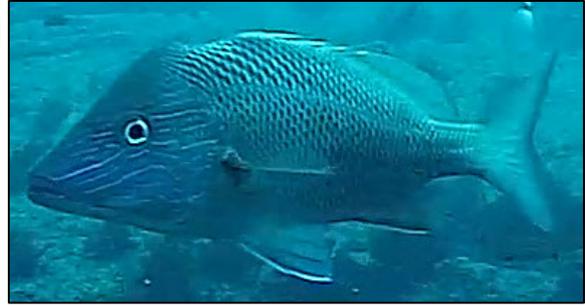
NOTE: The individual in the top image has a bump and notch where the head joins the dorsal surface, probably a deformity or healed wound.

**Relative frequency:** ● ● ● ● Frequent—seen in 50% to 20% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Knobbed Porgy (*Calamus nodosus*)

Knobbed porgies and white grunts have similar body shapes: oval with a somewhat flattened underside and a head profile that is straight from the mouth to the back. Unlike the white grunt, the knobbed porgy has a sharp hump (knob) to its back. The porgy facial profile is steeper, more of a 60-degree angle than the 45-degree angle of the grunt. When the grunt shows its dark coloration, it is easy to distinguish from the light colored porgy, but when the grunt shows its light coloration, the porgy's knobbed back and the angle of the head profile are distinctive differences.



White grunts engage in “kissing” behaviors where individuals square off with mouths widely agape and push towards each other. This behavior may be accompanied by dramatic color and pattern changes and is believed to be a territorial or dominance display.



## SharkCam Fishes



### Red Drum

*Sciaenops ocellatus* (Linnaeus, 1766)  
Sciaenidae



#### **Distinguishing characteristics:**

Red drum are elongated with a blunt, conical head. Body coloration above the mid-line is often copper-bronze, but may appear yellow-brown or even silvery depending on lighting conditions. The belly is white. Red drum typically have one or more dark spots (ocelli, or eye-spots) with a lighter margin on the upper portion of the caudal peduncle, immediately preceding the caudal fin. The scales are large, but may be difficult to see except with a close approach to the camera.

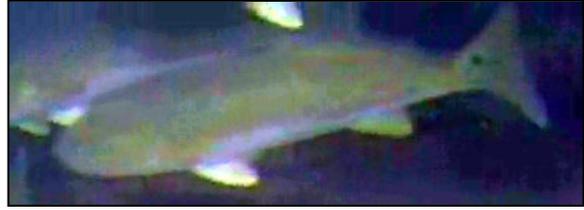
On SharkCam, red drum have only been seen in large groups of similarly sized large individuals. They appear to move through the area without lingering, likely on a southbound migration, since sightings have only been in the fall and early winter. Usually they are considered more of an inshore species.

NOTE: Red drum have several alternate common names, including redfish, channel bass, and puppy drum. They are designated the State Saltwater Fish of North Carolina.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ ○ Large (0.5–1 m or 20–39 in)

**Similar species:** No other fish seen on SharkCam resemble red drum.





## **ODDLY-SHAPED SWIMMERS (14)**

Trumpetfishes–Aulostomidae

Trumpetfish

Triggerfishes–Balistidae

Gray Triggerfish

Filefishes–Monacanthidae

Orange Filefish

Orangespotted Filefish

Planehead Filefish

Scrawled Filefish

Jacks and Pompanos–Carangidae

Pilotfish

Porcupinefishes–Diodontidae

Spot-fin Porcupinefish

Remoras–Echeneidae

Sharksucker

Whitefin Sharksucker

Cowfishes–Ostraciidae

Scrawled Cowfish

Smooth Trunkfish

Pufferfishes–Tetraodontidae

Bandtail Puffer

Sharpnose Puffer

## SharkCam Fishes



### Gray Triggerfish

*Balistes capriscus* Gmelin, 1789  
Balistidae



#### **Distinguishing characteristics:**

The gray triggerfish swims using primarily its large, symmetric dorsal and anal fins, “flapping” them like a sidewise bird. From the side the fish is oval shaped with extended tips on its tail. Its color can be gray, tan, or a greenish version of either. The underside and one or two bars are lighter toned than the rest of the body. A robust spine may be present on the forehead. This spine is a modified dorsal fin spine, and it can be “triggered” defensively.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** No other fish seen on SharkCam swims or looks like the gray triggerfish.



## SharkCam Fishes



### Orangespotted Filefish

*Cantherhines pullus* (Ranzani, 1842)  
Monacanthidae



#### **Distinguishing characteristics:**

Orangespotted filefish swim using primarily its dorsal and anal fins with little or no tail movement. From the side, the orangespotted filefish is shaped like a diamond on its side, with the tail end slightly longer than its head end. The most common body pattern is alternating dark and light stripes that begin behind the eye and extend onto the tail. On the caudal peduncle is a white spot, and the tail itself is carried closed.

The orangespotted filefish name often appears to be a misnomer since the dominant body pattern is striped, and this typically obscures the fine orange spots on the body. Swimming fins and finer body markings are seen only when the orangespotted filefish closely approaches the camera.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Scrawled Filefish (*Aluterus scriptus*), Orange Filefish (*Aluterus schoepfii*), Planehead Filefish (*Stephanolepis hispidus*)

Other filefishes swim with little or no tail movement; however, their body shapes are different. The scrawled and orangespotted filefish bodies are distinctly diamond-shaped, with the scrawled body very elongated, and the orangespotted a more symmetric diamond shape. Color and pattern are distinctly different, as well, with the scrawled color being dominated by blues, and the orangespotted body typically very dark brown with alternating dark and light stripes that extend onto the tail fin. The planehead filefish shares the general filefish body shape, but adults seen on SharkCam have been fairly uniformly colored in shades of light brown and gray. The dorsal and anal fins are much taller and more opaque than the typically short and indistinct fins of the others.



## SharkCam Fishes



### Scrawled Filefish

*Aluterus scriptus* (Osbeck, 1765)  
Monacanthidae



#### Distinguishing characteristics:

The scrawled filefish swims using primarily its dorsal and anal fins with little or no tail movement. From the side, the scrawled filefish is shaped like a slightly elongated oval with a long face that tapers to a small, upward pointing snout. The tail end is also long, finishing with a long, dark tail that may be carried closed and limp. More often the tail is slightly open and looking like a broom, earning the fish the nickname “broomtail.” From the front or back, this filefish is very thin.

The scrawled filefish has an amazing ability to change colors and color patterns, often very quickly. On SharkCam, the most common combination of color and pattern is a dark background covered by a series of short, bright blue lines that are roughly oriented to reflect the body’s outline. Interspersed among the lines are spots that may be very dark or very light toned. This combination includes white lips. Other combinations may include white edges to the blue lines, or a varying number of short, white, vertical lines, with or without any blue lines.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Orangespotted Filefish (*Cantherhines pullus*), Orange Filefish (*Aluterus schoepfii*), Planehead Filefish (*Stephanolepis hispidus*)

Other filefishes swim with little or no tail movement, however their body shapes are different. The scrawled and orangespotted filefish bodies are distinctly diamond-shaped, with the scrawled body very elongated, and the orangespotted a more symmetric diamond shape. Color and pattern are distinctly different, as well, with the scrawled color being dominated by blues, and the orangespotted body typically very dark brown with alternating dark and light stripes that extend onto the tail fin. The planehead filefish shares the general filefish body shape, but adults seen on SharkCam have been fairly uniformly colored in shades of light brown and gray. The dorsal and anal fins are much taller and more opaque than the typically short and indistinct fins of the others.



## SharkCam Fishes



### Orange Filefish

*Aluterus schoepfii* (Walbaum, 1792)  
Monacanthidae



#### **Distinguishing characteristics:**

The orange filefish swims using primarily its dorsal and anal fins with little or no tail movement. It often swims at an angle, with its tail up and head pointed down. From the side the orange filefish is deep-bodied with a rounded forehead and a flat oval shaped body, which is extremely compressed. The eyes of the orange filefish are set relatively lower than other members of its family. The dorsal spine is thin and located at the crown of the head, and it may not be carried in an erect position. The lower jaw protrudes past the upper jaw and the mouth is upturned. The caudal fin is narrower than other filefish and triggerfish.



The orange filefish seen on SharkCam have always occurred as members of a pair where the brightly colored, yellow to orange male is distinctly different from the primarily brown female. Male orange filefish often have a mottled brown to gray upper body and an earthy orange lower body. Females tend to be mottled light to dark brown with indistinct stripes of darker coloration on the back half of the body. Like many filefishes, orange filefish have an amazing ability to change colors and color patterns, often very quickly.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Scrawled Filefish (*Aluterus scriptus*), Orangespotted Filefish (*Cantherhines pullus*), Planehead Filefish (*Stephanolepis hispidus*)

Other filefishes swim with little or no tail movement, however their body shapes are different. The scrawled and orangespotted filefish bodies are distinctly diamond-shaped, with the scrawled body very elongated, and the orangespotted a more symmetric diamond shape. Color and pattern are distinctly different, as well, with the scrawled color being dominated by blues, and the orangespotted body typically very dark brown with alternating dark and light stripes that extend onto the tail fin. The planehead filefish shares the general filefish body shape, but adults seen on SharkCam have been fairly uniformly colored in shades of light brown and gray. The dorsal and anal fins are much taller and more opaque than the typically short and indistinct fins of the others.



## SharkCam Fishes



**Planehead Filefish**  
*Stephanolepis hispidus*  
(Linnaeus, 1766)  
Monacanthidae



**Distinguishing characteristics:**

The planehead filefish swims using primarily its dorsal and anal fins with little or no tail movement. From the side, the planehead filefish is shaped like a diamond on its side, with the tail end slightly longer than its head end. The mouth protrudes noticeably, is slightly upturned, and, on SharkCam, it has been white around the lips extending slightly onto the face. Coloration is dark to light brown, with no evident mottling. The relatively large eye for a filefish is set high on the head. On SharkCam, a distinct white spot is located at the origin of the pectoral fin. Planehead filefish have an elongated filamentous ray on the dorsal fin, and relatively tall dorsal and anal fins.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Scrawled Filefish (*Aluterus scriptus*), Orange Filefish (*Aluterus schoepfii*), Orangespotted Filefish (*Cantherhines pullus*), Gray Triggerfish (*Balistes capriscus*)



Other filefishes and the gray triggerfish also swim using their dorsal and anal fins with little to no tail movement. The gray triggerfish is distinguished from the planehead filefish by the terminal mouth, a scalloped tail fin that is held open, moderately thicker and more rounded body, and mottled gray coloration.

Other filefishes swim with little or no tail movement; however, their body shapes are different. The scrawled and orangespotted filefish bodies are distinctly diamond-shaped, with the scrawled body very elongated, and the orangespotted a more symmetric diamond shape. Color and pattern are distinctly different, as well, with the scrawled color being dominated by blues, and the orangespotted body typically very dark brown with alternating dark and light stripes that extend onto the tail fin. The planehead filefish shares the general filefish body shape, but adults seen on SharkCam have been fairly uniformly colored in shades of light brown and gray. The dorsal and anal fins are much taller and more opaque than the typically short and indistinct fins of the others.



## SharkCam Fishes



### **Bandtail Puffer**

*Sphaeroides spengleri* (Bloch, 1785)  
Tetraodontidae



#### **Distinguishing characteristics:**

The bandtail pufferfish is a small, slender fish that swims using its dorsal and anal fins with little or no tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. The upper body is dark with small white markings and bumps. The lower body is white with a single dark stripe that turns to a row of dots towards the tail. The tail has two dark bars and is carried closed or relaxed.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ Very small (<10 cm or 4 in) to Small (10–20 cm or 4–8 in)

**Similar species:** Bluehead (*Thalassoma bifasciatum*), Clown Wrasse (*Halichoeres maculipinna*), Slippery Dick (*Halichoeres bivittatus*)



Several SharkCam wrasses are small, slender, and swim with little or no tail movement like the banded pufferfish: bluehead, clown wrasse, slippery dick, and yellowhead wrasse. None have the bandtail puffer's combination of dark upper body and white lower body with a dark stripe except the slippery dick. The white markings on the upper body of the initial phase slippery dick are bars, not spots and short lines like the puffer's. The juvenile and terminal phase slippery dicks have no white markings on their upper bodies, and none of the slippery dick black lines turn into dots towards the tail.



## SharkCam Fishes



### Sharpnose Puffer

*Canthigaster rostrata* (Bloch, 1786)  
Tetraodontidae



#### **Distinguishing characteristics:**

The sharpnose puffer is a small fish, 2 to 3 inches long (3–8 centimeters) that swims using primarily its dorsal and anal fins with little or no tail movement. Because they are small and move rapidly, the swimming fins are likely to be invisible on SharkCam except when a specimen approaches the camera closely. The body is stout, oval-shaped, with a pointed head and a sharp snout. The body is dark toned on top with a wide white stripe that runs from the eye to the end of the tail. The tail is carried closed and has a dark edge on the top and bottom.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ Very small (<10 cm or 4 in)

**Similar species:** No other fish seen on SharkCam is shaped or marked like the sharpnose puffer.



## SharkCam Fishes



### **Spot-fin Porcupinefish**

*Diodon hystrix* Linnaeus, 1758  
Diodontidae



#### **Distinguishing characteristics:**

The spot-fin porcupinefish is a slow-moving fish with a large head and large bulbous eyes. The mouth is usually agape. The head is the thickest part of the body, which is unusual among fishes. In good lighting, small black spots cover the grayish-tan body and fins. Indistinct darker blotches are present on the body, above, and below the eye. Fin placement is also unusual compared to most other SharkCam fishes. A single dorsal fin is placed far back on the body near the beginning of the caudal peduncle. The anal fin is larger than the dorsal fin and the pectoral fins are located mid-body. As the common name implies, the body is covered in short, stout spines (modified scales) which are normally held relaxed. They are erected when the animal gulps water and expands.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** No other fish seen on SharkCam looks like the spot-fin porcupinefish.



## SharkCam Fishes



### Scrawled Cowfish *Acanthostracion quadricornis* (Linnaeus, 1758) Ostraciidae



#### **Distinguishing characteristics:**

The scrawled cowfish is deep-bodied and somewhat triangular in body cross section. The caudal peduncle is unusually long. A fan-shaped tail fin may be seen although it is often held closed. The dorsal fin begins just forward of the caudal peduncle and appears to have a black blotch at the base of the fin. The mouth is small and located on a pointy snout. They have a pair of spines that appear as horns above the eyes although these are unlikely to be seen on SharkCam unless an individual is close to the camera or silhouetted.

In good light, short, wavy, blue lines on a greenish or yellow body may be seen.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Smooth Trunkfish (*Lactophrys triqueter*)

Two species of boxfishes have been seen on SharkCam. Both the smooth trunkfish and scrawled cowfish have a similar shape and silhouette. Smooth trunkfish lack the horn-like spines above the eyes of scrawled cowfish. Body coloration and pattern of the smooth trunkfish is distinct, being dominated by a gray body, fine white spots, distinct black blotches, and a white mouth, in contrast to the green-yellow body and wavy lines of blue on the scrawled cowfish.



## SharkCam Fishes



### Smooth Trunkfish

*Lactophrys triqueter* (Linnaeus, 1758)

Ostraciidae



#### **Distinguishing characteristics:**

The smooth trunkfish is deep-bodied and triangular in body cross section. The caudal peduncle is noticeably long. A fan-shaped tail fin may be seen although it is often held closed. The dorsal and anal fins begin just forward of the caudal peduncle and each has a black blotch at the base of the fin. The mouth is small, white, and located on a pointy snout.

Coloration on SharkCam has been gray, with prominent black blotches. A black saddle crosses the body at the apex of the back, and another appears behind the opercular opening. Between the blotches are several white spots. In good light, a fine pattern of small white spots may be visible on the flanks, and these are often grouped hexagonally, giving the appearance of a honeycomb pattern.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Scrawled Cowfish (*Acanthostracion quadricornis*)

Two species of boxfishes have been seen on SharkCam. Both the scrawled cowfish and the smooth trunkfish have a similar shape and silhouette. Scrawled boxfish are easily distinguished in good light by the presence of prominent, but small, horn-like spines that project forward above the eyes. Body coloration and pattern of the scrawled cowfish is distinct, being dominated by a green-yellow body and wavy lines of blue, in contrast to the gray body and fine white spots of the smooth trunkfish.



## SharkCam Fishes



**Trumpetfish**  
*Aulostomus maculatus*  
Valenciennes, 1837  
Aulostomidae



**Distinguishing characteristics:**

The trumpetfish is very long and thin with a cylindrical body cross section. The head is long and pipet-like with an upturned mouth. The dorsal and anal fins are mirrored symmetrically. These fins are set very far back on the body, immediately in front of the peg-like caudal peduncle. These fins are not likely to be obvious except on a close approach to SharkCam. Body coloration and pattern are highly variable among individuals, and can change reasonably rapidly. The most common color is a mottled brown, although reddish-brown, all-yellow, and silver-blue morphs also occur. Body patterning on SharkCam has not been apparent, but a close approach may reveal darker lines and fine spots, especially on the rear ¼ of the body.

Sighted individuals have typically hovered near cover for minutes at a time before drifting away and out of view.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** No other fish seen on SharkCam is as long and thin as the trumpetfish.



## SharkCam Fishes



### Pilotfish

*Naucrates ductor* (Linnaeus, 1758)  
Carangidae



#### **Distinguishing characteristics:**

The pilotfish is shaped like an elongated oval and is silvery blue with blueish black bars on the body and fins. The tail lobes are rounded with white tips. Pilotfish are most frequently seen closely associated with a shark.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** Juvenile Banded Rudderfish (*Seriola zonata*)

Like the pilotfish, the juvenile banded rudderfish has a series of dark bars across its body and a similarly shaped, jack-like (Carangidae) body. The most reliable distinguishing characteristic of the banded rudderfish is a dark band that runs from its mouth, across its eye, to the front of its dorsal fin, a feature the pilotfish does not have. The band and bars coloration tends to be more brown on the rudderfish and they fade and disappear with age.



## SharkCam Fishes



### Sharksucker

*Echeneis naucrates* Linnaeus, 1758  
Echeneidae



#### **Distinguishing characteristics:**

A sharksucker is a long, slender fish most often seen attached to or swimming alongside a larger fish, like a shark. The pectoral fins are angled upward, making it look like the fish is swimming upside down. A young sharksucker's body and fins are dark gray with a wide, black stripe the length of its body. It has a thin, white stripe above and below the black stripe, and white borders on the ends of the dorsal and anal fins and on the top and bottom edges of the tail. As the fish grows older and larger, the dark gray, black, and white tones fade until the fish is light gray with only a white-bordered black mask across the mouth and eyes.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Whitefin Sharksucker (*Echeneis naucratoides*), juvenile Cobia (*Rachycentron canadum*)

Young whitefin sharksuckers are distinguished from young sharksuckers by the wider white borders on the sides of their tails.

Cobia are typically much larger and darker than the sharksucker. They too will associate with larger animals, typically rays or turtles, but will often be only loosely associated, as opposed to attached. They share the flattened head, but the sharksucker's head will be noticeably flattened relative to the cobia. No small cobia have been confirmed on SharkCam.

NOTE: In addition to the potential for confusion by having “sharksucker” and “whitefin sharksucker” be different species, the young are often referred to collectively as “sharksucker” because they are difficult to distinguish from each other. Sharksuckers and whitefin sharksuckers have been seen attached to or closely associated with sharks of multiple species, great barracuda, gag, crevalle jack, greater amberjack, cubera snapper, and Atlantic spadefish.



## SharkCam Fishes



### Whitefin Sharksucker

*Echeneis neucratoides* Zuiew, 1789

Echeneidae



#### **Distinguishing characteristics:**

A whitefin sharksucker is a long, slender fish most often seen attached to or swimming alongside a larger fish, like a shark. The pectoral fins are angled upward, making it look like the fish is swimming upside down. The body and fins are dark gray with a wide, black stripe the length of its body and white borders on the stripe, the ends of the dorsal and anal fins, and the top and bottom edges of the tail.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Sharksucker (*Echeneis naucrates*), juvenile Cobia (*Rachycentron canadum*)

Young whitefin sharksuckers are distinguished from young sharksuckers (*Echeneis naucrates*) by the wider white borders on the sides of their tails. Sharksuckers tend to be more lightly colored, appearing more gray than the typical black of the whitefin sharksucker.

Cobia are typically much larger than the whitefin sharksucker. They too will associate with larger animals, typically rays or turtles, but will often be only loosely associated, as opposed to attached. They share the flattened head, but the whitefin sharksucker's head will be noticeably flattened relative to the cobia. No small cobia have been confirmed on SharkCam.

NOTE: In addition to the potential for confusion by having “sharksucker” and “whitefin sharksucker” be different species, the young are often referred to collectively as “sharksucker” because they are difficult to distinguish from each other. Sharksuckers and whitefin sharksuckers have been seen attached to or closely associated with sharks of multiple species, great barracuda, gag, crevalle jack, greater amberjack, cubera snapper, and Atlantic spadefish.





