

**Drum and Croaker (Family Sciaenidae) Diversity in North Carolina**  
By the [NCFishes.com](http://www.ncfishes.com) Team

The waters along and off the coast are where you will find 18 of the 19 species within the Family Sciaenidae (Table 1) known from North Carolina. Until recently, the 19<sup>th</sup> species and the only truly freshwater species in this family, Freshwater Drum, was found approximately 420 miles WNW from Cape Hatteras in the French Broad River near Hot Springs.

**Table 1. Species of drums and croakers found in or along the coast of North Carolina.**

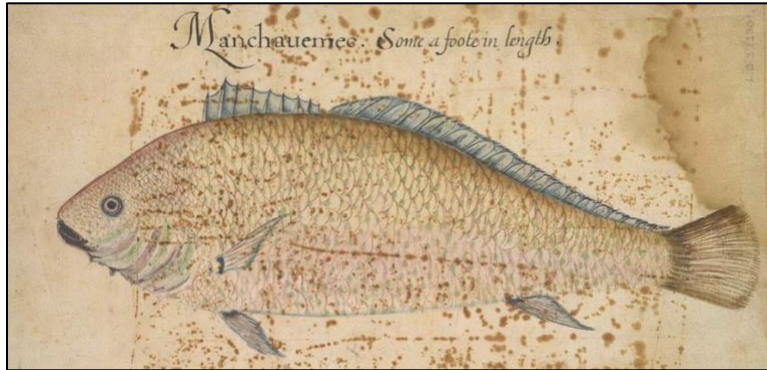
Scientific Name/ American Fisheries Society Accepted Common Name	Scientific Name/ American Fisheries Society Accepted Common Name
<i>Aplodinotus grunniens</i> – Freshwater Drum	<i>Menticirrhus saxatilis</i> – Northern Kingfish
<i>Bairdiella chrysoura</i> – Silver Perch	<i>Micropogonias undulatus</i> – Atlantic Croaker
<i>Cynoscion nebulosus</i> – Spotted Seatrout	<i>Pareques acuminatus</i> – High-hat
<i>Cynoscion nothus</i> – Silver Seatrout	<i>Pareques iwamotoi</i> – Blackbar Drum
<i>Cynoscion regalis</i> – Weakfish	<i>Pareques umbrosus</i> – Cubbyu
<i>Equetus lanceolatus</i> – Jackknife-fish	<i>Pogonias cromis</i> – Black Drum
<i>Larimus fasciatus</i> – Banded Drum	<i>Sciaenops ocellatus</i> – Red Drum
<i>Leiostomus xanthurus</i> – Spot	<i>Stellifer lanceolatus</i> – Star Drum
<i>Menticirrhus americanus</i> – Southern Kingfish	<i>Umbrina coroides</i> – Sand Drum
<i>Menticirrhus littoralis</i> – Gulf Kingfish	

With so many species historically so well-known to recreational and commercial fishermen, to lay people, and their availability in seafood markets, it is not surprising that these 19 species are known by many local and vernacular names. Skimming through the ETYFish Project (<http://www.etyfish.org/>), Kells and Carpenter (2011), Manooch (1984), and Smith (1907), these species traditionally answered or still answer when their names are called:

- *Aplodinotus grunniens* (Freshwater Drum - Gasper-gou (pronounced gaspə(r)gü), Sheepshead
- *Bairdiella chrysoura* (Silver Perch) – Perch (White, Sand, and Yellow-finned), Yellow-tail, and Silver Croaker
- *Cynoscion* spp. (Spotted Seatrout, Silver Seatrout, and Weakfish) - Trout (Bastard, Speckled, Sea, Salmon, Black, Gray, Summer, Yellow-fined, Sun, and Shad), Gray Seatrout, Salmon, Weakfish (Spotted, Silver, and Gray), Squeteague (pronounced skwi-'tēg, Southern, Spotted, and Silver), and Kingfish
- *Equetus lanceolatus* (Jackknife-fish) - Ribbon-fish
- *Larimus fasciatus* (Banded Drum) - Bullhead, Chub
- *Leiostomus xanthurus* (Spot) - Jimmy, Chub, Roach, Goddy, Lafayette, Norfolk Spot
- *Menticirrhus* spp. (Southern Kingfish, Gulf Kingfish, and Northern Kingfish) - Sea Mullet, Round-head, Sea Mink, Kingfish, Virginia Mullet, Whiting (Carolina, Gulf, Silver, and Surf), Barb, Hake, Rock-Fish, and Southern Kingcroaker
- *Micropogon undulatus* (Atlantic Croaker) - Croaker, Crocus, Hard-head
- *Pareques iwamotoi* (Blackbar Drum) - Gulf Cubbyu
- *Pogonias cromis* (Black Drum) - Sea Drum, Drum
- *Sciaenops ocellatus* (Red Drum) - Drum, Puppy Drum, Channel Bass, Spotted Bass, Redfish, Branded Drum, Spottail Bass
- *Stellifer lanceolatus* (Star Drum) - American Star Drum

Even Smith (1907) pined that: “*The common names of this species* [referring to *Cynoscion regalis*, Weakfish] *are numerous, and some of them are very improper*” and “*The local names applied to this species* [referring to *Cynoscion nebulosus*, Spotted Seatrout] *are indefensible, but will probably never be supplanted by appropriate ones*”. However to bring some semblance of order and stability to this cornucopia of regional jargon, the American Fisheries Society-accepted common names are perhaps less colorful, but more socially acceptable and scientifically standardized (Page et al. 2013) and each of their scientific (Latin) name actually means something (please refer to The Meanings of the Scientific Names of Croakers and Drums, pages 22 and 23).

In 1585-1593, John White illustrated Atlantic Croaker labeled with the Algonquin word used by the Croatoan First Peoples, *Manchauemec* (<https://www.coastalcarolinaindians.com/updated-algonquian-word-list-by-scott-dawson/>), and noted: “Some a foote in lengthe” (Figure 1). He also illustrated Red Drum labeled with the Algonquin word, *Chingwulso*, and noted: “Some 5 foote in length” (Figure 2). Coincidentally, this measurement is almost identical to that (5.2 feet) reported 425 years later by Kells and Carpenter (2011).



**Figure 1. Painting of Atlantic Croaker by John White, 1585-1593. Painting courtesy of the British Museum, Museum No. SL,5270.113 ([https://www.britishmuseum.org/collection/object/P\\_SL-5270-113](https://www.britishmuseum.org/collection/object/P_SL-5270-113)).**



**Figure 2. Painting of Red Drum by John White, 1585-1593. Painting courtesy of the British Museum, Museum No. SL,5270.102 ([https://www.britishmuseum.org/collection/object/P\\_SL-5270-102](https://www.britishmuseum.org/collection/object/P_SL-5270-102)).**

More than a century after John White painted these two fish, both species were mentioned as occurring in North Carolina's waters by John Lawson in 1709 who described the Red Drum as: “. . . a large Fish much bigger than the Bluefish. The Body of this is good firm Meat, but the Head is beyond all the Fish I ever met withal an excellent Dish. We have greater Numbers of these Fish, than of any other sort. People go down and catch as many Barrels full as they please, with Hook and Line, especially every young Flood, when they bite. These are salted up, and transported to other Colonies, that are bare of Provisions.” (Lawson (1709), p.156). Although White did not illustrate Black Drum, Lawson (1709, p. 156) reported: “. . . are a thicker-made Fish than the Red Drum, being shap'd like a fat Pig; they are a very good Fish, but not so common with us as to the Northward.” With regards to Atlantic Croaker, Lawson (1709, p158) remarked: “The Crocus is a Fish, in Shape like a Pearch, and in Taste like a Whiting. . . . They are very good”. If you are interested in more recent tried and true Down East ways to prepare and eat some of North Carolina's drums and croakers please consult Manooch (1984).

Smith (1907) reported that the fishes of this family (Figure 3) in North Carolina were in aggregate more valuable than all the other saltwater fishes combined. That is an amazing statistic. He also stated that the annual catch exceeded 7 million pounds worth over \$225,00, which would be the equivalent of \$6.7 million dollars in 2021. Atlantic Croaker and Squeteague (*Cynoscion* spp.) along with mullets (*Mugil* spp.) were the three most important saltwater species during the turn of the last century (Smith 1907).

