

Fisheries

Our Nation's Fisheries. A Proud and Troubled Heritage. Dr. Robert Stickney. 2001. Fisheries Theme Team of the Sea Grant Association. **TAMU-SG-01-602**

The United States has expended considerable effort at the federal level in the past 130 years to find ways to maintain the nation's marine and Great Lakes fisheries. Many of those efforts have been successful, but fisheries management has become increasingly complex in recent years. These issues are large, and solutions are needed. The time required to achieve those solutions can be reduced through development of an aggressive research and outreach effort through the National Sea Grant College Program.

This book addresses fisheries issues in nine areas. Each topic is self-contained although all are interwoven into a research and outreach tapestry capable of providing the nation with the information required for managing fisheries in an environmentally sensitive, economically sound and sustainable manner.

Live Bait Recirculating Systems for Coastal Locations. John O'Connell. 1999. TAMU-SG-00-501.

Low oxygen levels and inadequately methods of aeration are the primary causes of live bait mortality during summer months. Two widely used aeration methods—spray bars and low-pressure high volume blowers—still have limitations when temperatures rise and salinities increase. This fact sheet describes a closed recirculating system that can solve many of the problems. Accompanying diagrams enable the reader to assemble his or her own system. Existing bait systems can be modified for approximately \$1,000, with an equal amount required for water testing equipment. A recent survey of operators who have converted to the closed system indicate a 50 to 60 percent reduction in bait loss. In most cases the initial investment was recouped in the first month of operation.

Hangs and Bottom Obstructions of the Texas/Louisiana Gulf. Gary L. Graham. February 1996. 2-volumes. TAMU-SG-96-501 (\$15) and TAMU-SG-96-502. (\$20)

Twenty years of reports from nearly 170 Texas captains have been compiled into two volumes that help commercial fishermen avoid and recreational fishermen find trouble spots in the Gulf of Mexico. The 1996 edition of the Hangs book is an accumulation of primarily LORAN C coordinates for known shipwrecks, rockpiles and thousands of other seabed hazards that threaten shrimp nets from the Mississippi River to the Rio Grande. It covers an area of 25,000 square nautical miles. It also serves as a guide for recreational fishermen looking for the places fish feed and hide. Together, the two volumes include 11,523 hangs, an addition of 3,400 since the 1988 edition. The readings are divided into a Nearshore volume including Fathoms 1 through 12 and an Offshore volume for Fathoms 10 through 50. Both books have expanded formats that make the coordinates more legible and allow for greater distinction between close-set hangs.

Fuel Efficiency Analysis of Trawl Nets in the Gulf of Mexico Shrimp Fisheries. Gary L. Graham and Dewayne Hollin. January 1993. 6 pp, 10 charts. TAMU-SG-93-502.

Commercial shrimping is a fuel-intensive industry. More than one-third of the diesel fuel consumed in the U.S. fisheries is by Gulf of Mexico shrimp vessels, and more than 70 percent of this consumption is associated with trawling during shrimping operations. Eighty percent of the overall pull on the gear is distributed on the trawl nets. This report summarizes a project funded by the Texas Governor's Energy Office to test and evaluate the efficiency of using lightweight, more technical webbing while shrimp fishing. The report analyzes and describes the types of webbing and the various weights as well as how much fuel was saved while trawling with the high-tech webbing.

Gulf of Mexico Oyster Bibliography. Thomas M. Soniat, James D. Simons and Eric N. Powell. 1992. 59 p. \$5. TAMU-SG-92-602.

This bibliography assembles, documents, records and organizes the extensive oyster literature from the Gulf of Mexico. The publication is restricted to work on *Crassostrea virginica* conducted on the Gulf coast of the United States. It developed from a project funded by the Galveston Bay Foundation to assemble the oyster literature of Galveston Bay. It is intended for fisheries managers, resource economists, government regulators, oyster biologists and oystermen. The titles are arranged alphabetically and indexed geographically (by state) and by subject matter.

Adaptive Coloration in Invertebrates. M. Wicksten, compiler, August 1990. 144 pages. \$15. TAMU-SG-90-106.

