Lagniappe

June 1, 2009 Volume 33, No. 6

Chandeleur Lighthouse Remembered in New Web Films

Photo credit: Michael Quigley

Accessible only by boat or by air, the 50-mile Chandeleur Island chain has a colorful history both geologically and in terms of human use.

Arching below coastal Louisiana and Mississippi, the barrier islands' shifting sands buffer the mainland from hurricane winds and storm surge. It was the site of a yellow fever quarantine station in the 1800s. President Theodore Roosevelt established Breton National Wildlife Refuge on the islands in 1904 to protect egrets and other shorebirds that were being slaughtered for their plumage.

Sadly, a significant part of the islands was lost on Aug. 29, 2005. After weathering numerous hurricanes, the 102-year-old steel lighthouse at the northern tip of the chain succumbed to Hurricane Katrina. The land at Hewes Point where the structure stood had been eroding for years. Katrina's violent winds and waves scoured away the last bit of terra firma at the light's feet and sank it to newfound depths in Chandeleur Sound.

To keep the history of this isolated locale alive, Louisiana Sea Grant has collected images and recorded recollections of its past in *Reflections on Chandeleur*, a Web site (www.laseagrant.org/lighthouse) featuring brief movies, photographs, oral histories and information on the islands.

"The light marked the most remote and pristine area of the Louisiana coast," explained Rex Caffey, professor of resource economics with the LSU AgCenter and Louisiana Sea Grant. "It was more than just a structure. It was a sentinel for coastal change, an icon of maritime history – kind like our version of the Statue of Liberty.

"I felt that something should be done to document the loss, but at the time, the human toll from Katrina was far more important. It would be nearly two years until the time was right to initiate a project."

Initially intending to document the erstwhile lighthouse, Caffey put out a call to coastal fishermen, boaters and residents in Louisiana and Mississippi requesting photographs. “The response was incredible,” he said. “People were generous with their pictures, and each picture has a story.”

Caffey collaborated with LSG editor Paula Ouder and Web coordinator Melissa Castleberry to make the images accessible to the public. Ouder and Castleberry had already used digital photography and audio to archive the cultural history of Louisiana’s shrimping industry. The trio agreed that a similar approach could work for the Chandeleur light.

After collecting historic and more recent photos, they interviewed several coastal experts, fishermen and residents from Louisiana and Mississippi to prepare an oral history of the islands and to record what the lighthouse meant to the people who encountered it. *Reflections on Chandeleur*, features interviews with photographer and naturalist CC Lockwood and the late, renowned coastal scientist Shea Penland.

“Clearly, there were many coastal residents also moved by this loss,” Caffey said. “As we developed the outline, the project evolved and became more about the landscape and the plight of our barrier islands system. Our objective is to use this as a gateway site for anyone wanting to learn more about our unique coastal ecology, geology and history.”

“We wanted to create a project that is personal and informative, so it’s great to be able to share people’s stories of the islands and the lighthouse,” Ouder said. “Barrier islands shift and change by nature, but during these interviews, I came to understand that something precious and irreplaceable was lost when the lighthouse finally fell. People truly have a sentimental attachment to the Chandeleurs.”

Not the least of whom is Caffey, who admits to becoming a bit teary eyed when he watched the Web films for the first time. “I visited the Chandeleur Islands several times over the years, but in August 2005, I took my 10-year-old son out there for a three-day boat trip,” he said. “I encouraged him to keep a journal, and he wrote about fishing, seashell collecting, bird watching – and he got to see and fish around the Chandeleur light. Just a few weeks later the light was gone, along with 50 percent of the landmass of the Chandeleurs. Coastal Louisiana is in trouble, and we need to find a physical way to preserve it. In the meantime, we want to make sure a bit of that history is not lost along with the land.”

NOAA Seeks Public Comment on the Fishery Management Plan for Offshore Marine Aquaculture

NOAA Fisheries Service is seeking public comment on the Fishery Management Plan (FMP) for Regulating Offshore Marine Aquaculture in the Gulf of Mexico. The Gulf of Mexico Fishery Management Council (Council) has submitted the FMP to NOAA Fisheries Service for review, approval, and implementation.

Currently, NOAA Fisheries Service requires an exempted fishing permit to conduct aquaculture in federal waters. This permit is of limited duration and is not intended for commercial production of fish and shellfish, making aquaculture in federal waters not viable under the current permitting process. If implemented through rulemaking, this FMP would establish a comprehensive permitting and

regulatory framework to manage the development of an environmentally sound and economically sustainable aquaculture industry in federal waters of the Gulf of Mexico.

Actions proposed in the FMP will:

· Establish aquaculture permit requirements, eligibility, and transferability.

· Establish application requirements, operational requirements, and restrictions for aquaculture permits.

· Establish permit duration and renewal periods.

· Specify allowable species for aquaculture purposes.

· Evaluate proposed aquaculture systems on a case by-case basis.

· Establish marine aquaculture siting requirements and conditions.

· Create a restricted access zone for each aquaculture facility.

· Establish recordkeeping and reporting requirements.

· Establish biological reference points and status determination criteria.