## **BOTTOM FISHES (14)**

Basses–Serranidae

Belted Sandfish

Harlequin Bass

Drums–Sciaenidae

Cubbyu

Scorpionfishes–Scorpaenidae

Red Lionfish

Spotted Scorpionfish

Blennies–Labrisomidae

Saddled Blenny

Combtooth Blennies–Blenniidae

Seaweed Blenny

Lefteye Flounders–Paralichthyidae

Southern Flounder

Goatfishes–Mullidae

Spotted Goatfish

Yellow Goatfish

Squirrelfishes–Holocentridae

Squirrelfish

Moray eels–Muraenidae

Green Moray

Spotted Moray

Snake eels–Ophichthidae

Sharptail Eel

## SharkCam Fishes



### **Belted Sandfish**

*Serranus subligarius* (Cope, 1870)  
Serranidae



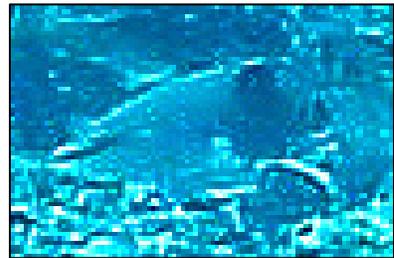
#### **Distinguishing characteristics:**

From the side, the belted sandfish is triangular and dark colored with a strongly contrasting white belly patch. Depending on how dark the fish is, several darker bars may be seen. The darkest bar is triangular, widest at the top, and is located behind the white belly patch. The fish has large pectoral fins and all fins are finely spotted. A slightly slanted dark line runs through the eye.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ Very small (<10 cm or 4 in)

**Similar species:** No other fish seen on SharkCam resemble belted sandfish.



## SharkCam Fishes



### Harlequin Bass

*Serranus tigrinus* (Bloch, 1790)  
Serranidae



#### **Distinguishing characteristics**

The harlequin bass is a small fish, typically less than 6 inches long, that generally stays near the bottom and will hover motionless for periods of time. The fish has an elongated (tubular) body and a sharply pointed head. The body is white, with the bottom half sometimes showing yellow, and has dark bars. Bars on the bottom half often line up with the light-colored portions of the top half of the body.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ Small (10–20 cm or 4–8 in)

**Similar species:** No other fish seen on SharkCam resemble harlequin bass.



## SharkCam Fishes



### Cubbyu

*Pareques umbrosus* (Jordan and Eigenmann, 1889)  
Sciaenidae



#### **Distinguishing characteristics:**

The cubbyu is an all-dark, bottom-dwelling fish that is usually seen in small groups. The body shape is asymmetric, with the high point of the back forward of the body center (over pectoral fin). The first dorsal fin, when raised, is distinctly taller than the second and is separated from the second by the width of the first. A group of cubbyu is frequently seen by SharkCam maintenance divers under the ledge below the camera installation.

NOTE: Identification as a cubbyu and not a dark variation of a highhat (*Pareques acuminatus*), another drum, is based on close observation during dives at Frying Pan Tower.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Whitespotted Soapfish (*Rypticus maculatus*)

The whitespotted soapfish is a similarly all-dark fish that is frequently seen at the bottom. The soapfish tends to be more solitary than the cubbyu and lacks the distinctive first dorsal fin of the cubbyu.



## SharkCam Fishes



### Red Lionfish

*Pterois volitans* (Linnaeus, 1758)  
Scorpaenidae



#### **Distinguishing characteristics:**

The red lionfish dorsal and pectoral fins look like bunches of long, white feathers marked with dark bands across their width. The white-tipped “feathers” can spread out in all directions, obscuring and camouflaging the body. The fish is a bottom dweller and, when stationary, is almost impossible to distinguish on SharkCam from bottom vegetation. Only when the fish is swimming or being moved about by wave action (it is a weak swimmer) does the mobile collection of white-tipped “feathers” catch the eye. Glimpses of the body show a light-toned, elongated oval shape marked with narrow, dark bars.

The “red” in the red lionfish name comes from brownish-red bars on the light colored body and fins, as images in reference books and online will show. These are images made above the surface of the water, or in water less than 15 feet deep (about 4.5 meters), or in deeper water using artificial lighting, or are an artist’s rendering using such images. Water at the depth of SharkCam, about 50 feet (about 15 meters), screens out most of the red and much of the orange portions of sunlight, leaving whatever colors the rest of the spectrum shows. This is why lionfish markings look dark, and not red, on SharkCam. Larger individuals tend to be darker and less patterned (an alternate common name for the red lionfish is zebrafish) than the small fish seen so far on SharkCam.



NOTE: Red lionfish are not native to the Atlantic Ocean and are considered an invasive species that poses a threat to native reef fishes. See this video (<https://youtu.be/PFml7vARsMk>) for an example of predation behavior by lionfish. Please report SharkCam sightings of red lionfish by making a comment on the [SharkCam website](#). Only a few lionfish have been seen on SharkCam. One was removed from the camera view on 27 December 2015.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Another species of invasive lionfish, *Pterois miles*, also occurs at very low frequencies in North Carolina waters. *Pterois volitans* and *P. miles* are visually indistinguishable and most researchers do not attempt to separate them within the invasive range. No other fish seen on SharkCam resembles the red lionfish.



## SharkCam Fishes



### Spotted Scorpionfish

*Scorpaena plumieri* Bloch, 1789  
Scorpaenidae



#### **Distinguishing characteristics:**

The spotted scorpionfish is a heavy-bodied fish that spends most of its time lying on the bottom, blending in with its surroundings using a combination of dark and light bars, spots, and mottling, and an ability to change color. It has a large head and its light-colored tail has three dark bars. The inside base of its pectoral fins have a black patch with brilliant white spots.

A search of reference books or the web will produce images of spotted scorpionfish that show varying amounts of red, orange, and purple coloration. These are pictures taken above the surface of the water, or in water less than 15 feet deep (4.5 meters), or in deeper water using artificial lighting, or are an artist's rendering using such images. Water at the depth of SharkCam, about 50 feet (about 15 meters) screens out all of the red and much of the orange portion of sunlight, leaving whatever colors the rest of the spectrum shows. This is why spotted scorpionfish look dark on SharkCam.



**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** No other fish seen on SharkCam resembles the spotted scorpionfish.



## SharkCam Fishes



**Saddled Blenny**  
*Malacoctenus triangulatus*  
Springer, 1959  
Labrisomidae



### **Distinguishing characteristics:**

Blennies have modified pelvic fins that enable them to “walk” on the bottom and climb things. A SharkCam saddled blenny uses its pelvic fins to cling head up or head down on the side of the camera cleaning bar and, less frequently, the camera glass housing. Because it is so small, less than 3 inches long (about 7.5 centimeters), this is the only way a saddled blenny has been seen on SharkCam.

Its body tapers from a blunt, bulbous head down to its tail and is light colored with a series of dark blotches along its upper side and smaller, lighter toned blotches below. The dorsal fins are continuous from above the operculum (gill cover) to just in front of the tail fin. The anal fin is lightly speckled.

Close inspection, which is common because of the saddled blenny’s habit of clinging to the cleaning bar and dome, will reveal the lack of bristly combs (cirri) above the eyes.

Images in reference books and online will show that the saddled blenny body markings are often orange. These are images made above the surface of the water, or in water less than 15 feet deep (about 4.5 meters), or in deeper water using artificial lighting, or are an artist’s rendering using such images. Water at the depth of SharkCam, about 50 feet (about 15 meters), screens out most of the red and much of the orange portions of sunlight, leaving whatever colors the rest of the spectrum shows. This is why saddled blenny markings look dark, and not orange, on SharkCam.



Imaged rotated (top); typical natural position (bottom)

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ Very small (<10 cm or 4 in)

**Similar species:** Seaweed Blenny (*Parablennius marmoratus*)

The seaweed blenny is very similar in size and silhouette to the saddled blenny. They can be readily distinguished by the cirri between the eyes of the seaweed blenny and thin bars, not spotting, on its anal fin.



## SharkCam Fishes



### Seaweed Blenny

*Parablennius marmoratus* (Poey, 1876)  
Blenniidae



#### **Distinguishing characteristics:**

Blennies have modified pelvic fins that enable them to “walk” on the bottom and climb things. A SharkCam seaweed blenny uses its pelvic fins to cling head up or head down on the side of the camera cleaning bar and, less frequently, the camera glass housing. Because it is so small, less than 3 inches long (about 7.5 centimeters), this is the only way a seaweed blenny has been seen on SharkCam.

Its body tapers from a blunt, bulbous head down to its tail and checker boarded with a series of alternating dark and light patterns along its upper side, and smaller, often paired, spots below. The dorsal fins are continuous from above the operculum (gill cover) to just in front of the tail fin. The anal fin will often show closely spaced dots arranged in thin bars. Close inspection, which is common because of the seaweed blenny’s habit of clinging to the cleaning bar and dome, will reveal the presence of bristly combs (cirri) above the eyes.

NOTE: Seaweed blennies are often seen by maintenance divers at Frying Pan Tower. They often mimic the background color of the small spaces they inhabit, and they have been seen in color patterns that do not match the images shown. A commonly seen individual was present when SharkCam was rotated in an upright position above the beam. Most installations of SharkCam are (and have been) below the beam, making seaweed blennies rarely seen in this configuration.



Imaged rotated (top); typical natural position (bottom)

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ Very small (<10 cm or 4 in)

**Similar species:** Saddled Blenny (*Malacoctenus triangulatus*)

The saddled blenny is very similar in size and silhouette to the seaweed blenny. They can be readily distinguished by the lack of cirri between the eyes of the saddled blenny and spotting, not bars, on its anal fin.

## SharkCam Fishes



### **Spotted Goatfish**

*Pseudupeneus maculatus* (Bloch, 1793)

Mullidae



#### **Distinguishing characteristics:**

From the side, the spotted goatfish is shaped like an elongated oval that is light colored, has a deeply forked tail, and has three large, dark blotches along its side (the dark eye can look like a fourth blotch).

The goatfish is often seen rooting around on the bottom, stirring up sediments in the hopes of catching a hidden tidbit. Several species, including the bar jack, yellowtail snapper, and black sea bass, have been observed waiting to see whether rooted-up prey escapes the goatfish.

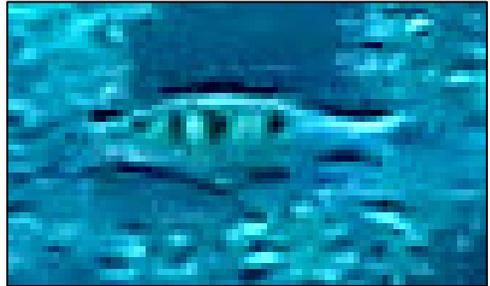
A search of reference books or the web will produce images of spotted goatfish that show varying amounts of pink coloration. These are pictures taken above the surface of the water, or in water less than 15 feet deep (4.5 meters), or underwater using artificial lighting, or are an artist's rendering using such specimens. Water at the depth of SharkCam, about 50 feet (about 15 meters) screens out most of the red and much of the orange portions of sunlight, leaving whatever colors the rest of the spectrum shows. This is why spotted goatfish show no pink coloration on SharkCam.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Yellow Goatfish (*Mulloidichthys martinicus*)

The silhouettes of the yellow and spotted goatfish are nearly identical. However, the yellow goatfish is readily distinguishable from the spotted goatfish by the bright yellow tail and midbody stripe, and the lack of distinct blotches along the side of the spotted goatfish. Yellow goatfish will never show mid-body blotches, nor will spotted goatfish have an all yellow tail.



## SharkCam Fishes



### Yellow Goatfish

*Mulloidichthys martinicus*

(Cuvier in Cuvier and Valenciennes, 1829)

Mullidae



#### **Distinguishing characteristics:**

From the side, the yellow goatfish is an elongated oval with a deeply forked tail that has pointed lobes. The body is light colored with an entirely yellow tail and a yellow stripe of uniform thickness that extends towards the eye. The eye is relatively large and set well forward on a relatively short head with a rounded forehead. Two long barbels, whisker-like fingers, can be seen on the chin and used to root in the bottom for food.

As seen by divers, yellow goatfish are frequently in small groups over sandy areas near SharkCam, however, sightings on SharkCam have thus far been only of single individuals.

A search of reference books or the web will produce images of yellow goatfish that show varying amounts of light pink coloration. These are pictures taken above the surface of the water, or in water less than 15 feet deep (4.5 meters), or underwater using artificial lighting, or are an artist's rendering using such specimens. Water at the depth of SharkCam, about 50 feet (about 15 meters) screens out most of the red and much of the orange portions of sunlight, leaving whatever colors the rest of the spectrum shows. This is why yellow goatfish show no pink coloration on SharkCam.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

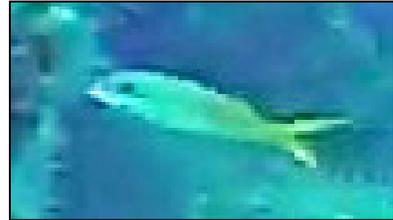
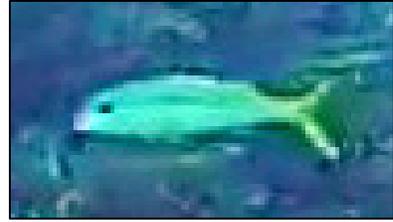
**Similar species:** Spotted Goatfish (*Pseudupeneus maculatus*), Yellowtail Snapper (*Ocyurus chrysurus*), Horse-eye Jack (*Caranx latus*)

The silhouettes of the spotted and yellow goatfish are nearly identical. However, the spotted goatfish is readily distinguishable from the yellow goatfish by the presence of distinct blotches along the side of the spotted goatfish. Yellow goatfish will never show mid-body blotches, nor will spotted goatfish have an all yellow tail.

The yellowtail snapper is superficially very similar to the yellowtail goatfish. Both possess an elongated oval-shaped body, a yellow tail, and a yellow stripe that extends up the body. However, the yellowtail snapper's mid-body yellow stripe narrows as it moves toward the head. The eye is medium sized, and the head ends in a pointed snout, unlike the rounded forehead of the yellow goatfish. Behaviorally, the yellowtail snapper will always be in motion and typically not closely associated with the bottom. In contrast, the goatfish will be strongly bottom associated, and exhibit frequent starts and stops as it forages.

A horse-eye jack has a similarly deeply forked yellow tail with pointed lobes, like the yellow goatfish, but the horse-eye jack is much larger, with a much deeper body, silver-gray body coloring, and no yellow stripe extending forward towards the eye. Instead, the horse-eye jack has a narrow dark stripe that runs from the tail about halfway to the mouth, and it has a noticeably large eye.

Except for the spotted goatfish, all similar species lack the two barbels that are seen on the chin.



## SharkCam Fishes



### Squirrelfish

*Holocentrus adscensionis*  
(Osbeck, 1765)  
Holocentridae



#### **Distinguishing characteristics:**

From the side, SharkCam squirrelfish is shaped like an oval with moderately long and wavy fins and lobes of a deeply forked tail. The body varies from light to dark tones, and in good lighting shows a largely pink body with yellow highlights, and white fins, except the dorsal fin which is typically bright yellow. A white saddle may show, extending down from the rear portion of the dorsal fin. The eye is large, believed to be an adaptation for nighttime vision.

Squirrelfish will usually be closely associated with the bottom and near or under overhanging cover. They are nocturnal feeders and tend to be shy.

NOTE: Squirrelfish appear to use the same shelters for long periods of time (weeks to months). For example, a squirrelfish nicknamed “Tuffy” is frequently seen when the camera focuses on the small ledge that is part of the auto-tour for SharkCam.

A search of reference books or the web will produce images of squirrelfish showing reddish-pink coloration. These are images made above the surface of the water, or in water less than 15 feet deep (4.5 meters), or in deeper water using artificial lighting, or are an artist’s rendering using such images. Water at the depth of SharkCam, about 50 feet (about 15 meters) screens out most of the red and much of the orange portions of sunlight, leaving whatever colors the rest of the spectrum shows. This is why on SharkCam squirrelfish may appear brown instead of pink.

**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** No other fish seen on SharkCam resembles the squirrelfish.



Tuffy emerging from the small ledge where a squirrelfish was frequently seen in 2019

## SharkCam Fishes



### Southern Flounder

*Paralichthys lethostigma* Jordan and  
Gilbert in Jordan and Meek, 1884  
Paralichthyidae



#### **Distinguishing characteristics:**

The southern flounder is a flatfish that is likely to only be seen if close to the camera and moving. Although it is relatively large, its ability to mimic the background color and pattern of the bottom renders it nearly invisible when motionless. The upper (visible) side of the body appears dark with mottled light and dark spots, and if close to the camera, two protuberant eyes on a sharply triangular head may be visible. The tail fin is typically half as wide as the deepest part of the bottom and the tail edge will be relatively flat.

**Relative frequency:** ● Rare—seen in less than 1% of visits.

NOTE: Southern flounder are typically found in coastal and inshore waters until late fall when they migrate offshore to overwinter.

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** No other fish seen on SharkCam resembles the southern flounder.



## SharkCam Fishes



### Green Moray

*Gymnothorax funebris* Ranzani, 1839  
Muraenidae



#### **Distinguishing characteristics:**

The green moray is a long, slender fish, heavier bodied (bigger around) and longer than most eels. Color on camera is dark brown but may show a greenish tint under good lighting. The green moray rests and sleeps during the day in a crevasse or under a ledge, often with part of its body sticking out. The mouth opens and closes continually to pump water across its gills.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ ○ ○ Large (0.5–1 m or 20–39 in) to Very large (>1 m or >39 in)

**Similar species:** Spotted Moray (*Gymnothorax moringa*), Sharptail Eel (*Myrichthys breviceps*)

The only other eels seen on SharkCam have been the spotted moray and sharptail eel. The green moray lacks markings on its skin, while the “spots” of the spotted moray are indistinct, unlike the sharptail eel, which has white spots on a dark body. The body diameter of the sharptail eel is relatively uniform, unlike the tapered form of the spotted and green morays.



## SharkCam Fishes



### Spotted Moray

*Gymnothorax moringa* (Cuvier, 1829)  
Muraenidae



#### **Distinguishing characteristics:**

The spotted moray is a long, slender fish, heavier bodied (bigger around) and longer than most eels. The body is pale colored but is covered with so many dark colored spots and blotches that it almost like the reverse, a dark body covered with white blotches. The body is compressed laterally, meaning that from the front it is shaped like an oval. Close up it shows large white spots on its lower jaw. The mouth opens and closes continually to pump water across its gills.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ ○ Large (0.5–1 m or 20–39 in)

**Similar species:** Green Moray (*Gymnothorax funebris*), Sharptail Eel (*Myrichthys breviceps*)

The green and spotted morays have similar heavy bodies but the green moray has no obvious markings and appears more robust than the spotted moray. The sharptail eel is much more slender than the green or spotted moray and it has larger white spots arranged in a row along its body.



## SharkCam Fishes



**Sharptail Eel**  
*Myrichthys breviceps*  
(Richardson, 1848)  
Ophichthidae



**Distinguishing characteristics:**

The sharptail eel is snakelike in appearance: a long, slender, tube-shaped fish that undulates along the bottom. The eel has a gray or dark body and light-colored spots along its entire length. When seen it will be traveling, frequently stopping to poke its head into cracks and crevices in search of prey. The entire body may disappear and then reappear nearby.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Large (0.5–1 m or 20–39 in)

**Similar species:** Green Moray (*Gymnothorax funebris*), Spotted Moray (*Gymnothorax moringa*)

The only other eels seen on SharkCam have been the green moray and spotted moray. The green moray lacks markings on its skin, while the “spots” of the spotted moray are indistinct, unlike the sharptail eel. Both morays are much more stoutly bodied than the sharptail eel, and much less likely to be seen out and moving away from their den. When under cover the opening and closing of the moray’s mouth is usually apparent.





## **NOT FISHES (10)**

Cigar Comb Jellies – Beroidae (Phylum Ctenophora, Class Nuda)  
Comb Jelly

Sea turtles–Cheloniidae (Phylum Chordata, Class Reptilia)  
Green Sea Turtle  
Loggerhead Sea Turtle

Loons–Gaviidae (Phylum Chordata, Class Aves)  
Common Loon

Apes–Hominidae (Phylum Chordata, Class Mammalia)  
Human (Freediver and Scuba Diver)

Octopuses–Octopodidae (Phylum Mollusca, Class Cephalopoda)  
Common Octopus

Spiny lobsters–Palinuridae (Phylum Arthropoda, Class Malacostraca)  
Caribbean Spiny Lobster

Swimming crabs–Portunidae (Phylum Arthropoda, Class Malacostraca)  
Blotched Swimming Crab

Globular sea urchins–Toxopneustidae (Phylum Echinodermata, Class Echinoidea)  
West Indian Sea Egg

Jellyfishes–Ulmaridae (Phylum Cnidaria, Class Scyphozoa)  
Moon Jelly

## SharkCam Fishes



### Caribbean Spiny Lobster

*Panulirus argus* (Latreille, 1804)

Palinuridae (Phylum Arthropoda, Class Malacostraca)



#### **Distinguishing characteristics:**

Caribbean spiny lobsters look like what people think of when they think of lobsters, but without the big claws. They have a tube-shaped body, a flat tail, and two long, whip-like antennae, and two shorter, thinner antennae between the obvious ones. They crawl around on ten spindly legs.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in) to Large (0.5–1 m or 20–39 in).

NOTE: Caribbean spiny lobsters seen on SharkCam are likely to be very large relative to the diminutive lobster you may have eaten.

**Similar species:** Nothing else seen on SharkCam resembles a Caribbean spiny lobster.



## SharkCam Fishes



### **Blotched Swimming Crab**

*Achelous spinimanus* (Latreille, 1819)

Portunidae (Phylum Arthropoda, Class Malacostraca)

#### **Distinguishing characteristics:**

In silhouette, the blotched swimming crab closely resembles the familiar, edible blue crab. The body is covered by a rounded, flattened carapace that is slightly more broad than wide. The claws (chelipeds) are long with darkened tips and fluted, making the claw appear to have alternating light and dark stripes. The rear legs are flattened, especially at the ends, into swimming paddles.

In better lighting, the blotched swimming crab will have a mottled brown carapace with darker brown to orange tips on the chelipeds and walking legs.

Blotched swimming crabs will typically only be seen near shelter or hidden amongst macroalgae or other sessile benthic organisms.

NOTE: Many text and online resources use the alternate scientific names, *Portunus spinimanus*, or *Portunus (Achelous) spinimanus*, for the blotched swimming crab.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ Very small (<10 cm or 4 in)

**Similar species:** Nothing else seen on SharkCam resembles a blotched swimming crab.



## SharkCam Fishes



### Common Loon

*Gavia immer* (Brunnich, 1764)

Gaviidae (Phylum Chordata, Class Aves)



#### **Distinguishing characteristics:**

Common loons are diving birds that swim like ducks at the surface and can dive to considerable depths. They dive with their wings folded, using their large webbed feet to swim. Their bodies are torpedo shaped, with a long, snakelike neck and head with a long cone-shaped beak and large eyes. While diving, their feet stick out behind them to paddle them in quick bursts. Underwater, their feathers lay flat against their bodies and they can appear very slender, especially around the head and neck.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Nothing else seen on SharkCam resembles a common loon.



