

Lagniappe

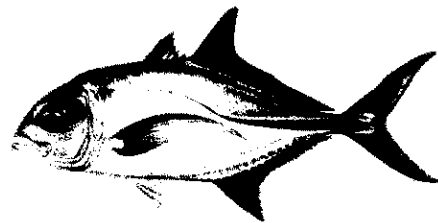


EXTENSION PROGRAMS
Agriculture and Forestry
Community Leadership
Economic Development
Environmental Sciences
Family and Consumer Sciences
4-H Youth Development
Natural Resources

July 1, 2005 Volume 29, No. 7

SMART FISH

The ability of fish to think a problem through and come up with a solution may seem to be beyond what creatures as lowly as fish can do. However, animal behavior researchers have found at least one instance of a species of fish, the horse-eye jack, being bright enough to use complex attack tactics to outwit their prey.



The horse-eye jack, *Caranx latus*, is similar in appearance to the crevalle jack, but has a less blunt-shaped head and larger eyes. It tends to be more of an open-water fish than the crevalle jack, but will penetrate inshore waters. It is found over the entire Gulf of Mexico, out to waters 450 feet deep and is a strong fish predator.

When horse-eye jacks and other predator fish attack schools of small fish, the small fish usually don't try to outswim the swift predator. Instead, the school shatters, with the small fish spurting out at right angles to the jack's charge, and then swirling into the water behind the jack, where the jack just was. Frequently, the hungry predator is left with an empty mouth.

The horse-eye jacks in this study were observed to wait patiently within sight of a group of pilings. When enough small silversides, anchovies, and herrings gathered near the pilings, a jack would charge them at such an angle that the pilings would interfere with their right-angle flight and force them to go straight, where they were easily caught. After the attack, the jack would then return to the watch station, rejoining other horse-eye jacks patiently awaiting their turn.

It was obvious that the jacks had learned this behavior rather than it just being a chance event. They never charged a school of fish in the open, no matter how large or dense the school was. They would also not attack fish near the pilings until their numbers were dense enough to be sure that confusion would occur during an attack.

Source: *Caranx latus* (Carangidae) Chooses Dock Pilings to Attack Silverside Schools: A Tactic to Interfere with Stereotyped Escape Behavior of

Prey. Michael J. Cermak. The Biological Bulletin. Vol. 203, 241-243. October 2002.

DETERMINING CONSUMER/BUYER ATTITUDES TOWARDS GULF SHRIMP

Promoting the quality and flavor of Gulf and South Atlantic shrimp is widely seen as one method of separating U.S. shrimp from imports and creating more demand (and higher prices) for U.S.-produced shrimp. One of the first rules in best use of product promotion money is to understand your current and potential markets. In an attempt to do just that, the Louisiana Seafood Promotion and Marketing Board used shrimp disaster assistance relief funds provided by the shrimp industry to hire a professional marketing firm to conduct consumer and food industry research.



The company did part of its work through the use of focus groups. These are simply panels of people that meet similar criteria for knowledge and background. Two types of focus groups were formed. One consisted of seafood consumers that eat shrimp. The other group was made up of restaurant chefs, restaurant owners, and suppliers of seafood to restaurants.

Focus group members are not told who is sponsoring the group so they can't slant their answers to questions. A moderator leads discussion and early questions are usually very general, again to prevent the focus group members from guessing the intent of the sponsor of the group. Key questions are asked to stimulate discussion. Each session is video-taped for later study.

A total of 6 focus group sessions were held, with one consumer and one restaurant/distributor group each being held in New Orleans, Chicago, and Washington D.C. Understanding what buyers and consumers believe, right or wrong, is the key to promotion. Conclusions from the restaurant/distributor focus groups were as follows below.

Conclusions about Farm-Raised vs. Wild Shrimp

- * Wild shrimp have a natural diet that produces a better flavor.
- * Very few customers ask if the shrimp are farm-raised or wild.
- * The taste of farm-raised shrimp is getting closer to the taste of wild shrimp.
- * Ocean Garden (Mexican) has the best shrimp in taste, size, and uniformity of size.
- * Some restaurateurs/seafood distributors don't recognize the difference between domestic and imported shrimp.