· Specify framework procedures for modifying biological reference points and management measures for offshore marine aquaculture in the Gulf.

If this aquaculture program is implemented, the administrative functions associated with it (e.g., registration and account setup, landing transactions, and most reporting requirements) are intended to be accomplished online via the aquaculture Web site. A participant must have access to a computer and Internet access and must set up an appropriate online aquaculture account to participate.

Written comments must be received no later than 5 p.m., Eastern time, on August 3, 2009. You may submit comments by any of the following methods:

· 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. To submit comments enter “NOAA-NMFS-2008-0233” in the keyword search and then check the box “send a comment or submission.” Attachments to electronic comments will be accepted in Microsoft Word, Excel, WordPerfect, or Adobe PDF file formats only.

Lagniappe Fisheries Newsletter

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· Mail: Jess Beck, Southeast Regional Office, NOAA Fisheries Service, 263 13th Avenue South, St. Petersburg, Florida 33701-5505.

The FMP, which includes an Environmental Impact Statement, a Regulatory Impact Review, and an Initial Regulatory Flexibility Analysis, is available in electronic format from the Council's Web site at http://www.gulfcouncil.org, or by contacting the Gulf of Mexico Fishery Management Council, 2203 North Lois Avenue, Suite 1100, Tampa, FL 33607; telephone (813) 348-1630; fax (813) 348-1711; e-mail gulfcouncil@gulfcouncil.org.

A proposed rule that would implement measures outlined in the FMP has also been developed. In accordance with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), NOAA Fisheries Service is evaluating the proposed rule to determine whether it is consistent with the FMP, the Magnuson-Stevens Act, and other applicable law. If that determination is affirmative, NOAA Fisheries Service will publish the proposed rule in the Federal Register for public review and comment. NOAA Fisheries Service will also announce this request for comment through the release of another Southeast Fishery Bulletin.

Comments received by August 3, 2009, whether specifically directed to the FMP or the proposed rule, will be considered by NOAA Fisheries Service in its decision to approve, disapprove, or partially approve the FMP. Comments received after that date will not be considered by NOAA Fisheries Service in this decision. All comments received by NOAA Fisheries Service on the FMP or the proposed rule during their respective comment periods will be addressed in the final rule.

Louisiana Boating Laws; Tips for Safe Skiing/Tubing/Boarding

Many people are not aware that Louisiana has a set of boating regulations that became effective July 1, 2008, that affect hand tiller outboard motorboats and towed water sports participants.

Louisiana Department of Wildlife and Fisheries Enforcement Division researched boating incident statistics to determine factors that would reduce boating accidents and boating accident fatalities. Based on recommendations prompted by that research, new recreational boating regulations were implemented by the Louisiana Wildlife and Fisheries Commission. Anyone boating recreationally in Louisiana waters should be aware of the following:

Everyone onboard a Class A motorboat (less than 16 feet long) which is being propelled by a hand tiller outboard motor must wear a USCG approved Type I, II, III or V personal flotation device (PFD) while the motorboat is underway. A handtiller outboard is described as an outboard motor that has a tiller or steering arm and does not have any mechanical assist devices for steering the boat, such as mechanical, hydraulic or electronic control systems. Electric trolling motors are not considered "hand tiller outboard motors."

Additionally, a Class A or Class One (16 to 26 feet) motorboat with a hand tiller outboard motor in excess of 10 horsepower that is designed with an engine cut-off switch must have a fully functional engine cut-off switch; and the engine cut-off switch link attached to the operator, the operator's clothing or the operator's personal flotation device.

These regulations don't apply to licensed commercial fishermen engaged in commercial fishing activities or to sailboats.

The new laws also stated that people engaged in watersports, such as waterskiing, towing a tube, wake boarding or wake surfing must wear a Type I, II, III or V PFD. Inflatable PFDs don't meet this requirement. Vessel operators cannot tow a watersports participant who is not wearing a PFD. Exceptions to these requirements are allowed during Louisiana Department of Wildlife and Fisheries and/or United States Coast Guard permitted marine events such as barefoot water-skiing with a barefoot wetsuit, or a skier engaged in trick water-skiing whose movements would be restricted or impeded by the bulk of a PFD.

Previous laws that are sometimes ignored involve water skiing and riding in unsafe locations in a boat. Skiing law states: "No motorboat which shall have in tow or shall be otherwise assisting a person on water-skis, surfboard, or similar contrivance shall be operated or propelled in or upon any waterway unless such motorboat shall be occupied by at least two competent persons; however motorboats used by representatives of duly constituted water-ski schools in the giving of instruction or to motorboats used in duly authorized water-ski tournaments, competitions, expositions, or trials therefore if applicable permit has been obtained from the Department of Wildlife and Fisheries or the United States Coast Guard. This does not apply to a motorboat being operated by a person 16 years old or older, which is equipped with a wide-angle convex marine rearview mirror of a minimum size of seven inches by fourteen inches in a position to observe the skiers being towed."