## SharkCam Fishes



### Common Octopus

*Octopus vulgaris* Cuvier, 1797



Octopodidae (Phylum Mollusca, Class Cephalopoda)

#### **Distinguishing characteristics:**

An octopus has a bulbous head and eight thick arms. It moves by crawling with its arms or by swimming with its head in front and its arms trailing behind and held together. An octopus can be almost any color and any combination of colors, and can change its selection rapidly. It can change the texture of the body from a smooth profile to skin featuring many protrusions and bumps. These are used to mimic the texture of the surroundings.

NOTE: Identification as common octopus is tentative based on frequency of occurrence of this species in North Carolina and the thick arms seen on SharkCam.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Nothing else seen on SharkCam resembles an octopus.



Octopus crawling on the dome of SharkCam

## SharkCam Fishes



### Human (Freediver and Scuba Diver)



*Homo sapiens "aquaticus"*

*Homo sapiens "scubica"*

Hominidae (Phylum Chordata, Class Mammalia)

#### Distinguishing characteristics:

Human divers seen on SharkCam come in two types, scuba and free. Both types come in a variety of colors, although black is most common. Scuba divers can be distinguished by their blocky backs, due to one or two air tanks, and the bubbles that emanate from their head ends. Freedivers lack tanks and bubbles, and will be carrying less equipment. Frequently both types will carry a large speargun and appear to be friendly, frequently waving at the camera. Scuba types can be further categorized as recreational or (camera) maintenance. Freedivers appear to be only recreational.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** Human divers are unlikely to be mistaken for anything else swimming around on SharkCam.



## SharkCam Fishes



### Loggerhead Sea Turtle

*Caretta caretta* (Linnaeus, 1758)

Cheloniidae (Phylum Chordata, Class Reptilia)



#### Distinguishing characteristics:

Loggerhead sea turtles seen on SharkCam have all been adults larger than any of the fish except the sharks and rays. The domed upper part of their carapace (bony shells) is longer than it is wide. A good view of the upper carapace will reveal five lateral (costal) scutes. These are the large plates in the second row on either side of the body. Shell color has varied from a mottled gray-green to almost black depending, in part, on the amount of marine growth such as algae and barnacles (light circular bumps). Skin color has ranged from the same mottled gray-green to yellow or almost white. The head is noticeably large with a prominent beak forward of large eyes.

Loggerheads are slow swimmers, using only their front flippers and letting their rear flippers trail behind.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** Green Sea Turtle (*Chelonia mydas*)

Two species of marine turtles have been seen on SharkCam, the loggerhead and green sea turtles. The loggerhead is distinguished from the green sea turtle by its much larger head with a prominent beak, and the presence of five costal scutes, in contrast to the green sea turtle, which has a petite head, and four costal scutes.

Although both are rare, the loggerhead is much more frequently seen on SharkCam.



## SharkCam Fishes



### Green Sea Turtle

*Chelonia mydas* (Linnaeus, 1758)

Cheloniidae (Phylum Chordata, Class Reptilia)



#### **Distinguishing characteristics:**

The green sea turtle has an oval-shaped carapace (bony shell) and the head is relatively small and blunt. Shell coloration is brown to olive-green. On SharkCam, skin color has been light cream with prominent brown scales. A good view of the upper carapace will reveal four lateral (costal) scutes. These are the large plates in the second row on either side of the body.

**Relative frequency:** ● Rare—seen in less than 1% of visits

NOTE: The green sea turtle has only been definitively identified on SharkCam on 29 October 2019, when a small adult or large juvenile was spotted at 2:23pm EDT.

**Relative size:** ○ ○ ○ ○ Very large (>1 m or >39 in)

**Similar species:** Loggerhead Sea Turtle (*Caretta caretta*)

Two species of marine turtles have been seen on SharkCam, the green and loggerhead sea turtles. The green sea turtle is distinguished from the loggerhead by its petite head and five costal scutes, compared to the much larger head and prominent beak plus four costal scutes of the loggerhead.

Although both are rare, the loggerhead is much more frequently seen on SharkCam.



## SharkCam Fishes



### Moon Jelly

*Aurelia aurita* (Linnaeus, 1758)

Ulmaridae (Phylum Cnidaria, Class Scyphozoa)

#### **Distinguishing characteristics:**

Moon jellyfish are translucent white upside-down bowl shapes with a brighter white rim. They swim by opening and closing like an umbrella, and are tumbled around by currents so may be sidewise or even upside down. They have short, trailing tentacles.

A search of reference books or the web will produce images of moon jellyfish that show varying amounts of pink coloration. These are images made in water less than 15 feet deep (about 4.5 meters), or in deeper water using artificial lighting, or are an artist's rendering using such images. Water at the depth of SharkCam, about 50 feet (about 15 meters) screens out all of the red and much of the orange portion of sunlight, leaving whatever colors the rest of the spectrum shows. This is why no moon jellyfish are pink on SharkCam.

**Relative frequency:** ● Rare—seen in less than 1% of visits

**Relative size:** ○ ○ ○ Small (10–20 cm or 4–8 in) to Medium (20 cm–0.5 m or 8–20 in)

**Similar species:** Comb Jelly (*Beroe ovata*)

While both the moon jelly and the comb jelly are translucent and gelatinous, they have distinctly different shapes. The moon jelly is shaped like an upside-down bowl with short, trailing tentacles underneath. *Beroe* comb jellies do not possess tentacles.



## SharkCam Fishes



### **Comb Jelly**

*Beroe ovata* Bruguière, 1789

**Beroidae (Phylum Ctenophora, Class Nuda)**

#### **Distinguishing characteristics:**

Comb jellies are white to pink translucent, gelatinous marine invertebrates superficially similar to jellyfish. They typically have an ovoid or spheroid body with eight distinct stripes of elongated cilia arranged in rows and used for movement. They will generally be moving with the current and turbulence in the water. Light can refract along the closely spaced cilia resulting in a rainbow prismatic effect.

A search of reference books or the web will produce images of comb jellies that show varying amounts of pink coloration. These are images made in water less than 15 feet deep (about 4.5 meters), or in deeper water using artificial lighting, or are an artist's rendering using such images. Water at the depth of SharkCam, about 50 feet (about 15 meters) screens out all of the red and much of the orange portion of sunlight, leaving whatever colors the rest of the spectrum shows. This is why comb jellies do not appear pink on SharkCam.



**Relative frequency:** ● Rare— seen in less than 1% of visits

**Relative size:** ○ Very small (<10 cm or 4 in)

**Similar species:** Moon Jelly (*Aurelia aurita*)

While both the moon jelly and the comb jelly are translucent and gelatinous, they have distinctly different shapes. The moon jelly is shaped like an upside-down bowl with short, trailing tentacles underneath. *Beroe* comb jellies do not possess tentacles.



## SharkCam Fishes



### West Indian Sea Egg

*Tripneustes ventricosus* (Lamarck, 1816)

Toxopneustidae (Phylum Echinodermata, Class Echinoidea)

#### **Distinguishing characteristics:**

West Indian sea eggs are baseball-sized sea urchins covered with white spines that almost obscure the dark body. In natural lighting, the sea egg body will show purple. A view of SharkCam bottom will usually show several individuals looking like stationary objects. They crawl around too slowly to see movement but a later return to the area will likely show them in different locations.



**Relative frequency:** ● ● Uncommon—seen in 1% to 10% of visits

**Relative size:** ○ Very small (<10 cm or 4 in)

**Similar species:** Nothing else seen on SharkCam resembles a West Indian sea egg.



# APPENDIX 1 – ADDITIONAL INFORMATION AND CONTRIBUTIONS

## Alphabetical by common name

Jump to

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

### A

**Common name:** [African Pompano](#)  
**Scientific name:** *Alectis ciliaris* (Bloch, 1787)  
**Family:** Carangidae  
**Similar species:** [Crevalle Jack \(\*Caranx hippos\*\)](#)  
[Permit \(\*Trachinotus falcatus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rv54hp5wBQoPDpimsqxnB2>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/155014/4696428>  
**Additional information:**  
[https://en.wikipedia.org/wiki/African\\_pompano](https://en.wikipedia.org/wiki/African_pompano)  
[http://www.championbass.com/encyclopedia/african\\_pompano.html](http://www.championbass.com/encyclopedia/african_pompano.html)  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-John Rainey, cynde, jon-newbie, Sky Pilot, Zeba Knight; video-jon-newbie

**Common name:** [Almaco Jack](#)  
**Scientific name:** *Seriola rivoliana* Valenciennes in Cuvier and Valenciennes, 1833  
**Family:** Carangidae  
**Similar species:** [Greater Amberjack \(\*Seriola dumerili\*\)](#) [Banded Rudderfish \(\*Seriola zonata\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6oWii9FZPjCmKmbchXlUtm>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/16507347/16510402>  
**Additional information:**  
<http://myfwc.com/wildlifehabitats/profiles/saltwater/jacks/greater-amberjack/>  
<http://www.eregulations.com/florida/fishing/flw13a/keys-to-identifying-the-jacks/>  
**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-jon-newbie; video-jon-newbie, Erin Burge

**Common name:** [Atlantic Bonito](#)  
**Scientific name:** *Sarda sarda* (Bloch, 1793)  
**Family:** Scombridae  
**Similar species:** [Little Tunny \(\*Euthynnus alletteratus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6oOapJwBWJDZes4hFrJ3iH>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/155096/4703085>  
**Additional information:**  
[https://en.wikipedia.org/wiki/Atlantic\\_bonito](https://en.wikipedia.org/wiki/Atlantic_bonito)  
<http://www.stripersonline.com/surftalk/topic/297937-how-to-tell-apart-an-atlantic-bonito-from-a-false-albacore/>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, Erin Burge; video-jon-newbie

**Common name:** [Atlantic Spadefish](#)  
**Scientific name:** *Chaetodipterus faber* (Broussonet, 1782)  
**Family:** Ephippidae  
**Similar species:** [Sheepshead \(\*Archosargus probatocephalus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6ouU5uJhHKXkCZVHHSYe1M>

**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/16435530/16509752>  
**Additional information:**  
[https://en.wikipedia.org/wiki/Atlantic\\_spadefish](https://en.wikipedia.org/wiki/Atlantic_spadefish)  
<http://reefguide.org/carib/spadefish.html>  
**Credits:** entry-Kyle Gallion; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, meryltje, meryl, Zeba Knight; video-jon-newbie

### B

**Common name:** [Banded Butterflyfish](#)  
**Scientific name:** *Chaetodon striatus* Linnaeus, 1758  
**Family:** Chaetodontidae  
**Similar Species:** None  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/165637/6075592>  
**Additional information:**  
<https://www.floridamuseum.ufl.edu/discover-fish/species-profiles/chaetodon-striatus/>  
<http://marinebio.org/species.asp?id=433>  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-meryl

**Common name:** [Banded Rudderfish](#)  
**Scientific name:** *Seriola zonata* (Mitchill, 1815)  
**Family:** Carangidae  
**Similar species:** [Greater Amberjack \(\*Seriola dumerili\*\)](#) [Almaco Jack \(\*Seriola rivoliana\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qphLEwN7yKIULn7t4-TnCF>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/16507442/16510407>  
**Additional information:**  
<http://www.safmc.net/FishIDandRegs/FishGallery/BandedRudderfish>  
<http://nefsc.noaa.gov/publications/crd/crd1210/jacks.pdf>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-BetterThanWatchingWimbledon; video-jon-newbie

**Common name:** [Bandtail Puffer](#)  
**Scientific name:** *Sphoeroides spengleri* (Bloch, 1785)  
**Family:** Tetraodontidae  
**Similar species:** [Bluehead \(\*Thalassoma bifasciatum\*\)](#) [Clown Wrasse \(\*Halichoeres maculipinna\*\)](#) [Slippery Dick \(\*Halichoeres bivittatus\*\)](#)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6qfhJgjYPP\\_CkCOQJWhzV1N](https://www.youtube.com/playlist?list=PLK1g13VpyT6qfhJgjYPP_CkCOQJWhzV1N)  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/193630/2249897>  
**Additional information:**  
<http://reefguide.org/carib/bandtailpuffer.html>  
<http://www.snorkelsti.com/bandtail-pufferfish.html>  
**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-jon-newbie; video-jon-newbie

**Common name:** [Bar Jack](#)  
**Scientific name:** *Carangoides ruber* (Bloch, 1793)  
**Family:** Carangidae  
**Similar species:** [Blue Runner \(\*Caranx crysos\*\)](#)  
[Horse-eye Jack \(\*Caranx latus\*\)](#)  
[Yellow Jack \(\*Carangoides bartholomaei\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6omClKsK7EXiZlQMfVpulu0>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/16431737/16509637>  
**Additional information:**  
[https://en.m.wikipedia.org/wiki/Bar\\_jack](https://en.m.wikipedia.org/wiki/Bar_jack)  
<http://reefguide.org/carib/barjack.html>  
**Credits:** entry-Jordan Beckner; editing-jon-newbie and Erin Burge; screen grab-jon-newbie; video-jon-newbie

**Common name:** [Belted Sandfish](#)  
**Scientific name:** *Serranus subligarius* (Cope, 1870)  
**Family:** Serranidae  
**Similar species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qw4Bcxhz7uAZMKqna38s5Q>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/190339/16510767>  
**Additional information:**  
<http://myfwc.com/research/saltwater/codes/marine-life-finish/belted-sandfish-bass/>  
<http://www.reefngom.org/beltsand.html>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-Erin Burge, jon-newbie; video-jon-newbie, Erin Burge

**Common name:** [Bermuda Chub](#)  
**Scientific name:** *Kyphosus sectatrix* (Linnaeus, 1758)  
**Family:** Kyphosidae  
**Note:** Recent taxonomic revisions within the sea chubs (Kyphosidae) conclude that there are four distinct species found circumglobally, including in the tropical western Atlantic Ocean, inclusive of Frying Pan Tower. They are *Kyphosus sectatrix*, *K. bigibbus*, *K. cinerascens*, and *K. vaigiensis*. For additional information see [Knudsen and Clements \(2013\)](#) and [Knudsen and Clements \(2016\)](#), and a conflicting view in [Sakai and Nakabo \(2014\)](#). All are visually similar, although differentiating them from field observations has been reported (see [Shorefishes of the Greater Caribbean](#)). These revisions and the requirement for close observation make a definitive identification of sea chubs seen on SharkCam very difficult.

**Similar species:** [Spottail Pinfish \(\*Diplodus holbrookii\*\)](#)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6oWPW5\\_AA\\_2sYuicszHRIwN](https://www.youtube.com/playlist?list=PLK1g13VpyT6oWPW5_AA_2sYuicszHRIwN)  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/198561/16644027>  
**Additional information:**  
[https://en.wikipedia.org/wiki/Bermuda\\_chub](https://en.wikipedia.org/wiki/Bermuda_chub)  
<http://www.snorkelstj.com/chub.html>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-John Rainey, jon-newbie, Zeba Knight; video-jon-newbie, Erin Burge

**Common name:** [Bicolor Damselfish](#)  
**Scientific name:** *Stegastes partitus* (Poey, 1868)  
**Family:** Pomacentridae  
**Similar species:** [Cocoa Damselfish \(\*Stegastes xanthurus\*\)](#)

## SharkCam Fishes

**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6p9Va3Q5Ayyvz2uP\\_MmP1Pzy](https://www.youtube.com/playlist?list=PLK1g13VpyT6p9Va3Q5Ayyvz2uP_MmP1Pzy)  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/188539/1889965>  
**Additional information:**  
<http://reefguide.org/carib/bicolordamself.html>  
<http://eol.org/pages/203965/media>  
**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-jon-newbie, Erin Burge; video-jon-newbie, Erin Burge, OK!

**Common name:** [Bigeye Scad](#)  
**Scientific name:** *Selar crumenophthalmus* (Bloch, 1793)  
**Family:** Carangidae  
**Similar species:** [Round Scad \(\*Decapterus punctatus\*\)](#)  
[Scaled Herring \(\*Harengula jaquana\*\)](#)  
[young Tomtate \(\*Haemulon aurolineatum\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6q-Gvw8AOyTW-7cLgfoD7Qq>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/190388/115316971>  
**Additional information:**  
[https://en.wikipedia.org/wiki/Bigeye\\_scad](https://en.wikipedia.org/wiki/Bigeye_scad)  
<http://eol.org/pages/215191/details>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-meryltje, jon-newbie, Erin Burge; video-jon-newbie, Erin Burge

**Common name:** [Black Grouper](#)  
**Scientific name:** *Mycteroperca bonaci* (Poey, 1860)  
**Family:** Serranidae  
**Similar Species:** [Gag \(\*Mycteroperca microlepis\*\)](#)  
[Goliath Grouper \(\*Epinephelus itajara\*\)](#)  
[Scamp \(\*Mycteroperca phenax\*\)](#)  
[Cubera Snapper \(\*Lutjanus cyanopterus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6oS8BB38ThBdn0-ojzr7O1U>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Near Threatened  
<https://www.iucnredlist.org/species/132724/46916253>  
**Additional information:**  
<http://myfwc.com/wildlifehabitats/profiles/saltwater/grouper/black-grouper/>  
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/mycteroperca-bonaci/>  
**Credits:** entry-Erin Burge; screen grab-Zeba Knight; video-Erin Burge

**Common name:** [Black Margate](#)  
**Scientific name:** *Anisotremus surinamensis* (Bloch, 1791)  
**Family:** Haemulidae  
**Similar Species:** [White Grunt \(\*Haemulon plumierii\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rmu4VmTQnkC-y12Oge5x6e>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Data Deficient  
<https://www.iucnredlist.org/species/194408/2332935>  
**Additional information:**  
[http://species-identification.org/species.php?species\\_group=caribbean\\_diving\\_guide&id=214](http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=214)  
<https://reefguide.org/keys/blackmargate.html>  
<http://safmc.net/regulations/regulations-by-species/black-margate/>

## Appendix 1 – Additional information

**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab: Sky Pilot, BearBell, meryl, Zeba Knight, Erin Burge; video-Erin Burge

**Common name:** Black Sea Bass

**Scientific name:** *Centropristis striata* (Linnaeus, 1758)

**Family:** Serranidae

**Similar species:** Graysby (*Cephalopholis cruentata*)

Tautog (*Tautoga onitis*)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pA9H62eW14Av2D3RkrWgiw>

**Authentication:** FishBase (mirror)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/16435325/16510242>

**Additional information:**

[https://en.wikipedia.org/wiki/Black\\_sea\\_bass](https://en.wikipedia.org/wiki/Black_sea_bass)

<http://www.asafc.org/species/black-sea-bass>

**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, meryltje, John Rainey, Robin Lake;

video-jon-newbie, Erin Burge

**Common name:** Blotched Swimming Crab

**Scientific name:** *Achelous spinimanus* (Latreille, 1819)

**Family:** Portunidae

**Similar Species:** None

**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6qsiwgJct3c56N\\_of4WV6g7](https://www.youtube.com/playlist?list=PLK1g13VpyT6qsiwgJct3c56N_of4WV6g7)

**Authentication:** SeaLifeBase (mirror)

**Note:** Many text and online resources use the alternate scientific names, *Portunus spinimanus*, or *Portunus (Achelous) spinimanus*, for the blotched swimming crab.

