

# Lagniappe



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## Mussel Watch Tracks Coastal Pollution

The idea of using the flesh of mussels or oysters to monitor pollution makes perfect sense. The bivalves are filter feeders, so they ingest particles from the water and absorb contaminants through their gills, and tend to concentrate any contaminants that may be present. They are also sessile, so they track the pollution levels of a specific site, rather than moving around and accumulating an “average” level.

The original Mussel Watch program was initiated in 1976 by the Environmental Protection Agency. It was short-lived, but was recreated in 1986 by NOAA in accordance with the Marine Protection, Research and Sanctuaries Act.

Today, the Mussel Watch program checks for 140 different contaminants in bivalves from 300 sites around the country. Because there isn't a single species of mussel or oyster common to all U.S. coasts, three species groups are used. North Atlantic and Pacific states use the larger species of mussels (genus *Mytilus* - the most common edible mussel is *Mytilus edulis*). In the Southeast and Gulf, our oyster *Crassostrea virginica* is the sampled bivalve. In the Great Lakes, the invasive zebra mussels (*Dreissena sp.*) are used. All these animals tend to accumulate organic pollutants – like pesticides and manufactured chemicals – at similar rates. Some of the metallic contaminants vary with species: oysters accumulate zinc, copper and silver more efficiently, and mussels preferentially bioaccumulate lead and chromium.

It should be noted that this program isn't really designed to assess the safety of these animals for food. In almost every case, the sample sites are in areas that are closed to harvesting. The idea is to make sure that coastal waters, and particularly those near developed and industrial areas, are monitored for pollution trends. Oysters and mussels that are being harvested for food from approved areas generally have lower contaminant levels.

A recent Mussel Watch report summarized 20 years of data (1986-2005) on a number of the most problematic of the tested pollutants. Nearly all of the findings about U.S. pollution trends are encouraging, but some of the information coming from highly urbanized and heavily industrialized areas is less than comforting. Nationally, organic pollutant concentrations showed significant decreasing trends at 133 individual sites, and increasing trends at none. Many of the sites with significant decreases in organics had been those with highest contamination levels at the start of the program and were near urban and industrial areas. There are no new sources of many of these pollutants, which have been prohibited or strictly controlled.



The most recent samples from Gulf Coast (and Louisiana) sites generally demonstrated few problems with organic pollutants. DDTs, dieldrins and PCBs are all showing improving trends. The only Louisiana site with a “red dot” (for a level that is high on the national status list) was Lake Pontchartrain, where oysters still exhibited 40 parts-per-billion (ppb) chlordanes and 96 ppb PCBs (dry weights). Mussel Watch measures contaminants by dry weight, which will be many times higher than the equivalent wet weight used by FDA.

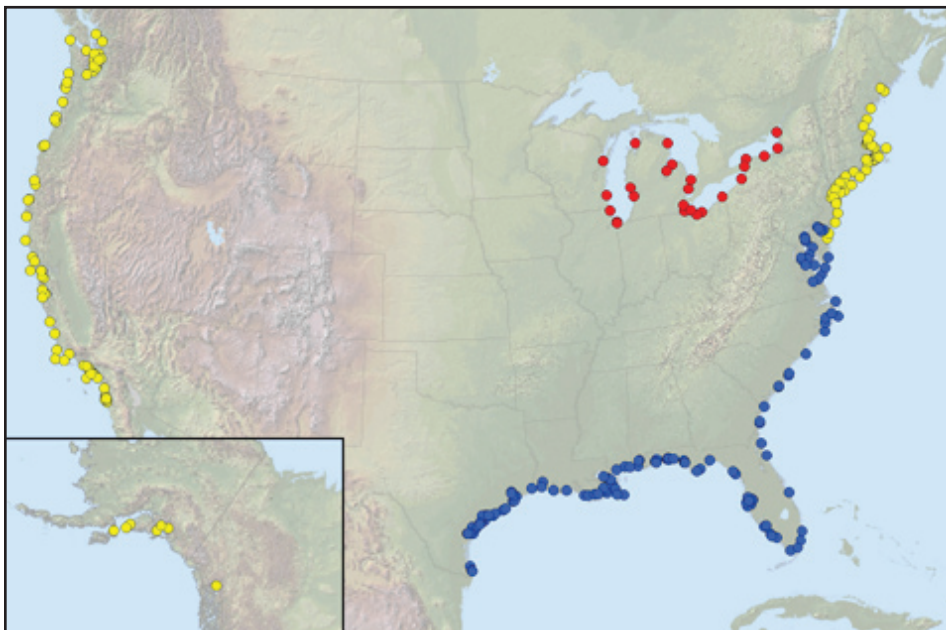
Nationally, metals exhibited significant decreasing trends at 27 sites, and increasing trends at nine. Metal pollution differs from organic pollution in that there are natural sources of many metals, so that detected levels can be partly from nature and partly from anthropogenic sources. Louisiana sites showed a number of “red dots” for metal concentrations that are high in regional or national status.