Some unsafe (but common) boating practices are also prohibited: "No person operating a motor boat of 26 or less feet in length shall allow any person to ride or sit on either the starboard or port gunwales thereof or on the decking over the bow of the vessel while underway unless such motorboat is provided with adequate guards or railing to prevent passengers from being lost overboard." Riding in these locations in a fast-moving boat is a recipe for disaster: If the boat strikes a log or other object, the riders will be violently thrown into the water, often in line with the hull and spinning propeller.

Smart water sport participants will also adhere to the following safety guides:

1**. Float Well**: Ensure anyone being towed has a properly fitting life jacket that won't ride up over a wearer's head if they take a spill. A Type III vest is best because it has the extra buckles to provide a snug fit and is built for taking a hard fall.

2. **Go Over the Hand Signals**: Before anyone jumps in the water, go over a few standard hand signals, such as stop (hand slashing the neck), slow (thumb down), speed up (thumb up), OK (tip of index finger and thumb together), turn (point finger upwards in a circular motion) and return to dock (pat head).

3. **Engine Off**: Always turn off the boat's engine when a rider is entering or exiting the water. Not only can a prop rotate while the motor is in "neutral," the engine exhaust produces carbon monoxide. Also never back up to retrieve a fallen rider.

4. **Wait for the OK**: Once a skier is in the water, wait until they are far enough away from the boat and signal that it's OK to start the engine.

5. **Have a Spotter**: It's very important to have constant visual contact with anyone being towed. This is the law in most states.

6. **Signal Your Skier before Turning**: The hand signal for turning is a pointing finger upwards in a circular motion, then pointing to the direction of turn.

7. **Skiing makes for Wide Turns**: Keep in mind that with kids on the end of long towline, your boat's safety "footprint" is now much larger. That means being extra cautious when near other boaters, docks, navigational aids, and crossing wakes.

8. **Look Both Ways after a "Drop"**: As soon as someone falls off the tube or a skier or boarder drops, the boat operator should quickly look to both sides before turning around for a pick-up.

9. **OK Signal**: After a drop or knock down, the skier should clasp their hands overhead to signal the towboat that they are OK and ready for retrieval.

10. **Watch Out When You Fall**: A towed water sports rider needs to be immediately aware of nearby traffic after a fall or drop. A swimmer alone is not highly visible; wave your arms or a ski if a boat is heading your direction before your tow boat gets back to you.

- Glenn Thomas

Sources:
www.BoatUS.org/onlinecourse

http://www.wlf.louisiana.gov/boating/

NOAA Requests Submission of Landing Locations for Current and Proposed Gulf of Mexico Individual Fishing Quota (IFQ) Programs

In January 2009, the Gulf of Mexico Fishery Management Council submitted Amendment 29 to the Fishery Management Plan for Reef Fish Resources in the Gulf of Mexico to establish an IFQ program for groupers and tilefishes. If the amendment is approved, the new IFQ program would be implemented Jan. 1, 2010. The rule implementing this new program would also make changes to the red snapper IFQ program. One change would be to require pre-approval by NOAA Fisheries Service's Office for Law Enforcement (OLE) of all landing locations for both IFQ programs. In anticipation of this potential requirement, NOAA Fisheries Service is encouraging current and potential IFQ participants to submit additional landing locations now for pre-approval. Landing locations can be submitted by calling or e-mailing IFQ customer service at any time. A list of currently approved landing locations for the red snapper IFQ program can be found at the red snapper IFQ Web site (*ifq.sero.nmfs.noaa.gov*); however, some landing locations currently in use may not meet the proposed requirements.

Pre-approval of landing locations will be required if Amendment 29 is approved by the secretary of commerce and a final rule becomes effective. Currently, participants in the red snapper IFQ program may choose, but are not required, to submit landing locations to OLE for approval. Under the proposed regulations, only pre-approved landing locations would be legal for landing IFQ species.

If implemented, starting Jan. 1, 2010, new landing locations would be approved only at the end of each calendar-year quarter. To have a landing location approved by the end of the calendar-year

quarter, it would have to be submitted at least 45 days before the end of the calendar-year quarter. Landing locations could be submitted by the current methods, or in the future via the IFQ Web site. Pre-approved landing locations would have to be publicly accessible by land and water and have a street address. If a particular landing location has no street address on record, global positioning system (GPS) coordinates for an identifiable geographic location must be provided. Other criteria may also be used by OLE when approving locations. Landing locations that have been approved for use in the red snapper IFQ program will automatically be approved for use on Jan. 1, 2010, if they meet these criteria.

Some currently approved locations, such as those at private addresses, are not considered publicly accessible and would no longer be legal for landing IFQ species. Updates to the landing notification screen on vessel monitoring system (VMS) units are constrained by programming requirements. Therefore, pre-approved landing locations may not appear on the VMS screen until sometime after approval. The locations will be available when making a notification by phone or online. For more information on the potential grouper and tilefish IFQ program and the proposed changes to the red snapper IFQ program, please read the frequently asked questions at the Southeast Regional Office Web site at *http://sero.nmfs.noaa.gov/sf/Amendment29.htm*.

