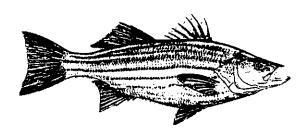
May 1, 1999 Volume 23, No. 5 Jefferson Parish Office 1855 Ames Blvd. Marrero, LA 70072

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SEA GRANT PROGRAM



LAGNIAPPE

HATCHERY STRIPERS

Louisiana's hatchery-produced striped bass stocking program has been one of the state's fisheries success stories. The Department of Wildlife and Fisheries (DWF) Toledo Bend fish hatchery began producing striped bass fry (babies)in1976 from stripers imported from South Carolina. Striped bass use open waters not used by other gamefish and grow big. The Louisiana state record is 47.5 pounds.

At the hatchery, adult fish are hand-stripped of their eggs and sperm by biologists. Once the eggs are fertilized, hatching takes place in 36-48 hours. This year the hatchery is producing about 3.6 million striped bass fry.

About 6 years ago, however, biologists began to notice problems. The average size of adult fish began to decline. Adult fish used to average 25 pounds. The average has now become closer to 12-16 pounds. Obviously, fishermen prefer bigger fish. So do the biologists. Smaller fish produce less eggs per fish, so biologists have to catch and handle many more fish.

Another problem that showed up was an odd one. Striped bass females are supposed to produce eggs that are all mature and are ready for fertilization at the same time. The fish at the hatchery began to produce multi-staged eggs. Some eggs in the same fish were mature and others weren't. This caused enormous problems for hatchery workers and reduced production.

While no one knows why these events are occurring, but DWF biologists speculate that it may be due to "inbreeding." The original stock of brood fish from South Carolina

was less than 100 fish and the descendants of these few fish have been used for all spawning at the hatchery for 23 years.

According to biologist Gary Tilyou, DWF is ready to start over from scratch with new brood fish. First choice would be fish derived from the native Gulf Coast subspecies of striped bass from the Florida panhandle. While these fish average slightly smaller than Atlantic Coast stripers, they may be better adapted to conditions in this area.

Second choice would be returning to the East Coast for more Atlantic Coast fish. With either choice, the department is planning to convert its entire striped bass hatchery operation over to the new fish.

FISH HATCHERIES

The construction and operation of fish hatcheries is very popular with recreational and commercial fishermen throughout the United States. Simple logic leads many people to the belief that the more young fish that are released in fishable waters, the larger the harvest by fishermen will be later. This simple logic may disregard that fact the natural fish population in many, if not most, cases already produces vastly larger numbers of eggs and young than any hatchery can produce. Also overlooked is that, quite often the number of harvestable size fish available is more controlled by the carrying capacity (food, space, etc) of the habitat than the number of young fish introduced into that habitat. Biologists themselves debate these issues and others such as the genetic impacts of hatchery production on natural fish populations.

A recent report issued by a seven member independent Scientific Review Team addressed these problems head-on in an analysis of salmon hatchery programs in the Columbia River Basin in the northwestern U. S. There, the first fish hatchery was built in 1877. By 1928, 15 hatcheries were in operation and 2 billion artificially produced salmon had been released into the river. Hatchery production has continued until the present, yet salmon runs have declined to a danger point.

Salmon are anadromous fish; they spawn in rivers; the young fish move to the sea to feed and grow; then the adults return to the same river to spawn and start the cycle over again. Salmon hatcheries were created under 3 assumptions.

- 1) That hatchery production would be "on top of" or additive to natural production.
- 2) That hatchery production would make up for loss of natural production due to dam construction on spawning rivers.
- 3) That hatchery production would have no negative impacts on natural salmon populations.

The report issued by the Scientific Review Team concluded that if salmon are to survive in the Northwest's rivers, the hatchery system needs a major overhaul. Their key finding was that hatchery production has had a negative affect on wild fish populations. Their reasoning was as follows:

- Stocking increases the mortality (death) rates of wild salmon. Hatchery fish can handle higher fishing harvest rates than wild fish because fewer adults are needed for reproduction. When wild and hatchery fish are mixed in the same waters under the same harvest, the percentage of wild fish becomes smaller over a period of years. A safe fishing level for hatchery fish may be overfishing for wild fish.
- Stocking has had negative affects on the genetics of salmon populations. Inbreeding has occurred over generations of spawning fish from a limited number of original adults. Also over time, the hatchery process naturally produces larger numbers of fish that do better under hatchery conditions. These may be fish that actually do not survive as well under wild conditions. The species strain in the hatchery actually becomes domesticated. Lastly, it is well recognized by scientists that fish from different areas have naturally become genetically adapted to their area. Because hatcheries would have difficulty keeping all of these strains separate, a "one size fits all" approach has often been used. Fish adapted for one area have been spawned and stocked in many areas, including areas that they are not genetically adapted to.
- Hatchery fish compete with wild fish rather than add to the total population
 of fish. Large numbers of young hatchery fish stocked on top of native wild
 fish can cause wild fish to change their behavior to compete. This results in
 increased loss to predators. They also compete directly with wild fish for
 food and space, the very factors that most limit fish numbers under most
 conditions.

While salmon are anadromous fish and as such, have different stresses and requirements than non-anadromous species, some of the lessons learned from 122 years of hatchery work in the Columbia River Basin have application anywhere. An important statement from the report was that "The aim of hatcheries should be to assist recovery and opportunity for genetic expression of wild populations, not to maximize catch in the near term."

Source: Review of Salmonid Artificial Production in the Columbia River Basin. E. Brannon, K. Currens, D. Goodman, C. McConnaha, J. Lichatowich, B. Riddle and R. Williams. Northwest Power Planning Council. 1998.

SEABOBS AND TEDS



Commercial shrimpers in Cameron Parish, Louisiana are trying to solve problems with turtle excluder devices (TEDs) during their winter seabob fishery.

Seabobs are small, tightly-schooling, bottom-hugging shrimp. Trawlers working on seabobs trawl at slower speeds and use heavily weighted gear. This fishing method kicks up a lot of debris which clogs and damages TEDs, causes net damage and loss of catch.

Finally frustrated with the situation, the shrimpers turned to their U. S. Congressman Chris John and local Extension Marine Advisory Agent Kevin Savoie for help.

A meeting was held in February to request help with the problem, including the possibility of an exemption from TED regulations for the seabob fishery. Besides John, Savoie, and the local shrimpers, state legislators, parish government officials, Coast Guard representatives, and National Marine Fisheries Services (NMFS) staff were present.

Andrew Kemmerer, regional director for NMFS explained at the meeting that other options must be explored before an exemption could be considered. As a start he offered the help of gear experts from the NMFS Pascagoula, Mississippi Laboratory. During the upcoming seabob season, one fisherman will be testing a Parker Soft TED in a NMFS designed trawl for a comparative study. The gear specialists were also asked to design something to reduce chafing problems under the TED.

All agreed to stay in touch on any new developments and to continue to work toward a solution.

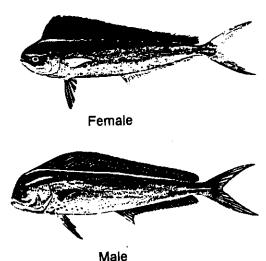
LIVE FAST — DIE YOUNG

If ever a motto could be used to describe a fish, this one describes the dolphin (Coryphaena hippurus). This brilliantly-colored open-ocean fish is found worldwide wherever waters are above 68°F. In the Gulf of Mexico, dolphin support a substantial fishery, primarily in the summer months.

Dolphin have an explosively fast growth rate. It may be the only fish that scientists can measure their growth rate <u>per day</u>. In the Gulf of Mexico, dolphin grow at the rate of 5 inches per month, toping out at a maximum size of 4½ - 5 feet in length in 2 years. Then they die! Scientists estimate that 100% of Gulf of Mexico dolphin die before they are 2 years old. Live fast - die young!

Dolphin begin spawning when they are almost 21 inches long during their first year of life. In the Gulf, spawning occurs in the summer in high-salinity offshore waters at water temperatures of 75°F or higher. Particularly high numbers of larval (baby) dolphins have been found near the Mississippi River delta. They spawn repeatedly during the season, laying 85 thousand to 1½ million eggs per spawn, with larger fish producing more eggs.

Dolphin are eating machines. In the Gulf of Mexico and south Atlantic, they eat more triggerfish than anything else, followed by decapods (shrimp relatives), squid, jacks, and flying fish.