This publication is based on papers presented at an adaptive coloration symposium sponsored by the Divisions of Animal Behavior and Invertebrate Zoology of the American Society of Zoologists in 1987. The collection provides a variety of aspects of adaptive coloration in diverse taxa, with the goal of presenting summaries for review as well as stimulation for further research. Biologists tend to specialize according to taxa or disciplines, and interdisciplinary comparisons can be difficult yet rewarding. Studies on adaptive coloration among invertebrates could show important differences in protective mechanisms between and within taxa as well as between land, freshwater and marine habitats. Following an introduction by the compiler, the book includes the following papers: "The Evolution of Animal Coloration: Adaptive Aspects from Bioenergetics to Demography," Ward B. Watt; "Industrial Melanism in Moths; A Review and Reassessment," Theodore D. Sargent; "Relationships Between Visual Characteristics of Rainforest Butterflies and Responses of a Specialized Insectivorous Bird," Peng Chai; "A Kaleidoscope of Cryptic Colors: Polymorphic Caterpillars and Camouflaged Adults on a Multi-colored Host Plant," Justin O. Schmidt; "Adaptive Coloration of Pontonine Shrimps (Crustacea: Decapoda: Caridea)," Deborah L. Zmarzly; "Aposematism and Bioluminescence in Coastal Marine Communities," Matthew S. Grober; "Analyzing Color Pattern as Complex Trait: Wing Melanization in Pierine Butterflies," Joel G. Kingsolver and Diane C. Wiernasz; "Photoprotective Pigmentation of Freshwater Zooplankton: A Phenomenon of Extreme Environments," Chris Luecke and W. John O'Brien; "Adaptive Coloration in Texas Fiddler Crabs (*Uca*)," Carl L. Thurman II; "Special Resemblance, Aposematic Coloration and Mimicry in Opisthobranch Gastropods," Terrence M. Gosliner and David W. Behrens.

Texas Commercial Fisheries Profile. Michael Haby, Dewayne Hollin and Mel C. Russell. Texas Marine Advisory Service. TAMU-SG-90-501.

The U.S. Seafood production, utilization and marketing sectors are simultaneously America's oldest industry and one of the most forward looking, innovative industrial groups. Careful product handling, new processing and packaging technology, and aggressive market development activities have placed seafoods on a more equal footing with other meats. In fact, the last few years have demonstrated impressive growth in consumption of various marine food products.

Proceedings of the First International Symposium on Kemp's Ridley Sea Turtle Biology, Conservation and Management. C.W. Caillouet and A.M. Landry, compilers. 260 pages. \$20. TAMU-SG-89-105.

These proceedings contain papers and abstracts based on presentations made at the First International Symposium on Kemp's Ridley Sea Turtle Biology, Conservation and Management in Galveston, Tex., October 1985. Most papers have been updated by the respective authors to reflect 1989 data. The proceedings includes 33 papers and five abstracts, as well as transcripts of question and answer sessions and a concluding panel discussion.

Saltwater Fishes of Texas: A Dichotomous Key. Edward O. Murdy. 1995 (revised). 164 pages, shrinkwrapped, 500 + drawings. \$12. TAMU-SG-83-607(r). NTIS-PB-83-256-842.

In the 15 years since the second edition of Key to the Estuarine and Marine Fishes of Texas was published, many studies have improved our knowledge of Texas marine fishes. Notable among these works are Bright and Cashman (1974), Hoese and Moore (1976) and the FAO Species Identification Sheets for the Western Central Atlantic (1978). These publications and other sources have provided the impetus and new information for Saltwater Fishes of Texas. The new key retains the format and style of the earlier key, but roughly 50 percent of the keys have been updated at the ordinal, familial and species levels. Saltwater Fishes of Texas includes 130 species not found in the earlier volume and contains more than 500 drawings of fishes and diagnostic structures referred to in the keys.