**IUCN Redlist:** Not Listed

**Additional information:**

<http://www.marinespecies.org/aphia.php?p=taxdetails&id=456069>

<http://txmarspecies.tamug.edu/invertdetails.cfm?scinameID=Portunus%20spinimanus>

**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-Erin Burge; video-Derek Bussey, jon-newbie

**Common name:** Blue Angelfish

**Scientific name:** *Holacanthus bermudensis* Goode, 1876

**Family:** Pomacanthidae

**Similar species:** Queen Angelfish (*Holacanthus ciliaris*)

Hogfish (*Lachnolaimus maximus*)

**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6pGfpMuqyAiYnP7S9\\_EVhy](https://www.youtube.com/playlist?list=PLK1g13VpyT6pGfpMuqyAiYnP7S9_EVhy)

**Authentication:** FishBase (mirror)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/165832/6143879>

**Additional information:**

<http://www.flmnh.ufl.edu/fish/gallery/descript/angelblue/angelblue.htm>

[https://en.wikipedia.org/wiki/Bermuda\\_blue\\_angelfish](https://en.wikipedia.org/wiki/Bermuda_blue_angelfish)

<http://reefguide.org/carib/blueangel.html>

**Credits:** entry-Erin Burge; editing-jon-newbie; screen grab-Dillon King, meryltje, jon-newbie, Happywho, Zeba Knight; video-jon-newbie, Erin Burge

**Common name:** Blue Chromis

**Scientific name:** *Chromis cyanea* (Poey, 1860)

**Family:** Pomacentridae

**Similar species:** Juvenile Purple Reeffish (*Chromis scotti*)

**Authentication:** FishBase (mirror)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/165910/6162557>

**Additional information:**

<http://reefguide.org/carib/bluechromis.html>

<http://www8.nos.noaa.gov/onms/park/Parks/SpeciesCard.aspx?efID=2&CreatureID=1352&pID=9>

**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-jon-newbie

**Common name:** Blue Runner

**Scientific name:** *Caranx crysos* (Mitchill, 1815)

**Family:** Carangidae

**Similar species:** Bar Jack (*Caranqoides ruber*)

Horse-eye Jack (*Caranx latus*)

Yellow Jack (*Caranqoides bartholomaei*)

Bluefish (*Pomatomus saltatrix*)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qa-Tgr3xWO-XLN3lx6iRdK>

**Authentication:** FishBase (mirror)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/154807/4637970>

**Additional information:**

<http://myfwc.com/wildlifehabitats/profiles/saltwater/jacks/blue-runner/>

<http://www.snorkelstj.com/blue-runner-jack.html>

**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-Erin Burge, cynde, jon-newbie; video-jon-newbie, Erin Burge

**Common name:** Blue Tang

**Scientific name:** *Acanthurus coeruleus* Bloch and Schneider, 1801

**Family:** Acanthuridae

**Similar species:** Doctorfish (*Acanthurus chirurgus*)

Ocean Surgeon (*Acanthurus tractus*)

see Surgeonfishes (*Acanthurus* spp.)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pSLpIIIDBjxOYd6RMoHiet>

**Authentication:** FishBase (mirror)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/177953/1501275>

**Additional information:**

<https://www.flmnh.ufl.edu/fish/Gallery/Descript/BlueTang/BlueTang.html>

<http://reefguide.org/carib/bluetang.html>

**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-meryltje, cynde, jon-newbie, Jansara, Zeba Knight, Chloe Keller, Sky Pilot, dew2; video-jon-newbie, Tyler

McKee, Casey Ludwick

**Common name:** Bluefish

**Scientific name:** *Pomatomus saltatrix* (Linnaeus, 1766)

**Family:** Pomatomidae

**Similar Species:** Blue Runner (*Caranx crysos*)

**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6qmGyTtpsU\\_1VRO5k1SvLOF](https://www.youtube.com/playlist?list=PLK1g13VpyT6qmGyTtpsU_1VRO5k1SvLOF)

**Authentication:** FishBase (mirror)

**IUCN Redlist:** Vulnerable

<https://www.iucnredlist.org/species/190279/115314064>

**Additional information:**

<https://www.fisheries.noaa.gov/species/bluefish>

<http://www.mafmc.org/bluefish/>

**Credits:** entry-Erin Burge; screen grab-Zeba Knight; video-jon-newbie

**Common name:** Bluehead

**Scientific name:** *Thalassoma bifasciatum* (Bloch, 1791)

**Family:** Labridae

**Similar species:** Initial phase Puddingwife (*Halichoeres radiatus*)

initial phase Slippery Dick (*Halichoeres bivittatus*)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6p4aSelWoGbGiERpd-9JTVp>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/187652/8590861>  
**Additional information:**  
<https://www.flmnh.ufl.edu/fish/discover/species-profiles/thalassoma-bifasciatum/>  
<http://eol.org/pages/213331/media>  
**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-Erin Burge, jon-newbie; video-jon-newbie, Erin Burge

**Common name:** [Bull Shark](#)  
**Scientific name:** *Carcharhinus leucas* (Müller and Henle, 1839)  
**Family:** Carcharhinidae (Class Chondrichthyes)  
**Similar species:** see [Positive identification of sharks](#)  
[Great White Shark \(\*Carcharodon carcharias\*\)](#)  
[Lemon Shark \(\*Neqapriion brevirostris\*\)](#)  
[Nurse Shark \(\*Ginglymostoma cirratum\*\)](#)  
[Sand Tiger Shark \(\*Carcharias taurus\*\)](#)  
[Sandbar Shark \(\*Carcharhinus plumbeus\*\)](#)  
[Tiger Shark \(\*Galeocerdo cuvier\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rGIqenBybOvoQI0saHcu5h>  
**Authentication:** [FishBase \(mirror\)](#)  
 Identification confirmed by Dean Grubbs (FSU) and Chip Cotton (SUNY Cobleskill)

**IUCN Redlist:** Near Threatened  
<https://www.iucnredlist.org/species/39372/10187195>  
**Additional information:**  
[http://species-identification.org/species.php?species\\_group=sharks&id=449](http://species-identification.org/species.php?species_group=sharks&id=449)  
<https://www.floridamuseum.ufl.edu/discover-fish/species-profiles/carcharhinus-leucas/>  
<http://myfwc.com/media/1388907/SharkChart.pdf>  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-Zeba Knight, Sky Pilot, meryl, Madduck1, Cody Sweitzer, Erin Burge; video-Cody Sweitzer, Erin Burge

## C

**Common name:** [Caribbean Spiny Lobster](#)  
**Scientific name:** *Panulirus argus* (Latreille, 1804)  
**Family:** Palinuridae (Phylum Arthropoda, Class Malacostraca)  
**Similar species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6oS7D-ctc1ZnTUCxkOCEvsc>  
**Authentication:** [SeaLifeBase \(mirror\)](#)  
**IUCN Redlist:** Data Deficient  
<https://www.iucnredlist.org/species/169976/6697254>  
**Additional information:**  
[https://en.wikipedia.org/wiki/Panulirus\\_argus](https://en.wikipedia.org/wiki/Panulirus_argus)  
<http://marinebio.org/species.asp?id=155>  
<http://reefguide.org/carib/lobster.html>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-OKI, jon-newbie, Zeba Knight, Sky Pilot; video-jon-newbie

**Common name:** [Clown Wrasse](#)  
**Scientific name:** *Halichoeres maculipinna* (Müller and Troschel in Schomburgk, 1848)  
**Family:** Labridae  
**Similar species:** [Bluehead \(\*Thalassoma bifasciatum\*\)](#)  
[Puddingwife \(\*Halichoeres radiatus\*\)](#)  
[Slippery Dick \(\*Halichoeres bivittatus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rkeXF-hSV-3exied8zVOVI>

## SharkCam Fishes

**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/187549/8565334>  
**Additional information:**  
<http://reefguide.org/clownwrasse.html>  
[http://www.kilili.com/kilili/uwss/slides/Halichoeres\\_maculipinna.html](http://www.kilili.com/kilili/uwss/slides/Halichoeres_maculipinna.html)  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie; video-jon-newbie

**Common name:** [Cobia](#)  
**Scientific name:** *Rachycentron canadum* (Linnaeus, 1766)  
**Family:** Rachycentridae  
**Similar species:** [Sharksucker \(\*Echeneis naucrates\*\)](#)  
[Whitefin Sharksucker \(\*Echeneis neucratoides\*\)](#)  
[Rainbow Runner \(\*Elaqatis bipinnulata\*\)](#)  
[Greater Amberjack \(\*Seriola dumerili\*\)](#)

**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6o0hQ\\_c1KFBKUBRppuMh0aq](https://www.youtube.com/playlist?list=PLK1g13VpyT6o0hQ_c1KFBKUBRppuMh0aq)  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/190190/70036823>  
**Additional information:**  
<https://en.wikipedia.org/wiki/Cobia>  
<http://www.flmnh.ufl.edu/fish/gallery/descript/cobia/cobia.html>  
**Credits:** entry-Kyle Gallion; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, meryltje, OKI, cynde, jangara, meryl, Madduck1; video-jon-newbie, Erin Burge

**Common name:** [Cocoa Damselfish](#)  
**Scientific name:** *Stegastes xanthurus* (Poey, 1860)  
**Note:** The geographic range of the cocoa damselfish in the western Atlantic has historically included Brazilian populations that have been shown to be genetically distinct. These data are currently unpublished (Robertson DR, pers. comm.). For additional information see [Eschmeyer's Catalog of Fishes](#) (search *Stegastes variabilis*), [Robertson and Van Tassell \(2019\)](#), and [Santos de Souza et al. \(2016\)](#). Consequently, cocoa damselfish from North Carolina through the southern Caribbean are now assigned to *Stegastes xanthurus*, while the Brazilian species retains the older name, *Stegastes variabilis* (Castelnau, 1855).

**Family:** Pomacentridae  
**Similar species:** [Bicolor Damselfish \(\*Stegastes partitus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6r98NwAhocLqFvt44-Jc6OV>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern as *S. xanthurus*  
<https://www.iucnredlist.org/species/68308968/68308972>  
**Additional information:**  
<https://reefguide.org/carib/cocoadamselfish.html>  
<http://www.reef.org/enews/articles/damselfish-revised>  
[https://sta.uwi.edu/fst/lifesciences/documents/Stegastes\\_variabilis.pdf](https://sta.uwi.edu/fst/lifesciences/documents/Stegastes_variabilis.pdf)  
**Credits:** entry-Jordan Beckner; editing-jon-newbie and Erin Burge; screen grab-John Rainey, jon-newbie, meryltje, Zeba Knight, Erin Burge; video-jon-newbie

**Common name:** [Comb Jelly](#)  
**Scientific name:** *Beroe ovata* Bruguière, 1789  
**Family:** Beroidae (Phylum Ctenophora, Class Nuda)  
**Similar species:** [Moon Jelly \(\*Aurelia aurita\*\)](#)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6o9DX3dT0iBFNSLes50i\\_3C](https://www.youtube.com/playlist?list=PLK1g13VpyT6o9DX3dT0iBFNSLes50i_3C)  
**Authentication:** [SeaLifeBase](#)  
**IUCN Redlist:** Not Listed  
**Additional information:**

## Appendix 1 – Additional information

<https://www.montereybayaquarium.org/animal-guide/invertebrates/comb-jelly>  
[http://animaldiversity.org/accounts/Beroe\\_ovata/](http://animaldiversity.org/accounts/Beroe_ovata/)  
**Credits:** entry-Olivia Bertelsen and Erin Burge; editing-Erin Burge; screen grab-Olivia Bertelsen; video-Olivia Bertelsen

**Common name:** Common Loon  
**Scientific name:** *Gavia immer* (Brunnich, 1764)  
**Family:** Gaviidae (Phylum Chordata, Class Aves)  
**Similar species:** None  
**Authentication:** <http://www.allaboutbirds.org/guide/common-loon/id>  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/22697842/132607418>  
**Additional information:**  
<http://animals.nationalgeographic.com/animals/birds/common-loon/>  
<https://www.audubon.org/field-guide/bird/common-loon>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-Ryan Bono

**Common name:** Common Octopus  
**Scientific name:** *Octopus vulgaris* Cuvier, 1797  
**Family:** Octopodidae (Phylum Mollusca, Class Cephalopoda)  
**Similar species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6q5-ynu93-LZ1Y2NUTqyAsO>  
**Authentication:** [SeaLifeBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/162571/918906>  
**Additional information:**  
[https://en.wikipedia.org/wiki/Common\\_octopus](https://en.wikipedia.org/wiki/Common_octopus)  
<http://animals.nationalgeographic.com/animals/invertebrates/common-octopus/>  
<http://reefguide.org/carib/commonoctopus.html>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, Sky Pilot; video-jon-newbie

**Common name:** Creole Wrasse  
**Scientific name:** *Clepticus parrae* (Bloch and Schneider, 1801)  
**Family:** Labridae  
**Similar species:** Blue Chromis (*Chromis cyanea*)  
juvenile Purple Reeffish (*Chromis scotti*)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6oXQ5CZMYp67C--DaJLOA\\_i](https://www.youtube.com/playlist?list=PLK1g13VpyT6oXQ5CZMYp67C--DaJLOA_i)  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/187546/8564076>  
**Additional information:**  
<http://www.whatsthatfish.com/fish/creole-wrasse/1589>  
[http://species-identification.org/species.php?species\\_group=caribbean\\_diving\\_guide&id=254](http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=254)  
<http://thedivingblog.com/fish-identification-creole-wrasse/>  
**Credits:** entry-Gary Sturm; editing- Erin Burge; screen grab-BearBell, Gary Sturm, jon-newbie; video-jon-newbie

**Common name:** Crevalle Jack  
**Scientific name:** *Caranx hippos* (Linnaeus, 1766)  
**Family:** Carangidae  
**Similar species:** African Pompano (*Alectis ciliaris*)  
Permit (*Trachinotus falcatus*)  
Horse-eye Jack (*Caranx latus*)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6r1RGLFG8ik4kJMD9Zoadsc>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/190458/115323321>  
**Additional information:**  
[https://en.wikipedia.org/wiki/Crevalle\\_jack](https://en.wikipedia.org/wiki/Crevalle_jack)  
<https://igfa.org/species/147-jack-crevalle.aspx?CommonName=147-jack-crevalle.aspx>  
<http://myfwc.com/wildlifehabitats/profiles/saltwater/jacks/crevalle-jack/>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-Ryan Bono, pinebutte, meryltje, jon-newbie, Zeba Knight; video-jon-newbie

**Common name:** Cubbyu  
**Scientific name:** *Pareques umbrosus* (Jordan and Eigenmann, 1889)  
**Family:** Sciaenidae  
**Similar species:** Whitespotted Soapfish (*Rypticus maculatus*)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qbpJC-updIkIW1TonZLgo>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/47148543/49223380>  
**Additional information:**  
<http://eol.org/pages/211227/media>  
<http://www.iucnredlist.org/details/47148229/0>  
**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-jon-newbie; video-jon-newbie, Erin Burge

**Common name:** Cubera Snapper  
**Scientific name:** *Lutjanus cyanopterus* (Cuvier in Cuvier and Valenciennes, 1828)  
**Family:** Lutjanidae  
**Similar species:** Gag (*Mycteroperca microlepis*)  
Gray Snapper (*Lutjanus griseus*)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6ptZ1qm\\_0svYa3hf-gfS3V2](https://www.youtube.com/playlist?list=PLK1g13VpyT6ptZ1qm_0svYa3hf-gfS3V2)  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/12417/506633>  
**Additional information:**  
<https://www.flmnh.ufl.edu/fish/Gallery/Descript/CuberaSnapper/CuberaSnapper.html>  
<http://animals.nationalgeographic.com/animals/fish/cubera-snapper/>  
**Credits:** entry-John Rainey and Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, meryltje, cynde, Sky Pilot, Zeba Knight, Brenda Sandefur, Erin Burge, BearBell; video-jon-newbie, Erin Burge

## D

**Common name:** Doctorfish  
**Scientific name:** *Acanthurus chirurgus* (Bloch, 1787)  
**Family:** Acanthuridae  
**Similar species:** Adult Blue Tang (*Acanthurus coeruleus*) Ocean Surgeon (*Acanthurus tractus*)  
see Surgeonfishes *Acanthurus* spp.  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rTLR1CJs8mPH0IHycvDIH>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/177982/1510626>  
**Additional information:**  
<https://www.flmnh.ufl.edu/fish/Gallery/Descript/DrFish/Doctor.htm>  
<http://reefguide.org/carib/doctorfish.html>  
**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, cynde, pinebutte, meryl; video-jon-newbie

**E**  
**F**

**Common name:** [French Angelfish](#)  
**Scientific name:** *Pomacanthus paru* (Bloch, 1787)  
**Family:** Pomacanthidae  
**Similar species:** [Blue Angelfish \(\*Holocanthus bermudensis\*\)](#)  
[Queen Angelfish \(\*Holocanthus ciliaris\*\)](#)  
[Atlantic Spadefish \(\*Chaetodipterus faber\*\)](#)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6q0NCA\\_S\\_ujKO7zCQscSvaG](https://www.youtube.com/playlist?list=PLK1g13VpyT6q0NCA_S_ujKO7zCQscSvaG)  
**Authentication:** [FishBase](#) ([mirror](#))  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/165898/6160204>  
**Additional information:**  
<http://animal-world.com/encyclo/marine/angels/FrenchAngelfish.php>  
<http://reefguide.org/carib/frenchangel.html>  
**Credits:** entry-Kyle Gallion; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, Zeba Knight, Erin Burge; video-jon-newbie, Erin Burge

**G**

**Common name:** [Gag](#)  
**Scientific name:** *Mycteroperca microlepis* (Goode and Bean, 1879)  
**Family:** Serranidae  
**Similar species:** [Black Grouper \(\*Mycteroperca bonaci\*\)](#)  
[Goliath Grouper \(\*Epinephelus itajara\*\)](#)  
[Scamp \(\*Mycteroperca phenax\*\)](#)  
[Cubera Snapper \(\*Lutjanus cyanopterus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rRjTNDRC9Z6K930bhV8Yw>  
**Authentication:** [FishBase](#) ([mirror](#))  
**IUCN Redlist:** Vulnerable  
<https://www.iucnredlist.org/species/14050/46910927>  
**Additional information:**  
<http://myfwc.com/wildlifehabitats/profiles/saltwater/grouper/ga-g-grouper/>  
<http://www.seafoods.com/product/396-scamp-florida>  
**Note:** Social interactions and their relationship to color and pattern are discussed in [Gilmore and Jones \(1992\)](#).  
**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-John Rainey, meryltje, jon-newbie, BearBell, Zeba Knight, Erin Burge; video-jon-newbie, Erin Burge

**Common name:** [Giant Manta](#)  
**Scientific name:** *Mobula birostris* (Walbaum, 1792)  
**Family:** Mobulidae (Class Chondrichthyes)  
**Similar species:** [Spotted Eagle Ray \(\*Aetobatus narinari\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6gmTnxIF7iib1JJNEYL-lrC>  
**Authentication:** [FishBase](#) ([mirror](#))  
**IUCN Redlist:** Vulnerable  
<https://www.iucnredlist.org/species/198921/126669349>  
**Additional information:**  
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/manta-birostris/>  
<http://marinebio.org/species.asp?id=49>  
**Credits:** entry-Tyler McKee; editing-Erin Burge; screen grab- Zeba Knight, Tyler McKee; video-Tyler McKee

**Common name:** [Goliath Grouper](#)  
**Scientific name:** *Epinephelus itajara* (Lichtenstein, 1822)  
**Family:** Serranidae  
**Similar species:** [Gag \(\*Mycteroperca microlepis\*\)](#)  
[Scamp \(\*Mycteroperca phenax\*\)](#)

**SharkCam Fishes**

**Common name:** [Cubera Snapper \(\*Lutjanus cyanopterus\*\)](#)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6q0NCA\\_S\\_ujKO7zCQscSvaG](https://www.youtube.com/playlist?list=PLK1g13VpyT6q0NCA_S_ujKO7zCQscSvaG)  
**Authentication:** [FishBase](#) ([mirror](#))  
**IUCN status:** Vulnerable  
<https://www.iucnredlist.org/species/195409/46957794>  
**Additional information:**  
[https://en.wikipedia.org/wiki/Atlantic\\_goliath\\_grouper](https://en.wikipedia.org/wiki/Atlantic_goliath_grouper)  
<http://www.flmnh.ufl.edu/fish/gallery/descript/goliathgrouper/goliathgrouper.html>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, getyasome, s\_TpAman; video-jon-newbie

**Common name:** [Gray Snapper](#)  
**Alternate common name:** Mangrove Snapper  
**Scientific name:** *Lutjanus griseus* (Linnaeus, 1758)  
**Family:** Lutjanidae  
**Similar species:** [Cubera Snapper \(\*Lutjanus cyanopterus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pWSkeaDth4RXDWqMv1SgGe>  
**Authentication:** [FishBase](#) ([mirror](#))  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/192941/2180367>  
**Additional information:**  
<http://reefguide.org/carib/graysnapper.html>  
<https://www.flmnh.ufl.edu/fish/discover/species-profiles/lutjanus-griseus>  
<http://reefguide.org/carib/graysnapper.html>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie; video-jon-newbie

**Common name:** [Gray Triggerfish](#)  
**Scientific name:** *Balistes capricus* Gmelin, 1789  
**Family:** Balistidae  
**Similar species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6oOollavbaSoOIRoxTslfae>  
**Authentication:** [FishBase](#) ([mirror](#))  
**IUCN Redlist:** Vulnerable  
<https://www.iucnredlist.org/species/193736/97662794>  
**Additional information:**  
<https://www.flmnh.ufl.edu/fish/discover/species-profiles/balistes-capricus>  
<http://myfwc.com/fishing/saltwater/recreational/triggerfish/>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie; video-jon-newbie

**Common name:** [Graysby](#)  
**Scientific name:** *Cephalopholis cruentata* (Lacepède, 1802)  
**Family:** Serranidae  
**Similar species:** [Black Sea Bass \(\*Centropristis striata\*\)](#)  
[Whitespotted Soapfish \(\*Rypticus maculatus\*\)](#)  
[Greater Soapfish \(\*Rypticus saponaceus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pHIV3OwnX1lCHIuUyD7KA7>  
**Authentication:** [FishBase](#) ([mirror](#))  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/132761/46916787>  
**Additional information:**  
<http://safmc.net/regulations/regulations-by-species/graysby-2/>  
<https://reefguide.org/graysby.html>  
**Credits:** entry-Theresa Hegarty; editing-Erin Burge; screen grab-Erin Burge, Zeba Knight; video-Erin Burge

**Common name:** [Great Barracuda](#)  
**Scientific name:** *Sphyræna barracuda* (Edwards in Catesby, 1771)

## Appendix 1 – Additional information

**Family:** Sphyraenidae  
**Similar species:** King Mackerel (*Scomberomorus cavalla*)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6o8yF58BhDNUqEMyq\\_qXMqC](https://www.youtube.com/playlist?list=PLK1g13VpyT6o8yF58BhDNUqEMyq_qXMqC)  
**Authentication:** FishBase (mirror)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/190399/115319634>  
**Additional information:**  
<http://reefguide.org/carib/barracuda.html>  
<https://www.flmnh.ufl.edu/fish/discover/species-profiles/sphyraena-barracuda/>  
**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-Ryan Bono, meryltje, jon-newbie; video-jon-newbie, Erin Burge

**Common name:** Great Hammerhead  
**Scientific name:** *Sphyrna mokarran* (Rüppell, 1837)  
**Family:** Sphyrnidae (Class Chondrichthyes)  
**Similar Species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qOES7EfilWBR6migzsq-BI>  
**Authentication:** FishBase (mirror)  
Identification confirmed by Dean Grubbs (FSU) and Chip Cotton (SUNY Cobleskill)  
**IUCN Redlist:** Endangered  
<https://www.iucnredlist.org/species/39386/10191938>  
**Additional information:**  
<https://www.floridamuseum.ufl.edu/discover-fish/species-profiles/sphyrna-mokarran/>  
[http://www.science.fau.edu/sharklab/pages/evolution\\_res.html](http://www.science.fau.edu/sharklab/pages/evolution_res.html)  
**Credits:** entry-Erin Burge; editing-Courtney Burge, screen grab-Sky Pilot, Zeba Knight, Erin Burge; video- Sky Pilot, Zeba Knight, Erin Burge

**Common name:** Great White Shark  
**Scientific name:** *Carcharodon carcharias* (Linnaeus, 1758)  
**Family:** Lamnidae (Class Chondrichthyes)  
**Similar species:** see [Positive identification of sharks](#)  
[Bull Shark \(\*Carcharhinus leucas\*\)](#)  
[Lemon Shark \(\*Negaprion brevirostris\*\)](#)  
[Nurse Shark \(\*Ginglymostoma cirratum\*\)](#)  
[Sand Tiger Shark \(\*Carcharias taurus\*\)](#)  
[Sandbar Shark \(\*Carcharhinus plumbeus\*\)](#)  
[Tiger Shark \(\*Galeocerdo cuvier\*\)](#)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6oDPInqbFMTkQ\\_5JIHgb4Pq](https://www.youtube.com/playlist?list=PLK1g13VpyT6oDPInqbFMTkQ_5JIHgb4Pq)  
**Authentication:** FishBase (mirror)  
Identification confirmed by Dean Grubbs (FSU) and Chip Cotton (SUNY Cobleskill)  
**IUCN Redlist:** Vulnerable  
<https://www.iucnredlist.org/species/3855/10133872>  
**Additional information:**  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-Erika, Sky Pilot, Erin Burge, Faith Saupe; video-Erin Burge, Faith Saupe