Dolphin are pursued by both recreational and commercial fishermen, with recreational landings being six times higher than commercial landings in the Gulf of Mexico. More females than males are caught in the fishery. It seems that small fish of both sexes, and females of all sizes, spend more time around floating objects and seaweed rips, and are therefore easier to locate. Large males spend more time in open water traveling between female dominated schools near floating cover. This makes females (and small dolphins) easier for fishermen to find and therefore catch,

The biology of this fish—short life span, fast growth rate, and early maturity, suggests that dolphin are a fish that is not easily overfished. In

spite of this, a movement is underway to place restrictions on both recreational and commercial fisheries. The South Atlantic Fishery Management Council has taken the lead on this effort. The Gulf of Mexico Fishery Management Council is expected to look at the South Atlantic Council's management measures and decide which, if any, should be applied to the Gulf fishery.

Source:

SAFMC Dolphin/Wahoo Workshop Proceedings. South Atlantic Fishery Management Council. 1998

AND THE WINNER IS.....NUTRIA!

Louisiana's effort to turn a pest into an appetizer received a big boost in April when a nutria dish took "Best in Show" honors at the 15th Culinary Classic in Baton Rouge. This highly competitive and prestigious event pits chefs from three states against each other to produce the best dishes.

The winning nutria dish, "Call of the Basin", was prepared by James Allen Graham, executive chef of Prejean's Restaurant in Carencro. For this effort, he received \$3,000 from the American Culinary Federation of Baton Rouge, which sponsors the event.

In addition, Chef Graham received cash bonuses totaling \$1,900 from the Louisiana Department of Wildlife and Fisheries, Jefferson Parish Marine Fisheries Advisory Board, Louisiana Seafood Exchange, Battistella's Seafood, and Chef Parola's Enterprises.

Nutrias, large non-native fur-bearing rodents, have been identified as a major cause of wetland loss because of their huge appetite for wetland plants. Low fur prices have depressed the harvest of nutria and their numbers have increased dramatically in recent years, as has their impact on coastal marshes and swamps. Developing demand for their meat should increase harvest and help keep their numbers under control.



COAST GUARD ALERTS SHRIMPERS

Approximately 20 years ago, a rash of human deaths in the holds of shrimp vessels occurred in the Gulf of Mexico. The cause of those deaths was determined to be asphyxia (death by lack of oxygen), due to shrimp boat crewmen applying shrimp powder (sodium bisulfite) directly to their catch in unventilated ice holds.

In mid-Apřil, Coast Guard personnel boarded what seemed to be an unmanned shrimp vessel underway in the Gulf of Mexico. Inspection found all 3 crewmembers dead in the hold. While the cause of these deaths has not yet been officially determined, the U. S. Coast Guard has issued an alert cautioning commercial fishermen about entering unventilated holds and spaces.

They advise that anyone finding a crewmember unconscious in an underventilated space should proceed with caution only after determining the space is safe to enter, and contact the Coast Guard via Channel 16.

LANDMARK COURT DECISION ON JET SKI BAN

Tiny San Juan County in Washington state is the first local government in the country to ban the use of personal watercraft (PWC) in its waters. And it has a lot of waters. San Juan County is compromised entirely of islands in the straits between the northwest Washington mainland and Vancouver Island in British Columbia, Canada.

The county includes some 400 islands, 375 miles of shoreline, and about 440 square miles of marine waters within the county boundaries. Sitting offshore of the growing Seattle-Vancouver, B. C. metropolitan area, the islands' resident population - now

about 12,500 - is increasing, as is the number of visitors who come to enjoy the natural beauty, tranquility, wildlife, and marine recreational activities. Kayaking, sailing, boating in general, whale watching, and wildlife viewing, are all popular in the islands.

In January, 1996, after extensive public involvement, the Board of County Commissioners passed an ordinance to place a two-year ban on the operation of PWCs and called for a study to determine if and where PWC use could possibly be accommodated. As anticipated, several PWC businesses and an industry lobbying organization sued shortly thereafter. In September, 1996, the Superior Court found the ordinance to be unconstitutional, based on one issue alone: a distinction made between PWCs and other vessels while no such distinction is made in the state's boat licensing rules. At the time, the focus of argument by the industry was: "you can't treat us differently than other boats!"

The county appealed, and two years later the Washington Supreme Court made a sweeping ruling that reversed the trial court and upheld the county's authority to ban the use of PWCs as a proper use of its police power. The 7 to 2 decision is a major victory for local government control over the impacts of PWCs on its waters.