Cadmium sources are both natural and man-made, and tend to be carried into estuaries from rivers. In Louisiana, cadmium was highest in Pontchartrain (9.4 parts-per-million, ppm), Borgne (7.9 and 9.9 ppm), Breton Sound (12 ppm) and Vermilion Bay (9 ppm). Mercury also has natural sources, but we add more by burning coal, incinerating waste and dumping trash in landfills. Mercury was highest in the two Lake Calcasieu sites (0.22 and 0.24 ppm) but still below the equivalent FDA action level.

Nickel is different in that, while large doses are toxic, it is a necessary trace mineral and does not bioaccumulate in the food chain. Louisiana got regional “red dots” for nickel concentration in oysters at every site but one. Like cadmium and mercury, some nickel comes from natural sources, and no levels were found that exceeded the comparable FDA action limit.

Overall, the last 20 years of Mussel Watch monitoring has given tremendous insight into what type of coastal pollution is occurring and whether management has been effective. Americans should be proud that we are monitoring these issues and, generally, resolving the worst of them. However, there’s still room to improve the quality of our waters.

Source: <http://ccma.nos.noaa.gov/about/coast/nsandt/welcome.html>



Distribution of oysters (*Crassostrea virginica*), mussels (*Mytilus* species), and zebra mussels (*Dreissena* species) collected and measured as part of the Mussel Watch program. Courtesy NOAA National Ocean Service, Center for Coastal Monitoring and Assessment

Mussels (*Mytilus* species) yellow  
 Oysters (*Crassostrea virginica*) blue  
 Zebra mussels (*Dreissena* species) red

## Historic Viosca Photos Available Online

Percy Viosca was one of Louisiana's most acclaimed biologists and conservationists. He also was an accomplished photographer, capturing a visual record of the state's natural resources. Nearly 50 years after his death, Viosca's photographs – once boxed-up and tucked away on a shelf – are available at the click of a mouse. The Hill Memorial Library at LSU began scanning more than 1,100 Viosca images not long after they were salvaged by Louisiana Sea Grant and LSU AgCenter Extension agent Mark Schexnayder. Sea Grant funded the archiving project.

"I recovered a lot of the photos from the basement of the old Wildlife and Fisheries office in the French Quarter before the building was converted to the Louisiana Supreme Court headquarters," said Schexnayder. "They were in Percy's old files that were destined for a landfill. Some of the photos also came from Yvonne Viosca, Percy's late daughter."

Viosca, born in 1892, was a native of New Orleans and earned bachelor's and master's degrees from Tulane University. During his career, he founded the Southern Biological Supply Co., which provided crawfish and other aquatic specimens for research and commercial use. He was curator of reptiles, amphibians and fishes for the Louisiana State Museum, served as the Louisiana Board of Health entomologist and was director of the Division of Fisheries for the Louisiana Department of Conservation. Viosca also was one of the country's first freelance biologists.



Photo credit: Louisiana Ecology and Conservation, The Percy Viosca Jr. Collection, LSU Libraries Digital Services



Photo credit: Louisiana Ecology and Conservation, The Percy Viosca Jr. Collection, LSU Libraries Digital Services

"Viosca's contribution to the understanding of the state's natural resources was considerable," said Mark Martin, photographic collections archivist with Hill Memorial Library. "He was lauded as one of the state's greatest biologists by Tulane just before his death in 1961. The photographs he took not only recorded flora, fauna and other natural resources, but they also captured some of the state's cultural history. There are an extensive number of photos of irises in their native habitat and under cultivation. He photographed the flood of 1927 in the Caernarvon vicinity. There are photos of geese and ducks, boats, bridges and water recreation.

"The collection also contains a number of images where he had Boy Scouts build a dam across Sandy Creek to see what impact it would have on fish populations. There are even a few photos from his personal life and one postcard," said Martin.