**Common name:** Greater Amberjack  
**Scientific name:** *Seriola dumerili* (Risso, 1810)  
**Family:** Carangidae  
**Similar species:** [Almaco Jack \(\*Seriola rivoliana\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pLn1TwRrAFNwsvpIVv09Uj>  
**Authentication:** FishBase (mirror)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/198643/115341394>  
**Additional information:**

<http://myfwc.com/wildlifehabitats/profiles/saltwater/jacks/almaco-jack/>  
<http://www.eregulations.com/florida/fishing/flsw13a/keys-to-identifying-the-jacks/>  
**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-John Rainey, meryltje, jon-newbie; video-jon-newbie

**Common name:** Greater Soapfish  
**Scientific name:** *Rypticus saponaceus* (Bloch and Schneider, 1801)  
**Family:** Serranidae  
**Similar Species:** [Whitespotted Soapfish \(\*Rypticus maculatus\*\)](#)  
[Cubbyu \(\*Pareques umbrosus\*\)](#)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6rNrt-gankfwXI\\_ILSoGI\\_B](https://www.youtube.com/playlist?list=PLK1g13VpyT6rNrt-gankfwXI_ILSoGI_B)  
**Authentication:** FishBase (mirror)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/193272/2215661>  
**Additional information:**  
[http://species-identification.org/species.php?species\\_group=caribbean\\_diving\\_guide&id=194](http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=194)  
<https://reefguide.org/carib/greatersoapfish.html>  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-Sky Pilot, meryl, Erin Burge; video-Erin Burge

**Common name:** Green Moray  
**Scientific name:** *Gymnothorax funebris* Ranzani, 1839  
**Family:** Muraenidae  
**Similar species:** [Spotted Moray \(\*Gymnothorax moringa\*\)](#)  
[Sharptail Eel \(\*Myrichthys breviceps\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6ptAYiaOgN4V2QUikc7VKJu>  
**Authentication:** FishBase (mirror)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/195731/2409410>  
**Additional information:**  
<https://www.flmnh.ufl.edu/fish/discover/species-profiles/gymnothorax-funebris>  
<https://sublimecreatures.wordpress.com/2012/08/08/the-not-so-green-moray-eel/>  
**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-jon-newbie; video-jon-newbie, Nicholas Coleman

**Common name:** Green Sea Turtle  
**Scientific name:** *Chelonia mydas* (Linnaeus, 1758)  
**Family:** Cheloniidae (Phylum Chordata, Class Reptilia)  
**Similar species:** [Loggerhead Sea Turtle \(\*Caretta caretta\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rOOiRgJSbysTjIBW4k2-BV>  
**Authentication:** SeaLifeBase (mirror)  
Identification confirmed by Kate Mansfield (UCF)  
**IUCN Redlist:** Endangered  
<https://www.iucnredlist.org/species/4615/11037468>  
**Additional information:**  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-AlliCat93, FLNC\_NWT, Zeba Knight, Erin Burge; video- Erin Burge

## H

**Common name:** Harlequin Bass  
**Scientific name:** *Serranus tigrinus* (Bloch, 1790)  
**Family:** Serranidae  
**Similar species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rUqZPyg2LLiG6SBxhXwJfj>  
**Authentication:** FishBase (mirror)

**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/154799/115236890>  
**Additional information:**  
<http://www.aquariumdomain.com/viewSpeciesMarine.php?id=108>  
<http://reefguide.org/carib/harlequinbass.html>  
<http://www.snorkelstj.com/harlequin-bass.html>  
**Credits:** entry-Randy Fink; editing-jon-newbie and Erin Burge; screen grab-jon-newbie; video-Erin Burge

**Common name:** Hogfish  
**Scientific name:** *Lachnolaimus maximus* (Walbaum, 1792)  
**Family:** Labridae  
**Similar species:** [Blue Angelfish \(\*Holacanthus bermudensis\*\)](#) [Queen Angelfish \(\*Holacanthus ciliaris\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6r67p2wQur4nLNwLti-c6su>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Vulnerable  
<https://www.iucnredlist.org/species/11130/124708500>  
**Additional information:**  
<https://www.flmnh.ufl.edu/fish/Gallery/Descript/Hogfish/Hogfish.html>  
<http://reefguide.org/carib/hogfish.html>  
**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, meryltje, BearBell, meryl, Zeba Knight, Happywho; video-jon-newbie, Erin Burge

**Common name:** [Horse-eye Jack](#)  
**Scientific name:** *Caranx latus* Agassiz in Spix and Agassiz, 1831  
**Family:** Carangidae  
**Similar species:** [Blue Runner \(\*Caranx crysos\*\)](#)  
[Bar Jack \(\*Caranx ruber\*\)](#)  
[Yellow Jack \(\*Caranx bartholomaei\*\)](#)  
[Yellowtail Snapper \(\*Ocyurus chrysurus\*\)](#)  
[Vermilion Snapper \(\*Rhomboplites aurorubens\*\)](#)  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/191829/2007005>  
**Additional information:**  
[https://en.wikipedia.org/wiki/Horse-eye\\_jack](https://en.wikipedia.org/wiki/Horse-eye_jack)  
<http://reefguide.org/carib/horseeyejack.html><https://igfa.org/species/148-jack-horse-eye.aspx?CommonName=148-jack-horse-eye.aspx>  
**Credits:** entry-Kyle Gallion; editing-jon-newbie and Erin Burge; screen grab-jon-newbie

**Common name:** [Human \(Freediver and Scuba Diver\)](#)  
**Scientific name:** *Homo sapiens* Linnaeus, 1758  
**Family:** Hominidae (Phylum Chordata, Class Mammalia)  
**Note:** The most frequently seen scuba divers on SharkCam are the maintenance divers, Jim Atack and Erin Burge. Other maintenance divers are listed in [Appendix 2](#). Free divers are typically spearfishers on commercial or private charters. Diving charters to FPT and Sharkcam are available from dive shops in Southport and Carolina Beach, NC.  
**Similar species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6r-zIAAvd0UOHvulAFiudIY>  
**Authentication:** [Integrated Taxonomic Information System](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/136584/4313662>  
**Additional information:**  
[https://en.wikipedia.org/wiki/Scuba\\_diving](https://en.wikipedia.org/wiki/Scuba_diving)  
<https://en.wikipedia.org/wiki/Freediving>

## SharkCam Fishes

**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, Erin Burge, AngelhasnewwingsNC; video-jon-newbie, Erin Burge

### I

### J

### K

**Common name:** [King Mackerel](#)  
**Scientific name:** *Scomberomorus cavalla* (Cuvier, 1829)  
**Family:** Scombridae  
**Similar species:** [Great Barracuda \(\*Sphyrna barracuda\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rXwQZzEZikeZ--zz-9PV9I>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/170339/6755835>  
**Additional information:**  
<http://www.dnr.sc.gov/marine/species/kingmackerel.html>  
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/scomberomorus-cavalla>  
<https://www.igfa.org/species/157-mackerel-king.aspx?CommonName=157-mackerel-king.aspx>  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-jon-newbie, Sky Pilot; video-jon-newbie

**Common name:** [Knobbed Porgy](#)  
**Scientific name:** *Calamus nodosus* Randall and Caldwell, 1966  
**Family:** Sparidae  
**Similar species:** [Red Porgy \(\*Pagrus pagrus\*\)](#)  
[Saucereye Porgy \(\*Calamus calamus\*\)](#)  
[Scup \(\*Stenotomus chrysops\*\)](#)  
[White Grunt \(\*Haemulon plumierii\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rGrCHuy8vVhEw25oZmhKF>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/170178/1288028>  
**Additional information:**  
<http://myfwc.com/wildlifehabitats/profiles/saltwater/porgy/knobbed-porgy/>  
<http://eol.org/pages/211202/overview>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-cynde, jon-newbie; video-jon-newbie

### L

**Common name:** [Lemon Shark](#)  
**Scientific name:** *Negaprion brevirostris* (Poey, 1868)  
**Family:** Carcharhinidae (Class Chondrichthyes)  
**Similar species:** see [Positive identification of sharks](#)  
[Bull Shark \(\*Carcharhinus leucas\*\)](#)  
[Great White Shark \(\*Carcharodon carcharias\*\)](#)  
[Nurse Shark \(\*Ginglymostoma cirratum\*\)](#)  
[Sand Tiger Shark \(\*Carcharias taurus\*\)](#)  
[Sandbar Shark \(\*Carcharhinus plumbeus\*\)](#)  
[Tiger Shark \(\*Galeocerdo cuvier\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6of-I72FvQSlpORS1JvgxuS>  
**Authentication:** [FishBase \(mirror\)](#)  
 Identification confirmed by Dean Grubbs (FSU) and Chip Cotton (SUNY Cobleskill)  
**IUCN Redlist:** Near Threatened  
<https://www.iucnredlist.org/species/39380/81769233>  
**Additional information:** [http://species-identification.org/species.php?species\\_group=sharks&id=470](http://species-identification.org/species.php?species_group=sharks&id=470)

## Appendix 1 – Additional information

<https://www.floridamuseum.ufl.edu/discover-fish/species-profiles/negaprion-brevirostris/>

**Credits:** entry-Erin Burge; screen grab-Zeba Knight, Sky Pilot, britth, Space\_whale2112, Cody Sweitzer, BearBell, dew2, Happywho, Erin Burge; video-Erin Burge

**Common Name:** Little Tunny

**Alternate common names:** False Albacore, Little Tuna, Bonita, Albie

**Scientific Name:** *Euthynnus alletteratus* (Rafinesque, 1810)

**Family:** Scombridae

**Similar species:** Atlantic Bonito (*Sarda sarda*)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pPiqVXnguEYGXrWZ-i0CdN>

**Authentication:** FishBase (mirror)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/170345/6759394>

**Additional information:**

<http://www.flmnh.ufl.edu/fish/gallery/descript/littletunny/littletunny.html>

[https://en.wikipedia.org/wiki/Little\\_tunny](https://en.wikipedia.org/wiki/Little_tunny)

<http://www.stripersonline.com/surftalk/topic/297937-how-to-tell-apart-an-atlantic-bonito-from-a-false-albacore/>

**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-Christine Casterline, jon-newbie, OKI; video-jon-newbie

**Common name:** Loggerhead Sea Turtle

**Scientific name:** *Caretta caretta* (Linnaeus, 1758)

**Family:** Cheloniidae (Phylum Chordata, Class Reptilia)

**Similar species:** Green Sea Turtle (*Chelonia mydas*)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pXRLmUVe3l2WCyt33HT07>

**Authentication:** SeaLifeBase (mirror)

**IUCN Redlist:** Vulnerable

<https://www.iucnredlist.org/species/3897/119333622>

**Additional information:**

[http://www.ncwildlife.org/Portals/0/Conserving/documents/FactSheets/nongame\\_seaturtle\\_hires.pdf](http://www.ncwildlife.org/Portals/0/Conserving/documents/FactSheets/nongame_seaturtle_hires.pdf)

<http://www.fws.gov/northflorida/seaturtles/turtle%20factsheets/loggerhead-sea-turtle.htm>

<http://www.nmfs.noaa.gov/pr/species/turtles/loggerhead.htm>

**Credits:** entry-Randy Fink; editing-jon-newbie and Erin Burge; screen grab-Jim, jon-newbie, OKI, Erin Burge, cynde; video-jon-newbie. Erin Burge

### M

**Common name:** Moon Jelly

**Scientific name:** *Aurelia aurita* (Linnaeus, 1758)

**Family:** Ulmaridae (Phylum Cnidaria, Class Scyphozoa)

**Similar species:** None

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rTiaXi-k2pGkj7nQUL7y39>

**Authentication:** SeaLifeBase (mirror)

**IUCN Redlist:** Not Listed

**Additional information:**

[https://en.wikipedia.org/wiki/Aurelia\\_aurita](https://en.wikipedia.org/wiki/Aurelia_aurita)

<http://reefguide.org/carib/moonjelly.html>

**Credits:** entry-Kyle Gallion; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, OKI; video-jon-newbie

### N

**Common name:** Northern Sennet

**Scientific name:** *Sphyræna borealis* DeKay, 1842

**Family:** Sphyrænidae

**Similar Species:** Round Scad (*Decapterus punctatus*)

Bigeve Scad (*Selar crumenophthalmus*)

Scaled Herring (*Harengula jaquana*)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6poEYAI0X1rBD6ZrstQ0qlc>

**Authentication:** FishBase (mirror)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/20666166/115385705>

**Additional information:**

<https://spo.nmfs.noaa.gov/sites/default/files/pdf-content/1972/701/houde.pdf>

<https://biogeodb.stri.si.edu/caribbean/en/thefishes/species/4246>

**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-Sky Pilot, Erin Burge; video-Erin Burge

**Common name:** Nurse Shark

**Scientific name:** *Ginglymostoma cirratum* (Bonnaterre, 1788)

**Family:** Ginglymostomatidae (Class Chondrichthyes)

**Similar species:** see Positive identification of sharks

Bull Shark (*Carcharhinus leucas*)

Great White Shark (*Carcharodon carcharias*)

Lemon Shark (*Negaprion brevirostris*)

Sand Tiger Shark (*Carcharias taurus*)

Sandbar Shark (*Carcharhinus plumbeus*)

Tiger Shark (*Galeocerdo cuvier*)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6p-PyKli-9TMVc2lVxancDx>

**Authentication:** FishBase (mirror)

**IUCN Redlist:** Data Deficient

<https://www.iucnredlist.org/species/60223/12325895>

**Additional information:**

<http://reefguide.org/carib/nurses shark.html>

<http://www.flmnh.ufl.edu/fish/gallery/descript/nurses shark/nurses shark.htm>

**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, Zeba Knight, ; video-jon-newbie

### O

**Common name:** Ocean Surgeon

**Scientific name:** *Acanthurus tractus* Poey, 1860

**Family:** Acanthuridae

**Similar species:** Adult Blue Tang (*Acanthurus coeruleus*)

Doctorfish (*Acanthurus chirurgus*)

see Surgeonfishes (*Acanthurus* spp.)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6p8275-PC5Sdb27Y1feHxbX>

**Authentication:**

<http://www.mapress.com/zootaxa/2011/f/zt02905p068.pdf>

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/47139706/115398896>

**Additional information:**

<http://reefguide.org/carib/surgeonfish.html>

[http://species-identification.org/species.php?species\\_group=caribbean\\_diving\\_guide&id=207](http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=207)

**Credits:** entry-Erin Burge; screen grab-Novictulus; video-Erin Burge

**Common name:** Orange Filefish

**Scientific name:** *Aluterus schoepfii* (Walbaum, 1792)

**Family:** Monacanthidae

**Similar species:** Scrawled Filefish (*Aluterus scriptus*)

Orangespotted Filefish (*Cantherhines pullus*)

Planehead Filefish (*Stephanolepis hispidus*)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6r0x2xC7VCDMnHKvQHFi3gi>

**Authentication:** FishBase (mirror)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/16404974/115354409>

**Additional information:**

<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/aluterus-schoepfii/>

[http://www.gma.org/fogm/Alutera\\_schoepfii.htm](http://www.gma.org/fogm/Alutera_schoepfii.htm)

**Credits:** entry-Gary Sturm and Erin Burge; editing- Erin Burge; screen grab-jon-newbie, Gary Sturm; video-jon-newbie, Devon Carey

**Common name:** [Orangespotted Filefish](#)

**Scientific name:** *Cantherhines pullus* (Ranzani, 1842)

**Family:** Monacanthidae

**Similar species:** [Scrawled Filefish \(\*Aluterus scriptus\*\)](#)

[Orange Filefish \(\*Aluterus schoepfii\*\)](#)

[Planehead Filefish \(\*Stephanolepis hispidus\*\)](#)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6oxiUq88UI8iYUUETZomPip>

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/16431606/115356802>

**Additional information:**

<http://reefguide.org/carib/orangespottedfile.html>

<http://www.snorkelstj.com/orangespotted-filefish.html>

**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-jon-newbie; video-Devon Carey

**P**

**Common name:** [Permit](#)

**Scientific name:** *Trachinotus falcatus* (Linnaeus, 1758)

**Family:** Carangidae

**Similar species:** [African Pompano \(\*Alectis ciliaris\*\)](#)

[Creville Jack \(\*Caranx hippos\*\)](#)

[Horse-eye Jack \(\*Caranx latus\*\)](#)

**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6oqZF\\_abWb8j4icFLbSIACg](https://www.youtube.com/playlist?list=PLK1g13VpyT6oqZF_abWb8j4icFLbSIACg)

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/190407/16510662>

**Additional information:**

<http://www.flmnh.ufl.edu/fish/gallery/Descript/permit/permit.html>

[https://en.wikipedia.org/wiki/Permit\\_\(fish\)](https://en.wikipedia.org/wiki/Permit_(fish))

**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, meryltje; video-jon-newbie

**Common name:** [Pilotfish](#)

**Scientific name:** *Naucrates ductor* (Linnaeus, 1758)

**Family:** Carangidae

**Similar species:** juvenile [Banded Rudderfish \(\*Seriola zonata\*\)](#)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6oHS7Rsg0VCh5UzZ2Pls1p>

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/190452/115322218>

**Additional information:** [https://en.wikipedia.org/wiki/Pilot\\_fish](https://en.wikipedia.org/wiki/Pilot_fish)

<http://renotonna.yolasite.com/fanfru.php>

<https://www.thedodo.com/how-one-genius-little-fish-con-672797576.html>

**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-jon-newbie; video-jon-newbie

**Common name:** [Planehead Filefish](#)

**Scientific name:** *Stephanolepis hispidus* (Linnaeus, 1766)

**Family:** Monacanthidae

**Similar species:** [Scrawled Filefish \(\*Aluterus scriptus\*\)](#)

[Orange Filefish \(\*Aluterus schoepfii\*\)](#)

[Orangespotted Filefish \(\*Cantherhines pullus\*\)](#)

[Gray Triggerfish \(\*Balistes caprisucus\*\)](#)

**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6p-y\\_HW3QYn5boAPUqLzs-H](https://www.youtube.com/playlist?list=PLK1g13VpyT6p-y_HW3QYn5boAPUqLzs-H)

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/16781168/115366674>

**Additional information:**

<http://txmarspecies.tamug.edu/fishdetails.cfm?scinameID=Stephanolepis%20hispidus>

<http://www.redorbit.com/reference/planehead-filefish-stephanolepis-hispidus/>

**Credits:** entry-Gary Sturm; editing-Erin Burge; screen grab-jon-newbie; video-jon-newbie

**Common name:** [Porkfish](#)

**Scientific name:** *Anisotremus virginicus* (Linnaeus, 1758)

**Family:** Haemulidae

**Similar species:** None

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/194409/2333098>

**Additional information:**

<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/anisotremus-virginicus/>

[https://sta.uwi.edu/fst/lifesciences/documents/Anisotremus\\_virginicus.pdf](https://sta.uwi.edu/fst/lifesciences/documents/Anisotremus_virginicus.pdf)

**Credits:** entry-Gary Sturm; editing-Erin Burge; screen grab-Erin Burge

**Common name:** [Princess Parrotfish](#)

**Scientific name:** *Scarus taeniopterus* Desmarest in Bory de Saint-Vincent, 1831

**Family:** Scaridae

**Similar species:** initial phase [Striped Parrotfish \(\*Scarus iseri\*\)](#)

initial phase [Redband Parrotfish \(\*Sparisoma aurofrematum\*\)](#)

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/190750/17784981>

**Additional information:**

<https://reefguide.org/carib/princessparrot.html>

[https://sta.uwi.edu/fst/lifesciences/documents/Scarus\\_teniopterus.pdf](https://sta.uwi.edu/fst/lifesciences/documents/Scarus_teniopterus.pdf)

**Credits:** entry-Gary Sturm and Erin Burge; editing-Erin Burge; screen grab-jon-newbie, BearBell, Elaine T, Jessica Pollack

**Common name:** [Puddingwife](#)

**Scientific name:** *Halichoeres radiatus* (Linnaeus, 1758)

**Family:** Labridae

**Similar species:** [Bluehead \(\*Thalassoma bifasciatum\*\)](#)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qG2fisXZCAjSt1EUTJcYFF>

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/187736/8616408>

**Additional information:**

<http://reefguide.org/carib/puddingwife.html>

<http://www.snorkelstj.com/puddingwife.html>

**Note:** Mixed species hunting behaviors have been described between puddingwife and bar jacks. See

<https://youtu.be/r5nyBLmMJ2M> and a paper by [Baird \(1993\)](#) describing this behavior.