Views about Quality Problems

- * Chemicals ruin the texture, flavor and color of shrimp.

- * Variation in size of shrimp in a package (uniformity) is a huge problem.
- * Competition from imports has forced the domestic shrimp industry to produce a better product.

Views about Shrimp Packaging

- * The best shrimp for uniformity in size and correct count are from Mexico.
- * The glaze on shrimp in 5-pound boxes slips down the side of the block, allowing freezer burn to occur.
- * Ocean Gardens uses thinner boxes that are easier to handle and stack.
- * Tiger shrimp, finger-packed in boxes, allow shrimp to be better inspected by the buyer.
- * Most shrimp brands have to be checked to see if they meet their count.

Suggested Domestic Industry Changes

- * Consumer opinions about domestic shrimp must be improved.
- * Promote domestic shrimp as being a better, fresher, safer product.
- * Educate consumers through restaurant waiters.
- * The domestic shrimp industry must dedicate itself to quality.
- * The biggest concern is if the domestic shrimp industry will survive.

Conclusions about Imported Shrimp Tariffs

- * Tariffs will force up shrimp prices, which will place the domestic shrimp industry at a disadvantage.
- * Tariffs only help local fishermen.

Conclusions from the consumer focus groups were as follows below.

Views on Seafood and Health

- * Seafood consumption is healthy.
- * Favorite seafoods to prepare at home are shrimp, fish, lobster tails, oysters, crawfish, and crabs.
- * Some consumers do not trust shrimp bought from supermarkets or peddlers.

Views on Home Preparation of Shrimp

- * Some people feel that shrimp are difficult to prepare.
- * Frozen shrimp are used for dishes such as jambalaya or gumbo.
- * People eat more shrimp in restaurants than at home.

Views on Preparation Problems with Shrimp

- * Don't always get the same results when cooked the same way.

- * As little as a minute difference in cooking time can cause shrimp to be incorrectly prepared.
- * There is a need for easy shrimp recipes.
- * Shrimp eaters like a slightly salty flavor.
- * Half of the people that eat shrimp think that quick-frozen shrimp are better.

Motivators for Purchasing Shrimp

- * Good taste.
- * Kids love shrimp.
- * Shrimp are a change from beef and chicken.
- * A new recipe prompts purchases.
- * Shrimp are a treat for the family or one's self.
- * Store displays prompt purchases.

Conclusions about Farm-Raised vs. Wild Shrimp

- * Some consumers believe imported shrimp to be rubbery, and have an iodine or fishy taste or smell.
- * "Farm-raised" is a term used mostly with fish, not shrimp.
- * The word "wild" is attractive and adds to the appeal that the shrimp have a wild, natural taste.

Views on Certifying Wild, Domestic Shrimp

- * Certification of Louisiana or Gulf of Mexico Shrimp would raise the image of domestic shrimp.
- * Certification sends the message that shrimpers are proud of their shrimp.
- * The term "Gulf shrimp" has the highest acceptance among consumers.

In general, the focus groups' conclusions supported the idea that Ocean Garden brand sets the quality standards for the shrimp industry and that imported shrimp are moving to solve quality problems.

For the most part, shrimp consumers have no idea whether they are buying imported or domestic shrimp. Restaurateurs and consumers need more education of the differences between imported and domestic shrimp.

All focus groups agreed on the direct tie between Louisiana seafood and Louisiana tourism. People come to Louisiana for the combination of its food and culture. Not promoting Louisiana seafood will injure its tourism industry. Promotions of Louisiana seafood should use romantic-sounding local names.

The research company also directly called and questioned 100 of the leading seafood distributors (66), seafood markets (23), grocery store chains (4), and restaurant chains (7) in 43 states. Of these, 30% consider the Gulf of Mexico as the best area in

the world for shrimp. The Gulf was followed by Mexico at 10%, Louisiana and Texas with 6% each, and Asia at 5%.

Many of these buyers purchase shrimp from the Gulf, Louisiana and Texas because of their customers' loyalty to specific brands. They often said that Gulf shrimp tastes better and has better texture and crispness. Over 43% of them said that origin names were "important", while another 30% said that shrimp origin names were "somewhat important". Most buyers buy both domestic and imported shrimp to satisfy their customers, but almost 54% said that they prefer buying domestic shrimp.

