LEAST TERNS CONTINUE TO NEST ON RED RIVER

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The endangered Interior Least Tern (*Sterna antillarum athalassos)* has successfully nested on the Red River in four states in the years since 1996, when I first found nesting colonies on sand islands created by the river. I did a study of the Louisiana colonies in 1999 followed by a presentation to the members of the Louisiana Ornithological Society. For background information see The Journal of Louisiana Ornithology, Summer 2001 (Volume 5, Number 1), Nesting Success of Least Terns on the Red River of Louisiana. Additional copies of this article can be obtained by contacting the author at the above e-mail address. In the following article the subject of Least Terns nesting along the Red River in Louisiana, Arkansas, Texas, and Oklahoma, in the three years since the original publication in the JLO is addressed.

The U. S. Army Corps of Engineers has surveyed Least Terns each summer since 1999 on the Red River. I have been able to accompany the biologists on nearly all of those surveys. I have also taken it upon myself to attempt to count all of the Least Terns on the Red River, downstream of Lake Texoma and Denison Dam. This is a distance totaling nearly 600 miles from Denison to the Atchafalaya River. I have documented the presence of about 1,000 Least Terns in this four state area. The lower 155 miles of the river has had no terns nesting on it since I began surveys in1996. The USACE in Vicksburg, Mississippi, has been gracious to allow me to assist with their surveys, but to my knowledge has not modified any river channel management to favor the successful nesting of Least Terns in this area. The USACE office in Tulsa, Oklahoma, has been surveying Least Terns for two years in its area of responsibility, which runs west from Index, Arkansas and has done modification of an island in Oklahoma, at the junction of the Cimarron River and the Arkansas River to favor Least Tern nesting.

The results of the feasibility study for continuing the navigation farther upstream on the Red River will be revealed to the public in September 2003. The river is currently navigable due to a series of 5 locks and dams that maintain a depth adequate for barges to travel to the Port of Shreveport about 10 miles south of Shreveport, Louisiana. The first proposal is to build 3 or 4 more dams that would make navigation possible to the vicinity of I-30 north of Texarkana. After they are built, a second project would continue all the way to Lake Texoma north of Dallas, Texas. These two projects would cover approximately 350 river miles, depending on realignment mileage, and cover the nesting islands of some 800 Least Terns. The economy of the Shreveport area benefits: by the introduction of barge transportation, the improvement in fisheries, increase in bird populations, and more water recreation craft sales, due to the lock and dams. The ongoing acquisition and development of The Red River National Wildlife Reserve will also be of great benefit to the area. The biggest downside to the construction of more locks and dams is the inundation of the islands that terns need for nesting. The natural, seasonal scouring, that occurs during increased river flow, limits vegetative growth and often alters the island by depositing more sand on it, creating optimal conditions for terns to raise their young successfully. Conversely, nesting terns can only use the grassy islands that result in the pools downriver from Shreveport the first year they are formed, because vegetation develops so rapidly.

SANS, "The Newsletter of the Southwest Arkansas Navigation Study," November 2000, No. 3, published by the Vicksburg District Corps of Engineers reported the following totals, taken from one of the surveys that I helped take from Index, Arkansas, to Shreveport. "The surveys found over 700 terns, 200 nests, and almost 100 eggs. Nesting activity was taking place on 26 sandbars. These numbers are higher than those produced by surveys of the Red River below Shreveport. The terns were found to prefer sandbars with sparse vegetation. They were also found to prefer side-channel and mid-channel sandbars affording some protection from mammalian predators. These findings are compatible with studies of the least tern that have been conducted on other rivers and streams." This 135-mile stretch of river with 700 terns on 26 nesting sandbars is the area that will be covered by the first lock and dam project mentioned above. This is an average population of 5.2 birds per mile, equivalent in size to any population in the nation. Surely a mitigation expense for displacing these Least Terns is justified.