**Credits:** entry-Randy Fink; editing-jon-newbie and Erin Burge; screen grab-meryltje, jon-newbie, BearBell, meryl, Zeba Knight; video-jon-newbie

**Common name:** [Purple Reeffish](#)

**Scientific name:** *Chromis scotti* Emery, 1968

**Family:** Pomacentridae

## Appendix 1 – Additional information

**Similar species:** [Cocoa Damselfish \(\*Stegastes xanthurus\*\)](#)

[Blue Chromis \(\*Chromis cyanea\*\)](#)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pdZ5Be2cgzemUKAKAKzIQI>

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/188469/1879814>

**Additional information:** No additional good internet sources found.

**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-jon-newbie, meryl, Jessica Pollack; video-jon-newbie

### Q

**Common name:** [Queen Angelfish](#)

**Scientific name:** [Holacanthus ciliaris](#) (Linnaeus, 1758)

**Family:** Pomacanthidae

**Similar species:** [Blue Angelfish \(\*Holacanthus bermudensis\*\)](#)

[Hogfish \(\*Lachnolaimus maximus\*\)](#)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6o3EoXicmyuBTtC1bsHaSO3>

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/165883/6156566>

**Additional information:**

[https://en.wikipedia.org/wiki/Queen\\_angelfish](https://en.wikipedia.org/wiki/Queen_angelfish)

<http://reefguide.org/carib/queenangel.html>

**Credits:** entry-Kyle Gallion; editing-jon-newbie and Erin Burge; screen grab-Christine Casterline, jon-newbie, meryl, s\_TpaMan, Cody Sweitzer; video-jon-newbie

### R

**Common name:** [Rainbow Runner](#)

**Scientific name:** [Elagatis bipinnulata](#) (Quoy and Gaimard, 1825)

**Family:** Carangidae

**Similar Species:** [Cobia \(\*Rachycentron canadum\*\)](#)

[Yellowtail Snapper \(\*Ocyurus chrysurus\*\)](#)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6o4OL8iL6KF9DPwmtXSwaiT>

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/16440027/16510157>

**Additional information:**

<http://www.fao.org/fishery/species/3122/en>

<http://myfwc.com/fishing/saltwater/recreational/cobia/>

**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, OKI; video-jon-newbie

**Common name:** [Red Drum](#)

**Alternate common names:** Redfish, Channel Bass, Puppy Drum

**Scientific name:** [Sciaenops ocellatus](#) (Linnaeus, 1766)

**Family:** Sciaenidae

**Similar species:** None

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pYbC16Cj6g58wWsfPumHVN>

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/193270/49226782>

**Additional information:**

<http://portal.ncdenr.org/web/mf/red-drum>

[http://www.asmf.org/uploads/file/58d92c82AtlanticSciaenidHabitat\\_RedDrum.pdf](http://www.asmf.org/uploads/file/58d92c82AtlanticSciaenidHabitat_RedDrum.pdf)

<https://www.floridamuseum.ufl.edu/discover-fish/species-profiles/sciaenops-ocellatus/>

**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-Sky Pilot, Erin Burge; video-Erin Burge

**Common name:** [Red Lionfish](#)

**Scientific name:** [Pterois volitans](#) (Linnaeus, 1758)

**Family:** Scorpaenidae

**Similar species:** None. Another species of invasive lionfish, *Pterois miles*, also occurs at very low frequencies in North Carolina waters. *Pterois volitans* and *P. miles* are visually indistinguishable and most researchers do not attempt to separate them within the invasive range.

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rHilKoY-BicttFXtzVNXHp>

**Note:** Only a few lionfish have been seen on SharkCam. One was removed from the camera view on 27 December 2015. Please report any sightings of red lionfish on the SharkCam forum. Be sure to include the date and time of observation.

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/190468/78940195>

**Additional information:**

<http://www.flmnh.ufl.edu/fish/gallery/descript/redlionfish/rliionfish.html>

<http://nas.er.usgs.gov/queries/factsheet.aspx?speciesid=963>

**Credits:** entry-Randy Fink; editing-jon-newbie and Erin Burge; screen grab: Erin Burge, OKI, jon-newbie; video-jon-newbie, Erin Burge

**Common name:** [Red Porgy](#)

**Scientific name:** [Pagrus pagrus](#) (Linnaeus, 1758)

**Family:** Sparidae

**Similar Species:** [Knobbed Porgy \(\*Calamus nodosus\*\)](#)

[Saucereye Porgy \(\*Calamus calamus\*\)](#)

[Scup \(\*Stenotomus chrysops\*\)](#)

[White Grunt \(\*Haemulon plumierii\*\)](#)

**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6pGI79DB8z\\_B5mKF8GWTgYF](https://www.youtube.com/playlist?list=PLK1g13VpyT6pGI79DB8z_B5mKF8GWTgYF)

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/15873/788483>

**Additional information:**

<http://myfwc.com/wildlifehabitats/profiles/saltwater/porgy/red-porgy/>

<http://www.safmc.net/FishIDandRegs/FishGallery/RedPorgy>

**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, Zeba Knight; video-jon-newbie

**Common name:** [Redband Parrotfish](#)

**Scientific name:** [Sparisoma aurofrenatum](#) (Valenciennes in Cuvier and Valenciennes, 1840)

**Family:** Scaridae

**Similar species:** [Striped Parrotfish \(\*Scarus iseri\*\)](#)

[Princess Parrotfish \(\*Scarus taeniopterus\*\)](#)

[Stoplight Parrotfish \(\*Sparisoma viride\*\)](#)

[Yellowtail Parrotfish \(\*Sparisoma rubripinne\*\)](#)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6o0UjHkZIMHzLZOgZ2Tumam>

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/190729/17780851>

**Additional information:**

[http://species-identification.org/species.php?species\\_group=caribbean\\_diving\\_guide&id=252](http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=252)

<http://reefguide.org/carib/redbandparrot.html>

**Credits:** entry-Kyle Gallion; editing-jon-newbie and Erin Burge; screen grab-Erin Burge, jon-newbie, meryltje, cheri-herald, BearBell; video-jon-newbie

**Common name:** [Rock Beauty](#)

## SharkCam Fishes

**Scientific name:** *Holacanthus tricolor* (Bloch, 1795)  
**Family:** Pomacanthidae  
**Similar Species:** [Queen Angelfish \(\*Holacanthus ciliaris\*\)](#)  
[French Angelfish \(\*Pomacanthus paru\*\)](#)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6pHGLJQi\\_bIp6BIPczM11NB](https://www.youtube.com/playlist?list=PLK1g13VpyT6pHGLJQi_bIp6BIPczM11NB)  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/165879/6155521>  
**Additional information:**  
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/holacanthus-tricolor/>  
[https://sta.uwi.edu/fst/lifesciences/sites/default/files/lifesciences/documents/ogatt/Holacanthus\\_tricolor%20-%20Rock%20Beauty%20Angelfish.pdf](https://sta.uwi.edu/fst/lifesciences/sites/default/files/lifesciences/documents/ogatt/Holacanthus_tricolor%20-%20Rock%20Beauty%20Angelfish.pdf)  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-meryll, Sky Pilot, Zeba Knight; video-Erin Burge

**Common name:** Round Scad  
**Scientific name:** *Decapterus punctatus* (Cuvier, 1829)  
**Family:** Carangidae  
**Similar species:** [Bigeye Scad \(\*Selar crumenophthalmus\*\)](#)  
[Scaled Herring \(\*Harengula jaguana\*\)](#)  
[young Tomtate \(\*Haemulon aurolineatum\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6oZ6-xnGAp2LaVUi4zwmFH>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/16439848/115358644>  
**Additional information:**  
[https://en.wikipedia.org/wiki/Round\\_scad](https://en.wikipedia.org/wiki/Round_scad)  
<http://eol.org/pages/205453/overview>  
**Credits:** entry-Jordan Beckner; editing-jon-newbie and Erin Burge; screen grab-John Rainey; video-jon-newbie

## S

**Common name:** [Saddled Blenny](#)  
**Scientific name:** *Malacoctenus triangulatus* Springer, 1959  
**Family:** Labrisomidae  
**Similar species:** [Seaweed Blenny \(\*Parablennius marmoratus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qJ5dAvBJedwcy2pSDQLm7>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/46104272/48395766>  
**Additional information:**  
<http://www.snorkelstj.com/saddled-blenny.html>  
<http://eol.org/pages/207875/overview>  
**Credits:** entry-Randy Fink; editing-jon-newbie and Erin Burge; screen grab-Erin Burge, cynde, jon-newbie; video-jon-newbie

**Common name:** Sand Tiger Shark  
**Scientific name:** *Carcharias taurus* Rafinesque, 1810  
**Family:** Odontaspidae (Class Chondrichthyes)  
**Similar species:** see [Positive identification of sharks](#)  
[Bull Shark \(\*Carcharhinus leucas\*\)](#)  
[Great White Shark \(\*Carcharodon carcharias\*\)](#)  
[Lemon Shark \(\*Negaprion brevirostris\*\)](#)  
[Nurse Shark \(\*Ginglymostoma cirratum\*\)](#)  
[Sandbar Shark \(\*Carcharhinus plumbeus\*\)](#)  
[Tiger Shark \(\*Galeocerdo cuvier\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pbDnjinma3Cmj3vfXxD96h7>  
**Note:** Dark blotches on the flanks of sand tiger sharks form a spot pattern that is unique to each individual. The authors are contributing images from SharkCam to the Spot-A-Shark USA program, in partnership with the conservation program of the

North Carolina Aquariums. If you capture an image that clearly shows this pattern please submit it via [e-mail to Erin Burge](#) or notify us via the SharkCam forum of the images. Image filenames should include the date and time of capture (YYYYMMDD HHMM preferred) and your name or online pseudonym for due credit.

**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Vulnerable  
<https://www.iucnredlist.org/species/3854/10132481>  
**Additional information:**  
<http://animals.nationalgeographic.com/animals/fish/sandtiger-shark.html>  
<http://www.flmnh.ufl.edu/fish/gallery/descript/sandtiger/sandtiger.html>  
[https://en.wikipedia.org/wiki/Sand\\_tiger\\_shark](https://en.wikipedia.org/wiki/Sand_tiger_shark)  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-Ryan Bono, meryltje, jon-newbie, s\_TpaMan, Mo13, Zeba Knight, Ellieanne, AlliCat93, SusieChancy; video-jon-newbie, Erin Burge

**Common Name:** Sandbar Shark  
**Scientific Name:** *Carcharhinus plumbeus* (Nardo, 1827)  
**Family:** Carcharhinidae (Class Chondrichthyes)  
**Similar species:** see [Positive identification of sharks](#)  
[Bull Shark \(\*Carcharhinus leucas\*\)](#)  
[Great White Shark \(\*Carcharodon carcharias\*\)](#)  
[Lemon Shark \(\*Negaprion brevirostris\*\)](#)  
[Nurse Shark \(\*Ginglymostoma cirratum\*\)](#)  
[Sand Tiger Shark \(\*Carcharias taurus\*\)](#)  
[Tiger Shark \(\*Galeocerdo cuvier\*\)](#)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qS-SsdtLbLb-OmCwS0sAyU>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Vulnerable  
<https://www.iucnredlist.org/species/3853/10130397>  
**Additional information:**  
<http://www.flmnh.ufl.edu/fish/gallery/descript/sandbarshark/sandbarshark.htm>  
[https://en.wikipedia.org/wiki/Sandbar\\_shark](https://en.wikipedia.org/wiki/Sandbar_shark)  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-Christine Casterline, jon-newbie, meryltje; video-jon-newbie

**Common name:** [Saucereye Porgy](#)  
**Scientific name:** *Calamus calamus* (Valenciennes in Cuvier and Valenciennes, 1830)  
**Family:** Sparidae  
**Similar species:** [Knobbed Porgy \(\*Calamus nodosus\*\)](#)  
[Red Porgy \(\*Pagrus pagrus\*\)](#)  
[Scup \(\*Stenotomus chrysops\*\)](#)  
[White Grunt \(\*Haemulon plumierii\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6ppZjGNagMnrqZPYJ1PTGV7>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/170249/1301306>  
**Additional information:**  
<http://eol.org/pages/213698/overview>  
<http://safmc.net/FishIDandRegs/FishGallery/SaucereyePorgy>  
**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-jon-newbie; video-jon-newbie, Erin Burge

**Common name:** [Scaled Herring](#)  
**Scientific name:** *Harengula jaguana* Poey, 1865  
**Family:** Clupeidae  
**Similar species:** [Round Scad \(\*Decapterus punctatus\*\)](#)  
[Bigeye Scad \(\*Selar crumenophthalmus\*\)](#)

## Appendix 1 – Additional information

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6or7soKnPAiRR1wCwdDXa1c>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/190478/1953107>  
**Additional information:**  
[http://www.sms.si.edu/irlspec/harengula\\_jaguana.htm](http://www.sms.si.edu/irlspec/harengula_jaguana.htm)  
[https://en.wikipedia.org/wiki/Scaled\\_sardine](https://en.wikipedia.org/wiki/Scaled_sardine)  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-jon-newbie; video-jon-newbie, Erin Burge

**Common name:** [Scamp](#)  
**Scientific name:** *Mycteroperca phenax* Jordan and Swain, 1884  
**Family:** Serranidae  
**Similar species:** [Gag \(\*Mycteroperca microlepis\*\)](#)  
[Goliath Grouper \(\*Epinephelus itajara\*\)](#)  
[Cubera Snapper \(\*Lutjanus cyanopterus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6on44ahHGztw5Zwq4QJbvx3>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Data Deficient  
<https://www.iucnredlist.org/species/132729/46916602>  
**Additional information:**  
<http://myfwc.com/wildlifehabitats/profiles/saltwater/grouper/scamp/>  
[https://en.wikipedia.org/wiki/Scamp\\_grouper](https://en.wikipedia.org/wiki/Scamp_grouper)  
**Note:** Social interactions and their relationship to color and pattern are discussed in [Gilmore and Jones \(1992\)](#).  
**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, meryltje, OKI, John Rainey, Zeba Knight; video-jon-newbie

**Common name:** [Scrawled Cowfish](#)  
**Scientific name:** *Acanthostracion quadricornis* (Linnaeus, 1758)  
**Family:** Ostraciidae  
**Similar Species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6oAB5z8L6lCgaoVX268tzX6>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/193647/2253412>  
**Additional information:**  
<https://www.floridamuseum.ufl.edu/discover-fish/species-profiles/acanthostracion-quadricornis/>  
<https://reefguide.org/keys/scrawledcowfish.html>  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-meryl, Zeba Knight, Happywho, Erin Burge; video-Erin Burge

**Common name:** [Scrawled Filefish](#)  
**Scientific name:** *Aluterus scriptus* (Osbeck, 1765)  
**Family:** Monacanthidae  
**Similar species:** [Orangespotted Filefish \(\*Cantherhines pullus\*\)](#)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6rBo-mV\\_7vn0Yc96o2edURV](https://www.youtube.com/playlist?list=PLK1g13VpyT6rBo-mV_7vn0Yc96o2edURV)  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/190125/115310837>  
**Additional information:**  
[https://en.wikipedia.org/wiki/Aluterus\\_scriptus](https://en.wikipedia.org/wiki/Aluterus_scriptus)  
<https://www.flmnh.ufl.edu/fish/Gallery/Descript/ScrawledFilefish/ScrawledFilefish.html>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, cynde, meryltje, Tyler McKee; video-jon-newbie

**Common name:** [Scup](#)  
**Scientific name:** *Stenotomus chrysops* (Linnaeus, 1766)

**Family:** Sparidae  
**Similar species:** [Knobbed Porgy \(\*Calamus nodosus\*\)](#)  
[Red Porgy \(\*Pagrus pagrus\*\)](#)  
[Saucereye Porgy \(\*Calamus calamus\*\)](#)  
[Spottail Pinfish \(\*Diplodus holbrookii\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rTvq5bM6o1KR3Zp51km-Q>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Near Threatened  
<https://www.iucnredlist.org/species/170168/1286359>  
**Additional information:**  
<https://www.nefsc.noaa.gov/publications/tm/tm149/tm149.pdf>  
<https://en.wikipedia.org/wiki/Scup>  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-jon-newbie; video-jon-newbie

**Common name:** [Seaweed Blenny](#)  
**Scientific name:** *Parablennius marmoratus* (Poey, 1876)  
**Family:** Blenniidae  
**Similar species:** [Saddled Blenny \(\*Malacoctenus triangulatus\*\)](#)  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/46104109/48355484>  
**Additional information:**  
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/parablennius-marmoratus/>  
[https://www.sms.si.edu/irlspec/Parabl\\_marmor.htm](https://www.sms.si.edu/irlspec/Parabl_marmor.htm)  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-BearBell, Zeba Knight

**Common name:** [Sergeant Major](#)  
**Scientific name:** *Abudefduf saxatilis* (Linnaeus, 1758)  
**Family:** Pomacentridae  
**Similar species:** [Sheepshead \(\*Archosargus probatocephalus\*\)](#)  
juvenile [Banded Rudderfish \(\*Seriola zonata\*\)](#)  
[Atlantic Spadefish \(\*Chaetodipterus faber\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6ra72ls6Vu2SVUVys2kklUt>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/188581/1896808>  
**Additional information:**  
<http://reefguide.org/carib/sergeantmajor.html>  
[http://www.sms.si.edu/irlspec/Abudefduf\\_saxatilis.htm](http://www.sms.si.edu/irlspec/Abudefduf_saxatilis.htm)  
**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-Ryan Bono, jon-newbie, meryl; video-jon-newbie

**Common name:** [Sharksucker](#)  
**Scientific name:** *Echeneis naucrates* Linnaeus, 1758  
**Family:** Echeneidae  
**Similar species:** [Whitefin Sharksucker \(\*Echeneis naucratoides\*\)](#)  
juvenile [Cobia \(\*Rachycentron canadum\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qko3xrvUQwPXHKIkNt8RXL>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/190393/115317934>  
**Additional information:**  
<http://reefguide.org/carib/sharksucker.html>  
<https://www.flmnh.ufl.edu/fish/Gallery/Descript/LiveSharksucker/LiveSharksucker.html>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie; video-jon-newbie

**Common name:** [Sharpnose Puffer](#)  
**Scientific name:** *Canthigaster rostrata* (Bloch, 1786)  
**Family:** Tetraodontidae

**Similar species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qzSi-lpdU232N4duvUBfpt>  
**Authentication:** [FishBase](#) (mirror)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/193793/227707>  
**Additional information:**  
<http://reefguide.org/carib/sharpnosepuffer.html>  
<http://www.snorkelstj.com/sharpnose-pufferfish.html>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, Zeba Knight, meryl; video-jon-newbie

**Common name:** [Sharptail Eel](#)  
**Scientific name:** *Myrichthys breviceps* (Richardson, 1848)  
**Family:** Ophichthidae  
**Similar species:** [Green Moray](#) (*Gymnothorax funebris*)  
[Spotted Moray](#) (*Gymnothorax moringa*)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qEGbw4ALTctHbkzi-EtUfz>  
**Authentication:** [FishBase](#) (mirror)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/199029/2551596>  
**Additional information:**  
[http://species-identification.org/species.php?species\\_group=caribbean\\_diving\\_guide&id=155](http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=155)  
<https://daniellesdives.wordpress.com/2012/04/29/creature-feature-sharptail-eel/>  
**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-Pine Butte, jon-newbie; video-jon-newbie

**Common name:** [Sheepshead](#)  
**Scientific name:** *Archosargus probatocephalus* (Walbaum, 1792)  
**Family:** Sparidae  
**Similar species:** [Sergeant Major](#) (*Abudefduf saxatilis*)  
[Atlantic Spadefish](#) (*Chaetodipterus faber*)  
juvenile [Banded Rudderfish](#) (*Seriola zonata*)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6qEzWUPcbn\\_iDB6nCS9YiQb](https://www.youtube.com/playlist?list=PLK1g13VpyT6qEzWUPcbn_iDB6nCS9YiQb)  
**Authentication:** [FishBase](#) (mirror)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/170223/1296293>  
**Additional information:**  
<http://www.flmnh.ufl.edu/fish/gallery/descript/sheepshead/sheepshead.html>  
<http://myfwc.com/fishing/saltwater/recreational/sheepshead/>  
**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-John Rainey, meryl, jon-newbie, Cody Sweitzer, Zeba Knight; video-jon-newbie

**Common name:** [Slippery Dick](#)  
**Scientific name:** *Halichoeres bivittatus* (Bloch, 1791)  
**Family:** Labridae  
**Similar species:** [Bluehead](#) (*Thalassoma bifasciatum*)  
[Puddingwife](#) (*Halichoeres radiatus*)  
[Clown Wrasse](#) (*Halichoeres maculipinna*)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qRznMiqTQuN9L5ib0ItF0D>  
**Authentication:** [FishBase](#) (mirror)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/187482/8547710>  
**Additional information:**  
[http://www.boldsystems.org/index.php/Taxbrowser\\_Taxonpage?taxid=24973](http://www.boldsystems.org/index.php/Taxbrowser_Taxonpage?taxid=24973)  
<http://eol.org/pages/220796/media>

## SharkCam Fishes

**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-jon-newbie, meryl; video-jon-newbie, Erin Burge

**Common name:** [Smooth Trunkfish](#)  
**Scientific name:** *Lactophrys triqueter* (Linnaeus, 1758)  
**Family:** Ostraciidae  
**Similar species:** [Scrawled Cowfish](#) (*Aluterus scriptus*)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qF8tLpfmGbD1sR4NL7ebo9>  
**Authentication:** [FishBase](#) (mirror)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/190363/115315495>  
**Additional information:** [http://species-identification.org/species.php?species\\_group=caribbean\\_diving\\_guide&id=175](http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=175)  
<https://reefguide.org/carib/smoothtrunk.html>  
<https://bermudabiology.wordpress.com/2015/03/07/species-of-the-week-smooth-trunkfish/>  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-Zeba Knight, Erin Burge; video-Erin Burge

**Common name:** [Southern Flounder](#)  
**Scientific name:** *Paralichthys lethostigma* Jordan and Gilbert in Jordan and Meek, 1884  
**Family:** Paralichthyidae  
**Similar species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rJVroLLj9tn3smsRShYHiG>  
**Authentication:** [FishBase](#) (mirror)  
**IUCN Redlist:** Near Threatened  
<https://www.iucnredlist.org/species/202632/46958684>  
**Additional information:**  
<http://gcr.usm.edu/public/fish/flounder.php>  
<http://www.dnr.sc.gov/marine/species/southernflounder.html>  
[http://portal.ncdenr.org/web/mf/flounder\\_southern](http://portal.ncdenr.org/web/mf/flounder_southern)  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-Dave Klett, Erin Burge; video-Dave Klett, Zeba Knight, Erin Burge

**Common name:** [Southern Stingray](#)  
**Scientific name:** *Hypanus americanus* (Hildebrand and Schroeder, 1928)  
**Note:** The taxonomic classification of the stingrays (Dasyatidae) was recently revised and the genus *Dasyatis* moved to *Hypanus*. See [Last et al. \(2016\)](#) for additional details.  
**Family:** Dasyatidae (Class Chondrichthyes)  
**Similar species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qrovfkmGsDMb82ag5N5-Anl>  
**Authentication:** [FishBase](#) (mirror)  
**IUCN Redlist:** Data Deficient  
<https://www.iucnredlist.org/species/60149/104123038>  
**Additional information:**  
<https://www.flmnh.ufl.edu/fish/Gallery/Descript/SouthernStingray/SouthernStingray.html>  
[https://en.wikipedia.org/wiki/Southern\\_stingray](https://en.wikipedia.org/wiki/Southern_stingray)  
<https://biotaxa.org/Zootaxa/article/view/zootaxa.4139.3.2>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, meryl; video-jon-newbie, Erin Burge