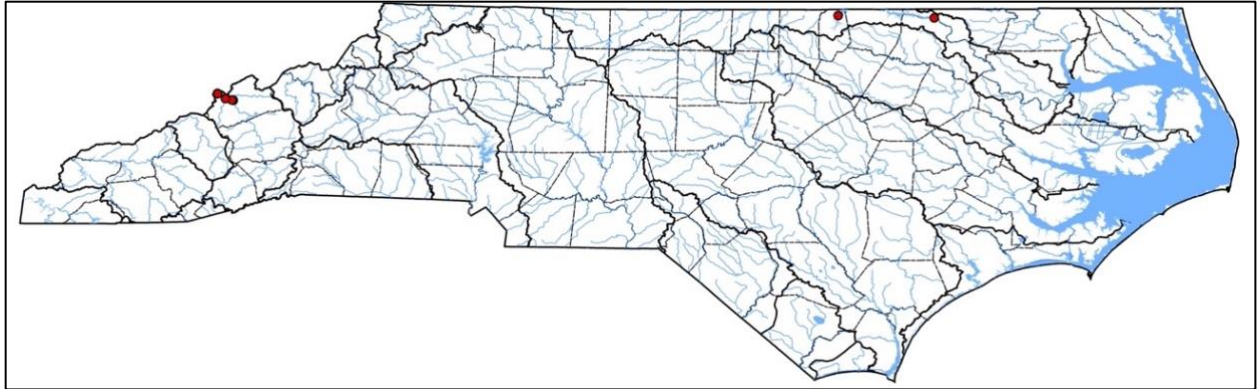


**Figure 3. Illustrations by Albertus H. Baldwin in Smith (1907). Clockwise from top left – Weakfish, Spot, Croaker, and Spotted Seatrout.**

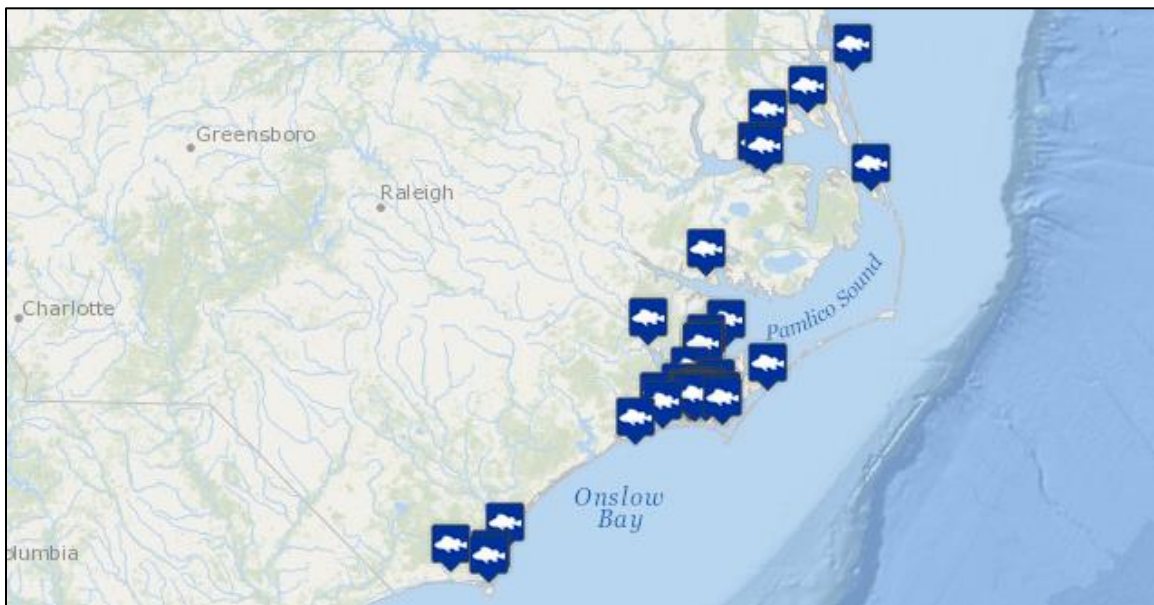
Except for Freshwater Drum, all the other species of drums and croakers are to be found along North Carolina's coast (Maps 1-17) ([NCFishes.com](https://www.ncfishes.com); Tracy et al. 2020; [Please note: Tracy et al. (2020) may be downloaded for free at: <https://trace.tennessee.edu/sfcproceedings/vol1/iss60/1>.] Silver Perch, Atlantic Croaker, and Red Drum occasionally stray into fresh waters (Maps 2, 12, and 16; Tracy et al. 2020), but spend most of their lives in estuarine or marine waters. Spot (Map 8) is also primarily an estuarine species that may be found seasonally in freshwater habitats (Tracy et al. 2020).

Some of the species' mapped distributions may be an artifact of their rarity as vouchered specimens at North Carolina Museum of Natural Sciences (i.e., researchers being hesitant to preserve large-bodied specimens or recreationally important game species) and/or their rarity in North Carolina waters. Distributional maps, based upon vouchered specimens at the North Carolina Museum of Natural Sciences, are unavailable for Sand Drum and Blackbar Drum.

Freshwater Drum is indigenous to the western Mountain river basins (Map 1) but currently only found in the French Broad basin. [Note: see Supplemental Maps 1-3, page 24, showing North Carolina's 100 counties, 21 river basins, and 4 physiographic regions.] It was illegally introduced into the Roanoke basin, into John H. Kerr Reservoir, possibly as recently as the 1980s or 1990s. Anecdotal reports now document its occurrence in Lake Gaston and Roanoke Rapids Lake and within the Roanoke Rapids Dam bypass reach. More occurrences in the mainstem of the Roanoke River downstream from Roanoke Rapids Dam are to be expected into the future (Tracy et al. 2020). It has also been recently collected upstream from Kerr Reservoir in the Dan River at Milton in Caswell County (Kelsey Roberts, North Carolina Wildlife Resources Commission, pers. comm.).



**Map 1. Distribution of Freshwater Drum, *Aplodinotus grunniens*. Map originally appeared in Tracy et al. (2020).**



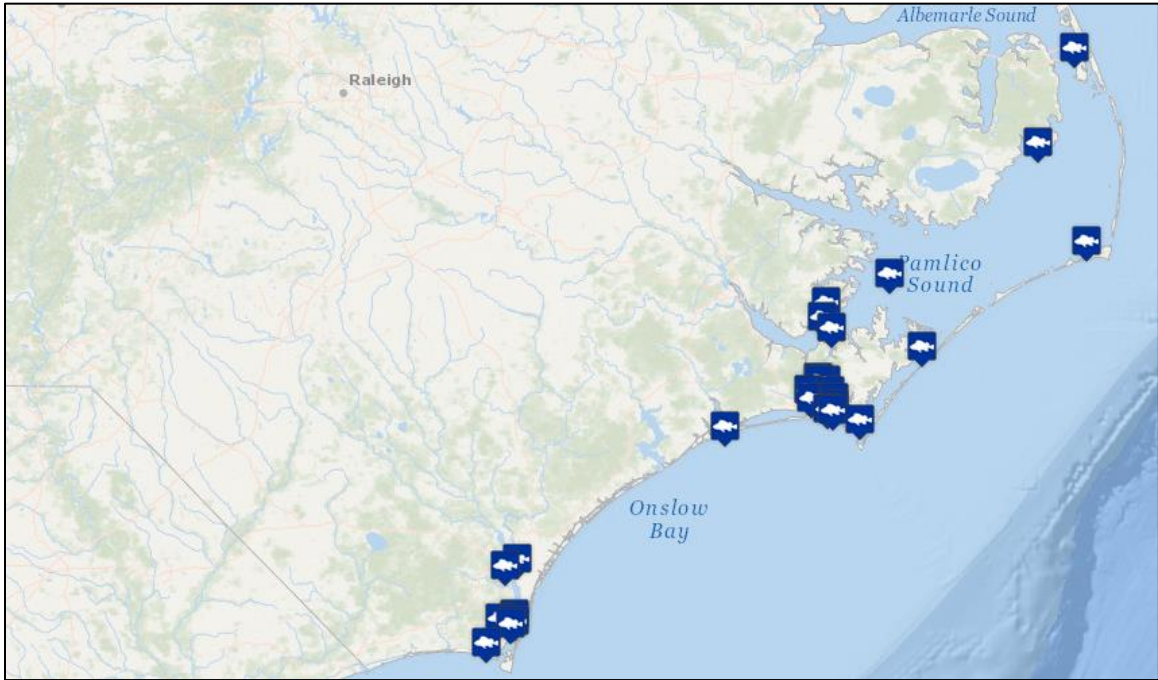
**Map 2. Distribution of Silver Perch, *Bairdiella chrysoura*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021.**



Map 3. Distribution of Spotted Seatrout, *Cynoscion nebulosus*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021.