The most consistent problems with fresh shrimp were as follows:

- * Poor shelf life (19%).
- * Not meeting count sizes (11%).
- * Broken pieces (8%).
- * Stinkers (6%).
- * Poor taste (6%).

The most frequent problems found with frozen shrimp are as follows:

- * Not meeting count sizes (21%).
- * Broken pieces (10%).
- * Poor taste (7%).

The table below shows how imported and domestic shrimp compare on problems associated with shrimp.

Problem	Domestic Brands	Import Brands	No Problems
Out of Count	24%	10%	67%
Broken Pieces	23%	6%	71%
Poor Quality	17%	12%	70%
Too Much Water	15%	12%	73%
Too Much Phosphates	14%	11%	75%
Thawed Product	4%	0%	96%
Bad Boxes	3%	10%	86%

The research showed that for the Louisiana shrimp industry to survive, it must almost completely re-invent itself. Six recommendations were made.

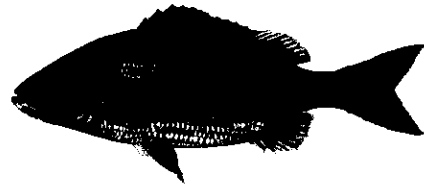
1. Quickly improve quality control measures for wild-caught, domestic shrimp to equal those currently being offered by imported shrimp.
2. Properly brand shrimp caught in Louisiana or in the waters of the Gulf of Mexico and/or form a cooperative with other states along the Gulf of Mexico.
3. Properly fund the shrimp brand to educate seafood buyers, chefs/restaurateurs and consumers as to how to prepare shrimp.

4. Tie Louisiana seafood directly to Louisiana tourism, cross-marketing the two into a super brand concept.
5. Establish a certification program that will have Louisiana shrimp match if not exceed the standards already established by Ocean Garden.
6. Educate the seafood buyers, chefs/restaurateurs, and consumers through the Louisiana Seafood Marketing & Promotion Board as to the quality aspects of Louisiana shrimp.

Source: *Louisiana Seafood Promotion & Marketing Board's 2004 National Shrimp Research*. Gene Talbott and Ewell Smith. *Innovations in Wild Shrimp Fisheries: Strategies from the United States, Canada and Mexico*. April 2005.

NEW VERMILION SNAPPER RULES

The National Marine Fisheries Service (NMFS) has published new rules on the harvest of vermilion snappers, also known as bee-liners. Two changes apply to recreational fishermen. First, the minimum size that may be kept has been changed from 10 inches to 11 inches. NMFS also has an aggregate reef fish bag limit of 20 fish for lane and vermilion snappers, gray triggerfish, almaco jacks, and tilefishes. Under the new rules, vermilion snapper may make up no more than 10 fish of this 20-fish limit.



The commercial fishery has one change, a closed season on harvest from April 22 through May 31 of each year. These new rules go in effect on July 8, 2005. If the past is any indicator, it is likely that the state of Louisiana will consider changing its regulations to match federal regulations.

TEXAS ENACTS MORE COMMERCIAL LICENSE MORATORIUMS

On May 20, 2005, Texas Governor Rick Perry signed into law legislation to create two more state commercial fishing license moratoriums. Senate Bill 272 provides that after August 31, 2005 a Texas commercial oyster boat license may not be purchased unless the vessel to be licensed was previously licensed as an oyster boat.

The law provides that oyster boat license holders shall elect a seven-member review board. The board is to make recommendations on the oyster license moratorium program, including hardship and appeal cases concerning eligibility for a license.

Senate Bill 454 provides that after August 31, 2005, a commercial gulf shrimp boat license may not be purchased unless the vessel was previously licensed with a commercial gulf shrimp boat license. This license is necessary to trawl for shrimp in Texas territorial (outside state) waters.

The law provides that holders of gulf shrimp boat licenses shall elect a nine-member review board. It is charged with making recommendations on the gulf shrimp

boat license moratorium program, including hardship and appeal cases concerning eligibility for a license.