Spanish yellow crawfish-1982.
Photo credit: Rusty Gaudé

Yellow Crawfish

In the wake of several recent references to the color variants within the Louisiana crawfish harvest, it is important to note the larger role that our state crustacean's pigmentation plays in the dietary regimes of various predators, humans included. Pigment is not just a whim of the genetic dice but rather a derivative of careful metabolic pathways, the benefits of which are sometimes difficult to determine.

Occurring along with the ubiquitous red crawfish, the two variant forms of blue and white crawfish have been recognized by science and laymen alike as a mudbug color anomaly (*http://www.lsuagcenter.com/en/communications/publications/agmag/archive/2004/summer/patriotic+crawfish.htm*). Less common, and seldom referenced, is the yellow crawfish variant of the Louisiana red swamp crawfish (*Procambarus clarkii*). Rarely occurring in the commercial harvest of Louisiana wild or farm-raised crawfish, yellow crawfish are rather unique compared to other color variants. Much of what is being reporting here comes from research done by the author in southern Spain in 1981-82.

With initial stocks of *Procambarus* introductory populations into southern Spain in the early 1970s being quite small, it is believed that less that 200 pounds of Louisiana crawfish (about 4000 individuals) served as the genetic stock of what now is the basis of over 5 million pounds of annual harvest of "our" crawfish in Spanish waters. Within that initial introductory population from Louisiana, were certain individual crawfish that carried the genetic potential for the yellow color variant. Since these crawfish came from a huge resident population within our state, the dilution factor for these genes was enormous, since yellow crawfish in Louisiana population are exceedingly rare.

However, within the few reproductive individuals that survived the Spanish introduction effort, inbreeding was far more prevalent than normally found in Louisiana populations. As a result, yellow crawfish are about as common in southern Spain as our 'blue' crawfish is here in the Louisiana harvest. In the one year study done near Seville, the author was able to collect 30-plus yellow crawfish individuals to maintain a reproductive population of pure yellows. The result of those yellow X yellow crosses had varying percentages of pure yellow offspring. These same offspring were then lab reared to be stocked out into a dedicated research pond (where they all unfortunately perished due to water quality problems).

The sole yellow Spanish crawfish specimen in the USA is being held by the Invertebrate Zoology Collection of the Smithsonian National Museum of Natural History (catalogue no. 206366) identified and entered by the late Dr. Horton H. Hobbs Jr., preeminent crawfish taxonomist. Because of its unusual appearance and rare sightings, Dr. Hobbs' definitive identification on the author's submitted specimen was then critical since the yellow Spanish crawfish was being misidentified as a different species.

Additional 1982 investigations, done in cooperation with Dr. N.S. Govind at the University of Seville, indicated that the yellow color in the exoskeleton of the yellow crawfish was due to the pigment, zeaxanthin. Thin Layer Chromatography (TLC) of the yellow exoskeleton and flesh indicated little, if any, of the normal red crawfish pigment, astaxanthin, in yellow crawfish. Red astaxanthin takes its name from the taxonomic family of crawfish, or *Astacidae*. Since the normal bright red crawfish color in boiled crawfish is due to the denaturing of the astaxanthin/protein complex by the heat of the boiling process, the yellow crawfish did not boil up red but rather, it turned a bright canary yellow. The zeaxanthin of the yellow crawfish is, in fact, the very same pigment that is in common yellow corn, *Zea maize* (hence, the name of its primary pigment). Normal yellow corn boils up the same bright yellow color as the yellow crawfish.

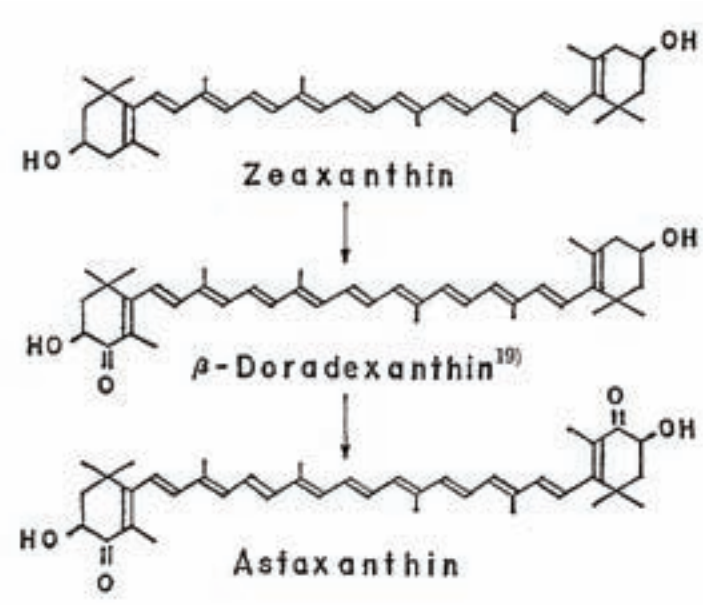


Diagram: crustacean conversion of yellow zeaxanthin to red astaxanthin (Tanaka, et al, 1976)

Since zeaxanthin is the chemical precursor of astaxanthin in the biological metabolism of crustaceans, it was surmised that the yellow crawfish of Spain (and Louisiana also) has a genetic "block" preventing further conversion of yellow zeaxanthin into red astaxanthin.