Those visiting the online photo collection will be pleased to see many crisp Viosca images that have almost a fine art quality. Nearly 900 negatives of 1,116 images were available to be turned into digital prints. The bulk of the photos were taken in the 1920s to 1940s; some of the photos date to the early 1960s.

Visitors to the online collection also will have the ability to leave comments, something that excites Martin. “Although there were notes with some of the files and photos, we’re librarians, not botanists or biologists, and can’t say exactly what type of plant is in the photo or if an image is of a salt, brackish or freshwater marsh,” said Martin. “This system allows viewers to leave comments and tell us about the plants, animals and even the places in the photos. I imagine some of the places pictured don’t even exist now. This archive gives us an opportunity to look at some areas of the state as they were 80 years ago and compare them to how they are today,” Martin added.

Viosca’s photos are accessible through the Louisiana Digital Library - <http://louisdl.louislibraries.org/>. Visitors should click on the “Institution” link on the left side of the screen and then select “Louisiana State University Libraries” to reach the Viosca collection.

## **NOAA Considering Guidelines for Commercial IFQ Programs**

National Marine Fisheries Service (NOAA Fisheries Service) is seeking comment on a proposed rule that would establish referendum guidelines and procedures for the Gulf of Mexico Fishery Management Council. These guidelines and procedures are for the Council to follow in determining procedures and voting eligibility requirements for referenda on Individual Fishing Quota (IFQ) programs, to ensure IFQ program referenda are fair and equitable. Proposed rules include:

To initiate a referendum on a proposed IFQ program, the Council must have:

- Held public hearings on the proposed IFQ program;
- Considered public comments on the proposed IFQ program;
- Selected preferred alternatives for the proposed IFQ program; and
- The chair of the Council must request a referendum in a letter to the Regional Administrator.

The Council’s referendum initiation letter must include:

- Recommended voter eligibility and vote weighting criteria; and
- Rationale supporting the Council’s recommendation.

If the letter initiates referenda of multispecies permit holders, such as Gulf reef fish, it must include alternatives identifying permit holders who have substantially fished. Councils must consider the following when developing criteria for voter eligibility:

- The full range of entities (i.e., persons, businesses or organizations) likely to be eligible for initial allocations under the proposed IFQ program;
- Current and historical harvest and participation in the fishery; and
- Any other factors determined by the Council to be relevant.

The Council must consider the following when developing criteria for identifying multispecies permit holders who have substantially fished:

- Current and historical harvest and participation in the fishery;
- Economic value of and employment practices in the fishery; and
- Any other factors determined by the Council to be relevant.

When determining if the Council’s criteria will provide for a fair and equitable referendum, NOAA Fisheries Service will consider the following, whether:

- Criteria are rationally connected to the objectives of the program;
- Criteria prevent a single entity from obtaining an excessive share of voting privileges;
- Documentary evidence exists to validate a participant’s eligibility; and
- The referendum can be conducted in a reasonable amount of time.

NOAA Fisheries Service will publish a proposed rule to seek public comment on the specific schedule, procedures and other requirements for the referendum process. A Gulf Council IFQ program referendum will be considered approved only if a majority of those voting submit valid ballots in favor of the referendum. Following a referendum that has failed to approve the IFQ proposal, any request from the Council for a new referendum in the same fishery must include an explanation of the substantive changes to the proposed IFQ program or changes of circumstances in the fishery that would warrant initiation of an additional referendum.

Written comments must be received no later than 5 p.m., Eastern Time, on June 23, 2008.

Comments can be submitted by:

1. Electronic Submissions: Federal e-Rulemaking Portal: <http://www.regulations.gov>. All comments received are part of the public record and will generally be posted to <http://www.regulations.gov> without change. All personal identifying information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit confidential business information or otherwise sensitive or protected information. NOAA Fisheries Service will accept anonymous comments. Attachments to electronic comments will be accepted in Microsoft Word, Excel, WordPerfect or Adobe PDF file formats only.
2. Mail: Alan Risenhoover, Director, Office of Sustainable Fisheries, NMFS, Attn: IFQ Referenda Guidelines, 1315 East-West Highway, SSMC3, Silver Spring, Maryland 20910.
3. Fax: 301-713-1193, Attention: Robert Gorrell.