Journal Reprints

Documenting the settlement history of individual fish larvae using stable isotope ratios: model development and validation. Sharon Z. Herzka, Scott A. Holt and G. Joan Holt. In *Journal of Experimental Marine Biology and Ecology*. 265(2001)49-74. TAMU-SG-02-811.

Salinity Tolerance of Brown Mussel *Perna Perna* from the Gulf of Mexico: An Extension of

Life Table Analysis to Estimate Median Survival Time in the Presence of Regressor Variables. David W. Hicks, Doyle L. Hawkins and Robert F. McMahon. In *Journal of Shellfish Research*, Vol. 19 (1), 203-212 (2000). TAMU-SG-01-809.

Binding Characteristics of Estrogen Receptor in Atlantic Croaker (*Micropogonias undulatus*) Testis: Different Affinity for Estrogens and Xenobiotics from that of Hepatic ER. Anna Katrina Loomis and Peter Thomas. In *Biology of Reproduction*, Vol. 61, 51-60 (1999). TAMU-SG-01-810.

Identification of Two Nuclear Androgen Receptors in Kelp Bass (*Paralabrax clathratus*) and Their Binding Affinities for Xenobiotics: Comparison with Atlantic Croaker (*Micropogonias undulatus*) Androgen Receptors. Todd S. Sperry and Peter Thomas. In *Biology of Reproduction*, Vol. 61, 1152-1161 (1999). TAMU-SG-01-811.

Population Dynamics of the Nonindigenous Brown Mussel *Perna perna* in the Gulf of Mexico compared to other world-wide populations. David W. Hicks, John W. Tunnell Jr. and Robert F. McMahon. In *Marine Ecology Progress Series*. Vol. 211: 181-192, 2001. TAMU-SG-01-812.

The Effects of Fasting and Increased Feeding on Plasma Thyroid Hormones, Glucose, and Total Protein in Sea Turtles. Dae-Yeon Moon, David W. Owens and Duncan S. MacKenzie. In *Zoological Sciences* 16:579-586. 1999. TAMU-SG-00-802.

Recruitment of Atlantic croaker, *Micropogonias undulatus*: Do Postsettlement Processes Disrupt or Reinforce Initial Patterns of Settlement? Rachel Petrik, Phillip S. Levin, Gregory W. Stunz and John Malone. In *Fish. Bull.*, Vol. 97, 954-961 (1999). TAMU-SG-00-803.

Basal and Stress-Induced Corticosterone Levels in Olive Ridley Sea Turtles (*Lepidochelys olivacea*) in Relation to Their Mass Nesting Behavior. Roldan A. Valverde, David W. Owens, Duncan S. Mackenzie and Max S. Amoss. In *Journal of Experimental Zoology*, Vol. 284, 652-662 (1999). TAMU-SG-00-804.

Global Phylogeography of the Leatherback Turtle (*Dermochelys coriacea*). Peter H. Dutton, Brian W. Bowen, David W. Owens, Ana Barragan and Scott K. Davis. *J. Zool., Lond.*, Vol. 248, 397-409 (1999). TAMU-SG-00-805.

Detection of Multiple Paternity in the Kemp's Ridley Sea Turtle with Limited Sampling. K. Kichler, M.T. Holder, S.K. Davis, R. Marquez-M and D.W. Owens. In *Molecular Ecology*, Vol. 8, 819-830 (1999). TAMU-SG-00-806.

Vertical Distribution and the Role of Physical Processes in the Feeding Dynamics of Two Larval Sciaenids, *Sciaenops ocellatus* and *Cynoscion nebulosus*. G. Joan Holt and Scott A. Holt. In *Marine Ecology Progress Series*, Vol. 193, 181-190 (2000). TAMU-SG-00-807.

Changes in Isotopic Composition of Red Drum (*Sciaenops ocellatus*) larvae in response to dietary shifts: Potential Applications to Settlement Studies. Sharon Z. Herzka and G. Joan Holt. In *Can. J. Fish Aquat. Sci.*, Vol. 57, 137-147 (2000). TAMU-SG-00-808.