The human health benefits of both astaxanthin and zeaxanthin pigments are heralded in many reports (http://www.astaxanthin.org/benefits.htm) and are widely available as dietary supplements. Even if one does not choose these prepackaged dietary supplements, it's hard for a contemporary consumer to avoid the influence of these two pigments. From the red 'salmon' color in the many popular seafoods, to the acceptable coloration of egg yolks, these pigments, collectively called xanthophylls, are ultimately, and uniquely, derived from the very plant products we directly or indirectly consume.

Though currently out of economic fashion and displaced by algal or yeast based commercial production of astaxanthin, the processed shell from much of the Louisiana red crawfish industry was once a principle source of the dietary supplement for human, fish and poultry uses. LSU pioneered the research that allowed for the construction of the first astaxanthin extraction plants (near Henderson, La.) using residual shell from crawfish peeling operations. Somewhere in that mountainous mix of drying shells, were the remains of a very few yellow Louisiana crawfish, unceremoniously and anonymously contributing their pigment to the “big picture” of animal coloration.

- Rusty Gaudé

Sources:

http://www.ahdintl.com/astaxanthin/AstaxanthinClinicalStudy_408.html

http://www.wwltv.com/topstories/stories/wwl050309cbblue.17004f6b.html

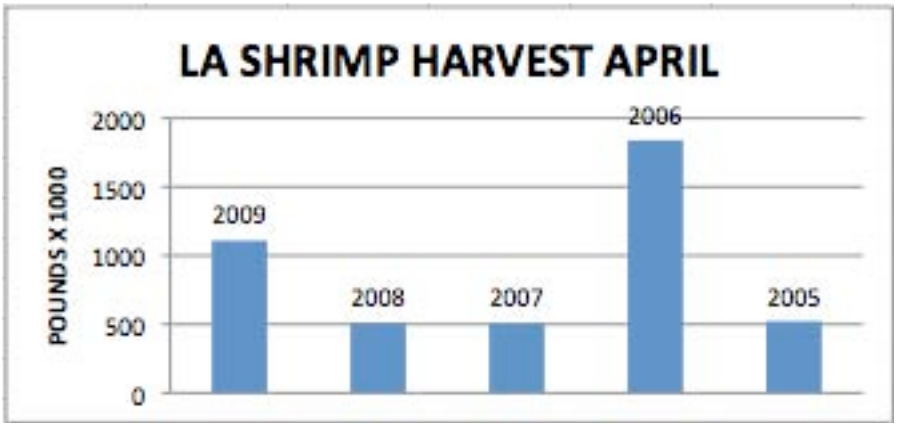
Tanaka, Yoshito, Hidetaka Matsuguchi,Teruhisa Katayama, K.L. Simpson and C.O. Chichester.1976.The Biosynthesis of Astaxanthan-XVIII. The metabolism of the Carotenoids in the Prawn, *Penaeus japonicas* Bate. Bulletin of Japanese Society of Scientific Fisheries. 42(2) 197-202. 1976

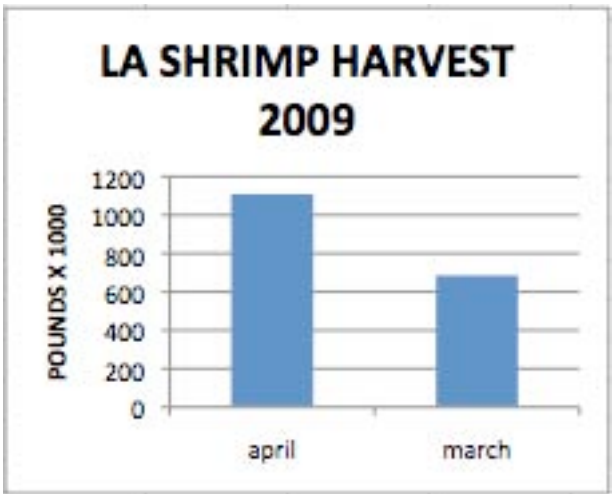
Gaudé, A. P. 1984. Ecology and Production of Louisiana Red Swamp Crawfish (*Procambarus clarkii)* in Southern Spain. Proceedings of the Sixth International Symposium of Astacology. Lund, Sweden. 1983.