The proposed rule is also available via the Internet at <http://www.gpoaccess.gov/fr/index.html> (do an advanced search under proposed rules for "page 21893"). Printed or electronic copies of the rule can be obtained from the Office of Sustainable Fisheries by contacting Robert Gorrell at NMFS-SF, 1315 East-West Highway, Silver Spring, Maryland 20910.

## Underwater Obstructions

In accordance with the provisions of R.S. 56:700.1 et. seq., notice is given that 11 claims in the amount of \$39,915.57 were received for payment during the period April 1, 2008 - April 30, 2008.

There were 11 claims paid and 0 claims denied.

Latitude/Longitude Coordinates of reported underwater obstructions are:

|           |           |             |
|-----------|-----------|-------------|
| 29 13.732 | 89 54.336 | JEFFERSON   |
| 29 24.910 | 90 02.990 | LAFOURCHE   |
| 29 27.922 | 90 05.302 | JEFFERSON   |
| 29 31.039 | 92 18.913 | VERMILION   |
| 29 40.658 | 89 30.422 | ST. BERNARD |
| 29 44.068 | 92 30.063 | VERMILION   |
| 29 45.348 | 90 08.010 | JEFFERSON   |

|           |           |             |
|-----------|-----------|-------------|
| 29 45.424 | 92 30.216 | VERMILION   |
| 29 46.892 | 89 32.010 | ST. BERNARD |
| 29 52.958 | 90 14.810 | ST. CHARLES |
| 30 07.465 | 89 47.848 | ORLEANS     |

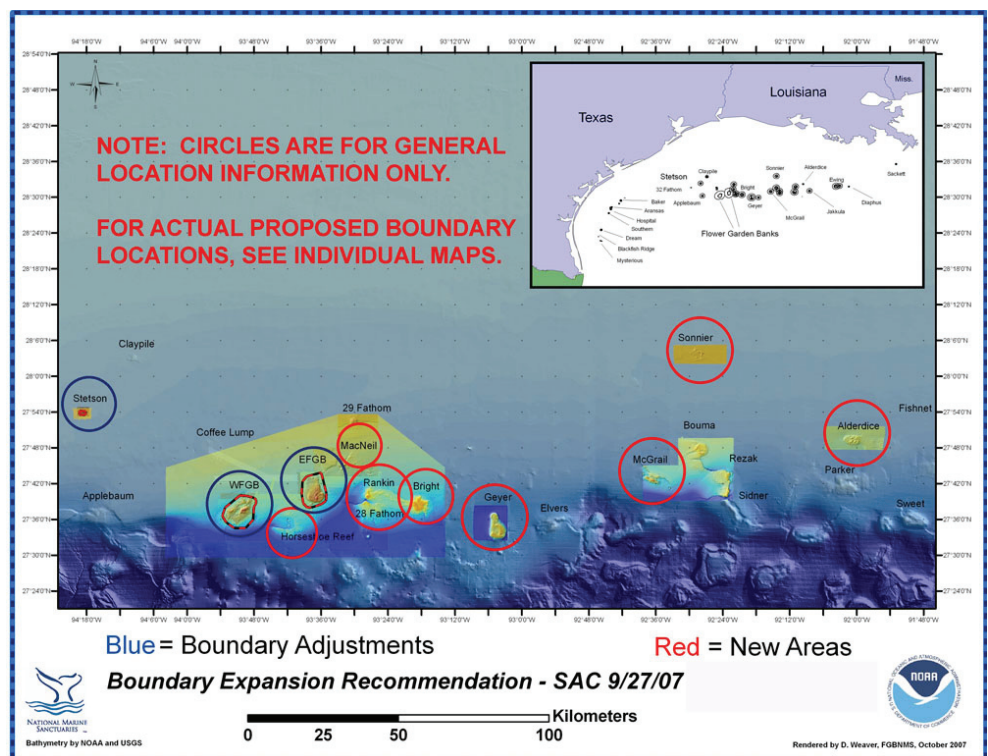
A list of claimants and amounts paid can be obtained from Gwendolyn Thomas, Administrator, Fishermen's Gear Compensation Fund, P.O. Box 44277, Baton Rouge, LA 70804 or you can call (225)342-0122.

## Plan Amendment for Flower Garden Banks National Marine Sanctuary Underway

The Flower Garden Banks National Marine Sanctuary (FGBNMS) Advisory Council is in the process of developing an amendment to its management plan for consideration by the Gulf of Mexico Fishery Management Council. A range of alternatives is under consideration, including additional areas in the sanctuary boundary and authority to regulate SCUBA diving and vessel activity. The FGBNMS Advisory Council is recommending a boundary expansion to incorporate adjacent habitat and to add nine additional banks.