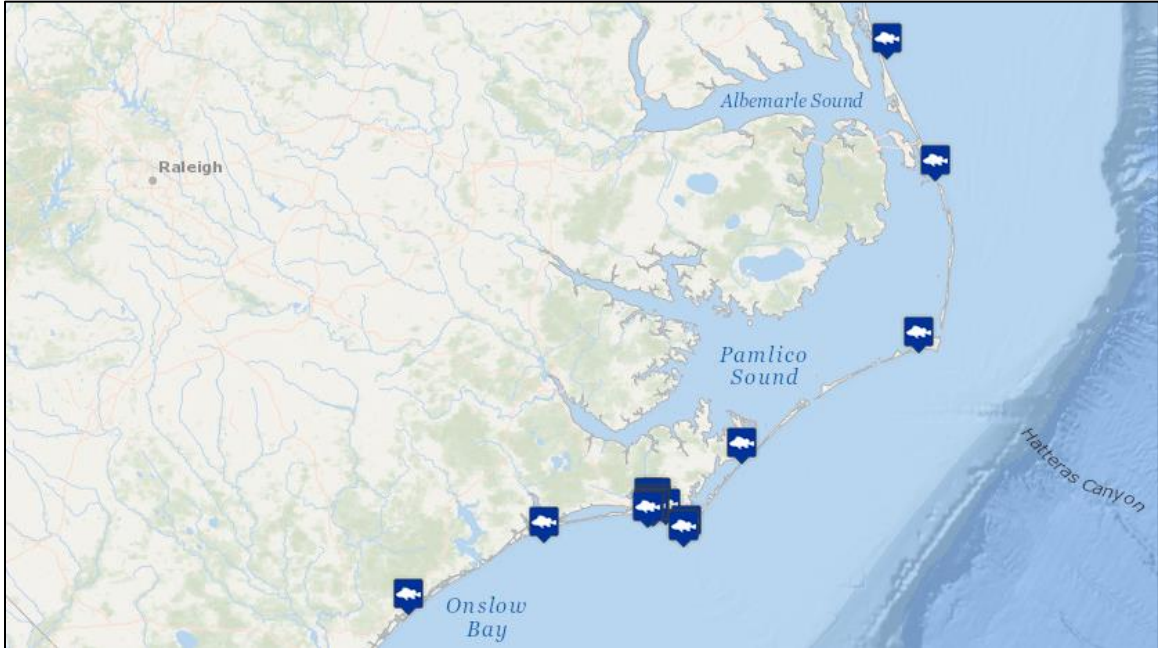
Map 4. Distribution of Silver Seatrout, *Cynoscion nothus*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021.



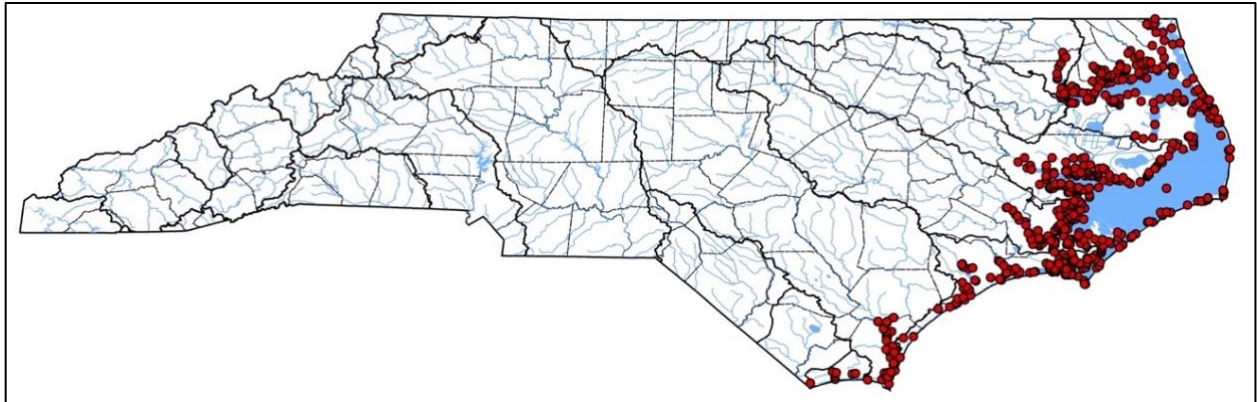
**Map 5. Distribution of Weakfish, *Cynoscion regalis*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021.**



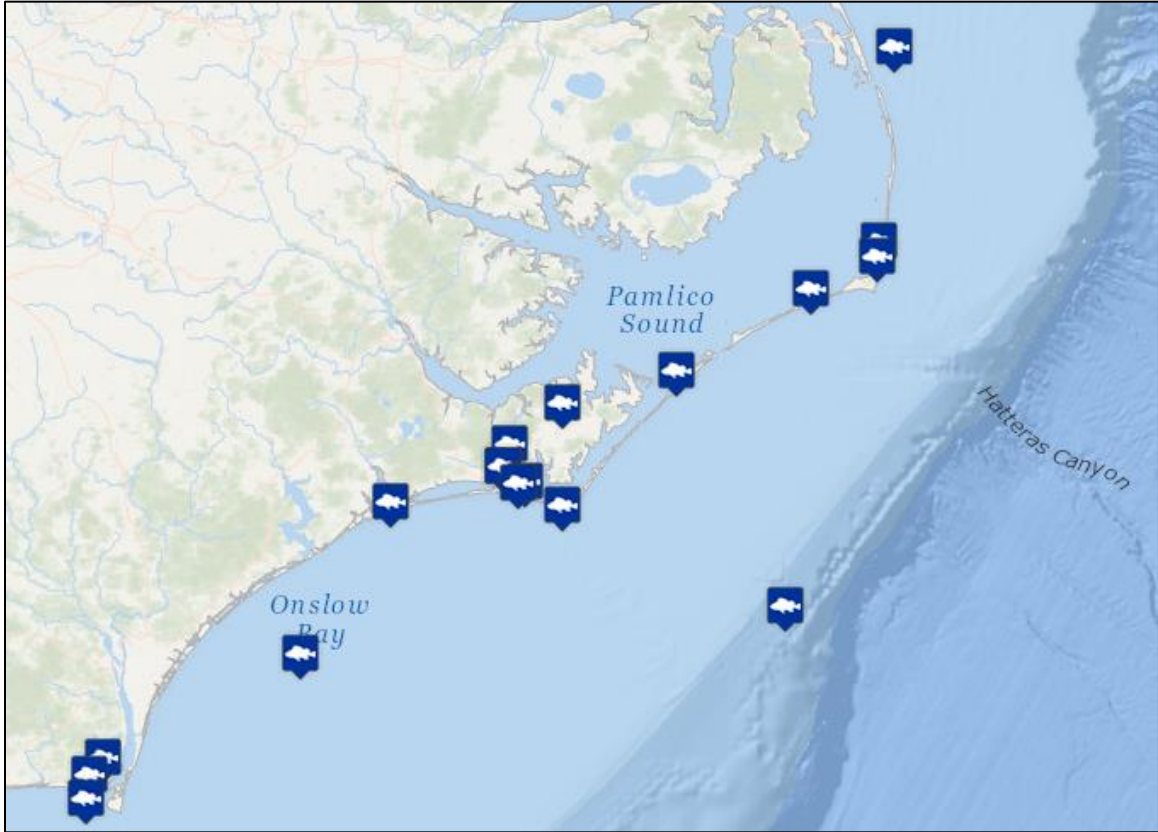
**Map 6. Distribution of Jackknife-fish, *Equetus lanceolatus*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021. Note: several locations are beyond “North Carolina” waters (> 13.8 miles = 22.2 km, and 12 nautical miles).**



Map 7. Distribution of Banded Drum, *Larimus fasciatus*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021.



Map 8. Distribution of Spot, *Leiostomus xanthurus*. Map originally appeared in Tracy et al. (2020).

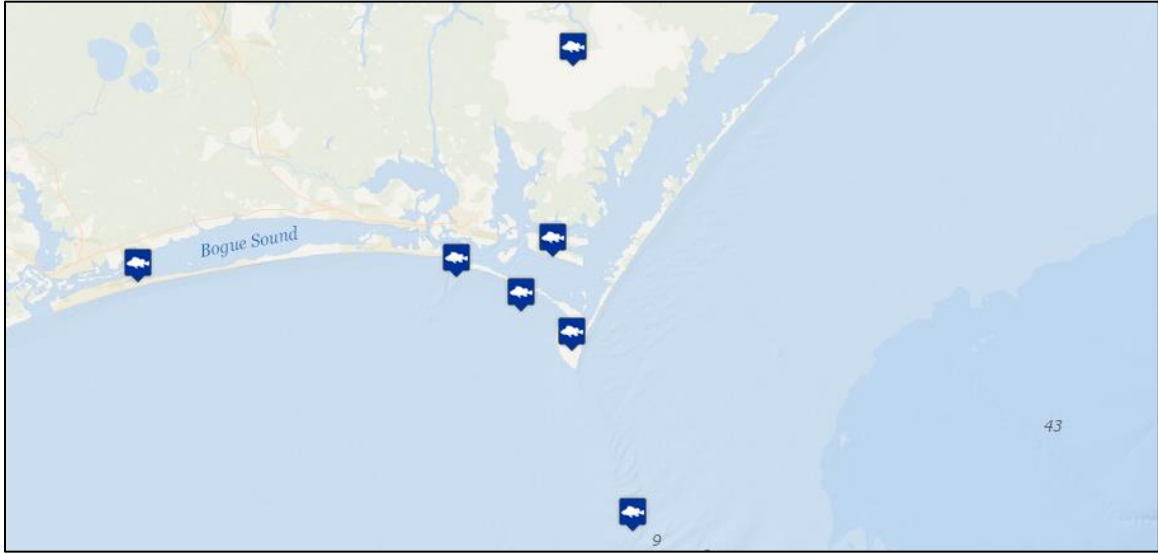


Map 9. Distribution of Southern Kingfish, *Menticirrhus americanus*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021. Note: one location is beyond “North Carolina” waters (> 13.8 miles = 22.2 km, and 12 nautical miles).