LOUISIANA SHRIMP WATCH

Louisiana specific data portrayed in the graphics are selected from preliminary data posted by NOAA on their Web site. All data portrayed are subject to final revision and approval by NOAA. Shrimp landings are ex-vessel prices, inclusive of all species harvested. Missing, inadequate, or withheld reports are portrayed as “zero” in these graphics. Price graphics reflect central Gulf States only (Texas and Florida are reported independently). For more information, please refer to: *http://www.st.nmfs.noaa.gov/st1/market_news/index.html*

- Rusty Gaudé

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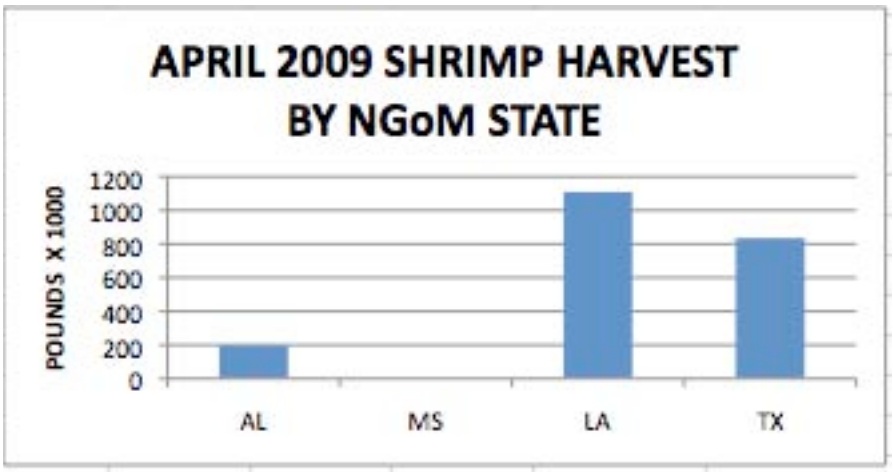
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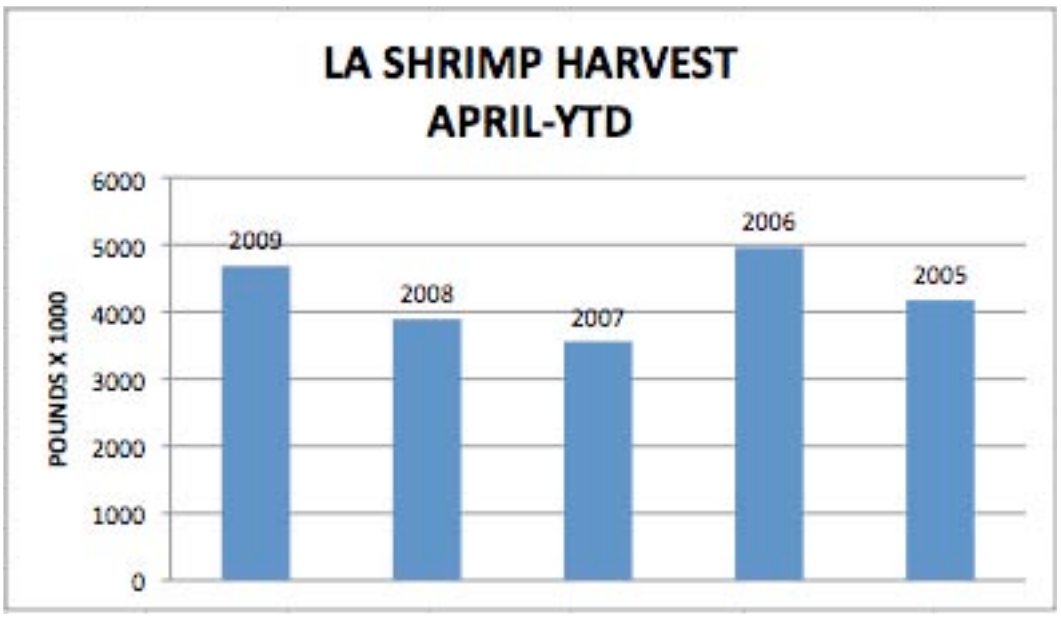
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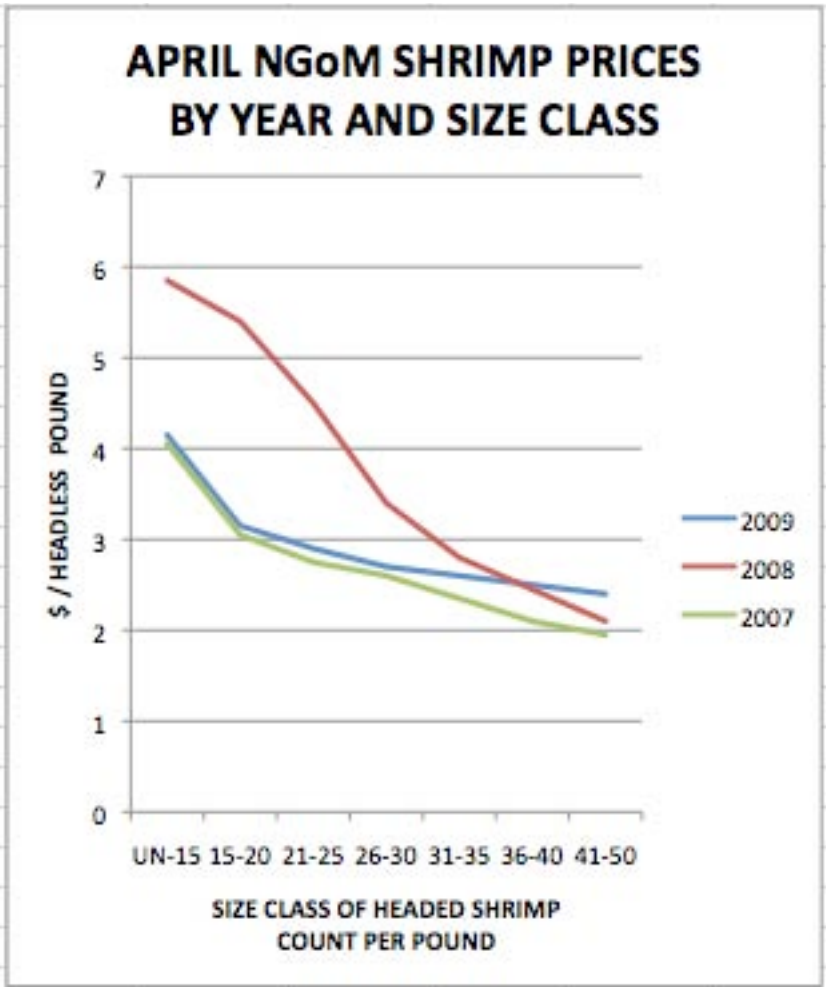
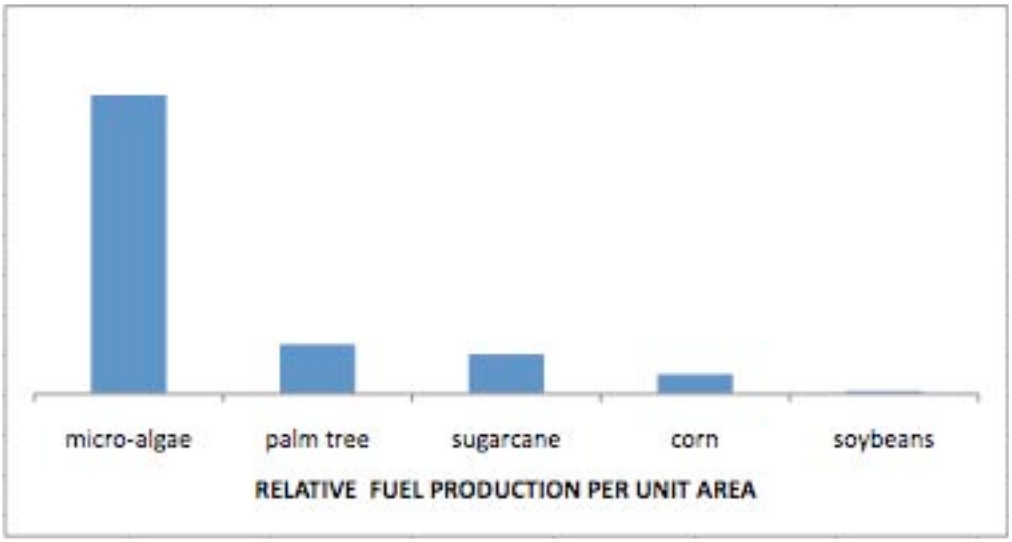