The Washington Supreme Court dismissed the trial court's allegation of conflicts with a vessel registration statute. The decision noted that this law did not extend unlimited rights to operate any registered boat anywhere in the state, comparing the argument to concluding that a hunting license authorized hunting in downtown Seattle as long as the hunter has a license.

The court found no conflicts with other state laws dealing with marine waters and the rights of the public to use and enjoy navigable public waters, saying that "it would be an odd use of the public trust doctrine to sanction an activity that actually harms the waters and wildlife of this state."

Source:

Marine Times. Florida Sea Grant Extension Program Volume 22, Number 2, from *Coastlines*, Issue 9.1.

COAST 2050 FINAL REPORT AVAILABLE

The COAST 2050 effort, lead by the Louisiana Department of Natural Resources, was a massive interagency/university/public project to develop a long-term plan for Louisiana's coastal restoration effort. Its mission statement best describes its goal: In partnership with the public, develop by December 22, 1998, a technically sound strategic plan to sustain coastal resources and provide an integrated multiple use approach to ecosystem management.

The driving force behind the program was the reality of Louisiana's huge rate of

wetland loss. In the 1990's the rate has been estimated to be 25-35 square miles per year, which is 80% of the coastal wetlands loss in the entire continental United States.

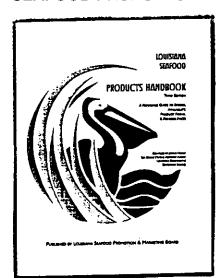
This COAST 2050 planning effort involved a strategic working group, a coastal zone working group, a planning management team, a objectives development team, and four regional planning teams. Public input was used throughout the process and town meetings on the plan were held through the coastal area of Louisiana.

Either the complete 161-page plan entitled COAST 2050: Toward a Sustainable Coastal Louisiana or a shorter executive summary may be ordered from:

Coast 2050 Development Process

Annell Park
La Dept. of Natural Resources
Coastal Restoration Division
PO Box 94396
Baton Rouge, LA 70804-9396
Telephone, (225) 342-9430
FAX, (225) 342-9417

SEAFOOD PRODUCTS HANDBOOK AVAILABLE



The Louisiana Seafood Promotion and Marketing Board now has available their new Third Edition Louisiana Seafood Products Handbook. This 153-page manual gives fisheries marketing information for 105 fresh and saltwater finfish and shellfish species. Technical, common, and local names are provided for each species, as well as a seasonal availability information and three-year landing figures. Also included are fishing gear information, product forms, size ranges, and buying tips.

Seafood dealers will find the information of particular interest when dealing with new national and international buyers. The publication can be obtained by writing or calling the Louisiana Seafood Promotion and Marketing

Board, 1600 Canal Street, Suite 210, New Orleans, LA 70112. (504) 568-5693.

BABY TURTLE FARMING

The farming of baby turtles began in the 1930's when a few people in Ponchatoula and Pierre Part began by gathering eggs from the wild and reburying them in dirt or peat moss hotbeds. Hatchlings (babies) were collected 70 to 90 days later and sold to both pet stores and "five and dime" stores for five cents each.



In the 1950's a few people dug ponds in fenced-in areas which they stocked adult red-eared turtles (mobelians). Adult females on farms laid two to three clutches of 6 to 12 eggs each in dirt nests on the pond levees during the three-month laying season. The eggs were gathered by the farmers and reburied in

smaller dirt beds for hatching. By the 1960's, between 70 and 80 turtle farmers marketed 12 to 15 million baby turtles each year in the United States. In good years, they received 25¢ to 30¢ per animal.

In the 1960's, reports began to appear that baby turtles carried the food-poisoning organism, *Salmonella*, which was passed on to children, causing illness. While only 60 cases were scientifically documented, scientists with the Center for Disease Control suggested that 18% of the 2 to 3 million *Salmonella* cases that occurred each year in the early 1970's were turtle-associated.

Following this, the United States Food and Drug Administration (FDA) banned the sale and shipment of baby turtles within the United States. After the ban, researchers at Louisiana State University began work to eliminate *Salmonella* from turtle eggs and hatchlings. The research was quite successful in dramatically reducing *Salmonella* on baby turtles, however, FDA did not lift the ban on interstate transportation.