It is important for Louisiana shrimpers that want to land shrimp in Texas to know that they will need to hold a Texas gulf shrimp boat license to do so, no matter where the shrimp were actually harvested.

Neither program has provisions for voluntary buyout of licenses to reduce their numbers, but if these two programs follow the pattern of the crab, bay and bait shrimp, and finfish licenses, a buy-out program will develop later. According to Bobby Miller, Outreach Specialist with the Texas Parks and Wildlife Department, both licenses will be fully transferable by license holders during the moratoriums.

Each major fishery in Texas has an advisory committee to the Texas Parks and Wildlife Department (TPWD). Both of the new license moratoriums were jointly created by TPWD and the advisory committees. According to Miller, this has resulted in strong commercial fishing industry support for the new regulations. Miller adds that Texas industry members see the license measures as methods to both protect their investment and to promote conservation.

The oyster license moratorium was initiated by the oyster industry and the gulf shrimp license moratorium was initiated jointly by TPWD and the shrimp industry.

EVALUATING SIZE LIMITS ON CRAPPIE

Crappies, both black and white, are very popular game fishes in the U.S. A national survey indicated that 22% of all fishermen fished for crappie at least one day per year. Crappies are not a catch-and-release species. Most anglers fish for crappie to keep them and eat them.



One problem with crappie is that their populations are notoriously unstable. Because of environmental conditions, one year's spawn can be many times more successful than the next. A strong year class can carry the crappie population in a reservoir for several years.

Sometimes fisheries biologists recommend the use of minimum size limits to reduce the harvest of small crappies, assuming that the "carryover" from released fish will help even out the year-to-year highs and lows. The results of using minimum sizes in crappie management have been mixed. Generally, minimum size limits are most useful in areas where growth is fast, the natural death rate is low, pre-regulation harvests are high, and where fishermen obey the law well.

The state of Texas put a 10-inch minimum size for crappies in place statewide (except Toledo Bend Reservoir) in 1990. A 25-fish limit was also put on crappies.

Texas Parks and Wildlife Department biologists attempted to determine the effect of the regulations by comparing the pre-regulation fishery (1986-1989) in Sam Rayburn Reservoir with the fishery in 1991-1997, after regulations were put in place (post-regulation). The crappie fishery was also compared to the one in Toledo Bend Reservoir, which did not have 10-inch minimum size regulation until 1997. The two reservoirs are only 40 miles apart.

In both reservoirs, biologists used half-inch mesh trap nets to sample the crappie population. The crappies captured were placed into 3 categories: 5-8 inches, 8-10 inches, and 10 inches and larger. Biologists also interviewed fishermen at boat ramps and counted, weighed, and measured their fish.

The results of the study showed that after the minimum size limit was put in place in Sam Rayburn Reservoir, the size of the crappies harvested increased, but the harvest amount (in pounds per acre) declined by about 16%. They expressed some disappointment that the amount harvested did not increase, but concluded that the 10-inch minimum size limit produced enough benefits from the larger average size at harvest to justify it.

They noted that an increase in numbers of crappie in the reservoir occurred during the post-regulation period. They were unsure of how much of the increase, if any, was due to the minimum size limit, because a similar increase occurred in Toledo Bend Reservoir, which had no minimum size and a 50-fish bag limit.

During the pre-regulation period, the average size of crappie harvested was 9.8 inches long and the fish were primarily age 2 or 3. The post-regulation average harvest size was 11.3 inches and mostly fish aged 3 or 4 years old. Growth rates for crappie remained the same for the pre- and post-regulation periods.

A comparison of fishing patterns on the two reservoirs was made after the regulations were put into effect on Sam Rayburn. In Toledo Bend Reservoir, anglers increased their fishing activity in years of plentiful supplies of young fish and would harvest much of that increased supply within one year. During each successive year, young fish comprised an ever-smaller portion of the progressively declining harvest until annual harvest was finally reduced to the predominant, but few, older fish that remained. With the increased supply of young crappies the following year, once again more anglers returned to the fishery and this pattern was repeated.