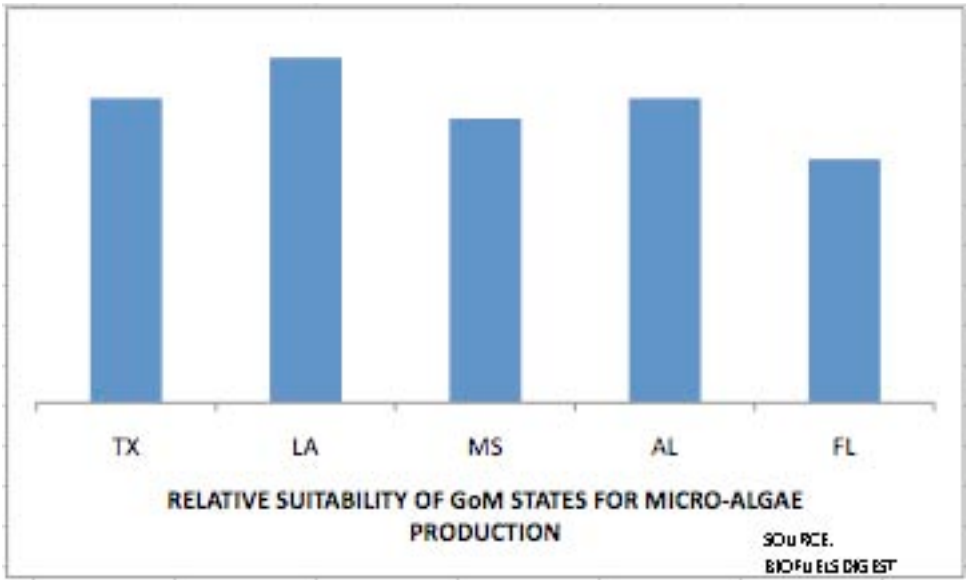
Louisiana Looks To Algae For Potential Fuel Production

With the recent release of a Louisiana Economic Development report on the potential for Louisiana to become a major player in the future production of fuel from algae, attention has been drawn to another form of local aquaculture (both inshore and offshore). As seen in the following chart, algae can potentially provide much more energy per acre than can most other fuel stocks.