Spatial and Temporal Variability in Growth, Mortality, and Recruitment Potential of Postsettlement Red Drum, *Sciaenops ocellatus*, In A Subtropical Estuary. Jay R. Rooker, Scott A. Holt, G. Joan Holt and Lee A. Fuiman. In *Fish. Bull.*, Vol. 97, 581-590 (1999). TAMU-SG-00-809.

Primary Structure of CHH/MIH/GIH-like Peptides in Sinus Gland Extracts from *Penaeus vannamei*. Yajun J. Wang, Timothy K. Hayes, G. Mark Holman, Antonio R. Chavez and Larry L. Keeley. In *Peptides*, Vol. 21, 477-484 (2000). TAMU-SG-00-810.

Binding Characteristics of Estrogen Receptor in Atlantic Croaker (*Micropogonias undulatus*) Testis: Different Affinity for Estrogens and Xenobiotics from that of Hepatic ER. Anna Katrina Loomis and Peter Thomas. In *Biology of Reproduction*, Vol. 61, 51-60 (1999). TAMU-SG-00-811.

Identification of Two Nuclear Androgen Receptors in Kelp Bass (*Paralabrax clathratus*) and Their Binding Affinities for Xenobiotics: Comparison with Atlantic Croaker

(*Micropogonias undulatus*) Androgen Receptors. Todd S. Sperry and Peter Thomas. In ***Biology of Reproduction***, Vol. 61, 1152-1161 (1999). TAMU-SG-00-812.

Seasonal Reproductive Cycle of the Galápagos Tortoise (*Geochelone nigra*) in Captivity. David C. Rostal, Todd R. Robeck, Janice S. Grumbles, Patrick M. Burchfield, and David Wm. Owens. In ***Zoo Biology***, Vol. 17, 505-517 (1998). TAMU-SG-99-805.

Decline of the Olive Ridley Sea Turtle (*Lepidochelys olivacea*) Nesting Assemblage at Nancite Beach, Santa Rosa National Park, Costa Rica. Roldán A. Valverde, Stephen E. Cornelius and Claudette L. Mo. In ***Chelonian Conservation and Biology***, Vol 3(1), 58-63 (1998). TAMU-SG-99-804.

Vulnerability of Newly Settled Red Drum (*Sciaenops ocellatus*) to Predatory Fish: Is early-life survival enhanced by seagrass meadows? J.R. Rooker, G.J. Holt and S.A. Holt. ***Marine Biology***, Vol. 131, 145-151 (1998). TAMU-SG-99-801.

Serum Thyroid Hormone Levels in Wild and Captive Sea Turtles. Dae-Yeon Moon, Duncan S. MacKenzie and David W. Owens. ***Korean J Bio Sci***, Vol. 2, 177-181 (1998). TAMU-SG-99-802.

Reef Fish Trophic Structure at the Flower Gardens and Stetson Bank, NW Gulf of Mexico. C.V. Pattengill, B.X. Semmens, and S. R. Gittings. In ***Proc 8th Int Coral Reef Sym***, Vol. 1, 1023-1028 (1997). TAMU-SG-98-801.

Growth and Body Composition of Juvenile Red Drum (*Sciaenops ocellatus*) Fed Diets Containing Lecithin and Supplemental Choline. Steven R. Craig and Delbert M. Gatlin III. In ***Aquaculture***, Vol. 151, 259-267(1997). TAMU-SG-98-803.

Dietary Choline Requirement of Juvenile Red Drum (*Sciaenops ocellatus*). Steven R. Craig and Delbert M. Gatlin III. ***J. Nutr.***, Vol. 126, 1696-1700 (1996). TAMU-SG-98-804.

Metabolic Requirements of Red Drum, *Sciaenops ocellatus*, for Protein and Energy Based on Weight Gain and Body Composition. Bruce B. McGoogan and Delbert M. Gatlin III. ***J. Nutr.***, Vol. 128, 123-129 (1998). TAMU-SG-98-805.