On Sam Rayburn Reservoir, the ups and downs in both crappies harvest and fishing activity were less dramatic. The biologists felt that the minimum length limit rule may have created more stability and a more consistent fishery.

Concerning the reduction in bag limit, the biologists reported "This study demonstrates that the 25 fish bag limit was not biologically effective." In both the pre- and post-harvest periods the majority of the harvests were less than 5 crappie per angler per trip. Only 1.2% of the crappie anglers actually harvested 25 fish. Because

the crappie catch was fairly well distributed among anglers, the biologists did not recommend lowering the limit to a more effective number.

Source: *Evaluation of a 254-mm Minimum Length Limit, 25-Fish Daily Bag Limit on Crappies at Sam Rayburn Reservoir in Texas.* J. O. Parks and M. T. Driscoll. Proceedings of the 57th Annual Conference: Southeastern Association of Fish and Wildlife Agencies. October 2003.

YOUNG PEOPLES' HANDS

It is often said the future is in young peoples' hands. If that is true, the future of fishing and hunting may not be so bright. As an ever larger percentage of the population of the United States lives in cities and suburbs, a smaller percentage fish and hunt. America's racial mix is also changing to include a higher percentage of minorities—black, Hispanic and Asian. For example, by 2025, half of the population of the state of Texas will be persons of minority states.

Researchers from Stephen F. Austin State University in Texas conducted a survey of fifth-grade children from urban, semi-urban, semi-rural and rural areas in east Texas to determine their attitudes about wildlife and hunting and fishing. Of the total of 1,315 individuals in the survey, 271 were urban, 333 were semi-urban, 375 were semi-rural and 336 were rural. Ethnically, 440 were black, 124 were Hispanic and 751 were white.

The first part of the survey asked the students where they received their information about fish and wildlife. All three ethnic groups' answers were similar. Their number one source was television, books ranked second, teachers third, and parents last. Overall, 54% of white students had hunted, as compared to 36% of Hispanics and 29% of blacks. Regardless of ethnicity, more males than females had hunted.

The second part of the survey tested the students' knowledge of wildlife. White students scored higher than Hispanic students, who scored higher than black students. Black males scored higher than black females, but there were no differences between male and female scores for Hispanic or white students.

The last part of the survey focused on the students' attitudes towards hunting and fishing. Not surprisingly, more of them approved of fishing than hunting. Interestingly, more of them approved of fishing for fun (72% - 88%) than fishing for food (57% - 82%). White males gave the highest approval and Hispanic males the lowest approval for both types of fishing.

For hunting the reverse was true. More approved of hunting for food (32% - 81%) than hunting for fun (29% - 71%). White male students gave the highest approval of both and urban females had the lowest approval.

When asked if all hunting should be illegal, the majority of all females—black, white, Hispanic, urban, semi-urban, semi-rural and rural agreed (51% - 59%). Hispanic females ranked highest, but even 47% of the Hispanic males agreed. The biggest gender gap on this question was among white students where 54% of the females

agreed with the statement, but only 24% of the males did. Urban students showed the most agreement with the statement and semi-rural the least.

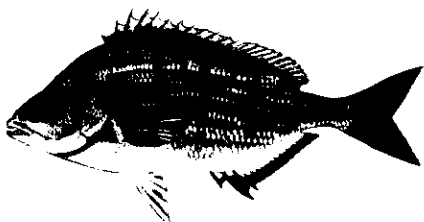
Previous research (done in 1977) had shown that parents had a strong influence on students' interest in wildlife. However, the researchers said that much has changed since 1977. The increase in the number of women head-of-household families may affect children's attitudes towards wildlife. Also many more television channels providing the public with more fictional and non-fictional wildlife stories are available now than in 1977.

They concluded that their study shows a need to teach basic wildlife education to students, regardless of ethnicity or gender. They noted that females who participate in hunting or fishing or have a family member who does, are more likely to have positive attitudes towards hunting and fishing. They suggested that wildlife agencies should target females with programs that promote hunting/fishing opportunities and skills.

Source: *Children's Attitudes Towards Wildlife: A Comparison by Ethnicity and Community Size*. Kathy Flannery and R. Montague Whiting. Proceedings of the Fifty-Seventh Annual Conference. Southeastern Association of Fish and Wildlife Agencies. October 2003.