**Common name:** [Spanish Hogfish](#)  
**Scientific name:** *Bodianus rufus* (Linnaeus, 1758)  
**Family:** Labridae  
**Similar species:** [Spotfin Hogfish](#) (*Bodianus pulchellus*)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qG6f1jxOt9f67UgnKaS8HO>

## Appendix 1 – Additional information

**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/187672/8596282>  
**Additional Information:**  
[https://en.wikipedia.org/wiki/Spanish\\_hogfish](https://en.wikipedia.org/wiki/Spanish_hogfish)  
<http://eol.org/pages/212988/media>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-Samantha Lungari, meryltje, jon-newbie, meryl, Zeba Knight

**Common name:** [Spot-fin Porcupinefish](#)  
**Scientific name:** *Diodon hystrix* Linnaeus, 1758  
**Family:** Diodontidae  
**Similar Species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qJxNcaf13dHO0t4qMluGG7>

**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/193668/97664783>  
**Additional information:**  
<https://www.floridamuseum.ufl.edu/discover-fish/species-profiles/diodon-hystrix/>  
[http://animaldiversity.org/accounts/Diodon\\_hystrix/](http://animaldiversity.org/accounts/Diodon_hystrix/)  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-Zeba Knight, alpha, Madduck1, meryl, BearBell, Sky Pilot, CamOp Scout; video-Erin Burge

**Common name:** [Spotfin Butterflyfish](#)  
**Scientific name:** *Chaetodon ocellatus* Bloch, 1787  
**Family:** Chaetodontidae  
**Similar species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6o8v9F6aOajouSt27JYNTN6>

**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/165611/6067709>  
**Additional information:**  
<http://www.flmnh.ufl.edu/fish/gallery/descript/spotfin/spotfin.html>  
<http://reefguide.org/carib/spotfinbutter.html>  
**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-jon-newbie; video-jon-newbie

**Common name:** [Spotfin Hogfish](#)  
**Scientific name:** *Bodianus pulchellus* (Poey, 1860)  
**Family:** Labridae  
**Similar species:** [Spanish Hogfish \(\*Bodianus rufus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6of6qbxJlb5UtqUOiEsCID>

**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/187570/8571598>  
**Additional information:**  
<http://eol.org/pages/212987/media>  
<https://www.georgiaaquarium.org/animal-guide/georgia-aquarium/home/galleries/ocean-voyager/gallery-animals/spotfin-hogfish>  
**Credits:** entry-Randy Fink; editing-jon-newbie and Erin Burge; screen grab-meryltje, jon-newbie; video-jon-newbie

**Common name:** [Spottail Pinfish](#)  
**Scientific name:** *Diplodus holbrookii* (Bean, 1878)  
**Family:** Sparidae  
**Similar species:** [Tomtate \(\*Haemulon aurolineatum\*\)](#)  
[Bermuda Chub \(\*Kyphosus sectatrix\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rABX7tR6i7oPaZFCQyVtMq>

**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/170264/1305162>  
**Additional information:**  
<http://www.marinefishesofgeorgia.org/reef-fish/spottail-pinfish.html>  
<http://www.wilmingtondiving.com/spottailpinfish.shtml>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-John Rainey, Happywho; video-jon-newbie, Erin Burge

**Common name:** [Spotted Eagle Ray](#)  
**Scientific name:** *Aetobatus narinari* (Euphrasén, 1790)  
**Family:** Myliobatidae (Class Chondrichthyes)  
**Similar species:** [Giant Manta \(\*Mobula birostris\*\)](#)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6pqn8Q\\_JGoA7tRvhDvpyNXV](https://www.youtube.com/playlist?list=PLK1g13VpyT6pqn8Q_JGoA7tRvhDvpyNXV)

**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Near Threatened  
<https://www.iucnredlist.org/species/39415/10231645>  
**Additional information:**  
<https://www.floridamuseum.ufl.edu/discover-fish/species-profiles/aetobatus-narinari/>  
[https://animaldiversity.org/accounts/Aetobatus\\_narinari/](https://animaldiversity.org/accounts/Aetobatus_narinari/)  
**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-Zeba Knight, meryl, Erin Burge; video-Sky Pilot, Zeba Knight, Erin Burge

**Common name:** [Spotted Goatfish](#)  
**Scientific name:** *Pseudupeneus maculatus* (Bloch, 1793)  
**Family:** Mullidae  
**Similar species:** [Yellow Goatfish \(\*Mulloidichthys martinicus\*\)](#)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6qxjDoxYTba88I7\\_e3kN7Ns](https://www.youtube.com/playlist?list=PLK1g13VpyT6qxjDoxYTba88I7_e3kN7Ns)

**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/16545086/16546282>  
**Additional information:**  
<http://www.eoearth.org/view/article/156224/>  
<http://reefguide.org/carib/spottedgoat.html>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, meryl, Erin Burge; video-jon-newbie, Erin Burge

**Common name:** [Spotted Moray](#)  
**Scientific name:** *Gymnothorax moringa* (Cuvier, 1829)  
**Family:** Muraenidae  
**Similar species:** [Green Moray \(\*Gymnothorax funebris\*\)](#)  
[Sharptail Eel \(\*Myrichthys breviceps\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6oEroahSzuvYK6KTpo00iu5>

**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/195762/2414442>  
**Additional information:**  
<http://reefguide.org/carib/spottedmoray.html>  
<http://www.snorkelstj.com/spotted-moray-eel.html>  
**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-jon-newbie, meryl; video-jon-newbie, Erin Burge

**Common name:** [Spotted Scorpionfish](#)  
**Scientific name:** *Scorpaena plumieri* Bloch, 1789  
**Family:** Scorpaenidae  
**Similar species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6ppYPtMikfw-wth8y3HHOWr>

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/16779308/16782173>  
**Additional information:**  
<http://reefguide.org/carib/scorpion.html>  
<https://www.flmnh.ufl.edu/fish/discover/species-profiles/scorpaena-plumieri/>  
**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-jon-newbie; video-jon-newbie

**Common name:** [Squirrelfish](#)  
**Scientific name:** *Holocentrus adscensionis* (Osbeck, 1765)  
**Family:** Holocentridae  
**Similar species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pVcY4ifSSx3EXa4NDfdLYX>  
**Authentication:** [FishBase](#) ([mirror](#))  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/16442472/16509817>  
**Additional information:**  
<http://www.flmnh.ufl.edu/fish/gallery/descript/squirrelfish/squirrelfish.html>  
[https://en.wikipedia.org/wiki/Holocentrus\\_adscensionis](https://en.wikipedia.org/wiki/Holocentrus_adscensionis)  
**Credits:** entry-Christopher O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, meryl; video-Erin Burge

**Common name:** [Stoplight Parrotfish](#)  
**Scientific name:** *Sparisoma viride* (Bonnaterre, 1788)  
**Family:** Scaridae  
**Similar species:** [Redband Parrotfish \(\*Sparisoma aurofrenatum\*\)](#)  
[Yellowtail Parrotfish \(\*Sparisoma rubripinne\*\)](#)  
**Authentication:** [FishBase](#) ([mirror](#))  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/190734/17779745>  
**Additional information:**  
<https://www.flmnh.ufl.edu/fish/Gallery/Descript/SParrotfish/SParrotfish.html>  
<http://www.snorkelsti.com/stoplight-parrotfish.html>  
**Credits:** entry-Randy Fink; editing-jon-newbie and Erin Burge; screen grab-pine-butte, jon-newbie

**Common name:** [Striped Grunt](#)  
**Scientific name:** *Haemulon striatum* (Linnaeus, 1758)  
**Family:** Haemulidae  
**Similar species:** [Tomtate \(\*Haemulon aurolineatum\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qduylq1wgGZ28KpDj8f7s->  
**Authentication:** [FishBase](#) ([mirror](#))  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/155163/115279009>  
**Additional information:**  
<http://biogeodb.stri.si.edu/caribbean/en/thefishes/species/3729>  
<http://www.fishdb.co.uk/findpicture.php?exact=true&picid=2359>  
**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-jon-newbie, meryl; video-jon-newbie, Erin Burge

**Common name:** [Striped Parrotfish](#)  
**Scientific name:** *Scarus iseri* (Bloch, 1789)  
**Family:** Scaridae  
**Similar species:** initial phase [Princess Parrotfish \(\*Scarus taeniopterus\*\)](#)  
initial phase [Redband Parrotfish \(\*Sparisoma aurofrenatum\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pg6PNTZycPCsnOJ16saRIO>  
**Authentication:** [FishBase](#) ([mirror](#))  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/190732/17782171>  
**Additional information:**

## SharkCam Fishes

[http://species-identification.org/species.php?species\\_group=caribbean\\_diving\\_guide&id=251](http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=251)  
[https://sta.uwi.edu/fst/lifesciences/documents/Scarus\\_iseri.pdf](https://sta.uwi.edu/fst/lifesciences/documents/Scarus_iseri.pdf)  
**Credits:** entry-Gary Sturm and Erin Burge; editing-Erin Burge; screen grab-BearBell, s\_TpaMan; video-jon-newbie

**Common name:** [Surgeonfishes](#)  
**Scientific name:** *Acanthurus* spp.  
**Family:** Acanthuridae  
**Similar species:** [Adult Blue Tang \(\*Acanthurus coeruleus\*\)](#)  
[Doctorfish \(\*Acanthurus chirurgus\*\)](#)  
[Ocean Surgeon \(\*Acanthurus tractus\*\)](#)  
**Note:** Reference books and online resources have historically used the scientific name *Acanthurus bahianus* for the entire geographic range of the ocean surgeon. It was recently proposed that the northwestern Atlantic *Acanthurus bahianus* is actually *Acanthurus tractus*, and that *Acanthurus bahianus* be reserved for the Brazilian populations of the ocean surgeon. For additional information see [Bernal and Rocha \(2011\)](#).  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6px6FuQDeSocEewGQNOomrb>  
**Authentication:**  
[Blue tang](#), [FishBase](#) ([mirror](#))  
[Doctorfish](#), [FishBase](#) ([mirror](#))  
[Ocean surgeon](#),  
<http://www.marinespecies.org/aphia.php?p=taxdetails&id=301914>  
<http://www.mapress.com/zootaxa/2011/ff/zt02905p068.pdf>  
**IUCN Redlist:** Least Concern  
See individual entries for [Blue Tang](#), [Doctorfish](#), and [Ocean Surgeon](#)  
**Additional information:**  
[Blue tang](#), <http://reefguide.org/carib/bluetang.html>  
[http://species-identification.org/species.php?species\\_group=caribbean\\_diving\\_guide&id=208](http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=208)  
[Doctorfish](#), <http://reefguide.org/carib/doctorfish.html>  
[http://species-identification.org/species.php?species\\_group=caribbean\\_diving\\_guide&id=209](http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=209)  
[Ocean surgeon](#), <http://www.mapress.com/zootaxa/2011/ff/zt02905p068.pdf> for discussion of the differences between *Acanthurus tractus* and *Acanthurus bahianus*, <http://reefguide.org/carib/surgeonfish.html>  
[http://species-identification.org/species.php?species\\_group=caribbean\\_diving\\_guide&id=207](http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=207)  
**Credits:** entry-jon-newbie; editing-Erin Burge; screen grab-jon-newbie; video-jon-newbie

## T

**Common name:** [Tarpon](#)  
**Scientific name:** *Megalops atlanticus* Valenciennes in Cuvier and Valenciennes, 1847  
**Family:** Megalopidae  
**Similar Species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6oXFpp5fcE2TAewfGOASSSI>  
**Authentication:** [FishBase](#) ([mirror](#))  
**IUCN Redlist:** Vulnerable  
<https://www.iucnredlist.org/species/191823/2006676>  
**Additional information:**  
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/megalops-atlanticus/>  
<http://www.dnr.sc.gov/marine/species/tarpon.html>

## Appendix 1 – Additional information

**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-Zeba Knight, jon-newbie, Erin Burge, BearBell; video-jon-newbie, Erin Burge

**Common name:** Tautog

**Scientific name:** *Tautoga onitis* (Linnaeus, 1758)

**Family:** Labridae

**Similar species:** Black Sea Bass (*Centropristis striata*)

**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6g\\_SZ1GkBSGOhdd8\\_zCPQMB](https://www.youtube.com/playlist?list=PLK1g13VpyT6g_SZ1GkBSGOhdd8_zCPQMB)

**Authentication:** FishBase ([mirror](#))

**IUCN Redlist:** Vulnerable

<https://www.iucnredlist.org/species/187479/8547027>

**Additional information:**

<http://www.mass.gov/eea/agencies/dfg/dmf/recreational-fishing/species-profiles-tautog.html>

<http://www.saltwatersportsman.com/species/fish-species/tips-catching-trophy-tog>

**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-John Rainey, cynde, jon-newbie; video-jon-newbie

**Common name:** Tiger Shark

**Scientific name:** *Galeocerdo cuvier* (Péron and Lesueur in Lesueur, 1822)

**Family:** Carcharhinidae (Class Chondrichthyes)

**Similar species:** see [Positive identification of sharks](#)

[Bull Shark \(\*Carcharhinus leucas\*\)](#)

[Great White Shark \(\*Carcharodon carcharias\*\)](#)

[Lemon Shark \(\*Negaprion brevirostris\*\)](#)

[Nurse Shark \(\*Ginglymostoma cirratum\*\)](#)

[Sand Tiger Shark \(\*Carcharias taurus\*\)](#)

[Sandbar Shark \(\*Carcharhinus plumbeus\*\)](#)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rMB1G1vnNXVGS3gF1gM5n->

**Note:** Only one tiger shark has been definitively identified from SharkCam, and the angle of viewing does not show the blunt nose and large eyes well. It does, however, show the presence of the longitudinal keel, a feature shared only with the great white shark, among SharkCam sharks. The individual seen in the images was recorded on 27 June 2016 (<https://youtu.be/nz-HZ7CVvs>). SharkCam volunteer UWStig recorded a video (<https://youtu.be/Cv9HlFe13hY>) on site at Frying Pan Tower the afternoon of 27 June that also is clearly of a tiger shark, likely the same individual.

**Authentication:** FishBase ([mirror](#))

**IUCN Redlist:** Near Threatened

<https://www.iucnredlist.org/species/39378/10220026>

**Additional information:**

<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/galeocerdo-cuvier>

<https://oceana.org/marine-life/sharks-rays/tiger-shark>

**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-Erin Burge; video-Jangsara, jon-newbie, UWStig

**Common name:** Tomtate

**Scientific name:** *Haemulon aurolineatum* Cuvier in Cuvier and Valenciennes, 1830

**Family:** Haemulidae

**Similar Species:** [Spottail Pinfish \(\*Diplodus holbrookii\*\)](#)

[Striped Grunt \(\*Haemulon striatum\*\)](#)

[Bigeye Scad \(\*Selar crumenophthalmus\*\)](#)

[Round Scad \(\*Decapterus punctatus\*\)](#)

**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6pfsZ\\_OrbDZhb\\_ku\\_pVK-BJ](https://www.youtube.com/playlist?list=PLK1g13VpyT6pfsZ_OrbDZhb_ku_pVK-BJ)

**Authentication:** FishBase ([mirror](#))

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/190481/115324762>

**Additional information:**

[http://www.sms.si.edu/irlspec/Haemul\\_auroli.htm](http://www.sms.si.edu/irlspec/Haemul_auroli.htm)

<http://www.dto.com/swfishing/speciesProfile/487>

**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-John Rainey, jon-newbie, Sky Pilot, Zeba Knight; video-jon-newbie

**Common name:** Trumpetfish

**Scientific name:** *Aulostomus maculatus* Valenciennes, 1837

**Family:** Aulostomidae

**Similar species:** None

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6p3wjkwu9FMFVjHA9rWgPOv>

**Authentication:** FishBase ([mirror](#))

**IUCN Redlist:** Least Concern

<https://www.iucnredlist.org/species/16421352/16509812>

**Additional information:**

<https://www.floridamuseum.ufl.edu/discover-fish/species-profiles/aulostomus-maculatus/>

<https://www.lamar.edu/arts-sciences/biology/marine-critters/marine-critters-2/trumpetfish.html>

**Credits:** entry-Erin Burge; editing-Courtney Burge; screen grab-Erin Burge, Jangsara; video-Erin Burge

### U

### V

**Common name:** Vermilion Snapper

**Scientific name:** *Rhomboplites aurorubens* (Cuvier in Cuvier and Valenciennes, 1829)

**Family:** Lutjanidae

**Similar species:** [Bigeye Scad \(\*Selar crumenophthalmus\*\)](#)

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6p7y91eDSCDVwrVAeSCZh2v>

**Authentication:** FishBase ([mirror](#))

**IUCN Redlist:** Vulnerable

<https://www.iucnredlist.org/species/190138/1941553>

**Additional information:**

<http://myfwc.com/wildlifehabitats/profiles/saltwater/snapper/vermilion-snapper/>

Guide to South Carolina Saltwater Fishes, page 76,

<http://saltwaterfishing.sc.gov/pdf/SaltwaterFishPocketGuide.pdf>

**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, meryltje, SusannMesna, meryl; video-jon-newbie

### W

**Common name:** West Indian Sea Egg

**Scientific name:** *Tripneustes ventricosus* (Lamarck, 1816)

**Family:** Toxopneustidae (Phylum Echinodermata, Class Echinoidea)

**Similar species:** None

**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6q3u6nFzfdMKzEFfp7QAgnh>

**Authentication:** SeaLifeBase

[https://en.wikipedia.org/wiki/Tripneustes\\_ventricosus](https://en.wikipedia.org/wiki/Tripneustes_ventricosus)

**IUCN Redlist:** Not Listed

**Additional information:**

<http://species->

[identification.org/species.php?species\\_group=caribbean\\_diving\\_guide&id=386](http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=386)

<http://reefguide.org/carib/westindianseaegg.html>

**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, UWStig; video-jon-newbie, UWStig

**Common name:** [White Grunt](#)  
**Scientific name:** *Haemulon plumierii* (Lacepède, 1801)  
**Family:** Haemulidae  
**Similar species:** [Knobbed Porgy \(\*Calamus nodosus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6rZJr7YdexE1kZ7msoWqhRr>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/190132/1941346>  
**Additional information:**  
<http://myfwc.com/wildlifehabitats/profiles/saltwater/white-grunt/>  
[https://en.wikipedia.org/wiki/Haemulon\\_plumierii](https://en.wikipedia.org/wiki/Haemulon_plumierii)  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, cynde, OKI, meryl, jterr; video-jon-newbie, Erin Burge

**Common name:** [Whitefin Sharksucker](#)  
**Scientific name:** *Echeneis naucratoides* Zuiew, 1789  
**Family:** Echeneidae  
**Similar species:** [Sharksucker \(\*Echeneis naucrates\*\)](#)  
 juvenile [Cobia \(\*Rachycentron canadum\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6ppG4jUECgg437j4iSQKG37>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Data Deficient  
<https://www.iucnredlist.org/species/16440083/115359156>  
**Additional information:**  
<http://reefguide.org/carib/whitefinsharksucker.html>  
<http://www.iucnredlist.org/details/16440083/0>  
**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-jon-newbie; video-Erin Burge

**Common name:** [Whitespotted Soapfish](#)  
**Scientific name:** *Rypticus maculatus* Holbrook, 1855  
**Family:** Serranidae  
**Similar species:** [Cubbyu \(\*Pareques umbrosus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6qMYG4xtwR09rZK9v1nRiWN>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/16759353/16781863>  
**Additional information:**  
<http://www.wilmingtondiving.com/whitespotsoap.shtm>  
[http://biogeodb.stri.si.edu/caribbean/resources/img/images/species/3540\\_1252.jpg](http://biogeodb.stri.si.edu/caribbean/resources/img/images/species/3540_1252.jpg)  
**Credits:** entry-Christopher O'Brien; editing-jon-newbie and Erin Burge; screen grab-Erin Burge, jon-newbie, Jessica Pollack; video-jon-newbie, Erin Burge

**X**  
**Y**

**Common name:** [Yellow Jack](#)  
**Scientific name:** *Carangoides bartholomaei* (Cuvier in Cuvier and Valenciennes, 1833)  
**Family:** Carangidae  
**Similar species:** [Horse-eye Jack \(\*Caranx latus\*\)](#)  
[Blue Runner \(\*Caranx crysos\*\)](#)  
[Bar Jack \(\*Carangoides ruber\*\)](#)  
[Yellowtail Snapper \(\*Ocyurus chrysurus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pJLEaYoitc9tUT9qPe-Awf>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/16431725/16509662>  
**Additional information:**

## SharkCam Fishes

[https://en.wikipedia.org/wiki/Yellow\\_jack](https://en.wikipedia.org/wiki/Yellow_jack)  
<https://www.flmnh.ufl.edu/fish/discover/species-profiles/carangoides-bartholomaei/>  
**Credits:** entry-Chris O'Brien; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, meryltje; video-jon-newbie

**Common name:** [Yellow Goatfish](#)  
**Scientific name:** *Mulloidichthys martinicus* (Cuvier in Cuvier and Valenciennes, 1829)  
**Family:** Mullidae  
**Similar species:** [Spotted Goatfish \(\*Pseudupeneus maculatus\*\)](#)  
[Yellowtail Snapper \(\*Ocyurus chrysurus\*\)](#)  
[Horse-eye Jack \(\*Caranx latus\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6p4vM6ke6PQMrPOI0eJ0iKO>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/190429/1951474>  
**Additional information:**  
[http://species-identification.org/species.php?species\\_group=caribbean\\_diving\\_guide&id=173](http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=173)  
<http://thewebsiteofeverything.com/animals/fish/Perciformes/Mullidae/Mulloidichthys-martinicus>  
**Credits:** entry-Gary Sturm; editing-Erin Burge; screen grab-jon-newbie, Erin Burge; video-jon-newbie, Erin Burge

**Common name:** [Yellowhead Wrasse](#)  
**Scientific name:** *Halichoeres garnoti* (Valenciennes in Cuvier and Valenciennes, 1839)  
**Family:** Labridae  
**Similar species:** None  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pd3MM8sgzL1YfT0N9AET6>  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/187724/8613456>  
**Additional information:**  
<http://www.eoearth.org/view/article/157184/>  
<http://reefguide.org/carib/yellowheadwrasse.html>  
**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge; screen grab-jon-newbie, lingo13; video-Erin Burge

**Common name:** [Yellowtail Parrotfish](#)  
**Scientific name:** *Sparisoma rubripinne* (Valenciennes in Cuvier and Valenciennes, 1840)  
**Family:** Scaridae  
**Similar species:** [Redband Parrotfish \(\*Sparisoma aurofrenatum\*\)](#)  
**Youtube:** [https://www.youtube.com/playlist?list=PLK1g13VpyT6oh18Ssqk77UkLzByB\\_Dgwry](https://www.youtube.com/playlist?list=PLK1g13VpyT6oh18Ssqk77UkLzByB_Dgwry)  
**Authentication:** [FishBase \(mirror\)](#)  
**IUCN Redlist:** Least Concern  
<https://www.iucnredlist.org/species/190721/17783950>  
**Additional information:**  
<http://reefguide.org/carib/yellowtailparrot.html>  
<http://www.snorkelstj.com/redfin-yellowtail-parrotfish.html>  
**Credits:** entry-Randy Fink; editing-jon-newbie and Erin Burge; screen grab- Erin Burge, jon-newbie, meryltje, tis-me; video-jon-newbie

**Common name:** [Yellowtail Snapper](#)  
**Scientific name:** *Ocyurus chrysurus* (Bloch, 1791)  
**Family:** Lutjanidae  
**Similar species:** [Horse-eye Jack \(\*Caranx latus\*\)](#)  
[Yellow Jack \(\*Carangoides bartholomaei\*\)](#)  
**Youtube:** <https://www.youtube.com/playlist?list=PLK1g13VpyT6pWuw7EcAspLaaXzz5GD-R>

## Appendix 1 – Additional information

**Authentication:** [FishBase \(mirror\)](#)

**IUCN Redlist:** Data Deficient

<https://www.iucnredlist.org/species/194341/2316114>

**Additional information:**

<http://www.flmnh.ufl.edu/fish/gallery/descript/yellowtailsnapper/yellowtailsnapper.htm>

[https://en.wikipedia.org/wiki/Yellowtail\\_snapper](https://en.wikipedia.org/wiki/Yellowtail_snapper)

**Credits:** entry-John Rainey; editing-jon-newbie and Erin Burge;  
screen grab-jon-newbie, meryltje, pinebutte; video-jon-newbie

### Z



A masked booby (*Sula dactylatra*) resting on the helipad at Frying Pan Tower. This is an unusual visitor rarely seen beyond the tropical Atlantic. Image from Explore.org Tower Cam.