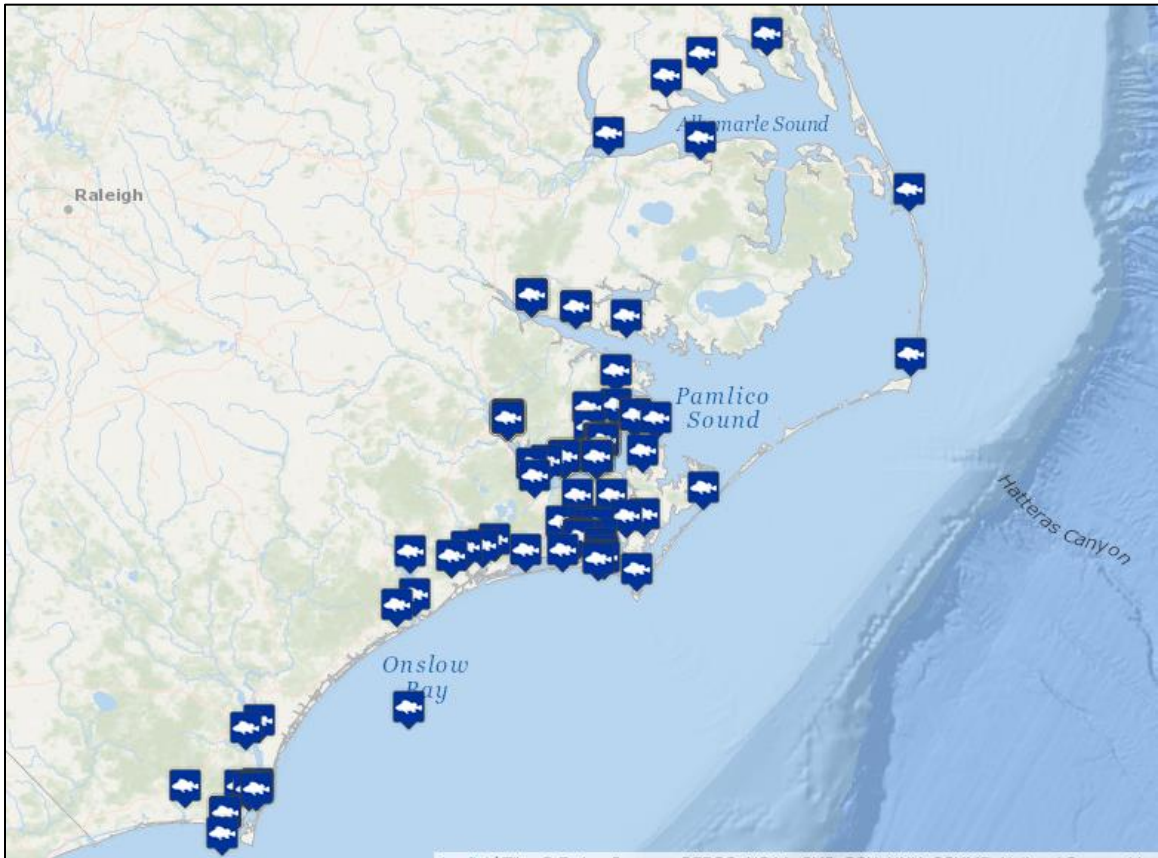


Map 10. Distribution of Gulf Kingfish, *Menticirrhus littoralis*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021.





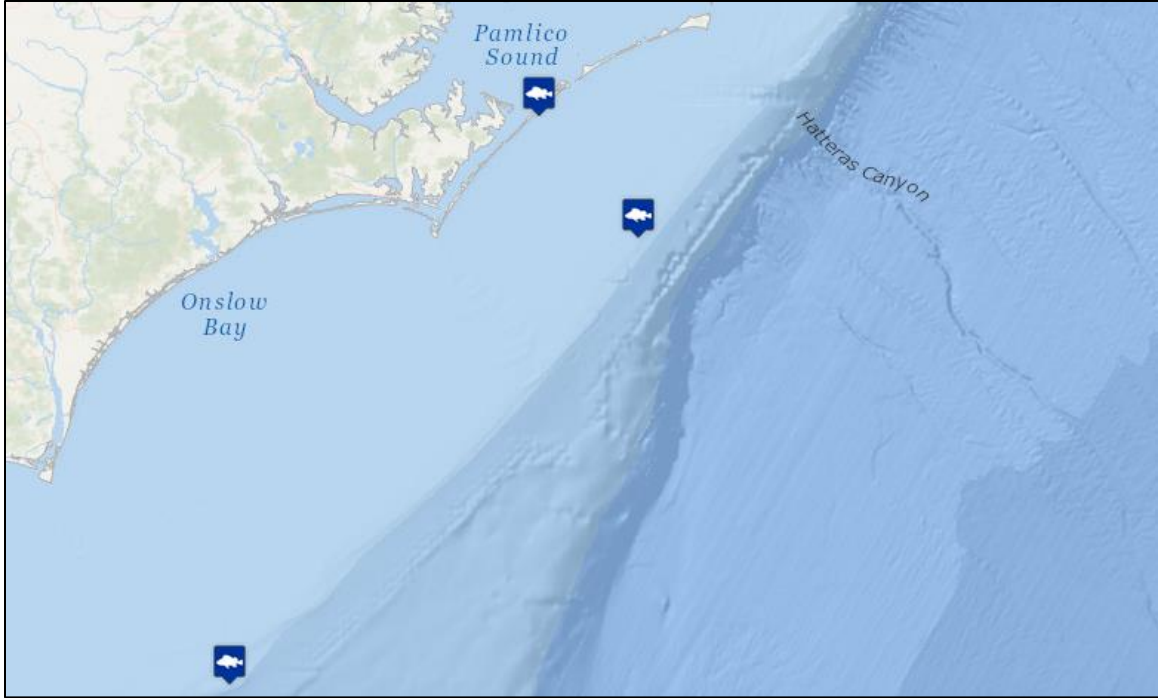
Map 11. Distribution of Northern Kingfish, *Menticirrhus saxatilis*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021. Note: one location is beyond “North Carolina” waters (> 13.8 miles = 22.2 km, and 12 nautical miles).



Map 12. Distribution of Atlantic Croaker, *Micropogonias undulatus*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021.



Map 13. Distribution of High-hat, *Pareques acuminatus*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 02/18/2021. Note: location is beyond “North Carolina” waters (> 13.8 miles = 22.2 km, and 12 nautical miles).



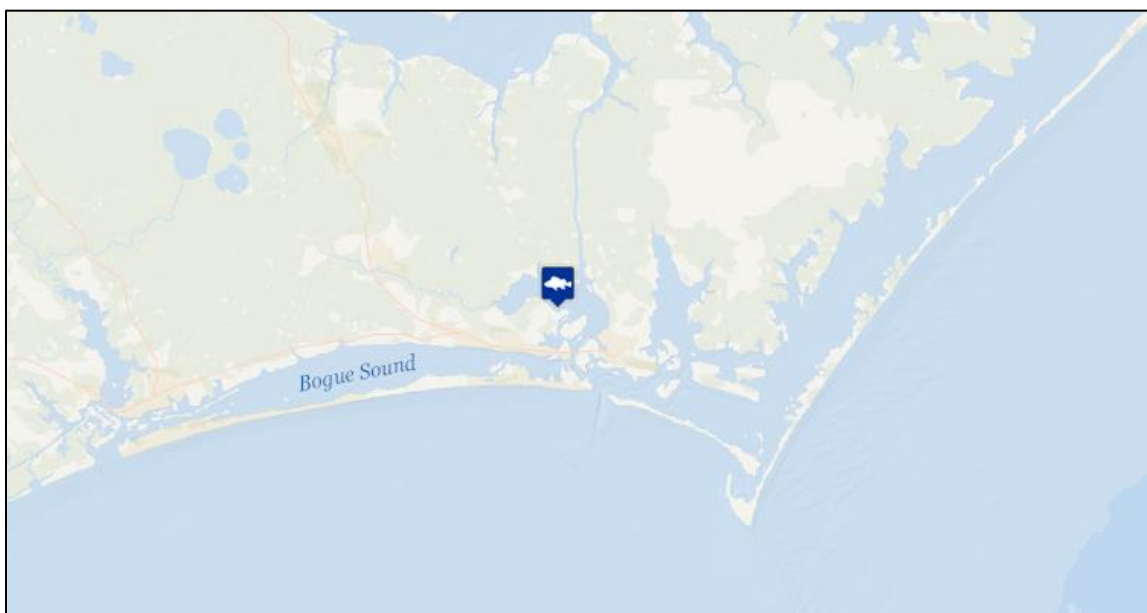
Map 14. Distribution of Cubby, *Pareques umbrosus*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021. Note: two locations are beyond “North Carolina” waters (> 13.8 miles = 22.2 km, and 12 nautical miles).