PINFISH, INSIDE AND OUT

Of all members of the porgy family, only the sheepshead spends more time in inshore waters than the pinfish, *Lagodon rhomboides*. This is not to say that it is an inshore fish, as pinfish have been caught in offshore waters over 300 feet deep. Since few anglers fish for pinfish as a food fish and the species has no commercial value, little research is conducted on the species.



The pinfish is important, however. Young-of-the-year pinfish occur in such huge numbers that they can actually affect the populations of tiny bottom organisms. They are also one of the few fish that eat sea grasses, converting plant matter into animal flesh. Both young and adult pinfish serve as important prey species for larger predator fish. Some offshore fishermen proclaim pinfish as the best of all baits for some species.

In the 1990s a biologist with the Florida Fish and Wildlife Conservation Commission conducted a study on the biology of pinfish in Tampa Bay, Florida and in Gulf of Mexico waters outside of Tampa Bay. The biologists examined 711 fish collected with hook and line, gill net, seine, trammel net, and trawl, ranging in size from 1 inch to 10.2 inches long, standard length (the length from the tip of the nose to the fork in the tail). He weighed and measured each fish, removed the reproduction organs, and the otoliths (ear bones) for aging the fish.

Ages of pinfish ranged from 0 (young-of-the-year) to 7 years old in Tampa Bay and from 1 to 6 years old in the Gulf. Slightly over 88% of the fish were 2 or less years old. Pinfish grew increasingly slower as they aged.

Pinfish were found to spawn from December through at least February, and possibly into March. Pinfish had been thought to only spawn offshore, but the results from this study suggested that they spawned in Tampa Bay, as well as in the Gulf. In this study males and females matured at the same size, averaging 5.3 inches long and less than 2 years old.

Pinfish were found at 90% of the locations that were sampled in the Gulf between 20 and 100 feet deep. Except for the fact that the very largest pinfish were caught in the 35-50 foot zone, the deeper the water was, the larger the pinfish were.

Source: *Age, Growth, Mortality, and Distribution of Pinfish (Lagodon rhomboides) in Tampa Bay and Adjacent Gulf of Mexico Waters.* Gary A. Nelson. Fishery Bulletin. 100: 582-592. July 2002

THE GUMBO POT

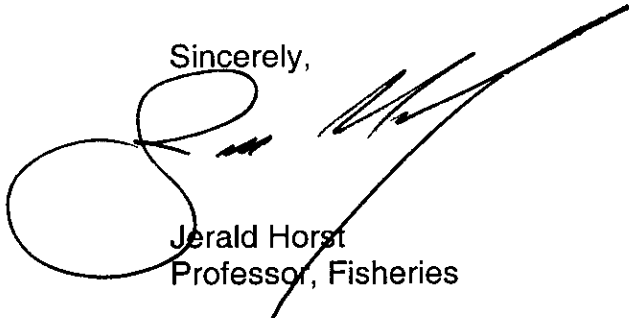
Crabmeat Au Gratin Dip

It is hard to decide whether to call this dish a dip or an au gratin. When it is thickened with bread crumbs it has the consistency of an au gratin. Either way, it is delicious and well worth the expense of three pounds of crabmeat.

1 ½	sticks butter	2	lb soft processed cheese, cubed
2	large onions, chopped	1	10 ½-oz can mushroom soup
2	stalks celery, chopped	½	tsp garlic powder
3	tbsp parsley, minced	½	tsp thyme
3	lbs crabmeat	1	tsp Kitchen Bouquet
1	large can evaporated milk		salt and pepper
			bread crumbs

Melt butter. Add onions and celery and sauté over low heat for 20 minutes. Add parsley, crabmeat, milk, cheese, soup, garlic powder, thyme and Kitchen Bouquet. Cook covered on low heat for one hour. Stir occasionally. Add salt and pepper to taste. Thicken as desired with bread crumbs. Simmer 15 minutes more. Serve with garlic bread, toast, or your favorite cracker. Serves 8 as a meal.

Sincerely,



Jerald Horst
Professor, Fisheries