The national emphasis on sustainable energy sources has prompted alternative direct sources, such as wind and solar, in addition to other systems, which actually consume/convert the greenhouse gas (carbon dioxide) produced by the use of fossil fuels such as petroleum. This is where substantial federal interest (and funding) existed even before the presidential change.

Water-borne micro-algae has the advantage of taking ambient sunlight and thermal conditions, along with either ambient carbon dioxide (CO_2), or produced CO_2 , to generate biomass which can then be use directly or indirectly as fuel and food. This is where Louisiana enters the picture. As referenced in the chart below, Louisiana is rated as most suitable for algae production in comparison with other states on the northern rim of the Gulf of Mexico (GoM). These GoM states rated higher than any of the other states in the continental United States. Critical thresholds rated for comparative algae production potential included: sunlight, water, CO_2, farm size, evaporation rate and physical infrastructure.



The pathway of the algal product can take a number of twists and turns in its journey. If destined for direct utilization as fuel, the dried algal biomass can be fired in to co-generation plants. If destined to have the lipids extracted and converted into renewable transportation fuels (with names like “green gasoline” or “green diesel”, “ biodiesel” or just “biofuel”), the dried algae must go through the extra step of chemical separation. The residual product after lipid extraction has use in the animal feed and human pharmaceutical industries. To take that same line of thinking one step further, the richer un-extracted algae could be directly fed to certain cultured fish species which are then, in turn, rendered into feed, pharmaceuticals and fuel.


Algae. Photo credit: LiveFeuls

As with any developing frontier, the production of micro-algae for commercial products is largely unproven. However, the basic principles that are driving interest in this field are sound. With a myriad of global locations suitable for algal production, progress is sure to be made with this sustainable resource. In the reduction of our dependence on single source energy, opportunities in the algae-to-energy field are likely.

- **Rusty Gaudé**

Sources:

Algae-to-Energy Opportunities in Louisiana, A Market Potential Report, Louisiana Economic Development, Baton Rouge, LA., KEMA, Inc. 2009. Contact Kelsey D. Short, telephone 225.342.5892, short@la.gov

http://www.aquaticenergy.com/

http://www.sapphireenergy.com/

http://earth2tech.com/2008/03/27/15-algae-startups-bringing-pond-scum-to-fuel-tanks/

www.nrel.gov/docs/legosti/fy98/24190.pdf

www.nrel.gov/biomass/pdfs/benemann.pdf

Underwater Obstructions

In accordance with the provisions of R.S. 56:700.1 et. seq., notice is given that 28 claims in the amount of $121,612.19 were received for payment during the period March 1, 2009 - May 31, 2009.

There were 28 claims paid and 0 claims denied. Parish data was not provided for all claims. Latitude/ Longitude Coordinates of reported underwater obstructions are:

29 02.961	90 18.734	LAFOURCHE
29 04.573	90 15.287	LAFOURCHE
29 11.460	91 02.822	TERREBONNE
29 14.038	89 57.996	JEFFERSON
29 14.102	89 57.054	JEFFERSON
29 14.215	90 50.000	TERREBONNE
29 14.700	90 01.616	JEFFERSON
29 17.453	89 43.290	
29 17.453	89 43.290	PLAQUEMINES
29 17.669	90 32.506	TERREBONNE
29 18.137	89 46.692	PLAQUEMINES
29 18.625	89 47.899	PLAQUEMINES
29 20.428	90 14.713	
29 20.680	90 39.800	TERREBONNE
29 25.892	90 01.684	LAFOURCHE
29 26.801	89 58.454	JEFFERSON
29 29.233	90 00.292	JEFFERSON
29 36.536	90 02.410	JEFFERSON
29 37.689	89 44.971	PLAQUEMINES
29 41.655	89 17.972	ST BERNARD
29 42.389	89 47.080	PLAQUEMINES
29 43.163	89 38.716	ST BERNARD
29 46.367	89 20.401	
29 49.141	91 54.025	
29 49.598	89 35.981	ST. BERNARD
29 50.193	89 41.324	ST. BERNARD
29 51.600	93 20.487	CALCASIEU
30 08.350	89 36.504	ST. BERNARD

THE GUMBO POT

Crabmeat-Eggplant Casserole

1 medium eggplant
2 1/2 cups crabmeat
1/4 cup oil
1 stick margarine
1/2 t cayenne pepper
2 cups whipping cream
2 oz. swiss cheese, grated
1 T Dijon mustard
dash of hot sauce

Peel eggplant and cut into 1/2-inch slices. Salt the slices and refrigerate for 1/2 hour in water. Put oil in 2-inch deep baking pan or casserole. Add eggplant and brown in 350 degree oven. In a separate saucepan, melt the margarine. Mix the crabmeat, pepper and hot sauce to butter and set aside. In another saucepan, warm and mix the cheese, whipping cream and mustard. Layer crabmeat over the eggplant, then add whipping cream mixture. Bake in oven for 15 to 20 minutes at 350. Serves 4.

Reprinted from *A Louisiana Seafood Cookbook*, courtesy of the Louisiana Sea Grant College Program.

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