## APPENDIX 2 – HISTORY OF SHARKCAM

For both avid viewers and relative newcomers to SharkCam, we thought you might like to know a little history about the changes that have occurred since the original camera installations in August of 2014.<sup>13</sup>

Participants at the initial installation included Trevor Mendelow, Richard Neal, Jim Attack, Erin Burge, Zach Hart, and David Wood. Trevor is the designer of the pan-tilt-zoom underwater streaming webcams, self-cleaning apparatus, and transmission infrastructure<sup>14</sup> used in this project. Richard is the owner and operator of Frying Pan Tower<sup>15</sup> which hosts the camera and infrastructure offshore of North Carolina. Jim is captain of the vessel “In Sea State” which was used for camera installation and he directs diving operations for the project. Erin Burge is a Professor of Marine Science at Coastal Carolina University, and he was responsible for photo and video documentation of the installation. Zach Hart served as boat tender and dive assistant and David Wood assisted with topside engineering and logistical support for the original SharkCam installation.

On 31 August 2014 two cameras were installed. “Barracuda Cam” on a shallow horizontal support of the tower in about 15 feet (5 meters) of water and the original SharkCam, also on a horizontal support at 50 feet. Both cameras faced out from on top of the horizontal pipe.

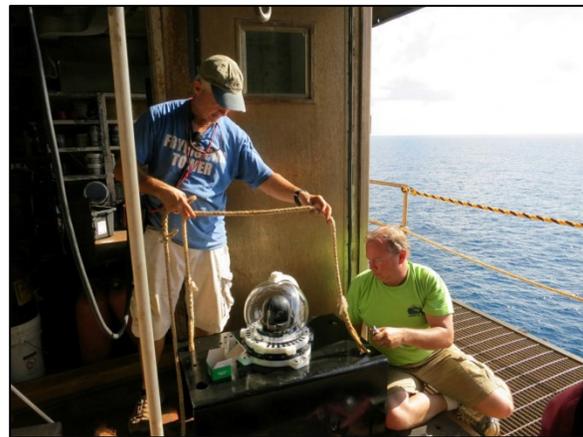
In some ways the divers that maneuvered the two cameras into position, chained them to the tower supports, and connected the data and power cables had the easy jobs. On the other hand, they did have to contend with curious visitors to the aptly named installation.<sup>16</sup> Much more above-water work involved running cable from atop Frying Pan Tower, positioning solar panels for power and transmission dishes for landward transfer of the video streams, and securing the rights to install transmission hardware atop the 1,955 foot (600 meter) Winnabow Cosmos Broadcasting Tower onshore in North Carolina.

Both cameras went live on Explore.org in September 2014 after installation, tower infrastructure, and the land-side hardware were completed.

The onset of winter 2014–2015 brought storms and large waves to Frying Pan Tower and both cameras went offline in late January 2015. A camera reboot revealed that Barracuda Cam was hanging upside-down and swinging from the tower horizontal. SharkCam was also loose on its mooring. Barracuda Cam ceased transmission soon after.



Trevor Mendelow (left) and Jim Attack (right) discuss the installation of SharkCam from the living area on Frying Pan Tower.



Richard Neal (left) and David Wood (right) prep SharkCam for deployment from the deck of Frying Pan Tower 80 feet above the ocean.

<sup>13</sup> See [SharkCam Timeline](#) for key events and participants at the end of this section.

<sup>14</sup> For details on the technical specifications and applications of these cameras visit <http://viewintothetheblue.com/>.

<sup>15</sup> For more information on Frying Pan Tower, including a history of the structure, see <http://www.fptower.com/>.

<sup>16</sup> See <https://www.youtube.com/watch?v=EahO0qFmvII> for sharks and other visitors seen during installation activity.

## Appendix 2 – History of SharkCam

Once sea conditions allowed, a diver maintenance team (Atack, Burge, and Frederick Farzanegan) traveled to Frying Pan Tower on 8 March 2015, and discovered that Barracuda Cam was completely destroyed and SharkCam needed a thorough cleaning and replacement of the data and power cable. The cable was damaged by chafing against the hard structure of the tower during storms. SharkCam and its cabling were removed during this visit.

A team was able to return to Frying Pan Tower (Atack, Burge, Farzanegan, and Adam Greene) on March 22 and the now thoroughly cleaned and repaired SharkCam was reinstalled at 50 feet. During reinstallation, maintenance divers were also tasked with rotating SharkCam to an upside-down position beneath the tower horizontal.<sup>17</sup> This was done to reduce the possibility of damage and to allow the camera to better “see” the bottom where much of the fish activity takes place. Routine underwater maintenance by those previously mentioned and others (Matt Davin, Steve Luff, Reed Winn, and Sondra Vitols) continued through the rest of 2015 and into 2016.

During the spring of 2016 SharkCam 2.0 was damaged and the cleaner bar assembly ceased functioning correctly. Video evidence showed an octopus crawling on the camera housing, and the cleaning bar malfunction became apparent shortly thereafter. Octopuses are curious and strong, and it is possible that this Frying Pan Tower visitor is to blame for the malfunction. Consequently, algae and other organisms built up quickly on the transparent dome enclosing the camera. Several maintenance trips by boat or with divers deployed directly from Frying Pan Tower during the spring and early summer attempted to keep up with the growth, but the view was obstructed for much of the summer season.

On 12 August 2016, Atack, Burge, Luff, and Vitols participated in a removal of SharkCam 2.0, and installation of a new and upgraded high definition (HD) SharkCam 3.0. The HD camera installation was accompanied by installation above and below water of an enclosed conduit that runs along the vertical leg of the tower to the depth of SharkCam. The power and data cabling were routed through this conduit and the conduit strongly attached to the tower leg. This reduced chafing on the data cable and further protected the installation. Above water installation of the conduit was accomplished by Neal and Saylor Vann.

Early September 2016 saw the arrival of Tropical Storm Hermine to the Carolina coast. Although SharkCam 3.0 was not yet broadcasting online because of maintenance



March 22, 2015. Jim Atack works to remove the stand from the broken Barracuda Cam.



Richard Neal examines the fouling on SharkCam after removal in January 2017. Photo by David Wood.



Erin Burge inspects the final installation of SharkCam 2.0 in March 2015.

<sup>17</sup> For video footage of the March 22, 2015, SharkCam 2.0 installation visit <https://www.youtube.com/watch?v=VZ9IVPUNRKY>.

## SharkCam Fishes

needed at the Winnabow tower onshore, the underwater data and power cable were damaged again. On 10 September 2016, Atack and Burge, below water, and Neal and Brooke Briza, above water, swapped out the damaged data cable. In water activities included tightening all of the fittings and hardware from the water line to the bottom, and surveying the footprint of Frying Pan Tower for future hazards to SharkCam. Communication between SharkCam 3.0 and Winnabow tower was briefly reestablished on 3 October 2016. Unfortunately, the arrival of Hurricane Matthew shortly thereafter again damaged the communications infrastructure and transmission ceased. Footage from atop Frying Pan Tower showed that sea conditions were perilous during the storm.<sup>18</sup>



Jim Atack (background) and Erin Burge maneuver SharkCam into position for secure attachment in April 2017.

Continued poor weather and logistical issues delayed a reconnaissance trip to Frying Pan Tower to assess damage until 15 January 2017. During that trip David Wood and Richard Neal handled top-side logistics while Jim Atack and Erin Burge removed the undamaged, but nonfunctional SharkCam 3.0.<sup>19</sup> A new camera was ready for installation on this trip, but short daylight and high currents precluded completing the work. Shark activity at the tower was also problematic during the removal of the camera and contributed to delays in reinstallation.<sup>20</sup> Finally, a reinstallation trip was scheduled for 9 April 2017, where a newly mounted camera was readied for deployment. Atack and Burge positioned the camera and reinstalled it with the help of boat tenders Dan Madigan and Doug Noble.<sup>21</sup> The camera was reinstalled closer to the vertical tower leg and rotated to an upright position because of a shortened data and power cable. Richard Neal and Saylor Vann completed the tower work. Live streaming was reestablished that same day.

Over the next month the video stream was tinkered with to recreate more surface-natural light conditions. As a result SharkCam videos now appeared as closer to natural sunlight conditions. This dramatically reduces the blue-green effect of the water and displays animals in more vibrant, full-spectrum color. One side effect of this color filtering is that still images are no longer as clear as they once were.

SharkCam continued broadcasting through the rest of the spring and into late summer of 2017. Unfortunately lightning strikes on the Winnabow tall tower that happened on 13 or 14 August 2017, damaged the radio receiver/transmitter that sends the video stream to Explore. The receiver transmitter was replaced on Winnabow tower on 19 November, with battery and solar panel work scheduled for Frying Pan Tower on 3 December. Winter storms precluded diving activities to re-enable live streaming through the end of the year.



Lightning over Wilmington, NC, as seen from the Explore.org Sky Cam. Photo taken in August 2017 by EAV.

On 21 January 2018, Jim Atack, Erin Burge, Steve Luff, and Cody Sweitzer made the cold boat ride out to Frying Pan Tower to join Richard Neal who had arrived on the tower by helicopter on 20 January. This team was successful in removing the existing SharkCam, wrestling the new unit into position in heavy currents and cold water, and running the data/power cable from atop FPT to the bottom. Neal and Sweitzer handled top-side work while Atack and Burge,

<sup>18</sup> Hurricane footage from the Tower Cam mounted above FPT <https://www.youtube.com/watch?v=GGCjPJ-Y4b4> and media coverage <http://www.cnn.com/videos/us/2016/10/08/shirtless-man-lounges-in-ocean-during-storm-orig.cnn>

<sup>19</sup> SharkCam maintenance during January 2017 on Youtube <https://youtu.be/5AHmYS5qnBc>

<sup>20</sup> A tagged sand tiger shark seen during January 2017 maintenance <https://youtu.be/EbdFTXpf41g>

<sup>21</sup> Summary of in water activities during April 2017 reinstallation [https://youtu.be/aJ\\_5mdtnQb0](https://youtu.be/aJ_5mdtnQb0)

## Appendix 2 – History of SharkCam

later joined by Sweitzer and Luff, installed the new SharkCam and ran cable underwater.<sup>22</sup> It began broadcasting online on 23 January. The first snapshot posted with the cam back up and running was of a sand tiger shark (*Carcharias taurus*)! SharkCam continued broadcasting until 27 April when part of the radio infrastructure on land failed.



The first posted screen grab from the January 2018 SharkCam reboot. A sand tiger shark (*Carcharias taurus*) by OKI January 23, 15:38 EST.

Radio repairs and replacement were completed and the online feed was reestablished on 24 July 2018. In early August Erin Burge accompanied Richard Neal and Tom Land, a new FPT shareholder,<sup>23</sup> via helicopter to the tower. The main goal of the visit was to prepare and install 10 higher wattage solar panels to augment the power infrastructure for the cameras and tower. On 5 August, Jim Attack arrived by boat, and he and Erin cleaned the SharkCam installation, replaced the chain hardware that secures the cam stand to the tower, and removed loose sections of the data and power cable. A footprint survey of FPT was completed and Neal, Land, and Burge rode back to shore with Attack and his family.



Fryling Pan Tower from a helicopter on 3 August 2018.

Beginning on 12 September the outer edges of Hurricane Florence, at the time a category 4 storm, began impacting Fryling Pan Tower. As the wind and waves intensified, national news broadcasts picked up on the cam feeds, especially the Tower Cam above water. At times, over 190,000 viewers were simultaneously watching Explore.org and Youtube streams from FPT. The American flag on FPT was particularly popular and it generated thousands of comments from interested viewers. Transmission of SharkCam ceased late on 13 September followed in the early morning hours by Tower Cam on 14 September. Communication and streaming from the cameras was reestablished late on 19 September and revealed that all three Explore.org cameras (SharkCam, Tower Cam, and Sky Cam)<sup>24</sup> survived the storm.



Hurricane Florence on approach to the SharkCam area 12 September 2018.

In preparation for cleaning and maintenance on SharkCam and a pending reinstallation of Barracuda Cam, Erin Burge and Kevin McWilliams joined Richard Neal and Saylor Vann for a delivery trip to Fryling Pan Tower on November 30. Capt. Vann piloted his new boat “Ronin” out to the tower with a cargo of 10 new solar panels, 20 new batteries for

<sup>22</sup> A video summary of maintenance activities in January 2018 is available from <https://youtu.be/qFQ5JNCc6OE>.

<sup>23</sup> For details on buying a share of Fryling Pan Tower see <http://www.fptower.com/sale.html>.

<sup>24</sup> See Tower Cam (Fryling Pan Tower Ocean View camera) from <https://explore.org/livecams/fryling-pan/fryling-pan-cam> and Sky Cam (Sky Tower near Wilmington, North Carolina) from <https://explore.org/livecams/fryling-pan/sky-tower>.

## SharkCam Fishes

banking power, 65 gallons of fuel, and various additional supplies. Later that afternoon cam feeds from FPT ceased. This was due to a software configuration change associated with landside transmission.

A crew of Neal, Wood, Atack, Burge, and David Kish returned to FPT on 13 December to replace the cleaner arm on SharkCam and reinstall Barracuda Cam on the 15' horizontal. A Vemco acoustic receiver used to detect tags in large mobile marine animals was also placed on the walkway grate in the large sand patch viewed from SharkCam. The receiver is on loan from the Smithsonian Environmental Research Center in Maryland. Transmission and streaming of the feeds resumed the evening of 4 January 2019. A great white shark was spotted for the first time within a few days (9 January), but as January came to a close views became more and more obstructed due to fouling on the transparent dome of SharkCam. Transmission radio issues in late January knocked the cam off-line. On 24 March, Richard Neal, Jim Atack, Erin Burge, and Cody Sweitzer returned to Frying Pan Tower to remove the camera and redeploy a new model. Neal and Sweitzer handled the top-side work while Atack and Burge worked underwater. Unfortunately, the power and data transmission cable was active when it was attached to the new installation, and the surge in power damaged delicate components in the camera. Acoustic receiver data was harvested. Tags were detected from several sand tiger sharks tagged in Delaware, one of which remained at FPT for over 100 days that winter. Additionally, several tags from great white sharks tagged in Long Island were also present, along with a short visit from a tagged tiger shark. Not until after Hurricane Dorian, on 13 October, Jim and Brian Atack, and Erin Burge by boat, met Richard Neal and several FPT volunteers already on site. This group deployed and installed a new cable and SharkCam on the bottom. Streaming started almost immediately, catching glimpses of maintenance divers on site. New species discovered shortly thereafter included an unexpected visit from a small green sea turtle, and several new fish species. After a couple of months of operation, SharkCam ceased transmitting on 9 December, and a visit near the turn of the year revealed that the data and power cable was severed.

As of February 2020, plans are in the works to get another SharkCam in the water as soon as equipment, people, and weather can all be synced.

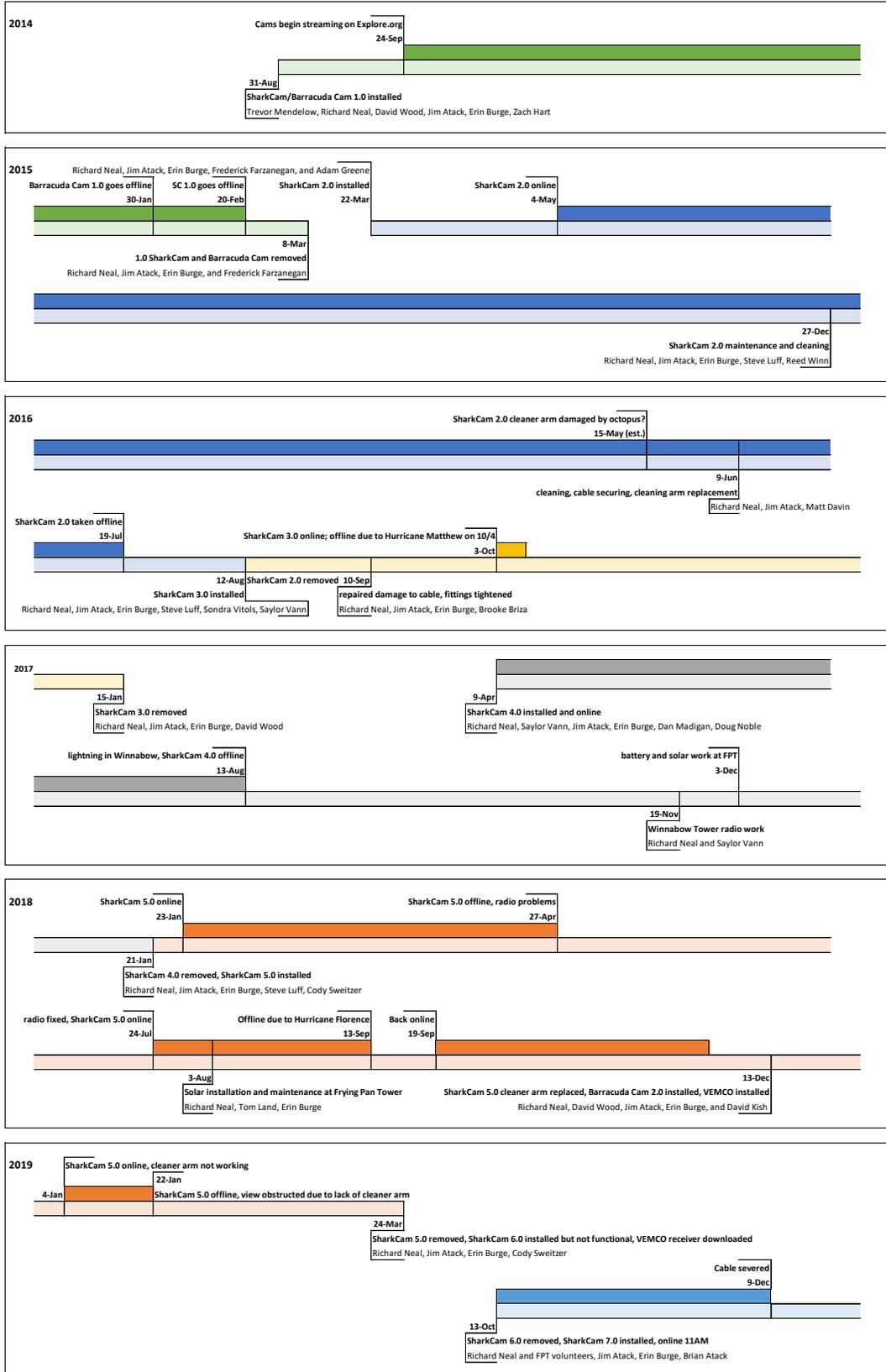


Sea conditions and the American flag at Frying Pan Tower on 13 September 2018 as seen from Explore.org Tower Cam (<https://explore.org/livecams/frying-pan/frying-pan-cam>). This cam feed was broadcast worldwide during media coverage of the impacts of Hurricane Florence on the southeastern United States. This flag, inexplicably nicknamed "Kevin" by denizens of the Internet, was auctioned on eBay for a \$10,900 donation to the Red Cross.



Severed cable that caused the transmission interruption in December after the October 2019 deployment. Photo courtesy of Richard Neal/FPT.

# SharkCam Timeline



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