Map 15. Distribution of Black Drum, *Pogonias chromis*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021.



Map 16. Distribution of Red Drum, *Sciaenops ocellatus*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021.



**Map 17. Distribution of Star Drum, *Stellifer lanceolatus*. Map based upon vouchered specimens at the North Carolina Museum of Natural Sciences; accessed 01/31/2021.**

Croakers and drums vary greatly in size from the petite Star Drum at about 200 mm (8 inches) to almost a whopping 1700 mm (5.6 feet) for Black Drum. Their occupied habitats are also variable, depending upon the species from nearshore, shallow beaches and the surf zones, to seagrass beds in estuaries, to off shore deep reefs and hard bottoms, to inlets and near river mouths. They may be found over shallow hard or soft sandy and muddy bottoms or in tide pools (Kells and Carpenter 2011). Most species inhabit shallow waters, but Jackknife-fish and Spot can be found to depths of 200 feet, Banded Drum to 320 feet, and Blackbar Drum and Cubbyu to about 600 feet (Kells and Carpenter 2011). As mentioned previously, Freshwater Drum, as its name implies is found exclusively in fresh water. In the French Broad River basin it is found in the mainstem of the French Broad River where there are some backwaters and slower currents. It is also an introduced inhabitant of some of the major reservoirs along the Roanoke River and in the future, downstream (Tracy et al. 2020).

Freshwater Drum is the species in the family that is state-listed; it is a Special Concern species. None of the species is a federally-listed species (NCAC 2017; NCNHP 2020; NCWRC 2017). The recreational and commercial harvesting (take) of Red Drum, Weakfish, Spotted Seatrout, and Black Drum are state regulated by the North Carolina Division of Marine Fisheries and the North Carolina Wildlife Resources Commission (NCDMF 2020; NCWRC 2020).

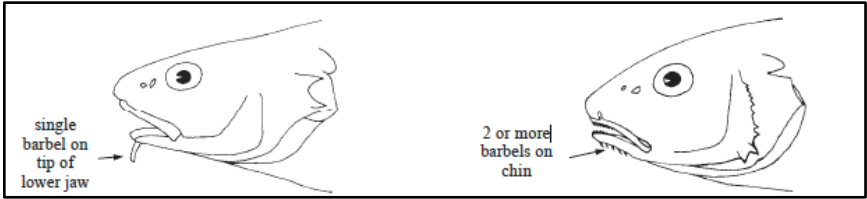
The identification of drums and croakers is relatively straight-forward. Key characteristics for their proper identification include the presence (and number) or absence of chin barbels, breast and dorsal fin scalation pattern, length of spinous dorsal fin, body coloration and striping, size of mouth, and the presence or absence of canine teeth (please refer to the Identification Key to the Freshwater and Marine Drums and Croakers (Family Sciaenidae) in North Carolina).

If you have troubles with your identifications, just send us (<https://ncfishes.com/contact/>) an e-mail and include as many quality digital photographs as you can along with all the pertinent locality descriptors so that we will know from where the fish came.

**Identification Key to the Freshwater and Marine Drums and Croakers (Family Sciaenidae) in North Carolina**

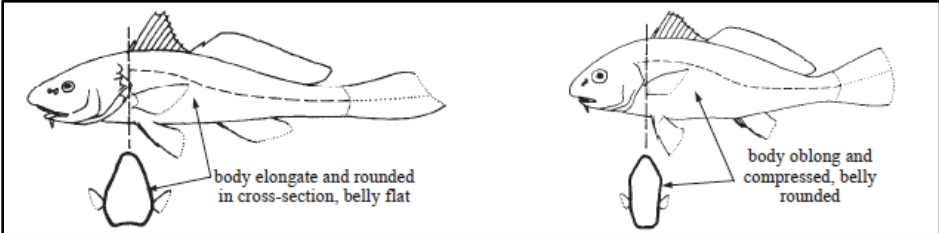
(Please refer to [NCFishes.com](http://NCFishes.com) for pictures and identifying characteristics all species)  
 (Identification Key adapted from and illustrations courtesy of Chao (2002))

- 1a. Chin or underside of lower jaw with barbel .....2
- 1b. Chin without barbel.....7
- 2a. A single barbel on tip of lower jaw (Figure 1).....3
- 2b. Two or more barbels on chin or in paired series along median edges of lower jaw (Figure 1) .....6



**Figure 1. Examples of the number and placement of barbels in the Family Sciaenidae.**

- 3a. Body elongate and rounded in cross-section, belly flat (Figure 2). Anal fin with 1 short spine .....4
- 3b. Body oblong and compressed, belly rounded (Figures 2 and 3). Anal fin with 2 spines .....  
 ..... Sand Drum, [Umbrina coroides](#)



**Figure 2. Left- Body shape in *Menticirrhus* sp.; Right – Body shape in *Umbrina*.**



**Figure 3. Sand Drum. Photograph courtesy of the Smithsonian Tropical Research Institute’s Shorefishes of the Greater Caribbean online information system, <https://biogeodb.stri.si.edu/caribbean/en/pages/random/7097>, accessed January 31, 2021.**

4a. Breast scales (below pectoral-fin base and pelvic-fin origin) much smaller than those along lateral line (Figure 4). Body uniformly silver (Figure 4). Pectoral fin short, usually not reaching to tip of pelvic fin ..... Gulf Kingfish, *Menticirrhus littoralis*

4b. Breast scales not much reduced in size. Body silvery grey with dark oblique bars on sides. Pectoral fin longer, reaching to or beyond tip of pelvic fin.....5



Figure 4. Left - Breast scales in Gulf Kingfish.; Right – Gulf Kingfish.

5a. Spinous dorsal fin high, when depressed back, its tip reaching beyond base of fourth soft dorsal-fin ray (Figure 5). Side with 7 or 8 distinct oblique bars, second and third bars form a V below spinous dorsal fin. A dusky colored stripe connecting the eyes; a longitudinal stripe below lateral line extending to tip of caudal fin (Figure 6). Anal-fin rays usually 8 (7-9) ..... Northern Kingfish, *Menticirrhus saxatilis*

5b. Spinous dorsal fin lower, when depressed back not reaching to base of second soft ray (Figure 5). Side with 8 or 9 diffused saddle-like bars or dark blotches, second and third bars form a faint V below nape and spinous dorsal fin. No stripes connecting eyes or below lateral line (Figure 6). Anal-fin rays usually 7 (6-8) ..... Southern Kingfish, *Menticirrhus americanus*

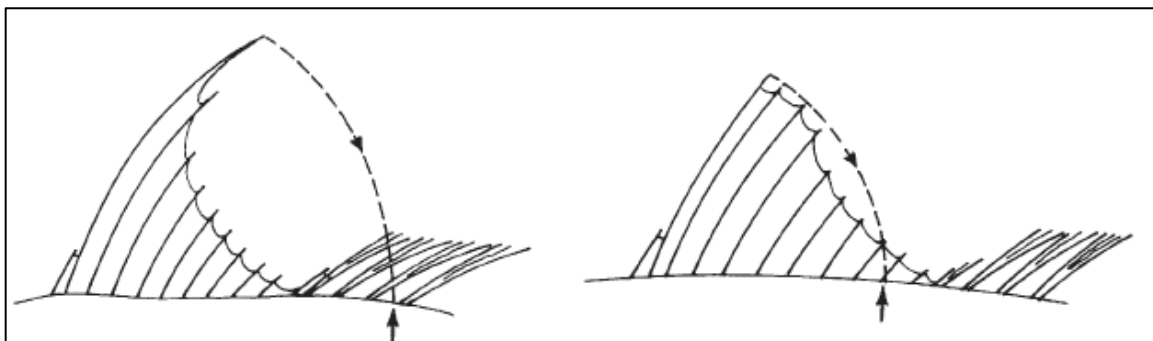


Figure 5. Spinous dorsal fins. Left – Northern Kingfish; Right – Southern Kingfish.