In 1998, a total of 53 turtle farms still existed in Louisiana. The farms were concentrated in three areas: Tangipahoa Parish (6 farms), Assumption Parish (14 farms), and Concordia Parish (33 farms). These farms produced 9-11 million hatchlings annually, all of which were exported to western Europe and Asia. The industry is valued at \$20 million each year to the state's economy.

Further research on eliminating Salmonella was funded by the Louisiana Legislature in 1998.

Source:

Eradication of <u>Salmonella</u> spp. from Turtle Eggs and Subsequent Hatchlings by Treatment of Eggs in Polyhexamethylene Biguanide (Vantocil 1 B) Baths by the Pressure-Differential Method. R. J. Siebeling. Louisiana State University. 1998.

SWORDFISH IMPORT REGULATIONS

The National Marine Fisheries Service (NMFS) has made final regulations that ban the sale and import of undersized North Atlantic swordfish. The ban will begin on June 17, 1999, to allow time for NMFS to educate importers, exporters and government officials of exporting nations.



The new rules ban imports of Atlantic swordfish less than 33 pounds dressed weight (without head, fins, entrails), and require seafood importers to obtain permits that allow them to buy and sell swordfish. Under the permit system, dealers are required to report imports of swordfish from any source, and comply with a certificate of eligibility

program for all imports. Under the program, a certificate of eligibility is required for every imported swordfish, identifying the shipment by ocean of origin, flag of fishing vessel and, for Atlantic swordfish pieces, certification that they were taken from fish larger than the minimum size.

BATTERY POLLUTION

In late 1998, an Alabama sportsman, the Alabama chapter of Bass Angler Sportsmens Society (BASS) and other environmental groups announced their intention to sue the U. S. Coast Guard for its failure to clean up hundreds of thousands of mercury-containing batteries that lie under U. S. lakes and rivers, dumped there since the 1950's by the Coast Guard.



The Coast Guard has for decades had the responsibility of maintaining navigational markers, both lit and unlit. In the past, when the 6 volt or 12 volt mercury and zinc batteries died atop blinking markers, Coast Guard maintenance crews simply dumped the spent batteries into the water as they were replaced.

A Coast Guard spokesman has apologized and says they were "like many others, not environmentally conscious in the 1970's." The Coast Guard stopped this practice when they began to use rechargeable lead batteries. However, many thousands of batteries

still remain on water bottoms.

The Coast Guard has told Congress that it will need \$50 million dollars just to clean up at fixed light stands, not including around floating buoys. The Coast Guard and environmentalists do agree on one thing—the amount of battery debris is enormous and affects every state.

Source: Coast Guard Battery Pollution. River Crossings. Volume 7, Number 5. Sept/Oct, 1998. Mississippi Interstate Cooperative Resource Association.

LOUISIANA AQUACULTURE PRODUCTION

Fisheries specialists with the Louisiana Cooperative Extension Service have recently released figures for Louisiana's estimated aquaculture production for 1998. These figures can be quite hard to develop since some fish farmers are not required to be licensed and for others, production figures haven't been completely finalized. Nevertheless the numbers are impressive.

Commodity	Producers	Acres	<u>Production</u>	Farm Value
Crawfish	1,579	109,967	36,138,555 lbs	22,523,256
Catfish	149	15,595	80,848,650 lbs	56,957,072
Minnows & other Bait	125	1,727	1,255,982 lbs	4,663,162
Alligators	54	·	617,393 ft	10,339,643
Soft Shell Crabs	202		114,875 doz	2,061,961
Oysters	1,419	360,000	3,317,776 sacks	48,736,931
Other Species	61	287	958,536 lbs	6,844,723

TOTAL FARM VALUE VALUE

\$152,126,748

The figure for other species includes hybrid striped bass, redfish, tilapia, soft shell crawfish, gamefish fingerlings, turtles and ornamental fishes.

Source:

Aquaculture Fact sheet. Louisiana Aquaculture as of 1998. Jimmy Avery, Greg Lutz and Ken Roberts.

DRIP, DRIP, DRIP GOES THE SHAFT SEAL

Does a half a million dollar vessel go with a primitive conventional stuffing box? Most people know that it is best to keep corrosive seawater on the <u>outside</u> of a boat. Yet the conventional stuffing box or packing gland in use today is designed to deliberately let seawater into the bilge — a drip a minute, the experts say, to cool the flax packing. But a drip soon becomes 10 drips, then more; the bilge has to be constantly pumped; finally someone has to go below to tighten the stuffing box. Meanwhile, the flax packing is gradually wearing a groove in the expensive stainless shaft.