Seasonal Reproductive Cycle of the Kemp's Ridley Sea Turtle (*Lepidochelys kempfi*). David C. Rostal, David Wm. Owens, Janice S. Grumbles, Duncan S. MacKenzie and Max S. Amoss, Jr. ***General and Comparative Endocrinology***, Vol. 109, 232-243 (1998). TAMU-SG-98-810.

Interaction Between Behavior of Marine Organisms and the Performance of Satellite Transmitters: A Marine Turtle Case Study. Pamela T. Plotkin. ***MTS Journal***, 32(1), 5-10 (1998). TAMU-SG-98-811.

Nesting Physiology of Kemp's Ridley Sea Turtles, *Lepidochelys kempfi*, at Rancho Nuevo, Tamaulipas, Mexico, with Observations on Population Estimates. David C. Rostal, Janice S. Grumbles, Richard A. Byles, René Márquez-M., and David Wm. Owens. ***Chelonian Conservation and Biology***, 2(4): 538-547 (December 1997). TAMU-SG-98-812.

Hormones in the Life History of Sea Turtles. David W. Owens. In ***The Biology of Sea Turtles***. (1997). 7 pages. TAMU-SG-97-802.

Departure of Male Olive Ridley Turtles (*Lepidochelys Olivacea*) from a nearshore breeding ground. Pamela T. Plotkin, David W. Owens, Richard A. Byles and Rhonda Patterson. In ***Herpetologica***, Vol. 52(1), 1-7 (1996). TAMU-SG-97-803.

Small-scale Spatial Variation of Macrobenthic Community Structure. Antonio Mannino and Paul A. Montagna. In ***Estuaries***, Vol. 20(1,) 159-173 (1997). TAMU-SG-97-804.

Reproductive and Developmental Synchrony in Female *Lepidochelys olivacea*. Pamela T. Plotkin, David C. Rostal, Richard A. Byles and David W. Owens. In ***Journal of Herpetology***, Vol. 31(1), 17-22 (1997). TAMU-SG-97-805.

Estrogen Induction of Plasma Vitellogenin in the Kemp's Ridley Sea Turtle (*Lepidochelys kempfi*) Jennifer Heck, Duncan S. MacKenzie, David Rostal, Kathryn Medler and David W. Owens. In ***General and Comparative Endocrinology***, Vol. 107, 208-288. (1997). TAMU-SG-

97-806.

Simulated Hibernation of Sea Turtles in the Laboratory: I. Feeding, Breathing Frequency, Blood pH, and Blood Gases. Dae-yeon Moon, Duncan S. MacKenzie, and David Wm. Owens. In *Journal of Experimental Zoology*, Vol. 278, 372-380 (1997). TAMU-SG-97-807.

Population Structure of Red Snapper from the Gulf of Mexico as Inferred from Analysis of Mitochondrial DNA. J. R. Gold, F. Sun and L. R. Richardson. In *Transactions of the American Fisheries Society*. 126:386-396, 1997. TAMU-SG-97-808.

Spatial and temporal distributions of contaminant body burden and disease in Gulf of Mexico oyster populations: The role of local and large-scale climatic controls. E.A. Wilson, E.N. Powell, T.L. Wade, R.J. Taylor, B.J. Presley and J.M. Brooks. In *Helgoländer Meeresuntersuchungen*, Vol. 46, 201-235 (1992). TAMU-SG-93-815.

A Restriction Enzyme Map of the Mitochondrial DNA of Red Drum, *Sciaenops ocellatus* (Osteichthys: Sciaenidae). Timothy R. Schmidt and John R. Gold. *Northeast Gulf Science*, Vol. 12(2), 135-139 (1992). TAMU-SG-93-822.

Effects of Group Size on the Responsiveness of Zebrafish, *Brachydanio rerio* (Hamilton Buchanan), to Alanine, a Chemical Attractant. C.W. Steele, A.D. Scarfe, and D.W. Owens. In *Journal of Fish Biology*, Vol. 38, 553-564 (1991). TAMU-SG-92-801.