Mitigation for the damage done to the islands terns need for nesting could be used in several ways, including: maintaining vegetation-free areas where needed, keeping a current flowing around both sides of mid-stream islands, opening the shoreward side of dikes so water current will prevent the island from attaching to shore, and using dredged spoil dirt to form man-made islands at favorite nesting locations. These are all relatively inexpensive efforts that have proved successful in other areas. I have identified the islands most critical for the terns' nesting success, but the rapid change in vegetative conditions causes the birds to change islands with amazing frequency. One only wonders when the next new island (which could possibly be the last) will form between Shreveport and Coushatta, in pools 4 and 5. The new islands in use in 2002 are smaller and have a lower elevation above pool water stage than in the years since pool 5 was formed. An increase in the reported river level at Shreveport from 14.5 ft. to 15.0 ft. caused the flooding of many nests in pool 5 this year. There are many islands in Texas, Oklahoma, and Arkansas that appear to be adequate for the needs of nesting terns but are not used by terns. This indicates that the population has room to expand. The last two years have been the best for nesting terns on the Red River since 1988 and 1998, so the population is in place to occupy more existing islands and to take advantage of any management procedures undertaken to favor nesting success. The most important islands to protect are located at Mile Markers 257, 270, 284, 334 and 373, when using the criteria of number of birds nesting and number of years in use. However, the largest colony (40 adult terns) on the Red River in

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Louisiana is a first year colony located at Mile Marker 176.3, on an island I called Volleyball Island in the JLO article, just two miles south of the bridge to Coushatta, in pool 4. This island, now larger and taller than in the past, has accidentally benefited from dike and revetment building this year in the immediate area. Hopefully, the infamous Volleyball Island will remain separated from the shore, but the recent construction of dikes and revetment will probably cause a sand build up that will connect to the shore, exposing the colony to land predation in just a year or two.

Table 1 shows the results of the many trips on the river that I have made since 1999. The counts of Least Terns indicate that this population is still healthy. The success the terns have had in the last two years is an indication that the birds can maintain a healthy population under the unusually low water conditions of those years. The data suggest that tern populations will benefit when the river level is maintained at a low level during the nesting season (June, July and August).

Table 2 shows that of 29 islands that had nests in 2001, only three were nested on for three years and only one had been nested on for four years. The terns have to find new nesting areas every year in the area south of Shreveport. Upriver from Shreveport, the terns are able to use the islands for many years.

Table 3 clearly proves that the islands located in the stable water of the pools formed behind the dams are good for nesting terns for little more than one year..

Reminder:

Time to renew your "Wild Louisiana Stamp" for admission to the LA Dept of Wildlife and Fisheries Wildlife Management Areas. They can be purchased at WalMart for $5.50.

Table 1. Survey results in four states during 1999,2000, 2001 and 2002

Number	1999			2000			2001			2002	
	LA	AR	TX*	LA	AR	TX**	LA	AR	TX/OK	LA	AR
Colonies	7	2*	1*	12	16	**	14	14	5***	14	14
Adult Terns	189	200*	32*	277	436	**	227	382	158*	304	372
Juveniles	93	22*	0*	38	35	**	134	114	16*	66	62
Still 0n Nest	0	0	0	17	92	**	0	14	9	0	8

*Partial survey

**Not surveyed

***Unknown because of difficulty ascertaining state boundaries

Table 2: Frequency of use of Twenty-nine Islands in LA, AR, and TX, for nesting by Least Terns in 2001

Prior Years in Use -	None	1	2	3	4
Number of colonies -	10	8	7	3	1

Table 3: Frequency of use of 26 Islands in LA, and AR for nesting by Least Terns in 2002

Average years in use of six years total

7 Colonies below Shreveport in pools 5, and 4 - 1.14 years = 19% of the time

6 Colonies between Shreveport and Arkansas - 4.50 years = 75% of the time

Average years in use of four years total

13 Colonies in Arkansas - 2.46 years = 61% of the time