Is there something better? Maybe, at least for some vessel operators, according to Pacific Coast vessel maintenance expert Terry Johnson. Several "dripless shaft seals" are on the market of both the lip seal and face seal types.

A lip seal is a rubber sleeve inside of a metal housing that fits snugly over the shaft. The seal doesn't move, but the shaft turns inside of it. Lip seals generally are tolerant of vibration and misalignment and are less expensive than face seals. But a lip seal will wear

out and some wear also occurs on the shaft. It must be water-cooled and can only be used on a shaft that is not pitted or nicked, so it is difficult to put on a used shaft.

Face seals work on the principal that two surfaces can be polished so smooth, that even when one is spinning and the other one is not, water will not pass between them. Their design is too complicated to explain here, but several types are on the market. Face seals have been reported by West Coast fishermen to work very well with 5 and 6 years of service on trawlers and tour boats without a drop of water getting into the boat, with no adjustments, no packing to replace and no shaft wear.

So why doesn't everyone have one? First is the cost. A one to two inch diameter shaft dripless seal can cost \$250-450. Larger sizes are in the thousands of dollars. Also, installation on an old pitted shaft with a corroded coupling can be difficult.

Reliability is another concern. According to Johnson, in his experience, very few vessel operators have experienced face shaft seal failures, but some have occurred. Problems can occur when sand and grass gets between the faces while reversing in shallow water. Problems can also occur if the cooling waterline gets air in it

There is one other way on the market of keeping water out of bilges. It is a fairly new, teflon putty-like packing that is put into a conventional stuffing box between the rings of regular flax packing. When the packing nut is snugged a little, the putty oozes through the stuffing box creating a super-slippery bearing surface. When in use, the box heats up to 110-120°F which makes the teflon semi-fluid. When it cools, it resets and maintains a water-tight seal.

Johnson states that users report that it stops water so effectively that it isn't necessary to tighten the packing nut, so there is almost no friction and shaft wear. As the material has only been on the market a few years, no long-term results are available.

Johnson recommends that anyone thinking of buying a dripless system should read the manufacturers' literature and pay close attention to installation instructions. Once it is in place, inspect it frequently and look for signs for heat buildup, and if it has hose clamps, replace them regularly. Then relax and enjoy the many benefits of a dry bilge.

Source:

Boatkeeper: Dripless Shaft Seals Have Advantages. Terry Johnson. Pacific Fishing, June, 1998.

WETLANDS WORKSHOP

The Coalition to restore coastal Louisiana will be holding its **Fifth Annual Louisiana Coastal Wetlands Workshop** in the Barataria Basin on June 5, 1999. This all-day workshop will be based at the Bayou Segnette State Park in Westwego.

The program includes a field trip to view the construction progress of the Davis Pond Freshwater Diversion Project structure. A boat tour to Lake Cataouache will visit the area that the diversion will discharge into. Stops are also scheduled to observe the effectiveness of a Christmas tree recycling/marsh restoration project.

In the afternoon, a discussion session is planned with local residents and field trip leaders on the future of the area's wetlands, richness of culture, local resources, strategies for wetlands restoration, flood protection, water quality, and fisheries.

The workshop is open to adults on a first paid basis and costs \$45.00. The fee includes coffee, lunch and snacks. To register, call (504) 280-6680 in New Orleans. For more information call 1-888-522-6278.

THE GUMBO POT Creamed Oysters

This recipe is very simple, once you find the right white sauce mix. Different brands come in different sizes. Once you've located the right mix, simply follow the instructions on the back of the mix envelope to make a wine sauce.

1 pint oysters

2 pkgs (1.25 oz each) white sauce mix

4) cup white wine

2½ cups milk

½ tsp worcestershire sauce

tsp hot sauce paprika chopped parsley toasted bread

Simmer oysters in their own liquor about 5 minutes or until the edges curl. Remove oysters and discard remaining liquid. Prepare wine sauce mix according to package instructions with milk and wine. Add oysters and heat. Sprinkle with parsley and paprika. Serve over toast points. Serves 2-4

Jeraid Horst

Sincerely,

rea Agent (Fisheries)

Jefferson, Orleans, St. Charles, St. John