Use of Ultrafiltration To Isolate Viruses from Seawater Which are Pathogens of Marine Phytoplankton. Curtis A Suttle, Amy M Chan, and Matthew T. Cottrell. In *Applied and Environmental Microbiology*, Vol. 57 (3), 721-726 (1991). TAMU-SG-92-804.

Reproduction, Age and Growth, and Movements of the Gulf Butterfish *Peprilus burti*. Michael D. Murphy and Mark E. Chittenden Jr. In *Fishery Bulletin*, Vol. 89, 101-116 (1991). TAMU-SG-92-808.

Extensive Polymorphism at Adenosine Deaminase in the Marine Fish *Sciaenops ocellatus* (L.). D.A. Bohlmeier and J.R. Gold. In *Animal Genetics*, Vol. 21, 211-213 (1991). TAMU-SG-92-810.

Restriction site Heteroplasmy in the Mitochondrial DNA of the Marine Fish *Sciaenops ocellatus* (L.). J.R. Gold and L.R. Richardson. In *Animal Genetics*, Vol. 21, 313-316 (1991). TAMU-SG-92-811.

A Polyclonal Antibody Developed from *Perkinsus Marinus* Hypospores Fails to Cross React with other Life Stages of *P. Marinus* in Oyster (*Crassostrea Virginica*) Tissues. Kwang-Sik Choi, Donald H. Lewis, Eric N. Powell, Paul F. Frelief, and Sammy M. Ray. In *Journal of Shellfish Research*, Vol. 10 (2), 411-415 (1991). TAMU-SG-92-814.

Female-biased sex ratio of immature loggerhead sea turtles inhabiting the Atlantic coastal waters of Florida. Thane Wibbels, R. Erik Martin, David W. Owens, and Max S. Amoss Jr. In *Can. J. Zool.*, Vol. 69 2973-2977 (1991). TAMU-SG-92-818.

Tidal Stream Transport of Larval Fishes into Non-Stratified Estuaries. Scott A. Holt, G. Joan Holt, and Connie R. Arnold. In *Rapp. P.-v. Réun. Cons. Int. Explor. Mer.*, Vol. 191, 100-104 (1989). TAMU-SG-91-801.

Reproduction, Movements, and Apparent Population Dynamics of the Atlantic Threadfin *Polydactylus octonemus* in the Gulf of Mexico. Michael W. Dentzau and Mark E. Chittenden Jr., Vol. 88, 439-462 (1990). TAMU-SG-91-802.

Attraction of Zebrafish, *Brachydanio rerio*, to Alanine and its Suppression by Copper. C.W. Steele, D.W. Owens, and A.D. Scarfe. In *Journal of Fish Biology*, Vol. 36, 341-352 (1990). TAMU-SG-91-803.

A Quantitative Analysis of courtship Behavior in Captive Green Turtles (*Chelonia mydas*). Diana K. Cromwell Comuzzie, and David Wm. Owens. In *Herpetologica*, Vol. 46 (2), 195-202 (1990). TAMU-SG-91-804.

Isolation, Synthesis, and Evaluation of a Series of Indencarbazates as Hypotensive Agents. Thomas L. Lemke, Radhika Sanduja, Mohamad M. Mroue, Shridhar Iyer, Maktoob Alam,

M.B. Hossain, and Dick Van Der Helm. In *Journal of Pharmaceutical Sciences*, Vol. 79 (9), 840-844 (1990). TAMU-SG-91-806.

Videos

Texas Sea Trials of the Turtle Excluder Device. VHS format. \$20.

Texas Marine Advisory Service fisheries specialist Gary Graham evaluates several certified excluder designs for shrimp retention and ease of operation. The video covers the features, advantages and disadvantages uncovered by Graham and others during extensive testing off the Texas coast.

Shrimp Boat Safety. 19:11 VHS format. \$15. Specify English or Spanish.

This instructional video covers basic on-board safety procedures for the shrimping industry. Available in both English and Spanish, it is a companion to mandated safety training.

Handling the Catch. 22:00 VHS format. \$25. Specify English or Spanish.

The program addresses on-board procedures that will result in the highest quality shrimp reaching the dock. It is available in both English and Spanish.