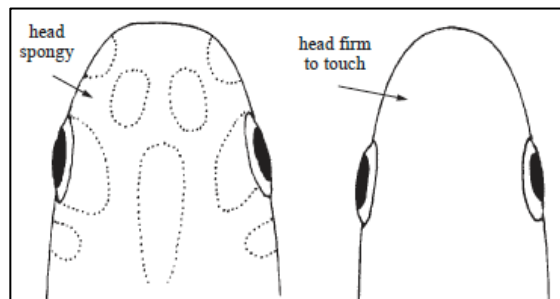
Figure 6. Left - Northern Kingfish; Right – Southern Kingfish.

- 6a. Barbels in series of 3-5 pairs along median margins of lower jaw. Preopercular margin strongly serrate. Side with series of small spots forming oblique wavy lines along transverse scale rows or scattered on back in reticulate pattern (Figure 7) ..... Atlantic Croaker, *Micropogonias undulatus*
- 6b. Barbels in series of 10-13 pairs along median margins of lower jaw and subopercles. Preopercular margin smooth. Silvery grey to very dark, young with 4 or 5 black vertical bars on sides, disappearing with growth; pelvic and anal fins usually dark (Figure 7) ..... Black Drum, *Pogonias cromis*

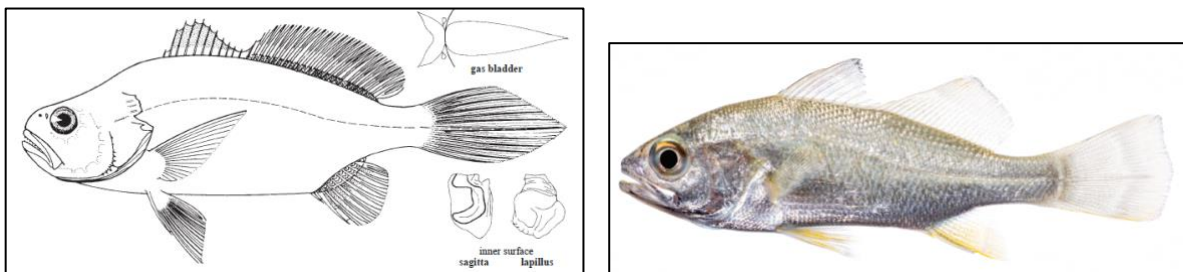


**Figure 7. Left – Atlantic Croaker; Right – Black Drum.**

- 7a. Preopercle serrate often with 1 or more distinct bony spines at angle or prominent serration on posterior margin .....8
- 7b. Preopercle smooth or slightly denticulate or ciliate, never with strong bony spine or serration in adult .....9
- 8a. Head broad, top cavernous, often translucent under skin, hollow or spongy to touch (Figure 8). Interorbital width going less than 3.5 times into head length. Tail pointed, lanceolate (Figure 9) ..... Star Drum, *Stellifer lanceolatus*
- 8b. Head narrower, top cavernous, but usually not translucent under skin, firm to touch (Figure 8). Interorbital width going 3.5 times or more into head length (Figure 9). Tail rounded or nearly so (Figure 9) ..... Silver Perch, *Bairdiella chrysoura*

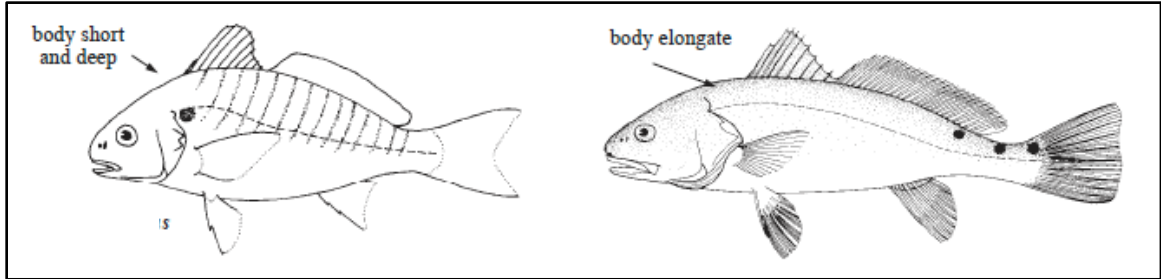


**Figure 8. Dorsal view of the head. Left – Star Drum; Right – Silver Perch.**



**Figure 9. Left – Star Drum; Right – Silver Perch.**

- 9a. Mouth small, inferior, snout projecting in front of upper jaw ..... 10
- 9b. Mouth moderate to large, horizontal to strongly oblique, terminal or lower jaw projecting in front of upper jaw ..... 16
- 10a. Body short and deep, dorsal profile strongly elevated or arched on nape; body depth going less than 3.5 times into Standard Length (Figure 10) ..... 11
- 10b. Body elongate, dorsal profile not strongly elevated or arched on nape; body depth going more than 4 times into Standard Length (Figures 10 and 11) .....Red Drum, *Sciaenops ocellatus*



**Figure 10. Left – Body depth short and deep as in Spot; Right – Body elongate in Red Drum.**



**Figure 11. Red Drum.**

- 11a. Body uniformly silvery, darker dorsally (Figure 12). Lower pharyngeal tooth plates fused into a single triangular plate (fresh water) ..... Freshwater Drum, *Aplodinotus grunniens*
- 11b. Body with spots, bars or stripes. Lower pharyngeal tooth plates not fused ..... 12



**Figure 12. Freshwater Drum. Photograph courtesy of the North American Native Fishes Association.**

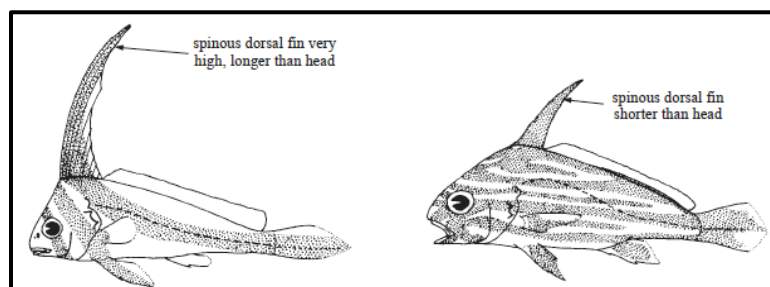


- 12a. Body dark silvery to brownish with conspicuous longitudinal stripes, or broad oblique bars on head and flank. Soft dorsal-fin rays 35 or more. Less than 20 gill rakers on first arch ..... 13
- 12b. A dark humeral spot behind upper end of gill slit (Figure 13). Body silvery with narrow oblique stripes along transverse scale rows. Soft dorsal-fin rays 28-33. 30-36 gill rakers on first arch .....  
 ..... Spot, *Leiostomus xanthurus*



**Figure 13. Spot.**

- 13a. Spinous dorsal fin very high, longer than head (Figures 14 and 15). Sides with 3 dark oblique bars, 2 on head, 1 from spinous dorsal fin obliquely extends to caudal fin (Figure 15) .....  
 ..... Jackknife-fish, *Equetus lanceolatus*
- 13b. Spinous dorsal fin not as high, much shorter than head (Figure 14). Sides with dark longitudinal stripes or diffused dark saddle-like bar on head (Figure 14) ..... 14

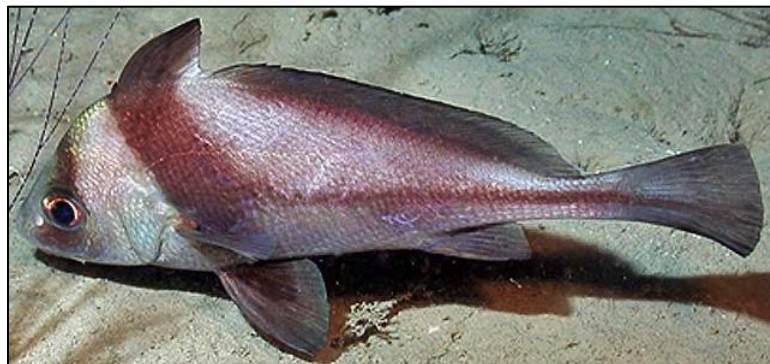


**Figure 14. Spinous dorsal fins and lateral stripping. Left - *Equetus*; Right - *Pareques* sp.**



**Figure 15. Jackknife-fish. Photograph courtesy of NOAA Fisheries, Panama City Laboratory, FL.**

- 14a. Side with a broad oblique bar from base of spinous dorsal fin to pelvic fins; 1 longitudinal stripe on midline reaching to tip of caudal fin (Figure 16). Large adults may be darkly pigmented, obscuring the oblique bar and longitudinal strip (Figure 17) ..... Blackbar Drum, *Pareques iwamotoi*
- 14b. Side with several longitudinal stripes, no oblique bar ..... 15



**Figure 16. Blackbar Drum.** Photograph courtesy of the Smithsonian Tropical Research Institute’s Shorefishes of the Greater Caribbean online information system, <https://biogeodb.stri.si.edu/caribbean/en/pages/random/5162>, accessed January 31, 2021.