Because user conflicts among divers, fishermen and boaters, along with user impacts on sanctuary resources are an increasing concern, new management strategies to protect sanctuary resources and/or prevent user conflicts are also under consideration.

Designated as a national marine sanctuary in 1992, FGBNMS protects 56 square miles of federal waters in the northwestern Gulf of Mexico. Located roughly 110 miles south of the Texas-Louisiana border, FGBNMS includes three separate areas: East Flower Garden, West Flower Garden and Stetson Banks. "I like to think of it as a national park system, only under water," said Sanctuary Superintendent G.P. Schmahl. The Flower Garden and Stetson Banks are only three of dozens of reefs and banks scattered along the edge of the continental shelf. All of these are part of a regional ecosystem and together with similar formations throughout the northern Gulf provide the foundation for essential fishes and invertebrates. All interested parties will have additional opportunities to review and provide comments on the draft management plan later this summer. For more information contact G.P.Schmahl, Superintendent, FGBNMS, at 409-621-5151 ext. 102.



## New Gulf Reef Fish Gear Requirements Effective June 1

NOAA and the Gulf of Mexico Fishery Management Council issued reminders for reef fish anglers that the new rules requiring anglers to use non-stainless steel circle hooks when using natural baits to fish for Gulf reef fish in federal waters begin on June 1, 2008. The purpose of these requirements is to reduce the discard and bycatch mortality in the reef fish fishery. Dehooking devices and venting tools are also required to be on-board. Reef fish species include snappers, groupers, sea bass, amberjacks, triggerfish, hogfish, red porgy and tilefish.

A circle hook is defined as a fishing hook designed and manufactured so that the point is turned perpendicularly back to the shank to form a generally circular, or oval, shape. Research shows that circle hooks are more likely to hook fish in the mouth instead of in the gills, throat or stomach. The turned-in point causes the hook to slide towards the edge of the mouth and embed itself in the jaw or in the corner of the fish's mouth. The requirement for circle hooks only applies to fishing with natural baits, such as cut or live bait. J-hooks may be used with artificial lures or artificial baits (e.g., plastic shrimp).

Some circle hooks are offset, meaning there is some sideways bending of the end of the hook in relation to the hook shank so that the hook tip is out of line with the shaft. Although these new federal requirement for circle hooks allows the use of offset circle hooks in federal waters, research has shown that the greater the degree of offset, the greater the likelihood of injuring a hooked fish. Straight or non-offset circle hooks are definitely recommended to cause the least damage to released fish. Some states, such as Florida, don't allow offset circle hooks to be used when fishing for reef fish in state waters. The non-stainless steel hook requirement will allow hooks to corrode over time, in cases where hooks are broken off or cut off in cases where the hook site is still too deep to remove. This reduces the possibility of damage to the fish or to fish predators such as sharks, birds, and dolphins.

A de-hooking device is an instrument that allows the hook to be secured and the barb shielded without re-engaging when the hook is removed. It must be blunt, have rounded edges and be of a size appropriate to secure the range of hook sizes and styles used for reef fish. At least one de-hooking device is required when fishing for reef fish in Gulf of Mexico federal waters. De-hookers do not need to be used if it is safer for the fish and the angler to cut the line rather than trying to remove a deeply imbedded hook.

De-hooking devices come in a variety of shapes and sizes; one of the most popular is made of stainless rod, with a T-shaped handle and an offset coil to engage the barb. Examples of allowable de-hooking devices include tools with a long shaft with an inverted V or other hook capturing device, blunt-nosed pliers, alligator pliers, or dehooking forceps. While pliers and forceps can be used as a de-hooking device, the use of de-hooking tools that can grab the fishing line, slide down the line, and remove the hook quickly are encouraged because these tools require less handling of the fish and are better able to secure the hook during removal. If a hook still gets swallowed or if a fish is too big to remove from the water, it is recommended to cut the line as close as possible to the hook instead of trying to remove it.

Many marine reef fish have a gas-filled swimbladder that controls buoyancy to allow the fish to maintain a certain depth in the water column. When a fish is retrieved from deeper waters, the gas in the swimbladder can over-expand and fill the body cavity with trapped gases when the fish is brought quickly to the surface. As a result, the fish can sustain serious injury. If released in this buoyant condition, fish may float away and die from exposure to the elements or become an easy target for

predators. Venting allows the fish to return to deeper waters more quickly and increases its chance of survival.