**Figure 17. Adult Blackbar Drum.**

- 15a. Side with 3 to 5 broad longitudinal bands, wider than pupil, with narrower stripes in between (Figure 18); young with a straight dark bar connecting eyes across top of head, diffused in adult. Spinous dorsal fin when pressed against back, its tip reaching base of sixth soft dorsal-fin ray ..... High-hat, *Pareques acuminatus*
- 15b. Side with 7 to 10 narrow longitudinal stripes, narrower than pupil (Figure 19); young with a V-shaped dark bar connecting eyes across nape, diffused in adult. Spinous dorsal fin, when depressed against back, its tip not reaching to base of fourth soft dorsal-fin ray ..... Cubbyu, *Pareques umbrosus*



**Figure 18. High-hat.** Photograph courtesy of the Smithsonian Tropical Research Institute's Shorefishes of the Greater Caribbean online information system, <https://biogeodb.stri.si.edu/caribbean/en/pages/random/5158>, accessed January 31, 2021.



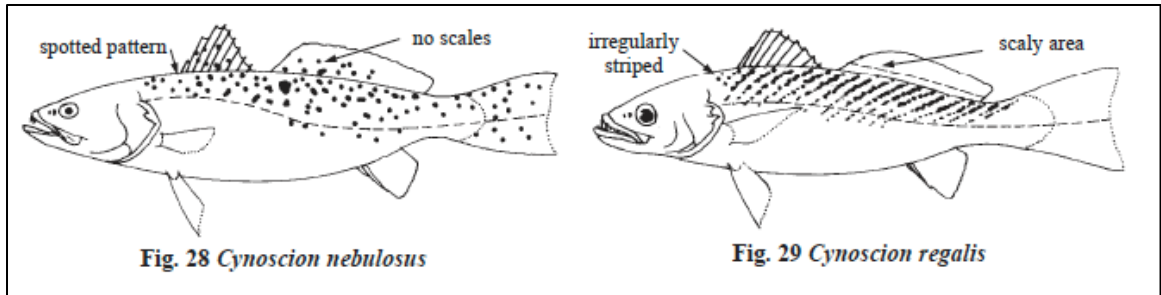
**Figure 19. Cubbyu.** Photograph courtesy of NOAA Fisheries, Panama City Laboratory, FL.

- 16a. Body elongated. Pair of large canine-like teeth present on tip of upper jaw. Anal spines short and weak, less than 1/4 of first soft ray height ..... 17
- 16b. Body oblong (Figure 20). Without large canine on tip of upper jaw. Second anal spine sharp, more than 1/2 of first ray height..... Banded Drum, *Larimus fasciatus*



**Figure 20. Banded Drum.**

- 17a. Back with distinct black spots scattered randomly on dorsal and caudal fins (Figures 21 and 22). Soft dorsal fin unscaled. Pectoral fin shorter than pelvic fin ..... Spotted Seatrout, *Cynoscion nebulosus*
- 17b. Back with numerous small spots forming oblique and undulating lines, usually not extending to dorsal or caudal fins (Figure 21). Soft dorsal partially scaled. Pectoral fin slightly longer than pelvic fin ..... 18

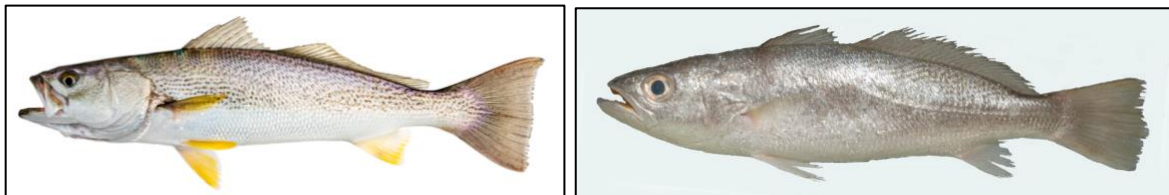


**Figure 21. Left – Soft dorsal fin without scales and spotted pattern in Spotted Seatrout; Right – Soft dorsal fin partially scaled and irregularly striped pattern in Weakfish.**



**Figure 22. Spotted Seatrout.**

- 18a. Dotted stripes on trunk irregular or reticulated (Figure 23). Paired fins yellow (Figure 23). Anal fin with 11-13 soft rays .....Weakfish, *Cynoscion regalis*
- 18b. Dotted stripes on trunk run on oblique scale rows (Figure 23). Paired fins white (Figure 23). Anal fin with 8-10 soft rays .....Silver Seatrout, *Cynoscion nothus*



**Figure 23. Left – Weakfish; Right – Silver Seatrout.**

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## The Meanings of the Scientific Names of Croakers and Drums

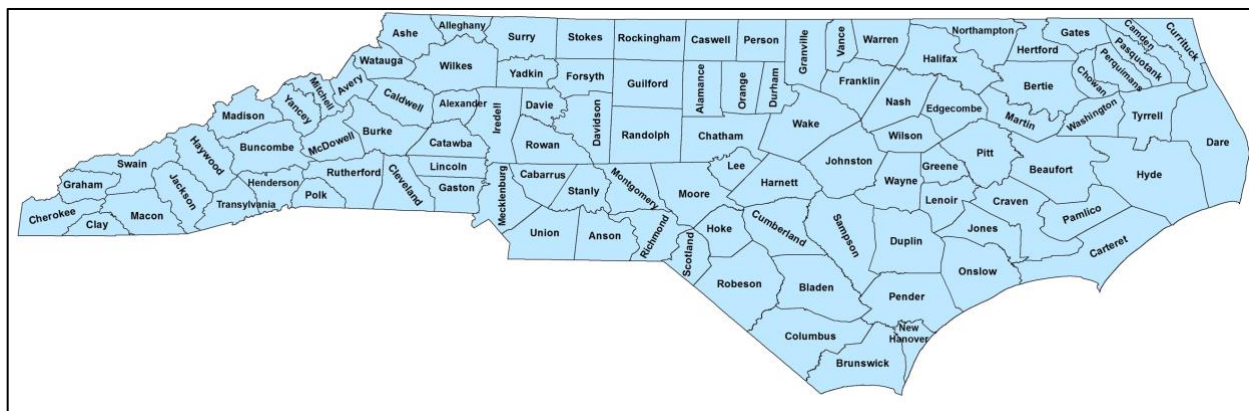
Adopted from the ETYFish Project by Christopher Scharpf and Kenneth J. Lazara,  
accessed January 31, 2021, <https://etyfish.org/eupercaria/>

**Family Sciaenidae Cuvier 1829** – *Sciaena*, presumably from *skiaina*, Greek name, perch-like marine fishes, now applied to sciaenids

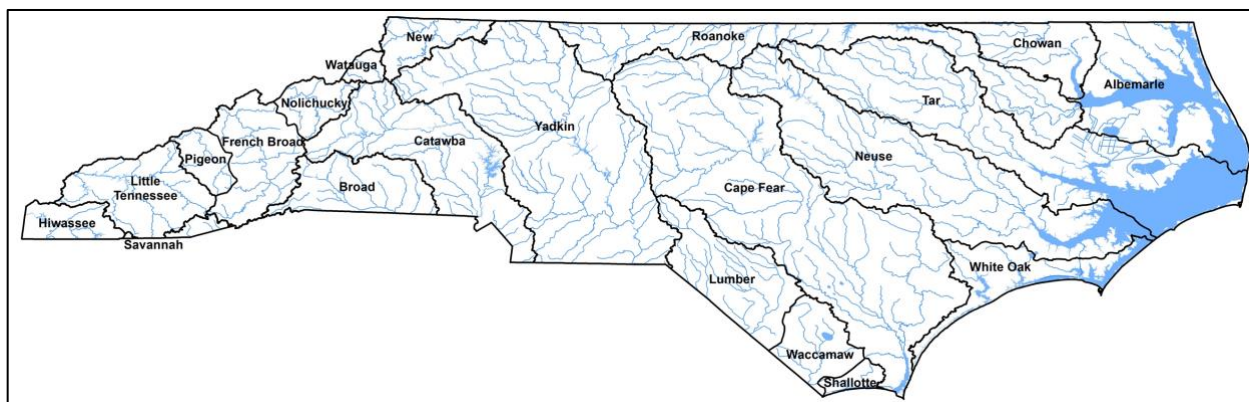
- i. ***Aplodinotus Rafinesque 1819*** - etymology not explained, perhaps (*h*)*aplous*, single, and *notos*, back, referring to confluent spinous and soft dorsal fins. But see Scharpf (2020). *Aplodinotus grunniens* Rafinesque 1819, February 26, 2020, <http://www.etyfish.org/name-of-the-week2020/>.
  - a. ***Aplodinotus grunniens* Rafinesque 1819** - Latin for grunting, referring to drum-like sounds that resonate from swim bladder of mature males (hence the common names Drum and Croaker)
- ii. ***Bairdiella* Gill 1861** – *ella*, diminutive connoting endearment: patronym not identified but almost certainly in honor of Spencer Fullerton Baird (1823-1887), Director, U.S. National Museum (where Gill worked)
  - a. ***Bairdiella chrysoura* (Lacepède 1802)** - *chrysos*, gold; *oura*, tailed, referring to yellow caudal fin
- iii. ***Cynoscion* Gill 1861**- *cyno*, dog, referring to symphyseal canine teeth in the upper jaw, lacking in *Sciaena*; *scion*, modern Greek name of *Umbrina cirrosa*, which Gill selected over “*sciaena*” because the “name of *Cynosciæna* would not be euphonious”
  - a. ***Cynoscion nebulosus* (Cuvier 1830)** - cloudy, referring to “round and cloudy spots sown on the back” (translation)
  - b. ***Cynoscion nothus* (Holbrook 1848)** - *nothos*, bastard, presumably referring to “Bastard Trout,” its local name in South Carolina (USA) at the time
  - c. ***Cynoscion regalis* (Bloch & Schneider 1801)** - royal, alluding to Kingfish, one of its vernacular names in New York (USA), type locality (a name now associated with *Menticirrhus*)
- iv. ***Eques* Bloch 1793** - knight, named for its German vernacular *Amerikanische Ritte* (American Knight), comparing oblique bands on body of *E. americanus* (= *lanceolatus*) to a sash or ribband worn by a Ritter or Knight (a noble title in German-speaking areas until 1919, not the mounted soldier in armor), draped across chest from one shoulder to the opposing hip [*Equetus* Rafinesque 1815 is an unnecessary replacement name since *Eques* Linnaeus 1758 is an invalid name in Lepidoptera; continued usage of *Equetus* would require a ruling by the ICZN]
  - a. ***Eques lanceolatus* (Linnaeus 1758)** - lance-like, referring to body shape, deepest below first dorsal spine, rapidly tapering to narrow caudal peduncle
  - b. ***Eques punctatus* Bloch & Schneider 1801** - spotted, referring to white spots on back and second dorsal, anal and caudal fins
- v. ***Larimus* Cuvier 1830** - a name used by Oppian for some fish, “sans signification précise,” which Cuvier applied to this genus
  - a. ***Larimus fasciatus* Holbrook 1855** - banded, referring to dark vertical bars on sides
- vi. ***Leiostomus* Lacepède 1802** - *leios*, smooth; *stomus*, mouth, referring to lack of teeth on lower jaw of adults (upper jaw with minute teeth)
  - a. ***Leiostomus xanthurus* Lacepède 1802** - *xanthus*, yellow; *oura*, tailed, referring to yellow caudal fin, a misnomer since fin is actually dusky or olivaceous (description based on notes provided by naturalist Louis-Augustin Bosc d'Antic, who may have confused this species with *Bairdiella chrysoura*)

- vii. ***Menticirrhus* Gill 1861** - *mentum*, chin; *cirrhus*, barbel, referring to single stoutish barbel on lower jaw
- a. ***Menticirrhus americanus* (Linnaeus 1758)** - American, initially known from a figure and a short account by naturalist Mark Catesby (1743) of a specimen from the Carolinas of America
  - b. ***Menticirrhus littoralis* (Holbrook 1847)** - of the seashore, referring to its occurrence in shoal water over hard and sandy bottoms during the summer along the coast of South Carolina (USA)
  - c. ***Menticirrhus saxatilis* (Bloch & Schneider 1801)** - among rocks, presumably referring to “Rock-Fish,” reportedly a local name for this species in New York (USA), type locality
- viii. ***Micropogonias* Bonaparte 1831** - *micro-*, small; *pogonias*, bearded, replacement name for *Micropogon* Cuvier 1830 (preoccupied by *Micropogon* Boie 1826 in birds), referring to 3-5 pairs of small barbels or “whiskers” on chin of *M. lineatus* (= *undulatus*)
- a. ***Micropogonias undulatus* (Linnaeus 1766)** - wavy, referring to dark wavy streaks on sides
- ix. ***Pareques* Gill 1876** - *para-*, near, allusion not explained, presumably referring to similarity to and/or close relationship with *Eques* (now known as *Equetes*)
- a. ***Pareques acuminatus* (Bloch & Schneider 1801)** - tapering to a point, referring to shape of first dorsal fin
  - b. ***Pareques iwamotoi* Miller & Woods 1988** - in honor of “good friend” Tomio Iwamoto (b. 1939), California Academy of Sciences, who participated in the 1952 exploratory cruises during which type was collected, and is a “well recognized world authority for his contributions to the knowledge of the deep water macrourid fishes”
  - c. ***Pareques umbrosus* (Jordan & Eigenmann 1889)** - shady, referring to “darky smutty brown” coloration “with traces only of 7 pale streaks” (per Jordan & Evermann 1898)
- x. ***Pogonias* Lacepède 1801** - bearded, referring to large number of barbels lining lower jaw of *P. fasciatus* (= *cromis*)
- a. ***Pogonias cromis* (Linnaeus 1766)** - *chromis*, a name dating to Aristotle, possibly derived from *chroemo* (to neigh), referring to drum-like sounds that resonate from swim bladder of mature males (spelling appears to be based on *Cromis subargenteus oblongus*, a pre-Linnaean name dating to Browne’s 1756 *Civil and Natural History of Jamaica*)
- xi. ***Sciaenops* Gill 1863** - *ops*, appearance, presumably similar to (and previously recognized as) *Sciaena*
- a. ***Sciaenops ocellatus* (Linnaeus 1766)** - with eye-like spots, referring to distinctive black spot near base of caudal fin (some individuals exhibit several spots)
- xii. ***Stellifer* Oken 1817** - *stella*, star; *fero*, to bear, latinization of “Les Stellifères” of Cuvier (1816), referring to radiated appearance of spongy (to touch) suborbital of *S. stellifer* (proposed without species, so not tautonymous with *Bodianus stellifer*)
- a. ***Stellifer lanceolatus* (Holbrook 1855)** - lanceolate, referring to shape of caudal fin
- xiii. ***Umbrina* Cuvier 1816** – *ina*, a diminutive: *umbra*, shade, a name used by early naturalists, equivalent to *scion* or *Sciaena*
- a. ***Umbrina coroides* Cuvier 1830** – *oides*, having the m of: similar in color to and initially identified as *Sciaena coro* (= *Conodon nobilis*, Lutjanimes: Haemulidae)

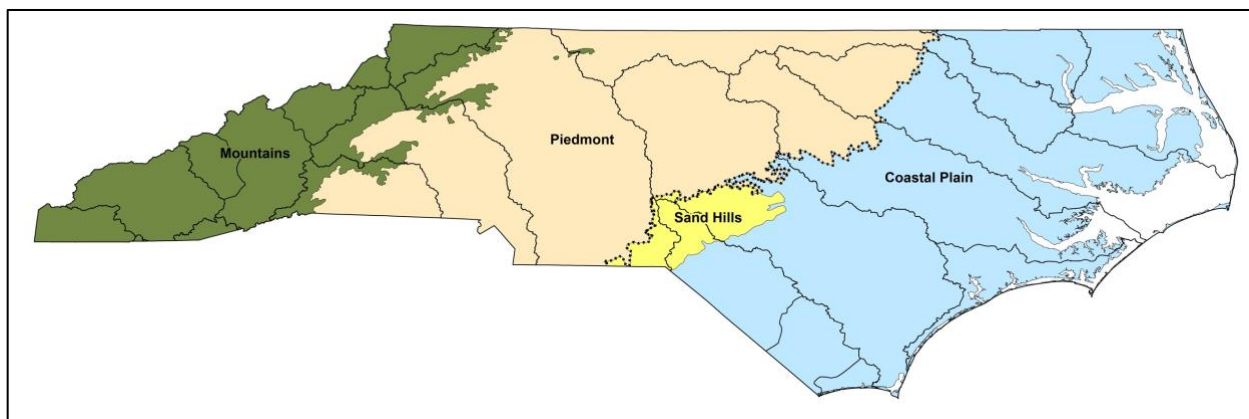
## Supplemental Maps



Map No. 1. North Carolina's 100 counties. Map originally appeared in Tracy et al. (2020).



Map No. 2. North Carolina's 21 river basins. Map originally appeared in Tracy et al. (2020).



Map No. 3. North Carolina's four physiographic regions. Map originally appeared in Tracy et al. (2020).