Reef fish that come from depths of 50 feet exhibit expansion of the gasses in the swim bladder as they are brought to the surface. Signs of this condition are protrusion of the stomach from its mouth, bulging eyes and a bloated belly. Proper use of a venting tool will help the fish survive by allowing it to safely return to the bottom. The venting tool must be a sharpened, hollow instrument, such as a hypodermic syringe with the plunger removed, or a 16-gauge needle fixed to a hollow wooden dowel, or other modified hypodermic syringe. Ice picks and knives are not suitable because simply puncturing the fish is undesirable and can result in a mortal injury. At least one venting tool is required onboard when reef fish fishing and must be used when needed to deflate the body cavity of reef fish that will be released.

It is best to vent the fish as quickly as possible with a minimum of handling. If the fish's stomach is everted out of the fish's mouth, never puncture it or attempt to push it back into the fish's body. Expelling the swimbladder gases through the body wall with the hypodermic device will allow the stomach to return to its normal position within a few hours.

Hold the fish gently but firmly on its side and insert the venting tool at a 45-degree angle approximately one to two inches back from the base of the pectoral fin. Only insert the tool deep enough to release the gases — do not skewer the fish. The sound of the escaping gas is audible and deflation is noticeable. If a fish is extremely bloated, use the hand holding the fish to exert gentle pressure on its abdomen to aid deflation. Return the fish to the water quickly, and if necessary, revive it by holding the fish with the head pointed downward and moving the fish back and forth to pass water over the gills until the fish is able to swim unassisted.

NOAA Fisheries Service also reminds operators of all vessels with commercial and for-hire reef fish vessel permits in the Gulf of Mexico of current requirements for sea turtle and smalltooth sawfish release gear. The following must be onboard these vessels:

- One dipnet;
- One pair of long-nose or needle-nose pliers;
- One pair of bolt cutters;
- One pair of monofilament line cutters;
- One auto tire or other cushioned surface;
- Two types of mouth openers/mouth gags; and
- One short-handled de-hooker.

Vessels with a freeboard height greater than four feet must also have onboard:

- One long-handled line clipper;
- One long-handled device to pull an "Inverted V"; and
- One long-handled de-hooker.

Vessels with commercial and for-hire reef fish vessel permits must also possess a copy of the protocol titled "Careful Release Protocols for Sea Turtle Release with Minimal Injury" either inside the wheelhouse or within a waterproof case if no wheelhouse. Operators of these vessels must also post the sea turtle handling and release guidelines laminated placard inside the wheelhouse or in an easily viewable area if no wheelhouse. The protocol and placard can be found online at: <http://sero.nmfs.noaa.gov/> and can also be requested from the Southeast Regional Office at 263 13th Avenue South, St. Petersburg, Florida 33701.



For more information:

<http://www.seagrantfish.lsu.edu/pdfs/lagniappe/2008/01-04-2008.pdf>

<http://isurus.mote.org/research/cfe/fish-bio/how-to-vent-a-fish.htm>

<http://sero.nmfs.noaa.gov/>

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## THE GUMBO POT

### Fish Boulettes

Boulettes are familiar to most Louisianans, but seem to have been more popular a generation or two back. In fact, fried fish balls appear in cuisines from all around the world. In Central America, the recipe below would be familiar, but usually made with fish fillets that have been put through a coarse hand grinder and added uncooked to the mix before frying. Louisiana garfish boulettes are similar, but the meat was traditionally scraped from the skeleton with a spoon in order to leave the tough fibers behind.

4 cups flaked fish fillets

1 ½ cup cooked mashed potato

1 cup plain bread crumbs

1 egg, beaten

¼ cup each finely-minced celery, bell pepper, and green onion

A little minced parsley

Garlic, salt, and pepper to taste

Fish fry mix

Boneless fillets of nearly any fish that will flake when cooked can be used in this version of the recipe. Some folks wouldn't consider using anything but catfish, while others consider this a recipe for gaspergou or sheepshead. The fillets should be lightly boiled or poached until they can be flaked apart. Mix with remaining ingredients, form into balls (add a little milk if the mix is too dry). Roll boulettes in your favorite fish fry and deep fry until golden brown.

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